

Fraser River Tunnel Project
Detailed Project Description

December 23, 2022

EXECUTIVE SUMMARY

The George Massey Tunnel (the Existing Tunnel) is a four-lane vehicular traffic immersed tube tunnel below the Fraser River on Highway 99 within the Metro Vancouver Regional District (Metro Vancouver). The Existing Tunnel and the Highway 99 Corridor are important elements in the Metro Vancouver and provincial transportation network, as well as a vital route for the movement of people and goods supporting the local, regional, provincial, and national economies. In addition to connecting communities south and north of the Fraser River, the corridor provides a connection to the international transportation gateways of the region's port and airport facilities. Now more than 60 years old, the Existing Tunnel experiences congestion and reliability challenges, reflected as traffic delays and queues, and traffic safety challenges related to congestion, seismic performance, and roadway clearances. The Existing Tunnel has operated as a retrofitted counterflow system for the past 40 years during peak periods, with three lanes in the peak direction and one lane in the non-peak direction, to address traffic demand that has far exceeded the original design volumes.

Since the opening of the Existing Tunnel in 1959, Metro Vancouver's population and economy have grown significantly, and the region's population is forecast to increase by more than one million people over the next 30 years, with substantial growth in the South of the Fraser communities. Without improvements to this crossing and the Highway 99 Corridor, economic growth and regional liveability will be constrained by congestion and increasing travel times for commuters, commercial users, and other traffic. Replacement of the Existing Tunnel is required to address community livability issues in the South of the Fraser area and existing challenges with the physical condition of the Existing Tunnel.

The Ministry of Transportation and Infrastructure (Ministry) is proposing to replace the Existing Tunnel and existing Deas Slough Bridge with a new eight-lane immersed tube tunnel, a new eight-lane Deas Island bridge, and associated connections to the existing Highway 99 between Steveston Highway and Highway 17A, collectively referred to as the Fraser River Tunnel Project (the Project). The Project will improve traffic flow through a new toll-free Fraser River crossing designed to modern standards for seismic performance and vehicle clearance. The Project will save travel time and make travel easier for those taking transit, cycling, or walking as two of the eight lanes (one in each direction) will be dedicated to rapid bus transit and there will be a separated pathway for cyclists and pedestrians through a multi-use path to connect active transportation routes on either side of the Fraser River. The Project is planned to be opened to traffic in 2030. Following the opening, the Existing Tunnel and ancillary infrastructure will be removed as part of the Project by the end of 2032.

The Project is located predominantly within the existing Highway 99 Right-of-Way directly upstream of the Existing Tunnel. The Project is within Tsawwassen First Nation Territory and within xʷməθkʷəy̓əm (Musqueam Indian Band) core Traditional Territory. The Project is also within or near the Traditional Territories of several Indigenous nations including Katzie First Nation, Kwantlen First Nation, kʷikʷəƛ̓əm (Kwikwetlem First Nation), Leq'á:mel First Nation, Matsqui First Nation, Pauquachin First Nation, Quw'utsun Nation (composed of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribes, and Stz'uminus First Nation), Sq'éwqel Band, Semiahmoo First Nation, Shxw'ōwhámél First Nation,

Snuneymuxw First Nation, S'ólh Téméxw Stewardship Alliance, Squamish Nation, Tsartlip First Nation, Tsawout First Nation, Tseycum First Nation, Tsleil-Waututh Nation, and Ts'uubaa-asatx First Nation. The Project is also located within Metro Vancouver of southwestern BC and within the municipal boundaries of the City of Richmond (Richmond) and City of Delta (Delta).

The Project's goals are to provide safe, reliable, and accessible transportation options that meet the objectives for sustainable growth for Metro Vancouver. Key benefits of the Project include:

- providing congestion relief at the Existing Tunnel
- addressing the long-term seismic safety performance of the Existing Tunnel
- improving transit speed and reliability along the Highway 99 corridor
- establishing a dedicated active transportation corridor for pedestrians and cyclists across the Fraser River on Highway 99
- maintaining the current clearances for the Fraser River navigational channel

The Project represents a significant infrastructure investment for the region as an essential link in a transportation corridor of regional, provincial, and national importance. In addition to connecting communities south and north of the Fraser River, the corridor provides a connection to the international transportation gateways of the region's marine ports, airport facilities, provincial highway network, Tsawwassen ferry terminal, and land border with the United States.

Since 2013, the Ministry has been working with Indigenous nations to establish positive relationships in the context of replacing the Existing Tunnel. The Ministry is working with Indigenous nations to understand the potential Project-related effects to Indigenous interests, rights, and title, including building on the knowledge shared during the environmental assessment of the previous 10-lane bridge project. The Ministry is working closely with Indigenous nations, local governments, stakeholder groups, and regulatory agencies to gather feedback on the Project, identify potential effects, and develop mitigation strategies. The Ministry will continue to invest in the development of these relationships throughout the environmental assessment process.

This Detailed Project Description (DPD) was prepared in accordance with the Early Engagement Policy and DPD Guidelines published by the EAO under the British Columbia *Environmental Assessment Act*, SBC 2018, c. 51. The DPD incorporates feedback received on the Project's Initial Project Description (IPD) from Indigenous nations, technical advisors, stakeholders, and the public during the Early Engagement Phase of the Project environmental assessment process. The development of this DPD was also informed by the Summary of Engagement Report prepared by the BC EAO (BC EAO 2022) and feedback from Indigenous nations and technical advisors on the draft DPD. This DPD describes Project components and activities and potential effects to inform the Readiness Decision and initiate the Process Planning Phase, should the Project proceed to an environmental assessment. This DPD recognizes key issues and concerns raised to date and summarizes the Ministry's approach to resolution, identifies preliminary potential Project-related effects, and describes the results of engagement undertaken to date with Indigenous nations, local governments, technical advisors, and the public.

TABLE OF CONTENTS

EXECUTIVE SUMMARY ..... **I**

1 INTRODUCTION **1**

1.1 Project Overview 1

1.2 Summary of Changes from Early Engagement 3

2 PROJECT STATUS AND HISTORY **7**

2.1 Project History 7

3 GENERAL INFORMATION AND CONTACTS **8**

3.1 Contacts 8

3.2 Corporate Overview 8

3.3 Anticipated Costs 9

4 PURPOSE AND RATIONALE **10**

4.1 Purpose and Rationale 10

4.2 Project Goals 11

5 PROJECT LOCATION, ACTIVITIES, AND COMPONENTS **12**

5.1 Project Location 12

5.2 Project Components 13

5.3 Project Activities 20

5.4 Project Timing and Schedule 27

5.5 Infrastructure and Labour Requirements 28

5.6 Alternatives to the Project 29

5.7 Alternative Means of Carrying out the Project 31

6 EMISSONS, DISCHARGES, AND WASTE **37**

6.1 Air and Dust Emissions 37

6.2 Greenhouse Gas Emissions 37

6.3 Solid and Sanitary Waste 40

6.4 Stormwater Runoff 40

6.5 Groundwater Management 41

6.6 Dredged Material and Excavated Soils 41

7 LAND AND WATER USE **43**

7.1 Overview 43

7.2 Past and Present Land and Water Use 43

7.3 Project Footprint and Area of Disturbance 44

7.4 Land Designations and Ownership 44
7.5 Project Water Requirements 52
7.6 Land and Water Use Management Plans 52

8 LEGISLATIVE AND REGULATORY CONTEXT 59

8.1 Environmental Impacts on Federal Lands and Reserve Lands in a Province Other than BC or Outside Canada 59
8.2 British Columbia Environmental Assessment Act 59
8.3 Federal Impact Assessment Act 59
8.4 Federal Land and Legislative Requirements 59
8.5 Anticipated Authorizations and Permits 60
8.6 Other Agreements and Legislation 65

9 SPATIAL BOUNDARIES 66

10 ENVIRONMENT, ECONOMIC, SOCIAL, HEALTH, AND CULTURAL CONDTIONS AND PRELIMINARY EFFECTS 67

10.1 Environment 68
10.2 Economic 120
10.3 Social 125
10.4 Cultural 152
10.5 Health 155
10.6 Summary of Preliminary Potential Effects, Mitigation, and Management Strategies 160
10.7 Cumulative Effects 181

11 ACCIDENTS AND MALFUNCTIONS 183

12 EFFECTS OF THE ENVIRONMENT ON THE PROJECT 187

13 INDIGENOUS NATION INTERESTS 188

13.1 Identified Indigenous Nations 188
13.2 How Indigenous Nation Feedback Informed Changes to the Detailed Project Description 189
13.3 Indigenous Nations Lands and Interests 200
13.4 Identification of Indigenous Interests and Potential Effects 268

14 ENGAGEMENT AND CONSULTATION WITH LOCAL GOVERNMENTS, REGIONAL AUTHORITIES, STAKEHOLDERS, AND THE PUBLIC 272

14.1 Summary of preliminary engagement activities 272
14.2 Summary of Early Engagement Activities 273
14.3 Summary of Planned Engagement with Local Governments, Regional Authorities, and Public Stakeholders 284

15 REFERENCES 288
15.1 Acts and Regulations 288
15.2 Literature Cited 290

LIST OF FIGURES

Figure 1.1-1: Regional Overview 2
Figure 5.2-1 Project Footprint and Components 16
Figure 5.2-2: Immersed Tube Tunnel Rendering with Multi-use Path in Middle 17
Figure 5.2-3: Aerial Rendering 18
Figure 5.2-4: South Tunnel Entrance Rendering 19
Figure 5.3-1: Detailed Project Operations 26
Figure 7.4-1: Land Ownership 53
Figure 7.4-2: Land Use Designations 54
Figure 10.1-1: Areas of Potential Environmental Concern (APECS) 89
Figure 10.1-2: Vegetation and Ecosystems 94
Figure 10.1-3: Wildlife Features and Protected Areas 103
Figure 10.1-4: Fish Species and Upland Tributaries 115
Figure 10.3-1: Community Features and Parks 136
Figure 10.3-2: Infrastructure and Utilities 151

LIST OF TABLES

Table 1.2.1: Summary of Sections and Attachments Containing Feedback Received during Early Engagement 3
Table 1.2.2: Summary of Changes Made to the Detailed Project Description 4
Table 3.1.1: Project Information and Key Contacts 8

Table 5.2.1: Project Components 14

Table 5.3.1: Project Activities 20

Table 5.4.1: Anticipated Project Schedule 28

Table 5.7.1: Alternative Means of Carrying Out the Project 32

Table 6.2.1: Preliminary Direct Greenhouse Gas Emission Rates 38

Table 7.3.1: Estimated Size of Disturbed Area 44

Table 7.3.2: Summary of Topics Related to Project Footprint, Maps and Shapefiles Arising from Early Engagement 45

Table 7.4.1: Land Ownership: Parcels that Transect the Project Footprint 51

Table 7.6.1: Land and Water Use Management Plans 55

Table 8.5.1: Anticipated Provincial, Federal, and Regional Authorizations and Permits 61

Table 10.1.1: Summary of Topics Related to Air Quality Arising from Early Engagement 71

Table 10.1.2: Summary of Topics Related to Acoustics Arising from Early Engagement 74

Table 10.1.3: Summary of Topics Related to Underwater Noise Arising from Early Engagement 77

Table 10.1.4: Summary of Topics Related to Surface Water and Sediment Quality Arising from Early Engagement 80

Table 10.1.5: Summary of Topics Related to River Hydraulics and Morphology Arising from Early Engagement 84

Table 10.1.6: Summary of Topics Related to Groundwater Arising from Early Engagement 86

Table 10.1.7: Summary of Topics Related to Soils Arising from Early Engagement 88

Table 10.1.8: Summary of Topics Related to Vegetation Arising from Early Engagement 92

Table 10.1.9: Summary of Topics Related to Wildlife Arising from Early Engagement 98

Table 10.1.10: Key Fish Species and their Conservation Status in the Project Area 106

Table 10.1.11: Summary of Topics Related to Fish and Fish Habitat Arising from Early Engagement 108

Table 10.1.12: Marine Mammal Species with Potential to Interact with the Project 117

Table 10.1.13: Summary of Topics Related to Marine Mammals Arising from Early Engagement..... 118

Table 10.2.1: Summary of Topics Related to Employment and Economy Arising from Early Engagement 122

Table 10.3.1: Summary of Topics Related to Land and Resource Use Arising from Early Engagement 128

Table 10.3.2: Summary of Topics Related to Marine Use Arising from Early Engagement..... 139

Table 10.3.3: Summary of Topics Related to Visual Quality Arising from Early Engagement 143

Table 10.3.4: Summary of Topics Related to Infrastructure and Services Arising from Early Engagement 147

Table 10.4.1: Summary of Topics Related to Archaeological and Heritage Resources Arising from Early Engagement..... 154

Table 10.5.1: Summary of Topics Related to Community Health and Wellbeing Arising from Early Engagement..... 157

Table 10.6.1: Summary of Preliminary Potential Effects, Mitigation, and Management Strategies 161

Table 10.6.2: Preliminary Analysis of Identify Factors Potentially Contributing to Disproportionate Project Effects 179

Table 11-1: Summary of Topics Related to Accidents and Malfunctions Arising from Early Engagement..... 186

Table 13.2.1: Summary of Indigenous Nations Key Issues Heard during Pre-Early Engagement 191

Table 13.2.2: Summary of Feedback that Resulted in a Change to the Detailed Project Description 197

Table 13.3.1: Kwantlen First Nation-Specific Table..... 204

Table 13.3.2: Matsqui First Nation-Specific Table 210

Table 13.3.3: Musqueam-Specific Table 215

Table 13.3.4: Quw'utsun Nation-Specific Table..... 228

Table 13.3.5: Seabird Island Band-Specific Table..... 232

Table 13.3.6: Semiahmoo First Nation-Specific Table 236

Table 13.3.7: Shxw'ōwhámél First Nation-Specific Table..... 238

Table 13.3.8: Snuneymuxw First Nation-Specific Table 241

Table 13.3.9: S'ólh Téméxw Stewardship Alliance Nation-Specific Table 244

Table 13.3.10: Tsartlip First Nation-Specific Tables 248

Table 13.3.11: Tsawout First Nation Nation-Specific Table 250

Table 13.3.12: Tsawwassen First Nation-Specific Table 253

Table 13.3.13: Tsleil-Waututh Nation-Specific Table 259

Table 13.3.14: Ts'uubaa-asatx First Nation-Specific Table 263

Table 13.4.1: Summary of Planned Engagement Activities 267

Table 13.5.1: Preliminary Indigenous Interests and Potential Project-Related Effects 270

Table 14.2.1: Response to Public Comments 275

Table 14.2-2: Categorized summary of technical advisor feedback and description of how feedback was considered during early engagement 284

LIST OF ATTACHMENTS

Attachment 1: Concordance Table

Attachment 2: List of Existing Data

Attachment 3: List of Studies, Schedule, Guidance and Standards

Attachment 4A: Summary of Issues Raised by Indigenous Nations - IPD and Early Engagement

Attachment 4B: Summary of Issues Raised by Indigenous Nations - DPD

Attachment 5: Consultation Summary

Attachment 6: Maps of the Territories and/or Consultation Areas of the Indigenous Nations

Attachment 7: Technical Advisor Feedback on IPD

Attachment 8: Technical Advisor Feedback on draft DPD

Attachment 9: Public Feedback on IPD

Version History

Version	Revision Date	Authors	Version Description
1.0	August 18, 2022	D. Gamble, H. Courteau, R. Scott, J. Quigley, J. Wilkinson, M. Baldwin, S. Faulkner D. Paslawski, J. Meyboom, D. Vermeulen, B. Bennett, K. Fennell, C. Klatt	Detailed Project Description for preliminary review with Indigenous nations, technical advisors, and stakeholders.
2.0	November 28, 2022	D. Gamble, H. Courteau, R. Scott, J. Quigley, J. Wilkinson, C. Holschuh, S. Faulkner D. Paslawski, J. Meyboom, V. Garrett, C. Klatt, O. Stanley	Draft Detailed Project Description for EA Readiness submission.
2.1	December 6, 2022	D. Gamble, H. Courteau, R. Scott, J. Quigley, J. Wilkinson, C. Holschuh, S. Faulkner D. Paslawski, J. Meyboom, V. Garrett, C. Klatt, O. Stanley	Draft Detailed Project Description for EA Readiness submission with minor updates following EAO preliminary review
3.0	December 23, 2022	D. Gamble, H. Courteau, R. Scott, J. Quigley, J. Wilkinson, C. Holschuh, S. Faulkner D. Paslawski, J. Meyboom, V. Garrett, C. Klatt, O. Stanley	Final Detailed Project Description for EA Readiness submission.

Acronyms and Abbreviations

Acronym	Description
AIR	Application Information Requirements
ALC	Agricultural Land Commission
ALR	Agricultural Land Reserve
BC	British Columbia
EAC	Environmental Assessment Certificate
EAO	British Columbia Environmental Assessment Office
BCEAA	British Columbia *Environmental Assessment Act*
BCTC	British Columbia Treaty Commission
CN	Canadian National
CO_2e	carbon dioxide equivalents
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
dAIR	draft Application Information Requirements
DFO	Fisheries and Oceans Canada
DPD	Detailed Project Description
ECCC	Environment and Climate Change Canada
eDNA	environmental deoxyribonucleic acid
ESA	Environmentally Sensitive Area
Existing Tunnel	Existing George Massey Tunnel
GBA+	gender-based analysis plus
GHG	greenhouse gas
IMUG	Indigenous Marine Users Group
IPD	Initial Project Description
ITT	immersed tube tunnel
LAA	Local Assessment Area
LWRS	Ministry of Land, Water and Resource Stewardship
Metro Vancouver	Metro Vancouver Regional District
MUG	Marine Users Group
MUP	multi-use path
Proponent	Transportation Investment Corporation on behalf of the Ministry of Transportation and Infrastructure
PSI	Preliminary Site Investigation
RAA	Regional Assessment Area

Acronym	Description
RGS	regional growth strategy
RMA	Riparian Management Area
ROW	Right-of-Way
RSBC	Revised Statutes of British Columbia
SARA	*Species at Risk Act*
SBC	Statute of British Columbia
SC	Statute of Canada
TFN	Tsawwassen First Nation
T'FN	Ts'uubaa-asatx Nation
TFNFA	Tsawwassen First Nation Final Agreement
the Ministry	British Columbia Ministry of Transportation and Infrastructure
the Project	Fraser River Tunnel Project
TI Corp	Transportation Investment Corporation
TWN	Tsleil-Waututh Nation
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
VC	valued component
VFPA	Vancouver Fraser Port Authority

Units of Measure	Definition
%	percent
24/7	24 hours a day, 7 days a week
ha	hectare
km	kilometre
km^2	square kilometre
m	metre
m^3	cubic metre
MWh/yr	megawatt hours per year

1 INTRODUCTION

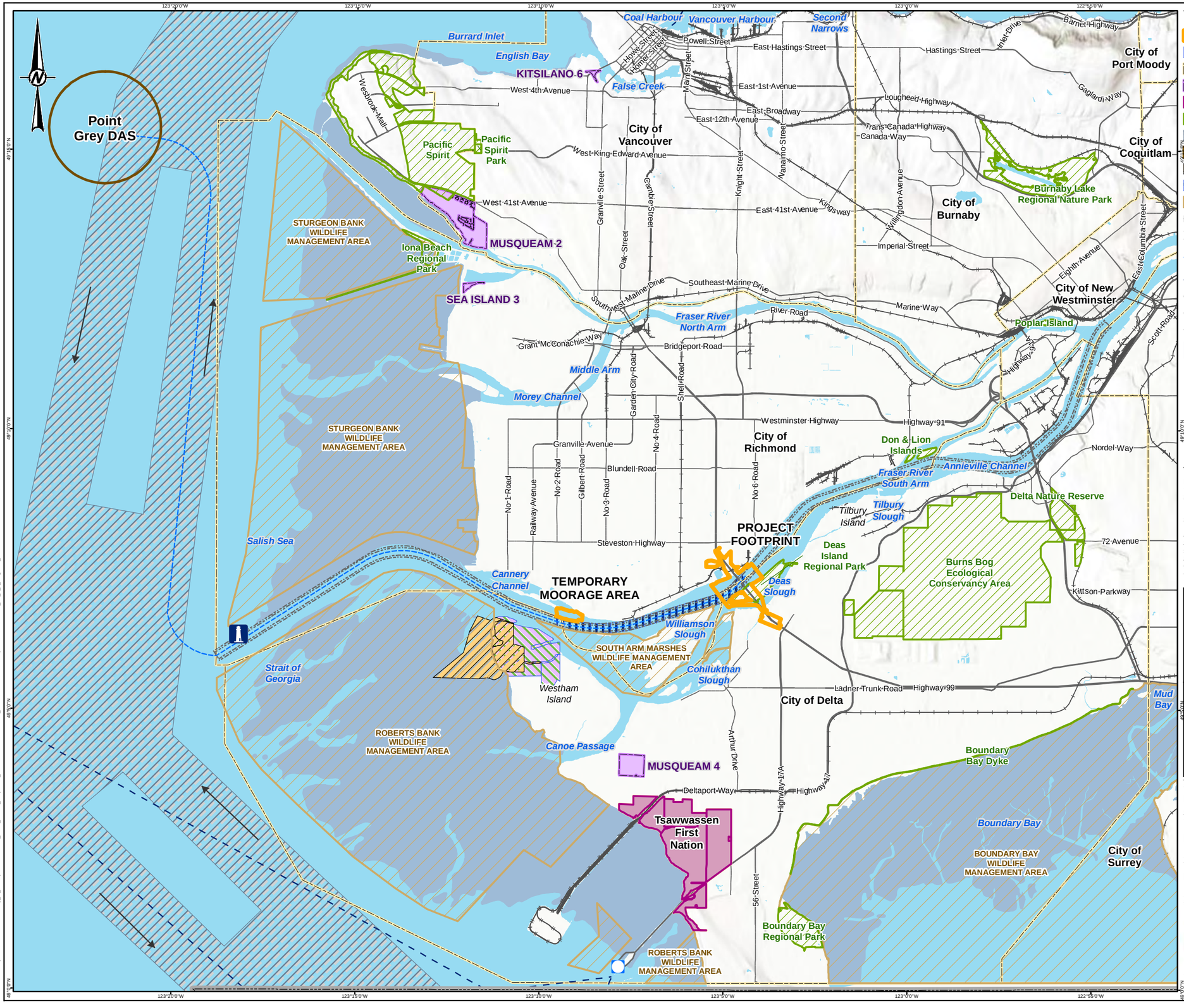
1.1 PROJECT OVERVIEW

The Ministry of Transportation and Infrastructure (the Ministry) proposes to construct a new eight-lane immersed tube tunnel (ITT), a new eight-lane Deas Island bridge, associated connections to the existing Highway 99 between Steveston Highway and Highway 17A, and temporary construction facilities and to decommission the Existing George Massey Tunnel (Existing Tunnel) and existing Deas Island Bridge, collectively referred to as the Fraser River Tunnel Project (the Project; Figure 1.1-1). The Project is situated in the City Richmond and City of Delta (Figure 1.1-1) within Tsawwassen Territory as set out in the Tsawwassen First Nation Final Agreement (TFNFA), Musqueam Indian Band's core territory, and the Traditional Territories of several Indigenous nations (Section 13).

Construction of the new ITT is proposed directly upstream of the Existing Tunnel. To the extent possible, Project-related components and activities are located within the existing Highway 99 Right-of-Way (Highway 99 ROW). The Highway 99 ROW is a dedicated arterial highway under the jurisdiction of the Ministry and designated as a numbered highway for transportation. Although most of the Project is within the existing Highway 99 ROW, some additional lands are required for permanent and temporary works to stage the construction.

The Project will be designed to modern standards and include a multi-use path (MUP) within the new ITT to connect pedestrians and cyclists with existing active transportation routes on either side of the Fraser River at Highway 99 for the first time. The new ITT is planned to be opened to traffic in 2030, and following opening, the Existing Tunnel and ancillary infrastructure will be removed, with work complete by 2032. The Project represents a significant investment in multi-modal transportation improvements and supports provincial and regional strategies and sustainability objectives, as well as and the economic development of the region, the province, and Canada.

The Project aims to improve the functionality of the Highway 99 corridor. The Highway 99 Tunnel Program, which includes the Project and several corridor improvements, is required to address traffic congestion and safety challenges, and to improve transit and cycling connections on Highway 99. The need for the Project is independent of planned or proposed upgrades or expansions to other infrastructure components to support the international transportation gateways of the region (i.e., provincial highway network, marine ports, airport facilities, Tsawwassen ferry terminal, and land border with the United States).



LEGEND

- PROJECT FOOTPRINT
- TUNNEL ELEMENT TOW CHANNEL
- MUNICIPAL BOUNDARY
- FIRST NATION RESERVE
- TSAWWASSEN FIRST NATION LAND
- REGIONAL PARK
- INTERNATIONAL SHIPPING LANE
- ACTIVE POTENTIAL DISPOSAL AT SEA (DAS) SITE
- GEORGE C. REIFEL MIGRATORY BIRD SANCTUARY
- ALAKSEN NATIONAL WILDLIFE AREA
- WILDLIFE MANAGEMENT AREA
- CANADA - U.S.A BORDER
- FRASER RIVER SHIPPING CHANNEL
- POTENTIAL SHIPPING ROUTE TO DISPOSAL AT SEA SITE
- BC FERRIES ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

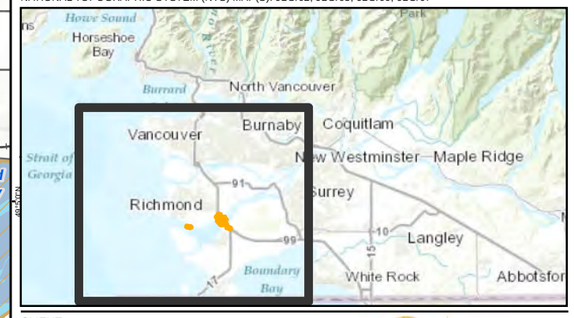
0 2,500 5,000

1:125,000 METRES

REFERENCE(S)

1. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. WILDLIFE MANAGEMENT AREAS, CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. DISPOSAL AT SEA SITE, INTERNATIONAL SHIPPING LANES, BIRD SANCUTARIES AND NATIONAL WILDLIFE AREAS OBTAINED FROM GOVERNMENT OF CANADA.
6. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
REGIONAL OVERVIEW

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	RS
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	1.1-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
0 25mm

PATH: Y:\Burnaby\CAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_01_1_1_Regional_Overview.mxd PRINTED ON: 2022-12-21 AT: 11:14:15 AM

1.2 SUMMARY OF CHANGES FROM EARLY ENGAGEMENT

During the Early Engagement Phase the Transportation Investment Corporation on behalf of the Ministry of Transportation and Infrastructure (Proponent) received feedback on the Project through engagement with Indigenous nations, technical advisors, stakeholders, the public, and from the Summary of Engagement Report developed by the BC EAO (BC EAO 2022). Detailed accounts of feedback received by Early Engagement participants, the Proponent's response, and a description of how the input was incorporated into the DPD is contained within the DPD sections and attachments described in Table 1.2-1. Table 1.2-2 summarizes the updates and revisions made as a result of feedback.

Table 1.2.1: Summary of Sections and Attachments Containing Feedback Received during Early Engagement

Early Engagement Participant	Feedback Period	Section of DPD Summarizing Feedback and Incorporation into DPD	Detailed Record of input and Proponent Response
Indigenous nations	Pre-early engagement and IPD	13.2.1	Attachment 4A: Summary of Issues Raised by Indigenous Nations - IPD and Early Engagement
Indigenous nations	Draft DPD	13.2.2	Attachment 4B: Summary of Issues Raised by Indigenous Nations - DPD
Indigenous nations	All	13.2.1 and 13.2.2	Attachment 5: Consultation Summary
Technical Advisors	IPD and Draft DPD	14.2.7	Attachment 7: Technical Advisor Feedback on IPD Attachment 8: Technical Advisor Feedback on draft DPD
Public	IPD	14.2.1	Attachment 9: Public Feedback on IPD

Table 1.2.2: Summary of Changes Made to the Detailed Project Description

DPD Section	Previous Section of IPD	Summary of Changes Made to the DPD
1.0 Introduction	1.0	• Added new section on summary of changes since issuance of IPD
3.0 General Information and Contacts	1.3	• Added new anticipated costs section
5.0 Project Location, Activities, and Components	3.0	• Added text related to the design-build nature of the Project resulting in potential adjustments to Project location, activities and components as the design solidifies • Updated description of Project components and activities • Added summary of changes to Section 5.1 to 5.4 since acceptance of the IPD • Updated description of temporary lands • Added Steveston Island as proposed location for temporary tunnel element moorage • Added a separation wall between the ITT and Existing Tunnel • Defined connections between the Project's MUP and existing MUPs • Added detail regarding the laydown areas • Updated Project Footprint figures and renderings, including additional potential parcels of lands that may be needed for temporary aspects of the Project construction • Updated description of Highway 99 within the scope of the Project being Highway 99 between Steveston Highway and Highway 17A • Investigated construction means and methods to identify materials management considerations and space requirements for temporary lands • Added source of potable water • Updated information on labour requirements
5.7 Alternative Means of carrying out the Project	3.6	• Updated description of alternatives to the Project and alternative means of undertaking the Project • Updated information on assessment of disposal options for dredged sediments and excavated soils
6.0 Emissions, Discharges, and Waste	4.0	• Updated discussion of direct and indirect GHG emissions

DPD Section	Previous Section of IPD	Summary of Changes Made to the DPD
		• Added dredging locations, i.e., dredging as part of Deas Slough Bridge and to prepare the temporary offsite tunnel element moorage site, other localized dredging
7.0 Land and Water Use	5.0	• Provided summary of land and water related concerns identified through engagement • Added description of the IMUG • Added potential effects of the Project on land and water use • Added additional Indigenous nation land and water use management plans • Updated land ownership figure to include more details on unknown land ownership
8.0 Legislative and Regulatory Context	6.0	• Updated list of anticipated Provincially and federally required permits
10.0 Environmental, Economic, Social, Health and Cultural Conditions and Preliminary Effects	8.0	• Updated text based on preliminary results of Existing Conditions studies • Added details of potential effects of the Project on each discipline • Added new Section 10.6, Summary of Preliminary Potential Effects, Mitigation, and Management Strategies, which includes a table of Identify Factors and Disproportionately Affected Population Sub-groups
13.0 Indigenous Nation Interests		• Added summary of how Indigenous nation feedback informed changes to the DPD • Added detail about each Indigenous nation impacted by the Project such as: o more information about each Indigenous nation's territory o an in-depth breakdown of interests and issues raised by each Indigenous nation o a summary of the Proponent's engagement with Indigenous nations • Added feedback from Indigenous nations received through the EAO in its Summary of Engagement and technical advisor comments and feedback • For each Indigenous nation, updated overview of engagement activities, description of issues that have been raised, and Proponent's preliminary understanding of Indigenous interests • Added sections on engagement moving forward, and identification of Indigenous interests and potential effects
14.0 Engagement and Consultation with Local Governments,		• Updated proposed engagement activities to be summary of Early Engagement activities • Added summary of planned continued engagement activities

DPD Section	Previous Section of IPD	Summary of Changes Made to the DPD
Regional Authorities, Stakeholders, and the Public		

DPD = Detailed Project Description; IPD = Initial Project Description; EAO = British Columbia Environmental Assessment Office; IMUG = Indigenous Marine Users Group; GHG = greenhouse gas; ITT = immersed tube tunnel; MUP = multi-use path.

2 PROJECT STATUS AND HISTORY

2.1 PROJECT HISTORY

The Project supersedes a 10-lane bridge project, which received an Environmental Assessment Certificate in 2017 (EAC #T17-01) but was not constructed. On April 22, 2022, the EAO determined under Section 31 of the BC EAA (2018) that the bridge project had not been substantially started and EAC #T17-01 expired. The previous bridge project was the subject of concerns raised by Metro Vancouver Regional District (Metro Vancouver) communities, specifically that the 10-lane bridge concept and other improvements were too large and complex, had too many lanes, and did not align with Metro Vancouver's regional growth strategy (RGS). In September 2017, the provincial government announced that the procurement process for the 10-lane bridge would be cancelled and the decision to replace the Existing Tunnel with a 10-lane bridge would be subject to an Independent Technical Review.

The Independent Technical Review (Westmar Advisors 2018) concluded that there were options that would reduce the scale, complexity, and cost of the crossing and improvements along the corridor and better align with regional objectives. A key finding of the Independent Technical Review was that reducing the number of highway lanes combined with elimination of the median transit stations would significantly reduce the complexity and cost of the Steveston Highway and Highway 17A interchanges. Following the release of the review, and through a process of analysis and engagement with the Metro Vancouver Mayors' Task Force and Indigenous nations, two crossing options were shortlisted: a new eight-lane ITT or an eight-lane bridge. During this process, Metro Vancouver confirmed that an eight-lane crossing with transit priority and provision for active transportation is consistent with its RGS. In November 2019, the ITT option with a MUP and two of the eight lanes dedicated to transit was endorsed by Metro Vancouver Board of Directors as the preferred option for the region. In 2021, the Proponent approved a Business Case that provided an analysis of an eight-lane ITT option and an eight-lane bridge option (MOTI 2021).

The proposed eight-lane ITT, which includes removal of the Existing Tunnel, is substantively different from the previously approved 10-lane bridge project; therefore, a new environmental assessment under the British Columbia *Environmental Assessment Act* (BCEAA) is required.

3 GENERAL INFORMATION AND CONTACTS

3.1 CONTACTS

The Proponent is Transportation Investment Corporation (TI Corp) on behalf of the Ministry. Table 3.1-1 includes key contact information for the Project.

Table 3.1.1: Project Information and Key Contacts

Project Information	Description
Project name	Fraser River Tunnel Project
Proponent	Transportation Investment Corporation (TI Corp), on behalf of the Ministry of Transportation and Infrastructure (the Ministry)
Proponent corporate address	Transportation Investment Corporation Suite 1750 – 401 West Georgia Street Vancouver, BC, V6B 5A1
Proponent website	https://www.ticorp.ca/
Project website	https://www.highway99tunnel.ca/
Ministry representative	Kevin Volk, Assistant Deputy Minister, Integrated Transportation and Infrastructure Services, Ministry of Transportation, and Infrastructure
Transportation Investment Corporation representative	Donald Trapp, Executive Project Director, TI Corp
Primary contact for the environmental assessment	Darcy Paslawski, Director Environment and Regulatory Affairs, TI Corp Tel: 236-455-1450, Email: darcy.paslawski@ticorp.ca

≥ = greater than or equal to; ha = hectare; BC = British Columbia.

3.2 CORPORATE OVERVIEW

The Ministry of Transportation and Infrastructure (the Ministry) is the provincial agency responsible for planning transportation networks in BC, providing transportation services and infrastructure, developing, and implementing transportation policies, and administering related acts and regulations including federal-provincial funding programs. The Ministry led the planning of the Project through the Independent Technical Review in 2017. Delivery of the Project will be led by TI Corp, a Crown corporation established under the *Transportation Investment Act,* SBC 2002, c. 65, with a mandate to deliver major transportation infrastructure on behalf of the Ministry. Following the announcement of the Project in August 2021, TI Corp was assigned responsibility for the delivery of the Project and will lead the technical design, contractor procurement, future oversight, and environmental assessment process.

On behalf of the Ministry, TI Corp has the following mandate:

- Provide cost effective and flexible delivery for assigned major projects.
- Establish strong relationships with Indigenous nations who have an interest in the Project through engagement that is guided by provincial government policy and legislation, including the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples (Government of BC [date unknown]) and the *Declaration on the Rights of Indigenous Peoples Act,* SBC 2019, c. 44.
- Apply strong and consistent risk management and Project and financial processes and controls.
- Be accountable and report to the BC Transportation Financing Authority.

If approved, the Ministry will be responsible for maintenance and operation of the Project within the broader transportation infrastructure network.

3.3 ANTICIPATED COSTS

The total Project cost estimate, including planning, procurement, and construction (including capital costs to decommission the Existing Tunnel) is $4.15 billion. This estimate will be refined during the Project's final design. The operational life of the Project is projected to be 150 years. Operational costs include labour, materials, goods, and services for Project operational activities including operations monitoring and management, maintenance of the road surface, systems maintenance (including emergency and security systems maintenance, lighting and electrical maintenance, ventilation, and exhaust maintenance), and drainage and stormwater management.

The expenditures associated with Project construction and operations will have a direct, indirect, and induced effect on employment, labour income, supplier revenues, Gross Domestic Product, and government tax revenues. Economic effects from construction expenditures in particular, will generate large economic benefits in Metro Vancouver and the province of BC, as well as Canada.

4 PURPOSE AND RATIONALE

4.1 PURPOSE AND RATIONALE

The Existing Tunnel is an essential link in a transportation corridor of regional, provincial, and national importance. The new tunnel corridor will provide a connection to the international transportation gateways of the region's marine ports, airport facilities, provincial highway network, Tsawwassen ferry terminal, and land border with the United States. The need for the Project is independent of any planned or proposed upgrades or expansions to these networks and facilities and therefore not reliant on other infrastructure components.

Addressing safety and traffic congestion issues associated with the Existing Tunnel are the primary reasons for the Proponent's decision to proceed with the Project. Now more than 60 years old, the Existing Tunnel suffers from congestion and reliability challenges that result in traffic delays and queues, particularly in the non-peak direction. The Existing Tunnel has operated with a retrofitted counterflow system during peak periods for the past 40 years, with three lanes in the peak direction and one lane in the non-peak direction. The counterflow system was implemented to address traffic demand that exceeded the original design volumes. The region has grown significantly, and the current crossing is insufficient to process the level of peak period traffic demand, resulting in significant levels of congestion, delay, and travel time variability and unpredictability. When the counterflow is in operation, the off-peak direction in particular sees some of the longest queues and travel time variability due to the vulnerability of the Highway 99 system to traffic accidents. The Project will not include a counterflow system.

Enhancements to transit service and active transportation[1] options on the Highway 99 corridor are also required to provide sustainable transportation choices for all users. Without improvements to this crossing, economic growth and regional livability will be further constrained by congestion and increased travel times for commuters, commercial users, and other traffic.

The Existing Tunnel was built to the engineering standards of the 1950s. While the Existing Tunnel is operationally safe, it does not meet current seismic and highway clearance standards. The Existing Tunnel lacks road shoulders and there is limited access between the northbound and southbound lanes, which makes it challenging for first responders to access and clear emergencies. Some deficiencies have been recently addressed through lighting, and structural upgrades.

[1] Active transportation refers to all human-powered forms of travel; however, within the context of the Project, active transportation refers to the most common forms: walking and cycling.

4.2 PROJECT GOALS

In 2019, as part of planning for the replacement of the Existing Tunnel, the Proponent led engagement and collaborative efforts with 10 municipalities, 12 Indigenous nations, TransLink, and Metro Vancouver to develop the following set of shared goals to guide the Project:

- support the sustainability of Fraser River communities
- facilitate an increased share of sustainable modes of transport through:
    - enhanced transit service convenience and facilitate future expansion
    - supporting safe, convenient, and comfortable options for pedestrians and cyclists
    - facilitating higher occupancy modes of travel
- enhance regional goods movement and commerce
- support a healthy environment through:
    - minimize loss of habitat for fish, wildlife, birds, and marine mammals
    - improvements to habitat quality and protect water quality
    - enhancement of land and marine-based recreation
    - reduction of greenhouse gas (GHG) emissions and other contaminants

The Project will provide safe, reliable, and accessible transportation options that meet the objectives for sustainable growth for Metro Vancouver. Key benefits of the Project include the following:

- providing congestion relief at the Existing Tunnel
- ensuring long-term seismic safety performance for the Highway 99 Fraser River crossing
- improving transit speed and reliability along the Highway 99 corridor
- improving access to designated development centres and enhanced connection between communities
- establishing a dedicated active transportation connection for pedestrians and cyclists across the Fraser River on Highway 99
- provide a connection to the international transportation gateways of the region's marine ports, airport facilities, provincial highway network, Tsawwassen ferry terminal, and land border with the United States
- maintaining navigation clearances for the Fraser River in accordance with the Vancouver Fraser Port Authority (VFPA) Port Information Guide (July 2021)

The Project is consistent with the Proponent's mandate of building and maintaining transportation infrastructure to allow for the safe and efficient movement of people and goods.

5 PROJECT LOCATION, ACTIVITIES, AND COMPONENTS

This section provides a brief description of the anticipated temporary and permanent physical components of the Project. It also describes the physical activities that are proposed during the Project's construction and operation phases, including decommissioning of the Existing Tunnel. The design-build nature of the Project introduces the likelihood that some elements of the location, activities, and/or components could be adjusted as the Project's design is advanced. This DPD and the following environmental assessment process are designed to absorb anticipated design evolution and manage uncertainties, ensuring that the environmental assessment appropriately accounts for any changes. Section 5.4 provides the anticipated timing and duration of each phase and considerations for seasonal timing constraints. A more detailed description of Project components and physical activities will be provided in the EAC Application as the Project is developed and refined throughout the environmental assessment process.

Anticipated daily and annual maximum production or operational capacity of the Project has not been provided as it is not applicable to the Project.

Since acceptance of the Initial Project Description, the following updates and changes are noted:

- A temporary tunnel element mooring site has been identified directly upstream of Steveston Island.
- In-river walls have been introduced to isolate the proposed ITT, including separating it from the Existing Tunnel. This allows the new ITT to be located as close as possible to the Existing Tunnel and therefore minimize property impacts, as well as supports additional engineering feasibility.
- Connections between the MUP and adjacent existing MUPs have been defined.
- Construction means and methods have been investigated to identify materials management considerations and space requirements for temporary lands.

Site investigations to further characterize stratigraphy, soil properties, constructability and groundwater conditions, and technical work will be carried out concurrent with the environmental assessment process. Results of these investigations and work will be used to confirm and adjust the design and siting of the Project components and assess Project interactions with environmental components.

5.1 PROJECT LOCATION

The Project occurs mainly on provincial Crown land in Richmond and Delta and crosses under the Fraser River South Arm within the Highway 99 ROW. The proposed Project is located in or near the Traditional Territory of over 25 Indigenous nations. Refer to Section 13.

Although most of the Project is within the existing Highway 99 ROW, some additional lands will be required for permanent works, and for temporary works required to stage the construction. Temporary lands are proposed in the following areas:

- Deas Island Regional Park directly east of Highway 99 ROW
- either side of Highway 99 in Delta and north of Highway 17A within the Agricultural Land Reserve (ALR)
- on City of Richmond lands along Rice Mill Road
- on ALR in Richmond directly east of the Highway 99 ROW
- a temporary moorage site directly upstream of Steveston Island within the Fraser River South Arm for storage of tunnel elements prior to immersion

Temporary land requirements outside of the Highway 99 ROW will continue to be developed as the engineering and property requirements for the Project are further defined and will be reflected in subsequent stages of the environmental assessment process. The extent of additional land requirements outside of the Highway 99 ROW are shown in Figure 5.2-1.

5.2 PROJECT COMPONENTS

Project components are described in Table 5.2-1 and shown in Figure 5.2-1. The area overlapped by temporary and permanent construction components and areas associated with removal of the Existing Tunnel is referred to as the Project area. The Project will provide a new Fraser River crossing with eight lanes, including six general-purpose lanes and two dedicated transit lanes. The Project also includes a bi-directional MUP separated from traffic lanes. To the extent possible, the Proponent is proposing to locate Project components and activities within the Proponent's Highway 99 ROW.

The Project will be designed and constructed to applicable engineering standards and codes consistent with regulatory requirements and be informed by the environmental assessment process and ongoing engagement with Indigenous nations, technical advisors, stakeholders, and the public. The components described in Table 5.2-1 are onsite components (within or adjacent to the Highway 99 ROW) except for the temporary offsite moorage location.

The following table of components is based on current information and analysis completed to date and represents the best estimate of what is required to construct the Project. As a design-build project, it is likely that some components and construction methods may change from concept to final design.

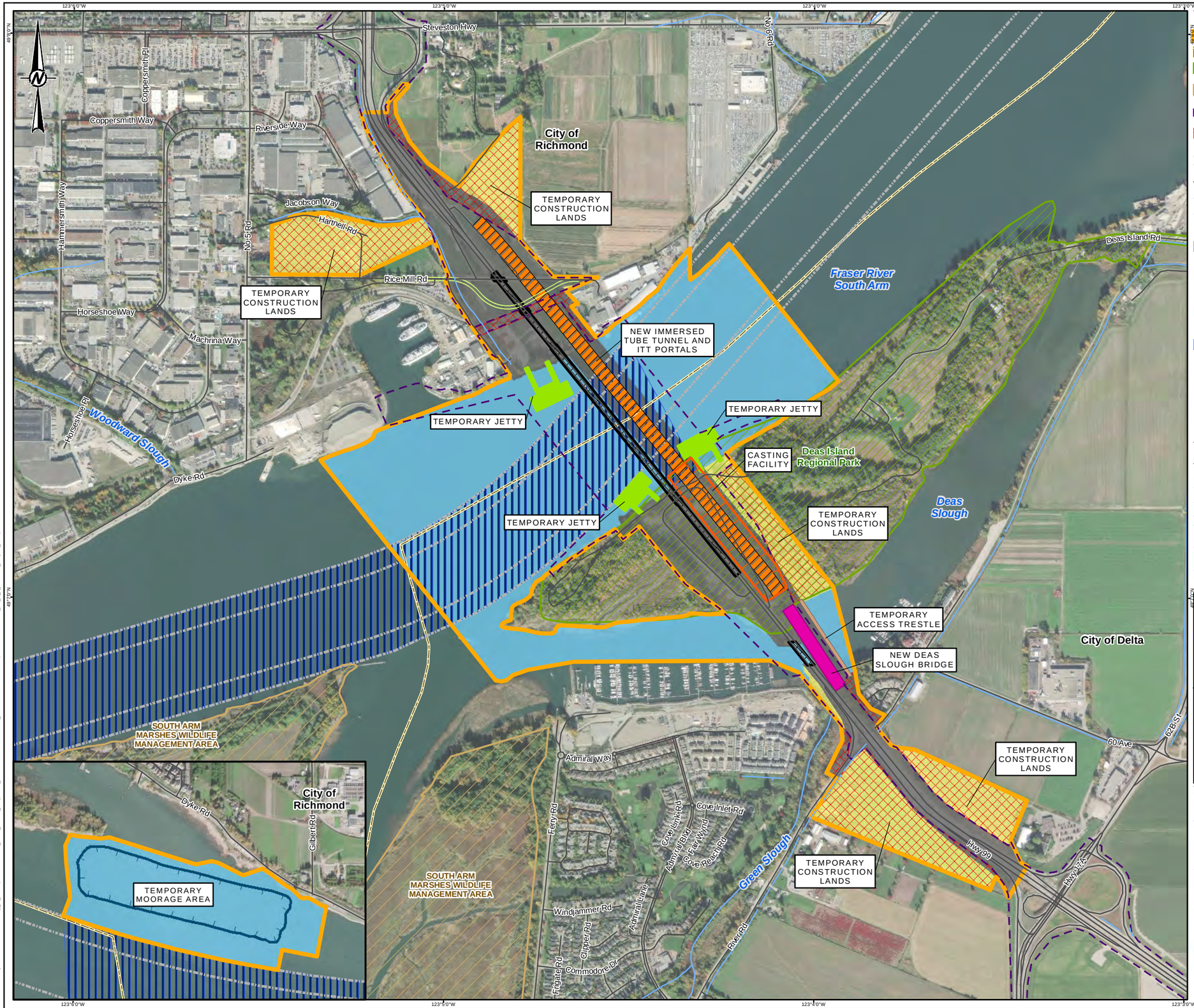
No other significant components beyond those described in Table 5.2-1 are expected for the Project.

Table 5.2.1: Project Components

Project Component	Description of Component
Temporary Construction Components	
Construction site facilities	The Project will require temporary lands for site offices and staff facilities, material testing facilities, onsite concrete batching, material storage and stockpiling, laydown, equipment storage, parking for construction staff, site services including power, water, sanitary, and communications, and site drainage and water treatment facilities. Construction site facilities will be located on lands adjacent to the Highway 99 ROW, as well as within the Highway 99 ROW.
Construction access and site circulation including temporary trestle and bridges	Temporary site circulation roads will be constructed within the Project footprint including a temporary trestle across Deas Slough and temporary bridges over the Existing Tunnel portals.
Temporary jetties	Up to three temporary jetties are proposed along the shore of the Fraser River within the Project area. Temporary jetties will be used to accommodate barge deliveries of equipment and materials during construction and for removal of excavated material. Prior to immersion events, the temporary jetties will be used to moor tunnel elements while they are outfitted just prior to immersion. The temporary jetties may also be used to temporarily stage marine equipment while not in use. The temporary jetties are expected to be piled marine structures with ramps to allow access from shore and located outside of the navigation channel (within the marine construction area). Water depths leading to the jetties will need to accommodate a floating tunnel element of approximately 11 m and localized dredging to ensure adequate depths at will be required.
Casting basin	The tunnel elements are expected to be fabricated, three at a time, in a temporary casting basin proposed in the south portal on Deas Island. The casting basin will have a base below sea level and will be dewatered to allow fabrication of the tunnel elements in the dry. Once tunnel element fabrication is complete, the casting basin would be flooded to allow the completed tunnel elements to be floated out. Following removal of the tunnel elements from the casting basin, the casting basin will be re-closed and pumped dry to allow the next three tunnel elements to be fabricated.
Temporary moorage area	A temporary moorage area is proposed directly upstream of Steveston Island. Following their fabrication, completed tunnel elements are expected to be stored in this area until ready for immersion (approximately one year). To prepare this area for temporary storage of tunnel elements, dredging is required to ensure adequate water depth. The temporary moorage area site will need to be protected from erosion by installation of scour protection and a piled wall. Temporary piled dolphin structures are anticipated to be installed to anchor each tunnel elements in place.
Separation walls	In-river separation walls are required to isolate the ITT and separate the new ITT from the Existing Tunnel. The separation walls will allow the new ITT to be located closer to the Existing Tunnel thereby minimizing property impacts and provide protection for the Existing Tunnel during construction in addition to addressing other engineering requirements such as seismic performance. The separation walls will be constructed to be consistent with navigation requirements on the Fraser River South Arm.

Project Component	Description of Component
Permanent Infrastructure Components	
North approach including roads, tunnel portal structures, and flood protection	The north tunnel approach roads and portal consist of realignment of Highway 99 south of Steveston Highway to accommodate the new tunnel. Components include roadway tie-ins to the existing Highway 99 mainline and ramps, realignment of Rice Mill Road including a new Rice Mill Road overpass, a new CN Railway overpass over the new north portal, a tunnel operations building, stormwater management and flood protection infrastructure, and north tunnel portal structures consisting of cast-in-place reinforced concrete structures required for the roadway leading down to the new ITT.
South approach including roads, tunnel portal structures, flood protection	The south tunnel approach roads and portal consist of modifications to Highway 99 south of Deas Slough to Highway 17A to improve traffic flow and include tie-ins to the existing Highway 99 mainline and ramps, flood protection infrastructure, a tunnel operations building, and construction of new south tunnel portal structures consisting of cast-in-place reinforced concrete structures required for the roadway leading down to the new ITT.
New ITT	A new eight-lane ITT, with a dedicated MUP for pedestrians and cyclists, installed under the Fraser River and connected to Highway 99 by the north and south portals. Water draft at the new ITT will be provided in accordance with the Vancouver Fraser Port Authority Port Information Guide (VFPA 2021).
MUP	A dedicated MUP through the new ITT separated from general traffic lanes will be designed as part of the ITT. The MUP will connect to existing active transportation networks in Richmond and Delta. The existing Deas Slough Bridge may be modified or repurposed as a dedicated MUP connection to active transportation networks in Delta.
New Deas Slough Bridge	The new Deas Slough Bridge with in-stream foundations and designed to maintain the existing navigation clearance at Deas Slough.
New eight-lane highway alignment	Construction of new highway alignment between Steveston Highway and Highway 17A.
Decommissioning of Existing Infrastructure	
Existing ITT removal	The in-river portion of the Existing Tunnel will be removed and the up-land portion of existing portals will be backfilled.
Existing Deas Slough Bridge removal	The existing Deas Slough Bridge will either be removed, modified, or repurposed to accommodate the MUP.
Existing CN Railway overpass	The existing CN Railway over Highway 99 will be removed.
Existing Rice Mill Road overpass	The existing Rice Mill Road over Highway 99 will be realigned.

ROW = Right-of-Way; ITT = immersed tube tunnel; MUP = multi-use path; CN = Canadian National.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- HIGHWAY 99 RIGHT OF WAY
- FOOTPRINT OUTSIDE HIGHWAY 99 ROW
- FRASER RIVER SHIPPING CHANNEL
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

PROJECT AREA TYPE

- PERMANENT WORKS
- UPLAND CONSTRUCTION STAGING (TEMPORARY WORKS)
- MARINE CONSTRUCTION STAGING (TEMPORARY WORKS)
- TUNNEL ELEMENT TOW CHANNEL

FOOTPRINT FEATURE

- DEAS SLOUGH BRIDGE
- NEW IMMERSED TUBE TUNNEL AND ITT PORTALS
- DEAS SLOUGH BRIDGE TRESTLE
- TEMPORARY JETTY
- EXISTING TUNNEL AND EXISTING DEAS SLOUGH BRIDGE
- CASTING FACILITY
- TEMPORARY MOORAGE AREA
- RICE MILL ROAD REALIGNMENT

0 250 500

1:12,500 METRES

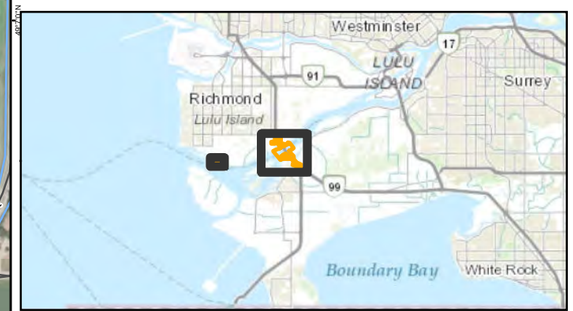
NOTE(S)

ALL ITEMS ARE DRAFT FOR PURPOSES OF THE ENVIRONMENTAL ASSESSMENT

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. RECORDED ARCHAEOLOGICAL SITES, RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. DELLTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
7. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE, ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
PROJECT FOOTPRINT AND COMPONENTS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	JP
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	5.2-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DP0\21490984_05_2_1_Detailed_Project_Footprint.mxd PRINTED ON: 2022-12-21 AT: 11:15:25 AM



Figure 5.2-2: Immersed Tube Tunnel Rendering with Multi-use Path in Middle



Figure 5.2-3: Aerial Rendering



Figure 5.2-4: South Tunnel Entrance Rendering

5.3 PROJECT ACTIVITIES

This section describes the various activities associated with the delivery of the Project components noted in Section 5.2. Activities are presented Table 5.3.1 and organized according to Project phase (site preparation, construction, operation, and decommissioning) and, where applicable, by component.

The following table of activities is based on current information and analysis completed to date and represents the best estimate of what is required to construct the Project. As a design-build project, it is possible that some components and construction methods could change from concept to final design.

Figure 5.3-1 shows the final footprint of the Project during the Operation and Maintenance phase, after the Decommissioning Phase is complete.

Table 5.3.1: Project Activities

Phase/Component	Description of Activities
Site Preparation	
General	• Detailed construction planning will be completed. • Pre-construction utility, geotechnical, hydrotechnical, and environmental surveys will be completed. • Construction equipment will be mobilized, temporary offices will be installed, and materials will be delivered to the site by truck or barge. • Clearing, grubbing, filling, placing, and grading in construction areas will be completed. • Site drainage ditches will be excavated, and stormwater management facilities will be installed. • Ground preparation, geotechnical and archaeological assessments, and work to improve load bearing of the site (could include pre-loading and geotechnical ground stabilization) will be completed. • Piling and casting of a grade slab on the north and south sides of the river to provide support for concrete batching plants and other material storage facilities, if required, will be completed. • Site circulation roads will be constructed.
Temporary access trestle and bridges	• A piled temporary access trestle across Deas Slough will be installed. This trestle may need to stay in place until the Existing Tunnel is removed. • Construction of temporary structures will be required to allow Rice Mill Road and CN Rail to cross the Project site. These structures will require spread footing or piled foundations and concrete or steel superstructures.

Phase/Component	Description of Activities
Temporary jetties	• Materials offloading facilities and outfitting jetties will be constructed and will consist of up to three jetties on the foreshore of Deas Island and on the Richmond side of the Fraser River. • Construction activities will include in-river and upland pile driving to support a deck. • A deck on the piles will be installed. • Sediments will be dredged to provide sufficient draft to moor barge and tunnel elements. • These facilities may need to stay in place until the Existing Tunnel is removed. • The backfilling of dredged areas will be based on engineering requirements and applicable regulations. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations.
Construction	
Casting basin	• An upland wall around the perimeter of the casting basin will be installed. • The casting basin will be excavated. • The casting basin will be dewatered, and the corresponding onsite water will be managed. • Excavated material will be managed in an approved manner. • Once the tunnel elements are fabricated, the casting basin will be incorporated into the south tunnel portal. • The backfilling of the casting basin will be based on engineering requirements and applicable regulations. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations. • Full time continuous (24/7) work may be required to meet the Project schedule.
Tunnel element fabrication	• Inside the casting basin, tunnel elements will be fabricated in the dry. Fabrication will include forming, casting, and curing concrete. • Tunnel elements will be fabricated of reinforced concrete using cranes, concrete trucks, concrete pumps, an onsite concrete batching plant, and truck-delivered ready-mix concrete. • Fabrication will require, for example, a supply of aggregates, sand, cement, water, reinforcing steel, steel components, waterproofing membranes, and waterstops. • Once tunnel elements have been fabricated, water will be pumped into the casting basin to flood it, the casting basin will be opened to the Fraser River, and the tunnel elements floated out of the casting basin. • Construction materials required for the fabrication of the tunnel elements will be delivered by a combination of trucks and barges. • Full-time continuous (24/7) work may be required to meet the Project schedule.

Phase/Component	Description of Activities
Temporary offsite tunnel element moorage	• Once constructed, the casting basin will be flooded and opened to the Fraser River, and each of the tunnel elements will be towed from the casting basin to the temporary offsite moorage location using existing navigation channels in the Fraser River. Flooding, opening, closing, and dewatering of the casting basin may be required outside of the least-risk-to-fish windows to meet the Project schedule. • Temporary moorage will require installation of dolphins and a pile wall and will also require dredging to provide the required draft to store tunnel elements. • Tunnel elements would be moored to dolphins installed at the temporary moorage such that the tunnel elements are always floating regardless of water levels. • Dredging will be required for the temporary storage area to provide the required draft. Maintenance dredging may also be required. • Temporary offsite storage of tunnel elements will be required until they are ready for immersion in the trench along the Highway 99 alignment under the river. • Each of the tunnel elements would be stored outside of the navigation channel with appropriate safety measures to avoid vessel impact. • Should the dredged portions of the temporary offsite tunnel element moorage require backfilling to augment naturally occurring sedimentation aggradation processes, the backfill materials would consist of clean engineering-grade fill and sourced in accordance with applicable regulations.
North and south approaches including roads, tunnel portal structures, and flood protection	• Construction of the north and south tunnel approaches will require ground improvements, deep excavation, onsite water management, and foundation preparation. • Walls will be installed along the perimeter of the portal excavation. • On the Richmond side of the river, the excavation will breach the dike and temporary flood protection consistent with existing dikes will need to be in place prior to excavation. • On the Delta side, the excavations will be on Deas Island where there is currently no identified dike system. • The excavated material from the portals will be managed in an approved manner. • The portal structures will be cast-in-place concrete. • Full-time continuous (24/7) work may be required to meet the Project schedule.
Separation walls	• Underwater separation walls are proposed to isolate the ITT from the Existing Tunnel during construction of the new ITT, in addition to being required to meet seismic performance requirements. • Construction of the separation walls may require partial removal of the scour protection currently placed on the Existing Tunnel using barge-mounted clam shell cranes, driving piles using barge-mounted cranes, and support barges to supply the work fronts.

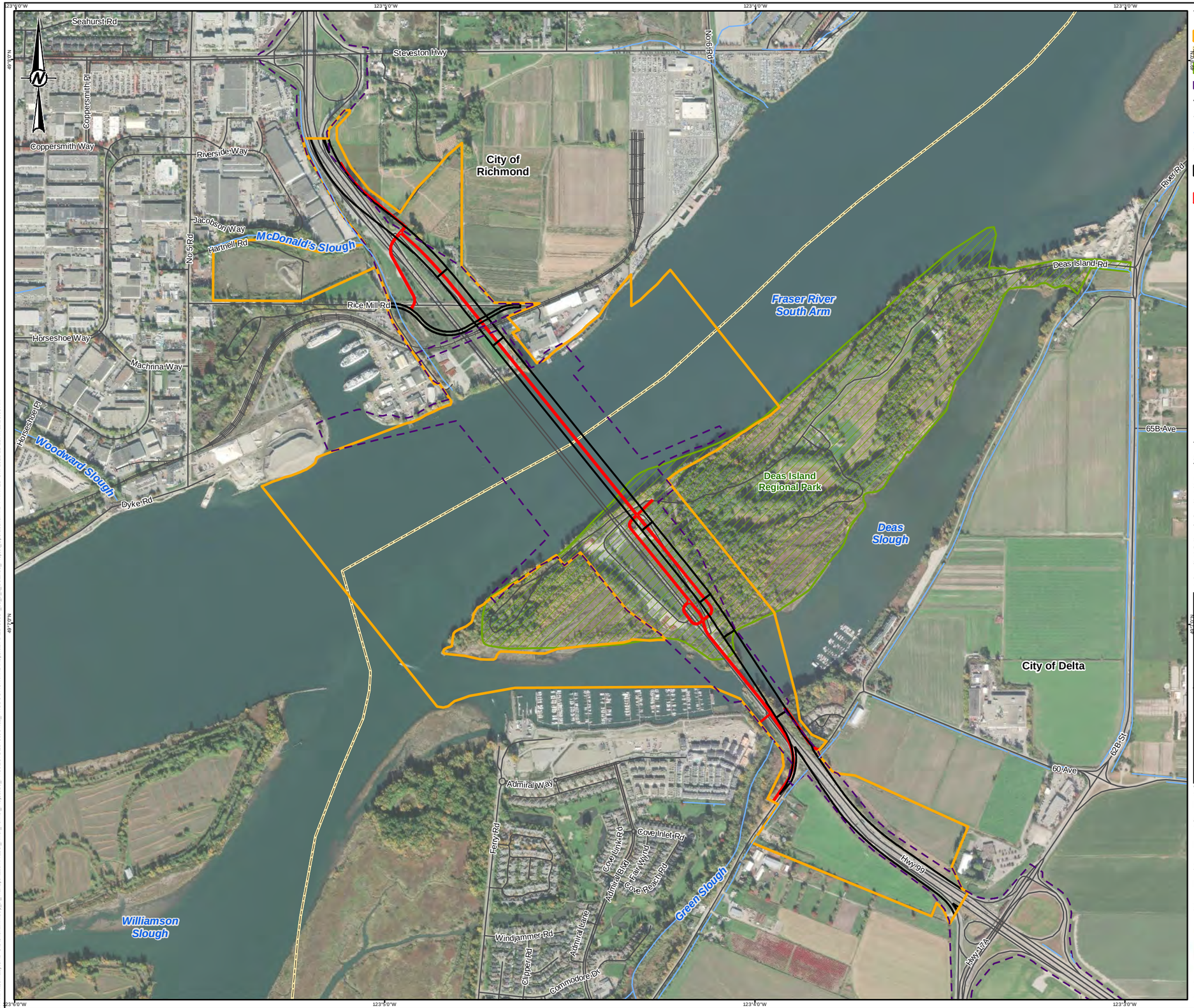
Phase/Component	Description of Activities
New ITT	• Placement of the tunnel elements will require ground improvements, dredging, foundation preparation, tunnel element immersion, and placement of protective rock. • Timing of this work will factor in the established DFO least-risk window (July 16 to February 28; Section 5.4). In-river construction activities will be carried out 24/7. • Construction of the ITT trench will progress transversely across the river while maintaining safe navigation. • A trench across the Fraser River at sufficient depth to accommodate tunnel elements will be excavated in the river bottom prior to immersion. Dredging of the trench must start the same year that the tunnel elements are immersed. • Prior to immersion, each tunnel element will be towed from the temporary offsite moorage location to the outfitting jetties for outfitting immediately prior to immersion. Elements will be towed in existing navigation channels in the Fraser River. • Immersion of individual tunnel elements will be completed from specialized immersion barges which will immerse individual tunnel elements. • Approximately six 48-hour long river closures to navigation are anticipated for the tunnel element immersions. However, the timing and duration of closures will not be confirmed until the Project has advanced further through the environmental assessment and other permitting activities with Transport Canada. • Communications with VFPA, Indigenous marine users, and marine users will be essential to maintaining safe use of the river while the tunnel construction activities occur. • Once immersion is complete, fill will be placed along the top and sides of the tunnel element to lock the element into the tunnel trench. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations.
New eight-lane highway alignment	• Construction of new highway alignment is anticipated to include ground improvements, preload placement, paving, signage, culverts, and stormwater management infrastructure.
Flood protection	• Existing dikes within the Highway 99 ROW that are affected by the Project will need to be re-constructed to current standards. • A specific flood protection system to protect the tunnel from flooding will be constructed using berms, dikes, and walls.
Final fit out	• The inside of the tunnel will be finished with the final concrete ballast, final roadway paving • All of the mechanical and electrical equipment needed for modern fire-life safety, ventilation, pumps, lighting, and traffic control will be installed.

Phase/Component	Description of Activities
New Deas Slough Bridge	• Construction activities will include upland and instream piling, ground improvements, construction of concrete piers and abutments, erection of girders, and construction of the bridge deck. • Partial removal of the embankments supporting the existing Deas Slough bridge. • Bridge superstructure construction would be accomplished using a combination of the temporary access trestle and barges.
Operation and Maintenance	
ITT operation and maintenance	• The Project's operations phase begins with the commissioning of the new tunnel crossing and tie-in to Highway 99. ITT operations and maintenance activities include: o cleaning, sweeping, and tunnel washing o operations and maintenance of tunnel ventilation, firefighting, communications, incident detection and monitoring, traffic/other signage, lighting, electrical power supply and distribution, and control and pump drainage systems o emergency response exercises
Highway operation and maintenance (north and south approaches including roads, tunnel portal structures)	• Regular highway maintenance activities include highway pavement patching and crack sealing; shoulder, curb, island, and barrier maintenance; bridge deck and joint maintenance; bridge deck and structural cleaning; highway and bridge snow removal; highway and bridge sign maintenance; pavement markings; inspections; repair and replacement of fencing; ditch and watercourse maintenance; culvert and storm sewer inspection/clean out; water retention pond inspection; inspection of Intelligent Transportation System equipment; and electrical, lighting, and traffic signal maintenance.
Decommissioning	
Existing ITT	• The removal of the existing tunnel structure will progress across the river in sections. • Rip rap protection on the Existing Tunnel elements will be removed. • Existing Tunnel elements will be separated individually and brought to the surface using similar technology to immerse the new ITT elements. • Once brought to the surface, individual tunnel elements will be removed from the river for further deconstruction and disposal in a permitted manner. Deconstruction is anticipated to take two seasons (three per year). • Removal of the existing tunnel elements will require river closures and 24/7 operations. • Once the Existing Tunnel elements have been removed, the Existing Tunnel trench will be backfilled. The backfilling will be based on engineering requirements and applicable regulations. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations. • Tunnel approaches and portals will also be decommissioned including removal of structures below grade and backfilling upland portions of existing portals.

Phase/Component	Description of Activities
Existing Deas Slough Bridge	• The existing Deas Slough Bridge structures will be removed, otherwise modified, or repurposed into a dedicated MUP.
Existing CN Railway overpass	• The existing CN Railway bridge structure will be removed.
Existing Rice Mill Road overpass	• The existing Rice Mill Road overpass structures will be removed.

24/7 = 24 hours a day, 7 days a week; ROW = Right-of-Way; ITT = immersed tube tunnel; DFO = Fisheries and Oceans Canada; VFPA = Vancouver Fraser Port Authority; ITT = immersed tube tunnel; CN = Canadian National.

Potential environmental, social, economic, cultural, and heritage effects associated with each of these components and activities of the Project will be addressed in the EAC Application. The environmental assessment will be used to inform the planning, engineering design, construction sequencing, methodologies, and schedule and to identify opportunities for offsetting and enhancements.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- HIGHWAY 99 RIGHT OF WAY
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

OPERATION FEATURES

- NEW PROJECT INFRASTRUCTURE
- MULTI-USE PATH (MUP) CONNECTION ALIGNMENT

0 250 500

1:12,500 METRES

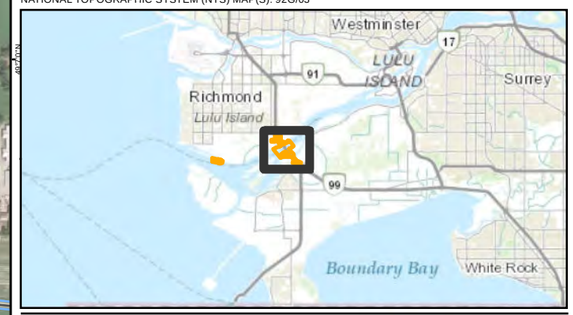
NOTE(S)

ALL ITEMS ARE DRAFT FOR PURPOSES OF THE ENVIRONMENTAL ASSESSMENT

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. RECORDED ARCHAEOLOGICAL SITES, RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. PARCEL FABRIC PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF CITIZENS SERVICES.
7. DELLTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
8. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE, ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA | Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
DETAILED PROJECT OPERATIONS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	JP
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	5.3-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\04_02_PRODUCTION\MXD\Report\DPD\21490984_05_3_1_Detailed_Project_Operations.mxd PRINTED ON: 2022-12-21 AT: 11:16:03 AM

5.4 PROJECT TIMING AND SCHEDULE

The overall anticipated schedule for the Project is provided in Table 5.4.1. This schedule reflects the authorizations and permits that are anticipated to be required for construction and/or operation of the Project, as outlined in Section 8.5. Construction activities are proposed to occur 24 hours per day, 7 days per week in order to meet Project schedule. Existing environment, economic, social, cultural, and health conditions will be characterized during 2022 and 2023 and will consider input from Indigenous nations, local governments, technical advisors, and stakeholder groups. In addition to Proponent-led studies, ongoing Indigenous-led studies by the Musqueam Indian Band and Tsawwassen First Nation are being undertaken to determine fish habitat values and to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, Eulachon, and salmonids. The Proponent has heard from Indigenous nations that Project least risk timing windows should be Project and/or species specific and not be defined by established regional timing windows alone. The results of these studies will inform Project-specific least-risk timing windows. These timing windows will inform the Project construction timelines, including those for dredging.

Least-risk windows for the protection of aquatic and terrestrial ecological receptors will be integral to the development of construction plans and will reflect regulatory requirements and feedback received during the environmental assessment process. Applicable least-risk work windows will be incorporated into schedule planning for construction. In-river construction activities will be conducted both within and outside of the Fisheries and Oceans Canada (DFO) least-risk window (July 16 to February 28) from the mouth of the Fraser River up to the Existing Tunnel (DFO 2014) and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent *Fisheries Act,* RSC 1985, c. F-14, permitting, in consultation with Indigenous nations, DFO, and Technical Advisors.

To date, the Proponent has heard concerns regarding the proposed regulatory and construction schedules from Indigenous nations and is committed to continuing to work with Indigenous nations on issues related to timelines, schedule and capacity throughout the EA process. During the Early Engagement Phase, the Proponent also heard from the public that a solution to address traffic congestion and safety challenges, and to improve transit and cycling connections on Highway 99 is needed as soon as possible. The Proponent is working to deliver the Project consistent with timelines published in the Business Case and summarized in Table 5.4-1.

Table 5.4.1: Anticipated Project Schedule

Task	Year 20-												
	21	22	23	24	25	26	27	28	29	30	31	32	33
Project announcement	■												
Environmental assessment process		■	■	■									
Procurement			■	■									
Permitting				■	■								
Detailed design and construction				■	■	■	■	■	■	■			
Operation and maintenance										■	■	■	■
Decommissioning of existing tunnel											■	■	

5.5 INFRASTRUCTURE AND LABOUR REQUIREMENTS

The Project's location is ideally situated to maximize the use of existing infrastructure. The majority of the necessary utilities and infrastructure are present or readily expandable to support the Project. During construction and operations, it is anticipated that electrical power will be provided by connection to the BC Hydro grid. Power requirements for lighting the tunnel during operations has been estimated at 350 MWh/yr.

Construction laydown and storage will be accommodated using the existing Highway 99 ROW and temporary upland construction areas adjacent to the Highway 99 ROW (Figure 5.2-1). Local road networks will be used to transport construction equipment and materials from temporary upland construction areas to the Project area. Access roadways predominantly already exist but may require minor upgrades. A temporary access trestle across Deas Slough is proposed to access the casting basin, tunnel element fabrication, south portal construction site, and to construct the new Deas Slough Bridge.

The Project requires construction of temporary jetties for offloading material to upland construction areas from barges on the Fraser River. Material transport would also include marine transportation of vessels/barges along the Fraser River and from the Strait of Georgia.

The Project will require an estimated 600 full-time equivalents per year during construction, approximately 220 full-time equivalents per year during decommissioning of the Existing Tunnel, and approximately 20 full-time equivalents per year during operation. The majority of the projected workforce is expected to be sourced from the pool of workers residing in Metro Vancouver. Some workers will also be sourced from other regional districts within the BC Economic Region of Mainland/Southwest (including the Fraser Valley,

Squamish-Lillooet, and Sunshine Coast) and from outside BC for certain specialized technical positions. Project labour requirements, sourcing of construction workers, and potential effects on local housing and accommodation will be assessed within the Project EAC Application.

Indigenous communities have expressed an expectation that the Project prioritize Indigenous training and employment. The Proponent will provide training and employment opportunities to support under-represented groups such as Indigenous peoples, people of colour, and women as part of the labour strategy.

5.6 ALTERNATIVES TO THE PROJECT

Consideration of alternatives to the Project builds upon findings and recommendations from the Independent Technical Review commissioned by the province to review the 2013 decision to replace the Existing Tunnel with a 10-lane bridge (see Section 2.1 for Project history). In December 2018, the Proponent released the results of the review and indicated that the Proponent would engage with local governments and Indigenous nations to identify a crossing solution that better aligns with regional interests.

Following the release of the Independent Technical Review, the Proponent identified 18 potential crossing solutions, incorporating either an ITT, a bridge, or a bored-tunnel solution. Consistent with provincial and regional commitments to transit and active transportation, all options assumed transit infrastructure enhancements and provisions for cycling and walking. The analysis of replacing the Existing Tunnel under the Fraser River with either an ITT, a bridge, or a bored tunnel led to the following conclusions (COWI 2019):

- The relative cost, constructability, and environmental risk of a deep bored tunnel would render it unsuitable for consideration as a solution for replacing the Existing Tunnel.
- While the long- and short-term environmental effects of a long-span bridge and an ITT differ, these effects could be managed through best management practices, environmental offsets, and enhancements.
- Improving transit services and reliability remains a priority for the new crossing. Expanding transit lanes on, and leading to, the new crossing would increase people-carrying capacity across the Fraser River. This, combined with TransLink's potential support to provide rapid transit service and increase transit frequency, should increase ridership, and would also align with the region's desired shift to sustainable modes.
- Dedicated pedestrian and cyclist facilities provide an important incentive for active transportation, and users are better served if these facilities are incorporated into the design of the new crossing.
- The benefits of retaining the Existing Tunnel for traffic over the long-term are limited. Additionally, the costs associated with seismic upgrades to retain the Existing Tunnel for this purpose would be more expensive than the all-new infrastructure options. The concrete structure of the Existing Tunnel suffers from the alkali-silica reaction and therefore has limited remaining life.

The analysis of these alternative solutions was considered to support the Proponent's ongoing discussions with Indigenous nations, TransLink, adjacent Fraser River communities, and key stakeholders and its preparation of the Business Case.

Through a process of analysis and engagement (described in Section 2.1), the proposed eight-lane ITT option was endorsed as the preferred option for the region for the purposes of engagement with Indigenous nations, technical advisors, stakeholders, and the public. At the time, Tsawwassen First Nation, a member of the Metro Vancouver Board of Directors, did not endorse the ITT option.

Although the Metro Vancouver Board endorsed the new ITT crossing over a bridge, the Proponent is responsible for the final decision of the recommended crossing through its engagement, technical analysis, and business case processes. Since endorsement from the Metro Vancouver Board in November 2019, the Proponent has continued to meet with Indigenous nations and key stakeholders to share information on the Project and to seek feedback on the work to date, including the planning process, service delivery options analysis, and advanced works.

From 2020 to 2021, the Proponent met with Tsawwassen First Nation leadership to address concerns with the eight-lane ITT option. At the Project's announcement in August 2021, both Tsawwassen First Nation leadership and Musqueam leadership were represented and spoke in favour of working with the Proponent towards a solution for replacing the Existing Tunnel.

In 2021, the Proponent approved a Business Case that provided an analysis of an eight-lane ITT option and an eight-lane bridge option (MOTI 2021). The Business Case recommended replacement of the Existing Tunnel with a new eight-lane ITT immediately upstream of the Existing Tunnel. The Business Case included a multiple accounts evaluation of both quantitative and qualitative indicators across the options in terms of five different accounts:

- financial
- customer service
- social/community
- economic development
- environmental

Through the multiple accounts evaluation framework, each account was assessed through one or more indicators that represent the important implications of each option against the identified Project principles, goals, and objectives and that demonstrate the trade-offs involved in selecting one option in relation to the others. The multiple accounts evaluation analysis considered the costs, benefits, and other impacts of each option in relation to the base case scenario (Base Case) of continued use of the Existing Tunnel under current operating conditions.

5.7 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

As required under Section 25(2)(i) of the BCEAA the environmental assessment will include an evaluation of alternative means of carrying out the Project that are technically and economically feasible, including through the use of the best achievable technologies, and the potential effects, risks, and uncertainties of those alternatives. The Proponent has considered technically and economically feasible options for the Project design and siting options, crossing configuration, casting basin site, temporary offsite moorage locations, and disposal of excavated materials (including dredged materials) alternatives.

Since acceptance of the IPD, the following updates and changes are noted:

- A potential location for temporary offsite moorage for tunnel elements has been identified near Steveston Island (Figure 5.2-2), following consultation with Indigenous nations.
- Applicability of the *Environmental Management Act,* SBC 2003, c. 53, for characterization of material for upland disposal has been added.
- Potential to transfer dredge material to local Indigenous nations was added based on consultation with Indigenous nations.

As reflected in the BC EAO's Effects Assessment Policy (BC EAO 2020a), the analysis of alternative means of carrying out the Project considered the technical and economic feasibility of alternatives during the early stages of Project planning, as well as the following:

- potential environmental, economic, social, cultural, and health effects
- potential effects to Indigenous interests
- risks and uncertainties of alternatives

The evaluation of alternative means applied various criteria that represent technical considerations, best achievable technologies, and potential effects for the following Project design, components, and activities:

- location of the immersed tube tunnel alignment
- tunnel crossing configuration
- location of temporary offsite moorage locations for tunnel elements
- management of dredge sediment material
- water management
- solid waste management
- management of the existing tunnel infrastructure

A summary of the alternatives considered, criteria applied, and rationale for the selected alternatives for Project components/activities is summarized in Table 5.7.1. Additional detail on alternatives means to conducting the Project will be provided within the EAC Application, incorporating results of technical, environmental, economic, and socio-economic studies, Indigenous-led assessments, and engagement feedback.

Table 5.7.1: Alternative Means of Carrying Out the Project

Project Component/ Activity	Alternatives Considered	Alternative Selected	Criteria, Risks, and Uncertainties	Rationale for Alternative Selected
Location of tunnel alignment	Upstream of Existing Tunnel	✓	• Potential effects to the existing tunnel infrastructure • Potential for downstream river scour and erosion • Potential effects on utilities • Potential effects to properties	Upstream location minimizes potential effects to the existing tunnel and does not affect existing utilities. Location is set as close to the existing tunnel as possible to minimize impacts to properties, ALR, Deas Island, and downstream infrastructure.
	Downstream of Existing Tunnel	X		
Tunnel crossing configuration	Eight-lane tunnel, including six general purpose lanes, two dedicated transit lanes, and a bi-directional MUP	✓	• Shoulders and lane width requirements as prescribed by the Province's Chief Engineer • Transit ridership • Traffic congestion • Car and transit travel times	Symmetrical eight-lane crossing (i.e., four lanes in each direction) provides the most flexible approach, which could be used to provide four general-purpose traffic lanes in each direction if vehicular traffic operations are to be optimized to manage congestion or could be configured with three general-purpose lanes to manage and support transit use, and one dedicated transit lane in each direction. Capacity gains due to modern lane widths and geometry, elimination of the counterflow system, and separation of transit from general-purpose lanes. Reduction in transit user travel time from dedicated transit lanes.
	Six-lane tunnel, no dedicated transit lanes	X		

Project Component/ Activity	Alternatives Considered	Alternative Selected	Criteria, Risks, and Uncertainties	Rationale for Alternative Selected
Location of casting basin	Deas Island	✓	• Water access • Ability to dewater • Proximity to, and access for, labour force • Size of footprint • Geotechnical conditions • Efficiency of construction to allow Project schedule to be met • Potential effects to land wildlife and habitat • Potential effects to park and recreational areas and activities • Contamination	Casting basin located on the same footprint as the south portal resulting in minimized overall Project footprint and construction efficiency commensurate with Project schedule.
	Various other locations on BC Coast	X		
Location of temporary offsite moorage facility	Lower South Arm, in Woodward channel	X	• Sufficient depth to accommodate tunnel elements • Dredge and temporary works requirements • Impacts to navigation • Potential scour, sedimentation • River morphology and hydraulic conditions and effects • Potential effects on water quality • Potential effect on intertidal habitats • Potential effects on navigation • Potential effects to nearby foreshore infrastructure • Potential effects on Indigenous fisheries and vessel transit	Based on input received through consultation with Indigenous nations, influenced by Indigenous knowledge and use the Steveston Debris Wall was identified as the preferred location with least effect to Indigenous fishing and vessel transit. All identified sites have water access only and no navigational conflicts. All sites except for West Bay would require dredging.
	Steveston Debris Wall, just upstream of Steveston Island	✓		
	Kirkland Island, downstream of the entrance to Lander Reach	X		
	Tilbury, adjacent to Tilbury Island	X		
	West Bay, near downstream end of Annacis Island	X		

Project Component/ Activity	Alternatives Considered	Alternative Selected	Criteria, Risks, and Uncertainties	Rationale for Alternative Selected
Management of dredge material	Beneficial use in construction of estuarine marsh and mudflat	TBD	• Practicality of disposal of excavated materials i.e., upland disposal would generate truck traffic on the order of two to three trucks every five minutes 24/7 for 10+ months. • ECCC Disposal at Sea Permit Application Guideline: Process for Dredged Material Hierarchy of Waste Management Options (Chapter 3.1) • Potential effects to water quality • Potential effects to fisheries resources • Potential effects to marine mammals • Potential effects on noise • Potential effects on air quality • Potential effects on GHG emissions • Potential effects on human health • Potential effects of land and marine-based movement of materials (congestion, hazards, and safety)	Management of dredge material to be confirmed based on further assessment of environmental, social, economic, health, and cultural effects of disposal options and on input from Indigenous nations, technical advisors, and government agencies during the environmental assessment process. The management of dredged material for the Project will follow, to the extent practicable, the waste management hierarchy outlined in the *Canadian Environmental Protection Act, 1999*, which prioritizes beneficial use options over disposal, and disposal on land before disposal at sea.
	Beneficial use in upland construction and/or temporarily stockpiling on site for subsequent reuse and/or resale off site	TBD		
	Land-based (upland disposal)	TBD		
	Marine-based (disposal at sea)	TBD		
	Combination of land-based and marine-based disposal	TBD		
	Potable water	✓		

Project Component/ Activity	Alternatives Considered	Alternative Selected	Criteria, Risks, and Uncertainties	Rationale for Alternative Selected
Water management	River-sourced water	✓	• Water volume and water quality requirements for various Project components and activities • Capacity of nearby water infrastructure • Constraints on potable water infrastructure capacity and supply • Confirmed approval by municipalities of potable water service agreements	Potable water is required for concrete batch plant and onsite facilities. The Project will use river-sourced water for riverbank excavation, ballast for immersion of ITT elements, flooding the casting basin, and decommissioning the existing tunnel. A water management plan will be developed for the Project.
Solid waste management	Land-based transport to disposal sites	✓	• Solid waste volume and type • In-river (e.g., decommissioned ITT) versus land-based (e.g., road asphalt) solid waste materials • Potential constraints on local disposal sites/land fill capacity • Potential effects on land and marine-based traffic	As waste will be generated from land and marine construction activities and decommissioning of land and marine-based infrastructure, a combination of land and marine-based transportation of waste is required and will support transportation efficiencies. A waste management plan will be developed for the Project.
	Marine barging to disposal sites	✓		
Management of Existing	Removal of existing tunnel	✓	• Condition of the existing tunnel	

Project Component/ Activity	Alternatives Considered	Alternative Selected	Criteria, Risks, and Uncertainties	Rationale for Alternative Selected
Tunnel infrastructure	Leave existing tunnel in place	X	• Seismic performance of the existing tunnel • Protection of new ITT structure • Cost of tunnel removal • Potential effects to fishery and marine mammal resources • Potential effects to navigation • Potential effects to fish harvesting and other marine-based activities	Alternative selected addresses condition and seismic performance of existing tunnel and protection of the new ITT structure.

ITT = immersed tube tunnel; GHG = greenhouse gas; TBD = to be determined; ECCC = Environment and Climate Change Canada; ALR = Agricultural Land Reserve; Existing Tunnel = Existing George Massey Tunnel.

6 EMISSONS, DISCHARGES, AND WASTE

Project-related components and activities are anticipated to result in emissions, discharges, and waste from the construction and operations of the Project. Potential sources of emissions, discharges, and waste will be assessed in detail during advanced stages of the environmental assessment process based on refined Project information. Proposed mitigation measures and/or Project design changes to address emissions, including GHGs, will be identified through the emissions, discharge, and waste assessments to be completed for the EAC Application.

Since acceptance of the IPD, the following additions are noted based on input from engagement:

- a section on groundwater management.
- a summary of GHG emission estimates
- reference to re-use and recycling, where feasible, of solid wastes
- use of best achievable technologies to treat runoff

6.1 AIR AND DUST EMISSIONS

The primary sources of emissions to the air (i.e., air emissions) related to the Project would occur during construction and operation. Emissions are anticipated from fuel combustion in construction vehicles and equipment such as tugboats, dump barges, cranes, dredges, excavators, and graders. Process fuel used in asphalt and concrete plants would also contribute air emissions. Operation emissions would be related to construction vehicles and equipment used in maintenance. Vehicle emissions in the tunnel would be vented by a longitudinal ventilation system. Dust emissions may be generated by construction activities causing soil or asphalt disturbance. Criteria air contaminants, which have the potential to affect human health (i.e., respiratory, and cardiovascular effects), would be emitted during the Project.

Mitigation practices to manage dust and air quality during construction, are likely to include the following:

- vehicles and equipment maintained using a predefined schedule to limit air emissions and leaks
- a Construction Environment Management Plan (e.g., a Fugitive Dust Management Plan), which will identify best dust management control practices on site and contain trigger and response dust control practices

6.2 GREENHOUSE GAS EMISSIONS

As required by Section 25(2)(h) of the BCEAA, the environmental assessment will consider GHG emissions, including potential effects on the province being able to meet its targets under *the Greenhouse Gas Reduction Targets Act,* SBC 2007, c. 42. The Project would support the province in meeting its targets under the Green House Gas Reduction Targets Act through the following:

- As indicated in Section 4.2, the Project will facilitate an increased share of sustainable modes of transport and in turn support GHG reduction through:
    - enhanced transit service convenience and facilitate future expansion
    - facilitation of higher occupancy modes of travel (and in turn reduction in single occupancy vehicles)
    - Improvements in active transportation (e.g., bikes, pedestrians) access through the Project MUP component.
- As indicated in Section 10.1.1, the Project is expected to result in an improvement in GHG emissions in the long term as a result of improved traffic flow, since vehicles driving at highway speeds consume less fuel and thus generate less GHG emissions. Additionally, ongoing improvements in vehicle emission reduction technology and increased transit use are likely to contribute to long-term improvements in GHG emissions.

Direct GHG emission from construction activities are anticipated to be intermittent and short in duration compared to the life of the Project. Mitigation measures (as identified in Table 10.6-1) will be implemented to limit GHG emissions from construction equipment. GHG emissions are expressed as carbon dioxide equivalents (CO_2e) using each GHG's respective 100-year global warming potential. Sources of direct GHG emissions for the different phases of the Project are summarized in Table 6.2.1. Data provided in this section are preliminary, and are based on the information available at the time of preparing the DPD.

Table 6.2.1: Preliminary Direct Greenhouse Gas Emission Rates

Phase	Emission Source/Activity	GHG	Duration	Emission Rate (tonnes CO_2e/year)
Construction	Fuel combustion from construction equipment (on land) and marine vessels including general site preparation, temporary access trestle, casting basin, tunnel element fabrication, outfitting jetty, and offsite moorage (over water) (Table 5.3.1); direct process emissions (if any) from the onsite concrete batch plant	CO_2, CH_4, N_2O	2026–2029	4,789 tonnes CO_2e/year
Operation	Fuel combustion from on-land maintenance equipment (e.g., sweepers); GHG emissions related to acquired power		2030–Project life	20.9 tonnes CO_2e/year (direct) 66.9 tonnes CO_2e/year (acquired power)
Decommissioning Existing Infrastructure	Fuel combustion from decommissioning equipment (on land) and marine vessels, including the existing ITT, Deas Slough Bridge, CN Railway overpass, and Rice Mill Road overpass		2031–2032	7,183 tonnes CO_2e/year

Phase	Emission Source/Activity	GHG	Duration	Emission Rate (tonnes CO_2e/year)
Decommissioning of Project Infrastructure	Fuel combustion from decommissioning equipment (on land) and marine vessels		End of Project life	7,183 tonnes CO_2e/year

GHG = greenhouse gas; CO_2 = carbon dioxide; CH_4 = methane; CO_2e = carbon dioxide equivalents; N_2O = nitrous oxide; ITT = immersed tube tunnel; CN = Canadian National.

GHG emissions estimated account for direct emissions and acquired GHG emissions (from power consumption) for the Project. The presented GHG emissions are preliminary and represent the Proponent's current estimate of GHG emissions for inclusion in the DPD. A summary of main assumptions, associated with the GHG emission estimates presented in Table 6.2-1 are provided below:

- Construction equipment were estimated based on construction activities
- All construction and operational equipment were assumed to be diesel powered
- Construction equipment hours of operation were estimated based on the construction schedule, and the construction equipment's engine would be on for 100% of the hours of operation
- Annual fuel consumption during the operational phase (e.g., road sweepers) was estimated to be 7,500 L of diesel/year
- A 15% safety factor were applied to the total annual estimated power consumption
- For the purposes of the DPD, the GHG emission values provided for the eventual decommissioning of the Project infrastructure (i.e., the proposed ITT), are considered to be similar to GHG emissions during removal of the existing infrastructure

The scope and methodologies for undertaking the GHG assessment, including decommissioning of the existing infrastructure and eventual decommissioning of the ITT, will be developed in collaboration with Indigenous nations and technical advisors during the development of the Application Information Requirements (AIR) in the Process Planning Phase.

Mitigation practices to manage GHG emissions during construction would include minimizing idling and using a predefined schedule that may limit GHG emissions.

The Government of BC published the *Climate Change Accountability Act*, SBC 2007, c. 42, announcing provincial GHG emission reduction targets. The *Climate Change Accountability Act* targets are to reduce the total provincial GHG emissions to 40% below 2007 levels by 2030, 60% below 2007 levels by 2040, and 80% below 2007 levels by 2050 (BC ENV 2007).

The Project's construction, operation, existing infrastructure decommissioning, and eventual decommission phases and activities (Table 6.2-1) will have different direct and indirect GHG emission profiles.

Regardless of whether the Project moves forward, downstream GHG emissions (e.g., vehicular emissions) would be emitted by vehicles using the existing infrastructure. The Project downstream GHG emissions are expected to be influenced by the following two factors:

- The completion of the Project, which is expected to optimize the traffic flow would result in less frequent traffic congestion. Less frequent congestion of vehicles would result in less GHG emissions.
- Canada is implementing a stepped plan where by 2035, all sales of light duty vehicles will be electric vehicles (ECCC 2022), resulting in less downstream GHG emissions from the Project.

Direct GHG emission from construction activities are anticipated to be intermittent and short in duration compared to the life of the Project.

6.3 SOLID AND SANITARY WASTE

Solid wastes, such as construction debris and sanitary and food waste, will be generated during the Project. Most solid waste is expected to result from the demolition and removal of existing infrastructure (e.g., the Existing Tunnel) and construction of new structures (e.g., bridges and overpasses) and site surfaces (e.g., asphalt roads on approaches and lanes). Hazardous wastes, including batteries, hydraulic fluids, lubricants, fuels, used filters, paints, and sanitary wastes from worker amenities, will be generated. Mechanisms for disposal of liquid and sanitary waste will be identified through engagement with municipalities. Solid wastes generated during the Project will be collected and disposed of at appropriate offsite facilities. Where feasible, solid wastes will be reused or recycled. A Waste Management Plan will be developed in collaboration with local and regional governments to identify appropriate disposal and recycling facilities that can accommodate projected volumes of waste.

6.4 STORMWATER RUNOFF

Stormwater runoff will occur during and following rainfall events throughout the construction and operation phases of the Project. During construction, exposed soils are likely to be present, which increases the potential for surface erosion and for sediment-laden waters to enter ditches and/or watercourses. During operation, soils are expected to be stabilized; however, stormwater runoff from road surfaces will continue to occur. The portals would be provided with ramp pump sumps to prevent stormwater runoff from entering the ITT. A low-point pump sump would remove incoming liquids from the ITT. The discharge of water would be via oil separators or equivalent.

During the operation and maintenance phase of the tunnel, discharge water would be treated using the best achievable technologies and mitigation measures to be determined during detailed engineering design toward achieving compliance with regulatory requirements. The best achievable technologies and mitigation measures will be informed by the environmental studies and effects assessment to be conducted during preparation of the EAC Application. The mitigation measures will be developed in collaboration with Indigenous nations, technical advisors, and public stakeholders during preparation of the EAC Application.

6.5 GROUNDWATER MANAGEMENT

Significant volumes of groundwater are anticipated to be encountered during excavations at the north and south tunnel portals and casting basin, due to shallow water tables in proximity to the Fraser River. It is anticipated that groundwater will accumulate in excavations during construction. Groundwater discharge has the potential to impact water quality, fish and fish habitat, and land and resource use.

Mitigation measures to minimize effects of groundwater discharge are likely to include the following:

- monitoring the quality of pumped groundwater, and implementation of treatment, if necessary (e.g., if there is potential for pollution to be caused in the environment)
- development of a groundwater management plan, which will describe measures to control discharges to prevent erosion or saturation of upland areas, prescribe discharge criteria to avoid impacts to water quality, and identify measures for discharge to minimize potential for impacts to fish and fish habitat

6.6 DREDGED MATERIAL AND EXCAVATED SOILS

Dredging is required to excavate a trench for the ITT to meet navigational and technical requirements. Dredging will also be required as part of construction of temporary infrastructure including temporary moorage area and to ensure adequate depths at temporary jetties. The Project is estimated to require the removal of approximately 1,300,000 m^3 of river sediment during DFO least-risk windows. As described in Section 5.7.5, disposal options of dredged material will be assessed in accordance with the guidance of the *Canadian Environmental Protection Act* and the *Environmental Management Act*. Given that the potential land-based location(s) and markets for commercial uses of the dredge marine sediments are unknown at this time, the assessment of dredged sediment disposal considers both marine- and land-based alternatives.

Approximately 800,000 m^3 of overburden and excavation spoils will be generated on upland portions of the Project footprint. The assessment of the quality of the excavated soil will be conducted in accordance with the BC Ministry of Environment and Climate Change Strategy technical guidance (BC MOE 2009), including Stage 14 amendments regulating soil relocation procedure. If contaminated soil is encountered during the Stage 2 Preliminary Site Investigation (PSI), its extent will be delineated laterally and vertically and soil management/handling, as well as remediation options will be recommended, including offsite disposal options. If suspected contaminated soil is encountered during excavation activities, ex situ

characterization will be undertaken in accordance with BC MOE (2009). Materials will be removed by barge and/or trucks to the approved locations for disposal. Suitable uses for the excavated soils will be explored prior to construction. Given that potential land-based location(s) and markets for commercial uses of the excavated soils are unknown at this time, the assessment of excavated soils disposal considers both marine- and land-based alternatives. All general construction waste would be disposed of at an approved upland facility.

Disposal at sea will be considered for disposing of river sediments and upland soils that meet rigorous disposal at sea criteria. A Disposal at Sea Permit from Environment and Climate Change Canada (ECCC) will be required for any material disposal at sea. Alternative options for the beneficial use of dredged sediments and upland soils are outlined in Section 5.7.

7 LAND AND WATER USE

7.1 OVERVIEW

This section includes updated information on disturbed areas within the revised Project footprint, land use designations, legal land title, and proximity of the Project to seasonal or temporary residences. Additional information has been included on land and water ownership and designations for water and foreshore areas pertaining to the proposed temporary moorage facilities for the Project. Information on authorization and permits is included in Section 8.5. Updates have been made to the land and water management plans that apply to the immediate Project footprint and nearby land and water areas. Table 10.3.2 and Table 10.3.3 in Section 10.3.2 and 10.3.3 provide updates on engagement with Indigenous nations, technical advisors, stakeholders, and the public; key issues pertaining to land use, marine use, and water use identified through engagement; and how these issues were considered and responses to the issues.

7.2 PAST AND PRESENT LAND AND WATER USE

The Project footprint has been previously developed and is currently used for road and rail transportation, agriculture, public utilities, industrial and commercial activities, recreation, and mixed urban uses. Land within and adjacent to the Project footprint has also been left undeveloped for parkland/wildlife conservation.

Deas Island Regional Park has recreational value for its historical buildings, picnic areas, hiking, biking, and equestrian trails. In addition to these recreational values, Deas Island has conservation values for its wetlands, mixed forest, and grasslands and for supporting a variety of aquatic and terrestrial wildlife species. Waters within and adjacent to the Project footprint are currently used for navigation by commercial and recreational marine vessels transiting the Project area, as well as by terminal operators, for marina moorage, and for Indigenous commercial and recreational fishing at various times during the year.

The Project footprint and adjacent land and water areas have historical and current importance and use, supporting Indigenous interests including harvesting, transportation, trade, recreation, fishing, hunting/trapping, and gathering, language and culture, cultural sites, habitation sites, sacred or spiritual sites, transportation routes, and cultural landscapes. Indigenous Rights including Title and Treaty rights known to overlap with or lie in the vicinity of the Project area are discussed further in Section 13.0. Potential for current use by Indigenous nations in the Project area include seasonal or temporary residences to support land- and marine-based harvesting activities within an increasingly industrialized environment. Musqueam has shared that as recently as within the past decade, Musqueam has used parts of the Project area for overnight camping and harvesting. Current existing conditions in the lower Fraser River are a reflection of changes and adaptations to pre-industrial environmental conditions, with Indigenous use being affected by industrialization in the Project Area.

During the past 20 years, growth and the associated land and water use along the lower reaches of the Fraser River South Arm and surrounding nearby lands have focused on industrial use, urban and rural residential development, and transportation infrastructure development. Water and road transportation infrastructure has grown in response to the expansion of trade and urban development, resulting in a network of major transportation routes that both parallel and cross the lower reaches, connecting municipalities and port warehousing and distribution facilities. International and inter-regional transportation hubs, including the Vancouver International Airport, have also contributed to development and activity on the Fraser River South Arm.

7.3 PROJECT FOOTPRINT AND AREA OF DISTURBANCE

Table 7.3.1 provides updated information on the estimated size of disturbed area reflecting the updated Project footprint for temporary and permanent land- and marine-based Project components including the temporary offsite moorage facility. The footprint for decommissioning and/or removal of existing infrastructure is approximately 3 ha and falls within the footprints in Table 7.3-1.

Table 7.3.1: Estimated Size of Disturbed Area

Project Component	Estimated Area (ha)
Temporary land-based construction components	32.2
Temporary marine-based construction components	104.0
Permanent infrastructure components	54.9
Temporary offsite moorage – temporary marine area	13.1
Temporary offsite moorage – dredge pocket	11.5

Table 7.3.2 summarizes topics related to Project footprints, maps and shapefiles that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to update the DPD.

Table 7.3.2: Summary of Topics Related to Project Footprint, Maps and Shapefiles Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Musqueam Indian Band	Have locations for the material offloading facilities been proposed at this time? The locations will need to be discussed closely with Musqueam so as to minimize potential impediments on Musqueam transits and fishing activity in the project vicinity.	Since issuance of the IPD, temporary jetties were added to Figure 5.2-1.	The locations of the material offloading facilities have been proposed and are reflected in Figure 5.2-1 (Project Footprint and Components; (referred to as temporary jetties). The Project team looks forward to discussing these locations with Musqueam.
Snuneymuxw First Nation	The maps in Attachment 5 were not available at the time of SFN's review, however SFN suggests that MoTI use SFN's traditional territory map finalized in March of 2021 and prepared for the British Columbia Ministry of Indigenous Relations and Reconciliation.	Material has been incorporated into Attachment 6 in the DPD.	Thank you for providing this material, it has been incorporated into the DPD in Attachment 6.
Tsawwassen First Nation	The text states that: "*The Highway 99 ROW includes the submerged land underwater within the Project alignment and the existing Highway 99 and associated road infrastructure including the existing Rice Mill Road overpass, the Existing Tunnel, the north and south highway approaches into the Existing Tunnel, and* the Existing Deas Slough Bridge." However, the Highway 99 ROW as depicted in Figure 5.2-1 and in 7.3-1 do not seem to jibe with this. Please confirm.	All figures in the DPD that show the Highway 99 right of way have been updated to include the submerged lands within the Project alignment.	DPD Figures have been updated.
Local Government			
City of Delta	Why is there a grey area labelled as 'Unknown' [on land ownership figure]?	Figure 7.4-1 Land Ownership	At the time of preparing the IPD, the Proponent had not yet confirmed whether

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
			the referenced land areas were municipally-owned or privately-owned properties, and therefore shaded as grey areas and labelled as 'Unknown' on the Land Ownership map. Mapping has been updated for inclusion in the DPD, outlining ownership for lands identified as unknown in the IPD.
Metro Vancouver	Please show locations of the casting basins.	Figure 5.2-1 has been updated to include the location of the casting basin to be located within the Highway 99 right-of-way near the western end of Deas Island.	Figure 5.2-1 has been updated.
Metro Vancouver	Note that MVRD Parks requires more specific data (e.g., ArcGIS shapefile projected in UTM NAD 83 zone 10) and/or mapping that illustrates the proposed FRTP temporary workspace in order to provide comment on impacts and associated concerns.	No change required	The Proponent will share ArcGIS shapefiles projected in UTM Nad 83 zone 10 with MVRD. Iterations of maps and shapefiles are being shared through regular dialogue with MVRD.
Metro Vancouver	RE: the possible need for temporary workspace beyond the lands owned by MOTI and owned by MVRD. Such requirement will require a temporary licence agreement to be granted by MVRD to MOTI. MVRD needs to determine if this is amenable to them.	No change required	More detailed figures are provided in the DPD. The Proponent will share ArcGIS shapefiles projected in UTM Nad 83 zone 10 with MVRD. Iterations of maps and shapefiles are being shared through regular dialogue with MVRD.
Metro Vancouver	Please show the Lulu Island-Delta Main as an active pipeline crossing and proximal to the project footprint.	Figure 10.3-2 of the DPD has been updated to include the Lulu Island-Delta Main as an active pipeline crossing.	Figure 10.3-2 has been updated.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Vancouver Fraser Port Authority	The temporary material offloading facility/temporary outfitting jetty on the southwest side of the tunnel appears to enter into the safety channel. The port authority requests it moved so that the safety channel remains clear.	Figure 5.2-1 has been updated to show that the outfitting jetty has been adjusted to avoid overlap with the administrative safety zone.	Figure 5.2-1 has been updated.
Federal Government			
Fisheries and Oceans Canada	Recommend to update Section 10.1.10 to include a map showing the location of potentially affected upland tributaries and a discussion of the types of fish species/taxa and habitat that may be impacted. DFO will rely on this information to understand if there are sensitive or vulnerable fish or fish habitats located in upland tributaries that have the potential to be affected by the Project.	Section 10.1.10 Fish and Fish Habitat has been updated in the DPD Figure 10.1-4 Fish Species and Upland Tributaries has been added to the DPD.	Section 10.1.10 of the DPD has been updated to include a map showing the location of potentially affected upland tributaries/ditches including a discussion of the types of fish species/taxa and habitat that may be impacted.

EAC = Environmental Assessment Certificate; VC = valued component; DPD = Detailed Project Description; AIR = Application Information Requirements.

Since acceptance of the IPD, the following additional updates and changes were made to Project footprints, maps, and shapefiles:

- Added new figures:
    - Detailed Project footprint during Operations (Figure 5.3-1)
    - Areas of Potential Environmental Concern (APECs; Figure 10.1-1)
    - Wildlife features and protected areas (Figure 10.1-3)
    - Infrastructure and Utilities (Figure 10.3-2)
- Split the sensitive ecosystem Inventory and Drainages figure into two figures with additional details:
    - Vegetation and Ecosystems (Figure 10.1-2)
    - Fish Species and Upland Tributaries (Figure 10.1-4)
- Updated Project footprint:
    - Added additional details to footprint and new footprint areas (upland construction staging areas (temporary works), the temporary moorage area, temporary jetties, the casting facility)
    - Expanded the marine construction area (temporary works)
    - Reduced the length of the Project at the south end to terminate northwest of the Highway 17A interchange
    - Updated alignment and extent of Rice Mill Road and CN Railway Overpass

7.4 LAND DESIGNATIONS AND OWNERSHIP

Figure 7.4-1 illustrates updated land ownership, and Figure 7.4-2 illustrates designations for lands within and adjacent to the updated Project footprint. Most of the Project footprint (including submerged land under the Fraser River) is located on provincial Crown land within the existing Highway 99 ROW, which is owned by the Proponent and designated as arterial highway for transportation. VFPA maintains navigational jurisdiction in the Fraser River South Arm in the vicinity of the Project; however, submerged lands are under provincial jurisdiction. VFPA also manages designated nearby federal lands at Fraser Wharves located in Richmond to the northeast of the Project footprint, as well as several other properties along the Fraser River upstream of the Project. In Richmond, just south of Rice Mill Road, the Highway 99 ROW crosses the CN Railway ROW (i.e., private land). BC Ferry Services, North Fraser Bank Cable Terminal, and Canadian Fishing Company are adjacent to the south side of the CN Railway ROW. The Highway 99 ROW for the Project runs through Deas Island Regional Park (located on Deas Island), which is owned by Metro Vancouver, to the Highway 17A interchange. Support structures for the new ITT on Deas Island will be

located within the Highway 99 ROW, outside of Deas Island Regional Park. The electrical transmission line currently located within the Existing Tunnel (which will be relocated as determined by BC Hydro's capital projects approval process) is owned and operated by BC Hydro.

As shown in Figure 7.4-1, most land immediately adjacent to the Project footprint in Delta is private land that is within the ALR.[2] In Richmond, land immediately adjacent to the Project footprint is mainly private agricultural lands (on the east side of the footprint) within the ALR and privately owned industrial lands. The Project footprint is also adjacent to small sections of provincial Crown land within Delta, provincial Crown agency land within Delta and Richmond, and municipal land within Richmond.

As shown in Figure 7.4-2, in Richmond, the north tunnel approach Project component is adjacent to, and overlaps with, lands designated as general urban, which is inclusive of areas intended for residential neighborhoods and centres, services, institutions, recreational facilities, and parks (Metro Vancouver 2022a). Land adjacent to and east of the north tunnel approach roads and portal is mainly designated as agricultural, while land adjacent to and west of the north tunnel approach is designated as mixed employment (which is inclusive of industrial, commercial, and other employment-related uses) and industrial. Land located along the northern bank of the Fraser River South Arm in Richmond is primarily designated as industrial and includes utility rights-of-way and industrial and commercial tenures. The south tunnel approach and portal traverses through Deas Island Regional Park, which is designated as conservation and recreation. The new Deas Slough Bridge would cross Deas Slough adjacent to a small portion of conservation- and recreation-designated land along the southern portion of Deas Island Regional Park.

Several residential developments are present near the south end of Deas Island Bridge, along River Road and Admiral Way in Delta. The west-southwest portion of 5954 River Road in Delta has been used for commercial activities related to waste management (i.e., dumpster bin rental) since 2008.

The Project footprint does not overlap with any First Nation Reserve Lands. Tsawwassen First Nation Lands are located 6 km southwest of the Project between the Fraser River and Boundary Bay. Musqueam has three registered reserves: Musqueam Indian Reserve 2 (IR2), which is the Musqueam's main reserve and population centre located south of Marine Drive at the mouth of the Fraser River; Musqueam IR4, which is surrounded by the City of Delta; and Sea Island IR3 located on the northwest corner of Sea Island, adjacent to the City of Richmond (MIB 2018). The Project occurs within the Traditional Territory of other Indigenous nations as stated in Section 5.1 and detailed in Section 13. The Project footprint (Figure 5.2-1) and Land Ownership (Figure 7.4-1) figures illustrate land outside of the Highway 99 ROW that will be temporarily required for Project construction, including land on:

[2] The ALR is a provincial designation in which agriculture is recognized as the priority use.

- the southern portion of Deas Island and municipal lands designated for conservation recreation on the east side of the Highway 99 ROW in Delta
- private lands designated for agriculture on the east side of the Highway 99 ROW in Richmond
- private land and Crown agency land east and west of the Highway 99 ROW, respectively, in Delta, which is all designated for agriculture

Updates to the Project footprint to support temporary in-river works also includes an expanded in-river temporary construction area approximately 500 m north and 500 m south of the alignment and downstream of Deas Slough Bridge to the Fraser River.

Smaller portions of permanent land outside of the Highway 99 ROW will be required for the Project including land on the:

- east side of the Highway 99 ROW in Richmond for permanent highway infrastructure and offramps, located on private land designated for agriculture
- west side of the Highway 99 ROW in Delta for the MUP connection realignment, located on private land designated for agriculture
- east side of the Highway 99 ROW in Delta, just south of the Deas Slough Bridge, located on private land with portions designated for conservation recreation and urban land use

The Proponent will engage with Metro Vancouver, City of Delta, City of Richmond, the Agricultural Land Commission, and private landowners on permanent and temporary land requirements for the Project and applications for rezoning and temporary use permits. Requirements for and potential effects of rezoning and changes in land designations for the Project will be assessed in the EAC Application.

Table 7.4-1 preliminarily summarizes the land ownership of parcels that are located outside of the Highway 99 ROW and transect the Project footprint. Further details on tenures and interest holders, licences, parcel area size, and existing and planned activities and use for these and other nearby land parcels will be included in the EAC Application.

Table 7.4.1: **Land Ownership: Parcels that Transect the Project Footprint**

Ownership	Parcel ID	Zoning
Temporary Construction Components		
Federal	3464890	Industrial
Crown agency	9212434	Agricultural
Crown provincial	30151767, 18648703	Conservation recreation
Municipal	3538451, 24506869	Industrial
	4119479, 24043125	Agricultural
	13087401, 13086316	Conservation recreation
	11923784, 11923792	Urban
Private	3568491, 8454655, 26302365	Agricultural
	24380857, 24771678	Industrial
Untitled provincial(1)	90041075, 7674480, 90040122	Conservation recreation
	7283580	Industrial
	7426070	Urban
Permanent Infrastructure Components		
Crown agency	9212434	Agricultural
	4161980	Urban
Crown provincial	30149851, 30149894	Conservation recreation
Untitled provincial	90155275, 90155829, 7674480, 90040122	Conservation recreation
	7286470	Urban
Private	944564, 13063146, 13063553, 24380857, 24771678	Industrial
	2839954, 3568491, 8454655	Agricultural
	26170213	Conservation recreation
	4031814, 8905983, 24065862, 24101761, 24380865	Urban
Municipal	24506869	Industrial
	24043125	Agricultural
	13063341, 24505340	Urban
Decommissioning/Removal of Existing Infrastructure		

Ownership	Parcel ID	Zoning
Untitled provincial	90040122	Conservation recreation
	7286470	Urban
Municipal	13063341	Urban
Private	13063553, 24380857	Industrial
	24065862, 24101761, 24380865	Urban

Source: Parcel Map BC Parcel Fabric (LTSA 2022).

1) Untitled provincial parcels are those that do not have an active title in the land title register. These parcels represent:
   (a) a *Land Act* parcel (a primary survey parcel or crown sub-division) that has no active title registered,
   (b) an area of land Returned to Crown within a *Land Title Act* plan, or
   (c) an Interest parcel over untitled or un-surveyed Crown land

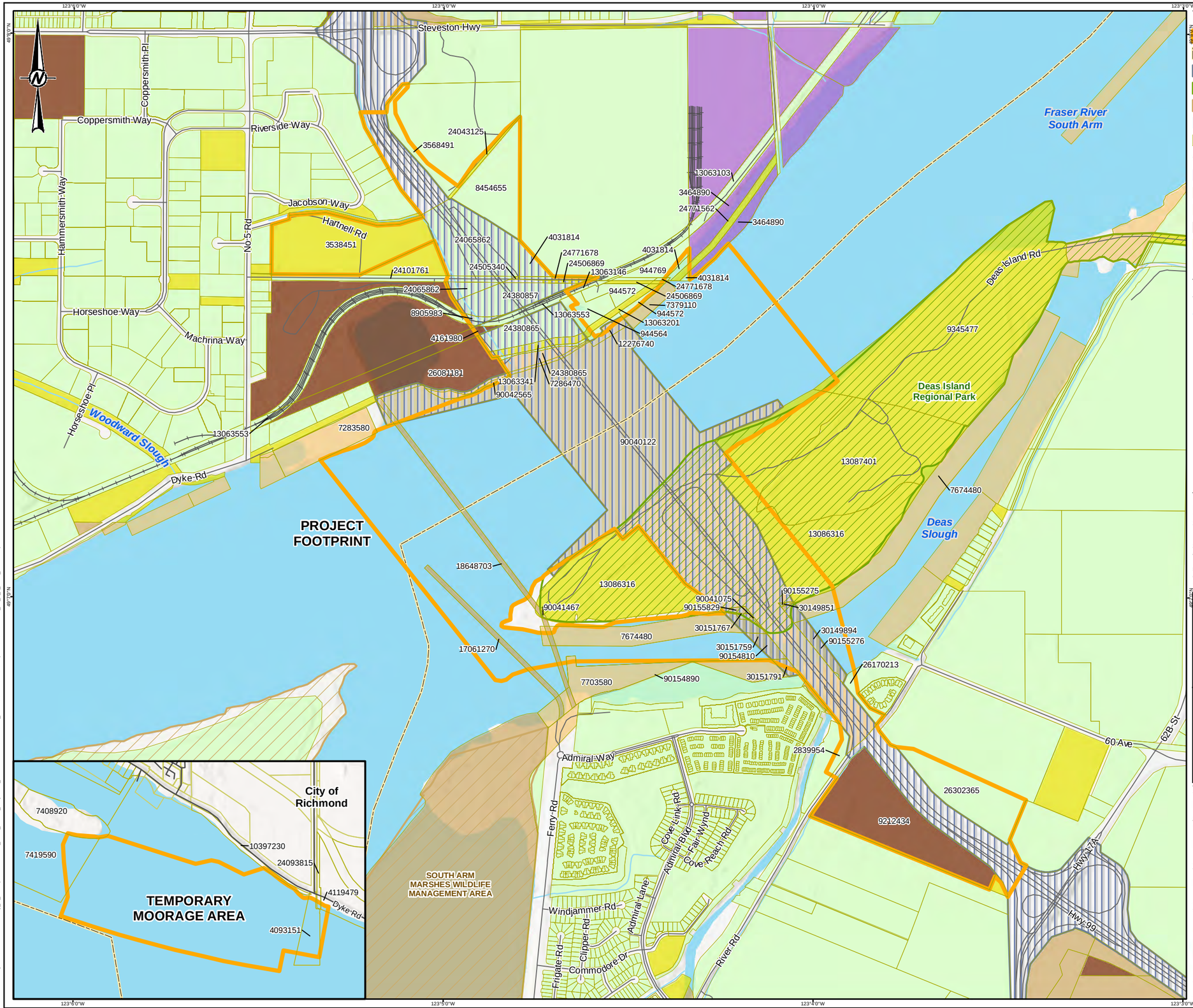
The proposed location of the temporary moorage facility for in-river storage of the tunnel elements is in the Fraser River South Arm at the upstream end of Steveston Island on the north side of the river near the Steveston Debris Wall (Figure 5.2-1). The proposed facility is located on submerged provincial Crown land under the Fraser River. Nearby waterlots and foreshore areas are composed of commercial and industrial tenures, mainly for mooring barges. Lands on the nearby north and south shores are designated as conservation recreation (i.e., Steveston Island and portions of Westham Island), agriculture, and urban. The site is also near the South Arm Marshes Wildlife Management Area. Section 10.3.2, Marine Use, provides detail on land and water uses in the vicinity of the temporary moorage facility site.

7.5 PROJECT WATER REQUIREMENTS

During construction, the Project will require potable water to batch concrete on site, as well as for onsite office, staff, and worker facilities. During operations, potable water will be required to support the tunnel fire fighting systems. Potable water will be sourced from nearby municipalities through water service agreements. During construction, freshwater sourced from the Lower Fraser may be used for ballast water for immersion of the ITT elements and flooding of the casting basin. Water that will be discharged from the Project will meet water quality standards for any planned discharge.

7.6 LAND AND WATER USE MANAGEMENT PLANS

As per Section 25(2)(g) of the BCEAA 2018, the environmental assessment will consider the consistency of the Project with any land-use plan of the government, or of an Indigenous nation, if the plan is relevant to the assessment. Table 7.6-1 is an updated list of land use, water use, and resource management plans that apply to the immediate Project footprint and nearby land and water areas, including relevance and relationship of the Project to the plan's activities and initiatives. Review of these plans, and ongoing engagement with Indigenous nations, landowners, commercial operators, commercial and recreational users, regulators, and local governments will include input on how the Project may affect these and other land and water use plans and initiatives.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- HIGHWAY 99 RIGHT-OF-WAY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- WATERBODY
- PARCEL BOUNDARY

OWNERSHIP TYPE

- CROWN FEDERAL
- CROWN PROVINCIAL
- UNTITLED PROVINCIAL
- CROWN AGENCY
- MUNICIPAL
- PRIVATE
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

0 250 500

1:12,500 METRES

REFERENCE(S)

1. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. WILDLIFE MANAGEMENT AREAS, HIGHWAYS, ROADS, WATER FEATURES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. LAND OWNERSHIP PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF CITIZENS SERVICES.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
LAND OWNERSHIP

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	RS
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	7.4-1

PATH: Y:\burnaby\CAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_07_4_1_Land_Ownership.mxd PRINTED ON: 2022-12-21 AT 11:17:19 AM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

123°6'0"W 123°5'0"W 123°4'0"W 123°3'0"W

49°10'0"N

Steveston Hwy
No 6 Rd
Coppersmith Pl
Coppersmith Way
Riverside Way
Jacobson Way
No 5 Rd
Hartnell Rd
Rice Mill Rd
Horseshoe Way
Machrina Way
Horseshoe Pl
Woodward Slough
Dyke Rd
Fraser River South Arm
Deas Island Rd
Deas Island Regional Park
Deas Slough
65B Ave
PROJECT FOOTPRINT
TEMPORARY MOORAGE AREA
City of Richmond
Gilbert Rd
SOUTH ARM MARSHES WILDLIFE MANAGEMENT AREA
Admiral Way
Ferry Rd
Cove Link Rd
Admiral Blvd
Cove Fair Wynd
Cove Reach Rd
Windjammer Rd
Admiral Lane
Clipper Rd
Frigate Rd
Commodore Dr
River Rd
Hwy 99
Hwy 17A
62B St
60 Ave

49°0'0"N

123°6'0"W 123°5'0"W 123°4'0"W 123°3'0"W

LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- HIGHWAY 99 RIGHT-OF-WAY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- AGRICULTURAL LAND RESERVE
- WATERBODY

METRO VANCOUVER LAND USE DESIGNATIONS

- AGRICULTURAL
- CONSERVATION_RECREATION
- INDUSTRIAL
- MIXED EMPLOYMENT
- RURAL
- URBAN
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

0 250 500
1:12,500 METRES

REFERENCE(S)

1. REGIONAL AND LOCAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. WILDLIFE MANAGEMENT AREAS, HIGHWAYS, ROADS, WATER FEATURES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. METRO VANCOUVER LAND USE DESIGNATIONS (2040) OBTAINED FROM METRO VANCOUVER OPEN DATA CATALOG.
4. AGRICULTURAL LAND RESERVE PUBLISHED BY AND OBTAINED FROM THE BC AGENCY - AGRICULTURAL LAND COMMISSION.
5. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
6. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
LAND USE DESIGNATIONS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	RS
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	7.4-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: Y:\burnaby\CAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel\Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_07_4_2_Land_Use_Designations.mxd PRINTED ON: 2022-12-21 AT: 11:18:33 AM

Table 7.6.1: Land and Water Use Management Plans

Responsible Agency	Plan	Relevance of Project to Plan
Federal		
VFPA	Land Use Plan (VFPA 2014), Land Use Plan (VFPA 2020), Port of Vancouver 2021 and 2022 Operations Updates	Project is located within VFPA Planning Area 7, which extends from North Arm Jetty and Sturgeon Bank to the north end of Boundary Road (New Westminster) and from Sands Head to just east of Tilbury Island. Plan includes goals to ensure safe and efficient movement of port-related cargo, traffic, and passengers.
Fisheries and Oceans Canada	Pacific Fisheries Integrated Management Plan (PFIMA) 2021/2022 (DFO 2022) Integrated Management Plan: Fraser River Eulachon, Pacific Region (DFO 2021)	Project is located within the PFIMA Pacific Salmon Southern Coast spatial area, which delineates stewardship, management, and co-management objectives and plans of the Pacific salmon fishery. The Project is located within the region covered by the Fraser River Eulachon Integrated Management Plan, which delineates objectives, requirements, and management measures for the Eulachon fishery in the Fraser River.
LWRS	The Lower Fraser Sustainable Resource Management Plan (District of Chilliwack 2013)	A description of planning units and resource values in the Lower Fraser River, and specifically within the Fraser Valley South landscape unit where the Project is located.
Regional		
TransLink	Southwest Area Transportation Plan (TransLink 2018)	Strategy and recommendations for improving transit services and infrastructure in Richmond, South Delta, and Tsawwassen First Nation, including aspects of cycling, walking, driving, and goods movement.
	Regional Transportation Investments. A Vision for Metro Vancouver (Mayors' Council on Regional Transportation 2015)	Transportation vision for Metro Vancouver, which supports the region's land use vision as outlined in the RGS.
	Transport 2050 Regional Transportation Strategy (TransLink 2022a)	30-year Transportation vision and the regional transportation strategy for Metro Vancouver. It includes goals and strategies for improving transit services and infrastructure in Metro Vancouver, including the pathway for goods movement.

Responsible Agency	Plan	Relevance of Project to Plan
	2022 Investment Plan (TransLink 2022b)	The plan outlines TransLink's expected expenditure and revenues from 2022-2031. The plan shows where TransLink's investment will be focused, and how the transportation systems including walking spaces, bike access, and bus routes are going to change.
Metro Vancouver	Metro Vancouver RGS (Metro Vancouver 2015)	The Project is located within Metro Vancouver and the area covered by the RGS. The RGS sets out goals, strategies, and policies to guide regional growth and a land use framework for transportation planning.
	Metro Vancouver Regional Parks Plan (Metro Vancouver 2022b)	Plan that sets out goals and strategies for future development, delivery, and management of regional parks.
	Metro Vancouver Regional Food System Strategy (Metro Vancouver 2011)	A framework with goals to support sustainable, resilient, and healthy food systems in the region.
Municipal		
City of Delta	Delta Official OCP (City of Delta 2014)	Project is located within the Municipality of Delta. Delta's OCP includes polices and objectives to guide land use and development, including those pertaining to transportation infrastructure and systems. OCP is guided by Metro Vancouver's RGS.
	Delta Agricultural Plan (Zbeetnoff and Quadra 2011; currently undergoing updates)	Current plan undergoing updates, to address goal of ensuring the long-term viability of agriculture.
City of Richmond	Richmond OCP (City of Richmond 2012a)	Project is located within the Municipality of Richmond. Richmond's OCP includes polices and objectives supporting transportation mobility and access, including for areas and sub-areas in proximity to the Project. OCP is guided by Metro Vancouver's RGS.
	Richmond Agricultural Viability Strategy (City of Richmond 1999); Richmond's Farming First Strategy (Forthcoming)	Policies and plans to support the farming industry in Richmond including maintaining the agricultural land base, environmental protection, agricultural infrastructure, and economic viability.

Responsible Agency	Plan	Relevance of Project to Plan
	Industrial Lands Intensification Initiative	The Project is located adjacent to areas identified for industrial uses by the City of Richmond. The Industrial Lands Intensification Initiative supports industrial intensification that aligns with industry's needs and the City's objectives and advances Metro Vancouver's Regional Industrial Lands Strategy.
	City of Richmond's Ecological Network Management Strategy (City of Richmond 2015)	The roadside drainage areas adjacent to the north section of Highway 99 (between the mouth of the Existing Tunnel and Westminster Highway) are designated with the City of Richmond's Riparian Management Areas network and are corridor components in the City's Ecological Network Management Strategy.
	City of Richmond Flood Protection Management Strategy 2019 (City of Richmond 2019)	Policies and plans regarding flood protection for the City of Richmond, including the dike upgrades, and drainage systems.
	City of Richmond Dike Master Plan (City of Richmond 2022)	The plan provides guidance to implement the objectives of the Flood Protection Strategy for the City of Richmond. It details the upgrades needed to the dikes and provides concept plans for flood protection in the area.
Indigenous Nations		
Lower Fraser Fisheries Alliance	Blueprint for Restoring Ecological Governance to the Lower Fraser River (Lower Fraser Fisheries Alliance 2020)	Guidance document from the Lower Fraser Working Group, proposing principles and commitments for research, communication, and dialogue to support a coordinated and strategic approach to restoration efforts in the Lower Fraser.
Tsawwassen First Nation (TFN)	TFN Land Use Plan (TFN 2019)	TFN Land is adjacent to the Municipality of Delta. TFN Land Use Plan outlines principles, policies, and objectives pertaining to development of TFN treaty lands.
	TFN Agricultural Plan (TFN 2013)	Plan outlines a framework, vision, and objectives for management of TFN agricultural land resources.
TFN, Canada, and British Columbia	TFN Final Agreement (TFN 2009)	Specifies TFN treaty rights to harvest fish, wildlife, migratory birds, and botanical products.

Responsible Agency	Plan	Relevance of Project to Plan
TFN and British Columbia	TFN Harvest Agreement (TFN 2010)	Specifies fish harvesting rights and authority.
Tsleil-Waututh Nation (TWN)	Stewardship Policy (TWN 2022)	Describes TWN's stewardship and restoration interests related to environmental, cultural, spiritual, and economic matters of importance to TWN.
	Land Use Plan (TWN 2018)	Provides the vision, principles, and guidelines for how land use and development will occur on TWN reserve lands over the next 100 years.
Ts'uubaa-asatx First Nation (Lake Cowichan First Nation)	Ts'uubaa-asatx (Lake Cowichan) First Nation Policy: Fraser River South Arm and Approaches (June 1, 2018; Ts'uubaa-asatx First Nation 2018a	Ts'uubaa-asatx Nation's concerns pertaining to, and vision for, clean air, water and land and healthy fish and wildlife populations that will support the Nation's goal of re-establishing traditional use and occupancy of the Lower Mainland.
	Lake Cowichan First Nation: Vision, Goals and Objectives for the Fraser River South Arm and its Approaches (Ts'uubaa-asatx First Nation 2018b)	
Other Indigenous management plans relevant to the Project and communities will be further identified through engagement with Indigenous nations.		

VFPA = Vancouver Fraser Port Authority; RGS = regional growth strategy; OCP = Official Community Plan; TFN = Tsawwassen First Nation; LWRS = Ministry of Land, Water and Resource Stewardship; TWN = Tsleil-Waututh Nation.

8 LEGISLATIVE AND REGULATORY CONTEXT

The following sections describe the legislative and regulatory context for the proposed Project including applicable provincial legislation and regulations and a preliminary list of anticipated permits and approvals required by the Project.

8.1 ENVIRONMENTAL IMPACTS ON FEDERAL LANDS AND RESERVE LANDS IN A PROVINCE OTHER THAN BC OR OUTSIDE CANADA

Project-related components and activities are not anticipated to interact with or impact federal lands, a province other than BC, or lands outside of Canada.

8.2 BRITISH COLUMBIA ENVIRONMENTAL ASSESSMENT ACT

Under the BCEAA, the Reviewable Projects Regulation (BC Reg 67/2020) sets out the criteria for determining which projects require review. Proposed new projects, modifications of existing projects, and proposed dismantling or abandonment of an existing project that meet certain criteria under the Reviewable Projects Regulation require an environmental assessment.

Combining construction of the new ITT and the removal of the Existing Tunnel, the Project is expected to cause direct physical disturbance of more than 2 ha of foreshore or submerged land, or a combination of foreshore and submerged land, below the natural boundary of the Fraser River. Therefore, the Project triggers environmental review under BCEAA as a shoreline modification project according to Part 5, Table 9, of the Reviewable Projects Regulation. Although the Project is a major transportation and infrastructure project for BC, it does not meet any of the criteria thresholds under Part 7 of the Reviewable Projects Regulation to define it as a Transportation Project.

8.3 FEDERAL IMPACT ASSESSMENT ACT

Under the federal *Impact Assessment Act*, SC 2019, c.28, s.1, the Physical Activities Regulations (SOR/2019-285) set out the projects and activities that require an impact assessment. As the proposed works comprising the Project are not included in the list of physical activities that constitute designated projects that may require an impact assessment, the Project does not trigger a federal review by the Impact Assessment Agency under the *Impact Assessment Act*.

8.4 FEDERAL LAND AND LEGISLATIVE REQUIREMENTS

Under the *Canada Marine Act*, SC 1998, c. 10, VFPA is responsible for the administration, management, and control of lands and waters within its jurisdiction, including parts of the Fraser River. While the Project is not located on lands and waters managed by VFPA specifically, the Project is located within VFPA's navigational jurisdiction on the Fraser River; therefore, Project-related vessel activity and Project-related in-river components must comply with VFPA navigational requirements for Fraser River South Arm Traffic Control Zone 4 (TCZ-4; VFPA 2021).

8.5 ANTICIPATED AUTHORIZATIONS AND PERMITS

Key authorizations and permits that are anticipated to be required for construction and/or operation of the Project based on the current location of the Project and the proposed physical activities and components are listed in Table 8.5.1. Uncertainty remains as to whether all listed authorizations and permits will be needed and/or if additional authorizations may be required (e.g., depending on design and method refinement, as well as changes in law that could occur between submission of the DPD and construction of the Project). The BC EAO, with the support of the Proponent, will develop a Regulatory Coordination Plan that will outline the other permits, licences, and authorizations needed for the Project including timelines for submission of the other permit applications should a EAC be issued.

Table 8.5.1: Anticipated Provincial, Federal, and Regional Authorizations and Permits

Permit	Statute	Authorizing Agency	Reason Required	Anticipated Schedule
Provincial				
Environmental Assessment Certificate	*Environmental Assessment Act*, SB 2018, c. 51	BC Environmental Assessment Office	Project triggers an environmental assessment under water management project threshold in the Reviewable Projects Regulation.	2021 to 2024
Soil Relocation Notification Notice of Independent Remediation	*Environmental Management Act*, SBC 2003, c. 53 Contaminated Sites Regulation, BC Reg 375/96, including amendments up to BC Reg. 179/2021, July 7, 2021	BC Ministry of Environment and Climate Change Strategy	Soils and sediments may be removed and disposed of off site.	2024 to 2025
Waste Discharge Authorization (potentially)	*Environmental Management Act*, SBC 2003, c. 53 Waste Discharge Regulation, BC Reg 320/2004, including amendments up to BC Reg 154/2019, September 15, 2019	BC Ministry of Environment and Climate Change Strategy	If contaminated soil is proposed to be managed on site, a Waste Discharge Authorization Permit will be required.	2024 to 2025
Code of Practice for the Concrete and Concrete Products Registration	*Environmental Management Act* Code of Practice for the Concrete and Concrete Products Industry, BC Reg 329/2007, July 26, 2002	BC Ministry of Environment and Climate Change Strategy	Under Schedule 2 of the Waste Discharge Regulation, compliance with a code of practice exempts operations from the requirement for an authorization pursuant to the *Environmental Management Act*. The Code of Practice for the Concrete and Concrete Products outlines limits for effluent discharges.	2024 to 2025

Permit	Statute	Authorizing Agency	Reason Required	Anticipated Schedule
Change Approval or Notification (required for works in and about a stream)	*Water Sustainability Act,* SBC 2014, c. 15, Section 11 Water Sustainability Regulation, BC Reg. 36/2016, Parts 2 and 3	BC Ministry of Forests	Project activities will be conducted in or about a watercourse (e.g., bridge piers, dredging, and tunnel installation).	2024 to 2025
Water Use Approval	*Water Sustainability Act,* SBC 2014, c. 15, Section 10 Water Sustainability Regulation, BC Reg. 36/2016, Parts 2 and 3	BC Ministry of Forests	Temporary use of water from the Fraser River for various construction purposes including water requirements for installation of stone columns, in-river geotechnical drilling, and immersion of tunnel elements.	2024 to 2025
Groundwater Licence	*Water Sustainability Act,* SBC 2014, c. 15, Section 140 Water Sustainability Regulation, BC Reg. 36/2016, Part 7	BC Ministry of Forests	Groundwater withdrawal may be required for dewatering excavations.	2024 to 2025
Authorization for transportation, utility, and recreational trail use and for temporary non-farm use	Agricultural Land Reserve Use, Subdivision and Procedure Regulation, BC Reg. 171/2002 Section 6 *Agricultural Land Commission Act*, SBC 2002, c. 36	Agricultural Land Commission	Project alignment located within the ALR. Permission required for transportation, utility, and recreational trail use and for temporary non-farm use.	2024 to 2025
Permit over Crown Land	*Land Act,* RSBC 1996, c. 245	Ministry of Forests	Project footprint overlaps crown land.	2024 to 2025

Permit	Statute	Authorizing Agency	Reason Required	Anticipated Schedule
Heritage Inspection Permit / Heritage Investigation Permit / Alteration Permit	*Heritage Conservation Act,* RSBC 1996, c. 187, s. 12.2 and s.12.4	Ministry of Forests, Archaeology Branch	In areas where ground disturbance may lead to the discovery of previously unknown archaeological sites, a Heritage Inspection Permit (s. 12.2) is required. Should a significant archaeological site(s) be identified where site impact cannot be avoided, mitigative excavation and/or systematic data recovery may be required under a Heritage Investigation permit (s.12.2). An Alteration permit (s. 12.4) is required to alter an archaeological site.	2024 to 2025
Dike Maintenance Act Approval	*Dike Maintenance Act*, RSBC 1996, c. 95	Ministry of Forests	Project activities interacting with existing flood protection infrastructure (e.g., portal construction, dredging, and highway construction installation).	2024 to 2025
Wildlife Act General Wildlife Permit and Fish Collection Permit	*Wildlife Act,* RSBC 1996, c. 488	LWRS and/or Ministry of Forests	Wildlife, bird nests, or other wildlife features may require relocation. A Fish Collection Permit will be required for fish inventories.	2025 to 2026
Federal				
Section 7(6) Notification and/or Approval	*Canadian Navigable Waters Act*, RSC 1985, c. N-22	Transport Canada	Activities that "construct, place, alter, rebuild, remove or decommission works that are in, on, over, under, through or across any navigable water may be required to apply for an approval." Project activities will occur in the Fraser River, which is a navigable water.	2024 to 2025
Fisheries Act Authorization	*Fisheries Act*, RSC 1985, c. F-14 S. 34.4(2)(b) and 35(2)(b)	DFO	Project activities may result in the death of fish or the harmful alteration, disruption, or destruction of fish habitat.	2024 to 2025
Licence to Fish for Scientific, Experimental, or Educational Purposes	*Fisheries Act*, RSC 1985, c. F-14; Fishery (General) Regulations SOR/93-53, S.52	DFO	A Licence to Fish for Scientific, Experimental, or Educational Purposes will be required for fish inventories.	2024 to 2025

Permit	Statute	Authorizing Agency	Reason Required	Anticipated Schedule
Disposal at Sea Permit	*Canadian Environmental Protection Act, 1999*, SC 1999, c. 33	ECCC	Dredge material may be disposed of at sea.	2024 to 2025
Indigenous Nations				
Indigenous Heritage Permits	N/A	Applicable Indigenous nations	Indigenous heritage permits may be required in areas where ground disturbance may lead to the discovery or disturbance of previously unknown or known archaeological sites.	2024 to 2025

EAC = Environmental Assessment Certificate; ALR = Agricultural Land Reserve; DFO = Fisheries and Oceans Canada; ECCC = Environment and Climate Change Canada; N/A = not applicable.

8.6 OTHER AGREEMENTS AND LEGISLATION

Upholding the commitment of the Province to support reconciliation with Indigenous nations, the Proponent's Indigenous engagement approach is informed by the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples (Government of BC [date unknown]), the BCEAA, and the *Declaration on the Rights of Indigenous Peoples Act,* SBC 2019, c. 44.

The following agreements will facilitate engagement between the Province and Indigenous nations:

- S'ólh Téméxw Stewardship Alliance Strategic Engagement Agreement Amendment 4 – Spring 2019, Appendix D regarding Engagement Framework for Major Projects
- *Tsawwassen First Nation Final Agreement Act*, SC 2008, c. 32
- Cowichan Nation British Columbia Government-to-Government Agreement, whose purpose includes "to create processes and mechanisms to assist in the co-operative resolution of disputes between the Parties." (p. 3)

The Environmental Cooperation Agreement between The Province of British Columbia and The State of Washington (May 7, 1992) (Government of BC and State of Washington 1992) will facilitate meaningful Project engagement between the Government of BC and the State of Washington.

9 SPATIAL BOUNDARIES

The Project's environmental assessment will consider Project-related direct and indirect interactions with environment, social, economic, social, cultural, and health valued components (VCs) within appropriate spatial boundaries. The spatial boundaries for the Project will encompass the spatial areas within which the Project is expected to have potential effects on the VC. Boundaries for each VC will consider the spatial and temporal characteristics of the respective VCs to ensure the collection of appropriate baseline data to support the assessment of effects, including cumulative effects. The preliminary spatial boundaries for assessing Project effects on VCs will be VC specific and as such will be developed following Indigenous engagement, VC selection, and further scoping exercises.

The environmental assessment will include three spatial boundaries to characterize Project-related interactions with selected VCs:

- Project Footprint — consists of the spatial area directly disturbed by the Project construction activities, including Project-related physical works and activities.
- Local Assessment Area (LAA) — includes the area in which the selected VC is most likely to interact with Project-related physical works and activities.
- Regional Assessment Area (RAA) — includes an extent often defined to provide context to the assessment of Project-related effects at a regional level. The RAA is typically, where possible, the extent of a regional planning area or other natural regional boundary like a watershed or habitat zone. The boundary is set to provide a scale of the effect within the region. Often, the RAA can also be used as the spatial boundary for a cumulative effects assessment; however, when required, an additional boundary to define the spatial extent of the cumulative effects assessment can be defined for each VC.

10 ENVIRONMENT, ECONOMIC, SOCIAL, HEALTH, AND CULTURAL CONDTIONS AND PRELIMINARY EFFECTS

As per Section 25(2) of the BCEAA (2018), the environmental assessment will consider the following:

- positive and negative direct and indirect impacts including environmental, economic, social, cultural, and health effects and adverse cumulative effects (Section 25(2)(a))
- risks and uncertainties associated with those effects, including the results of any interaction between effects (Section 25(2)(b))
- disproportionate effects on distinct human populations, including populations identified by gender (Section 25(2)(d))
- effects on biophysical factors that support ecosystem function (Section 25(2)(e))
- effects on current and future generations (Section 25(2)(f))
- consistency with any land-use plan of the government or an Indigenous nation if the plan is relevant to the assessment (Section 25(2)(g))

The EAC Application will include an assessment of potential Project-related and cumulative effects, identification of mitigation measures, and characterization of residual effects.

Key environment, economic, social, cultural and health values are provided in Section 10.1 to 10.5. Each subsection provides a list of key values, a summary of the feedback received during the Early Engagement Phase on the IPD, how the issues raised were addressed, how the information provided was used to adapt existing conditions programs and resulting changes to the DPD. Section 10.6 summarizes preliminary potential environmental, economic, social, cultural, and health effects and identifies potential mitigation and monitoring programs applicable to the construction, operation, and decommissioning of the Project. Section 10.6 also includes an overview of identified factors that could indicate potential disproportionate positive and adverse effects on distinct human populations for economic, social, health and cultural values.

Project-related values, interactions, and potential Project effects will be further refined through engagement with Indigenous nations, technical advisors, stakeholders, and the public. The Proponent will collaborate with Indigenous nations during development of the AIR in the Process Planning Phase, and during the Application Development Phase to assess potential effects pathways and linkages between environmental, social, economic, cultural, and health components and Section 35 rights and interests.

The Proponent reviewed the following Traditional Use Studies from the previous 10-lane bridge Project (George Massey Tunnel Replacement Project) and other documents provided by Indigenous nations:

- Cowichan Nation Traditional, Current and Planned Future Use of the George Massey Tunnel Replacement Bridge Project Area (Cowichan Nation Alliance 2015)
- George Massey Tunnel Replacement: Katzie First Nation Traditional Use Study (Katzie First Nation 2016)
- Kwantlen Land Use and Occupation in the vicinity of Highway 99 (Kwantlen First Nation 2015)
- Preliminary Lyackson Use and Occupancy Mapping Study for BC Ministry or Transportation and Infrastructure (the Ministry) George Massey Tunnel Replacement Project (Lyackson First Nation 2015)
- Knowledge and Use Study. Prepared by Firelight Research Inc and MIB for the BC Ministry of Transportation and Infrastructure's Proposed George Massey Tunnel Replacement Project (MIB 2016)
- George Massey Tunnel Replacement: Project Impact Study (TFN 2015)
- Knowledge Study for the proposed George Massey Tunnel Replacement Project (TWN 2015a)
- Ts'uubaa-asatx Interests: George Massey Tunnel (Chuuchkamalthnii 2015)
- Ts'uubaa-asatx (Lake Cowichan) First Nation Policy: South Arm of the Fraser River and Approaches (Ts'uubaa-asatx First Nation 2018a)
- Tsleil-Waututh Nation Stewardship Policy (TWN 2015b)

Information from these documents will be incorporated into existing conditions reports and into the EAC Application and management plans, as appropriate.

A list of existing data, including monitoring reports, previous environmental assessments, regional studies, and/or other sources of information that supported the understanding of environment, economic, social, cultural, and health existing conditions, as outlined in this section, is provided in Attachment 2.

10.1 ENVIRONMENT

A brief description of the relevant natural setting characteristics of the Project is provided in the following paragraphs. The Project is situated in low-lying habitat in the municipalities of Richmond and Delta, in the Coastal Douglas-fir biogeoclimatic zone, moist maritime (mm) subzone, and the Lower Mainland Ecoregion. The footprint falls within the Fraser River watershed, with the Project alignment crossing riparian foreshore habitat of the Fraser River South Arm and Deas Slough. In this location, the north bank of the Fraser River is mostly cleared within the Highway 99 ROW, with a 10 to 15 m wide strip of deciduous trees dominated by black cottonwood along the shoreline. The shoreline east and west of the Highway 99 ROW contains industrial developments with little vegetation, while the Project overlaps with agricultural land east of the ROW and north of Rice Mill Road.

On Deas Island, the Highway 99 ROW is composed of maintained grass with several rows of coniferous trees paralleling the Highway. Beyond the ROW, habitat on Deas Island is mixed deciduous forest comprised of black cottonwood, western hemlock, and pine. The north shoreline of Deas Island is armored with rip rap, while the south shoreline is more natural, with limited rip rap around and under the Existing Deas Slough Bridge. The south side of Deas Slough contains agricultural lands. East of Highway 99 ROW, there is 40 to 50 m wide strip of deciduous trees west and north of the Riverwood complex, and to the east of Highway 99 ROW, there is a strip of young deciduous trees and shrubs

Key environmental values proposed for study as part of the environmental assessment, described in Sections 10.1.1 to 10.1.11, are air quality, acoustic, underwater noise, surface water and sediment quality, river hydraulics and morphology, groundwater, soil, vegetation, wildlife, fish and fish habitat, and marine mammals. Attachment 3 provides a list of studies that are underway and those that are anticipated, including the guidance and standards used in preparing these studies. As part of the EA process, the Proponent will continue to engage with technical advisors, Indigenous nations and stakeholders on the environmental studies that will inform planning of the Project through development and review of application information requirements and the EAC application.

10.1.1 Air Quality

Air quality along Highway 99 is largely determined by local and regional atmospheric conditions and local human activities. Traffic congestion at the Existing Tunnel has increased emissions and reduced air quality around the Fraser River crossing. Vehicle idling and slower movements during periods of traffic congestion produce greater per-vehicle emissions of air contaminants such as fine particulate matter, nitrogen oxides, and sulfur dioxide when compared to uncongested conditions.

The Project is expected to result in an improvement in air quality in the long-term, especially in the vicinity of the Existing Tunnel, as a result of improved traffic flow, since vehicles driving at highway speeds consume less fuel and generate lower emissions. However, air emissions during construction are likely to result in localized temporary changes in air quality.

Metro Vancouver operates a large network of air quality stations in the Lower Mainland, each of which monitors a specific set of pollutants focused on criteria air contaminants. The National Air Pollution Surveillance network in turn collects data on non-criteria air contaminants. The Proponent will collect data from these sources and other sources, as applicable, to characterize existing conditions for the pollutants in the area surrounding the Project.

Traffic congestion at the Existing Tunnel has increased GHG emissions around the Fraser River crossing. Vehicle idling and slower movements during periods of traffic congestion produces greater per-vehicle GHG emissions when compared to uncongested conditions.

The Project is expected to result in an improvement in GHG emissions in the long term as a result of improved traffic flow, since vehicles driving at highway speeds consume less fuel and thus generate less

GHG emissions. Additionally, ongoing improvements in vehicle emission reduction technology and increased transit use are likely to contribute to long-term improvements in GHG emissions.

The Project construction, operation, and decommissioning phases will result in direct and indirect GHG emissions. Preliminary direct emissions for the Project construction, operation, decommissioning of the Existing Tunnel, and eventual Project decommissioning are summarized as follows:

- **Project construction**—4,789 tonnes CO_2e/yr
- **Project operation**—20.9 tonnes CO_2e/yr
- **Decommissioning of existing infrastructure**—7,183 tonnes CO_2e/yr
- **Decommissioning of Project infrastructure**—7,183 tonnes CO_2e/yr

The existing conditions report will be based on a review of existing air quality data within the region. The Proponent will consult with Metro Vancouver on the approach for defining existing conditions. Project-specific air quality monitoring will not be undertaken. Table 10.1-1 summarizes topics related to air quality that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to update the DPD.

Table 10.1.1: Summary of Topics Related to Air Quality Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
People of the River Referrals Office	Concerns about air quality of the MUP.	No change required.	The scope of the air quality and human health assessments, related to the operation and maintenance of the MUP will be outlined in the Project AIR.
Snuneymuxw First Nation	Requested Snuneymuxw First Nation-specific sensitive receptors be included in the assessment.	No change required.	The detailed list of sensitive receptors used to support the Air Quality VC assessment will be developed in the assessment phase. Receptors representative of Snuneymuxw harvesters and land and/or marine users will be included in the assessment.
Tsleil-Waututh Nation	Concerns about diesel emissions on human health.	No change required.	An air quality assessment will be completed as part of the EAC Application. The scope and methodologies for undertaking the air quality assessment will be developed during the development of the AIR.
Tsleil-Waututh Nation	Regional growth and its effect on air quality.	No change required.	An emissions inventory will be completed as part of the EAC Application, including a description of the applicable methods and assumptions.
Tsleil-Waututh Nation	Request that "best available information" be used to most accurately capture all potential GHG emissions created as a result of the Project.	The response to the first comment from Metro Vancouver in this table has been updated for clarity.	The scope and methodologies for undertaking the GHG assessment will be developed in collaboration with Indigenous nations and technical advisors during the development of the AIR in the Process Planning Phase. The assessment will be consistent with the BC EAO's Early Engagement Policy, Version 1.0 (BC EAO 2019) guidance under the British Columbia *Environmental Assessment Act.*
Local Government			
Metro Vancouver	Requested the inclusion of downstream GHG emissions in the DPD.	No change. The scope of the GHG emissions provided in the IPD and DPD are consistent with the BC EAO's Early Engagement Policy, Version 1.0 (BC EAO 2019). The scope and methodologies for undertaking the GHG assessment will be developed in collaboration with Indigenous nations and technical advisors during the development of the dAIR in the Process Planning Phase.	The GHG assessment will include an assessment of vehicle use of the Project (e.g., vehicle emissions from using the tunnel) GHG emissions.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Metro Vancouver	Requested that the Federal Strategic Assessment on Climate Change be used to conduct the GHG assessment.	No change. The Project does not trigger a federal impact assessment; therefore, the Strategic Assessment on Climate Change will not be applied to the assessment.	The GHG assessment will be undertaken consistent with provincial guidance provided in the BC EAO's Effects Assessment Policy (Version 1.0; BC EAO 2020a), the AIR Guideline (Version 1.0; BC EAO 2020b), and CleanBC's Roadmap to 2030 (BC ENV 2021b).
City of Richmond	The inclusion of potential impacts that the Project will have on fuel consumption and emissions from daily commuter use.	No change required.	As part of the Air Quality VC assessment, a future vehicle fuel mix (e.g., increase in electric vehicle usage) will be developed and an emission inventory will be developed to support the air quality assessment based on the future vehicle fuel mix.
Vancouver Coastal Health	How will air emissions effect Human Health and setting study areas.	Text in Section 6.1 has been updated to provide information on criteria air contaminants and information on the detailed modelling plan to be developed for the Project.	Text added to DPD, and a detailed model plan will be submitted to Metro Vancouver as part of the EAC Application.
Vancouver Coastal Health	How induced demand will influence traffic congestion assumptions.	No change required.	Methods and assumptions used to estimate GHG emissions will be detailed in the EAC Application.
Provincial Government			
Ministry of Agriculture and Food	Requested the inclusion of a fugitive dust management plan as a mitigation measure for the Project's construction phase.	Updated Section 6.1 to include a fugitive dust management plan as a mitigation measure.	Included the requested mitigation measure.

EAO = British Columbia Environmental Assessment Office; GHG = greenhouse gas; DPD = Detailed Project Description; IPD = Initial Project Description; VC = valued component; dAIR = draft Application Information Requirements; MUP = multi-use path.

10.1.2 Acoustic

Atmospheric noise in the Project area is primarily the result of traffic along Highway 99 and connecting roadways. Changes in the noise environment in this area in recent decades are associated with growth in local and regional traffic volumes. Activity on adjacent industrial sites, trains, aircraft, marine traffic, and agricultural activities also contribute to ambient noise in and around the Project area. Additionally, natural sounds from wind, rain, waves, and wildlife can contribute to atmospheric noise. It is expected that there are no existing significant sources of vibration in the Project area.

The Project will temporarily increase noise and vibration during the construction phase because of heavy equipment operation during construction activities. Noise-sensitive land uses in the vicinity of the Project alignment may experience an increase in noise over time during Project operations if vehicle speeds, traffic volumes, and the proportion of heavy trucks increase.

The Proponent will study the existing acoustic conditions at locations representative of noise-sensitive land uses (e.g., residential, institutional, and recreational) where Project-related changes in noise and vibration are likely to occur. The acoustic assessment results will be used to support the assessment of potential effects of the Project on the Wildlife, Marine Mammals, Land and Resource Use, Community Health and Wellbeing, and Agricultural Use VCs.

Existing conditions field surveys to characterize ambient noise levels were conducted in the fall of 2022. Guidance and standards used to prepare these studies are provided in Attachment 3.

Table summarizes topics related to the acoustic environment that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.2: Summary of Topics Related to Acoustics Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Snuneymuxw First Nation	Noise sensitive land use receptors should include receptors representative of Indigenous harvesters who may have access to the area to exercise harvesting rights.	The detailed list of sensitive receptors used to support the noise assessment will be developed during the assessment phase. Receptors representative of Snuneymuxw harvesters and land and/or marine users will be included in the assessment.	No change required.
Tsleil-Waututh Nation	Asking what evidence was used to create the expectation that there are no existing significant sources of vibration in the Project area, and whether large heavy vehicles using airbrakes in the tunnel cause detectable vibration in the aquatic environment.	No change required.	There are no existing significant sources of vibration in the Project area causing ground vibration or air overpressure. Existing underwater noise levels are assessed as outlined in Section 10.1.3.
Tsleil-Waututh Nation	Concern that noise surveys conducted in August when many people are away on vacation could result in significant underestimate of ambient noise levels.	Section 10.1.2 of the DPD was updated to clarify that existing conditions field surveys to characterize ambient noise levels were conducted in the fall of 2022.	The noise existing conditions field surveys were undertaken in October 2022, which was a time of year expected to be representative of "summer time" weather conditions in accordance with applicable noise guidelines, while at the same time, avoiding periods when ambient levels may be underestimated (e.g., lower vehicular traffic during the summer vacation period).
Local Government			
City of Delta	Concern regarding noise during construction and operation, including noise levels at a specific residential complex location.	Project-related noise is recognized as being important to the City of Delta and will be addressed for both the construction and operations phases of the Project in the Acoustic and Community Health and Wellbeing VC assessments. The identified residential complex will be included as a receptor location for these analyses.	No change required. The receptor location is acknowledged and will be captured in the Acoustic and Community Health and Wellbeing VC assessments.
City of Richmond	All construction activities to be in compliance with Richmond's Noise Regulation Bylaw - No. 8856 (City of Richmond 2012b).	No change required.	The scope of the acoustic assessment will be determined in collaboration with Indigenous nations, technical advisors, and public stakeholders during development of the AIR in the Process Planning Phase.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Richmond	Concerns related to noise, and noise impacts on residents. The city has requested information about the location of construction activities, types of noise generated, and duration of the noise, to adequately assess the effects.	No change required.	Once construction activities and locations are identified, this information will be relayed to the City of Richmond for discussion.
Metro Vancouver	Concern that clearing forested areas within temporary workspace located in Deas Island Regional Park will affect the acoustic environment of the park. Engineered noise barriers should be considered to mitigate increased noise pollution in the park.	No change required.	The change in vegetation near noise-sensitive receptors (e.g., the camp site within Deas Island Regional Park) will be evaluated in the noise modelling to be completed as part of the acoustic assessment, where existing vegetation is expected to be impacting noise propagation. The noise modelling results will be used to identify mitigation measures, including applicable engineered noise mitigation measures, in collaboration with technical advisors, Indigenous nations, and local and regional government during development of the EAC Application.
Vancouver Coastal Health	Suggestion to include residential areas, schools, childcare spaces, residential care spaces, and recreational areas (e.g., parks) as noise-sensitive land uses.	No change required.	Section 10.1.2 of the DPD lists residential, institutional, and recreational land uses as being noise-sensitive, which includes residential areas, schools, childcare spaces, residential care spaces, and recreational areas (e.g., parks), as applicable.
Provincial Government			
Ministry of Agriculture and Food	Request to add agriculture to list of noise-sensitive land uses.	Clarification added to indicate that the noise assessment results will be used to support the assessment of potential effects of the Project on agriculture.	An agricultural assessment will be completed for the Project EAC Application, which will assess potential Project impacts such as noise.

EAC = Environmental Assessment Certificate; VC = valued component; DPD = Detailed Project Description; AIR = Application Information Requirements.

10.1.3 Underwater Noise

Underwater noise in the main channel of the Fraser River South Arm is largely the result of commercial and industrial vessel shipping traffic, such as tugs and large ships transiting the river to upstream terminals and industrial sites. Construction works along the Fraser River such as dredging, and pile driving are also underwater noise contributors. Ambient noise levels in Deas Slough are substantially lower than in the main channel because vessel traffic in the slough consists primarily of smaller, slow-moving recreational vessels transiting to and from the marinas.

Project-related activities that will generate underwater noise and have the potential to result in injury or disturbance to fish and marine mammals include the following:

- vibratory and impact pile driving during the construction of the casting basin, materials offloading facilities, outfitting jetty, temporary tunnel element moorage, and new Deas Slough Bridge, as well as ground improvements
- dredging during riverbank excavation
- installing the separation wall required between the proposed tunnel and Existing Tunnel
- preparing the tunnel trench
- decommissioning the Existing Tunnel
- operating vessels supporting construction works
- increasing vehicle traffic in the tunnel during Project operations.

Baseline underwater noise levels near the Existing Tunnel were recorded in 2014 and are considered sufficient to characterize the existing underwater noise levels in the Fraser River for the purposes of characterizing operational chronic noise from current tunnel traffic. Underwater acoustic modelling will be used to predict potential areas of disturbance and injury for fish and marine mammals anticipated to be generated by noise-producing Project activities. The modelling results will be used to support the assessment of fish and fish habitat and marine mammals.

Table 10.1-3 summarizes topics related to underwater noise that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.3: Summary of Topics Related to Underwater Noise Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Tsawwassen First Nation	Given the new immersed tube tunnel (ITT) will be eight lanes, double the number of traffic lanes of the Existing Tunnel, it seems there would likely be increased noise due to traffic movement. The IPD mentions the existing underwater noise conditions will be studied and underwater acoustic modelling may be used. Tsawwassen First Nation recommend that the Proponent be prepared to undertake extensive consideration, modelling, and study to investigate underwater noise effects during operation (as well as construction).	The DPD has been updated to incorporate these concerns and outlines the plan for modelling underwater noise effects more clearly.	Existing underwater noise levels near the Existing Tunnel were recorded in 2014 as part of the previous EAC Application for the GMTRP. Those data are considered relevant for characterizing existing underwater noise levels, noting that they capture pre-pandemic vehicle and vessel traffic levels. The 2014 data will also be used to determine how an increase in the traffic volumes from 2014 levels to proposed operational traffic volumes may increase underwater noise levels. This information will be incorporated into underwater noise modelling that considers relevant behavioural and injury thresholds for marine mammals and fish to characterize potential effects. The need for, or requirement to monitor underwater noise during operations, will be considered during the development of mitigation measures and in consultation with Tsawwassen First Nation.
Tsleil-Waututh Nation	Tsleil-Waututh Nation expects the proponent to assess ways to reduce underwater noise levels near the new ITT to below levels recorded for the Existing Tunnel.	No change required.	Underwater acoustic modelling will be used to predict potential zones of influence for disturbance and injury for fish and marine mammals anticipated as a result of Project-generated underwater noise activities. The modelling results will be used to support the effects assessment for fish and marine mammals, and to inform ways to reduce underwater noise levels during construction which may result in injury to fish and marine mammals. The scope of the underwater noise assessment will be refined during development of the AIR in the Process Planning Phase, in collaboration with Indigenous nations, technical advisors, and stakeholders.
Tsleil-Waututh Nation	Describe what "noise mitigating systems" could entail.	No change required.	Noise mitigating systems refers to the possible range of noise control measures that could be implemented during construction activities to minimize potential harm or injury to fish and marine mammals.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Musqueam Indian Band	Seeking clarification on how the underwater noise measurements collected during the upcoming technical investigation programs will be used and if those will be used to describe baseline noise levels.	No change required.	The underwater noise measurements to be collected during technical investigation programs will be used to support the modelling work. No baseline underwater noise studies are necessary or proposed to support the environmental assessment.
Federal Government			
DFO	DFO recommends collecting new Project-specific data to better reflect existing baseline conditions when modelling underwater noise impacts on fish and fish habitat.	No change required.	Underwater noise measurements will be collected during technical investigation programs to support the underwater noise modelling work for predicting potential noise impacts on fish and marine mammals. When considering the effects of underwater noise on marine mammals and fish, the Proponent will compare predicted noise to be generated by the Project to thresholds for injury and behavioural disturbance. There currently are no “above baseline” decibel (dB) values presented in any guidance or scientific literature that would enable characterization of the effects of underwater noise other than comparing to thresholds. For the assessment of operational noise from traffic within the new immersed tube tunnel, the Proponent has proposed that the assessment use the underwater noise levels recorded near the Existing Tunnel in 2014 to determine how an increase in traffic volumes may increase chronic noise levels. The 2014 information captures baseline noise levels close to the Existing Tunnel during a 24-hour operating period.

dB = decibels; DFO = Fisheries and Oceans Canada; DPD = Detailed Project Description; EAC = Environmental Assessment Certificate; GMTRP = George Massey Tunnel Replacement Project; IPD = Initial Project Description; AIR = Application Information Requirements; Existing Tunnel = Existing George Massey Tunnel.

10.1.4 Surface Water and Sediment Quality

Water quality in the Lower Fraser River is influenced by the mixing of silt-laden freshwater and tidal saltwater with water quality characteristics changing due to tidal and seasonal factors. In addition to the Fraser River South Arm, Deas Slough, and Green Slough, the Project alignment also crosses several roadside drainage and irrigation ditches (Figure 10.1-4), most of which support ecological values in addition to being used for agriculture and stormwater management purposes. The quality of water and sediment in these watercourses determine their ability to support ecological and land use values.

Potential Project-related changes in surface water and sediment quality are expected to include in-river construction activities that may result in the temporary redistribution of riverbed sediments into the water column, as well as land-based construction activities that may result in increased erosion and sediment mobilization and/or introduction of contaminants. In-river and land-based construction activities could result in changes to water and sediment quality, with the potential for adverse Project effects on aquatic life. In addition, the impervious surface area created by the ITT and associated approaches will generate additional stormwater runoff, which may affect water quality in the receiving environment. Stormwater management infrastructure or catchment areas will be incorporated in the Project design and will minimize the potential for stormwater to directly enter watercourses.

The Proponent will study the quality of water and sediment in the Fraser River and Deas Slough in and around the Project alignment under existing conditions. Water quality is also being studied in upland tributaries within the Project area in coordination with fish and fish habitat watercourse surveys that have been guided and informed by early engagement with Indigenous nations on the existing conditions workplan. Surface water quality studies were initiated in June 2022 and are scheduled to continue through March 2023. Similarly, sediment quality studies are planned for August to September 2022. Guidance and standards used to prepare these studies are provided in Attachment 3. Existing surface water and sediment quality data relevant to the Project area will also be incorporated into the characterization of existing conditions.

The results of these studies will be used to support the assessment of the Project on relevant VCs, such as River Hydraulics and Morphology, Vegetation, Wildlife, Fish and Fish Habitat, Marine Mammals, and Human Health.

Table 10.1-4 summarizes topics related to surface water and sediment quality that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.4: Summary of Topics Related to Surface Water and Sediment Quality Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Snuneymuxw First Nation	Requested that results of the studies conducted on water and sediment quality also be used to support assessments of impacts to Section 35 rights and interests.	Text revised in the introductory paragraphs of Section 10.	Text added to indicate that the results of these studies will also inform assessments of impacts to Section 35 rights and interests.
Tsawwassen First Nation	What types of drainage ditches and stormwater management facilities are planned?	Table 5.3-1 has been updated with information on drainage ditches, and Section 6.4 has information on stormwater management.	More information on drainage ditches and stormwater management facilities design will be available in the EAC Application once the engineering design has been advanced.
Tsawwassen First Nation	How much water might enter the tunnel via rain-soaked vehicles and in general terms, how will the water be treated to remove automotive chemical contamination.	Section 6.4 has been revised.	The EAC Application will include details on the engineering design of the low-point sump pump, including its capacity based on surface runoff from vehicles entering the tunnel during precipitation events.
Tsawwassen First Nation	Please indicate how the dredging operations will impact the sediment concentration in water, what mitigation measures will be used to prevent exceedances, and if the sediment will be tested for the presence of contaminants prior to dredging.	No change required.	A surface water and sediment quality assessment will be completed as part of the EAC Application to identify potential Project effects to surface water and aquatic life, including re-suspension of sediments from dredging operations. Water and sediment quality studies to characterize existing conditions are ongoing, and results will be incorporated to inform the AIR and EAC Application.
Tsleil-Waututh Nation	Why is water quality testing restricted to surface water? Fish habitat comprises numerous water depths and is dynamic.	No change required.	Seasonal water quality measurements relevant to fish habitat are being taken throughout the year at numerous depths in the water column (i.e., conductivity, temperature, turbidity). In addition, total suspended solid samples are being collected throughout the year for testing at numerous depths in the water column.
Tsleil-Waututh Nation	The QEP should verify sediment and erosion control measures are installed correctly before a forecasted heavy rainfall event (i.e., proactive approach), and then during such an event, to take water quality samples to determine the efficacy of the measures employed.	Table 10.6-1 of the DPD has been updated to indicate that the QEP will proactively assess erosion and sediment control measures.	Monitoring requirements will be refined during development of the EAC Application in collaboration with Indigenous nations and technical advisors.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
People of the River Referrals Office	This is a light section in terms of details to prevent runoff. There exist several technologies that can be utilized before or after an oil separator to improve water quality being discharged.	Section 6.4 was revised to include reference to best achievable technologies.	The best achievable technologies and mitigation measures will be informed by the existing condition studies and effects assessment to be conducted during preparation of the EAC Application. The mitigation measures will be developed in collaboration with Indigenous nations, technical advisors, and public stakeholders during preparation of the EAC Application.
Ts'uubaa-asatx Nation	Indigenous groups have expressed concerns about storm water runoff and are seeking confirmation of techniques to ensure storm water is managed and cleaned before entering natural water system.		

EAC = Environmental Assessment Certificate; AIR = Application Information Requirements; DPD = Detailed Project Description; QEP = Qualified Environmental Professional

10.1.5 River Hydraulics and Morphology

The Fraser River South Arm contains a number of islands including the Woodward Island complex, Steveston Island, and Westham Island, which results in several channels and reaches within this arm. Dunes, characteristic features of a sand-bed channel, occur on the riverbed and generally vary in height from approximately 0.5 to 2.0 m, although individual dunes can be considerably smaller or larger. Fraser River flows are dominated by snowmelt, with discharge typically rising in April, peaking between May and July during freshet, and receding during autumn and winter.

Salinity in the Lower Fraser River is influenced by the presence of a salt wedge, the location of which moves in response to daily tidal variations and seasonally in response to variations in freshwater river discharge. During winter low flows, the salt wedge can travel as much as 30 km upstream from the mouth of Fraser River. During freshet high flows, the maximum extent of saltwater intrusion is less than 15 km upstream from the mouth. The salt wedge location in relation to irrigation intakes in the river influences salinity of water available for agricultural use in the adjacent communities of Delta and Richmond.

Project-related changes in river hydraulics and river-bed elevations are expected to occur during in-river construction activities including dredging, immersion of new tunnel elements, and decommissioning of the Existing Tunnel. These activities may affect water levels, flow patterns, river velocity, sediment transport, turbidity, and sediment erosion and deposition patterns. These potential changes are expected to be limited to the location around the new ITT and Existing Tunnel.

The new ITT is expected to have long-term implications for river hydraulics and morphology. These implications will be monitored and managed where practical and necessary. The impact of the new ITT on river hydraulics and morphology is an important design consideration; studies to understand these impacts are ongoing.

Existing conditions studies are analyzing river hydraulics and morphology in the Fraser River and Deas Slough to understand potential changes in river velocity, water levels, and flow patterns and their influence on sedimentation and erosion in the Fraser River and potential impacts to flood protection and utility infrastructure at Deas Island Regional Park. The study will consider permanent infrastructure components (e.g., new ITT), as well as proposed in-stream temporary construction components (e.g., outfitting jetty and temporary moorage).

Results of the river hydraulics and morphology studies will be used to support the assessment of potential effects of the Project on Fish and Fish Habitat, Wildlife and Wildlife Habitat (including migratory birds), Marine Mammals, Land and Resource Use (including agricultural land use), and Marine Use VCs.

The existing conditions program commenced in April 2022 and will extend through March 2023. The program is composed of the following aspects:

- Monthly bathymetric surveys, which measure riverbed elevations extending over the channel width, 1 km upstream and 1 km downstream of the Existing Tunnel. These surveys enable the Proponent to understand geomorphic and riverbed level conditions at the Project site.

- Flow conditions, including the magnitude and direction of river velocities, and the discharge of water carried by the river. Further, measurements of water temperature, conductivity, and pressure are collected to examine the dynamics of the salt wedge. Measurements of the river flow conditions are collected approximately bi-monthly.
- Suspended sediment transport measurements, which enable the Proponent to develop an understanding of how much sediment is naturally transported in suspension through the Project site. Measurements of sediment transport are collected approximately bi-monthly. Collecting samples under varying conditions throughout the year will provide insight into how suspended sediment transport changes with flow and tidal conditions at the Project site.

During the Engagement process, the Proponent has engaged with Indigenous nations to understand potential impacts of the temporary moorage areas. Several sites for temporary moorage have been explored to assess feasibility and effects (Section 5.7.3).

Table 10.1-5 summarizes the topics related to river hydraulics and morphology that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.5: Summary of Topics Related to River Hydraulics and Morphology Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Local Government			
City of Richmond and City of Delta	Concern about Project effect on dikes, including concerns associated with sea-level rise.	Dike infrastructure is recognized as being important to the City of Richmond and the City of Delta, and as having potential to be affected by the Project (as described in Section 5.3). Potential Project effects to municipal dike infrastructure will be assessed within the EAC Application.	Dike infrastructure in the City of Richmond and the City of Delta are described and referenced in Section 10.3.4.
Provincial Government			
LRWS	Temporary and permanent impacts to hydrology.	Temporary impacts to river hydraulics are expected during in-river construction. A detailed assessment of the Project impacts (temporary and permanent) on river hydraulics will be conducted as part of the EAC Application. It is expected that river velocities and water depths will be locally altered due to the dredging during in-river construction activities. This information is included in Section 10.1.7.	Existing condition monitoring studies, in combination with assessments of potential Project effects and post-Project monitoring, will provide information regarding potential temporary or permanent effects to river hydraulics.

EAC = Environmental Assessment Certificate; LWRS = Ministry of Land, Water and Resource Stewardship; DPD = Detailed Project Description.

10.1.6 Groundwater

The Project area is within areas mapped by the province as aquifer numbers 44 and 42 (Figure 10.1-1) to the north and south of the Fraser River, respectively; however, there are no registered water supply wells in the area. Water supply in the area is provided by the Metro Vancouver regional water system. Groundwater levels and quality in the areas adjacent to the Fraser River South Arm, Green Slough, and Deas Slough are inferred to be influenced by tidal and seasonal patterns and by the mixing of fresh groundwater and tidal saltwater.

Project-related activities, including land-based construction activities and dewatering, have the potential to influence local groundwater levels, flow patterns, and groundwater transport from the aquifers to surface water receptors. These changes are expected to be limited to areas immediately adjacent to the locations of ground disturbance.

The Proponent initiated the collection of groundwater data (i.e., levels and quality) to characterize existing conditions in the Project area in July, which will be continued through to November 2022. Guidance and standards used to prepare these studies are provided in Attachment 3.

Stormwater mitigation measures and controls will be developed as the detailed engineering for the Project is advanced and will consider Best Achievable Technologies and applicable water quality regulations. The Proponent will collaborate with Indigenous nations and local governments during the preparation of the EAC Application to incorporate relevant and applicable stormwater management and mitigation measures.

Table 10.1-6 summarizes the topics related to groundwater resources that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.6: Summary of Topics Related to Groundwater Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Local Government			
City of Delta	Asked how groundwater would be managed during construction of the casting basin.	No change required.	The specifics for groundwater disposal are still under consideration. Applicable permits will be obtained from the provincial Ministry of Land, Water and Resource Stewardship prior to release of groundwater as part of the casting basin construction, and during ongoing maintenance.
Metro Vancouver	Concern about discharging groundwater into upland areas within Deas Island Regional Park.	Updated Section 10.1.6 to include text on how stormwater mitigation measures and controls will be developed.	The Proponent will collaborate with Indigenous nations, regulatory agencies, and local governments during the preparation of the EAC Application to incorporate relevant and applicable stormwater management and mitigation measures.

DPD = Detailed Project Description.

10.1.7 Soil

The contaminated sites study completed for the previous 10-lane bridge project identified multiple areas of developed or disturbed land and/or brownfields, including Highway 99, manufacturing operations along No. 4 Road, various industrial development along Vanguard Road, transportation infrastructure on Steveston Highway and the Highway 99 overpass, electrical transmission infrastructure, a railway, and two maintenance works yards. Notwithstanding the commercial and industrial development in the area, the study did not identify any properties where the risk of contamination is high (MOTI 2015). Five properties were assessed as having moderate risk of potential contaminants, and the remaining properties had low risk of potential contaminants.

Based on preliminary findings of a Stage 1 PSI (Golder 2022), 12 areas of potential environmental concern were identified, eight of which were assigned medium potential for environmental concern within the Project footprint and have been recommended for a more in-depth investigation as part of a Stage 2 PSI (Figure 10.1-1: Areas of Potential Environmental Concern Figure 10.1-1). None of the areas of potential environmental concern were identified as having a high potential for environmental concern.

The Stage 2 PSI will include intrusive investigations to obtain soil and groundwater samples for laboratory analysis to be compared with the Contaminated Site Regulations Standards for the proposed land use. The information obtained will identify areas that could impact construction activities with respect to soil handling and disposal options. Additional investigation may be necessary if delineation of contamination for purposes of assessing the volume of impacted soils is required. Results of the Stage 2 PSI will be provided as part of the EAC Application. Guidance and standards used to prepare these studies are provided in Attachment 3.

A preliminary Contaminated Soils Management Plan will be prepared as part of the EAC Application, which will provide performance-based environmental requirements for managing potentially contaminated soils and groundwater. The Contaminated Soils Management Plan will identify, for example, areas of excavation impacted by identified soil and groundwater contamination, proposed stockpiling areas, soil handling and disposal options, methods to prevent cross contamination, dust control, and disposal sites licences to accept contaminated soils. The content outlined for the Contaminated Soil Management Plan will include recommendations for fill screening parameters and analytical methods, a requirement for a laboratory certificate for the imported fill, and other procedures for fill assessment. Fill screening parameters of imported rock would include screening for sulfide-bearing and acid-generating potential.

Table 10.1-7 summarizes the topics related to soils that were raised during early engagement with participating Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.7: Summary of Topics Related to Soils Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Local Governments			
City of Delta	Request to consider Soil Deposit and Removal permit if soil is transported along Delta-owned roads.	No change required.	Soil characterization will be completed at the site and contaminated soils (if any) will be segregated from non-contaminated soils. The Proponent will continue to liaise with the City of Delta regarding permit requirements.
City of Richmond	Recommended details for Contaminated Soils Management Plan.	Table 10.6-1 updated to clarify that the scope of the Contaminated Soils Management Plan will include all procedures and regulatory compliance documentation required for remediation activities and confirmation of remediation.	The Contaminated Soils Management Plan will provide required regulatory compliance documentation including Notices of Independent Remediation and Site Risk Classification Reports. The Contaminated Soils Management Plan will include disposal and treatment options for soils that exceed applicable provincial standards, as well as procedures and regulatory compliance documentation required for remediation activities and confirmation of remediation.
City of Richmond	Recommend that the Contaminated Soils Engagement Plan outlines procedures and processes to ensure that all imported materials and fill meet requirements of the *Environmental Management Act* and Contaminated Sites Regulation.	Table 10.6-1 has been updated to include screening for sulfide-bearing / acid-generating potential, and Section 10.1.7 has been updated to include procedures for fill assessment, and fill screening parameters of imported rock.	The Contaminated Soils Management Plan will include recommendations for fill screening parameters and analytical methods, a requirement for a laboratory certificate for the imported fill, and other procedures for fill assessment. Fill screening parameters of imported rock will include screening for sulfide-bearing and acid-generating potential.

DPD = Detailed Project Description.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- AQUIFER

AREA OF POTENTIAL ENVIRONMENTAL CONCERN (APEC)

- LOW RISK
- LOW TO MEDIUM RISK / MEDIUM RISK
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

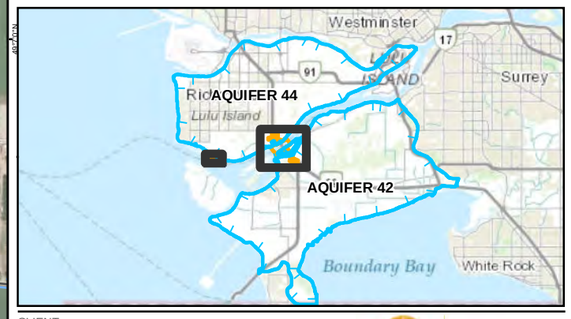
0 250 500

1:12,500 METRES

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. AQUIFERS, RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. DELTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
7. SENSITIVE ECOSYSTEM INVENTORY MAPPING FOR METRO VANCOUVER (2014) PUBLISHED AND OBTAINED FROM METRO VANCOVUER
8. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE, ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
AREAS OF POTENTIAL ENVIRONMENTAL CONCERN (APEC)

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	JP
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.1-1

PATH: Y:\burnaby\CAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\09_PROJECT\S21490984\02_PRODUCTION\MXD\Report\DPD\21490984_10_1_1_APECs.mxd PRINTED ON: 2022-12-21 AT: 11:19:21 AM

© THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

10.1.8 Vegetation

The Project is situated in the Coastal Douglas-fir biogeoclimatic zone, moist maritime (mm) subzone, and the Lower Mainland Ecoregion. Since the 1870s, urbanization and industrialization of the Lower Fraser, including diking, armouring, farming, road construction, and construction of the George Massey Tunnel, have altered historical shorelines and ecosystems in and near the Project.

Remaining forested areas in and near the Project are largely restricted to Deas Island. Deas Island harbours several ecological communities at risk including the red-listed Lyngbye's sedge (*Carex lyngbyei*) herbaceous vegetation estuarine marsh ecosystem, large-headed sedge (*Carex macrocephala*) herbaceous vegetation beach ecosystem, and Sitka willow – Pacific willow/skunk cabbage (*Salix sitchensis – Salix lasiandra* var*. lasiandra / Lysichiton americanus*) swamp. The former two red-listed ecological communities likely overlap with temporary laydown offices, parking, storage, and fabrication footprints, while the latter ecological community at risk does not. The blue-listed western redcedar / sword fern – skunk cabbage (*Thuja plicata / Polystichum munitum – Lysichiton americanus*) swamp and common cattail (*Typha latifolia*) marsh also occur on Deas Island but are not known to overlap with Project footprints; however, common cattail marshes are known to occur in drainage ditches alongside Highway 99. Metro Vancouver Sensitive Ecosystem Inventory mapping identifies primarily estuarine and riparian habitat, with a small wetland at the northeast end of Deas Island, old-field habitat on the north shore of the Fraser River, and several small intertidal areas along the banks of the Fraser River (Metro Vancouver 2014; Figure 10.1-2).

Three plant species at risk are known to occur on Deas Island. A Vancouver Island beggarticks (*Bidens amplissima*) population, a blue-listed species in BC and federally listed on Schedule 1 of the *Species at Risk Act*, SC 2002, c. 29 (SARA) as a species of special concern, occurs east of the Project footprints on Deas Island. Streambank lupine (*Lupinus rivularis*), which is red-listed in BC and listed as endangered on Schedule 1 of SARA, has been successfully introduced to Deas Island. Henderson's checker-mallow (*Sidalcea hendersonii*) occurs in the footprint of the Project on south side of Deas Island Regional Park.

During construction, the Proponent will implement the BC mitigation hierarchy of avoidance, minimizing, and restoring on site. Where permanent loss of vegetation and wetland habitat will result from increased road surface or construction of other Project components, opportunities for onsite restoration in other areas of the corridor will be explored to mitigate effects on VCs including Fish and Fish Habitat and Wildlife and Wildlife Habitat. The Proponent will characterize vegetation along the Project alignment to better understand its aquatic habitat and wildlife habitat value and to determine the presence of plant species at risk and ecological communities. Surveys for wetlands, plant species at risk, invasive plants and terrestrial ecosystem mapping field verification are in progress and planned to continue until fall 2022. Guidance and standards used to prepare these studies are provided in Attachment 3.

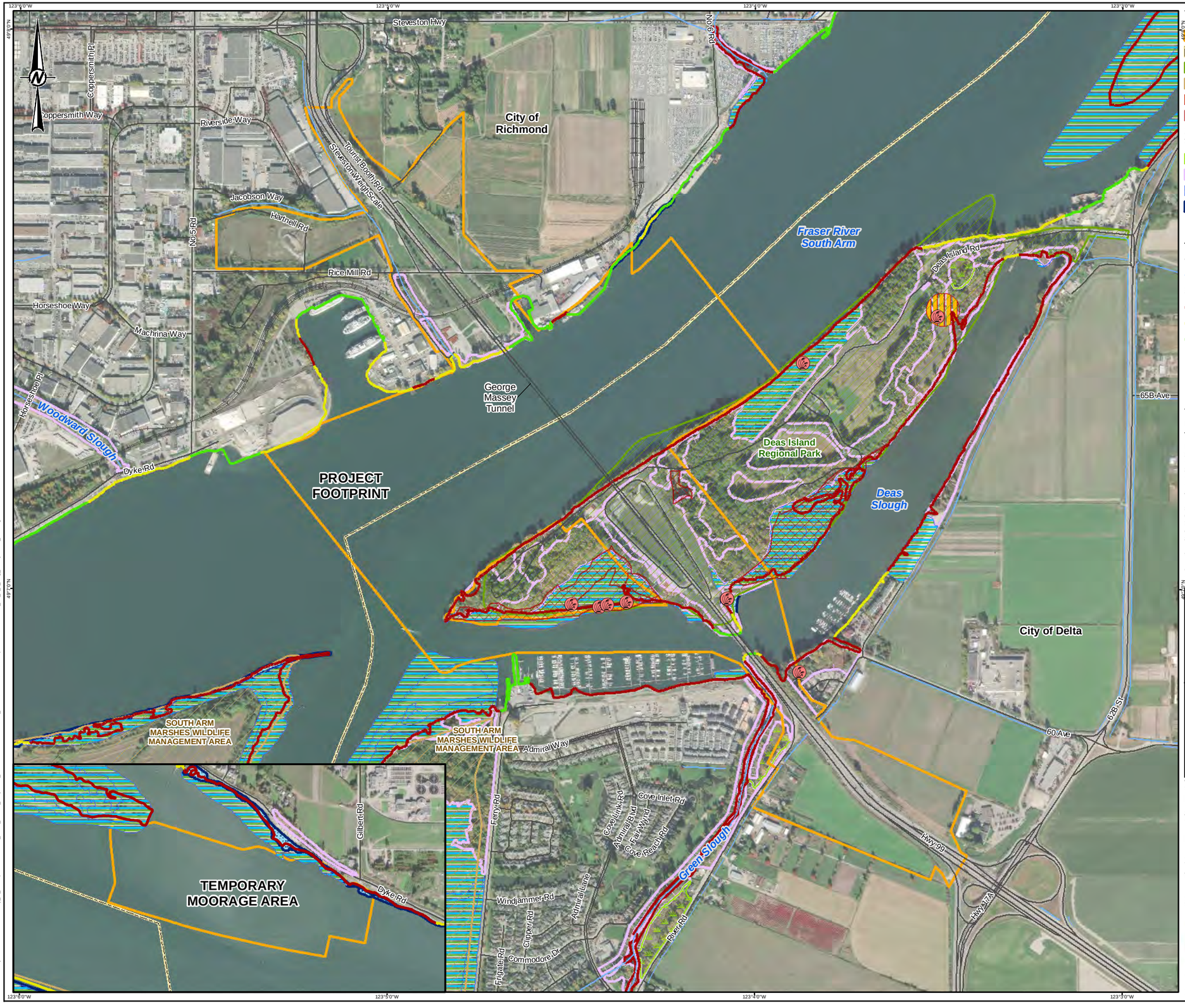
Table 10.1-8 summarizes topics related to vegetation that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.1.8: Summary of Topics Related to Vegetation Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Tsleil-Waututh Nation	Request clarification on why a quantitative study is impossible.	Text was added to Table 10.1-8 of the DPD to clarify this statement.	See updated response to Ministry of Land, Water, and Resource Stewardship comment under the Provincial government heading.
Tsleil-Waututh Nation	Tsleil-Waututh Nation recommends more than five years of post-construction vegetation monitoring to ensure effective management of invasive plant species.	No change required.	The frequency and duration of preliminary proposed monitoring will be determined based on the results of the effects assessment during the Application Preparation Phase of the environmental assessment in collaboration with Indigenous nations, technical advisors, and stakeholders.
Musqueam Indian Band	In acknowledging the cumulative industrial effects in the Project area, Musqueam requests to work closely with the Proponent not only to assess impacts to existing vegetation but also to explore opportunities for restoration to support harvesting and other rights-based activities.	No change required.	The Proponent will collaborate with the Musqueam Indian Band and other Indigenous nations to establish the scope and methodologies for assessing potential effects to existing vegetation resources, and to explore opportunities for restoration to support harvesting and other rights-based activities.
Local Government			
City of Richmond	Vegetation assessments should also include provisions for the surveying, studying, and managing invasive species communities within the Project area.	No change required.	The Proponent is conducting field surveys for invasive plants to an operational survey standard using a custom electronic version of the Invasive Alien Plant Program Site and Invasive Plant Survey Record in ArcGIS Survey123. These data will be used to develop site- and species-specific invasive plant management plans before the permitting phase of the Project.
Metro Vancouver	Detailed survey of plant and vegetation communities is required for temporary workspace to ensure comprehensive restoration takes place.	No change required.	Proposed restoration and revegetation plans will be developed in collaboration with Indigenous nations and technical advisors for potentially affected areas during the Application Development Phase.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Metro Vancouver	DPD states a two-year review following completion of vegetation and wetland function. MV requests a longer time horizon and regular intervals of wetland and vegetation re-establishment as it relates to the Regional Park.	Table 10.6-1 of the DPD has been updated to clarify the process for determining the duration of post-restoration monitoring programs.	The frequency and duration of post-restoration monitoring programs will be determined in collaboration with Indigenous nations, Metro Vancouver, and technical advisors.
Provincial Government			
Ministry of Land, Water and Resource Stewardship	What are the Project's potential effects on salt marsh habitat? How will they be assessed and mitigated or offset? The assessment should consider the historical, cumulative effects of development on salt marsh habitat on the Fraser River South Arm.	No change required.	Saltwater marsh habitats are within the scope of the wetland function assessment field program, which includes delineation and classification of saltwater marshes to quantify their existing functions. These data will be used to determine if direct and indirect interactions between the Project and saltwater marshes are likely to occur. The assessment will consider the cumulative effects of development on saltwater marshes along the Fraser River South Arm. Historical vegetation mapping from the mid to late 19th century was conducted at a scale and using methods that does not indicate that saltwater marshes occurred in the Project study areas, and as such, does not accurately delineate the extent of saltwater marshes that may have actually been present at that time. A quantitative comparison to historical mapping, produced at different mapping scales using different vegetation classification systems, would be reflective of differences in the mapping methodologies, and not the actual changes in saltwater marshes over time.

DPD = Detailed Project Description.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- CRITICAL HABITAT FOR STREAMBANK LUPINE
- WETLANDS AND/OR ECOSYSTEM AT RISK

SENSITIVE ECOSYSTEM INVENTORY FOR METRO VANCOUVER (2014)

- WETLAND
- RIPARIAN
- ESTUARINE
- INTERTIDAL
- RARE PLANT OCCURENCE[1]
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

SHORELINE CLASSIFICATION (FREMP)

- HIGH PRODUCTIVITY
- MODERATE PRODUCTIVITY
- LOW PRODUCTIVITY

0 250 500
1:12,500 METRES

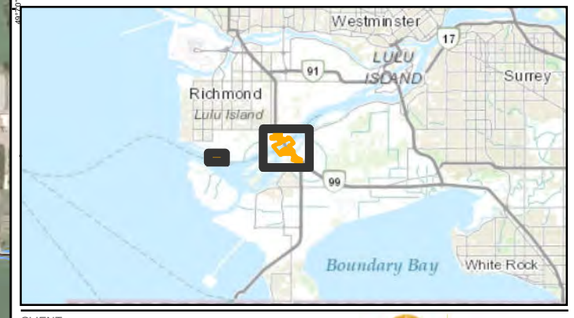
NOTE(S)

1. CDC RARE PLANT OCCURENCES EXCLUDE HISTORIC OCCURENCES.

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. CDC RARE PLANT OCCURENCES, CRITCAL HABITAT, RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. DELLTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
7. SENSITIVE ECOSYSTEM INVENTORY MAPPING FOR METRO VANCOUVER (2014) PUBLISHED AND OBTAINED FROM METRO VANCOUVER
8. SHORELINE CLASSIFICATION OBTAINED FROM THE FRASER RIVER ESTUARY MANAGEMENT PLAN 2016 REVESION.
9. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE. ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA | Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
VEGETATION AND ECOSYSTEMS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	JP
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.1-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\S\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_10_1_2_Veg_Ecosystems_Drainage.mxd PRINTED ON: 2022-12-21 AT: 11:20:21 AM

10.1.9 Wildlife and Wildlife Habitat

Habitat available to wildlife species along the Project alignment generally consists of roadside verge and ditches adjacent to the existing roadway, as well as agricultural fields, forested areas, riparian habitat, river habitat, wetland, and industrial/developed areas. Terrestrial wildlife along Highway 99 (i.e., within 1 km of the Project alignment) consists primarily of common species of raptors, songbirds, amphibians, and small mammals that have adapted to exist in anthropogenically disturbed areas.

Existing information on the occurrence of wildlife along Highway 99 is available from the 2017 EAC Application for the previous 10-lane bridge project, information prepared for other projects in the vicinity (e.g., Tilbury Marine Jetty Project), government databases (e.g., iMapBC [Government of BC 2022]), and ongoing Indigenous-led advanced environmental studies for migratory birds of the Fraser River (TFN and LGL 2021a, 2021b, 2021c, 2022). The Proponent will conduct additional studies to assess the following:

- terrestrial wildlife and habitats along the Project alignment to document the presence of wildlife species and use of terrestrial habitats in areas proposed for clearing, construction, or related disturbance
- the presence and activity status of raptor nests adjacent to the Project
- songbird presence and habitat use
- the occurrence of aquatic birds in the Fraser River in the vicinity of the Project
- bat summer habitat use near the proposed areas of clearing and construction
- amphibian presence in adjacent waterbodies
- presence and habitat use by species at risk (common nighthawk, barn owl, and barn swallows) and how suitable the habitat along Highway 99 is for small mammals

Guidance and standards used to prepare these studies are provided in Attachment 3. Information from stakeholder comments provided during the EAC Application for the previous 10-lane bridge project, such as those from ECCC related to species at risk, will be considered for the current Project.

Roadside and agricultural ditches and wetted areas on Deas Island may support amphibian species. Adjacent upland habitat, such as forested areas, may provide suitable habitat for terrestrial amphibian species and adult aquatic breeding species outside of the breeding season.

Roadside habitat, agricultural fields, riparian habitat, wetlands, forests, and aquatic habitat supports a variety of passerines, raptors, and aquatic birds. Adjacent habitat is expected to provide foraging, nesting, and living habitat. Roadside grass-dominated areas provide foraging habitat for raptors and other birds that prey on small mammals. Additionally, grassy areas, roadside verge, and patches of shrubs provide some habitat for songbirds. Further, the Project is located within the Boundary Bay – Roberts Bank – Sturgeon Bank (Fraser River Estuary) Important Bird Area (IBA BC107), which supports globally significant

populations of waterfowl, waterbirds, and shorebirds (Birds Canada 2022). The Lower Fraser River downstream of the ITT supports a variety of aquatic birds such as shorebirds, waterfowl, loons, grebes, cormorants, and gulls, especially during the winter.

Grassy areas adjacent to Highway 99 provide habitat for small mammals, such as voles. Large mammals and specifically black-tailed deer may live in areas adjacent to the highway; however, monitoring of the existing collision impacts of Highway 99 by the Proponent indicates limited impacts along the portion of the Highway 99 comprising the Project. Aquatic, riparian, and wetland habitat may support semi-aquatic mammals, such as river otter (*Lontra canadensis*), and bats may forage over these habitat types.

Suitable habitats for several species at risk have been identified along vegetated sections of Highway 99, including barn owl (*Tyto alba*; provincially red-listed and listed as Threatened under Schedule 1 of SARA), Pacific water shrew (*Sorex bendirii*; provincially red-listed and listed as Endangered under Schedule 1 of SARA), and barn swallow (*Hirundo rustica*; provincially blue-listed and listed as Threatened under Schedule 1 of SARA) (Government of BC 2022). Further, a bat maternity colony that is used by Yuma myotis (*Myotis yumanensis*; provincially yellow-listed) and little brown myotis (*M. lucifugus*; provincially yellow-listed and listed as Endangered under Schedule 1 of SARA) occurs at the east end of Deas Island, approximately 1.1 km from the Project (Figure 10.1-3).

Wildlife and wildlife habitat could be impacted through loss and degradation of habitat, change in habitat connectivity, and increased mortality. Terrestrial habitat may be lost and altered during vegetation clearing and grubbing. Construction and operational noise levels and the temporary presence and movement of crews, machinery, and equipment may impact habitat connectivity, reduce habitat quality, and increase wildlife mortality. Other sources of indirect habitat loss include in-stream works within the Fraser River that could result in sedimentation of downstream nearshore habitat, sensory disturbance, and temporary displacement of aquatic birds from the vicinity of the new ITT. Wildlife mortality may occur during vegetation clearing and grubbing, soil stripping, and excavation, as well as collisions during Project operation. Following construction and decommissioning of the Existing Tunnel, additional areas will be available to re-establish wildlife connectivity on Deas Island.

It is not anticipated that a SARA or *Migratory Bird Convention Act*, SC 1994, c. 22, permit will be required because the Project footprint does not overlap with existing approved critical habitat[3] for wildlife species, and inactive barn swallow nests that may be required to be removed to facilitate replacement of the

[3] While the Project footprint does not overlap approved critical habitat it does overlap with the proposed barn owl critical habitat (ECCC 2021).

Deas Slough Bridge would be removed outside the specified nesting period[4] in accordance with guidance from ECCC (ECCC 2019). Potential Project interactions with Wildlife and Wildlife Habitat and their effects will be considered in more detail during the Process Planning Phase as part of the AIR and subsequently in the EAC Application.

Indigenous nations were engaged during the development of the Wildlife and Wildlife Habitat Existing Conditions Workplan to obtain further information on culturally important species and concerns regarding Project-related effects on wildlife and their habitats. The Existing Conditions Workplan was updated to include the collection of additional data based on input from Indigenous nations. This includes deployment of trail cameras (remote detection cameras) within the Project footprint to incidentally document wildlife movement to address information gaps identified by Tsawwassen First Nation during early engagement. Data collected through advanced Indigenous-led studies on migratory birds will be included in the Existing Conditions Report and the environmental assessment (e.g., Demarchi et al. 2022).

Table 10.1.9 summarizes topics related to wildlife that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

[4] Under SARA, a barn swallow nest is considered a residence in BC from May 1 or the date when adults are first seen building or occupying the nest, whichever is earlier, to August 31 or the date when a bird is last seen at the nest, whichever is later (ECCC 2019).

Table 10.1.9: Summary of Topics Related to Wildlife Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How has the Issue been or will be Addressed
Indigenous Nations			
Tsawwassen First Nation	Recommended additional methods to collect data on mammal presence.	Edit to Attachment 3, List of Studies, and updates to Section 10.1.9, Wildlife	Remote cameras have been added as a method to incidentally collect data on mammal wildlife species.
Tsawwassen First Nation	Recommended inclusion of wildlife roadkill data.	No change required	Incidental data collection methods updated to include observation of roadkill. Background data collection includes Wildlife roadkill data from WARS and other road-based reporting systems (e.g., contractor managed).
Tsawwassen First Nation	Recommend contacting Delta Naturalists Society to collect data for Existing Conditions report.	No change required, provided on the Wildlife and Wildlife Habitat Workplan.	This organization may be contacted to obtain additional data. Existing data available through citizen science efforts, such as eBird, will also be incorporated into the Existing Conditions report.
Tsawwassen First Nation	Recommend that roosting habitat should also be examined	No change required, provided on the Wildlife and Wildlife Habitat Workplan.	Ecosystem mapping will be used to describe areas of the LAA that could provide suitable roosting habitat (e.g., forested habitat) in the Existing Condition Report. Incidental observation of raptors and herons will be recorded during field studies.
Tsawwassen First Nation	Recommend that baseline traffic noise data via in situ measurements.	No change required, provided on the Wildlife and Wildlife Habitat Workplan.	Ambient atmospheric noise levels will be collected as part of the Acoustic VC. The assessment of effects on Wildlife will rely on the noise assessment and modelling undertaken as part of the Acoustic VC to assess potential effects to wildlife habitats.
Tsawwassen First Nation	Please confirm if wildlife and migratory birds will be included in the list of VCs supported by the river hydraulics and morphology studies.	Section 10.1.5 has been updated to clarify that results of the river hydraulics and morphology studies will be used to support the assessment of potential effects of the Project on Wildlife and Wildlife Habitat (including migratory birds).	The scope of the wildlife and wildlife habitat assessment will be outlined in the AIR. The AIR will identify linkages between VCs and the EAC Application will describe the pathway effects linking river hydraulics to wildlife and wildlife habitat, where appropriate.

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How has the Issue been or will be Addressed
Tsawwassen First Nation	Table 10.1-9 summarizes two points relating to TFN input; we note that TFN provided comments on a draft wildlife workplan; that input merits mentioning here (and likely elsewhere, such as attachments 4/5).	comments on this workplan have been added to this table (see 3rd, 4th, and 5th entries in this table)	Changes were made to address comments in the workplan, and changes to the workplan will be incorporated in the wildlife existing conditions report, where appropriate.
Tsawwassen First Nation	Might it make sense to rename this section 'Wildlife and Wildlife Habitat' to be consistent with the title of the section on Fish and Fish Habitat? The change would also be consistent with the content of the section that speaks to wildlife habitat considerations.	Section 10.1.9 has been updated to Wildlife and Wildlife Habitat.	See adjacent column
Tsleil-Waututh Nation	TWN expects the proponent to provide the rationale behind the notion that displacement of aquatic birds will be temporary. Change wording to indicate that displacement will be potentially temporary or permanent.	The referenced sentence in Section 10.1.9 of the DPD was updated with a list of potential effects associated with in-river work during the construction phase.	The scope of the wildlife and wildlife habitat assessment will be refined during preparation of AIR in collaboration with Indigenous nations, technical advisors, and stakeholders.
Tsleil-Waututh Nation	"Construction and operational noise levels and the temporary presence and movement of crews, machinery, and equipment may impact habitat connectivity and reduce habitat quality." (pg.88) Consider replacing the word "may" with "will".	No change required. Section 10.1.9 provides a preliminary list of potential effects that will be considered in the wildlife and wildlife habitat assessment. The language reflects the current level of uncertainty regarding the potential for effects to occur.	The language of the DPD reflects the current level of uncertainty regarding the potential for effects to occur. The scope of the Wildlife and Wildlife Habitat Assessment will be refined during development of the AIR in collaboration with Indigenous nations and technical advisors
Tsleil-Waututh Nation	Please specify which areas will be available to re-establish wildlife connectivity on Deas Island following construction and decommissioning of the Existing Tunnel	No change required.	The wildlife and wildlife habitat will review potential restoration areas and assess the feasibility of improving wildlife habitat connectivity within the Highway 99 on Deas Island.
Tsleil-Waututh Nation	TWN expects the proponent to assess how lighting installments will impact marine birds.	No change required.	The wildlife and wildlife habitat assessment will assess how changes in Project lighting may affect wildlife and wildlife habitat, including marine birds.

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How has the Issue been or will be Addressed
Ts'uubaa-asatx Nation	Requesting a more fulsome response to Ts'uubaa-asatx previous comment on the use of dredged materials as a way to rebuild biofilm/ biomat between the two causeways.	No change required.	The potential beneficial reuse of dredge material will be assessed in the EAC Application based on the following broad steps: 1) assessment of the suitability of dredge material for ecological reuse 2) analysis of the effects of the Project on biophysical VCs (e.g., Fish and Fish Habitat) 3) evaluation of Project mitigation measures, including habitat restoration and offsetting as required, as well as an evaluation of dredge material reuse options 4) engagement and collaboration with Indigenous nations, regional governments, and federal and provincial regulators regarding the potential reuse options.
Musqueam Indian Band	It will be important to evaluate lighting impacts from works that are proposed to occur outside of daylight hours. Migratory birds are significantly affected by light impacts, and there are bird species whose paths cross this area that have been harvested in the past and present by Musqueam.	No change required.	The wildlife and wildlife habitat assessment will assess how changes in Project lighting may affect wildlife and wildlife habitat, including marine birds.
Local Government			
City of Delta	Potential impact to bat colony at Burvilla Heritage House.	No change required.	The scope of the environmental assessment will consider the potential for Project-related indirect impacts (e.g., noise) to the bat colony at the Burvilla Heritage House.
Metro Vancouver	Metro Vancouver would appreciate receiving data collected from remote cameras used in wildlife surveys.	No change required.	The Proponent will share data from remote cameras with Metro Vancouver, as part of the existing conditions reports.
Metro Vancouver	Wildlife habitat restoration, invasive plant monitoring - note that a time period has not been provided for post-construction monitoring (10 years recommended).	Section 10.6 has been updated to indicate how the frequency and duration of wildlife habitat post-construction monitoring within Deas Island Park will be determined.	The frequency and duration of wildlife habitat post-construction monitoring within Deas Island Park will be determined in collaboration with Metro Vancouver, technical advisors, and Indigenous nations.

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How has the Issue been or will be Addressed
Metro Vancouver	What is the nature of the "additional areas that will be available to re-establish wildlife connectivity On Deas Island?"	No change required.	"Areas around the existing tunnel that are currently maintained could potentially be restored to provide additional habitat for wildlife. The wildlife and wildlife habitat assessment will review potential restoration areas and assess the feasibility of improving wildlife habitat connectivity within the Highway 99 ROW on Deas Island.
Metro Vancouver	More detailed studies relating to bat use of all areas of Deas Island Regional Park is required. These would include surveys to establish the relative importance of ecosystem types to foraging bats.	No change required.	Acoustic surveys for bats are being undertaken as part of the existing conditions wildlife program within Deas Island Regional Park to provide data on bat presence and species richness in habitats within the wildlife and wildlife habitat LAA. The results of the acoustic study may also be used to infer habitat use and distribution in the LAA.
Federal Agencies			
ECCC	Critical habitat for species at risk and protection of barn swallow residences under SARA.	Edit to Section 10.2.2.	It is not anticipated that a SARA or *Migratory Bird Convention Act*, SC 1994, c. 22, permit will be required. The Project footprint does not overlap with existing approved critical habitat for wildlife species, although there is overlap with proposed barn owl critical habitat. Barn swallow nests would be removed when they are inactive and outside the specified nesting period in accordance with guidance from ECCC (ECCC 2019).
ECCC	ECCC notes that birds may also forage over aquatic, riparian, and wetland habitat, such as common nighthawks and swallows, in addition to the species groups listed in the previous version of the DPD.	No change required.	The comment by ECCC refers to a paragraph related to potential habitat use in the LAA by mammal species. The Existing Conditions report will describe potential habitat use by common nighthawk and swallows as a basis for the Wildlife and Wildlife Habitat assessment. The scope of the Wildlife and Wildlife Habitat assessment will be outlined in the AIR and will be available to technical advisors for review in the Process Planning Phase of the EA.

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How has the Issue been or will be Addressed
ECCC	ECCC recommends minor additions to a paragraph in Section 10.1.9, relating to habitat being degraded and potential for increase in wildlife mortality due to Project activities, and addition of habitat restoration/offsetting to the list of preliminary mitigations for wildlife described in Table 10.1-6.	Section 10.1.9 and Table 10.6-1 have been updated as requested.	Table 10.6-1 identifies habitat restoration under the "Preliminary Mitigation" column and proposes monitoring of restored habitat under the "Preliminary Proposed Monitoring" column. The EAC Application will characterize and assess potential habitat loss and recommend corresponding mitigation strategies designed to avoid, reduce, and/or restore those effects. Mitigation strategies, could include offsetting if identified as necessary in the EAC Application.
ECCC	ECCC advises that barn swallow nests can only be removed outside the nesting period if they are not occupied by a live bird or viable egg, and only if necessary to complete the Project. ECCC recommends that the Proponent consider mitigation measures to compensate or offset for the loss of any barn swallow nests.	No change required.	The Wildlife and Wildlife Habitat assessment will identify potential Project effects to wildlife and wildlife habitat, including barn swallows, and, as appropriate will identify mitigation measures intended to reduce, and where possible, avoid potential impacts.

ECCC = Environment and Climate Change Canada; SARA = *Species at Risk Act*; WARS = Wildlife Accident Reporting System; LAA = Local Assessment Area; VC = valued component; AIR = Application Information Requirements; EAC = Environmental Assessment Certificate; TFN = Tsawwassen First Nation; DPD = Detailed Project Description; EA = environmental assessment.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- PROPOSED CRITICAL HABITAT FOR BARN OWL[1]
- BALD EAGLE
- RED-TAILED HAWK
- BARN SWALLOW/ CLIFF SWALLOW NESTING
- YUMA BAT / LITTLE BROWN BAT COLONY
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE

0 250 500

1:12,500 METRES

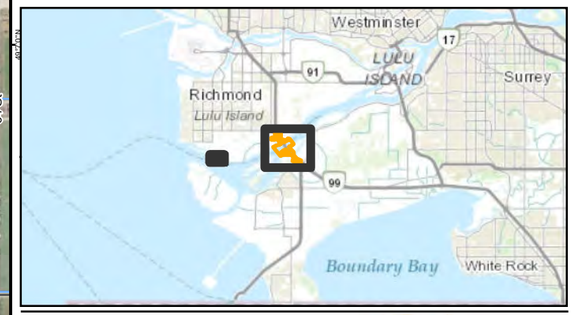
NOTE(S)

1. CRITICAL HABITAT MAPPING WILL UPDATED IN THE EXISTING CONDITION REPORT TO REFLECT THE CURRENT AVAILABLE DATA.

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS, PROPOSED CRITICAL HABITAT, ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. DELLTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
7. SENSITIVE ECOSYSTEM INVENTORY MAPPING FOR METRO VANCOUVER (2014) PUBLISHED AND OBTAINED FROM METRO VANCOUVER
8. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE, ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
WILDLIFE FEATURES AND PROTECTED AREAS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	JP
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.1-3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_ Transportation\Fraser_ River_ Tunnel\ Project\99_ PROJECT\S21490984\02_ PRODUCTION\MXD\Report\DP\D21490984_10_1_3_ Wildlife_ Features.mxd PRINTED ON: 2022-12-21 AT: 11:21:18 AM

10.1.10 Fish and Fish Habitat

The Fraser River, Deas Slough, and Green Slough support fish communities that include five species of Pacific salmon – Chinook Salmon (*Oncorhynchus tshawytscha*), Chum Salmon (*O. keta*), Coho Salmon (*O. kisutch*), Pink Salmon (*O. gorbuscha*), and Sockeye Salmon (*O. nerka*), as well as Rainbow Trout (*O. mykiss*), Coastal Cutthroat Trout (*Oncorhynchus clarkii clarkii*), Bull Trout (*Salvelinus confluentus*), Dolly Varden (*S. malma*), White Sturgeon (*Acipenser transmontanus*), Green Sturgeon (*A. medirostris*), and Eulachon (*Thaleichthys pacificus*). In total, there are 58 documented species of fish in the Fraser River, plus one crayfish species and one mollusc species (BC ENV 2021a). The Fraser River is a significant salmonid-bearing system and migration route. Anadromous fish use the Fraser River South Arm for adult migration throughout much of the year and for downstream juvenile migration and rearing in the spring to midsummer. Where accessible, upland tributaries with higher quality habitat values may also provide juvenile salmonid rearing habitat. Upland tributaries potentially impacted by the Project are primarily human-made ditches. These are typically located upland of flood-control infrastructure, limiting access to the Fraser River and therefore have lower fish and aquatic habitat values. A list of key fish species in the Project area and their conservation status is provided in Table 10.1.10. Upland tributaries and associated historical fish observations are provided in Figure 10.1-4.

There are areas classified by the City of Richmond as Intertidal, Shoreline and Freshwater Wetland Environmentally Sensitive Areas (ESAs) within the Project footprint, LAA, and RAA. Additionally, there are areas along freshwater surface features classified as Riparian Management Areas (RMAs) located within the Project footprint, LAA, and RAA. Some of these areas are considered likely to experience temporary or permanent potential Project effects.

Potential Project-related effects on fish in the Fraser River, Deas Slough, and Green Slough include exposure to underwater noise and elevated suspended sediment levels during in-water construction activities, physical habitat alteration, injury and/or direct mortality (including those from vessel strikes to sturgeon, dredging, entrainment, or stranding). Potential effects to fish and fish habitat, including dredging material on Eulachon spawning beds downstream and avoidance and physiological effects, will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat in the EAC Application and will be used to support assessments of impacts to Section 35 rights and interests.

Potential Project-related effects on fish in upland tributaries are similar, although underwater noise exposure is not expected. The Project may result in temporary and permanent loss of fish habitat within the Fraser River, Deas Slough, and upland tributaries in areas that overlap with the Project footprint. Project-related effects will be assessed, mitigated, and offset as required in accordance with regulatory requirements and in consultation with Indigenous nations. Potential Project interactions with Fish and Fish Habitat and their effects will be considered in more detail during the Process Planning Phase and in the EAC Application. Details of the habitat offsetting program will be developed in collaboration with Indigenous

nations, regulatory agencies, local government, and stakeholders during the Application Development phase of the environmental assessment.

Indigenous nations have been engaged on the Project and advanced Indigenous-led studies were initiated to develop targeted knowledge of culturally important fish species. There are ongoing fish and fish habitat studies, including continuation of Indigenous-led advanced studies, collecting data to assess juvenile salmonid habitat use during outmigration, sturgeon presence and use, and Eulachon spawning within the Project area. These studies were detailed in the existing conditions workplan, which was shared with Indigenous nations for feedback in March 2022 and at associated workshops, which Indigenous nations were invited to participate in. Guidance and standards used to prepare these studies are provided in Attachment 3.

Advanced Indigenous-led studies for Eulachon, juvenile salmonids, Sturgeon, and habitat mapping were carried out and incorporated into the Fish and Fish Habitat Existing Conditions Workplan:

- Habitat Mapping in Support of Advance Studies – Methodology for the Lower Fraser River (Kwong and Palmer 2021)
- George Massey Tunnel Crossing (GMC) – Sturgeon Advanced Studies 2021 (Larocque and Howell 2021)
- George Massey Tunnel Replacement – An Assessment of Eulachon *(Thaleichthys pacificus)* Spawning Activity in the Lower Fraser River at Deas Island (Noble et al. 2021)
- George Massey Tunnel Crossing (GMC) – Juvenile Salmonid Advanced Studies 2021 (Wyness and Hewgill 2021)
- The Lower Fraser River Juvenile White Sturgeon (*Acipenser transmontanus*) Habitat Assessment: Final Report (LGL 2022). Prepared by LGL Limited for Fraser River Conservation Society and VFPA

The Proponent is conducting additional studies to assess fish habitat values and fish use of watercourses, assess the quality and quantity of fish habitat within the Project alignment, and consider effects to fish and fish habitat including species of conservation concern, species listed under SARA, or species identified as at-risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

The ongoing fish and fish habitat studies include the following:

- **Upland Tributaries Existing Conditions Study**—field assessments of upland tributaries and Green Slough, including riparian and aquatic habitat assessment, fish species and life stage presence, and habitat use.
- **Fraser River Fish and Fish Habitat Existing Conditions Study**—field assessments of the Fraser River mainstem and Deas Slough including riparian and aquatic habitat assessment, fish species and life stage presence of juvenile fishes, and habitat use.

- **White Sturgeon Existing Conditions Study**—angling and side-scan sonar studies to confirm life stage presence and habitat use in the Project area in the Fraser River mainstem and Deas Slough.
- **Eulachon Existing Conditions Study**—installing salinity probes to assess incubation habitat during high flow conditions during the spawning period in 2022 and conducting a Eulachon migration timing study using eDNA (environmental DNA) to determine migration timing.
- **Benthic Invertebrates Existing Conditions Study**—field assessments to assess benthic invertebrate assemblage and abundance near the ITT footprint, temporary storage location, and in upstream control areas.

The Fraser River fish sampling programs are using methods and study locations established by Musqueam Indian Band, and the Eulachon spawning habitat study was initiated based on recommendations of the advanced Indigenous-led study led by Tsawwassen First Nation. Advanced indigenous-led studies will provide key data that will be used in the environmental assessment. The results of these studies, and their interpretation, will be shared with Indigenous nations as they become available, and feedback received will be incorporated into the associated reports.

Table 10.1.10: Key Fish Species and their Conservation Status in the Project Area

Species	BC CDC	COSEWIC	SARA Schedule 1
Eulachon (Fraser River population)	–	Endangered	–
Green Sturgeon	Blue	Special Concern	Special Concern
White Sturgeon (Lower Fraser population)	Red	Threatened	–
Chinook Salmon (multiple populations)	–	Endangered / Threatened / Special Concern	Currently under consideration for addition
Chum Salmon	–	-	–
Coho Salmon (multiple populations)	–	Threatened	–
Pink Salmon	–	–	–
Sockeye Salmon (multiple populations)	–	Endangered / Threatened / Special Concern	–
Coastal Cutthroat Trout	Blue	–	–
Steelhead (Rainbow) Trout (multiple populations)	Red	Endangered	–
Bull Trout (South Coast population)	Blue	Special Concern	Special Concern
Dolly Varden (Southern lineage)	–	–	–

Note: Conservation status includes species listed under Schedule 1 of the federal SARA, assessed as Endangered, Threatened, or Special Concern by the COSEWIC and/or assigned by the BC CDC as red-listed (Extirpated, Endangered, or Threatened) or blue-listed (Special Concern).
– = not applicable; BC CDC = British Columbia Conservation Data Centre; COSEWIC = Committee on the Status of Endangered Wildlife in Canada; SARA = *Species at Risk Act.*

Table 10.1.11 summarizes topics related to fish and fish habitat that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.1.11: Summary of Topics Related to Fish and Fish Habitat Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Tsawwassen First Nation	TFN has concerns about the potential for fish entrainment and stranding during flooding and dewatering of the casting basin.	Mitigation measures have been added to Table 10.6-1, Summary of Preliminary Potential Effects, Mitigation, and Management Strategies.	Fish salvage would also be conducted where appropriate to mitigate potential risks of stranding in dewatered areas. Intake screening and fish salvage are provided as mitigation measures.
Tsawwassen First Nation	The DPD discusses river water use for various Project components but there is no mention of how effects to fish and aquatic organisms will be mitigated, please add this.	Section 10.1.10 was updated with additional potential effects.	Details of the mitigation measures and habitat offsetting program will be developed during the Application Development Phase in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders.
Tsawwassen First Nation	Please provide detail on the additional proponent-led studies regarding fish and fish habitat.	Section 10.1.10 was updated to include proponent-led studies.	Requested content has been added to the DPD.
Tsawwassen First Nation	TFN provided comments on a draft fish and fish habitat workplan; that input merits mentioning in the DPD.	No change required.	Changes were made to address comments in the workplan and changes to the workplan will be incorporated in the Fish and Fish Habitat Existing Conditions report, where appropriate
Tsawwassen First Nation	Need to include injury and mortality from vessel strikes as strike risks to sturgeon are of concern to TFN.	Section 10.1.10 was updated to include injury and mortality from vessel strikes.	Requested content has been added to the DPD.
Tsawwassen First Nation	Need to include injury and mortality from dredging.	Section 10.1.10 was updated to include injury and mortality from dredging.	Requested content has been added to the DPD.
Tsleil-Waututh Nation	Describe how existing dikes within the Ministry ROW that are affected by the Project will need to be re-constructed to current standards. Would current standards include installing fish-friendly flood gates to restore access to valuable fish habitat?	No change required.	Proposed flood protection dikes will be constructed to meet modern seismic and environmental standards. Specific details such as the number or location of fish-friendly gates will be determined during detailed engineering design and will be informed by the existing conditions studies and environmental effects assessment during the Application Development Phase.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Tsleil-Waututh Nation	TWN requests a holistic look at potential impacts to fish and fish habitat so that significant habitat compensation can be identified, resulting in an environmental net gain, including fish habitat.	Section 10.1.10 was updated to provide information on process for habitat offsetting.	Habitat offsetting planning and design will include specific consideration of the Tsleil-Waututh Nation's concerns and recommendations, and with a goal that they are aligned with fisheries management objectives of the lower Fraser River.
Tsleil-Waututh Nation	TWN is concerned about negative impacts to fish populations (especially salmon), further precluding TWN's ability to harvest these resources and negating TWN's environmental remediation programs aimed at restoring these resources.	Table 10.6-1 of the DPD has been updated to include this information.	Potential effects on Indigenous fish harvesting from changes in productivity and sustainability of harvestable fish populations will be assessed in the marine use effects assessment drawing upon results of Indigenous knowledge, Indigenous-led assessments, and the fish and fish habitat assessment to be completed as part of the EAC Application.
Tsleil-Waututh Nation	Tsleil-Waututh would like a cumulative effects assessment that includes pre-industrial environmental conditions as a baseline, and appropriate investments made towards habitat restoration to achieve net environmental gain.	Section 10.1.10 was updated to provide information on process for habitat offsetting.	Habitat offsetting planning and design will include specific consideration of the Tsleil-Waututh Nation's concerns and recommendations, and with a goal that they are aligned with fisheries management objectives of the lower Fraser River. The methodology to determine baseline conditions and the assessment of potential cumulative effects will be consistent with the EAO guidance document - Effects Assessment policy (BC EAO 2020a).
Tsleil-Waututh Nation	Please explain what "Habitat offset effectiveness monitoring" would entail. Could this go beyond the defined Regional Assessment Area?	No change required.	Response to question provided in Attachment 4. The spatial scale and extent of any habitat offset effectiveness monitoring program would be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the EAC Application Development Phase of the EA process.
Musqueam Indian Band	Are least-risk windows still pending results of fish studies? Musqueam requests further discussion about the least-risk window, as it does not account for all species that are present in the Project area. (e.g., early Eulachon runs; year-round use of the area by sturgeon).	Section 5.4 was updated to include additional information on least-risk timing windows.	Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species including white sturgeon, Eulachon, and salmonids are present within the vicinity of the Project site. The results of these studies will inform Project-specific least-risk timing windows, which in turn can be used to inform the Project construction timelines.
Musqueam Indian Band	Musqueam requests further discussion that accounts for cumulative effects of noise levels and turbidity that may result in avoidance or physiological impacts, even if not lethal.	Section 10.1.10 was updated with additional information on assessment of potential effects.	Requested content has been added to the DPD.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Ts'uubaa-asatx Nation	Indigenous groups have expressed concerns about effect of dredging material on Eulachon spawning beds downstream.	Section 10.1.10 was updated with additional information on assessment of potential effects.	Requested content has been added to the DPD.
Ts'uubaa-asatx Nation	T'FN not satisfied with response regarding Project window (DFOs fish window) from previous round of comments.	Section 5.4 was updated to include additional information on least-risk timing windows, and the response regarding least-risk windows in Section 13 was updated to reference this new text.	Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species including white sturgeon, Eulachon, and salmonids are present at the Project site. The results of these studies will inform if Project-specific least-risk timing windows may be required. These timing windows will inform the Project construction timelines.
Ts'uubaa-asatx Nation	Request to consider T'FN advocacy policy for mitigation.	The T'FN advocacy policy was added to the list of documents reviewed in Section 10 of the DPD.	Information from T'FN advocacy policy will be incorporated into the Fish and Fish Habitat Existing Conditions Report, where appropriate, and mitigation strategies referenced in the policy will also be considered in the Application Preparation Phase and development of management plans.
Local Government			
City of Richmond	All existing City identified ESAs and any impacts to these ESAs should be considered as part of the Habitat Offset Plan. The Project will need to demonstrate that there are no adverse impacts on RMAs and ESAs and that any impacts should be considered as part of the Habitat Offset Plan.	Section 10.1.10 has been updated to include areas classified by City of Richmond as Intertidal, Shoreline and Freshwater Wetland ESAs and RMAs.	Existing conditions fish and fish habitat studies are ongoing to characterize these areas, including Intertidal and Shoreline ESAs, upland tributaries with RMAs, and Freshwater Wetland ESAs. Habitat offsetting planning and design will consider the City of Richmond's and City of Delta's ESA and RMA / Streamside Protection and Enhancement Area (SPEA) designations, where possible. The Proponent will collaborate with Indigenous nations, regulators, local government, and other organizations to align the offsetting plans with fisheries management objectives of the Fraser River during the Application Preparation Phase. The LAA and RAA for the wildlife and wildlife habitat assessment overlap upland forest and old field and shrubland ESAs. Surveys for wildlife presence and use of these habitats are ongoing as part of the existing condition studies, where land access is available. Data from the existing condition studies will be used to characterize wildlife potential occurrences in these areas, potential Project-related effects, and mitigation strategies, potentially including restoration and offsetting as part of the EAC Application.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Richmond	The existing drainage canal along the west side of Highway 99 within the Project area is a designated RMA. There should be some comment about the need to ensure that the riparian area being restored/improved as part of the Project, or the loss of habitat being addressed through the Habitat Offset Plan.	No change required.	The EAC Application will identify potential project effects to fish and fish habitat. Further, aquatic and riparian habitat effects, including harmful alteration, disruption, or destruction (HADD) of habitat and death of fish will be addressed in the Permitting Phase, in consultation with DFO, Ministry of Forests, Indigenous nations, and the City of Richmond. This will include habitat offsetting to compensate for project-related HADD and/or death of fish. The Proponent will engage with Indigenous nations, regulatory agencies, local government, and stakeholders early to collaborate on the development of a habitat offsetting plan. The Proponent intends to include a draft habitat offsetting plan in the EAC Application.
City of Richmond	Suspended sediment reduces the amount of light penetration into the water column and hence reduces the energy available for aquatic plant photosynthesis. A reduction in algae results in a major loss of food for invertebrates. This impact to aquatic invertebrates is requested to be monitored with baseline, construction, and post-construction investigations.	No change required.	The pathway of effects to benthic invertebrate communities will be assessed as part of the Fish and Fish Habitat Assessment, and the outcome of the effects assessment will support future monitoring. An existing conditions study for benthic invertebrates has commenced which aims to determine benthic invertebrate abundance, biomass, and richness within the proposed densification and dredge areas.
City of Richmond	The DPD notes mitigation and offsetting measures for fish and fish habitat but does not provide detail on the potential for avoidance of impacts to fish and fish habitat. The DPD should highlight Fish Timing Windows for the Fraser River and further define the proposed Project construction timelines in the context of least-risk timing for impacts to fish.	Section 5.4 was updated to include additional information on least-risk windows.	Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species including white sturgeon, Eulachon, and salmonids are present at the Project site. The results of these studies will inform if Project-specific least-risk timing windows may be required. These timing windows will inform the Project construction timelines.
Provincial Government			
LWRS	Fresh water habitats in the Study Area need to include the altered streams (ditches) that currently drain the upland side of the dike and not just Tilbury slough.	No change required	The proposed spatial boundaries for fish and fish habitat studies includes the Fraser River South Arm (including Canoe Pass) extending from the river mouth to approximately 1 km upstream of the Project corridor, as well as 500 m on either side of the Project alignment in upland areas. The Study Area for fish and fish habitat includes upland watercourses (e.g., rivers, streams, sloughs, and ditches)

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
			located within these spatial boundaries, which include ditches on the upland side of the dike.
LWRS	How will the Proponent assess the potential impacts to fish and fish habitat within the Site and the following areas immediately surrounding the Site: The Fraser River South Arm from the Project area, downstream to Sand Heads Light station	No change required	The scope of the fish and fish habitat assessment, including the spatial boundaries of the assessment beyond the Project footprint, will be outlined in the AIR and will be available to the Indigenous nations and technical advisors for review in the Process Planning Phase of the environmental assessment. Potential effects to fish and fish habitat in the identified areas will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, underwater noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat. Mitigation measures will be identified to reduce potential adverse effects. Where valuable fish habitat may be lost as a result of the Project, a habitat offsetting plan will be developed and implemented to restore, enhance, and create new fish habitat within the lower Fraser River. Details of the mitigation measures and habitat offsetting program will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders and provided in the EAC Application.
LWRS	LWRS generally very concerned with regards to dredging impacts on aquatic values habitat. Timing of dredging proposed will be very important.	Section 5.4 was updated with information on studies being undertaken and how they will inform timing of work, including dredging.	Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species including white sturgeon, Eulachon, and salmonids are present at the Project site. The results of these studies will inform if Project-specific least-risk timing windows may be required. These timing windows will inform the Project construction timelines.
LWRS	Our biologists will be very keen to understand how impacts to fish and fish habitat (particularly sturgeon) within the site and surrounding areas will be assessed – what will these studies look like? Our biologists will be keen to have input on this.	No change required.	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential Project effects to fish and fish habitat, including sturgeon, and will identify mitigation measures intended to minimize, and where possible, avoid potential adverse effects. The scope of the fish and fish habitat assessment will be determined in collaboration with Indigenous nations, technical advisors, and public stakeholders during development of the AIR in the Process Planning Phase.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
LWRS	As mentioned in IPD comments, is there an opportunity to enhance river habitat	No change required.	Habitat offsetting measures have not yet been determined and will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Preparation Phase and provided in the Project EAC Application.
LWRS	As mentioned in IPD comments, how will effects of rip rap shoreline and bottom be assessed and mitigated/offset?	No change required.	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential effects to fish and fish habitat, including those related to riprap installation, and will recommend mitigation measures intended to minimize, and where possible, avoid potential adverse effects. Where effects cannot be appropriately mitigated, opportunities for habitat offsetting will be considered.
LWRS	Want to see that the Project addresses juvenile sturgeon specifically. Request that the proponent assess the juvenile suitable / presence during low-salinity conditions	No change required.	Existing conditions studies are ongoing and include an Indigenous-led targeted angling study for juvenile sturgeon by the Musqueam Indian Band. The temporal scope of the study by Musqueam includes targeted angling at the Project site during low-salinity conditions. The detailed methodology of this study was shared with the technical advisors during consultation on the existing conditions workplans in the spring of 2022.
LWRS	Keen to understand the impacts of the Project dredging, drilling and pile driving on sturgeon	No change required.	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential effects to fish and fish habitat, including those related to riprap installation, and will recommend mitigation measures intended to minimize, and where possible, avoid potential adverse effects. Where effects cannot be appropriately mitigated, opportunities for habitat offsetting will be considered.
Federal Government			
DFO	DFO recommends using a sediment dispersion model to predict the area of habitat potentially affected by sediment deposition. DFO will rely on this information to assess whether dredging is likely to result in prohibited effects under the *Fisheries Act* and therefore require a *Fisheries Act* authorization.	No change required.	The Proponent intends to undertake sediment dispersion modelling.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
DFO	Please include a map showing the location of potentially affected upland tributaries and a discussion of the types of fish species/taxa and habitat that may be impacted.	Section 10.1.10 was updated to include a map showing the location of potentially affected upland and fish species/taxa.	Requested content has been added to the DPD.
DFO	DFO recommends consulting the DFO Projects Near Water website for a list of mitigation measures and best practices for avoiding or mitigating effects to fish and fish habitat	Table 10.6-1 was updated to include a link and reference to DFO's measures to protect fish and fish habitat.	Requested content has been added to the DPD. The DFO Projects Near Water website will be referenced when developing mitigation measures for avoiding, and/or mitigating potential adverse effects to fish and fish habitat.
DFO	DFO recommends that the scope of the fish and fish habitat studies listed in the row 'Fraser River - Fish and Fish Habitat' of Attachment 3 (List of Studies, Schedule, Guidance and Standards) include Deas Slough and Green Slough.	Section 10.1.10 was updated to clarify that the scope of the fish and fish habitat existing conditions studies includes Green Slough and Deas Slough.	Requested content has been added to the DPD.
DFO	Given the limitations of eDNA sampling, DFO recommends using additional methods such as hydroacoustics - perhaps in addition to eDNA - to characterize the distribution of Eulachon during the migration period up the Fraser River.	No change required.	The eDNA sampling program, as designed, is considered sufficient for determining presence/absence of Eulachon at the Project site, given there are negative control sites and independent verification of results using an alternative laboratory and different Eulachon eDNA assays. However, additional methods such as gillnets, spawning mats, and/or obtaining data from third parties (e.g., LFFAs ongoing gillnet study) are being considered to augment eDNA results.

DFO = Fisheries and Oceans Canada; LWRS = Ministry of Land, Water and Resources Stewardship; TFN = Tsawwassen First Nation; DPD = Detailed Project Description; EAC = Environmental Assessment Certificate; TWN = Tsleil-Waututh Nation; EAO = British Columbia Environmental Assessment Office; AIR = Application Information Requirements; EA = Environmental Assessment; T'FN = Ts'uubaa-asatx Nation; ESA = Environmentally Sensitive Area; RMA = Riparian Management Area; SPEA = Streamside Protection and Enhancement Area; LAA = Local Assessment Area; RAA = Regional Assessment Area; HADD = harmful alteration, disruption, or destruction of habitat and death of fish; eDNA = environmental deoxyribonucleic acid; LFFA = Lower Fraser Fisheries Alliance.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WILDLIFE MANAGEMENT AREA
- HIGHWAY / ROAD
- RAILWAY
- PARCEL FABRIC
- UPLAND TRIBUTARY
- WATERCOURSE

FISH CAPTURED

- BRASSY MINNOW
- CARP
- GOLDFISH
- PUMPKINSEED
- THREESPINE STICKLEBACK

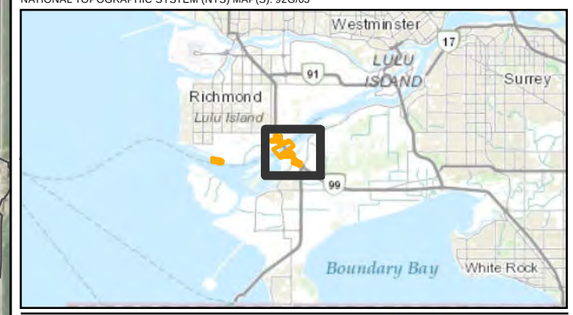
0 300 600

1:15,000 METRES

REFERENCE(S)

1. PROJECT FOOTPRINTS PROVIDED BY COWI 2022/01/23.
2. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
3. ARCHAEOLOGICAL,SITES, HERITAGE SITES, HISTORICAL SITES, RICHMOND WATERCOURSES, WILDLIFE MANAGEMENT AREAS ROADS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
6. PARCEL FABRIC PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF CITIZENS SERVICES.
7. DELTA WATERCOURSES OBTAINED FROM THE CITY OF DELTA.
8. IMAGERY COPYRIGHT © 20200315 ESRI AND ITS LICENSORS. SOURCE: MAXAR GE01. USED UNDER LICENSE, ALL RIGHTS RESERVED.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
FISH SPECIES AND UPLAND TRIBUTARIES

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-21
DESIGNED	HC
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.1-4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\64\02_PRODUCTION\MXD\Report\DP0\21490984_10_1_4_Fish_Species_Upland_Tributaries.mxd PRINTED ON: 2022-12-21 AT 11:21:52 AM

10.1.11 Marine Mammals

Pinnipeds (seals and sea lions) are the marine mammal most likely to be present near the Project footprint. Harbour seals (*Phoca vitulina*) are present year-round in the Strait of Georgia and are common in the Lower Fraser River (WesPac 2018; MOTI 2016a). Harbour seals are anticipated to exhibit higher abundance between spring and fall when Eulachon and salmon are migrating upriver to spawn (DFO 2010a; Hume 2010). There are no known harbour seal haul-out sites near the Project footprint; however, haul-out sites have been documented at the mouth of the river near Gary Point Park, Westham Island, and Brunswick Point (Jeffries et al. 2000; WesPac 2018). Sea lions – both Steller (*Eumetopias jubatus*) and California (*Zalophus californicanus*) – also have the potential to be affected by Project activities and may occur near the Project footprint. Both species have been documented hauling out near Sand Heads (along the Steveston jetty) at the mouth of the Fraser River, approximately 18 km downstream of the Project area (Bigg 1985; Jeffries et al. 2000; DFO 2010b). While both Steller sea lions and California sea lions likely follow prey species up the Fraser River (Bigg 1985), they are not anticipated to be present near the Project footprint in large numbers.

Cetaceans (whales and dolphins) rarely occur within the Fraser River and are unlikely to occur as far upstream as Deas Island, though cetacean sightings have been documented (BC CSN 2018; COSEWIC 2016; Dunphy 2015). Cetacean sightings reported by the British Columbia Cetacean Sightings Network between 1990 and 2018 included two grey whales (*Eschrichtius robustus*), one near Deas Island and a second immediately upstream of Tilbury Island, as well as multiple killer whale (*Orcinus orca*) sightings at the mouth of the river near Westham Island. Harbour porpoises (*Phocoena phocoena*) have also been documented in the Fraser River (COSEWIC 2016) and have the potential to occur near the Project footprint. A list of key marine mammal species that may be affected by Project activities is provided in Table 10.1.12.

Critical habitat for southern resident killer whales is established at the mouth of the Fraser River (approximately 2 km downstream of the Project) and extends into the Strait of Georgia and the Strait of Juan de Fuca (DFO 2011). This critical habitat was established because of its importance to southern resident killer whales for foraging, especially during salmon migration and spawning (DFO 2011).

Potential Project-related effects on marine mammals include injury and behavioural disturbance effects from underwater noise, injury and mortality from vessel strikes, potential contaminant exposure from dredging and disposal at sea, and effects to prey items (Section 10.6).

No existing conditions studies are proposed for marine mammals. Existing data are considered sufficient to characterize the baseline environment for marine mammals and will be used to support the marine mammal effects assessment including previous environmental assessments (e.g., Tilbury Marine Jetty Project, Lehigh Hanson Grinding Facility Project, the Roberts Bank Terminal 2 Project, and the Trans Mountain Pipeline Project (as they relate to vessel traffic in the Strait of Georgia), relevant peer-reviewed scientific publications and grey literature, governmental and non-governmental reports (e.g., relevant species recovery plans, action plans, or species update reports, and COSEWIC status reports for listed marine mammal species) and environmental metadata records (environmental resource databases and

online marine spatial planning tools [e.g., BC Marine Conservation Atlas and BC Cetacean Sightings Network]), previous marine-based investigations and research programs focused on marine mammals and underwater noise (e.g., Enhancing Cetacean Habitat and Observation Program study reports), environmental resource surveys, and environmental reports completed in the Strait of Georgia and Fraser River.

Table 10.1.12: Marine Mammal Species with Potential to Interact with the Project

Common Name (Scientific Name)	SARA	COSEWIC
Harbour porpoise (*Phocoena phocoena*) – Pacific Ocean population	Special Concern / Schedule 1	Special Concern
Southern resident killer whales (*Orcinus orca*)	Endangered / Schedule 1	Endangered
Grey whale (*Eschrichtius robustus*)	Varies with population[a,b,c]	Varies with population[a,b,c]
Humpback whale (*Megaptera novaeangliae*) – North Pacific population	Concern / Schedule 1	Special Concern
Steller sea lion (*Eumetopias jubatus*)	Concern / Schedule 1	Special Concern
California sea lion (*Zalophus californicanus*)	No Status / No Schedule	Not at risk
Harbour seal (*Phoca vitulina richardsi*) Pacific subspecies	No Status / No Schedule	Not at risk

(a) North Pacific migratory population = Not at risk (COSEWIC status), No status (SARA status).
(b) Pacific coast feeding group population = Endangered (COSEWIC status), Under consideration for addition (SARA status).
(c) Western Pacific population – Endangered (COSEWIC status), Under consideration for addition (SARA status).
COSEWIC = Committee on the Status of Endangered Wildlife in Canada; SARA = *Species at Risk Act*.

Table summarizes the topics related to marine mammals that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and resulting changes to the DPD.

Table 10.1.13: Summary of Topics Related to Marine Mammals Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Tsawwassen First Nation	See first Comment in Table 10.1-3, relating to underwater noise.	See Relevant Changes to DPD in Table 10.1-3.	See description of how the issues have or will be addressed in Table 10.1-3.
Tsleil-Waututh Nation	From TWN's holistic view, the links between Southern Resident Killer Whales (SRKW) and TWN intangible cultural heritage cannot be fully assessed or comprehended. The local population of SRKW has already been heavily impacted and the potential loss of killer whales from the local environment has already impacted and will continue to break the sense of place that TWN people hold in connection with their community and ancestors. Due to Tsleil-Waututh's close cultural relationship with killer whales, any loss of SRKW (individual or population level) would negatively impact the cultural health of TWN community members. The loss of species and the intangible aspects of their meaning is not only a threat to the ecological health of TWN territory, but equally detrimental to their cultural wellbeing.	No change required.	The Proponent acknowledges that SRKW are at risk and are important to the ecological health and cultural wellbeing to the Tsleil-Waututh Nation. The Proponent will collaborate with the Tsleil-Waututh Nation during the preparation of the Application Development Phase to assess potential effects, if any, and to develop appropriate mitigation measures as necessary.
Snuneymuxw First Nation	It is essential to Snuneymuxw First Nation that any potential impacts to SRKW be adequately mitigated and that Snuneymuxw First Nation be consulted on proposed mitigation measures relating to SRKW. SRKW hold significant spiritual and cultural significance to Snuneymuxw, and losing SRKW has been compared to losing language and culture	No change required	The Proponent acknowledges the importance of SRKW to Snuneymuxw First Nation. The Proponent will collaborate with the Snuneymuxw First Nation during the preparation of the Application Development Phase to assess potential effects, if any, and to develop appropriate mitigation measures as necessary.

Group Engaged	Issue Raised / Information Received	Relevant Changes to DPD	How the Issue Has Been or Will Be Addressed
Federal Government			
DFO	No studies to characterize existing conditions for marine mammals are planned. DFO recommends updating the DPD to indicate that no studies will be conducted and to include a discussion of the existing data that will be used.	Text in Section 10.1.11 of the DPD has been updated to clarify that no existing conditions studies for marine mammals will be conducted, and to provide a discussion of the existing data that will be used as a basis for the assessment of potential effects.	Text in the DPD has been revised to clarify that no field programs will be conducted to characterize existing conditions for marine mammals. The existing conditions for marine mammals will be developed using widely available published data sources and reports.

SRKW = Southern Resident Killer Whales; DPD = Detailed Project Description; TWN = Tsleil-Waututh Nation; DFO = Fisheries and Oceans Canada

10.2 ECONOMIC

Key economic values proposed for study as part of the environmental assessment are described in Section 10.2.1 and include employment and economy. Attachment 3 provides a list of studies that are underway and those that are anticipated, including the guidance and standards used in preparing these studies.

10.2.1 Employment and Economy

As indicated in Section 5.1 and illustrated in Figure 1.1-1, the Project is within Metro Vancouver, in southwestern BC, and within the municipal boundaries of the City of Richmond and City of Delta. As of 2021, the population of Metro Vancouver was 2,642,825, Richmond's population was 209,937, and Delta's population was 108,455 (Statistics Canada 2022a,b,c). In 2021, 2.4% of the population Metro Vancouver identified as Indigenous, similar to the City of Delta at 3.0% and higher than the City of Richmond at 0.7% (Statistics Canada 2022a,b,c). The Metro Vancouver 2050 RGS (Metro 2050) projects the region to grow by about 35,000 residents per year (Metro Vancouver 2022c).

The Project is expected to interact with Metro Vancouver's labour market, employment and contracting, economic development, and business activity. Metro Vancouver has the largest labour market in the province and the third largest in the country. As of December 2020, there were over 1.5 million workers in Metro Vancouver, comprising approximately 55% of the province's labour force. Metro Vancouver had an Indigenous labour force of 31,840 in 2016 with 3,055 Indigenous persons identified as being unemployed (Statistics Canada 2018). The labour market participation rate in Metro Vancouver was 65.8%, which was above the provincial average of 64.8%, while Metro Vancouver's unemployment rate of 7.4% was slightly higher than the provincial average of 7.2% (Statistics Canada 2021a). Trades, transport, equipment operators, and related occupations comprise approximately 13% of Metro Vancouver's labour force or 207,800 workers (Statistics Canada 2021b). In 2016, 5,740 Indigenous workers, or approximately 19% of the Indigenous labour force in Metro Vancouver were employed in the trades, transport, and equipment operators and related occupational categories.

In 2020, there were 112,584 registered businesses in the Vancouver census metropolitan area. Approximately 12.5% of businesses in BC (or approximately 25,784 companies) belonged to the construction industry, with almost half of these businesses (12,385) located in the Vancouver census metropolitan area (Statistics Canada 2021c). According to the BC Indigenous Business Listings, 187 Indigenous businesses are located in Metro Vancouver, of which 22 are construction related (BC Indigenous Business Listings 2021).

Issues identified from engagement include access to business sites (for employees, suppliers, and customers), potential adverse Project effects on agriculture along the Highway 99 corridor, and potential adverse Project effects on marine users. Indigenous nations have expressed interest in various economic aspects of the Project including economic impacts from changes to fish harvesting and fishery resources,

employment, training, contracting, and economic development opportunities. Indigenous nations have highlighted the importance of adequate training time to take full advantage of potential Project work and business activities and expressed interest direct award contracting opportunities for Indigenous businesses.

Most of the projected construction workforce is expected to be sourced from the pool of workers residing in Metro Vancouver, including employment of Indigenous workers from the region. Some workers will also be sourced from other regional districts within the BC Economic Region of Mainland/Southwest (including the Fraser Valley, Squamish-Lillooet, and Sunshine Coast), as well as from outside of BC for certain specialized technical positions. Direct Project construction jobs will be primarily in project management, design, and engineering- and construction-related professions. Project construction could affect the Metro Vancouver labour market balance depending on parallel timing of other major projects in the Lower Mainland. Taking into account both the supply and demand for labour, this effect may be positive or adverse; an adverse effect on labour market balance may be experienced if labour demand exceeds supply and there is increased competition for workers.

Direct Project expenditures and workforce requirements of the Project are expected to have a positive effect on the local and regional economy through increased employment, income, business opportunities, and government tax revenues. There is the potential for temporary adverse economic effects on commercial businesses (including commercial and Indigenous fishing, tourism, agriculture, and nearby foreshore industries) due to disruption from Project construction and decommissioning activities.

The Proponent will analyze Project capital expenditures and labour and supplier requirements to understand Project effects on local and regional economic production, direct and indirect employment and procurement opportunities, labour market balance, local and regional supplier revenues, and government revenues. The Proponent will also consider Project infrastructure and services usage and requirements and potential effects on local government expenditures, as well as potential adverse effects of the Project on disruption to nearby business and economic activities. Where relevant and where data are available, the studies will collect and analyze data to characterize the economic conditions of distinct sub-groups, including Indigenous nations, that may disproportionately experience Project effects and identify mechanisms to support uptake of Project economic benefits and opportunities.

Table 10.2.1 summarizes topics related to economy and employment that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.2.1: Summary of Topics Related to Employment and Economy Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How has the Issue been or will be Addressed
Indigenous Nations			
Ts'uubaa-asatx	Traditional use and occupancy of the area includes commercial fishing of salmon by gillnet.	Traditional use and occupancy of the area including commercial fishing will be assessed within the EAC Application.	No change required.
Ts'uubaa-asatx	Increase opportunities for Ts'uubaa-asatx to pursue their economic interests associated with this area.	The Employment and Economy Assessment of the EAC Application will characterize existing employment, labour market, and training opportunities; include a focus on Indigenous peoples and businesses; assess the types of employment and training opportunities generated by the Project; and delineate benefit enhancement measures including goals and objectives, to support Project employment and business opportunities for Indigenous people.	No change required.
Ts'uubaa-asatx	Ts'uubaa-asatx will advocate for the re-establishment of a place of residence for Ts'uubaa-asatx members who may wish to attend post-secondary schools or pursue temporary or permanent career opportunities in the lower mainland.	The Employment and Economy Assessment for the EAC Application will characterize existing employment, labour market, and training opportunities; include a focus on Indigenous peoples and businesses; assess the types of employment and training opportunities generated by the Project; and delineate benefit enhancement measures including goals and objectives, to support Project employment and business opportunities for Indigenous people	No change required.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How has the Issue been or will be Addressed
Ts'uubaa-asatx	Expects the Proponent to set goals and objectives for Indigenous hires. Ts'uubaa-asatx is a small nation and can't take advantage of all upcoming opportunities but they do want to strategize with the Proponent on capitalizing on contracting opportunities and hiring. Not just for monitoring but setting up a program to train their people in what will be needed for meaningful job opportunities.	The Employment and Economy Assessment for the EAC Application will characterize existing employment, labour market, and training opportunities; include a focus on Indigenous peoples and businesses; assess the types of employment and training opportunities generated by the Project and delineate benefit enhancement measures including goals and objectives, to support Project employment and business opportunities for Indigenous people.	No change required.
Musqueam Indian Band	Loss of fish and fish habitat may cause economic impacts to Musqueam harvesters apart from causing concerns around food, social, and ceremonial needs.	Potential Project effects on fish and fish habitat, and economic effects to Indigenous fish harvester will be assessed within the EAC Application.	No change required.
Snuneymuxw First Nation	Elaborate on the types of employment and training opportunities related to the Project that will be available for Indigenous nations.	The expected number of jobs during construction and operations, the majority of which are expected to be from local communities including Indigenous communities, is described in Section 10.2. The Employment and Economy Assessment of the EAC Application will characterize existing employment, labour market and training opportunities; include a focus on Indigenous peoples and businesses; and assess the types of employment and training opportunities generated by the Project.	Operations and decommissioning workforce information has been added to Section 10.2.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How has the Issue been or will be Addressed
Provincial Government			
EAO	Provide a high-level estimate of labour requirements for each Project phase to understand the intensity of activity and potential impacts.	Information on workforce requirements by Project phase will be presented to support the assessment of potential Project effects on Employment and Economy within the EAC Application.	Additional information of workforce requirements has been included in Section 10.2, Economic
Federal Government			
Ministry of Transportation and Infrastructure	Do you want to mention BC Infrastructure Benefits?	The role of provincial Crown corporations, such as BC Infrastructure Benefits, and government programs in mitigating adverse effects and enhancing the economic benefits of the Project will be considered in the EAC Application.	No change required.

EAC = Environmental Assessment Certificate; EAO = British Columbia Environmental Assessment Office

10.3 SOCIAL

Key social values proposed for study as part of the environmental assessment are described in Sections 10.2.1 to 10.3.4 and include land and resource use, marine use, visual quality, and infrastructure and services. Attachment 3 provides a list of studies that are underway and those that are anticipated, including the guidance and standards used in preparing these studies.

10.3.1 Land and Resource Use

The City of Richmond encompasses an area of approximately 129.27 km^2 (City of Richmond 2021; Figure 10.3-1). Land use in Richmond is approximately 60% urban and 40% agricultural, with a mix of residential and commercial property, agricultural lands, industrial parks, waterways, and natural areas. The City of Delta encompasses an area of approximately 180.20 km^2 (City of Delta 2021). Delta is a largely agricultural community, with most of Delta's farmland located in the ALR, but also has urban (residential and commercial), industrial, and conservation areas (Figure 7.4-2). Land immediately adjacent to the Project footprint is mainly private land used for agriculture that is within the ALR (Section 7.3, and Figure 7.4-2). The ALR is a provincial designation in which agriculture is recognized as the priority use.

Within the Project footprint, unimproved agricultural capability varies from Class 3 to Class 5 with excess water as the typical limitation. With land improvements, the agricultural capability varies from Class 1 to Class 3 with excess water, salinity, and undesirable soil texture as the primary limitations.[5] Crop production within and adjacent to (i.e., within 500 m) the Project footprint is predominately cultivated field crops, including grapes, blueberries, pumpkins, beans, corn, peas, and potatoes, with some forage.

A complex network of ditches in Delta and Richmond transport agricultural drainage, with the majority of these being located outside the Project footprint. Several culverts within the Project footprint are located under driveways and access roads and are integral to maintaining the drainage of the adjacent farms. There are no licensed points of diversion (i.e., groundwater or surface water) for irrigation within the Project footprint; however, farms potentially use unlicensed sources of water that are not mapped.

Agricultural activities and the transportation of farming inputs, supplies, and products to market are prominent activities in vicinity of the Project, with agricultural and supporting activities contributing significantly to the local and BC economy and to the cultural identity of the region. In addition to Highway 99,

[5] Agricultural capability describes the suitability of land in BC for the production of all agricultural products, regardless of the level of management applied. Agricultural capability is assigned to individual properties in the ALR and follows a classification system with seven land capability classes (i.e., ranging from Class 1, which has minimal limitations, to Class 7, which has severe limitations) and 12 subclasses that describe the dominant limitation to agricultural production. Properties are assigned both an unimproved (i.e., no or minimal land management) and improved (i.e., future agricultural potential assuming the implementation of appropriate management and infrastructure) capability class.

roads within and adjacent to agricultural land potentially used for agricultural transport include Highway 17A, River Road, 64th Street, 60th Avenue, Burns Drive, Deas Thruway, and Rice Mill Road. Unmapped, unmaintained roads connecting to official transportation corridors are used by farm operations, and several farm structures (i.e., barns, tool sheds, storage facilities) are located within the Project footprint.

Industrial uses are located along the northern bank of the Fraser River South Arm in Richmond (Figure 7.4-2). Commercial and residential areas are located along the northern portion of Highway 99 in Richmond, including near the Steveston Highway interchange. In Delta, residential and commercial areas are located on the foreshore of Deas Slough west and east of the Tunnel and in proximity to River Road south of the Project (Figure 7.4-2).

Several parks and protected areas, including Deas Island Regional Park, Burns Bog, Ladner Harbour Park, Model Airplane Park, and Woodward's Landing, and neighbourhood parks and playgrounds are located upland of the Project (Figure 10.3-1). Deas Island Regional Park has trails for walking and horseback riding, picnic areas, viewpoints of the Fraser River, and a canoe and kayak launch. Various trails and golf courses flank the lower reaches of the Fraser River South Arm near the Project.

The Alaksen National Wildlife Area and the George C. Reifel Migratory Bird Sanctuary are located west of the Project at the south end of mouth of the Fraser River South Arm, while the South Arm Marshes Wildlife Management Area is located in the Fraser River South Arm, directly downstream of the Project (Figure 7.4-2). Designated under Section 4(2) of the *Wildlife Act*, RSBC 1996, c. 488, the South Arm Marshes Wildlife Management Area provides protection to 937 ha of regionally and internationally significant areas of wildlife habitat and is an important nesting, feeding, staging, and wintering habitat for waterfowl and other wetland-dependent species, as well as important nearshore habitat for many freshwater and anadromous fish species including Pacific salmon, Eulachon, and White Sturgeon (Government of BC 2021a).

Issues identified from engagement included inclusion of the Richmond Industrial Lands Intensification Initiative, property rights to be acquired, and any new land requirements. Indigenous nations also raised concerns around access and use of land and resources including traditional use, impacts on treaty rights, and the importance of increased traditional use of land and resources with the Project (rather than planning to ensure that land and resource use is at the pre-Project level).

Project construction and decommissioning could potentially affect the availability of agricultural land, soils, drainage, water quality and irrigation, farm infrastructure and operations, transportation and network access, agricultural economy and agricultural values, and interests as identified by Indigenous nations. Land-based Project construction and decommissioning could also impact Indigenous, industrial, commercial, and non-commercial (residential, institutional, and recreational) land and resource use. Project effects on noise and vibration, air quality, visual quality, fish and fish habitat, and wildlife and wildlife habitat have the potential for adverse effects to land and resource uses. This may include land use effects to Deas Island Regional Park from temporary and permanent Project components and activities and potential Project effects on Parks and Water Services including effects to maintenance access on western part of

Deas Island. Once operational, the Project is not expected to adversely affect agricultural or other land uses and will provide benefits such as improved reliability for the agricultural community in getting goods to market. The goal of mitigating Project construction effects on temporarily used agricultural lands will be to restore agricultural lands to existing or better agricultural condition. These potential impacts (positive and adverse) will be assessed the EAC Application.

The Proponent will study land use designations, management plans, ownership and tenures, land and resource uses, and activities within the existing Project footprint and nearby areas. The environmental setting in proximity to the Project, as it is related to land use, will be characterized, drawing upon noise and vibration, air quality, and visual quality study results. The Proponent will also study agricultural land by capability class, management plans, irrigation and drainage systems, and other farm infrastructure and operations with a focus on the agricultural land base potentially affected by the Project. The Proponent will engage with Indigenous nations and land users to understand land and resource uses and potential Project impacts. Where relevant and if data are available, the studies will collect and analyze data to characterize the use conditions of distinct sub-groups that may disproportionately experience Project-related impacts or benefits. Opportunities for the Project expand access and use by Indigenous Peoples will also be investigated.

Table 10.3.1 summarizes topics related to land and resource use that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.3.1: Summary of Topics Related to Land and Resource Use Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Tsleil-Waututh Nation	Please define "Crown Agency" and "Mixed EMP".	Revised Figure 7.4-2 legend to expand from "Mixed Emp" to "Mixed Employment".	Crown Agency or Crown Corporations are public sector organizations established and funded by the BC government to provide specialized goods, and services to citizens. Mixed Emp refers to the land use designation mixed employment. Figure 7.4-2 has been updated.
Tsleil-Waututh Nation	Please explain why was "growth and the associated land and water use along the lower reaches of the Fraser River South Arm" limited to 20 years.	Section 7.4 of the DPD highlights the portions of the Project footprint and adjacent land and water areas that have historical and current importance in supporting Indigenous interests. Section 7.4 has been reorganized to provide clarity.	The temporal periods for characterizing the historical use of the Fraser River South Arm will be outlined in the AIR and will be available for review in the Process Planning Phase of the EA.
Tsleil-Waututh Nation	Recommend adding land left undeveloped for parkland/wildlife conservation to "land within and adjacent to the Project footprint has".	Section 7.4 has been updated as requested.	Section 7.4 has been updated as requested.
Tsleil-Waututh Nation	Please add an appropriate reference to the end of the sentence "Indigenous Rights, including [T]itle and Treaty. rights are discussed further in Section."	Section 7.4 has been updated as requested, and entries 26 and 27 of Attachment 4 had the same changes applied as well.	Section 7.4 has been updated as requested.
Tsleil-Waututh Nation	Please explain what does the grievance process entail?	No change required.	A Grievance Process refers to the avenues through which grievances can be submitted, roles and responsibilities pertaining to grievance response management, grievance information tracking, and monitoring and reporting. Where the Project effects assessment results, and/or the Project conditions identify the need for a Grievance Process, this process will be developed for the Project, which will incorporate input from Indigenous nations.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Ts'uubaa-asatx First Nation	Incorporation of design, or creation of areas for cultural recognition and celebration of the Aboriginal history and use of the area.	No change required.	Opportunities to incorporate design, cultural recognition, and celebration of Aboriginal history and use will be assessed within the EAC Application.
Musqueam Indian Band	The goal should be to expand access and use of land and resources along the Highway 99 corridor for traditional purposes and not to ensure that access and use of land and resources is returned to pre-Project levels, as there has been significant depletion since pre-contact times.	Consideration of opportunities for the Project to expand access and use by Indigenous Peoples has been stated in Section 10.2.1, Land and Resource Use, and Section 10.3.2, Marine Use.	The potential effects of the Project on land and resource uses will be assessed in the EAC Application. Past uses, including pre-contact times, will be referenced for context. Opportunities for the Project to expand access and use by Indigenous Peoples will be considered in the EAC Application.
Musqueam Indian Band	Recommend revising the sentence "No known existing seasonal or temporary residences (such as temporary residences to support land- and marine-based harvesting activities or housing of seasonal farmworkers) are located in the vicinity of the Project", changing "existing" to "current" and noting that Indigenous use has been severely impeded by industrialization in the Project Area. As recently as the past decade, Musqueam used part of the Project Area for overnight camping and harvesting.	Section 7.3 has been updated to change "existing conditions" to "current existing conditions" and added context as requested.	The scope and methodology used for conducting the Land and Resource Use, and Marine Use Assessments will be developed during the AIR, in collaboration with Indigenous nations and relevant stakeholders.
Musqueam Indian Band	Requesting further discussion on how sections of land designated for conversation or recreation be accounted for in Project offsetting.	No change required.	The Land and Resource Use, and Marine Use assessments will identify potential Project effects, including potential effects on lands designated for conservation and recreation. Where residual effects are identified, the Proponent will collaborate with Indigenous nations and relevant stakeholders, to identify mitigation measures which may include measures to avoid, minimize restore and/or offset potential effects.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Musqueam Indian Band	Musqueam is following up internally to determine if there are Musqueam plans that should be added to this section.	No change required.	The Proponent looks forward to receiving information on Musqueam plans. Indigenous plans relevant to the Project and communities will be further identified through engagement with Indigenous Nations during Process Planning, Application Preparation, and Review phases. These plans will be reviewed and considered within existing conditions studies and Project effect analysis.
Snuneymuxw First Nation	Recommend defining the Project footprint and any land requirement before completing the assessment scope, given that the footprint can alter the context and scope of the assessment.	No change required.	Section 5.2 of the DPD provides a detailed breakdown of the Project components. Table 5.2-1 and Figure 5.2-1 (Project Footprint) identify the lands associated with both the permanent and temporary works.
Tsawwassen First Nation	The current use of land and resources for traditional purposes should be expanded to include exercise of Treaty rights by TFN citizens. The treaty rights on traditional use are reportedly prescriptive and do not involve any demonstration or confirmation of traditional use. However, TFN may be interested in opportunities to document the ability of Project areas to sustain TFN citizens treaty rights.	No change required.	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to address potential effects of the Project to Indigenous rights and interests, this includes working with Tsawwassen if interested, to identify opportunities to document the ability of the Project areas to sustain Tsawwassen First Nation citizen's treaty rights.
Local Government			
City of Delta	Concern around land requirement within Delta, if any, and its communication, so impacts can be confirmed.	No change required.	Notification of land requirements and communications with municipal governance bodies will be detailed in the Engagement Plan and will be undertaken accordingly.
City of Delta	Query around land that was labelled unknown in the land ownership.	An updated land ownership figure (Figure 7.4-1) and land use designation figure (Figure 7.4-2) have been included in Section 7.	The designation and ownership of previously unknown parcels of land were identified and mapped for inclusion in Section 7.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Richmond	Agricultural land is identified for construction site facilities. If used, agricultural land should be restored to current (minimum) or improved (preferred) condition.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application to identify potential Project effects on the temporary use of agricultural land and requirements for mitigation measures.
City of Richmond	Land designation and ownership should include references to Richmond Industrial Lands Intensification Initiative, as the Project is located in an area identified for industrial use by the city.	Reference to the City of Richmond's Industrial Lands Intensification Initiative has been included in Table 7.6-1 the Land and Water Use Management Plans.	The City of Richmond's Industrial Lands Intensification Initiative will be considered within the assessment of potential Project effects on Land and Resource Use in the EAC Application.
City of Richmond	Recommend that the analysis assess the construction impact of proposed works on the salt wedge and ensure no adverse impact on Richmond's agricultural and irrigation activities.	Section 10.1.5 has been updated to indicate that the results of river hydraulics and morphology studies will be used to support the Agricultural Assessment, particularly concerning irrigation activities. It has also been updated to include a reference to Agricultural Land Use.	Section 10.1.5 has been updated.
City of Richmond	Recommend including potential impact to agricultural lands which require restoration, as both the Council and ALC approval of a non-farm use application will require a referral to the City's Food Security and Agricultural Advisory Committee, and the need to demonstrate that agricultural lands are restored to existing or better conditions.	No change required.	The Agricultural assessment will identify potential Project effects of temporary workspaces on agricultural land and potential mitigation measures. The existing conditions study will document the current condition of agricultural lands, with the goal of Project mitigation being to restore agricultural lands to existing or better conditions. The scope of the agricultural assessment will be outlined in the AIR.
City of Richmond	Recommend including whether the agricultural lands that will be used temporarily will be returned to current or better conditions for production.	Section 10.3.1 has been updated to indicate that the assessment of Project construction effects on agricultural lands that will be temporarily used, will include mitigation measures, to restore agricultural lands to existing or better conditions.	Section 10.3.1 has been updated.

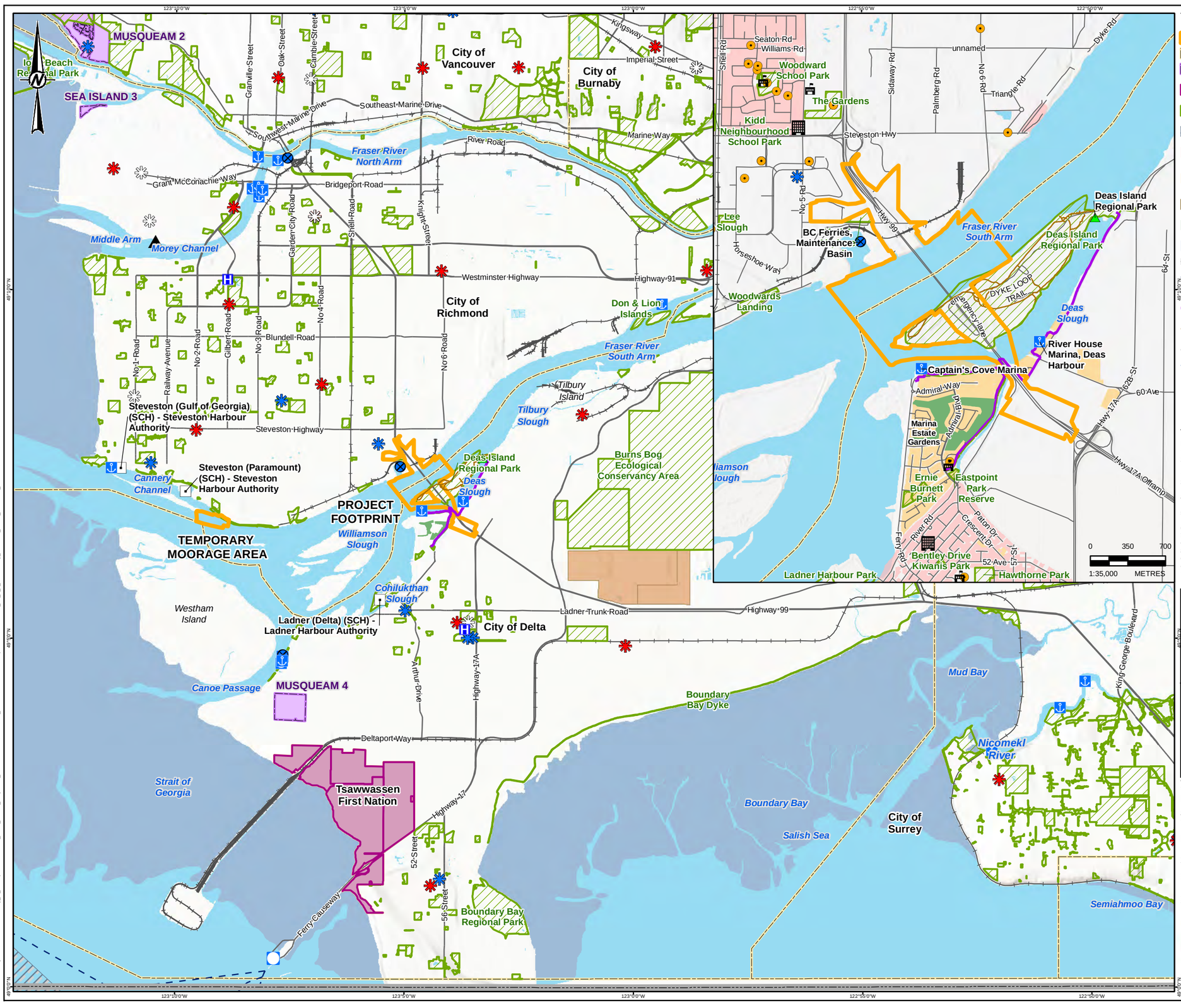
Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Richmond	If the ALC deems portions of the Project undertaken on Lands in the ALR to be a Non-Farm Use (NFU), a Council authorization would be required prior to the ALC decision. If both Council and ALC approve the NFU, then depositing/removing soil associated with the Project could proceed without a soil deposit and/or removal permit from the City.	Section 10.3.1 has been updated to align with this comment.	Section 10.3.1 has been updated to align with this comment.
City of Richmond	Concerns regarding flooding on farmlands along the highway corridor.	No change required.	Discussions between TI Corp and City of Richmond are scheduled to address both drainage and flood protection.
Metro Vancouver	There is no discussion in either of the documents regarding property rights to be acquired along with any temporary work space requirements the Project may have that may impact Metro Vancouver.	Further information on land ownership for parcels that intersect the Project footprint and that will be required for both temporary and permanent Project components has been included in Section 7.4, Table 4.1-1 and illustrated in Figure 7.4-1.	Temporary and permanent land requirements, including those pertaining to Metro Vancouver, and the potential impacts on land and resource use, will be assessed in the EAC Application.
Metro Vancouver	Recommend including reference to the MVRD Board's newly approved Regional Parks Plan (July 2022).	Table 7.6-1 has been updated to include reference to Metro Vancouver’s recently approved Regional Parks Plan (July 2022), as requested.	Table 7.6-1 has been updated.
Metro Vancouver	Recommend including Deas Island by name under "Potential Impact" and providing a more detailed explanation of the mitigation efforts.	Section 10.3.1 has been updated to reference potential land use effects to Deas Island Regional Park from temporary and permanent Project components and activities.	Section 10.3.1 has been updated.
Metro Vancouver	Recommend including more detail on Metro Vancouver's operational impacts on Park and Water Services. The tunnel ROW has traditionally served as an emergency access route to more remote areas of the park.	Section 10.3.1 and 10.3.4 have been updated to include reference to the VC specific assessments that will be completed to identify potential Project effects on maintenance access within the western part of Deas Island, and on emergency services transportation and route access.	Section 10.3.1 and 10.3.4 have been updated.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Metro Vancouver	Construction activities will also disrupt nighttime use of Deas Island Regional Park, as it is available for community groups to camp overnight. As such recommend considering noise, and light abatement during construction periods.	No change required.	The Visual Quality Assessment will identify potential Project effects on nighttime viewing. Potential Project effects on noise and vibration will be assessed in the Acoustic assessment, which will include identification of noise abatement measures, in consultation with technical advisors and Indigenous nations. These assessments will inform the Land and Resource Use assessment which will consider potential Project construction and operational effects on the recreational environmental setting for Deas Island Regional Park visitors due to changes in noise and vibration, dust, and visual changes including light.
Provincial Government			
Ministry of Forests	Concern around the specific land requirement during the construction phase, as any new area may need timely provincial permits.	Further information on land ownership for parcels that intersect the Project footprint and that will be required for both temporary and permanent Project components has been included in Section 7.3, Table 7.4-1 and illustrated in Figure 7.4-1.	Temporary and permanent land requirements, and the potential impacts on land and resource use, will be assessed in the EAC Application. Required permits for the use of provincial Crown land will be addressed through established permitting processes.
Ministry of Transportation and Infrastructure	Classification of land that is owned by BC Rail, a Crown corporation.	Further information on land ownership for parcels that intersect the Project footprint and that will be required for both temporary and permanent Project components has been included in Section 7.3, Table 7.4-1 and illustrated in Figure 7.4-1.	Land use ownership, tenures, and designations will be detailed in the EAC Application.
Ministry of Agriculture and Food	Concern over agricultural land with respect to the degree of impact of the Project on agricultural land, including the use of agricultural land for temporary site facilities.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the Project EAC Application to identify potential Project impacts on agricultural land and nearby agricultural operations.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Ministry of Agriculture and Food	Increased truck traffic associated with the construction of the Project may impede access to farmland, affect farm vehicles, lead to increased dust, and disturb livestock. This is of particular concern during spring planting (April to June) and fall harvest (August to October). Widening of roadways that cut into agricultural land will further reduce the land base available for farming.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application, which will assess potential Project impacts such as traffic and agricultural land use.
Ministry of Agriculture and Food	The IPD describes potential dust emissions caused by the Project (p. 26). Dust generated as a result of Project construction may impact neighbouring fields of crops that are prepared for the fresh and frozen markets. U-pick operations are very sensitive to the effects of dust on crop quality. Significant amounts of dust will reduce the quality and marketability of crops.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application, which will assess potential Project impacts on dust and crops.
Ministry of Agriculture and Food	Engagement of the local agricultural community (City of Delta Agricultural Advisory Committee, City of Richmond Food Security & Agriculture Advisory Committee, and Delta Farmers' Institute) is strongly encouraged to discuss ways the proposed development and disturbance can be minimized, and impacts mitigated.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application. This assessment will include engagement with local agricultural community including the City of Delta Agricultural Advisory Committee, City of Richmond Food Security & Agriculture Advisory Committee, and Delta Farmers' Institute.
Ministry of Agriculture and Food	Potential impacts to farmland adjacent to Project site if localized flooding were to occur. Sufficient mitigation measures should be considered.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application to identify potential Project impacts on farmland and requirements for mitigation measures.
Ministry of Agriculture and Food	Increases in noise may impact livestock in the Project vicinity. Please add agriculture to list of noise-sensitive land uses.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application, which will assess potential Project impacts such as noise.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Ministry of Agriculture and Food	Irrigation water sourced from Fraser River. Impacts to the Fraser River hydrology may impact the quality and availability of fresh water for irrigation.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application, which will assess potential Project impacts such as changes to water quality for irrigation.
Ministry of Agriculture and Food	Please include potential impacts to farm access and impediments to moving farm equipment.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application to identify potential Project impacts to farm access and farm equipment.
Ministry of Agriculture and Food	Further analysis needed on cumulative impacts to the local agriculture sector.	Description of agricultural land use has been included in Section 10.2.1, Land and Resource Use.	An agricultural assessment will be completed for the EAC Application to identify potential cumulative effects of the residual Project impacts to agriculture

EAC = Environmental Assessment Certificate; TFN = Tsawwassen First Nation; DPD = Detailed Project Description; EA = Environmental Assessment; ALC = Agricultural Land Commission; AIR = Application Information Requirements; MVRD = Metro Vancouver Regional District; IPD = Initial Project Description; NFU = Non-Farm Use.



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- FIRST NATION RESERVE
- TSAWWASSEN FIRST NATION LAND
- LOCAL/REGIONAL PARK
- INTERNATIONAL SHIPPING LANE
- RESIDENTIAL ZONING (INSET)
- COMPREHENSIVE DEVELOPEMNT ZONING (INSET)
- VANCOUVER LANDFILL
- LINKS AT HAMPTON'S COVE GOLF COURSE
- INTERTIDAL AREA
- CANADA - U.S.A BORDER
- BC FERRIES ROUTE
- HIGHWAY / ROAD
- MILLENIUM TRAIL
- DEAS ISLAND REGIONAL PARK TRAILS
- RAILWAY
- FERRY - RAILWAY
- FERRY TERMINAL
- HOSPITAL
- AMBULANCE STATION
- COASTGUARD
- FIRE HALL/STATION
- POLICE DETACHMENT/STATION
- RESIDENTIAL CARE HOME (INSET)
- SCHOOL (K-12) (INSET)
- CHILD CARE PROVIDER (INSET)
- HARBOUR AUTHORITY
- MARINA
- MARINE REPAIR FACILITY
- PUBLIC WHARF

REFERENCE(S)

1. LOCAL AND REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. MARINAS, HARBOUR FACILITIES, FIRST RESPONDERS LOCATIONS, HOSPITALS, CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. INTERNATIONAL SHIPPING LANES, BIRD SANCTUARIES AND NATIONAL WILDLIFE AREAS OBTAINED FROM GOVERNMENT OF CANADA.
6. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.
7. DELTA ZONING/LANDUSE OBTAINED FROM DELTA MAP. RICHMOND ZONING OBTAINED FROMT EH CITY OF RICHMOND.
8. LINKS AT HAMPTON'S COVE GOLF COURSE, DEAS ISLAND REGIONAL PARK TRAILS, MELLENIUM TRAIL OBTAINED FROM DELTA MAP.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
COMMUNITY FEATURES AND PARKS

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	RS
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.3-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnaby\CAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_10_3_1_Community_Features_Parks_Protected_Areas.mxd PRINTED ON: 2022-12-21 AT 11:23:13 AM

10.3.2 Marine Use

The Fraser River South Arm is heavily used for navigation, with thousands of vessel transits annually. Deep-sea shipping vessels, tugs, and barges transit through and access shore-based terminals along the Lower Fraser River South Arm for shipment of goods and bulk commodities domestically and internationally. Commercial salmon fisheries are present along the river, and actively, at the mouth of the South Arm at various times of the year, with commercial fisheries being of high economic importance in the region. The tidal waters of the South Arm within and proximate to the Project, including Deas Slough, are also popular for recreational boating (including canoeing, motor-boating, sailing, windsurfing, river rafting, rowing, and kayaking), fishing, and water-based tourism, with numerous shore-fishing locations, boat access points, and marinas and docks scattered along the shoreline. Boat moorage facilities are located at various points downstream and upstream in proximity to the Project.

The Fraser River South Arm is actively used in the exercise of Indigenous rights including fishing. The Lower Fraser River and surrounding lands also support a range of other important historical and current Indigenous, economic, and recreational resources, uses, cultural activities, and practices.

The proposed temporary offsite moorage area is located in the Fraser River South Arm at the upstream end of Steveston Island near the entrance to Steveston Harbour. Steveston Harbour is a key hub for the commercial fishing industry of the BC coast, hosting the largest number of Small Craft Harbours in the region and a number of commercial and recreational fishing vessels. Commercial fishing takes place at the mouth of the Fraser River South Arm near Steveston and Westham Islands. Water-based tourism occurs near Steveston Harbour and the George C. Reifel Migratory Bird Sanctuary, as do cultural tours that showcase the industry of the Fraser River.

Recreational boating and fishing are also concentrated near Steveston Harbour. The South Arm Marshes and the waters around Steveston Harbour and Steveston Island, Westham Island, and South Arm Marshes are popular locations for kayaking, canoeing, and stand-up paddle boarding activities. A boat ramp, a nearby float accessible at the end of No. 2 Road, and the Fraser River Port Authority launch in Steveston Harbour are nearby. Dyke Road at the No. 2 Road and No. 3 Road fishing piers are popular fishing locations as are the shores of Garry Point Park and of Steveston Harbour. Nearby recreational amenities along the shore of Richmond include the historical London Farm site, Gilbert Beach, the South Dyke Dog Park, and a portion of the South Dyke trail.

Issues identified from engagement include Indigenous nations' concerns with the effect of noise on fish and fish habitat, the inclusion of distinct Indigenous marine users' protocols, the economic impact of the loss of fish and fish habitat, consideration of impacts on treaty rights, and interactions between marine construction and staging activities with rights-based fishing activities and transit. Indigenous nations highlighted the importance of managing construction-related activities as the increased vessel traffic may impact traditional fishing practices. The Proponent has initiated a Marine Users Group (MUG) to facilitate communication and feedback between the Project and marine users. An Indigenous Marine Users Group (IMUG) has also been initiated in consultation with Indigenous nations and will support consultation on planned Project activities and impacts to Indigenous interests. In addition, an Operations Technical Group has been formed

composed of regulatory agencies (Transport Canada, Coast Guard, VFPA, Seaspan Ferries, Fraser River Pilots, and the Council of Marine Carriers) to provide input on the development of the marine construction staging plans and marine communication plans.

In-river site preparation, Project components, construction activities and temporary closures of the river to navigation during the immersion of each tunnel element and decommissioning Table 5.3.1 could potentially affect marine access and use, including Indigenous marine use and interests, the availability of marine resources and the marine recreational environmental setting. The Proponent will study applicable marine designations, management plans, tenures, area and resource uses, and activities within the existing Project footprint and nearby areas. Marine traffic frequency and volume, navigational aids and regulations, existing navigation conditions, commercial marine transportation, recreational marine uses and commercial and Indigenous fish harvesting, including commercial, Food Social and Ceremonial fisheries, and other Indigenous interests including Section 35 rights, will also be studied. The Proponent will engage with Indigenous nations to understand marine transportation and use including fish harvesting, fishery resources, and potential Project impacts. The marine environmental setting in proximity to the Project, as it is related to marine use, will be characterized, drawing upon noise and vibration, air quality, and visual quality study results.

The marine use assessment will identify potential effects of Project components, construction activities and tunnel operational activities on marine-based activities in Deas Slough, including effects to recreation and competitive access and use by the rowing club.

A marine operations and navigation safety assessment will be completed as part of the marine use assessment, to identify potential Project effects and describe mitigation measures. The analysis will consider results of sedimentation, vessel simulations and navigation hazard and operational restrictions studies. Potential impacts of the temporary closure of the navigation channels on marine navigation, transportation, and use and changes to marine use and impacts to exercise of Indigenous harvesting rights and Treaty rights will also be assessed. Potential effects on Indigenous fish harvesting from changes in productivity and sustainability of harvestable fish populations will be assessed, drawing upon results of Indigenous knowledge, Indigenous-led assessments, and the fish and fish habitat assessment. Opportunities for the Project to expand marine access and use by Indigenous Peoples will also be investigated.

Table 10.3.2 summarizes topics related to marine use that were raised during early engagement with participating Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.3.2: Summary of Topics Related to Marine Use Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Ts'uubaa-asatx First Nation	Incorporation of design, or creation of areas for cultural recognition and celebration of the Aboriginal history and use of the area.	See description of how issues have been or will be addressed in Table 10.3.1.	See relevant changes in Table 10.3.1.
Ts'uubaa-asatx First Nation	Institution of measures to reduce light pollution and light trespass to reduce stressors on aquatic life, wildlife, birds, and humans. Light pollution and trespass is a stressor to humans at night, resulting in multiple health-related issues. The stars also have cultural value and significance to Ts'uubaa-asatx First Nation	See description of how issues have been or will be addressed in Table 10.3.1.	See relevant changes in Table 10.3.1.
Ts'uubaa-asatx First Nation	Traditional use and occupancy of the area includes commercial fishing of salmon by gillnet.	See description of how issues have been or will be addressed in Table 10.2.1.	See relevant changes in Table 10.2.1.
Snuneymuxw First Nation	Concern around potential impacts to harvesting and cultural rights as they pertain to timing windows.	Indigenous fish harvesting, including a schedule of activities relative to the timing of fish harvesting and other Indigenous interests, will be assessed as part of the EAC Application. The Proponent has initiated an IMUG to support consultation on planned Project activities and impacts to Indigenous interests.	Reference to the IMUG has been included in Section 10.3.2, Marine Use.
Snuneymuxw First Nation	Concern around the lack of an Indigenous harvester-specific Emergency Response Plan.	Management plans, including Emergency Response Plans, will be identified, and described within the EAC Application. The Proponent has initiated an IMUG to support consultation on planned Project activities and impacts to Indigenous interests.	Reference to the IMUG has been included in Section 10.3.2, Marine Use.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Tsawwassen First Nation	The current use of land and resources for traditional purposes should be expanded to include exercise of Treaty rights by TFN citizens. The treaty rights on traditional use are reportedly prescriptive and do not involve any demonstration or confirmation of traditional use. However, TFN may be interested in opportunities to document the ability of Project areas to sustain TFN citizens treaty rights.	See relevant changes in Table 10.3.1.	See description of how issues have been or will be addressed in Table 10.3.1.
Musqueam Indian Band	Inclusion of distinct Indigenous marine users' protocols and communication with VFPA and marine users to maintain safe use of the river while construction activities occur.	See relevant changes in Table 10.3.1.	See description of how issues have been or will be addressed in Table 10.3.1.
Musqueam Indian Band	The goal should be to expand access and use of land and resources along the Highway 99 corridor for traditional purposes and not to ensure that access and use of land and resources is returned to pre-Project levels, as there has been significant depletion since pre-contact times.	See relevant changes in Table 10.2.1.	See description of how issues have been or will be addressed in Table 10.2.1.
Musqueam Indian Band	Concern around construction and increased vessel traffic and its impact to traditional fishing practices.	Reference to the IMUG has been included in Section 10.3.2, Marine Use.	Indigenous fish harvesting, including a schedule of activities relative to the timing of fish harvesting and other Indigenous interests, will be assessed as part of the EAC Application. The Proponent has initiated an IMUG to support consultation on planned Project activities and impacts to Indigenous interests.
Musqueam Indian Band	Recommend including interactions between marine construction and staging activities with rights-based fishing activities and transit, to Indigenous nations' concerns with the effects of noise on fish and fish habitats.	Reference to the IMUG has been included in Section 10.3.2, Marine Use.	Management plans, including Emergency Response Plans, will be identified, and described within the EAC Application. The Proponent has initiated an IMUG to support consultation on planned Project activities and impacts to Indigenous interests.
Musqueam Indian Band	Please note that Musqueam undertakes Food, Social, and Ceremonial fishing, apart from commercial harvesting in the Project Area.	See relevant changes in Table 10.3.1.	See description of how issues have been or will be addressed in Table 10.3.1.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Local Government			
Metro Vancouver	Please clarify whether rowing activities and other Deas Slough uses will be interrupted due to Project work.	Section 10.3.2 has been revised to include discussion of potential impacts to rowing activities and other Deas Slough uses.	Section 10.3.2 has been revised.
Metro Vancouver	Can you provide more information on the impacts of recreation and competitive use of the Deas Slough and the impacts on the rowing club?	Section 10.3.2 has been updated to include more information on potential impacts of recreation and competitive use of the Deas Slough, and the potential impacts on the rowing club.	Section 10.3.2 has been updated.
VFPA	Recommend a Marine Operations and Navigational Safety assessment to identify and address the impact on international and domestic shipping, marine terminal operators, and other commercial and recreational users should be included.	Section 10.3.2 and Table 10.6-1 have been updated to clarify information on the specific Marine Operation and Navigational Safety aspects as identified by VPFA. This includes a preliminary description of potential Project effects, consideration of sedimentation, vessel simulations, navigational hazard, and operational restrictions studies, and an initial description of mitigation measures.	Section 10.3.2 and Table 10.6-1 have been updated.

EAC = Environmental Assessment Certificate; TFN = Tsawwassen First Nation; VFPA = Vancouver Fraser Port Authority; IMUG = Indigenous Marine Users Group; DPD = Detailed Project Description.

10.3.3 Visual Quality

Adjacent to Highway 99, the north and south shores of the Fraser River are characterized by extensive industrial development, with industrial, commercial, and Indigenous land and marine uses interspersed with natural ecosystems of foreshore riparian and upland vegetation, marsh, and mudflats. Viewing opportunities towards the Project are present along Highway 99 and local roads, nearby rural residences, and locations within or along the shoreline of the Fraser River. Recreational and residential/commercial centres, including the South Dyke Trail, the Riverport Sports and Entertainment Complex, and Riverport Flats residences are located on the north shore. Recreational, residential, and commercial developments, including Deas Island Regional Park, the River House Marina and Captain's Cove Marina, and River Woods residences are located on the south shore. The proposed location of the temporary offsite moorage facility is a popular location for marine recreation and tourism activities, with a number of nearby recreation and tourism sites (such as No. 2 Road Fishing Pier, London Farm, Gilbert Beach, and the George C. Reifel Migratory Bird Sanctuary), providing viewing opportunities.

Issues identified from engagement related to visual quality include incorporation of Indigenous history and culture into the design elements, measures to reduce light pollution and stressors to marine wildlife, light pollution's impact on the night sky and its cultural implications, and lighting implications on the surrounding environment and users of the tunnel.

The Project is expected to result in visual changes during construction and decommissioning due to the presence of disturbed areas for site preparation and construction laydown and storage, and related equipment, materials, and activities. This is anticipated to result in visual effects to users of Deas Island Regional Park from temporary and permanent Project structures and activities. Following completion of construction, the presence of vegetation clearing and built structures (e.g., road approaches, tunnel portal structures, the new Deas Slough Bridge, and roadway lighting) will remain. The Proponent will study existing visual conditions from sensitive viewing locations in vicinity of the Project and temporary offsite moorage facility such as residences, roads, recreational areas, and Indigenous cultural use areas and sites. The assessment will include a photographic survey of daytime and nighttime viewing conditions and quantitative measurement of existing nighttime light levels. The potential change in light levels from Project components will be modelled and lighting effects on sensitive receptors assessed.

Table 10.3.3 summarizes topics related to visual quality that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.3.3: Summary of Topics Related to Visual Quality Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
Ts'uubaa-asatx First Nation	Incorporation of design, or creation of areas for cultural recognition and celebration of the Aboriginal history and use of the area.	See relevant changes in Table 10.3.1.	See description of how issues have been or will be addressed in Table 10.3.1.
Ts'uubaa-asatx First Nation	Institution of measures to reduce light pollution and light trespass to reduce stressors on aquatic life, wildlife, birds, and humans. Light pollution and trespass is a stressor to humans at night, resulting in multiple health-related issues. The stars also have cultural value and significance to Ts'uubaa-asatx First Nation.	No change required.	The Visual Quality assessment will include a photographic survey of both daytime and nighttime viewing conditions, and quantitative measurement of existing nighttime light levels will be performed. The potential change in light levels from Project components will be modelled so that lighting effects on sensitive receptors such as motorists and pedestrians may be assessed. Potential effects on Indigenous land and marine use, as informed by the Visual Quality assessment, will be assessed in the EAC Application.
Ts'uubaa-asatx First Nation	Concerns around their interests being integrated with respect to harm to fisheries, stressors to wildlife; human stressors such as light at night and not being able to see the stars, and culturally important stories.	Description of Visual Quality has been included in Section 10.3.3.	Potential Project effects on fisheries and wildlife resources and Indigenous interests will be assessed in the EAC Application. The potential change in light levels from Project components will be modelled and effects of Project lighting on sensitive receptors will be assessed in the EAC Application.
Local Government			
City of Richmond	Lighting implications for the new tunnel with regards to impact on the surrounding environment and transportation users using the tunnel infrastructure.	Description of Visual Quality has been included in Section 10.3.3.	The potential change in light levels from the Project will be modelled and potential effects of Project lighting assessed within the EAC Application.
City of Richmond	Potential interest in public art within the multi-use pathway.	No change required.	There will be an opportunity for input.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Metro Vancouver	Please mention visual quality and/or impact to Deas Island Regional Park due to temporary workspaces that will strip all trees and vegetation from a 4+ ha area of parkland.	Section 10.3.3 has been updated to reference visual effects to users of Deas Island Regional Park from temporary and permanent Project structures and activities.	Section 10.3.3 has been updated to reference visual effects to users of Deas Island Regional Park from temporary and permanent Project structures and activities.
Metro Vancouver	The removal of the forest located within the temporary workspace will have profound impacts on the visual and spiritual quality of the trail surroundings. Can renderings be created to understand what the visual impacts of the Project will be in the short and long term?	The Visual Quality assessment will include assessing the potential Project construction and operational effects on viewing conditions surrounding the Project, including viewing conditions within Deas Island Regional Park. The assessment will include photographs and simulations (renderings) of the Project from key viewpoints to inform the analysis of potential Project construction and operational effects on visual quality.	The Visual Quality assessment will include assessing the potential Project construction and operational effects on viewing conditions surrounding the Project, including viewing conditions within Deas Island Regional Park. The assessment will include photographs and simulations (renderings) of the Project from key viewpoints to inform the analysis of potential Project construction and operational effects on visual quality.
TransLink	Would like to see lighting details for the new multi-use pathway, once available (comment from September 2022).	No change required	Lighting will be specified for inclusion along the MUP within the Design-Build contract.

EAC = Environmental Assessment Certificate; LCFN = Lake Cowichan First Nation; DPD = Detailed Project Description.

10.3.4 Infrastructure and Services

Figure 10.3-2 shows the proximity of key infrastructure and services to the Project within the City of Richmond and City of Delta, including schools; hospitals; police, fire, and ambulance stations; roads; railways; and landfills. Hospitals are located in both Richmond and Delta; Richmond Hospital is operated by Vancouver Coastal Health and Delta Hospital is operated by Fraser Health Authority. Delta Police provide policing services in Delta while the Royal Canadian Mounted Police provide policing services in Richmond. In Richmond, fire services are provided by Richmond Fire Rescue and in Delta by Delta Fire and Emergency Services. Ambulance services are provided by BC Ambulance.

Metro Vancouver is responsible for sourcing, treating, and delivering potable water to and from municipalities, while municipalities are responsible for piping water to residents and businesses. Metro Vancouver is also responsible for the collection and treatment of the region's wastewater. Five wastewater treatment plants service the region including the Lulu Island and Iona Wastewater Treatment Plants, which treat wastewater from municipalities including Richmond. The Annacis Island Water Treatment Plant treats water from 14 municipalities, including Delta. Metro Vancouver is also responsible for solid waste management planning and recycling and for waste disposal. The Vancouver Landfill and Recycling Depot, located in Delta, is used by Vancouver, Delta, Richmond, White Rock, the University Endowment Lands, and portions of Surrey.

The City of Delta and City of Richmond are members of the Fraser Basin Council's Lower Mainland Flood Management Strategy. The City of Richmond is fully located within river and coastal floodplains and has a comprehensive flood protection system to keep their community safe. The 49 km long Lulu Island perimeter dike is one of the primary pieces of the City of Richmond's flood protection system. To manage flood risk and maintain dike infrastructure, the City of Richmond (2019) has developed the Flood Protection Management Strategy to guide the ongoing development of flood protection, as well as the Dike Master Planning program to guide future dike upgrading projects. The Project is located within Reach 6 of Phase 3 of the Dike Master Plan. Reach 6 is a 250 m segment of the Lulu Island Perimeter dike located within Rice Mill Road with the infrastructure for the George Massey Tunnel being located under the existing dike. The Peace Arch (Highway 99) pump station is also located within Reach 6. As described in Section 5.3, Project design requires breach of the Reach 6 of the Lulu Island perimeter dike.

The City of Delta operates and maintains over 63 km of flood protection infrastructure including a sea and river dike system. The Project is located on the River Road Dike. The Project design does not require breach of the River Road Dike.

A number of utilities including those owned by BC Hydro, Fortis BC, Kinder Morgan, Shaw Communications Inc., TELUS Communications Company, and municipalities are located within proximity of the Highway 99 ROW. Metro Vancouver's Lulu Island-Delta water main, which crosses the Fraser River South Arm, is located directly downstream of the Tunnel, while the River Road West Water Main is located in the south approach.

Cyclists and pedestrians are not permitted to use the Existing Tunnel, but a free shuttle service provides safe transportation for cyclists and their bikes through the tunnel. TransLink, the regional transit operator, has several bus routes through the tunnel, including routes linking South Surrey and the BC Ferries terminal in Tsawwassen to major transit hubs in Richmond.

Issues identified through engagement included concerns about dike infrastructure in Richmond given rising sea levels, Project use of municipal utilities, traffic concerns, drainage infrastructure, and flood protection. These aspects will be assessed within the Project EAC Application.

Project-related direct employment and supplier requirements, along with local and regional labour force and business supplier data, will be analyzed to understand the potential for temporary in-migration for Project employment and business opportunities and the associated effects on housing and accommodation, services, and infrastructure. Project direct use of water and waste services and infrastructure, as well as emergency services and physical disturbance to utilities, transportation, and other infrastructure will also be analyzed to understand potential Project effects on infrastructure and services capacity and supply. Potential Project effects on emergency service transportation and route access, including effects to access to the western part of Deas Island Park via the Highway 99 ROW, will also be assessed.

A transportation impact assessment will be completed for the Project EAC Application as part of the assessment of Project effects on infrastructure and services. Traffic volumes, patterns, and forecasts will be used to assess potential Project construction impacts to vehicle, bike, transit and pedestrian transportation safety, travel times, and reliability, as well as changes to vehicle, transit, cycling, and pedestrian transportation under Project operations. Potential impacts to rail transportation as a result of removal of the CN Railway overpass will also be assessed.

Where potential effects to infrastructure and services are identified, mitigation measures will be developed during the preparation of the EAC Application in consultation with Indigenous nations, local and regional government, and service providers. These measures will be incorporated into relevant Management Plans to address socio-economic effects of the Project.

Table 10.3.4 summarizes topics related to infrastructure and services that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

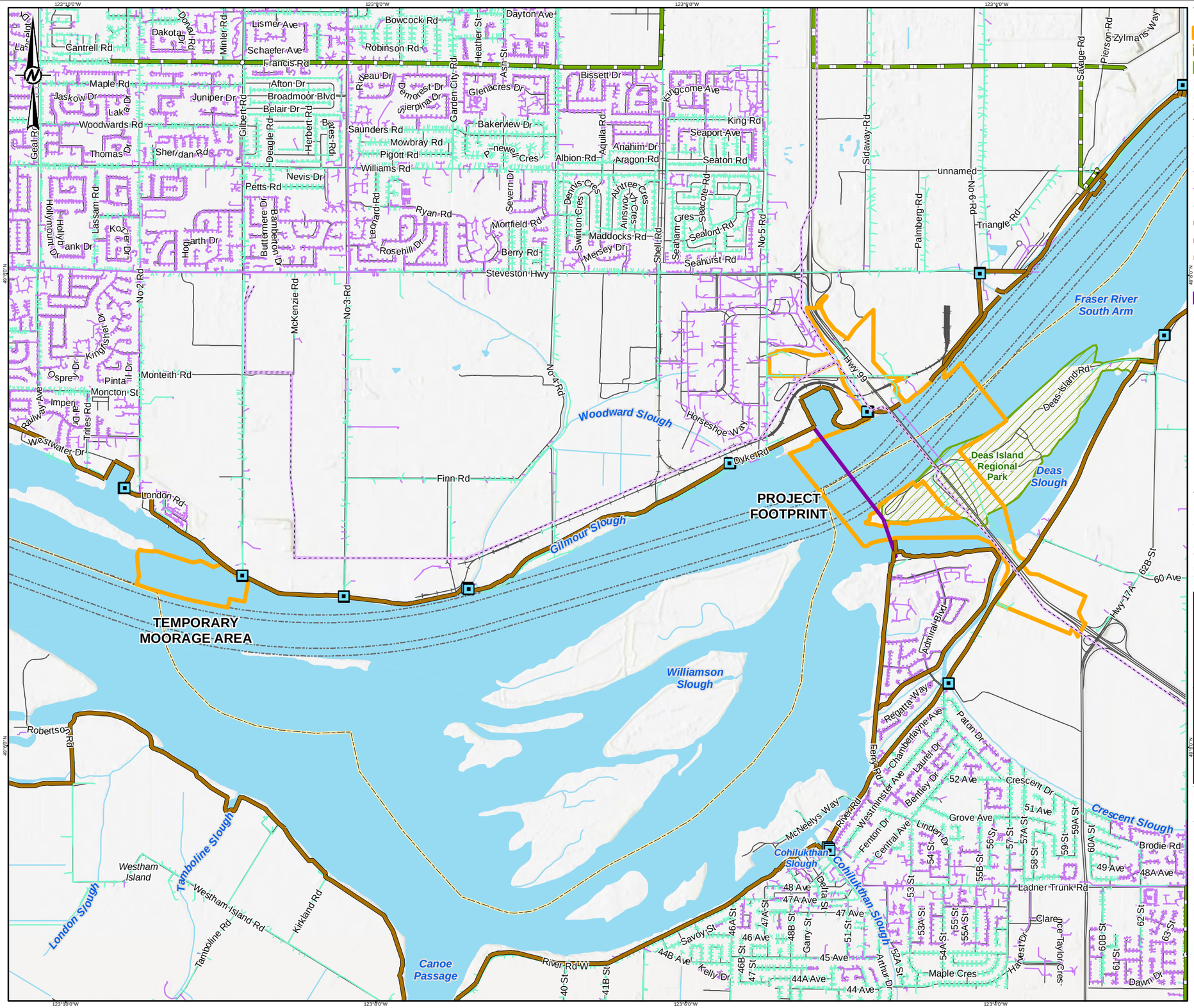
Table 10.3.4: Summary of Topics Related to Infrastructure and Services Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Indigenous Nations			
People of the River Referrals Office	All efforts should be utilized in reusing or recycling waste before disposal options are considered, please refer to the Clean BC and Metro Vancouver's Solid Waste Management Plan.	Section 6.3 and Section 10.3.4 have been updated with regards to waste generation to reference reuse and recycling.	Section 6.3 and Section 10.3.4 have been updated.
People of the River Referrals Office	Request additional detail and reference to reuse and recycling of waste instead of using the term disposal facilities.	Section 6.3 and Section 10.3.4 have been updated as requested.	Section 6.3 and Section 10.3.4 have been updated.
Local Government			
City of Richmond and City of Delta	Concern about Project effect on dikes, including concerns associated with sea-level rise.	See relevant change in Table 10.1 5.	See description of how issues have been or will be addressed in Table 10.1 5.
City of Delta	Concern about Project effects on municipal utility infrastructure.	No change required.	Municipal utilities are recognized as important to the City of Delta. Potential Project effects on municipal utility infrastructure will be assessed within the EAC Application.
City of Delta	Concern regarding noise during construction and operation, including noise levels at a specific residential complex location.	See relevant change in Table 10.1 2.	See description of how issues have been or will be addressed in Table 10.1 2.
City of Delta	Notification around the use of Delta owned roads to transport material and their adherence to city bylaws.	No change required.	Notification of changes and communication with municipal governance bodies will detailed in the Engagement Plan and will be undertaken accordingly.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Delta	Concerns about the project's multi-use path: • connections to the Millennium Trail • grades and accessibility considerations. The City of Delta notes that long stretches with no resting opportunities can be challenging for self-propelled vehicles. • speed differentials between different modes	No change required.	The active transportation design and connection are ongoing. The Proponent continues to share information with City of Delta staff as it becomes available.
City of Richmond	Traffic on municipal roads connecting to the Project area and other access roads.	A description of local roads has been added to Section 10.3.4, Infrastructure and Services.	Traffic on municipal roads and other access roads connecting to the Project area will be considered as part of the Infrastructure and Services assessment for the EAC Application.
City of Richmond	Would like the MUP to connect from the tunnel to both the east and west sides of Highway 99 in the City of Richmond. The current design concept presented only showed a connection on the east side.	No change required.	The technical team is currently refining the multi-use pathway design and is considering the connections on both sides of Highway 99.
City of Richmond	Concerns regarding the multi-use pathway width and speed differentials between pedestrians, cyclists, and e-mobility devices. The City of Richmond also notes that the multi-use pathway width is less than the BC Active Transportation Guideline recommendations for such a facility.	No change required.	Per TAC Section 5.3.1.4 [Multi-Use Paths], Table 5.3.5, the recommended width of the MUP is 3.0 m – 6.0 m (4.0 m is common). Per TAC Section 5.5.5 [Horizontal Clearance], a minimum horizontal clearance of 0.5 m to obstructions greater than 750 mm high is recommended. The BC Active Transportation Design Guide (Section F.1) recommends an MUP width of 4.0 m but can be reduced to 3.0 m in constrained areas. There will continue to be ongoing discussions with CoR As the design concept is refined.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
City of Richmond	Requesting confirmation that the existing emergency access just north of Rice Mill Road connecting to Highway 99 (near the bike shuttle area) will be retained as part of the future tunnel design	No change required.	Confirmed, it will be included in the emergency access plan.
Metro Vancouver	There is a potential impact on MV River Road West Water Main at the south approach. A complete review of any proximal impacts to MV's Infrastructure must be done for any activities within the project footprint.	No change required	We are aware of the existing MV River Road West watermain located near the south approach of the Deas Slough Bridge. The location of this watermain will be considered in order to minimize impacts as we finalize the Reference Concept configuration.
Metro Vancouver	Assessment of Metro Vancouver’s infrastructure.	No change required.	Potential Project effects on regional and local infrastructure will be assessed within the EAC Application.
TransLink	Concerns related to HOV vehicles conflicting with transit vehicles in the dedicated bus lanes and how electric vehicles will be factored into HOV lane use (comment from June 2022)	No change required.	HOV and electric vehicles will not be permitted to use the transit-only lanes along the corridor.
TransLink	Concerns regarding how the multi-use pathway will be configured to separate pedestrians and cyclists (comment from June 2022).	No change required.	ROW limitations exist along the MUP which will impact separation options along the MUP. As the MUP design is refined, discussions on separation will take place
TransLink	Would like to see benches and/or rest areas for cyclists along the multi-use pathway (comment from September 2022).	No change required.	Public use of the area will be factored in as the landscaping and MUP Reference Concept Designs are refined. The Project will share further revisions of the design as they are developed.

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Vancouver Coastal Health	In order to monitor for potential congestion/change in traffic volumes over time, recommend that it include metrics for use (such as traffic counts) for all modes.	No change required.	The Infrastructure and Services assessment will assess the potential effects of Project construction components and activities, and tunnel operational activities on different modes of transportation. Where potential effects are identified, mitigation measures including associated metrics and monitoring will be developed during the EAC Application in collaboration with Indigenous nations and other relevant stakeholders.
Vancouver Coastal Health	The new Regional Transportation Strategy has been approved (Transport 2050), along with investment plans.	Table 7.6-1 has been updated to reference the new Regional Transportation Strategy, along with new investment plans.	Table 7.6-1 has been updated.
Vancouver Coastal Health	Recommend including impacts to transit safety, travel times and reliability in the transportation impact assessment (TIA).	Section 10.3.4 has been updated as requested.	Section 10.3.4 has been updated as requested.
Vancouver Coastal Health	Recommend including more details with regards to how the Socio-Economic Effects Management Plan will contribute to emergency health services, such as hospital services.	Section 10.3.4 has been revised as requested.	Section 10.3.4 has been revised as requested.
Provincial Government			
Ministry of Agriculture and Food	Increased truck traffic associated with the construction of the Project may impede access to farmland, affect farm vehicles, lead to increased dust, and disturb livestock. This is of particular concern during spring planting (April to June) and fall harvest (August to October). Widening of roadways that cut into agricultural land will further reduce the land base available for farming.	See relevant changes in Table 10.3 1.	Ministry of Agriculture and Food



LEGEND

- PROJECT FOOTPRINT
- MUNICIPAL BOUNDARY
- REGIONAL PARK
- WATERBODY
- FRASER RIVER SHIPPING CHANNEL
- HIGHWAY / ROAD
- RAILWAY
- WATERCOURSE
- TRANSMISSION LINE
- UNDERGROUND DISTRIBUTION LINE
- OVERHEAD DISTRIBUTION LINE
- ACTIVE PIPELINE
- ABANDONED/DEACTIVATED PIPELINE
- DIKE
- PUMPHOUSE
- LULU ISLAND-DELTA MAIN - ACTIVE PIPELINE CROSSING

0 600 1,200

1:30,000 METRES

REFERENCE(S)

1. REGIONAL PARKS, MUNICIPAL BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. PUMPHOUSES, DIKES, ELECTRICAL UTILITIES, PIPELINS, RECORDED ARCHAEOLOGICAL SITES, HIGHWAYS, ROADS, WATER FEATURES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. LAND OWNERSHIP PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF CITIZENS SERVICES.
4. RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. FRASER RIVER SHIPPING CHANNEL OBTAINED FROM THE VANCOUVER FRASER PORT AUTHORITY.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/03



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
INFRASTRUCTURE AND UTILITIES

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	RS
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10.3-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnaby\CAD-GIS\Client\Ministry of_ Transportation\Fraser_River_ Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\21490984_10_3_2_Infrastructure.mxd PRINTED ON: 2022-12-21 AT: 11:23:55 AM

10.4 CULTURAL

Key cultural values proposed for study as part of the environmental assessment, described in Section 10.4.1, consist of archaeological and heritage resources. Attachment 3 provides a list of studies that are underway and those that are anticipated, including the guidance and standards used in preparing these studies.

10.4.1 Archaeological and Heritage Resources

Under Section 12.1(2) of the *Heritage Conservation Act*, RSBC 1996, c. 187, heritage resources that receive automatic protection include the following:

- sites with physical evidence of human use or occupation prior to 1846
- burial places with archaeological or historical value
- rock art of Indigenous origin
- heritage wrecks (i.e., vessels or aircraft)

In addition, other heritage sites and objects that may be protected or recognized under the *Heritage Conservation Act* include the following:

- heritage sites protected under an agreement between the Province and an Indigenous nation (Section 4)
- Sections 9 and 11.1 designated (protected) heritage places, including
    - cultural or spiritual sites designated for their heritage value
    - Provincial heritage properties (e.g., Barkerville Historic Town and Emily Carr House)
    - paleontological sites designated for their heritage value (e.g., McAbee Fossil Beds)
- Section 18 formally recognized (not protected) heritage places (e.g., Tashme Internment Camp, Todd Inlet, and Vancouver Chinatown)

Many Indigenous nations have developed their own heritage policies and permitting systems. Of specific reference to the Project, the Musqueam Indian Band, Kwantlen First Nation, Stó:lō Research and Resource Management Centre, and Tsleil-Waututh Nation currently maintain heritage policies and heritage permitting systems.

The Proponent has applied for and received First Nation Heritage permits from: xʷməθkʷəy̓əm (Musqueam), səlilwətaɬ (Tsleil-Waututh), sə́yəḿ (Kwantlen), and Stó:lō for the archaeological assessments in support of the EAC Application for the Project.

The existing Highway 99 corridor has been substantially altered by past development and only one site, DgRs-114, is documented within the Project alignment. One additional site, DgRs-113, is documented within 500 m of the Project alignment.

DgRs-114, the Deas Slough barge wreck, is located within the Project alignment in the upper intertidal area of Deas Island southwest of the Deas Slough Bridge. The wreck is only ever partially submerged and is entirely exposed during lower tides. Based on historical aerial photographs, the barge has been in its present location since at least 1974, but not before 1963. A second historical wreck, DgRs-113, is situated in Deas Slough approximately 460 m northeast of the Project alignment. The vessel first appears in a 1963 historical aerial photograph (Golder 2015).

Considering the nature of the Project, any adverse effects on heritage resources would be limited to the construction phase. As a result, any works or ground disturbance that may impact DgRs-114 will require a *Heritage Conservation Act* Section 12.4 Site Alteration Permit. No adverse impacts are currently anticipated for site DgRs-113.

To assess potential unknown archaeological impacts of the construction phase, the Proponent is in the process of identifying areas of archaeological potential within the Project alignment through a combination of consultation with Indigenous communities and background data review. Any identified areas of archaeological potential will be assessed through field investigations. If present, heritage sites will be documented and evaluated in a manner consistent the requirements of the Archaeology Branch and Indigenous communities.

Table 10.4-1 summarizes topics related to archaeological and heritage resources that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.4.1: Summary of Topics Related to Archaeological and Heritage Resources Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	How the Issue Has Been or Will Be Addressed	Relevant Changes to the DPD
Indigenous Nations			
Musqueam Indian Band	Indigenous nation heritage permit requirements should be referenced.	Relevant Indigenous nation heritage permits have been obtained and referenced in the DPD.	Section 10.4.1 has been updated with two bullet points to address Indigenous nation heritage permit requirements.
Musqueam Indian Band	Indigenous nation heritage permits should be obtained.	Relevant Indigenous nation heritage permits have been obtained and referenced in the DPD.	Section 10.4.1 has been updated with two bullet points to address Indigenous nation heritage permit requirements.
Tsleil-Waututh Nation	Archaeological overview and impact assessments should be conducted.	Archaeological overview and impact assessments are in progress.	None change required.
Snuneymuxw First Nation	In addition to consulting Indigenous nations on potential archaeological sites within the Project area, the Ministry should also work with Indigenous nations to develop a chance find contingency plan that follows nations' specific cultural protocols. Although standard chance find contingencies require the involvement of Indigenous groups, this involvement occurs very late. By this time, there is significant disturbance to the find, which can create serious harm to impacted nations. As such, it is essential to develop an appropriate plan that is considerate of specific cultural protocols in the treatment of chance finds.	Prior to construction, a Heritage Resources Management Plan will be developed including a Chance Find Procedure. A draft of the Heritage Resources Management Plan will be included in the EAC Application. As appropriate the EAC Application will identify mitigation measures to minimize and where possible avoid potential impacts. Indigenous nations will have the opportunity to comment on the draft Chance Find Procedure and identify if there are ways to address specific cultural protocols more adequately.	None change required.
Local Government			
City of Delta	Confirmation that records included the archaeological find on the south side of Deas Island.	The Proponent is aware of archaeological site DgRs-114, the Deas Slough barge wreck.	No change required. The site is located outside of the Project footprint.

EAC = Environmental Assessment Certificate; DPD = Detailed Project Description.

10.5 HEALTH

Key health values proposed for study as part of the environmental assessment, described in Sections 10.5.1 to 10.5.2, include human health risk and community health and wellbeing. Attachment 3 provides a list of studies that are underway and those that are anticipated, including the guidance and standards used in preparing these studies.

10.5.1 Human Health Risk

Human health considerations for the Project are primarily associated with changes in air quality. The current conditions within the Project alignment, with respect to air quality, are consistent with the current use of this area as a busy transportation corridor. Congestion-related idling associated with current traffic conditions has led to elevated concentrations of air contaminants relative to areas farther away from the highway.

Other human health considerations include potential changes to environmental quality (e.g., soil, sediment, surface water, and country foods). Atmospheric deposition may influence soil and country food quality, while resuspension of sediment during dredging may disperse constituents that have settled in the river bottom and impact surface water and downstream sediment quality. Effects of changes to noise and vibration on human health and nuisance will be considered in the Acoustic VC and Community Health and Wellbeing VC existing conditions studies and effects assessment. The Acoustic VC will assess noise impacts relative to Human Health criteria (e.g., percent highly annoyed and sleep disturbance). Community Health and Wellbeing will address nuisance.

10.5.2 Community Health and Wellbeing

Project construction and decommissioning could potentially result in noise, dust, or visual changes, resulting in temporary nuisance effects to nearby receptors such as schools, childcare centres, residential care centres near Steveston Highway, and residences near Deas Island (Figure 10.3-1). Potential sensitive receptors will be further identified and mapped as part of the EAC Application. The potential effect on nuisance, public safety, and on relevant aspects of physical, social, mental, and cultural wellbeing (taking into consideration determinants of health) as a result of Project construction, decommissioning, operations, and maintenance activities. Where there is a pathway identified, potential Project effects on food security as a result of Project changes to agricultural lands will be considered. will be assessed through the Project EAC Application.

Through Project engagement, Indigenous nations requested assessment of the determinants of wellbeing as it pertains to Indigenous communities and the negative impact on health due to loss of cultural knowledge, access to traditional resources, and changes to the visual landscape. Indigenous nations also highlighted the importance of including practices to improve human health and wellbeing around issues related to major infrastructure, such as homelessness. These aspects will be considered in the EAC Application, along with other community health and wellbeing existing conditions for key health indicators to understand existing human health conditions in local, regional, and Indigenous community populations. Community health and wellbeing can be affected by a wide range of social influences and can

be experienced differently by diverse groups within society, such as Indigenous people, women, or people with diverse abilities. The assessment will apply gender-based analysis plus (GBA+) and be informed by information provided by Indigenous nations and service organizations.

Table 10.5.1 summarizes topics related to community health and wellbeing that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 10.5.1: Summary of Topics Related to Community Health and Wellbeing Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	How the Issue Has Been or Will Be Addressed	Relevant Changes to the DPD
Indigenous Nations			
Tsleil-Waututh Nation	Health Valued Component should include value-based indicators to assess cultural components in relation to health and wellbeing.	No change required.	The Community Health and Wellbeing Assessment will address determinants of wellbeing as they relate to Indigenous communities. The indicators for assessment (including value-based indicators), and identification of effects will be carried out in collaboration with TWN and other Indigenous nations during the development of the dAIR.
Ts'uubaa-asatx First Nation	Address issues related to human health and wellbeing issues prevalent around infrastructure, i.e., homelessness, drug trade and trafficking, human trafficking. Desire to see responsible practices to improve human health and wellbeing around such infrastructure.	The Community Health and Wellbeing Assessment will characterize known health and wellbeing concerns associated with major infrastructure and assess potential Project effects related to these concerns.	No change required.
Snuneymuxw First Nation	Noise sensitive land use receptors should include receptors representative of Indigenous harvesters who may have access to the area to exercise harvesting rights.	See description of how issues has been or will be addressed in Table 10.1-2.	See relevant changes in Table .
Musqueam Indian Band	Human health assessment should include Indigenous communities and negative health impact through, for example, loss of cultural knowledge, loss of access to traditional resources, and impact to community employment, as provided by Musqueam.	The Community Health and Wellbeing assessment in the EAC Application will address potential Project effects on health and wellbeing through engagement with, and information identified and provided by, the Musqueam Indian Band.	Reference to effects information provided by Indigenous nations has been added to Section 10.5.2, Community Health and Wellbeing.
Local Government			
Vancouver Coastal Health	Recommend including downstream health impacts related to the Project to potential impacts of the Project on Health.	The "Project Effects on Current and Future Generation" section of the EAC application will highlight the Project's contributing effects, including activity rates as a result of reduced commuting time. The scope of these assessments will be determined in collaboration with Indigenous nations, technical advisors, and public stakeholders during the development of the dAIR.	Section 10.5.2 has been updated to indicate consideration of Project effects on food security. Human health considerations and assessment will be undertaken in line with regulatory guidance in the EAC Application.

Group Engaged	Issue Raised / Information Received	How the Issue Has Been or Will Be Addressed	Relevant Changes to the DPD
Vancouver Coastal Health	Recommend including physical activity impact on the Community Health and Wellbeing effects.	The Land Use and Community Health and Wellbeing assessments will consider potential Project effects on recreational land and water use and active transportation, which provide opportunities for physical activity.	No change required.
Vancouver Coastal Health	Recommend paying specific attention to spaces where vulnerable individuals take residences such as schools, childcare spaces, and residential care spaces within the assessment areas.	As indicated in Section 10.1.2 (Acoustic) and Section 10.5.2 (Community Health and Wellbeing), receptor mapping will be undertaken to identify the locations of vulnerable groups and individuals including schools, childcare centres, and residential areas. This mapping will support the assessment of potential disproportionate Project effects on Community Health and Wellbeing.	No change required.
Vancouver Coastal Health	Recommend paying specific attention to sensitive locations and/or vulnerable individuals (e.g., Schools, childcare spaces) in consideration regarding air quality, noise, vibration, and traffic.	As indicated in Section 10.1.2 (Acoustic) and Section 10.5.2 (Community Health and Wellbeing), receptor mapping will be undertaken to identify the locations of vulnerable groups and individuals including schools, childcare centres, and residential areas. This mapping will support the assessment of potential disproportionate Project effects on Community Health and Wellbeing.	No change required.
Vancouver Coastal Health	Recommend including mode-sharing distribution through the tunnel (transit, auto, truck) and MUP as metrics to illustrate the utility of the MUP and indicate the ability of such infrastructure pieces to contribute to the incorporation of physical activity in users' daily life.	The Infrastructure and Service Assessment will identify the effects of Project construction components, activities, and tunnel operational activities on transportation (including public transit, vehicles, and active transportation). The "Project Effects on Current and Future Generations" section, will consider the utilization of various transportation modes and contributions to physical activity and well being of communities in the EAC Application.	No change required.

Group Engaged	Issue Raised / Information Received	How the Issue Has Been or Will Be Addressed	Relevant Changes to the DPD
Vancouver Coastal Health	Recommend including children, youth, and older adults as factors potentially contributing to vulnerability and disproportionate adverse Project effects, to account for changes in the experience of public transit users and nuisance for residents.	Updated Table 10.6-2.	Table 10.6-2 has been updated to include population sub-groups of children, youth, and older adults, who could potentially experience disproportionate transportation effects and nuisance effects from Project construction components and subsequent tunnel operational activities.
Vancouver Coastal Health	Recommend that the Proponent choose an appropriate RAA and LAA, consult with Metro Vancouver on the appropriate air quality dispersion model, and list some of the ways by which criteria air contaminants may affect human health.	A detailed modelling plan will be provided to Metro Vancouver for review and approval prior to undertaking the air dispersion modelling assessment. This plan will include details of the RAA and LAA. The existing conditions of regional and local assessment areas for air quality have incorporated feedback provided by Metro Vancouver during the review and comment on corresponding existing conditions workplan.	Section 6.1 has been updated to include that criteria air contaminants would be emitted during the Project and has listed some of the ways in which these may affect human health.

EAC = Environmental Assessment Certificate; dAIR = draft Application Information Requirements; TWN = Tsleil-Waututh Nation; MUP = multi-use path; RAA = Regional Assessment Area; LAA = Local Assessment Area; DPD = Detailed Project Description.

10.6 SUMMARY OF PRELIMINARY POTENTIAL EFFECTS, MITIGATION, AND MANAGEMENT STRATEGIES

Table 10.6.1 summarizes preliminary potential environmental, economic, social, cultural, and health effects as described in Section 10 and potential mitigation and monitoring as they are currently understood that may arise from the construction, operation, and decommissioning of the Project. Mitigation measures and management approaches will be considered based on technical and economic feasibility with the objective to avoid, minimize, restore, or otherwise offset potential effects within the EAC Application. The Proponent is committed to meaningful engagement with Indigenous nations, regulators, municipalities, authorities, land and marine users, land-owners, and the public in the development and refinement of proposed mitigation measures as the Project progresses through the environmental assessment process.

Table 10.6.1: Summary of Preliminary Potential Effects, Mitigation, and Management Strategies

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Environment		
Air Quality		
Changes in quality as a result of criteria air contaminant emissions during the construction phase from construction equipment.	• Vehicles and equipment will be maintained using predefined schedule that may limit air emissions.	• The maintenance schedule may be audited to verify equipment were maintained according to the schedule.
	• Construction Environmental Management Plan • Fugitive Dust Management Plan	• The management plan will include a review and continual improvement procedure, which may be used to verify the effectiveness of control measures.
GHG emissions during the construction phase from construction equipment.	• Vehicles and equipment will be maintained using predefined schedule that may limit air emissions.	• The maintenance schedule may be audited to verify equipment were maintained according to the schedule.
Acoustic		
Increase in noise levels during construction.	• Noise abatement measures will be recommended during the environmental assessment based on available technologies, best management practices, and engineering standards; these will be included in a Construction Environmental Management Plan.	• To be determined through completion of the effects assessment.
Increase in noise levels during operations.	• Noise abatement measures will be recommended during the environmental assessment based on available technologies, best management practices, and engineering standards.	• To be determined through completion of the effects assessment.
Increase in vibration levels during construction.	• Vibration abatement measures will be recommended during the environmental assessment based on available technologies, best management practices, and engineering standards; these will be included in a Construction Environmental Management Plan.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Surface Water and Sediment Quality		
Erosion of soil disturbed during construction activities and introduction of water with elevated suspended sediment into the neighbouring streams and rivers.	• Erosion and Sediment Control Plan and Stormwater Management Plan will be prepared which will identify available to prevent soil erosion.	• The QEP will proactively assess that erosion and sediment control measures are installed and maintained correctly, in accordance with best management practices and applicable standards. • The Erosion and Sediment Control Plan will include best management practices, nature, and location of applicable mitigation measures. The plan will also include details on QEP monitoring inspections to assess the efficacy and performance of erosion and sediment control measures, and to advise on recommended improvements as necessary. • A QEP will review the site after installation of erosion and sediment control measures and will assess condition regularly to confirm that BMPs are in place and in good condition. The QEP will review the site within 24 hours, **when safe to do so**, after a severe rainfall event to assess that BMPs are in place, effective, and in good condition. Storm water will be sampled at appropriate discharge points to assess compliance with municipal and regulatory requirements.
Increased suspended sediment due to sediment disturbance Remobilization of trace metals and organic constituents from disturbed sediments	• A Dredge Management Plan will be prepared, which will identify BMPs to limit the suspended sediment released into the environment. • An In-Water Works Management Plan will be developed to reduce sediment disturbance during construction and prevent discharge or runoff containing high total suspended solids, concrete wash water, and fuel from entering the aquatic environment.	• Following the implementation of appropriate BMPs and standards, including seasonal restrictions, a water quality monitoring program with decision criteria and management actions will be implemented.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Release of alkaline material during concrete works	• A Concrete Works Management Plan will be prepared, which will identify BMPs available to prevent the release of deleterious substances into the environment.	• Runoff from cured concrete will be monitored for acceptable pH levels. When grinding concrete, water pH and turbidity will be monitored, and mitigation measures may be implemented if levels are outside acceptable ranges.
Accidental release of deleterious substances	• Accidental release of deleterious substances will be covered under a Construction Environmental Management Plan and Spill Prevention and Response Plan.	• To be determined through completion of the effects assessment.
River Hydraulics and Morphology		
Changes to riverbed morphology due to erosion and deposition	• Opportunities for mitigation by design will be identified and incorporated into the Reference Concept design where feasible. • A River Hydraulics and Morphology Management Plan will be developed to monitor the river morphology and hydraulics.	• Bathymetric surveys to track bed level changes.
Groundwater		
Local groundwater levels and flow patterns influenced from Project-related activities, including land-based construction activities and dewatering, potentially increasing saltwater intrusion (altering concentrations of metals and major ions)	• Project design includes use of sheet pile walls that, with the implementation of BMPs to optimize pumping, will reduce the amount of dewatering that is required.	• A Groundwater Monitoring Program will be implemented to monitor groundwater conditions, including levels and quality.
Changes to ground surface in the Project area could affect local infiltration of precipitation and groundwater recharge	• Minimize excessive disturbance to ground surface outside of active construction areas.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Groundwater quality affected by potential transport of contaminants from current or historical land use activities	• Areas of potential environmental concern (APECs) will be assessed, and remedial measures implemented, if required, to minimize potential transport of contaminants.	• Groundwater Monitoring Program will be informed by results of a Phase I and II Environmental Site Assessment and implemented to monitor groundwater quality.
Accidental release of deleterious substances could impact groundwater quality	• Accidental releases of deleterious substances will be covered under multiple management plans, which will be included in a Construction Environmental Management Plan.	• To be determined through completion of the effects assessment.
Soil		
Erosion of soil disturbed during construction activities and introduction of sediment laden water into the neighbouring streams and rivers	• An ESC Plan will be prepared for the disturbed areas at the time of pre-construction stage of the Project. The plan will outline the areas subjected to excavation activities, topsoil removal or utility installations. It will provide recommendations on utilizing effective BMPs, treatment options, monitoring frequency and sampling parameters. • If contaminated soil and/or groundwater are identified within disturbed areas, the Contaminated Soil Management Plan will include erosion mitigation options for the areas of Environmental concern.	• QEP will review the site within 24 hours after severe rainfall event to ensure that BMPs are in place and in good condition. Storm water will be sampled at the discharge point (i.e., catch basin) to confirm compliance with the municipal and provincial requirements pertaining to the quality of discharge (e.g., turbidity, pH, TSS).

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Relocation of potentially contaminated excavated soil within the site or offsite disposal	• Stage 1 and Stage 2 PSI to confirm/refute the presence of contaminated soil at the site. If contaminated media is identified within the Project area, it will be recommended to determine vertical and horizontal extent of contamination which will allow to estimate the volume of contaminated soil. Remediation options will be assessed prior to the initiation of construction activities. The layout of the Contaminated Soil Management Plan will include disposal or treatment options for soil that exceeds applicable Environmental protection standards, all procedures and regulatory compliance documentation required for remediation activities and confirmation of remediation.	• Suspected contaminated soil intended for excavation and relocation within the site or off site will be tested for potential contaminants of concern prior to excavation (ex situ characterization). Stockpiled soil will be characterized ex situ prior to relocation.
Import and Placement of potentially contaminated fill at the site to backfill excavations.	• The content outlined for Contaminated Soil Management Plan will include recommendations for fill screening parameters and analytical methods, a requirement for a laboratory certificate for the imported fill and other procedures for fill assessment.	• Confirm that all fill material brought to the site is certified and meets the applicable Environmental protection standards. This will include screening for sulfide-bearing / acid-generating potential.
Vegetation		
Direct permanent and temporary loss of vegetation and ecosystems in the Project footprint	• Identify and clearly delineate spatial boundaries of Vegetation VC subcomponents (e.g., wetlands design phase). • Provide Vegetation VC subcomponent spatial data to the design team so they can consider altering the Project footprint (e.g., temporary laydown areas) to avoid them. • Strip, store, and replace soil and subsoil using best management practices.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
	• Direct loss of some Vegetation VC subcomponents (e.g., wetlands) may necessitate an onsite or offsite mitigation measure. • Given that the best predictor of the future is the past, linkages between historical and contemporary terrain units and historical and contemporary vegetation types described in the existing conditions studies will be used to inform proposed restoration and revegetation plans. Proposed restoration and revegetation plans will be developed in consultation with technical advisors and Indigenous nations for potentially impacted areas during the Application Preparation Phase.	
Indirect permanent and temporary loss or alteration of vegetation and ecosystems	• Conduct wetland function assessment prior to the construction phase. • Strip, store, and replace soil and subsoil using best management practices. • Draft and implement site and species-specific invasive plant management plan during the construction phase of the Project. • If deemed necessary through the completion of the effects assessment and in consultation with regulators and Indigenous nations, repeat wetland function assessments within two years of Project completion. • Indirect loss or reduced function of Vegetation VC subcomponents identified within the first two years of Project completion may necessitate an onsite or offsite mitigation measure. • Frequency and duration of post-restoration monitoring programs will be determined in collaboration with Metro Vancouver, other technical advisors, and Indigenous nations beginning during consultation on the dAIR during the Process Planning Phase of the EA.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Wildlife		
Direct habitat loss	• Identification and delineation of habitat • Habitat restoration • Invasive plant management • Construction Environmental Management Plan • Restoration of disturbed habitat and may include habitat offsetting if identified as a requirement in the EAC application.	• Monitoring of restored habitat and wildlife features • Monitoring invasive plants
Indirect habitat loss (e.g., noise and light disturbance and degradation of habitat)	• Construction Environmental Management Plan • Management of construction noise and light • Management of sediment and water quality	• Noise and light level monitoring during construction • Water quality monitoring during construction
Mortality	• Construction Environmental Management Plan • Avoidance of sensitive wildlife periods (e.g., bird nesting window) • Pre-construction surveys to identify sensitive features (e.g., bird nests) • Pre-construction salvages, as necessary • Waste management • Wildlife observation reporting • Light management • Roadside management	• Roadside mortality monitoring
Barriers to wildlife movement	• Avoidance of movement corridors • Re-establishment of vegetation and natural habitat post-construction	• Monitoring of restored habitat and wildlife features

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Fish and Fish Habitat		
Temporary and permanent loss of instream and riparian habitat	• DFO's "Measures to protect fish and fish habitat" https://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures-eng.html will be referenced when developing mitigation measures for avoiding and/or mitigating potential adverse effects to fish and fish habitat. • Construction Environmental Management Plan. • Timing of works to avoid sensitive fish life stages. • The Proponent will engage with Indigenous nations, regulatory agencies, local government, and stakeholders early to collaborate on the development of a habitat offsetting plan.	• Environmental monitoring by QEPs • Habitat offset effectiveness monitoring
Temporary and permanent habitat alteration and disruption of instream and riparian habitat	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • Habitat offsetting plan	• Environmental monitoring by QEPs • Habitat offset effectiveness monitoring
Temporary changes to benthic and aquatic invertebrate abundance and assemblage	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • Habitat offsetting plan	• Environmental monitoring by QEPs
Changes to hydraulics and river morphology due to removal and installation of in-water structures	• As defined for Fraser River Hydrology.	• See Fraser River Hydrology.
Fish mortality due to stranding in dewatered areas (e.g., casting basin and tunnel elements)	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • Fish salvage	• Environmental monitoring by QEPs

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Fish mortality due to entrainment in intakes during flooding and dewatering (e.g., casting basin and tunnel elements)	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • Fish salvage • Intake screening	• Environmental monitoring by QEPs
Mortality, injury, and behavioural disturbance effects from suspended sediment	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • As defined for Surface Water and Sediments	• As defined for Surface Water and Sediments. • Environmental monitoring by QEPs
Potential contaminant exposure from dredging, densification, and other construction activities	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • As defined for Surface Water and Sediments	• As defined for Surface Water and Sediments. • Environmental monitoring by QEPs
Mortality, injury, and behavioural disturbance effects from underwater noise	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • As defined for Marine Mammals	• Environmental monitoring by QEPs
Fish mortality due to crushing/burial beneath tunnel elements at temporary moorage location	• Construction Environmental Management Plan • Timing of works to avoid sensitive fish life stages • Habitat offsetting plan	• Environmental monitoring by QEPs • Habitat offset effectiveness monitoring
Marine Mammals		
Injury and behavioural disturbance effects from underwater noise	• Safety zones, ramp-ups, noise mitigating systems	• Marine mammal observing, environmental monitoring
Injury and mortality from vessel strikes	• Vessel speed reductions	• Seasonal vessel slow-down restriction (as applicable)
Potential contaminant exposure from dredging and disposal at sea	• Accidental release of deleterious substances will be covered under a Construction Environmental Management Plan and Spill Prevention and Response Plan.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Effects to prey items	• As defined for Fish and Fish Habitat.	• As defined for Fish and Fish Habitat.
Economic		
Employment and Economy		
Increase in economic production (gross domestic product) and government tax revenues from Project procurement of labour, goods, and services	• Human Resources Plan • Procurement Plan • Skills, Training and Education Plan	• None
Increase in employment and income from Project procurement of labour, goods, and services	• Human Resources Plan • Procurement Plan • Skills, Training and Education Plan	• Socio-economic effects monitoring (e.g., Project employment levels)
Increase in business opportunities and revenues from Project procurement of labour, goods, and services	• Procurement Plan	• Socio-economic effects monitoring (e.g., Project procurement of local and regional businesses)
Potential effect on labour market balance from Project procurement of labour, goods, and services.	• Human Resources Plan • Procurement Plan • Skills, Training and Education Plan	• Socio-economic effects monitoring (e.g., changes in labour supply)
Potential economic effect to land- and marine-based commercial businesses and industry as a result of restricted access to and/or disruption of land, infrastructure, and facilities that businesses use/rely upon.	• Project design • As defined for Land and Resource Use, and Marine Use • Engagement Plan	• Engagement Plan and Grievance Process

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Social		
Land and Resource Use		
Consistency with regional, local, and Indigenous land use plans, strategies, and objectives	• Engage with local government, ALC and land-owners on temporary and permanent land requirements, re-zoning applications, and temporary and permanent land use permit requisitions	• Engagement Plan
Potential effect on access to and use of land-based industrial, commercial, and non-commercial (residential, institutional, and recreational) and Indigenous use areas, infrastructure, and amenities	• Project design • Traffic Management Plan • Management of land-based Project activities to minimize access disruption and maintain safety • Engagement Plan • Further identified through effects assessment and engagement with Indigenous Nations	• Engagement Plan and Grievance Process
Potential effect on tourism, recreational, cultural, and Indigenous use environmental setting from Project-related changes in noise and vibration, air quality, and visual quality.	• As defined for Air Quality, Acoustic, Visual Quality • Engagement Plan	• Engagement Plan and Grievance Process
Potential effect on commercial, non-commercial (recreational) and Indigenous land-based resource use as a result of Project-related changes in abundance and availability of harvestable plants and wildlife	• Project design • As defined for and Vegetation and Wildlife • Engagement Plan • Further identified through effects assessment and engagement with Indigenous Nations	• Engagement Plan and Grievance Process
Potential effect on access and availability of land for agriculture	• Minimizing disturbance to agricultural land by accommodating Project components and activities within the existing ROW to the extent practical	• Engagement Plan and Grievance Process

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Potential effect to land productivity (functioning of drainage structures, drainage patterns, irrigation water quality, amount of topsoil, soil quality, and prevalence of weeds)	• Incorporating drainage works and structures that meet standards for agricultural areas and purposes. • Construction Environmental Management Plan including Drainage Management Plan, Erosion and Sediment Control Plan, Agricultural Soil Management Plan, and Emergency Response Plan and Spill Prevention and Response Plan.	• Erosion and Sediment Control Monitoring • Monitoring of Restored Agricultural Lands
Disturbance to farm operations (disruptions to on-farm utilities and changes in the light regime, acoustic environment, air quality, road traffic, and farm access)	• Minimizing disturbance to agricultural land by accommodating Project components and activities within the existing ROW to extent practical. • Construction Environmental Management Plan including Agricultural Management Plan and Traffic Management Plan. • Management of work schedule, work areas, and duration of work to minimize access disruption to the extent practical. • Notifying farm operators of disruption to utility services in advance and providing alternative power sources.	• Noise, Air Quality, and Light Monitoring Programs
Removal or alteration of farm infrastructure (farm buildings, roads, fencing, and drainage structures)	• Engagement Plan	• Engagement Plan and Grievance Process

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Marine Use		
Potential effect on access to and use of commercial, non-commercial (recreational) and Indigenous marine transportation, and foreshore and marine areas, infrastructure, and amenities	• Project design • MUG and IMUG • Operations Technical Groups • Marine Communications and Access Management Plan • Marine Protection Program • Marine Construction Staging Plan, including management of in-river activities, work schedule and work areas, minimization of access disruption, and maintenance of safety for marine users • Defined safety zones • Project vessel speed management • Further defined through effects assessment and engagement with Indigenous Nations, VFPA and marine users	• Engagement Plan, Grievance Process • Feedback through the MUG, IMUG, and Operations Technical Group
Potential effect on Indigenous, commercial, and recreational fish harvesting from Project effects on productivity and availability of harvestable fish populations	• As defined for Fish and Fish Habitat • Marine Communications and Access Management Plan • Further defined through effects assessment and engagement with fishers and Indigenous Nations	• Engagement Plan and Grievance Process
Potential effect on tourism, recreational and cultural marine environmental setting from Project effects on noise and vibration, air quality, and visual quality	• As defined for Air Quality, Acoustic, Visual Quality • Engagement Plan • Further defined through effects assessment and engagement with Indigenous Nations and marine users	• Engagement Plan and Grievance Process

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Potential effect to navigation from Project navigational channel restrictions, in-river construction and decommissioning activities, and Project effects on riverbed levels and water depth	• Marine Communications and Access Management Plan). Management of in-river activities, including work schedule and work areas, to minimize access disruption and maintain safety for marine users. • Defined safety zones • Project vessel speed management • Further defined through effects assessment and engagement with Indigenous Nations, VFPA and marine users.	• Engagement Plan and Grievance Process
Visual Quality		
Potential effects on visual quality from construction and decommissioning activity; potential effect on perceived lighting levels	• Retain/establish visual screening of Project area • Landscape Management Plan • Use of BMP to reduce obtrusive light emissions • Enhancement opportunities to support Indigenous cultural values and practices related to the Project area.	• Visual Quality Monitoring Program • Light Monitoring Program
Infrastructure and Services		
Potential constraint on emergency and health services capacity and supply as a result of Project service utilisation	• Health and Safety Management Plan	• Socio-economic Effects Monitoring Program
Potential constraint on municipal water and solid waste infrastructure capacity and supply as a result of Project water and solid waste infrastructure utilization	• Waste Management Plan • Water Management Plan • Service Agreements	• Socio-economic Effects Monitoring Program

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Potential for physical disturbance to existing utilities and infrastructure (e.g., Lulu Island perimeter dike in Richmond, Lulu Island-Delta Main pipeline crossing) adjacent to the Existing Tunnel	• Project design	• None
Potential effect on car, active and public transportation from Project construction traffic, road use, and access restrictions; and from Project operational maintenance activities	• Traffic Management Plan	• Socio-economic Effects Monitoring Program • Engagement Plan and Grievance Process
Cultural		
Archaeological and Heritage Resources		
Potential adverse impact to archaeological site DgRs-114 within the Project alignment	• Based on detailed construction plans and activities, determine the likely adverse impacts to DgRs-114 during the Archaeological Impact Assessment, following the standards within the British Columbia Archaeological Impact Assessment Guidelines (Government of BC 1998).	• To be determined through completion of the effects assessment.
Potential adverse impacts to unknown heritage resources within the Project alignment caused by ground disturbance during the construction phase	• Identify areas of archaeological potential within the Project alignment through an Archaeological Overview.	• To be determined through completion of the effects assessment.

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Health		
Health Risk		
Changes in air quality	• As defined for Air Quality.	• As defined for Air Quality.
Changes in surface water and sediment quality	• As defined for Water Quality.	• As defined for Water Quality.
Changes to soil and vegetation as a result of air deposition	• As defined for Air Quality.	• As defined for Air Quality.
Community Health and Wellbeing		
Nuisance to nearby residents, park, and other land- and marine-based recreational users, and other sensitive receptors due to changes in air quality, noise, vibration, and traffic	• As defined for Air Quality, Acoustic, Visual Quality, and Wildlife. • Engagement Plan	• Socio-economic Effects Monitoring Program • Engagement Plan and Grievance Process
Potential effect on public safety due to increase in traffic from Project construction activities and access restrictions	• Traffic Management Plan • Engagement Plan	• Socio-economic Effects Monitoring Program • Engagement Plan and Grievance Process

Potential Effect	Preliminary Mitigation	Preliminary Proposed Monitoring
Potential effect on physical, social, mental, and cultural wellbeing as a result of Project construction, decommissioning, operations, and maintenance activities	• Defined through effects assessment and engagement with Indigenous Nations, local governments, stakeholders, and the public	• Socio-economic Effects Monitoring Program • Engagement Plan and Grievance Process
Changes in access and use of land and physical infrastructure for unintended purposes (e.g., shelter for homeless)	• Project design • Management of Project activities to minimize disruption to land and physical infrastructure access and use • Engagement Plan	• Socio-economic Effects Monitoring Program • Engagement Plan and Grievance Process

BMP = best management practices; GHG = Greenhouse Gas; MUG = Marine Users Group; IMUG = Indigenous Marine Users Group; PSI = Preliminary Site Investigation; QEP = Qualified Environmental Professional; ROW = Right-of-Way; TSS = total suspended solids; VC = valued component; APEC = areas of potential environmental concern; ESA = Environmentally Sensitive Area; ESC = Erosion and Sediment Control; dAIR = draft Application Information Requirements; EA = environmental assessment; DFO = Fisheries and Oceans Canada; ALC = Agricultural Land Commission; VFPA = Vancouver Fraser Port Authority.

Table 10.6.2 provides an overview of identify factors that could indicate potential disproportionate positive and adverse effects on distinct human populations for certain economic, social, health, and cultural values. Indigenous nations have the potential to experience differential effects to individual and community social, economic, social, health, or cultural conditions as a result of the Project. This preliminary analysis supports a GBA+ framework for the Project and is expected to evolve through finalization of VCs; engagement with Indigenous nations, technical advisors, stakeholders, and the public; and collection of existing conditions data for the Application. Disproportionate Project effects will be assessed within the EAC Application.

Table 10.6.2: Preliminary Analysis of Identify Factors Potentially Contributing to Disproportionate Project Effects

Topic Areas	Potentially Affected	Identity Factors Potentially Contributing to Disproportionate Project Effects[(a)]	Rationale for Potential Disproportionate Effect
Employment and Economy	• Local governments • Local and regional labour force and suppliers • Nearby land- and marine-based businesses • Indigenous communities	• Gender • Age • Disability • Indigeneity • Ethnicity • Low skilled • Low income	Historical and current under-representation and participation in local and regional construction workforce and businesses Potential to experience barriers to Project economic benefits and opportunities
Land and Resource Use Marine Use	• Indigenous communities • Recreational land and resource and marine users • Commercial users (including farming businesses)	• Those with disabilities, as recreational users in the Project area • Low-income individuals and businesses using resources in the Project area for consumptive and non-consumptive purposes • Indigenous communities and users of the Lower Arm of Fraser River and land base in proximity to the Project for harvesting, and other economic and cultural activities and purposes • Ethnic minorities, as users of nearby foreshore areas for seafood harvesting	Potential limited availability of temporary alternative recreational use areas for those with disabilities Disproportionate reliance on land and marine resources in Project area for income, food, and/or cultural purposes Land and marine use and resources in Project area of high environmental, economic, cultural, spiritual importance
Infrastructure and Services	• Local government and service providers • Local population reliant on local emergency, health, water and waste services, utilities • Car, active, and public transportation users in the Project area	• Disability/health status • Age • Indigeneity • Low income/homeless	Disproportionate reliance on, and/or limited access to services and infrastructure

	• Indigenous communities		
Topic Areas	**Potentially Affected**	**Identity Factors Potentially Contributing to Disproportionate Project Effects[(a)]**	**Rationale for Potential Disproportionate Effect**
Human Health	• Residents of nearby communities • Indigenous nations conducting activities in the vicinity of the Project • Recreational visitors in the vicinity of the Project	• Those with potential for increased exposure relative to other sub-groups	
Community Health and Wellbeing	• Residents and other nearby receptors • Car, public and active transit users of Project area • Indigenous communities	• Gender • Age (children, youth, and older adults) • Disability • Health status, those with existing health conditions • Low income • Indigenous individuals and communities with environmental, economic, cultural, spiritual practices and ties to the Project area	Disproportionate vulnerability on dimensions of physical, social, mental, and/or cultural wellbeing Project area of high environmental, economic, cultural, spiritual importance
Visual Quality	• Residents and other nearby receptors • Recreational users • Indigenous communities	• Indigenous individuals and communities with environmental, economic, cultural, and spiritual practices and ties to the Project area	Project area of high environmental, economic, cultural, spiritual importance

(a) As a dimension of gender-based analysis+, the analysis of intersectionality of identity factors will be carried out, to understand how factors may overlap or intersect to produce unique differential experiences and/or effects for individuals and population groups.

10.7 CUMULATIVE EFFECTS

Cumulative effects are defined as " changes to environmental, economic, social, cultural and health values caused by the combined effect of past, present, and potential future human activities and natural processes." (BC EAO 2020a). As the demand placed on natural systems continues to grow in the Lower Fraser River, the combined effects of activities on environmental, social, and economic values are important factors for decision-makers in environmental assessments.

During the Early Engagement Phase, Indigenous nations, technical advisors, and stakeholders expressed various concerns with how the Project would contribute to ongoing cumulative effects considering other previous, current, and reasonably foreseeable developments on natural resources and access to those natural resources within the lower Fraser River. In summary, these concerns relate to continued overall reduction in the health and integrity of the lower Fraser River.

The EAC Application will include a Cumulative Effects Assessment, consistent with Effects Assessment Policy (BC EAO 2020a), that will identify potential cumulative effects to each VC where residual effects are predicted. The Cumulative Effects Assessment will evaluate the predicted residual environmental, social, economic, cultural, and health effects directly associated with the proposed Project, in combination with the predicted residual effects arising from other current and reasonably foreseeable projects and activities that have been, or will be, carried out within the RAAs for each VC.

Planned development of commercial lands adjacent to the lower Fraser River and out to Roberts Bank include, among other activities, the Roberts Bank Terminal 2 Project, the Tilbury Marine Jetty Project, the Fortis BC Phase 2 Liquid Natural Gas Expansion, the Lehigh Hanson Materials Ltd. Delta Grinding Facility, the Pattullo Bridge Replacement Project, changes to the approved loading infrastructure at the Fraser Surrey Docks Direct Transfer Coal facility, and other smaller scale developments and activities including feasibility programs related to the Project.

The Project may interact with these projects and ongoing activities, contributing to existing cumulative effects in the region. These interactions and effects will be considered, where relevant to each of the VCs for the Project, to understand both existing, as well as future conditions without the Project. The EAC Application will include a rationale for how existing and reasonably foreseeable projects and activities will be identified and methodologies for assessing the incremental impact of the Project on regional cumulative effects.

The Cumulative Effects Assessment will be informed in a consultative manner by the following information sources and processes:

- engagement with participating Indigenous nations
- traditional use information provided by Indigenous nations
- feedback from technical advisors, stakeholders, and the public
- approved land use plans surrounding the Project

- the Project's existing conditions studies and other historical and publicly available data that describe the effects of past developments and characterize existing conditions
- effects assessments for other existing and reasonably foreseeable projects that have recently undergone or are currently undergoing a formal environmental assessment process
- review of potential overlapping effects due to present and reasonably foreseeable future developments that did not trigger formal assessment

The scope of the Cumulative Effects Assessment, including methodologies and the list of current and reasonably foreseeable projects and activities to be considered, will be developed in collaboration with Indigenous nations, technical advisors, and stakeholders during development of the AIR within the Process Planning Phase.

11 ACCIDENTS AND MALFUNCTIONS

As required in Section 25(2)(c) of the BCEAA, the environmental assessment will include an assessment of the risks of malfunctions or accidents.

This section describes the potential accidents and malfunctions that could occur with the Project, that could be considered to be of moderate to high risk to the human and natural environment if unmitigated. These potential accidents or malfunctions have been identified considering industry experience with similar infrastructure and Project components and activities, and how potential accidents and malfunctions will be managed to reduce the likelihood of occurrence and the consequence severity.

The following issues were raised during the Project's Pre-Early Engagement program on the potential Project-related accidents and malfunctions and their potential effects on public and environmental safety:

- request to see the MUP in the centre of the tunnel for fire-life safety purposes (feedback received from Delta Emergency Services)
- request for the Project to consider how first responders will deal with hazardous materials spills in the future tunnel (feedback received from Delta Emergency Services)

In addition, the following issues were raised as part of the Project's Early Engagement program during a meeting with emergency responders on April 12, 2022:

- request for repeater mid-tunnel for emergency communications
- request for access to closed-circuit television footage
- clarification on the use of MUP for emergency vehicle access
- request for turnarounds on either side of the tunnel
- request to have hydrants located close to the entrances of the tunnel

The feedback received has been considered in the identification of potential Project-related accidents and malfunctions in this section. They will also be considered during the risk assessment of potential accidents and malfunctions in the subsequent stages of the environmental assessment process and during the development of the Project's Emergency Response Plan.

An accident is defined as an unexpected occurrence, unplanned event, or unintended action that could result in an adverse effect on the environment or public safety, while a malfunction is the failure of a piece of equipment, device, or system that could result in an adverse effect on the environment or public safety. During Project construction and decommissioning of existing infrastructure, Project-related accidents, and malfunctions with reasonable potential to occur include the following:

- accidental release of deleterious substances (e.g., hydrocarbon fuels, lubricants, and concrete) from vessels, vehicles, machinery, equipment, or damage to utilities (e.g., buried gas lines) that impact the terrestrial and/or aquatic environment
- accidental failure of stormwater and/or erosion and sediment control measures (e.g., silt fencing, detention ponds, ditches, and swales) resulting in localized flooding, erosion, and/or a release of sediment laden water to the aquatic environment
- transportation incidents (e.g., collisions and spills) during supplies and/or materials delivery and construction equipment mobilization to and from site, resulting in injury and/or release to the environment along the roads
- vessel collision or failure resulting in obstruction of navigation and/or affecting navigational safety

The potential accidents and malfunctions during Project construction and decommissioning of existing infrastructure would be managed through design, construction planning, and good management practices, such as review of the contractor's management plans (e.g., Construction Management Plan, Traffic Management Plan, Spill Prevention and Response Plan, and Emergency Response Plan) and plan implementation in accordance with the Ministry's standards and other applicable provincial and federal requirements and guidelines. The Spill Prevention and Response Plan will identify (among other aspects) spill hazards associated with the Project, safety protocols and spill prevention measures, spill contingency response procedures, notification procedures, training requirements, and responsibilities. Other potential accidents and malfunctions and their associated response procedures will be identified in the Emergency Response Plan. These management plans will be developed, reviewed, and implemented prior to the commencement of construction and decommissioning activities.

During Project operation, similar potential accidents and malfunctions, including accidental release of deleterious substances, accidental failure of stormwater and/or erosion and sediment control measures, and transportation incidents, could also occur. The potential accidents and malfunctions during Project operation will be managed through design according to the Ministry's and other applicable standards, including design for natural hazards and the potential effects of climate change (Section 12), and through implementation of quality assurance/quality control, a Maintenance Plan, Spill Prevention and Response Plan, Emergency Response Plan, and other operational procedures in accordance with applicable provincial and federal requirements and guidelines.

Implementation of effective Project design and management specifications and mitigation measures is expected to minimize the likelihood and avoid or reduce the consequence of potential accidents and malfunctions. With the implementation of risk mitigation, the potential risks associated with potential Project-related accidents or malfunctions are expected to be low and will be confirmed during the Project's application development phase. The accident and malfunction assessment in the EAC Application will identify specific Project-related accident and malfunction scenarios along with their associated mitigation (including prevention and contingency response plan requirements). The assessment will evaluate the risks associated with each potential accident or malfunction scenario by examining the likelihood of an incident and the consequences of the incident to each relevant VC and Indigenous interests. The results of the

risk-based assessment of potential accidents and malfunctions and feedback from Indigenous nations, technical advisors, stakeholders, and the public through the environmental assessment process will be used, as applicable, to inform the Project's detailed engineering design and development of relevant management plans and procedures. Information on the potential Project-related accidents and malfunctions and overview of the risk mitigation will be included as part of the sharing or Project information through early engagement. The Proponent expects that any additional issues related to the potential accidents and malfunctions identified through early engagement, along with the path for potential resolution, will be considered, as applicable, in the Readiness Decision and the development of the AIR for the Project.

The Proponent has initiated an Indigenous Marine Users Group (IMUG) in consultation with Indigenous nations. The purpose of the IMUG is to support consultation on planned Project activities and impacts to Indigenous interests. The Proponent will use the IMUG as well as one-to-one meetings with Indigenous nations to support understanding of public and environmental safety risks and mitigations with the Project. The Proponent will also engage with Indigenous nations on an incident communication protocol to facilitate information sharing in the event of a public or environmental safety incident.

Section 14.3.2 provides a summary of the Proponent's ongoing and planned engagement activities is to ensure government and regional authorities, the public, and other interested parties are informed about the Project.

Table 11-1 summarizes topics related to accidents and malfunctions that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD. Table 11-1 summarizes topics related to accidents and malfunctions that were raised during early engagement with Indigenous nations, technical advisors, stakeholders, and the public. The table also summarizes how the issues raised were addressed and how the information provided was used to adapt existing conditions programs and any resulting changes to the DPD.

Table 11-1: Summary of Topics Related to Accidents and Malfunctions Arising from Early Engagement

Group Engaged	Issue Raised / Information Received	Relevant Changes to the DPD	How the Issue Has Been or Will Be Addressed
Local Government			
City of Delta	Please list all concerns from the emergency responder meeting: request for repeater mid-tunnel for emergency communications, access to CCTV footage, if emergency vehicles can use MUP for access, request for turnarounds on either side of the tunnel, request to have hydrants located close to the entrances of the tunnel	These concerns have been included Section 11, Accidents and Malfunctions.	DPD has been updated.
City of Richmond	Need more information on location and design of MUP and how CPTED and security issues for users will be addressed	The DPD has been updated in Section 14.3.2 to mention the purpose of this group in the design and safety of the MUP.	The Project has established a Tunnel Design and Safety Consultation Group where issues relating to emergency response, safety, and security will be addressed with First Responder and municipal entities.
Metro Vancouver	The tunnel ROW has traditionally served as an emergency access route to the more remote areas of the park (i.e., for ambulance and fire service).	An infrastructure and services assessment will be completed as part of the EAC Application to identify potential Project effects on emergency service transportation and route access. This detail has been added in section 10.3.4 of the DPD.	See adjacent column.

CCTV = closed circuit television; MUP = multi-use path; CPTED = Crime Prevention through Environmental Design, ROW = right of way; EAC = Environmental Assessment Certificate

12 EFFECTS OF THE ENVIRONMENT ON THE PROJECT

As required in Section 25(2)(j) of the BCEAA, the Project environmental assessment will include an assessment of potential changes to the Project that may be caused by the environment.

Potential effects of the environment on projects are typically a function of design and risks of natural hazards within any given Project area and are typically mitigated through engineering design, regulatory requirements, industry standards, and best management practices.

Potential effects of the environment on the Project could result in increased structural loading on infrastructure, construction delays, loss of infrastructure use, and increased cost to maintain/repair infrastructure. Effects of the environment on the Project may be considerable or minor. Considerable effects of the environment result in substantial delays, long-term interruptions in service, damage to infrastructure that poses a public health or environmental risk, or damage that is not technically or economically feasible to repair. Minor effects of the environment typically result in short-term delays to construction or service and marginal increases to costs.

Environmental factors that could lead to environmental effects to the new ITT and associated infrastructure include the following:

- climate change
    - more frequent extreme weather conditions and overall higher precipitation and temperatures
    - extended heavy rain events and rain on snow events could lead to higher river flows and flooding and increases in debris
    - earlier peak spring flow and other potential hydrological changes, which could change riverbed sediment and affect stability
    - sea-level rise
- natural hazards
    - seismic events and tsunamis
    - fire
    - extreme weather events
- sediment/riverbed stability (e.g., erosion and scour)

The Project will be designed and constructed in accordance with federal and provincial standards to minimize potential effects of the environment during construction and on the infrastructure. In anticipation of climate change, including the effects of extreme weather conditions, the Project will include design parameters that reflect the predicted increases in the severity and variability of weather conditions and the resultant alterations in terrestrial and marine dynamics. Increased temperatures and rising sea levels are the most likely climate change parameters to potentially affect the Project.

13 INDIGENOUS NATION INTERESTS

The following sections describe the Proponent's engagement with Indigenous nations and the context for the proposed Project in relation to preliminary interests and concerns identified by each Indigenous nation.

13.1 IDENTIFIED INDIGENOUS NATIONS

Using the Province's Consultative Areas Database, the Proponent identified 16 Indigenous nations with consultation areas that overlap with the Project footprint and with a reasonable possibility for the Indigenous nation or their rights under Section 35 of the *Constitution Act, 1982* to be affected by Project-related direct or indirect effects.

On April 14, 2022, the EAO notified 24 Indigenous nations regarding the approval of the IPD and the Engagement Plan and the start of the Early Engagement Phase. Within 80 days of this notification, Indigenous nations have the opportunity to communicate to the EAO the intent to participate in the Project's environmental assessment. A participating Indigenous nation is afforded specific procedural rights within the BCEAA, including access to capacity funding, consensus seeking processes, a procedure to communicate consent or withhold consent at specific decision points, an option to undertake an Indigenous-led assessment, and access to facilitated dispute resolution. All 24 Indigenous nations will be consulted as part of the Crown's duty to consult, regardless of participation status.

The EAO's Summary of Engagement (EAO 2022, dated July 11, 2022) listed 10 Indigenous nations who notified the EAO of an interest in being participating Indigenous nations pursuant to Section 14 of BCEAA. Since July 11, 2022, an additional nation has been identified as a participating Indigenous nation by the EAO. The list of participating Indigenous nations at the time of submission of the final DPD includes the following:

- Kwantlen First Nation
- Leq'á:mel First Nation
- xʷməθkʷəy̓əm (Musqueam Indian Band)
- People of the River Referrals Office on behalf of the S'ólh Temexw Stewardship Alliance
- Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Spune'luxutth (Penelakut Tribe) and Stz'uminus First Nation)
- Snuneymuxw First Nation
- Sq'éwqel (Seabird Island First Nation)
- WJOŁEŁP (Tsartlip First Nation)
- SȾÁUTW̱ (Tsawout First Nation)
- sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation)
- səlilwətaɬ (Tsleil-Waututh Nation)

The Proponent has been engaging with the following Indigenous nations, who have not notified the EAO of their intent to be participating Indigenous nations:

- q̓iċəy̓ (Katzie First Nation)
- Matsqui First Nation
- Pauquachin First Nation
- Semiahmoo First Nation
- Shxw'ow'hamel First Nation (now representant as part of People of the River Referrals Office)
- Tseycum First Nation
- Ts'uubaa-asatx First Nation

kʷikʷəƛ̓əm (Kwikwetlem) First Nation, Sḵwx̱wú7mesh Úxwumixw (Squamish Nation), and Popkum First Nation confirmed to the EAO that they will not be a participating Indigenous nation for the Project. The Proponent will keep these Indigenous nations informed as the Project continues forward and welcomes their engagement at any time. Section 13.2 provides a summary of engagement to date. Attachment 5 provides a summary of consultation from the Proponent's engagement with Indigenous nations on the Project and Attachment 6 provides maps of the territories and/or consultation areas of the Indigenous nations.

13.2 HOW INDIGENOUS NATION FEEDBACK INFORMED CHANGES TO THE DETAILED PROJECT DESCRIPTION

The following section provides a summary of engagement that has been conducted to date, including prior to the initiation of Early Engagement. This section also highlights changes made to the DPD from feedback received on the IPD.

13.2.1 Proponent-Led Pre-Early Engagement on the Draft Initial Project Description

From Project announcement in August 2021 to the Early Engagement Phase in April 2022, the Proponent conducted engagement activities with the identified Indigenous nations listed in Section 13.1 This phase of engagement is being referred to as "Pre-Early Engagement."

Beginning in August 2021, Indigenous nations were sent email invitations to attend an introductory engagement meeting to discuss the Project and explore their initial interests. From August to November 2021, the Proponent met with 11 Indigenous nations and made efforts to engage with those who did not respond to invitations. On November 15, 2021, Project introduction referral packages were sent to those nations represented by the S'ólh Téméxw Stewardship Alliance, Seabird Island, and Shxw'ōwhámél First Nation. In November and early December 2021, the Proponent shared the draft Engagement Plan and draft IPD and requested feedback on the draft Engagement Plan by January 15, 2022, and on the draft IPD

by February 3, 2022. A revised draft IPD was shared with Indigenous nations in February 2022 accompanied with a document for each Indigenous nation that summarized their comments on the draft IPD and a response to comments or notification where their comments were captured in the draft IPD. Indigenous nation's feedback on the IPD and Engagement Plan is included in Attachment 4A. Many Indigenous nations provided input to the draft IPD, and this input was reflected in the final IPD submitted to the EAO and is available on the EAO's Project Information Centre site.[6]

Pre-Early Engagement focused on developing a shared understanding and processes for communications, information-sharing, and the regulatory review process. The Proponent engaged Indigenous nations regarding Indigenous knowledge; Indigenous nations' decision-making processes; and frameworks, consent procedures, capacity support, and other topics to support productive and respectful working relationships. This includes discussions about interests and issues raised during the environmental assessment of the previous 10-lane bridge project to understand what is relevant to carry forward to the present Project. The Proponent's engagement plans and activities are intended to build upon, and will be informed by, feedback and learnings from the previous 10-lane bridge project since 2013.

[6] https://projects.eao.gov.bc.ca/api/public/document/6254494d515e3a002258c634/download/FRTP-TIC-PM-ENV-R220407%20FINAL%20Initial%20Project%20Description_V3.2.pdf

Table 13.2.1: Summary of Indigenous Nations Key Issues Heard during Pre-Early Engagement

Issues Raised	Indigenous Nation(s)	Proponent Response
Potential effects of the Project on fish and fish habitat, including migratory habitats and shoreline habitats near the Project area.	• Kwantlen First Nation • Musqueam Indian Band • Quw'ustun Nation • Snuneymuxw First Nation • Tsawwassen First Nation • Ts'uubaa-asatx	The program has been planned in consideration of the least-risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's Fish and Fish Habitat existing conditions studies will inform the Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting and cultural rights as they pertain to fish timing windows, as well as any potential impacts to fish and fish habitat. In response to a follow-up comment related to this issue, Section 5.4 has been updated to provide additional information on least-risk timing windows.
Potential effects of the Project on culturally important plants and animals, including migratory birds and medicinal and edible plants.	• Musqueam Indian Band • Tsawwassen First Nation • Ts'uubaa-asatx	The Proponent is committed to working with Indigenous nations to identify culturally important elements. The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment.
Potential effects on access to Indigenous fishing and other Aboriginal Rights and Interests during the construction phase and investigative stages, including access to traditional lands.	• Kwantlen First Nation • Musqueam Indian Band • Quw'ustun Nation • Snuneymuxw First Nation • Tsawwassen First Nation • Ts'uubaa-asatx •	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous fishing and other Aboriginal or Treaty rights and interests. In response to feedback from Indigenous Nations, eDNA surveys for Eulachon to delineate timing of early runs near the Existing Tunnel were completed in early 2022. Building on the results of early 2022 surveys, additional eDNA surveys are being conducted in late 2022/early 2023.
Potential effects on cultural continuity (ability to practice cultural activities and knowledge transfer) related to access limitations during the construction phase.	• Kwantlen First Nation • Musqueam Indian Band • Quw'ustun Nation	The Proponent is consulting with nations on how best to incorporate culture, cultural transmission, and cultural practices into the assessment including whether to include within VC selection.

Issues Raised	Indigenous Nation(s)	Proponent Response
Potential effects from noise and light pollution on wildlife, including marine mammals, human health, and cultural practices and uses at and near the Project area.	• Musqueam Indian Band	The environmental assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment. It is anticipated that this will include effects of noise and light on marine mammals, human health, and cultural practices.
Cumulative effects related to the Project through construction.	• Kwantlen First Nation • Musqueam Indian Band • Snuneymuxw First • Tsawwassen First Nation	A cumulative effects assessment will be included as part of the environmental assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing condition studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal environmental assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal environmental assessment • feedback from other parties, including regulatory agencies, stakeholders, and the public
Use of present-day existing conditions for assessments rather than historical or pre-contact conditions to characterize baseline conditions.	• Kwantlen First Nation • Musqueam Indian Band • Quw'ustun Nation	Boundaries for each of the VCs will include appropriate spatial and temporal scopes. The Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct Indigenous-led assessments.
Concern regarding potential effects to environment resulting from decommissioning the Existing Tunnel.	• Musqueam Indian Band • Tsawwassen First Nation	Decommissioning the Existing Tunnel is part of the Project and therefore the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component. The Proponent will work with Indigenous nations regarding the decommissioning of the Existing Tunnel.

Issues Raised	Indigenous Nation(s)	Proponent Response
Indigenous knowledge should not be interpreted by the Proponent; rather, Indigenous knowledge needs to be provided context and meaning by participating Indigenous nations through dialogue.	• Kwantlen First Nation • Musqueam Indian Band	The Proponent's approach to engaging Indigenous knowledge holders will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (BC EAO 2020c). When provided and identified by Indigenous knowledge holders as appropriate, the Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration. Indigenous knowledge remains the property of Indigenous knowledge holders.
Sufficient timelines should be provided to Indigenous nations to review Project-related materials.	• Musqueam Indian Band • Quw'ustun Nation	The Proponent has and will continue to work collaboratively with Indigenous nations regarding review timelines that are reasonable.
Sufficient capacity support should be provided to Indigenous nations to participate in all aspects and phases of the Project.	• Shxw'ōwhámél • Quw'ustun Nation	The Proponent is committed to achieving capacity support agreements with participating Indigenous nations to support their participation in the environmental assessment and other initiatives related to identifying and assessing potential Project-related impacts on aboriginal or Treaty rights.

EAO = British Columbia Environmental Assessment Office; VC = valued component; eDNA = environmental deoxyribonucleic acid; EAC = Environmental Assessment Certificate.

13.2.2 Engagement and Feedback during Early Engagement on the Initial Project Description and Draft Detailed Project Description

With the acceptance of the IPD by the EAO on April 11, 2022, the Early Engagement Phase for the Project was initiated. During this phase of the process, the EAO sought:

- confirmation from Indigenous nations regarding their involvement in the environmental assessment process for the Project, including as a participating Indigenous nation
- feedback from Indigenous nations regarding their governance and a preliminary description of interests and related potential Project interactions or impacts
- feedback from Indigenous nations on the IPD
- feedback from technical advisors, including Indigenous nations, on the IPD

On July 11, 2022, the EAO provided the Proponent with its Summary of Engagement (EAO 2022), which reflects the issues raised through comments received from the public, Indigenous nations, and technical advisors (provincial ministries, health authorities, and local governments) during the Early Engagement public comment and engagement period.

Concurrent to EAO-led consultation activities, the Proponent continued to engage with Indigenous nations on the Project in the following ways:

1) Review of existing conditions workplans

The Proponent first shared a draft list of proposed existing conditions studies in February 2022 for discussion purposes. In March 2022 the Proponent shared with Indigenous nations the proposed detailed existing conditions workplans for review and comment. In addition to individual meetings with Indigenous nations, in April 2022 the Project hosted several workshops for all Indigenous nations to review the existing conditions workplans with Proponent topic specialists. The existing conditions workplans were revised to reflect Indigenous nations' feedback.

As part of the existing condition workplans, the Proponent also shared preliminary thinking on VC selection as the basis for several existing condition studies and sought feedback from Indigenous nations.

2) Indigenous Marine Users Group meeting

The first IMUG meeting was held in July 2022 and was attended by representatives of 11 Indigenous nations. The focus of the first IMUG meeting was to discuss the purpose and intent of the IMUG as a forum to engage on topics related to the marine environment and marine use. The group setting provides a benefit to participants through hearing questions posed by a variety of different individuals with different experiences and responses. A second IMUG meeting was held in September 2022 and was attended by representatives of eight Indigenous nations. In this meeting, Indigenous nations were given an opportunity to share their thoughts on the purpose and intent of the IMUG.

A third IMUG meeting is scheduled for the end of November 2022. The Proponent will continue to engage on temporary moorage and seek input on the site, past and present use of the location, and other topics of interest to nation representatives. The IMUG will continue to be a fixture of the Project's engagement moving forward. The Proponent offers follow-up sessions or one-on-one discussions for those Indigenous nations that are unable to attend IMUG meetings.

3) Regularly occurring meetings

The Proponent has many regularly occurring meetings with Indigenous nations to discuss the Project. Generally, the format of these meetings includes reviewing the status of actions and tasks from previous meetings, members of the Project team providing Project information through a variety of mediums, providing Indigenous nations the opportunity to ask questions and give feedback and views, and when required inviting experts to attend to provide expertise on specific topics. Each meeting's key discussion topics and actions are recorded and shared with all meeting attendees, as well as shared to the SharePoint site the Project has set up for document sharing with Indigenous nations. These meetings are held on a regular basis or may be requested at any time by the Proponent or Indigenous nations to discuss specific topics.

4) Sharing of the Project Reference Concept Design

A key focus of the regular meetings through the Early Engagement Phase has been the Reference Concept Design. In May 2022, the Proponent shared the Project's Reference Concept Design for review and comment. Reviewing the Reference Concept Design has been a focus of meetings with Indigenous nations and engagement on the Reference Concept Design is ongoing.

5) Sharing of draft Detailed Project Description

All nations identified in the EAO's Summary of Engagement (EAO 2022, dated July 11, 2022) were invited to review and comment on a draft DPD shared in August 2022 prior to submission of the final DPD.

6) Presentation of proposed construction methodology visuals

To facilitate understanding and meaningful engagement on the DPD, the Proponent prepared visual representations of proposed construction methods. The visuals included the types of methods and machinery that may be employed, spatial representations of work areas and potential interactions with river traffic. The visuals were shared with Indigenous nations at an information session in September 2022. For those Indigenous Nations that were unable to attend, follow-up sessions or one-on-one discussions are provided.

Through both EAO-led and Proponent-led consultation and engagement activities during Early Engagement, feedback that was received by Indigenous nations has resulted in changes to both Project design or construction activities, reflected in the DPD, or to other information provided throughout the DPD. Feedback that was received during Early Engagement that directly influenced an edit to the DPD is captured in Table 13.2-2 and a complete list of comments received from Indigenous nations can be found in Attachment 4A.

In addition, the following key Project study, design, or construction activity changes have been made as a result of feedback from Indigenous nations:

- The Project team identified candidate sites based on the physical requirements of the temporary moorage location. With input from Indigenous nations, Steveston Island was identified as the best option (Table 5.2-1, Table 5.2-3, and Section 5.7.3).
- The casting basins for the construction of the tunnel elements have been located within the tunnel approaches (Table 5.2-1, Table 5.2-3), which resulted in a reduction of the total Project footprint, including impacts to the Fraser River shoreline.
- The existing condition studies have been modified to address feedback from Indigenous nations where possible; for example, wildlife cameras were included in the existing conditions study of bats at the suggestion of an Indigenous nation.

Table 13.2.2: Summary of Feedback that Resulted in a Change to the Detailed Project Description

Source of Engagement	Feedback	Resulting Change to the DPD and Section Number
Summary of Engagement (EAO 2022)	Proponent should provide updated list of participating Indigenous nations in the DPD as the list is likely to change leading up to a Readiness Decision.	The list of participating Indigenous nations was updated in Section 13.1 of the DPD.
Summary of Engagement (EAO 2022)	The Proponent should incorporate the EAO's development of Understanding of Interests into future stages of the environmental assessment.	The Proponent updated the DPD to ensure the EAO's development of Understanding of Interests is incorporated into the next stage in the environmental assessment process, including recognition of: • past, current, and future use of the Project area and/or resources that may utilize or are located within the Project area (including potential downstream effects) • refined Project-specific interests and potential effects to Indigenous nations and/or their rights • the governance role of each Indigenous nation in the Project area (EAO 2022)
Summary of Engagement (EAO 2022)	The DPD should include the Proponent's summary of feedback and concerns raised by Indigenous nations in Early Engagement and how it has been addressed.	The DPD incorporates interests and feedback and concerns provided by Indigenous nations during Early Engagement in tables contained in Section 13.3 and Attachment 4.

Source of Engagement	Feedback	Resulting Change to the DPD and Section Number
Technical Advisor Comment Period (Snuneymuxw First Nation)	Snuneymuxw First Nation requested the inclusion of the following in the DPD: • the Memorandum of Understanding between Snuneymuxw First Nation, British Columbia, and the federal government regarding reconciliation • the Snuneymuxw First Nation Reconciliation Implementation Framework Agreement	The DPD (Section 13.3.16) includes details regarding: • the Memorandum of Understanding between Snuneymuxw First Nation, British Columbia, and the federal government regarding reconciliation • the Snuneymuxw First Nation Reconciliation Implementation Framework Agreement The Proponent is committed to work with Snuneymuxw First Nation to develop constructive arrangements and a thorough understanding of Snuneymuxw First Nation's Indigenous interests related to the Project.
Technical Advisor Comment Period (Musqueam Indian Band)	Reference to asserted rights and title of Musqueam Indian Band should be amended to state the Project is within the Treaty lands of the Musqueam Indian Band and they have established constitutional rights in the area.	Sections 13.3.9 of the DPD were changed to resolve this error and communicate Musqueam's constitutional rights in the area accurately.
Technical Advisor Comment Period (Musqueam Indian Band)	Mitigations such as communication with marine users, including distinct Indigenous marine users, should be included.	The DPD has been updated to include these additional proposed measures in Table 10.6.1.
Technical Advisor Comment Period (Musqueam Indian Band)	Inclusion of the potential Project-related effects on health (e.g., loss of cultural knowledge transfer, loss of access to traditional resources, and impacts of out of community employment) should mention Indigenous communities.	Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.5.2 (Community Health and Wellbeing). Section 13.3 of the DPD also includes the Proponent's preliminary understanding of Indigenous interests.
Technical Advisor Comment Period (Tsawwassen First Nation)	Clarity is needed to describe that Tsawwassen First Nation has a Treaty right to harvest fish in the Fraser River, including the Project area. It is important to avoid additional, cumulative harm, to fish stocks and their habitat.	This interest is reflected in Section 10.1.10 Fish and Fish Habitat as well as within Section 13.3.21 for Tsawwassen's Treaty right to harvest fish.

Source of Engagement	Feedback	Resulting Change to the DPD and Section Number
Technical Advisor Comment Period (Snuneymuxw First Nation, Ts'uubaa-asatx, Seabird Island Band)	Provide additional detail as to the types of employment and training opportunities related to the Project that will be available for Indigenous nations.	The DPD describes in Section 10.2, based on the current Project design information, the expected number of jobs during construction and operations and the share of the workforce that is expected to be from local communities, including Indigenous communities.
Technical Advisor Comment Period (Musqueam Indian Band, Snuneymuxw First Nation, S'ólh Téméxw Stewardship Alliance, Ts'uubaa-asatx)	Clarity to be provided on the history of engagement on past projects.	The DPD Section 13.2.1 clarifies the description of Indigenous nation engagement on past projects.
DPD comments (Ts'uubaa-asatx)	Ts'uubaa-asatx requested further emphasis on their Lower Fraser River Advocacy Policy be added.	The Advocacy Policy has been added to Section 13.3.25, as well as next steps the Proponent will take to incorporate the Policy into future Project materials. This includes comparative analysis for VC selection.
DPD comments (Musqueam Indian Band)	Musqueam provided insight regarding Indigenous use at and near the Project area.	This information was used to update Section 7.2 Past and Present Land and Water Use.
DPD comments (Musqueam Indian Band, Tsleil-Waututh Nation, Ts'uubaa-asatx, Snuneymuxw Nation, and Quw'utsun Nation)	Musqueam, Tsleil-Waututh Nation, Ts'uubaa-asatx, Snuneymuxw Nation, and Quw'utsun Nation provided comments around the adequacy of DFO windows of least risk and requested further engagement to inform understanding of least risk.	Section 5.4 of the DPD has been updated to include that specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase, in consultation with Indigenous nations, DFO, and technical advisors.

EAO = British Columbia Environmental Assessment Office; DPD = Detailed Project Description; VC = valued component; DFO = Fisheries and Oceans Canada; EAC = Environmental Assessment Certificate

The Proponent will continue to follow the preferred engagement processes and methods communicated by Indigenous nations during engagement activities. This work is ongoing, and the Proponent recognizes that additional work is required for Indigenous nations to scope the nature of their concerns.

13.3 INDIGENOUS NATIONS LANDS AND INTERESTS

Through engagement on the Project, engagement on past related projects, records from other projects under review by the EAO and federal regulators in the area, and existing relationships, the Proponent has a preliminary understanding of Indigenous interests in the Project area including fishing, transportation, hunting, trapping, gathering, and traditional ceremonies and practices that support Indigenous knowledge transfer.

Information for this section has been gathered through desktop resources, sources from other projects in the Project vicinity, the Project's Summary of Engagement report (EAO 2022), and engagement with participating Indigenous nations.

13.3.1 Cowichan Tribes

See Section 13.3.25 Quw'utsun Nation.

13.3.2 Halalt First Nation

See Section 13.3.25 Quw'utsun Nation.

13.3.3 Katzie First Nation

Katzie First Nation is a Central Coast Salish group culturally and linguistically associated with the Stó:lō; however, Katzie First Nation operates independently of the broader Stó:lō Nation in its legal and political representations. The centre of Katzie Territory is sḏéyćəyaʔɬ x̌acaʔ (the lake of the Katzie), now known as Pitt Lake. Katzie describe their Traditional Territory as "extending south from the headwaters of the Pitt River to encompass Pitt Lake, Pitt Polder, a portion of the Fraser River, and southeast to encompass the Nicomekl and Serpentine Rivers." In the east, this territory takes in Alouette Lake, Rolley Lake, portions of Fort Langley and Hazelmere, while in the west, the territory follows the height of land north along the mountain range through Pinecone-Burke Mountain Provincial Park to encompass all tributaries of the Pitt River system. Həṅḏəmiṅəṁ is the ancestral language of the Katzie. Katzie First Nation is governed by a Chief and Council with two-year terms under a custom electoral system.

The Katzie First Nation state, "[w]e trace our origins to our Ancestor θéləctən who was placed in ḏićəy̓ (Katzie) territory by the powerful benefactor Swaneset. Swaneset shaped the lands and waters so that ḏićəy̓ might care for them, and they in turn might care for ḏićəy̓. Our Ancestors tell us that the name ḏićəy̓ means 'land of the moss.' The name was given by Swaneset whose sky wife directed him to gather people together at a site on the Fraser River. She directed the people to pile up a moss called ḏićəy̓ to build the

foundation of a village site. It was at this place that the sky wife released the first of the Eulachon into the Fraser River. These Eulachon have returned to that place every year since then. This site is now known as Hammond" (Katzie First Nation 2022).

The main Katzie community resides on Katzie IR 1, on the north bank of the Fraser River, west of Port Hammond, and south of the town of Pitt Meadows. Katzie has four other reserves: Katzie IR 2, on the south bank of the Fraser River, upstream of Katzie IR 1, and opposite Port Hammond; Barnston Island IR 3, on the south shore of Barnston Island, which lies within the Fraser River; Pitt Lake IR 4, at the lower end of Pitt Lake; and Graveyard 5, the Katzie cemetery south of Lougheed Highway. Barnston Island is the closest to the Project, located 28 km northeast of the Project (Figure 1 in Attachment 6). Of 570 registered Katzie members, 315 live on reserve.

Katzie is working toward finalizing a Land Code that would apply to Katzie reserve lands pursuant to the federal Framework Agreement on First Nation Land Management and the *First Nations Land Management Act*, SC 1999, c. 24. Katzie First Nation is currently at the Agreement-in-Principle (Stage 4) in the BC Treaty Commission (BCTC 2020a) six-stage process. Within this process, Katzie First Nation has filed a Statement of Intent identifying an area described as its Traditional Territory.

13.3.3.1 Overview of Engagement Activities

The Proponent met with Katzie First Nation in September 2021 to initiate Pre-Early Engagement discussions, including a review of the Provincial environmental assessment process, engagement planning, information sharing, and capacity support. The Proponent sought to establish a capacity support agreement, establish a regular engagement schedule, and develop an understanding of Katzie's expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

The Proponent shared draft versions of the IPD and Engagement Plan (titled "George Massey Crossing Project Initial Project Description" and "George Massey Crossing Project Engagement Plan," respectively) with Katzie First Nation in early December 2021 seeking feedback on this initial version, including a summary of interests and issues since the Project announcement in August 2021. The Proponent shared updated versions of the IPD and Engagement Plan with Katzie First Nation in early 2022 and notified the Nation that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent continued to seek input from Katzie First Nation on the existing condition studies, including inviting the Nation to attend an existing conditions study workshop.

In June 2022, the Proponent shared with Katzie First Nation summary referral letters regarding the Project reference concept design. Katzie First Nation representatives were invited to participate in Project field surveys for wildlife, vegetation, and visual quality in summer 2022. Katzie First Nation was invited to review and comment on the draft DPD in August 2022.

Last, the Proponent invited Katzie First Nation to attend the Project IMUG meetings to share information and seek their participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology.

Since the September 2021 meeting with the Proponent, Katzie First Nation has not attended subsequent engagement activities and has not responded to correspondence or provide further comments related to the Project.

13.3.4 Kwantlen First Nation

Kwantlen First Nation is a Central Coast Salish group whose name translates to "tireless runner." Kwantlen First Nation's Traditional Territory extends from the watershed of the Stave River in the north to the international border in the south, taking in the northeastern part of Boundary Bay; the Serpentine, Nicomekl, and Salmon Rivers; as well as the Fraser River upstream of Tilbury Island to the Nicomen Slough, near Chilliwack. The main community, McMillan Island, located in the Fraser River north of Fort Langley and 37 km away, is the closest to the Project (Figure 2 in Attachment 6).

Kwantlen First Nation is governed by a Chief and Council under a custom electoral system. Kwantlen First Nation, while ancestrally a Həḿ q̓ əmiḿ əm speaking Nation, has been affiliated with the Stó:lō Tribal Council since 2005. Kwantlen First Nation has 269 registered members, 70 of whom live on one of six reserves, centred on the area of confluence between the Stave River and the Fraser River. Kwantlen First Nation also shares the Pekw'Xe:yles (Peckquaylis) reserve, approximately 2 km upstream of the Mission Bridge, with 20 other Stó:lō Nations. Like other members of the Stó:lō Tribal Council, Kwantlen First Nation is not currently involved in treaty negotiations; however, in March 2012, Kwantlen First Nation reached a three-year agreement with the Province on forest resource consultation and revenue-sharing.

Since 2011, the economic arm of Kwantlen First Nation has operated as Seyem' Qwantlen Business Group, representing five limited partnerships owned by the Nation, and providing services principally in the areas of contracting (construction, excavation, and earthworks), on- and off-reserve land development, and resource management (fisheries, forestry, and archaeology).

13.3.4.1 Overview of Engagement Activities

The Proponent met with Kwantlen First Nation in October 2021 to initiate Pre-Early Engagement, including a review of the Provincial environmental assessment process, engagement planning, information sharing, and capacity support. The Proponent sought to establish a capacity support agreement, establish a regular engagement schedule, and develop an understanding of Kwantlen's expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

Since these early conversations, the Proponent has met with Kwantlen monthly to discuss the Project and reach a capacity funding agreement to support Kwantlen's ongoing participation on the Project.

The Proponent shared draft versions of the IPD and Engagement Plan (titled “George Massey Crossing Project Initial Project Description” and “George Massey Crossing Project Engagement Plan,” respectively) with Kwantlen in early December 2021 seeking feedback and input, including a summary of interests and issues identified by Kwantlen since the Project announcement in August 2021. The Proponent shared updated versions of the IPD and Engagement Plan with Kwantlen in early 2022 and notified Kwantlen that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent continued to seek input from Kwantlen on the existing condition studies, including inviting Kwantlen to attend an existing conditions study workshop. Following the conclusion of the existing condition studies, reports were shared with Kwantlen. In June 2022, the Proponent shared with Kwantlen summary referral letters regarding the Project reference concept design. Kwantlen representatives were invited to participate in Project field surveys for wildlife, vegetation, and visual quality in summer 2022.

Kwantlen was invited to review and comment on the draft DPD in August 2022 and to attend the presentation of proposed construction methodology visuals. Kwantlen did not attend the group presentation on construction visuals, but the Project team delivered the same content during a nation-specific meeting. Kwantlen also attended the Project IMUG meetings.

13.3.4.2 Description of Issues That Have Been Raised

Table 13.3.1 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and the Proponent’s response describing how the feedback was addressed.

Table 13.3.1: Kwantlen First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Baseline studies should be from pre-contact rather than from when the land was disturbed.	Boundaries for each of the VCs will include appropriate spatial and temporal scopes. The Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct assessments.
Meeting	Important that Kwantlen participates in selection of independent environmental monitor to ensure they are aligned with Nations' values.	The Proponent looks forward to working with Kwantlen First Nation to learn more about their interest in the selection of an environmental monitor.
Meeting	How does *United Nations Declaration on the Rights of Indigenous Peoples and Declaration on the Rights of Indigenous Peoples Act* apply to the Project and impact engagement.	The Project is reviewable under the BCEAA, and this process provides a number of mechanisms for meaningful engagement with Indigenous nations and elements of DRIPA such as consensus and consent seeking. Kwantlen is a participating Indigenous nation and has specific procedural rights within the BCEAA, including access to capacity funding, consensus seeking processes, a procedure to communicate consent or withhold consent at specific decision points, an option to undertake an Indigenous-led assessment, and access to facilitated dispute resolution.
Meeting	Important to include rapid transit as part of Project. These projects are about efficiently moving goods in the area, but they have devastating impacts on the environment and contribute to climate change, as well as the destruction of culture that comes with the reduction in fish in the Fraser River. Need to be focused on more sustainable forms of transportation.	The eight-lane crossing with transit priority and provision for active transportation is consistent with Metro Vancouver's Regional Growth Strategy. The Proponent's technical expert attended a meeting to discuss the reasons rapid transit was not included within the scope of the Project.
Meeting	Kwantlen would like funding towards the completion of a traditional land use study.	The Proponent is looking forward to working with Kwantlen to learn more about their interest in completing a traditional land use study.

Source of Feedback	Feedback/Comment	Response
Meeting	Concern about the impact of putting stone columns into the riverbed and also concerns around turbidity and hydrology from the change to the river bottom.	Effects related to installation of the stone columns, turbidity, and changes to fish habitat as a result of changes to river hydraulics will be assessed during the environmental assessment and permitting. For instream works, reduced risk timing windows and environmental monitoring will be important in reducing impacts to fish and fish habitat.
Meeting	Concern regarding how Kwantlen's Indigenous knowledge and information is shared.	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020). When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they support this integration.
Meeting	Important that the appropriate protections with respect to air quality for users of the MUP be in place in order to encourage use and ensure safety.	The detailed list of sensitive receptors used to support the Air Quality VC assessment will be developed in the assessment phase.
Meeting	Concerned at the project's contribution to climate change. Kwantlen Nation is experiencing consequences of climate change including flood watch in the community, heat dome and lower fish returns.	As described in Section 12 of the DPD, climate change is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the environment on the Project will be assessed.
Meeting	Nation is experiencing cultural loss and community wellbeing decline due to loss of fish stocks and impacts to ability to transfer culture, language, practices. Fishing is a means to bring community together and creates purpose.	This feedback will be brought forward to assessment planning discussions particularly related to VC selection and the AIR.
Meeting	Concerned with the scale of the Project and impacts along side other proposed projects including Deltaport, Surrey docks, Pattullo, Tilbury LNG.	Existing and reasonably foreseeable future projects and activities will be identified as the Project Planning phase progresses. These projects and activities will be included in the cumulative effects assessment for the EAC Application.

Source of Feedback	Feedback/Comment	Response
Meeting	Nation is interested in establishing earlier baselines. Not just pre-contact since there was a lot of fishing even 20 years ago. Long-term baselines could extend to 30-40 years ago.	This feedback will be brought forward to assessment planning discussions particularly related to VC selection and the AIR.
Meeting	Nation would like details on how dredge material is being disposed of.	Table 5.7-2 provides an overview of potential dredged material management options. Further assessment will occur within the environmental assessment and the Proponent looks forward to receiving input from Kwantlen.
Meeting	Nation requests details about pH analysis of the river from potential effects of tunnel element immersion and interaction with concrete.	The Project recognizes that concrete construction materials are alkaline and interactions with water courses must be managed. Potential effects to water quality, including changes in pH, will be considered within the Project assessment. In addition to the construction and footprint effects in the Project area, results from the surface water quality, studies will be used to assess potential effects on fish and fish habitat. We look forward to continuing dialogue on this topic with Kwantlen.

VC = valued component; BCEAA = British Columbia *Environmental Assessment Act*; DRIPA = Declaration on the Rights of Indigenous Peoples Act; EAO = British Columbia Environmental Assessment Office; AIR = Application Information Requirements; MUP = multi-use path; ITT = immersed tube tunnel; DPD = Detailed Project Description; EAC = Environmental Assessment Certificate; LNG = liquified natural gas.

13.3.5 kʷikʷəƛ̓əm (Kwikwetlem First Nation)

The kʷikʷəƛ̓əm (Kwikwetlem) people are the First Peoples of the Coquitlam Watershed. Archaeology findings have confirmed continuous occupation of ancestral lands for at least 10,000 years, since the last ice age. The Kwikwetlem are a Coast Salish group who are a distinct group of Stó:lō peoples. The Kwikwetlem's traditional language is həńq̓əmiṅəm̓, previously Downriver Halkomelem, which is part of the Central Coast Salish family of languages. Kwikwetlem draw their name "Red Fish Up the River" from an early spring sockeye salmon run that once flourished in the Coquitlam River and Coquitlam Lake prior to the construction of the Coquitlam Dam. Elders talk of these sockeyes running so thick that it was difficult to navigate canoes. The Kwikwetlem people are descended from ancestors who were renowned spirit and winter dancers, skilled canoe builders, and master sturgeon and salmon fishers. The rich culture and history of the Kwikwetlem people is based on ancient Coast Salish laws and protocols, which granted them the responsibility to govern their territory in accordance with their customary laws (Kwikwetlem First Nation 2022a).

The Kwikwetlem Traditional Territory centres on the watershed of skʷƛ̓əmaːɬ x̌acaʔ (Coquitlam Lake), including the upper and lower skʷƛ̓əmaːɬ stál̓əẇ (Coquitlam River) and over to the east side of Pitt Lake and either side of the lower Pitt River. To the west, the territory encompasses Mossum Creek and Port Moody Inlet over to Stoney Creek, the lands of Sapperton Heights, and the Fraser River North Arm. Their southern territory extends from Barnston Island to Annacis Island and the immediate surroundings, including the portion of the Fraser uplands south of the Fraser River (Figure 3 in Attachment 6). The Kwikwetlem First Nation is governed by an elected Chief and Council (yəẇeṅ siːʔeṁ) who serve a four-year term. Kwikwetlem First Nation has a small but growing population composed of 123 members (as of July 13, 2022). Prior to settler contact, their population was much larger, estimated to be in the high hundreds to low thousands. Today, 36% of Kwikwetlem members live in the ancient village of slakəyánc ("young sockeye," Coquitlam IR 1), 41% live in Canada but outside of slakəyánc, and 23% live in the United States. Kwikwetlem has a second reserve: setɬaméḱmən ("when the tide is high we go," Coquitlam IR 2 (Kwikwetlem First Nation 2022a,b).

Kwikwetlem is not involved in the British Columbia Treaty Commission (BCTC) process (Government of BC 2021b). Kwikwetlem has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021). Kwikwetlem signed a Forest and Range Consultation and Revenue Sharing Agreement in 2019 (Government of BC 2021b).

13.3.5.1 Overview of Engagement Activities

The Proponent has sought to engage with Kwikwetlem during Pre-Early Engagement and the Early Engagement Phase to understand and incorporate any feedback related to the Project. As noted in Section 13.1, Kwikwetlem First Nation confirmed to the EAO that it will not be a participating Indigenous nation for the Project. The Proponent will keep Kwikwetlem First Nation informed as the Project continues forward and welcomes the Nation's engagement at any time.

13.3.6 Leq'á:mel First Nation

Leq'á:mel First Nation is a Coast Salish group located in Deroche, 22 km east of Mission. Leq'á:mel is a signatory to the Stó:lō Nation with approximately 420 members and is governed by Chief and Council through a Custom Election Code. Leq'á:mel, meaning the level place where people meet, was once one of the most popular trading stops in Stó:lō territory. It was also said to have been the birthplace of Halq'eméylem; the word itself stems from the dialect spoken by the Nicoamen/Leq'á:mel. Leq'á:mel was home to many of the longhouses, some recorded almost a 1 km long. Leq'á:mel sits on the borderline of the Upper/Lower river dialects of the language, hence the translation of Leq'á:mel from Nicoamen (Leq'á:mel First Nation 2022a).

The Leq'á:mel Notice of Assertion (Leq'á:mel First Nation 2022b) describes its territory as "everything above and below the land, as far as the eye can see from Leq'á:mel, south to the Nooksack River, east to the Harrison knob, northwest to the north shore of Stave Lake, southwest to the northern shores of the Alouette Lake and down the west side of Silver Creek" (Figure 4 in Attachment 6). Leq'á:mel First Nation has identified that the Project lies within its area of interest, reflected in the 2022 Strategic Engagement Agreement. Leq'á:mel First Nation also has 11 reserve lands: Aylechootlook 5, Holachten 8, Lackaway 2, Lakahahmen 11, Lakway Cemetery 3, Papekwatchin 4, Peckw'xe:yles, Skweahm 10, Sumas Cemetery, Yaalstrick 1, and Zaitscullachan 9, located in the City of Abbotsford, City of Chilliwack, Deroche, and Nicomen Island (INAC 2019). Of the 488 registered population, 143 live on reserves.

Leq'á:mel First Nation has traditional laws, as well as various laws relating to the protection, management, and regulation of Leq'á:mel lands that were passed by Leq'á:mel First Nation Council under the *Leq'á:mel First Nation Land Code*. Leq'á:mel First Nation is a member of the Stó:lō Nation umbrella organization and participates in the BC Treaty process as part of the Stó:lō Xwexwilmexw Treaty Association (BCTC 2020b). The Stó:lō Xwexwilmexw Treaty Association is currently in Stage 5 of the treaty process. In March 2022, Leq'á:mel First Nation and Matsqui First Nation signed a Strategic Engagement Agreement with the Province of BC. Leq'á:mel First Nation has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021), as well as a Forest and Range Consultation and Revenue Sharing Agreement in 2017 and signed a forest agreement in 2005.

13.3.6.1 Overview of Engagement Activities

During the Early Engagement Phase, representatives from Leq'á:mel participated in engagement activities on the Project including the Project IMUG meetings and presentation of proposed construction methodology visuals in fall 2022.

Leq'á:mel First Nation was invited to review and comment on the draft DPD in August 2022 and has been offered a capacity funding agreement to support engagement activities on the Project. The Proponent did not receive formal comments or feedback from Leq'á:mel First Nation during Early Engagement.

13.3.7 Lyackson First Nation

See Section 13.1.25. Quw'utsun Nation.

13.3.8 Matsqui First Nation

Matsqui First Nation is a Coast Salish group located in the Central Fraser Valley near the town of Abbotsford, within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. The core Traditional Territory of the Matsqui stretches along the Fraser River from Crescent Island to Sumas Mountain and southward beyond the Canada–United States border (Figure 5 in Attachment 6). The traditional language of the Matsqui is H Halq'eméylem. The Matsqui are governed by a Chief and Council with a custom electoral system. Of the 289 registered population, 113 live on reserve. Their government is the Matsqui First Nation, a member of the Stó:lō Nation Tribal Council. Matsqui First Nation has a Land Code and an Environmental Assessment Law. Matsqui First Nation has five reserves: Matsqui 4, Matsqui Main 2, Peckw'xe:yles (Peckquaylis), Sahhacum 1, and Three Islands 3 (INAC 2019). Peckw'xe:yles (Peckquaylis) is a shared reserve among 21 Stó:lō Nations.

Matsqui First Nation is one of 11 Stó:lō Nations negotiating land and resource issues outside the BC Treaty process (Government of BC 2021c). In March 2022, Leq'á:mel First Nation and Matsqui First Nation signed a Strategic Engagement Agreement with the Province of BC. Matsqui First Nation has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021).

13.3.8.1 Overview of Engagement Activities

The Proponent began meeting with Matsqui First Nation in June 2022 and is working with the Nation to establish a capacity support agreement, establish a regular engagement schedule, and develop an understanding of Matsqui First Nation's expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

During the Early Engagement Phase, the Proponent heard that Matsqui First Nation is interested in potential impacts to fish and fish habitat, as well as visual quality. In response to these comments, the Proponent sought input from Matsqui on the respective existing condition studies. Matsqui did not provide comments on existing condition studies, but the Proponent provided reports and materials to the Nation for information on both of these topics.

Matsqui was invited by the Proponent to review and comment on the draft DPD in August 2022. Matsqui attended the Project IMUG meetings and a presentation of the proposed construction methodology. Matsqui did not attend engagement activities and did not respond to correspondence or provide further comments related to the Project.

13.3.8.2 Description of Issues That Have Been Raised

Table 13.3.2 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.2: Matsqui First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Concern regarding the impact of the Project on fish and fish habitat, particularly as sturgeon are in conservation.	The Project has been planned in consideration of the least-risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The existing conditions studies on fish and fish habitat will inform the environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting, cultural and Treaty rights as they pertain to fish timing windows.
Meeting	Interested in employment opportunities on the Project.	The Proponent is looking forward to working with Matsqui to learn more about their interest in employment opportunities on the Project.
Meeting	Concern with impacts on the environment of decommissioning the current tunnel.	Decommissioning the Existing Tunnel is part of the Project and therefore the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
Meeting	Interest in learning more about seismic retrofitting of the new ITT.	The Proponent will have a detailed discussions with Matsqui to ensure Matsqui has an understanding about seismic retrofitting of the new ITT.
Meeting	Cumulative effects related to the Project through construction	A cumulative effects assessment will be included as part of the environmental assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing conditions studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • feedback from other parties including regulatory agencies, stakeholders and the public

Source of Feedback	Feedback/Comment	Response
Meeting	Nation is interested in tree salvage and who will be able to use the trees from Deas Island Park.	The Proponent is looking forward to sharing more information on this topic with Matsqui as the Project planning advances.
Meeting	Nation is interested in how the tunnel will be designed to adapt to climate change. Specifically to ensure that rising water levels do not enter the new tunnel.	As described in Section 12 of the DPD, climate change is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the environment on the Project will be assessed.
Meeting	Nation is interested in visual materials rather than just reports.	The Proponent offered workshop session to assist in review of materials. More visual materials will be developed for the Project in future.
Meeting	Nation is interested in visual quality.	The Proponent has noted this in Section 14.3.8.1 of the DPD and will seek opportunities to engage Matsqui on this topic.

EAC = Environmental Assessment Certificate; ITT = immersed tube tunnel; DPD = Detailed Project Description

13.3.9 xʷməθkʷəy̓əm (Musqueam Indian Band)

xʷməθkʷəy̓əm (“Musqueam”) are part of the regional Central Coast Salish cultural group and traditionally speak hən̓ q̓ əmiṅ əm̓, also known as the Downriver Dialect of Halkomelem, the central dialect of three ranging from the eastern shores of Vancouver Island through the Lower Fraser canyon. Their core territory is described and known to them in a matrix of over 80 place names. To Musqueam, these places are not limited to settlements (seasonal and winter), landscape features, and transformer sites but also act as store houses of knowledge for oral traditions and histories of both individuals and Musqueam society as a whole. These traditions describe a time when the Fraser River delta was only water, before its current sedimentation. Musqueam’s name xʷməθkʷəy̓əm (anglicized “Musqueam”), translates to “Place of məθkʷəy̓” and is a site on what is now Musqueam IR 2. xʷməθkʷəy̓əm signifies the məθkʷəy̓ plant, which grew throughout the Fraser River delta and tidal flats (BC EAO 2017). Figure 6 in Attachment 6 provides a map of the xʷməθkʷəy̓əm Traditional Territory.

Musqueam’s identity and livelihood are intrinsically linked to their unceded territory, their core teaching being the necessity of knowing who you are and where you come from. Musqueam assert Aboriginal Title over this territory which they note their perspective that they exercised exclusive control prior to the assertion of Crown sovereignty. This core territory of approximately 144,888 ha, as described in the 1976 Musqueam Declaration, encompasses the lands, lakes, and streams defined and included by a line commencing at Harvey Creek in Howe Sound and proceeding eastward to the height of land and continuing on the height of land around the entire watershed draining into English Bay, Burrard Inlet, and Indian Arm; south along the height of land between Coquitlam River and Brunette River to the Fraser River, across to the south or left bank of the Fraser River and proceeding downstream taking in the left Bank of the main stream and the South Arm to the sea, including all those intervening lands, islands and waters back along the sea shore to Harvey Creek, and the sea, its reefs, flats, tidal lands and islands adjacent to the above-described land and out to the centre of the Salish Sea (MIB 1976).

Musqueam is governed by a Chief and Council comprising 10 Council members (MIB 2022a). Musqueam’s main community is based at the mouth of the Fraser River North Arm, within the limits of the City of Vancouver where 682 registered members reside (Government of Canada 2022). A second reserve is located across the river from this location, on Sea Island, within the City of Richmond, while a third reserve is located in Ladner, near Canoe Pass, off the Fraser River South Arm (MIB 2022b).

The Musqueam at Canoe Pass have a recognized Aboriginal right to fish for food, social, and ceremonial purposes pursuant to the Supreme Court of Canada’s decision in R. v. Sparrow [1990], 1 S.C.R. 1075 (Supreme Court of Canada 1990). The Proponent understands the Musqueam take the view that their established right extends to areas beyond Canoe Pass. Musqueam territory was described in the Sparrow decision as “extending from the north arm of Burrard Inlet to the south shore of the main channel of the Fraser River including the waters of Burrard Inlet, the North Arm, the Middle Arm, the Main Channel, Canoe Pass (or passage) and Ladner Reach” (BC EAO 2017).

13.3.9.1 Overview of Engagement Activities

The Proponent met with Musqueam in October 2021 to initiate Pre-Early Engagement, including a review of the Provincial environmental assessment process, engagement planning, information sharing, and capacity support. The Proponent sought to establish a capacity support agreement, establish a regular engagement schedule, and develop an understanding of Musqueam's engagement preferences, including information sharing, receiving and managing Indigenous knowledge, decision-making processes, and consensus-building activities.

The Proponent has since met with Musqueam at least monthly to discuss the Project and specific topics of particular interest or importance to Musqueam and reached a capacity funding agreement to support Musqueam's ongoing participation on the Project. The Proponent continues to work with Musqueam to reach a comprehensive engagement agreement to support Musqueam's ongoing participation in the development of the Project and the environmental assessment.

The Proponent has arranged for and facilitated regular meetings with Musqueam, the Minister of Transportation, and the Mayors of Delta and Richmond regarding the Project.

The Proponent shared draft versions of the IPD and Engagement Plan (titled "George Massey Crossing Project Initial Project Description" and "George Massey Crossing Project Engagement Plan," respectively) with Musqueam in early December 2021, seeking feedback and input including a summary of interests and issues noted by Musqueam since the Project announcement in August 2021. The Proponent shared updated versions of the IPD and Engagement Plan with Musqueam in early 2022 including tables listing Musqueam's feedback on the IPD and Engagement Plan and responses to each comment, including where the IPD and Engagement Plan were revised in response to Musqueam's input.

During the Early Engagement Phase, the Proponent has engaged in regular, two-way dialogue on various Project or environmental assessment aspects including the following:

- reference concept
- treatment of Indigenous knowledge
- potential Project impacts to Musqueam interests including fishing, culture and community wellbeing
- monitoring opportunities
- existing conditions workplan
- temporary moorage location
- marine communications protocol
- Musqueam-led study on Lower Fraser Salmon to inform the existing conditions information.

Musqueam representatives also attended the Project IMUG meetings and the presentation of proposed construction methodology visuals in fall 2022.

13.3.9.2 Description of Issues That Have Been Raised

Table 13.3.3 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.3: Musqueam-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Musqueam expressed frustration with process on major projects in the past.	The Proponent is committed to working with Musqueam to develop a thorough understanding of the frustration experienced in past major projects so they may be mitigated in this Project.
Meeting	Musqueam expressed concern regarding the Crown encroaching on Musqueam territory.	The Proponent looks forward to discussing this in greater detail with Musqueam to gain a better understanding of nation concerns.
Meeting	Musqueam expressed concern regarding the impacts of the Project on fish and fish habitat.	The program has been planned in consideration of the least-risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's existing conditions studies on fish and fish habitat will inform Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting and cultural and aboriginal rights as they pertain to fish timing windows, as well as any potential impacts to fish and fish habitat. In response to a follow-up comment related to this issue, Section 5.4 has been updated to provide additional information on least-risk timing windows.
Meeting	Decommissioning of tunnel is of significant concern as fish have acclimatized to the Existing Tunnel. Want to ensure impacts to fish are minimized.	Decommissioning the Existing Tunnel is part of the Project and therefore the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
Meeting	Musqueam expressed they felt a practice should be put in place to pause consultation and engagement when there is a need to address concerns internally. The Project should be able to delay or stop the process.	The Proponent will support Musqueam when there is a need to have internal discussions and ensure Musqueam remains well informed should consultation need to temporarily pause.
Meeting	Concern that a baseline study has become the priority of the Proponent. These studies are lacking in rigor and of little use to Musqueam.	Boundaries for each of the VCs will include appropriate spatial and temporal scopes. The Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct assessments.

Source of Feedback	Feedback/Comment	Response
Meeting	Concern regarding revitalizing area around Deas Island and the bare minimum carried out by the builder.	The Proponent is committed to working with Musqueam to develop a thorough understanding of this concern and looks forward to discussions regarding Musqueam's thoughts on the revitalization of Deas Island.
Meeting	Important that cumulative effects are considered as part of the Project. Be creative and flexible in this.	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing conditions studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • feedback from regulatory agencies, stakeholders and the public
Meeting	It is important that the Proponent have understanding and acceptance of the limitations of western science.	The Proponent looks forward to discussing this in greater detail with Musqueam to gain a better understanding of nation concerns.
Meeting	Indigenous knowledge should not be interpreted by the Proponent; rather, Indigenous knowledge needs to be provided context and meaning by participating Indigenous nations through dialogue.	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's *Guide to Indigenous Knowledge in Environmental Assessments* (April 2020). When provided, the Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration.

Source of Feedback	Feedback/Comment	Response
Email (WSA permit application)	As discussed, given the location of the Project and the in-river work, it will be critical to ensure that mitigations are in-place to minimize impacts to Musqueam's use and rights-based activities in the area. Musqueam looks forward to further discussions regarding coordination over the coming weeks.	The Proponent has formed an IMUG to understand and manage potential interferences during construction of the Project. The IMUG is intended to communicate Project updates, communicate navigation safety restrictions, and implement mitigation measures. In addition, we look forward to further discussions with Musqueam regarding a marine communications protocol and exploring mitigation measures to impacts on rights and title.
EAO's Summary of Engagement	Musqueam's territory is depicted in the Musqueam Statement of Intent, filed with the British Columbia Treaty Commission in 1993. Musqueam shared that it has a proven right to fish for food, social, and ceremonial purposes in the waters of the Fraser River Delta where the proposed Project is located.	The Proponent confirms they are aware of Musqueam Statement of Intent and looks forward to continued dialogue to ensure Musqueam's interests are reflected in the Project.
EAO's Summary of Engagement	Concerns in regard to rights and title to cause significant impacts.	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous rights and title.
EAO's Summary of Engagement	• Anticipated effects to fish and fish habitat that could impact fishing rights that may threaten food, social, and ceremonial needs. • Loss of fish or access to fish resources which may cause economic impacts to Musqueam harvesters. • Concern of potential impacts to sturgeon (species at risk).	The program has been planned in consideration of the least-risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's Fish and Fish Habitat existing conditions studies will inform the Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting and cultural rights as they pertain to fish timing windows, as well as any potential impacts to fish and fish habitat. In response to a follow-up comment related to this issue, Section 5.4 has been updated to provide additional information on least-risk timing windows. The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous fishing and other rights and interests.

Source of Feedback	Feedback/Comment	Response
EAO's Summary of Engagement	Concern regarding the location of the Project as it relates to Musqueam sense of place and identity.	The Proponent looks forward to learning more about how the Project may impact Musqueam's sense of place and identity.
EAO's Summary of Engagement	Potential impacts to cultural continuity and heritage.	The Community Health and Wellbeing assessment in the EAC Application will address potential Project-related health effects identified and information provided by Indigenous nations. Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.5.2, Community Health and Wellbeing.
EAO's Summary of Engagement	Concern of possible impacts to health including stressors from air, dust, and GHG emissions, noise from construction and loss of access to traditional foods and impacts to sense of place and identity.	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment. It is anticipated that this will including effects of noise and light on marine mammals, human health, and cultural practices.
EAO's Summary of Engagement	Cumulative effects from historical colonial developments and simultaneously proposed projects in Musqueam Territory.	A cumulative effects assessment will be included as part of the environmental assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing conditions studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • feedback from regulatory agencies, stakeholders, and the public
EAO's Summary of Engagement	Potential impacts to constitutionally protected Section 35 rights.	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous rights and interests.

Source of Feedback	Feedback/Comment	Response
EAO's Summary of Engagement	Construction equipment and increased vessel traffic may impact traditional fishing practices.	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous fishing and other rights and interests.
EAO's Summary of Engagement	Sacred and spiritually relevant sites located in Deas Slough and the surrounding area.	The Visual Quality Assessment in the EAC Application will capture sacred and spiritually relevant sites in the Project area. Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.3.3.
EAO's Summary of Engagement	Increased psychological and emotional stress from uncertainty over Project effects (e.g., reduced safety from marine traffic, disruptions to fishing, accident, and spill potential).	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment.
EAO's Summary of Engagement	Potential of increased interruptions to knowledge transmission and lost opportunities to transmit knowledge due to the loss of access and quality of access to the area.	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the reduce loss of opportunities to transmit knowledge.
EAO's Summary of Engagement	Potential Project interactions on birds and bird behaviour from sensory disturbances such as light, noise, and construction activities.	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment. It is anticipated that this will include the effects of noise and light on birds and bird behaviour.
EAO's Summary of Engagement	Health impacts from the loss of access to traditional plants for food and medicine and reduction in quality of plants that remain.	The Proponent is committed to working with Indigenous nations to identify culturally important elements. The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment.
Meeting	Nation is interested in further discussions on remediation and offsetting in the context of temporary moorage location.	Consultation is ongoing with regards to the temporary moorage site. The proponent looks forward to working with Musqueam on this topic.
Meeting	Nation requests opportunity to review Attachment 4 for level of detail.	The Proponent is committed to working with Musqueam to ensure the level of detail in documents reflects the Nation's direction.

Source of Feedback	Feedback/Comment	Response
DPD comments	Nation submitted comments on the DPD.	The Proponent responded to Musqueam comments and incorporated into the DPD where appropriate. See Attachment 4.

EAC = Environmental Assessment Certificate; VC = valued component; EAO = British Columbia Environmental Assessment Office; IMUG = Indigenous Marine Users Group; WSA = *Water Sustainability Act*; DPD = Detailed Project Description.

13.3.10 Penelakut Tribe

See Section 13.3.25 Quw'utusun Nation.

13.3.11 Pauquachin First Nation

The community of Pauquachin, a name generally meaning "the land of cliffs and bluffs," is located on Southern Vancouver Island. Pauquachin was originally part of the W̱SÁNEĆ (Saanich) Nation, which also includes Tsawout, Tsartlip, and Tseycum. These nations share a common history and territory. The W̱SÁNEĆ Nation belongs to a broader cultural group known as Central Coast Salish. W̱SÁNEĆ Nation settlements have been mostly concentrated on the western side of the Saanich Peninsula. The population in Pauquachin began as a small group of 14 families and many of these families are still present today (Pauquachin First Nation 2020). Historically, Pauquachin's economic life was based on salt-water adaptation due to the community's location on the Saanich Peninsula. W̱SÁNEĆ people developed a reef-netting technology to gather their food, which was unique to their cultural area. In the Pauquachin community, the two traditional languages that are spoken and written are Hul'q'umi'num and SENĆOŦEN (Pauquachin First Nation 2020). Pauquachin First Nation has recently signed into the *First Nation Election Act*. Pauquachin First Nation currently has a Chief leading four Councillors (Pauquachin First Nation 2020).

Pauquachin First Nation has three reserves: Cole Bay 3, Goldstream 13, and Hatch Point 12 (INAC 2019). All on-reserve Pauquachin members reside in Cole Bay 3, which is located on the shores of Coles Bay in the Saanich Inlet. Goldstream 13, located at the end of the Saanich Inlet, is a shared reserve with Malahat First Nation, Tsartlip First Nation, Tsawout First Nation, and Tseycum First Nation. Pauquachin First Nation's reserves were established as part of Douglas Treaties, a colonial policy that recognized Indigenous possession of land (Pauquachin First Nation 2020). Pauquachin First Nation is not involved in the modern BCTC process (Government of BC 2021d). Pauquachin First Nation has not signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021). The Nation is in the process of confirming funding for a Land Code and will be working on a Land Use Plan (Pauquachin First Nation 2020).

Figure 7 in Attachment 6 provides a map of Pauquachin First Nation Traditional Territory.

13.3.11.1 Overview of Engagement Activities

During the Early Engagement Phase, the Proponent requested to meet with Pauquachin First Nation regarding the Project and to understand Pauquachin interest in the environmental assessment process. Pauquachin was also invited to review and comment on the draft DPD in August 2022.

The Proponent invited Pauquachin to attend the Project IMUG meetings to share information and seek Pauquachin's participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology.

Pauquachin did not attend engagement activities and did not respond to correspondence or provide further comments related to the Project.

13.3.12 Quw'utsun Nation

The Quw'utsun Nation descendent communities are Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribes, and Stz'uminus First Nation. Each community is represented by their Chiefs and Councils, which are descendants of the 11 communities or local groups that made up the historical Quw'utsun Nation, who were an Aboriginal people and who existed at the time of European contact in 1846. The Quw'utsun Nation and the Province are building a collaborative government-to-government relationship to advance reconciliation, build understanding and shared opportunities, and support the co-operative resolution of disputes; the two parties signed a government-to-government agreement in September 2021 (Cowichan Nation and Government of BC 2021).

The Hul'qumi'num Treaty Group represents five communities (Cowichan Tribes, Halalt, Lyackson, Ts'uubaa-asatx, and Penelakut) and are in Stage 5 (Negotiation to Finalize a Treaty) of the Treaty Process. In 2019, the Hul'qumi'num Treaty Group Transition to Stage 5 and Treaty Revitalization Agreement was signed (BCTC 2021). The Traditional Territory of the Hul'qumi'num Treaty Group members generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca, and the Fraser River up to Yale. Island Halkomelem speaking groups traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a seasonal round. The Hul'qumi'num Treaty Group member bands collectively assert a core territory or "title lands" and a wider marine or fishing territory, as described in its Statement of Intent to the BCTC. Core areas include but are not limited to "the Fraser River South Arm, including Canoe Pass, up to and including Douglas Island, with lands on the north shore of the south arm up to Sapperton Channel (New Westminster), the islands in the Fraser River South Arm and the south bank of the Fraser River along Canoe Pass up to Deas Island" (BCTC 2020d).

Locations of importance to Quw'utsun Nation members along the Fraser River South Arm in the vicinity of the Project include but are not limited to Tl'uqtinus, spanning the north shore from approximately Tilbury Island and downstream towards opposite Deas Island, and Hwlhits'um or Xwulit'sum, on Canoe Pass. Both of these areas are considered by Quw'utsun Nation members, including Halalt First Nation, as ancestral village and resource sites. Quw'utsun Nation is working to re-establish a permanent land base at Tl'uqtinus for residential and/or commercial purposes (Candace Charlie 2019).

In its letter of intent to the EAO regarding the Project, Quw'utsun Nation has shared that the descendent communities hold inherent jurisdiction over the Project area as the controlling Indigenous nation over that area at all relevant times (precontact, at time of contact, and through well beyond 1846). The letter further described that "[t]hrough the illegal colonial dispossession of our lands, the descendant communities of the Quw'utsun Nation have been unlawfully denied the ability to exercise that jurisdiction in the recent of the Project area for the future directive from our Creator to protect the lands, waters and resources of the Project area for the future generations, in accordance with our Indigenous laws." The Quw'utsun Nation has shared that it has an inherent governance role in the Project area that pre-dates the arrival of Europeans and continues to exist in its entirety. Quw'utsun Nation also shared that its interests in the Project area include, but are not limited to the following:

- Indigenous rights to protect archaeological and historical sites and artifacts (UNDRIP Article 11).
- Indigenous rights to maintain, protect and have access to cultural sites (UNDRIP Article 12).
- Indigenous rights to revitalize, develop and transmit to future generations histories, oral traditions and place names relating to the Project area (UNDRIP Article 13(1)).
- Indigenous rights to participate in decision-making in matters which would affect rights in the Project area, through representatives chosen by ourselves (UNDRIP Article 18).
- Indigenous rights to be secure in the enjoyment of own means subsistence and to engage freely in all traditional and other economic activities, and to just and fair redress if we are deprived of the same (UNDRIP Articles 20(1) and (2)).
- Indigenous rights to improve social and economic conditions (UNDRIP Article 21(1)).
- Indigenous rights to traditional medicines and to maintain our health practices, including the conservation of our medicinal plants, animals and minerals (UNDRIP Article 24(1)).
- Indigenous rights to enjoyment of the highest attainable standard of physical and mental health (UNDRIP Article 24(2)).
- Indigenous rights to maintain and strengthen our distinctive spiritual relationship with our traditionally owned or otherwise occupied and used lands, territories, waters and other resources and to uphold our responsibilities to future generations in this regard (UNDRIP Article 25).
- Indigenous rights to the lands, territories and resources traditionally owned, occupied or otherwise used acquired (UNDRIP Article 26(1)).
- Indigenous rights to own, use develop and control and lands, territories and resources that we possess by reason of traditional ownership or other traditional occupation or use, as well as those which we have otherwise acquired (UNDRIP Article 26(2)).
- Indigenous rights to have our lands, territories and resources legally recognized and protected by the State (UNDRIP Article 26(3)).
- Indigenous rights to redress (including restitution) or just, fair and equitable compensation for lands, territories and resources which we have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent (UNDRIP Article 28(1)).
- Indigenous rights to the conservation and protection of the environment and the productive capacity of our lands or territories and resources (UNDRIP Article 29).
- Indigenous rights to determine and develop strategies for the development or use of our lands or territories and other resources (UNDRIP Article 32).
- Aboriginal rights (within the meaning of s.35(1) of the *Constitution Act*, 1982) to harvest wildlife, waterfowl, vegetation and other resources; to fish for food, social and ceremonial purposes; and to the land itself.

Figure 8 in Attachment 6 provides a map of Quw'utsun Nation Traditional Territory.

Cowichan Tribes

Cowichan Tribes are Hul'qumi'num people who speak the Hul'qumi'num language. Cowichan Tribes are a Coast Salish nation and a member of Quw'utsun Nation and the Hul'qumi'num Treaty Group. Cowichan Tribes' Traditional Territory generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca, and the Fraser River South Arm up to Yale. Figure 9 in Attachment 6 provides a map of the Hul'qumi'num Treaty Group collective Traditional Territory.

Prior to European contact, Cowichan Tribes had its own governance structures and laws (Cowichan Tribes 2022). Cowichan Tribes is governed by a Chief and 13-member Council with a two-year term under an *Indian Act*, RSC 1985, c. I-5, electoral system; however, the Nation is currently working towards an Election Code (Cowichan Tribes 2022). Cowichan Tribes has over 4,900 members living both on and off reserve, with the main community in the Cowichan Valley on the east coast of Vancouver Island.

Halalt First Nation

Halalt First Nation "originate from the village of xeláltxw, which means 'marked houses' or 'painted houses', a reference to the fact that the houseposts in this village were decorated." Once located in the Cowichan Valley, at the southeastern edge of the city of Duncan, the ancestors of both the Cowichan (Siyóletse) and Chemainus (St'éts'en) people originated from this village according to Cowichan oral history (Halalt First Nation [date unknown]). Halalt First Nation describes how "[t]he residents of this village later relocated to a village at the north end of Willy Island, the largest of the Shoal Islands located just off the mouth of the Chemainus River," taking the village name with them. Halalt First Nation note that "[a]lthough the entire island was designated an Indian Reserve (Halalt Island No. 1), the village was abandoned in the 1920s and the residents moved to the Westholme reserve on the lower Chemainus River (Halalt No. 2)" (Halalt First Nation [date unknown]). Halalt First Nation has two reserves: Halalt Island 1 and Halalt 2 (INAC 2019). The main community, Halalt 2, is located on southeast Vancouver Island in Chemainus. Halalt Island 1 is the closest to the Project area, located 53 km away. Figure 10 in Attachment 6 provides a map of the Hul'qumi'num Treaty Group collective Traditional Territory.

Halalt First Nation is a Central Coast Salish group and is a member of the Quw'utsun Nation and the Hul'qumi'num Treaty Group. Halalt First Nation members historically spoke the Hul'qumi'num language. The Halalt First Nation Traditional Territory generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca and the Fraser River South Arm up to Yale. Halalt First Nation's main community is located in Chemainus on southeast Vancouver Island. Of 212 registered members, 84 live on reserve, in addition to 64 non-registered members. Halalt First Nation is governed by a Chief and Council with a two-year term under an *Indian Act* electoral system. Halalt has a three-member Council.

Lyackson First Nation

Lyackson First Nation is a Hul'qumi'num-speaking Central Coast Salish group. The town of Chemainus serves as the administrative centre for the Lyackson, but the eastern Gulf Island of Le'eyqsun (also known by its English name, Valdes) is described by Lyackson First Nation as their cultural homeland and ancestral territory, one in which they continue to engage in traditional practices on a seasonal basis. Lyackson are part of the Hul'qumi'num Mustimuhw, a group of six Vancouver Island First Nations that together form the Hul'qumi'num Treaty Group. Lyackson First Nation is governed by a Chief and Council. Lyackson First Nation has three reserves, all on Le'eyqsun. Over 90% of Lyackson First Nation's 198 registered members live off reserve, principally in or near the eastern shore of Vancouver Island and the adjacent Gulf Islands of the Salish Sea. Lyackson 3 is the closest reserve to the Project area, located 53 km southwest of the Project. Figure 11 in Attachment 6 provides a map of the Hul'qumi'num Treaty Group Collective Traditional Territory.

Lyackson First Nation reportedly had a house at Tl'uqtinus along with each of the other Hul`qumi`num Treaty Group member bands (BC EAO 2017). Lyackson Elders and knowledge holders have described Tl'uqtinus as having been a powerful and permanent Hul'qumi'num Mustimuhw trading centre for a number of commodities. Lyackson First Nation reported that they travelled between Le'eyqsun and the Fraser River mouth and Fraser River South Arm year-round, as well as up and down the Northwest Coast, for visiting and resource-harvesting purposes.

Penelakut Tribe

Penelakut Tribe is a Central Coast Salish group and is a member of the Quw'utsun Nation and the Hul'qumi'num Treaty Group. The Traditional Territory of the Penelakut Tribe generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca, and the Fraser River South Arm up to Yale. Penelakut Tribe's primary village is on Penelakut Island, to the east of Chemainus on southeast Vancouver Island. Penelakut members also reside on Penelakut, Tent, and Galiano islands. Penelakut Tribe members historically spoke the Hul'qumi'num language. Of Penelakut's 952 registered members, 525 live on reserve. Penelakut Tribe is governed by a Chief and Council with a two-year term under an *Indian Act* electoral system. Penelakut Tribe has four reserves: Galiano Island 9, Penelakut Island 7, Tent Island 8, and Tsussie 6 (INAC 2019). These are located directly opposite the mouth of the Fraser River in the Strait of Georgia on Galiano Island, Penelakut Island, Tent Island, and in Chemainus on southeast Vancouver Island. Penelakut Island 7 is the main community and Galiano Island 9 is the closest to the Project area, located 46 km southwest of the Project. Figure 12 in Attachment 6 provides a map of the Hul'qumi'num Treaty Group collective Traditional Territory.

Penelakut has signed their Framework Agreement with Indigenous Services Canada and is working towards ratifying their Penelakut Tumuhw Land Code. This is an incremental step towards self-governance as it removes 44 sections of the *Indian Act*.

Stz'uminus First Nation

Stz'uminus First Nation is a Central Coast Salish group and is a member of the Quw'utsun Nation and the Hul'qumi'num Treaty Group. The Stz'uminus First Nation Traditional Territory generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca and the Fraser River South Arm up to Yale (Figure 13 in Attachment 6). Stz'uminus First Nation has four reserves: Chemainus 13, Oyster Bay 12, Say-la-quas 10, and Squaw-hay-one 11 (INAC 2019). Chemainus 13 is the main community and is the closest to the Project area, located 57 km away on southeast Vancouver Island directly opposite of the mouth of the Fraser River in the Stuart Channel.

Of 1,296 registered members, 712 live on reserve. Stz'uminus is, or has been, affiliated with the Hul'qumi'num Treaty Group, along with the other four Quw'utsun Nation members and Lake Cowichan First Nation. These First Nations have been described as speakers of the "Island" dialect of Halkomelem (Hul'q'umi'num') and have referred to themselves collectively as Hul'qumi'num Mustimuhw. Stz'uminus is governed by a Chief and Council under a custom electoral system with a three-year term and a 10-member Council. Stz'uminus, along with each of the other Quw'utsun Nation members, has a Forest Consultation and Revenue Sharing Agreement with the Province of British Columbia. In the map for the Stz'uminus' 2013 agreement, the territory depicted is equivalent to the collective core territory of the Hul'qumi'num Treaty Group.

13.3.12.1 Overview of Engagement Activities

The Proponent has engaged with the Quw'utsun Nation member communities through the established technical table. Each member community is represented at the technical table, which meets regularly to streamline engagement activities. Quw'utsun Nation is composed of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation.

The Proponent initiated Pre-Early Engagement activities with Quw'utsun Nation starting in August 2021 through written correspondence presenting the Project and seeking opportunities to meet and discuss the Project, capacity support, and how each member of Quw'utsun Nation wanted to work with the Proponent regarding the Project. Since these early conversations, the Proponent has met with Quw'utsun Nation monthly to discuss the Project, except where Quw'utsun Nation has requested to cancel a session. The parties have come to an agreement on the terms of a capacity funding agreement to support each Quw'utsun Nation member's ongoing participation on the Project, most of which are executed.

The Proponent shared draft copies of the IPD and Engagement Plan in early December 2021 seeking feedback on this initial version. The Proponent shared updated versions of the IPD and Engagement Plan with all members of Quw'utsun Nation in early 2022 and notified Quw'utsun Nation member communities that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has sought to engage with each member of Quw'utsun Nation regarding the existing condition studies and the reference concept design. In each instance, the Proponent offered to meet with Quw'utsun Nation to discuss in detail.

Quw'utsun Nation was invited to attend IMUG meetings and a presentation of proposed construction methodology visuals presentation in fall 2022 but representatives did not attend. The Proponent offered to present any of the materials through one-on-one sessions if desired.

In October 2022, Proponent representatives met with Quw'utsun Nation to discuss concerns related to consultation and engagement on the Project. The Proponent is continuing to work with Quw'utsun Nation to align engagement with preferred practices and procedures.

13.3.12.2 Description of Issues That Have Been Raised

Table 13.3.4 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.4: Quw'utsun Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Concern about the Project's ambitious timeline.	The Proponent has and will continue to work collaboratively with Indigenous nations regarding review timelines that are reasonable.
Meeting	Want to gain an understanding of baseline to be used for the Existing Condition studies.	The Proponent will have a detailed discussions with Quw'utsun Nation to ensure an understanding of the Existing Condition studies.
Meeting	Concern regarding certainty of the Project proceeding.	The Proponent has not received any indication that the Project would not proceed and is committed to continuing to pursue the proposed tunnel.
Email	General difficulty in responding to correspondence on this file. We have raised the issue of your ministry using different senders and mailboxes to communicate which is administratively cumbersome and adds to delays tracking and locating correspondence	The Proponent appreciates feedback regarding streamlining of communications and has created a Project-specific mailbox that all Indigenous Relations team members will utilize for future communications and meeting invitations.
EAO's Summary of Engagement	The Quw'utsun Nation, which is comprised of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribes, and Stz'uminus First Nation, each as represented by their Chiefs and Councils. The present-day Quw'utsun Nation comprise the descendants of the 11 communities or local groups that made up the historic Quw'utsun Nation which were an Aboriginal people and who existed at the time of European contact and at 1846. As descendant communities of the Quw'utsun Nation (comprised of modern-day bands Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribe, and Stz'uminus First Nation), Quw'utsun Nation interests in the Project area include, but are not limited to [the following Indigenous rights under United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)]: To protect archaeological and historical sites and artifacts. To maintain, protect and have access to cultural sites. To revitalize, develop and transmit to future generations histories, oral traditions and place names relating to the Project area. To participate in decision-making in	The Proponent has reflected this information in Section 13.3.29 of the DPD. The Proponent will continue to work collaboratively with Quw'utsun Nation to understand potential Project-related interactions and effects.

Source of Feedback	Feedback/Comment	Response
	matters which would affect rights in the Project area, through representatives chosen by ourselves. To be secure in the enjoyment of own means subsistence and to engage freely in all traditional and other economic activities, and to just and fair redress if we are deprived of the same. To improve social and economic conditions. To traditional medicines and to maintain our health practices, including the conservation of our medicinal plants, animals and minerals. To enjoyment of the highest attainable standard of physical and mental health. To maintain and strengthen our distinctive spiritual relationship with our traditionally owned or otherwise occupied and used lands, territories, waters and other resources and to uphold our responsibilities to future generations in this regard. To the lands, territories and resources traditionally owned, occupied or otherwise used acquired. To own, use develop and control and lands, territories and resources that we possess by reason of traditional ownership or other traditional occupation or use, as well as those which we have otherwise acquired. To have our lands, territories and resources legally recognized and protected by the State. To redress (including restitution) or just, fair and equitable compensation for lands, territories and resources which we have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent. To the conservation and protection of the environment and the productive capacity of our lands or territories and resources, To determine and develop strategies for the development or use of our lands or territories and other resources, Aboriginal rights (within the meaning of s.35(1) of the *Constitution Act, 1982*) to harvest wildlife, waterfowl, vegetation and other resources; to fish for food, social and ceremonial purposes; and to the land itself.	

DPD = Detailed Project Description.

13.3.13 Sq'éwqel (Seabird Island) Band

Sq'éwqel ("Seabird Island Band") is a Coast Salish group and a government of the Stó:lō people located on Seabird Island in the Upper Fraser Valley region near the town of Agassiz, BC, within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Seabird Island Band (Seabird) is governed by a custom electoral system with a Chief and Council. The traditional language of Seabird is. Seabird has two reserves: Peckw'xe:yles and Seabird Island (INAC 2019). Of the 1,074 registered members, 673 live on reserves. The main community is Seabird Island, located in the District of Kent on the Fraser River 3 km east of Agassiz. The Traditional Territory extends from Langley east to Yale (Figure 14 in Attachment 6) (Stó:lō Service Agency [date unknown]). Seabird's Aboriginal Rights and Title Department supports the cultural significance of their Traditional Territory and works to preserve and protect areas of interest (Government of BC 2020a).

Seabird is negotiating land and resource agreements outside of the BC Treaty process (Government of BC 2020a). Seabird has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021).

13.3.13.1 Overview of Engagement Activities

The Proponent sought to engage with Seabird in late 2021 and began meeting in June 2022.

The Proponent is currently working with Seabird to establish a regular engagement schedule and to develop an understanding of Seabird's expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities. The Proponent has reached a capacity funding agreement to support Seabird's ongoing participation in the Project. During the Early Engagement Phase, the Proponent sought input from Seabird on the existing condition studies, including an invitation to attend an existing conditions study workshop. Following the conclusion of the existing condition studies, reports were shared with Seabird.

In June 2022, the Proponent shared with Seabird summary referral letters regarding the Project reference concept design. Seabird was invited to review and comment on the draft DPD in August 2022.

Seabird attended the Project IMUG meetings and shared perspectives on the Project for consideration including dredge disposal and employment opportunities. Seabird also attended the presentation of proposed construction methodology visuals.

Through engagement on the Project to date, Seabird has indicated some preliminary interests related to the Project including employment and procurement opportunities for the Nation, opportunities to support stewardship initiatives including the Nation hatchery, as well as interest in the dredge materials.

13.3.13.2 Description of Issues That Have Been Raised

Table 13.3.5 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.5: Seabird Island Band-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Interested in the use of dredging material collected as their reserves are on low ground and are prone to flooding from the Fraser River.	The Proponent looks forward to further discussions with Seabird Island Band about the availability of dredging material generated by the Project.
Meeting	Want to gain an understanding of how UNDRIP incorporated into procurement.	The Project is reviewable under the BCEAA, and this process provides a number of mechanisms for meaningful engagement with Indigenous nations and elements of DRIPA such as consensus and consent seeking. Seabird is a participating Indigenous nation and has specific procedural rights within the BCEAA, including access to capacity funding, consensus seeking processes, a procedure to communicate consent or withhold consent at specific decision points, an option to undertake an Indigenous-led assessment and access to facilitated dispute resolution.
Meeting	Seabird Island has the capacity to do more than monitoring on the Project and have partnerships in place with many contractors.	The Proponent is looking forward to working with Seabird Island to learn more about their interest in contracting opportunities on the Project.
Meeting	Recommend the Proponent create a First Nations procurement policy similar to what is used on the Trans-Mountain Pipeline project.	The Proponent has shared the information with internal procurement specialists.
Meeting	Interested in employment opportunities on the Project as they look for a soft landing for community members currently employed by the Trans-Mountain Pipeline project.	The Proponent is looking forward to working with Seabird Island to learn more about their interest in employment opportunities on the Project.
Meeting	Seabird Island has expressed concerns regarding the impact of the Project on fish and fish habitat. They wish to understand the plans for offsetting and restoration.	The Proponent commits to working with Seabird on these areas in future phases of the environmental assessment, in particular during the development of VCs and AIR.

Source of Feedback	Feedback/Comment	Response
Meeting	Seabird Island has recently acquired a hatchery with the intent of using it for habitat restoration of fish in the Fraser River.	The Proponent is looking forward to further discussions with Seabird Island to learn if there are opportunities to support the hatchery.
Meeting	Concern that dredging is going to enable larger vessels to use the Fraser River.	The water draft for the new tunnel will be the same for the current tunnel; therefore, there will be no increase in the size of vessels using the Fraser River resulting from the proposed tunnel.

UNDRIP = United Nations Declaration on the Rights of Indigenous Peoples; AIR = Application Information Requirements; BCEAA = British Columbia *Environmental Assessment Act*; DRIPA = Declaration on the Rights of Indigenous Peoples Act; VC = valued component.

13.3.14 Semiahmoo First Nation

Semiahmoo First Nation is a Central Coast Salish group whose Traditional Territory includes part of the Lower Mainland area in BC, including sections of the Fraser River and the Strait of Georgia (Figure 15 in Attachment 6). Semiahmoo Traditional Territory has been previously represented as centred on Boundary Bay, taking in eastern portions of the Point Roberts peninsula, Mud Bay, and the lands and waters in and around the Serpentine, Nicomekl, and Campbell rivers. Semiahmoo First Nation has recently presented a more extensive territory that, still centred on Boundary Bay, takes in the Lower Fraser River and adjacent lands downstream of the confluence with the Sumas River, all of the Gulf Islands south of Gabriola Island, the San Juan Islands, most of Bellingham Bay, and the Nooksack River.

Semiahmoo First Nation members historically spoke the Həṅ q̓ əmiṅ əm (pronounced “Hul-ka-MEE-num”) language. Semiahmoo First Nation is governed by a Chief and Council with two-year terms under an *Indian Act* electoral system. Semiahmoo First Nation has one reserve, fronting Semiahmoo Bay (part of Boundary Bay) at the Canada–United States border, approximately 1 km southeast of White Rock. The reserve, covering 129.10 ha, is home to 51 of the Nation’s 97 registered members. Originally 158.64 ha, portions of the reserve have been taken up for public purposes, including for the construction of Highway 99 in 1962.

In 2017, the Semiahmoo First Nation, through Se-mi-ah-mu Development Corporation, entered into a working construction joint venture with TYBO Contracting Ltd. Semiahmoo First Nation is not involved in the BC treaty process (Government of BC 2021e]). Semiahmoo First Nation has not signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021).

13.3.14.1 Overview of Engagement Activities

The Proponent reached out to Semiahmoo First Nation (“Semiahmoo”) in writing in September 2021 requesting to initiate pre-engagement discussions related to the Project, including a review of the Provincial Environmental Assessment Process, engagement planning, information sharing, and capacity support. The Proponent sought to establish a capacity support agreement and regular engagement schedule and develop an understanding of Semiahmoo’s expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

The Proponent shared draft versions of the IPD and Engagement Plan (titled “George Massey Crossing Project Initial Project Description” and “George Massey Crossing Project Engagement Plan,” respectively) with Semiahmoo in early December 2021 seeking feedback. The Proponent shared updated versions of the IPD and Engagement Plan with Semiahmoo in early 2022 and notified the Nation that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has continued to seek input from Semiahmoo on the existing condition studies, including inviting Semiahmoo to attend an existing conditions study workshop. Following the conclusion of the existing condition studies, reports were shared with Semiahmoo.

In June 2022, the Proponent shared with Semiahmoo summary referral letters regarding the Project reference concept design. Semiahmoo attended the Project IMUG meetings to share information and seek Semiahmoo's participation regarding the Project's marine-based activities and was invited to attend a presentation of the proposed construction methodology.

Semiahmoo was invited to review and comment on the draft DPD in August 2022 and has been offered a capacity funding agreement to support engagement activities on the Project. The Nation did not provide formal comments or feedback to the Proponent during Early Engagement.

13.3.14.2 Description of Issues That Have Been Raised

Table 13.3.6 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.6: Semiahmoo First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Early Engagement (EAO Technical Advisor Meeting)	Where will the disposal at sea occur?	Dredge material disposal options are still being identified for consideration in the environmental assessment process.
Early Engagement (EAO Technical Advisor Meeting)	What is the composition of the existing concrete, is there asbestos or other hazardous materials that would need to be considered for disposal?	Investigative activities proposed for 2022/2023 will provide some information about the current composition of tunnel concrete.
Early Engagement (EAO Technical Advisor Meeting)	The clean dredge material, will this be used for berms?	Dredge material disposal options are still being identified for consideration in the environmental assessment process.

EAO = British Columbia Environmental Assessment Office.

13.3.15 Shxw'ōwhámél First Nation

Shxw'ōwhámél First Nation are a Coast Salish people located in the Upper Fraser Valley near Hope, BC, within S'ólh Téméxw, the Traditional Territory of the Stó:lō people. Their traditional language is Halq'eméylem. Shxw'ōwhámél traditionally means "where the river levels and widens" (Shxw'ōwhámél First Nation 2020). Shxw'ōwhámél people are culturally Stó:lō and are of the Tiyt Tribe within S'ólhTéméxw. The Traditional Territory extends from Langley east to Yale (Stó:lō Service Agency [date unknown]). Areas in Shxw'ōwhámél Traditional Territory of importance to the Shxw'ōwhámél First Nation include the watersheds of Jones, Lorenzetti, and Hunter Creeks (Shxw'ōwhámél First Nation 2020).

Shxw'ōwhámél First Nation has four reserves: Kuthlath 3, Ohamil 1, Peckw'xe:yles, and Wahleach Island 2 (INAC 2019). Ohamil 1 is the main community located on the left bank of the Fraser River, 7 km north of Laidlaw. Peckw'xe:yles,is a shared reserve. Shxw'ōwhámél First Nation have a custom electoral system. They are a community of 200 members with approximately 150 people residing on the main reserve. Shxw'ōwhámél First Nation is negotiating land and resource agreements outside of the BC Treaty process (Government of BC 2020b). Shxw'ōwhámél First Nation has signed a Framework Agreement under the First Nations Land Management Act (FNLMRC 2021).

Figure 16 in Attachment 6 provides a map of Shxw'ōwhámél First Nation Traditional Territory.

13.3.15.1 Overview of Engagement Activities

The Proponent sought to arrange meetings with Shxw'ōwhámél starting in December 2021 and met with Shxw'ōwhámél First Nation in May and June 2022.The Proponent is working with Shxw'ōwhámél First Nation to establish a capacity support agreement, a regular engagement schedule, and to develop an understanding of Shxw'ōwhámél First Nation's expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

During the Early Engagement Phase, the Proponent sought input from Shxw'ōwhámél on the existing condition studies, including inviting Shxw'ōwhámél to attend an existing conditions study workshop. Following the conclusion of the existing condition studies, reports were shared with Shxw'ōwhámél.

Shxw'ōwhámél was invited to review and comment on the draft DPD in August 2022.

The Proponent invited Shxw'ōwhámél to attend the Project IMUG meetings to share information and seek Shxw'ōwhámél participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology.

Following the meeting in July 2022, Shxw'ōwhámél did not attend engagement activities and did not respond to correspondence or provide further comments related to the Project.

13.3.15.2 Description of Issues That Have Been Raised

Table 13.3.7 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.7: Shxw'ōwhámél First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Shxw'ōwhámél is receiving too many referrals from projects, overall.	The Proponent is committed to developing a thorough understanding of how we can best support Shxw'ōwhámél engagement on the Project.

13.3.16 Snuneymuxw First Nation

Snuneymuxw First Nation are a Coast Salish People, located on the eastern coast of Vancouver Island, the Gulf Islands, and the Fraser River. Snuneymuxw identifies their Traditional Territory to include areas of the land and coastal waters on the east coast of Vancouver Island from the vicinity of Courtenay in the north to Sidney and the Gulf Islands in the south and other adjacent islands and surrounding waters across the Strait of Georgia, and inland to Port Alberni and Lake Cowichan on Vancouver Island. The territory extends to the Lower Mainland up the Fraser River to Chilliwack (Figure 17 in Attachment 6). Snuneymuxw First Nation have a custom electoral system with a Chief and 10 Councillors. Of the 1,914 registered population 721 live on reserves. As the Snuneymuxw followed seasonal rounds, typically in August, they travelled to the Fraser River for the salmon runs, returning in the fall to the Nanaimo River for the chum salmon. Snuneymuxw had a fishing village site located on the south bank of the Fraser River upriver from the east end of Barnston Island. The language of the Snuneymuxw is Island Hul'q'umin'um', a living language that expresses their worldview and way of life (Snuneymuxw First Nation 2022a,b).

On November 1, 2022, Snuneymuxw First Nation shared a research memo on use in the Lower Fraser River. The Proponent commits to continuing to work with Snuneymuxw to incorporate this information into other Project materials as they are developed.

Snuneymuxw First Nation has a population of over 1,700 people. The Snuneymuxw have a pre-Confederation treaty with the Crown – the Treaty of 1854. On December 23, 1854, the Snuneymuxw People entered the Treaty of 1854 with the Crown, which is a Treaty within the meaning of Section 35 of the *Constitution Act, 1982*. The Treaty specifically confirmed protection for Snuneymuxw fisheries and hunting. Snuneymuxw has established rights to hunt over unoccupied lands and fish as formerly within their Traditional Territory pursuant to this Treaty. Snuneymuxw also asserts constitutional collective Aboriginal rights and title to Snuneymuxw territory. In recent years Snuneymuxw have moved to elections of Chief and

Council based on their own custom code of laws. Chief and Council are elected into a four-year term position, with half of the Council position elections staggered every two years (Snuneymuxw First Nation 2022a,b).

Snuneymuxw First Nation has a tripartite Memorandum of Understanding with the Province of BC and the federal government (signed in July 2021), whose purpose is to establish a common table to explore new approaches to reconciliation that advance each parties' mutual priorities. Additionally, Snuneymuxw First Nation and BC signed a Reconciliation Implementation Framework Agreement in September 2020, which served to establish "a shared vision and framework for deepening a relationship between the Parties that reflects the recognition and implementation of Snuneymuxw Section 35 Rights... and UNDRIP in a manner consistent with DRIPA, and advances clarity and predictability for all governments and people within Snuneymuxw Territory... " (s. 1(a)(i)). This Agreement includes provisions for shared decision-making in the framework for reconciliation, as "the Province and Snuneymuxw agree for the purposes of reconciliation to explore negotiating and agreeing on agreements that would establish joint or consent-based decision-making in accordance with Section 7 of the *Declaration on the Rights of Indigenous Peoples Act*." (s. 4l).

13.3.16.1 Overview of Engagement Activities

The Proponent met with Snuneymuxw First Nation ("Snuneymuxw") in October 2021 to initiate Pre-Early Engagement, including a review of the Provincial Environmental Assessment Process, engagement planning, information sharing, and capacity support. The Proponent has since met with Snuneymuxw approximately monthly and reached a capacity funding agreement to support Snuneymuxw's ongoing participation on the Project.

The Proponent shared draft versions of the IPD and Engagement Plan (titled "George Massey Crossing Project Initial Project Description" and "George Massey Crossing Project Engagement Plan," respectively) with Snuneymuxw in early December 2021 seeking feedback and input. The Proponent shared updated versions of the IPD and Engagement Plan with Snuneymuxw in early 2022 including tables listing Snuneymuxw's feedback on the IPD and Engagement Plan and responses to each comment. The Proponent also notified Snuneymuxw that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has shared with Snuneymuxw information regarding the existing condition studies, a review of the reference concept design, and a review of the Project construction processes. Following the conclusion of the existing condition studies, reports were shared with Snuneymuxw. Snuneymuxw attended the Project IMUG meetings and the presentation of the proposed construction methodology meetings.

Snuneymuxw attended a workshop to review the existing condition studies and the IMUG meetings. The Proponent met on a regular cadence with Snuneymuxw for two-way dialogue on other Project matters including understanding Snuneymuxw's interests related to the 1854 Treaty, environmental assessment processes, and proposed tunnel construction methodology.

Snuneymuxw provided formal comments on the DPD after the date requested by the Proponent; however, best efforts have been made to respond and incorporate relevant comments in the DPD. The Proponent commits to apply these comments on future Project materials including VC selection documents, draft Application Information Requirements (dAIR), and the EAC application. Snuneymuxw noted that it is appropriate for the Proponent to review the Tilbury Phase 2 environmental assessment materials since Snuneymuxw would be undertaking the same approach for the Project. These Tilbury Phase 2 materials provide a relevant basis and approach, but the Nation also plans to do more community work in 2023 to further inform Process Planning for the Project. The Proponent has reached an agreement in principle with Snuneymuxw to support their engagement in the Project and the Environmental Assessment and looks forward to working with Snuneymuxw on their Indigenous-led assessment.

13.3.16.2 Description of Issues That Have Been Raised

Table 13.3.8 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.8: Snuneymuxw First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Concern regarding cumulative effects of past usage and past construction on the Fraser River and the collective impacts on fish. Snuneymuxw was not included in past consultation on the George Massey Tunnel despite having a permanent village site on the Fraser River. They have not had an opportunity to voice concerns on this issue.	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing conditions studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • feedback from regulatory agencies, stakeholders, and the public
Meeting	Interested in completing an Indigenous-led Assessment as part of the environmental assessment for the Project.	The Proponent is aware of SFN's intention to deliver an Indigenous-led assessment (ILA) and is working with SFN to support the delivery of this work.
Meeting	Nation raised concerns with application of DFO fish window because that is for just one species and there are a number of other species of significance that could be affected by Project construction.	The Proponent is undertaking a number of studies to determine the presence of other species including sturgeon and Eulachon in the vicinity of the Project footprint. This information will be considered as well to mitigate impacts to these species.
DPD comments	Nation submitted comments on the DPD.	The Proponent responded to Snuneymuxw comments and incorporated into the DPD where appropriate. See Attachment 4.

SFN = Snuneymuxw First Nation.

13.3.17 S’ólh

The S’ólh Téméxw Stewardship Alliance is an umbrella organization representing 15 of the 30 Stó:lō Nations including Aitchelitz First Nation, Chawathil First Nation, Cheam First Nation, Kwaw-kwaw-Apilt First Nation, Scowlitz First Nation, Shxwhá:y Village, Skawahlook First Nation, Skowkale First Nation, Skwah First Nation, Soowahlie First Nation, Squiala First Nation, Sumas First Nation, Tzeachten First Nation, Yakweakwioose First Nation, and Yale First Nation (STSA 2020). The Proponent has recently learned that Shxw’ōwhámél First Nation has also joined S’ólh Téméxw Stewardship Alliance as their 16th member. These communities have many reserves located throughout the Fraser Valley. Figure 18 in Attachment 6 provides a map of the S’ólh Téméxw Nations.

The S’ólh Téméxw Stewardship Alliance supports its Stó:lō Nation members in making stewardship decisions as they relate to their collective Stó:lō Traditional Territory, known as S’ólh Téméxw. The Traditional Territory of S’ólh Téméxw stretches from the Strait of Georgia in the west, across the Lower Mainland of southwestern BC, up to Harrison Lake in the north, out to the Coquihalla River in the east, and past the Canada–United States border in the south. The S’ólh Téméxw is centralized around the upper Fraser and Chilliwack River Valleys (STSA 2020; BCTC 2020b). The Project is found within the S’ólh Téméxw.

The priority of the S’ólh Téméxw Stewardship Alliance is to ensure the rights and interests of its First Nation members are recognized, protected, and upheld throughout S’ólh Téméxw (STSA 2020). The People of the River Referrals Office, an operational arm of the S’ólh Téméxw Stewardship Alliance, facilitates and supports the S’ólh Téméxw Stewardship Alliance with meaningful engagement by providing technical support, administrative support, and managing the review of referrals (STSA 2020). The People of the River Referrals Office is managed by the Stó:lō Service Agency, a partnership with 11 Stó:lō First Nations, who are signatories to the services agreement (Stó:lō Nation 2018).

13.3.17.1 Overview of Engagement Activities

The Proponent began meeting with S’ólh Téméxw Stewardship Alliance in May 2022 during the Early Engagement Phase and is in early discussions regarding the Provincial Environmental Assessment Process, engagement planning, information sharing, and capacity support. The Proponent has worked with S’ólh Téméxw Stewardship Alliance to establish a capacity support agreement, an approach to engagement, and is in the process of developing an understanding of S’ólh Téméxw Stewardship Alliance’s expectations regarding Indigenous knowledge, decision-making processes, and consensus-building activities.

During the Early Engagement Phase, the Proponent has worked with S’ólh Téméxw Stewardship Alliance on the existing condition studies, review of the reference concept design, and construction processes. For each topic, the Proponent shared information with Sol’h Téméxw Stewardship Alliance, met with S’ólh Téméxw Stewardship Alliance virtually to discuss in detail, and followed up on S’ólh Téméxw Stewardship

Alliance's interests and feedback. Following the conclusion of the existing condition studies, reports were shared.

People of the River Referrals Office, on behalf of the S'ólh Téméxw Stewardship Alliance, submitted formal comments on the DPD. The Proponent provided responses to comments, incorporated them into the DPD where appropriate, or carried them forward for consideration on future Project materials such as VC selection and AIR.

S'ólh Téméxw Stewardship Alliance has attended the Project IMUG meetings to share information and seek S'ólh Téméxw Stewardship Alliance's participation regarding the Project's marine-based activities and the presentation of the proposed construction methodology in fall 2022.

13.3.17.2 Description of Issues That Have Been Raised

Table 13.3-9 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.9: S'ólh Téméxw Stewardship Alliance Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	Concern regarding the inevitability of the proposed tunnel replacement.	The Project requires an EAC as well as a number of regulatory permits before it may proceed with construction of the proposed tunnel.
Meeting	Stress the importance of inclusion of Indigenous Knowledge.	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's *Guide to Indigenous Knowledge in Environmental Assessments* (April 2020). When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration.
Meeting	Want raw data available from completed studies to be provided to Indigenous nations. Please refer to over arching Indigenous knowledge and data governance principles and policies, such as OCAP and/or the First Nations Data Governance Strategy, drafted by the First Nations Information Governance Centre.	The Proponent is committed to sharing raw data, when available, with all Indigenous nations.
Meeting	Stressed the importance of having open communication between the Proponent and contractors.	The Proponent is committed to fostering open communication and working with S'ólh Téméxw Stewardship Alliance to better understand concerns regarding communication between Proponent and contractors.
Meeting	Want to ensure there are opportunities for First Nations procurement.	The Proponent is looking forward to working with S'ólh Téméxw Stewardship Alliance to learn more about their interest in procurement opportunities on the Project.
Meeting	Concern regarding bidders follow through on the environmental management plan.	The Proponent will engage with S'ólh Téméxw Stewardship Alliance to explore and understand their concerns on the Proponent's follow-through with environmental management plans.
DPD comments	People Of the River Referrals Office (PRRO)on behalf of S'ólh Téméxw Stewardship Alliance, submitted comments.	See Attachment 4.

OCAP = ownership, control, access, and possession; DPD = Detailed Project Description; EAO = British Columbia Environmental Assessment Office; EAC = Environmental Assessment Certificate.

13.3.18 Skwxwú7mesh Úxwumixw (Squamish Nation)

Skwxwú7mesh Úxwumixw ("Squamish Nation") describe themselves as the descendants of Coast Salish ancestors that lived in what are now known as the Greater Vancouver area, Gibson's Landing, and Squamish River watershed. The ancestral language of the Squamish Nation is Sḵwx̱wú7mesh sníchim, which is an independent language that belongs to the Salish language family.

Squamish Nation Traditional Territory, as described in their Statement of Intent (SOI) filed with the BCTC, takes in the area from Point Grey in the south to Roberts Creek in the west, north along the height of land to the Elaho River headwaters including all the islands and drainages in Howe Sound, southeast to the confluence of the Soo and Green rivers north from Whistler, south along the height of land to the Port Moody area including the entire Mamquam River and Indian Arm drainages, and west along the height of land to Point Grey. This territorial boundary, as updated from time to time, extends farther south than the SOI described above and specifically to the Fraser River South Arm, taking in all of Lulu Island (Figure 19 in Attachment 6).

Squamish Nation has 24 reserves, with 2,232 of 4,176 registered members residing on Squamish Nation's reserve lands. The largest proportion of these on-reserve members live on the Squamish Nation's several urban reserves in the cities of Vancouver, North Vancouver, West Vancouver, and the District of Squamish, with the most populated reserve being Mission 1, on the north shore of Burrard Inlet, bounded on the north and east by the City of North Vancouver. The closest reserve to the Project area is Kitsilano 6, located 16 km away. The Sḵwx̱wú7mesh Úxwumixw Government is composed of an elected Nexwsxwníẃntm ta Úxwumixw (Council) – one Chairperson and seven Councillors (three representing regional areas and four general), an elected Band Manager, and the Nation Administration.

Xay Temixw (sacred land), the Squamish Nation's Land Use Plan, describes the Squamish Nation's vision for the future of the forests and wilderness of their Traditional Territory, with the stated objective to ensure the land is protected and managed for the benefit of present and future generations. Xay Temixw has established four land use zones: a forest stewardship zone, sensitive areas, restoration areas, and Kwa kwayx welh-aynexws (wild spirit places). Xay Temixw has also set management objectives that define how the lands, waters, and territory must be managed. Squamish Nation report that they are also undertaking planning for traditional fishing areas but due to the sensitivity of the information, may not be mapped or described in the plan.

Squamish Nation is currently in Stage 3 of the BC Treaty process: negotiation of a Framework Agreement (Squamish Nation 2020; BCTC 2020c). In 1993, Squamish Nation submitted their Statement of Intent to begin negotiating Aboriginal Rights and Title to the lands, waters, and resources within Squamish Traditional Territory (Squamish Nation 2020).

The Squamish Nation owns and operates several businesses, including the Mosquito Creek Marina; Lynnwood Marina; Marina Grill; North Vancouver Smoke Shop at Mosquito Creek; Squamish Valley Gas LP; Superstore Gas Bar, North Vancouver; Capilano River RV Park, West Vancouver; and the Northwest Squamish Forestry LP. In addition to revenue generated from existing leases and businesses, the Squamish Nation plans to develop various parcels of lands, including proposed developments at Seymour,

Capilano, Kitsilano, Chekwelp, and Stawamus. The Squamish Nation also currently generates revenue from a three-year Forest Consultation and Revenue Sharing Agreement with the Province of British Columbia, signed in March 2015.

13.3.18.1 Overview of Engagement Activities

The Proponent has sought to engage with Squamish Nation during the Early Engagement Phase to understand and incorporate any feedback related to the Project. Squamish was invited to review and comment on the draft DPD in August 2022. The Proponent also invited Squamish to attend the Project IMUG meetings to share information and seek Squamish's participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology in fall 2022. In September 2022, Squamish Nation confirmed with the Proponent and the EAO that Squamish Nation will not be participating in the environmental assessment process at this time. Squamish Nation shared the importance of its asserted constitutional rights to fish sockeye salmon on the Fraser River and its responsibility as stewards to protect sockeye salmon on the Fraser River. The Proponent will continue to provide Squamish Nation with regular updates on the Project and environmental assessment process.

13.3.19 Stz'uminus First Nation

See Section 13.1.25. Quw'utsun Nation.

13.3.20 WJOŁEŁP (Tsartlip) First Nation

WJOŁEŁP ("Tsartlip") First Nation is one of five communities that constitute the W̱SÁNEĆ (Saanich) Nation. Located on the west side of the Saanich Peninsula in Saanich territory on Vancouver Island. The main administrative offices are located in Brentwood Bay. The W̱SÁNEĆ People are Salt Water People. The Sea was very important to their way of life. Traditionally the W̱SÁNEĆ People had homes throughout the San Juan Islands and on the east and north coasts of the Saanich Peninsula. Tsartlip traditional land went east through the Gulf Islands and San Juan Islands and northeast across Georgia Strait to Boundary Bay. Their territory included the Saanich Inlet and deep into the forest lands on its west side. On the Saanich Peninsula itself, their land went south as far as PKOLS (Mount Douglas) and from there across to W̱QENNELEŁ (Mt. Finlayson) and SELEȾTEŁ (Goldstream) (Figure 20 in Attachment 6). W̱SÁNEĆ (Saanich Peninsula) was the headquarters because this is where the W̱SÁNEĆ People built their permanent winter homes. SENĆOŦEN is the language of the W̱SÁNEĆ people. SENĆOŦEN is a member of a dialect continuum called Northern Straits, which is a Coast Salishan language (Tsartlip First Nation 2022).

The Tsartlip's Leadership consists of elected members of the community that make up the Chief and Council. Elections are currently held every four years, with December 2021 being the most recent. Tsartlip First Nation has four reserves: Goldstream 13, Mayne Island 6, Senanus Island 10, and South Saanich 1 (INAC 2019). Tsartlip First Nation's main community is South Saanich 1, located near the town of Brentwood Bay on Vancouver Island. Mayne Island 6 and Senanus Island 10 are on the Gulf Islands

between Vancouver Island and the Lower Mainland. Goldstream 13 is a shared reserve with Malahat First Nation, Pauquachin First Nation, Tsawout First Nation, and Tseycum First Nation. Of the 1,052 registered population, 673 live on reserves.

Tsartlip First Nation is an original signatory of the Douglas Treaties in 1852 (BC AFN 2021). Tsartlip First Nation are not currently pursuing a modern-day treaty through the BCTC process but are negotiating land and resource issues with the Province through separate means (Government of BC 2021f). Tsartlip First Nation signed an Interim Reconciliation Agreement with the Government of BC on March 23, 2017 (Government of BC 2021e). Tsartlip First Nation is a member of the W̱SÁNEĆ Leadership Council Society, which also includes Tsawout First Nation and Tseycum First Nation (W̱SÁNEĆ Leadership Council [date unknown]). Tsartlip First Nation does not currently have an active Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021).

13.3.20.1 Overview of Engagement Activities

The Proponent invited Tsartlip to attend the Project IMUG meetings to share information and seek Tsartlip's participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology in fall 2022.

Tsartlip did not attend these group engagement activities; however, the Proponent met with Tsartlip representatives in October 2022 to have a preliminary discussion of the Project and Tsartlip interests. Tsartlip did not provide further comments related to the Project during Early Engagement.

13.3.20.2 Description of Issues That Have Been Raised

Table 13.3.10 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.10: Tsartlip First Nation-Specific Tables

Source of Feedback	Feedback/Comment	Response
Meeting	Southern Resident Killer Whales are a cultural significant species for the Nation. Nation requests detail about any mitigation plans for the SRKW.	A marine mammal assessment will be completed as part of the EAC Application to identify potential Project effects to marine mammals, including SRKW, and, as appropriate, will identify mitigation measures intended to minimize and, where possible, avoid potential effects. The scope of the marine mammal assessment will be defined during the development of the AIR during the Process Planning Phase in collaboration with Indigenous nations, technical advisors, and public stakeholders.
Meeting	What will the disruption to traffic or wildlife be and what is the length of the disruption?	The environmental assessment process for the Project would seek to understand the nature and scope of potential impacts to both marine traffic and wildlife.
Meeting	How long does it take to sink one tunnel element? What studies have already been conducted for this project?	Our estimate is approximately 48-hours to immerse a tunnel element. Existing conditions studies are underway this year (2022). Fish and fish studies are continuing through early 2023, including a targeted eDNA study on Eulachon.
Meeting	Nation has concerns related to fish and fish habitat.	Potential effects to fish and fish habitat, including both avoidance and physiological effects, will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat in the EAC Application. We look forward to continuing to work with the Nation on this topic.
Meeting	Nation will require capacity funding to support engagement on this project. Acknowledge that a draft offer was received.	The Proponent looks forward to concluding the capacity funding agreement and will continue to support engagement.

SRKW = Southern Resident Killer Whales; EAC = Environmental Assessment Certificate; AIR = Application Information Requirements; eDNA = environmental deoxyribonucleic acid

13.3.21 SȾÁUTW̱ (Tsawout) First Nation

SȾÁUTW̱ (Tsawout) First Nation is a Coast Salish nation that is one of five bands that constitute the W̱SÁNEĆ (Saanich) Nation. The other bands of the W̱SÁNEĆ Nation are Tsartlip, Tseycum, Malahat, and Pauquachin. It is the belief of the W̱SÁNEĆ people that XALS put them on this world and gave them a language of their own called SENĆOŦEN, and that the lands around them came from XALS and the islands, points of land and huge boulders were once people and are still referred to in their old names (Tsawout First Nation 2022). The Tsawout's Leadership consists of elected members of the community that make up the Chief and Council. Elections are currently held bi-annually, with July 2021 being the most recent election. Tsawout is currently engaging the community about the opportunity to develop the Tsawout Custom Election Law (Tsawout First Nation 2022). Of the 978 registered population, 663 live on reserves.

Tsawout describes the territory of the Saanich peoples as "the Saanich Peninsula, south to Mount Douglas, across to Mount Finlayson and Goldstream. In addition, the Southern Gulf Islands, reaching to Point Roberts, and San Juan Islands constituted what is the Saanich Peoples Traditional Territory. The Tsawout and Saanich people's Traditional Territory is the lands and seas that we traditionally used throughout every season" (Tsawout First Nation 2022). Tsawout First Nation has six reserves: Bare Island 9, East Saanich 2, Fulford Harbour 5, Goldstream 13, Pender Island 8, and Saturna Island 7 (INAC 2019). Tsawout First Nation's main community is East Saanich 2, located on the east side of the Saanich Peninsula and approximately 67 km away from the Project. Bare Island 9, Pender Island 8, and Saturna Island 7 are reserves that Tsawout First Nation shares with Tseycum First Nation and are found on the Gulf Islands between Vancouver Island and the Lower Mainland. Goldstream 13 is a shared reserve with Malahat First Nation, Pauquachin First Nation, Tsartlip First Nation, and Tseycum First Nation. Tsawout First Nation's closest reserve to the Project area is Saturna Island 7, located approximately 41 km away. Figure 21 in Attachment 6 provides a map of Tsawout First Nation Traditional Territory.

The Proponent will engage with Tsawout First Nation to determine areas where traditional activities are practiced in relation to the Project area. Tsawout First Nation is an original signatory of the Douglas Treaties in 1852 (BC AFN 2022). Tsawout First Nation is not currently pursuing a modern-day treaty through the BCTC process (Government of BC 2021g). Tsawout First Nation is a member of the W̱SÁNEĆ Leadership Council Society, which also includes the Tsartlip First Nation and Tseycum First Nation (W̱SÁNEĆ Leadership Council [date unknown]).

Tsawout First Nation has a Land Code and numerous laws, including the SȾÁUTW̱ First Nation Marine Use Law (2022-01). Tsawout First Nation has signed a Framework Agreement under the *First Nations Land Management Act* (FNLMRC 2021).

13.3.21.1 Overview of Engagement Activities

Tsawout was invited to review and comment on the draft DPD, and the Proponent also shared a number of materials for information including Eulachon spawning assessment reports.

Tsawout representatives attended the Project IMUG meetings and the presentation of proposed construction methodology visuals in fall 2022.

Tsawout did not provide comments to the Proponent related to the Project during the Early Engagement Phase.

13.3.21.2 Description of Issues That Have Been Raised

Table 13.3.11 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.11: Tsawout First Nation Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
EAO's Summary of Engagement	Concern about potential Project impacts on SȾÁUTW̱'s traditional trading routes and marine environment.	The Proponent looks forward to working with SȾÁUTW̱ to learn more about concerns regarding impacts to traditional trading routes and marine environment.
EAO's Summary of Engagement	Concerns that Project may impact SȾÁUTW̱'s traditional marine use area, which is protected under SȾÁUTW̱ marine law	The Proponent looks forward to discussions with SȾÁUTW̱ about potential impacts on traditional marine use area.

EAO = British Columbia Environmental Assessment Office.

13.3.22 sc̓əwaθən məsteyəxʷ (Tsawwassen) First Nation

Tsawwassen First Nation is a Central Coast Salish group of the hən̓q̓əmin̓əm̓ language that are located on the southern aspect of the Fraser River delta on the west side of the peninsula that separates Boundary Bay from the Strait of Georgia. Tsawwassen First Nation's territory is bordered on the northeast by the watersheds that feed into Pitt Lake, down the Pitt River to the city of Pitt Meadows, and into the Fraser River. It includes Burns Bog and part of New Westminster, following the outflow of the Fraser River just south of Sea Island. From Sea Island, it cuts west across the Salish Sea to Galiano Island and includes all of Saltspring, Pender, and Saturna islands. It also includes the Point Roberts Peninsula and the watersheds of the Serpentine and Nicomekl rivers (Figure 22 in Attachment 6). Tsawwassen First Nation, BC, and Canada are treaty partners, having signed the Tsawwassen First Nation Final agreement (BCTC 2020d; TFN 2022).

Pursuant to the Tsawwassen First Nation Final Agreement (TFNFA), which came into effect on April 3, 2009, Tsawwassen is a modern Treaty Nation. Tsawwassen First Nation notes that the TFNA establishes a new government-to-government relationship based on mutual respect, providing the basis for reconciliation between Tsawwassen First Nation and the Crown. The TFNA exhaustively sets out the Section 35 rights of the Tsawwassen First Nation.

Of the 407 registered population, 197 live on reserves. Tsawwassen is led by a Chief and Council that are elected every three years. The Tsawwassen Constitution set out the elected institutions that govern Tsawwassen, including the Chief, the Tsawwassen Legislature, the Executive Council, and the Advisory Council. To date, Tsawwassen First Nation has enacted 29 laws. Under the TFNFA, Tsawwassen acquired 724 ha of treaty settlement lands, including 290 ha of former reserves and 372 ha of former Provincial Crown Land. These 662 ha of Tsawwassen Lands are located on the upland areas between the ferry terminal at Tsawwassen and the container port at Roberts Bank. Tsawwassen Lands are owned by and under the jurisdiction of Tsawwassen First Nation and are guided by the Tsawwassen First Nation Land Use Plan. An additional 62 ha of fee simple land near Boundary Bay and on the Fraser River (along Canoe Pass) are owned by the Tsawwassen First Nation but are under the jurisdiction of the Corporation of Delta. Roughly half (184) of the Tsawwassen First Nation's registered population (365) reside on Tsawwassen Lands. The Project area is overlapped by Tsawwassen Traditional Land Use areas but not Tsawwassen Lands. The closest point of the boundary of the Tsawwassen lands is 9 km from the Project area. The Project is located in Tsawwassen First Nation's Treaty-protected wildlife harvesting area, migratory bird harvesting area, and fishing and bivalve harvesting area (*Tsawwassen First Nation Final Agreement Act*, SC 2008, c 32).

In addition to fee simple interests, the TFNFA secures harvesting rights to Tsawwassen members in areas located within Tsawwassen Territory, defined as the area of land that Tsawwassen identified in its Statement of Intent to the BCTC. This territory extends from the southern Gulf Islands to the area around Pitt Lake.

13.3.22.1 Overview of Engagement Activities

The Proponent met with Tsawwassen First Nation ("Tsawwassen") in September 2021 to initiate Pre-Early Engagement, including a review of the Provincial Environmental Assessment Process, engagement planning, information sharing, and capacity support. The Proponent sought to establish capacity support agreement, a regular engagement schedule, and to develop an understanding of Tsawwassen's engagement preferences, including information sharing, receiving and managing Indigenous knowledge, decision-making processes, and consensus-building activities. The Proponent has since met with Tsawwassen at minimum monthly to discuss the Project and has come to agreement on the terms of a capacity funding agreement to support Tsawwassen's ongoing participation. Additionally, the Proponent invited Tsawwassen Leadership to attend regularly occurring meetings with the Minister of Transportation and the Mayors of Delta and Richmond regarding the Project.

The Proponent shared draft versions of the IPD and Engagement Plan (titled “George Massey Crossing Project Initial Project Description” and “George Massey Crossing Project Engagement Plan,” respectively) with Tsawwassen in early December 2021 seeking feedback and input, including a summary of interests and issues identified by Tsawwassen since the Project announcement in August 2021. The Proponent shared updated versions of the IPD and Engagement Plan with Tsawwassen in early 2022 including tables listing Tsawwassen feedback on the IPD and Engagement Plan and responses to each comment. The Proponent also notified Tsawwassen that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has engaged in regular, two-way dialogue on various Project or environmental assessment aspects including the following:

- reference concept
- capacity funding
- potential Project impacts to Tsawwassen Treaty rights
- treatment of Indigenous knowledge
- monitoring opportunities
- existing conditions workplan, Tsawwassen delivered a Eulachon migratory bird study to inform
- temporary moorage

Tsawwassen representatives also attended the Project IMUG meetings and the presentation of proposed construction methodology visuals in fall 2022.

Tsawwassen submitted formal comments on the draft DPD. The Proponent provided responses to comments, incorporated them into the DPD where appropriate, or carried them forward for consideration on future Project materials such as VC selection and AIR.

The Proponent is in early discussions with Tsawwassen regarding their interest in participating in the environmental assessment, including completion of an Indigenous-led assessment. The Proponent looks forward to exploring this interest further with Tsawwassen and supporting their pursuit of an Indigenous-led assessment.

13.3.22.2 Description of Issues That Have Been Raised

Table 13.3.12 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.12: Tsawwassen First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Email	Concern temporary moorage site location will interfere with a fish trap that TFN is currently building along the shore of Steveston Island.	The temporary moorage site will be located upstream from the location of TFN's fish trap that is being built. All in-river construction relating to temporary moorage site would occur within the least-risk-to-fish window.
Meeting	Concern with the Project's impact, combined with other ongoing projects, on the Fraser River.	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • engagement with Indigenous nations • traditional use information provided by Indigenous nations • existing conditions studies and other historical and publicly available data • approved land use plans surrounding the Project • effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment feedback from regulatory agencies, stakeholders and the public
Meeting	Concern about decommissioning of the Existing Tunnel and its impact on fish.	Decommissioning the Existing Tunnel is part of the Project and therefore the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
Meeting	Prefer construction of piers/infrastructure in Deas Slough be on land rather than in-water.	The length of the new Deas Slough Crossing will be too great to effectively construct a clear span structure, which would be cost prohibitive for a crossing of this size; however, the Project is evaluating opportunities to minimize construction impacts in Deas Slough.

Source of Feedback	Feedback/Comment	Response
Email (WSA permit application)	Eulachon eggs are not anticipated to be present within the area of the proposed in-river works and dismisses the concern of effects on Eulachon due to Project activities. Albeit Noble et al. (2021) observed only a limited catch of Eulachon eggs at the George Massey Tunnel study site, effects to Eulachon should not be so readily dismissed.	The Proponent understands the importance of Eulachon to Indigenous peoples and the work has been planned so that it would be completed prior to active spawning.
Email (WSA permit application)	The report provides a thorough assessment of potential interactions between the Project and the biophysical environment but gives no consideration to how use of the area by TFN citizens exercising Treaty rights (e.g., fishing) might be affected and mitigated (to the extent necessary to address conflicts and incompatibilities). Even if the anticipated effects are negligible, effect pathways must be identified and addressed as such. In-river effects are of primary concern here as the work has potential to overlap with the salmon fishing season. We appreciate that the cover letters seek TFN's input on such matters, but it is TFN's view that the Proponent needs to undertake this assessment, with input from TFN where required.	The Proponent is currently working with Indigenous nations in forming an IMUG to understand and manage potential interferences during construction of the Project. The IMUG is intended to communicate Project updates, communicate navigation safety restrictions, and implement mitigation measures.
Email (WSA permit application)	Depending on the outcome of the assessment, actions to avoid and/or mitigate impacts of the Project on TFN Treaty Rights and Interests need to be included in this document.	The Proponent looks forward to discussions regarding avoiding and/or mitigating impacts to Tsawwassen's Treaty Rights and Interests.
EAO's Summary of Engagement	The Project is proposed to take place in Tsawwassen Territory as defined under the Tsawwassen First Nation Final Agreement ("Treaty"). Tsawwassen First Nation has indicated that BC, as a Treaty Partner, is aware of Tsawwassen First Nation's interests and how they could interact with the Project.	The Proponent confirms they are aware of Tsawwassen's Treaty rights and looks forward to continued dialogue to ensure your interests are reflected in the Project.

Source of Feedback	Feedback/Comment	Response
Meeting	Nation is interested in understanding the separation wall between existing tunnel and proposed tunnel.	The Proponent looks forward to sharing more information on the separation wall and notes that further responses were also provided to Tsawwassen DPD comments on this topic.
Meeting	Nation is concerned about impacts to fish from watering and dewatering the casting basin.	The Proponent looks forward to working with Tsawwassen on assessing impacts to fish from the casting basin as part of the assessment and notes that further responses were also provided to Tsawwassen DPD comments on this topic.
Meeting	Nation has concerns with temporary moorage location and potential impacts to Tsawwassen fish trap projects.	Consultation is ongoing with regards to the temporary moorage site. Input will be sought from Tsawwassen on this topic as part of this process.
DPD comments	Nation submitted comments on the DPD.	The Proponent responded to Tsawwassen comments and incorporated into the DPD where appropriate. See Attachment 4.

TFN = Tsawwassen First Nation; EAC = British Columbia Environmental Assessment Certificate; EAO = British Columbia Environmental Assessment Office; WSA = *Water Sustainability Act*; DPD = Detailed Project Description; IMUG = Indigenous Marine Users Group.

13.3.23 Tseycum First Nation

In the SENĆOŦEN language Tseycum is spelled Wsikem, which means Land of Clay (Tseycum First Nation [date unknown]). Tseycum First Nation are part of the W̱SÁNEĆ Leadership Council (W̱SÁNEĆ Leadership Council [date unknown]). The W̱SÁNEĆ Leadership Council "promote[s] the interests of the W̱SÁNEĆ First Nations by enhancing recognition of, and respect for, W̱SÁNEĆ Douglas Treaty rights and W̱SÁNEĆ Aboriginal rights and title". (W̱SÁNEĆ Leadership Council [date unknown]). W̱SÁNEĆ peoples, including Tseycum, are descendant of the original signatories to the Douglas Treaties in 1852 (CRD [date unknown]).

Tseycum First Nation is governed by a Chief and two Councillors. Elections are held every two years and they have around 200 members (CRD 2022)). Tseycum First Nation has five reserves: Bare Island 9, Goldstream 13, Pender Island 8, Saturna Island 7, and Union Bay 4. Of the 203 registered population, 127 live on reserves.

In 2009, BC and the Tseycum First Nation signed the Halitun Nutusmat (healing through one mind) Protocol, which committed the parties to work together (Government of BC 2012).

Figure 23 in Attachment 6 provides a map of Tseycum First Nation Traditional Territory.

13.3.23.1 Overview of Engagement Activities

Tseycum First Nation was invited to review and comment on the draft DPD, and the Proponent also shared a number of materials for information including Eulachon spawning assessment reports.

The Proponent invited Tseycum First Nation to attend the Project IMUG meetings to share information and seek Tseycum participation regarding the Project's marine-based activities and to attend a presentation of the proposed construction methodology in fall 2022.

Tseycum First Nation did not attend engagement activities and did not respond to correspondence or provide further comments related to the Project.

13.3.24 səlilwətaɬ (Tsleil-Waututh) Nation

Tsleil-Waututh Nation are a Central Coast Salish people that speak the hən̓q̓əmin̓əm̓ language. The majority of Tsleil-Waututh community members live in IR3 on Burrard Inlet. Traditional Use Studies and archaeological evidence show Tsleil-Waututh ancestors occupied a vast area, about 1,865 km^2 (190,000 ha). Tsleil-Waututh Nation Consultation Area encompasses wilderness watersheds northwards to Mount Garibaldi, Coquitlam Lake in the east, and Howe Sound to the west (TWN [date unknown]) and extends to the Canada–United States border, inclusive of Boundary Bay, to the south.

Originally, Tsleil-Waututh Nation was about 10,000 strong, a distinct Coast Salish Nation whose territory includes Burrard Inlet and the waters draining into it. Today Tsleil-Waututh Nation has a population of about 600 people and growing, as the population has increased more than 200% in the past 30 years (TWN [date unknown]). The Project area lies fully within Tsleil-Waututh Nation's defined Consultation Area (Figure 24 in Attachment 6). The Tsleil-Waututh Nation Stewardship Policy is used to evaluate projects for the land, water, and resources in the Tsleil-Waututh consultation area.

The main Tsleil-Waututh Nation community is located in North Vancouver, on the shore of Burrard Inlet, approximately 2 km east of the north end of the Second Narrows Bridge, on Burrard Inlet 3. Two other reserves, Inlailawatash 4 and Inlailawatash 4A, are located on Indian Arm. Almost 300 nation members reside on Tsleil-Waututh reserves. Tsleil-Waututh is governed by a Chief and Council with four-year terms under an *Indian Act* electoral system.

Tsleil-Waututh established an Economic Development Department in 1992. The Nation owns and operates several businesses, including Takaya Developments Ltd. (real estate development), Takaya Tours (cultural tourism), TWN Wind Power Inc. (small wind turbine distribution), Inlailawatash Forestry Limited Partnership (natural and cultural resources consulting service), Salish Seas Limited (a partnership between Tsleil-Waututh Nation, Tla'amin First Nation, and the Musqueam Indian Band), TWN and Aquilini Group, and SPAL General Constructors, a project management company co-owned with Tsawwassen First Nation. Other important related Tsleil-Waututh organizations and agreements include the First Nations Legacy Society (also involving Katzie First Nation, Kwantlen First Nation, Kwikwetlem First Nation, Tsleil-Waututh Nation and Tsawwassen First Nation) and the Musqueam Squamish Tsleil-Waututh (MST) Land Protocol.

13.3.24.1 Overview of Engagement Activities

The Proponent initiated Pre-Early Engagement with Tsleil-Waututh Nation following the Project announcement in September 2021 through written correspondence providing an overview of the Project and seeking opportunities to meet and discuss the Project, including capacity support and establishing productive working relationships regarding the Project.

The Proponent shared draft copies of the IPD and Engagement Plan in early December 2021 seeking feedback on this initial version. The Proponent shared updated versions of the IPD and Engagement Plan with Tsleil-Waututh Nation in early 2022 and notified the Nation that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has sought to engage with Tsleil-Waututh Nation regarding the existing condition studies, the reference concept design, and to attend a presentation of the proposed construction methodology. In each instance, the Proponent offered to meet with Tsleil-Waututh Nation to discuss in detail.

The Proponent met with Tsleil-Waututh in May 2022 to discuss engagement on the Project and reached a capacity funding agreement to support their participation in the Project.

Tsleil-Waututh attended IMUG meetings and was invited to attend a presentation of proposed construction methodology visuals presentation.

Through early engagement, Tsleil-Waututh identified a number of topics and concerns for consideration in the Project environmental assessment. TWN noted concerns around potential impacts to fish populations (especially Fraser Sockeye salmon as a primary food source), further precluding TWN's ability to harvest these resources and negating TWN's environmental remediation programs aimed at restoring these resources and other now scarce fish populations (especially herring, sturgeon and Eulachon).

TWN shared that the Nation still actively fishes in the Fraser River and are concerned about the potential for further negative impacts to other traditional foods including crab, shellfish, particularly clams, and marine birds, particularly ducks. TWN fishing practices have been heavily curtailed, including the near-complete or complete absence of herring, Eulachon and other small fish and sturgeon from TWN diets.

TWN noted that reduction in traditional foods could in turn impact TWN cultural and ceremonial activities since salmon, crab, clams, herring, and birds are central to such activities. A reduction in traditional foods would also impact cultural transmission because harvesting and preparing of traditional foods is the primary context for such cultural transmission.

TWN shared that the area in and around the Project was first home to the ancestors of Coast Salish People, including Tsleil-Waututh Nation. The Nation is deeply connected to the lands and waters of the territory and developed a Marine Stewardship Plan in 2005, which aims to restore the waters to a healthy state that would support the safe consumption of marine foods. TWN's advocates for "net environmental gain" for all projects, rather than a perspective based on mitigating impacts for "no net environmental loss." This Tsleil-Waututh principle considers that current conditions throughout the territory are already at a loss compared to pre-industrial times.

Tsleil-Waututh submitted formal comments on the draft DPD. The Proponent provided responses to comments, incorporated them into the DPD where appropriate, or carried them forward for consideration on future Project materials such as VC selection and AIR.

13.3.24.2 Description of Issues That Have Been Raised

Table 13.3.13 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.13: Tsleil-Waututh Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	TWN has developed their own CEMP guidelines and noted the Project team should work to understand and include these as a starting point.	The Proponent looks forward to receiving TWN's CEMP guidelines. They will be very helpful to inform our work on mitigations and management plans.
Meeting	Preference to receive at least four weeks' notice for scheduling meetings.	The Proponent is committed to working with TWN and will request meetings with sufficient notice, as requested.
Email (WSA permit application)	Tsleil-Waututh Nation's consultation area encompasses much of the lower Fraser River. Tsleil-Waututh Nation has a sacred, legal obligation to protect, defend and steward the water, land, air, and resources of the territory. This stewardship obligation includes the responsibility to maintain and restore conditions that provide the environmental, cultural, spiritual, and economic foundation for the Nation and the community to thrive. Tsleil-Waututh stands by the principal of net environmental gain and considers cumulative impacts when assessing projects. Tsleil-Waututh's stewardship obligation is outlined in our Stewardship Policy.	The Proponent will add Tsleil-Waututh's Stewardship Policy to the EMP and looks forward to discussions Tsleil-Waututh Nation on this policy.
Email (WSA permit application)	Tsleil-Waututh has been advocating that all projects, whether TWN-led or Proponent-led, aim for net environmental gain. Since industrial development began, TWN's resources and ability to sustain themselves off the land has been impacted. The work TWN does today is to ensure the limited resources remaining are available today for future generations.	The Proponent looks forward to discussions with Tsleil-Waututh Nation on this topic to gain a deeper understanding.
DPD comments	Nation submitted comments on the DPD.	The Proponent responded to Tsleil-Waututh comments and incorporated into the DPD where appropriate. See Attachment 4.

TWN = Tsleil-Waututh Nation; CEMP = Construction Environmental Management Plan; WSA = *Water Sustainability Act*; EMP = Environmental Management Plan; DPD = Detailed Project Description.

13.3.25 Ts'uubaa-asatx First Nation

Ts'uubaa-asatx First Nation (formerly Lake Cowichan First Nation) is a Hul'qumi'num-speaking Central Coast Salish group. Ts'uubaa-asatx First Nation membership takes descent from both Ditidaht (Nuu-chah-nulth) ancestors and Hul'qumi'num' ancestors known as the Somenos (or Saumni, Samena, Saumina, and other variations), one of seven village groups comprising the Cowichan Tribes. The community is based on a single reserve on the northeastern shore of Cowichan Lake, approximately 30 km west of Duncan (on the east coast of Vancouver Island) and less than 20 km east of Nitinat Lake (on the west coast of Vancouver Island) and in the Lower Mainland.

Ts'uubaa-asatx First Nation have stated that Cowichan Lake has always been their primary home and that their Traditional Territory is centred on the lake, taking in surrounding lands, streams, and other waters, including the uppermost part of the Cowichan River. They have also stated that their use of this territory has continued to the present day. A three-year Forest Consultation and Revenue Sharing Agreement with the Province of British Columbia, dated 2011, identifies this Vancouver Island-based territory. Ts'uubaa-asatx First Nation is part of the Hul'qumi'num Mustmiuhw, a group of six Vancouver Island First Nations that together form the Hul'qumi'num Treaty Group (BCTC 2020e). Figure 25 in Attachment 6 provides a map of the Hul'qumi'num Treaty Group collective Traditional Territory. Of the 30 registered members, 18 live on the reserve. Ts'uubaa-asatx First Nation have a custom electoral system with a Chief and Council.

Based on their affiliation with the Hul'qumi'num Treaty Group, Ts'uubaa-asatx First Nation has a larger, collective Traditional Territory with the other member First Nations of that group. The Traditional Territory of the Hul'qumi'num Treaty Group members generally includes parts of southeastern Vancouver Island, the southern Gulf Islands, a portion of the Lower Mainland, and the waters of the Salish Sea to the Sunshine Coast, including the lower portion of Howe Sound, Haro Strait, the Strait of Juan de Fuca, and the Fraser River up to Yale. The Project is located in this area. The members of the Hul'qumi'num Treaty Group collectively assert a Traditional Territory of core Aboriginal title lands and a broader traditional fishing territory, as described in its Statement of Intent to the BCTC.

Ts'uubaa-asatx First Nation, along with other Hul'qumi'num' speaking groups, is understood to have traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a permanent, on-going, annual activity of intensive trade. The Aboriginal title lands claimed by the Hul'qumi'num Treaty Group includes Tl'uqtinus, spanning the north shore from approximately opposite Deas Island to opposite Tilbury Island. A Ts'uubaa-asatx First Nation community member recently stated that they have not used any resources from the George Massey Tunnel area since 1960, but that they do occasionally access the area (BC EAO 2017).

13.3.25.1 Overview of Engagement Activities

The Proponent met with Ts'uubaa-asatx First Nation in October 2021 to initiate Pre-Early Engagement, including a review of the Provincial Environmental Assessment Process, engagement planning, information sharing, and capacity support. The Proponent sought to establish capacity support agreement, a regular engagement schedule, and to develop an understanding of the Ts'uubaa-asatx's engagement preferences,

including information sharing, receiving and managing Indigenous knowledge, decision-making processes, and consensus-building activities. The Proponent has since met with the Ts'uubaa-asatx at minimum monthly to discuss the Project and has come to agreement on the terms of a capacity funding agreement to support the Ts'uubaa-asatx's ongoing participation on the Project.

The Proponent shared draft versions of the IPD and Engagement Plan (titled "George Massey Crossing Project Initial Project Description" and "George Massey Crossing Project Engagement Plan," respectively) with the Ts'uubaa-asatx in early December 2021 seeking feedback and input, including a summary of interests and issues identified by the Ts'uubaa-asatx since the Project announcement in August 2021. The Proponent shared updated versions of the IPD and Engagement Plan with the Ts'uubaa-asatx in early 2022 including tables listing the Ts'uubaa-asatx's feedback on the IPD and Engagement Plan and responses to each comment. The Proponent also notified the Ts'uubaa-asatx that a 90-day early engagement period would commence once the EAO had accepted the IPD and Engagement Plan.

During the Early Engagement Phase, the Proponent has engaged in regular, two-way dialogue on various Project or environmental assessment aspects including the following:

- Ts'uubaa-asatx consultation processes and protocols
- reference concept
- capacity funding
- treatment of Indigenous knowledge
- monitoring opportunities
- existing conditions workplan

The Ts'uubaa-asatx conducted a site visit at Deas Island in June 2022 and attended the Project IMUG meetings and the presentation of proposed construction methodology visuals in fall 2022.

In response to the Ts'uubaa-asatx process to review all Project materials in meetings, the Project team met to review documents and collect feedback. The Proponent provided responses to comments, incorporated them into the DPD where appropriate, or carried them forward for consideration on future Project materials such as VC selection and AIR.

The Ts'uubaa-asatx also shared the Lower Mainland Advocacy Policy for incorporation into Project materials. The policy identifies key areas of interest and the Nation's expectations for projects to support revitalization of traditional use and occupation in the Fraser River South Arm.

As requested by the Ts'uubaa-asatx, the Proponent will undertake analysis of the advocacy policy in relation to the dAIR and the VC selection process in support of Process Planning phase.

13.3.25.2 Description of Issues That Have Been Raised

Table 13.3.14 summarizes all feedback received during Early Engagement either directly to the Proponent or via the EAO-led consultation activities. The table captures the feedback received and a response from the Proponent as to how the feedback was addressed.

Table 13.3.14: Ts'uubaa-asatx First Nation-Specific Table

Source of Feedback	Feedback/Comment	Response
Meeting	It is expected that the Proponent references and incorporates the Ts'uubaa-asatx's Advocacy Policy into Project documents, studies and practices.	The Advocacy Policy will be carried forward for consideration on future Project materials such as VC selection, AIR, and EAC Application.
Meeting	Main environmental concerns surround fish and fish habitat, wildlife and wildlife habitat, and archaeology including how it aligns with the Ts'uubaa-asatx Advocacy Policy.	In response to feedback from Indigenous Nations, eDNA surveys for Eulachon to delineate timing of early runs near the Existing Tunnel have been completed. Building on the results of this study the Proponent has planned additional Eulachon-specific studies for late 2022 / early 2023. The Proponent is looking forward to continuing to work with the Ts'uubaa-asatx to learn more about the Nation's concerns surrounding fish and fish habitat, wildlife and wildlife habitat, and archaeology.
Meeting	Opportunities for training and employment always come far too late in the process, need to provide information on these opportunities early to allow Nations to act upon them.	The Proponent is committed to developing a thorough understanding of how we can best support the Ts'uubaa-asatx to ensure it is able to engage on the Project.

Source of Feedback	Feedback/Comment	Response
Meeting	No formal response was provided regarding abandonment of the bridge replacement proposal. The Ts'uubaa-asatx agreed to go forward with bridge and was consulted during the process but not about its abandonment. Local Municipality interests should not be more influential than those of Indigenous nations.	The Proponent has engaged with Indigenous nations on crossing options, including a tunnel crossing, as part of previous iterations of the Project from February 2019 up to the announcement in August 2021. Aaron Hamilton, Operations Manager with Ts'uubaa-asatx First Nation, was present during some of these discussions. Engagement with Indigenous nations during previous iterations of the Project included a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous nations' participation, information sharing, and meetings in-person and virtually. This engagement informed the Proponent's consideration of crossing options and decision on an immersed tube tunnel. The Proponent is engaging local governments in Metro Vancouver and federal and provincial government agencies as well as Indigenous nations. Upholding the commitment of the Province to reconcile with Indigenous nations, the Proponent has developed its Indigenous engagement approach based on the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, the Government Consultation Bulletin on Consulting During the COVID-19 Emergency, and the Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c. 44 (2019) (*Declaration Act*). Through the *Declaration Act* the Province formally adopted the internationally recognized standards of the United Nations Declaration on the Rights of Indigenous Peoples.
Meeting	Expects the Proponent to set goals and objectives for Indigenous hires. T'FN is a small nation and can't take advantage of all upcoming opportunities but they do want to strategize with the Proponent on capitalizing on contracting opportunities and hiring. Not just for monitoring, but setting up a program to train their people in what will be needed for meaningful job opportunities.	The Proponent will continue engagement with T'FN to support training and job opportunities.

Source of Feedback	Feedback/Comment	Response
Meeting	Concerned regarding the impact dredging will have on white sturgeon and Eulachon.	Effects related to dredging will be assessed during the environmental assessment and in permitting. Eulachon and Sturgeon have been identified as important species for the Project and advance Indigenous-led studies are being undertaken to assess use of the Project area by these species. These species are also proposed to be included as subcomponents within the Fish and Fish Habitat VC.
Meeting	The Project area should be acknowledged as the Hulquminum Treaty Group's core area which extends to the Fraser River South Arm.	Comment noted. The DPD acknowledges that the Project is located in the Hul'qumi'num Treaty Group Traditional Territory and the main environmental concerns surround fish and fish habitat, wildlife and wildlife habitat, and archaeology including how it aligns with the Ts'uubaa-asatx Advocacy Policy.
Email (WSA permit application)	Eulachon - white sturgeon relationship. If Eulachon are present, then sturgeon may be as well.	We acknowledge the relationship between Sturgeon and Eulachon, specifically that white sturgeon may migrate to the lower reaches of the Fraser River in the spring and summer months to feed on up-migrating adult Eulachon and salmonids, then return to upriver overwintering locations.
Email (WSA permit application)	The other critical fish window is food fisheries. Ts'FN only gets 250 fish (salmon). White sturgeon and Eulachon can also be a food fish (although Ts'FN voluntarily does not fish sturgeon).	We acknowledge that salmonids, Eulachon, and White Sturgeon are all food fish for Ts'uubaa-asatx First Nation.
Meeting	Deas Island was pre-empted so the Project should anticipate that there will be a greater indigenous footprint than expected on both sides of the Fraser River.	Thank you for sharing this information with us. The Proponent will explore this further to better understand its impacts to Deas Island and impacts to the Project as a whole.
DPD comments	Ts'uubaa-asatx First Nation provided comments on the draft DPD.	See Attachment 4.

VC = valued component; EAC = British Columbia Environmental Assessment Certificate; AIR = Application Information Requirements; eDNA = environmental deoxyribonucleic acid; SBC = Statute of British Columbia; Ts'FN/T'FN = Ts'uubaa-asatx First Nation; DPD = Detailed Project Description; WSA = *Water Sustainability Act.*

13.4 ENGAGEMENT MOVING FORWARD

13.4.1 How Indigenous Nations Plan to Work With the Proponent

The Proponent has sought to establish agreement with Indigenous nations on engagement principles, processes, and methods. The Proponent has offered all Indigenous nations support to defray the costs of participation in Project development and the environmental assessment.

The Proponent has executed capacity agreements with:

- Halalt First Nation
- Kwantlen First Nation
- Lyackson First Nation
- Musqueam Indian Band
- Penalakut Tribe
- Seabird Island Band
- Snuneymuxw First Nation
- S’ólh Téméxw Stewardship Alliance
- Tsleil-Waututh Nation

The Proponent is advancing agreements with:

- Cowichan Tribes
- Leq’á:mel First Nation
- Matsqui First Nation
- Semiahmoo First Nation
- Stz'uminus First Nation
- T'suubaa-asatx Nation
- Tsawwwassen First Nation
- Tsartlip First Nation

The Proponent has not received a response to capacity funding from the following nations:

- Tsawout First Nation
- Tseycum First Nation
- Pauquachin First Nation
- Shxw’ōwhámél First Nation
- Katzie First Nation

The Proponent has established a regular meeting schedule with 12 Indigenous nations to date and schedules additional meetings on an as needed basis or as requested by Indigenous nations.

13.4.2 Opportunities for the Proponent to Work with the EAO and Indigenous nations

The Proponent will support Indigenous nations' participation in EAO-led activities such as meetings, information sessions, and information sharing meetings. To date the Project has invited the EAO to participate in meetings between the Project and Indigenous nations to discuss topics relevant to the EAO such as Indigenous-led assessments and will continue to do so. The Project will support Indigenous nations to meet information needs to support consensus seeking processes required by the EAO.

The Proponent will collaborate with the EAO to support Early Engagement and subsequent phases of the environmental assessment process, including the Summary of Issues. The Proponent will also collaborate with the EAO to coordinate Indigenous engagement, examine potential effects on Indigenous interests, and support the development of potential mitigations as required.

The Proponent will work with Indigenous nations who wish to complete Indigenous-led assessment of Indigenous interests and will collaborate with Indigenous nations who may be interested in other assessment components. Where possible, the Proponent will coordinate these conversations with the EAO.

13.4.3 Summary of Planned Engagement Activities

The Proponent will continue to work with Indigenous nations in a manner that reflects the feedback heard during Early Engagement. The Proponent plans to carry out the engagement activities with Participating Indigenous nations as summarized in Table 13.4.1.

Table 13.4.1: Summary of Planned Engagement Activities

Phase of Environmental Assessment	Engagement Activity
Process Planning	Incorporating Indigenous nations input, views, and values into the selection of VCs
Process Planning	Incorporating Indigenous nations input into the proposed methods for assessments
Readiness Decision, Process Planning, Application Development & Review	Establishing frameworks for how Indigenous knowledge is integrated into the Project assessment, mitigations, monitoring, cumulative effects, issues resolution processes, schedule, and communications
All Phases	Supporting collaborative development of Project submissions required for the environmental assessment process
Process Planning, Application Development & Review, and Effects Assessment	Supporting Indigenous-led assessments

Phase of Environmental Assessment	Engagement Activity
Readiness Decision, Process Planning	Continuing to seek input on the proposed Project design and environmental assessment process and study requirements
All Phases	Working with Indigenous nations to develop habitat offsetting opportunities and programs and providing opportunities for Indigenous nations to deliver this work
All Phases	Working with Indigenous nations to scope, develop, and deliver Indigenous opportunities for economic development, training, and employment
All Phases	Working with Indigenous nations to develop cultural recognition opportunities

VC = valued component.

13.5 IDENTIFICATION OF INDIGENOUS INTERESTS AND POTENTIAL EFFECTS

Consultation to date and ongoing engagement on the Project by the Proponent has developed a preliminary understanding of Indigenous interests, including Section 35 rights and how these Interests may overlap with potential effects of the Project. As per Section 25(1) of the BCEAA, the effects of the Project on Indigenous nations and rights recognized and affirmed by Section 35 of the *Constitution Act, 1982*, must be assessed. Consultation to date includes collaborative engagement activities, including IMUG meetings, sharing the draft DPD prior to submission to the EAO, sharing a preliminary VC candidate selection document, and other engagement activities as identified in Section 13.4. The nature of Indigenous interests and potential interactions with the proposed Project will continue to be defined beyond the Early Engagement Phase into the Process Planning phase.

13.5.1 Inclusion of Indigenous Knowledge

The Proponent has incorporated Indigenous knowledge provided by Indigenous nations through engagement to inform the development of the Project's design and environmental assessment. The Proponent has outlined and reviewed with Indigenous nations the proposed principles, processes, and methods of collecting, receiving, managing, and interpreting Indigenous knowledge into the Project environmental assessment through discussions with Indigenous nations during Pre-Early Engagement. The Proponent has identified sources of Indigenous knowledge that informed the development of Project design, including information provided on the George Massey Tunnel Replacement Project, which Indigenous nations have asked to review and build upon for the Project.

Indigenous knowledge has contributed to Project development and design in a variety of ways, including the following:

- The location of temporary moorage for tunnel elements was developed collaboratively with Indigenous nations and influenced to a large extent by Indigenous knowledge.

- Indigenous knowledge contributed to the design of the existing condition studies and revisions were made to study proposals based on Indigenous knowledge provided by participating Indigenous nations.
- Indigenous knowledge contributed to the development and delivery of environmental studies by Indigenous nations, including migratory birds, Eulachon, white sturgeon, and salmonid studies.

For Indigenous knowledge that may have been incorporated into the description of the biophysical environment and informed other existing conditions work, refer to Section 10.

13.5.2 Preliminary Understanding of Indigenous Interests and Potential Project-Related Interactions and Effects

The Fraser River South Arm and upland areas along the Fraser River is actively used by Indigenous nations in the exercise of Indigenous rights including for fishing, hunting, gathering, trading, transportation, and cultural practices.

Potential effects to current use of lands and resources for traditional purposes may result from in-river and upland construction activities and subsequent decommissioning of the Existing Tunnel. The Proponent will collaborate with Indigenous nations, technical advisors, and public stakeholders to minimize effects on land and marine resources during the operational phase of the Project.

The Proponent will continue to work with Indigenous nations to identify and augment existing information and conduct additional studies as necessary to understand the traditional and current use of the lands and resources surrounding the Project and how the Project may impact these uses. To the extent possible, the Proponent will build upon the assessments of resources and land use for traditional purposes conducted in the previous 10-lane bridge project to inform these assessments.

During the Early Engagement Phase, feedback received by the EAO from Indigenous nations included concerns related to potential Project-related effects on Indigenous interests. The Proponent also gathered feedback to gain a preliminary understanding of potential Indigenous interests through the methods noted in Section 13.2 and 13.3.

Table 13.5.1 summarizes the Proponents preliminary understanding of potential affected Indigenous interests shared throughout the Early Engagement Phase. Where an Indigenous interest is not yet represented in Table 13.5.1,no feedback to date has been provided. The Proponent will undergo additional engagement to better understand the interests and Project concerns put forward. The scope of the assessment on Indigenous interests will be finalized through the Process Planning phase.

Table 13.5.1: Preliminary Indigenous Interests and Potential Project-Related Effects

Identified Preliminary Indigenous Interests	Potential Project Interactions and Effects
Harvesting and Subsistence Activities	Project construction activities, including existing tunnel decommissioning, may affect Indigenous nations rights related to fishing and harvesting, including potential effects on the following: • fish and fish habitat that could impact food for social, economic, or ceremonial needs • temporary loss of access to fishing or harvesting areas • disturbance from underwater noise, dust and sediment during fishing activities • changes to fishing sites along with associated cultural activities, traditional uses, and access to water-based activities along the lower Fraser River • economic losses by Indigenous harvesters • aquatic species and harvesting areas from dredging and disposal of dredge material
Lands and Resource Use for Cultural Purposes	Project construction activities may affect Indigenous nations rights related to accessing and using Treaty and/or traditional lands and resources for cultural purposes: • restricted access to Project footprint • disturbance from air and dust emissions • disturbance from noise and light • disturbance to cultural sites including archaeology sites • cumulative effects of industrialization in the Fraser River
Cultural Continuity	Project construction and operation activities may potentially affect: • quality and access to culturally important sites located in Deas Slough and the surrounding area • increased cultural recognition and reflection in the Project vicinity • knowledge transmission and opportunities to transmit knowledge within the Project area • changes to ability to access and protect archaeological and historical sites and artifacts • changes to ability to revitalize, develop, and transmit to future generations the histories, oral traditions, and place names relating to the Project area • changes to sense of place and identity • changes to experiences of being on the land (such as changes in air quality, noise exposure, visual quality, and effects of vibrations) • changes to current and future availability and quality of traditional foods • changes to culturally significant species

Identified Preliminary Indigenous Interests	Potential Project Interactions and Effects
Indigenous Health and Wellbeing	Project construction or operation activities may affect Indigenous peoples rights to high standard of physical and mental health. Specifically, Project-related effects may: • affect human health from stressors such as air, dust, and GHG emissions, noise from construction and loss of access to traditional foods • cause Health impacts from the loss of access to traditional plants for food and medicine and reduction in quality of plants that remain
Indigenous Governance Systems	Project construction or operation activities may affect Indigenous governance systems as well as how Indigenous rights are exercised in the ability to use, develop, and control traditional land, territories, and resources. Specific interactions may include: • changes to ongoing conservation efforts to restore important fish species and habitat • changes to stewardship approaches or initiatives around lands and resources through incorporation of Indigenous knowledge
Social and Economic Conditions	Project construction or operation activities may affect Indigenous Social and Economic conditions including the following: • effects on Indigenous nations' future aspirations for sites or area surrounding the proposed Project • changes to employment or contracting opportunities for Indigenous owned or affiliated businesses

GHG = greenhouse gas.

14 ENGAGEMENT AND CONSULTATION WITH LOCAL GOVERNMENTS, REGIONAL AUTHORITIES, STAKEHOLDERS, AND THE PUBLIC

14.1 SUMMARY OF PRELIMINARY ENGAGEMENT ACTIVITIES

With the cancellation of the previously proposed 10-lane bridge project in 2017, and the completion of an Independent Technical Review in 2018, the Proponent undertook a three-phase engagement program to support planning for a new crossing:

1. **Phase 1 – Principles, Goals, and Objectives (January to April 2019)—**The Proponent worked with Indigenous nations, technical advisors, stakeholders, and the public to develop and achieve regional consensus on Project principles, goals, and objectives.
2. **Phase 2 – Options Analysis (spring 2019 to spring 2020)—**The Proponent worked with Phase 1 audiences to identify and shortlist crossing options and conduct a Multiple Account Evaluation of the shortlisted options. Public engagement was conducted on the shortlisted options.
3. **Phase 3 – Business Case (fall 2020 to spring 2021)—**The Proponent completed and updated the Business Case for the recommended crossing option (MOTI 2021).

14.1.1 Federal, Provincial, Local Governments and Regional Authorities

The Proponent has been regularly communicating and engaging with local governments, regional authorities, and federal and provincial agencies on Project planning since 2019. Following the Business Case public release in August 2021, the Proponent has re-engaged these groups as part of Pre-Early Engagement efforts to understand their preliminary questions and issues. Engagement meetings included both staff and elected officials within federal, provincial, and local governments. Meetings included overviews of the Project scope to support a shared understanding and meaningful engagement. Through fall 2021, the Proponent met with the City of Richmond and City of Delta, Metro Vancouver, the VFPA, TransLink, DFO, ECCC, the Agricultural Land Commission, the Ministry of Environment and Climate Change Strategy, the EAO, and the Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

14.1.2 Public Stakeholders and Other Interested Parties

The Proponent held two public open houses in spring 2020 in Delta and Richmond to support public dialogue on the shortlisted crossing options considered at that time, and in fall 2020 the Proponent held meetings with the Fraser River Pilots Association, BC Coastal Pilots, BC Ferries, HUB Cycling, the BC Cycling Coalition, the BC Trucking Association, Vancouver International Airport, and other public stakeholders to provide an update on the Project and discuss areas of interest.

The Proponent will continue to maintain and strengthen relationships during subsequent phases of engagement. The Proponent uses a number of communication channels to share information with the public and stakeholders, including in-person or virtual meetings, social media, Project update emails, and the Project website. The Proponent will continue to engage with these parties as part of the EA process, as well as outside of the EA process, to support Project development.

14.2 SUMMARY OF EARLY ENGAGEMENT ACTIVITIES

During Early Engagement, the Proponent engaged with the local governments, regional authorities, stakeholders, and the public to identify and address potential issues, interests, and areas of concern. The Proponent developed an Early Engagement approach with the following key objectives:

1. Introduce the public and stakeholders to the Project and the environmental assessment process.
2. Support EAO-led engagement activities including public open houses, community workshops, and presentations with all relevant parties to the environmental assessment, as required by the EAO.
3. Establish Project-led forums and tools for public and stakeholder engagement.
4. Build strong relationships with Project stakeholders.
5. Identify public and stakeholder concerns related to the Project.

Early Engagement activities included EAO-led and Project-led activities:

- public comment period on the IPD (EAO-led)
- public open houses (EAO-led)
- virtual information sessions (EAO-led)
- Project presentation to local governments and regional authorities (Project-led)
- stakeholder meetings with public stakeholders, organizations, and community groups (Project-led)

14.2.1 Comment Period on the Initial Project Description for the Project

The Early Engagement Phase commenced with the EAO's approval of the IPD and Engagement Plan (at day 0 of Early Engagement) and the posting of the documents to the EAO's Project website. The EAO held a 45-day public comment period for the IPD between April 25 and June 9, 2022. During this period, the EAO sought feedback on the IPD as well as feedback on how members of the public would like to be engaged on the Project review once the assessment phase begins.

Prior to launch, the EAO and the Proponent advertised the public comment period broadly to encourage public awareness and participation:

- The EAO tweeted on its corporate account and announced on the EAO's Project Information Centre (EPIC) that the public comment period commenced on April 25, 2022.

- The Proponent tweeted on its account and announced that the public comment period commenced on April 25.
- The Proponent released an informational bulletin about the public comment period on April 25.
- The Proponent advertised the public comment period in the following media outlets: Vancouver Sun, The Province, Delta Optimist, Peace Arch News, Richmond News, Surrey Now Leader, The Filipino Post, Sing Tao, Indo-Canadian Awaaz, Indo-Canadian Voice, Ming Pao, Punjab Guardian, and Canadian Punjab Times. The public comment period was also advertised in Punjabi, Cantonese, and Mandarin.

To support access to Project information and public engagement, the Proponent developed a Project website with resources and information about the Project, 45-day public comment period, public open houses, and virtual information sessions.

The Proponent has reviewed all public comments and incorporated feedback into the DPD, as required. Table 14.2-1 summarizes feedback received from the public from their review of the IPD and TI Corp's response to the comment themes as described in the EAO's Summary of Engagement, including if and where feedback has been incorporated into the DPD, and whether feedback will inform subsequent phases of the EA. A complete record of public feedback on the IPD, including the Proponent's response and a description of how the input has informed development of the DPD, or will inform future phases of the EA, can be found in Attachment 9: Public Feedback on IPD.The Proponent has continued to welcome public input on the Project through the Project website, and since acceptance of the IPD, an additional 23 comments and general inquiries have been received with consistent themes of interest identified during early engagement as described in Table 14.2-1.

Table 14.2.1: Response to Public Comments

Comment Theme	Concern or Comment	TI Corp Response	Feedback Incorporated into DPD	Will Feedback Inform Subsequent EA Phase(s)"
Public Transportation	A desire that additional lanes or infrastructure to allow for future expansion of the SkyTrain network be considered due to increased demand and population growth south of the Fraser River. Ladner, Tsawwassen, and BC ferries would benefit from greater access to rapid transit options as they are currently limited. Mass transit options should also be considered given the context of climate change, BC/Canada's climate goals, and GHG emissions of low-capacity vehicles.	The new 8-lane tunnel will feature a dedicated transit lane in both directions; however, the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	No	No
Traffic	The increased capacity of the new tunnel may induce traffic demand and inadvertently impact commuters north of the river. The Oak Street Bridge, which crosses over the north arm of the Fraser River and connects Richmond to Vancouver, is only four lanes and may not adequately handle increased traffic due to the expansion of the tunnel. Alternatively, other concerns were raised that eight lanes will be insufficient to meet the growing demands of the area.	Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area.	No	No

Comment Theme	Concern or Comment	TI Corp Response	Feedback Incorporated into DPD	Will Feedback Inform Subsequent EA Phase(s)"
Local Economy	During the Request for Proposals, preference should be given to local suppliers and businesses in order to contribute to the local economy as much as possible. The design of the new tunnel should also promote the movement of products which may include dangerous goods.	Procurement processes must be fair, open and transparent to assure the public and potential partners of the integrity of the process and the desired outcome. Required qualifications for bidders (e.g., financial capacity and technical capability) are proportionate to project size and complexity. To ensure that BC taxpayers receive the best value for money, several factors including requirements that will ensure good-paying jobs, better training and apprenticeships, and more trades opportunities for Indigenous peoples, women and youth will be incorporated. The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge.	No	No
Walking and Cycling	The new tunnel design should include active transportation links to Deas Island and River Road. The Delta Millennium Trail links Captain's cove and Deas Island, which is used by local residents and visitors. Access to the trail may be impacted during the construction phase unless an alternative solution is included in the design of the project. Concerns were raised about the safety of the multi-use pathway during low-traffic hours, the safety of vulnerable groups and whether ventilation would adequately filter exhaust from vehicle traffic. Pedestrian and bicycle traffic should be separated due to higher crash-rates of multi-use pathways and decreased efficiency of cycling. The proponent should also consult representatives of transportive cycling in metro Vancouver.	The Project continues to liaise with cycling advocacy groups, local municipalities, Indigenous nations, and the general public on the use and functionality of the multi-use path. The center running alignment for the multi-use path was determined after evaluating fire and life safety components such as emergency egress and evacuation, and first responder access. Further iteration of engagement on the project will have more specific details on the multi-use path connections. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues. The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experience for all users.	No	Further documentation on engagement will have more specific information on the MUP connections

Comment Theme	Concern or Comment	TI Corp Response	Feedback Incorporated into DPD	Will Feedback Inform Subsequent EA Phase(s)”
Environment and Air Quality	Dredging the bed of the Fraser River in preparation of dropping tunnel sections may have serious environmental impacts on the river ecosystem including fish and fish habitat by way of sedimentation and soil disturbance. Portal excavations at the end of each tunnel may also disturb shorelines which are home to important wildlife and vegetative species. Erosion and salmon habitat should be considered key concerns during project design. Salmon runs may also arrive at unpredictable times. Construction of the tunnel may need to pause in order to minimize impacts to salmon during this time.	Environmental impacts associated with tunnel construction, including potential affects on salmon, will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. While the immersed tube tunnel option would have an impact due to in-river construction, it was identified as having the lowest long-term impact and the greatest potential for environmental enhancements. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The project is now in the Environmental Assessment process, to assess and mitigate any potential impacts, which includes very focused consultation with Indigenous nations in relation to any potential impacts to Indigenous nations' interests on those whose traditional lands the project is located.		EAC process will contain a detailed environmental impact assessment for all biophysical aspects of the project
Accident and Malfunctions	Transport of dangerous goods through the tunnel may pose a risk on other tunnel users, namely recreational and personal vehicles. Consideration should be given to the potential of a seismic event which could cause catastrophic failure to the existing tunnel and how that may impact construction of the new tunnel.	The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge. The environmental assessment for the Project will assess risks such as earthquakes and flooding. In addition, to design mitigations, additional mitigation and management options will be developed as part of the EA and presented in the EAC Application. The new tunnel will be designed and constructed to lifeline standards and will withstand earthquakes as large as magnitude 9.	No	EAC process will assess risks for natural events such as earthquakes and flooding.

Comment Theme	Concern or Comment	TI Corp Response	Feedback Incorporated into DPD	Will Feedback Inform Subsequent EA Phase(s)"
Greenhouse Gas (GHG) Emissions	Assessment of the new tunnel should consider embodied GHG emissions (emissions from the manufacturing of materials, excavation, fabrication, transport to sites, and construction activities) in the context of BC and Canada's climate goals. The proponent should endeavor to mitigate embodied GHGs where possible and consider alternative solutions to align with the Clean BC framework.	The GHG assessment will be undertaken consistent with regulatory guidance and recommendations. Specifically, standards and regulatory guidance documents provided by the BC Environmental Assessment Office (EAO) pertaining to GHG requirements, including the EAO's Effects Assessment Policy (Version 1.0; EAO 2020a), and Application Information Requirements Guideline (Version 1.0; EAO 2020b) to understand general GHG requirements for EAC Applications as specified under the British Columbia Environmental Assessment Act, SBC 2018, c. 51 (BCEAA; Government of BC 2018). Inclusion of embodied carbon (e.g., upstream carbon emissions) are not currently required under the current guidance.	No	EAC process will contain a GHG assessment as per regulatory guidance and recommendations
Residential Disturbance	Construction and operation of the new tunnel may cause vibrations and noise which would disturb nearby residences. Road debris and dust may adversely impact the health of neighbouring residents. The proposed River Road offramp may also induce traffic into a residential neighbourhood including an elementary school. An exit into this neighbourhood should be reconsidered.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction, including potential for dust, noise, traffic, and associated economic impacts to nearby residents and local businesses, will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. Our focus for the project is improving connections to and from Highway 99, which will help reduce congestion. This includes maintaining and improving the existing River Road off ramp from Highway 99 southbound.	No	EAC process will include a Construction Environmental Management Plan (CEMP) to address these factors and identify mitigation measures
Impacts of the Environment on the Project	Concerns regarding how the project design will take rising sea levels and climate change impacts into consideration.	As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change. Further, the new tunnel will be classified as a Lifeline Structure, meaning a 1:2475 year seismic event would result in repairable damage to the tunnel	No	EAC process will assess risks for natural events such as earthquakes and flooding.

Comment Theme	Concern or Comment	TI Corp Response	Feedback Incorporated into DPD	Will Feedback Inform Subsequent EA Phase(s)”
Indigenous Nations Interests	Concerns that First nation communities do not support a new tunnel.	Since 2018, the Province has worked closely with Indigenous nations, local governments, and stakeholders to identify the right project for the region. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The project is now in the Environmental Assessment process, to assess and mitigate any potential impacts, which includes very focused consultation with Indigenous nations in relation to any potential impacts to Indigenous nations' interests on those whose traditional lands the project is located.	Detailed descriptions of engagement with each Indigenous Nation are available in Section 13 of the DPD, titled: Indigenous Nations Interests	EAC process will include consultation with Indigenous Nations

14.2.2 Public Engagement on the Initial Project Description: Open Houses

The EAO hosted in-person open houses on May 10 and May 11, 2022, in Delta and Richmond to provide an opportunity for interested and affected parties to learn more about the proposed Project and seek public comments on the IPD and the Engagement Plan. Along with EAO staff, Proponent staff for the Project were in attendance to welcome participants, share information about the Project with the public, and encourage participants to submit their feedback to the EAO. The Proponent also provided the following Project materials to support the public's understanding of the Project:

- display boards summarizing the Project and the IPD
- hard copies of the IPD and Engagement Plan
- Highway 99 Tunnel Program brochure (including translated versions in French, Chinese [simplified and traditional], Punjabi, and Tagalog)
- Project fact sheets (including translated versions in French, Chinese [simplified and traditional], Punjabi, and Tagalog)

The EAO and Proponent welcomed a total of 82 participants at the open houses including local government elected officials and municipal staff. Key themes from Proponent staff discussions with the public included:

- general support for the tunnel project
- opportunities for future engagement
- the Project scope including technical design, laning capacity, requirements for agricultural lands for the Project, and transportation connections
- impacts to the Riverwoods development
- the environmental assessment process generally and planned environmental studies
- how the Project will bring GBA+ approach to engagement

EAO and Proponent staff provided responses to questions and encouraged participants to submit feedback formally to the EAO for consideration in the DPD.

14.2.3 Public Engagement on the Initial Project Description: Virtual Open Houses

The EAO hosted two public virtual information sessions on Zoom on May 17 and May 19, 2022. These 90-minute sessions involved an EAO-led presentation on the environmental assessment process, followed by a Proponent-led Project presentation and 40 minutes for questions and answers. A total of 43 members of the public attended the virtual information sessions.

Key themes from the discussions included:

- environmental impacts including cumulative effects and planned mitigations
- the design for the active transportation corridor

- impacts to marine traffic
- technical specifications for the tunnel
- Project timelines
- Indigenous engagement

EAO and Proponent staff provided responses to questions and encouraged participants to submit feedback formally to the EAO for consideration in the DPD.

14.2.4 Project Meetings with Local Government and Regional Authorities

The Proponent hosted a joint stakeholder presentation to provide an overview of public materials on April 25, 2022, to coincide with the launch of the public comment period. This presentation was attended by staff members from the City of Richmond, City of Delta, VFPA, Metro Vancouver, and TransLink. This presentation provided stakeholders with the opportunity to familiarize themselves with the public materials, provide feedback on the Project generally, and discuss Project interests and questions with Proponent staff.

Key themes from the discussion included:

- the type of feedback being sought in the Early Engagement Phase, how input is considered, and the timing of the EAO's Technical Advisory Committee
- tunnel design including alignment with the active transportation corridor, the detailed design schedule, and future regional planning
- the impacts to Deas Island Park during construction and operation

Proponent staff provided responses to participants' feedback and questions and requested that participants share public engagement opportunities with their communities.

14.2.5 Project Meetings with Stakeholders

The Proponent hosted two joint stakeholder presentations on May 12 and 18, 2022, with public organizations, groups, and associations to provide an update on the Project, seek feedback on the IPD and proposed studies, and provide responses to Project-related questions. Invitations were emailed to our list of Project stakeholders including business, agriculture and transportation organizations, conservation groups, and park/heritage groups. Stakeholder presentations were attended by:

- BC Cycling Coalition
- HUB Cycling
- Richmond School District No. 38
- Surrey Board of Trade
- Vancouver International Airport

- Delta Chamber of Commerce

Key themes from the discussions included:

- Project timelines
- the active transportation corridor design along the new tunnel and tie-ins to Richmond and Delta's active transportation routes
- impacts to marine traffic and engagement with marine stakeholders
- impacts to the river due to dredging or other environmental events
- tunnel design including tunnel length, number of lanes, and user experience
- an extension to River Road
- the timelines for the environmental assessment process
- the Indigenous engagement program
- job creation as a result of the Project

14.2.6 Project Planning Meetings with Local Government, Regional Authorities, and Stakeholders

In addition to the engagement events to support the EAO's 45-day public comment period, the Proponent continues to engage local governments, regional authorities, and public stakeholders on the technical aspects of the Project.

- **MUP connections**—The Proponent has engaged with City of Delta, City of Richmond, and Metro Vancouver on the proposed connections, MUP design, and safety considerations. Based on feedback received at public open houses and stakeholder meetings, the Proponent will also continue to engage with interested public stakeholders. The Proponent has committed to continuing to engage with listed stakeholders as design progresses. Meetings with public stakeholders were held in May and June and are planned to continue until early 2023.
- **Operations technical group**—Beginning April 2022, the Proponent convened a group of marine experts comprising Transport Canada, VFPA, Seaspan Ferries, Fraser River Pilots, and the Council of Marine Carriers to provide input on the development of Marine Construction Staging Plans and Marine Communication Plans for the Project. The Proponent will incorporate feedback from this group as planning for in-river construction activities proceeds. The group met on a monthly basis to July and will continue to meet regularly on an as-needed basis.
- **Marine and terminal users working group**—The Proponent has convened a group of potentially impacted parties accessing the Fraser River including terminal operators, marine users, Indigenous marine users, members of the operations technical group, the Steveston Harbour Authority, and regulators to ensure awareness of upcoming works and communicate related impacts. The group is also encouraged to provide feedback and input into how planned works may be mitigated.

The Proponent held its first meeting in June 2022 and will continue to meet with the group on a quarterly basis.

14.2.7 Summary of Technical Advisor Feedback

Technical advisors provided feedback on the IPD and draft DPD during the Early Engagement Phase. A complete record of comments received from technical advisors including the Proponent's response and a description of how the input has informed development of the DPD, or will inform future phases of the EA, can be found in Attachment 7: Technical Advisor Feedback on IPD and Attachment 8: Technical Advisor Feedback on draft DPD. Table 14.2-2 summarizes technical advisor feedback on the IPD and draft DPD, arranged within the technical advisor comment categories listed in the Summary of Engagement (EAO 2022), and describes how the feedback summarized has been incorporated into the DPD and/or how it will inform future EA phases.

Table 14.2-2: Categorized summary of technical advisor feedback and description of how feedback was considered during early engagement

Category	Summary of Feedback	How Feedback Informed DPD or will Inform Subsequent Phases of the EA
Project design considerations	• Mitigation for protection of agricultural lands • Protection and maintenance of existing and new stormwater infrastructure • Maintaining and maximizing the availability of natural and recreational lands	• Section 10.3.1 of the DPD has been updated to include details on goals related to mitigations measures for agricultural lands; additionally, an agricultural assessment will be conducted as part of the EA Application • Section 7.6 of the DPD has been updated to include City of Richmond Flood Protection Management Strategy; additionally, ongoing engagement with the City on requirements for infrastructure upgrades will continue throughout the EA process. • Section 5.7 and 7.4 of the DPD have been updated to recognize natural and recreational lands and provide alternative means to project components on such lands.
Project interactions with the biophysical environment	• Assessment and mitigations on impacts to agricultural activities. • Concerns related to impacts to wildlife and wildlife habitat during construction activities. • Impacts to fish and fish habitat • Concerns related to removal, storage, and reuse of soils, including native soils, and dredging material. • Concerns related to marine use. • Impacts and construction activities related to river hydrology and submarine infrastructure.	• Section 10.1.5 of the DPD has been updated to include references to agricultural land use, additionally, and agricultural assessment will be conducted as part of the EAC Application • Section 10.1.9 and Section 10.6 of the DPD have been updated in various subsections to reflect the changes made to address comments related to wildlife and wildlife habitat, additionally, a wildlife and wildlife habitat assessment will be completed as part of the EAC Application • Section 5.2, Section 5.4, Section 10.1.10 and Section 10.6 of the DPD have been updated to reflect the changes made to address comments related to fish and fish habitat, additionally, fish and fish habitat assessment will be completed as part of the EAC Application • Section 5.7, and Section 10.6 of the DPD have been updated to include more information on soil storage, disposal and reuse including an alternative means analysis for soil management. • Section 10.3.2 and Section 14.2.6 of the DPD have been updated to reflect changes related to marine use, additionally, a marine use assessment will be conducted as part of the EAC Application. • A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology.

Category	Summary of Feedback	How Feedback Informed DPD or will Inform Subsequent Phases of the EA
Project interactions with the human environment	• Potential impacts from lighting on surrounding environment and on motorists, active transport users, and pedestrians using the tunnel. • Concerns for increased traffic demand and impacts to adjacent municipal road network • Impacts to community and vulnerable groups from construction related activities	• As described in Section 10.3.3, a visual quality assessment will be completed as part of the EAC Application to identify potential project effects • Section 10.3.4 and Section 10.5.2 of the DPD has been updated in response to traffic demand related questions, additionally, a transportation impact assessment and Greenhouse Gas Emissions assessment will be conducted as part of the EAC Application. • Section 6.1, Section 10.1.2, and Section 10.3.4 of the DPD summarizes the considerations of impacts to the community and vulnerable groups proximate to project activities and have been revised to indicate that, where potential effects to infrastructure and services are identified, mitigation measures will be developed during the preparation of the EAC Application. Additionally, receptor mapping will be completed to support assessment of potential disproportionated Project effects on community health and wellbeing in the EAC Application.
Permitting conditions	• Applicability of Acts, Regulations, and municipal bylaws and associated permits and authorizations to Project activities.	• Table 8.5-1 in the DPD has been updated to reflect the anticipated Provincial, Federal and Regional Authorizations and Permits
Baseline information	• Impacts to fish in the Fraser River, cumulative harm to the fish stocks and/or their habitat caused by construction of a new tunnel and/or decommissioning of the existing tunnel.	• Section 5.4, Section 5.4, Section 10.1.10, Section 10.1.11, and Section 13.2.22 in various subsections of the DPD have been updated to reflect questions related to baseline data contributing to understanding the cumulative effects of Project activities on fish and fish habitat.
Archaeology/Heritage	• Impacts to treaty rights to harvest fish in the Fraser River • Potential Archaeological resources in the Project area	• Tsawwassen First Nation Treaty lands and right to harvest fish in the Project area are included in section 13.3.22 of the DPD. • The feedback will be considered into the Cultural Heritage Resource Management Plan that will be developed as part of the EAC Application and will include a chance find procedure (CFP). The CFP will be specific to cultural heritage resources that are protected under the Heritage Conservation Act.

14.3 SUMMARY OF PLANNED ENGAGEMENT WITH LOCAL GOVERNMENTS, REGIONAL AUTHORITIES, AND PUBLIC STAKEHOLDERS

The focus of the Proponent's ongoing and planned engagement activities is to ensure government and regional authorities, the public, and other interested parties are informed about the Project, have access to information, and are encouraged to provide feedback throughout the environmental assessment, Project planning and design, and eventual construction process.

14.3.1 Federal, Provincial, and Local Governments

The Proponent will continue to meet regularly with the City of Delta, City of Richmond, Metro Vancouver, and federal and provincial government agencies to keep them informed about the Project and seek their input to identify and mitigate Project issues.

- **One-on-one Project meetings**—The Proponent has received positive feedback about its one-on-one engagement with stakeholders. The Proponent will continue to meet with City of Delta, City of Richmond, Metro Vancouver, and TransLink on a regular basis to ensure awareness of Project progress and to support technical discussions, as required. The Proponent is available to meet with other federal and provincial agencies upon request.
- **Operations technical group meetings**—The Proponent will continue to meet with marine experts comprising Transport Canada, VFPA, Seaspan Ferries, Fraser River Pilots, and the Council of Marine Carriers to provide input on the development of Marine Construction Staging Plans and Marine Communication Plans for the Project.
- **Engagement on the draft DPD**—The Proponent shared the draft DPD with City of Delta, City of Richmond, Metro Vancouver, VFPA, and TransLink for feedback and comments. Feedback received has been reviewed and incorporated in the DPD as required. The Proponent also provided responses to feedback prior to finalizing and submitting to the EAO.
- **Engagement on VC selection**—The Proponent will engage the City of Delta, City of Richmond, Metro Vancouver, VFPA, and TransLink on the candidate VCs that are proposed as part of the Project environmental assessment. The Proponent will gather stakeholder feedback through the Early Engagement and Environmental Assessment Readiness phase of the Project's environmental assessment. The VC selection will be shared prior to the Process Planning Phase in an effort to promote meaningful collaboration on VC selection and scoping and provide for adequate time for feedback to be gathered to inform the eventual AIR that will be delivered and consulted on during the Process Planning Phase.
- **Engagement on the dAIR**—The Proponent will engage the City of Delta, City of Richmond, Metro Vancouver, VFPA, and TransLink on the AIR that will be delivered and consulted on during the Process Planning Phase.

14.3.2 The Public and Other Interested Parties

The Proponent will continue to meet with public stakeholders and interested parties to keep them informed about the Project and seek their input on areas of interest. Feedback from Early Engagement confirmed stakeholders' interest in providing feedback on the MUP and learning more about marine impacts and proposed mitigations.

- **MUP working group**—The Proponent will engage public stakeholders who have indicated interest in the MUP. Stakeholders with interests in the MUP include HUB Cycling, BC Cycling Coalition, Great Blue Heron Way group, and Delta Chamber of Commerce. Feedback from the working group will be considered and addressed prior to finalizing the MUP design.
- **Marine and terminal users working group**—The Proponent has convened a group of potentially impacted parties accessing the Fraser River including terminal operators, marine users, Indigenous marine users, members of the operations technical group, and regulators to ensure awareness of upcoming works and communicate related impacts. The group is also encouraged to provide feedback and input into how planned works may be mitigated. The Proponent held its first meeting in June 2022 and will continue to meet with the group on a quarterly basis.
- **Equity, diversity, and inclusion perspectives**—The Proponent will make dedicated efforts to seek input from equity, diversity, and inclusion groups and those who may be differentially affected by specific Project activities such as noise and localized air quality during construction. These groups include disability groups; women's groups; and Lesbian, Gay, Bisexual, Transgender, Queer/Questioning, Intersex, Asexual, Two spirit (LGBTQIA2S) groups as well as local walking groups, elderly care homes, childcare facilities, and schools.
- **Tunnel Design and Safety Consultation Group (TDSCG)**—The proponent has convened a group of emergency service providers and first responders to receive feedback and specialist knowledge on design components of the proposed new tunnel. The TDSCG will include evaluation of (1) safety and operational effectiveness of overall tunnel systems; (2) emergency response requirements for design considerations; and (3) emergency systems such as fire suppression, closed-circuit television, ventilation, and lighting.
- **Riverwoods Strata**—The Proponent will engage residents of the Riverwoods Strata, a property adjacent to the Project footprint, to provide Project information. Feedback from the group on how planned works may be mitigated will be considered and addressed. The Proponent will be initiating discussion in early 2023 and will continue through the life of the project.

15 REFERENCES

15.1 ACTS AND REGULATIONS

Government of British Columbia (BC). 1996. *Wildlife Act 1996.* RSBC 1996, c. 488. Current to 23 November 2022. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96488_01.

Government of BC.1996. *Dike Maintenance Act 1996.* RSBC 1996, c. 95. Current to 10 February 2003. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/consol8/consol8/96095_01.

Government of BC. 1996. *Heritage Conservation Act 1996.* RSBC 1996, c. 187, s. 12.2 and s.12.4. Current to 23 November 2022. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/96187_01.

Government of BC. 1996. *Land Act 1996.* RSBC 1996, c. 245. Current to 23 November 2022. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/E3tlc96245.

Government of British Columbia. 2002. *Transportation Investment Act 2002.* SBC 2002, c. 65. Current to 23 November 2022. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/E3tlc02065.

Government of BC. 2004. Waste Discharge Regulation. BC Reg 154/2019 under the *Environmental Management Act 2003.* Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/45_320_2004.

Government of BC. 2007. Code of Practice for the Concrete and Concrete Products Industry. BC Reg 329/2007 under the *Environmental Management Act 2002*. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/16_329_2007.

Government of BC. 2007. *Greenhouse Gas Reduction Targets Act 2007.* SBC 2007, c. 42. Current to 05 April 2017. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/consol31/consol31/00_07042_01.

Government of BC.2015. Agricultural Land Reserve Use, Subdivision and Procedure Regulation. BC Reg. 171/2002 under the *Agricultural Land Commission Act 2002.* Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/loo97/loo97/171_2002.

Government of BC. 2016. Water Sustainability Regulation. s. 10 p. 2, 3; s. 11 p. 2, 3; s. 140 p. 7. BC Reg. 36/2016 under the *Water Sustainability Act 2014.* Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/36_2016.

Government of BC. 2019. *Declaration on the Rights of Indigenous Peoples Act 2019.* SBC 2019, c. 44. Current to 23 November 2022. Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19044.

Government of BC.2020. Reviewable Projects Regulation. BC Reg 67/2020 under the *Environmental Assessment Act*, *2018.* Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/243_2019.

Government of BC. 2021. Contaminated Sites Regulation. BC Reg. 179/2021 under the *Environmental Management Act 2003.* Victoria BC: Minister of Justice. https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/375_96_00.

Government of Canada.1985. *Canadian Navigable Waters Act 1985.* RSC 1985, c. N-22. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/acts/n-22/.

Government of Canada. 1985. *Fisheries Act 1985.* RSC 1985, c. F-14. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/acts/F-14/FullText.html.

Government of Canada. 1993. Fishery (General) Regulations. SOR/93-53 S.52.under the *Fisheries Act 1985.* Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/regulations/SOR-93-53/page-1.html.

Government of Canada. 1998. *Canada Marine Act 1998*. SC 1998, c. 10. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://www.laws-lois.justice.gc.ca/eng/acts/c-6.7/FullText.html.

Government of Canada. 1999. *Canadian Environmental Protection Act, 1999.* SC 1999, c 33. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/acts/c-15.31/index.html.

Government of Canada. 2002. *Species at Risk Act 2002.* SC 2002, c. 29. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://www.laws-lois.justice.gc.ca/eng/acts/S-15.3/page-1.html

Government of Canada. 2008. *Tsawwassen First Nation Final Agreement Act 2008.* SC 2008, c. 32. Current to 16 November 2022. Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/acts/T-21.5/page-1.html.

Government of Canada. 2019. Physical Activities Regulations. SOR/2019-285 under the *Impact Assessment Act 2019.* Ottawa ON: Minister of Justice. https://laws-lois.justice.gc.ca/eng/regulations/SOR-2019-285/FullText.html.

15.2 LITERATURE CITED

BC AFN (British Columbia Assembly of First Nations). 2021. Tsartlip. [accessed August 2022].https://www.bcafn.ca/first-nations-bc/vancouver-island-coast/Tsartlip.

BC AFN. 2022. Tsawout First Nation. [accessed August 2022]. https://www.bcafn.ca/first-nations-bc/vancouver-island-coast/tsawout-first-nation.

BC CDC (British Columbia Conservation Data Centre). 2022. Species and ecosystem explorer. [accessed February 2022]. http://a100.gov.bc.ca/pub/eswp/.

BC CSN (British Columbia Cetacean Sighting Network). 2018. South Georgia Strait Marine Mammal Sighting Data. Letter from Vancouver Aquarium Marine Science Centre to Golder, letter dated January 23, 2018.

BC EAO (British Columbia Environmental Assessment Office). 2017. George Massey Tunnel replacement project – assessment report. January 19, 2017. [accessed August 2022]. https://projects.eao.gov.bc.ca/api/document/589cd681a029d5001d2ed44e/fetch.

BC EAO. 2019. Early Engagement Policy, Ver 1.0. [accessed February 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act-guidance-materials.

BC EAO. 2020a. Effects Assessment Policy, Ver. 1.0; [accessed June 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/effects_assessment_policy_v1_-_april_2020.pdf

BC EAO. 2020b. Application information requirements guideline, Ver. 1.0; [accessed June 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/application_information_requirements_guideline_v1_-_april_2020.pdf

BC EAO. 2022c. Guide to Indigenous Knowledge in Environmental Assessments, Ver. 1.0 [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/indigenous-nation-guidance/guide_to_indigenous_knowledge_in_environmental_assessments.pdf

BC EAO. 2022. Summary of Engagement. Fraser River Tunnel Project. [updated 11 July 2022; accessed 15 July 2022. https://projects.eao.gov.bc.ca/p/620aa098fd30c700220f2805/project-details.

BC ENV (British Columbia Ministry of Environment). 2007. British Columbia greenhouse gas inventory report 2007 – Summary. [accessed June 2022]. https://www2.gov.bc.ca/assets/gov/environment/climate-change/data/provincial-inventory/2007/pir-2007-summary.pdf.

BC ENV. 2021a. Fish Inventories Data Query, Single Waterbody Query [Database]. Accessed 1 February 2022. http://a100.gov.bc.ca/pub/fidq/viewSingleWaterbody.do.

BC ENV. 2021b. CleanBC's roadmap to 2030; [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/cleanbc_roadmap_2030.pdf.

BC Indigenous Business Listings. 2021. BC Indigenous business listings. [accessed February 2022 https://open.canada.ca/data/en/dataset/bdc81d33-1ab5-4882-9764-8701e8971bb7.].

BC MOE (British Columbia Ministry of Environment). 2009. Technical Guidance 1 on Contaminated Sites: Site Characterization and Confirmation Testing. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/air-land-water/site-remediation/guidance-resources/technical-guidance.

BCTC (British Columbia Treaty Commission) 2020a. Katzie First Nation. [accessed 09 August 2022]. https://www.bctreaty.ca/Katzie-first-nation.

BCTC 2020b. Stó:lō Xwexwilmexw Government. [accessed 09 August 2022]. https://www.bctreaty.ca/st%C3%B3l%C5%8D-xwexwilmexw-government.

BCTC. 2020c. Squamish Nation. [accessed 09 August 2022]. https://www.bctreaty.ca/squamish-nation.

BCTC 2020d. Hul'qumi'num Treaty Group. [accessed 09 August 2022]. https://www.bctreaty.ca/hulquminum-treaty-group.

BCTC. 2020e. Tsawwassen First Nation. [accessed 09 August 2022]. https://www.bctreaty.ca/tsawwassen-first-nation.

BCTC. 2020f Musqueam Nation. [accessed August 2022]. http://www.bctreaty.ca/map?title=Musqueam+Nation.

BCTC. 2021. BC Treaty Commission annual report 2021; [accessed September 2022]. https://www.bctreaty.ca/sites/default/files/BCTC_Annual_Report_2021_web.pdf.

Bigg MA. 1985. Status of the Steller sea lion (*Eumetopias jubatus*) and California sea lion (*Zalophus californianus*) in British Columbia. Can. Spec. Publ. Fish. Aquat. Sci. 77: 20 p.

Birds Canada. 2022. IBA Canada important bird areas. [accessed 01 February 2022]. https://www.ibacanada.ca/site.jsp?siteID=BC017.

Candace Charlie for Cowichan Tribes, on behalf of the Cowichan Nation Alliance. 2019. STL'ULNUP a Cowichan Nation Use and Occupancy Study for Tilbury Island. Confidential report.

Chuuchkamalthnii. 2015. Ts'uubaa-asatx Interests: George Massey Tunnel. November 2015.Chuuchkamalthnii. 2015. Ts'uubaasatx Interests: George Massey Tunnel. November 2015.

City of Delta. 2014. Delta Official Community Plan (OCP). [accessed 01 February 2022]. https://delta.civicweb.net/filepro/documents/37999.

City of Delta. 2021. About Delta. [accessed 01 February 2022]. http://www.delta.ca/discover-delta/about-delta

City of Richmond. 1999. Richmond agricultural viability strategy. [accessed 01 February 2022]. https://www.richmond.ca/plandev/planning2/agriculture/viability.htm#:~:text=Richmond%27s%20Agricultural%20Viability%20Strategy%20%28AVS%29%20was%20adopted%20by,Agricultural%20Decision%20Making%20Strategy%3B%20Services%20and%20Infrastructure%20Strategy%3B.

City of Richmond. 2012a. Richmond Official Community Plan (OCP). [accessed 01 February 2022]. https://www.richmond.ca/cityhall/bylaws/ocp/sched1.htm.

City of Richmond. 2012b. Noise Regulation Bylaw No. 8856; [accessed July 2022]. https://www.richmond.ca/__shared/assets/Bylaw_8856_0227201232440.pdf.

City of Richmond. 2015. City of Richmond's ecological network management strategy; [accessed February 2022]. https://www.richmond.ca/__shared/assets/Ecological_Network_Management_Strategy42545.pdf.

City of Richmond. 2019. Flood protection management strategy; [accessed July 2022]. https://www.richmond.ca/__shared/assets/Flood_Protection_Management_Strategy57596.pdf.

City of Richmond. 2021. Discover Richmond. [accessed 01 February 2022]. https://www.richmond.ca/home.htm.

City of Richmond. 2022. Dike Master Plan. [accessed October 2022]. https://www.richmond.ca/pagenotfound.htm?aspxerrorpath=/services/rdws/dikes/dikemasterplan.htm.

COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2016. COSEWIC assessment and status report on the Harbour porpoise *Phocoena phocoena vomerina*, Pacific Ocean Population, in Canada. Ottawa. xi + 51 p.; [accessed February 2022]. https://www.registrelep-sararegistry.gc.ca/virtual_sara/files/cosewic/sr_Harbour%20Porpoise_2016_e.pdf.

COWI (COWI North America Ltd.). 2019. George Massey crossing immersed tube tunnel technical summary. Approach to Design Basis.

Cowichan Nation Alliance. 2015. Cowichan Nation Traditional, current and planned future use of the George Massey tunnel replacement bridge project area. Prepared by Candace Charlie for the Cowichan Nation Alliance. Aug 2015.

Cowichan Nation and Government of BC. 2021. Cowichan Nation British Columbia Government-to-Government Agreement; [Updated 14 September 2021; accessed September 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/consulting-with-first-nations/agreements/cowichan_nation_bc_g2g_agreement_may_17_2021_final.pdf.

Cowichan Tribes. 2022. Cowichan Tribes website. [accessed 09 August 2022]. https://cowichantribes.com/.

CRD (Capital Regional District). Date Unknown. Traditional Territories, Tseycum First Nation. [accessed August 2022]. https://www.crd.bc.ca/project/first-nations-relations/traditional-territories.

Demarchi W, Gatten J, Johnston N, Novoa J, Baird S. 2022. Fraser River tunnel project: Migratory bird study. Technical data report prepared for Tsawwassen First Nation by LGL Limited, Sidney, BC. Funded by BC Ministry of Transportation and Infrastructure.

DFO (Fisheries and Oceans Canada). 2010a. Population assessment Pacific harbour seal (*Phoca vitulina richardsi).* Science Advisory Report 2009/011, Canadian Science Advisory Secretariat, Fisheries and Oceans Canada, Nanaimo, BC; [accessed February 2022]. https://waves-vagues.dfo-mpo.gc.ca/Library/338997.pdf.

DFO. 2010b. Management plan for the Steller sea lion (*Eumetopias jubatus*) in Canada*. Species at Risk Act* Management Plan Series, Fisheries and Oceans Canada, Ottawa, ON; [accessed February 2022]. http://www.registrelep-sararegistry.gc.ca/virtual_sara/files/plans/mp_steller_sea_lion_012011_final-eng.pdf.

DFO. 2011. Recovery strategy for the northern and southern resident Killer whale (*Orcinus orca*) in Canada. *Species at Risk Act* Recovery Strategy Series, Fisheries and Oceans Canada, Ottawa, ix + 80 p.

DFO. 2014. British Columbia marine/estuarine timing windows for the protection of fish and fish habitat – south coast and Lower Fraser areas. [accessed February 2022]. https://www.dfo-mpo.gc.ca/pnw-ppe/timing-periodes/bc-s-eng.html.

DFO. 2021. Fraser River Eulachon (*Thaleichthys pacificus*) Pacific Region 2021. Integrated fisheries management plan summary; [accessed February 2022]. https://www.pac.dfo-mpo.gc.ca/fm-gp/mplans/Eulachon-eulakane-ifmp-pgip-sm-eng.pdf.

DFO. 2022. Southern Pacific salmon integrated fisheries management plan summary. Genus *Oncorhynchu*s. 2021/2022; [accessed February 2022]. https://www.pac.dfo-mpo.gc.ca/fm-gp/mplans/smon-sc-cs-ifmp-pgip-sm-eng.pdf.

District of Chilliwack. 2013. Lower Fraser sustainable resource management plan; [accessed September 2023]. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/southcoast-region/chilliwack-lu/chilliwack_lu_lowerfraser_plan_jan2013.pdf.

District of Chilliwack. 2013. Lower Fraser sustainable resource management plan; [accessed September 2023]. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/land-water-use/crown-land/land-use-plans-and-objectives/southcoast-region/chilliwack-lu/chilliwack_lu_lowerfraser_plan_jan2013.pdf.

Dunphy M. 2015. Are Vancouver's recent gray whale sightings the start of segular seasonal visits? In The Georgia Strait. 01 October 2015. [accessed 23 September 2022]. https://www.straight.com/news/547461/are-vancouvers-recent-gray-whale-sightings-start-regular-seasonal-visits.

ECCC (Environment and Climate Change Canada). 2019. Barn swallow (*Hirundo rustica*): Residence description. [accessed 01 February 2022]. https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/residence-descriptions/barn-swallow.html.

ECCC. 2021. Recovery strategy for the Barn owl (*Tyto alba*), Western population, in Canada [Proposed]. *Species at Risk Act* Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. 2 parts, 24 p. + 30 p.

ECCC. 2022. 2030 Emissions Reduction Plan – Canada's next steps for clean air and a strong economy. [accessed June 2022]. https://www.canada.ca/en/environment-climate-change/news/2022/03/2030-emissions-reduction-plan--canadas-next-steps-for-clean-air-and-a-strong-economy.html.

FNLMRC (First Nations Land Management Resource Centre). 2021. Signatory First Nations. [accessed 09 August 2022]. https://labrc.com/signatory-first-nations/.

Golder. 2015. Draft Technical Data Report. Heritage Resources Assessment. George Massey Tunnel Replacement Project. Victoria, BC, Canada: Unpublished report on file with the Ministry of Transportation and Infrastructure.

Golder. 2022. Draft Stage 1 Preliminary Site Investigation, Fraser River Tunnel Project. 16 August 2022. Golder doc number 21490984-144-R-RevA

Government of British Columbia (BC). Date unknown. Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples. [accessed August 2022}. https://www2.gov.bc.ca/assets/gov/careers/about-the-bc-public-service/diversity-inclusion-respect/draft_principles.pdf

Government of BC. 1998. British Columbia Archaeological Impact Assessment Guidelines. [accessed July 2022]. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/archaeology/forms-publications/archaeological_impact_assessment_guidelines.pdf.

Government of BC. 2012. Tseycum First Nation and BC work together. [accessed August 2022]. https://news.gov.bc.ca/releases/2012ARR0030-001797

Government of BC. 2020a. Seabird Island Indian Band. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/seabird-island-indian-band.

Government of BC. 2020b. Shxw'ōwhámél First Nation. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/shxw-ow-hamel-first-nation.

Government of BC. 2021a. South Arm Marshes Wildlife Management Area. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/south-arm-marshes

Government of BC. 2021b. Kwikwetlem First Nation. [accessed May 2021]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-withfirst-nations/first-nations-negotiations/first-nations-a-z-listing/kwikwetlem-first-nation

Government of BC. 2021c. Matsqui First Nation. [accessed May 2021]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-firstnations/first-nations-negotiations/first-nations-a-z-listing/matsqui-first-nation

Government of BC. 2021d. Pauquachin First Nation. [accessed May 2021]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-withfirst-nations/first-nations-negotiations/first-nations-a-z-listing/pauquachin-first-nation.

Government of BC. 2021e. Semiahmoo First Nation. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/semiahmoo-first-nation

Government of BC. 2021f. Tsartlip First Nation. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-firstnations/first-nations-negotiations/first-nations-a-z-listing/tsartlip-first-nation

Government of BC. 2021g. Tsawout First Nation. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/Tsawout-first-nation.

Government of BC. 2021h. Tseycum First Nation. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/consulting-with-first-nations/first-nations-negotiations/first-nations-a-z-listing/tseycum-first-nation

Government of BC. 2022. iMap BC web-based mapping.[accessed August 2022]. https://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc

Government of BC and State of Washington. 1992. Environmental Cooperation Agreement between the Province of British Columbia and the State of Washington. 7 May 1992. [accessed August 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/cooperation-agreements

Government of Canada. 2022. Crown Indigenous Relations and Northern Affairs Canada. First Nation Details: Musqueam. [accessed August 2022]. https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNRegPopulation.aspx?BAND_NUMBER=550&lang=eng.

Hume M. 2010. Seals, Sea Lions Devastating West Coast Salmon Runs. The Globe and Mail. [accessed August 2022]. https://www.theglobeandmail.com/news/ritish-columbia/seals-sea-lions-devastating-west-coast-salmon-runs/article4352730/#:~:text=Mr.%20Olesiuk%20says%20that%20on%20big%20rivers%2C%20when,was%20a%20temporary%20seal%20cull%20on%20the%20Puntledge.

Halalt First Nation. Date unknown. [Accessed August 2022]. Halalt First Nation website. https://halalt.org/.

INAC (Indigenous and Northern Affairs Canada). 2019. First Nation profiles. [accessed August 2022]. https://fnp-ppn.aadnc-aandc.gc.ca/fnp/Main/Search/FNListGrid.aspx?lang=eng.

Jeffries SJ, Gearin PJ, Huber HR, Saul SL, Pruett DA. 2000. Atlas of seal and sea lion haul out sites in Washington. Washington Department of Fish and Wildlife, Wildlife Science Division, Olympia, WA.

Katzie First Nation. 2016. George Massey tunnel replacement: Katzie First Nation Traditional Use Study. Prepared for the Ministry of Transportation and Infrastructure for the GMTR. February 2016.

Katzie First Nation. 2022. Katzie First Nation website. [accessed 10 August 2022]. https://www.katzie.ca/who-we-are.

Kwantlen First Nation. 2015. Kwantlen Land Use and occupation in the vicinity of Highway 99. Prepared by Cordillera Archeology. November 2015. Fort Langley BC.

Kwikwetlem First Nation. 2022a. Our People. [accessed 10 August 2022]. https://www.kwikwetlem.com/our-people.htm.

Kwikwetlem First Nation. 2022b. Our Territory. [accessed 10 August 2022]. https://www.kwikwetlem.com/our-territory.htm.

Kwong L, Palmer C. 2021. Habitat mapping in support of advance studies – Methodology for the Lower Fraser River. Prepared by Hemmera for BC Ministry of Transportation and Infrastructure. January 2021.

Larocque E, Howell L. 2021: George Massey Tunnel crossing (GMC) – Sturgeon advanced studies 2021. Prepared by Hemmera for BC Ministry of Transportation and Infrastructure. December 2021.

Leq'á:mel First Nation. 2022a. About Leq'á:mel. [accessed 10 August 2022]. https://leqamel.ca/discover-leqamel/about-leqamel/.

Leq'á:mel First Nation. 2022b. Assertion of Title. [accessed 10 August 2022].http://leqamel.ca/discover-leqamel/assertion-of-rights/.

LGL (LGL Limited). 2022. Lower Fraser River Juvenile White Sturgeon (Acipenser transmontanus) Habitat Assessment: Final Report. Prepared by LGL Limited for Fraser River Conservation Society and VFPA

Lower Fraser Fisheries Alliance. 2020. Blueprint for restoring ecological governance to the Lower Fraser River; [accessed February 2022]. https://wcel.org/sites/default/files/publications/blueprint-restoring-ecological-governance-lower-fraser-river.pdf.

LTSA (Land Title and Survey Authority of BC). 2022. ParcelMap BC. [accessed September 2022]. https://help.ltsa.ca/parcelmap-bc/owner-type.

Lyackson First Nation. 2015. Preliminary Lyackson use and occupancy mapping study for BC MoTI's George Massey Tunnel replacement project. Prepared by Firelight Group Research Cooperative and Lyackson First Nation August 2015. Victoria BC: Lyackson First Nation. p. 24.

Mayors' Council on Regional Transportation. 2015. Regional transportation investments. A Vision for Metro Vancouver; [accessed August 2022]. https://www.translink.ca/-/media/translink/documents/about-translink/governance-and-board/council-minutes-and-reports/2015/march/mayors_council_vision_mar_2015.pdf.

Metro Vancouver. 2011. Metro Vancouver regional food system strategy; [accessed August 2022]. http://www.metrovancouver.org/services/regional-planning/PlanningPublications/RegionalFoodSystemActionPlan.pdf.

Metro Vancouver. 2014. Sensitive ecosystem inventory for Metro Vancouver. [accessed February 2022]. http://www.metrovancouver.org/metro2040/environment/protect-and-enhance/sensitive-ecosystems/Pages/default.aspx.

Metro Vancouver. 2015. Regional growth strategy; [accessed February 2022]. http://www.metrovancouver.org/services/regional-planning/PlanningPublications/TableA1-PopDwelUnitEmpProjforMVSubregMuni.pdf.

Metro Vancouver. 2022a. Metro 2040 Dashboard; Regional land use designations. [accessed August 2022]. http://www.metrovancouver.org/metro2040/land-use-designation/Pages/default.aspx.

Metro Vancouver. 2022b. 2022 Regional Parks Plan - Protect and Connect. Metro Vancouver Regional Parks; [accessed 31 October 2022]. https://view.publitas.com/metro-vancouver/21-284-prk_regional-park-plan-plan-2022-v19/page/1.

Metro Vancouver. 2022c. Metro 2050: Regional growth strategy; [accessed June 2022]. http://www.metrovancouver.org/services/regional-planning/PlanningPublications/Metro2050.pdf.

MIB (Musqueam Indian Band). 1976. Musqueam Declaration. [accessed 10 August 2022]. https://www.musqueam.bc.ca/our-story/our-territory/.

MIB. 2016. Knowledge and Use Study. Prepared by Firelight Research Inc and MIB for the BC Ministry of Transportation and Infrastructure's Proposed George Massey Tunnel Replacement Project. November 2016. Vancouver BC: Musqueam Indian Band.

MIB. 2018. Musqueam First Nation a Comprehensive Sustainable Community Development Plan Update; [accessed February 2022]. https://www.musqueam.bc.ca/wp-content/uploads/2018/10/Musqueam-CCP-Update_FINAL_Oct2018_lowres.pdf.

MIB. 2022a. Governance. [accessed August 2022]. https://www.musqueam.bc.ca/governance/.

MIB. 2022b. Our Story: Musqueam Territory. [accessed August 2022]. https://www.musqueam.bc.ca/our-story/our-territory/.

MOTI (British Columbia Ministry of Transportation and Infrastructure). 2015. George Massey tunnel replacement project. Contaminated Sites Study. April 2015.

MOTI. 2016a. George Massey tunnel replacement project application for an environmental assessment certificate: Section 4.6 Marina Mammals Assessment. Prepared by Hemmera Envirochem (Hemmera) for MOTI.

MOTI. 2021. Business Case. George Massey crossing project. April 2021. [accessed July 2022]. https://www.highway99tunnel.ca/document-library/.

NMFS (National Marine Fisheries Service). 2018. Revisions to: Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing. Underwater thresholds for Onset of permanent and temporary threshold shifts. Ver. 2.0. NOAA Technical Memorandum NMFS-OPR-59. US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service.

NmTC (Naut'sa mawt Tribal Council). 2020. Naut'sa mawt Tribal Council. [accessed 10 August 2022]. https://www.nautsamawt.org/.

Noble CAJ, Burns CW, Plate E, Beveridge I, Novoa J. 2021. George Massey tunnel replacement – An assessment of Eulachon (*Thaleichthys pacificus*) spawning activity in the Lower Fraser River at Deas Island. Final Report for Tsawwassen First Nation, Tsawwassen, BC.

Pauquachin First Nation. 2020. Pauquachin lands – Traditional Territories. [accessed 10 August 2022]. https://www.pauquachin.ca/traditional-territories.

Ralph CJ, Geupel GR, Pyle P, Martin TE, DeSante DF. 1993. Handbook of field methods for monitoring landbirds. Prepared for US Department of Agriculture, Forest Service. Albany, CA: Pacific Southwest Research Station; [accessed September 2022]. https://avianknowledgenorthwest.net/wp-

content/uploads/2019/01/Ralph_et_al_1993_Handbook_of_Field_Methods_for_Monitoring_Landbirds.pdf.

Shxw'ōwhámél First Nation. 2020. Shxw'ōwhámél First Nation. [accessed August 2022]. https://www.shxwowhamel.ca/.

Snuneymuxw First Nation. 2022a Language. [accessed 10 August 2022]. https://www.snuneymuxw.ca/nation/language.

Snuneymuxw First Nation. 2022b. Welcome. [Accessed 10 August 2022]. https://www.snuneymuxw.ca/welcome.

Squamish Nation. 2020. Sḵwx̱wú7mesh Úxwumixw - Squamish Nation. [accessed 10 August 2022]. https://www.squamish.net/.

Statistics Canada. 2018. Greater Vancouver, RD [Census division], British Columbia (table). Aboriginal Population Profile. 2016 Census. Statistics Canada Catalogue no. 98-510-X2016001. [accessed 16 February 2022]. https://www150.statcan.gc.ca/n1/en/catalogue/98-510-X2016001.

Statistics Canada. 2021a. Table 14-10-0294-02. Labour force characteristics by census metropolitan area, three month moving average, seasonally adjusted, inactive (x 1,000). [accessed 16 February 2022]. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410029402&pickMembers%5B0%5D=2.2&cubeTimeFrame.startMonth=12&cubeTimeFrame.startYear=2020&referencePeriods=20201201%2C20201201.

Statistics Canada. 2021b. Table 14-10-0098-01 Employment by industry, annual, census metropolitan areas, inactive (x 1,000). [accessed 16 February 2022]. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410009801&pickMembers%5B0%5D=1.34&cubeTimeFrame.startYear=2020&cubeTimeFrame.endYear=2020&referencePeriods=20200101%2C20200101.

Statistics Canada. 2021c. Table 33-10-0304-01 Canadian Business Counts, with employees, December 2020. [accessed 16 February 2022]. https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310030401&pickMembers%5B0%5D=2.1&pickMem bers%5B1%5D=3.1.

Statistics Canada. 2022a. Delta, City, CY [Census division], British Columbia (table). Census Profile. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released October 26, 2022. [accessed 18 November 2022]. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E

Statistics Canada. 2022b. Greater Vancouver, Regional District (RD) [Census division], British Columbia (table). Census Profile. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-

X2021001. Ottawa. Released October 26, 2022. [accessed 18 November 2022]. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E.

Statistics Canada. 2022c. Richmond, City, CY [Census division], British Columbia (table). Census Profile. 2021 Census of Population. Statistics Canada Catalogue no. 98-316-X2021001. Ottawa. Released October 26, 2022. [accessed 18 November 2022]. https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/index.cfm?Lang=E.

Stó:lō Nation. 2018. About Stó:lō Service Agency. [accessed 10 August 2022]. https://www.stolonation.bc.ca/index.php?pageId=18.

Stó:lō Service Agency. Date unknown. Welcome. [accessed 10 August 2022]. http://www.stolonation.bc.ca/.

STSA (S'ólh Téméxw Stewardship Alliance). 2020. People of the referrals office. [accessed 10 August 2022].https://thestsa.ca/stsa-operations/prro/.

Supreme Court of Canada. 1990. R. v. Sparrow. 1 SCR 1075 (20311). [accessed August 2022]. https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/609/index.do.

TFN (Tsawwassen First Nation). [date unknown]. Treaty and Constitution. [accessed August 2022. https://tsawwassenfirstnation.com/governance-overview/treaty-and-constitution/.

TFN. 2009. Tsawwassen First Nation Final Agreement; [accessed 23 September 2022]. https://tsawwassenfirstnation.com/wp-content/uploads/2019/07/1_Tsawwassen_First_Nation_Final_Agreement.pdf.

TFN. 2010. Tsawwassen First Nation harvest agreement; [accessed 06 August 2022]. https://tsawwassenfirstnation.com/wp-content/uploads/2019/07/TFN_Harvest_Agreement.pdf.

TFN. 2013. Tsawwassen First Nation agricultural plan; [accessed 03 February 2022]. http://tsawwassenfirstnation.com/wp-content/uploads/2019/07/TFN-Agricultural-Plan-2013.pdf.

TFN. 2015. George Massey tunnel replacement: Project impact study. 13-14 p.

TFN. 2019. Tsawwassen First Nation land use plan; [accessed 06 February 2022]. https://tsawwassenfirstnation.com/wp-content/uploads/2019/07/TFN_Land_Use_Plan.pdf.

TFN. 2022. Our Nation: Who We Are. [accessed 23 September 2022]. https://tsawwassenfirstnation.com/about-tfn/our-nation/.

TFN and LGL (Tsawwassen First Nation and LGL Limited Environmental Research Associates). 2021a. George Massey crossing: Migratory birds. Progress Report – February 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TFN and LGL. 2021b. George Massey crossing: Migratory birds. Progress Report – October 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TFN and LGL. 2021c. George Massey crossing: Migratory birds. Progress Report – November 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TFN and LGL. 2022. George Massey crossing: Migratory birds. Progress Report – January 2022. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TransLink. 2018. Southwest area transport plan. [accessed 03 February 2022] https://www.translink.ca/-/media/translink/documents/plans-and-projects/area-planning/southwest-area/final_plan/southwest_area_transport_plan-april_2018.pdf.

TransLink. 2022a. Transport 2050 Regional Transportation Strategy. [accessed October 2022]. https://view.publitas.com/translink/transport-2050-regional-transportation-strategy/page/1.

TransLink. 2022b. 2022 Investment Plan Approved May 26, 2022; [accessed October 2022]. https://www.translink.ca/-/media/translink/documents/plans-and-projects/ten-year-investment-plan/vision/2022_investment_plan.pdf.

Tsartlip First Nation. 2022. About. [accessed 10 August 2022]. https://tsartlip.com/about/.

Tsawout First Nation. Tsawout First Nation Website. [assessed August 2022]. https://tsawout.ca/about-tsawout/.

Tseycum First Nation. [date unknown]. [accessed 23 September 2022]. http://www.tseycum.ca/.

TWN (Tsleil-Waututh Nation). Date unknown. About Tsleil-Waututh Nation. [accessed August 2022]. https://twnation.ca/our-story/.

TWN. 2015a. Knowledge Study for the proposed George Massey Tunnel Replacement Project. p. 9.

TWN. 2018. Tsleil-Waututh Nation Land Use Plan.

TWN. 2022. Tsleil-Waututh Nation Stewardship Policy

Ts'uubaa-asatx First Nation. 2018a. Lake Cowichan First Nation Policy: Fraser River South Arm and Approaches. Internal Memo (June 1, 2018).

Ts'uubaa-asatx First Nation. 2018b. Lake Cowichan First Nation: Vision, Goals and Objectives for the Fraser River South Arm and its Approaches.

VFPA (Vancouver Fraser Port Authority). 2014. Land Use Plan. Port Metro Vancouver; [accessed February 2022]. https://www.portvancouver.com/wp-content/uploads/2015/06/port-metro-vancouver-land-use-plan-english.pdf.

VFPA. 2020. Land Use Plan. Port Metro Vancouver; [accessed August 2022]. https://www.portvancouver.com/wp-content/uploads/2019/11/500_POV-Land-Use-Plan_FINAL-2.pdf.

VFPA. 2021. Port Information Guide. Port of Vancouver. July 2021; [accessed February 2022]. https://www.portvancouver.com/wp-content/uploads/2021/07/2021-07-06-PORT-INFORMATION-GUIDE-Final.pdf.

WesPac (WesPac Midstream-Vancouver LLC). 2018. Marine Mammal Baseline Report. Report submitted by Golder Associates (Golder) to WesPac in support of the WesPac Tilbury Marine Jetty Project Environmental Assessment Certificate Application. Report No. 1314220049-133-R-Rev0.

Westmar Advisors. 2018. Independent Technical Review of the George Massey Crossing. Final Report. Prepared for Ministry of Transportation and Infrastructure; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/transportation-infrastructure-projects/highway-99-tunnel-project/technical-services-report-december-2019/george-massey-crossing_independent-technical-review_final_corr.pdf

W̱SÁNEĆ Leadership Council. Date unknown. History & Territory. [accessed August 2022]. https://wsanec.com/historyterritory/.

Wyness S, Hewgill K. 2021. George Massey Tunnel Crossing (GMC) – Juvenile Salmonid Advanced Studies 2021. Prepared by Hemmera for BC Ministry of Transportation and Infrastructure. July 2021.

Zbeetnoff (Zbeetnoff Agro-Environmental Consulting) and Quadra (Quadra Planning Consultants). 2011. Delta Agricultural Plan. Phase 3 Report: Agricultural Plan. Prepared for the Corporation of Delta; [accessed November 2022]. https://www.delta.ca/sites/default/files/2021-06/Delta%20Agricultural%20Plan%20CAE.pdf.

ATTACHMENT 1: CONCORDANCE TABLE

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Executive Summary			
A plain language summary of the DPD that is clear and concise	Yes	Executive Summary	N/A
Any updates to information in the IPD	The Executive Summary was re-written following submission of the IPD to make it more concise	Executive Summary	The Executive Summary includes information on how engagement has been considered in the DPD, including reference to the Summary of Engagement Report prepared by EAO and feedback from Indingeous nations and technical advisors on the draft DPD.
General Information and Contacts			
Project Name	Yes	Table 3.1-1 (Project Information and Key Contacts)	N/A
Project Location	Yes	1.1 (Project Overview)	N/A
Project industrial sector and type (e.g., open pit metal mine)	Yes	Table 3.1-1 (Project Information and Key Contacts)	N/A
Proponent name, mailing address, phone numbers, email address and website URL •Include the name and contact information of the primary representative for the EA	Yes	Table 3.1-1 (Project Information and Key Contacts)	N/A
Any updates to information in the IPD	Kevin Volk's title was added. No other changes were made since submission of the IPD	Table 3.1-1 (Project Information and Key Contacts)	N/A
Anticipated cost for construction and decommissioning as well as projected annual operating costs	Yes. Section 3.3 of the DPD outlines the anticipated costs to plan, procure and construct the proposed Project, including decommissioning of the Existing Tunnel. Regarding annual operating costs of the Project, the Ministry clarifies that while the construction of the proposed Project is a discrete capital investment for which capital estimates have been provided in the DPD, when the Project becomes operational, it replaces existing infrastructure and is operated as a part of a regional transportation network. Operating costs of traffic infrastructure are not managed on a discrete bridge or road specific basis, but rather on a regional basis. Operating costs of regional traffic infrastructure is beyond the scope of the environmental assessment process and is addressed through the Ministry's established budget planning processes. Interests, issues, and concerns relating to operation of transportation infrastructure in the region will continue to be addressed through existing regional operations with the Ministry. The Ministry notes that this approach is consistent with another recent Project of a crossing of the Fraser River (Pattullo Bridge Replacement Project), where focus was entirely on the capital costs of the Project in the Project Description as well as the EAC Application.	3.3 (Anticipated Costs)	N/A
Purpose and Rationale			
A general rationale for why the project has been proposed	Yes	4.1 (Purpose and Rationale)	N/A
Potential project benefits	Yes	4.2 (Project Goals)	Project goals were developed following engagement with 10 municipalitites, 12 Indigenous nations, TransLink, and Metro Vancouver
Any updates to information in the IPD	Minor changes to remove repetition between this section and others	4.1 (Purpose and Rationale) 4.2 (Project Goals)	N/A
Legislative and Regulatory Context			
The type and size of the project, with specific reference to EA Regulatory Triggers [e.g., the EAO Reviewable Project Regulations and Impact Assessment Act (Canada) thresholds]	Yes	8.0 (Legislative and Regulatory Context)	N/A
A list of anticipated authorizations and permits	Yes	Table 8.5-1 (Anticipated Provincial, Federal, and Regional Authorizations and Permits	Engagement with Technical Advisors informed of specific permitting conditions required for Table 8.5-1. The Environmental Management Act, SBC 2003, c. 53, for characterization of material for upland disposal has been added
Consider the requirements of any applicable agreements between the Province and Indigenous nations, including treaties	Yes	8.6 (Other Agreements and Legislation)	The agreements listed in this section helped facilitate engagement between the Province and Indigenous nations
Consider the requirements of any applicable international agreements between the Province and state or federal governments	Yes	8.6 (Other Agreements and Legislation)	The Environmental Cooperations Agreement helped facilitate engagement between the Government of BC and the State of Washington.
A description of relevant government policies that the project may not be compatible with	Yes	4.2 (Project Goals) The Project is compatible with existing government policies	N/A
Proposed timing for conducting the provincial EA and federal EA, if applicable	Yes	5.4 (Project Timing and Schedule)	N/A
Any updates to information in the IPD	Updated list of anticipated permits and authorization and added anticipated schedule	Table 8.5-1 (Anticipated Provincial, Federal, and Regional Authorizations and Permits	Engagement with Technical Advisors informed of specific permitting conditions required for Table 8.5-1
Project Status and History			
Project history, including past ownership	Yes	2.1 (Project History)	N/A
State if it is a new project or a modification to an existing project	Yes	2.1 (Project History)	N/A
A list of any existing permits or tenure in place	Yes - there are no regulatory permits required for the operation and maintenance of the existing George Massey Tunnel and Deas Slough Bridge. The Project is located predominantly within Highway 99 ROW. Additional land requirements are described in Section 7.4	1.1 (Project Overview) 7.4 (Land Designations and Ownership)	N/A
A description of any previous proposal(s) for the project or a similar proposal and the outcomes and history of the proposal(s), if applicable	Yes	2.1 (Project History)	N/A
If the project was previously declined or terminated, a description of how this proposal differs and how the issues for which the previous proposal was declined or terminated have been addressed	Yes	2.1 (Project History)	N/A
Any updates to information in the IPD	Moved Project status and history, which was part of Section 1 in the IPD, into its own section	2.0 (Project Status and History)	N/A
Project Timing			
A list of proposed project phases (e.g. construction, operation, decommissioning, and reclamation) and the anticipated timing and duration of each phase	Yes	5.4 (Project Timing and Schedule) Section 5.4 of the DPD describes the anticipated schedule for the Project, including environmental assessment, procurement, permitting, design, and construction as well as the decommissioning of the existing tunnel. EAO has inquired about additional information on the schedule surrounding the service life of the proposed Project. The Project is designed to have a service life of approximately 150 years. The life of the Project and any plans for future replacement of the tunnel, including timing and schedule, are far in the future, and will be addressed as part of regional transportation management closer to that future date, and in accordance with the relevant regulatory requirements and transportation infrastructure needs at that time. Due to the long service life of the Project and uncertainty of requirements so far in the future, information on timing and schedule has not been included in the DPD.	Engagement question on service life of immersed tube tunnel is addressed in Section 3.3

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Include any known seasonal timing constraints	Yes	5.4 (Project Timing and Schedule)	N/A
Any updates to information in the IPD, including a justification for any updates/changes to project timing and a description of how engagement was considered	Section 5.4 includes a high-level schedule for the development of the proposed Project using a 1-year planning scale for major project development activities to maintain flexibility to adjust to emerging concerns. This schedule has stayed consistent with the information provided in the Initial Project Description. The Ministry is committed to working with Indigenous nations in collaboration with EAO on specific concerns regarding review timelines and capacity support to achieve meaningful participation in the process. The Ministry will continue to engage and collaborate with Indigenous nations on specific schedule considerations that are more detailed than the schedule overview in Section 5.4 as the proposed Project planning advances. Section 5.4 acknowledges that specific in-river construction activities may need to occur outside of least-risk windows, and the Ministry commits to working with Indigenous nations, Fisheries and Oceans Canada (DFO), and Technical Advisors through the development of the Application for an Environmental Assessment Certificate (EAC) and subsequent permits. Comments received by Indigenous nations on various least-risk windows will be addressed at these later stages of regulatory review, and text in Section 5.4 has been adjusted to acknowledge the concerns about the EA schedule and the least risk timing windows. Text has been added to section 5.4 to acknowledge that to date, the Proponent has heard concerns regarding the proposed Project and EA schedule from Indigenous nations, stakeholders and the public and is committed to continuing to work with these groups on issues related to timelines, schedule and capacity throughout the EA process. Text has been added to section 5.4 to acknowledge that the Proponent has heard from Indigenous nations that Project least risk timing windows should be Project and/or species specific and not be defined by established regional timing windows alone to describe how engagement with Indigenous nations	N/A	N/A - The anticipated Project schedule has not changed since submission of the IPD
A list of timelines for the proposed project's EA and permitting processes and expected timing to submit key permit applications	Yes	8.5 (Anticipated Authorizations and Permits) 5.4 (Project Timing and Schedule)	Engagement with Technical Advisors informed of specific permitting conditions required for Table 8.5-1
Project Location, Activities and Components			
A description of the proposed project's location in a local and regional context, including proximity to communities or locations of interest to the public, government, or Indigenous nations, and key designated or protected areas such as parks or Wildlife Habitat Areas	Yes	Addressed in various subsections in Section 7.0 (Land and Water Use) and 10 (Environment, Economic, Social Health and Cultural Conditions and Preliminary Effects) and Figure 1.1-1 (Regional Overview)	N/A
Proposed project activities and components	Yes	5.2 (Project Components) 5.3 (Project Activities)	N/A
Proposed on and off-site facilities and equipment	Yes	5.2 (Facilities described in Project Components) 5.3 (Equipment described in Project Activities) 5.7 Alternative Means of Carrying out the Project	Early engagement with Tsawwassen First Nation identified a potential location for temporary offsite moorage for tunnel elements near Steveston Island.
A brief description of proposed activities related to processing, transportation and/or shipping of materials to/from the site	Yes	5.3 (Project Activities) 5.7 Alternative Means of Carrying out the Project	The potential to transfer dredge material to local Indigenous nations was added to the DPD based on consultation with Indigenous nations
A description of any other project(s) that are needed for the proposed project to proceed and be feasible (e.g. a pipeline would be needed for an oil and gas facility to proceed)	Yes - N/A for this project	2.1 (Project History)	N/A
A description of the work that has been conducted to arrive at the proposed project as described in the DPD	Yes	2.1 (Project History)	Engagement with Technical Advisors has helped inform all aspects of the Project
A list of design or siting constraints that are flexible and those that are not flexible	Yes	5.7 (Alternative Means of Carrying Out the Project) Section 5.7 of the DPD contains information on the Alternative Means of Carrying out the Proposed Project, and this section has been updated to reflect input gathered since the IPD. The Ministry notes the extensive efforts that have been undertaken to date to advance the concept selection and initial planning to replace the Existing Tunnel, including a Business Case analysis in 2011 that considers fundamental options. Table 5.7-1 includes a list of alternatives considered, where a selection has been made, complete with rationale for the selection. The Ministry recognizes the need for design flexibility at this early stage of engineering design and construction planning for several reasons including: (a) to be responsive to feedback throughout the assessment process, (b) to be flexible to emerging execution approaches as the technical engineering design and construction execution planning advances, and (c) to be flexible in the context of the design-build procurement model to enable design innovation and price competitiveness. To enable a robust assessment of potential adverse effects of the Project, the Ministry has presented a reference project case in the DPD that reflects fundamental guidance set out in the Business Case. For example, the Ministry is transparent about the option of full removal of the Existing Tunnel while investigations to inform detailed planning of such a removal advance, as this approach is likely to have the highest magnitude effects.The Ministry intends to keep an open dialogue about the design details of the Project, including elements of flexibility, through the environmental assessment. The Ministry seeks to avoid statements that could limit its ability to be responsive to concerns or limit design flexibility in the Project. The Ministry acknowledges that the design and construction execution planning process is at early stages, and the Project needs to be able to be responsive to technical developments, feedback and concerns raised as the EA and subsequent permitting processes proceed. The Ministry is committed to ongoing and meaningful engagement with Indigenous nations, technical	Engagement with Technical Advisors helped inform design and siting constraints
A list of other design or siting options that may be considered	Yes	5.6 (Alternatives to the Project)	Engagement with Technical Advisors helped inform design and siting constraints

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Anticipated daily and annual maximum production or operational capacity of the project (if applicable)	Yes - text added to indicate this is not applicable	5.0 (Project Location, Activities, and Components) Section 5 of the DPD has been drafted to meet the requirements outlined in EAO's guidance, including the Initial Project Description Guidelines of the Early Engagement Policy, that requests proponents provide anticipated daily and annual maximum production or operational capacity of a project, when applicable. The Ministry includes a statement in Section 5 of the DPD to indicate that this information is not applicable to the Project. The Project would result in replacing the Existing Tunnel to provide safe, reliable and accessible transportation, congestion relief, address long-term seismic safety performance of the Existing Tunnel, improve transit speed and reliability along the Highway 99 corridor, establish a dedicated active transportation corridor for pedestrians and cyclists across the Fraser River on Highway 99, and maintain the current clearances for the Fraser River navigational channel. EAO inquire about information on why traffic volume limits during operation of the proposed Project have not been deemed applicable to the Project. The Ministry confirms it will consider potential effects on traffic volumes related to the construction of the Project, but traffic volume during the operations of the Project is considered outside of the scope of this assessment. The Project is proposed to replace existing infrastructure, with the purpose of aligning traffic volume from the Existing Tunnel to the newly constructed Project.	N/A
Include justification for any updates/changes to project timing and a description of how engagement was considered	Yes	5.4 (Project Timing and Schedule)	Engagement with Technical Advisors helped inform the Project timing and schedule, for example, with relation to DFO's least risk window
Any updates to information in the IPD, including a justification for any updates/changes to the project location, activities and/or components, and a description of how engagement was considered	Additional details on Project Components and Project activities were added.	5.0 (Project Location, Activities, and Components) Table 5.2-1 (Project Components) Table 5.3-1 (Description of Project Activities)	Engagement with Technical Advisors and Indigenous nations have helped inform several changes, including MUP connections, construction methods and space requirements for temporary lands, a temporary tunnel element mooring site near Steveston Island, and in-river wall to isolate the proposed ITT from the Existing Tunnel
Include what further information, if any, is needed to confirm design and siting options, and approximate timelines	Yes	5.7 (Alternative Means of Carrying Out the Project) Section 5.7 of the DPD contains information on the Alternative Means of Carrying out the Proposed Project, and this section has been updated to reflect input gathered since the IPD. The Ministry notes the extensive efforts that have been undertaken to date to advance the concept selection and initial planning to replace the Existing Tunnel, including a Business Case analysis in 2011 that considers fundamental options. Table 5.7-1 includes a list of alternatives considered, where a selection has been made, complete with rationale for the selection. The Ministry recognizes the need for design flexibility at this early stage of engineering design and construction planning for several reasons including: (a) to be responsive to feedback throughout the assessment process, (b) to be flexible to emerging execution approaches as the technical engineering design and construction execution planning advances, and (c) to be flexible in the context of the design-build procurement model to enable design innovation and price competitiveness. To enable a robust assessment of potential adverse effects of the Project, the Ministry has presented a reference project case in the DPD that reflects fundamental guidance set out in the Business Case. For example, the Ministry is transparent about the option of full removal of the Existing Tunnel while investigations to inform detailed planning of such a removal advance, as this approach is likely to have the highest magnitude effects.The Ministry intends to keep an open dialogue about the design details of the Project, including elements of flexibility, through the environmental assessment. The Ministry seeks to avoid statements that could limit its ability to be responsive to concerns or limit design flexibility in the Project. The Ministry acknowledges that the design and construction execution planning process is at early stages, and the Project needs to be able to be responsive to technical developments, feedback and concerns raised as the EA and subsequent permitting processes proceed. The Ministry is committed to ongoing and meaningful engagement with Indigenous nations, technical	
A description of the work that has been conducted to arrive at the proposal, including what other options were considered and how engagement was considered	Yes	5.7 (Alternative Means of Carrying Out the Project)	Technical Advisors and Indigenous nations were heavily involved with early engagement regarding all aspects of the Project.
Maps and Shapefiles			
Local and regional scale maps of the project showing its location and known off-site components	Yes	Figure 1.1-1 (Regional Overview) Figure 5.2-1 (Project Footprint and Components)	N/A
Shapefiles of the proposed project footprint and the footprint of known offsite components: • Shapefiles must be in ESRI format and include four file types: .shp, .shx, .dbf, and .prj • Please also provide .KMZ files • Shapefiles must be in BC Albers (NAD83) projection • Shapefile polygons and their corresponding polygons on all maps must be identical in shape, size, and location • Spatial features (.shp and .shx) must be represented as polygons, not as points or line features • Shapefiles must be named in a way that clearly describes the contents • To avoid having ArcGIS generate random errors, follow these best practices: avoid starting names by number, add an underscore instead of a space or dash, and do not include a symbol outside of the underscore • Provide shapefiles demonstrating the overlap of known project components with any identified communities or locations of interest to the public. This may include information regarding specific sites or landscape features of importance to an Indigenous nation or their territory, if this information is not confidential in nature and an Indigenous nation has agreed to allow the information to be shared	Yes	Shapefiles are provided with the DPD	N/A
Any updates to information in the IPD	Yes	Updated maps and shapefiles are provided with the DPD 7.3 (Project Footprint and Area of Disturbance) provides a summary of topics related to Project footprints, maps and shapefiles arising from early engagement resulting in changes in the DPD, and provides a summary of additional changes to the Project footprint since issuance of the IPD.	Engagement with the VFPA helped inform the location of the outfitting jetty as illustrated in Figure 5.2-1 Project Footprint and Components. Following engagement with Technical Advisors, figures 7.4-1 Land Ownership and 10.1-1 Areas of Potential Environmental Concern, have been updated to reflect comments made
When known, include landscape features of importance to Indigenous nations and local communities in maps	Yes	1.1 (Project Overview) Figure 1.1-1 (Regional Overview) 5.2 (Figure 5.2-1 Project Footprint and Components) 13.3 (Indigenous Nations Lands and Interests)	Early consultation with Indigenous nations helped inform Figure 1.1-1 to show landscape features of importance and confirm territory boundaries.
Any new maps showing the boundary within which the project would be built, including updated location, project components and transportation routes	Yes	Figure 5.2-1 (Project Footprint and Components)	Engagement with Indigenous nations helped inform the location of the temporary off-site moorage area.

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Maps must be presented in the required standard format with legible grids and suitable scaling (typically 1:100,000 to 1:150,000 for centralized projects such as a mine, and up to 1:1,500,000 or 1:1,250,000 scale for linear projects such as a pipeline or transmission line)	Yes	Added Figures: Figure 1.1-1 (Regional Overview) Figure 5.2-1 (Project Footprint and Components) Figure 5.3-1 (Project Operations) Figure 7.4-1 (Land Ownership) Figure 7.4-2 (Land Use Designations) Figure 10.1-1 (Aeras of Potential Environmental Concern [APECs]) Figure 10.1-2 (Vegetation and Ecosystems) Figure 10.1-3 (Wildlife Features and Protected Areas) Figure 10.1-4 (Fish Species and Upland Tributaries) Figure 10.3-1 (Community Features and Parks) Figure 10.3-2 (Infrastructure and Utilities)	N/A
Maps must also include a national Topographic System (NTS) Map number, latitude and longitude references, titles, a north arrow, and relevant legends	Yes	Addressed on figures	N/A
Indigenous Nation Interests			
A description of the proximity of the proposed project to Indigenous nations' territory, communities, locations of interest, Indian Act reserve lands, lands subject to a Treaty, or other relevant agreements	Yes	13.3 (Indigenous Nations, Lands and Interests)	The DPD contains a section titled Overview of Engagement Activites for each Indigenous nation, which describes how engagement has informed the DPD.
A description of potential project interactions with any identified Indigenous interests	Yes	13.4 (Identification of Indigenous interests and Potential Effects) 13.5.2 (Preliminary Understanding of Indigenous Interests and Potential Project-related Interactions and Effects) Table 13.5-1 (Preliminary Indigenous Interests and Potential Project-Related	Table 13.5-1 (Preliminary Indigenous Interests and Potential Project-Related Effects) lists Indigenous interests and their thoughts on potential project-related interactions and effects, following engagement sessions.
A description of alignment of the DPD with Indigenous nation laws, customs and policies	Yes	13.3 (Indigenous Nations, Lands and Interests)	The Proponent is continuing to engage with Indigenous nations to determine how the proposed Project aligns with a given Indigenous nation's laws, customs, and policies. Examples of this alignment includes acknowledging: •the principles of sustainable development, government to government relationships from the Tsleil-Waututh Nation Stewardship Policy (2022); •Musqueam Indian Band's governance role in the proposed Project Area; •Ts'uubaa-asatx Nation's Lower Fraser Advocacy Policies; •Tsawwassen First Nation Treaty Final Agreement as well as Tsawwassen First Nation Acts and Laws; •Cowichan Nation British Columbia Government-to-Government Agreement, •Indigenous Heritage Permitting processes from respective nations •Tsawout First Nation Marine Use Law.
A list of any issues, concerns, or questions raised by Indigenous nations during engagement on the draft IPD or other information shared in relation to the proposed project	Yes	13.5.1 (Inclusion of Indigenous Knowledge)	Table 13.5-1 lists preliminary Indigenous Interests and Potential Project-Related Effects following engagement
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes	Attachment 4A (Summary of Issues Tables - IPD and Early Engagement)	Descriptions of how engagement was considered is included in Attachment 4A Updates to information in the IPD, including rationale for changes and a description of how engagement was considered is included in 13.2.2 (Engagement and Feedback during Early Engagement on the IPD and Draft DPD). The feedback that resulted in changes to the DPD from the IPD is summarized in Table 13.2-2
For each Indigenous nation identified, an overview of engagement activities that have been carried out, a description of issues that have been raised with respect to the proposed project, and an explanation of how those issues have been or will be addressed by the proponent	Yes	13.3 (Indigenous Nations Lands and Interests) Attachment 4A (Summary of Issues Tables - IPD and Early Engagement) Attachment 4B (Summary of Issues Tables - DPD)	The Summary of Issues Tables and the Technical Advisors Comment Tracker show how Indigenous engagement was addressed and carried through into the DPD.
A description of how Indigenous nations plan to work with the proponent moving forward	Yes	13.4.1 (How Indigenous Nations Plan to Work with the Proponent) summarizes the approach the Proponent will take to working with Indigenous nations including funding agreements and regular meeting frequencies. 13.4.2 (Opportunities for the Proponent to Work with the EAO and Indigenous Nations) outlines how the Proponent will work with the EAO and Indigenous nations including any Indigenous-led assessments. 13.4.3 provides a summary of specific engagement activities and their proposed timing.	The Proponent has established a regular meeting schedule with 12 Indigenous nations moving forward, and has offered capacity support to all involved.
A list of agreements the proponent has entered into with Indigenous nations during Early Engagement	Yes	13.4.1 (How Indigenous Nations Plan to Work with the Proponent)	13.4.1 (How Indigenous Nations Plan to Work with the Proponent)
A description of opportunities for the proponent to work with the EAO and Indigenous nations	Yes	13.4.2 (Opportunities for the Proponent to Work with the EAO and Indigenous nations)	N/A
Additional information provided by participating Indigenous nations	Yes	13 (Indigenous Nation Interests) Attachment 4B (Summary of Issues Tables - DPD)	Table 13.2.2 (Summary of Feedback that Resulted in a Change to the DPD) lists issues that Indigenous nations raised that resulted in a change to the DPD. The Ministry notes that when additional information was provided without permission to include in the DPD, and this information has not been included.
An identification of potential effects on Indigenous interests	Yes	13.5 (Identification of Indigenous Interests and Potential Effects)	Engagement with Indigenous nations helped inform table 13.5-1 (Identification of Indigenous Interests and Potential Effects)
A description of how this engagement and information was considered in the DPD, and corresponding changes that were made with justification for these changes	Yes	Attachment 4B (Summary of Issues Tables - DPD)	Table 13.2-1 (Summary of Indigneous Nations Key Issues Heard during Pre-Early Engagement) Table 13.2.2 (Summary of Feedback that Resulted in a Change to the DPD) lists issues that Indigenous nations raised that resulted in a change to the DPD.
A description of how information contained in the EAO's Summary of Engagement provided by the EAO was addressed in the DPD	Yes	Table 13.2-2 (Summary of Feedback on the Final IPD that Resulted in a Change to the DPD)	Table 13.2.2 Summary of Feedback that Resulted in a Change to the DPD lists issues that the EAO raised that resulted in a change to the DPD A description of how information contained in the EAO's Summary of Engagement is addressed in the DPD can be found in throughout the DPD in the relevant sections. For example, where nations provided comments related to specific technical aspects, they are found in the respective table "Summary of Topics Related to" air quality (Table 10.1-1), underwater noise (Table 10.1-3), surface water (Table 10.1-4), wildlife (Table 10.1-9). These tables provide a column about relevant changes to the Detailed Project Description. Where information from the Summary of Engagement reflected nation specific concerns, these are reflected in the nation specific tables within Section 13.
Biophysical Environment			
A description of the natural setting characteristics, including coastal, foreshore, riparian, mountainous, watersheds, and agricultural land	Yes	10 (Environment, Economic, Social, Health and Cultural Conditions and Preliminary Effects) 10.1 (Biophysical Environment)	Engagement with Technical Advisors and Indigenous nations helped inform land ownership and territorial boundaries to inform this section

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
A description of disturbed area characteristics, including: brown field; contaminated site(s), and any history of development	Yes	10.1.7 (Soil)	N/A
Identification of sensitive or vulnerable species, ecosystems, and/or habitats in the project area	Yes	10.1.8 (Vegetation) 10.1.9 (Wildlife and Wildlife Habitat) 10.1.10 (Fish and Fish Habitat) 10.1.11 (Marine Mammals)	Extensive engagement with Technical Advisors and Indigenous nations helped with the section identified. See Early Engagement TAC comment tracker
A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing biophysical conditions	Yes - each section in 10.1 references existing data	10.1 (Environment) 10.1.10 (Fish and Fish Habitat) provides Indigenous- and proponent-led studies related to Fish and Fish Habitat Attachment 2 (List of Existing Data) Attachment 3 (List of Studies, Schedule, Guidance and Standards)	Reports and existing knowledge from Technical Advisors and indigenous nations were consulted and used within the DPD. Each sub section for biophysical environment contains a table listing feedback following engagement, and details how it will be addressed in further documentation
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes	Summary of Topics tables within each subsection in Section 10.1 (Environment)	As above
A table showing a list of studies that are underway and those that are anticipated, including guidance and standards to be used in preparing these studies	Yes	Attachment 3 (List of Studies)	N/A
A description of engagement that occurred following acceptance of the IPD and Engagement Plan, including any additional information collected during this period on sensitive or vulnerable environmental values that may be affected by the proposed project and any further understanding of the potential effects of the project, including cumulative effects	Yes	10 (Environment, economic, social, health and cultural conditions and preliminary effects) 13.2 (How Indigenous Nation Feedback Informed Changes to the DPD) 14 (Engagement and Consultation with Local Governments, Regional Authorities, Stakeholders and the Public)	Table 14.2-1 (Response to Public Comments) has been included in Section 14.2-1 (Comment Period on the Initial Project Description) of the DPD summarizing TI Corp's responses to the public comment categories recieved during early engagement - as per Table 4 in the EAO's Summary of Engagement document. Text has been included above this table indicating that "Table 14.2-1 summarizes input received from the public from their review of the IPD and TI Corp's response to the comment themes as described in the EAO's Summary of Engagement, including if and where feedback has been incorporated into the DPD, and whether feedback will inform subsequent phases of the EA.
A description of future methods of information collection that will occur through continuing engagement	Yes	Attachment 3 (List of Studies) Section 10.1 (Environment)	N/A
A description of Indigenous knowledge that may have been incorporated into the description of existing biophysical environment, with permission of the Indigenous nation	Yes	10 (Environment, Economic, Social, Health and Cultural Conditions and Preliminary Effects)	Traditional Use Studies from GMTRP and other documents provided by Indigenous nations have been reviewed, and are listed in Section 10. Information from these documents will be incorporated into existing conditions reports and into the EAC Application and management plans, as appropriate.
A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes	Yes	Summary of Topics tables within each subsection in Section 10	Summary of topics tables within each subsection in Section 10 (Environment, Economic, Social, Health and Cultural Conditions and Preliminary Effects)
Human and Community Wellbeing			
A description of the proposed project's proximity to local communities, including seasonal or temporary residences	Yes	7.4 (Land Designations and Ownership) 10.2 (Economic)	Indigenous nations have provided input as to where the project's proximity may affect their communities, detailed within each sub section in 13.3.3 (Indigenous Nations Lands and Interests).
Identification of the local governments within which the proposed project is located or where effects may occur	Yes	10.3.4 (Infrastructure and Services)	Engagement with local governments (as Technical Advisors) helped inform land boundaries
A description of the proposed project's proximity to important or sensitive community and natural places such as: municipal boundaries, parks, schools, hospitals, housing, water supplies, roads, railways, and protected and recreational areas	Yes	10.3.1 (Land and Resource Use) 10.3.4 (Infrastructure and Services)	N/A
A list of existing data, including monitoring reports, previous EAs, regional studies, and/or other sources of information that support the understanding of the existing human environment conditions	Yes	Attachment 2 (List of Existing Data)	All technical advisors and indigenous nations were consulted for this information found in Attachment 2
Identification of any sensitive or vulnerable economic, social, heritage, or health values that may be affected by the project	Yes	10.2 (Economic) 10.3 (Social) 10.4 (Cultural) 10.5 (Health)	Within each of these sections a table shows how comments from technical advisors and indigenous nations have been addressed in the DPD (where applicable).
A preliminary understanding of the anticipated size of the workforce for each project phase, where the workforce will be drawn from, and where the workforce will be housed. Refer to the Human and Community Wellbeing Guidelines for further information.	Yes	5.5 (Infrastructure and Labour Requirements)	EAO comments from previous engagement were addressed in Section 10.2 (Economic), to provide a high-level estimate of labour requirements for each phase of the Project
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes	Summary of Topics tables within each subsection in Section 10.2 (Economic), 10.3 (Social), 10.4 (Cultural) and 10.5 (Health)	Within each of these sections a table shows how comments from technical advisors and indigenous nations have been addressed in the DPD (where applicable).
An outline of the anticipated number of construction and operating jobs and anticipated percent of workforce from the local community	Yes - specified the majority (i.e., more that 50%) of the Project workforce (i.e., during construction, decommissioning and operations) is expected to come from within Metro Vancouver. Numerical % estimates of workforce from the local community will be provided in the EAC Application.	5.5 (Infrastructure and Labour Requirements)	N/A
A description of how the proposed project may affect the local and regional economy	yes	10.2 (Economic)	A comment from Snuneymuxw First Nation during early engagement was addressed in the DPD in Section 10.2 (Economic) (regarding types of employment and training opportuniites available)
A description of the engagement that occurred following acceptance of IPD and Engagement Plan and any additional information collected during this period regarding sensitive or vulnerable economic, social, heritage or health values that may be affected by the proposed project	yes	Tables within each subsection in Section 10.2, 10.3, 10.4 and 10.5	Within each of these sections a table shows how comments from technical advisors and indigenous nations have been addressed in the DPD (where applicable).
A description of how this engagement and information was considered, and corresponding changes that were made with justification for these changes. Refer to the Human and Community Wellbeing Guidelines for further information	yes	Summary of Topics Arising from Early Engagement Tables within each subsection in Section 10.2, 10.3, 10.4 and 10.5	Within each of these sections a table shows how comments from technical advisors and indigenous nations have been addressed in the DPD (where applicable).
Emissions, Discharges, and Waste			
A high-level outline of anticipated direct project waste and emissions to land, air, and water, including estimated greenhouse gas (GHG) emissions. • This information would include direct emissions that are expected to be above provincial or national standards and emissions that have the potential to interact with Indigenous interests, the biophysical environment, and/or the human environment	Yes	6.1 (Air and Dust Emissions) 6.2 (Greenhouse Gas Emissions)	N/A
A description of proposed mitigation measures and/or project design changes to address emissions, including GHGs	Yes	6.1 (Air and Dust Emissions) 6.2 (Greenhouse Gas Emissions)	N/A
A description of the potential effects on the province being able to meet its targets under the *Greenhouse Gas Reduction Targets Act*	Yes	6.2 (Greenhouse Gas Emissions)	N/A

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Any updates to information in the IPD, including a justification for updates or changes and a description of how engagement was considered	Yes	Table 10.1-1 (Summary of Topics Related to Air Quality Arising from Early Engagement) Table 10.1-4 (Summary of Topics Related to Surface Water and Sediment Quality Arising from Early Engagement) Table 10.3-4 (Summary of Topics Related to Infrastructure and Services Arising from Early Engagement) Table 10.5-1 (Summary of Topics Related to Community Health and Wellbeing Arising from Early Engagement)	Within each of these sections a table shows how comments from technical advisors and indigenous nations have been addressed in the DPD (where applicable).
An estimate of direct and indirect project GHG emissions by phase	Yes	6.2 (Greenhouse Gas Emissions) 10.1.1 (Air Quality)	N/A
A description of the potential effects on the province being able to meet its targets under the Greenhouse Gas Reduction Targets Act	Yes	6.2 (Greenhouse Gas Emissions)	N/A
A justification for updates or changes to expected emissions, effluents, discharges and/or wastes and a description of how engagement was considered	Yes	6.0 (Emissions, Discharges, and Waste)	N/A
Public and Environmental Safety			
A description of potential malfunctions or accidents associated with the industry or specific to the proposed project and how they will be managed. • Include any proposed outreach to help Indigenous nations, governments and the public better understand the risks and mitigations • Include any issues raised about public and environmental safety during engagement with Indigenous nations, the public, provincial and federal government agencies, and stakeholders and how issues were considered in developing any mitigation measures or design changes.	Yes	11 (Accidents and Malfunctions).	Section 11 (Accidents and Malfunctions) describes the issues raised during early engagement with technical advisors and indigenous nations. Further issues raised at a later engagement session with emergency responders is also included in this section. The section then details how the feedback received has been considered in the identification of potential Project-related accidents and malfunctions in the DPD.
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	No changes beyond those required to meet concordance items	11 (Accidents and Malfunctions).	As above
Include a description of potential project-related scenarios where there is a real or perceived risk of a malfunction or accident	Yes	11 (Accidents and Malfunctions)	N/A
Identification of moderate-to high-risk potential malfunctions or accidents associated with the proposed project and how they will be managed. • Refer to risk disclosure standards and provincial risk management policy, including the Risk Management Guideline for the B.C. Public Sector (Province of British Columbia Risk Management Branch and Government Security Office, April 2019)	Yes	11 (Accidents and Malfunctions).	N/A
Alternative Means of Carrying out the Project			
A high-level description of the alternative options for the proposed project, including a rationale for the preferred option that demonstrates how positive and negative effects and/or issues raised during engagement have been considered	Yes	5.6 (Alternatives to the Project) 5.7 (Alternative Means of Carrying out the Project)	Updates from the IPD to the DPD in relation to feedback from engagement have been included as a bulleted list in section 5.7
The alternative means of undertaking the proposed project may include information related to: • the use of best available technologies • the technical and economic feasibility • the potential effects, risks and uncertainties of those alternatives • the preferred option and a rationale for this preference • the different options for the project location, project routing, technologies, mitigation, or design	Yes	5.7 (Alternative Means of Carrying out the Project)	N/A
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Section was reorganized to include information in a table format rather than sections to streamline text.	5.7 (Alternative Means of Carrying Out the Project)	Updates from the IPD to the DPD in relation to feedback from engagement have been included as a bulleted list in section 5.7 Table 5.7-1 (Alternative Means of Carryign Out the Project) shows how engagement has been considered in the options chosen
Provide clear definitions with transparent weighting and criteria for assessing alternative means	Yes - The evaluation of alternative means applied various criteria that represent technical considerations, best achievable technologies, and potential effects for each of the main Project design, components, and activities.	Table 5.7-1 (Alternative Means of Carrying Out the Project)	N/A
Effects of the Environment on the Project			
An overview of potential effects of natural hazards or processes and climate change on the proposed project	Yes	12 (Effects of the Environment on the Project)	N/A
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	N/A	N/A	N/A - no changes since submission of the IPD
A justification for updates/changes to potential effects and a description of how engagement was considered, especially Indigenous knowledge and local knowledge gathered during Early Engagement	N/A	12 (Effects of the Environment on the Project)	No comments were received that relate to effects of the environment on the Project and resulted in changes to the DPD.
Land and Water Use			
An outline of the anticipated project footprint and proposed area of disturbance	Yes	5.1 (Project Location)	N/A
A description of the land required for the proposed project, including whether the project is located on private lands, provincial or federal Crown lands, or Indian Reserve lands	Yes	5.1 (Project Location) 7.4 (Land Designations and Ownership) 9 (Spatial Boundaries)	N/A
Include the applicable zoning, Agriculture Land Reserve designation, land and resource management plans, and other land use designations (e.g. parks and protected areas) and the legal land descriptions and/or tenure numbers of those lands, if known	Yes	5.1 (Project Location) 7.4 (Land Designations and Ownership) 7.6 (Land and Water Use Management Plans) 10.3-1 (Land and Resource Use) 10.3-2 (Marine Use)	N/A
A description of past uses of the land required for the proposed project, including whether the site has been previously developed	Yes	7.4 (Land Designations and Ownership)	N/A
A description of water requirements for the proposed project, if applicable, and the proposed source of water	Yes	7.5 (Project Water Requirements)	N/A
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes Section was reorganized and streamlined to reduce redundancies with the Land and Resource Use and Marine Use sections.	10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement)	Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement) addresses how issues raised are addressed in the DPD (where applicable).
Identification of the location of previously disturbed site or green field site, agricultural land, or foreshore	Yes	10.7.1 (Soils) describes disturbed sites 10.3.1 (Land and Resource Use) describes agricultural land and residential and commercial areas on the foreshore	N/A
Legal information regarding land title, authorization, or permits	Yes	7.0 (Land and water use) 8.0 (Legislative and Regulatory Context)	N/A
Identification of the proximity to seasonal or temporary residences	Yes	7.2 (Past and Present Land and Water Use)	One comment in Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement) from Musqueam Indian Band relating to temporary residences led to a change in Section 7.3 (Project

Early Engagement Policy Requirement	Addressed	Section No.	Engagement
Description of the relationship to known regional initiatives (e.g. Elk Valley Water Quality Plan or Indigenous land use plans)	Yes	7.6 (Land and Water Use Management Plans)	N/A
A description of project land and water use following engagement clearly noting any changes and a justification for why changes were made and how engagement was considered.	Yes	7.0 (Land and Water Use) Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement) Table 10.3-2 (Summary of Topics Related to Marine Use Arising from Early Engagement)	Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement) addresses how issues raised are addressed in the DPD (where applicable).
Land Use Plans			
A list of all relevant land use plans, including provincial land use plans, Indigenous land use plans, and relevant municipal or local government plans	Yes	7.6 (Land and Water Use Management Plans)	N/A
An identification of any rezoning or changes in land designations that would be required for the proposed project	Yes	As noted in Section 7.4 (Land Designations and Ownership) Any associated rezoning requirements and/or changes in land use designations, if required, will be determined as the engineering and property requirements for the Project are advanced. This will be further defined in the process planning phase during development of the AIR and during the Application Development phase in collaboration with local governments.	N/A
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes	7.6 (Land and Water Use Management Plans) Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement)	Table 10.3-1 (Summary of Topics Related to Land and Resource Use Arising from Early Engagement) addresses how issues raised are addressed in the DPD (where applicable).
A justification for updates/changes to relevant provincial land use plans and a description of how engagement was considered	Not Applicable	No changes to land use plans proposed. Table 7.6-1 (Land and Water Use Management Plans) provides relevant plans	N/A - no change to land use plans proposed
Project Effects			
A description of potential interactions between the proposed project and the biophysical and human environments, including Indigenous interests. It may be helpful to present this information in a table format, refer to the Effects Assessment Policy for examples of interaction tables	Yes	Table 10.6-1 (Summary of Preliminary Potential Effects, Mitigation, and Management Strategies) Table 13.5-1 (Preliminary Indigenous Interests and Potential Project-Related Effects)	N/A
A summary of any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions, if applicable	Yes	10.1 (Environment)	N/A
A list of any activities proposed to be undertaken during the Early Engagement period to inform the development of the DPD or the Application, should the project proceed to an EA	Yes	13.4 (Engagement Moving Forward) 14.1 (Summary of Preliminary Engagement Activities)	N/A
An identification of existing cumulative effects in the region that the project may interact with. Refer to the Effects Assessment Policy for more information	Yes	10.7 (Cumulative Effects)	N/A
Any updates to information in the IPD, including a justification for updates/changes and a description of how engagement was considered	Yes	Table 10.1-4 (Summary of Topics Related to Surface Water and Sediment Quality Arising from Early Engagement) Table 10.1-7 (Summary of Topics Related to Soils Arising from Early Engagement) Table 10.1-8 (Summary of Topics Related to Vegetation Arising from Early Engagement) Table 10.1-9 (Summary of Topics Related to Wildlife Arising from Early Engagement) Table 10.1-11 (Summary of Topics Related to Fish and Fish Habitat Arising from Early Engagement) Table 10.3-2 (Summary of Topics Related to Marine Use Arising from Early Engagement) Table 10.5-1 (Summary of Topics Related to Community Health and Wellbeing Arising from Early Engagement) 13.4.2 (Identification of Indigenous Interests and Potential Effects)	Each table addresses each comment in turn from Technical Advisors and Indigenous nations, and states in separate columns where a change has been made to the DPD (where applicable) and where the issue will be addressed moving forward through the EA process.
A description of potential positive and negative effects of the project on the biophysical and human environments, and Indigenous interests, including any potential cumulative effects	Yes	10.1 (Environment) 10.2 (Economic) 10.3 (Social) 10.4 (Cultural) 10.5 (Health) 10.6 (Summary of Preliminary Potential Effects, Mitigation and Management Strategies) 10.7 (Cumulative Effects) Table 13.5-1 Preliminary Indigenous Interests and Potential Project-Related Effects)	Table 13.5-1 summarizes the Proponents preliminary understanding of potential affected Indigenous interests shared throughout the Early Engagement Phase
A summary of key conclusions from any biophysical feasibility studies undertaken that may be pertinent to understanding potential interactions, if applicable	Yes	10.1 (Environment) Biophysical studies to support the environmental assessment and inform project planning are ongoing, and the manner in which the information collected has shaped the project will be described in the EAC Application	N/A
An initial description of measures to prevent or reduce the potential negative effects to an acceptable level. Include measures that could be integrated into project design, compliance with applicable regulations, standards, codes of practice, or Best Management Practices, corporate management systems, and/or project-specific measures that will be implemented	Yes	10.6 (Summary of Preliminary Potential Effects, Mitigation, and Management Strategies)	N/A
A brief description of proposed monitoring programs, if known, that will be implemented to measure the effectiveness of mitigations to prevent or reduce the potential negative project effects	Yes	10.6 (Summary of Preliminary Potential Effects, Mitigation, and Management Strategies)	N/A

ATTACHMENT 2: LIST OF EXISTING DATA

This attachment is a list of existing data, including monitoring reports, previous environmental assessments, regional studies, and other sources of information that support the understanding of the existing biophysical and human environment conditions for the Fraser River Tunnel Project (the Project). These are preliminary lists identified through scoping and early engagement. Searches for more information and studies will be re-run and will be updated in concert with existing conditions data collected in the field, as well as through collaboration and engagement with stakeholders and regulators, as the Project progresses (for example, for valued component selection, the detailed project description, assessment).

1. Physical Environment

BC ENV (British Columbia Ministry of Environment and Climate Change Strategy). 2013. BC field sampling manual. Victoria, BC; [accessed January 2019]. https://www2.gov.bc.ca/assets/gov/environment/research- monitoring-and-reporting/monitoring/emre/bc_field_sampling_manual_complete.pdf.

BC ENV. 2017. Guidance on Application of Provincial Air Quality Objectives for SO2

BC ENV. 2021a. British Columbia Air Quality Dispersion modelling guideline. Version November 2021. BC ENV. 2021b. Guidance for NO2 Dispersion Modelling in BC. Version November 2021.

BC ENV. 2021c. BC Ambient air quality objectives; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/environment/air- land-water/air/reports-pub/prov_air_qual_objectives_fact_sheet.pdf.

BC ENV 2021d. Guidance on application of provincial air quality objectives for NO2.

CCME (Canadian Council Ministers of Environment). (date unknown). Canadian ambient air quality standards. [accessed February 2022]. https://ccme.ca/en/air-quality-report#slide-7.

Cora Hallsworth Consulting and Sustainability Managers. 2021. Metro Vancouver regional consumption-based emission inventory. Prepared for Metro Vancouver

ECCC (Environment Canada and Climate Change). 2021. National Inventory Report (NIR) 1990-2019: Greenhouse Gas Sources and Sinks in Canada: Canada's Submission to the United Nations Framework Convention on Climate Change

Government of BC. 2022. Traffic data program. [accessed 06 February 2022]. https://www.th.gov.bc.ca/trafficData/index.html.

Greater Vancouver Regional District. 2008. Air quality management bylaw No. 1082, 2008. Google LLC. 2022. Google Earth Pro.

Metro Vancouver. 2012. Station information: Lower Fraser Valley Air Quality Monitoring Network.

Metro Vancouver. 2018. 2015 Lower Fraser Valley air emissions inventory and forecast: Final report and summarized results.

Metro Vancouver. 2020a. Metro Vancouver Ambient Air Quality Objectives Version January 2020; [accessed February 2022]. http://www.metrovancouver.org/services/air-quality/AirQualityPublications/CurrentAmbientAirQualityObjectives.pdf.

Metro Vancouver. 2020b. Metro Vancouver near-road air quality monitoring study. Metro Vancouver. 2021a. Caring for the Air. [accessed February 2022]. http://www.metrovancouver.org/services/air-quality/about/caring-for-the-air/.

Metro Vancouver. 2021b. 2017 Lower Fraser Valley air quality monitoring report

MOTI (BC Ministry of Transportation and Infrastructure). 2015a. George Massey Tunnel Replacement Project. Contaminated Sites Study. April 2015.

MOTI. 2016a. George Massey Tunnel Replacement Project Application for an Environmental Assessment Certificate: Section 16.3 Underwater Noise Modelling Study. Technical Volume.

MOTI. 2016b. George Massey Tunnel Replacement Project Application for an Environmental Assessment Certificate: Section 16.6 Atmospheric Noise Study. Technical Volume.

WesPac Midstream-Vancouver LLC. 2018. Appendix 4.4.1-2: Air quality and meteorology existing condition report. Report submitted by Golder Associates (Golder) to WesPac in Support of the EAC Application.

2. Biological Environment

BC CDC (British Columbia Conservation Data Centre). 2022. Species and ecosystem explorer. [accessed February 2022]. http://a100.gov.bc.ca/pub/eswp/.

BC CSN (British Columbia Cetacean Sighting Network). 2018. South Georgia Strait Marine Mammal Sighting Data. Letter from Vancouver Aquarium Marine Science Centre to Golder, letter dated January 23, 2018.

BEC Program. 2021. Biogeoclimatic ecosystem master ecosystem plot biogeoclimatic ecosystem classification program of BC 2021. [accessed 23 February 2022]. https://www.for.gov.bc.ca/hre/becweb/.

BHP (BHP Billiton Canada Inc). 2018. Aquatic resources assessment report BHP potash export facility at Fraser Surrey docks. Report prepared by Hemmera Envirochem Inc. (Hemmera) for BHP. File No. 1856-001.01.

Birds Canada. 2022. IBA Canada important bird areas. [accessed 01 February 2022]. https://www.ibacanada.ca/site.jsp?siteID=BC017.

California Academy of Sciences and National Geographic Society. 2022 iNaturalist. [accessed February 2022]. https://www.inaturalist.org/.

City of Delta. 2022. DeltaMap online mapping system. Database provided by the City of Delta: [accessed 16 February 2022]. https://maps.delta.ca/Html5Viewer/index.html?viewer=DeltaMapExternal.viewer/.

City of Richmond. 2022. City of Richmond interactive map. Database provided by the City of Richmond: [accessed 16 February 2022]. https://maps.richmond.ca/rim/.

Clark J, Meidinger D. 2020. Update of the Metro Vancouver sensitive ecosystem inventory (2009 -2014). CNABH (Consortium of North American Bryophyte Herbaria). 2022. CNABH Portal. [accessed 16 February 2022]. https://bryophyteportal.org/portal/.

CNALH (Consortium of North American Lichen Herbaria). 2022. Lichen Portal. [accessed 16 February 2022]. https://lichenportal.org/cnalh/.

Consortium of Pacific Northwest Herbaria. 2022. Consortium of Pacific Northwest Herbaria [accessed 16 February 2022]. https://www.gbif.org/occurrence/search.

ENV (BC Ministry of Environment and Climate Change Strategy). 2020. Terrestrial Ecosystem Information (TEI): Coding Updates for Non-Vegetated, Sparsely.

Environment Canada. 2015. Management plan for Vancouver Island beggarticks (Bidens amplissima) in Canada. [accessed 16 February 2022]. https://www.canada.ca/en/environment-climate-change/services/species-risk-public- registry/management-plans/vancouver-island-beggarticks-2015.html.

Environment Canada. 2016. Recovery Strategy for the streambank lupine (Lupinus rivularis) in Canada. [accessed February 2022]. https://www.canada.ca/en/environment-climate-change/services/species-risk-public- registry/recovery-strategies/streambank-lupine-2016-proposed.html.

FLNRO (Ministry of Forests, Lands, Natural Resource Operations and Rural Development). 2017. Biogeoclimatic ecosystem classification codes and names BECdb, Ver. 10. MS Access Database Updated 2017.

FLNRO. 2021a. BC Invasive alien plant site online database. FLNRO. 2021b. Provincial Biogeoclimatic Subzone/Variant/Phase Mapping Ver. 12. [accessed 13 February 2022]. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/invasive-species/iapp.

FLNRO. 2021. Old Growth technical advisory panel spatial data. Provincial Stewardship Strategies and Planning. [accessed 06 February 2022]. https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/old- growth-forests/old-growth-maps.

FREMP - BIEAP (Fraser River Estuary Management Program – Burrard Inlet Environmental Action Program Habitat Atlas). 2014. Vancouver, B.C. [accessed 13 February 2022]. https://cmnmaps.ca/dfo_fremp/.

GBIF (Global Biodiversity Information Framework). 2022. Global biodiversity information framework. [accessed February 2022]. https://www.gbif.org/.

Golder (Golder Associates Ltd.). 2019. Lower Fraser River adult white Sturgeon acoustic telemetry data analysis. Prepared for BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

Golder. 2022. Golder VPro and plant species master databases. Government of BC. 2022a. Fish Inventories Data Queries (FIDQ). Database provided by the BC. [accessed 06 February 2022]. https://a100.gov.bc.ca/pub/fidq/searchFishSpecies.do#:~:text=Fish%20Species%20Codes%20Query%20%20%20%20Common,%20%20Species%20%2039%20more%20rows%20.

Government of BC. 2022b. Habitat wizard. Database provided by the BC Government. [accessed 06 February 2022]. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/ecosystems/habitatwizard.

Government of BC. 2022c. iMapBC 2.0. [accessed 25 January 2022]. https://maps.gov.bc.ca/ess/hm/imap4m/.

Government of Canada. 2022. Committee on the status of endangered wildlife in Canada (COSEWIC). Database provided by the BC Government. [accessed February 2022]. https://www.cosewic.ca/index.php/en-ca/.

Hatfield Consultants. 2018. Pattullo bridge replacement project: Fish and fish habitat report. Prepared for: South Coast British Columbia Transportation Authority (TransLink) New Westminster, British Columbia.

Hemmara. 2015. George Massey tunnel replacement project – Part B Vegetation Assessment.

Hemmera. 2016. Environmental assessment application for the George Massey tunnel replacement project. Terrestrial Wildlife Assessment. Prepared for BC Ministry of Transportation and Infrastructure.

Hemmera. 2017. George Massey tunnel replacement project environmental assessment application – Section 16.4 Fish and Fish Habitat Study Technical Volume. Prepared for the B.C. Ministry of Transportation, Vancouver, B.C. [accessed 25 January 2022]. https://projects.eao.gov.bc.ca/p/588511ffaaecd9001b8291b7.

Hemmera. 2020. Review of GMTRP technical studies - Gap Analysis for Phase 2. Prepared for BC Ministry of Transportation and Infrastructure.

Hemmera. 2021a: George Massey tunnel crossing (GMC) – Juvenile Salmonid Advanced Studies 2021. Prepared for BC Ministry of Transportation and Infrastructure.

Hemmera. 2021b. Habitat mapping in support of advance studies - Methodology for the Lower Fraser River. Prepared for BC Ministry of Transportation and Infrastructure.

Hemmera & Musqueam Indian Band. 2021: George Massey tunnel crossing (GMC) – Sturgeon Advanced Studies 2021. Prepared for BC Ministry of Transportation and Infrastructure.

Hitchcock CL, Cronquist A. 2018. Flora of the Pacific northwest an illustrated manual, 2nd. Ed. [accessed 15 February 2022].https://heritage.nv.gov/documents/flora-of-the-pacific-northwest-an-illustrated-manual-2nd-edition.

ISCMV (Invasive Species Council of Metro Vancouver). 2020. Invasive species council of Metro Vancouver invasive plant prioritization ranking. [accessed February 2022]. https://www.bing.com/search?q=Invasive+Species+Council+of+Metro+Vancouver+Invasive+Plant+Prioritization+Ranking&cvid=89e4186fc2a14245b5e6a9fdc35ec5ec&aqs=edge..69i57.387j0j9&FORM=ANAB01&PC=U531.

LGL (LGL Limited). 2021. George Massey tunnel replacement–An assessment of Eulachon (Thaleichthys pacificus) spawning activity in the Lower Fraser River at Deas Island. Final Report for Tsawwassen First Nation, Tsawwassen, BC.

LGL & TFN (Tsawwassen First Nation). 2021. Eulachon (Thaleichthys pacificus) migration in the Lower Fraser River and estuary revealed through acoustic telemetry: Years 1 and 2. Final Report for Tsawwassen First Nation, Tsawwassen, BC. December 2021.

Meidinger D, Clark J, Adamoski D. 2014. Sensitive ecosystem inventory for Metro Vancouver and Abbotsford 2010 to 2012.

North MEA, Teversham JM. 1984. The vegetation of the floodplains of the Lower Fraser, Serpentine and Nicomekl Rivers, 1859 to 1890.

PMV (Port Metro Vancouver). 2015. Roberts bank terminal 2 environmental impact statement: Marine mammal effects assessment. Prepared by Hemmera Envirochem (Hemmera) for PMV.

Randall S, Diamond L. 1988. Deas Island regional plan master plan a long rage development, enhancement, and conservation plan. Prepared by Greater Vancouver Regional District. Vancouver BC. [accessed November 2022]; http://www.metrovancouver.org/services/parks/ParksPublications/Deas_Island_Regional_Park_-_Master_Plan-1988_Jan_1.pdf.

TFN and LGL. 2021a. George Massey crossing: Migratory birds. Progress report – February 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TFN and LGL. 2021b. George Massey crossing: Migratory birds. Progress report – October 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 p.

TFN and LGL. 2021c. George Massey crossing: Migratory birds. Progress report – November 2021. Prepared for the Ministry of Transportation and Infrastructure. 3 pp.

TFN and LGL. 2022. George Massey crossing: Migratory birds. Progress report – January 2022. Prepared for the Ministry of Transportation and Infrastructure. 3 pp.

UBC (University of British Columbia). 2022. University of British Columbia specimen label information. WesPac midstream-Vancouver LLC. 2018. Marine Mammal Baseline Report. Report submitted by Golder Associates (Golder) to WesPac in support of the WesPac Tilbury Marine Jetty Project Environmental Assessment Certificate Application. Report No. 1314220049-133-R-Rev0.

WesPac Midstream-Vancouver LLC. 2019a. Environmental assessment certificate application: WesPac Tilbury Marine Jetty Project. Section 4.2: Fish and Fish Habitat. Vancouver, British Columbia.

WesPac Midstream-Vancouver LLC. 2019b. Environmental assessment certification application WesPac Tilbury Marine Jetty Project, section 4.7 Vegetation. Vancouver, British Columbia

3. Human Environment

ALC (Agricultural Land Commission). 2014. Permitted uses in the ALR. [accessed 15 February 2022]. http://www.alc.gov.bc.ca/alc/content.page?id=A2BE9E6859EC45A0977515C398C138FA.

ALC. 2021. Annual reports. [accessed 13 February 2022]. https://www.alc.gov.bc.ca/alc/content/library/annual-reports.

BC Assessment. date unknown. Crown land leases, licenses and permits. [accessed February 2022]. http://www.bcassessment.ca/public/Fact%20Sheets/Crown%20Land%20Leases,%20Licenses%20and%20Permits.aspx.

BC Stats. date unknown. Statistics (online database). [accessed 09 February 2022]. https://www2.gov.bc.ca/gov/content/data/statistics.

BC MOE (British Columbia Ministry of Environment). 2021a. Protocol 1 for contaminated sites: Detailed risk assessment. [accessed 15 February 2022]. https://www.bing.com/search?q=Protocol+1+for+Contaminated+Sites%3A+Detailed+Risk+Assessment&cvid=d0701a7b218847e991c2d8e244c39e65&aqs=edge..69i57.622j0j9&FORM=ANAB01&PC=U531.

BC MOE. 2021b. Protocol 28 for contaminated sites; 2016 Standards derivation methods. Ver. 2.0. Protocol 28 For Contaminated Sites, 2016 Standards Derivation Methods. Updated 1 February 2021; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site- remediation/docs/protocols/p28 jan_2021_revisions_final_signed.pdf.

BC MOE. 2021c. Protocol 1 for contaminated sites: Detailed disk assessment. Ver. Updated 1 February 2021; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/site- remediation/docs/protocols/p1_jan_2021_revisions_final_signed.pdf.

BC MOH (British Columbia Ministry of Health). 2021a. BC Guidance for prospective human health risk assessment. [Accessed 03 February 2022]. https://www.bing.com/search?q=BC+Guidance+for+Prospective+Human+Health+Risk+Assessment%5C&cvid=0dd3f84a6566477892ea0a9d28590000&aqs=edge..69i57.2581j0j9&FORM=ANAB01&PC=U531.

BC MOH. 2021b. BC Guidance for prospective human health risk assessment. Ver.1.0. April 2021.Health Protection Branch, Population and Public Health Division. [accessed 13 February 2022].https://www.bing.com/search?q=BC+Guidance+for+Prospective+Human+Health+Risk+Assessmen t&cvid=468ff964c3c34caea1e3f33d07551e77&aqs=edge..69i57j69i59.655j0j9&FORM=ANAB01&PC=U531.

Canada et al. 2010. Tsawwassen First Nation final agreement. [accessed February 2022]. https://tsawwassenfirstnation.com/wp-content/uploads/2019/07/1_Tsawwassen_First_Nation_Final_Agreement.pdf

City of Delta. date unknown. Official community plan land use designations. [accessed 06 February 2022]. https://maps.delta.ca/Html5Viewer/index.html?.

City of Delta. 2011. Official community plan. Schedule D.1 Tsawwassen Area Plan. [accessed 06 February 2022]. https://delta.civicweb.net/filepro/documents/?preview=39379.

City of Delta. 2015. Official community plan. Schedule A. [accessed 06 February 2022]. https://delta.civicweb.net/filepro/documents/?preview=39377.

City of Delta. 2021. Delta police. [accessed 06 February 2022]. https://deltapolice.ca/.

City of Delta. 2022a. Delta fire and emergency services. [accessed 06 February 2022]. https://www.delta.ca/services/public- safety/delta-fire-emergency-services.

City of Delta. 2022b. DeltaMap online mapping eystem. Database provided by the City of Delta. [accessed 06 February 2022]. https://maps.delta.ca/Html5Viewer/index.html?viewer=DeltaMapExternal.viewer/.

City of Delta. 2022c. Open data catalogue. Water mains, drainage sanitary utilities. [accessed 06 February 2022]. https://www.delta.ca/city-hall/municipal-information/open-data-catalogue.

City of Richmond. 2012a. Main 2041 Official community plan - Bylaw 9000 - Schedule 1. 6.0 Resilient Economy; [accessed February 2022]. https://www.richmond.ca/ shared/assets/OCP_9000_economy34170.pdf.

City of Richmond. 2012b. Main 2041 Official Community Plan - Bylaw 9000 - Schedule 1. 12.0 Sustainable Infrastructure and Resources; [accessed February 2022]. https://www.richmond.ca/__shared/assets/OCP_9000_infrastructure34176.pdf.

City of Richmond. 2022a. Agriculture in Richmond. [accessed 06 February 2022]. https://www.richmond.ca/plandev/planning2/agriculture/about.htm?PageMode=HTML.

City of Richmond. 2022b. About Richmond RCMP. [accessed February 2022] https://www.richmond.ca/safety/police/aboutus.htm?PageMode=HTML.

City of Richmond. 2022c. Fishing piers & boating. City of Richmond. [accessed 06 February 2022]. http://www.richmond.ca/parks/waterfront2/fishingpiers.htm.

City of Richmond. 2022d. Official community plan land use designations. [accessed 06 February 2022]. http://maps.richmond.ca/rim/.

City of Richmond. 2022e. Richmond fire-rescue. [accessed 06 February 2022]. https://firerescue.richmond.ca/.

City of Vancouver. 2020. Annual report for the Vancouver landfill; [accessed February 2022]. https://vancouver.ca/files/cov/2020- vancouver-landfill-annual-report.pdf.

Crown-Indigenous Relations and Northern Affairs Canada. date unknown. First Nations profiles interactive map. [accessed 06 February 2022]. https://geo.aadnc-aandc.gc.ca/cippn-fnpim/index-eng.html.

Department of Natural Resources Canada. 2022. Canvec. Water, roads and railways. [accessed 09 February 2022]. https://open.canada.ca/data/en/dataset/2dac78ba-8543-48a6-8f07-faeef56f9895.

DFO (Fisheries and Oceans Canada). 2016. Recreational catch statistics. [accessed 09 February 2022]. Fraser River. https://www.dfo- mpo.gc.ca/stats/rec/pac/index-eng.html.

DFO. 2021a. Commercial catch statistics Pacific region. [accessed 09 February 2022]. https://www.pac.dfo-mpo.gc.ca/fm-gp/comm- eng.html.

DFO. 2021b. Fraser River Indigenous fisheries data and information. [accessed 09 February 2022]. https://www.pac.dfo-mpo.gc.ca/fm- gp/fraser/abor-autoc-eng.html.

DFO. 2022a. Commercial license reports, salmon gillnet, salmon troll and salmon seine, Pacific region. [accessed 09 February 2022]. https://www.pac.dfo-mpo.gc.ca/fm-gp/licence-permis/comm-smon-eng.html.

DFO. 2022b. Fisheries opening and Closures, Pacific Region. https://www-ops2.pac.dfo-mpo.gc.ca/fns-sap/index-eng.cfm. [Accessed February 2022].

DFO. 2022c. Southern Pacific salmon integrated fisheries management plan summary. Genus *Oncorhynchus*. 2021/2022; [accessed February 2022]. https://www.pac.dfo-mpo.gc.ca/fm-gp/mplans/smon-sc-cs-ifmp-pgip-sm-eng.pdf.

EAO (Environmental Assessment Office). 2020a. EAO user guide: Introduction to environmental assessment under the provincial *Environmental Assessment Act*; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act/eao_user_guide_v101_march_2020.pdf.

EAO. 2020b. Human and community well-being: Guidelines for assessing social, economic, cultural and health effects in environmental assessments in B.C. Ver. 1.0. [accessed February 2022]. https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/environmental-assessments/guidance-documents/2018-act-guidance-materials.

FLNRO (Ministry of Forests, Lands, Natural Resource Operations). date unknown. South Arms Marshes wildlife management area. [accessed 13 February 2022]. https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/wildlife/wildlife-habitats/conservation-lands/wma/wmas-list/south-arm-marshes.

FLNRO 2014. Tantalis - Crown tenures. Data Catalogue. [accessed 13 February 2022]. https://catalogue.data.gov.bc.ca/dataset/tantalis-crown-tenures.

FLNRO. 2021. Natural resources Fraser River transition area - Crown tenures. First responders' locations, hospitals, Indian reserves. [accessed February 2022]. https://catalogue.data.gov.bc.ca/dataset/fraser-river-transition-area-crown-tenures-web-map-/resource/6e8f0775-f722-41f6-be32-a635f1e0094f

FLNRO. 2022a. Data Catalogue. Regional parks, roads, and railways. [accessed February 2022].

FLNRO. 2022b. Data Catalogue. Residential care homes, schools, childcare providers, fire hall/station and police detachment/station, waterbodies, roads and railways. [accessed February 2022].

FLNRO. 2022c. Data Catalogue. Waterbodies, roads and railways. [accessed 13 February 2022].

Fraser Health. 2021. Delta hospital. [accessed 06 February 2022]. https://www.fraserhealth.ca/Service-Directory/Service-At- Location/B/E/delta-hospital#.YgrkQN_MJPY.

GMTRP (George Massey Tunnel Replacement Project). 2017. Environmental assessment certificate documents. OCP Land Use Designations.

Golder (Golder Associates Ltd.). 2019. Tilbury environmental assessment certificate application. 5.1 Economy. Human Environment.

Golder. 2019. Tilbury environmental assessment certificate application. 6.1 Socio-community. Human Environment.

Golder. 2019. Tilbury environmental assessment certificate application. 5.1 Land and Marine Use.Human Environment.

Government of BC. 2021. Crown land use operational policy, reserves, withdrawals, notations and prohibitions; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural- resource-use/land-water-use/crown-land/reserves.pdf.

Government of BC. 2022a. Visual landscape inventory. [accessed February 2022]. https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/visual-resource-management/visual-landscape-inventory.

Government of BC. 2022b. iMapBC 2.0. [accessed 25 January 2022]. https://maps.gov.bc.ca/ess/hm/imap4m.

Health Canada. 2005. It’s your health: Community noise annoyance; [accessed February 2022]. http://hc-sc.gc.ca/hl- vs/alt_formats/pacrb-dgapcr/pdf/iyh-vsv/life-vie/community-urbain-eng.pdf.

Health Canada. 2010a. Federal contaminated site risk assessment in Canada, Part V: Guidance on Human Health Detailed Quantitative Risk Assessment for Chemicals (DQRAChem). Contaminated Sites Division, Safe Environments Programme, Health Canada. Ottawa, ON, Canada.

Health Canada. 2016a. Guidance for evaluating human Health impacts in environmental assessment: Air quality. Ottawa ON. Healthy Environments and Consumer Safety Branch, Health Canada; [accessed November 2022]. https://publications.gc.ca/collections/collection_2017/sc-hc/H129-54-1-2017-eng.pdf.

Health Canada. 2016b. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Drinking and Recreational Water Quality. Ottawa, ON: Healthy Environments and Consumer Safety Branch, Health Canada.

Health Canada. 2017a. Guidance for evaluating human health impacts in environmental assessment: Water quality. Ottawa, ON: Healthy Environments and Consumer Safety Branch, Health Canada.

Health Canada. 2017b. Federal contaminated site risk assessment in Canada, supplemental guidance on human health risk assessment of contaminated sediments: Direct Contact Pathway. Contaminated Sites Division, Safe Environments Directorate. Ottawa, ON, Canada.

Health Canada. 2017c. Federal contaminated site risk assessment in Canada, supplemental guidance on human health risk assessment for oral bioavailability of substances in soil and soil-like media. Contaminated Sites Division, Safe Environments Programme, Health Canada. Ottawa, ON, Canada.

Health Canada. 2018a. Federal contaminated sites risk assessment in Canada: Interim guidance on human health risk assessment for short-term exposure to carcinogens at contaminated Sites.

Health Canada. 2018b. Guidance for evaluating human health impacts in environmental assessment: country foods. Ottawa ON: Healthy Environments and Consumer Safety Branch, Health Canada.

Health Canada. 2019. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Human Health Risk Assessment.

Health Canada. 2021a. Federal contaminated site risk assessment in Canada: Guidance on human health preliminary quantitative risk assessment. (PQRA). Health Canada, Ottawa, Ontario. Version 3.0.

Health Canada. 2021b. Federal contaminated site risk assessment in Canada, Part II: Toxicological reference values (TRVs). Version 3.0. Health Canada, Ottawa Ontario.

Hemmara. 2016a. Environmental assessment application for the George Massey tunnel replacement project. 5.1 Traffic.

Hemmara. 2016b. Environmental assessment application for the George Massey tunnel replacement project. 5.2 Marine Use.

Hemmara. 2016c. Environmental assessment application for the George Massey tunnel replacement project. 5.3 Land Use.

Hemmara. 2016d. Environmental assessment application for the George Massey tunnel replacement project . 5.4 Agriculture.

Hemmara. 2016e. Environmental assessment application for the George Massey tunnel replacement project . 5.5 Visual Quality.

Hemmara. 2016f. Environmental assessment application for the George Massey tunnel replacement project. 7.0 Human Health.

Hemmara. 2016g. Environmental assessment application for the George Massey tunnel replacement project . 10.0 Indigenous Consultation.

ICBC (Insurance Corporation of BC). 2021. Lower Mainland crashes 2016-2020. [accessed 13 February 2022]. https://public.tableau.com/app/profile/icbc/viz/LowerMainlandCrashes/LMDashboard.

IHS Markit Canada. 2022. ULC GDM Pipelines. High pressure pipelines obtained. [Accessed February 2022].

Integrated Land and Resource Registry. 2022. ILRR Database. [accessed 09 February 2022]. https://www2.gov.bc.ca/gov/content/data/geographic-data-services/land-use/integrated-land-resource-registry.

Metro Vancouver. date unknown. Health impact assessment (HIA) of transportation and land use activities; [accessed February 2022]. Toolkit. http://www.metrovancouver.org/services/regional-planning/PlanningPublications/HIA- Toolkit.pdf.

Metro Vancouver. date unknown. Health impact assessment (HIA) of transportation and land use activities: Guidebook; [accessed February 2022]. http://www.metrovancouver.org/services/regional-planning/PlanningPublications/HIA- Guidebook.pdf.

Metro Vancouver. date unknown. Deas Slough recreational use schedule; [accessed February 2022]. http://www.metrovancouver.org/services/parks/ParksPublications/Deas_Slough_schedule.pdf.

Metro Vancouver. 2010. Regional growth strategy; [accessed February 2022]. https://vancouver.ca/docs/eastern-core/regional- growth-strategy.pdf.

Metro Vancouver. 2019. Regional agricultural land use inventory (data forthcoming). [accessed 09 February 2022]. http://www.metrovancouver.org/metro2040/sustainable-economy/agricultural-land/land- use/Pages/default.aspx.

Metro Vancouver. 2022a. Water and liquid waste system facilities. Proximal work requirements. [accessed 06 February 2022]. http://www.metrovancouver.org/services/liquid-waste/Pages/default.aspx.

Metro Vancouver. 2022b. Metro 2040 Dashboard; Regional land use designations. [accessed August 2022]. http://www.metrovancouver.org/metro2040/land-use-designation/Pages/default.aspx.

Michaud DS, Bly SHP, Keith SE. 2008. Using a change in percentage highly annoyed with noise as a potential health effect measure for projects under the Canadian Environmental Assessment Act. Canadian Acoustics, 36, 13–30.

Ministry of Children and Family Development. 2017. Child care map data. [accessed 13 February 2022]. https://catalogue.data.gov.bc.ca/dataset/child-care-map-data.

Ministry of Indigenous Relations and Reconciliation. 2022. Intergovernmental and community relations. Tsawwassen First Nation Lands. [accessed February 2022].

Ministry of Municipal Affairs. 2022a. Governance and structure. Municipal boundaries. [Accessed February 2022].

Ministry of Municipal Affairs. 2022b. Governance and structure. Regional parks, municipal boundaries. [accessed February 2022].

MOTI (British Columbia Ministry of Transportation and Infrastructure). date unknown. Traffic Data Program Database. [accessed 16 February 2022]. https://www.th.gov.bc.ca/trafficdata/.

Office of the Provincial Health Officer. 2009. Pathways to health and healing: 2nd Report on the Health and Well-being of Aboriginal People in British Columbia (Provincial Health Officer's Annual Report 2007); [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/government/ministries-organizations/ministries/health/office-of-indigenous-health/abohlth11-var7.pdf.

Port of Vancouver. 2021. Port Information Guide; [accessed February 2022]. https://www.portvancouver.com/wp- content/uploads/2020/06/2020-06-12-PORT-INFORMATION-GUIDE-FINAL.pdf.

Public Health Agency of Canada. 2013. What makes Canadians healthy or unhealthy? - Population Health Approach. [accessed 16 February 2022]. http://www.phac-aspc.gc.ca/ph-sp/determinants/determinants-eng.php#income.

Site Economics. 2016 (June). Land use study. George Massey Tunnel Replacement Project. Prepared for

B.C. Ministry of Transportation and Infrastructure.

Statistics Canada. 2017. Focus on geography series, 2016 census. Statistics Canada Catalogue no. 98-404-X2016001. Ottawa, Ontario. Data products, 2016 Census. [accessed 25 February 2022]. https://www12.statcan.gc.ca/census-recensement/2016/as-sa/fogs-spg/Facts-csd-eng.cfm?LANG=Eng&GK=CSD&GC=5915011.

The Firelight Group. 2017. Musqueam Indian Band knowledge and use study: Translink's Pattullo Bridge Replacement Project.

Tsimshian Environmental Stewardship Authority. 2018. A Guideline for conducting health impact assessment for first nations in British Columbia. Draft. Document on file at Golder Associates Ltd.

Transportation Safety Board. 2021. Marine investigation reports. [accessed 25 February 2022]. http://www.bst-tsb.gc.ca/eng/rapports- reports/marine/index.asp.

Tsawwassen First Nations. 2021. Tsawwassen First Nation post-season fisheries report, April 2020; [accessed February 2022]. http://tsawwassenfirstnation.com/wp-content/uploads/2021/07/TFN-Annual-Post-Season-Fisheries- Report-2020_FINAL-8-April-2021_with-Appendices_WebCopy.pdf.

Vancouver Coastal Health. 2020. Richmond hospital. [Accessed 25 February 2022]. http://www.vch.ca/locations- services/result?res_id=1.

Vancouver Fraser Port Authority. 2022. Fraser River maintenance. [Accessed 16 February 2022]. https://www.portvancouver.com/marine-operations/fraser-river-maintenance/.

Vancouver Fraser Port Authority. 2022. Dredging. [accessed 16 February 2022]. https://www.portvancouver.com/about-us/topics-of- interest/dredging/.

WHO (World Health Organisation). 1948. WHO Definition of Health. [accessed 16 February 2022]. http://www.who.int/about/definition/en/print.html.

Zbeetnoff (Zbeetnoff Agro-Environmental Consulting) and Quadra (Quadra Planning Consultants). 2011. Delta Agricultural Plan. Phase 3 Report: Agricultural Plan. Prepared for the Corporation of Delta. [accessed November 2022]. https://www.delta.ca/sites/default/files/2021-06/Delta%20Agricultural%20Plan%20CAE.pdf.

ATTACHMENT 3: LIST OF STUDIES, SCHEDULE, GUIDANCE AND STANDARD

Table A3-1: List of Studies, Schedule, Guidance and Standards

Study	Schedule	Guidance and Standards
Environmental		
Air Quality		
Not applicable	Not applicable	• Not applicable
Acoustic		
Noise Existing Conditions Field Survey	One week during August or September 2022	• Policy for Assessing and Noise Impacts from New and Upgraded Numbered Highways (MOTI 2016) • Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada 2017)
Underwater Noise		
Underwater Dredging Noise Measurements	During test dredge program (September 2022)	• ANSI [American National Standards Institute], S12.64-2009 (R2014). Grade C – Survey Method - Quantities and Procedures for Description and Measurement of Underwater Sound from Ships – Part 1: General Requirements
Underwater Noise Modelling	Through 2022	• Revisions to: Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0): Underwater Thresholds for Onset of Permanent and Temporary Threshold Shifts US (NMFS 2018) • Agreement in Principal for Interim Criteria for Injury to Fish from Pile Driving Activities US (FHWA 2008) • Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI Accredited Standards Committee S3/SC1 and registered with ANSI (Popper et al. 2014)
Surface Water and Sediment Quality		
Surface Water Quality	June 2022 to March 2023	• British Columbia Field Sampling Manual for Continuous Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (BC ENV 2020) • Water Quality Assessment and Objectives for the Fraser River from Hope to Sturgeon and Roberts Banks (First Update) (Swain et al. 1998) • British Columbia Approved Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture – Guideline Summary (BC ENV 2021a) • Working Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture (BC ENV 2021b) • Canadian Environmental Quality Guidelines (CCME 1999a)

Study	Schedule	Guidance and Standards
Sediment Quality	August to September 2022	• British Columbia Field Sampling Manual for Continuous Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (BC ENV 2020) • Disposal at Sea Technical Guidance: Chemical Characterization of Dredged Material Proposed for Disposal at Sea (ECCC 2020) • Water Quality Assessment and Objectives for the Fraser River from Hope to Sturgeon and Roberts Banks (First Update) (Swain et al. 1998) • Working Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture (BC ENV 2021b) • Canadian Environmental Quality Guidelines (CCME 1999a) • Protocol for the Derivation of Canadian Sediment Quality Guidelines for the Protection of Aquatic Life (CCME 1999b)
River Hydraulics and Morphology		
River Bathymetry	April 2022 – March 2023	• Minimum Standards for CHS Hydrographic Surveys; Table 1 (CHS 2019)
River Velocities	April 2022 – March 2023	• Measuring discharge with acoustic Doppler current profilers from a moving boat (Mueller et al. 2013) • Velocity Mapping Toolbox (VMT): a processing and visualization suite for moving-vessel ADCP measurements (Parsons et al. 2013)
Salt Wedge Behaviour	April 2022 – March 2023	• CastAway – CTD User's Manual 1.5 (Xylen Inc. 2012)
Suspended Sediment Transport	April 2022 – March 2023	• Applications of Hydraulics C2 Field methods for measurement of fluvial sediment (Edwards and Glysson 1999) • Sediment Surveys in Canada (12) (Stichling and Smith 1968) • Field Procedures for Sediment Data Collection: Volume I - Suspended Sediment (Tassone et al. 1993)
Groundwater		
Groundwater Quality	July to November 2022	• *British Columbia Field Sampling Manual for Continuous* Monitoring Plus the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (BC ENV 2020) • Working Water Quality Guidelines: Aquatic Life, Wildlife and Agriculture (BC ENV 2021b) • Canadian Environmental Quality Guidelines (CCME 1999a)

Study	Schedule	Guidance and Standards
Soil		
Stage 1 PSI	June to August 2022	• BC Environmental Management Act, Section 40 • BC Contaminated Sites Regulation, Technical Guidance 10 – Guidance for a Stage 1 Preliminary Site Investigation (PSI) • Canadian Standards Association (CSA), Z768-01(2022) Phase I Environmental Site Assessment
Stage 2 PSI	July to September 2022	• BC Contaminated Sites Regulation, Technical Guidance 11 – Guidance for a Stage 2 Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI) • Canadian Standards Association (CSA), Z769-00(2018) Phase II Environmental Site Assessment • MOTI Technical Circular T-03/20, Identification and Characterization of Potentially Contaminated Soil. August 4, 2020 • British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples (BC ENV 2020)
Vegetation		
Wetlands	July to October 2022	• Fletcher et al. (2021) • RIC (2001) • MacKenzie and Moran (2004) • BC MOFR and BC MOE (2010) • Null et al. (2000) • Hruby et al. (1999) • Adamus (2016) • Fletcher et al. (2021)
Plant species at risk	May to October 2022	• RISC (2018)
Invasive plant species	June to October 2022	• BC MOFR (2010)
Terrestrial ecosystem mapping field verification	July to October 2022	• Howes and Kenk (1997) • RIC (1998a) • BC MOFR and BC MOE (2010)
Wildlife		
Raptor and Heron Nest Survey	March to June 2022	• Inventory methods for Raptors (RIC 2001a)

Study	Schedule	Guidance and Standards
Songbird Point Count	May to June 2022	• Inventory Methods for Forest and Grassland Songbirds (RIC 1999a) • Handbook of Field Methods for Monitoring Landbirds (Ralph et al. 1993)
Common nighthawk Survey	June 2022	• Inventory Methods for Nighthawk and Poorwill (RIC 1998b)
Barn Owl Survey	**Spring**: April to May 2022 **Summer**: July to August 2022	• Inventory Methods for Raptors (RIC 2001a)
Swallow Nesting Survey	June 2022	• N/A
Aquatic Bird Survey	April 2022 to February 2023	• Standardized Inventory Methodologies for Components of British Columbia's Biodiversity: Shorebirds. Plovers, Oystercatchers, Stilts, Avocets, Sandpipers, Phalaropes and Allies (RIC 1997a) • Inventory Methods for Seabirds: cormorants, gulls, murres, storm-petrels, Ancient Murrelet, auklets, puffins, and Pigeon Guillemot (RIC 1997b) • Inventory Methods for Waterfowl and Allied Species: Loons, Grebes, Swans, Geese, Ducks, American Coot and Sandhill Crane (RIC 1999b) • Inventory Methods for Marbled Murrelets in Marine and Terrestrial Habitats (RIC 2001b)
Acoustic Bat Detector Survey	March to November 2022	• Inventory Methods for Bats (RIC 1998c)
Small Mammal Habitat Mapping	N/A	• Species Account and Preliminary Habitat Ratings for Pacific Water Shrew (*Sorex bendirii*) using SHIM data (Craig 2005) • Best Management Practices Guidelines for Pacific Water Shrew in Urban and Rural Areas (Craig et al. 2010)
River Otter Surveys	April 2022	• US Wetlands Regional Monitoring Program Plan (Breaux et al. 2002)
Remote Camera Survey	May 2022 to February 2023	• N/A
Amphibian Visual Encounter Survey	March to May 2022	• Inventory Methods for Pond-breeding Amphibians and Painted Turtle (RIC 1998d)

Study	Schedule	Guidance and Standards
Fish and Fish Habitat		
Fraser River – Fish and Fish Habitat	**Spring**: April to May 2022 **Summer**: August to September 2022 **Fall**: November to December 2022 **Winter:** January to February 2023	• Fish Collection Methods and Standards (RISC 1997) • Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures: Version 2.0 (RIC 2001c) • Reconnaissance (1:20,000) Fish and Fish Habitat Inventory: Site Card Field Guide Version 2.0. (RISC 2008)
Upland Tributaries – Fish and Fish Habitat	**Summer:** August to September 2022 **Late fall:** November to December 2022	• Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures (RIC 2001c) • Fish Collection Methods and Standards (RISC 1997)
Benthic Invertebrate Community – Fraser River	**Summer:** August to September 2022	• BC Ministry of Environment Lake and Stream Bottom Sediment Sampling Manual (Cavanagh et al. 1994) • BC Ministry of Environment Guidelines for sampling benthic invertebrates in British Columbia streams (Beatty et al. 2006)
Eulachon Spawning Habitat	**Spring**: April to June 2022	• Advanced Indigenous-Led Eulachon Spawning Study (Noble et al. 2021)
Eulachon Run Timing	**Winter**: January to February 2022 **Winter 2022/23:** November 2022 to January 2023	• eDNA sampling will follow protocols from Hobbs and Goldberg (2017)
White Sturgeon Habitat Use	**Juvenile:** May to September 2022 **Adult:** April to September 2022	• Advanced Indigenous-Led Study on Sturgeon (Larocque and Howell 2021)
Marine Mammals		
No field studies planned.		
Economic, Social, Cultural and Heritage		
Data Analysis and Technical Report (all economic, social cultural, and health VCs)	July to November 2022	• Human and Community Well-being Guidelines for Assessing Social, Economic, Cultural, and Health effects in EAs in BC • BC EAO Effects Assessment Policy (EAO 2020) • BC EAO User Guide: Introduction to Environmental Assessment under the B.C. EAA Version 1.01 • BC EAO Early Engagement Policy Version 1.0 • Guidance documents on GBA+ in impact assessments

Study	Schedule	Guidance and Standards
Interviews (all economic, social cultural and health VCs)	Fall 2022	• Social science best practices for interview programs
Soil Surveys (Land and Resource Use)	August 2022	• Agricultural Land Commission Policy P-10
Daytime and Nighttime Photographic Field Survey(s) (Visual Quality)	August 2022	• Best practices used in visual assessment including Landscape Institute Technical Guidance Note 06/19 and Forest and Range Evaluation Program's Protocol for Visual Quality Effectiveness Evaluation Procedures and Standards • Best practices from the Commission Internationale de L'Éclairage and the Illuminating Engineering Society of North America
Archaeological Overview Assessment (Archaeology and Heritage Resources)	Completion in July or August 2022	• British Columbia Archaeological Impact Assessment Guidelines (1998)
Archaeological Impact Assessment (Archaeology and Heritage Resources	Field testing in September or October 2022	• British Columbia Archaeological Impact Assessment Guidelines (1998)
Soil and vegetation sampling (Human Health Risk)	July 18 to 25, 2022	• British Columbia Field Sampling Manual (BC ENV 2020) • Supplemental Guidance on Human Health Risk Assessment for Country Foods (Health Canada 2010) • Guidance for Evaluating Human Health Impacts in Environmental Assessments: Country Foods (Health Canada 2018) • British Columbia Guidance for Prospective Human Health Risk Assessment (BC MOH 2022)

References

Adamus P. 2016. Manual for the wetland ecosystem services protocol for the United States (WESP). Version 0.

ANSI (American National Standards Institute). 2009. Quantities and procedures for description and measurements of underwater sounds from ships – Part 1: General Requirements. Standards Secretariat Acoustical Society of America. Melville, NY; [accessed September 2022]. https://ansi.cachefly.net/preview-pages/ASA/preview_ANSI+ASA+S12.64-2009+Part+1+(R2014).pdf.

BC APA (British Columbia Association of Professional Archaeologists). 1998. Archaeological impact assessment guidelines; [accessed September 2022]. https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/natural-resource-use/archaeology/forms-publications/archaeological_impact_assessment_guidelines.pdf.

BC ENV (Ministry of Environment and Climate Change Strategy). 2020. British Columbia field sampling manual for continuous monitoring plus the collection of air, air-emission, water, wastewater, soil, sediment, and biological samples. Water, Air and Climate Change Branch, Ministry of Water, Land and Air Protection. [accessed 09 August 2022]. https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance/bc-field-sampling-manual.

BC ENV. 2021a. British Columbia approved water quality guidelines: Aquatic life, wildlife and agriculture – Guideline Summary. Water Quality Guideline Series, WQG-20. Government of BC, Victoria BC.

BC ENV. 2021b. Working water quality guidelines: Aquatic life, wildlife and agriculture. Water Quality Guideline Series, WQG-08. Government of BC, Victoria BC.

BC MOFR (British Columbia Ministry of Forests and Range). 2010. Invasive alien plant program reference guide part I. Victoria, BC; [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/invasive-species/iapp-resources/iapp_reference_guide_part_i.pdf.

BC MOFR and BC MOE (British Columbia Ministry of Forests and Range and British Columbia Ministry of Environment). 2010. Field manual for describing terrestrial ecosystems. Land Management Handbook 25. 2nd ed. Victoria, BC. Crown Publication Inc; [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/conservation-data-centre/field_manual_describing_terrestrial_ecosystems_2nd.pdf.

Beatty M, McDonald E, Westcott M, Perrin J. 2006. Guidelines for sampling benthic invertebrates in British Columbia streams. British Columbia, Ministry of Environment; [accessed September 2022]. https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/waterquality/monitoring-water-quality/kootenay-wq-docs/bi-sampling-06update.pdf.

Breaux A, Zielinski W, Kucera T. 2002. Data collection protocol: Monitoring river otter (*Lutra [=Lontra] canadensis).* Wetlands Regional Monitoring Program Plan 2002. Part 2: Data Collection Protocols. 11 p.

Canadian Hydrographic Service. 2019. Minimum standards for CHS hydrographic surveys; Table 1. 3rd Ed. November 2019.

Cavanagh N, Swain LG, Nordin RN, Pommen LW. 1994. Lake and stream bottom: Sediment sampling manual. BC Ministry of Environment, Lands and Parks, Water Quality Branch; [accessed September 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/lake_and_stream_bottom_sediment_sampling_manual.pdf

CCME (Canadian Council of Ministers of the Environment). 1999a. Canadian environmental quality guidelines. [accessed 09 August 2022]. https://ccme.ca/en/current-activities/canadian-environmental-quality-guidelines.

CCME. 1999b. Protocol for the derivation of Canadian sediment quality guidelines for the protection of aquatic life; [accessed 09 August 2022]. https://ccme.ca/en/res/protocol-for-the-derivation-of-canadian-sediment-quality-guidelines-for-the-protection-of-aquatic-life-en.pdf.

Craig VJ. 2005. Species account and preliminary habitat ratings for Pacific water whrew (*Sorex bendirii*) using SHIM data. Prepared for Ministry of Water, Land and Air Protection. 31 p.

Craig VJ, Vennesland RG, Welstead KE. 2010. Best management practices guidelines for Pacific water shrew in urban and rural areas. Ver. May 2010. Prepared for the Pacific Water Shrew Recovery Team. 41 p.

EAO (Environmental Assessment Office). 2020a. Effects assessment policy, Ver. 1.0. [updated April 2020; accessed June 2022] https://www.bing.com/search?q=Effects+Assessment+Policy&cvid=9ad26108f426470e9315ca503087d4e4&aqs=edge..69i57j0l2j69i64j69i11004.451j0j9&FORM=ANAB01&PC=U531.

ECCC (Environment and Climate Change Canada). 2020. Disposal at sea technical guidance: Chemical characterization of dredged material proposed for disposal at sea. April 2020.

Edwards TK, Glysson GD. 1999. Applications of hydraulics C2 field methods for measurement of fluvial sediment. Techniques of Water-Resources Investigations of the U.S. Geological Survey. USGS, Reston, Virginia. Book 3, 97 p.

FHWA (Fisheries Hydroacoustic Working Group). 2008. Agreement in principal for interim criteria for Injury to fish from pile driving activities. Memorandum of agreement between the Federal Highway Administration, NOAA Fisheries Northwest Regional Office and Southwest Regional Office, US Fish and Wildlife Service Region 1 and Region 8, California Department of Transportation, California Department of Fish and Game, and Oregon Department of Transportation.

Fletcher NF, Tripp DB, Hansen PL, Nordin J, Porte M, Morgan D. 2021. Protocol for the wetland health management routine effectiveness evaluation. Forest and range evaluation program, BC Ministry of Forests, Lands, Natural Resources Operations and Rural Development, Victoria, BC.

Health Canada. 2010. Federal Contaminated site risk assessment in Canada. Supplemental guidance on human health risk assessment for country foods ($HHRA_{Foods}$). October 2010. Contaminated Sites Division, Safe Environments Directorate.

Health Canada. 2017. Guidance for evaluating human health impacts in environmental assessment: Noise. January 2017. [accessed 26 September 2022]. https://www.ceaa.gc.ca/050/documents/p80054/119378E.pdf#:~:text=Guidance%20for%20Evaluating%20Human%20Health%20Impacts%20in%20Environmental,%28such%20as%20mines%2C%20dams%2C%20pipelines%20and%20other%20projects%29.

Health Canada. 2018. Guidance for evaluating human health impacts in environmental assessment: Country Foods. Ottawa ON: Healthy Environments and Consumer Safety Branch, Health Canada.

Hobbs J, Golderberg C. 2017. Environmental DNA protocol for freshwater aquatic ecosystems. Version 2.2. Report for the BC Ministry of Environment; [accessed August 2022]. https://nrtraininggroup.com/wp-content/uploads/171115eDNAprotocolV2.2-1.pdf.

Howes DE, Kenk E. 1997. Terrain classification system for British Columbia (2nd ver.). Recreational and Fisheries Branch, Ministry of Environment and Surveys and Resource Mapping Branch, Ministry of Crown Lands Province of British Columbia; [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/terclass_system_1997.pdf.

Hruby T, Granger T, Brunner K, Cooke S, Dublanica K, Gersib R, Reinelt L, Richter K, Sheldon D, Wald A, Weinmann F. 1999. Methods for assessing wetland functions. Volume 1, Part 1 Riverine and Depressional Wetlands in the Lowlands of Western Washington. Washington State Department of Ecology Pub. 99–115. Olympia, WA: Department of Ecology. [accessed 14 October 2021.] https://apps.ecology.wa.gov/publications/summarypages/99115.html.

Larocque E, Howell L. 2021: George Massey Tunnel crossing (GMC) – Sturgeon advanced studies 2021. Prepared by Hemmera for BC Ministry of Transportation and Infrastructure. December 2021.

MacKenzie WH, Moran JR. 2004. Wetlands of British Columbia: A guide to identification. BC Ministry of Forests Resource Branch, Victoria, BC. [accessed 10 August 2022]. http://www.for.gov.bc.ca/hfd/pubs/Docs/Lmh/Lmh52.htm.

MOTI. 2016. Policy for assessing and mitigating noise impacts from new and upgraded numbered highways. April 2013, revised October 27, 2016. Prepared for BC Ministry of Transportation and Infrastructure, Victoria, BC. Wakefield Acoustics Ltd. [accessed July 2022]. https://www2.gov.bc.ca/assets/gov/driving-and-transportation/transportation-infrastructure/engineering-standards-and-guidelines/environment/references/noise-policy-highways.pdf.

Mueller DS, Wagner CR, Rehmel MS, Oberg KA, Rainville F. 2013. Measuring discharge with acoustic doppler current profilers from a moving boat. December 2013. Version. 2.0: U.S. Geological Survey Techniques and Methods, book 3, chap. A22, 95 p.

NMFS (National Marine Fisheries Service). 2018. Revisions to: Technical guidance for assessing the effects of anthropogenic Sound on marine mammal hearing. Underwater thresholds for onset of permanent and temporary threshold shifts. Ver. 2.0. NOAA Technical Memorandum NMFS-OPR-59. US Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service.

Null W, Skinner G, Leonard W. 2000. Wetland functions characterization tool for linear projects. Washington State Department of Transportation, Environmental Affairs Office. Olympia, Washington; [accessed August 2022]. https://wsdot.wa.gov/sites/default/files/2021-10/Env-Wet-FunctionCharacterTool.pdf.

Parsons DR, Jackson PR, Czuba JA, Engel FL, Rhoads BL, Oberg KA, Best JL, Mueller DS, Johnson KK, Riley JD. 2013. Velocity Mapping Toolbox (VMT): a processing and visualization suite for moving-vessel ADCP measurements. Earth Surface Processes and Landforms. 38(11):1244–1260.

Popper AN, Hawkins AD, Fay RR, Mann DA, Bartol S, Carlson TJ, Coombs S, Ellison WT, Gentry RL, Halvorsen MB, Lokkeborg S, et al. 2014. Sound exposure guidelines for fishes and sea turtles: A Technical Report prepared by ANSI Accredited Standards Committee S3/SC1 and registered with ANSI. ASA S3/SC1.4 TR-2014. SpringerBriefs in Oceanography. ASA Press and Springer; [accessed September 2022]. https://www.researchgate.net/profile/Arthur_Popper/publication/279347068_Sound_Exposure_Guidelines/links/5596735d08ae99aa62c777b9/Sound-Exposure-Guidelines.pdf.

Ralph CJ, Geupel GR, Pyle P, Martin TE, DeSante DF. 1993. Handbook of field methods for monitoring landbirds. Prepared for US Department of Agriculture, Forest Service. Albany, CA: Pacific Southwest Research Station; [accessed September 2022]. https://avianknowledgenorthwest.net/wp-content/uploads/2019/01/Ralph_et_al_1993_Handbook_of_Field_Methods_for_Monitoring_Landbirds.pdf

RIC (Resource Inventory Committee). 1997a. Standardized inventory methodologies for components of British Columbia's biodiversity: Shorebirds, plovers, oystercatchers, stilts, avocets, sandpipers, phalaropes and allies. Version. 1.1. Ministry of Environment, Lands and Parks Resource Inventory Branch, Victoria, BC. Vi + 61 p.

RIC. 1997b. Inventory methods for seabirds: cormorants, gulls, murres, storm-petrels, Ancient Murrelet, auklets, puffins, and Pigeon Guillemot: Standards for Components of British Columbia's Biodiversity No. 13. Ministry of Environment, Lands and Parks Resource Inventory Branch, Victoria, BC. 55 p.

RIC. 1998a. Standard for terrestrial ecosystem mapping in British Columbia; [accessed August 2022].https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/tem_man.pdf.

RIC. 1998b. Inventory methods for Nighthawk and Poorwill – Standards for Components of British Columbia's Biodiversity No. 9. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, March 1998.

RIC. 1998c. Inventory methods for bats – Standards for Components of British Columbia's Biodiversity No. 20. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, March 13, 1998.

RIC. 1998d. Inventory methods for pond-breeding amphibians and Painted turtle– Standards for Components of British Columbia's Biodiversity No. 37. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, March 13, 1998.

RIC. 1999a. Inventory methods for forest and grassland songbirds – Standards for Components of British Columbia's Biodiversity No. 15. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, March 16, 1999.

RIC. 1999b. Inventory methods for waterfowl and allied species: Loons, grebes, swans, geese, ducks, American coot and sandhill crane. Standards for Components of British Columbia's Biodiversity No. 18. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, Victoria, BC. Xi + 37 p.

RIC. 2001a. Inventory methods for raptors: Standards for components of British Columbia's biodiversity No. 11. Ver. 2.0. Ministry of Environment, Lands and Parks Resource Inventory Branch, October 2001.

RIC. 2001b. Inventory methods for Marbled murrelets in marine and terrestrial habitats: Standards for Components of British Columbia's Biodiversity No. 10. Ver. 2.0. Compiled by Ministry of Environment, Lands and Parks Resources Inventory Branch, Government of BC. Victoria, BC. Xi + 54 p.

RIC. 2001c. Reconnaissance (1:20 000) fish and fish habitat inventory: Standards and Procedures; [accessed March 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/recce2c.pdf.

RISC. (Resources Information Standards Committee). 1997. Fish collection methods and standards. Ver. 4.0; [accessed August 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/fishml04.pdf.

RISC. 2018. Inventory and survey methods for rare plants and lichens. Standards for Components of British Columbia's Biodiversity No. 43; [accessed February 2022]. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/nr-laws-policy/risc/inventory_and_survey_methods_for_rare_plants_and_lichens.pdf.

Stichling W, Smith TF. 1968. Sediment surveys in Canada (12). Department of Energy, Mines and Resources. 25 p.

Swain L, Walton D, Phippen B, Lewis H, Brown S, Bamford G, Lundman I. 1998. Water quality assessment and objectives for the Fraser River from Hope to sturgeon and Roberts banks (First Update). Ministry of Environment, Lands and Parks. Victoria, BC.

Tassone BL, Francois L, Zrymiak P. 1993. Field procedures for sediment data collection: Volume I - Suspended Sediment. Environment Canada, Ottawa. 38 p.

Xylen Inc. 2012. CastAway – CTD User's Manual 1.5.

ATTACHMENT 4: TABLE OF ISSUES RAISED BY INDIGENOUS NATIONS

Attachment 4 provides a detailed list of issues raised by Indigenous nations from October 2021 until October 2022 of the Project, along with the Proponent's responses. Attachment 4A provides issues and responses from pre-early engagement (including comments received on the Initial Project Description and Engagement Plan) and from early engagement, and Attachment 4B provides comments received on the preliminary draft Detailed Project Description, along with the Proponent's responses. The Proponent will continue to engage with Indigenous nations on issues raised to understand issues and concerns with the Project and will respond to all issues raised throughout the engagement process.

ATTACHMENT 4A: SUMMARY OF ISSUES TABLES - IPD AND EARLY ENGAGEMENT

Table A4A-1: Detailed list of issues raised by Indigenous nations from October 2021 until October 2022

Comment ID	Summary of Issues Raised	Engagement Phase	Response
Kwantlen First Nation			
PE-1	Baseline studies should be from pre-contact rather than from when the land was disturbed.	Pre-Early Engagement	Boundaries for each of the VC's will include appropriate spatial and temporal scopes. The Project looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct assessments.
PE-2	Important that Kwantlen participates in selection of independent environmental monitor to ensure they are aligned with Nations' values.	Pre-Early Engagement	The Proponent looks forward to working with Kwantlen First Nation to learn more about their interest in the selection of an environmental monitor.
PE-3	How does United Nations Declaration on the Rights of Indigenous Peoples and Declaration on the Rights of Indigenous Peoples Act apply to the Project and impact engagement.	Pre-Early Engagement	Beginning in September 2021 and throughout Early Engagement the Proponent has sought to reach agreement and understanding with Indigenous nations on approaches, principals, and processes. This has been reflected in the Initial Project Description and Engagement Plan that have been shared and will be further consolidated in the Detailed Project Description. As stated in Section 9.1 of the Initial Project Description: "Upholding the commitment of the Province to reconcile with Indigenous nations, the Proponent has developed its Indigenous engagement approach based on the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, the Government Consultation Bulletin on Consulting During the COVID-19 Emergency, and the Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c. 44 (2019) (Declaration Act). Through the Declaration Act the Province formally adopted the internationally recognized standards of the United Nations Declaration on the Rights of Indigenous Peoples."
PE-4	Important to include rapid transit as part of Project. These projects are about efficiently moving goods in the area but they have devastating impacts on the environment and contribute to climate change as well as the destruction of culture that comes with the reduction in fish in the Fraser River. Need to be focused on more sustainable forms of transportation.	Pre-Early Engagement	The eight-lane crossing with transit priority and provision for active transportation is consistent with Metro Vancouver's Regional Growth Strategy. The Proponent's technical expert attended a meeting to discuss the reasons rapid transit was not included within the scope of the Project.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-5	Kwantlen would like funding towards the completion of a traditional land use study.	Pre-Early Engagement	The Proponent is looking forward to working with Kwantlen to learn more about their interest in completing a traditional land use study.
EE-1	Concern about the impact of putting stone columns into the riverbed and also concerns around turbidity and hydrology from the change to the river bottom.	Early Engagement	Effects related to installation of the stone columns, turbidity and changes to fish habitat as a result of changes to river hydraulics will be assessed during the environmental assessment and permitting. For instream works, reduced risk timing windows and environmental monitoring will be important in reducing impacts to fish and fish habitat.
EE-2	Concern regarding how Kwantlen's Indigenous knowledge and information is shared.	Early Engagement	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020). When provided, the Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration.
EE-3	Important that the appropriate protections with respect to air quality for users of the MUP be in place in order to encourage use and ensure safety.	Early Engagement	The detailed list of sensitive receptors used to support the Air Quality VC assessment will be developed in the assessment phase.
EE-4	Concerned at the project's contribution to climate change. Kwantlen Nation is experiencing consequences of climate change including flood watch in the community, heat dome and lower fish returns.	Early Engagement	As described in Section 12 of the DPD, sea level rise is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the environment on the Project will be assessed.
EE-5	Nation is experiencing cultural loss and community wellbeing decline due to loss of fish stocks and impacts to ability to transfer culture, language, practices. Fishing is a means to bring community together, and creates purpose.	Early Engagement	This feedback will be brought forward to assessment planning discussions particularly related to Valued Component selection and Application Information Requirements.
EE-6	Concerned with the scale of this project and impacts along side other proposed projects including Deltaport, Surrey docks, Patullo, Tilbury LNG.	Early Engagement	Existing and reasonably foreseeable future projects and activities will be identified as the Project Planning phase progresses. These projects and activities will be included in the cumulative effects assessment for the EAC Application.
EE-7	Nation is interested in establishing earlier baselines. Not just pre-contact since there was a lot of fishing even 20 years ago. Long term baselines could extend to 30-40 years ago.	Early Engagement	This feedback will be brought forward to assessment planning discussions particularly related to Valued Component selection and Application Information Requirements.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-8	Nation would like details on how dredge material is being disposed of.	Early Engagement	Table 5.7-2 provides an overview of potential dredged material management options. Further assessment will occur within the environmental assessment and the Proponent looks forward to receiving input from Kwantlen.
EE-9	Nation requests details about pH analysis of the river from potential effects of tunnel element immersion and interaction with concrete.	Early Engagement	The project recognizes that concrete construction materials are alkaline and must interactions with water courses must be managed. Potential effects to water quality, including changes in pH, will be considered within the project assessment. In addition to the construction and footprint effects in the Project area, results from the surface water quality, studies will be used to assess potential effects on fish and fish habitat. We look forward to continuing dialogue on this topic with Kwantlen
Matsqui First Nation			
EE-10	Concern regarding the impact of the Project on fish and fish habitat, particularly as sturgeon are in conservation.	Early Engagement	The Project has been planned in consideration of the least risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's existing conditions studies on fish and fish habitat will inform Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting, cultural and Treaty rights as they pertain to fish timing windows.
EE-11	Interested in employment opportunities on the Project.	Early Engagement	The Proponent is looking forward to working with Matsqui to learn more about their interest in employment opportunities on the Project.
EE-12	Concern with impacts on the environment of decommissioning the current tunnel.	Early Engagement	Decommissioning the existing George Massey Tunnel is part of the Project, and therefore, the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
EE-13	Interest in learning more about seismic retrofitting of the new ITT.	Early Engagement	The Proponent will have a detailed discussions with Matsqui to ensure Matsqui has an understanding about seismic retrofitting of the new ITT.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-14	Concern regarding cumulative effects related to the Project through construction	Early Engagement	A cumulative effects assessment will be included as part of the environmental assessment and will be informed by: • Engagement with Indigenous nations • Traditional use information provided by Indigenous nations • Existing conditions studies and other historical and publicly available data • Approved land use plans surrounding the Project • Effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • Review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment Feedback from regulatory agencies, stakeholders and the public
EE-15	Nation is interested in tree salvage and who will be able to use the trees from Deas Island Park.	Early Engagement	The Proponent is looking forward to sharing more information on this topic with Matsqui as the project planning advances.
EE-16	Nation is interested in how the tunnel will be designed to adapt to climate change. Specifically to ensure that rising water levels do not enter the new tunnel.	Early Engagement	As described in Section 12 of the DPD, sea level rise is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the environment on the Project will be assessed.
EE-17	Nation is interested in visual materials rather than just reports.	Early Engagement	The Proponent offered workshop session to assist in review of materials. More visual materials will be developed for the Project in future.
EE-18	Nation is interested in visual quality.	Early Engagement	The Proponent has noted this in Section 14.3.8.1 of the DPD and will seek opportunities to engage Matsqui on this topic.
xʷməθkʷəy̓ əm (Musqueam Indian Band)			
PE-5	Musqueam Indian Band (MIB) expressed frustration with process on major projects in the past.	Pre-Early Engagement	The Proponent is committed to working with MIB to develop a thorough understanding of the frustration experienced in past major projects so they may be mitigated in this Project.
PE-6	MIB expressed concern regrading the Crown encroaching on MIB territory.	Pre-Early Engagement	The Proponent looks forward to discussing this in greater detail with MIB to gain a better understanding of your concerns.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-7	MIB expressed concern regarding the impacts of the Project on fish and fish habitat.	Pre-Early Engagement	The program has been planned in consideration of the least risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's existing conditions studies on fish and fish habitat will inform Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting, cultural and Treaty rights as they pertain to fish timing windows as well as any potential impacts to fish and fish habitat. In response to a follow up comment related to this issue, Section 5.4 has been updated to provide additional information on least-risk timing windows.
PE-8	Decommissioning of tunnel is of significant concern as fish have acclimatized to the Existing Tunnel. Want to ensure impacts to fish are minimized.	Pre-Early Engagement	Decommissioning the existing George Massey Tunnel is part of the Project, and therefore, the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
PE-9	Musqueam expressed they felt a practice should be put in place to pause consultation and engagement when there is a need to address concerns internally. The Project should be able to delay or stop the process.	Pre-Early Engagement	The Proponent will support MIB when there is a need to have internal discussions and ensure MIB remains well informed should consultation need to temporarily pause.
PE-10	Concern that a baseline study has become the priority of the Proponent. These studies are lacking in rigor and of little use to Musqueam.	Pre-Early Engagement	Boundaries for each of the VC's will include appropriate spatial and temporal scopes. The Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct assessments.
PE-11	Concern regarding revitalizing area around Deas Island and the bare minimum carried out by the builder.	Pre-Early Engagement	The Proponent is committed to working with MIB to develop a thorough understanding of this concern and looks forward to discussions regarding MIBs thoughts on the revitalization of Deas Island.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-12	Important that cumulative effects are considered as part of the Project. Be creative and flexible in this.	Pre-Early Engagement	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • Engagement with Indigenous nations • Traditional use information provided by Indigenous nations • Existing conditions studies and other historical and publicly available data • Approved land use plans surrounding the Project • Effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • Review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • Feedback from regulatory agencies, stakeholders and the public
EE-19	It's important that the Proponent have understanding and acceptance of the limitations of western science.	Early Engagement	The Proponent looks forward to discussing this in greater detail with Musqueam to gain a better understanding of your concerns.
EE-20	Indigenous knowledge should not be interpreted by the Proponent; rather, Indigenous knowledge needs to be provided context and meaning by participating Indigenous groups through dialogue.	Early Engagement	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020). When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration.
PE-13	*"The Project is located within the municipalities of Richmond, Delta, the Treaty lands of Tsawwassen First Nation, adjacent to Musqueam Indian Band Title area"* This statement is incorrect. The Project location is within Musqueam Indian Band's core territory and Musqueam's Statement of Intent boundary. It should be noted that Musqueam holds legally recognized fishing rights in this area as affirmed in Sparrow (1990; Supreme Court of Canada 1990).	Pre-Early Engagement (IPD)	Section revised to: *"The Project is located within the Treaty lands of Tsawwassen First Nation and Musqueam Indian Band's asserted core territory and* recognized *fishing rights."*

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-14	*"During construction, temporary site roads and access roads will be constructed including a temporary trestle across Deas Slough to access Deas Island."* This is the first document where a trestle has been mentioned. Musqueam would like more information about the construction work required particularly in such a sensitive area as Deas Slough.	Pre-Early Engagement (IPD)	The Proponent is committed to sharing information and will work closely with the MIB on the planning of the construction of the trestle across Deas Slough and explore their interests, issues. and concerns with respect to the sensitive areas in Deas Slough.
PE-15	*"Completion of pre-construction utility, geotechnical, and environmental surveys."* Following up on previous conversations with the Province, Musqueam emphasizes the importance that pre-construction surveys will be developed in collaboration with Musqueam and that this request is noted in this section.	Pre-Early Engagement (IPD)	The Proponent will work closely with MIB in the development of pre-construction surveys.
PE-16	*"Communications with Vancouver Fraser Port Authority and marine users will be essential to maintaining safe use of the river while the tunnel construction activities occur"* A distinct marine users' protocol between Musqueam and the Project will be required, which should be listed here.	Pre-Early Engagement (IPD)	The Proponent will explore with MIB their interests in the development of a marine users' protocol.
PE-17	*"Each time a tunnel element is installed, for safety reasons, the marine shipping channel will need to be closed for a 48 hour period to all river users. "* This timing and scheduling must be discussed closely with Musqueam so that all efforts are taken to avoid conflict with fishery openings. Any potential infringements will need to be justified using the Sparrow test.	Pre-Early Engagement (IPD)	DPD revised. The Proponent will work closely with MIB to discuss the timing and schedule of marine shipping channel closures, so that all efforts are taken to avoid conflict with fishery openings.
PE-18	*"Decommissioning of the Existing Tunnel as proposed in the project's Business Case is envisioned as full removal of the in-river portions of the Existing Tunnel and backfilling of the existing onshore elements. Other options that reduce environmental footprint could be considered. "* What other options could be considered?	Pre-Early Engagement (IPD)	Comment noted. DPD revised. The Proponent will continue to arrange meetings with Project technical experts and MIB to discuss tunnel decommissioning.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-19	Section 5, Land and Water Use:- The current framing is dismissive of Musqueam use, with more comments on recreational use than our use. Musqueam asks that the Province review our Part C and other materials we supplied for review from the previous GMTRP. Reference to "Indigenous groups" use should be limited to Musqueam or hən̓q̓əmin̓əm̓ (Downriver Dialect) nations of the Delta (i.e., MIB and TFN). Musqueam is the only Nation with proven rights in the South Arm and the Project location is wedged among MIB sites and in a critical MIB fishing area, in both crucial salmon and sturgeon habitat. The project exists within an area heavily impacted by cumulative effects that further restrict Musqueam access and use. Musqueam engages in many rights-based land and water activities that are critical for cultural continuity. Uses of this area throughout the past and present include but are not limited to trade, navigation (land and water), harvesting, fishing, hunting, intergenerational teaching and knowledge transfer, and cultural activities.	Pre-Early Engagement (IPD)	*The Proponent has noted MIB comments and will discuss these interests with MIB in future phases of the environmental assessment.* *The Proponent will review part C and other materials provided by MIB during the GMTRP environmental assessment process. As stated in IPD Section 9: "The Ministry has a legal duty to consult where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right. Both asserted and defined Indigenous rights, including treaty rights, are known to overlap or lie in the vicinity of the Project Area..... "* *Section 7.2 of the DPD has been revised to include:* *"Portions of the Project footprint and adjacent land and water areas have historic and current importance in supporting Indigenous interests including harvesting, transportation, trade, recreation, fishing, hunting/trapping, and gathering as well as language and culture, cultural sites, habitation sites, sacred or spiritual sites, transportation, routes and cultural landscapes. Asserted and defined Indigenous Rights including Title and treaty rights known to overlap or lie in the vicinity of the Project area are discussed further in Section 13.* Also, see Attachment 4, Summary of Key Issues Raised by Indigenous nations to Date, for MIB comments regarding the importance of the Project location for MIB.
PE-20	Section 5, Land and Water Use - Request to change from "commercial, recreational and Indigenous fishing" to "commercial, recreational, and Indigenous fishing" to avoid implication that recreational and Indigenous fishing are grouped together.	Pre-Early Engagement (IPD)	Section 7.2 of the DPD has been revised to: *"Portions of the Project footprint and adjacent land and water areas have historical and current importance in supporting Indigenous interests including harvesting, transportation, trade, recreation, fishing, hunting/trapping, and gathering, as well as language and culture, cultural sites, habitation sites, sacred or spiritual sites, transportation, routes and cultural landscapes. Asserted and defined Indigenous Rights including Title and treaty rights known to overlap or lie in the vicinity of the Project area are discussed further in Section 13.0* See also Section 8.3.3 of the IPD, Land and Marine Use (PDF pg. 67)
PE-21	Section 6.4, Table 5: Anticipated Authorizations and Permits - First Nation heritage permits should be referenced in this section and should be sought before any other permits.	Pre-Early Engagement (IPD)	First Nation Heritage Permits have been added to Section 8.5, Anticipated Authorizations and Permits, of the DPD.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-22	Section 8.4 Economic Conditions - This section does not take into account negative economic factors such as loss of fishing access through reduced ability to fish and prevalence of fish species, nor does it mention benefits or detriments to Indigenous communities in general.	Pre-Early Engagement (IPD)	The following text has been revised in the DPD: *"The Fraser River South Arm is used extensively by Indigenous fishers to fish and access other Indigenous fishing areas, with Indigenous interests pertaining to fish harvesting overlapping with or lie in the vicinity of the Project. The Lower Fraser River and surrounding lands also support a range of other important historical and current Indigenous, economic, and recreational resources, uses, cultural activities and practices."*
PE-23	Section 8.6 Heritage Conditions - Noting that this section will be reviewed by MIB Archaeology in the next round of comments during Early Engagement.	Pre-Early Engagement (IPD)	The Proponent looks forward to receiving information on heritage-related issues from MIB Archaeology.
PE-24	Section 8.7 Health Conditions - This section does not make use of any of the provided negative health impacts previously provided by Musqueam (loss of cultural knowledge transfer, loss of access to traditional resources, impacts of out of community employment, etc.) and does not mention Indigenous communities at all.	Pre-Early Engagement (IPD)	Revised to: *"The Ministry will study human health conditions in and around the Project, as well as key health indicators and data available from regional, community, and Indigenous health studies, to understand existing human health conditions in local, regional, and Indigenous populations."*
PE-25	*"Project-related accidents (unexpected occurrence or unintended action) and malfunctions (failure of a piece of equipment or a system to function normally) with reasonable potential to occur include […]"* The process should account and compensate for accidents with reasonable potential to occur, particularly given the level of incidents that have occurred recently on other major infrastructure projects. Musqueam requests to discuss this section.	Pre-Early Engagement (IPD)	The Proponent will include this section for discussion with MIB.
PE-26	*"lies near to the Musqueam Indian Band's area of recognized fishing rights"* Musqueam does not agree with this characterization. Musqueam has an established right to fish for food, social, and ceremonial purposes within waters that fall within its traditional territory that is not restricted to Canoe Pass.	Pre-Early Engagement (IPD)	Revised to: "… the Musqueam Indian Band asserts that the Project is situated within its area of recognized fishing rights as per *Sparrow, 1992*."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-27	Section 9 Indigenous Nations Interests - Musqueam takes serious issue with the Province's use of the Consultative Areas Database (CAD) to determine affected Nations. Engagement should be proportional to potential impacts on Aboriginal rights and interests. Participation of so many Indigenous groups in an area of Musqueam's core territory is not appropriate, and Musqueam looks for a commitment from the Province on how it intends to differentiate between Nations that are scoped into the environmental assessment process.	Pre-Early Engagement (IPD)	The Proponent has noted MIB concerns on the use of the Consultative Areas Database to determine affected Nations and wishes to work collaboratively with the MIB on a successful environmental assessment process. The Proponent will discuss these interests with MIB in future phases of the environmental assessment.
PE-28	Section 9 Indigenous Nations Interests - It is Musqueam's position that the Province should not be meeting and engaging with island and upriver Nations until they clarify how they will differentiate engagement and weigh the comments of MIB compared to others.	Pre-Early Engagement (IPD)	The Proponent has noted MIB concerns and wishes to work collaboratively with the MIB on a successful environmental assessment process. The Proponent will discuss these interests with MIB in future phases of the environmental assessment.
PE-29	Section 9.4 Current use of lands and resources for traditional purposes - While this section is important to include, many of the aspects mentioned are economic or health based in nature and can be incorporated into those sections. Furthermore, the goal should be to improve access to land and resources, so the statement “it is anticipated that interactions will return to existing levels on the Highway 99 corridor” does not reflect the goal of improvement and favors the status quo which is abysmal in nature. This framing also does not account for Musqueam's GMTR comments, regarding the time depth for the return of species and the need for our harvesters to adapt to changes. This may create unmitigable impacts if we lose a knowledge holder that holds site specific knowledge while Musqueam is being denied access and use.	Pre-Early Engagement (IPD)	Comment noted. The Proponent will work with MIB to explore and understand input received as part of the GTMRP and engage in deep engagement on these and other issues of concern in the FRTP environmental assessment process.
PE-30	Project Schedule - How many years of in-river work are anticipated? There seems to be a discrepancy in the document, with page 6 stating that the new crossing is planned to open in 2030, and page 20 stating that operation will begin in 2031.	Pre-Early Engagement (IPD)	Comment noted. Project will follow up with preliminary project schedule highlighting in-river work schedules.
PE-31	Barge Traffic - Musqueam is concerned about the amount of additional barge and truck traffic involved in this project, particularly given the importance of this area for Musqueam to practice rights-based activities, including (but not limited to) fishing. As project planning progresses, Musqueam requests to discuss the anticipated traffic level increases, as well as strategies to mitigate the total impact on this area.	Pre-Early Engagement (IPD)	Comment noted. The Proponent will engage with MIB on barge and truck traffic and potential impacts on their rights-based activities.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-32	Offsetting - What is the expected timeline on the development of offsetting for this project? No mention appears in the document other than to say loss of in-river habitat will be offset with the demolition of existing structures, which may not be accurate and does not account for other kinds of habitat loss.	Pre-Early Engagement (IPD)	Comment noted. The Proponent will work with MIB to develop offsetting strategies. The Proponent will follow up with MIB regarding the schedule of offsetting.
PE-33	*"Land use in the area is governed by local governments and in collaboration with other Indigenous communities,"* The second half of the sentence appears to be missing. In addition, Musqueam has many named sites throughout Richmond, as well as a relationship agreement with YVR as the airport lands are build atop Musqueam named sites.	Pre-Early Engagement (EP)	Revised to: *"Land use in the area is governed by local governments and in collaboration with other Indigenous communities."*
PE-34	Section 3, Proximity to Communities - This overview does not provide sufficient historical and contextual framing relative to the significant of this location in relation to Musuqeam territory. Musqueam's location at the mouth of the Fraser River is deeply connected with Musqueam oral histories, cultural identity and continuity, access for other communities, and trading relationships. Musqueam, or xʷməθkʷəy̓əm, translates to "Place of məθkʷəy̓," signifying the mθkʷ"y̓ plant which grew in the Fraser River delta and tidal flats. At the time of contact, protocols existed that regulated access by outside Nations to different areas, based on kinship and inter-village ties. With the arrival of European settlers and facilitated by colonial land occupation policies by the provincial and federal governments, Musqueam was dispossessed and disenfranchised of most of its land base with the exception of small pockets of reserve lands assigned by the federal government. Although it is welcome to see Musqueam specifically acknowledged, we nonetheless remain concerned how engagement will play out if other Nations are legally scoped into the non-differentiated term "Indigenous Groups" for the purpose of the environmental assessment. Musqueam requests an explicit commitment from MoTI and proposed approach for addressing consultation issues and weighing Musqueam's feedback relative other nations. Musqueam requires a different level of engagement as rights holders in the river and it being our core territory. Consultation with other nations should be limited, targeted, and not be allowed to override Musqueam's position or concerns.	Pre-Early Engagement (EP)	Comment noted. The Proponent will discuss these interests with Musqueam in future phases of the environmental assessment.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-35	Environmental assessment Process, Table 1 - Musqueam requests that the Province adds estimated timeline milestones to this table.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-36	Indigenous Engagement section - See above comments regarding consultation	Pre-Early Engagement (EP)	Comments noted. The Proponent will discuss these interests with MIB in future phases of the environmental assessment.
PE-37	Section 6.3 Indigenous knowledge - How will the Province weigh and differentiate appropriately between knowledge and perspectives provided by Indigenous groups?	Pre-Early Engagement (EP)	Comments noted. The Proponent will discuss these interests with Musqueam in future phases of the environmental assessment.
PE-38	Section 6.4 Interests and Issues Identified by Indigenous Groups - Musqueam is requesting for the Province to thoroughly review and incorporate feedback that was provided in the previous GMTR process to reduce burden and duplication of efforts by First Nations (see earlier comment).	Pre-Early Engagement (EP)	Comment noted. The Proponent will work with Musqueam to explore and understand input received as part of GTMRP and its application to the FRTP environmental assessment process.
PE-39	Section 6.5 Summary of Relevant Agreements - This section appears to be missing content - will it be expanded in the next version?	Pre-Early Engagement (EP)	The Proponent will review with Musqueam existing agreements that may inform the project environmental assessment process.
PE-40	Requesting discussion on what Musqueam's agency is in decision-making when it comes to contractors, selection of independent monitors, etc. We do not want to duplicate past challenges and should draw from lessons on other projects.	Pre-Early Engagement (EP)	The Proponent will discuss and explore Musqueam's interests in contractors, independent monitors and other related aspects of the project.
EE-20	Musqueam's territory is depicted in the Musqueam Statement of Intent, filed with the British Columbia Treaty Commission in 1993. Musqueam shared that it has a proven right to fish, for food, social, and ceremonial purposes in the waters of the Fraser River Delta where the proposed project is located.	Early Engagement (EAO's Summary of Engagement)	The Proponent confirms they are aware of Musqueam Statement of Intent and looks forward to continued dialogue to ensure your interests are reflected in the Project.
EE-21	Concerns in regard to rights and title to cause significant impacts • Anticipated effects to fish and fish habitat that could impact fishing rights that may threaten food, social, and ceremonial needs. • Loss of fish or access to fish resources which may cause economic impacts to Musqueam harvesters.	Early Engagement (EAO's Summary of Engagement)	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous rights and title.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-22	Concern of potential impacts to sturgeon (species at risk).	Early Engagement (EAO's Summary of Engagement)	The program has been planned in consideration of the least risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's Fish and Fish Habitat existing conditions studies will inform the Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting and cultural rights as they pertain to fish timing windows, as well as any potential impacts to fish and fish habitat. In response to a follow up comment related to this issue, Section 5.4 has been updated to provide additional information on least-risk timing windows. The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous fishing and other rights and interests.
EE-23	Concern regarding the location of the project as it relates to Musqueam sense of place and identity.	Early Engagement (EAO's Summary of Engagement	Thank you for this comment. The Proponent looks forward to learning more about how the Project may impact Musqueam's sense of place and identity.
EE-24	Potential impacts to cultural continuity and heritage.	Early Engagement (EAO's Summary of Engagement)	The Community Health and Wellbeing assessment in the EAC Application will address potential Project-related health effects identified and information provided by Indigenous nations. Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.5.2, Community Health and Wellbeing.
EE-25	Concern of possible impacts to health including stressors from air, dust, and GHG emissions, noise from construction and loss of access to traditional foods and impacts to sense of place and identity.	Early Engagement (EAO's Summary of Engagement)	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment. It is anticipated that this will including effects of noise and light on marine mammals, human health, and cultural practices.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-26	Cumulative effects from historic colonial developments and simultaneously proposed projects in Musqueam Territory.	Early Engagement (EAO's Summary of Engagement)	A cumulative effects assessment will be included as part of the environmental assessment and will be informed by: • Engagement with Indigenous nations • Traditional use information provided by Indigenous nations • Existing conditions studies and other historical and publicly available data • Approved land use plans surrounding the Project • Effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • Review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment Feedback from regulatory agencies, stakeholders and the public
EE-27	Potential impacts to constitutionally protected Section 35 rights.	Early Engagement (EAO's Summary of Engagement)	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous rights and interests.
EE-28	Construction equipment and increased vessel traffic may impact traditional fishing practices	Early Engagement (EAO's Summary of Engagement)	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the potential effects of the Project to Indigenous fishing and other rights and interests.
EE-29	Sacred and spiritually relevant sites located in Deas Slough and the surrounding area.	Early Engagement (EAO's Summary of Engagement)	The Visual Quality Assessment in the EAC Application will capture sacred and spiritually relevant sites in the Project area. Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.3.3.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-30	Increased psychological and emotional stress from uncertainty over Project effects (e.g., reduced safety from marine traffic, disruptions to fishing, accident, and spill potential).	Early Engagement (EAO's Summary of Engagement)	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment.
EE-31	Potential of increased interruptions to knowledge transmission and lost opportunities to transmit knowledge due to the loss of access and quality of access to the area.	Early Engagement (EAO's Summary of Engagement)	The Proponent is committed to working with Indigenous nations to identify, understand, and proactively develop mitigation approaches to the reduce loss of opportunities to transmit knowledge.
EE-32	Potential project interactions on birds and bird behavior from sensory disturbances such as light, noise and, construction activities.	Early Engagement (EAO's Summary of Engagement)	The Project assessment will assess Project-related effects on identified VCs of the biological, human, physical, and cultural environment. It is anticipated that this will including effects of noise and light on birds and bird behaviour.
EE-33	Health impacts from the loss of access to traditional plants for food and medicine and reduction in quality of plants that remain.	Early Engagement (EAO's Summary of Engagement)	The Proponent is committed to working with Indigenous nations to identify culturally important elements. The Project assessment will assess Project-related effects on identified valued components of the biological, human, physical, and cultural environment.
EE-34	Nation is interested in further discussions on remediation and offsetting in the context of temporary moorage location.	Early Engagement	Consultation is ongoing with regards to the temporary moorage site. The proponent looks forward to working with Musqueam on this topic.
EE-35	Nation requests opportunity to review Attachment 4 for level of detail.	Early Engagement	The Proponent is committed to working with Musqueam to ensure the level of detail in documents reflects the Nation's direction.
Quw'utsun Nation			
PE-40	Concern about this Project's ambitious timeline.	Pre-Early Engagement	The Proponent has and will continue to work collaboratively with Indigenous nations regarding review timelines that are reasonable.
PE-41	Want to gain an understanding of baseline to be used for the Existing Condition studies.	Pre-Early Engagement	The Proponent will have a detailed discussions with Quw'utsun Nation to ensure you have an understanding of the Existing Condition studies.
EE-36	Concern regarding certainty of the Project proceeding.	Early Engagement	The Proponent has not received any indication that the Project would not proceed and is committed to continuing to pursue the proposed tunnel.
EE-37	General difficulty in responding to correspondence on this file. We have raised the issue of your ministry using different senders and mailboxes to communicate which is administratively cumbersome and adds to delays tracking and locating correspondence	Early Engagement	The Proponent appreciates feedback regarding streamlining of communications and has created a Project-specific mailbox that all Indigenous Relations team members will utilize for future communications and meeting invitations.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-38	The Quw'utsun Nation, which is comprised of Cowichan Tribes, Halalt First Nation, Lyackson First Nation, Penelakut Tribes and Stz'uminus First Nation, each as represented by their Chiefs and Councils, which are descendants of the 11 communities or local groups that made up the historic Quw'utsun Nation which were an Aboriginal people and who existed at the time of European contact and at 1846. Indigenous rights under United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP): To protect archaeological and historical sites and artifacts. To maintain, protect and have access to cultural sites. To revitalize, develop and transmit to future generations histories, oral traditions and place names relating to the Project area. To participate in decision-making in matters which would affect rights in the Project area, through representatives chosen by ourselves. To be secure in the enjoyment of own means subsistence and to engage freely in all traditional and other economic activities, and to just and fair redress if we are deprived of the same. To improve social and economic conditions. To traditional medicines and to maintain our health practices, including the conservation of our medicinal plants, animals and minerals. To enjoyment of the highest attainable standard of physical and mental health. To maintain and strengthen our distinctive spiritual relationship with our traditionally owned or otherwise occupied and used lands, territories, waters and other resources and to uphold our responsibilities to future generations in this regard. To the lands, territories and resources traditionally owned, occupied or otherwise used acquired. To own, use develop and control and lands, territories and resources that we possess by reason of traditional ownership or other traditional occupation or use, as well as those which we have otherwise acquired. To have our lands, territories and resources legally recognized and protected by the State. To redress (including restitution) or just, fair and equitable compensation for lands, territories and resources which we have traditionally owned or otherwise occupied or used, and which have been confiscated, taken, occupied, used or damaged without their free, prior and informed consent. To the conservation and protection of the environment and the productive capacity of our lands or territories and resources, to determine and develop strategies for the development or use of our lands or territories and other resources, Aboriginal rights (within the meaning of s.35(1) of the Constitution Act, 1982) to harvest wildlife, waterfowl, vegetation and other resources; to fish for food, social and ceremonial purposes; and to the land itself.	Early Engagement (EAO's Summary of Engagement)	Thank you for your comment. It's been noted.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
Sq'ewqel (Seabird Island Band)			
EE-39	Interested in the use of dredging material collected as their reserves are on low ground and are prone to flooding from the Fraser River.	Early Engagement	The Proponent looks forward to further discussions with Seabird Island Band about the availability of dredging material generated by the Project.
EE-40	Want to gain an understanding of how UNDRIP incorporated into procurement.	Early Engagement	FRTP is a reviewable project under the BCEAA and this process provides a number of mechanisms for meaningful engagement with Indigenous nations and elements of DRIPA such as consensus and consent seeking. Seabird is a participating Indigenous nation and has specific procedural rights within the BCEAA, including access to capacity funding, consensus seeking processes, a procedure to communicate consent or withhold consent at specific decision points, an option to undertake an Indigenous-led assessment and access to facilitated dispute resolution.
EE-41	Seabird Island has the capacity to do more than monitoring on the Project and have partnerships in place with many contractors.	Early Engagement	The Proponent is looking forward to working with Seabird Island to learn more about their interest in contracting opportunities on the Project.
EE-42	Recommend the Proponent create a First Nations procurement policy similar to what is used on the Trans-Mountain Pipeline project.	Early Engagement	The Proponent has shared the information with internal procurement specialists.
EE-43	Interested in employment opportunities on the Project as they look for a soft landing for community members currently employed by the Trans-Mountain Pipeline project.	Early Engagement	The Proponent is looking forward to working with Seabird Island to learn more about their interest in employment opportunities on the Project.
EE-44	Seabird Island has expressed concerns regarding the impact of the Project on fish and fish habitat. They wish to understand the plans for offsetting and restoration.	Early Engagement	The Proponent commits to working with Seabird on these areas in future phases of the environmental assessment, in particular during the development of VCs and Application Information Requirements.
EE-45	Seabird Island has recently acquired a hatchery with the intent of using it for habitat restoration of fish in the Fraser River.	Early Engagement	The Proponent is looking forward to further discussions with Seabird Island to learn if there are opportunities to support the hatchery.
EE-46	Concern that dredging is going to enable larger vessels to use the Fraser River.	Early Engagement	The water draft for the new tunnel will be the same for the current tunnel, therefore, there will be no increase in the size of vessels using the Fraser River resulting from the proposed tunnel.
Semiahmoo First Nation			
EE-47	Where will the disposal at sea occur?	Early Engagement	Dredge material disposal options still being identified for consideration in the EA.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-48	What is the composition of the existing concrete, is there asbestos or other hazardous materials that would need to be considered for disposal?	Early Engagement	Investigative activities proposed for 2022/2023 will provide some information about current composition of tunnel concrete.
EE-49	The clean dredge material, will this be used for berms?	Early Engagement	Dredge material disposal options still being identified for consideration in the EA.
Shxw'ōwhámél First Nation			
EE-50	Shxw'ōwhámél is receiving too many referrals from projects, overall.	Early Engagement	The Proponent is committed to developing a thorough understanding of how we can best support Shxw'ōwhámél to ensure you are able to engage on the Project.
Snuneymuxw First Nation			
PE-42	Concern regarding cumulative effects of past usage and past construction on the Fraser River and the collective impacts on fish. Snuneymuxw was not included in past consultation on the George Massey Tunnel despite having a permanent village site on the Fraser River. They have not had an opportunity to voice concerns on this issue.	Pre-Early Engagement	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • Engagement with Indigenous nations • Traditional use information provided by Indigenous nations • Existing conditions studies and other historical and publicly available data • Approved land use plans surrounding the Project • Effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • Review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • Feedback from regulatory agencies, stakeholders and the public

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-43	When the Existing Tunnel was built in the 1950's, Snuneymuxw First Nation, despite their status as Treaty of 1854 signatories, was not consulted nor involved in the project. Consequently, the Ministry should recognize throughout their submissions in this Project's environmental assessment Application that Snuneymuxw First Nation has previously been displaced from important cultural and harvesting sites as a result of the original construction and operation of the Existing Tunnel. In addition to acknowledging the Snuneymuxw First Nation's displacement, the Ministry and the EAO should discuss in collaboration with Snuneymuxw First Nation how the current altered landscape can be assessed through the project's environmental assessment.	Pre-Early Engagement (IPD)	The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.
PE-44	Section 3.2 Construction, Operations and Decommissioning Phase Activities - Snuneymuxw First Nation must be involved in the development of key documents for all phase activities to ensure that construction windows account for and consider potential impacts to Snuneymuxw's Section 35 rights and interests including Treaty of 1854 rights. Additionally, potential impacts from the "significant increase in truck traffic" (PDF Pg. 16), temporary flood protection systems, and vibrations must be considered in the assessment of the impacts to Section 35 rights	Pre-Early Engagement (IPD)	Comment noted. Section 9.3 of the IPD (PDF Pg. 93) states the Proponent's intention to: "*Pursue ongoing and regular engagement with all identified Indigenous nations throughout the environmental assessment process and during all subsequent phases of the Project*." The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.
PE-45	*"Applicable least risk work windows will be considered during schedule planning for construction near any sensitive environmental features such as fish-bearing watercourses and during vegetation removal. All in-river construction activities will be completed during the established Fisheries and Oceans Canada Least Risk Window (June 15 thorough February 28) for in-water works for the Project site ... No other seasonal timing constraints have been identified at this time. In river works will require 24/7 operations."* In determining in-river construction schedules utilizing only the Fisheries and Oceans Canada Least Risk Window, the Ministry fails to consider important timing windows that will least impact Section 35 rights and the ability of harvesters to access marine environments and resources. Snuneymuxw First Nation input on timing windows must be considered within construction schedules.	Pre-Early Engagement (IPD)	The Proponent plans to engage with affected Indigenous nations on the timing of in-river construction activities. This engagement will inform the in-river construction activities. The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-46	Section 5 Land and Water Use - In this section the Ministry briefly acknowledges that the Fraser River South arm is utilized by Indigenous harvesters for fishing; however, there is no mention of Indigenous interests related to the land in the vicinity of the Project (i.e., governance, cultural sites, habitat of harvest species). The identification of Indigenous interests related to land near the Project will be essential to determining potential impacts and Project interactions with Section 35 rights. Please describe any known Indigenous interests relating to land and if the Ministry is currently unaware of any such interests in the area, this must be determined through consultation with Indigenous groups and included in the Project's assessment.	Pre-Early Engagement (IPD)	The environmental assessment review of the FTRP will not be confined to in-river impacts and potential project impacts on land will be thoroughly reviewed. As noted in the Proponent's December 3, 2021, letter accompanying the IPD: "The first phase of the environmental assessment process is the Early Engagement phase, where the Ministry as the Project Proponent engages with Indigenous nations and relevant parties to identify preliminary interests and concerns to be addressed during the environmental assessment." The Proponent will further engage with SFN on their interests on project land and potential in-river impacts. The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.
PE-47	Section 6.2 Federal *Impact Assessment Act* - The Ministry explains in this section that as the Project's proposed work is not included in the Impact Assessment Agency's ("IAAC") list of physical activities the Project does not trigger a federal review under the *Impact Assessment Act* SC 2019, c. 28, s. 1 ("IAA"). However, Section 5.0 Land and Water Use states that the South Arm Marshes Wildlife Management Area ("WMA") is located directly downstream of the Project. While the Project's proximity to this WMA may not trigger a review by the IAAC, it is nonetheless concerning to Snuneymuxw First Nation, as Snuneymuxw has fishing and harvesting rights on the waters in this area. Additionally, the Province of British Columbia explains that the South Arm Marshes WMA is internationally designated as a Western Hemisphere Shorebird Reserve Network site2, where the Great Blue Heron is listed as a common species to frequent the area. Snuneymuxw First Nation understands that an IPD is high-level and may therefore use vague language and detail surrounding engagement with regulatory bodies; however, Snuneymuxw emphasizes the importance of listing all species at risk in the areas surrounding the Project footprint and involving the appropriate federal and provincial authorities to ensure a rigorous assessment is completed (including but not limited to: the Ministry of Forests, Lands, Natural Resource Operations and Rural Development; Environment and Climate Change Canada; and the Department of Fisheries and Oceans Canada). Additionally, Snuneymuxw First Nation also reiterates the significance of assessing impacts to species at risk through a Section 35 rights lens. It is expected that more information will be provided on both of these matters in later Project filings from the Ministry.	Pre-Early Engagement (IPD)	The Proponent will engage with SFN to explore and understand their concerns on Project-related fisheries impacts. The Proponent confirms future FRTP Indigenous engagement will include more detailed information on species at risk. The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-48	Section 7 Spatial Boundaries - Table 6 Preliminary Spatial Boundaries indicates that the Local Study Area ("LSA") for the Economic VC will include the communities of Richmond and Delta, and that the boundaries of the Regional Study Area ("RSA") will include the geographic limits of Metro Vancouver. Please elaborate if the Ministry anticipates that there will be employment opportunities for Indigenous peoples during the construction phase. Additionally, Snuneymuxw First Nation has an economic right to harvest in the marine environment. As the IPD indicates that river access will be restricted for extended periods during its 7-year construction phase, this will impact Snuneymuxw's abilities to exercise their economic rights. As such, the economic spatial boundary should also include the waters surrounding the Project footprint during construction activities to encompass these effects.	Pre-Early Engagement (IPD)	The Proponent confirms that the economic spatial boundary also includes the waters surrounding the project footprint. Section 7 of the IPD states: "*The Project's environmental assessment will consider Project-related interactions with physical, biological and human environment valued components (VCs) within appropriate spatial boundaries. The spatial boundaries for the Project will encompass the spatial areas within which the Project is expected to have interactions with the VCs. Boundaries for each VC will consider the spatial and temporal characteristics of the respective VCs. These spatial boundaries may be limited to the Project footprint or extend beyond the physical boundaries of the Project. The preliminary spatial boundaries for assessing Project effects on VCs will be VC specific and as such will be developed following Indigenous Engagement, VC selection, and further scoping exercises*." The Proponent anticipates that there will be employment opportunities available for Indigenous peoples during project construction.
PE-49	*"The identification of potential Project-related interactions and effects to valued components will be further refined through engagement with Indigenous groups ... and development of Project-specific and regional baseline studies."* Snuneymuxw First Nation should also be provided the opportunity to identify nation-specific VCs that are directly related to their Section 35 rights and interests, including Treaty of 1854 rights. In Snuneymuxw's experience, Environmental, Economic, Social, Heritage, and Health VCs chosen by proponents typically rely on biophysical components, or do not identify receptors and determinants of health that accurately represent the experiences and perspectives of Indigenous groups. Consequently, the VCs fail to wholly capture the tangible and intangible effects to Section 35 rights, as well as the current conditions around the ability to exercise these rights within the context of each VC. As such, Snuneymuxw First Nation suggests the Ministry assess the relationship between changes in each VC with impacts to Section 35 rights, in addition to assessing Project impacts to VCs identified by Snuneymuxw First Nation as important indicators to the exercise of Section 35 rights.	Pre-Early Engagement (IPD)	The Proponent will engage and explore SFN interests in Project VCs.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-50	"*Metro Vancouver operates a large network of air quality stations in the Lower Mainland ... The National Air Pollution Surveillance network in turn collects data on non-criteria air contaminants. The Ministry will collect data from these sources, and other sources as applicable to characterize existing conditions for the pollutants in the area surrounding the Project."* The assessment of existing conditions of pollutants in the Project area must also include the use of sensitive receptors, particularly Snuneymuxw-specific receptors representative of Snuneymuxw harvesters and land and marine users who may access areas in proximity to the Project. Additionally, the assessment should consider odour as this can create an increase in avoidance behaviours by Snuneymuxw harvesters.	Pre-Early Engagement (IPD)	The Proponent will engage with SFN to better understand their stated interest. Air Quality is identified in the Draft List of Existing Conditions Studies shared with the SFN on February 7, 2022.
PE-51	The Ministry indicates they *"will study the existing atmospheric noise conditions at locations representative of noise-sensitive land uses (e.g., residential, institutional, recreational) where Project-related changes in atmospheric noise are likely to occur."* The classification of noise-sensitive land-uses must also include Indigenous land-uses to account for activity from Snuneymuxw harvesters. Additionally, an assessment of atmospheric noise should include impacts to marine use, as an increase in atmospheric noise may increase avoidance behaviours of Indigenous harvesters in marine settings.	Pre-Early Engagement (IPD)	The Proponent will engage SFN to further explore and understand their concerns regarding Project-related atmospheric noise. Noise (and Vibration) is identified in the Draft List of Existing Conditions Studies shared with SFN on February 7, 2022.
PE-52	The Ministry assumes *" ... during the operation phase of the Project, underwater noise levels will likely be similar to existing levels."* If the Project is expected to improve traffic flow and allow vehicles to travel at highway speeds (PDF p. 30), this will create more roadway noise and can potentially create more underwater noise compared to idling vehicles. The Ministry should assess underwater noise during the Project's operation phase and pre-emptively plan measures to mitigate increased underwater noise levels.	Pre-Early Engagement (IPD)	The Proponent will engage SFN to further explore and understand their concerns regarding Project-related underwater noise during the operation phase of the Project. The Marine Mammals study identified in the Draft List of Existing Conditions Studies shared with the SFN on February 7, 2022, includes underwater noise modelling. The environmental assessment process addresses mitigation measures in later phases such as during Project Effects Assessment.
PE-53	The Ministry states that *"following the removal of the Existing Tunnel, the riverbed is expected to recover within one year."* Please elaborate on what is meant by "recover" in this case. Does the Ministry have an anticipated outcome for riverbed recovery, or a strategy to support riverbed recovery?	Pre-Early Engagement (IPD)	IPD revised. On February 7, 2022, the Proponent shared with SFN draft summary table of initial Existing Condition studies the Project is planning to initiate this year. These existing conditions studies will inform Project's environmental assessment.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-54	Section 8.3.1 Vegetation - This section specifies *"where permanent loss of vegetation will result from increased road surface, opportunities for re-vegetation in other areas of the corridor will be explored to minimize effects on values including fish and aquatic habitat and wildlife and wildlife habitat."* Re-vegetation initiatives, including species chosen for revegetation and seed mixes, should be determined in consultation with Snuneymuxw First Nation and Snuneymuxw's traditional knowledge.	Pre-Early Engagement (IPD)	Section 6.3 of the Engagement Plan notes: "The Ministry's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020)." Section 6.3 also states: "When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration."
PE-55	Section 8.3.3 Fish & Aquatic Habitat - Fish and Aquatic Habitat assessments should be linked to Indigenous interests, as changes to fish and fish habitat can adversely impact the ability of Snuneymuxw First Nation to exercise Section 35 rights and interests including Treaty of 1854 rights. Additionally, as currently written, the Fish and Aquatic Habitat section does not indicate that Snuneymuxw's traditional knowledge will be integrated into the assessment of Project-related effects on fish, including their exposure to underwater noise, physical habitat alteration, and mortality.	Pre-Early Engagement (IPD)	Potential Project impacts on fish and aquatic habitat on Indigenous interests will part of the environmental assessment process. In addition, as stated in Section 6.3 of the Engagement Plan: "The Ministry's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020)." Section 6.3 also states: "When provided, the Ministry will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration."
PE-56	Section 8.3.4 Marine Mammals - As currently written, the Marine Mammals section does not indicate that Indigenous traditional knowledge will be required in the Ministry's assessment on the presence and distribution of marine mammals in the Project area and potential Project impacts on marine mammals. Snuneymuxw First Nation's input will be required in this assessment, in addition to an assessment of how changes to marine mammals will impact Snuneymuxw's Section 35 rights and interests including Treaty of 1854 rights.	Pre-Early Engagement (IPD)	Section 6.3 of the Engagement notes: "The Ministry's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020)." Section 6.3 also states: "When provided, the Ministry will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration." Marine Mammals study is identified in the Draft List of Existing Conditions Studies and shared with the SFN on February 7, 2022.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-57	Section 8.4 Economic Conditions - This section outlines the geographic location of different municipalities surrounding the Project and indicates the economic assessment will focus on the listed communities. This section also indicates the "Project is anticipated to create a range of economic benefits including employment." However, what is lacking is an explanation of whether employment opportunities will be available to Indigenous peoples and how this will create a direct economic impact on nations. Additionally, the economic conditions assessment should be linked to other physical and biophysical environment conditions including air quality, underwater noise, and fish and aquatic habitat, as Snuneymuxw relies on accessibility to healthy environments and fish to exercise their economic rights. Changes in other physical and biophysical environmental conditions can directly and adversely impact Snuneymuxw's abilities to exercise these rights.	Pre-Early Engagement (IPD)	The environmental assessment process addresses a broad range of environmental, economic, social, health and cultural issues through a single, integrated process. It ensures that the issues and concerns of all interested parties and Indigenous nations are considered together. The Proponent regularly provides employment opportunities for Indigenous peoples on its projects and anticipates that these opportunities will be made available on the Project.
PE-58	Section 8.5.7 Land and Water Use - In this section the Ministry states that to *"fully understand potential impacts the [sic] use of the Fraser River South Arm for marine activity, the Ministry will study navigation; Indigenous fish and harvesting and other Indigenous interests; and recreational activities."* However, Ministry also indicates *"...the lower Fraser River South Arm hosts local Indigenous cultural activities and practices."* Therefore, an assessment of Indigenous traditional use and interests should also include interests related to land in the vicinity of the Project, rather than marine use alone. Finally, the Ministry indicates the marine use studies will *"determine marine traffic frequency and volume...and existing navigation conditions in the Fraser River South Arm."* However, if Indigenous harvesting practices and interests are assessed under marine use, then the information received from Snuneymuxw First Nation should be used to also determine existing conditions of Section 35 rights in the Fraser River South Arm and potential project impacts to Section 35 rights relating to marine use.	Pre-Early Engagement (IPD)	Section 6.3 of the Engagement Plan notes: "The Ministry's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020)." Section 6.3 also states: "When provided, the Ministry will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration." On February 7, 2022, the Ministry shared with SFN draft summary table of initial Existing Condition studies. These existing conditions studies at the Project site, including fish and fish habitat will inform Project's environmental assessment. The Ministry is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-59	Section 8.5.2 Visual Aesthetics - This section states that *"to better understand the visual effects of the Project, the Ministry will study the existing visual conditions from sensitive locations such as residences and recreational areas, and Indigenous cultural sites in the vicinity of the new ITT."* *"Indigenous cultural sites"* should also refer to marine use areas and areas used for harvesting as visual aesthetics can increase avoidance behaviours that impact the ability of Snuneymuxw First Nation harvesters to exercise their Section 35 rights.	Pre-Early Engagement (IPD)	The Proponent will engage with SFN to explore and understand their concerns with visual aesthetics.
PE-60	Section 8.8 Cumulative Effects - Snuneymuxw First Nation understands that the Ministry's cumulative effects assessment will be informed by engagement with Indigenous groups. However, Snuneymuxw emphasizes that any assessment of cumulative impacts for this Project's review cannot be limited to biophysical and environmental components and must also include an assessment of cumulative impacts to Section 35 rights.	Pre-Early Engagement (IPD)	The Proponent will engage with SFN to explore and understand their concerns with cumulative effects.
PE-61	Please clarify how the Ministry will define "Indigenous interests" for this Project's environmental assessment. Section 25 of the *BC Environmental Assessment Act,* SBC 2018, c. 51 requires every assessment to consider "the effects of a project on Indigenous nations and rights recognized and affirmed by Section 35 of the *Constitution Act, 7982*..." The Project's assessment must consider impacts to Section 35 rights through consultation with Indigenous groups and identify links between Project VCs and Indigenous interests	Pre-Early Engagement (IPD)	Page 37 of the EAO User Guide Introduction to Environmental Assessment under the provincial Environmental Assessment Act (2018) Version 1.01 March 30, 2020, states the following regarding Indigenous interests: “What is Assessed? The Proponent’s application must address the project’s potential effects in relation to each phase of the project. Under Section 25 of the Act, the following matters must be assessed in every environmental assessment: The effects of a project on Indigenous nations and rights recognized and affirmed by Section 35 of the Constitution Act, 1982 (collectively referred to as Indigenous interests).”
PE-62	This section indicates that Table 8 Issues Raised During Preliminary Engagement on the Project (September 2021 to present) is being prepared and will be included in the revised Engagement Plan for submission to the EAO. Please clarify if Snuneymuxw will have the opportunity to review this table before it is submitted to the EAO. Additionally, if relevant, please ensure Snuneymuxw's concerns are included in the table.	Pre-Early Engagement (IPD)	Comment noted. SFN will have the opportunity to review their comments before they are submitted to the EAO.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-63	The EAO requires an assessment of potential Project impacts to Section 35 rights under Section 25 of the *Environmental Assessment Act, 2078.* This section requires updates to language and consideration of Section 35 rights rather than only traditional land use. Additionally, the Ministry states that they *"will provide funding to Indigenous groups to conduct traditional use studies to understand traditional and current use of lands and resources surrounding the Project and how the Project may impact these uses"* (PDF p. 45). Snuneymuxw First Nation would reiterate that studies conducted by Indigenous groups and the information provided within these studies must be incorporated into the Project's assessment and must be linked to selected Project VCs in order to wholly understand the Project's potential impacts to Section 35 rights and traditional land uses.	Pre-Early Engagement (IPD)	Comment noted. The Proponent has executed a Capacity Funding Agreement with SFN. The Proponent will engage and explore with SFN their interests related to Project VCs. The Proponent is committed to working with SFN to develop a thorough understanding of SFN's Indigenous interests related to the Project and to develop appropriate accommodations of those interests.
PE-64	Section 6 Indigenous Engagement – This section doesn't provide details re: frequency of engagement nor engagement pertaining to Project Milestones. Provide further details on how and when the Ministry plans to engage with SFN.	Pre-Early Engagement (EP)	The Proponent is committed to achieving a capacity funding agreement with participating Indigenous nations that identify engagement linked to Project milestones and a mutually agreeable meeting schedule.
PE-65	Section 6.2 Summary of Preliminary Indigenous Engagement Activities - Clarify why Table 3, *Indigenous Groups Preliminary Engagement Timeline, August to December 2021*, was omitted from plan and if SFN will have opportunity to review this document before the EP is finalized.	Pre-Early Engagement (EP)	Comment noted. The Proponent wishes to respect the confidential interests of each Indigenous nation in the development of the EP. The EP will include interests and issues identified by SFN and share that section of Table 4 with the SFN. Once the EP is accepted by the Environmental Assessment Office, the EP with all Indigenous nations input will be posted on the EAO website.
PE-66	Section 6.3 Indigenous Knowledge - SFN's Section 35 rights and interests include Treaty of 1854 Rights, including stewardship of fishing villages, land and waters and to intergenerationally transmit Hul'q'umin'um' and Snuneymuxw culture. SFN has significant territorial, marine, cultural, and spiritual connections to the Lower Fraser b/c of the villages, fields, fishing stations and access to marine resources. GMC has the potential to affect these sites along with associated cultural activities, traditional uses, and access to water-based activities. Significant capacity funding will be required to participate in the collection of evidence, assessment of impacts and rights, for continued participation in the environmental assessment and in any post approval process.	Pre-Early Engagement (EP)	Comment noted. Section 4 of the Engagement Plan states: "the Ministry has a legal duty to consult and, where appropriate, to accommodate where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right." The Proponent is committed to providing capacity funding to support SFN's participation in the Environmental Assessment and other initiatives related to identifying and assessing potential Project-related impacts on SFN's asserted/recognized interests.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-67	Section 6.4 Interests and Issues Identified by Indigenous Groups - Please clarify MOTI's engagement since 2013. Was engagement conducted on the Project, as it is or will be proposed? Did the issues and interests raised include the 1854 interests and rights? While other Indigenous Nations have been previously engaged, SFN has not. Please change the EP to reflect the fact that SFN has not participated in engagement activities since 2013. Further, SFN expects capacity funding to participate in the development of Traditional/Indigenous Knowledge and Use studies.	Pre-Early Engagement (EP)	The Ministry of Transportation and Infrastructure (the Ministry) has engaged on the GMTRP which is situated at the same location and has many of the same impacts as assessed during GMRTP. Since SFN declined to participate in the GMTRP, their 1854 interests were not included in the assessment. the Ministry understanding SFN's assertion that IG inputs cannot be aggregated. Numerous Indigenous nations listed in the EP did also not participate in GMTR. The Ministry is working closely with SFN to provide capacity support SFN's engagement on the Project.
PE-68	Section 6.4 Interests and Issues Identified by Indigenous Groups, Table 4: 1) Please share what issues were raised during the engagement on the project. 2) Please clarify why this table was omitted from the plan. If relevant, please ensure that SNF's concerns are included in Table 4.	Pre-Early Engagement (EP)	Table 4 is included in the revised version of the EP. Table 4 includes a list of key Indigenous issues and interests raised during pre-early engagement. SFN's comments are not included in the table because we have not received specific direction to include them. We would be happy to include SFN's comments to this table should direction be provided to do so.
PE-69	*"Early on in preliminary engagement, seek to establish individual capacity funding agreements with participating Indigenous groups in order to support their overall capacity and ability to collaborate on the Project."* SFN expects to be included in capacity funding agreements for continued participation in the environmental assessment process and in any post-approval processes, in addition to being regularly engaged throughout the duration of the Project. SFN has only recently been engaged on the Project and it is SFN's expectation that capacity funding will be provided to participate in the collection of evidence and assessment of impacts and rights, including the development of Traditional/Indigenous Knowledge and Use, and impact assessment related studies.	Pre-Early Engagement (EP)	Comment noted. The Proponent is working closely with SFN to provide capacity support SFN's engagement on the Project.
PE-70	Section 6.6 Planned Engagement Activities - It is SFN's expectation to be included in all planned engagement activities and provided adequate capacity and notice of engagement activities, including all identified in Section 6.6.	Pre-Early Engagement (EP)	Comment noted. The Proponent is working closely with SFN to provide capacity support SFN's engagement on the Project.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-71	The Ministry commits to *"work to support Indigenous led studies and assessments related to the Project where possible"* SFN has only recently been engaged on the Project and no assessments of impacts to SFN's rights and interests was conducted for GMTRP, so the results of that assessment and engagement process can be generalized or used as a proxy to understand impacts to SFN's Section 35 rights and interests, including Treaty of 1854 rights.	Pre-Early Engagement (EP)	The Ministry engaged on the George Massey Tunnel Crossing Project (GMTRP) which is situated at the same location and may have some similar impacts. Numerous other Indigenous nations did not participate GMTRP.
EE-51	Interested in completing an Indigenous-led Assessment as part of the environmental assessment for this Project.	Early Engagement	The Project is aware of SFN's intention to deliver an Indigenous-led assessment (ILA) and is working with SFN to support the delivery of this work.
EE-52	Nation raised concerns with application of DFO fish window because that is for just one species and there are a number of other species of significance that could be affected by Project construction.	Early Engagement	The Proponent is undertaking a number of studies to determine presence of other species including sturgeon and Eulachon in the vicinity of the Project footprint. This information will be considered as well to mitigate impacts to these species.
People of the River Referrals Office on behalf of the S'ólh Téméxw Stewardship Alliance			
EE-53	Concern regarding the inevitability of the proposed tunnel replacement.	Early Engagement	The Project requires an Environmental Assessment (environmental assessment) certificate from the Environmental Assessment Office before it may proceed with construction of the proposed tunnel.
EE-54	Stress the importance of inclusion of Indigenous Knowledge.	Early Engagement	The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (April 2020). When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration.
EE-55	Want raw data available from completed studies to be provided to Indigenous Groups. Please refer to over-arching Indigenous knowledge and data governance principles and policies, such as OCAP and/or the First Nations Data Governance Strategy, drafted by the First Nations Information Governance Centre.	Early Engagement	The Proponent is committed to sharing raw data, when available, with all Indigenous nations.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-56	Stressed the importance of having open communication between the Proponent and contractors.	Early Engagement	The Proponent is committed to fostering open communication and working with S'ólh Téméxw Stewardship Alliance to better understand your concerns regarding communication between Proponent and contractors.
EE-57	Want to ensure there are opportunities for First Nations procurement.	Early Engagement	The Proponent is looking forward to working with S'ólh Téméxw Stewardship Alliance to learn more about their interest in procurement opportunities on the Project
EE-58	Concern regarding bidders follow through on the environmental management plan.	Early Engagement	The Proponent will engage with S'ólh Téméxw Stewardship Alliance to explore and understand their concerns on the Proponent's follow-through with environmental management plans.
PE-72	It is difficult to assess fully the utility of this Project Description because key information is missing. Figure 1 – a map indicating the project location, plans, and areas of potential impact – is missing. Table 8 – summarizing issues raised through engagement with Indigenous Nations – is also missing. These are important pieces of information that must be reviewed.	Pre-Early Engagement (IPD)	Comment noted and incorporated. IPD Figure 1.1-1 is included in the revised version of the IPD. Table 9.2.1-1 will be updated when information is received from Indigenous Nations.
PE-73	The project requires more explicit attention to impacts on salmon populations and habitat. The potential impacts are discussed in Section 8.3.3. However, the full extent of potential impacts is ignored. A simplistic assumption that dismantling the Existing Tunnel will somehow compensate for the construction of the new tunnel is not justified with any evidence. Dismantling the Existing Tunnel will cause degradation prior to potentially enabling regenerated habitat. Moreover, there is no evidence presented to justify the simplistic equation of habitat areas. There is no discussion of relative impacts and the quality of habitat.	Pre-Early Engagement (IPD)	As noted in Section 1 of the IPD, *"The intent of the IPD is to provide information to regulatory agencies, Indigenous nations and stakeholders participating in the environmental assessment process to understand the proposed Project and to identify preliminary interests and concerns to be considered and assessed by the Project in the next phase of the environmental assessment."* The environmental assessment process will involve an extensive consideration of potential Project impacts on salmon populations and habitat. On February 7, 2022, the Ministry shared a Preliminary Draft List of Existing Conditions Studies which identified Fish and Fish Habitat as an area to be studied. PRRO feedback will inform the development of the Detailed Project Description.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-74	Section 5 - Should include descriptions of the significance of the Fraser River to salmon populations and sockeye salmon run. Salmon are not just confined to the South Arm Marshes. This project will impact migrating salmon, and a dedicated assessment of this impact will be required. These aspects should therefore be described in Section 5.	Pre-Early Engagement (IPD)	Comment noted. The intent of the Initial Project Description (IPD) is to provide information to regulatory agencies, Indigenous nations and stakeholders participating in the environmental assessment process to understand the proposed Project and to identify preliminary interests and concerns to be considered and assessed by the Project in the next phase of the Environmental Assessment (environmental assessment).The environmental assessment process will involve an extensive consideration of potential Project impacts on salmon populations and habitat. On February 7, 2022, the Ministry shared a Preliminary Draft List of Existing Conditions Studies which identified Fish and Fish Habitat as an area to be studied. PRRO feedback will inform the development of the Detailed Project Description.
PE-75	Section 8 - Salmon are also key to food security and should be discussed in section 8. Moreover, the cultural-ecological value of salmon should be stressed, particularly given that the project area is located in S'ólh Téméxw – traditional territory of Stó:lō peoples, people of the river, who are salmon people.	Pre-Early Engagement (IPD)	The intent of the Initial Project Description (IPD) is to provide information to regulatory agencies, Indigenous nations and stakeholders participating in the environmental assessment process to understand the proposed Project and to identify preliminary interests and concerns to be considered and assessed by the Project in the next phase of the Environmental Assessment (environmental assessment).The environmental assessment process will involve an extensive consideration of potential Project impacts on salmon populations and habitat. On February 7, 2022, the Ministry shared a Preliminary Draft List of Existing Conditions Studies which identified Fish and Fish Habitat as an area to be studied. PRRO feedback will inform the development of the Detailed Project Description.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-76	Section 7 Spatial Boundaries, Table 6 - Should indicate that the Regional Study Area must encompass all of S'ólh Téméxw. The tunnel would be located within S'ólh téméxw and the Fraser is an extremely important component of Stó:lō systems. Salmon are Stó:lō relatives. All regional assessments should consider impacts on the Fraser River, which includes impacts upstream due to ecological impacts distributing salmon runs, for example. Please see Figure 1 for a map indicating the extent of S'ólh Téméxw and the overlapping cultural sites at the location of the proposed Fraser River tunnel.	Pre-Early Engagement (IPD)	*Comment noted. The Proponent will engage with the PRRO to discuss Project-related study areas. IPD Section 7 states that: "The Project's environmental assessment will consider Project-related interactions with physical, biological and human environment valued components (VCs) within appropriate spatial boundaries. The spatial boundaries for the Project will encompass the spatial areas within which the Project is expected to have interactions with the VCs. Boundaries for each VC will consider the spatial and temporal characteristics of the respective VCs. These spatial boundaries may be limited to the Project footprint or extend beyond the physical boundaries of the Project. The preliminary spatial boundaries for assessing Project effects on VCs will be VC specific and as such will be developed following Indigenous Engagement, VC selection, and further scoping exercises.* *The environmental assessment will include three spatial boundaries to characterize Project-related interactions with selected VCs:* *• Project Footprint – consists of the spatial area directly disturbed by the Project construction activities, including Project-related physical works and activities.* *• Local Study Area (LSA) – includes the area in which the selected VC is most likely to be interact with Project-related physical works and activities.* *• Regional Study Area (RSA) – encompasses the LSA, and the area beyond the LSA where residual effects from Project-related interactions may result from combination with interactions with other existing and reasonably foreseeable projects and activities to cause cumulative effects."*
PE-77	The project description should identify the need for monitoring programs. For example, in relation to Section 8.2.3, a monitoring system should be developed whereby if underwater noise exceeds predetermined levels, a stop work order is automatically issued, and work can only recommence once the cause of noise is addressed. Similarly, relating to Section 8.2.4, a monitoring program should be identified for tracking impacts on salmon, and support for an Indigenous monitoring program should be identified. These elements can be included as part of the project.	Pre-Early Engagement (IPD)	Comment noted. The EAO's April 23, 2021 "User Guide: Introduction to the Environmental Assessment under the Environmental Assessment Act (2018) Section 8.3 states "that during the Project Application development the Applicant (the Ministry) may be required to include the following information" (among other requirements): "A plan for future cooperation between the Proponent and the Indigenous nation to further apply Indigenous knowledge into project implementation including monitoring and management plans." Section 12.1 of this User Guide under the heading Mitigation Effectiveness and Monitoring Report states that "the proponent will be required to conduct monitoring to identify if mitigations for the potential adverse effects are achieving the desired outcomes identified during the environmental assessment."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-78	Please include page numbers so that we can refer precisely to content	Pre-Early Engagement (IPD)	Comment noted.
PE-79	*"Without improvements to this crossing, economic growth and regional livability will be further constrained by congestion and increased travel times for commuters, commercial users and other traffic."* This is an unsubstantiated statement. Please provide evidence for the impacts on "economic growth" and "regional livability." Moreover, why is economic growth a primary driver behind this project? Metro Vancouver has a commitment to sustainable development, which should entail abandoning a growth logic, in favour of an ecological logic based on restoration and generating positive environmental change. Please explain the environmental logic of the tunnel project.	Pre-Early Engagement (IPD)	The IPD provides an initial project description. For more information on Project benefits and environmental considerations, please refer to the Provincial Project website and Project Business Case.
PE-80	Section 2.2, Project Goals - The list of goals and objectives: numbers 1 and 4 do not flow logically from the description beforehand, where the logic was presented as unblocking highway traffic to remove constraints on economic growth. Please explain how the logic of economic growth can be reconciled with this notion of supporting sustainability.	Pre-Early Engagement (IPD)	The IPD provides an initial project description. For more information on Project benefits and environmental considerations, please refer to the Provincial Project website and Project Business Case.
PE-81	Section 2.2, Project Goals - Please explain how the tunnel replacement will "Support a healthy environment." It is not sufficient to simply include lofty goals, without clearly identifying how they will be tangible goals and how the goal links to the project. How do the identified benefits meet the fourth objective of supporting a healthy environment? The links between these aspects are not explained, but rather assumed.	Pre-Early Engagement (IPD)	The IPD provides an initial project description. For more information on Project benefits and environmental considerations, please refer to the Provincial Project website and Project Business Case.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-82	Section 8 - Heritage should include cultural values, and human health impacts should include food, such as salmon. This is distinct from impacts on "fisheries" as a sector.	Pre-Early Engagement (IPD)	Under Section 12.1(2) of the *Heritage Conservation Act, RSBC 1996, c. 187,* heritage resources that receive automatic protection include the following: • sites with physical evidence of human use or occupation prior to 1846 • burial places with archaeological or historical value • rock art of Indigenous origin • heritage wrecks (i.e., vessels or aircraft) In addition, other heritage sites and objects that may be protected or recognized under the *Heritage Conservation Act* include the following: • heritage sites protected under an agreement between the Province and a First Nation (Section 4) • Sections 9 and 11.1 designated (protected) heritage places, including: o Cultural or spiritual sites designated for their heritage value o Provincial heritage properties (e.g., Barkerville Historic Town and Emily Carr House) o Paleontological sites designated for their heritage value (e.g., McAbee Fossil Beds) o Section 18 formally recognized (not protected) heritage places (e.g., Tashme Internment Camp, Todd Inlet, and Vancouver Chinatown) IPD Table 6.4-1 "Anticipated Authorization and Permits" references the Heritage Conservation Act.
PE-83	Section 8.6 - In addition to evaluating impacts on heritage and potential archaeological sites, a mitigation plan should be established early. What is the order of actions to be taken in relation to chance finds, for example?	Pre-Early Engagement (IPD)	Mitigation plans for impacts on discovered heritage site will be developed recognizing that timing of protection will be critical. Section 8.3.6 of the revised IPD states: *"Through consultation with Indigenous communities and background data review, the Ministry will identify areas of archaeological potential within the Project alignment and those areas will be assessed through field investigations. If present, heritage sites will be documented and evaluated consistent the requirements of the Archaeology Branch and Indigenous communities."*

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-84	Section 9, Indigenous Nations Interests, Table 9 - Identify the different Stó:lō First nations that are members of the Stó:lō Nation and Stó:lō Tribal Council, respectively. Please also identify the S'ólh téméxw Stewardship Alliance and indicate the members of this alliance (see: https://thestsa.ca/about-stsa/first-nation- members/).	Pre-Early Engagement (IPD)	Comment noted and incorporated.
PE-85	*"Propose methods and activities for engagement with applicable regulatory agencies, municipalities, Indigenous groups, and other stakeholders during the environmental assessment process."* Indigenous groups are not "stakeholders." The Fraser River is part of First Nations unceded territories. First Nations hold unceded rights and title to this land. For many First Nations, the Fraser River is a sacred relative. First Nations whose territories are affected should be considered as the true owners of the land and should be engaged as such.	Pre-Early Engagement (EP)	Revised to: *Propose methods and activities for engagement with Indigenous nations, applicable regulatory agencies, municipalities, and stakeholders during the environmental assessment process;*
PE-86	*"Detailed information on Indigenous groups whose consultative areas overlap with the Project boundary is provided in Section 7"* 1. Change language from "consultative areas" to "territories and/or consultative areas." 2. Name those Indigenous groups and/or First Nations here, even if the details are in Section 7. 3. Clarify that these territories relate to unceded rights and title, and that as such the Ministry must consult and accommodate.	Pre-Early Engagement (EP)	Revised to: *"Detailed information on Indigenous nations whose territories and/or consultative areas overlap with the Project boundary is provided in Section 7. The Ministry has a legal duty to consult, and where appropriate, to accommodate where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right.* *The Indigenous nations identified for engagement are as follows (listed alphabetically):* *Cowichan Tribes* *Halalt First Nation* *Katzie First Nation* *Lyackson First Nation* *Musqueam Indian Band* *Penelakut Tribe* *People of the River Referrals Office (PRRO)* *Semiahmoo First Nation* *Shxw'?whamel First Nation* *Skawahlook First Nation* *Snueymuxw First Nation* *Soowahlie First Nation* *Sto:lo Tribal Council* *Stz'uminus First Nation* *Tsawwassen First Nation* *Tsleil-Waututh Nation"*

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-87	*"The Project Team are committed to establishing strong relationships with Indigenous groups who have an interest in the Project and engagement will be guided by provincial government policy and legislation, including the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples and the Declaration on the Rights of Indigenous Peoples Act (2019) and Government Consultation Bulletin on Consulting During the COVID-19 Emergency*." How will Indigenous rights be upheld, specifically? Simply inviting Indigenous groups to comment is not a process of upholding rights.	Pre-Early Engagement (EP)	Section 4.1 of the Engagement Plan seeks to address how The Proponent will uphold Indigenous rights by stating: "Upholding the commitment of the Province to reconcile with Indigenous nations, the Ministry has developed its Indigenous engagement approach based on the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, the 2010 Updated Procedures for Meeting Legal Obligations When Consulting with First Nations, and the Government Consultation Bulletin on Consulting During the COVID-19 Emergency."
PE-88	*"The Ministry values meaningful engagement and is committed to developing and implementing an engagement program that:* • *Collaborates with Indigenous groups;* • *Involves the public and stakeholders including municipal, provincial, and federal government agencies;* • *Prioritizes relationship building with the parties; and* • *Drives program participation from Indigenous groups, the public, and stakeholders."* This section says nothing about how engagement will inform the project plans. Please indicate that First Nations input will not simply stop at input, and that it will be considered and acted upon appropriately. There is a duty to consult AND accommodate. This is not an optional part of the Ministry's methodology.	Pre-Early Engagement (EP)	Section 4.3 of the Engagement Plan states: "The Ministry also anticipates working with Indigenous nations to review Indigenous knowledge already submitted through previous engagement to confirm its relevance to the Project and identify gaps and opportunities for updates and or further assessments. When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are support of this integration. Section 1.4 also states that "The Indigenous nations' participation is a critically important and valuable component of the planning, development, and execution of the Project. The Ministry is committed to establishing strong relationships with Indigenous nations who have an interest in the Project and engagement will be guided by provincial government policy and legislation, including the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples and the Declaration on the Rights of Indigenous Peoples Act (2019) and the Government Consultation Bulletin on Consulting During the COVID-19 Emergency."
PE-89	*"Comprehensive lists of Indigenous groups, public and stakeholders, and municipal, provincial and federal government agencies are found in Table 4, Table 5, and Table 6, respectively."* Table 4 is currently "Issues Raised During Preliminary Engagement on the Project [September 2021 – present]" and is not included in this version of the document.	Pre-Early Engagement (EP)	Revised to: *"Comprehensive lists of Indigenous nations, public and stakeholders, and municipal, provincial and federal government agencies are found in Table 3, Table 5, and Table 8, respectively."*

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-90	*"The Ministry has a legal duty to consult where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right."* And accommodate. Also please mention earlier in the document, so as to clarify the purpose of engagement is more than conversation.	Pre-Early Engagement (EP)	Revised to: *"The Ministry has a legal duty to consult, and where appropriate, to accommodate where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right."*
PE-91	*Sto:Lo Tribal Council – Represented by the PRRO* This is not technically correct. PRRO manages referrals for Stó:lō members of the S'ólh téméxw Stewardship Alliance, which consists of 15 (soon to be 16) members. Those members are: Chawathil First Nation; Cheam First Nation; Kwaw'Kwaw'Apilt First Nation; Scowlitz First Nation; Skawahlook First Nation; Skwah First Nation; Sumas First Nation; Yale First Nation And the 7 Stó:lō Nations that make up the Ts'elxwéyeqw Tribe: Aitchelitz First Nation; Shxwhà:y Village; Skowkale First Nation; Soowahlie First Nation; Squiala First Nation; Tzeachten First Nation; Yakweakwioose First Nation. Some of these Nations are part of Stó:lō Nation, and others part of Stó:lō Tribal Council. It is best to refer to engagement through PRRO as engagement with the STSA. But at the very least, Stó:lō Nation should also be listed.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-92	• *Stó:l? Nation (represented by the People of the River Referrals Office);* Should be Stó:lō	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-93	Section 6.1 Indigenous Engagement to Date - This is a slight misrepresentation. Perhaps it could be articulated as "Stó:lō Nation and Stó:lō Tribal Council, as represented through the S'ólh Téméxw Stewardship Alliance and the Peoples of the River Referrals Office." This captures more of the complexity.	Pre-Early Engagement (EP)	Comment noted and incorporated.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-94	Section 6.1 Indigenous Engagement to Date - Perhaps the most comprehensive way to address Stó:lō complexity for this list is to simply include: "S'ólh téméxw Stewardship Alliance: Chawathil First Nation; Cheam First Nation; Kwaw'Kwaw'Apilt First Nation; Scowlitz First Nation; Skawahlook First Nation; Skwah First Nation; Sumas First Nation; Yale First Nation; And the 7 Stó:lō Nations that make up the Ts'elxwéyeqw Tribe (Aitchelitz First Nation; Shxwhà:y Village; Skowkale First Nation; Soowahlie First Nation; Squiala First Nation; Tzeachten First Nation; Yakweakwioose First Nation), with coordination through the People of the River Referrals Office. At the very least, to be consistent with other nations, the "represented by" sections should point to STSA, not PRRO. PRRO can be mentioned as the administrative arm coordinating the referral. It is a referrals office staffed mostly by non-Stó:lō individuals.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-95	• *Soowahlie First Nation (represented by the People of the River Referrals Office);* • Skawahlook First Nation (represented by the People of the River Referrals Office) See previous comment: member of STSA	Pre-Early Engagement (EP)	Comment noted and incorporated.
	• *People of the River Referrals Office* Not an "Indigenous Group," it is an administrative arm of Stó:lō First Nation and the STSA, designed to manage referrals.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-96	• *Seabird Island Band* New member of STSA	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-97	*"The Ministry will ensure Indigenous knowledge is obtained, managed, and disclosed according to participating Indigenous groups processes and policies as well as the EAO's Guide to Indigenous Knowledge in Environmental Assessments"* Please refer to over-arching Indigenous knowledge and data governance principles and policies, such as OCAP and/or the First Nations Data Governance Strategy, drafted by the First Nations Information Governance Centre. Engagement should lead to established agreements for ethical data handling. Please indicate that these will be established to ensure that Indigenous knowledge is owned, controlled, and possessed by Indigenous groups.	Pre-Early Engagement (EP)	Revised to: "The Ministry will ensure Indigenous knowledge is obtained, managed, and disclosed according to participating Indigenous nations' processes and policies, including through agreement established for ethical data handling, as well as the EAO's Guide to Indigenous Knowledge in Environmental Assessments (EAO 2020)."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-98	*"Table 4 below lists interests and issues identified by Indigenous groups with whom preliminary engagements on the Project took place between September and November 2021. As this table only speaks to preliminary engagements to date, it is by no means exhaustive, nor does it include any issues or interests raised during Indigenous engagement on previous iterations of the Project. A detailed list of issues will be produced following comprehensive engagement during the various stages of the environmental assessment process."* This draft is incomplete. This is essential information to review.	Pre-Early Engagement (EP)	Comment noted. Draft updated to include Table 4.
PE-99	*"A requirement of the Engagement Plan is to include a list of any relevant agreements (including agreements between Indigenous nations), memorandums of understanding, assessment protocols, treaty or other publicly available information of potentially affected Indigenous nations."* So where is this list of agreements? We cannot find one in this engagement plan. Moreover, rather than just list these Agreements, the relevant section should clearly indicate how each agreement affects the review process for the Fraser Tunnel.	Pre-Early Engagement (EP)	Comment noted. Draft updated to include Section 4.5.
PE-100	*"Work to support Indigenous led studies and assessments related to the Project where possible."* This is vague and non-committal. Please include firm commitments to support Indigenous-led studies and monitoring. This might include providing resources for such.	Pre-Early Engagement (EP)	Revised to: *"Support Indigenous-led studies and assessments related to the Project"*
WJOŁEŁP (Tsartlip First Nation)			
EE-59	Southern Resident Killer Whales are a cultural significant species for the Nation. Nation requests detail about any mitigation plans for the SRKW.	Early Engagement	A marine mammals assessment will be completed as part of the EAC Application to identify potential Project effects to marine mammals, including SRKW, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the marine mammals assessment will be defined during the development of the Application Information Requirements (AIR) during the Process Planning Phase in collaboration with Indigenous nations, technical advisors, and public stakeholders.
EE-60	What will the disruption to traffic or wildlife be and what is the length of the disruption?	Early Engagement	The environmental assessment process for the Project would seek to understand the nature and scope of potential impacts to both marine traffic and wildlife.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-61	How long does it take to sink one tunnel element? What studies have already been conducted for this project?	Early Engagement	Our estimate is approximately 48-hours to immerse a tunnel element. Existing conditions studies are underway this year (2022). Fish and fish habitat is underway now, including a targeted study on Eulachon.
EE-62	Nation has concerns related to fish and fish habitat.	Early Engagement	Potential effects to fish and fish habitat, including both avoidance and physiological effects, will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat in the EAC Application. We look forward to continuing to work with the Nation on this topic.
EE-63	Nation will require capacity funding to support engagement on this project. Acknowledge that a draft offer was received.	Early Engagement	The Proponent looks forward to concluding the capacity funding agreement and will continue to support engagement.
SḰÁUTW (Tsawout First Nation)			
EE-65	Concern about potential Project impacts on SḰÁUTW̱'s traditional trading routes and marine environment.	Early Engagement (EAO's Summary of Engagement)	The Proponent looks forward to working with SḰÁUTW̱ to learn more about concerns regarding impacts to traditional trading routes and marine environment.
EE-66	Concerns that Project may impact SḰÁUTW̱'s traditional marine use area which is protected under SḰÁUTW̱ marine law	Early Engagement (EAO's Summary of Engagement)	The Proponent looks forward to discussions with SḰÁUTW̱ about potential impacts on traditional marine use area.
sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation)			
EE-67	Concern temporary moorage site location will interfere with a fish trap that TFN is currently building along the shore of Steveston Island.	Early Engagement	The temporary moorage site will be located upstream from the location of TFN's fish trap that is being built. All in-river construction relating to temporary moorage site would occur within the least-risk-to-fish window.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-68	Concern with the Project's impact, combined with other ongoing projects, on the Fraser River.	Early Engagement	A cumulative effects assessment will be included as part of the Environmental Assessment and will be informed by: • Engagement with Indigenous nations • Traditional use information provided by Indigenous nations • Existing conditions studies and other historical and publicly available data • Approved land use plans surrounding the Project • Effects assessments for other existing and reasonably foreseeable future projects that have recently undergone or that are currently undergoing a formal Environmental Assessment process • Review of potential overlapping effects from present and reasonably foreseeable future developments that do not trigger a formal Environmental Assessment • Feedback from regulatory agencies, stakeholders and the public
EE-69	Concern about decommissioning of the Existing Tunnel and it's impact on fish.	Early Engagement	Decommissioning the existing George Massey Tunnel is part of the Project, and therefore, the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.
EE-70	Prefer construction of piers/infrastructure in Deas Slough be on land rather than in-water.	Early Engagement	The length of the new Deas Slough Crossing will be too great to effectively construct a clear span structure, which would be cost prohibitive for a crossing of this size; however, the Project is evaluating opportunities to minimize construction impacts in Deas Slough.
PE-101	We note in general there are many typos and grammatical errors in this document. Pages should be numbered (Column B prompts for them). Lines should be numbered (Column C prompts for them). We appreciate the opportunity to review a draft of the IPD ahead of submission to the EAO, but we find this document to be rough and incomplete. It needs much work before if will satisfy its intended purpose. Please proof the material carefully and correct these errors and gaps in the next iteration of the IPD.	Pre-Early Engagement (IPD)	Comment noted. The IPD has been reviewed and updated with input from technical disciplines

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-102	Figures needed. The absence of any project figures in the IPD is odd. It is very difficult to envision the myriad of temporary and permanent infrastructure without figures. Some preliminary drawings should have been included. We trust that the next iteration of the IPD will present such graphics.	Pre-Early Engagement (IPD)	Comment noted. Figures showing project components have been added to the IPD.
PE-103	Ancillary components that are underway: Several ancillary components (e.g., Hwy 99 upgrades, bus lanes, interchange) were bundled with the former EAC. We understand that (some of) those are going ahead separate from the FRTP. As such, although they merit mentioning in the IDP, they should be broken out so they are not confused with project components comprising the one being described in the IPD.	Pre-Early Engagement (IPD)	Comment noted. Text has been added to Section 1.2 of the IPD indicating that the Highway 99 corridor improvements include bus-on-shoulder transit lanes, the widening of the Bridgeport and Highway 17A on- and off-ramps, and the replacement of the Steveston Interchange. While the proposed Project would be undertaken independently from the Highway 99 Tunnel Program improvements and will require a new EAC under the British Columbia Environmental Assessment Act 2018, it is an integral component of the overall Highway 99 Tunnel Program.
PE-104	Section 2.1, Project rationale and benefits - Corridor connection: Need to mention provincial highway network and ferry terminal in first paragraph.	Pre-Early Engagement (IPD)	Comment noted. Section revised to: *"In addition to connecting communities south and north of the Fraser River, the corridor provides a connection to the international transportation gateways of the region's marine port, airport facilities, provincial highway network, Tsawwassen ferry terminal, and land border with the United States of America."*
PE-105	Section 2.2, Project goals, key benefits - Presumably there will be environmental benefits of a bridge--list those? Benefits to TFN (given that the tunnel was identified as the preferred alternative by TFN).	Pre-Early Engagement (IPD)	Section 2.1 and 2.2 of the IPD provides Project rational and benefits. Additionally, Section 3.5 (Alternatives to the Project) provides information on how the tunnel option was selected.
PE-106	Section 3.2, Table 3: Description of Project Activities, Construction Site Access - Construction site access: *"Install a piled temporary access trestle one across* Deas *Slough"* We don't have a clue what "trestle one" is.	Pre-Early Engagement (IPD)	Typo corrected. Revised to: *"Temporary access trestle: Install a piled temporary access trestle* across *Deas Slough."*
PE-107	Section 3.5, Alternative Means of Carrying out the Project - We could not evaluate this section as it is blank.	Pre-Early Engagement (IPD)	Comment noted. Alternative means of carrying out the Project have been added to Section 3.6 the IPD. This includes discussion of design and siting constraints, alternative crossing configurations, casting basin alternatives, and alternatives for dredge disposal.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-108	"*…However, during the operation phase of the Project, underwater noise levels will likely be similar to existing levels.*" Given the new immersed tube tunnel (ITT) will be eight lanes, double the number of traffic lanes of the Existing Tunnel, it seems there would likely be increased noise due to traffic movement. The IPD mentions the existing underwater noise conditions will be studied and underwater acoustic modelling may be used. We recommend that the Proponent be prepared to undertake extensive consideration, modelling and study (of existing conditions and during operation post construction) investigate underwater noise effects during operation (as well as construction). These details need not be presented in the IPD.	Pre-Early Engagement (IPD)	Based on the comment we understand that the Tsawwassen First Nation is concerned about the potential effects of underwater noise from an increase in vehicle traffic in the tunnel during operations. Although not explicitly stated within the comment, we assume effects to marine mammals and fish are of concern, however if additional resources should be considered please let us know. Ambient/existing underwater noise levels near the Existing Tunnel were recorded in 2014 by JASCO Applied Sciences in support of the previous EAC Application. That data is still relevant for the characterization of existing underwater noise levels, particularly because it captures pre-pandemic vehicle and vessel traffic levels. Therefore, no additional field studies to characterize and monitor existing underwater noise levels are proposed. The 2014 data can also be used to determine how an increase in the traffic volumes from 2014 levels to proposed operational traffic volumes may increase underwater noise levels. This information can then be incorporated into underwater noise modelling that considers relevant behavioural and injury thresholds for marine mammals and fish to characterize potential effects. The need for or requirement to monitor underwater noise during operations will be considered during the development of mitigation measures and in consultation with Tsawwassen First Nation. Underwater noise modelling will be conducted for the proposed Project by JASCO Applied Sciences and will consider construction activities as well as operational aspects associated with increases in vehicle traffic volumes (as outlined above). A detailed underwater noise modelling plan will be part of the baseline work plans that are currently in development. We look forward to working with the Tsawwassen First Nation on the underwater noise modelling plan so we can capture the construction and operational scenarios that concerns them. The IPD has been updated to incorporate these concerns and outline the plan for underwater noise effects more clearly.
PE-109	"*...which consists mainly of grassy areas* adjacent *to Highway 99.*" A notable amount of forested area will be lost also. Again, avoid getting into too much detail here in the IPD where you are more than likely to generate inconsistencies and draw unnecessary criticism.	Pre-Early Engagement (IPD)	Comment noted. Section 8.2.1 (Vegetation and Terrestrial Ecosystems) of the IPD has been updated to provide an overview of existing conditions.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-110	Section 8.3, Biophysical Environment Conditions - This section lacks any local, regional, or provincial context. Need to add information on the biophysical setting, including things like Ecoregional and Biogeoclimatic classifications. Also, considering that there is a Physical Environmental Conditions section, it is redundant to use the word Biophysical as that is intended to address both biological and physical matters. Section 8.3 presents only biological conditions. Consider harmonizing 8.2 and 8.3.	Pre-Early Engagement (IPD)	Comment noted. Biogeoclimatic classification and ecoregion classification added in Section 8.2.1 (Vegetation and Terrestrial Ecosystem) of the IPD. Additionally, the biophysical heading has been updated to "Biological Environment Conditions."
PE-111	*"The Fraser River, Deas Slough and Green Slough support fish communities that include all five species of five Pacific Salmon – chinook (Oncorhynchus* tshawytscha*), chum (Oncorhynchus keta), coho (Oncorhynchus kisutch), pink (Oncorhynchus gorbuscha), sockeye (Oncorhynchus nerka), as well as white sturgeon (Acipenser transmontanus) and Eulachon (Thaleichthys pacificus). According to the BC Ministry of Environment (Ministry of Environment, 2021) Fish Inventories Data Queries there are 58 species of fish in the Fraser River, one crayfish and one mollusc. The Fraser River is a significant salmonid-bearing system and migration route . Anadromous fish use the South Arm of the lower Fraser River for adult migration in the fall and downstream juvenile migration and rearing in the spring to midsummer. Man-made ditches in and around the Project alignment are typically located upland of flood control infrastructure, limiting access to the Fraser River, and therefore have lower fish and aquatic habitat values."* The statement regarding adult migration timing isn't accurate. Anadromous fish use the South Arm of the lower Fraser River for adult migration in early summer as well. Chinook start entering in May and some early Sockeye runs begin entering in June. It is recommended that details such as these be presented later in the environmental assessment process (i.e., they do not need to be presented in the IPD). Also, the statement regarding man-made ditches is a very general statement and we would appreciate more specifics as it relates to the GMC project area. This information doesn't need to be included in the IPD (i.e., it can come later) except perhaps to say that off channel fish habitat that could be affected by the project needs to be assessed.	Pre-Early Engagement (IPD)	Comment noted. Section 8.2.3 (Fish and Fish Habitat) of the IPD has been updated. Specifics of timing of various salmonid species has been removed. The following text relating to man-made ditches has been added to Section 8.2.3: "*Where accessible, upland tributaries with higher quality habitat values may also provide juvenile salmonid rearing habitat. Upland tributaries potentially impacted by the Project are primarily man-made ditches. These are typically located upland of flood-control infrastructure, limiting access to the Fraser River, and therefore have lower fish and aquatic habitat values.*"

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-112	*"The Project is anticipated to result in a loss of fish habitat within the Fraser River and Deas Slough in areas that overlap* the *Project footprint; however, removal of the Existing Tunnel and the existing Deas Slough Bridge, and aquatic habitat creation is expected to offset this loss."* It is too early in the process to begin speculating about habitat loss and offsets. We suggest that you steer clear of such assertions and simply state that impacts will be assessed and mitigated in accordance with regulatory requirements and in consultation with Indigenous Nations.	Pre-Early Engagement (IPD)	Comment noted. The text in the IPD has been edited to soften the language around habitat loss and offset as suggested, but still acknowledging temporary and permanent loss may occur from the Project footprint. It has been clarified that Project effects will be assessed, mitigated and offset as required in accordance with regulatory requirements and in consultation with Indigenous nations.
PE-113	Section 8.3.2 Terrestrial Wildlife - Again, a problem of getting into specifics but in an incomplete way that generates unnecessary commentary at this stage. A more structured approach to higher-level taxa that will be covered is needed (i.e., arthropods/invertebrates, amphibians, reptiles, birds, mammals). At some point you will need to include semi-aquatic mammals like muskrat, beaver, mink, river otter, etc. Need to address bats (especially in light of the large maternal colony nearby) (these could be mentioned in the IPD). There is no mention of reptiles or amphibians.	Pre-Early Engagement (IPD)	Comment noted. Section 8.2.2 (Wildlife and Wildlife Habitat) has been updated. It gives a high-level description of the taxa that may be present in the general Project area (songbirds, raptors, amphibians, small mammals, large mammals), and wildlife species at risk with potential to interact with the Project. The bat maternity colony is discussed, and river otter surveys are proposed as part of existing conditions studies.
PE-114	Section 8.3.4 Marine Mammals - Mention is made of several species being present year-round. This is incorrect. Harbour seals are year-round residents, but Steller and California sea lions are seasonal. Clarify.	Pre-Early Engagement (IPD)	Comment noted. Section 8.2.4 (Marine Mammals) has been updated, including clarification that harbour seals are present year around, and Steller (Eumetopias jubatus) and California (Zalophus californicanus) sea lions have been documented hauling out at the mouth of the Fraser River, and likely follow prey species up the Fraser River but are not anticipated to be present near the Project footprint in large numbers.
PE-115	Section 9 Indigenous interests, Table 7 - Add Tsawwassen Territory to the 'Location Details' and be prepared to address the specific Treaty rights to resources within that Territory.	Pre-Early Engagement (IPD)	Comment noted and incorporated.
PE-116	Section 9.2 Summary of Preliminary IG Engagement Activities, Table 8 - Omission of Table 8: Issues Raised During Preliminary Engagement on the Project (September 2021 to present) A fulsome review of the draft IPD cannot be completed when relevant sections such as 'Issues Raised During Preliminary Engagement on the Project' with Indigenous Groups is not yet available.	Pre-Early Engagement (IPD)	Comment noted. Table 9.2.1-1 has been added to the IPD.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-117	Section 9.4 Current Use of Lands and Resources for Traditional Purposes - This section needs to be expanded to include the exercise of Treaty rights by TFN citizens. Note that while such uses my conform to the definition of traditional use, the Treaty right is prescriptive and does not rely on any demonstration or confirmation of traditional use. That said, TFN may be interested in opportunities to better-document the ability of the project area to sustain the Treaty rights of TFN citizens.	Pre-Early Engagement (IPD)	Comment noted.
PE-118	The version of the Engagement Plan (Nov 2021) we reviewed is acknowledged to be a draft of what is deemed a 'living document'. The current draft is incomplete as noted in some sections where information is in preparation (e.g., Table 3 Indigenous Groups Preliminary Engagement Timeline August to December 2021). This is not problematic as the necessary information will be added in due course. The information that is presented is done so in a clear and organized manner and is consistent with our understanding of how early engagement has proceeded since August 2021 and how it will proceed in the near future. The EP provides for the flexibility to address the concerns of Indigenous communities (e.g., the holding of community meetings), should they be requested. The ability to hold such meetings may be in doubt for at least the near-future due to concerns with COVID-19. This could pose challenges that require novel solutions. We recommend that the EP allow for Indigenous Groups to provide feedback on how well engagement, such as that at the community level, is proceeding in light of any barriers that may be imposed by considerations such as (i) the COVID-19 pandemic, (ii) time availability and 'consultation fatigue' resulting from the numerous projects currently seeking to engage TFN Government and its citizens [including, but not limited to, during a pandemic], or (iii) other matters that may arise. While we trust that TI Corp, in consultation with Indigenous groups such as TFN, is prepared to pivot and adjust its engagement protocols and procedures with a view to ensuring adequate and proper engagement, it would be prudent to anticipate that not every element of engagement (e.g., in the traditional sense of community meetings) can be replaced fully by alternate (e.g., virtual) means. In this regard, it will be important to ensure that TFN Government staff are not put in the position of receiving criticism from community members insofar as engagement in the project's environmental assessment process or associated decisions are concerned. Beyond that, creative solutions may be required to ensure that sufficient engagement can and does occur and that decisions are communicated. It may be appropriate for the EP to explicitly address this matter in the EP.	Pre-Early Engagement (EP)	Section 4.6 Planned Indigenous Engagement Activities revised to: *“Seek feedback from Indigenous nations regarding adapting current and proposed engagement tools and methods to best suit their needs.”*

Comment ID	Summary of Issues Raised	Engagement Phase	Response
EE-71	The project is proposed to take place in Tsawwassen Territory as defined under the Tsawwassen First Nation Final Agreement (“Treaty”). Tsawwassen First Nation has indicated that B.C., as a Treaty Partner, is aware of Tsawwassen First Nation’s interests and how they could interact with the Project.	Early Engagement (EAO’s Summary of Engagement)	The Proponent confirms they are aware of Tsawwassen's Treaty rights and looks forward to continued dialogue to ensure your interests are reflected in the Project.
SƛÁUTW̱ (Tsawout First Nation)			
EE-72	Concern about potential project impacts on SƛÁUTW̱’s traditional trading routes and marine environment.	Early Engagement (EAO’s Summary of Engagement)	The Proponent looks forward to working with SƛÁUTW̱ to learn more about your concerns regarding impacts to traditional trading routes and marine environment.
EE-73	Concerns that project may impact SƛÁUTW̱’s traditional marine use area which is protected under SƛÁUTW̱ marine law	Early Engagement (EAO’s Summary of Engagement)	The Proponent looks forward to discussions with SƛÁUTW̱ about potential impacts on your traditional marine use area.
səlilwətaɬ (Tsleil-Waututh Nation)			
EE-74	TWN has developed their own CEMP guidelines and noted the Project team should work to understand and include these as a starting point.	Early Engagement	The Proponent looks forward to receiving TWN’s CEMP guidelines. They will be very helpful to inform our work on mitigations and management plans.
EE-75	Preference to receive at least four weeks’ notice for scheduling meetings.	Early Engagement	The Proponent is committed to working with TWN and will request meetings with sufficient notice, as requested.
Ts’uubaa-asatx			
PE-119	Main concerns surround fish and fish habitat, wildlife and wildlife habitat, and archaeology.	Pre-Early Engagement	In response to feedback from Indigenous Nations, eDNA surveys for Eulachon to delineate timing of early runs near the existing George Massey Tunnel have been completed. Building on the results of this study the Proponent has planned additional Eulachon specific studies for late 2022/early 2023. The Proponent is looking forward to continuing to work with Ts’uubaa-asatx to learn more about your concerns surrounding fish and fish habitat, wildlife and wildlife habitat, and archaeology.
PE-120	Opportunities for training and employment always come far too late in the process, need to provide information on these opportunities early to allow Nations to act upon them.	Pre-Early Engagement	The Proponent is committed to developing a thorough understanding of how we can best support Ts’uubaa-asatx to ensure you are able to engage on the Project.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-121	No formal response for was provided regarding abandonment of the bridge replacement proposal. Ts'uubaa-asatx agreed to go forward with bridge and was consulted during the process but not about it's abandonment. Mayor's Council's interests should not be more influential than those of Indigenous Groups,	Pre-Early Engagement	The Proponent has engaged with Indigenous nations on crossing options, including a tunnel crossing, as part of previous iterations of the Project from February 2019 up to the announcement in August 2021. Engagement with Indigenous nations during previous iterations of the Project included a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous nations' participation, information sharing, and meetings in-person and virtually. This engagement informed the Ministry's consideration of crossing options and decision on an Immersed Tube Tunnel. The Proponent is engaging local governments in Metro Vancouver, and federal and provincial government agencies, as well as Indigenous nations. Upholding the commitment of the Province to reconcile with Indigenous nations, the Ministry has developed its Indigenous engagement approach based on the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples, the Government Consultation Bulletin on Consulting During the COVID-19 Emergency, and the Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c. 44 (2019) (Declaration Act). Through the Declaration Act the Province formally adopted the internationally recognized standards of the United Nations Declaration on the Rights of Indigenous Peoples.
EE-76	Concerned regarding the impact dredging will have on white sturgeon and Eulachon.	Early Engagement	Effects related to dredging will be assessed during the environmental assessment and in permitting. Eulachon and Sturgeon have been identified as important species for the Project and advance Indigenous led studies are being undertaken to assess use of the Project area by these species. These species are also proposed to be included as subcomponents within he Fish and Fish habitat Valued Component.
EE-77	The project area should be acknowledged as the Hulquminum Treaty Group's core area which extends to the south arm of the Fraser River.	Early Engagement	Comment noted. The DPD acknowledges that the proposed Project is located in the Hul'qumi'num Treaty Group traditional territory.
	Deas Island was pre-empted so the Project should anticipate that there will be a greater indigenous footprint than expected on both sides of the River.	Early Engagement	Thank you for sharing this information with us. The Proponent will explore this further to better understand it's impacts to Deas Island and impacts to the Project as a whole.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-122	Section 3.2, Construction, Operations and Decommissioning Phase Activities, Table 3 - Tunnel Element Tow Channel: Ts'uubaa-asatx raised concerns about risk to white sturgeon. Often there is more consideration given to salmon, with little attention on Eulachon and sturgeon. Ts'uubaa-asatx is concerned with impacts to fish habitat. PBR has committed funds to protection of fish habitat. Ts'uubaa-asatx wants these funds to be used appropriately (i.e., not just on consultants). What works will these funds be used for? Conditions that address how data will be used, whether or not there will be adaptive management. White sturgeon is still the priority species.	Pre-Early Engagement (IPD)	Since early 2021 the Ministry has been working with Indigenous nations on studies related to Eulachon and Sturgeon. In addition, on February 7, 2022, the Ministry shared with Ts'uubass-asatx a Preliminary Draft List of Existing Conditions Studies which identified Fish and Fish Habitat as an area to be studied. Ts'uubaa-asatx feedback will inform the development of the Detailed Project Description.
PE-123	Section 3.2, Construction, Operations and Decommissioning Phase Activities, Table 3 - Flood Protection: Ts'uubaa-asatx will have comments on this as Province is not up to date on current dike standards. Current best management practices need to be adhered to – we will be looking to hold the Province to these higher standards.	Pre-Early Engagement (IPD)	The Ministry looks forward to these discussions.
PE-124	*"All in-river construction activities will be completed during the established Fisheries and Oceans Canada Least Risk Window (June 15 through February 28) for in-water works for the Project site (Department of Fisheries and Oceans Canada, 2021)"* Is this just a salmon least risk window? What about other species, notably Eulachon and sturgeon?	Pre-Early Engagement (IPD)	The least risk to fish window includes many fish species. The Project will follow up with a detailed list.
PE-125	Section 4.1, Air and Dust Emissions - Ts'uubaa-asatx requested an "Air Quality 101" refresher	Pre-Early Engagement (IPD)	The Proponent will arrange a technical briefing on Air Quality.
PE-126	Section 4.3, Stormwater Runoff - Ts'uubaa-asatx would like the Project to consider positive ways to use stormwater runoff such as bioswales. This could lead to potential side channel restoration on the decommissioned tunnel.	Pre-Early Engagement (IPD)	The Proponent will consider this input.
PE-127	Section 4.4, Dredged Material and Excavated Soils - Ts'uubaa-asatx expressed interest in the use of dredged materials as a way to rebuild biofilm/biomat between the two causeways (BC Ferries and Roberts Bank). Silica is necessary for biolfilm and biomat. Province owns causeway that is blocking sediment from settling between the two causeways.	Pre-Early Engagement (IPD)	The Proponent will consider this input.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-128	Section 8.2.1, Air Quality - Ts'uubaa-asatx requested an "Air Quality 101" refresher	Pre-Early Engagement (IPD)	The Proponent will arrange a technical briefing on Air Quality.
PE-129	Section 8.2.3, Underwater Noise - Ts'uubaa-asatx is concerned about low-frequency noise and seeks clarification of whether the tunnel in operation would contribute to underwater noise.	Pre-Early Engagement (IPD)	Comment noted. The Marine Mammals study identified in the Draft List of Existing Conditions Studies shared with T'FN on February 7, 2022, includes underwater noise modelling. The environmental assessment process addresses mitigation measures in later phases such as during Project Effects Assessment.
PE-130	Section 8.3.3, Fish and Aquatic Habitat - Ts'uubaa-asatx asks that the Proponent consider how this aligns with itheir advocacy policy.	Pre-Early Engagement (IPD)	Comment noted.
PE-131	Section 8.4, Economic Conditions - How can we be certain that the project will actually benefit the region? What evidence can the Proponent bring to the table? How will this project benefit the people of the region? Desire to see the Crown reaching out to those who are without shelter, given the high cost of living. Community wellness index. What is the community wellness index for the lower mainland, and how will the Crown engage underserved communities? Desire to see this articulated in early stages of the project. Many of the underserved in lower mainland are urban Indigenous. How does the project impact socio-economic conditions?	Pre-Early Engagement (IPD)	The IPD provides an initial project description. For more information on Project benefits and environmental considerations, please refer to the Provincial Project website and Project Business Case.
PE-132	Section 8.9, Accidents and Malfunctions - Ts'uubaa-asatx will consider how this aligns with its policy	Pre-Early Engagement (IPD)	Comment noted.
PE-133	Section 9, Indigenous Nations Interests, Table 7 - Ts'uubaa-asatx does not agree with this table. It is colonially driven and not related to First Nations interests.	Pre-Early Engagement (IPD)	Comment noted. Table 9-1 is informed by the introduction to Section 9 that states: "*The Ministry has a legal duty to consult, and where appropriate accommodate, in situations where the Crown has knowledge of an asserted or established Aboriginal or treaty right and where a proposed decision may adversely impact that asserted or established right. Both asserted and defined Indigenous rights, including treaty rights and fishing rights, are known to overlap or lie in the vicinity of the Project area*."
PE-134	Section 9, Indigenous Nations Interests, Table 7 - Location details Could we identify the Hul'qumi'num Treaty Group core area? Check the BC Treaty Process on how core area is established.	Pre-Early Engagement (IPD)	Comment noted. The EAO process for the opportunity for Indigenous nations to identify their interests in the Project.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-135	Section 9.1, Indigenous Engagement to Date - The list of Indigenous Groups that the Ministry had met directly, or scheduled meetings with, as of November 2021, should be presented alphabetically.	Pre-Early Engagement (IPD)	Comment noted and incorporated.
PE-136	Section 9.2, Summary of Preliminary Engagement Activities – Interests and Issues Identified by Indigenous nations - All engagement is based on establishing relationships between proponents and Crown. This is the underlying theme, long-term meaningful relationships between the Crown and FN.	Pre-Early Engagement (IPD)	Comment noted. The Ministry shares the goal of developing long-term meaningful relationships between the Crown and First Nations.
PE-137	*"Both asserted and defined Indigenous Rights, including title and treaty rights are known to overlap or lie in the vicinity of the Project Area. In addition, there are two Indigenous communities that lie within a 20-kilometre radius of the Project Area: Tsawwassen First Nation and Musqueam Indian Band."* The comment that there are only two indigenous communities proximal to the project is misleading. In addition to these two First Nation communities designated Reserve lands, the Hul'qumi'num' Treaty Group core boundary includes the south arm of the Fraser River up to and around Douglas Island. There are many indigenous historical sites, archaeological sites and known cultural sites..." The HTG is comprised of... 5 Nations; and formerly included Stz'uminus... add registered members, etc, similar to Tsawwassen and Musqueam profile"	Pre-Early Engagement (EP)	Revised to: *"Land use in the area is governed by local governments, in collaboration with other Indigenous communities. There are two Indigenous communities with reserve lands within a 20-kilometre radius of the Project Area: Tsawwassen First Nation and Musqueam Indian Band."*
PE-138	Section 3 Proximity to Communities - If we are going to reference TFN and MIB, we need to also include HTG boundaries/area. Adding comments in the Zoom chat to be incorporated here. "In addition HTG communities….reserve lands"	Pre-Early Engagement (EP)	This section speaks to the geographic proximity to Indian reserves and Treaty lands. Ts'uubaa-asatx's asserted territorial boundaries is included in the Project overview and Indigenous Engagement sections of the Engagement Plan.
PE-139	Section 4 Environmental Assessment Process - Consider adding dates to the table	Pre-Early Engagement (EP)	Comment noted. The anticipated timeline for each phase of the environmental assessment process has been added to Table 1.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-140	*"**Inclusivity**: The Ministry will take a Gender-based Analysis + (GBA+) approach to the development and implementation of engagement programs and activities."* How will we do GBA+? What would this approach look like for ITT? How is this going to addressed in the environmental assessment? I need to understand what the EAO is thinking in terms of expectations of the Proponent on Inclusivity, GBA approach. We do not allow the Proponent or their consultants into the community. They do not have the tools, or life experience to understand life on Reserve, under the shadow of residential schools to interpret our community response.	Pre-Early Engagement (EP)	"Inclusivity" is identified in Section 3 as one of the "principles for the engagement program." Section 3.2 also states: "The Ministry also identified under-represented minority and marginalized groups, including groups representing the elderly, people with disabilities, immigrants, and individuals identifying as LGBTQIA2S+ for Early Engagement and for Project engagement generally." The Proponent will respectfully engage with the Ts'uubaa-asatx in accordance with their protocols on community access.
PE-141	*"Furthermore, in consideration of demographics in the Metro Vancouver area, Project materials will be translated in simplified Chinese, traditional Chinese, Tagalog, and Punjabi."* Will it also be available in French?	Pre-Early Engagement (EP)	The B.C. Francophone Affairs Program supports programs and services in French for approximately 70,000 Francophones and 300,000 Francophiles in B.C. to ensure BC's French-speaking community has access to information it needs. If needed in the environmental assessment process The Proponent will work with this program to meet French language needs.
PE-142	*"Written input and feedback from Indigenous groups, the public, government, and other stakeholders is recorded in engagement logs. These logs serve as a record of communications between the Ministry and Indigenous groups and stakeholders."* Add a reference to note that Indigenous Engagement is currently held virtually, as per the preceding paragraph.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-143	*"Ts'uubaa-asatx – Operations Manager, Referrals Consultant"* Remove Operations Manager. Keep Referrals Consultant and add Councillor	Pre-Early Engagement (EP)	Comment noted and incorporated. The Proponent also acknowledges that Ts'uubaa-asatx requires project referrals to be submitted through a third-party online portal.
PE-144	*"In the summer, there were revelations from Tk'emlúps te Secwépemc about the Kamloops Indian residential school"* Add a note that there are discoveries ongoing, and others have occurred in addition to Kamloops.	Pre-Early Engagement (EP)	Revised to: *"In the summer, there were revelations from a number of Indigenous* communities *in BC related to residential school investigations and discoveries, including Tk'emlúps te Secwépemc about the Kamloops Indian residential school and Penelakut Tribe about the Kuper Island Residential School."*
PE-145	Section 6.1 Indigenous Engagement to Date - Arrange the list of Indigenous Groups, to which the Ministry has referred the Project, alphabetically	Pre-Early Engagement (EP)	Comment noted and incorporated.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
PE-146	Section 6.1 Indigenous Engagement to Date - Arrange the list of Indigenous Groups, which the Ministry has met directly or scheduled meetings as of November 2021, alphabetically.	Pre-Early Engagement (EP)	Comment noted and incorporated.
PE-147	Review comments provided on IPD and apply comments to similar/like sections in the Engagement Plan	Pre-Early Engagement (EP)	Comment noted and incorporated.

DPD = Detailed Project Description; EAO = Environmental Assessment Office; GBA+ = gender-based analysis plus; GMC = George Massey Tunnel Crossing; GMTRP = George Massey Tunnel Replacement Project; IPD = Initial Project Description; ITT = immersed tube tunnel; LSA = local study area; MIB = Musqueam Indian Band; the Ministry = British Columbia Ministry of Transportation and Infrastructure; PRRO = People of the River Referrals Office; SFN = Snuneymuxw First Nation; STSA = S’ólh Temexw Stewardship Alliance; TFN = Tsawwassen First Nation; VC = valued component; WMA = wildlife management area.

ATTACHMENT 4B: SUMMARY OF ISSUES TABLES - DPD

Table A4B-1: Detailed list of issues raised by Indigenous nations from October 2022 until November 2022

Comment ID	Summary of Issues Raised	Engagement Phase	Response
xʷməθkʷəy̓ əm (Musqueam Indian Band) *Musqueam requests a notation that the Nation did not have an opportunity to review the Proponent responses in Attachment 4B prior to their submission with the final Detailed Project Description.*			
DPD-MIB-001	While changes to language to reflect Musqueam territory accurately are highly appreciated, the language as written does not seem grammatically correct. Suggestion to change to "The Project occurs within Tsawwassen First Nation Territory as defined in the Tsawwassen First Nation Final Agreement and within Musqueam Indian Band's core Territory," and acknowledgement of fishing rights can be included later.	Detailed Project Description	Thank you, the DPD has been edited for clarity to read "The Project occurs within Tsawwassen First Nation Territory as defined in the Tsawwassen First Nation Final Agreement and within Musqueam Indian Band's core Territory."
DPD-MIB-002	*"The Project is also located within the traditional territories or Treaty title area (as applicable) of the following Indigenous nations […]"* Suggest "or near" for accuracy.	Detailed Project Description	Thank you, the suggested edit has been made to Section 5.1 of the DPD as follows: "The Project is also located within or near the traditional territories or Treaty title area (as applicable) of the following Indigenous nations […]" Section 8.1 of the DPD has also been revised as follows: "The Project also occurs within or near the traditional territories of several Indigenous nations"
DPD-MIB-003	*"Up to four material offloading facilities are anticipated along the shore of the Fraser River within the Project area […] When not used for material handling, these jetties will be used to moor tunnel elements while they are outfitted just prior to immersion."* Have locations for the material offloading facilities been proposed at this time? The locations will need to be discussed closely with Musqueam so as to minimize potential impediments on Musqueam transits and fishing activity in the project vicinity.	Detailed Project Description	The locations of the material offloading facilities have been proposed and are reflected in Figure 5.2-1 Project Footprint and Components. The Project team looks forward to discussing these locations with Musqueam.
DPD-MIB-004	Why does the project footprint extend significantly up the foreshore on the west side of Deas Island? What activities are anticipated to occur there?	Detailed Project Description	The in-river footprint identified in Figure 5.2-1 extending up the foreshore along Deas Island encompasses the area where marine vessels are anticipated to be staged and transiting during construction and decommissioning.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-005	*"Timing of this work will factor in the established DFO least-risk window (July 16 to February 28). In-river construction activities will be carried out 24 hours a day, 7 days a week."* Are least risk windows still pending results of fish studies? Musqueam requests further discussion about the least-risk window, as it does not account for all species that are present in the Project area. (e.g., early eulachon runs; year-round use of the area by sturgeon).	Detailed Project Description	Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present within the vicinity of the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform project-specific least risk timing windows, which in turn can be used to inform the project construction timelines. Section 5.4 of the DPD has been updated to include the following subsequent bullet points: “In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and Technical Advisors.”
DPD-MIB-006	We request details of decommissioning as they are developed. Musqueam has concerns for river navigation during refloating and isolation period.	Detailed Project Description	TI Corp acknowledges Musqueam's concerns for river navigation during the refloating and isolation period for decommissioning the existing ITT. Details on decommissiong of existing infrastructure will be included in the EAC Application. As these details become available through the EAC Application development phase, the information will be shared with Musqueam. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-MIB-007	*"In-river works will require 24/7 operations."* It will be important to evaluate lighting impacts from works that are proposed to occur outside of daylight hours. Migratory birds are significantly affected by light impacts, and there are bird species whose paths cross this area that have been harvested in the past and present by Musqueam.	Detailed Project Description	A wildlife and wildlife habitat assessment will be completed as part of the EAC Application. The EAC Application will assess how changes in Project lighting may effect wildlife and wildlife habitat, including marine birds. The scope of the Wildlife and Wildlife Habitat Assessment will be refined during development of the Application Information Requirements (AIR) in collaboration with Indigenous nations and the Technical Advisory Committee (TAC) during the Process Planning Phase of the EA, and during preparation of the EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-008	*"At the Project's announcement in August 2021, Tsawwassen First Nation leadership was represented […]"* Please reference Musqueam leadership's attendance at this event as well.	Detailed Project Description	Section 5.6 of the DPD has been updated to include the following text: "At the Project's announcement in August 2021, both Tsawwassen First Nation leadership and Musqueam leadership were represented and spoke in favour of working with the Proponent towards a solution for replacing the Existing Tunnel."
DPD-MIB-009	*"Based on input received through consultation with Indigenous nations, influenced to a large extent by Indigenous knowledge* ***and use (MIB 2022)****, the site directly upstream of Shady Island (Steveston Debris Wall) is currently being proposed as the preferred option."* While this location has so far shown comparatively the least disruption, it is important to note that temporary moorage in this location will still have fairly significant impacts on Musqueam fishing and vessel transit. Further engagement is required to continue assessing the feasibility of this option.	Detailed Project Description	Section 5.7 of the DPD has been updated to describe the alternative means analysis undertaken for the location of the temporary moorage site facility including the environmental, social, cultural, and health parameters that were considered. The following text has been added to Table 5.7-1: "Based on input received through consultation with Indigenous nations, influenced by Indigenous knowledge and use (MIB 2022), Steveston Debris Wall was identified as preferred location with least effect to Indigenous fishing and vessel transit". The Proponent is committed to continued dialogue and engagement with Musqueam to assess the feasibility of this location for temporary moorage of the tunnel elements. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the alternatives analysis undertaken for the location of the temporary moorage site facility will be further defined within the Project EAC Application.
DPD-MIB-010	*"No known existing seasonal or temporary residences (such as temporary residences to support land- and marine-based harvesting activities or housing of seasonal farmworkers) are located in the vicinity of the Project."* This description is not entirely accurate and is missing important context (i.e., the conditions that led to this area not being used as extensively as in the past). If the sentence is included, please change "existing" to "current" and note that Indigenous use has been severely impeded by industrialization in the Project Area in recent decades. Even so, as recently as during the past decade, Musqueam has used parts of the project area for overnight camping and harvesting.	Detailed Project Description	The referenced text from Section 7.4 (previously Section 7.3) has been removed, and we have updated Section 7.2 (Past and Present Land and Water Use) with the following text: "Potential for current use by Indigenous nations in the Project area include seasonal or temporary residences to support land and marine-based harvesting activities within an increasingly industrialized environment. As recently as within the past decade, the Musqueam has used parts of the Project area for overnight camping and harvesting. Current existing conditions in the lower Fraser River are a reflection of changes and adaptations to pre-industrial environmental conditions, with Indigenous use being affected by industrialization in the Project Area

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-011	How will sections of land designated for conversation or recreation be accounted for in project offsetting? Requesting further discussion.	Detailed Project Description	A Land and Resource Use and Marine Use Assessments will be completed as part of the EAC Application to identify potential project effects, including potential effects on land designated for conservation and recreation. Where residual effects are identified, the Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders to identify mitigation measures during the Application Development Phase of the environmental assessment. As identified in Section 10.6 of the DPD, these may include measures to avoid, minimize, restore and/or offset potential effects.
DPD-MIB-012	Please include the sizes of parcels.	Detailed Project Description	Table 7.3-1 in the DPD provides types of land use designations and total areas for each land use designation overlapping the Poject footprint. Additional details for these parcels will be provided as part of the Environmental Assessment Application based on advancement of engineering design concepts and layout of the Project footprint.
DPD-MIB-013	Suggest starting this section with paragraph three to recognize the extensive history of this area rather than the past 20 years. Request to change "Portions of the Project footprint" to "The Project footprint".	Detailed Project Description	Section 7.4, Paragraph 3 of the DPD has been moved up as the first paragraph within the section, recognizing the extensive history of the area. The first sentence of the paragraph will be revised from "Portions of the Project footprint" to "The Project footprint".
DPD-MIB-014	Musqueam is following up internally to determine if there are Musqueam plans that should be added to this section.	Detailed Project Description	TI Corp looks forward to receiving information on Musqueam plans. Indigenous plans relevant to the Project and communities will be further identified through engagement with Indigenous nations during Process Planning, Application Preparation and Review phases. These plans will be reviewed and considered within existing conditions studies and Project effects analysis.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-015	Tunnel traffic may not have increased dramatically since 2014, but there have been notable increases to marine traffic in this time period as a result of other major projects that may impact baseline noise levels. Seeking clarification that the underwater noise measurements collected during the upcoming test dredge program will be used to update the baseline noise levels if there are discrepancies.	Detailed Project Description	Reference is made to Table A3-1 related to the underwater noise measurements during the test dredge program. Underwater noise data that will be collected during the upcoming test dredge program will be measuring dredging-generated noise. That data will be used to support the underwater noise modelling for the dredging work to be conducted during Project construction activities. The measurements will be used to confirm source level noise of the dredge equipment and to validate the propagation of that noise in the river. This information will inform the underwater noise modelling work to predict and assess acoustic levels to be generated during the construction phase of the Project, and to compare with published thresholds for injury and behavioural disturbance for marine mammals and fish.
DPD-MIB-016	In acknowledging the cumulative industrial effects in the project area, Musqueam requests to work closely with the Proponent not only to assess impacts to existing vegetation but also to explore opportunities for restoration to support harvesting and other rights-based activities.	Detailed Project Description	TI Corp will collaborate with Musqueam and other Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase to establish the scope and methodologies for assessing potential effects to existing vegetation resources. During preparation of the EAC Application, TI Corp will continue to collaborate with Musqueam and other Indigenous nations to explore opportunities for restoration to support harvesting and other rights-based activities during the Application Development Phase.
DPD-MIB-017	Musqueam requests further discussion that accounts for cumulative effects of noise levels and turbidity that may result in avoidance or physiological impacts, even if not lethal.	Detailed Project Description	Section 10.1.10 of the DPD has been updated to explain that potential effects to fish and fish habitat, including both avoidance and physiological effects, will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat in the EAC Application. Details of the methods used to conduct the effects assessment will be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during development of the Application Information Requirements (AIR) within the Process Planning Phase of the environmental assessment. We look forward to incorporating this feedback from Musqueam in these areas.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-018	If this project proceeds, will it be subject to the updated Community Benefits Agreement (CBA) that requires Indigenous businesses to enter into a BCIB-Subcontractor agreement?	Detailed Project Description	We certainly believe that this project offers great community benefit opportunities for all types of skilled trades, as well as the training of our next generation of tradespeople. We will have more to say on the types of opportunities soon.
DPD-MIB-019	*"Issues identified from engagement include Indigenous nations' concerns with the effect of noise on fish and fish habitat, the inclusion of distinct Indigenous marine users' protocols, the economic impact of the loss of fish and fish habitat, and consideration of impacts on treaty rights."* Interactions between marine construction and staging activities with rights-based fishing activities and transit should also be mentioned here.	Detailed Project Description	Section 10.3.2 of the DPD has been revised to include interactions between marine construction and staging activities with rights-based fishing activities and transit.
DPD-MIB-020	Musqueam and other First Nations have their own heritage permit requirements that should also be referenced here.	Detailed Project Description	Section 10.4.1 (Archaeological and Heritage Resources), immediately following the bullet which states "Section 18 formally recognized (not protected) heritage places (e.g., Tashme Internment Camp, Todd Inlet, and Vancouver Chinatown)", add a new paragraph that states: "Many BC Indigenous nations have developed their own heritage policies and permitting systems. Of specific reference to FRTP, the Musqueam Indian Band, Kwantlen First Nation, Stó:lō Research and Resource Management Centre, and Tsleil-Waututh Nation currently maintain heritage policies and heritage permitting systems. The Proponent's Heritage Team has applied for and received First Nation Heritage permits from: xʷməθkʷəy̓əm (Musqueam), səlilwətaɬ (Tsleil-Waututh), sə́yəḿ (Kwantlen), and Stó:lō for the archaeological assessments in support of the EAC Application for the Fraser River Tunnel Project."
DPD-MIB-021	Musqueam requests that modeling and surveys regarding river hydraulics, morphology, and bathymetry are assessed by looking not only at changes that are anticipated pre and post construction, but also further into the future. Assessments should take into account anticipated effects of climate changes and associated geographic alterations.	Detailed Project Description	Thank you for your comment. As described in Section 12 of the DPD, sea level rise is identified as an environmental factor that could lead to envrionmental effects to the new ITT and associated infrastructure. Effects of the Environment on the Project will be assessed as part of the EAC application. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-022	See previous comment. Ensuring that required First Nations Heritage permits are sought and in place is another key mitigation.	Detailed Project Description	Section 10.4.1 (Archaeological and Heritage Resources), immediately following the bullet which states "Section 18 formally recognized (not protected) heritage places (e.g., Tashme Internment Camp, Todd Inlet, and Vancouver Chinatown)", add a new paragraph that states: "Many BC Indigenous nations have developed their own heritage policies and permitting systems. Of specific reference to FRTP, the Musqueam Indian Band, Kwantlen First Nation, Stó:lō Research and Resource Management Centre, and Tsleil-Waututh Nation currently maintain heritage policies and heritage permitting systems. The Proponent's Heritage Team has applied for and received First Nation Heritage permits from: xʷməθkʷəy̓əm (Musqueam), səlilwətaɬ (Tsleil-Waututh), sə́y̓əḿ (Kwantlen), and Stó:lō for the archaeological assessments in support of the EAC Application for the Fraser River Tunnel Project."
DPD-MIB-023	For accuracy: Musqueam undertakes not only commercial harvesting in the Project area, but also Food, Social, and Ceremonial (FSC) fisheries.	Detailed Project Description	Section 10.3.2 of the DPD, Marine Use, has been revised to include the following text: "Marine traffic frequency and volume, navigational aids and regulations, existing navigation conditions, commercial marine transportation, and recreational marine uses, as well as commercial and Indigenous fish harvesting including commercial, and Food Social and Ceremonial (FSC) fisheries and other Indigenous interests including Section 35 rights will also be studied".

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-MIB-024	Request to use pre-industrial/pre-contact period as baseline for evaluation. Where it says that "Indigenous nations have expressed increasing concerns with the cumulative effects of existing and proposed future development on fish and wildlife resources", we request to change to "previous, existing and proposed".	Detailed Project Description	The methodology used in determining baseline conditions is consistent with the EAO guidance document - Effects Assessment policy (EAO 2020), which advises that existing conditions should be described in sufficient detail, to ensure potential project interactions are assessed. These guidelines will be used to determine the scope and methodology to be developed in the Application Information Requirements (AIR) during the Process Planning Phase, and applied during the effects assessment during preparation of the EAC Application. Section 10.7 has been revised to state: “During the Early Engagement Phase, Indigenous nations, technical advisors, and stakeholders expressed various concerns with how the Project would contribute to ongoing cumulative effects considering other previous, current, and reasonably foreseeable developments on natural resources and access to those natural resources within the lower Fraser River”.
DPD-MIB-025	This would be a better area to have the reference to fishing rights in the area, but again, without "asserts". Just as TFN has legally recognized treaty rights in this area, Musqueam has legally recognized fishing rights which was previously stated throughout the DPD.	Detailed Project Description	This reference has been added to Section 13.3.9
DPD-MIB-026	This section should reference Musqueam's extensive past and present use of the project area for fishing, harvesting, and cultural activities.	Detailed Project Description	Thank you for your comment. Section 13.3.9 details Musqueam extenstive past and present use of the area.
DPD-MIB-027	"However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor." It is not possible to say right now that the use of lands and resources will return to existing levels, as the impacts on those resources (e.g., fish) are not known.	Detailed Project Description	Section 10.7 will be revised to state: "Indigenous nations have expressed various concerns with how the Project would contribute to ongoing cumulative effects considering other previous, current, and reasonably foreseeable developments on fish and wildlife resources within the lower Fraser River".
DPD-MIB-028	Musqueam requests to include the following report as an additional data source: Lower Fraser River Juvenile White Sturgeon (Acipenser transmontanus) Habitat Assessment: Final Report (2022). Prepared by LGL for Fraser River Conservation Society and VFPA.	Detailed Project Description	Section 10.1.10 of the DPD has been updated to include the following data source: "The Lower Fraser River Juvenile White Sturgeon (Acipenser transmontanus) Habitat Assessment: Final Report (2022). Prepared by LGL for Fraser River Conservation Society and VFPA."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
Snuneymuxw First Nation			
DPD-SFN-001	Throughout the DPD, some section numbers or table/figure numbers are incorrect or improperly linked in-text. This should be amended for ease of review.	Detailed Project Description	Section numbers, table numbers, and figure numbers have been updated and cross-referenced with linked-in text throughouth the DPD.
DPD-SFN-002	“Additional land requirements outside of the Highway 99 ROW will continue to be developed as the engineering and property requirements for the Project are further defined and will be reflected in subsequent stages of the environmental assessment process…Changes to the Project Footprint made after the DPD has been circulated will be provided to Indigenous nations…through bilateral discussions hosted by the Project team.” (p. 2) For the sake of a fulsome and accurate EA, it is essential that the Project footprint and any land requirements are clearly defined, prior to the completion of the assessment’s scope. This is because the Project footprint and land requirements can alter the context and scope of assessment (including factors such as spatial boundaries in the assessment of VCs).	Detailed Project Description	Section 5.2 of the DPD provides a detailed breakdown of the Project components. Please refer to Table 5.2-1 and Figure 5.2-1 [Project Footprint], which identify the lands associated with both the permanent and temporary works.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-003	"The bridge project was the subject of a number of concerns raised by Metro Vancouver Regional District (Metro Vancouver) communities, specifically that the 10-lane bridge concept and other improvements were too large and complex, had too many lanes, and did not align with Metro Vancouver's regional growth strategy (RGS)… Following the release of the Independent Technical Review, and through a process of analysis and engagement with the Metro Vancouver Mayors' Task Force and Indigenous nations, two crossing options were shortlisted…" (p. 10) The DPD should clearly outline which Indigenous nations were consulted on the Technical Review, the extent of consultation with those nations, and how the results of this consultation informed the decision to choose the eight-lane ITT over the eight-lane bridge. Additionally, SFN notes that they were not engaged or involved in the decision-making surrounding the eight-lane ITT. Therefore the decision to proceed with the ITT is not reflective of SFN's interests, and lacks SFN's free, prior, and informed consent. This should be noted in the DPD for context and acknowledged throughout the Project's assessment.	Detailed Project Description	Comment noted and acknowledge that SFN was not engaged on the George Massey Tunnel business case in 2018. MOTI is committed to engaging in deep consultations on the potential effects of the project on Aboriginal and treaty rights. The EA process provides the opportunity for SFN to participate in the assessment of impacts and mitigation measures related to impacts, including seeking consensus on the draft conditions. We understand that SFN is preparing to conduct an Indigenous-led assessment for the Project and we look forward to supporting this activity and incorporating SFN feedback throughout the Environmental Assessment process. Section 13.3.16 of the DPD has been revised to include: The Proponent acknowledges that Snuneymuxw has shared concerns that they were not involved in the engagement activities outlined in 14.1 as part of the decision making and selection of the ITT tunnel option characterized in the Business Case. It is our view that the EA process is an opportunity to ensure that SFN interests are reflected in the assessment process and seek consensus with the nation throughout the process.
DPD-SFN-004	Under "New ITT" MoTI indicates that timing of the New ITT work will "factor in the established DFO least-risk window" (p. 26). The DFO's least-risk window to fish considers factors related only to fish and fish habitat and to not consider least-risk windows for impacts to Section 35 rights. Snuneymuxw First Nation has a right to fisheries as formerly established by the Treaty of 1854 and affirmed by Section 35 of the Constitution Act 1982. In addition, Snuneymuxw villages, cultivated fields and marine areas are also constitutionally protected. All require a Snuneymuxw-led assessment to determine impacts, infringements, mitigations and accomodations. Further work must be completed with Indigenous nations to refine the least-risk window to ensure in water works for the ITT and any navigation closures to not adversely impact SFN's Section 35 rights, including those rights established in the Treaty of 1854.	Detailed Project Description	Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present within the vicinity of the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform project-specific least risk timing windows, which in turn can be used to inform the project construction timelines. Section 5.4 of the DPD has been updated to include the following information: "In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and technical advisors."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-005	"A number of temporary closures of the river to navigation will be required during the immersion of each tunnel element, anticipated to be on the order of approximately six closures, 48 hours long, however the timing and duration of closures will not be confirmed until the Project has advanced further…" (p. 26) SFN notes that these closures on the Fraser River will create significant impacts to Section 35 rights (including but not limited to: fishing/harvesting rights, accessibility of harvesting and cultural sites, cultural continuity, sense of self and place, etc.). Appropriately mitigating these impacts will be a priority for SFN; MoTI must work with SFN to determine appropriate least-risk timing windows for impacts to Section 35 rights for the in-water works requiring navigation closures. Additionally, as SFN was not involved in the decision-making to proceed with an ITT rather than a bridge (see Comment #3), MoTI must work closely with SFN to fulfill the obligations set out in the Treaty of 1854 to protect Snuneymuxw fisheries. Closures to the Fraser River without the free, prior, and informed consent of SFN constitute a violation of this Treaty obligation.	Detailed Project Description	With regards to Snuneymuxw comments regarding involvement in decision making to proceed with an ITT rather than a bridge, please refer to comment SFN-003. MOTI is committed to engaging in deep consultations on the potential effects of the project such as river closures on Aboriginal and treaty rights and in the development of measures to address such effects. Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present within the vicinity of the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform project-specific least risk timing windows, which in turn can be used to inform the project construction timelines. Section 5.4 of the DPD has been updated to include the following subsequent bullet points: "In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and technical advisors."
DPD-SFN-006	This table outlines the prep, construction, and operation of the New ITT, as well as the decommissioning of the Existing Tunnel. However, the operational lifetime of the New ITT, and when eventual decommissioning of this New ITT is anticipated, is unclear. This context will be important for understanding and characterizing potential long-term impacts resulting from the Project.	Detailed Project Description	The new ITT will have a service life of 150 years. The decommissioning of the new ITT will be assessed as part of its future replacement project, once proposed, closer to the end of its service life.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-007	“In December 2018, the Proponent released the results of the Independent Technical Review and indicated that the Proponent would engage with local governments and Indigenous nations to identify a crossing solution that better aligns with regional interests.” (p. 30) See Comment #3. The DPD should explain which Indigenous nations were consulted and how the results of this consultation informed the decision to proceed with an eight-lane ITT rather than the bridge option. The decision to proceed with the ITT is not reflective of SFN’s interests, and lacks SFN's free, prior, and informed consent.	Detailed Project Description	See response to SFN-003
DPD-SFN-008	“While the long- and short-term environmental effects of a long-span bridge and an ITT differ, these effects could be managed through best management practices, environmental offsets, and enhancements.” (p. 30) It is SFN’s experience that “best management practices, environmental offsets, and enhancements” do not adequately address impacts to SFN’s Section 35 rights and interests, and ultimately contribute to the cumulative effects on these rights experienced today. The spirit and intent of SFN's Treaty of 1854 is to preserve and protect all Snuneymuxw villages, fields, waterways, gathering and harvesting sites. This includes the Treaty obligation to protect SFN fisheries. As SFN was not part of the decision-making process to proceed with an ITT rather than a bridge, this decision is not reflective of SFN’s interests, and lacks SFN's free, prior, and informed consent. As such, MoTI must work closely with SFN to properly understand and contextualize SFN’s Section 35 rights and to develop appropriate mitigations to eliminate any adverse impacts to these rights.	Detailed Project Description	Thank you for bringing forward concerns about mitigation measures regarding the Project. MOTI is committed to engaging in deep consultations on the potential effects of the project such as river closures on Aboriginal and treaty rights and in the development of measures to address such effects. The EA process provides the opportunity for SFN to participate in the assessment of impacts and mitigation measures related to impacts, including seeking consensus on the draft conditions.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-009	"Five potential sites were identified, evaluated for feasibility, and shared with Indigenous nations for review and input." (p. 33) Can MoTI specify when Indigenous nations were consulted on these five potential temporary moorage sites? If SFN was not consulted specifically on this Project component, then the DPD cannot blanket this consultation across all Indigenous nations. The DPD should specify which nations provided input, as the site currently chosen is not reflective of SFN's input.	Detailed Project Description	Section 5.7 of the DPD has been updated to describe the alternative means analysis undertaken for the location of the temporary moorage site facility including the environmental, social, cultural, and health parameters that were considered, and input from Indigenous nations. Potential effects on Indigenous fisheries is a key consideration. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the alternatives analysis undertaken for the location of the temporary moorage site facility will be further defined within the Project EAC Application.
DPD-SFN-010	"A preferred location for the temporary moorage facility was also identified by Indigenous nations to minimize interactions with in-river access and use areas for Indigenous fishing." (p. 42) See Comment #9. Snuneymuxw First Nation has a constitional right to fisheries as formerly, this includes preservation of use, occupation, management and jurisdiction.	Detailed Project Description	Please refer to response to comment SFN-009.
DPD-SFN-011	MoTI acknowledges SFN's Memorandum of Understanding ("MOU") with British Columbia and the federal government, as well as SFN's Reconciliation Implementation Framework Agreement ("RIFA") with British Columbia in Table 13.2-2 Summary of Feedback on the Final IPD that Resulted in a Change to the DPD. MoTI indicated these were included in Section 13.3.15, however, Snuneymuxw Treaty of 1854 rights require both agreements to be included in, and the scope for, Section 8.6 as "agreement[s] that facilitate engagement between the Province and Indigenous nations". This is particularly important as SFN's RIFA provisions for joint and consent-based decision-making and DRIPA, which both bring forward higher standards than consultation for the Snuneymuxw-BC government to government treaty relationship. Thus, acknowledgement of the aforementioned by MoTI must elevate to recognition and implementation standards.	Detailed Project Description	The Proponent requests further dialogue on the RIFA to understand how to incorporate into project materials.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-012	“The Proponent reviewed the following Traditional Use Studies from the GMRTP:…” (p. 64) None of these traditional use studies are Snuneymuxw FIrst Nation and therefore the proposed DPD is incomplete. While MoTI is aware that SFN will be completing an Indigenous-Led Assessment, SFN will also be sharing a research memo on SFN’s use in the Lower Fraser River for MoTI’s consideration throughout the Project’s EA. This research memo can be added to MoTI’s list of available data, along with the coming ILA.	Detailed Project Description	On November 1, 2022 the Proponent received a research memo from Snuneymuxw First Nation. SFN did not confirm if this information could be included in the DPD. The Proponent commits to continuing to work with Snuneymuxw to incorporate this information into other Project materials as they are developed
DPD-SFN-013	The DPD states that there are no significant sources of vibration in the Project area. Can MoTI clarify what constitutes a “significant source” of vibration and if/why existing traffic on Highway 99 or activity from trains in the area does or does not qualify as “significant”?	Detailed Project Description	The sentence in Section 10.1.2 of the DPD which states "It is expected that there are no existing significant sources of vibration in the Project area" is based on the observation that there are no major vibration (i.e., ground vibration or air overpressure) sources within the Project area. Ambient noise is influenced by traffic along Highway 99 and connecting roads, nearby industrial sites, the CN railway, aircraft, marine traffic, and agricultural areas. However, none of these noise sources are considered to result in significant vibration in the Project area. Existing underwater noise levels are assessed as outlined in Section 10.1.3 of the DPD. For the assessment of operational noise from traffic within the new immersed tube tunnel, we have proposed that the assessment use the underwater noise levels recorded near the existing George Massey Tunnel (in 2014) by JASCO to determine how an increase in traffic volumes may increase these chronic noise levels. We consider the 2014 information sufficient for these purposes as it captures baseline noise levels close to the George Massey Tunnel during a 24-hour operating period and would capture the range in noise levels generated over a days traffic pattern, including high traffic periods where noises would expect to be highest.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-014	"The results of the existing conditions surface water and sediment quality studies will also… support assessments of impacts to Section 35 rights and interests." (p. 73) SFN suggests that similar wording be carried throughout the other sections for environmental, economic, social, health and cultural conditions and preliminary effects, as any change to these components can create a direct or indirect effect pathway to Section 35 rights and interests. Similarly, within the EAC Application and the proponent's assessment, it is essential that VCs are linked to Section 35 rights.	Detailed Project Description	The referenced text in Section 10.1.4 of the DPD has been moved into the introduction to Section 10. The Proponent will collaborate with Indigenous nations during development of the Application Information Requirements (AIR) in the Process Planning Phase, and during the Application Development Phase to assess potential effects pathways and linkages between environmental, social, economic, cultural, and health components and Section 35 rights and interests.
DPD-SFN-015	"The new ITT is expected to have long-term implications for river hydraulics and morphology." (p. 75) SFN understands that more studies to understand Project-related impacts to hydrology are ongoing, however can the proponent elaborate on the expected long-term implications at this time? Are these largely limited to the changes in water levels, flow patterns, river velocity, sediment transport, turbidity, and sediment erosion previously identified for construction activities?	Detailed Project Description	Additional details will be provided in the river hydraulics assessment that will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology. This will include numerical modelling and evaluation of potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.
DPD-SFN-016	"The proposed site [for temporary moorage], close to Steveston, would minimise impacts on Indigenous fishing practices and in-river navigation." (p. 76) See Comment #9.	Detailed Project Description	Please refer to the response to comment SFN-009.
DPD-SFN-017	Is revegetation planned as part of decommissioning of the Existing Tunnel? If so, Indigenous groups should be involved in any revegetation planning and efforts.	Detailed Project Description	Revegetation is anticipated to occur following decommissioning of temporary disturbance areas and existing infrastructure (e.g., existing tunnel, Deas Slough Bridge, etc). Habitat offsetting and restoration programs required for the Project will be developed during the Application Development Phase in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders. During preparation of the EAC Application, TI Corp will continue to collaborate with Snuneymuxw Nation and other Indigenous nations on the development of restoration programs including revegetation.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-018	"…Indigenous interests pertaining to fish harvesting overlap with or are in the vicinity of the Project." (p. 115) It should be noted that for SFN, the Indigenous "interests" relating to fish in the vicinity of the Project area rights established under the Treaty of 1854 and protected under Section 35 of the Constitution, rather than just a recreational interest in the area. Indigenous interests are better framed as Section 35 rights or Aboriginal and Treaty rights. In SFN's case they should be framed as Treaty of 1854 rights.	Detailed Project Description	Section 10.3.2 of the DPD, Marine Use, has been revised to include the following text: "Marine traffic frequency and volume, navigational aids and regulations, existing navigation conditions, commercial marine transportation, and recreational marine uses, as well as commercial and Indigenous fish harvesting including commercial, and Food Social and Ceremonial (FSC) fisheries and other Indigenous interests including Section 35 rights, will be studied.
DPD-SFN-019	"In-river site preparation and construction activities and temporary closures of the river to navigation…could affect marine access and use, including Indigenous marine use and interests, as well as the presence and availability of marine resources, and the marine recreational environmental setting." (p. 116) See Comment #5. MoTI's window of least-risk for in-river construction activities and the closure of the river to navigation should include considerations beyond the DFO's window of least-risk to fish and encompass activities and interests related to Section 35 rights. As SFN was not involved in the decision-making to proceed with an ITT rather than a bridge (see Comment #3), MoTI must work closely with SFN to fulfill the obligations set out in the Treaty of 1854 to protect Snuneymuxw fisheries. Closures to the Fraser River without the free, prior, and informed consent of SFN constitute a violation of this Treaty obligation.	Detailed Project Description	Thank you for bringing forward concerns about mitigation measures regarding the Project. MOTI is committed to engaging in deep consultations on the potential effects of the project such as river closures on Aboriginal and treaty rights and in the development of measures to address such effects. The EA process provides the opportunity for SFN to participate in the assessment of impacts and mitigation measures related to impacts, including seeking consensus on the draft conditions.
DPD-SFN-020	In addition to consulting Indigenous nations on potential archaeological sites within the Project area, MoTI should also work with Indigenous nations to develop a chance find contingency plan that follows nations' specific cultural protocols. Although standard chance find contingencies require the involvement of Indigenous groups, this involvement occurs very late. By this time, there is significant disturbance to the find, which can create serious harm to impacted nations. As such, it is essential to develop an appropriate plan that is considerate of specific cultural protocols in the treatment of chance finds.	Detailed Project Description	Prior to construction, a Heritage Resources Management Plan will be developed including a Chance Find Procedure. A draft of the Heritage Resources Management Plan will be included in the EAC Application. As appropriate the EAC Application will identify mitigation measures to minimize and where possible avoid potential impacts. Indigenous nations will have the opportunity to comment on the draft Chance Find Procedure and identify if there are ways to address specific cultural protocols more adequately.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-021	See Comment #8. The preliminary mitigations and management strategies listed here appear to SFN to largely be standard mitigation or best practice. To date, these approaches to mitigation measures have been ineffective in addressing impacts to Section 35 rights and interests as a result of Project-related changes, creating serious cumulative effects in the Lower Fraser area. SFN understands that MoTI is "committed to meaningful engagement with Indigenous nations…for proposed mitigation measures as the Project progresses through the Impact Assessment process" (p. 132). The spirit and intent of SFN's Treaty of 1854 is to preserve and protect all Snuneymuxw villages, fields, waterways, gathering and harvesting sites. This includes the Treaty obligation to protect SFN fisheries. Any impacts to SFN's Section 35 rights cannot occur without the free, prior, and informed consent of SFN. As such, it will be essential that MoTI engage with SFN to contextualize SFN's Section 35 rights, understand impact pathways for SFN's Section 35 rights, and to subsequently develop adequate mitigation measures.	Detailed Project Description	Thank you for bringing forward concerns about mitigation measures regarding the Project. MOTI is committed to engaging in deep consultations on the potential effects of the project such as river closures on Aboriginal and treaty rights and in the development of measures to address such effects. The EA process provides the opportunity for SFN to participate in the assessment of impacts and mitigation measures related to impacts, including seeking consensus on the draft conditions.
DPD-SFN-022	"While the test dredge and geotechnical work are not part of the scope of the Project, engagement on the WSA permit in July and August 2022 provided another avenue for Indigenous nations to provide feedback that was also relevant information to inform the Project." (p. 163) Please clarify why the test dredge and geotechnical works are not considered within the scope of the Project, despite their necessity in informing Project design and construction.	Detailed Project Description	The test dredge and geotechnical works are not Project components. Rather, they are investigations being conducted to inform the scope and feasibility of different aspects of the constructability that allow the Project to be more specific in design and thus more specific in understanding and communicating potential impacts and mitigation strategies.
DPD-SFN-023	"The Project has proposed a temporary moorage location for tunnel elements that presents the least impact to Indigenous fishing…" (p. 163) See Comment #9.	Detailed Project Description	Please refer to the response to comment SFN-009.
DPD-SFN-024	SFN has developed a research memo on SFN's activity and presence in the Lower Fraser River. SFN will provide this memo to MoTI, and requests that it be used in developing any profiles or summaries of SFN's rights. This memo will provide more accurate understanding and contextualization of SFN's Treaty of 1854 rights in the Project area.	Detailed Project Description	Please refer to the response to comment SFN-011 and SFN-012.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-SFN-025	See Comment #11. SFN's RIFA should be acknowledged in Section 8.6 as it has implications for consent-based, shared decision-making between SFN and the Province.	Detailed Project Description	The Proponent requests further dialogue on the RIFA to understand how to incorporate into project materials.
DPD-SFN-026	"The Proponent shared draft versions of the IPD and EP with Snuneymuxw in early December 2021 seeking feedback and input." (p. 170) SFN notes that this was for an earlier iteration of the Project, when it was still called the "George Massey Crossing Project". This may be beneficial to distinguish for clarity and accuracy.	Detailed Project Description	This reference in the DPD will be revised to read: "The Proponent shared draft versions of the IPD and EP, (titled "George Massey Crossing Project Inital Project Description" and "George Massey Crossing Project Engagement Plan" respectively) with Snuneymuxw in early December 2021.
DPD-SFN-027	"The Proponent has also dedicated time during the regularly occurring meetings to understanding Snuneymuxw's interests related to the 1854 Treaty." (p. 170) "1854 Treaty" should read "Treaty of 1854" or "Sarlequun Treaty of 1854" (see SFN's Memorandum on Historical and Ethnographic Sources).	Detailed Project Description	Section 13.3.15 will be revised to read: "The Proponent has also dedicated time during the regularly occurring meetings to understanding Snuneymuxw's interests related to the Sarlequun Treaty of 1854".
DPD-SFN-028	"- the location of temporary moorage for tunnel elements was developed collaboratively with Indigenous nations and influenced to a large extent by Indigenous knowledge" (p. 178) See Comment #9.	Detailed Project Description	Please refer to the response to comment SFN-009.
DPD-SFN-029	"Attachment 5 provides maps of the territories and/or consultation areas of the Indigenous nations." (p. 158) The maps in Attachment 5 were not available at the time of SFN's review, however SFN suggests that MoTI use SFN's traditional territory map finalized in March of 2021 and prepared for the British Columbia Ministry of Indigenous Relations and Reconciliation.	Detailed Project Description	Thank you for providing this material, it will be incorporated into the DPD in Attachment 6

Comment ID	Summary of Issues Raised	Engagement Phase	Response
People of the River Referrals Office on behalf of the S'ólh Téméxw Stewardship Alliance			
DPD-PRRO-001	Why is waste generated being disposed? As this is expected to occur in the later parts of of the 2020's all efforts should be utilized to reuse or recycle the waste before disposal options are considered. See Clean BC and Metro Vancouver's Solid Waste Management Plan.	Detailed Project Description	References to waste generation in Section 6.3 and 10.3.4 of the DPD has been updated to also reference reuse and recycling.
DPD-PRRO-002	Landfills are not a suitable location for disposal option. Soil or silt remediation should be considered for any dredged materials that have chemical composition above permitted levels. Likewise, disposing of this further out a sea is not good environmental practice and archaic. We should be doing more in the 2020's.	Detailed Project Description	As indicated in Section 5.7 of the DPD, the management of dredged material for the project will follow, to the extent practicable, the waste management hierarchy outlined in the Canadian Environmental Protection Act, 1999, which prioritizes beneficial use options over disposal, and disposal on land before disposal at sea. Potential management options will be assessed holistically, considering a number of risk factors such as effects to water quality, aquatic habitat, and contribution to climate change, hazards associated with moving and processing material, disruption to road traffic and neighborhoods associated with moving material, and practical considerations such as availability of staging and handling areas as well as facilities that could re-purpose the material. Where timely options exist, dredged material will be used beneficially. Unfortunately, there are not always timely options available that can use the type of volumes that will be dredged and disposal either on land or at sea will be necessary.
DPD-PRRO-003	Stop using the term disposal facilities. This insinuates that all material will be disposed, which I hope is not the case. This section is severely lacking in detail and should refer to reuse and recycling.	Detailed Project Description	References to waste generation in Section 6.3 and 10.3.4 of the DPD has been updated to also reference reuse and recycling.
DPD-PRRO-004	This is a light section in terms of details to prevent runoff. There exist several technologies that can be utilised before or after an oil separator to improve water quality being discharged.	Detailed Project Description	Section 6.4 of the DPD has been revised as follows: "During the operation and maintenance phase of the tunnel, discharge water would be treated using best available technologies and mitigation measures to be determined during detailed engineering design toward achieving compliance with regulatory requirements. The best available technologies and mitigation measures will be informed by the environmental studies and effects assessment to be conducted during preparation of the EAC Application. The mitigation measures will be developed in collaboration with Indigenous nations, the Technical Advisory Committee (TAC), and public stakeholders during preparation of the EAC Application."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-PRRO-005	How are you determining the CO2e/year when you have not even discussed what you are doing with the waste at the end of it. How you dispose of the construction and demolition waste will result in higher of lower values.	Detailed Project Description	Consistent with ENV guidance (EAO, 2019, Early Engagement Policy Version 1.0), GHG emissions presented in section 6.2 of the DPD represent preliminary direct Project GHG emissions, and indirect emissions associated with power consumption. Emissions associated with waste disposal are scope 3 emissions that are not within the GHG boundary of the project because both the provincial and federal GHG reporting programs do not require scope 3 emissions to be reported for a facility. Greenhouse Gas Emission rates referenced in Table 6.2-1 of Section 6.2 of the DPD are preliminary based on the information available at the time of preparing the DPD. The scope and methodologies for undertaking the GHG assessment will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-PRRO-006	You propose a multi purpose path and yet have not mentioned about air quality components of this part. AQ can elevate at the entrance and exit of any tunnel and while the multi-use path is presumably sealed there is little detail on heath data for users of this pathway and how they will be protected.	Detailed Project Description	The Project affects on Air Quality and human health will be assessed as part the EA Submission. The scope of the air quality and human health assessments, related to the operation and maintenance of the Multi-use Path (MUP) will be outlined in the Project Application Information Requirements (AIR) to be prepared during the Process Planning Phase of the EA in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation)			
DPD-TFN-001	In the first sentence of the Executive Summary, it is implied that MoTI is the Proponent. The first sentence of the second paragraph names MoTI as the Proponent. Elsewhere (e.g., page xi, 11, etc.) the Proponent is defined as TI Corp on behalf of MoTI. Clarification of roles and the use of the term 'proponent' would be helpful as well as whether there is a single proponent or two proponents. And if TI Corp is delivering this on behalf of MoTI, then what is MoTI's role in the EA process? The document needs to be clear and consistent throughout.	Detailed Project Description	Note that Section 3.2 (Corporate Overview) of the DPD currently provides a complete and accurate description of the roles and responsibilities of TI Corp, as the Crown agency responsible for the delivery of the Project on behalf of the Ministry of Transportation and Infrastructure. The Executive Summary and Section 3.1 of the DPD has been revised with the following text to provide clarification on the respective roles and responsiblities of TI Corp versus the Ministry of Transportation and Infrastructure: "The Proponent for the Project is the Ministry of Transportation and Infrastructure (the Ministry), the agency responsible for planning transportation networks in BC, providing transportation services and infrastructure, developing and implementing transportation policies, and administering related acts and regulations including federal–provincial funding programs. Delivery of the Project will be led by Transportation Investment Corporation (TI Corp), a Crown Corporation, with a mandate to deliver major infrastructure on behalf of the Proponent."
DPD-TFN-002	The document language infers that the TAC and CAC have been formed. Our understanding is that potential members of a TAC and CAC have been identified, but that the formation of those committees remains to be done during the Process Planning phase of the EA. Please correct the language as appropriate to be consistent with the EAO's legislated process.	Detailed Project Description	Thank you for your comment. The DPD has been updated to refer to 'technical advisors' instead of the TAC and incorporate clarity throughout that the TAC and CAC will be officially established during the Process Planning Phase of the EA.
DPD-TFN-003	The text states that the Project is situated on Crown land designated as "Proponent Highway 99 right of way". If TI Corp is a/the Proponent, is this technically correct? Note that not all following references to the 'Proponent Highway 99 right of way' refer to it as the Highway 99 ROW as stated in this section (e.g., see first paragraph on page 17).	Detailed Project Description	Thank you for your comment. The Proponent for the FRTP is Transportation Investment Corporation on behalf of the Ministry of Transportation and Infrastructure. The sentence noted in the DPD has been revised: "To the extent possible, the Proponent is proposing to locate Project components and activities within the Highway 99 ROW."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-004	"...the Existing Tunnel and ancillary infrastructure will be removed…" Please confirm whether it has been decided that the existing tunnel will be removed or if it is possible that the EA might conclude that the environmental harm of removal could justify decommissioning all or part of the Existing Tunnel in-place. In other words, please describe the range of decommissioning options that will be assessed. And if decommissioning in-place has been dismissed, please explain the rationale.	Detailed Project Description	The Business Case (2021) for the FRTP reviewed long-term options for the existing tunnel and concluded that removal of all tunnel elements and backfilling the approaches is recommended to mitigate potential seisimc risks. Additional rationale is available in the Business Case, located here: https://www.highway99tunnel.ca/app/uploads/sites/748/2022/03/gmc-business-case-redacted.pdf. Decommissioning of the tunnel will be further assessed in the EAC Application. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TFN-005	This section needs to address alternative means of decommissioning the existing tunnel, including decommissioning-in-place unless the rationale for not including some decommissioning options is presented.	Detailed Project Description	The Business Case (2021) for the FRTP reviewed long-term options for the existing tunnel and concluded that removal of all tunnel elements and backfilling the approaches is recommended to mitigate potential seisimc risks. Additional rationale is available in the Business Case, located here: https://www.highway99tunnel.ca/app/uploads/sites/748/2022/03/gmc-business-case-redacted.pdf. Decommissioning of the tunnel will be further assessed in the EAC Application. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-006	Seems odd that the project is described as a water management project and not as something in the transportation sector. The info in the right-hand column would appear to correspond to EA Act triggers. Also the table has "Heading' atop both columns. Is that intentional? Section 5.2 describes the project as "...a major transportation and infrastructure project..." Please clarify.	Detailed Project Description	Table 3.1-1 of the DPD has been updated to include column headings. The project triggers an environmental assessment under the BC Environmental Assessment Act 2018 because it meets the 'Water Management Project' threshold as a "Shoreline Modification Project", specified in Part 5 of the Reviewable Projects Regulation. Specifically, the Project is anticipated to result in the "dredging, filling or other direct physical disturbance of ≥ 2 ha of foreshore or submerged land, or a combination of foreshore and submerged land, below the natural boundary of a stream, marine coastline or estuary." Although the Project is a major transportation and infrastructure project for BC, it does not meet any of the criteria thresholds under Part 7 of the Reviewable Projects Regulation to define it as a Transportation Project. Table 3.1-1 has been updated to clarify this.
DPD-TFN-007	Please describe what constitutes a 'Fraser River community'	Detailed Project Description	"Fraser River communities", as referenced in Sections 4.2 and 5.6 of the DPD, refers to Richmond and Delta bordering the Project, with a focus on neighborhoods within these municipalities closest to the Project (such as Riverwoods). Fraser River community also refers to Indigenous communities that use the Fraser River for commercial, recreational and traditional purposes.
DPD-TFN-008	Seems odd that the long-term seismic safety of the Exiting Tunnel is listed as a benefit considering that crossing is to be decommissioned. Perhaps this should be reworded to capture seismic safety as a long-term benefit of the Hwy 99 crossing (i.e., the crossing in general and the new ITT in particular).	Detailed Project Description	Thank you for your comment. The bullet in section 4.2 of the DPD 'addressing the long-term seismic safety performance of the Existing Tunnel' has been replaced with "ensuring long-term seismic safety performance for the Highway 99 Fraser River crossing"
DPD-TFN-009	We suggest that the DPD standardize the use of 'Steveston Island' or 'Shady Island' throughout the document. Steveston Island is the official name according to the Province https://apps.gov.bc.ca/pub/bcgnws/names/7804.html	Detailed Project Description	The DPD has been updated to standarize the use of 'Steveston Island' throughout the document.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-010	Please provide some diagrams of what a separation wall (i.e., piles between the existing and new tunnel) would look like in the river and how it would be constructed (materials and methods) and decommissioned, including potential impacts on water quality and fish and fish habitat.	Detailed Project Description	The design of the separation wall has not been completed. Additional details about the design, and construction methodology will be provided in the EAC Application along with an assessment of potential effects to water quality, fish and fish habitat. The scope of the EAC application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TFN-011	Please indicate the extent to which (confidence) potential risks of Separation Wall construction on the integrity of the Existing Tunnel are understood. For example, is there sufficient confidence amongst project engineers that the shockwaves from pile driving will not compromise the integrity of the existing tunnel?	Detailed Project Description	There is a high level of confidence that the existing tunnel will not be adversely affected by the installation of the separation wall. Pile driving is expected to be minimized by installing most of the wall with a vibro-hammer. In addition, the existing tunnel will be monitored for movements/vibrations, and if thresholds are exceeded, installation methods will have to be modified to prevent damage to the existing tunnel.
DPD-TFN-012	What types of drainage ditches and stormwater management facilities are planned?	Detailed Project Description	The drainage ditches and stormwater management facilities design is currently under development. More information will be available in the EAC Application once the design has been advanced.
DPD-TFN-013	Table 5.3-1 mentions the "Construction of site circulation roads including temporary bridging over the Existing Tunnel portals." Will pile driving be necessary for the temporary bridges over the Existing Tunnel? What are the expected effects on water quality and fish of this temporary bridge?	Detailed Project Description	It is expected that any temporary bridges would be placed on spread footings and that piles would not be needed (settlements of the structures could be managed without piles). As such, there will be no pile driving related impact on water quality and fish associated with the temporary bridge. Water Quality and Fish and Fish Habitat assessments will be completed as part of the EAC Application and will include assessment of potential effects associated with temporary works.
DPD-TFN-014	Table 5.3-1 mentions "Dredging to provide sufficient draft to moor barge and tunnel elements." for the material offloading facilities and outfitting jetties. Has the size of the dredge pocket(s) been evaluated?	Detailed Project Description	The dredge volumes are currently being evaluated and will be included in the EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-015	Will the existing ITT tunnel removal involve a backfilling with material? More details should be provided.	Detailed Project Description	Table 5.3-1 of the DPD has been updated to include the following information: "The existing ITT trench will be backfilled after removing the tunnel elements. The backfilling will be based on engineering requirements and applicable regulations. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations." Additional details on backfill methodology and volumes will be included in the EAC Application.
DPD-TFN-016	The Steveston Island Site is preferred. Please indicate whether any further consultation or investigations are required to confirm this site as the final one.	Detailed Project Description	Consultation is ongoing with regards to the temporary moorage site. Input will be sought from Indigenous groups and various marine users.
DPD-TFN-017	Please indicate whether use of dredge spoils for marine construction (e.g., RBT2) is an option.	Detailed Project Description	The project is considering all options for disposal of dredge spoils. The final disposal methodology will be determined in alignment with required permits.
DPD-TFN-018	Please indicate, based on present experience with the Existing Tunnel, how much water might enter the tunnel via rain-soaked vehicles. Indicate (in general terms) how the water will be treated to remove automotive chemical contamination. This may need to be captured in Table 10.6-1	Detailed Project Description	As described in section 6.4 of the DPD, a low-point pump sump would remove incoming liquids from the ITT and the discharge of water would be via oil separators or equivalent. The EAC Application will include details on the design of the low-point sump pump including its capacity based on the volume of incoming liquids expected in the tunnel. Section 6.4 of the DPD has been further revised as follows: "During the operation and maintenance phase of the tunnel, discharge water would be treated using best available technologies and mitigation measures to be determined during detailed engineering design toward achieving compliance with regulatory requirements. The best available technologies and mitigation measures will be informed by the environmental studies and effects assessment to be conducted during preparation of the EAC Application. The mitigation measures will be developed in collaboration with Indigenous nations, the Technical Advisory Committee (TAC), and public stakeholders during preparation of the EAC Application."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-019	Please indicate how the dredging operations will impact the sediment concentration in water (i.e., increased turbidity) and what mitigation measures will be used to prevent exceedances of turbidity guidelines. Please also indicate if the sediment will be tested for the presence of contaminants (e.g. metals, PCBs, PAHs...) prior to dredging, reuse or disposal at sea.	Detailed Project Description	Numerical modelling is currently underway to examine the impact of dredging upon sediment dispersion in the river. Dredging operations have the potential for sediment re-suspension which can affect surface water quality with resulting potential effects on aquatic life. A surface water and sediment assessment will be completed as part of the EAC Application to identify potential project effects to surface water and aquatic life, including the re-suspension of sediment from dredging operations. The Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC), and stakeholders during development of the Application Information Requirements (AIR) within the Process Planning Phase to refine the scope of the surface water and sediment assessment. Sediment quality studies to characterize existing conditions are ongoing and results will be incorporated to inform the Application Information Requirements and EAC Application. As noted in Table A3-1, sediment quality sampling has followed the Disposal at Sea Technical Guidance: Chemical Characterization of Dredged Material Proposed for Disposal at Sea (ECCC 2020) which includes parameters such as metals, PCBs, PAHs, etc. The Proponent will continue to collaborate with Indigenous nations and TAC members during the Application Development Phase to recommend mitigation measures to minimize, and where possible, avoid potential adverse effects.
DPD-TFN-020	Please confirm the veracity of the statement"A preferred location for the temporary moorage facility was also identified by Indigenous nations…"hat is, did Indigenous nations identify the site or did they provide initial support for the site, as identified by MoTI?	Detailed Project Description	This statement has been removed from section 7.1 of the DPD. Text in Section 5.7 of the DPD has been updated to clarify and describe the alternative means analysis undertaken for the location of the temporary offsite moorage facility and Table 5.7-1 desscribes the physical, environmental, social, cultural, and health parameters that were considered. With input from Indigenous nations, Steveston Island was identified as the best option.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-021	The text states that: "The Highway 99 ROW includes the submerged land underwater within the Project alignment and the existing Highway 99 and associated road infrastructure including the existing Rice Mill Road overpass, the Existing Tunnel, the north and south highway approaches into the Existing Tunnel, and the Existing Deas Slough Bridge." However, the Highway 99 ROW as depicted in Figure 5.2-1 and in 7.3-1 do not seem to jibe with this. Please confirm.	Detailed Project Description	All figures in the DPD that show the Highway 99 right of way have been updated to include the submerged lands within the Project alignment
DPD-TFN-022	The dDPD states: All river water used for the Project will be treated on site before pumping it back into the Fraser River" Please confirm that this is correct, and if so, describe in general terms how river water used in the casting basin and to submerge ITT elements during temporary moorage and final placement might/would be 'treated' prior to release.	Detailed Project Description	The DPD has been updated to reflect that not all water used for the Project will be treated. For example, when the casting basin is opened to float out tunnel elements, the water will not be treated.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-023	The dDPD discusses river water use for various project components but there is no mention of how effects to fish and aquatic organisms will be mitigated, please add this.	Detailed Project Description	Section 10.1.10 of the DPD has been updated as follows:“Potential Project-related effects on fish in the Fraser River, Deas Slough, and Green Slough include exposure to underwater noise and elevated suspended sediment levels during in-water construction activities, physical habitat alteration, injury and/or direct mortality, (including those from vessel strikes to sturgeon, dredging, entrainment, or stranding)”.Potential effects to fish and fish habitat, including those related to water use, in the identified areas will be assessed through examination of appropriate potential effect pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat. The scope of the effects assessment will be refined during the development of the Application Information Requirements (AIR) during the Process Planning Phase in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and public stakeholders.Mitigation measures will be recommended and implemented to reduce potential adverse effects, and a habitat offsetting plan will be developed and implemented to restore, enhance, and create new fish habitat within the lower Fraser River. Details of the mitigation measures and habitat offsetting program will be developed during the Application Development Phase in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders.
DPD-TFN-024	In addition to fishing rights as listed in the table, the area is in or near land where TFN has Treaty rights to harvest wildlife, migratory birds, and botanical products. These rights should also be stated here. (Table 7.6-1)	Detailed Project Description	Table 7.6-1 has been updated to reflect Tsawwassen First Nation's Treaty rights to harvest wildlife, migratory birds, and botanical products.
DPD-TFN-025	This section would benefit from an introduction that sets out the scope of legislative and regulatory parameters that in turn, justify the suite of statutes that are included in this section.	Detailed Project Description	Section 8 of the DPD has been updated to include an introductory section to frame the context of the section.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-026	The dDPD states: "The Fraser River South Arm is a single, meandering, sand-bed channel." Considering the South Arm is split by islands (e.g., Woodward Island complex, Steveston Island, and Westham Island), resulting in several channels/passages, please correct this or provide a reference to the authority that identifies the South Arm as comprising a single channel.	Detailed Project Description	Section 10.1.5 of the DPD has been revised to clarify that there are a number of islands within Fraser River South Arm, including the Woodward Island complex, Steveston Island, and Westham Island which results in several channels and reaches within the Fraser River South Arm.
DPD-TFN-027	The dDPD states: Results of the river hydraulics and morphology studies will be used to support the assessment of potential effects of the Project on Fish and Fish Habitat, Marine Mammals, Land and Resource Use, and Marine Use VCs. Please confirm if wildlife and migratory birds will be included in the list of VCs so assessed.	Detailed Project Description	Section 10.1.5 - River Hydraulics and Morphology - will be revised to include reference to wildlife and migratory birds, as follows: "Results of the river hydraulics and morphology studies will be used to support the assessment of potential effects of the Project on Fish and Fish Habitat, Wildlife and Wildlife Habitat (including migratory birds), Marine Mammals, Land and Resource Use (including agricultural land use), and Marine Use VCs." The potential for changes in river hydraulics to result in an indirect effect to wildlife and wildlife habitat through changes to prey (e.g. fish), habitat (e.g. vegetation), and water quality will be considered in the EAC Application. The scope of the wildlife and wildlife habitat assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review in the Process Planning Phase of the EA. The AIR will identify linkages between Valued components and the EAC Application will describe the pathway effects linking river hydraulics to wildlife and wildlife habitat, where appropriate.
DPD-TFN-028	Table 10.1-9 summarizes two points relating to TFN input; we note that TFN provided comments on a draft wildlife workplan; that input merits mentioning here (and likely elsewhere, such as attachments 4/5)	Detailed Project Description	The Project team has reviewed the comments on the draft wildlife workplan. Changes were made to address comments in the workplan, and change to the workplan will be incorporated in the wildlife existing conditions report, where appropriate. Table 10.1-9 and Attachment 4 of the DPD has been updated to indicate that input was provided on the workplan.
DPD-TFN-029	Might it make sense to rename this section 'Wildlife and Wildlife Habitat' to be consistent with the title of the section on Fish and Fish Habitat? The change would also be consistent with the content of the section that speaks to wildlife habitat considerations.	Detailed Project Description	Section 10.1.9 of the DPD has been updated to Wildlife and Wildlife Habitat.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-030	Please provide detail (similar to what is provided regarding the advanced Indigenous-led studies) on the additional proponent led studies regarding fish and fish habitat.	Detailed Project Description	This information will be added to Section 10.1.10 of the DPD. Note that these studies are detailed in the existing conditions workplans which were shared with Indigenous nations in March 2022. Section 10.1.10 of the DPD has been updated as follows: The ongoing fish and fish habitat studies include: • Upland Tributaries Existing Conditions Study – field assessments of upland tributaries including riparian and aquatic habitat assessment, fish species and life stage presence, and habitat use. • Fraser River Fish and Fish Habitat Existing Conditions Study – field assessments of the Fraser River mainstem and Deas Slough including riparian and aquatic habitat assessment, fish species and life stage presence of juvenile fishes, and habitat use. • White Sturgeon Existing Conditions Study – angling and side-scan sonar studies to confirm life stage presence and habitat use in the project area in the Fraser River mainstem and Deas Slough. • Eulachon Existing Conditions Study – installing salinity probes to assess incubation habitat during high flow conditions during the spawning period in 2022 and conducting an Eulachon migration timing study using eDNA (environmental DNA) to determine migration timing. • Benthic Invertebrates Existing Conditions Study – field assessments to assess benthic invertebrate assemblage and abundance near the ITT footprint, temporary storage location, and in upstream control areas.”
DPD-TFN-031	Table 10.1-11 summarizes two points relating to TFN input; we note that TFN provided comments on a draft fish and fish habitat workplan; that input merits mentioning here (and likely elsewhere, such as attachments 4/5)	Detailed Project Description	The Project team has reviewed the comments on the draft fish and fish habitat workplan. Changes were made to address comments in the workplan, and change to the workplan will be incorporated in the Fish and Fish Habitat Existing Conditions report, where appropriate. Table 10.1-11 and Attachment 4 of the DPD have been updated to indicate that input was provided on the workplan.
DPD-TFN-032	Consider revising the first sentence of the second paragraph; rights are exercised, not accessed (resources may be accessed during the exercise of a right). Change the 'or' to 'and' in that same sentence.	Detailed Project Description	DPD section 10.3.2, second paragraph has been revised to "The Fraser River South Arm is actively used in the exercise of Indigenous rights including fishing."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-033	"The Proponent has initiated a Marine Users Group to facilitate communication and feedback between the Project and marine users. An IMUG will also be initiated in consultation with Indigenous nations and will support consultation on planned Project activities and impacts to Indigenous interests. In addition, an Operations Technical Group has been formed..." Note the IMUG has been initiated and two meetings have occurred. We presume updating this text from a previous version was simply overlooked given the other two groups referenced indicate they have been initiated.	Detailed Project Description	Thank you for your comment. Confirmed, at the time of receipt of this comment the Indigenous Marine Users Group (IMUG) was a future activity. Since the IMUG has been established and is meeting regulary, all references to the IMUG in Table 10.3-2 have been updated to read: Indigenous fish harvesting, including a schedule of activities relative to the timing of fish harvesting and other Indigenous interests, will be assessed as part of the EAC Application. The Proponent has initated an Indigenous Marine User's Group (IMUG) to support consultation on planned Project activities and impacts to Indigenous interests.
DPD-TFN-034	As many projects (e.g., Tilbury Marine Jetty, Pattullo Bridge Replacement) could have in-water and dredging activities occurring in the same period of time, coordination between the different proponents should take place to avoid cumulative impacts of sediment resuspension in the Lower Fraser River. The Project Planning should include a communication plan with other proponents.	Detailed Project Description	As indicated in Section 10.1.4 Surface Water and Water Quality will assess potential Project effects on sediment in water. This assessment will take into consideration other nearby projects and activities, as part of the Cumulative Effects Assessment. Where potential cumulative effects are identified, mitigation measures and communication protocols will be identified as preliminary described in table 10.6.1 of the DPD. During construction, the Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC) members, marine users, and other stakeholders (including other project Proponents) to support communication of Project activities.
DPD-TFN-035	Need to include injury and mortality from vessel strikes (as is done for marine mammals) as strike risks to sturgeon are of concern to TFN (and others).	Detailed Project Description	Section 10.1.10 of the DPD has been updated as follows: “Potential Project-related effects on fish in the Fraser River, Deas Slough, and Green Slough include exposure to underwater noise and elevated suspended sediment levels during in-water construction activities, physical habitat alteration, injury and/or direct mortality (including those from vessel strikes to sturgeon, dredging, entrainment, or stranding).”
DPD-TFN-036	Need to include injury and mortality from dredging.	Detailed Project Description	Section 10.1.10 of the DPD has been updated as follows: “Potential Project-related effects on fish in the Fraser River, Deas Slough, and Green Slough include exposure to underwater noise and elevated suspended sediment levels during in-water construction activities, physical habitat alteration, injury and/or direct mortality (including those from vessel strikes to sturgeon, dredging, entrainment, or stranding).”

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TFN-037	Please use terms consistent with (Chapter 1 of) the Treaty; for example 'Tsawwassen Territory'; (not Traditional Territory)	Detailed Project Description	DPD Section 13.3.21 has been revised to reflect Tsawwassen First Nation Territory, not Traditional Territory.
DPD-TFN-038	Need to correct the current text regarding TFN being a 'self-governing community'; Tsawwassen First Nation is a modern treaty nation. The Tsawwassen Final Agreement establishes a new government-to-government relationship based on mutual respect, providing the basis for reconciliation between Tsawwassen First Nation and the Crown. The Tsawwassen Final Agreement exhaustively sets out the Section 35 rights of the Tsawwassen First Nation. Note that the EAO's Assessment Report for the Tilbury Marine Jetty Project could be an excellent source of information about TFN if that material can be shared at this, or some future, point in time.	Detailed Project Description	Thank you for your comment, at this time the EAO's Final Assessment Report for the Tilbury Marine Jetty Project is not available. However once available, we will incorporate TFN information in project documents as appropriate. Section 13.3.21 has been revised to reflect the comments shared by TFN to: Pursuant to the Tsawwassen First Nation Final Agreement (TFNFA), which came into effect on April 3, 2009, Tsawwassen is a modern Treaty Nation. Tsawwassen First Nation notes that the Tsawwassen Final Agreement establishes a new government-to-government relationship based on mutual respect, providing the basis for reconciliation between Tsawwassen First Nation and the Crown. The Tsawwassen Final Agreement exhaustively sets out the Section 35 rights of the Tsawwassen First Nation.
DPD-TFN-039	Note there are several instances throughout the document in which the table/figure reference link is broken and replaced with an error reference. It would have been helpful to correct this issue prior to distribution for review.	Detailed Project Description	The broken table and figure links in the DPD has been updated in the next revision and will be checked prior to distribution for review.
səlilwətaɬ (Tsleil-Waututh Nation)			
DPD-TWN-001	Please provide additional information on the sustainability objectives of the Project. The word sustainability requires a more nuanced definition. The current definition is unclear. In what way(s) will the Project contribute to sustainability objectives?	Detailed Project Description	As indicated in the Executive Summary and Section 4.2 of the DPD, The Project will provide safe, reliable, and accessible transportation options that meet the objectives for sustainable growth for the Metro Vancouver region. Section 4.2 also identifies principles, goals and objectives of the Project which include supporting the sustainability of Fraser River communities, facilitating an increased share of sustainable modes of transport, enhancing regional goods movement and commerce, and supporting a healthy environment. Section 4.2 has been further revised to describe how the project will facilitate an increased share of sustainable modes of transport and support a healthy environment

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-002	Please explain the model's forecast for congestion relief. How many years of actual benefit before congestion is reached again? The region continues to grow; expanded transportation infrastructure invites more users; therefore, it may only be a matter of time before congestion is experienced again.	Detailed Project Description	The forecast traffic demands for the project include up to year 2050, and are based on TransLink's latest Regional Transportation Model (EMME/2), which includes the latest future regional land uses and population growth. The model also assumes that robust transit service will be provided along the improved Highway 99 corridor, which is anticipated to mitigate traffic growth.
DPD-TWN-003	The new tunnel will provide a connection to the international gateways of the region's marine ports.	Detailed Project Description	Section 4.1 of the DPD has been updated to include the following text: "The new tunnel corridor will provide a connection to the international transportation gateways of the region's marine ports, airport facilities, provincial highway network, Tsawwassen ferry terminal, and land border with the United States."
DPD-TWN-004	Please provide additional information on how the Project will "facilitate an increased share of sustainable modes of transportation" and "support a healthy environment". Please clarify what constitues a "healthy environment." Please provide any studies referenced to support these points.	Detailed Project Description	The following text have been added to Section 4.2 of the DPD to clarify how the Project will "facilitate an increased share of sustainable modes of transportation" and how it will "support a healthy environment". The Project will support an increase share of sustainable modes of transportation by: • enhancing transit service convenience and facilitating future expansion • supporting safe, convenient, and comfortable options for pedestrians and cyclists • facilitating higher occupancy modes of travel The Project is anticipated to support a healthy environment through the following ways: • avoiding loss of habitat for fish, wildlife, birds and marine mammals • Improvement to habitat quality and protect water quality • Enhancement of land and marine-based recreation • Reduction of greenhouse gas emissions and other contaminants
DPD-TWN-005	Please explain the model's forecast for congestion relief. How many years of actual benefit before congestion is reached again? The region continues to grow; expanded transportation infrastructure invites more users; therefore, it may only be a matter of time before congestion is experienced again.	Detailed Project Description	The forecast traffic demands for the project include up to year 2050, and are based on TransLink's latest Regional Transportation Model (EMME/2), which includes the latest future regional land uses and population growth. The model also assumes that robust transit service will be provided along the improved Highway 99 corridor, which is anticipated to mitigate traffic growth.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-006	Please clarify the meaning & reasoning behind this statement: "Anticipated daily and annual maximum production or operational capacity of the Project has not been provided as it is not applicable to the Project."	Detailed Project Description	An information requirement of the EAO's Initial Project Description Guidelines of the Early Engagement Policy (2019) is to provide anticipated daily and annual maximum production or operational capacity of a project, when applicable. This statement was added to confirm that this information requirement is not applicable to the Project. This is explained in the Concordance Table found in Attachment 1 of the DPD.
DPD-TWN-007	Please clarify which lands will be required for "permanent works" as the bulleted list is referred to as "Temporary lands [are] proposed in the following areas:"	Detailed Project Description	Section 5.2 of the DPD provides a detailed breakdown of the Project components. Please refer to Table 5.2-1 and Figure 5.2-1 [Project Footprint], which identify the lands associated with both the permanent and temporary works.
DPD-TWN-008	Please clarify the number of tunnel elements to be stored at the temporary offsite moorage site at Shady Island.	Detailed Project Description	It is anticipated that three tunnel elements are proposed for storage at Shady (Steveston) Island although this is subject to change as Project design and construction sequencing are advanced during development of the EAC Application.
DPD-TWN-009	Please provide additional information on the number of moorage sites, as well as on the number and type of piles.	Detailed Project Description	As described in Table 5.2-1, the four proposed outfitting jetties may be utilized as moorage sites along with the moorage site located at Shady (Steveston) Island. The design of these mooring locations is currently under development and more details will be provided during development of the EAC Application as the Project design and construction sequencing are advanced.
DPD-TWN-010	Please provide more details on the size and design of the material offloading facilities. Will they be constructed to allow for optimal light penetration under the structure? How many piles? What type of material?	Detailed Project Description	The design of the outfitting jetties is currently under development and more details will be available during development of the EAC Application as the Project design and construction sequencing are advanced.
DPD-TWN-011	Please provide details on size of the casting basin.	Detailed Project Description	The casting basin design is currently under development. The dimensions of project components will be provided during the EAC Application once engineering design has advanced.
DPD-TWN-012	Temporary offsite tunnel element moorage: How much dredging will be required? How much scour protection? How large is the piled cut-off wall? How many piled dolphin structures will be needed?	Detailed Project Description	The tunnel element storage design is currently under development. More information will be available in the EAC Application once the design has been advanced.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-013	Existing Deas Slough Bridge removal: for what potential uses could the bridge be repurposed?	Detailed Project Description	The existing Deas Slough Bridge could potentially be re-purposed for a new muti-use path bridge connection, as described in Table 5.2-1 of the DPD.
DPD-TWN-014	Flood protection: please describe how existing dikes within the MOTI ROW that are affected by the Project will need to be re-constructed to current standards. Would current standards include installing fish-friendly flood gates to restore access to valuable fish habitat?	Detailed Project Description	As indicated in Section 5.3 of the DPD, proposed flood protection dikes will be constructed to meet modern seismic and environmental standards. Specific details such as the number or location of fish-friendly gates will be determined during detailed engineering and design, and will be informed by the existing conditions studies and environmental effects assessment during the Application Development Phase. The Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC), and stakeholders during the Application Development Phase to identify and evaluate potential opportunities to facilitate fish passage and offer aquatic habitat enhancement measures, where appropriate.
DPD-TWN-015	Please provide details on reasoning for excluding rapid transit or light rail from the project's design.	Detailed Project Description	In 2021, the Proponent completed a Business Case that provided an analysis of options for replacement of the existing tunnel. Rapid transit alternatives were considered. The Project (as described in the DPD) with dedicated transit lanes was the concept approved in the Business Case. The Business Case is available here: https://engage.gov.bc.ca/fraserrivertunnel/document-library/.
DPD-TWN-016	Tsleil-Waututh Nation was not consulted on the identification of the potential location for temporary offsite moorage for tunnel elements. On January 12, 2022, TWN confirmed via email that the Nation wished to continue receiving project information. However, information pertaining to the selection of Shady Island was not shared with TWN.	Detailed Project Description	Thank you for your comment. Information about temporary moorage has been shared with Indigenous nations through verbal discussions to date. The project team looks forward to engaging with Tsleil-Waututh Nation on the temporary moorage element of the project to understand the nation's perspectives at our next meeting in November 2022.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-017	Please explain what environmental considerations and evidence were evaluated in selecting an upstream alignment for the new crossing. The two listed "advantages" appear to represent only property and infrastructure considerations.	Detailed Project Description	Section 5.7 of the DPD has been updated to describe the alternative means analysis undertaken for the Project alignment including the environmental, as well as the social, cultural, and health parameters that were considered. Table 5.7-1 describes the environmental and social considerations that have been evaluated in support of the preferred alignment including potential to affect downstream river scour and erosion, as well as potential to affect the existing tunnel infrastructure, utilities, and properties. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the constraints and opportunities of upstream versus downstream alignments, will be further detailed within the Project EAC Application.
DPD-TWN-018	TWN does not agree that maintaining vehicles and equipment during construction is a GHG mitigation. More discussion is required to design a more robust and effective (proactive) GHG mitigation plan. Increased capacity encourages increased usage. Please identify the studies that have been completed to show there will be fewer GHG emissions as a result of the new tunnel.	Detailed Project Description	The scope and methodologies for undertaking the GHG assessment will be developed in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-019	TWN expects the proponent to calculate the level of GHG emissions from concrete production. In doing so, the Project will take into account the "upstream" GHG emissions, thereby providing a more accurate number of actual GHGs related to the construction of the ITT.	Detailed Project Description	The scope, methodologies, and geographical assessment area boundaries for undertaking the GHG assessment will be developed in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase. The assessment area boundaries for GHG emissions will be defined consistent with EAO guidance under the British Columbia Environmental Assessment Act (BCEAA), which typically does not include an upstream assessment of GHG emission.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-020	Diesel engine operators tend to engage in significant idling of engines. Since the literature documents diesel emissions are especially hazardous to human health, please explain the measures that will be taken to address this issue.	Detailed Project Description	An air quality assessment will be completed as part of the EAC Application to identify potential project air quality effects, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope and methodologies for undertaking the air quality assessment will be developed in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-021	TWN requests more details on how these emissions will be calculated and how the Project will align with the federal and provincial targets to address GHG emissions. Please clarify the scope of activities included in the estimates, and describe the methods and assumptions used for quantifying GHG emissions from each activity in the DPD.	Detailed Project Description	Section 6.2 of the DPD has been updated to include a summary of the main assumptions used to estimate the preliminary GHG emissions. Data provided in Section 6.2 of the DPD are preliminary based on the information available at the time of drafting the DPD. The scope and methodologies for undertaking the GHG assessment will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase. Detailed emission estimation methods and input data will be provided as part of the EAC Submission and provided to the TAC for review in the Application Review Phase. Discussion will be provided in the EAC on the extent to which the effects of the project hinder or contribute to the federal and provincials governments ability to meet the respective GHG reduction targets and goals.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-022	Please explain why the GHG emission numbers given for the decommissioning of existing infrastructure and the future decommissioning of the new tunnel are identical?	Detailed Project Description	The following text have been added to Table 6.2-1 within Section 6.2 of the DPD: "Data provided in Section 6.2 of the DPD are preliminary based on the information available at the time of preparing the DPD. For the purposes of the DPD, the GHG emission values provided for the eventual decommissioning of the Project infrastructure (i.e., the proposed ITT), are considered to be similar to GHG emissions during removal of the existing infrastructure." The scope and methodologies for undertaking the GHG assessment, including decommissioning of the existing infrastructure and eventual decommissioning of the ITT, will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-023	The Project is designed to accommodate regional growth. TWN is concerned that increased emissions from the Project will contribute further to climate change. Tsleil-Waututh members have observed the effects of climate change in our territory for decades. The existing cumulative environmental effects leading to the loss and degradation of biodiversity, traditional food species and habitats in the Fraser River and Burrard Inlet are indicative of ongoing violations against ecological thresholds and TWN laws. Impacts of climate change will exacerbate and further contribute to adverse cumulative environmental effects throughout our territory.	Detailed Project Description	While the Project will be designed to accommodate regional growth, it is not the cause, or source of, regional growth, and would be designed to reduce traffic congestion and associated GHG emissions contributing to climate change. The scope and methodologies for undertaking the GHG assessment, and resulting influence on climate change will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-024	Construction activities are typically 24/7 - not "intermittent and short in duration"- to meet aggressive Project timelines. Given the GHG intensity of making concrete, please identify the studies that were referenced to make this assumption.	Detailed Project Description	The statement “intermittent and short in duration" is in reference to direct or Scope 1 Project emissions. The GHG emissions emitted in the manufacture of raw materials used in project construction (e.g., cement, steel) are scope 3 emissions that are not within the GHG boundary of the project because both the provincial and federal GHG reporting programs do not require scope 3 emissions to be reported for a facility. Individual construction equipment and vehicles will not all be operating concurrently and continuously over the construction period, as construction is usually staged. Construction vehicles are typically not continuously moving – they may be idle during shift breaks, or during loading/unloading, or may not be required in as certain stage of the construction phase. The scope, methodologies, and geographical assessment area boundaries for undertaking the GHG assessment and for developing mitigation measures associated with construction activities, including concrete production, will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-025	Models tend to have a timeline; the assumption that "the Project is anticipated to contribute to GHG emission reductions due to decreased congestion" may be inaccurate. By what date could current congestion scenarios be reached, given the region continues to grow?	Detailed Project Description	Estimating emissions during the construction and operation phases of the tunnel will be undertaken with the most representative data available at the time of the environmental assessment, and will take into consideration existing and proposed government legislation aimed at reducing emissions. These forecasts will also consider projected increases in Metro Vancouver’s regional population over the life span of the tunnel, and resulting potential for increases in emissions. Key assumptions to be used in the prediction of emissions and effects will be detailed in EAC Application.
DPD-TWN-026	Please provide an estimated end of project date.	Detailed Project Description	As described in Table 5.4-1, the current schedule forecasts the commissioning of the new tunnel in 2030 and the decommissioning of the existing tunnel to take place between 2031 and 2032.
DPD-TWN-027	Given the climate crisis, would the proponent consider implementing a 'Zero Waste' Plan for the construction phase of the Project?	Detailed Project Description	A waste management plan will be prepared for the Project and a draft of this plan will be included in the Application for an EAC. As sources of waste are identified and defined, the Project will seek to minimize waste generation and disposal through design and alternative uses of materials.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-028	Please provide details on the soil stabilization plan.	Detailed Project Description	The details of the soil stabilization plan are currently under development and more details will be available during development of the EAC Application as the Project design and construction sequencing are advanced.
DPD-TWN-029	Please describe what environmental factors were considered in selecting the preferred location for the temporary moorage facility.	Detailed Project Description	Section 5.7 of the DPD has been updated to describe the alternatives analysis undertaken for the location of the temporary moorage site facility including the environmental, social, cultural, and health parameters that were considered. Environmental and social considerations that have been evaluated to date in support of the proposed temporary moorage facility include potential scour, sedimentation, river morphology and hydarulics conditions and effects; potential effects on water quality and fish and fish habitat; as well as potential effects on navigation, nearby foreshore infrastructure. Potential effects on Indigenous fisheries is a key consideration. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the alternatives analysis undertaken for the location of the temporary moorage site facility will be further defined within the Project EAC Application.
DPD-TWN-030	Table 7.2-1 estimates size of the various types of (directly) disturbed areas. Please include estimates for indirectly disturbed areas, knowing various effects will be experienced downstream.	Detailed Project Description	Table 7.2-1 provides estimates on the approximate size of areas to be directly affected based on the temporary and permanent disturbance areas reflective of the land-based and marine-based components of the Project footprint. The nature and extent of areas to be indirectly affected by the Project will be determined based on the Local Assessment Area (LAA) and Regional Assessment Area (RAA) boundaries for each of the disciplines as part of the EAC Application. The scope, methodologies, and delineation of LAAs and RAAs for each of the disciplines will be determined during development of the Application Information Requirements (AIR) within the Process Planning Phase in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-031	Please define what "Crown Agency" and "Mixed EMP" mean.	Detailed Project Description	Crown Agency or Crown Corporations are public sector organizations established and funded by the BC government to provide specialized goods, and services to citizens. Mixed Emp refers to the land use designation mixed employment. Mixed Employment areas are intended for industrial, commercial, and other employment-related uses. The legend in Figure 7.3-2 has been expanded from "Mixed Emp" to read "Mixed Employment".
DPD-TWN-032	Please explain why "growth and the associated land and water use along the lower reaches of the Fraser River South Arm" were limited to 20 years.	Detailed Project Description	In addition to information on land and water use and growth along the Fraser River South Arm over a 20-year period, Section 7.2 (previously section 7.4) of the DPD also highlights that land within and adjacent to the Project footprint has been "previously developed", with previous development referring to development over a longer than 20 year period. Section 7.2 (previously section 7.4) of the DPD also states that portions of the Project footprint and adjacent land and water areas have historical and current importance in supporting Indigenous interests including harvesting, transportation, trade, recreation, fishing, hunting/, trapping, and gathering as well as language and culture, cultural sites, habitation sites, sacred or spiritual sites, transportation routes, and cultural landscapes. The temporal periods for characterizing the historical uses of the Fraser River South Arm will be outlined in the Project Application Information Requirements (AIR) and will be available for review in the Process Planning Phase of the EA. Section 7.2 (previously section 7.4), Paragraph 3 has been moved up as the first paragraph within the section, recognizing the extensive history of the area. The first sentence of the paragraph will be revised from "Portions of the Project footprint" to simply "The Project footprint".
DPD-TWN-033	In addition to road and rail transportation, agriculture, public utilities, industrial and commercial activities, recreation, and mixed urban uses, "Land within and adjacent to the Project footprint has" also been left undeveloped for parkland/wildlife conservation. Please consider adding this.	Detailed Project Description	Section 7.2 (previously section 7.4) of the DPD has been updated to include text indicating that land within and adjacent to the Project footprint has also been left undeveloped for parkland/wildlife conservation.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-034	Please add appropriate reference to the end of the last sentence: "Indigenous Rights, including [T]itle and Treaty rights…are discussed further in Section [Error! Reference source not found]."	Detailed Project Description	The last sentence in Section 7.2 (previously Section 7.4) Past and Present Water Use of the DPD has been revised as follows to capitalize (upper case) of the "T" in "Title": "Indigenous Rights including Title and Treaty rights known to overlap with, or lie in the vicinity of the Project area are discussed further in Section 13.0". Entries 26 & 27 of Attachment 4 have also been updated to capitalize "Title" and to remove and replace the broken hyperlink to section 13 [Error! Reference source not found], with a properly functioning link to Section 13.
DPD-TWN-035	Given that potable water treatment has an associated cost, does preparing batched concrete have to rely on potable water i.e., would it be feasible to use municipal grey water?	Detailed Project Description	The project is continuing to explore sources of water that would be suitable for casting of the concrete tunnel elements. An infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including potable water supply and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-036	TWN advocates that all projects, whether TWN-led or Proponent-led, aim for net environmental gain. Since industrial development began, TWN's resources and ability to sustain themselves off the land has been adversely affected. The work TWN does today is to ensure the limited resources remaining are available today for future generations. TWN stands by the principal of net environmental gain and considers cumulative impacts when assessing projects. Short-term and temporary adverse effects are still adverse effects, and arguably, some associated effects are not reversible. TWN looks forward to seeing how MOTI will avoid potential adverse effects whenever possible, and where these impacts cannot be avoided, how MOTI will innovatively achieve net environmental gain.	Detailed Project Description	The Proponent is committed to maximizing sustainable development and net environmental gain of the Project through Project design, construction and operations. As currently stated Section 10.7 of the DPD, the EAC Application will include a rationale for how existing and reasonably foreseeable projects and activities will be identified, and will provide methodologies for assessing regional cumulative effects. The projects and activities to be identified, and methodologies for assessing incremental effects of the Project, will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase, and will continue throughout the Application Development phase. As per the EAO's Effects Assessment Policy Version 1.0 (EAO, 2020), the EAC Application will also assess Project effects on current and future generations, including in relation to Indigenous interests to support decision makers understanding of the sustainability of the Project including net environmental and social benefit. The Proponent will work with Indigenous nations during the EA process to understand important aspects to consider in the current and future generations assessment for the Project.
DPD-TWN-037	TWN's Stewardship Policy is included in Table 7.6-1: Land and Water Use Management Plans but not in Section 15 References.	Detailed Project Description	TWN's Stewardship Policy has been added to the Section 15 References.
DPD-TWN-038	For completeness, reference to BC's Declaration on the Rights of Indigenous Peoples Act (DRIPA) should be made.	Detailed Project Description	Thank you for your comment. The Declaration of the Rights of Indigenous Peoples Act (Declaration Act) was previously included in the Executive Summary of the DPD. Section 8.6 of the DPD has also been revised to include: Upholding the commitment of the Province to support reconciliation with Indigenous nations, the Proponent's Indigenous engagement approach is informed by the Draft Principles that Guide the Province of British Columbia's Relationship with Indigenous Peoples (Government of BC [date unknown]), the BCEAA, and the Declaration on the Rights of Indigenous Peoples Act, SBC 2019, c. 44.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-039	Regional Parks Research Permit: Please explain how construction works qualify as research when ecological communities at risk (wildlife habitat) may be destroyed by proposed locations for laydown offices, parking, storage and fabrication footprints (Page 83)?	Detailed Project Description	References to the Regional Parks Research Permit in Table 8.5-1 will be removed. Future permitting requirements will be determined in discussion with Metro Vancouver.
DPD-TWN-040	Project footprint - in addition to estimating the spatial area directly disturbed by Project construction activities, how will MOTI account for disturbances created by pre-construction activities? Additionally, how will indirect spatial disturbances be accounted, given the dynamic nature of the riverine system i.e., inherent downstream effects?	Detailed Project Description	The area of direct spatial disturbance from both pre-construction and construction activities is captured within DPD Figure 5.2-1 Project Footprint. Direct spatial disturbance from pre-construction and construction activities, as well as indirect spatial disturbances such as downstrean effects will be captured within the defined local assessment areas [LAAs] for the environmental, social, economic, cultural and health valued components [VCs] studies for the EAC Application. Engagement on the LAAs for the VCs will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application.
DPD-TWN-041	Please clarify what is meant by: "Significant adverse cumulative effects identified for the RBT2 Project decision will be considered as existing conditions for the Project EAC Application."	Detailed Project Description	The intention of the referenced text was to indicate that the cumulative effects determination of the RBT2 Project, as well as other projects and activities within the lower Fraser River, will be considered where relevant to each of the VCs for the FRTP Project to understand both existing as well as future conditions without the Project. The referenced text has been removed from the introduction paragraphs of Section 10, and the above clarification has been added to Section 10.7 regarding Cumulative Effects Assessment.
DPD-TWN-042	Please indicate what studies were referenced to support the statement: "Long-term improvements in air quality are likely to be driven by ongoing improvements in vehicle emission reduction technology and increased transit." Such improvements may be negated by regional growth projections and subsequent increase in traffic volumes. Moreover, the Province discontinued the AirCare program in December 2014, which helped to ensure vehicles were being maintained effectively to control excess tailpipe emissions.	Detailed Project Description	The reference to the "Long-term improvements in air quality are likely to be driven by ongoing improvements in vehicle emission reduction technology and increased transit" in Section 10.1.1 of the DPD is based on general trends toward increased number of electric vehicles, and corresponding reduction in fossil-fuel vehicles. In addition, the design features of the Project will facilitate improved transit use through the dedicated transit lanes, as well as pedestrian and cycling opportunities through the Multiple Use Path (MUP).

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-043	As in 6.2 above, please explain why the numbers given for the decommissioning of existing infrastructure and the future decommissioning of the new tunnel appear to be identical?	Detailed Project Description	The following text have been added to Table 6.2-1 within Section 6.2 of the DPD: "Data provided in Section 6.2 of the DPD are preliminary based on the information available at the time of preparing the DPD. For the purposes of the DPD, the GHG emission values provided for the eventual decommissioning of the Project infrastructure (i.e., the proposed ITT), are considered to be similar to GHG emissions during removal of the existing infrastructure." The scope and methodologies for undertaking the GHG assessment, including decommissioning of the existing infrastructure and eventual decommissioning of the ITT will be developed in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-044	Please indicate studies used to support the claim that the project will improve traffic flow. What do the models say about future congestion per regional growth predictions?	Detailed Project Description	The new proposed tunnel will have four lanes in either direction, and will include a dedicated lane for transit in each direction. This will replace a four-lane tunnel. The increase in capacity is anticipated to improve traffic flow. Estimating emissions during the construction and operation phases of the tunnel will be undertaken with the most representative data available at the time of the environmental assessment, and will take into consideration existing and proposed government legislation aimed at reducing emissions. These forecasts will also consider projected increases in Metro Vancouver's regional population over the life span of the tunnel, and resulting potential for increases in emissions. Key assumptions to be used in the prediction of emissions and effects will be detailed in EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-045	Table 10.1-1: Summary of Topics Related to Air Quality Arising from Early Engagement. "The scope of the GHG emissions provided in the IPD and DPD are consistent with the EAO's Early Engagement Policy, Version 1.0 (EAO 2019)." However, TWN requests that the "best available information" be used to most accurately capture all potential GHG emissions created as a result of the Project e.g., adopting IACC's methodology.	Detailed Project Description	Table 10.1-1: Summary of Topics Related to Air Quality Arising from Early Engagement will be revised with the following clarifying text: The scope and methodologies for undertaking the GHG assessment will be developed in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase. The assessment will be consistent with the EAO's Early Engagement Policy, Version 1.0 (EAO 2019) guidance under the British Columbia Environmental Assessment Act (BCEAA).
DPD-TWN-046	Please identify what evidence was used to create the expectation that "there are no existing significant sources of vibration in the Project area." Do large heavy vehicles using airbrakes in the tunnel create detectable vibration in the aquatic environment?	Detailed Project Description	The sentence in Section 10.1.2 of the DPD which states "It is expected that there are no existing significant sources of vibration in the Project area" is based on the observation that there are no major vibration (i.e., ground vibration or air overpressure) sources within the Project area. Ambient noise is influenced by traffic along Highway 99 and connecting roads, nearby industrial sites, the CN railway, aircraft, marine traffic, and agricultural areas. However, none of these noise sources are considered to result in significant vibration in the Project area. Existing underwater noise levels are assessed as outlined in Section 10.1.3 of the DPD. For the assessment of operational noise from traffic within the new immersed tube tunnel, we have proposed that the assessment use the underwater noise levels recorded near the existing George Massey Tunnel (in 2014) by JASCO to determine how an increase in traffic volumes may increase these chronic noise levels. We consider the 2014 information sufficient for these purposes as it captures baseline noise levels close to the George Massey Tunnel during a 24-hour operating period and would capture the range in noise levels generated over a days traffic pattern, including high traffic periods where noises would expect to be highest.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-047	"Existing conditions field surveys to characterize ambient noise levels will be conducted in August or September 2022." TWN is concerned with surveys being conducted in August when many people are away on (end-of-summer) vacation. Taking measurements in August could result in a significant underestimate of ambient noise levels.	Detailed Project Description	The noise existing conditions field surveys were undertaken in October 2022, which was a time of year expected to be representative of existing conditions measured under "summer time" weather conditions in accordance with applicable noise guidelines (i.e., no precipitation, no snow on the ground) while avoiding periods when ambient levels may be under-estimated (e.g., lower vehicular traffic during the summer vacation period). Section 10.1.2 of the DPD has been updated with the following text: Existing conditions field surveys to characterize ambient noise levels were conducted in the fall of 2022.
DPD-TWN-048	TWN expects the proponent to assess ways to reduce underwater noise levels near the new ITT to below levels recorded for the existing George Massey Tunnel.	Detailed Project Description	As indicated in Section 10.1.3 of the DPD, underwater acoustic modelling will be used to predict potential zones of influence for disturbance and injury for fish and marine mammals anticipated as a result of Project generated underwater noise activities. The modelling results will be used to support the effects assessment for fish and marine mammals, and to inform ways to reduce underwater noise levels during construction which may result in injury to fish and marine mammals. When considering the potential effects of underwater noise on marine mammals and fish during preparation of the EAC Application, comparisons will be made to published thresholds for injury and behavioural disturbance for these species. The scope of the underwater noise assessment will be refined during development of the Application Information Requirements (AIR) in the Process Planning Phase, in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.
DPD-TWN-049	Table 10.1-3: Summary of Topics Related to Underwater Noise Arising from Early Engagement. Please explain when the acoustic survey(s) were performed and why.	Detailed Project Description	As indicated in Section 10.1.3 of the DPD (and referenced in Table 10.1-3), underwater acoustic measurements were collected in 2014 in support of the previous EAC Application for the George Massey Tunnel Replacement Project. These measurements were taken close to the current George Massey Tunnel to characterize ambient underwater noise levels generated by existing traffic.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-050	Please explain why water quality testing will be restricted to surface water only. Fish habitat comprises numerous water depths and is dynamic e.g., may vary depending on the dimensions of the salt wedge.	Detailed Project Description	Water quality testing is being undertaken as part of the Fish and Fish Habitat existing conditions program, as well as the Surface Water and Sediment Quality existing conditions program. Seasonal water quality measurements relevant to fish habitat are being taken throughout the year at numerous depths in the water column (i.e., conductivity, temperature, turbidity). In addition, seasonal suspended solid (TSS) samples are being collected throughout the year for testing at numerous depths in the water column as part of the Fish and Fish Habitat existing conditions program.
DPD-TWN-051	TWN expects the proponent to carry out a cumulative effects assessment on valued components by applying a pre-contact baseline. Cumulative impacts must also be assessed for the life of the Project.	Detailed Project Description	The cumulative effects assessment on valued components for the Project EAC Application will be based on the EAO guidelines [Effects Assessment Policy, EAO 2020) which states that existing conditions in the study area should be described in sufficient detail. Information on existing conditions obtained through engagement with Indigenous nations through the Process Planning, Application Preparation, and Review phases, as well as information from Indigenous nation led assessments and other provided information will be considered within existing conditions studies and Project effects analysis in the EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-052	As mentioned in Section 5.7 above, TWN was not consulted when concepts were being developed for the temporary element moorage. TWN is concerned about the rigour of the site selection process. Please explain what environmental factors were considered. There appears to be only mention of minimising impacts to fishing and in-river navigation.	Detailed Project Description	With regard to TWN's consultation on the temporary moorage, please refer to the response to comment number DPD-TWN-016. Section 5.7 of the DPD has been updated to describe the alternatives analysis undertaken for the location of the temporary moorage site facility including the environmental, social, cultural, and health parameters that were considered. Environmental and social considerations that have been evaluated in support of the proposed temporary moorage facility include potential scour, sedimentation, river morphology and hydraulics conditions and effects; potential effects on water quality and fish and fish habitat; as well as potential effects on navigation, nearby foreshore infrastructure. Potential effects on Indigenous fisheries is a key consideration. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements (AIR) in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the alternatives analysis undertaken for the location of the temporary moorage site facility will be further defined within the Project EAC Application.
DPD-TWN-053	Table 10.1-5: Summary of Topics Related to River Hydraulics and Morphology Arising from Early Engagement. The DPD does not appear to adequately address implications of sea level rise.	Detailed Project Description	Thank you for your comment. As described in Section 12 of the DPD, sea level rise is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the environment on the Project, including the potential effects of rising sea levels, will be assessed in the EAC Application.
DPD-TWN-054	Please provide clarification on why a quantitative study is impossible. "The assessment will consider the historical, cumulative effects of development on saltwater marshes on the Fraser River South Arm; however, it may not be possible to do this quantitatively."	Detailed Project Description	The following text has been added as clarification to the referenced response in Table 10.1-8 of the DPD: "Historic vegetation mapping from the mid to late 19th century was conducted at a scale and using methods that does not indicate that saltwater marshes occurred in the Project study areas, and as such, does not accurately delineate the extent of saltwater marshes that may have actually been present at that time. A quantitative comparison to historical mapping, produced at different mapping scales using different vegetation classification systems, would be reflective of differences in the mapping methodologies, and not the actual changes in saltwater marshes over time." Additionally the statement "it may not be possible to do this quantitatively" has been removed from text that was previously in this table.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-055	TWN expects the proponent to provide the rationale behind the notion that displacement of aquatic birds will be temporary. Change wording to indicate that displacement will be potentially temporary or permanent.	Detailed Project Description	A wildlife and wildlife habitat assessment will be completed as part of the EAC Application that will consider the potential for the Project to result in the temporary and permanent displacement of wildlife, including aquatic birds. The referenced sentence in Section 10.1.9 of the DPD was updated to provide a list of potential effects associated with in-river work, which will be limited to the construction phase. The scope of the wildlife and wildlife habitat assessment will be refined during preparation of the Application Information Requirements (AIR) during the Process Planning Phase in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.
DPD-TWN-056	"Construction and operational noise levels and the temporary presence and movement of crews, machinery, and equipment may impact habitat connectivity and reduce habitat quality." (pg.88) Consider replacing the word "may" with "will".	Detailed Project Description	Section 10.1.9 of the DPD provides a preliminary list of potential effects that will be considered in the wildlife and wildlife habitat assessment component of the EAC Application. The language of the DPD reflects the current level of uncertainty regarding the potential for effects to occur. The scope of the Wildlife and Wildlife Habitat Assessment will be refined during development of the Application Information Requirements (AIR) in collaboration with Indigenous nations and the Technical Advisory Committee (TAC) during the Process Planning Phase of the EA, and during preparation of the EAC Application.
DPD-TWN-057	"Following construction and decommissioning of the Existing Tunnel, additional areas will be available to re-establish wildlife connectivity on Deas Island." Please specify which areas will be available.	Detailed Project Description	Areas around the existing tunnel that are currently maintained could potentially be restored to provide additional habitat for wildlife. A wildlife and wildlife habitat assessment will be included in EAC Application and will review potential restoration areas and assess the feasibility of improving wildlife habitat connectivity within the Highway 99 on Deas Island. The scope of the wildlife and wildlife habitat assessment will be refined during development of the Application Information Requirements (AIR) in collaboration with Indigenous nations and the Technical Advisory Committee (TAC) during the Process Planning Phase of the EA, and during preparation of the EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-058	Given the substantial historical decline in fish and fish habitat in the Fraser River, TWN expects the Proponent to go above and beyond "reducing effects of construction and operation of the Project on fish and fish habitat," requesting MOTI take a holistic look at potential impacts to fish and fish habitat so that significant habitat compensation can be identified, resulting in an environmental net gain, including fish habitat.	Detailed Project Description	Section 10.1.10 of the DPD has been revised to state: "Details of the habitat offsetting program will be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Development phase of the environmental assessment." Habitat offsetting planning and design will include specific consideration of the Tsleil-Waututh Nation's concerns and recommendations, and with a goal that they are aligned with fisheries management objectives of the lower Fraser River.
DPD-TWN-059	TWN is concerned about negative impacts to fish populations (especially salmon), further precluding TWN's ability to harvest these resources and negating TWN's environmental remediation programs aimed at restoring these resources and other now scarce fish populations (especially herring, sturgeon and eulachon). Fraser Sockeye is the primary traditional food still harvested by TWN. Current TWN fishing practices have been heavily curtailed, including the near-complete or complete absence of herring, eulachon and other small fish and sturgeon from TWN diets. TWN still actively fishes in the Fraser River and are concerned about the potential for further negative impacts to other traditional foods including crab, shellfish, particularly clams, and marine birds, particularly ducks. The reduction in traditional foods could in turn impact TWN cultural and ceremonial activities since salmon, crab, clams, herring and birds are central to such activities. A reduction in traditional foods would also impact cultural transmission because harvesting and preparing of traditional foods is the primary context for such cultural transmission.	Detailed Project Description	Potential effects to fish and fish habitat will be assessed through examination of potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat. Potential effects on Indigenous fish harvesting from changes in productivity and sustainability of harvestable fish populations will be assessed in the marine use effects assessment drawing upon results of Indigenous knowledge, Indigenous-led assessments, and the fish and fish habitat assessment to be completed as part of the EAC Application. Section 10.3.2 of the DPD has been updated to include this information. Details of the methods used to conduct the effects assessment will be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during development of the Application Information Requirements (AIR) within the Process Planning Phase of the environmental assessment. In particular, the Proponent is interested in further dialogue with TWN on VC selection and if inclusion of culture with respect to this comment.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-060	The area in and around the Project was first home to the ancestors of Coast Salish People, including the Tsleil-Waututh Nation. Tsleil-Waututh is deeply connected to the lands and waters of the territory, and developed a Marine Stewardship Plan in 2005, which aims to restore the waters to a healthy state that would support the safe consumption of marine foods. Tsleil-Waututh stands by the principle of “net environmental gain” for all projects, rather than a perspective based on mitigating impacts for “no net environmental loss”. This Tsleil-Waututh principle takes into account that current conditions throughout the territory are already at a loss, compared to pre-industrial times. Due to current conditions in the Fraser River and elsewhere, some projects predetermine that there will be no environmental impacts due to the lack of productive marine habitat. This assessment does not reflect the existing loss of habitat since pre-industrial times, and assumes no responsibility of the proponent or the regulatory authority to implement habitat restoration projects or initiatives. Tsleil-Waututh would like to see change towards a cumulative effects assessment that includes pre-industrial environmental conditions as a baseline, and appropriate investments made towards habitat restoration to achieve net environmental gain.	Detailed Project Description	Section 10.1.10 of the DPD has been revised to state: "Details of the habitat offsetting program will be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Development phase of the environmental assessment." Habitat offsetting planning and design will include specific consideration of the Tsleil-Waututh Nation’s concerns and recommendations, and with a goal that they are aligned with fisheries management objectives of the lower Fraser River. The methodology used in determining baseline conditions and the assessment of potential cumulative effects is consistent with the EAO guidance document - Effects Assessment policy (EAO 2020), which advises that existing conditions should be described in sufficient detail, to ensure potential project interactions are assessed. These guidelines will be used to determine the scope and methodology to be developed in the Application Information Requirements (AIR) during the Process Planning Phase, and applied during the effects assessment during preparation of the EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-061	From TWN's holistic view, the links between SRKW and TWN intangible cultural heritage cannot be fully assessed or comprehended. The local population of SRKW has already been heavily impacted and the potential loss of killer whales from the local environment has already impacted and will continue to break the sense of place that TWN people hold in connection with their community and ancestors. Due to Tsleil-Waututh's close cultural relationship with killer whales, any loss of SRKW (individual or population level) would negatively impact the cultural health of TWN community members. The loss of species and the intangible aspects of their meaning is not only a threat to the ecological health of TWN territory, but equally detrimental to their cultural well-being.	Detailed Project Description	The Proponent acknowledges the importance of SRKW to the Tsleil-Waututh Nation. TI Corp understands that SRKW are already experiencing adverse effects as a result of the synergistic interactions resulting from cumulative effects associated with reduced prey availability, acoustic and physical disturbance, and contaminants. The loss of one SRKW could exceed the resiliency of this population. The Proponent will engage and collaborate with the Tsleil-Waututh Nation on the development of mitigation measures for the Project and specifically on measures related to SRKW. A marine mammals assessment will be completed as part of the EAC Application to identify potential project effects to marine mammals, including SRKW, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the marine mammals assessment will be defined during the development of the Application Information Requirements (AIR) during the Process Planning Phase in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and public stakeholders.
DPD-TWN-062	TWN looks forward to being consulted on procurement and training, as well as cultural recognition.	Detailed Project Description	Noted, thank you.
DPD-TWN-063	left blank	Detailed Project Description	This comment was blank.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-064	Please explain the environmental considerations for deciding to locate the temporary offsite moorage area at the upstream end of Shady Island.	Detailed Project Description	Section 5.7 of the DPD has been updated to describe the alternative means analysis undertaken for the location of the temporary offsite moorage facility, including the environmental, as well as the social, cultural, and health parameters that were considered. Table 5.7-1 describes the environmental and social considerations that have been evaluated in support of the preferred alignment including potential scour, sedimentation, river morphology and hydraulics conditions and effects; potential effects on water quality and fish and fish habitat; potential effects on navigation and nearby foreshore infrastructure; and potential effects on Indigenous fisheries. Further engagement on the alternatives analysis will occur during the development of the Application Information Requirements AIR in the Process Planning Phase of the EAC Application. A description of the analysis of Alternative Means of Carrying out the Project, including the alternatives analysis undertaken for the location of the temporary moorage site facility will be further defined within the Project EAC Application.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-065	Please explain the model's forecast for congestion relief. How many years of real benefit will be experienced before congestion may be reached again? The assumption that "the Project is anticipated to contribute to GHG emission reductions due to decreased congestion" may not be accurate. By what date could current congestion scenarios be reached, given the region continues to grow?	Detailed Project Description	The forecast traffic demands for the project include up to year 2050, and are based on TransLink's latest Regional Transportation Model (EMME/2), which includes the latest future regional land uses and population growth. The model also assumes that robust transit service will be provided along the improved Highway 99 corridor, which is anticipated to mitigate traffic growth. The Project is expected to result in decreased GHG emissions in the long-term, especially in the vicinity of the Existing Tunnel, as a result of improved traffic flow, since vehicles driving at highway speeds consume less fuel and generate lower emissions. However, air emissions during construction are likely to result in localized temporary changes in air quality. Long-term improvements in air quality are likely to be driven by ongoing improvements in vehicle emission reduction technology and increased transit. Estimating GHG emissions during the construction and operation phases of the tunnel will be undertaken with the most representative data available at the time of the Environmental Assessment Application. These forecasts will also consider projected increases in Metro Vancouver’s regional population over the life span of the tunnel, and resulting potential for increases in GHG emissions. Key assumptions to be used in the prediction of GHG emissions and effects will be detailed in the EAC Application. The scope of the GHG assessment will be included in the Application Information Requirements (AIR) to be prepared during the Process Planning Phase of the EA in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.
DPD-TWN-066	Please provide more details on the following statement: "Opportunities for the Project to expand access and use by Indigenous Peoples will also be considered."	Detailed Project Description	The proponent will collaborate with Indigenous nations during development of the Application Information Requirements (AIR) in the Process Planning Phase, and during the Application Development Phase to assess potential Project effects on Indigenous nations’ access and use, identify mitigation measures, and potential opportunity for the Project to expand access and use.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-067	TWN expects the proponent to assess how lighting installments will impact marine birds.	Detailed Project Description	A wildlife and wildlife habitat assessment will be completed as part of the EAC Application. The EAC Application will assess how changes in Project lighting may effect wildlife and wildlife habitat, including marine birds. The scope of the Wildlife and Wildlife Habitat Assessment will be refined during development of the Application Information Requirements (AIR) in collaboration with Indigenous nations and the Technical Advisory Committee (TAC) during the Process Planning Phase of the EA, and during preparation of the EAC Application.
DPD-TWN-068	TWN is interested in the methodology of the planned traffic impact assessment, especially as it relates to the correlation between population growth and highway usage.	Detailed Project Description	As described in Section 10.3.4 of the DPDA, a traffic impact assessment will be completed as part of the EAC Application. Traffic volumes, patterns, and forecasts will be used to assess potential Project construction impacts to vehicle, bike, and pedestrian transportation safety, travel times, and reliability as well as changes to vehicle, transit, cycling, and pedestrian transportation under Project operations. The scope of the traffic impact assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.
DPD-TWN-069	Table 10.3-4: Reference to Table 10.1-5 still does not specifically address sea level rise, which is an inherent part of climate change and deserves careful consideration.	Detailed Project Description	Thank you for your comment. As described in Section 12 of the DPD, sea level rise is identified as an environmental factor that could lead to environmental effects to the new ITT and associated infrastructure. Effects of the Environment on the Project will be assessed as part of the EAC application. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.
DPD-TWN-070	TWN expects the proponent to conduct an archaeological assessment (Archaeological Overview Assessment/Archaeological Impact Assessment) for the Project.	Detailed Project Description	The Proponent is in the process of identifying areas of archaeological potential within the Project alignment as part of an archaeological overview assessment. Areas of archaeological potential will be assessed through field investigation (archaeological inventory). The Proponent will work collaboratively with TWN through the archaeological assessment.
DPD-TWN-071	left blank	Detailed Project Description	This comment was blank.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-072	TWN wants to ensure that VCs on health include other cultural components. Values-based indicators of risks to Indigenous health can be used to assess effects to community health, intangible cultural health, wellbeing, experience, culture, governance, transmission of knowledge and sense of place.	Detailed Project Description	As indicated in Section 10.5.2, the Community Health and Wellbeing assessment for the EAC Application will address determinants of wellbeing as they relate to Indigenous communities. Aspects of community health and wellbeing identified through consultation to date include potential negative effects on health due to loss of cultural knowledge, access to traditional resources, and changes to the visual landscape. Additional indicators, including valued-based indicators, and effects identification will be carried out in collaboration with TWN and other Indigenous nations during the development of the Application Information Requirements (AIR) within the Process Planning Phase, and during the Application Preparation phases of the EAC Application.
DPD-TWN-073	Please ensure recent feedback and comments captured in this 'Comment Tracker' file are included here.	Detailed Project Description	Comments received from Indigenous nations and responses will be provided in Attachment 4 of the DPD. Where issues raised relate to one of the Environment, Economic, Social, Cultural or Health VCs, comments will be added to the "summary of Issues Raised" tables in the appropriate subsection in Section 10. The responses to individual comments indicate where changes to the DPD are being made based on the comments and feedback, as well as the respective phases in the Environmental Assessment process when further details are required to address comments related to scope, assessment methodology, and development of mitigation measures in collaboration with Indigenous nations, the Technical Advisory Committee (TAC), and public stakeholders.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-074	Table 10.6-1: The QEP should verify S&EC measures are installed correctly before a forecasted heavy rainfall event (i.e., proactive approach), and then during such an event, to take water quality samples to determine the efficacy of the measures employed. Waiting until after such an event to review the site is not an acceptable form of mitigation.	Detailed Project Description	Table 10.6-1 of the DPD lists preliminary environmental monitoring proposed at this stage of the EA process. The monitoring requirements will be refined through development of the EAC Application in collaboration with technical advisors and Indigenous nations. The "Preliminary Proposed Environmental Monitoring" column under "Surface Water and Sediment Quality" in Table 10.6-1 of the DPD has been updated with the following text: "The QEP will proactively assess that erosion and sediment control measures are installed and maintained correctly, in accordance with best management practices and applicable standards. The Erosion and Sediment Control Plan will include best management practices, nature, and location of applicable mitigation measures. The plan will also include details on QEP monitoring inspections to assess the efficacy and performance of erosion and sediment control measures, and to adivse on recommended improvements as necessary. A QEP will review the site after installation of erosion and sediment control measures, and will assess condition regularly to confirm that BMPs are in place and in good condition. The QEP will review the site within 24 hours, when safe to do so, after a severe rainfall event to assess that BMPs are in place, effective, and in good condition. Storm water will be sampled at appropriate discharge points to assess compliance with municipal and regulatory requirements."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-075	Table 10.6-1: The QEP should verify S&EC measures are installed correctly before a forecasted heavy rainfall event (i.e., proactive approach), and then during such an event, to take water quality samples to determine the efficacy of the measures employed. Waiting until after such an event to review the site is not an acceptable form of mitigation.	Detailed Project Description	Table 10.6-1 of the DPD lists preliminary environmental monitoring proposed at this stage of the EA process. The monitoring requirements will be refined through development of the EAC Application in collaboration with technical advisors and Indigenous nations. The "Preliminary Proposed Environmental Monitoring" column under "Surface Water and Sediment Quality" in Table 10.6-1 of the DPD has been updated with the following text: "The QEP will proactively assess that erosion and sediment control measures are installed and maintained correctly, in accordance with best management practices and applicable standards. The Erosion and Sediment Control Plan will include best management practices, nature, and location of applicable mitigation measures. The plan will also include details on QEP monitoring inspections to assess the efficacy and performance of erosion and sediment control measures, and to advise on recommended improvements as necessary. A QEP will review the site after installation of erosion and sediment control measures, and will assess condition regularly to confirm that BMPs are in place and in good condition. The QEP will review the site within 24 hours, when safe to do so, after a severe rainfall event to assess that BMPs are in place, effective, and in good condition. Storm water will be sampled at appropriate discharge points to assess compliance with municipal and regulatory requirements."
DPD-TWN-076	Preliminary Proposed Monitoring: TWN recommends more than 5 years of post-construction vegetation monitoring to ensure effective management of invasive plant species.	Detailed Project Description	As stated in Table 10.6-1, the frequency and duration of preliminary proposed monitoring will be determined based on the results of the effects assessment during the Application Preparation Phase of the environmental assessment, in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-077	Please explain what "Habitat offset effectiveness monitoring" would entail. Could this go beyond the defined Regional Assessment Area?	Detailed Project Description	The reference to "habitat offset effectiveness monitoring" in Table 10.6-1 refers to adaptive environmental management monitoring measures that would be developed and implemented to assess the effectiveness, productivity, and functionality of the habitat offset program relative to its objectives. The habitat offset effectiveness monitoring measures may also include procedures for augmenting and/or adapting the habitat offsets if deficiencies are detected, which is typical requirement of most Fish Habitat Authorization Agreements. The spatial scale and extent of any habitat offset effectiveness monitoring program would be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the EAC Application Development Phase of the EA process.
DPD-TWN-078	Please describe what the "noise mitigating systems" could entail.	Detailed Project Description	The reference to "noise mitigating systems" in Table 10.6-1 refers to the possible range of noise control measures, each applicable to different types of marine environments, that could be implemented during construction activities to minimize potential harm or injury to fish and marine mammals. The range of noise mitigating systems that could be deployed and effective to the site-specific conditions of the Fraser River (i.e., currents, tides, other marine user groups, etc.) will build on learnings from other recent projects (e.g., Pattullo Bridge Replacement Project), and will be determined through the EAC Application Development Phase in collaboration Indigenous nations, Technical Advisory Committee (TAC), and stakeholders.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-079	"Consistency with regional, local, and Indigenous land use plans, strategies, and objectives:" Please explain what potential mitigation could look like if consistency is not feasible e.g., to compensate for direct & indirect impacts to parks (wildlife habitat, rare plant communities, etc.), and indigenous harvesting of traditional foods, including fish, shellfish and crabs, and waterfowl. TWN advocates that all projects, whether TWN-led or Proponent-led, aim for net environmental gain. Since industrial development began, TWN's resources and ability to sustain themselves off the land has been adversely affected. The work TWN does today is to ensure the limited resources remaining are available today for future generations. TWN stands by the principal of net environmental gain and considers cumulative impacts when assessing projects. Short-term and temporary adverse effects are still adverse effects, and arguably, some associated effects are not reversible. TWN looks forward to seeing how MOTI will avoid potential adverse effects whenever possible, and where these impacts cannot be avoided, how MOTI will innovatively achieve net environmental gain.	Detailed Project Description	Table 10.6-1 references "Consistency with regional, local, and Indigenous land use plans, strategies, and objectives" as one of the categories of Land and Resource effects of the Project. A Land and Resource Use Assessment will be completed as part of the Project EAC Application to identify potential effects to land and resource uses, including consistency with regional, local, and Indigenous land use plans, strategies and objectives. In the event that potential Project effects on regional, local and Indigenous land use plans, strategies and objectives are identified, mitigation measures will be recommended, which will be specific to addressing the identified potential effect. As per the EAO's Effects Assessment Policy Version 1.0 (EAO, 2020), the EAC Application will include assessment of Project effects on current and future generations, including in relation to Indigenous interests, to support decision makers understanding of the sustainability of the Project including net environmental and social benefit. The Proponent will work with Indigenous nations during the Process Planning and Application Development Phases to understand important aspects to consider in the current and future generations assessment for the Project. This assessment will be used to inform the development of recommended mitigation measures. The methodology used in determining baseline conditions and the assessment of potential cumulative effects is consistent with the EAO guidance document - Effects Assessment policy (EAO 2020), which advises that existing conditions should be described in sufficient detail, to ensure potential project interactions are assessed. These guidelines will be used to determine the scope and methodology to be developed in the Application Information Requirements (AIR) during the Process Planning Phase, and applied during the effects assessment during preparation of the EAC Application. Indigenous-led assessments and other provided information will be considered within the existing conditions studies and Project effects assessments for the EAC Application. The Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders during the Process Planning and Application Development Phases of the environmental assessment process.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-080	Please explain what the Grievance Process entails.	Detailed Project Description	A grievance process referred to in Table 10.6-1 refers to the avenues through which grievances can be submitted, roles and responsibilities pertaining to grievance response management, grievance information tracking, and monitoring and reporting. Where the Project effects assessment results, and/or the Project conditions identify the need for a grievance process, this process will be developed for the Project, which will incorporate input from Indigenous nations.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-081	TWN expects the proponent to carry out a cumulative effects assessment on valued components by applying a pre-contact baseline. TWN believes that impact assessments should reflect the following temporal depth: pre-contact where possible with Indigenous knowledge, or pre-industrial as a default position where data are unavailable and reconstruction is not possible. Pre-contact ecological data are particularly relevant to efforts to rehabilitate or enhance degraded ecosystems such as the Fraser River estuary. If baseline values and the indicators and measurements used by the proponent in regard to subsistence activities and cultural significant sites are limited to assessing pre-project conditions, these will not accurately represent an understanding of the impacts of the Project on their Indigenous Interests. Using a current project-specific baseline fundamentally underestimates the degree of change in the project area, and will continue to inhibit a proper assessment of the total cumulative effects loading. Focusing on a pre-contact baseline also avoids the problem of 'shifting baseline conditions' where the observed or recorded historic baseline conditions have already been altered by commercial fishing and industrial development. Tsleil-Waututh does not agree with current assessment methodologies (including cumulative effects assessment methods) that consider only residual effects of the project that have the potential to interact with other projects and activities as scoped by the EA. Tsleil-Waututh assesses cumulative effects from a holistic perspective, inclusive of past (pre-contact baseline), present and future impacts on its members, culture, economy, and the environment from all projects across the territory. Tsleil-Waututh requests that all effects, including those generated by mitigatory and adaptive measures, be included in the cumulative effects assessment.	Detailed Project Description	The methodology used in determining baseline conditions and the assessment of potential cumulative effects is consistent with the EAO guidance document - Effects Assessment policy (EAO 2020), which advises that existing conditions should be described in sufficient detail, to ensure potential project interactions are assessed. These guidelines will be used to determine the scope and methodology to be developed in the Application Information Requirements (AIR) during the Process Planning Phase, and applied during the effects assessment during preparation of the EAC Application. Indigenous-led assessments and other provided information will be considered within the existing conditions studies and Project effects assessments for the EAC Application. The Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders during the Process Planning and Application Development Phases of the environmental assessment process.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-082	TWN looks forward to the analysis of sea level rise.	Detailed Project Description	The analysis of sea level rise will be addressed in the "Effects of the Environment on the Project" chapter of the EAC Application. The scope of naturally occurring environmental conditions that could affect the Project will be determined during development of the Application Information Requirements (AIR) as part of the Process Planning phase and we look forward to discussing it with TWN at that time.
DPD-TWN-083	Please ensure to include recent feedback and comments from this Tracking Comments file.	Detailed Project Description	These comments received Sept 29, 2022 will be incorporated into the TWN specific comment table in section 13.3-18
DPD-TWN-084	TWN asks that all reference to treaty process with the Province be removed from this document as it has no bearing on the environmental assessment process for this project.	Detailed Project Description	The FRTP DPD has been revised to remove reference to Tsleil-Waututh treaty negotiations from section 13.3.23
DPD-TWN-085	Correction: Salish Seas Limited is a partnership between Tseil-Waututh Nation, Tla'amin First Nation, and the Musqueam Indian Band.	Detailed Project Description	Section 13.3.23 has been corrected to read "Salish Seas Limited is a partnership between Tseil-Waututh Nation, Tla'amin First Nation, and the Musqueam Indian Band. "
DPD-TWN-086	Please ensure to include recent feedback and comments.	Detailed Project Description	The comments received Sept 29, 2022 have been incorporated into the TWN specific comment table.
DPD-TWN-087	"However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor." Since TWN was not consulted on the original Highway 99 construction and associated George Massey Tunnel, this supports TWN's approach to using pre-contact existing conditions as the baseline conditions from which to assess the Project's potential cumulative effects.	Detailed Project Description	The methodology used in determining baseline conditions and the assessment of potential cumulative effects is consistent with the EAO guidance document - Effects Assessment policy (EAO 2020), which advises that existing conditions should be described in sufficient detail, to ensure potential project interactions are assessed. These guidelines will be used to determine the scope and methodology to be developed in the Application Information Requirements (AIR) during the Process Planning Phase, and applied during the effects assessment during preparation of the EAC Application. Indigenous-led assessments and other provided information will be considered within the existing conditions studies and Project effects assessments for the EAC Application. The Proponent will collaborate with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders during the Process Planning and Application Development Phases of the environmental assessment process.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-TWN-088	Please make the following changes:\- "Hunq'eme'nem": replace with hunq'eme'nem - "The Tsleil-Waututh community is centered on Burrard Inlet, between Maplewood Flats and Deep Cove in North Vancouver": Replace with "The majority of Tseil-Waututh community members live in IR3 on Burrard Inlet." - "Tsleil-Waututh Nation traditional territory encompasses wilderness watersheds northwards to Mount Garibaldi, Coquitlam Lake in the east, Fraser River Tunnel Project and Howe Sound to the west": Please make reference to southern boundaries of TWN Consultation area. Refer to TWN Stewardship Policy for Consultation Area. Replace 'traditional territory" with Consultation Area. - "Tsleil-Waututh is governed by a Chief and Council with two-year terms under an Indian Act electoral system." Replace "two-year" with "four-year".	Detailed Project Description	Thank you, the requested revisions to Section 13.3.23 have been made in the DPD as follows: Tsleil-Waututh Nation are a Central Coast Salish people that speak the Hunq'eme'nem language. The majority of Tsleil-Waututh community members live in IR3 on Burrard Inlent. Traditional use studies and archaeological evidence show Tsleil-Waututh ancestors occupied a vast area, about 1,865 square kilometres (190,000 hectares). Tsleil-Waututh Nation Consultation Area encompasses wilderness watersheds northwards to Mount Garibaldi, Coquitlam Lake in the east, and Howe Sound to the west (Tsleil-Waututh Nation 2021) and extends to the Canada/USA border, inclusive of Boundary Bay, to the south. Tsleil-Waututh is governed by a Chief and Council with four-year terms under an Indian Act electoral system.
Ts'uubaa-asatx			
DPD-T'FN-001	Consider adding note that Indigenous communities have an expectation that Indigenous employment and training be prioritized.	Detailed Project Description	Section 5.5 (Infrastructure and Services) of the DPD has been revised to include the following reference: "Indigenous communities have expressed an expectation that the project prioritize Indigenous training and employment. The Proponent will also consider training and employment opportunities to support under-represented groups such as Indigenous peoples, people of colour and women as part of the labour strategy."
DPD-T'FN-002	Note that Indigenous groups have expressed concerns about storm water runoff. Seeking confirmation of techniques to ensure storm water is managed and cleaned before entering natural water system.	Detailed Project Description	Section 6.4 of the DPD has been revised as follows: "During the operation and maintenance phase of the tunnel, discharge water would be treated using best available technologies and mitigation measures to be determined during detailed engineering design. The best available technologies and mitigation measures will be informed by the environmental studies and effects assessment to be conducted during preparation of the EACApplication. The mitigation measures will be developed in collaboration with Indigenous nations, the Technical Advisory Committee (TAC), and public stakeholders during preparation of the EAC Application."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-003	Indigenous groups have expressed concerns about effect of dredging material on Eulachon spawning beds downstream.	Detailed Project Description	Section 10.1.10 of the DPD has been updated to explain that potential effects to fish and fish habitat, including dredging material on Eulachon spawning beds downstream, will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat in the EAC Application. Details of the methods used to conduct the effects assessment will be developed in collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during development of the Application Information Requirements (AIR) within the Process Planning Phase of the environmental assessment."
DPD-T'FN-004	Indigenous groups have active rights and interests. If you are going to name MIB and TFN you should name all of the Nations who have active rights and interests.	Detailed Project Description	Thank you for your comments, this feedback has been incorporated in the DPD. A comprehensive list of all nations with interests can be found in Section 13.0
DPD-T'FN-005	Follow up for future meeting.	Detailed Project Description	We will add this topic to the agenda for discussion at a future meeting with Ts'uubaa-asatx.
DPD-T'FN-006	Include incorporation of Indigenous interests throughout document.	Detailed Project Description	Indigenous Interests will be incorporated throughout the document, particularly in Section 10 and 13.
DPD-T'FN-007	KJ to contact EAO to become PIN	Detailed Project Description	We look forward to continuing to work with Ts'uubaa-asatx throughout the environmental assessment for the Project. Please contact the Environmental Assessment Office regarding becoming a Participating Indigenous Nation.
DPD-T'FN-008	Seabird Island has a specific name, listed above, which should be used.	Detailed Project Description	Thank you, we are seeking to incorporate Indigenous language in the DPD and will update the DPD to replace Seabird Island First Nation with Sq'ewqel (Seabird Island), as it is identified in the bulleted list in Section 13.1.
DPD-T'FN-009	Acknowledge that MoTI/TI Corp has engaged Nations early, before EA process. Important to acknowledge your early work. "This is how responsive we've been already".	Detailed Project Description	Thank you, the following has been added to Table 13.2-1: In response to feedback from Indigenous Nations, eDNA surveys for eulachon to delineate timing of early runs near the existing George Massey Tunnel have been completed. Building on the results of this study the Proponent has planned additional eulachon specific studies for late 2022/early 2023

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-010	*"The program has been planned in consideration of the least risk timing window to fisheries resources and mitigation measures to minimize the potential for effects. The Project's Fish and Fish Habitat existing conditions studies will inform the Project's environmental assessment. Indigenous nations will be consulted on any potential impacts to harvesting and cultural rights as they pertain to fish timing windows."* T'FN not satisfied with response, project window (DFOs fish window). You may want section that speaks to other issues like this.	Detailed Project Description	Section 5.4 of the DPD has been updated to include the following subsequent bullet points: "In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and Technical Advisors." Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform if project-specific least risk timing windows may be required. These timing windows will inform the project construction timelines. The response referenced in this comment, found in various tables in Section 13, has been updated to cross reference Section 5.4.
DPD-T'FN-011	Table (based on T'FN advocacy policy) will mitigate this issues table.	Detailed Project Description	The T'FN advocacy policy was reviewed by the Project team. The document will be added to the list of documents reviewed in Section 10 of the DPD. Information from the policy will be incorporated into the Fish and Fish Habitat Existing Conditions Report, where appropriate, and mitigation in the policy will also be considered in the Application Preparation Phase and development of management plans.
DPD-T'FN-012	*"Potential effects on access to Indigenous fishing and other Aboriginal Rights and Interests during the construction phase, including access to traditional lands."* Also include "investigative stages".	Detailed Project Description	The text in Table 13.2-1 has been updated to include "the construction phase and investigative stages"

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-013	IGs will have a lot to say, about what they are and how they are addressed.	Detailed Project Description	The Proponent will collaborate with Indigenous nations throughout all phases of the environmental assessment process, including during development of the Application Information Requirements (AIR) in the Process Planning Phase, and continuing throughout the Application Development and Application Review phases. The Proponent will collaborate with Indigenous nations, as well as with the Technical Advisory Committee (TAC), and stakeholders to develop mitigation measures for minimizing and where possible, avoiding potential adverse effects, and for identifying and assessing potential cumulative effects of the Project
DPD-T'FN-014	*"Boundaries for each of the VCs will include appropriate spatial and temporal scopes. The Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct Indigenous-led assessments."* Some IGs may do ILAs, not all.	Detailed Project Description	Where stated, the nation-specific tables in Section 13.3 of the DPD has been revised to state: "Boundaries for each of the VCs will include appropriate spatial and temporal scopes. The spatial and temporal scopes will be determined in collaboration with Indigenous nations during the development of the Application Information Requirements (AIR) in the Process Planning Phase. In addition, the Proponent looks forward to working closely with each Indigenous nation to identify potential impacts related to the Project and understands there are opportunities within the environmental assessment process for Indigenous nations to conduct Indigenous-led assessments.
DPD-T'FN-015	*"The Proponent's approach to engaging Indigenous knowledge holders and appropriate application of Indigenous knowledge will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (EAO 2020). When provided, The Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration."* Where appropriate... the proponent	Detailed Project Description	Table 13.2-1 has been revised as follows: "The Proponent's approach to engaging Indigenous knowledge holders will be developed through respectful dialogue with the identified Indigenous nations and with reference to the EAO's Guide to Indigenous Knowledge in Environmental Assessments (EAO 2020). When provided and identified by Indigenous knowledge holders as appropriate, the Proponent will work to integrate Indigenous knowledge into the Project's plans, processes, and designs and confirm with Indigenous nations that they are in support of this integration."
DPD-T'FN-016	*"Indigenous knowledge should not be interpreted by the Proponent; rather, Indigenous knowledge needs to be provided context and meaning by participating Indigenous nations through dialogue."* Should include "Indigenous knowledge remains property of Indigenous knowledge holder".	Detailed Project Description	Thank you, the following has been added to Table 13.2-1 of the DPD: "Indigenous knowledge remains the property of Indigenous knowledge holders".

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-017	*"The Proponent is committed to achieving capacity support agreements with participating Indigenous nations to support their participation in the environmental assessment and other initiatives related to identifying and assessing potential Project-related impacts on aboriginal or Treaty rights."* EA process is legislative timeline that IGs don't have control over.	Detailed Project Description	The Proponent recognizes that many of the timelines associated with the environmental assessment process are legislated. We will ensure Indigenous nations are provided capacity support throughout the process and seek to understand other ways to support Ts'uubaa-asatx's participation in the EA.
DPD-T'FN-018	Where requested, Proponent went over materials from July meeting with those who weren't able to attend.	Detailed Project Description	Thank you for your comment. The following has been added to Section 13.2.2: For those Indigenous Nations that are unable to attend IMUG meetings, follow-up sessions or one-on-one discussions are provided.
DPD-T'FN-019	Where IGs have asked for additional meetings to reach upcoming deadlines, meetings have been scheduled	Detailed Project Description	The following has been added to Section 13.2.2: "These meetings are frequently held on a regular basis or may be requested at any time by the Proponent or Indigenous nations to discuss specific topics."
DPD-T'FN-020	Include eulachon eDNA study(?)	Detailed Project Description	Section 8.5 of the DPD is a list of topics that require permitting. Since the eulachon eDNA study did not require permitting, it was not included in this list. The eulachon eDNA study has been added to Section 10.1.10 of the DPD which describes key environmental values for fish and fish habitat proposed for study as part of the environmental assessment and Attachment 3 of the DPD which describes studies that are underway.
DPD-T'FN-021	*"The Proponent updated the DPD to ensure the EAO's development of Understanding of Interests is incorporated into the next stage in the environmental assessment process, including recognition of:* *• past, current, and future use of the Project area and/or resources that may utilize or are located within the Project area (including potential downstream effects)* *• refined Project-specific interests and potential effects to Indigenous nations and/or their rights* *• the governance role of each Indigenous nation in the Project area (EAO 2022)"* Where in the DPD can we find these changes?	Detailed Project Description	Updates on these items have been made throughout the DPD, predominantly in the following sections: - Section 2: Project Status and History - Section 5: Project Location, Activities and Components - Section 7: Land and Water Use - Section 13: Indigenous Nations Interests - Attachment 4: Table of issues raised by Indigenous Nations

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-022	*"Mitigations such as communication with marine users, including distinct Indigenous marine users should be included."* Communication re: PBR related to swing bridge has been an issue. There may be some lessons learned in that regard.	Detailed Project Description	Noted. The Proponent will explore this further with the Pattullo Bridge Replacement project team.
DPD-T'FN-023	*"Provide additional detail as to the types of employment and training opportunities related to the Project that will be available for Indigenous nations."* Need specific goals and objectives and a plan on how to achieve this. THIS IS VERY IMPORTANT! Clear and specific on how the Proponent will make in-roads in our community.	Detailed Project Description	The following has been added to Table 10.2 1: Summary of Topics Related to Economy and Employment Arising from Early Engagement: Issue Raised: "Expects the Proponent to set goals and objectives for Indigenous hires. T'FN is a small nation and can't take advantage of all upcoming opportunities but they do want to strategize with the Proponent on capitalizing on contracting opportunities and hiring. Not just for monitoring, but setting up a program to train their people in what will be needed for meaningful job opportunities." How the issues has been or will be addresssed: "The Employment and Economy Assessment for the EAC Application will characterize existing employment, labour market, and training opportunities; include a focus on Indigenous peoples and businesses; assess the types of employment and training opportunities generated by the Project and delineate benefit enhancement measures including goals and objective, to support Project employment and business opportunities for Indigenous people."
DPD-T'FN-024	*"Clarity to be provided on the history of engagement on past projects."* For Ts'FN, may be helpful to reference Tilbury Marine Jetty Project.	Detailed Project Description	Noted. The Proponent will continue review documents that are made available by the EAO on the Tilbury Marine Jetty Project.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-025	Hul'qumi'num/Ditidaht- speaking. (On both sides of the Straight) *See Tilbury Marine Jetty referral to minister (October 6th, 2022 deadline)	Detailed Project Description	The EAO's Final Assessment Report for the Tilbury Marine Jetty Project is not publicly available. However once available, we will incorporate Ts'uubaa-asatx Nation information in future project documents as requested. In the interim, the Proponent has reveiwed the available July 13, 2022 draft referral package for Tilbury Marine Jetty and has revised Section 13.3.25, as follows: "Ts'uubaa-asatx First Nation (formerly Lake Cowichan First Nation) is a Hul'qumi'num-speaking Central Coast Salish group. Ts'uubaa-asatx First Nation membership takes descent from both Ditidaht (Nuu-chah-nulth) ancestors and Hul'qumi'num' ancestors known as the Somenos (or Saumni, Samena, Saumina and other variations), one of seven village groups comprising the Cowichan Tribes."
DPD-T'FN-026	Should read "the community is based in Cowichan Lake valley and Lower Mainland." "83km away from project" demonstrates removal. Colonial description! Gives colonial sense that community is far removed from area. REMOVE THIS.	Detailed Project Description	Thank you. Section 13.3.25 of the DPD has been updated: "The community is based in Cowichan Lake valley on the northeastern shore of Cowichan Lake and in the Lower Mainland." We have removed the sentence "It is approximately 83 km away from the Project."
DPD-T'FN-027	*"In 1860, the community was significantly affected by a smallpox epidemic; the population has remained small, with only 12 of 20 registered members living on reserve."* Remove this. More socio-economic related.	Detailed Project Description	Thank you for your comment. This statement has been removed from Section 13.3.24.
DPD-T'FN-028	*"Ts'uubaa-asatx First Nation, along with other Island Halkomelem speaking groups"* Should read: Hul'qumi'num (Lower Mainland language). Suggest: take out this sentance and replace with language from Tilbury Marine Jetty language.	Detailed Project Description	Section 13.3.25 of the DPD has been revised to read "Ts'uubaa-asatx Nation, along with other Hul'qumi'num' speaking groups, is understood to have traditionally utilized the lands and waters on both sides of the Strait of Georgia" This information is from the July 2022 Tilbury Marine Jetty Project Draft Assessment Report. We understand that there is a later version, however at this time the EAO's Final Assessment Report for the Tilbury Marine Jetty Project is not publicly available. However once available, we will incorporate Ts'uubaa-asatx's information in future project documents as requested.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-029	*"Ts'uubaa-asatx First Nation, along with other Island Halkomelem speaking groups, traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a seasonal round."* Our activity was a permanent, on-going, annual activity of intensive trade. "Seasonal round" makes it sounds like prairie nations. We were growing and harvesting resources to take to an area for trade. *Refer to Tilbury*	Detailed Project Description	The team has reveiwed the available July 13, 2022 draft referral package for Tilbury Marine Jetty that reads "Ts'uubaa-asatx Nation, along with other Hul'qumi'num' speaking groups, is understood to have traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a seasonal round. Ts'uubaa-asatx Nation have previously reported that they historically travelled to the Fraser River delta area to fish, hunt, and gather food every year." We understand that there is a later version, however at this time the EAO's Final Assessment Report for the Tilbury Marine Jetty Project is not publicly available. Once available, we will incorporate Ts'uubaa-asatx Nation information in future project documents as requested. In the interim, the following revision to DPD Section 13.3.25 was made: "Ts'uubaa-asatx Nation, along with other Hul'qumi'num' speaking groups, is understood to have traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a permanent, on-going, annual activity of intensive trade."
DPD-T'FN-030	"The Proponent also Ts'uubaa-asatx that the 90-day early engagement period would commence once the EAO had accepted the IPD and EP." Typo	Detailed Project Description	Thank you. Section 13.3.24.1 of the DPD has been updated to fix the typo: "The Proponent also notified Ts'uubaa-asatx that the 90-day early engagement period would commence once the EAO had accepted the IPD and EP."
DPD-T'FN-031	"For each topic, the Proponent shared information with Ts'uubaa-asatx in advance of the meetings, met with Kwantlen virtually to discuss the topic in detail, and followed up on Ts'uubaa-asatx's interests and feedback as appropriate." Typo	Detailed Project Description	We understand that there is a later version, however at this time the EAO's Final Assessment Report for the Tilbury Marine Jetty Project is not publicly available. Once available, we will incorporate Ts'uubaa-asatx Nation information in future project documents as requested. In the interim, the following revision to DPD Section 13.3.23 was made:
DPD-T'FN-032	Not seeing Advocacy Policy being referenced here. That should be evident in here. ("Section xxx" of Advocacy Policy). Could also replace this table with Advocacy Policy collaborative table. Could be a line that says "Proponent has received Advocacy Policy and has incorporated..."	Detailed Project Description	The following has been added to Table 13.3-20: "It is expected that the Proponent references and incorporates Ts'uubaa-asatx's Advocacy Policy into Project documents, studies and practices." Ts'uubaa-asatx's Advocacy Policy has also been added as a reference document in Section 15: References of the DPD.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-033	*"Opportunities for training and employment always come far too late in the process, need to provide information on these opportunities early to allow Nations to act upon them."* Ts'FN concerns are very detailed. I will be looking for this reflected. Starting March, Kathleen became aware of socio-economic issues. These details should be included.	Detailed Project Description	Ts'uubaa-asatx Nation, along with other Hul'qumi'num' speaking groups, is understood to have traditionally utilized the lands and waters on both sides of the Strait of Georgia as part of a permanent, on-going, annual activity of intensive trade.
DPD-T'FN-034	"No formal response for was provided regarding abandonment of the bridge replacement proposal." Typo	Detailed Project Description	Thank you. Table 13.3.20 of the DPD has been updated to fix the typo: "No formal response for was provided regarding abandonment of the bridge replacement proposal."
DPD-T'FN-035	"Mayor's Council's interests should not be more influential than those of Indigenous nations." Should read "local municipality interests..."	Detailed Project Description	Table 13.3-20 of the DPD has been revised to: "Local Municipality interests should not be more influential than those of Indigenous nations."
DPD-T'FN-036	*"The Proponent has engaged with Indigenous nations on crossing options, including a tunnel crossing, as part of previous iterations of the Project from February 2019 up to the announcement in August 2021. Engagement with Indigenous nations during previous iterations of the Project included a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous nations' participation, information sharing, and meetings in-person and virtually. This engagement informed the Proponent's consideration of crossing options and decision on an Immersed Tube Tunnel."* Should specify "...there was a meeting held and an agreement reached with Aaron Hamilton present."	Detailed Project Description	Table 13.3-20 of the DPD has been updated as follows: "The Proponent has engaged with Indigenous nations on crossing options, including a tunnel crossing, as part of previous iterations of the Project from February 2019 up to the announcement in August 2021. Aaron Hamilton, Operations Manager with Ts'uubaa-asatx was present during some of these discussions. Engagement with Indigenous nations during previous iterations of the Project included a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous nations' participation, information sharing, and meetings in-person and virtually. This engagement informed the Proponent's consideration of crossing options and decision on an Immersed Tube Tunnel."
DPD-T'FN-037	*"Concerned regarding the impact dredging will have on white sturgeon and eulachon."* We also talked about fish windows. MoTI was very responsive to fish windows. Maybe this is a seperate line for fish windows. "Eulachon windows, proponent heard concerns, investigated and reported back."	Detailed Project Description	The following is included in Table 13.3-20 as an area of concern T'FN has identified: "The other critical fish window is food fisheries. Ts'FN only gets 250 fish (salmon). White sturgeon and eulachon can also be a food fish (although Ts'FN voluntarily does not fish sturgeon)."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-038	*"The other critical fish window is food fisheries. Ts'FN only gets 250 fish (salmon). White sturgeon and eulachon can also be a food fish (although Ts'FN voluntarily does not fish sturgeon)."Concerned regarding the impact dredging will have on white sturgeon and eulachon."* There may be a few more things related to Ts'FN that could be included here. More that the proponent has done that hasn't been reflected.	Detailed Project Description	The following topics have been added to Table 13.3-20: - Incorporate Ts'uubaa-asatx's Advocacy Policy into Project documents, studies and practices - Set goals and objectives for Indigenous hires - Pre-emption of Deas Island and archaeological impacts on both sides of the Fraser River
DPD-T'FN-039	*"NTD: Figures of Indigenous nation Traditional Territories will be included in future drafts.* Add line re: archaeology, Deas Island was pre-empted, so anticipate that there will be a greater indigenous footprint than expected on both sides of the River	Detailed Project Description	The following has been added to Table 13.3-20 as an issue raised by Ts'uubaa-asatx: "Deas Island was pre-empted so the Project should anticipate that there will be a greater indigenous footprint than expected on both sides of the Fraser River."
DPD-T'FN-040	*"The Proponent has established monthly meetings with 15 Indigenous nations to date."* "There may be additional meetings at request of nations that will be scheduled"	Detailed Project Description	Section 13.4.1 of the DPD has been updated as follows: "The Proponent has established monthly meetings with 15 Indigenous nations to date and schedules additional meetings on an as needed basis or as requested by Indigenous nations."
DPD-T'FN-041	*"The Proponent will work with Indigenous nations who wish to complete Indigenous-led assessment of Indigenous interest or other assessment components and coordinate these conversations with the EAO where possible."* May not only be ILA, but other types of assessments. "Proponent will collaborate with nations that may want more/different assessment opportunities"	Detailed Project Description	Thank you for your comment. Section 13.4.2 of the DPD has been revised as follows: "The Proponent will work with Indigenous nations who wish to complete Indigenous-led assessment of Indigenous interests and will collaborate with Indigenous nations who may be interested in other assessment components. Where possible, the Proponent will coordinate these conversations with the EAO."
DPD-T'FN-042	Could have "Results" column	Detailed Project Description	As this table outlines activities planned for the future we're not yet able to include results.
DPD-T'FN-043	Missing "early engagement" process. Need line: Met with nations to "understand preferred means of engagement".	Detailed Project Description	This table is forward-looking and intended to summarize engagement as we move forward through future phases of the Environmental Assessment process, therefore, Early Engagement would not be included.
DPD-T'FN-044	These first two lines (and many of these) are not engagement activities, more results from engagement activities.	Detailed Project Description	Thank you for this comment. We have reviewed the "Engagement Activity" column in Table 13.4-1 and updated the text to describe the specific engagement activities.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-045	Should seperate out "Readiness Decision". You're not describing EA process well enough. Go based of EA process info graphic.	Detailed Project Description	Thank you for this comment. We have clarified the phases of the Environmental Assessment process column in Table 13.4.1 by separating each phase that an engagement activity applies to, for example: "Readiness Decision Process Planning Application Development & Review"
DPD-T'FN-046	*"The Fraser River South Arm and upland areas along the Fraser River sustains a variety of Indigenous traditional uses including Indigenous fishing, hunting, gathering, transportation, and cultural practices."* Very important trade area. (Often referred to as "Little New York").	Detailed Project Description	Section 13.5.2 of the DPD has been revised, as follows: "The Fraser River South Arm and upland areas along the Fraser River is used extensively by Indigenous groups in the exercise of Indigenous rights including for fishing, hunting, gathering, trading, transportation, and cultural practices."
DPD-T'FN-047	*"Potential effects to current use of lands and resources for traditional purposes may result from in-river and upland construction activities and subsequent decommissioning of the Existing Tunnel However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor."* What will be available for IGs around the existing tunnel? Side channels for juvenile sturgeon, places where we can fish. Restoring berries in the area. Where we can have a designated place for IGs.	Detailed Project Description	Potential effects to fish and fish habitat and vegetation resources and to Indigenous harvesting and other activities, will be assessed through examination of potential effect pathways in the EAC Application. Mitigation measures to reduce potential adverse effects on Indigenous resources and activities, fish and fish habitat including habitat offsetting, and restoration programs will be developed during the Application Development Phase in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders. This will include specific consideration of the Ts'uubaa-asatx Nation's concerns and recommendations (e.g., berry-producing plants, plants of cultural importance). During preparation of the EAC Application, TI Corp will continue to collaborate with Ts'uubaa-asatx Nation and other Indigenous nations to explore opportunities for restoration to support harvesting and other rights-based activities.
DPD-T'FN-048	*"Potential effects to current use of lands and resources for traditional purposes may result from in-river and upland construction activities and subsequent decommissioning of the Existing Tunnel However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor."* We don't want "existing levels" we want better than existing. Net gain.	Detailed Project Description	Thank you for your comment. In recognition of this we have removed the following sentence from section 13.5.2 "However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor." as Table 13.5-1 has been expanded to include information outside of what was provided through Letters of Intent.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-049	*"Table 13.5-1 summarizes the Proponents preliminary understanding of potential affected Indigenous interests gathered from Letters of Intent provided by four Indigenous nations to the EAO."* There have been more than four IGs that have provided interests. Beyond letters to EAO. Should remove or amend this. "Letters of intent or one-to-one engagement").	Detailed Project Description	Section 13.5.2 has been revised, as follows: "Table 13.5-1 summarizes the Proponent's preliminary understanding of potential affected Indigenous interests shared throughout the Early Engagement Phase."
DPD-T'FN-050	Should indicate that this table is based on information from Letters of Intent.	Detailed Project Description	Table 13.5-1 has now been expanded to include information outside of what was provided through Letters of Intent.
DPD-T'FN-051	*"Main concerns surround fish and fish habitat, wildlife and wildlife habitat, and archaeology."* Will need to add Arch information re: Deas Island	Detailed Project Description	The following has been added to Attachment 4 as an issue raised by Ts'uubaa-asatx: "Deas Island was pre-empted so the Project should anticipate that there will be a greater indigenous footprint than expected on both sides of the River."
DPD-T'FN-052	*"The Proponent is looking forward to working with Ts'uubaa-asatx to learn more about your concerns surrounding fish and fish habitat, wildlife and wildlife habitat, and archaeology."* See changes from earlier table. Table 13.2-1	Detailed Project Description	This has been revised in Attachment 4, as follows: "In response to feedback from Indigenous Nations, eDNA surveys for eulachon to delineate timing of early runs near the existing George Massey Tunnel have been completed. Building on the results of this study the Proponent has planned additional eulachon specific studies for late 2022/early 2023. The Proponent is looking forward to continuing to work with Ts'uubaa-asatx to learn more about your concerns surrounding fish and fish habitat, wildlife and wildlife habitat, and archaeology.
DPD-T'FN-053	*"Cowichan Nation Alliance has established fishing rights in the project area it should be acknowledged it is the Hulquminum Treaty Group's core area."* Remove "CNA". Ts'FN can't speak to that. But leave in the section on Hulquminum Treaty Group.	Detailed Project Description	Please see response to comment ID #DPD-T'FN-054

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-054	*"Cowichan Nation Alliance has established fishing rights in the project area it should be acknowledged it is the Hulquminum Treaty Group's core area."* 162 It's not not my place to comment on the CNA, and the comment about HTG, should note that the core territory extension to the south arm of the Fraser	Detailed Project Description	This has been revised in Attachment 4, as follows: "The project area should be acknowledged as the Hulquminum Treaty Group's core area which extends to the south arm of the Fraser River."
DPD-T'FN-055	*"All in-river construction activities will be completed during the established Fisheries and Oceans Canada Least Risk Window (June 15 through February 28) for in-water works for the Project site (Department of Fisheries and Oceans Canada, 2021)" Is this just a salmon least risk window? What about other species, notably eulachon and sturgeon?"* Should indicate that you've started a study on eulachon right away. Show that you're being responsive.	Detailed Project Description	The highlighted text from Appendix 4 is language from the Initial Project Description which is not being carried forward into the DPD. The eulachon eDNA study has been added to Section 10.1.10 of the DPD which describes key environmental values for fish and fish habitat proposed for study as part of the environmental assessment and Attachment 3 of the DPD which describes studies that are underway. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform if project-specific least risk timing windows may be required. These timing windows will inform the project construction timelines.
DPD-T'FN-056	*"Section 4.3, Stormwater Runoff - Ts'uubaa-asatx would like the Project to consider positive ways to use stormwater runoff."* Needs more clarity: bioswales and storm water run off; leading into potential side channel restoration on the decommissioned tunnel, etc.	Detailed Project Description	This has been revised in Attachment 4, as follows: "Section 4.3, Stormwater Runoff - Ts'uubaa-asatx would like the Project to consider positive ways to use stormwater runoff such as bioswales. This could lead to potential side channel restoration on the decommissioned tunnel."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-057	*"Section 4.4, Dredged Material and Excavated Soils - Ts'uubaaasatx expressed interest in the use of dredged materials as a way to rebuild biofilm/biomat between the two causeways (BC Ferries and Roberts Bank). Silica is necessary for biolfilm and biomat. Province owns causeway that is blocking sediment from settling between the two causeways.* **RESPONSE: Proponent will consider this input.**" Requesting a more fulsome response, should be more proactive. That the proponent will look at the feasibility of it.	Detailed Project Description	The potential beneficial reuse of dredge material will be assessed in the EAC Application based on the following broad steps: 1) assessment of the suitability of dredge material for ecological reuse 2) analysis of the effects of the Project on biophysical Valued Components (e.g., Fish and Fish Habitat) 3) evaluation of project mitigation measures, including habitat restoration and offsetting as required, as well as an evaluation of dredge material reuse options 4) engagement and collaboration with Indigenous nations, regional governments, and and federal and provincial regulators regarding the potential reuse options. The Proponent is undertaking an environmental studies to characterize river sediments at depth from locations within the proposed immersed tube tunnel (ITT) and Deas slough dredge areas using various techniques including the collection of deep sediment cores and will be collecting shallow sub surface core and surficial grab samples. These data are anticipated to provide information on the physical and chemical characteristics of the dredge material, which will inform the effects assessment and dredge disposal options analysis in the EAC Application. from these programs will include characterization of the sediment grain size and type (e.g., composition of sands, clays). The results of the studies will be used to determine the quantity of dredge materials that may be available for beneficial reuse. Physical and chemical characteristics of dredge material (e.g., concentrations of contaminants) may limit the suitability of reuse and require that materials be disposed. The Proponent will engage with Indigenous nations, regional governments, and regulators regarding during the EAC Application Preparation Phase to review the options for beneficial reuse and disposal. The EAC Application will include a characterization of the physical and chemical composition of dredge sediment as well as an analysis of reuse/ disposal options.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-058	*"Comment noted. The Marine Mammals study identified in the Draft List of Existing Conditions Studies shared with the SFN on February 7, 2022, includes underwater noise modelling. The EA process addresses mitigation measures in later phases such as during Project Effects Assessment."* Typo	Detailed Project Description	Thank you. This has been revised in Attachment 4, as follows: "Comment noted. The Marine Mammals study identified in the Draft List of Existing Conditions Studies shared with T'FN on February 7, 2022, includes underwater noise modelling. The environmental assessment process addresses mitigation measures during development of the EAC Application."
DPD-T'FN-059	*"Comment noted. The Marine Mammals study identified in the Draft List of Existing Conditions Studies shared with the SFN on February 7, 2022, includes underwater noise modelling. The EA process addresses mitigation measures in later phases such as during Project Effects Assessment."* Sharing is not sufficient. Must go over documents in meetings, as per Ts'FN protocol.	Detailed Project Description	Thank you for your comment. The Proponent will schedule a meeting with Ts'uubaa-asatx to review the most recent information about Existing Conditions Studies.
DPD-T'FN-060	*"Section 8.3.3, Fish and Aquatic Habitat - Ts'uubaa-asatx will consider how this aligns with its policy"* Incorrect. We ask that the Proponent consider how Section 8.3.3 aligns with Ts'FN advocacy policy.	Detailed Project Description	This has been revised in Attachment 4, as follows: "Section 8.3.3, Fish and Aquatic Habitat - Ts'uubaa-asatx asks that the Proponent consider how this aligns with their advocacy policy." A fulsome analysis of Ts'uubaa-asatx advocacy policy against the VC selection document will be completed prior to and during the Process Planning Phase.
DPD-T'FN-061	*"Comment noted."* If it's not included in the DPD final draft, you should note that you're working on it.	Detailed Project Description	Thank you for your comment. An addition has been made to Table 13.3-20, as follows: "Main environmental concerns surround fish and fish habitat, wildlife and wildlife habitat, and archaeology including how it aligns with Ts'uubaa-asatx advocacy policy."
DPD-T'FN-062	*"Section 8.4, Economic Conditions - How can we be certain that the project will actually benefit the region? What evidence can the Proponent bring to the table? How will this project benefit the people of the region? Desire to see the Crown reaching out to those who are without shelter, given the high cost of living."* Do we talk about economic employment elsewhere? Ts'FN began mentioning this in February/March.	Detailed Project Description	The DPD speaks to this in more detail in Section 10: Economic, Social, Health and Cultural Conditions and Preliminary Effects. More specifically, employment and the economy is discussed in Section 10.2.1 of the DPD and T'FN comments are captured within table 10.2-1. The interests Ts'uubaa-asatx has raised regarding economic opportunities in the Project are also reflected in Section 13.3.25.1 and Attachment 4 of the DPD.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-063	*"The IPD provides an initial project description. For more information on Project benefits and environmental considerations, please refer to the Provincial Project website and Project Business Case."* Better response required. "You're telling me to look it up".	Detailed Project Description	Thank you for this comment. We have taken this feedback and incorporated it into responses such as these on the DPD. We hope you'll find them to be more informative. Section 4 of the DPD speaks to the benefits and goals of the Project and Sections 10.2 and 10.5 of the DPD describe key economic and health values, respectively, proposed for study as part of the EAC Application.
DPD-T'FN-064	*"Section 9, Indigenous Nations Interests, Table 7 - Ts'uubaa-asatx does not agree with this table. It is colonially driven and not related to First Nations interests."* Does not agree, very colonial. Distance/proximity to site is not relevant.	Detailed Project Description	We appreciate this comment and have made revisions to the DPD such as the revision found in comment ID #DPD-T'FN-026.
DPD-T'FN-065	*"Section 9, Indigenous Nations Interests, Table 7 - Location details: There is a need to note the right of Cowichan Nation Alliance to fish in the Fraser River South Arm, and the ongoing court case. Could we identify the Hul'qumi'num Treaty Group core area? Check the BC Treaty Process on how core area is established."* Ts'FN cannot comment on CNA.	Detailed Project Description	This has been revised in Attachment 4, as follows: "Section 9, Indigenous Nations Interests, Table 7 - Location details. Could we identify the Hul'qumi'num Treaty Group core area? Check the BC Treaty Process on how core area is established."
DPD-T'FN-066	*"Could we identify the Hul'qumi'num Treaty Group core area? Check the BC Treaty Process on how core area is established"* Prefer to use HTG descriptor that's in the Treaty.	Detailed Project Description	The Hul'qumi'num Treaty Group is included in Section 13.3.24 of the DPD.
DPD-T'FN-067	*Revised to: "Land use in the area is governed by local governments, in collaboration with other Indigenous communities. There are two Indigenous communities with reserve lands within a 20-kilometre radius of the Project Area: Tsawwassen First Nation and Musqueam Indian Band."* Revist this.	Detailed Project Description	This is language from the IPD which has now been accepted by the Tsawwassen First Nation, Musqueam Indian Band and EAO so we are not able to make further changes. Distances of each Participating nation's reserves to the Project are included in each nation specific subsection of section 13 of the DPD which will be reviewed by each nation. TI Corp would like to discuss this further with TFN at our next meeting.

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-068	*"This section speaks to the geographic proximity to Indian reserves and Treaty lands. Ts'uubaa-asatx's asserted territorial boundaries is included in the Project overview and Indigenous Engagement sections of the Engagement Plan."* Should remove language related to proximity. We had to travel by canoe, so for us, the project site is "close" for us.	Detailed Project Description	Thank you, we have made revisions to the DPD to reflect this, such as the revision noted in the response to comment ID # DPD-T'FN-026. The highlighted text from Attachment 4 is language from the Initial Project Description which is not being carried forward into the DPD.
DPD-T'FN-069	*"Inclusivity" is identified in Section 3 as one of the "principles for the engagement program." Section 3.2 also states: "The Ministry also identified under-represented minority and marginalized groups, including groups representing the elderly, people with disabilities, immigrants, and individuals identifying as LGBTQIA2S+ for Early Engagement and for Project engagement generally."* Response/language could be cleaned up a bit.	Detailed Project Description	The highlighted text from Attachment 4 is language from the Initial Project Description which is not being carried forward into the DPD. However, we have taken this feedback into consideration in Section 10.5.2: Community Health and Wellbeing of the DPD.
DPD-T'FN-070	*"Ts'uubaa-asatx – Operations Manager, Referrals Consultant" Remove Operations Manager. Keep Referrals Consultant and add Councillor"* New CKK program (NationsConnect).	Detailed Project Description	The highlighted text from Attachment 4 is language from the Initial Project Description which is not being carried forward into the DPD and thus there is no edit to apply. However, the update that Ts'uubaa-asatx is using NationsConnect will be added to Attachment 4 of the DPD.
DPD-T'FN-071	Include that Kathleen did site visit	Detailed Project Description	Attachment 5: Record of Consultation 2021-08-26 entry has been revised to read: "Ministry asked to meet Ts'uubaa-asatx First Nation (TFN) to develop a Project Engagement Plan and Capacity Funding Needs. Kathleen Johnnie participated in site visit."
DPD-T'FN-072	Update for next version to include engagement since July 13, 2022.	Detailed Project Description	Attachment 5: Record of Consultation has been updated to include engagement since July 13, 2022.
DPD-T'FN-073	Note the Ts'FN's engagement process of meeting to review all documents in person.	Detailed Project Description	Attachment 5: Record of Consultation 2021-08-26 Entry has been revised to read: "Ts'uubaa-asatx engagement process requires meetings to review all documents in person."

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-074	More emphasis on this point. Ts'FN will expect that the advocacy policy will be reflected in the Project and the EA process. Should be very visible in the documentation. Should see results of the proponents review of their policy in the documents. Really important when looking at VC's - that the policy analysis is shown.	Detailed Project Description	Attachment 5: Record of Consultation 2021-10-07 Entry has been revised to read: 1. Ts'uubaa-asatx has a Lower Mainland Advocacy Policy that should be referred to for Baseline Studies and Engagement Plan. It is being updated with more research with expected completion date end of March 2021. Ts'uubaa-asatx expects that the advocacy policy will be reflected in the Project and the EA process. Ts'uubaa-asatx advocacy policy should be very visible in the documentation. Should see results of the proponents review of their policy in the documents such as VC selection. In response to this request, the Proponent will work with Ts'uubaa-asatx to compare the Advocacy Policy to VC selection document. The VC selection document was shared in October 2022 and the Proponent looks forward to reviewing this material with Ts'uubaa-asatx at our next meeting.
DPD-T'FN-075	Place more emphasis on this Advocacy policy. Should see results of your review of Advocacy policy. When looking at VCs, look at advocacy policy.	Detailed Project Description	Thank you for your comment. The following text has been added to Section 13.3.25.1 to reflect the advocacy policy and next steps for incorporating into project materials. "Ts'uubaa-asatx also shared the Lower Mainland Advocacy Policy for incorporation into project materials. The policy identifies key areas of interest and the nation's expectations for projects to support revitalization of traditional use and occupation in the South Arm of the Fraser River. As requested by Ts'uubaa-asatx, the Proponent will undertake analysis of the advocacy policy in relation to the Application Information Requirements and the Valued Component selection process in support of Process Planning phase. "

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-076	Note that Ministry followed up on points 7 & 8 with notice of meeting with Aaron Hamilton in [Date] to discuss.	Detailed Project Description	Attachment 5: Record of Consultation 2021-10-07 entry has been revised to read: 1. No formal response for abandonment of bridge. Ts'uubaa-asatx agreed to go forward with the bridge, was consulted during the process but not the abandonment. Ministry followed up to discuss this topic with Aaron Hamilton. 2. Mayors Councils interests should not be more influential than those of IGs. Kathleen was contact for GMTRP, all communications should have come to her. Ministry followed up to discuss this topic with Aaron Hamilton.
DPD-T'FN-077	Kathleen replied that meeting to review document is required as well. BB met with Kathleen subsequent to review.	Detailed Project Description	The following has been added to Attachment 5: Record of Consultation 2021-11-29 Entry: • Ts'uubaa-asatx responded that a meeting was required. • In response, Ministry arranged to meet with Ts'uubaa-asatx (Kathleen Johnnie)
DPD-T'FN-078	*"Ministry asked that Ts'uubaa-asatx First Nation provide feedback by February January 15, 2022."* Required to meet with Kathleen.	Detailed Project Description	Attachment 5: Record of Consultation 2021-11-29 Entry has been revised to read: • Ministry sent Draft Project Engagement Plan for Ts'uubaa-asatx First Nation review and feedback. • Ministry asked that Ts'uubaa-asatx First Nation provide feedback by February January 15, 2022. • Ministry asked to schedule a meeting to go over TFN perspectives, concerns, or issues. • Ts'uubaa-asatx responded that a meeting was required. • In response, Ministry arranged to meet with Ts'uubaa-asatx (Kathleen Johnnie)
DPD-T'FN-079	*"Ministry asked to schedule a meeting to go over TFN perspectives, concerns, or issues."* Should read T'FN	Detailed Project Description	This has been revised to read, as follows: "Ministry asked to schedule a meeting to go over T'FN perspectives, concerns, or issues"

Comment ID	Summary of Issues Raised	Engagement Phase	Response
DPD-T'FN-080	*"Ministry asked to schedule a meeting to go over any questions, concerns, or issues Ts'uubaa-asatx may have."* Specific to IPD documents.	Detailed Project Description	Attachment 5: Record of Consultation 2021-12-03 Entry revised to read: "Ministry asked to schedule a meeting with Kathleen Johnnie to go over any questions, concerns, or issues Ts'uubaa-asatx may have specific to IPD documents".
DPD-T'FN-081	Consider rephrasing to "Ministry asked to go through the document with Kathleen."	Detailed Project Description	Please see response to comment ID #DPD-T'FN-080.
DPD-T'FN-082	*"Ministry asked for any further comments/feedback prior to the submission of EP and IPD. Ministry included Ts'uubaa-asatx issues and interests to date."* Documents need to be reviewed in meetings, as per T'FN protocol.	Detailed Project Description	Attachment 5: Record of Consultation 2022-01-18 Entry revised to include: • Ministry asked for any further comments/feedback prior to the submission of EP and IPD. Ministry included Ts'uubaa-asatx issues and interests to date. • T'FN response that T'FN protocol is that documents need to be reviewed in meetings.
DPD-T'FN-083	Include reference to WSA permit.	Detailed Project Description	Attachment 5: Record of Consultation 2022-06-08 Entry revised to read: "Ministry met with T'FN to review information related to test dredge and geotechnical investigation and receive comments in real time for the WSA permit."
DPD-T'FN-084	June 18, 2022 Kathleen conducted site visit at Deas Island. Provided notice to MOTI.	Detailed Project Description	An entry was added for June 18, 2022 to Attachment 5: Record of Consultation that reads: "Kathleen conducted site visit at Deas Island. Provided notice to MOTI".
DPD-T'FN-085	Note that Ts'FN representative could not attend.	Detailed Project Description	We have doubled checked our records and confirmed that Kathleen Johnnie attended the first Indigenous Marine Users Group for the Project on behalf of Ts'uubaa-asatx.

DPD = Detailed Project Description; EAO = Environmental Assessment Office; GBA+ = gender-based analysis plus; GMC = George Massey Tunnel Crossing; GMTRP = George Massey Tunnel Replacement Project; IPD = Initial Project Description; ITT = immersed tube tunnel; LSA = local study area; MIB = Musqueam Indian Band; the Ministry = British Columbia Ministry of Transportation and Infrastructure; PRRO = People of the River Referrals Office; SFN = Snuneymuxw First Nation; STSA = S'ólh Temexw Stewardship Alliance; TFN = Tsawwassen First Nation; VC = valued component; WMA = wildlife management area.

ATTACHMENT 5: SUMMARY OF CONSULTATION WITH INDGIENOUS NATIONS

Attachment 5 provides a summary of consultation with Indigenous nations on the Project from August 2021 until November 2022. The Proponent continues to actively engage with Indigenous nations on the Project.

Quw'utsun Nation (Cowichan Tribes, Halalt First Nation, Lyackson First Nation, St'zuminus First Nation, Penelakut Tribe)

Communication with QN and the Proponent has been ongoing since August 2021. The Proponent continues to work with QN on the EA and is able to provide additional details as requested.

ʔiċəyˀ (Katzie First Nation)

Table A5-1. Summary of Engagement with ʔiċəyˀ (Katzie First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement/Project Update	Email	• Ministry emailed Katzie First Nation (KFN) and advised that on August 18th the Province of British Columbia announced it is proceeding with the replacement of the existing George Massey Tunnel with a new Immersed Tube Tunnel (ITT). Ministry also requested meeting to provide further information on the ITT and discuss the following agenda items: o Introductions. o Engagement to-date & August 18 announcement on GMC. o Environmental Assessment Process and Objectives. o Engagement Planning and Capacity Funding. • Next steps, including meeting schedules and information sharing. If you would like to see any changes to the proposed agenda, please reply to this email with your comments.
2021-09-07	Contact Update	Email	• Ministry notified Katzie First Nation of alternate staff contact for temporary period.
2021-09-07	Meeting Request	Email	• Katzie First Nation thanked Minister for notification of project announcement and request for consideration. • Katzie requested Minister send all project related correspondence to landopsreferrals@Katzie.ca and advised Ministry of their limited availability in September and October - proposed three potential meeting dates.
2021-09-08	Meeting response	Email	• Ministry responded to Katzie and agreed to proposed meeting date.
2021-09-29	Katzie Consultation Concerns and Document Sharing	Virtual Meeting	• Ministry and KFN discussed: • Consultation Issues. • Importance of appropriate habitat offsetting. • Capacity Funding. • Cumulative Effects and Corridor Improvements. • Ministry proposed file sharing via sharepoint which was supported by the Katzie First Nation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-01	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for KFN review and feedback. • Ministry asked that KFN provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over Katzie First Nation concerns or issues.
2021-12-03	Initial Project Description	Email	• Ministry sent Draft IPD and requested KFN feedback by February 3, 2022. • Ministry offered to set up a meeting to discuss the project, questions, and concerns.
2022-01-18	Project Update	Email	• The Ministry reminded KFN that in late 2021 the Engagement Plan (EP) and Draft Initial Project Description (IPD) were shared with Katzie First Nation in anticipation of initiating an Environmental Assessment. The KFN advised of project name change from George Massey Crossing Project to the Fraser River Tunnel Project (the Project). • Katzie First Nation were advised that once the EAO has accepted the EP and IPD, it will commence Engagement with Indigenous Groups and other parties, and there will be further opportunity for your review and feedback on the EP and IPD. • The Ministry supplied Katzie with a list of issues identified by Katzie and asked for them to confirm that the list is correct and accurate.
2022-02-07	Existing Condition Studies	Email	• Ministry advised KFN that: FRTP is preparing Existing Conditions Studies at the Project site to inform the Environmental Assessment. • Katzie First Nation provided Draft Summary Table of Initial Existing Condition Studies. • The Ministry further advised that will share proposed detailed Existing Condition Workplans for each proposed study, including the proposed scope, process, methods, and schedule. • The Ministry welcomed Katzie comment and feedback and noted that list of Existing Condition Studies is not finalized and hoped to further engage with Katzie First Nation regarding the selection of Valued Components.
2022-02-23	Engagement Plan and Initial Project Description	Email	• The Ministry informed KFN that an updated version of the Engagement Plan (EP) and the Initial Project Description (IPD) for the FRTP, which were shared in early December 2021, were available for Katzie First Nation's review. • Feedback on the documents was welcomed and meeting proposed to review updated documents. It was noted that the Project anticipates that the final version of the EP and IPD will be accepted by the EAO by the end of March 2022. • The Ministry further advised the Katzie First Nation that following the EAO's acceptance of the IPD and EP, a 90-day Early Engagement period will commence.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-02-25	Existing Condition Workplan	Email	• The Ministry provided the KFN Draft Workplans for priority Existing Conditions Studies for review and comment.
			  • Draft Fish and Fish Habitat Existing Conditions Workplan.
			  • Draft Wildlife and Wildlife Habitat Existing Conditions Workplan.

2022-03-04	Existing Condition Studies	Email	• Ministry advised Katzie First Nation of FRTP Existing Condition Studies Virtual Workshops to support their review of Studies.
			  o Project specialist will overview of the proposed scope, process, methodology and schedule, and answer any questions Katzie First Nation may have.
			  o Katzie First Nation invited to share views and interests on Draft Workplans through a facilitated discussion.
			  o March workshop on Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan, previously shared with Katzie First Nation.
			  o Notice of additional Workshops in April and later spring/summer.

2022-03-11	Updated Fish and Fish Habitat and Wildlife and Wildlife Habitat workplan	Email	• Ministry shared with KFN Updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans, identified changes to reflect Indigenous Groups input to date, sought KFN feedback, and reiterated invite to Workshops to review Studies with subject matter experts.
2022-04-08	Existing Conditions Study Workplan	Email	• Ministry provided KFN with Summary Table of Existing Conditions Studies Workplans for FRTP. Attachment included Summary Table (also posted to KFN folder in project's Sharepoint site).
2022-06-03	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife, Vegetation, Groundwater, and Surface Water and Sediments Surveys. • Ministry invited KFN to join for Field Surveys.
2022-06-08	Project Update	Email	• Ministry provided letter summarizing recent project updates related to the Fraser River Tunnel Project.
2022-06-17	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife and Vegetation Surveys. • Ministry invited KFN to join for Field Surveys.
2022-06-21	Meeting Request	Email	• Ministry invited Katzie to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group: to share information related to the Project's marine-based activities and obtain input.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-28	Reschedule Meeting	Email	• Ministry advised KFN of a change in meeting time of the Fraser River Tunnel Project's Indigenous Marine Users Group.
2022-06-28	Wildlife and Vegetation Surveys	Email	• Ministry sent KFN updated schedule for Wildlife and Vegetation Surveys.
2022-07-13	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife and Vegetation Surveys. • Ministry invited KFN to join for Field Surveys.
2022-07-26	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife and Vegetation Surveys. • Ministry invited KFN to join for Field Surveys.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on Katzie's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent KFN a Technical Memorandum.
2022-08-09	Detailed Project Description	Email	• Ministry let KFN know they will be sharing the Detailed Project Description soon. • Ministry stated they know KFN would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-11	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife, Vegetation, Groundwater, and Surface Water and Sediments Surveys. • Ministry invited KFN to join for Field Surveys.
2022-08-11	Wildlife and Vegetation Surveys	Email	• Ministry provided KFN with information and dates on upcoming Wildlife and Vegetation Surveys. • Ministry invited KFN to join for Field Surveys.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with KFN, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised KFN of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent KFN Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent KFN a Meeting Invite to view a Technical Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-21	Meeting Invite	Email	• Ministry sent KFN an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Meeting Agenda	Email	• Ministry sent KFN agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent KFN a friendly reminder that DPD was shared in August and welcomed any comments or feedback from KFN.
2022-10-05	Draft Detailed Project Description	Voicemail	• Ministry left voicemail for KFN asking for confirmation of receipt for DPD. • Asked if we can expect comments from KFN.
2022-10-11	Visual Assessments	Email	• Ministry provided KFN with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed KFN's feedback.
2022-10-19	Monitoring Opportunity	Email	• Ministry sent Marine Communications Plan.
2022-10-20	Monitoring Opportunity	Email	• Ministry sent Marine Communications Plan.
2022-10-25	Monitoring Opportunity & Meeting Request	Email	• Ministry acknowledged they had not met with KFN for a while and would like to set up a meeting.

Kwantlen First Nation

Table A5-2. Summary of Engagement with Kwantlen First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	ITT and Project Engagement Plan	Email	• Ministry proposed a meeting with the Kwantlen First Nation to provide information on the ITT; discuss the development of a Project Engagement Plan; Capacity Funding; and other related matters.
2021-09-14	Meeting Request	Email	• Ministry sent Kwantlen follow up phone call and meeting request.
2021-09-20	Meeting Request	Phone Call	• Follow-up phone call to all outstanding IGs who have not yet responded to set a meeting date: Ashley Doyle's voicemail full.
2021-10-05	Meeting Request	Phone Call	• Following up on previous email and phone call to Kwantlen. No answer. Voicemail full, left no voicemail.
2021-10-05	Meeting Request	Email	• Ministry sent follow up meeting request to Kwantlen to discuss the George Massey Crossing (GMC).
2021-10-05	Meeting Request	Email	• Kwantlen First Nation response to arranging a meeting.
2021-10-07	Meeting Request	Email	• Kwantlen First Nation Response to meeting times.
2021-10-12	Early Engagement and Consultation Process	Virtual Meeting	• Kwantlen advised Ministry discussed: o Consultation on both Tunnel and Bridge. o EA process. o Opportunity to provide Baseline Studies from pre-contact. o Engagement in Past Projects. o DRIPA. o Steps moving forward.
2021-10-12	Document Sharing	Email	• Ministry advised Kwantlen about Sharepoint, to facilitate collaborating on/sharing of project documents and how to access with BCEID account.
2021-10-13	Project Presentation	Email	• Ministry shared Project Presentation with Kwantlen.
2021-11-28	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Kwantlen First Nation review and feedback. • Ministry asked that Kwantlen First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over Kwantlen First Nation perspectives, concerns, or issues.
2021-11-12	Draft Capacity Funding Agreement Letter	Email	• In advance of meeting with Kwantlen, Ministry shared: Draft Capacity Funding Agreement Letter and Project Business Case.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-11-17	Capacity Funding and New EAO Process	Virtual Meeting	• Ministry met with Kwantlen and discussed: o Capacity Funding. o Confirmed Project to be reviewed under new EAO process; IAAC (federal EA process). o TLU study, community profile for Engagement Plan, frustrated with Crown Consultation Process, EA process of consensus seeking steps. o Value in participating in process for selection of IEM. o Tunnel decommissioning and EAC process. o Archaeology Consultant. • Ministry to: o Follow up with Kwantlen on Capacity Funding; future meeting dates; IAAC role and whether decommissioning will be included in EAC.
2021-11-28	Draft Project Engagement Plan	Email	• Ministry shared the Draft Project Engagement Plan.
2021-12-03	Review Request for Initial Project Description	Email	• Ministry sent Initial Project Description for Kwantlen review and feedback. • Ministry asked that Kwantlen provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over Kwantlen perspectives, concerns, and issues.
2022-01-18	Meeting Agenda	Email	• Ministry shared draft meeting agenda with Kwantlen for next Project Meeting and asked for input.
2022-01-18	Draft Engagement Plan and Initial Project Description	Email	• Ministry sent letter to Kwantlen outlining engagement on Project Draft Engagement Plan (EP) and Draft Initial Project Description (IPD) and advised that the Ministry intends to submit the EP and IPD the EAO and asked for any further comments/input from Kwantlen. • The Ministry noted that once the EAO has accepted the EP and IPD, it will commence Engagement with Indigenous Groups and there will be further opportunity for review and feedback. • The Ministry shared a list of Kwantlen issues and interests that the Ministry has documented to date.
2022-01-20	Videos of existing tunnels and others	Email	• Ministry sent Kwantlen: o Video on the construction of the existing tunnel. o Video illustrating the stone column concept mentioned in the Initial Project Description. o Video detailing the construction process for a modern immersed tube tunnel constructed in Europe. • Information on light rail potential in the project.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-01-21	Project Capacity Agreement	Email	• Ministry asked Kwantlen for update on their consideration of the project Capacity Agreement.
2022-02-07	Table of Issues and Interests	Email	• Ministry sent Kwantlen First Nation a Summary Table of Kwantlen First Nation's issues and interests.
2022-02-07	Existing Condition Studies	Email	• Ministry advised Kwantlen that it is preparing to develop and deliver Existing Conditions studies to inform the Project's environmental assessment. • The Ministry shared a draft summary table of initial Existing Condition studies the Project planning to be initiate this year; study focus areas; and anticipated start timelines. • Kwantlen feedback was sought on the summary table of initial Existing Condition studies. Ministry noted that they will contacting Kwantlen on the Valued Components in the coming months.
2022-02-08	Initial Project Description & Engagement Plan	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Preparing IPD and EP for submission to EAO. 2. Existing Condition Studies. 3. Capacity Funding Agreement. 4. Next steps.
2022-02-10	Meeting Summary	Email	• Ministry shared summary of February 8, 2021 meeting.
2022-02-23	FTRP Engagement Plan	Email	• Ministry shared with Kwantlen an updated version of the FRTP Engagement Plan (EP) and the Initial Project Description (IPD) and asked for feedback. Noting that following the EAO's acceptance of the IPD and EP, a 90-day Early Engagement period will commence, during which time, Indigenous groups will have further opportunities to comment on and engage on the EP and IPD content.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan and Wildlife Habitat Existing Conditions Workplan	Email	• Ministry sent Kwantlen for review and comment; Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan. • Kwantlen comment and feedback on the workplans for Existing Condition studies were requested.
2022-03-04	Meeting Request	Email	• Ministry sent Kwantlen invitation to a series of Virtual Workshops to support their review of the Draft Fish and Fish Habitat Existing Conditions Workplan and the Draft Wildlife and Wildlife Habitat Existing Conditions Workplan.
2022-03-07	Engagement Plan and Existing Studies	Virtual Meeting	• The Ministry and Kwantlen Discussed: o Engagement Plan. o Initial Project Description. o Existing Condition Studies.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-11	Updated Fish and Fish Habitat Workplan and Wildlife Habitat Workplan	Email	• In advance of Workshop with Kwantlen, Ministry shared updated versions of Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans.
2022-03-21	Existing Condition Workplans	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Purpose and Objectives. 2. Existing Condition Workplans. 3. Environmental Assessment Update.
2022-03-23	Ministry Response	Email	• Ministry responded to Kwantlen about project related questions: who will attend meetings from Ministry, Capacity Funding, FRTP Engagement and Corridor Improvements Engagement.
2022-03-25	Meeting Request	Email	• Kwantlen confirmed receipt of information shared by Ministry on March 23rd and proposed meeting date.
2022-04-01	Meeting Agenda	Email	• In advance of meeting with Kwantlen, Ministry shared Agenda and other materials.
2022-04-04	Engagement Plan and Project Update	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Corridor Improvements. 2. Existing Condition Studies Update. 3. Capacity Funding Agreement Update. 4. Engagement Plan and Initial Project Description Update. 5. Next steps.
2022-04-04	Hwy 99 Tunnel Program Sharepoint	Email	• Ministry provided Kwantlen with information on accessing project Sharepoint Site.
2022-04-04	Hwy 99 Tunnel Program Sharepoint	Email	• Ministry provided Kwantlen with information on accessing project Sharepoint Site.
2022-04-08	Existing Conditions Studies	Email	• Ministry shared with Kwantlen Summary Table of Existing Conditions Studies.
2022-04-26	Draft Capacity Funding Agreement	Email	• Ministry provided Kwantlen with Draft Capacity Funding Agreement
2022-04-28	Meeting Agenda	Email	• Ministry shared with Kwantlen Draft Agenda for May 2nd project meeting.
2022-04-29	Revised Meeting Agenda	Email	• Ministry provided Kwantlen with Revised Agenda for May 2nd project meeting.
2022-05-02	Corridor Improvements	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Corridor Improvements. 2. Existing Condition Studies update. 3. Capacity Funding Agreement update. 4. Engagement Plan and Initial Project Description update. 5. Environmental Assessment Process Update. 6. Next steps and action items.
2022-05-10	Meeting Summary	Email	• Kwantlen confirmed receipt of May 2nd Meeting Summary from Ministry.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-19	Signed Capacity Agreement	Email	• Kwantlen provided Ministry with Signed Capacity Agreement and Ministry confirmed receipt of Agreement.
2022-05-19	Updated Referral Letter	Email	• Ministry sent Kwantlen FRTP updated Referral Letter.
2022-05-27	Meeting Request	Email	• Ministry confirmed meeting time and date for June meeting with Kwantlen and offered to meet virtually or in person.
2022-06-06	EA Update	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Corridor Improvement Projects. 2. Existing Condition Studies update. 3. Capacity Funding Agreement update. 4. Engagement Plan and Initial Project Description update. 5. Environmental Assessment Process Update. 6. Reference Concept Design. 7. EA Process and Referral Summary. 8. Next steps and action items.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Kwantlen to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group and proposed first meeting date. Noting that the purpose of these groups is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project.
2022-06-22	Capacity Funding Agreement	Email	• Ministry sent Kwantlen signed Capacity Funding Agreement.
2022-06-28	Meeting Adjustment	Email	• Ministry advised Kwantlen that the FRTP Indigenous Marine Users Group meeting was postponing to Wednesday, July 13th to allow for additional participation.
2022-07-04	Monthly Meeting	Virtual Meeting	• Meeting to discuss capacity funding, reference concept design, and tunnel construction timeline.
2022-07-04	Reference Concept Multi-Use Pathway Presentation	Email	• Ministry sent Kwantlen notice that a copy of the reference concept multi-use pathway presentation is posted on project Sharepoint.
2022-07-07	Address Confirmation	Email	• Ministry asked Kwantlen to confirm address for Kwantlen Lands, Resources, and Stewardship.
2022-07-11	Address Confirmation	Email	• Kwantlen confirmed address for Kwantlen Lands, Resources, and Stewardship.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting. Kwantlen in attendance.
2022-07-15	Agenda Request	Email	• Ministry asked Kwantlen if they had any topics or specific items they wanted to discuss at upcoming meeting.
2022-07-15	Agenda Response	Email	• Kwantlen responded to the Ministry's request and provided topics they would like to discuss.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-25	Agenda Response	Email	• Ministry responded to Kwantlen Sharing their concerns.
2022-07-26	Wildlife and Vegetation Studies	Email	• Ministry sent dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on Kwantlen's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys • Ministry sent Kwantlen a Technical Memorandum.
2022-08-11	Wildlife and Vegetation Studies	Email	• Ministry sent dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-08-11	Wildlife and Vegetation Studies	Email	• Ministry sent dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Kwantlen, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Pauquachin:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-06	eDNA studies	Virtual Meeting	• Ministry and Kwantlen discussed:
			  1. Corridor Improvements.
			  2. Review of Last meeting.
			  3. Transit Study.
			  4. eDNA Studies.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Kwantlen Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Agenda	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Kwantlen an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent Kwantlen a friendly reminder that DPD was shared in August and welcomed any comments or feedback from Kwantlen.
2022-10-03	Transit Study	Virtual Meeting	• Ministry and Kwantlen discussed: 1. Corridor Improvements. 2. Existing Condition Studies update. 3. Transit Study. 4. IMUG.
2022-10-06	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Pauquachin: • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion. • FRTP Eulachon Migration Assessment Using eDNA – Memo. • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report
2022-10-06	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Pauquachin: • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion. • FRTP Eulachon Migration Assessment Using eDNA – Memo. • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
2022-10-11	Visual Assessments	Email	• Ministry provided Kwantlen with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed Kwantlen's feedback.

kʷikʷəƛ̓əm (Kwikwetlem First Nation)

Table A5-3. Summary of Engagement with kʷikʷəƛ̓əm (Kwikwetlem First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-27	Project Referral Letter	Email	• The Ministry sent Kwikwetlem First Nation the Project Referral Letter. • The Ministry invited Kwikwetlem First Nation to a meeting to provide their perspective on the Project.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Kwikwetlem First Nation to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group and proposed first meeting date. • Noting that the purpose of these groups is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project
2022-06-28	Ministry Response	Email	• The Ministry acknowledged that Kwikwetlem First Nation do not currently have the capacity to attend the Indigenous Marine Users Group Meetings. • Ministry noted that Kwikwetlem First Nation would like to continue to receive any and all information related to the Fraser River Tunnel Project. • Ministry also stated that if Kwikwetlem First Nation would like to be more involved in the project in the future to let the Ministry know.
2022-08-09	Detailed Project Description	Email	• Ministry let Kwikwetlem know they will be sharing the Detailed Project Description soon. • Ministry stated they know Kwikwetlem would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Kwikwetlem, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Kwikwetlem of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report

2022-09-21	Meeting Invite	Email	• Ministry sent Kwikwetlem a Meeting Invite to view a Technical Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-21	Meeting Invite	Email	• Ministry sent Kwikwetlem an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Meeting Agenda	Email	• Ministry sent Kwikwetlem agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent Kwikwetlem a friendly reminder regarding the DPD shared in August and welcomed feedback and comments.
2022-10-12	Valued Components	Email	• Ministry sent Kwikwetlem information on Valued Components and welcomed Kwikwetlem's feedback.

Leq'á:mél First Nation

Table A5-4. Summary of Engagement with Leq'á:mél First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-27	Early Engagement	Email	• Leq'á:mél advised it wants to engage in Project. Ministry attached Project Referral Letter for review.
2022-05-27	Meeting Request	Email	• Ministry asked about meeting with Leq'á:mél.
2022-05-27	Meeting Request	Email	• Ministry resent email; typo in address.
2022-05-30	Capacity Funding	Email	• Ministry emailed about Capacity Funding to support Engagement.
2022-05-30	Capacity Funding	Email	• Ministry emailed about Capacity Funding to support Engagement.
2022-06-21	Indigenous Marine Users Group Invite	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-24	Meeting Response	Email	• Leq'á:mel unable to attend Indigenous Marine Users Group meeting. • Ministry to keep Nation informed of future events, offered to set up meeting to review Project.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting.
2022-08-09	Indigenous Cultural Use	Email	• Ministry requested feedback on Leq'á:mél's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Leq'á:mél a Technical Memorandum.
2022-08-19	Draft Detailed Project Description	Email	• Ministry let Leq'á:mél know they will be sharing the Detailed Project Description soon. • Ministry stated they want to know if Leq'á:mél would like to be involved in the EA process and requested a meeting to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Leq'á:mél, along with an Excel DPD comment tracker to receive their feedback.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Leq'á:mél of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Leq'á:mél:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Leq'á:mél of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Leq'á:mél:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Leq'á:mél Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Leq'á:mél a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Leq'á:mél an Invitation to view presentation about Proposed Construction Methodology.
2022-09-23	Project Update/Introductory Meeting	Phone Call	• Outreach phone call to provide more information on project details and request an introductory meeting.
2022-09-26	Capacity Funding Agreement	Email	• Leq'á:mél thanked the Ministry for reaching out and let them know they have not received the Capacity Funding Agreement.
2022-09-27	Meeting Request	Email	• Ministry emailed Leq'á:mél to set up an introductory meeting.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-10-05	Draft Detailed Project Description	Email	• Leq'á:mél let the Ministry know they received the email with the DPD and will start working on providing comments for the DPD.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-05	Draft Detailed Project Description	Phone Call	• Ministry spoke with Justin Laslo from Leq'á:mél about DPD. Leq'á:mél stated they would aim to provide comments in 1-2 weeks.
2022-10-05	Draft Detailed Project Description	Phone Call	• Ministry left voicemail for Jamie Benton to confirm receipt of DPD.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed Leq'á:mél's feedback.
2022-10-18	Draft Detailed Project Description	Email	• Ministry reached out to Leq'á:mél to enquire about receiving comments on the DPD.
2022-10-19	Draft Detailed Project Description	Email	• Leq'á:mél confirmed they will submit comments by the week's end.

Lyackson First Nation

Table A5-5. Summary of Engagement with Lyackson First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-12	Meeting Request	Email	• Notification of upcoming project announcement and request to meet in advance.
2021-08-16	Early Engagement	Email	• Ministry thanked Quw'utsun Nation for Consultation Table and asked if Nation is interested in meeting.
2021-08-17	Meeting to discuss project announcement	Virtual Meeting	• Meeting with Quw'utsun Nation to discuss project announcement.
2021-08-17	Follow up to project announcement meeting	Email	• Quw'utsun Nation expressed concern with short notice of invitation to project announcement.
2021-08-18	Project announcement	Email	• Notification of project announcement.
2021-08-26	Early Engagement	Email	• Ministry asked Lyackson to meet to develop a Project Engagement Plan and Capacity Funding Needs.
2021-11-19	Introductory Meeting	Virtual Meeting	• Discussed information sharing; capacity funding; and concern with project timelines.
2021-11-30	Feedback request for Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan to Lyackson First Nation for review and feedback. • Ministry asked that Lyackson First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
2021-11-30	Feedback request for Engagement Plan	Letter	• Ministry sent Draft Project Engagement Plan for Lyackson First Nation review and feedback. • Ministry asked that Lyackson First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
2021-12-03	Feedback request for Initial Project Description	Email	• Ministry sent Initial Project Description for Lyackson First Nation review and feedback. • Ministry asked that Lyackson First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Lyackson First Nation may have.
2021-12-03	Feedback request for Initial Project Description	Letter	• Ministry sent Initial Project Description for Lyackson First Nation review and feedback. • Ministry asked that Lyackson First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Lyackson First Nation may have.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-08	Clarification of capacity funding	Email	• Ministry emailed Quw'ustsun Nation providing clarity to details of capacity funding.
2021-12-10	Sharing of agenda and draft capacity funding agreement	Email	• Ministry emailed Quw'ustun Nation members providing draft agenda for upcoming meeting, including draft capacity funding agreement for review.
2021-12-15	Meeting to discuss capacity funding.	Virtual Meeting	• Ministry met with Quw'ustun Nation members to discuss project overview; capacity funding; environmental monitoring opportunities.
2022-02-07	Draft Summery Table of Initial Existing Conditions Studies	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. Ministry asked for feedback.
2022-02-23	Engagement Plan and Initial Project Description	Email	• Updated versions of EP and IPD emailed to Lyackson for review. Ministry asked if Lyackson would like to meet to review updated documents.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-03-04	Meeting Request	Email	• Ministry emailed notes/action items from January meeting for review. Ministry asked to schedule meeting to provide updates.
2022-03-04	Virtual Workshop Invite	Email	• Ministry emailed to invite Lyackson to Virtual Workshop Meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-11	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry shared updates to Draft Fish and Fish Habitat Workplan and Draft Wildlife and Wildlife Habitat Workplan and asked if Lyackson intends to provide comments on Workplans.
2022-03-16	Draft Agenda	Email	• Ministry provided Draft Agenda for upcoming meeting.
2022-03-18	Presentation Request	Email	• Email requesting Presentation.
2022-03-24	Terrestrial and Marine Wildlife	Virtual Meeting	• Ministry and Lyackson First Nation discussed: 1. Terrestrial and Marine Wildlife. 2. Fish and Aquatic Habitat. 3. Indigenous Consultation. 4. Existing Condition Studies.
2022-04-06	Issues with Existing Conditions Workplans	Email	• Ministry responded to email from Lyackson stating the Nation does not agree with concept of Existing Conditions in the Workplans. • Ministry asked for more information and potential times for a meeting.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-04-06	Issues with Existing Conditions Workplans	Email	• Ministry responded to email from Lyackson stating the Nation does not agree with concept of Existing Conditions in the Workplans. • Ministry asked for more information and potential times for a meeting.
2022-04-06	Contact Confirmation, Engagement Plan and Initial Project Description	Email	• Ministry recognized mix up in email addresses in response to Lyackson highlighting inconsistencies in email correspondence. • Ministry emailed with updated version of EP and IPD. • Ministry said it welcomes feedback from Lyackson, offered to schedule a meeting.
2022-04-06	Contact Confirmation, Engagement Plan and Initial Project Description	Email	• Ministry recognized mix up in email addresses in response to Lyackson highlighting inconsistencies in email correspondence. • Ministry emailed with updated version of EP and IPD. • Ministry said it welcomes feedback from Lyackson, offered to schedule a meeting.
2022-04-08	Summer Table for Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-29	Capacity Funding Agreement	Email	• Ministry responded to query on status of Capacity Funding Agreement. Agreements for five Quw'utsun Nation members to be sent out for review and signature ASAP.
2022-04-29	Invite to Virtual Open House	Email	• Ministry invited Lyackson to Virtual Open Houses. • Ministry confirmed it is working on the Capacity Funding Agreement.
2022-05-03	Capacity Funding Agreement	Email	• Ministry and Lyackson First Nation discussed: 1. Capacity Funding Agreement 2. Indigenous Consultation.
2022-05-04	Capacity Funding Agreement	Email	• Ministry emailed Capacity Funding Agreement.
2022-05-05	Meeting Request	Email	• Ministry offered potential meeting times.
2022-05-05	Meeting Request	Email	• Ministry created Doodle Poll at Nation's suggestion in order to facilitate scheduling a meeting.
2022-05-09	Meeting Request	Email	• Ministry followed up scheduling a meeting.
2022-05-11	Meeting Confirmation	Email	• Meeting scheduled.
2022-05-13	Meeting Request	Email	• Ministry emailed to set up time for upcoming meeting.
2022-05-16	Meeting Request	Email	• Meeting time still to be determined.
2022-05-19	Project Updates	Email	• Ministry emailed summary with recent updates to Project.
2022-05-20	Meeting Confirmation	Email	• Meeting time confirmed.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-24	Meeting Confirmation	Email	• Ministry thanked Lyackson for setting up meeting.
2022-05-25	Draft Agenda	Email	• Ministry emailed proposed meeting Agenda.
2022-05-26	Project Updates and Engagement Planning	Virtual Meeting	• Ministry and Lyackson First Nation discussed: 1. Project Updates. 2. Corridor Improvements. 3. Engagement Planning. 4. Existing Condition Studies. 5. Capacity Funding Agreements. 6. Project re-naming. 7. Environmental Studies Update. 8. EP and IPD. 9. Next Steps and Action items.
2022-05-26	Signed Capacity Funding Agreement	Email	• Ministry thanked Lyackson for the signed Capacity Funding Agreement.
2022-06-14	Signed Capacity Funding Agreement	Email	• Ministry emailed executed Capacity Funding Agreement for Lyackson.
2022-06-14	Contact Request	Email	• Ministry asked Lyackson for contact at Stz'uminus regarding its 2022 Capacity Funding Agreement.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-27	Presentation and Meeting Agenda	Email	• Ministry emailed copy of presentation from last meeting and Agenda for upcoming meeting.
2022-06-27	Funding Agreement for Cowichan Tribes	Email	• Ministry emailed Funding Agreement 2022 for Cowichan Tribes' signature.
2022-06-28	Meeting Adjustment	Email	• Marine Users Group meeting rescheduled.
2022-07-25	FRTP: Summary of QN's Questions & Monday's Meeting	Email	• Email requesting extension to July 25th meeting.
2022-07-25	Fraser River Tunnel Project + Hwy 99 Corridor Monthly Meeting	Email	• Agenda provided for July 25th meeting.
2022-08-03	Visual Quality Assessment Memorandum	Email	• Email providing referral of visual quality memo.
2022-08-04	Visual Quality Assessment Memorandum	Email	• Email expressing concern over consultation to date and delayed submission of visual quality memo referral.
2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Note: Received bounce-back email from Josh James (Penelakut), and Robert Sam (Penelakut), and Shana Thomas (Halalt)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-14	Indigenous Marine Users Group Meeting #2	Email	• IMUG #2 presentation slides and agenda provided.
2022-09-20	Fraser River Tunnel Project + Hwy 99 Corridor Monthly Meeting	Email	• Email requesting if QN members are available to meeting for regular meeting September 26th.
2022-09-21	Indigenous Marine Users Group Meeting #2	Email	• Email to reschedule IMUG #2 meeting that QN was unable to attend.
2022-09-21	Fraser River Tunnel Project - Technical Construction Presentation	Email	• Invitation to QN to attend technical construction presentation September 29th.
2022-09-21	Technical Construction Presentation (September 29, 2022)	Email	• "Save the date" email to QN to attend technical construction presentation
2022-09-26	Indigenous Marine Users Group Meeting #2 - Follow Up	Email	• Follow up from IMUG #2 meeting providing meeting notes and presentation slides.
2022-09-27	Indigenous Marine Users Group Meeting #2 - Follow Up	Email	• Email correspondence from Lyackson to MoTI requesting MoTI clarify communication instructions.
2022-09-27	Indigenous Marine Users Group Meeting #2	Email	• Email from MoTI to QN members requesting available dates for rescheduling of IMUG #2 meeting.
2022-09-27	Indigenous Marine Users Group Meeting #2 - Follow Up	Email	• Email expressing concern with email instructions for meeting rescheduling.
2022-09-28	Technical Construction Presentation	Email	• Email proving meeting agenda and presentation slides.
2022-09-28	Draft Detailed Project Description	Email	• Email reminder requesting comments on Detailed Project Description.
2022-10-04	October 6th Steveston/FRTP Site Visit	Email	• Email instructions for Steveston Interchange Project and environmental monitoring site visit.
2022-10-04	October 6th Steveston/FRTP Site Visit	Email	• Response to instructions for site visit and rescheduling of visit.
2022-10-06	Detailed Project Description	Phone Call	• AH phone Karyn Scott (cell phone) and left voice message: * Requested confirmation of receipt of DPD * Requested if MoTI/TIC can expect any comments * Requested date/time to meet.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-11	Visual Quality Assessment Memorandum	Email	• Updated visual quality assessment memorandum.
2022-10-12	Valued Component Selection	Email	• Value Component Selection Document.
2022-10-12	Valued Component Selection	Email	• Email inquiring about inclusion of GMTR feedback in Detailed Project Description. Request to provide overview documents for all project materials.

Matsqui First Nation

Table A5-6. Summary of Engagement with Matsqui First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-27	Early Engagement	Email	• Ministry sent an invite to Matsqui First Nation (MFN) to meet and discuss the Fraser River Tunnel Project (FRTP).
2022-05-30	Early Engagement	Email	• MFN advised Ministry it would like to meet on FRTP.
2022-05-30	Early Engagement	Email	• Ministry responded to MFN agreement to meet and proposed meeting dates.
2022-06-13	Project Introduction	Virtual Meeting	• Ministry and MFN discussed: 1. Project Introduction. 2. Existing Condition Studies. 3. Capacity Funding. 4. Environmental Assessment Process. 5. Reference Concept Design. 6. Next steps and action items.
2022-06-20	Overview Presentation and Capacity Funding Agreement	Email	• Ministry followed up meeting with MFN and provided: 1. The FRTP Overview Presentation. 2. A Draft Capacity Funding Agreement.
2022-06-21	Capacity Funding Agreement and EA Process	Virtual Meeting	• Ministry and MFN discussed: 1. Draft Capacity Funding Agreement. 2. Technical Information. 3. FRTP referrals to-date. 4. Existing Condition Studies. 5. Capacity Funding. 6. Environmental Assessment Process. 7. Reference Concept Design. 8. Next steps and action items.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited MFN to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group and proposed first meeting date. • Noting that the purpose of these groups is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project.
2022-06-22	SharePoint Access ID	Email	• MFN confirmed its project sharepoint access ID.
2022-06-23	SharePoint Access ID	Email	• Ministry confirmed MFN access to the Fraser River Tunnel Project Sharepoint.
2022-06-28	Meeting Adjustment	Email	• Ministry advised MFN that a scheduled FRTP Indigenous Marine Users Group meeting was postponed allowing for additional participation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-12	Construction, Existing Condition Studies, and Indigenous Consultation	Virtual Meeting	• Ministry and MFN discussed: 1. Tunnel Removal. 2. Existing Condition Studies. 3. Fish and Aquatic Habitat. 4. Capacity Funding Agreement. 5. Construction Methods. 6. Indigenous Consultation. 7. Habitat. 8. Construction Activities. 9. Construction Timing. 10. Next steps and action items.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held Matsqui inaugural Indigenous Marine Users Group meeting. Matsqui First Nation in attendance.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on Matsqui's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Matsqui a Technical Memorandum.
2022-08-16	Visual Quality Assessment	Virtual Meeting	• Ministry and MFN discussed: 1. Open House Slides. 2. Youtube on Existing Tunnel, new animated video. 3. Visual Quality Assessment. 4. Capacity Funding Agreement. 5. Detailed Project Description Update. 6. Indigenous Marine Users Group.
2022-08-17	Capacity Funding Agreement	Email	• Ministry provided MFN with Capacity Funding Agreement for review.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Matsqui, along with an Excel DPD comment tracker to receive their feedback.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Matsqui, along with an Excel DPD comment tracker to receive their feedback.
2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised MFN of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents: • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion. • FRTP Eulachon Migration Assessment Using eDNA – Memo. • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised MFN of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-12	Farewell	Email	• Sr. Advisor, Beaudin Bennett announced he was moving to a different Ministry.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent MFN Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent MFN a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent MFN an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-27	Meeting Invite	Email	• Ministry reached out to MFN acknowledging its been some time since the last meeting, and sent dates for future meeting.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent MFN a friendly reminder that DPD was shared in August and welcomed any comments or feedback from MFN.

2022-10-06	Draft Detailed Project Description	Phone Call	• Ministry left Cindy Collins a voice message:
			  1. Requested confirmation of receipt of DPD.
			  2. Requested if MoTI/TIC will receive comments.
			  3. Requested date/time for follow up meeting.

2022-10-20	Monitoring Opportunity	Email	• MFN replied to the Ministry that MFN will provide a response on Field Technician shortly.

xʷməθkʷəy̓əm (Musqueam Indian Band)

Table A5-7. Summary of Engagement with xʷməθkʷəy̓əm (Musqueam Indian Band)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement	Email	• Ministry advised Musqueam Indian Band (MIB) that is proceeding with the replacement of the existing George Massey Tunnel with a new Immersed Tube Tunnel (ITT). • Requested meeting to provide further information on the ITT and discuss the development of a Project Engagement Plan, Capacity Funding needs and other related matters.
2021-09-08	MIB Meeting Request	Email	• MIB advised Ministry of availability to meet to discuss Project.
2021-09-08	Meeting Confirmation	Email	• Ministry responded to confirm meeting date to discuss Project.
2021-09-14	Meeting Confirmation	Email	• Ministry contacted MIB to confirm meeting dates to discuss Project.
2021-09-14	Meeting Confirmation	Email	• MIB confirmed meeting dates to discuss Project.
2021-09-23	Meeting Adjustment	Email	• MIB advised Ministry of change in meeting dates to discuss Project.
2021-09-23	Meeting Adjustment	Email	• Ministry responded to MIB change in meeting date to discuss Project.
2021-09-28	Meeting Request	Email	• Ministry suggested revised meeting with MIB to discuss Project.
2021-09-28	Meeting Response	Email	• MIB respond to Ministry meeting dates.
2021-10-04	Meeting Response	Email	• MIB respond to Ministry meeting dates.
2021-10-05	Meeting Confirmation	Email	• Ministry respond to MIB meeting dates.
2021-10-18	Musqueam Indian Band Concerns and Issues with EA Process and Project	Virtual Meeting	• Ministry and Musqueam Indian Band discussed many Topics and MIB raised: 1. Location of Project. 2. Expectations regarding consultation 3. New EA process. 4. Concerns with decommissioning Tunnel. 5. Baseline Studies. 6. MIB requested updates whenever deadlines/timelines are known so that conversations can happen in a timely manner and concerns discussed.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-10-18	Musqueam Indian Band Concerns and Issues with EA Process and Project Con't	Virtual Meeting Con't	Meeting action items, Ministry will: 1. Provide Summary of Tunnel Decommissioning. 2. Review Process Management. 3. Schedule discussion on MIB involvement in Baseline studies and inclusion of Cumulative Effect. 4. Provide details on EAO Process and discuss additional Studies that can be conducted. 5. Provide firmer schedule on EAO submission timeline. 6. provide memo on scope of EA to address Cumulative Effects. 7. Provide Engagement Plan outline for discussion at next meeting, Send MIB Capacity Funding Agreement.
2021-10-20	Document Sharing	Email	• Ministry provided MIB Sharepoint access information.
2021-10-20	Meeting Request	Email	• Ministry proposed meeting dates to MIB.
2021-10-21	Document Sharing	Email	• MIB share information on members needing Sharepoint access.
2021-10-21	Document Sharing	Email	• MIB share information on members needing Sharepoint access.
2021-10-27	Meeting Request	Email	• MIB propose dates for meeting with Ministry.
2021-10-29	Meeting Response	Email	• Ministry respond to MIB meeting dates.
2021-10-29	Meeting Response	Email	• Ministry respond to MIB meeting dates.
2021-10-29	Meeting Response	Email	• MIB respond to Ministry meeting dates.
2021-10-29	Meeting Response	Email	• MIB respond to Ministry meeting dates.
2021-11-03	Meeting Response	Email	• MIB respond to Ministry meeting dates.
2021-11-09	Meeting Confirmation	Email	• Ministry respond to MIB meeting dates.
2021-11-09	Document Sharing	Email	• Ministry provides MIB with Sharepoint access.
2021-11-09	Draft Capacity Funding Agreement	Email	• Ministry shares Draft Capacity Funding Agreement with MIB and advises pending Engagement Agreement Draft to be shared.
2021-11-09	Document Sharing	Email	• MIB request access to Sharepoint.
2021-11-10	Document Sharing	Email	• MIB confirm access to Sharepoint.
2021-11-10	Document Sharing	Email	• Ministry confirms MIB access to Sharepoint.
2021-11-10	Document Sharing	Email	• Ministry provides MIB with access code for BCeID.
2021-11-10	Document Sharing	Email	• MIB seeks access to BCeID.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-03	Review Request for Initial Project Description	Email	• Ministry sent Initial Project Description for MIB review and feedback. • Ministry asked that MIB provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over MIB perspectives, concerns, and issues.
2021-12-03	Monthly Meeting	Virtual Meeting	• Meeting to discuss existing tunnel conditions and baseline conditions.
2022-01-18	Draft Engagement Plan and Initial Project Description, along with list of MIB Concerns and Issues	Email	• Ministry shared with MIB and the Draft Engagement Plan (EP) and draft Initial Project Description (IPD) in anticipation of initiating an Environmental Assessment. • Changed the name of the George Massey Crossing Project to the Fraser River Tunnel Project (the Project) to better reflect the intended Project scope. • Ministry asked MIB for additional input on EP and IPD prior to submission to EAO. • Ministry shared list of MIB issues and interests shared to date and asked MIB to confirm its accuracy.
2022-01-19	MIB Response	Email	• MIB advised Ministry it will review summary of MIB issues shared by the Ministry and will provide they will be providing further comments.
2022-01-20	Ministry Response	Email	• Ministry confirmed with MIB that they will wait for their comments prior to submitting EP and IPD to EAO.
2022-01-21	Meeting Agenda	Email	• Ministry shared Draft Meeting Agenda with MIB.
2022-01-26	Review Action Items, Technical Update and Draft Capacity Funding Agreement	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Project Renaming and MOTI Staffing Update. 2. Review Action Items and Outcomes from December 3rd Meeting. 3. Summary of Feedback from Musqueam to Date (see January 18, 2022, email). 4. Update on Existing Conditions Studies Update. 5. Technical Update (Brief Presentation). 6. Draft Capacity Funding Agreement. 7. Next steps & action items.
2022-02-01	Meeting Summery	Email	• Ministry shared meeting notes with MIB.
2022-02-03	GMC Salmon Study	Virtual Meeting	• Ministry and Musqueam First Nation discussed: 1. Delivery of the GMC Salmon Study.
2022-02-03	Preliminary Comments of EP and IPD	Email	• MIB shared with Ministry Preliminary Comments on IPD and EP.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-02-07	Existing Conditions Studies and Valued Components	Email	• Ministry advised MB Existing Conditions Studies are being developed to inform the Project's Environmental Assessment, noting studies are designed to characterize the current status of Environmental and Socio-Economic Disciplines and help inform the eventual selection of Valued Components. • Attached Draft Summary Table of Initial Existing Condition Studies for this year and more detailed Existing Condition Workplans will be shared in the coming weeks, and that Workplans will outline proposed scope, process, methods, and schedule. • Ministry asked for MIB feedback, noting that it would engage on selection of Valued Components in the coming months.
2022-02-10	Meeting Request	Email	• Ministry and MIB exchanges emails on meeting scheduling.
2022-02-11	Summery of MIB Key Interests and Issues	Email	• MIB share with Ministry key interests and issues on EP and IPD.
2022-02-18	EP, IPD, and Valued Components	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Project Update. 2. Engagement Process and Initial Project Description. 3. Existing Conditions Studies Update. 4. Valued Components. 5. Capacity Funding Agreement. 6. Next steps & action items.
2022-02-23	Feedback Request on IPD and EP	Email	• Ministry thanked MIB for feedback on IPD and EP, shared revised documents that incorporated their issues and interests, and Ministry responses to MIB issues and interests.
2022-02-25	MIB Response to Feedback Request	Email	• MIB confirmed receipt of Ministry responses to their issues and interests in EP and IPD and review for potential additional comments.
2022-02-25	Existing Conditions Workplans and Valued Components	Email	• Ministry shared with MIB for Review and Comment: 1. Draft Fish and Fish Habitat Existing Conditions Workplan. 2. Draft Wildlife and Wildlife Habitat Existing Conditions Workplan. 3. Identified study timelines. 4. Advised of Workshops to review plans; additional Workplans will be shared soon.
2022-03-04	Workshop Dates for Existing Conditions Workplans	Email	• Ministry advised MIB of Workshop Dates to review Draft Fish and Fish Habitat Existing Conditions Workplan and the Draft Wildlife and Wildlife Habitat Existing Conditions Workplan, previously shared with MIB.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-04	Lower Fraser Salmon Study	Phone Call	• MIB confirming with Ministry that MIB is interested in being involved in/co-leading the Lower Fraser Salmon Study with Hemmera.
2022-03-07	Lower Fraser Salmon Study	Email	• MIB advised Ministry it is interested in being involved in/co-leading the Lower Fraser Salmon Study this year.
2022-03-11	Updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans	Email	• Ministry shared with MIN updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans and noted key changes based on comments received from Indigenous Groups to date, and asked MIB to confirm their attendance at workshop on Existing Conditions Studies.
2022-03-14	Existing Conditions Studies Workshops	Email	• MIB confirmed its interest in participating in Existing Conditions Studies Workshops and flagged some topics and questions in Fish and Fish Habitat Workplan that would like to discuss. • MIB asked for further information on Existing Conditions Studies will integrate and overlap (or not) with the advance studies.
2022-03-21	Existing Conditions Studies Workplans	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Project Update. 2. Existing Conditions Studies Workplan. 3. Environmental Assessment Update. 4. Next steps & action items.
2022-03-22	Field Technician and Salmonid and Sturgeon Studies	Email	• Ministry thanked MIB for attending the Fish and Wildlife Existing Conditions Studies Workshop. • Welcomed MIB's participation in the delivery of studies delivery. • Recognized commitment leading Salmonid and Sturgeon Studies, and that they have limited resources (capacity) and many competing projects, and that MIB are welcome to participate in studies they are not leading. • The Ministry confirmed that the studies could support a full-time Field Technician and asked if this position was of interest to the MIB.
2022-03-24	Existing Conditions Studies Workshops	Email	• Ministry asked MIB for follow up discussion on Existing Conditions Workshop.
2022-03-29	Existing Conditions Studies Workshops	Email	• Ministry asked MIB for follow up discussion on Existing Conditions Workshop.
2022-03-29	Existing Conditions Studies Workshops and Meeting Request	Email	• MIB supports follow up discussion on Existing Conditions Workshop.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-29	Meeting Confirmation	Email	• Ministry confirms meeting date to follow up on Existing Conditions Workshop and advises responses to MIB issues and interests in studies will be shared soon.
2022-03-31	Fish and Fish Habitat Existing Conditions Studies Workplan	Email	• Ministry shares with MIB responses to their interests in Fish and Fish Habitat Existing Conditions Studies Workplan.
2022-04-01	Meeting Request	Email	• Ministry shares with MIB potential meeting date information on Existing Conditions.
2022-04-05	MIB Concerns with Project and its effects on Fish and Fish Habitat, and Issues and Concerns with Existing Conditions Studies	Virtual Meeting	• The Ministry and MIB Discussed: 1. Map of options for Temporary Moorage locations was reviewed. 2. MIB Communications Protocol template (MIB will share with Ministry). 3. Existing Conditions Studies. 4. Cumulative effects' connection to Value Components. 5. MIB's Traditional Use Study (TUS); importance of contextualizing traditional use information. 6. . Cumulative effects discussions at Musqueam and in the new EA process.
2022-04-05	Project Updates	Email	• Ministry send MIB updates on: 1. Capacity Funding Agreement. 2. Sharepoint. 3. Meeting Invite.
2022-04-05	Project Updates	Email	• Ministry send MIB updates on: 1. Capacity Funding Agreement. 2. Sharepoint. 3. Meeting Invite.
2022-04-06	Capacity Support Agreement	Email	• MIB send Ministry revised Hwy 99 Corridor Improvements Capacity Support Agreement.
2022-04-08	Existing Conditions Studies Workplans Summary Table	Email	• Ministry share with MIB Existing Conditions Studies Workplans Summary Table.
2022-04-26	Meeting Schedules and Capacity Funding Agreement	Phone Call	• Topics discussed: 1. Next meeting between MIB and MOTI. 2. MIB and MOTI work to establish a standing meeting schedule between Project Reps / MIB Capacity Funding Agreement. 3. MIB received notification from EAO regarding start of EA Process. • Action Items: 1. MIB to provide MOTI with some suggestions on how to improve Capacity Funding Agreement Language.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-04-29	Draft Meeting Agenda	Email	• Ministry send MIB suggested next meeting agenda items: 1. Update and further collaborate regarding the selection of a Temporary Moorage Site. 2. Update on the Environmental Aspects of the TM Option 1. 3. Traditional Use Studies, and Capacity Funding Agreement.
2022-05-02	Feedback Request for Capacity Funding Agreement	Email	• Ministry asks MIB for update on review of Capacity Funding Agreement.
2022-05-09	Meeting Request	Email	• Ministry proposes potential meeting dates with MIB.
2022-05-09	Meeting Request	Email	• Ministry proposes potential meeting dates with MIB.
2022-05-10	Meeting Request Response	Email	• MIB respond to Ministry meeting dates request.
2022-05-10	Marine Access Protocol Agreement	Email	• Ministry asks MIB for their Marine Access Protocol Agreement.
2022-05-18	Temporary Moorage Memo	Email	• In advance of meeting with MIB, Ministry shared a Temporary Moorage Memo.
2022-05-19	Update Referral Letter	Email	• Ministry shared FRTP Update Referral Letter with MIB.
2022-05-20	Draft Meeting Agenda	Email	• In advance of meeting with MIB on Temporary Moorage, Ministry shared Proposed Agenda.
2022-05-24	Draft Protocols	Email	• MIB send Ministry Draft Protocols on other Major Projects with activities in the Fraser River.
2022-05-24	Corridor Improvements, Environmental Assessment	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Introducing new MOTI Member Alexander Howes. 2. Corridor Improvements. 3. Project Updates. 4. Fraser River Tunnel Project. 5. Review Capacity Funding Agreement shared by Musqueam May 4, 2022. 6. Environmental Assessment. 7. Process & Collaboration. 8. Indigenous Knowledge. 9. Existing Condition Studies. 10. Next steps & action items.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-24	Document Sharing	Email	• Ministry sends MIB Sharepoint access information.
2022-05-25	Temporary Moorage technical Memo	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Review Temporary Moorage Technical Memo. 2. Next Steps & Action items.
2022-05-26	Document Sharing	Email	• MIB send Ministry information on their Sharepoint access.
2022-05-30	Document Sharing	Email	• MIB send Ministry information on their Sharepoint access.
2022-06-03	Schedule for Wildlife, Vegetation, Groundwater, and Fisheries studies	Email	• Ministry shares with MIB field work schedule for Wildlife, Vegetation, Groundwater, and Fisheries Studies.
2022-06-09	Salmon study follow up	Virtual Meeting	• Meeting to discuss MIB Salmon Study.
2022-06-15	Project Renaming, Capacity Funding Agreement, and Technical Update	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Project Renaming and MOTI Staffing Update. 2. Review Action Items and Outcomes from December 3, 2021 Meeting. 3. Summary of Feedback from MIB to date. 4. Capacity Funding Agreement. 5. Existing Conditions Studies update. 6. Technical Update. 7. Next Steps & Action Items.
2022-06-15	Draft Capacity Funding Agreement	Email	• Ministry share with MIB FRTP Draft Capacity Funding Agreement.
2022-06-16	FRTP Human Health Risk Assessment Team	Email	• Ministry advises MIB that the FRTP Human Health Risk Assessment Team is planning surveys and hoped Musqueam members would like to participate.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited MIB to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group and proposed first meeting date. Noting that the purpose of these groups is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project.
2022-06-23	Tunnel Element Temporary Moorage	Email	• Ministry request meeting with MIB regarding the Tunnel Element Temporary Moorage.
2022-06-23	Indigenous Marine Users Group	Email	• Ministry and MIB exchange information on MIB attendees at Project's Indigenous Marine Users Group and Marine Users Group
2022-06-28	Meeting Adjustment	Email	• Ministry advise MIB that dues to low uptake the Indigenous Marine Users Group (IMUG) is postponed. Ministry available to meet with MIB for User Group prep session.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-28	Indigenous Marine Users Group Meeting Request	Email	• Ministry Proposes new times to schedule Indigenous Marine Users Group.
2022-06-28	Indigenous Marine Users Group Meeting Request	Email	• Ministry Proposes new times to schedule Indigenous Marine Users Group.
2022-06-30	Meeting Adjustment	Email	• MIB and Ministry exchange scheduling emails on Fisheries Engagement Meeting and Details of Meeting.
2022-07-05	Meeting Adjustment	Email	• MIB and Ministry exchange scheduling emails on Fisheries Engagement Meeting and Details of Meeting.
2022-07-06	Meeting Adjustment	Email	• MIB and Ministry exchange scheduling emails on Fisheries Engagement Meeting and Details of Meeting.
2022-07-06	Fisheries Engagement	Email	• MIB and Ministry exchange scheduling emails on Fisheries Engagement Meeting and Details of Meeting.
2022-07-06	Indigenous Marine Users Group Preparation Meeting	Virtual Meeting	• Meeting in advance of Indigenous Marine Users Group meeting to discuss MIB interests.
2022-07-07	MIB Comments on EP and IPD	Email	• MIB share with Ministry additional comments on updated April 2022 versions of the IPD and EP.
2022-07-11	Meeting Agenda	Email	• Ministry share with MIB Agenda information for upcoming meeting.
2022-07-11	Update on Salmon and Sturgeon Studies	Email	• MIB offers to provide Ministry with Short Update on Salmon and Sturgeons Studies.
2022-07-11	Salmon and Sturgeon Studies	Virtual Meeting	• Ministry and Musqueam Indian Band discussed: 1. Project Update. 2. Update on Eulachon eDNA Surveys. 3. Musqueam Update on Salmon and Sturgeon Studies. 4. Capacity Funding. 5. Next steps & action items.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting. MIB in attendance.
2022-07-20	Corridor Improvements	Email	• Ministry sent MIB Agenda and Presentation for meeting.
2022-07-20	Corridor Improvements	Email	• Ministry sent MIB Agenda and Presentation for meeting.
2022-07-20	Temporary Moorage	Virtual Meeting	• Ministry and MIB discussed: 1. Update on Temporary Moorage. 2. Touch base on Indigenous Marine Users Group Meeting. 3. Next Steps & Action Items.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-26	Upcoming Field Surveys	Email	• Ministry sent MIB summary of upcoming Environmental Programs which include: 1. Fisheries/Aquatic Studies. 2. Vegetation Studies. 3. Wildlife Studies. 4. Groundwater. 5. Surface Water and Sediments. 6. Human Health Risk Assessment.
2022-07-26	Visual Quality Assessment Memorandum	Email	• Ministry requested Indigenous Cultural Use and Value of the Visual Landscape for photographic field surveys.
2022-08-11	Upcoming Field Surveys	Email	• Ministry sent MIB summary of upcoming Environmental Programs which include: 1. Fisheries/Aquatic Studies. 2. Vegetation Studies. 3. Wildlife Studies. 4. Groundwater. 5. Surface Water and Sediments. 6. Human Health Risk Assessment.
2022-08-11	Upcoming Field Surveys	Email	• Ministry sent MIB summary of upcoming Environmental Programs which include: 1. Fisheries/Aquatic Studies. 2. Vegetation Studies. 3. Wildlife Studies. 4. Groundwater. 5. Surface Water and Sediments. 6. Human Health Risk Assessment.
2022-08-16	DPD	Email	• Ministry sent MIB proposed agenda for meeting.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared with MIB the draft Detailed Project Description.
2022-08-22	Contact Information	Email	• MIB emailed ministry to clarify which MIB contacts should be included in EA meetings and Procurement meetings.
2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised MIB of additional Eulachon Specific Studies in late 2022/early 20231. Ministry shared the following documents with MIB: 1. FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion. 2. FRTP Eulachon Migration Assessment Using eDNA – Memo. 3. FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-06	Temporary Moorage	Email	• Ministry confirming meeting date with MIB.
2022-09-12	Temporary Moorage	Email	• Ministry sent MIB missing meeting link.
2022-09-12	Temporary Moorage	Virtual Meeting	• NHC consultants provided presentation update to MIB on temporary moorage.
2022-09-12	Farewell	Email	• Beaudin Bennett let MIB know he is transferring to a different Ministry and wished MIB farewell.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent MIB meeting invite for the second IMUG meeting.
2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and MIB discussed: 1. Indigenous Marine Users Group Overview and Principles. 2. Recap of last Indigenous Marine Users Group Meeting. 3. Project Scope and Schedule. 4. Next Steps.
2022-09-15	Meeting Request	Email	• MIB requested to change meeting times, Ministry confirmed new meeting time works, resent invitation.
2022-09-21	Temporary Moorage	Email	• Meeting invite to view Technical Presentation.
2022-09-21	Temporary Moorage	Email	• Meeting invite to view Technical Presentation.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Indigenous Marine Users Group	Email	• Ministry sent MIB Agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Corridor Improvements	Virtual Meeting	• Ministry and MIB discussed: 1. Corridor Improvements Update 2. Fraser River Tunnel Project Updates 3. Indigenous Marine Users Group 4. Feedback from Musqueam on the IMUG on September 15th 5. Communications Protocol Draft Document. 6. Capacity Funding Agreement Update.
2022-10-03	Detailed Project Description	Email	• Ministry confirming date for DPD comments and send Meeting Request.
2022-10-04	Marine Communications Protocol	Email	• Ministry sent MIB draft Marine Communications Protocol
2022-10-05	Marine Communications Protocol	Email	• Ministry confirmed meeting date with MIB.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-05	Marine Communications Protocol	Email	• Ministry and Musqueam discussed draft Marine Communications Protocol.
2022-10-07	Detailed Project Description	Email	• MIB sent Ministry their comments on DPD. MIB asked to meet with Ministry to discuss comments and requested Temporary Moorage information.
2022-10-07	Marine Communications Protocol	Email	• Ministry sent MIB draft Marine communications Protocol with tracked changes to discuss at next meeting.
2022-10-07	Marine Communications Protocol	Email	• Ministry sent MIB draft Marine communications Protocol with tracked changes to discuss at next meeting.
2022-10-11	Visual Assessments	Email	• Ministry provided MIB with a visual quality memorandum along with an updated report on visual assessments.
2022-10-12	Field Surveys	Email	• MIB requested clarification from the Ministry as to their participation in upcoming field studies with Golder.
2022-10-12	Field Surveys	Email	• Ministry provided MIB with more information on upcoming field studies.
2022-10-12	Valued Components	Email	• Ministry sent MIB information on Valued Components and welcomed MIB's feedback.
2022-10-12	Detailed Project Description	Email	• Ministry confirmed receipt of MIB's DPD comments and would provide feedback as soon as possible.
2022-10-12	Detailed Project Description	Email	• Ministry confirmed receipt of MIB's DPD comments and would provide feedback as soon as possible.
2022-10-13	Capacity Funding	Email	• Ministry sent MIB Capacity Funding Agreement to be signed.
2022-10-13	Marine Communications Protocol	Virtual Meeting	• The Ministry and MIB discussed draft Marine Communications Protocol.
2022-10-19	Temporary Moorage Memorandum	Email	• Ministry sent MIB the Temporary Moorage Memorandum.
2022-10-20	Temporary Moorage Memorandum	Email	• MIB confirmed the Ministry sent them the correct Memo they requested.
2022-10-24	Visual Quality Assessment Memorandum	Email	• Ministry thanked MIB for their comments on Visual Quality Assessment Memorandum.
2022-10-25	Upcoming Field Surveys	Email	• Ministry advised MIB of Golder's Environmental Monitoring Services and invited MIB to participate.

Pauquachin First Nation

Table A5-8. Summary of Engagement with Pauquachin First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-29	Project Notification Letter and Capacity Funding	Email	• At request of EAO, Ministry emailed Project Notification Letter. Ministry notified Nation about Capacity Funding to support Engagement on Project.
2022-08-03	Indigenous Cultural Use	Email	• Ministry requested feedback on Pauquachin's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Pauquachin a Technical Memorandum.
2022-08-09	Detailed Project Description	Email	• Ministry let Pauquachin know they will be sharing the Detailed Project Description soon. • Ministry stated they know Pauquachin would like to be involved in the EA process and would like to meet and provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Pauquachin, along with an Excel DPD comment tracker to receive their feedback.

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Pauquachin of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Pauquachin Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Pauquachin a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Pauquachin an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Meeting Agenda	Email	• Ministry sent Pauquachin agenda and slides for upcoming Technical Construction Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-28	Draft Detailed Project Description	Email	• Ministry reminded Pauquachin of the DPD and welcomed any comments or feedback and asked to meet.
2022-10-11	Visual Assessments	Email	• Ministry provided Pauquachin with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent Pauquachin information on Valued Components and welcomed Pauquachin's feedback.

Spune'luxutth (Penelakut Tribe)

Table A5-9. Summary of Engagement with Spune'luxutth (Penelakut Tribe)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-12	Meeting Request	Email	• Notification of upcoming project announcement and request to meet in advance.
2021-08-16	Early Engagement	Email	• Ministry thanked Quw'utsun Nation for Consultation Table and asked if Nation is interested in meeting.
2021-08-17	Meeting to discuss project announcement	Virtual Meeting	• Meeting with Quw'utsun Nation to discuss project announcement.
2021-08-17	Follow up to project announcement meeting	Email	• Quw'ustun Nation expressed concern with short notice of invitation to project announcement.
2021-08-18	Project announcement	Email	• Notification of project announcement.
2021-08-26	Early Engagement	Email	• Ministry asked to meet Penelakut to develop a Project Engagement Plan and Capacity Funding needs.
2021-09-14	Follow up on request to meet	Email	• Follow up with Penelakut Tribe to request to meet to discuss Engagement Plan and Capacity Funding needs.
2021-11-02	Follow up on request to meet	Letter	• Letter to Quw'utsun Nation inviting QN to meet.
2021-11-19	Introductory Meeting	Virtual Meeting	• Discussed information sharing; capacity funding; and concern with project timelines.
2021-11-30	Feedback request for Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan Penelakut Tribe review and feedback. • Ministry asked that Penelakut Tribe provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
		Letter	• Ministry sent Draft Project Engagement Plan for Penelakut Tribe review and feedback. • Ministry asked that Penelakut Tribe provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
2021-12-03	Feedback request for Initial Project Description	Email	• Ministry sent Initial Project Description for Penelakut Tribe review and feedback. • Ministry asked that Penelakut Tribe provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Penelakut Tribe may have.
2021-12-08	Capacity Funding	Email	• Ministry emailed Quw'utsun Nation providing clarity to details of capacity funding.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-10	Agenda and Draft Capacity Funding Agreement	Email	• Ministry emailed Quw'utsun Nation members providing draft agenda for upcoming meeting, including draft capacity funding agreement for review.
2021-12-15	Capacity Funding	Virtual Meeting	• Ministry met with Quw'utsun Nation members to discuss project overview; capacity funding; environmental monitoring opportunities.
2022-02-07	Draft Summery Table of Initial Existing Condition Studies	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. Ministry asked for feedback.
2022-02-23	Engagement Plan and Initial Project Description	Email	• Updated versions of EP and IPD emailed to Penelakut. Ministry asked if Penelakut would like to meet to review updated documents.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed draft Fish and Fish Habitat Existing Conditions Workplan and draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-03-04	Meeting Request	Email	• Ministry emailed notes/action items from January meeting for review. Ministry asked to schedule meeting to provide updates.
2022-03-04	Virtual Workshop Invite	Email	• Ministry emailed to invite Penelakut to Virtual Workshop meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-11	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry shared updates to Draft Fish and Fish Habitat Workplan and Draft Wildlife and Wildlife Habitat Workplan and asked if Penelakut intends to provide comments on Workplans.
2022-03-16	Draft Agenda	Email	• Ministry emailed Draft Agenda for upcoming meeting.
2022-03-22	Existing Conditions Studies Workshop	Virtual Meeting	• Penelakut Tribe is conducting a Dredging Study and would be interested in learning more about Project-related dredging activities.
2022-04-08	Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-29	Capacity Funding Agreement	Email	• Ministry responded to query on status of Capacity Funding Agreement. Agreements for five Quw'utsun Nation members to be sent out for review and signature ASAP.
2022-04-29	Virtual Open House Invite	Email	• Ministry invited Penelakut to Virtual Open Houses. Ministry confirmed it is working on the Capacity Funding Agreement.
2022-05-04	Capacity Funding Agreement	Email	• Ministry emailed Capacity Funding Agreement.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-05	Meeting Request	Email	• Ministry offered potential meeting times.
2022-05-05	Meeting Request	Email	• Ministry emailed Doodle Poll, at request of Nations, to facilitate scheduling meeting times.
2022-05-09	Meeting Adjustment	Email	• Ministry followed up with request to schedule meeting time.
2022-05-11	Meeting Request	Email	• Meeting scheduled. Ministry offered to meet in person at any other time.
2022-05-13	Meeting Confirmation	Email	• Ministry emailed to confirm time of upcoming meeting.
2022-05-16	Meeting Request	Email	• Ministry and Nation emailed to schedule meeting time.
2022-05-19	Project Updates	Email	• Ministry emailed summary with recent updates to Project.
2022-05-25	Draft Agenda	Email	• Ministry emailed proposed agenda for upcoming meeting; time confirmed.
2022-05-26	Engagement Planning and Existing Condition Studies	Virtual Meeting	• Ministry and Penelakut Tribe discussed: 1. Project Updates. 2. Corridor Improvements. 3. Engagement Planning. 4. Existing Condition Studies. 5. Capacity Funding Agreements. 6. Project re-naming. 7. Environmental Studies Update. 8. EP and IPD. 9. Next steps and action items.
2022-06-09	Signed Capacity Funding Agreement	Email	• Ministry confirmed receipt of signed copy of Capacity Funding.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-27	Draft Agenda	Email	• Ministry emailed presentation from previous meeting and Draft Agenda for upcoming meeting.
2022-06-28	Meeting Adjustment	Email	• Marine Users Group meeting rescheduled.
2022-07-25	Summary of QN's Questions & Monday's Meeting	Email	• Email requesting extension to July 25th meeting.
2022-08-03	Visual Quality Assessment Memorandum	Email	• Email providing referral of visual quality memo.
2022-08-04	Visual Quality Assessment Memorandum	Email	• Email expressing concern over consultation to date and delayed submission of visual quality memo referral.
2022-08-19	Draft Detailed Project Description	Email	• Email providing referral of Detailed Project Description.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Note: Received bounce-back email from Josh James (Penelakut), and Robert Sam (Penelakut), and Shana Thomas (Halalt).
2022-09-14	Indigenous Marine Users Group Meeting #2	Email	• IMUG #2 presentation slides and agenda provided.
2022-09-20	Fraser River Tunnel Project + Hwy 99 Corridor Monthly Meeting	Email	• Email requesting if QN members are available to meeting for regular meeting September 26th
2022-09-21	Indigenous Marine Users Group Meeting #2	Email	• Email to reschedule IMUG #2 meeting that QN was unable to attend.
2022-09-21	Technical Construction Presentation	Email	• Invitation to QN to attend technical construction presentation September 29th.
2022-09-21	Technical Construction Presentation	Email	• "Save the date" email to QN to attend technical construction presentation
2022-09-26	Indigenous Marine Users Group Meeting #2	Email	• Follow up from IMUG #2 meeting providing meeting notes and presentation slides.
2022-09-27	Indigenous Marine Users Group Meeting #2	Email	• Email correspondence from Lyackson to MoTI requesting MoTI clarify communication instructions.
2022-09-27	Indigenous Marine Users Group Meeting #2	Email	• Email from MoTI to QN members requesting available dates for rescheduling of IMUG #2 meeting.
2022-09-28	Technical Construction Presentation	Email	• Email proving meeting agenda and presentation slides.
2022-09-28	Draft Detailed Project Description	Email	• Email reminder requesting comments on Detailed Project Description.
2022-10-11	Visual Quality Assessment Memorandum	Email	• Updated visual quality assessment memorandum.
2022-10-12	Valued Component Selection	Email	• Value Component Selection Document.

Sq'éwqel (Seabird Island First Nation)

Table A5-10. Summary of Engagement with Sq'éwqel (Seabird Island First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-11-30	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Seabird Island First Nation (SIB) review and feedback. • Ministry asked that Seabird Island First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over SIB perspectives, concerns, and issues.
2021-12-03	Review Request for Initial Project Description	Email	• Ministry sent Initial Project Description for Seabird Island First Nation review and feedback. • Ministry asked that Seabird Island First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over SIB perspectives, concerns, and issues.
2022-01-17	Draft Engagement Plan and Initial Project Description	Email	• Ministry shared Draft EP and Draft IPD with Seabird Island Band and requested feedback.
2022-02-07	Draft Summary Table of Existing Condition Studies	Email	• Ministry provided a Draft Summary Table of Existing Condition studies and asked for feedback. • Ministry will be sharing proposed Detailed Workplans with SIB in the coming weeks.
2022-02-25	Draft Workplans	Email	• Ministry provided two Draft Workplans – the Draft Fish and Fish Habitat Existing Conditions Workplan and the Draft Wildlife and Wildlife Habitat Existing Conditions Workplan – for review and comment.
2022-03-04	Virtual Workshop Invite	Email	• The ministry is planning three Virtual Workshops for participating Lower Mainland Indigenous Groups on Draft Fish and Fish Habitat Existing Conditions Workplan and the Draft Wildlife and Wildlife Habitat Existing Conditions Workplan.
2022-03-10	Meeting Request	Email	• SIB requested meeting with a project representative to discuss concerns and clarify issues that were not elaborated on in IPD.
2022-03-11	Updated Workplans	Email	• Ministry provided two updated Workplans - the Fish and Fish Habitat Workplan and the Wildlife and Wildlife Habitat Workplan.
2022-03-17	Meeting Agenda	Email	• Meeting Agenda from Seabird Island Band.
2022-03-18	Meeting Request	Email	• Ministry asked if SIB would prefer to attend a separate March session in order to specifically address any comments/concerns by SIB rather than take part in a session with other Indigenous groups.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-18	Meeting Request	Email	• SIB agreed to a dedicated SIB session, requested a copy of the notes regarding any concerns raised by other Nations from other sessions.
2022-03-21	Meeting Request Confirmed	Email	• Ministry confirms SIB session; notes that SIB would like copy of the concerns raised from other Nations.
2022-03-25	Existing Conditions Studies Workshop	Virtual Meeting	• Ministry met with SIB to discuss existing conditions studies.
2022-04-05	Meeting Minutes	Email	• SIB requested copy of meeting minutes/concerns raised at March sessions with other Indigenous Groups.
2022-04-07	Meeting Minutes	Email	• Ministry to compile meeting summary from SIB meeting.
2022-04-07	Meeting Minutes	Email	• Ministry compiling meeting summary from the March SIB meeting, copies to be shared.
2022-04-08	Summary Table for Existing Conditions Workplans	Email	• Ministry provided a Summary Table with details of the Existing Conditions Workplans.
2022-04-29	Response to SIB Concerns	Email	• Ministry responded to specific SIB concerns: 1. There is funding to support SIB participation in Consultation and Engagement. SIB asked to review. 2. Funding Agreement and suggest changes.
2022-05-02	Workshop Summary	Email	• Ministry provided workshop summary from SIB meeting in March.
2022-05-10	Meeting Confirmation	Email	• SIB confirmed it will meet virtually during upcoming open houses.
2022-05-13	Meeting Confirmation and Capacity Funding	Email	• SIB confirmed attendance at upcoming information meetings, reiterated it welcomes Capacity Funding to support continued involvement.
2022-05-17	Meeting Request	Email	• Ministry asked if SIB would prefer a private meeting to address its interests/concerns in addition to public open house. • Draft Capacity Funding Agreement to be sent for review.
2022-05-17	Draft Capacity Funding Agreement	Email	• Ministry emailed Draft Capacity Funding Agreement for review; suggested Agreement cover 2022 calendar year to start. • Funding amount and payment terms to be determined, Ministry suggested meeting to discuss in detail.
2022-05-19	Project Updates	Email	• Ministry emailed with Summary of Project Updates.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-31	Meeting Request	Email	• Ministry requested another information sharing meeting with SIB regarding concerns over Dredge Material/Fill, as well as and Capacity Funding. • Ministry shared summary from Fish and Wildlife Workshops with other Indigenous Groups in March.
2022-06-02	More details on Capacity Funding	Email	• SIB asked for more details on its request for Capacity Funding. • SIB asked for meeting notes from other Nations.
2022-06-14	Environmental Assessment	Virtual Meeting	• Ministry and SIB discussed: 1. Environmental Assessment Process. 2. Review of Referrals sent to SIB to-date. 3. Capacity Funding & Engagement Planning.
2022-06-14	Indigenous Inclusion Policy Language	Email	• SIB emailed examples of Indigenous Inclusion Policy language. • SIB highlighted that Sqewqel Development Corporation has experience in this. • SIB highlighted discussions around the opportunity to own and operate a Salmon Hatchery in the area to rebuild Salmon Stocks.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited SIB and other groups to upcoming meetings with Indigenous Marine Users Group to share information and gather input.
2022-06-23	Draft Capacity Funding Agreement	Email	• Ministry thanked SIB for meeting and for sending Inclusion Policy Language. Ministry confirmed amount in Draft Capacity Funding Agreement for 2022, plans to collaborate on new agreement for 2023.
2022-06-28	Capacity Funding Meeting	Virtual Meeting	• Meeting with SIB to discuss capacity funding and potential contracting opportunities.
2022-06-28	Meeting Adjustment	Email	• Marine User Groups meeting postponed.
2022-07-04	Tunnel Construction Presentation and Document Exchange	Email	• Ministry established Sharepoint for document exchange. • Ministry provided a copy of Tunnel Construction Presentation and reference concept roll plot. • Ministry provided contact for SIB questions around Corridor improvements/Steveston Interchange Project.
2022-07-05	Reference Concept Design	Email	• Ministry provided Project's Reference Concept Design.
2022-07-05	Signed Capacity Funding Agreement	Email	• Ministry thanked SIB for signed copy of Capacity Funding Agreement for 2022.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting. SIB in attendance.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on SIB's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent SIB a Technical Memorandum.
2022-07-27	Capacity Funding Agreement	Email	• Ministry sent SIB the signed Capacity Funding Agreement.
2022-08-09	Detailed Project Description	Email	• Ministry let SIB know they will be sharing the Detailed Project Description soon. • Ministry stated they know SIB would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with SIB, along with an Excel DPD comment tracker to receive their feedback.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with SIB, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised SIB of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent SIB Indigenous Marine Users Group: Meeting #2 Invitation.

2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and IMUG discussed:
			  1. Indigenous Marine Users Group Overview and Principles.
			  2. Recap of last Indigenous Marine Users Group Meeting.
			  3. Project Scope and Schedule.
			• Next Steps.

2022-09-21	Meeting Invite	Email	• Ministry sent SIB a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent SIB an Invitation to view presentation about Proposed Construction Methodology.
2022-09-23	Updated Contacts	Email	• SIB requested Ministry add member to their contact list.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent SIB a friendly reminder that DPD was shared in August and welcomed any comments or feedback from SIB.
2022-10-06	Draft Detailed Project Description	Phone Call	• Ministry spoke to Effie Ned and confirmed SIB received the DPD. • SIB stated they will provide comments in 1-2 weeks due to limited capacity.
2022-10-11	Visual Assessments	Email	• Ministry provided SIB with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed SIB's feedback.
2022-10-18	Visual Quality Assessment		• SIB sent attachment for feedback on the Visual Quality Assessment Memo.
2022-10-18	Visual Quality Assessment	Email	• Ministry thanked SIB for providing a response to the Visual Quality Assessment Memo. • Ministry asked SIB if they were still planning on providing comments on the DPD.

Semiahmoo First Nation

Table A5-11. Summary of Engagement with Semiahmoo First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement	Email	• Ministry advised Semiahmoo First Nation (SFN) that it is proceeding with the replacement of the existing George Massey Tunnel with a new Immersed Tube Tunnel (ITT). • Proposed meeting to provide further information on the ITT. • Discuss the development of a Project Engagement Plan, Capacity Funding Needs and other related matters.
2021-09-14	Meeting Request	Email	• The Ministry sent follow up request to SFN to discuss Project.
2021-09-20	Meeting Request	Phone Call	• The Ministry sent follow up request to SFN to discuss Project.
2021-10-05	Meeting Request	Phone Call	• The Ministry sent follow up request to SFN to discuss Project.
2021-10-05	Meeting Request	Email	• The Ministry sent follow up request to SFN to discuss Project.
2021-12-01	Contact Confirmation	Email	• SFN clarified correct contact person and stated they are looking forward to receiving Shapefiles.
2021-12-01	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Semiahmoo First Nation review and feedback. • Ministry asked that SFN provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over SFN perspectives, concerns, or issues.
2021-12-03	Feedback Request for Initial Project Description	Email	• Initial Project Description for SFN review and feedback. • Ministry asked that SFN provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over SFN perspectives, concerns, or issues.
2022-01-17	Draft Engagement Plan and Draft Initial Project Description	Email	• Ministry shared with SFN Fraser River Tunnel Project (Project) draft Engagement Plan (EP) and draft Initial Project Description (IPD) in anticipation of initiating an environmental assessment process for the Project. (NOTE: in January 2022, the Ministry changed the name of the George Massey Crossing Project to the Fraser River Tunnel Project to better reflect the intended Project scope.) and requested feedback. • The Ministry provided SFN with information on the provincial Environmental Assessment process including the: Early Engagement, plans to submit EP and IPD to the Environmental Assessment Office (EAO) and asked for their comments and feedback.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-01-17	Draft Engagement Plan and Draft Initial Project Description	Email	• The Ministry noted that once the EAO has accepted the EP and IPD, it will commence engagement with Indigenous Groups and there will be further opportunity for your review and feedback to be taking into consideration regarding the EP and IPD.
2022-02-07	Existing Conditions Studies	Email	• Ministry advised SFN developing Existing Conditions studies at the Project site to inform the Project's Environmental Assessment. • A Draft Summary Table of Initial Existing Condition Studies was included. It was noted by the Ministry that Existing Condition Workplans will be shared shortly, and the intention to Engage with SFN on the Project Valued Components. Comment and feedback from SFN were requested.
2022-02-23	Updated Engagement Plan and Initial Project Description	Email	• Ministry sent SFN updated versions of Project EP and IPD for review and comment. Information on the EA process was also shared with SFN.
2022-02-25	Existing Conditions Workplans	Email	• Ministry shared with SFN detailed Existing Condition Workplans for: o Draft Fish and Fish Habitat Existing Conditions Workplan. o Draft Wildlife and Wildlife Habitat Existing Conditions Workplan. • SFN was provided information on planned workshops to review Study Workplans and timelines for commencing field and other related work. • The Ministry noted that Existing Conditions studies are designed to characterize the current status of Environmental and Socio-Economic Disciplines and help inform the eventual selection of Valued Components.
2022-03-04	Existing Conditions Virtual Workshops	Email	• Ministry advised SFN of dates of Project Existing Condition studies series of virtual workshops, intended to support their review of work plans for: o Fish and Fish Habitat Existing Condition Study Draft Workplan. o Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-11	Comments on Existing Conditions	Email	• Ministry shared with SFN updated Existing Conditions that reflect comments received from Indigenous Groups to date, including: Fish and Fish Habitat Workplan. • SFN were invited to attend Virtual Workshops on an overview of the proposed scope, process, and methodology and schedule.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-04-08	Existing Conditions Studies	Email	• Ministry provided SFN with a Summary Table of Project Existing Conditions Studies Workplans and invited comments.
2022-05-19	Project Updates	Email	• Ministry sent SFN letter summarizing recent Project updates.
2022-05-24	Contact Update	Email	• Ministry and SFN exchange contact information.
2022-05-25	Meeting Request	Email	• Ministry requested meeting with SFN to discuss Project.
2022-06-03	Meeting Request	Email	• Invitation to participate in Environmental Field Work.
2022-06-17	Meeting Request	Email	• Invitation to participate in Environmental Field Work.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited SFN to Project's Marine Users Group and the Indigenous Marine Users Group, noting the purpose is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project.
2022-06-28	Meeting Request	Email	• Invitation to participate in Environmental Field Work.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Indigenous Marine Users Group Virtual Meeting.
2022-07-13	Monitoring Opportunities	Email	• Invitation to participate in Environmental Field Work.
2022-07-26	Monitoring Opportunities	Email	• Invitation to participate in Environmental Field Work.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on SFN's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent SFN a Technical Memorandum.
2022-07-27	Indigenous Cultural Use	Email	• Referral: Visual Quality Assessment.
2022-08-09	Detailed Project Description	Email	• Ministry let SFN know they will be sharing the Detailed Project Description soon. • Ministry stated they know SFN would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-11	Wildlife and Vegetation Studies	Email	• Invitation to participate in environmental field work.
2022-08-11	Wildlife and Vegetation Studies	Email	• Invitation to participate in environmental field work.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description, along with an Excel DPD comment tracker to receive their feedback.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-14	Meeting Invite	Email	• Follow up to meeting with Flatiron.

2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and IMUG discussed:
			  1. Indigenous Marine Users Group Overview and Principles.
			  2. Recap of last Indigenous Marine Users Group Meeting.
			  3. Project Scope and Schedule.
			• Next Steps.

2022-09-20	Meeting Invite		• Ministry sent Project notifications and meeting invites.
2022-09-20	Meeting Invite	Email	• Ministry sent a summary of Project Outreach, Archaeological Concerns & Meeting Invite.
2022-09-21	Meeting Invite	Email	• Ministry sent SFN a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent SFN an Invitation to view presentation about Proposed Construction Methodology.
2022-09-22	Email Confirmation and Meeting Request	Email	• Ministry sent follow up note confirming receipt of project details and invitation for September 29th technical presentation.
2022-09-22	Email Confirmation and Meeting Request	Email	• Ministry sent follow up note confirming receipt of project details and meeting request.
2022-09-22	Email Confirmation and Meeting Request	Email	• Ministry sent follow up note confirming receipt of project details and meeting request.
2022-09-26	Indigenous Marine Users Group	Email	• Ministry sent Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-27	Meeting Confirmation	Phone Call	• Phoned to confirm receipt of information, including invitation to September 29th Technical Presentation.
2022-09-28	Meeting Invite	Email	• Ministry sent a Meeting Invite to view a Technical Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Meeting Response	Email	• Ministry response to SFN about meeting and communication.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent SFN a friendly reminder that DPD was shared in August and welcomed any comments or feedback from SFN.
2022-10-05	Meeting Request	Email	• Ministry sent out request to meet with SFN.
2022-10-11	Visual Assessments	Email	• Ministry provided SFN with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed SFN's feedback.
2022-10-14	Meeting Request	Email	• Ministry sent out request to meet with SFN.
2022-10-21	Meeting Request	Email	• Ministry sent out request to meet with SFN.
2022-10-24	Meeting Confirmation	Email	• Ministry confirmed with SFN their upcoming meeting and advised a Meeting Request and Agenda would be sent shortly.

Shxw'ōwhámél First Nation

Table A5-12. Summary of Engagement with Shxw'ōwhámél First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-01	Feedback Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Shxw'ōwhámél First Nation review and feedback. • Ministry asked that Shxw'ōwhámél First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting. • Ministry acknowledged the flooding and how that may impact Shxw'ōwhámél First Nation.
2021-12-03	Feedback Request for Initial Project Description	Email	• Ministry sent Initial Project Description for Shxw'ōwhámél First Nation review and feedback. • Ministry asked that Shxw'ōwhámél First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over Shxw'ōwhámél perspectives, concerns, and issues.
2022-01-17	Draft Engagement Plan and Initial Project Description	Email	• Ministry shared Draft Engagement Plan and Draft Initial Project Description with Shxw'ōwhámél and requested feedback.
2022-02-07	Draft Summary Table of Existing Condition Studies	Email	• Ministry provided a Draft Summary Table of Existing Condition Studies and asked for feedback. Ministry will be sharing Proposed Detailed Workplans with Shxw'ōwhámél in the coming weeks.
2022-02-25	Draft Workplans for Fish and Wildlife	Email	• Ministry provided two Draft Workplans – the Draft Fish and Fish Habitat Existing Conditions Workplan and the Draft Wildlife and Wildlife Habitat Existing Conditions Workplan – for review and comment. • Ministry to work with Shxw'ōwhámél to review proposed studies and identify gaps.
2022-03-04	Virtual Workshop Invite	Email	• Ministry is planning three Virtual Workshops for participating Lower Mainland Indigenous Groups regarding Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan.
2022-03-11	Updated Fish and Fish Habitat Workplans	Email	• Ministry provided updated Fish and Fish Habitat and Wildlife and Wildlife Habitat workplans. Ministry asked if Shxw'ōwhámél intends to provide comments on workplans.
2022-04-08	Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-05-10	Capacity Funding Agreement	Email	• Ministry and Shxw'ōwhámél email to set up a discussion for Capacity Funding Agreement.
2022-05-16	Early Engagement	Virtual Meeting	• Introductory meeting with Shxw'ōwhámél First Nation.
2022-05-19	Meeting Request	Email	• Ministry emailed meeting invitation.
2022-05-19	Project Update	Email	• Ministry emailed summary of recent Project Updates.
2022-06-01	Hwy 99 Tunnel Program & Steveston Interchange Program	Virtual Meeting	• Ministry and Shxw'ōwhámél discussed: 1. Highway 99 Tunnel Program. 2. Steveston Interchange Project. 3. Transit and Cycling Projects. 4. Capacity Funding & Engagement Planning.
2022-06-01	Referral Response Letter	Email	• Shxw'ōwhámél provided copy of First Nation Referral Response Letter for Tilbury Ditch fill in and relocation project. • Shxw'ōwhámél advises that its official response to Referrals in its core Traditional Territory will be coordinated with its Resource Agencies (People of the River Referral Office and the Sto:lo Research and Resource Management Center).
2022-06-07	Consultation	In Person Meeting	• In person meeting to initiate consultation on FRTP.
2022-06-17	Grand Opening	Email	• Ministry confirmed it will attend Grand Opening.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Shxw'ōwhámél and other groups to upcoming meetings with Indigenous Marine Users Group to share information and gather input.
2022-06-28	Meeting Adjustment	Email	• Ministry advised first Marine Users Group meeting postponed.
2022-07-06	Meeting Request	Email	• Ministry asked if Shxw'ōwhámél would like a follow up meeting to go over Project and Corridor Improvements Project.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on Shxw'ōwhámél's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Shxw'ōwhámél a Technical Memorandum.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on Shxw'ōwhámél's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Shxw'ōwhámél a Technical Memorandum.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-08-09	Detailed Project Description	Email	• Ministry let Shxw'ōwhámél know they will be sharing the Detailed Project Description soon. • Ministry stated they know Shxw'ōwhámél would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Shxw'ōwhámél, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Shxw'ōwhámél of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Shxw'ōwhámél Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Shxw'ōwhámél a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Shxw'ōwhámél an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Draft Detailed Project Description	Email	• Ministry sent Shxw'ōwhámél a friendly reminder that DPD was shared in August and welcomed any comments or feedback.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Meeting Request	Voicemail/Email	• Ministry left Shxw'ōwhámél a voicemail stating their interest in meeting to share more information about the Project. • Follow up email with the same information sent.
2022-10-11	Visual Assessments	Email	• Ministry provided Shxw'ōwhámél with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.

Snuneymuxw First Nation

Table A5-13. Summary of Engagement with Snuneymuxw First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement	Email	• Ministry asked to meet to develop a Project Engagement Plan and Capacity Funding Needs.
2021-09-14	Early Engagement	Email	• Ministry followed up and asked for an Initial Engagement Meeting.
2021-09-23	Meeting Request	Email	• Snuneymuxw responded to meeting request with potential dates.
2021-09-23	Meeting Confirmation	Email	• Meeting date and time proposed.
2021-10-04	Engagement Plan and Capacity Funding	Virtual Meeting	• Ministry and Snuneymuxw discussed: o Engagement Plan. o Capacity Funding Available. o Information sharing via Sharepoint. o SFN interested in protecting Fisheries, been separated from their Village Site over there. o Environmental Considerations. o Archaeological impacts. o Sites of Cultural Significance. Ensuring that they are preserved. New Consultative Area. o Action Item – Engagement Pan – High Level Draft to be sent in advance for Review and Feedback.
2021-10-06	Document Sharing	Email	• Request to setup BCeID, for accessing GMC Sharepoint. • Sent BCeID account activation instructions.
2021-10-06	Document Sharing	Email	• Ministry emailed details on accessing Sharepoint.
2021-11-01	Capacity Funding Agreement	Email	• Ministry shared Draft Capacity Funding Agreement for Review.
2021-11-05	Capacity Funding Agreement	Email	• Ministry updated Capacity Funding Agreement.
2021-11-08	Sharepoint and Fisheries Concerns	Virtual Meeting	• Ministry and Snuneymuxw discussed: o Engagement Plan. o Capacity Funding Agreement. o Information sharing via Sharepoint. o Snuneymuxw concerns and issues.
2021-11-12	GMTR Assessment Report	Email	• Ministry forwarded George Massey Tunnel Replacement Project (GMTRP) Assessment Report from 2017. Report referenced in previous meeting.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-11-29	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Snuneymuxw review and feedback. • Ministry asked that Snuneymuxw provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over Snuneymuxw First Nation concerns or issues.
2021-11-30	Monthly Meeting	Virtual Meeting	• Ministry met with SFN to provide project updates.
2021-12-03	Feedback Request for Engagement Plan and Initial Project Description	Email	• Ministry sent Initial Project Description for Snuneymuxw review and feedback. • Ministry asked that Snuneymuxw provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Snuneymuxw First Nation may have.
2022-01-13	Engagement Plan and Initial Project Description	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Engagement Plan. 2. Capacity Funding Agreement. 3. Initial Project Description. 4. Next Steps and Action Items.
2022-01-17	Engagement Plan	Email	• Ministry confirmed receipt of Snuneymuxw comments on Engagement Plan.
2022-01-17	Capacity Funding Agreement	Email	• Ministry confirmed amount for Capacity Funding Agreement.
2022-01-18	Engagement Plan and Initial Project Description	Email	• Ministry confirmed receipt of comments/concerns on EP and asked for any further comments/feedback prior to the submission of EP and IPD.
2022-01-25	Capacity Funding Agreement	Email	• Ministry followed up on Capacity Funding Agreement.
2022-02-07	Initial Project Description	Email	• Ministry confirmed receipt of comments on Initial Project Description.
2022-02-07	Draft Summery Table for Initial Existing Conditions	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. Ministry asked for feedback.
2022-02-10	Follow Up	Email	• Ministry confirmed outstanding action items to follow up on.
2022-02-23	Updated Engagement Plan and Initial Project Description	Email	• Ministry reviewed feedback from Snuneymuxw, incorporated changes to EP and IPD where possible. • Updated versions of EP and IPD emailed for review. • Ministry also emailed table summarizing comments. • Snuneymuxw's comments not included in the tables within IPD and EP - confidential until directed otherwise. • Ministry asked if Snuneymuxw wants a meeting to review updated documents.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-02-25	Meeting Notes	Email	• Ministry emailed meeting notes from previous Engagement Meeting.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-03-02	Project Updates, Engagement Plan	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Project Updates. 2. Fraser River Tunnel Project. 3. Corridor Improvements. 4. Existing Condition Studies Update. 5. Capacity Funding Agreement. 6. Initial Project Description Update. 7. Engagement Plan. 8. Next Steps and Action Items.
2022-03-04	Virtual Workshop Invite	Email	• Ministry invited Snuneymuxw to Virtual Workshop meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-11	Draft Fish and Fish Habitat Workplan	Email	• Ministry shared updates to Draft Fish and Fish Habitat Workplan and Draft Wildlife and Wildlife Habitat Workplan and asked if Snuneymuxw intends to provide comments on workplans.
2022-03-29	Meeting Summery	Email	• Ministry emailed Meeting Summary from previous Engagement Meeting.
2022-03-30	Project Updates, Capacity Funding,	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Project Updates. 2. Fraser River Tunnel Project. 3. Corridor Improvements. 4. Existing Condition Studies Update. 5. Capacity Funding Agreement. 6. Initial Project Description. 7. Environmental Assessment Process Update. 8. Next Steps and Action Items.
2022-03-31	Capacity Funding Agreement	Email	• Ministry emailed Final Draft of Capacity Funding Agreement for 2022.
2022-04-08	Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-26	Capacity Funding Agreement	Email	• Ministry attached Capacity Funding Agreement for 2022 for final review and signature.
2022-04-27	Meeting Agenda	Email	• Ministry sent Agenda for upcoming meeting.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-04-27	Project Updates, Capacity Funding,	Email	• Ministry and Snuneymuxw discussed: 1. Project Updates. 2. Fraser River Tunnel Project. 3. Corridor Improvements. 4. Existing Condition Studies Update. 5. Capacity Funding Agreement. 6. Initial Project Description. 7. Environmental Assessment Process Update. 8. Next Steps and Action Items.
2022-04-29	Revised Capacity Funding Agreement	Email	• Ministry emailed revised Capacity Funding Agreement.
2022-05-19	Referral Letter	Email	• Ministry emailed update Referral Letter.
2022-05-24	Meeting Request	Email	• Ministry and Snuneymuxw schedule meeting time/date.
2022-05-25	Meeting Confirmation	Email	• Meeting date/time confirmed.
2022-05-27	Meeting Agenda	Email	• Ministry sent Snuneymuxw Meeting Agenda.
2022-05-31	Project Updates, Capacity Funding, and Reference Concept Design	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Project Updates. 2. Fraser River Tunnel Project. 3. Corridor Improvements. 4. Existing Condition Studies. 5. Reference Concept Design. 6. Capacity Funding Agreement. 7. Initial Project Description. 8. Review of Referrals and Environmental Assessment Process. 9. Next Steps and Action Items.
2022-05-31	Project Updates, Capacity Funding, and Reference Concept Design	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Project Updates. 2. Fraser River Tunnel Project. 3. Corridor Improvements. 4. Existing Condition Studies. 5. Reference Concept Design. 6. Capacity Funding Agreement. 7. Initial Project Description. 8. Review of Referrals and Environmental Assessment Process. 9. Next Steps and Action Items.
2022-06-13	Document Sharing	Email	• Ministry followed up to confirm access to Sharepoint.
2022-06-15	Document Sharing	Email	• Ministry sent link to Sharepoint as requested.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-28	Meeting Adjustment	Email	• Indigenous Marine Users Group meeting rescheduled.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-28	Meeting Agenda	Email	• Ministry provided Agenda for upcoming meeting.
2022-06-29	Meeting Invite	Email	• Ministry extended invite to others for upcoming meeting.
2022-06-29	Meeting to Discuss Indigenous Led Assessments	Virtual Meeting	• Ministry met with Snuneymuxw with EAO in attendance to discuss Indigenous Led Assessment opportunities and capacity funding.
2022-06-30	Capacity Funding Agreement Amended	Email	• Capacity Funding Agreement Amended.
2022-07-27	Corridor Improvements	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Corridor Improvement. 2. Project updates. 3. Fraser River Tunnel Project. 4. Review of our last meeting on June 29, 2022. 5. Construction timeline presentation. 6. Review of SFN interests ("What we've heard"). 7. Next steps & action items.
2022-08-03	Indigenous Cultural Use	Email	• Ministry requested feedback on Snuneymuxw's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Snuneymuxw a Technical Memorandum.
2022-08-04	Construction Timeline Presentation	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Corridor Improvement. 2. Project updates. 3. Fraser River Tunnel Project. 4. Construction timeline presentation. 5. Review of SFN interests. 6. Next steps & action items.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Snuneymuxw, along with an Excel DPD comment tracker to receive their feedback.
2022-08-31	Detailed Project Description	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Corridor Improvements. 2. Fraser River Tunnel Project. 3. Capacity Funding Agreement. 4. Heritage Conversation Act Permit. 5. Detailed Project Description.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Snuneymuxw of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-08	Heritage Conversation Act Permit	Email	• Ministry asked Snuneymuxw if they plan to provide any comments on the HCA application. • Ministry asked if it was possible to supply comments by mid-September.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Snuneymuxw Indigenous Marine Users Group: Meeting #2 Invitation.

2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and IMUG discussed:
			  1. Indigenous Marine Users Group Overview and Principles.
			  2. Recap of last Indigenous Marine Users Group Meeting.
			  3. Project Scope and Schedule.

2022-09-21	Meeting Invite	Email	• Ministry sent Snuneymuxw a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Snuneymuxw an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Detailed Project Description	Email	• Snuneymuxw let the Ministry know they are working on DPD comments and will submit them by next week.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-27	Detailed Project Description	Email	• Ministry thanked Snuneymuxw for keeping them updated and looks forward to receiving their comments.
2022-09-28	Construction Methodology Presentation	Virtual Meeting	• Ministry and Snuneymuxw discussed: 1. Corridor Improvements. 2. Project updates. 3. Fraser River Tunnel Project. 4. Capacity Funding Agreement. 5. Confirm Snuneymuxw First Nation has received the funding. 6. Indigenous Marine Users Group. 7. Methodology Illustrations presentation. 8. Proposed Construction Methodology Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-28	Technical Construction Presentation	Email	• Ministry sent Agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Technical Construction Presentation	Virtual Meeting	• Ministry provided a Technical Presentation on the construction methodology to get feedback from Nations.
2022-10-11	Visual Assessments	Email	• Ministry provided Snuneymuxw with an updated report outlining Visual Assessments.
2022-10-18	Detailed Project Description	Email	• Ministry asked Snuneymuxw when they can expect comments on the DPD.
2022-10-18	Detailed Project Description	Email	• Snuneymuxw responded to the Ministry that they will be providing the comments as soon as possible.
2022-10-24	Detailed Project Description	Email	• Ministry asked Snuneymuxw when they can expect comments on the DPD.
2022-10-24	Detailed Project Description	Email	• Snuneymuxw responded to the Ministry that they plan to sign off on comments today.

S’ólh Téméxw Stewardship Alliance

Table A5-14. Summary of Engagement with S’ólh Téméxw Stewardship Alliance

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-03	Initial Project Description	Email	• Initial Project Description for S’ólh Téméxw Stewardship Alliance (STSA) review and feedback. • Ministry asked that STSA provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over PPRO perspectives and concerns.
2021-12-29	Initial Project Description	Email	• Initial Project Description for STSA review and feedback. • Ministry asked that STSA provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over STSA perspectives and concerns.
2022-01-17	Feedback Request on Engagement Plan and Initial Project Description	Email	• Ministry asked for any further comments/feedback prior to the submission of EP and IPD. No concerns noted to date from STSA.
2022-02-07	Feedback on Initial Project Description	Email	• Ministry forwarded feedback on Initial Project Description.
2022-02-07	Draft Summery Table of Initial Existing Conditions Studies	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. Ministry asked for feedback.
2022-02-23	Updated Engagement Plan and Initial Project Description	Email	• Ministry reviewed feedback from STSA, incorporated changes to EP and IPD where possible. • Updated versions of EP and IPD emailed for review. • Ministry also emailed table summarizing comments. • STSA's comments not included in the tables within IPD and EP - confidential until directed otherwise. • Ministry asked if STSA wants a meeting to review updated documents.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-02-28	Deadline Request	Email	• STSA asked about deadlines for feedback.
2022-03-04	Meeting Request	Email	• Ministry confirmed written feedback could be submitted before workshops. • Ministry asked if STSA would like meeting.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-04	Invite to Virtual Workshop	Email	• Ministry invited STSA to Virtual Workshop meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-10	Virtual Workshop Question	Email	• Ministry confirmed workshop content will be the same on all three days.
2022-03-11	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry shared updates to Draft Fish and Fish Habitat Workplan and Draft Wildlife and Wildlife Habitat workplan and asked if STSA intends to provide comments on Workplans.
2022-03-18	Virtual Workshop Attendance	Email	• Ministry followed up on upcoming workshop attendance.
2022-03-21	Major Projects Team	Email	• STSA confirmed Project is level 4 because work is occurring at the mouth of the Fraser River and can impact all Nations upriver. • Major Projects Team will do review for STSA. • Confirmed workshop attendance.
2022-04-08	Summery Table for Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-08	Summery Table for Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-05-19	Project Updates	Email	• Ministry sent Summary of Project Updates.
2022-05-27	Draft Agenda	Email	• Draft Agenda circulated for upcoming meeting to discuss Capacity Funding, and Communications and Expectations.
2022-06-02	Fraser River Tunnel Project Overview	Virtual Meeting	• Ministry and STSA discussed: 1. Project Updates. 2. Fraser River Tunnel Project Overview. 3. Communications and Expectations. 4. Capacity Funding Agreements.
2022-06-10	Meeting Adjustment	Email	• Meeting rescheduled.
2022-06-10	Meeting Invite	Email	• Ministry invited others to attend meeting at STSA's request.
2022-06-13	Meeting Confirmation	Email	• Rescheduled meeting confirmed.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-28	Meeting Adjustment	Email	• Marine Users Group meeting rescheduled.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-06	Meeting Request	Email	• Ministry reached out for follow up Engagement Meeting.
2022-07-07	Meeting Confirmation	Email	• Meeting Scheduled.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting.
2022-07-20	Meeting Agenda	Email	• Ministry provided STSA with a proposed agenda for upcoming meeting.
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback on STSA's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent STSA a Technical Memorandum.
2022-08-03	Receipt Confirmation		• Ministry confirmed with STSA that they received the Stó:lM Heritage Investigation Permit along with the Stó:lM Heritage Policy Manual.
2022-08-09	Draft Detailed Project Description	Email	• Ministry let STSA know they will be sharing the Detailed Project Description soon. • Ministry stated they want to know if STSA would like to be Participating Indigenous Nation in the EA process and requested a meeting to provide Capacity Funding.
2022-08-09	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with STSA, along with an Excel DPD comment tracker to receive their feedback.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with STSA, along with an Excel DPD comment tracker to receive their feedback.
2022-08-30	Capacity Funding	Email	• STSA clarified information on Capacity Funding Agreement for the Ministry.

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised STSA of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

Date	Subject of Engagement	Method of Contact	Summary of Engagement

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised STSA of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-12	Farewell	Email	• Sr. Advisor, Beaudin Bennett announced he was moving to a different Ministry.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent STSA Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent STSA a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent STSA an Invitation to view presentation about Proposed Construction Methodology.
2022-09-22	Capacity Funding Agreement	Email	• Ministry sent STSA updated Draft Capacity Funding Agreement and noted the changes they made.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-27	Capacity Funding Agreement	Email	• STSA sent the Ministry the signed Capacity Funding Agreement.
2022-09-28	Capacity Funding Agreement	Email	• Ministry thanked STSA for sending signed Capacity Funding Agreement.
2022-09-28	Capacity Funding Agreement	Email	• Ministry thanked STSA for sending signed Capacity Funding Agreement.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-10-05	Detailed Project Description	Phone Call	• Ministry left voicemail asking for confirmation of receipt of the DPD and asked if they plan to submit comments.
2022-10-11	Detailed Project Description	Email	• STSA thanked Ministry for responding to their questions. • STSA submitted comment tracker for the DPD.
2022-10-11	Detailed Project Description	Email	• Ministry responded to STSA thanking them for their comments and let them know they will send STSA soon.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-11	Visual Assessments	Email	• Ministry provided STSA with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed STSA's feedback.

Sḵwx̱wú7mesh Úxwumixw (Squamish Nation)

Table A5-15. Summary of Engagement with Sḵwx̱wú7mesh Úxwumixw (Squamish Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-29	Early Engagement	Email	• Ministry sent Squamish Nation a Project Introduction Letter.
2022-06-29	Early Engagement	Email	• Ministry sent Squamish Nation a Project Introduction Letter.
2022-07-04	Early Engagement	Email	• Ministry received a Bouceback email from consultation_rightandtitle@squamish.net.
2022-08-09	Detailed Project Description	Email	• Ministry let Squamish Nation know that they will be sharing the Detailed Project Description and that they are aware that Squamish Nation would like to be involved in the EA process. Offered to set up introductory meeting along with sending Capacity Funding Agreement.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Squamish, along with an Excel DPD comment tracker to receive their feedback.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Squamish Nation Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Squamish Nation a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Squamish Nation an Invitation to view presentation about Proposed Construction Methodology.
2022-09-28	Meeting Agenda	Email	• Ministry sent Squamish Nation agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Technical Construction Presentation	Virtual Meeting	• Ministry provided a Technical Construction Presentation.
2022-10-12	Valued Components	Email	• Ministry sent Squamish Nation information on Valued Components and welcomed Squamish Nations's feedback.
2022-10-27	Indigenous Marine Users Group	Email	• Doodle poll sent to all Indigenous groups inviting groups to indicated preferred date/time for Indigenous Marine Users Group #3.

Stz'uminus First Nation

Table A5-16. Summary of Engagement with Stz'uminus First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-12	Meeting Request	Email	• Notification of upcoming project announcement and request to meet in advance.
2021-08-16	Early Engagement	Email	• Ministry thanked Quw'utsun Nation for Consultation Table and asked if Nation is interested in meeting.
2021-08-17	Follow up to project announcement meeting	Email	• Quw'ustun Nation expressed concern with short notice of invitation to project announcement.
2021-08-18	Project announcement	Email	• Notification of project announcement.
2021-08-26	Early Engagement	Email	• Ministry asked to meet to develop a Project Engagement Plan and Capacity Funding needs.
2021-11-02	Follow up on request to meet	Letter	• Letter to Quw'utsun Nation inviting QN to meet.
2021-11-19	Introductory Meeting	Virtual Meeting	• Discussed information sharing; capacity funding; and concern with project timelines.
2021-11-30	Feedback request for Engagement Plan	Letter	• Ministry sent Draft Project Engagement Plan for Stz'uminus First Nation review and feedback. • Ministry asked that Stz'uminus First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
		Letter	• Ministry sent Draft Project Engagement Plan for Stz'uminus First Nation review and feedback. • Ministry asked that Stz'uminus First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting.
2021-12-03	Feedback request for Initial Project Description	Email	• Ministry sent Initial Project Description for Stz'uminus First Nation review and feedback. • Ministry asked that Stz'uminus First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Stz'uminus First Nation may have.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-12-03	Feedback request for Initial Project Description	Email	• Ministry sent Initial Project Description for Stz'uminus First Nation review and feedback. • Ministry asked that for Stz'uminus First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Stz'uminus First Nation may have.
		Letter	• Ministry sent Initial Project Description for Stz'uminus First Nation review and feedback. • Ministry asked that Stz'uminus First Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Stz'uminus First Nation may have.
2021-12-08	Clarification of capacity funding	Email	• Ministry emailed Quw'ustsun Nation providing clarity to details of capacity funding.
2021-12-10	Sharing of agenda and draft capacity funding agreement	Email	• Ministry emailed Quw'ustun Nation members providing draft agenda for upcoming meeting, including draft capacity funding agreement for review.
2021-12-15	Meeting to discuss capacity funding.	Virtual Meeting	• Ministry met with Quw'ustun Nation members to discuss project overview; capacity funding; environmental monitoring opportunities.
2022-01-28	Engagement Capacity Funding and Indigenous Cultural Recognition	Virtual Meeting	• Ministry and Stz'uminus First Nation discussed: 1. EAC Expiry. 2. Project Updates. 3. Engagement Capacity Funding. 4. Indigenous Construction Monitoring. 5. Indigenous Cultural Recognition. 6. Project re-naming. 7. Environmental Studies Update. 8. EP and IPD. 9. Next steps and action items.
2022-02-07	Initial Existing Condition Studies	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. • Ministry asked for feedback.
2022-02-23	Engagement Plan and Initial Project Description	Email	• Ministry reviewed feedback from Stz'uminus, incorporated changes to EP and IPD. Updated versions emailed to Nation. • Ministry emailed Summary Table with responses and changes. • Stz'uminus First Nation's comments are not included in tables within IPD and EP as information is confidential until Ministry is advised otherwise.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-04	Meeting Request	Email	• Ministry emailed notes/action items from January meeting for review. Ministry asked to schedule meeting to provide updates.
2022-05-04	Capacity Funding Agreement	Email	• Ministry emailed Capacity Funding Agreement for final review and signature.
2022-05-19	Project Updates	Email	• Ministry emailed Letter with summary on recent Project Updates.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-28	Meeting Adjustment	Email	• Marine Users Group meeting rescheduled.
2022-07-25	Summary of QN's Questions & Monday's Meeting	Email	• Email requesting extension to July 25th meeting.
2022-08-03	Visual Quality Assessment Memorandum	Email	• Email providing referral of visual quality memo.
2022-08-04	Visual Quality Assessment Memorandum	Email	• Email expressing concern over consultation to date and delayed submission of visual quality memo referral.
2022-08-19	Draft Detailed Project Description	Email	• Email providing referral of Detailed Project Description
2022-09-02	Eulachon studies and fish habitat workplan	Email	• Note: Received bounce-back email from Josh James (Penelakut), and Robert Sam (Penelakut), and Shana Thomas (Halalt)
2022-09-14	Indigenous Marine Users Group Meeting #2	Email	• IMUG #2 presentation slides and agenda provided.
2022-09-20	Fraser River Tunnel Project + Hwy 99 Corridor Monthly Meeting	Email	• Email requesting if QN members are available to meeting for regular meeting September 26th.
2022-09-21	Indigenous Marine Users Group Meeting #2	Email	• Email to reschedule IMUG #2 meeting that QN was unable to attend.
2022-09-21	Technical Construction Presentation	Email	• Invitation to QN to attend technical construction presentation September 29th.
2022-09-21	Technical Construction Presentation	Email	• "Save the date" email to QN to attend technical construction presentation
2022-09-26	Indigenous Marine Users Group Meeting #2	Email	• Follow up from IMUG #2 meeting providing meeting notes and presentation slides.
2022-09-27	Indigenous Marine Users Group Meeting #2 - Follow Up	Email	• Email correspondence from Lyackson to MoTI requesting MoTI clarify communication instructions.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-27	Indigenous Marine Users Group Meeting #2	Email	• Email from MoTI to QN members requesting available dates for rescheduling of IMUG #2 meeting.
2022-09-27	Indigenous Marine Users Group Meeting #2 - Follow Up	Email	• Email expressing concern with email instructions for meeting rescheduling.
2022-09-28	Technical Construction Presentation	Email	• Email proving meeting agenda and presentation slides.
2022-09-28	Draft Detailed Project Description	Email	• Email reminder requesting comments on Detailed Project Description.
2022-10-11	Visual Quality Assessment Memorandum	Email	• Updated visual quality assessment memorandum.
2022-10-12	Valued Component Selection	Email	• Value Component Selection Document.

WJOŁEŁP (Tsartlip First Nation)

Table A5-17. Summary of Engagement with Tsartlip First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-29	Project Notification Letter and Capacity Funding	Email	• At request of EAO, Ministry emailed Project Notification Letter. Ministry notified Nation about Capacity Funding to support Engagement on Project.
2022-08-03	Indigenous Cultural Use	Email	• Ministry requested feedback on Tsartlip's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Tsartlip a Technical Memorandum.
2022-08-09	Detailed Project Description	Email	• Ministry let Tsartlip know they will be sharing the Detailed Project Description soon. • Ministry stated they know Tsartlip would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Tsartlip, along with an Excel DPD comment tracker to receive their feedback.

2022-09-08	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Tsartlip of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Tsartlip of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-09	Fish and Aquatic Habitat Existing Condition Studies	Email	• Ministry sent Tsartlip Draft Fish and Aquatic Habitat Existing Condition Workplan for discussion.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Tsartlip Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Tsartlip a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Tsartlip an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-27	Meeting Request	Voice Mail/Email	• Ministry left Tsartlip a voicemail about their desire to set up an introductory meeting to learn more about the project and offered Capacity Funding. Follow up email with same information was sent.
2022-09-27	Meeting Response	Email	• Tsartlip Administration sent the Ministry the correct contacts for the referrals manager.
2022-09-28	Meeting Agenda	Email	• Ministry sent Tsartlip agenda and slides for upcoming Technical Construction Presentation.
2022-09-28	Meeting Response	Email	• Tsartlip responded to the Ministry's meeting request with suggested dates and times, along with details about the upcoming meeting.
2022-09-29	Meeting Response	Email	• Ministry confirmed the first meeting with Tsartlip.
2022-10-04	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Tsartlip, along with an Excel DPD comment tracker to receive their feedback.
2022-10-04	Meeting Invite	Email	• Ministry sent meeting invite to Tsartlip and included: 1. Draft Funding Agreement. 2. Draft Agenda. 3. List of MoTI attendees.
2022-10-11	Visual Assessments	Email	• Ministry provided Tsartlip with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent Tsartlip information on Valued Components and welcomed Tsartlip's feedback.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-18	EA Process & DPD	Virtual Meeting	• Introductory meeting between MoTI/TI Corp and Tsartlip to Discuss: 1. Fraser River Tunnel Project overview. 2. Project overview. 3. Environmental assessment process. 4. Detailed Project Description. 5. Working together. 6. Capacity Funding. 7. Information sharing. 8. Approach to meetings.
2022-10-18	Meeting Request	Email	• Ministry sent Tsartlip multiple dates and time to meet.
2022-10-21	Meeting Request	Email	• Ministry sent Tsartlip multiple dates and time to meet.
2022-10-21	Meeting Request	Email	• Ministry sent Tsartlip multiple dates and time to meet.

STÁUTW̱ (Tsawout First Nation)

Table A5-18. Summary of Engagement with Tsawout First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-29	Project Notification Letter and Capacity Funding	Email	• At request of EAO, Ministry emailed Project Notification Letter. Ministry notified Nation about Capacity Funding to support Engagement on Project.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting.
2022-08-03	Indigenous Cultural Use	Email	• Ministry requested feedback on Tsawout's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys • Ministry sent Tsawout a Technical Memorandum.
2022-08-09	Draft Detailed Project Description	Email	• Ministry let Tsawout know they will be sharing the Detailed Project Description soon. • Ministry stated they know Tsawout would like to be involved in the EA process and requested a meeting like to provide Capacity Funding.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Tsawout, along with an Excel DPD comment tracker to receive their feedback.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Tsawout of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report
			• Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Tsawout Indigenous Marine Users Group: Meeting #2 Invitation.

2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and IMUG discussed:
			  1. Indigenous Marine Users Group Overview and Principles
			  2. Recap of last Indigenous Marine Users Group Meeting
			  3. Project Scope and Schedule
			  4. Next Steps

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-21	Meeting Invite	Email	• Ministry sent Tsawout a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Tsawout an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Meeting Request	Voice Mail/Email	• Ministry left Tsawout a voicemail about their desire to set up an introductory meeting to learn more about the project and offered Capacity Funding. Follow up email with same information was sent.
2022-10-03	Meeting Request	Email	• Ministry received Tsawout contact information from EAO and offered to set up an introductory meeting with Tsawout.
2022-10-11	Visual Assessments	Email	• Ministry provided Tsawout with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent Tsawout information on Valued Components and welcomed Tsawout's feedback.

sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation)

Table A5-19. Summary of Engagement with sc̓əwaθən məsteyəxʷ (Tsawwassen First Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement and Meeting Request	Email	• Ministry advised Tsawwassen First Nation (TFN) it is proceeding with the replacement of the existing George Massey Tunnel with a new immersed tube tunnel (ITT). • Ministry proposed a meeting to provide further information on the ITT and discuss the development of a Project Engagement Plan, Capacity Funding needs and other related matters.
2021-09-14	Early Engagement and Meeting Request	Email	• Ministry contacted TFN to arrange a meeting to on Project Engagement.
2021-09-15	Meeting Request	Email	• Ministry and TFN exchange information on meeting scheduling.
2021-09-15	Meeting Request	Email	• TFN advise Ministry of interest in meeting and identify TFN Team Members for Project Engagement.
2021-09-20	Meeting Request	Email	• Ministry followed up on meeting scheduling.
2021-10-05	Meeting Request	Email	• Ministry followed up on meeting scheduling.
2021-10-18	Meeting Request	Email	• Ministry asked TFN if they are interested in meeting as a group to discuss a number of projects at once.
2021-10-19	Meeting Confirmation	Email	• Ministry confirmed meeting date with TFN.
2021-10-19	Meeting Confirmation	Email	• TFN confirm with Ministry meeting dates.
2021-10-21	Meeting Agenda	Email	• Ministry share Meeting Agenda with TFN.
2021-10-22	Baseline Studies	Virtual Meeting	• Ministry and TFN discussed: 1. No Consultant selected by Ministry for Baseline Studies. 2. Ministry to share Baseline Studies information with TFN. 3. Sharepoint for File Sharing ok. 4. Next Steps and Action Items.
2021-10-22	Document Sharing	Email	• Ministry shared with TFN access information for Sharepoint account.
2021-10-22	TFN Response	Email	• TFN thanked Ministry for sharing Agenda and Memo for pending meeting.
2021-10-25	Document Sharing	Email	• TFN share information with Ministry on accessing Sharepoint.
2021-10-25	Document Sharing	Email	• Ministry confirmed receipt of TFN Sharepoint access information.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-11-25	Monthly Meeting	Virtual Meeting	• Meeting to discuss general updates; information sharing; cultural recognition; environmental monitoring
2021-11-30	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Tsawwassen First Nation review and feedback. • Ministry asked that Tsawwassen First Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting to go over Tsawwassen First Nation concerns or issues.
2021-12-03	Review Request for Initial Project Description	Email	• Ministry sent Initial Project Description for Tsawwassen First Nation review and feedback. • Ministry asked that (TFN) provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over TFN perspectives and concerns.
2022-01-17	Engagement Plan	Email	• TFN share with Ministry comments on Draft Project Engagement Plan
2022-01-18	Engagement Plan, Name Change, and TFN Issues and Concerns	Email	• Ministry thanked the TFN for their comments on Project Engagement Plan. • Advised that name of the George Massey Crossing Project to the Fraser River Tunnel Project. • Ministry plans to submit the Project EP and IPD to the EAO in mid-February 2022 and asked TFN for any additional comments in advance. • Noted that EAO will commence Engagement with Indigenous groups providing further opportunity for your review and feedback on the EP and IPD. • EP and IPD will include issues and interests raised by Indigenous groups to date. • TFN shared their issues and interests with the Ministry. • Ministry asked TFN to confirm that issues were accurately documented.
2022-01-24	New TFN Team Member Introduction	Email	• TFN introduced new team member: Tejas Madhur, JFK Law, who will assist Impacts to Tsawwassen's Treaty Rights assessment portion of this Environmental Assessment.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-01-27	Indigenous Construction Monitoring and Cultural Recognition, along with Summery Feedback from TFN	Virtual Meeting	• Ministry and Tsawwassen First Nation discussed: o Project Updates. o Fraser River Tunnel Project. o EAC Expiry. o Corridor Improvement Projects. o Existing Condition Studies Update. o Engagement Capacity Funding. o Project renaming. o Indigenous Construction Monitoring. o Indigenous Cultural Recognition. o Summery Feedback from TWN. o Technical and Environmental Update Presentation. o Next Steps and Action Items.
2022-02-07	Existing Conditions Studies and Valued Components	Email	• Ministry advised TFN that Existing Conditions Studies are being developed to characterize the current status of Environmental and Socio-Economic Disciplines and help inform the eventual selection of Valued Components. • A Summary Table was shared of Initial Existing Condition Studies and proposed Detailed Existing Condition Workplans will be provided that will outline proposed scope, process, methods, and schedule studies. Comment and feedback on the summary table welcomed. • It was noted that the Ministry will engage on Valued Components in the coming months.
2022-02-08	Meeting Summery	Email	• Ministry thanked TFN for attending meeting on the Corridor Improvement Projects and attached a Meeting Summary.
2022-02-09	Draft Initial Project Description	Email	• TFN shared with Ministry their review of the FRTP Draft Initial Project Description (IPD) and offered to meet to discuss any questions.
2022-02-09	Corridor Improvements Project Meeting Notes	Email	• TFN thanked Ministry for notes from the Corridor Improvement Project meeting and stated they had no follow up questions.
2022-02-10	Meeting Agenda	Email	• Ministry shared Agenda with TFN for meeting on FRT Project and the Corridor Improvements Project.
2022-02-10	Corridor Improvements Projects and Existing Condition Studies	Virtual Meeting	• Ministry and Tsawwassen First Nation discussed: o General Project Updates. o Corridor Improvement Projects. o Preparing IPD and EP for submission to EAO. o Existing Condition Studies. o Capacity Funding Agreement. o Next Steps and Action Items.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-02-23	Existing Conditions Studies	Virtual Meeting	• Ministry and Tsawwassen First Nation discussed: 1. Environmental Assessment Update. 2. Overview and intent of proposed Existing Conditions Studies. ▪ Scope. ▪ Process. ▪ Methods. ▪ Schedule.
2022-02-23	Draft Work Plan for Fish and Wildlife Existing Conditions	Email	• Ministry shared with TFN Draft Work Plan for Fish and Wildlife Existing Conditions and asked for input.
2022-02-23	TFN Feedback on Engagement Process and Initial Project Description	Email	• Ministry thanked TFN for feedback and input to the Draft Engagement Plan (EP) and the Initial Project Description (IPD) for the Fraser River Tunnel Project, input had been reviewed and incorporated where possible into the EP and IPD, and revised versions shared for their review. • A table was provided summarizing TFN comment, Ministry responses and changes that were made to the IPD and EP.
2022-02-24	Meeting Summery	Email	• Ministry shared Project meeting notes with TFN.
2022-02-25	Document Sharing	Email	• Ministry shared Technical Project shape files with TFN.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan and Valued Components	Email	• Ministry shared with TFN for review and comment: Draft Fish and Fish Habitat Existing Conditions Workplan Draft Wildlife and Wildlife Habitat Existing Conditions Workplan. • Timelines for studies commencement was provided and a workshop offered to review the Existing Condition Workplans with our subject matter experts to review your feedback and answer any questions.
2022-02-25	Review Comments on Fish and Wildlife Existing Conditions Workplans	Email	• TFN acknowledged receipt of Fish and Wildlife Existing Conditions Workplans from Ministry and that TFN comments would be forthcoming.
2022-03-04	Virtual Workshop Invite	Email	• Ministry thanked TFN for meet and discuss Existing Condition Studies Workplans and invited TFN to a Virtual Workshop on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan. Additional workshops are being planned.
2022-03-10	TFN Comments on Fish and Wildlife Existing Conditions Workplans	Email	• TFN provided Ministry comments on Wildlife on the Existing Conditions for your review and consideration and advised that the Fisheries document is still under review.
2022-03-10	Meeting Request	Email	• TFN and Ministry exchange Existing Conditions Workshop scheduling information.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-10	Status of Engagement Plan and Initial Project Description	Email	• Ministry and Tsawwassen First Nation discussed: 1. Welcome to new MOTI member, Christina Klatt. 2. General Project Updates. 3. Corridor Improvement Projects. 4. Fraser River Tunnel Project. 5. Status of Engagement Plan and Initial Project Description. 6. Existing Condition Studies and opportunities for Indigenous participation. 7. Capacity Funding Agreement. 8. Next Steps and Action Items.
2022-03-10	Template Capacity Funding Agreement	Email	• Ministry shared with TFN copy of the Template Capacity Funding Agreement.
2022-03-10	Template Capacity Funding Agreement	Email	• Ministry shared email version of Template Capacity Funding Agreement.
2022-03-11	Updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans	Email	• Ministry shared with TFN updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans, noted key changes and asked for further comments.
2022-03-11	Updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans	Email	• Ministry shared with TFN updated Fish and Fish Habitat and Wildlife and Wildlife Habitat Workplans, noted key changes and asked for further comments.
2022-03-15	Eulachon and Birds Advanced Enviro Studies	In Person Meeting	• Meeting to review and develop TFN's invoices for the Eulachon and Birds Advanced Enviro Studies.
2022-03-16	TFN Comments on Revised Existing Conditions Workplans	Email	• TFN shared with Ministry comments on the Revised Existing Conditions Workplan.
2022-03-21	Environmental Assessment Update	Virtual Meeting	• Ministry and Tsawwassen First Nation discussed: o Purpose and Objectives. o General Project Updates. o Existing Conditions Workplans. o Environmental Assessment Update. o Next Steps and Action Items.
2022-03-22	Fish and Wildlife Existing Conditions Studies Workshop	Email	• Ministry shared actions arising Fish and Wildlife Existing Conditions Studies Workshop with TFN and offered to support their participation. • The potential for a full-time limited duration Field Technician was identified by the Ministry and interest of TFN requested.
2022-03-22	Field Technician Position	Email	• TFN advised Ministry that they interested in a full-time Field Technician Position and asked for job description. • TFN also asked Ministry to consider hiring TFN Member Vessels and Operators to help facilitate some of the Fish Sampling Work.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-03-23	Existing Conditions Studies Workshop	Virtual Meeting	• Ministry met with TFN to discuss existing conditions studies.
2022-03-23	Existing Conditions Studies Workshop	Email	• Ministry acknowledged that TFN is interested in a full-time Technician Position, and TFN member vessels for fish sampling and would get back to them soon.
2022-03-24	TFN Feedback on Wildlife and Wildlife Habitat Workplans	Email	• Ministry advised TFN that feedback on the Wildlife and Wildlife Habitat Workplans had been received, being considered, and responses drafted.
2022-03-25	Eulachon and Birds Advanced Enviro Studies	Email	• Ministry sent TFN updated schedule for Wildlife surveys.
2022-03-28	TFN Feedback on Existing Condition Studies Fish and Fish Habitat Workplan	Email	• TFN shared comments Existing Condition Studies Fish and Fish Habitat Workplan, and Ministry acknowledged receipt.
2022-04-07	Vacation Schedule	Email	• Ministry advised TFN of staff vacation plans and replacement for upcoming meeting.
2022-04-07	Vacation Schedule	Email	• Ministry advised TFN of staff vacation plans and replacement for upcoming meeting.
2022-04-08	Summery Table on Existing Conditions Studies Workplans	Email	• Ministry thanked TFN for meeting on Fraser River Tunnel Project (FRTP) and greater Highway 99 Corridor Improvement Project, and shared summary table with details on the Existing Conditions Studies Workplans for FRTP.
2022-04-08	Summery Table on Existing Conditions Studies Workplans	Email	• Ministry shared with TFN Summary Table with details of the Existing Conditions Studies Workplans for the Fraser River Tunnel Project (FRTP).
2022-04-13	Meeting Agenda	Email	• Ministry shared with TFN Meeting Agenda and responses to TFN's comments on the Wildlife and Wildlife Habitat Existing Conditions Study Workplan.
2022-04-14	TFN Questions on Existing Conditions Summary Table	Email	• TFN asked Ministry why an Existing Conditions Summary Table did not include Wildlife Studies (amphibians, birds, mammals, and listed species of other taxa). • Ministry advised that Fish and Fish Habitat, as well as the Wildlife and Wildlife Habitat Workplans were not included as they have been previously shared.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-04-14	Field Technician, Existing Studies Workplans	Virtual Meeting	• Ministry and Tsawwassen First Nation discussed: o General Project Updates. o Fraser River Tunnel Project. o Update on IPD, EP & EA process. o Update on Existing Conditions Studies Workplans. o Discuss Tsawwassen community member field technician position for EC studies. o Check-in re: Draft Capacity Funding Agreement. o MOTI responses to TFN feedback on EC Wildlife and Wildlife Habitat Study Workplan. • Next steps & action items.
2022-04-19	TFN Response to Ministry Responses	Email	• TFN shared comments on Ministry responses to TFN questions on Wildlife Existing Conditions Workplan and Ministry acknowledged receipt.
2022-04-19	Existing Studies Workplans	Email	• Ministry thanked TFN for their comments and let them know the Environment team would answer them as soon as possible.
2022-05-05	Meeting Adjustment	Email	• Ministry advised TFN of delay in attending meeting due to travel plans. Adjusted meeting time.
2022-05-06	Meeting Adjustment	Email	• TFN advised Ministry of change in meeting attendees.
2022-05-09	Meeting Adjustment	Email	• Ministry thanked TFN for advising them of meeting attendee changes.
2022-05-11	Document Sharing	Email	• Ministry shared information with TFN on Sharepoint access.
2022-05-11	Document Sharing	Email	• Ministry and TFN share information on Sharepoint access.
2022-05-12	Capacity Funding Agreement, Project Updates, Field Technician	Email	• Ministry and Tsawwassen First Nation discussed: o Welcome to new MOTI member, Alexander Howes. o General Project Updates. o Fraser River Tunnel Project. o Corridor Improvement Projects. o Update on IPD, EP & EA process. o Update on Existing Conditions Studies Workplans. o Tsawwassen community member field technician position for EC studies. o How can MOTI support TFN in building a suitable Capacity Funding Agreement? o Temporary Moorage Location. • Next steps & action items.
2022-05-19	Project Referral Letter	Email	• Ministry shared with TFN Updated Project Referral Letter.
2022-06-03	Wildlife and Vegetation Surveys.	Email	• Ministry shared with TFN schedule and dates for Projected Wildlife and Vegetation Surveys.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-07	Document Sharing, Temporary Moorage, and Treaty Rights	Email	• Ministry advised TFN uploaded documents to the Tsawwassen folder on the FRTP Sharepoint: o The Fraser River Tunnel Project Reference Concept Design. o An Existing Conditions Studies Program Update. o A Tracking Table listing Tsawwassen's comments on the Initial Project Description, and the proponent's associated responses. o A Technical Memo providing more information on the Tunnel Element Temporary Moorage. o A Concept Design of the Tunnel Element Temporary Moorage.
2022-06-07	Meeting Request	Email	• Ministry and TFN exchange information on Meeting Scheduling.
2022-06-08	Meeting Request	Email	• Ministry and TFN exchange information on Meeting Scheduling.
2022-06-15	Draft Capacity Funding Agreement	Email	• Ministry shared Draft TFN Capacity Funding Agreement.
2022-06-16	FRTP Migratory Bird Report	Email	• TFN shared with Ministry Draft of the FRTP Migratory Bird Report.
2022-06-16	Temporary Moorage, and Reference Concept Design	Email	• Ministry and Tsawwassen First Nation discussed: o General Project Updates. o Fraser River Tunnel Project. o Corridor Improvement Projects. o EA Process and Referral Summery. o Update on Existing Conditions Studies Workplans. o Reference Concept Design. o Check-in re: Draft Capacity Funding Agreement. o Tunnel Element Temporary Moorage. • Next steps & action items.
2022-06-16	FRTP Human Health Risk Assessment Team Planning Surveys, and Berry Picking Invite	Email	• Ministry advised TFN that the Fraser River Tunnel Project's Human Health Risk Assessment Team is starting to plan their surveys in early July. • The team will be picking berries tentatively for five days on the week of July 18th to 22nd and the Ministry hoped Tsawwassen members would like to participate. • The timing is dependent on if the berries are ready based on the weather so the Project team will continue to assess the timing and will let you know if we need to adjust the dates in the coming weeks.
2022-06-16	Document Sharing and Existing Studies Programs Update	Email	• Ministry advised TFN of documents Sharepoint: o Existing Conditions Studies Programs Updates (Summary of Existing Conditions Studies Underway). o The FRTP Roll Plot (Reference Concept). o In the "Tunnel Element Temporary Moorage" Folder. o COWI Memo. o NHC Concept Design.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-17	Wildlife and Vegetation Surveys	Email	• Ministry shared with TFN schedule and dates for Projected Wildlife and Vegetation Surveys.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited TFN to join the Fraser River Tunnel Project's Marine Users Group and the Indigenous Marine Users Group. Noting that the purpose of these groups is to share information related to the Project's marine-based activities and obtain input from various commercial and recreational marine users who will be potentially impacted by the Project.
2022-06-24	Capacity Funding Agreement	Email	• Ministry contacted TFN on Capacity Funding Agreement and asked for a report on their review.
2022-06-28	Meeting Adjustment	Email	• Ministry advised TFN that Project's Indigenous Marine Users Group meeting is postponed allowing for additional participation.
2022-06-28	TFN Response to Meeting Scheduling	Email	• Ministry and TFN exchange information on Meeting Scheduling.
2022-06-28	Wildlife and Vegetation Surveys	Email	• Ministry shared with TFN schedule and dates for Projected Wildlife and Vegetation Surveys.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting. TFN in attendance.
2022-07-13	Wildlife and Vegetation Surveys	Email	• Ministry shared with TFN schedule and dates for Projected Wildlife and Vegetation Surveys.
2022-07-15	Sharepoint Access and Capacity Funding Agreement	Email	• TFN asks the Ministry a question about Temporary Moorage.
2022-07-15	Temporary Moorage Location	Email	• Ministry shared information with TFN on Sharepoint access. • Ministry provided feedback on Project Temporary Moorage Location. • Ministry forwarded to TFN additional copy of Capacity Funding Agreement.
2022-07-15	Sharepoint Access	Email	• TFN alerted the Ministry to access issues with Sharepoint.
2022-07-15	Temporary Moorage Location	Email	• Ministry responded to TFN about their questions about Temporary Moorage and sharepoint access.
2022-07-26	Wildlife and Vegetation Studies	Email	• Ministry sent TFN dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-07-26	Wildlife and Vegetation Studies	Email	• Ministry sent TFN dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-07-26	Indigenous Cultural Use	Email	• Ministry requested feedback onTFN's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent TFN a Technical Memorandum.
2022-07-27	Visual Quality Assessment	Email	• Ministry responded to TFN's questions on Visual Quality Assessment.
2022-07-29	Wildlife and Vegetation Studies	Email	• Ministry sent TFN dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-08-08	Condolences/Meeting Agenda	Email	• Ministry sent TFN proposed Agenda for upcoming meeting. • Ministry sent condolences for the passing of Chief Baird and asked if TFN would like to reschedule meeting.
2022-08-11	Wildlife and Vegetation Studies	Email	• Ministry sent TFN dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-08-11	Wildlife and Vegetation Studies	Email	• Ministry sent TFN dates for upcoming Wildlife, Fisheries, Vegetations, Groundwater, and Visual Quality Surveys.
2022-08-12	Meeting Request	Email	• Ministry responded to TFN's meeting request.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with TFN, along with an Excel DPD comment tracker to receive their feedback.
2022-08-26	Temporary Moorage	Email	• Ministry thanked responded to TFN questions about Temporary Moorage.
2022-08-26	Migratory Bird Report	Email	• Ministry provided TFN with their comments on the Migratory Bird Report.
2022-08-29	TI Corp-TFN Check-In meeting	Virtual Meeting	• Meeting between TI Corp VP Regulatory Affairs and TFN to discuss Process Planning and capacity funding.
2022-08-31	Capacity Funding Agreement	Email	• Ministry thanked TFN for providing draft Capacity Funding Agreement.

2022-09-02	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised TFN of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.

2022-09-07	Migratory Bird Report	Email	• Ministry thanked TFN for providing Migratory Birds Report and asked a question about it.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-07	Meeting Agenda	Email	• Ministry sent TFN proposed Agenda for upcoming meeting.
2022-09-08	Migratory Bird Report	Email	• TFN responded to the Ministry's questions about their Bird Report.
2022-09-08	Migratory Bird Report	Email	• TFN responded to the Ministry's questions about their Bird Report.
2022-09-08	Capacity Funding Agreement	Virtual Meeting	• Ministry and TFN discussed: 1. Corridor Improvement Projects. 2. Fraser River Tunnel Project. 3. Review of our last meeting on August 11th. 4. Detailed Project Description presentation. 5. Capacity funding agreement. 6. Indigenous Marine Users Group (IMUG). 7. Upcoming / ongoing referrals.
2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent TFN Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-15	Indigenous Marine Users Group	Virtual Meeting	• Ministry and IMUG discussed: 1. Indigenous Marine Users Group Overview and Principles. 2. Recap of last Indigenous Marine Users Group Meeting. 3. Project Scope and Schedule. • Next Steps.
2022-09-21	Meeting Invite	Email	• Ministry sent TFN a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent TFN an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Technical Construction Presentation	Email	• Ministry sent agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Detailed Project Description	Email	• TFN submitted comment tracker for the DPD.
2022-10-01	Capacity Funding Agreement	Email	• Ministry responded to TFN's questions about Capacity Funding.
2022-10-11	Visual Assessments	Email	• Ministry provided TFN with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent information on Valued Components and welcomed TFN's feedback.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-12	Eulachon Report	Email	• Ministry sent TFN the Eulachon Report.
2022-10-13	Meeting Response	Email	• Ministry responded to TFN's request to provide overview of the VC document.
2022-10-13	Meeting Response	Email	• Ministry responded to TFN's request to provide overview of the VC document.

Tseycum First Nation

Table A5-20. Summary of Engagement with Tseycum First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-29	Project Notification Letter and Capacity Funding	Email	• At request of EAO, Ministry emailed Project Notification Letter. Ministry notified Nation about Capacity Funding to support Engagement on Project.
2022-08-03	Indigenous Cultural Use	Email	• Ministry requested feedback on Tseycum's perspectives on Indigenous Cultural Use and the Value of Visual Landscape to inform upcoming photographic field surveys. • Ministry sent Tseycum a Technical Memorandum.
2022-08-09	Detailed Project Description	Email	• Ministry let Tseycum know they will be sharing the Detailed Project Description soon and asked if they would like to be involved in the EA process.
2022-08-19	Draft Detailed Project Description	Email	• Ministry shared the Draft Detailed Project Description with Tseycum, along with an Excel DPD comment tracker to receive their feedback.

2022-09-08	Eulachon Studies and Fish Habitat Workplan	Email	• Ministry advised Tseycum of additional Eulachon Specific Studies in late 2022/early 2023. Ministry shared the following documents with Tseycum:
			  • FRTP Fish and Aquatic Habitat Existing Conditions Workplan - Preliminary Draft for Discussion.
			  • FRTP Eulachon Migration Assessment Using eDNA – Memo.
			  • FRTP Assessment of Eulachon Spawning Activity in the Lower Fraser River at Deas Island - Final Report.
			  • Ministry offered to meet for an introductory meeting along with provide Capacity Funding Agreement.

2022-09-14	Indigenous Marine Users Group	Email	• Ministry sent Tseycum Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invite	Email	• Ministry sent Tseycum a Meeting Invite to view a Technical Presentation.
2022-09-21	Meeting Invite	Email	• Ministry sent Tseycum an Invitation to view presentation about Proposed Construction Methodology.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Meeting Agenda	Email	• Ministry sent Tseycum agenda and slides for upcoming Technical Construction Presentation.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-29	Meeting Request	Voice Mail/Email	• Ministry left Tseycum a voicemail about their desire to set up an introductory meeting to learn more about the project and offered Capacity Funding. Follow up email with same information was sent.
2022-10-11	Visual Assessments	Email	• Ministry provided Tseycum with a Visual Quality Memorandum along with an updated report on Visual Assessments and requested feedback.
2022-10-12	Valued Components	Email	• Ministry sent Tseycum information on Valued Components and welcomed Tseycum's feedback.

səlilwətaɬ (Tsleil-Waututh Nation)

Table A5-21. Summary of Engagement with səlilwətaɬ (Tsleil-Waututh Nation)

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-10-05	Early Engagement	Email	• Ministry asked Tsleil-Waututh Nation (TWN) to meet to develop a Project Engagement Plan and Capacity Funding Needs.
2021-10-06	Salmonid Study Agreement letter	Email	• Ministry emailed Salmonid Study Agreement letter and asked for a signed copy to be returned.
2021-11-08	Presentation on Environmental Assessment process	Email	• Ministry emailed Introductory Letter on Project, as well as Presentation on Environmental Assessment process and Draft Capacity Funding Agreement Letter.
2021-12-01	Feedback Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Tsleil-Waututh Nation review and feedback. • Ministry asked that Tsleil-Waututh Nation provide feedback by January 15, 2022. • Ministry asked to schedule a meeting with Tsleil-Waututh Nation to discuss their perspective and any concerns they may have.
2021-12-03	Feedback Request for Initial Project Description	Email	• Ministry sent Initial Project Description for Tsleil-Waututh Nation review and feedback. • Ministry asked that Tsleil-Waututh Nation provide feedback by February 3, 2022. • Ministry asked to schedule a meeting to go over any questions, concerns, or issues Tsleil-Waututh Nation may have.
2022-01-12	Tsleil-Waututh Nation Response	Email	• Tsleil-Waututh Nation acknowledged that the Ministry has been trying to engage with them, but stated they are stretched very thin as they are dealing with an extremely high volume of Projects and have limited capacity to engage at this time. • Tsleil-Waututh Nation is attempting to backfill several positions within their EA Team. • Tsleil-Waututh Nation reminded the Ministry that this does not alleviate the Crown from its duty to consult and obligation to seek the free, prior, and informed consent of TWN. • Tsleil-Waututh Nation will advise when they have capacity to re-engage with the Ministry. • TWN expect to be engaged for any future Impact Benefit Agreement or other Accommodation discussions.
2022-01-18	Invoice for Salmonid Study	Email	• Invoice for TWN's participation in salmonid study.
2022-01-18	Feedback Request for EP and IPD	Email	• Ministry asked for any further comments/feedback prior to the submission of EP and IPD. Concerns raised by TWN include not having enough resources and a limited capacity to engage at this time.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-01-20	Tsleil-Waututh Nation Response	Email	• TWN stated that its issues and interests must also include everything submitted for the George Massey Replacement project from start to finish as many comments will be identical and/or similar in nature. • TWN stated that MOTI is moving ahead without proper consultation, due to their timeline.
2022-02-01	Meeting Request	Email	• Ministry confirmed TWN issues and interests identified during the George Massey Tunnel Replacement Project will be included. • Ministry requests meeting with TWN to understand concerns about not properly consulting on EP and IPD.
2022-02-07	Draft Summary Table of Initial Existing Condition Studies	Email	• Ministry emailed Draft Summary Table of Initial Existing Condition Studies with anticipated Environmental and Socio-Economic Disciplines. Ministry asked for feedback.
2022-02-23	Updated Engagement Plan and Initial Project Description	Email	• Updated versions of EP and IPD emailed to TWN. Ministry asked if TWN would like to meet to review updated documents. • TWN comments are not included in the tables within IPD and EP because Ministry has not received comments specific to IPD and EP.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-03-04	Virtual Workshop Invite	Email	• Ministry emailed to invite TWN to Virtual Workshop Meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-11	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry shared updates to Draft Fish and Fish Habitat Workplan and Draft Wildlife and Wildlife Habitat Workplan and asked if TWN intends to provide comments on Workplans.
2022-04-08	Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-08	Existing Conditions Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-05-19	Project Updates	Email	• Recent Project Updates Summary.
2022-06-02	Engagement and Capacity Concerns	Email	• Ministry highlighted steps to move ahead in Engagement with TWN recognizing Capacity Concerns. • Ministry sent request to Meet with TWN.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-28	Meeting Adjustment	Email	• Marine Users Group meeting rescheduled.
2022-08-09	Project Update	Email	• Email from Ministry update regarding the Environmental Assessment process and advising that capacity funding is available.
2022-08-16	Indigenous Marine Users Group	Email	• Email request from TWN for more information about the IMUG.
2022-08-17	Indigenous Marine Users Group	Email	• Email response from Ministry to TWN's request for additional information about the IMUG. Upcoming meeting date shared.
2022-08-19	Draft Detailed Project Description	Email	• Email transmission of FRTP DPD to TWN.
2022-08-25	Environmental Assessment Process	Virtual Meeting	• Meeting with TWN regarding: • Fraser River Tunnel Project. • Elements of the Environmental Assessment Process.
2022-08-29	TWN expectations for consultation	Email	• Email following meeting to outline TWN expectations for consultation.
2022-08-29	TWN's CEMP Guidelines	Email	• Acknowledge receipt of TWN CEMP Guidelines.
2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Email to TWN regarding FRTP tunnel referral. Upcoming eDNA survey for Eulachon.
2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Email transmission of Eulachon final report and upcoming existing conditions workplan.
2022-09-12	Eulachon Studies and Fish Habitat Workplan	Email	• Email confirmation of receipt from TWN.
2022-09-14	Indigenous Marine Users Group Meeting #2 Invitation	Email	• Indigenous Marine Users Group: Meeting #2 Invitation.
2022-09-21	Meeting Invitation	Email	• Invitation to view presentation about proposed construction methodology for the Fraser River Tunnel Project.
2022-09-26	Indigenous Marine Users Group Meeting	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.
2022-09-28	Technical Construction Presentation	Email	• Agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Draft Detailed Project Description	Email	• TWN emailed comments on the FRTP DPD.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-10-11	Confirmation of Received Documents	Email	• MOTI responded to TWN follow up request and provided estimated timing.
2022-10-12	Valued Component Selection	Email	• Email transmission of VC document for FRTP.
2022-10-13	Sharepoint	Email	• Coordination of TWN access to FRTP Sharepoint.
2022-10-13	Confirmation of Received Documents	Email	• Ministry sent email confirmation to TWN that they have received access to FRTP Sharepoint site.
2022-10-19	Monitoring Opportunity	Email	• Ministry sent information about upcoming monitoring opportunities.
2022-10-20	Technical Presentation	Email	• Ministry seeking meeting to present project materials to TWN. Follow up from larger group presentation.
2022-10-21	Monitoring Opportunity	Email	• Email correspondence between Ministry and TWN regarding upcoming monitoring opportunities on the project.

Ts'uubaa-asatx First Nation

TableA5-22. Summary of Engagement with Ts'uubaa-asatx First Nation

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-08-26	Early Engagement	Email	• Ministry asked to meet Ts'uubaa-asatx First Nation (T'FN) to develop a Project Engagement Plan and Capacity Funding Needs. • Kathleen Johnnie participated in site visit. • Ts'uubaa-asatx Engagement Process requires meetings to review all documents in person.
2021-09-14	Meeting Request	Email	• Ministry followed up and asked for an Initial Engagement Meeting.
2021-09-15	Meeting Response	Email	• Ts'uubaa-asatx replied to set up meeting.
2021-10-07	Ts'uubaa-asatx Issues and Concerns with Project	Virtual Meeting	• The Ministry and Ts'uubaa-asatx Discussed: 1. Baseline Studies and Engagement Plan. 2. Ts'uubaa-asatx has a Lower Mainland Advocacy Policy that should be referred to for Baseline Studies and Engagement Plan. It is being updated with more research with expected completion date end of March 2021. 3. Ts'uubaa-asatx expects that the advocacy policy will be reflected in the Project and the EA process. Ts'uubaa-asatx advocacy policy should be very visible in the documentation. Should see results of the proponents review of their policy in the documents such as VC selection.Scheduling. 4. Fish and Fish Habitat, Wildlife and Wildlife Habitat, Archaeology. 5. EAP Process Chart. *6.* Abandonment of bridge. • *No formal response for abandonment of bridge. Ts'uubaa-asatx agreed to go forward with the bridge, was consulted during the process but not the abandonment. Ministry followed up to discuss this topic with Aaron Hamilton.* • *Mayors Councils interests should not be more influential than those of IGs. Kathleen was contact for GMTRP, all communications should have come to her.* • *Ministry followed up to discuss this topic with Aaron Hamilton.*

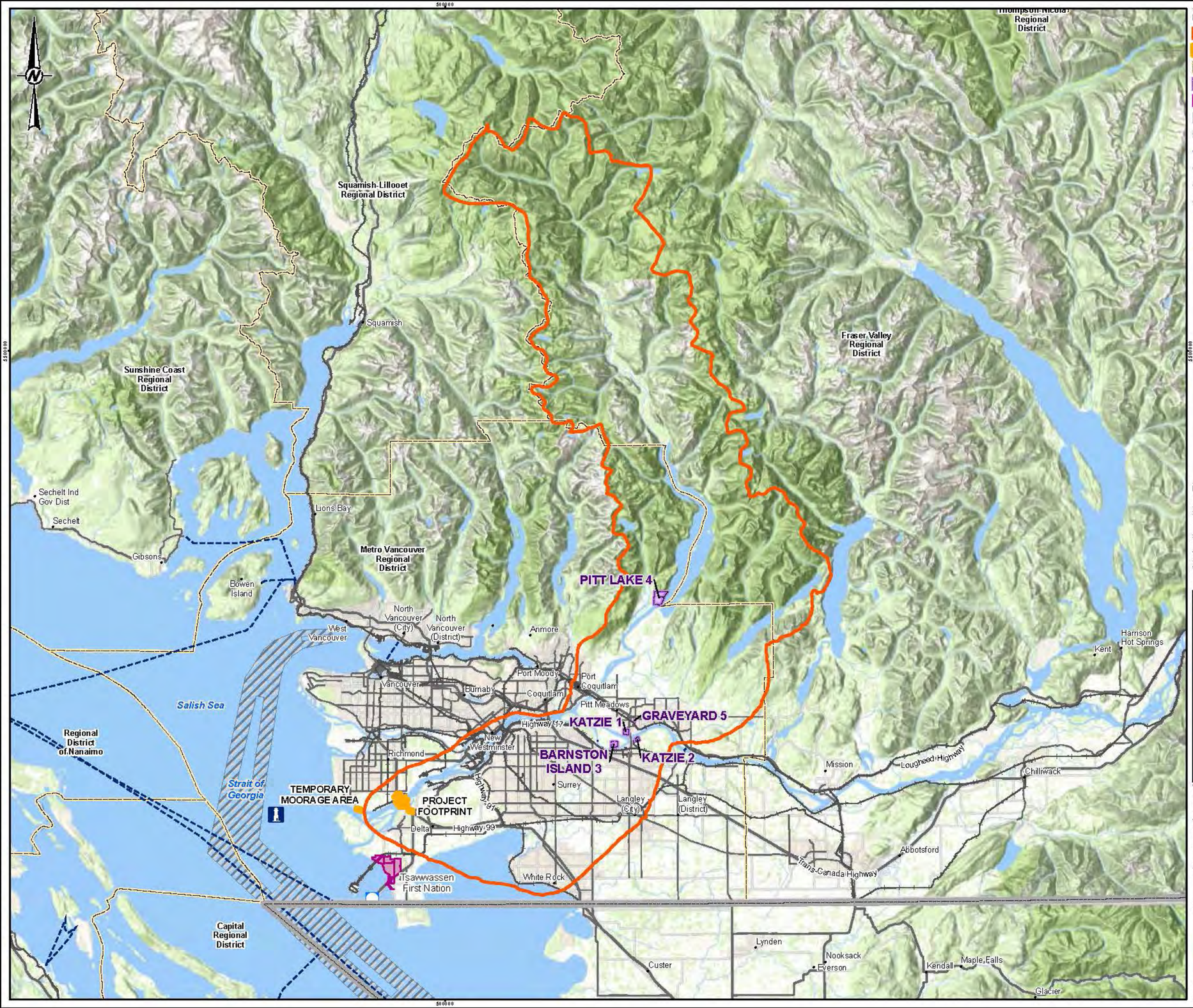
Date	Subject of Engagement	Method of Contact	Summary of Engagement
2021-11-10	Baseline Studies	Virtual Meeting	• The Ministry and Ts'uubaa-asatx Discussed: 1. Kathleen will find out about document to have official Ts'uubaa-asatx name recognized for Invoicing Purposes. 2. Baseline Studies should take Climate Change into consideration. Separate each of the categories under each pillar (Environmental, Economic, Heritage, Social, Health) and describe the connection. 3. Engagement Plan. 4. Kathleen would like Golder Archaeology report from GMTRP.
2021-11-29	Review Request for Draft Project Engagement Plan	Email	• Ministry sent Draft Project Engagement Plan for Ts'uubaa-asatx First Nation review and feedback. • Ministry asked that Ts'uubaa-asatx provide feedback by February January 15, 2022. • Ministry asked to schedule a meeting to go over T'FN perspectives, concerns, or issues. • Ts'uubaa-asatx responded that a meeting was required. • In response, Ministry arranged to meet with Ts'uubaa-asatx (Kathleen Johnnie).
2021-11-29	Capacity Funding Agreements	Virtual Meeting	• Ministry and Ts'uubaa-asatx discussed: 1. Capacity Funding Agreements. 2. EP and IPD. 3. Action Items and Next Steps.
2021-12-03	GMC Engagement Plan	Virtual Meeting	• Ministry and Ts'uubaa-asatx discussed: 1. Final review/comment of GMC Engagement Plan. 2. Finalize Capacity Funding Agreement. 3. Action Items and Next Steps.
2021-12-03	Feedback Request for EP and IPD	Email	• Ministry sent Draft Project Engagement Plan for Ts'uubaa-asatx First Nation review and feedback. • Ministry asked that Ts'uubaa-asatx First Nation provide feedback by February January 15, 2022. • Ministry asked to schedule a meeting to go over T'FN perspectives, concerns, or issues. • Ts'uubaa-asatx responded that a meeting was required. • In response, Ministry arranged to meet with Ts'uubaa-asatx (Kathleen Johnnie).
2022-01-05	Initial Project Description	Virtual Meeting	• Ministry and Ts'uubaa-asatx discussed: 1. EP and IPD. 2. Finalize capacity funding agreement. 3. Action Items and Next Steps.
2022-01-12	Initial Project Description	Virtual Meeting	• Ministry and Ts'uubaa-asatx discussed: 1. EP and IPD. 2. Finalize Capacity Funding Agreement. 3. Action Items and Next Steps.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-01-18	Feedback Request for EP and IPD	Email	• Ministry asked for any further comments/feedback prior to the submission of EP and IPD. Ministry included Ts'uubaa-asatx issues and interests to date. • T'FN response that T'FN protocol is that documents need to be reviewed in meetings.
2022-01-21	Revised Capacity Funding Agreement	Email	• Ministry revised Capacity Funding Agreement and emailed for signature. Ministry asked to schedule meeting to review EP.
2022-02-23	Updated EP and IPD for Review	Email	• Ministry reviewed feedback from T'FN, incorporated changes to EP and IPD where possible. • Updated versions of EP and IPD emailed for review. • Ministry also emailed Table Summarizing Comments. • Ts'uubaa-asatx's comments not included in the tables within IPD and EP - confidential until directed otherwise. Ministry asked if Ts'uubaa-asatx wants a meeting to review updated documents.
2022-02-24	Capacity Funding Agreement	Email	• Ministry sent Capacity Funding Agreement for signature.
2022-02-25	Draft Fish and Fish Habitat Existing Conditions Workplan	Email	• Ministry emailed Draft Fish and Fish Habitat Existing Conditions Workplan and Draft Wildlife and Wildlife Habitat Existing Conditions Workplan for review and comment.
2022-03-04	Virtual Workshop Invite	Email	• Ministry emailed to invite Ts'uubaa-asatx to Virtual Workshop meetings on Fish and Fish Habitat Existing Condition Study Draft Workplan and Wildlife and Wildlife Habitat Existing Condition Study Draft Workplan.
2022-03-09	Monthly Meeting	Virtual Meeting	• Ministry met with T'FN to discuss capacity funding agreement, existing condition studies, initial project description, engagement plan.
2022-03-22	Ts'uubaa-asatx Policies	Virtual Meeting	• Conversation to discuss Ts'uubaa-asatx Policies.
2022-03-24	Existing Conditions Studies Workshop	Virtual Meeting	• Ministry met with T'FN to discuss existing conditions of fish and wildlife.
2022-04-08	Summery Table of Existing Studies Workplans	Email	• Ministry provided Summary Table with details of the Existing Conditions Studies Workplans.
2022-04-12	Capacity Funding Agreement	Email	• Ministry sent Ts'uubaa-asatx Capacity Funding Agreement to be signed.
2022-04-29	Meeting Request	Email	• Ministry and Ts'uubaa-asatx emailed to set up meeting to review documents.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-06-08	Reference Concept Design and Existing Condition Studies.	Email	• Ministry emailed Project update letter, Reference Concept Design and Existing Condition Studies. • Ministry apologized for oversight in not sending documents earlier. • Ministry asked to meet to continue engagement.
2022-06-15	FRTP Reference Concept Design Roll Plot	Site Visit	• Richard Bader, on behalf of Beaudin Bennett, hand delivered a paper copy of the FRTP Reference Concept Design Roll Plot to Kathleen Johnnie while both parties were conducting site visits in the Lower Mainland.
2022-06-18	Site Visit	Email	• Kathleen conducted site visit at Deas Island. Provided notice to MOTI.
2022-06-21	Invite to Indigenous Marine Users Group	Email	• Ministry invited Nations and other groups to upcoming meetings – Indigenous Marine Users Group - to share information and gather input.
2022-06-24	Capacity Funding Agreement Reminder	Email	• Ministry reminded Ts'uubaa-asatx to Sign Capacity Funding Agreement.
2022-06-28	Meeting Adjustment	Email	• Indigenous Marine Users Group meeting rescheduled.
2022-07-07	Meeting Request	Email	• Ministry and Ts'uubaa-asatx emailed to set up meeting. • Ministry included reminder on outstanding Capacity Funding Agreement.
2022-07-07	Meeting Confirmation	Email	• Meeting confirmed.
2022-07-13	Indigenous Marine Users Group	Virtual Meeting	• Ministry held inaugural Indigenous Marine Users Group meeting.
2022-08-03	Visual Quality Assessment Memorandum	Email	• Ministry requested Indigenous Cultural Use and Value of the Visual Landscape for photographic field surveys.
2022-08-10	T'FN-MoTI: Hwy 99 Program Update	Virtual Meeting	• Virtual meeting for FRTP and Steveston Interchange Project.
2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Email to TWN regarding FRTP tunnel referral. Upcoming eDNA survey for Eulachon.
2022-09-09	Eulachon Studies and Fish Habitat Workplan	Email	• Email transmission of Eulachon final report and upcoming existing conditions workplan.
2022-09-14	FRTP - staffing update	Email	• Email regarding meeting logistics and coordination.
2022-09-21	Meeting Invitation	Email	• Invitation to view presentation about proposed construction methodology for the Fraser River Tunnel Project.
2022-09-26	Indigenous Marine Users Group	Email	• Meeting notes and presentation slides provided as follow up to September 15th IMUG.

Date	Subject of Engagement	Method of Contact	Summary of Engagement
2022-09-28	Technical Construction Presentation	Email	• Agenda and slides for upcoming Technical Construction Presentation.
2022-09-29	Technical Construction Presentation	Virtual Meeting	• Ministry provided a Technical Presentation on the construction methodology to get feedback from Nations.
2022-10-03	DPD Review	Virtual Meeting	• Ts'uubaa-asatx provided verbal comments on Detailed Project Description.
2022-10-03	Site visit information	Email	• Email regarding site visit logistics and coordination.
2022-10-12	Valued Component Selection	Email	• Email transmission of VC document for FRTP.

ATTACHMENT 6: MAPS OF THE TERRITORIES AND/OR CONSULTATION AREAS OF THE INDIGENOUS NATIONS



LEGEND

- KATZIE FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
KATZIE FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	1

PATH: Y:\Vancouver\C-60-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\969_PROJECTS\21490984\02_PRODUCTION\MXD\Report\RDP\Fig1_katzie1of2.mxd, FN_01_Katzie_Fig1_katzie1of2.mxd PRINTED ON: 2022-12-21 AT: 10:23:50 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

500000

600000

5500000

Squamish-Lillooet Regional District

Squamish

Sunshine Coast Regional District

Fraser Valley Regional District

Lions Bay

Metro Vancouver Regional District

Gibsons

Bowen Island

North Vancouver (City)

North Vancouver (District)

West Vancouver

Anmore

Port Moody

Port Coquitlam

Vancouver

Burnaby

Coquitlam

Pitt Meadows

Maple Ridge

New Westminster

Highway 1

LANGLEY 2

LANGLEY 5

LANGLEY 4

MCMILLAN ISLAND 6

WHONNOCK 1

LANGLEY 3

PEKW'XE:YLES (PECKQUAYLIS) INDIAN RESERVE

Salish Sea

Regional District of Nanaimo

Richmond

Highway 91

Surrey

Strait of Georgia

TEMPORARY MOORAGE AREA

PROJECT FOOTPRINT

Langley (City)

Langley (District)

Delta

Highway 99

Tsawwassen First Nation

White Rock

Capital Regional District

Lynden

Nooksack

Everson

Custer

Kendall

Maple Falls

Glacier

Abbotsford

Trans-Canada Highway

Chilliwack

Kent

Harrison Hot Springs

Lougheed Highway

Campbell River

Courtenay

Port Alberni

Nanaimo

Duncan

Victoria

Whistler

Merritt

Richmond

Abbotsford

Vancouver

Stanley Park

Provincial Park

Strathcona Provincial Park

Garibaldi Provincial Park

San Juan Islands National Monument

Mt Baker National Forest

North Cascades National Park

Okanagan National Forest

LEGEND

- KWANTLEN FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07

CLIENT

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT

FRASER RIVER TUNNEL PROJECT

TITLE

KWANTLEN FIRST NATION

CONSULTANT

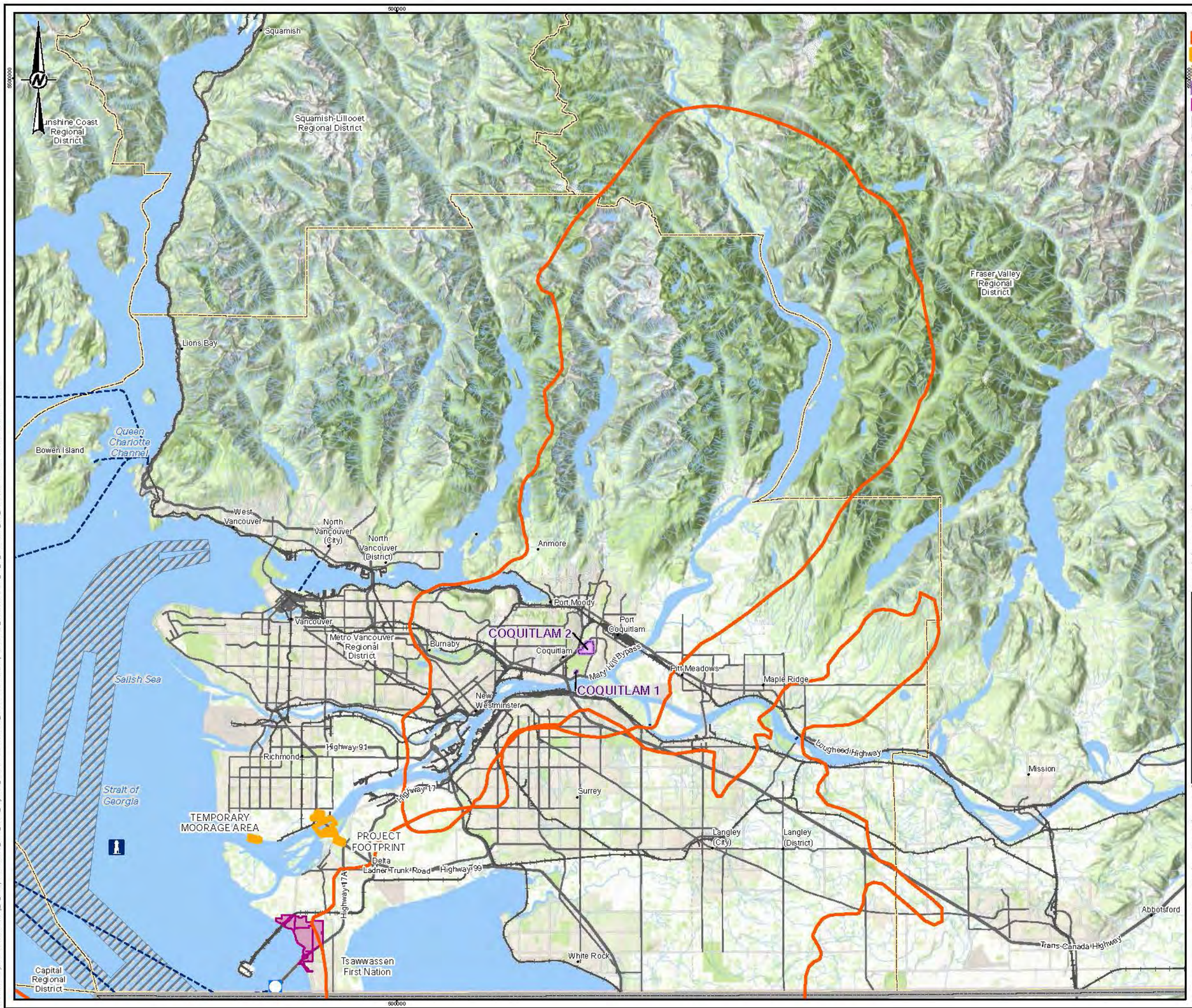
GOLDER MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\Burnaby\JC-ADGIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Deposit\DPD\Fraser_Restored\21490984_FN_02_Kwantlen_First_Nation.mxd PRINTED ON: 2022-12-21 AT 10:39:40 AM



LEGEND

- KWIKWETLEM FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 6 12

1:300,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
KWIKWETLEM FIRST NATION

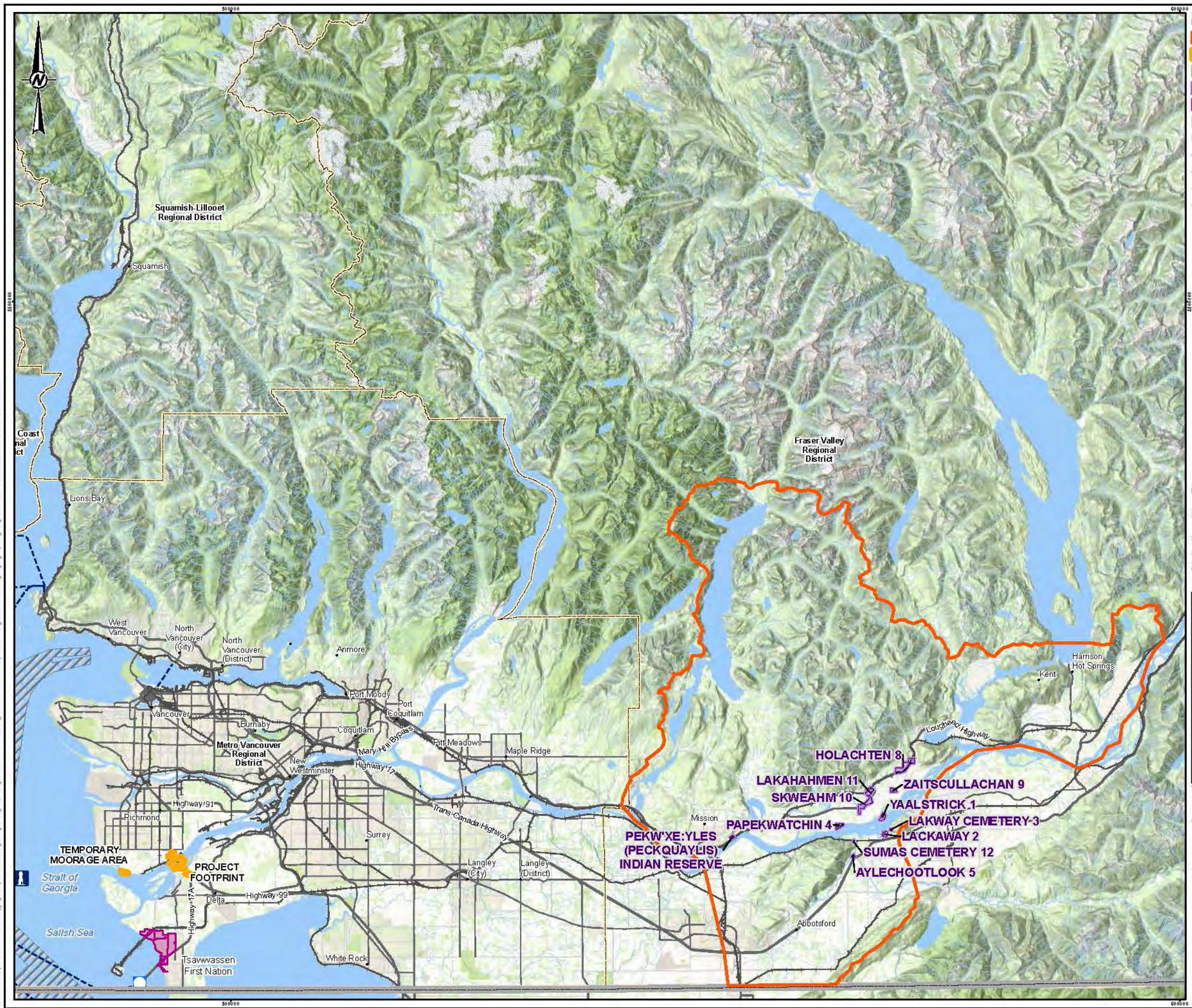
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\Burnaby\CAD\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\First_Nations\21490984_FN_03_Kwikwetlem_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:20:30 AM



LEGEND

- LEQ'Á:MEL FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 8 16

1:400,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
LEQ'Á:MEL FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\01-Projects\C-AD-0-BSC\Active\Fraser_River_Tunnel_Project\09_PROJECTS\21490984.02_PRODUCTION\MXD\ProjectMaps\2022\Q4\2022-12-21_FN_01_LeqamelFirstNation.mxd PRINTED ON: 2022-12-21 AT: 10:31:22 AM

500000

5500000

Squamish
Squamish-Lillooet Regional District
Sunshine Coast Regional District
Lions Bay
Bowen Island
West Vancouver
North Vancouver (City)
North Vancouver (District)
Anmore
Port Moody
Port Coquitlam
Vancouver
Burnaby
Coquitlam
Mary Hill Bypass
Pitt Meadows
Maple Ridge
New Westminster
Highway 17
Salish Sea
Metro Vancouver Regional District
Highway 91
Richmond
Surrey
Strait of Georgia
TEMPORARY MOORAGE AREA
PROJECT FOOTPRINT
Delta
Highway 99
Highway 17A
Tsawwassen First Nation
White Rock
Capital Regional District
Langley (City)
Langley (District)
PEKW'XE:YLES (PECKQUAYLIS) INDIAN RESERVE
THREE ISLANDS 3
MATSQUI MAIN 2
SAHHACUM 1
MATSQUI 4
Abbotsford
Trans-Canada Highway
Fraser Valley Regional District
Harrison Hot Springs
Kent
Lougheed Highway
Chilliwack
Highway 9

500000

LEGEND

- MATSQUI FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 8 16
1:400,000 KILOMETRES

REFERENCE(S)
1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.
COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
MATSQUI FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\burnaby\ACAD\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\TM141499\402_PRODUCTION\MXD\Report\DFO\First_Nations\21490984_FN_DFO_Matsqui_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:32:10 AM

500000

590000

580000

Squamish-Lillooet Regional District

Squamish

Sunshine Coast Regional District

Fraser Valley Regional District

Lions Bay

Gibsons

Bowen Island

North Vancouver (City)

North Vancouver (District)

West Vancouver

Anmore

Port Moody

Vancouver

Burnaby

Fort Coquitlam

Coquitlam

Pitt Meadows

Maple Ridge

Mary Hill Bypass

Highway 17

New Westminster

Trans-Canada Highway

Salish Sea

MUSQUEAM 2

SEA ISLAND 3

Strait of Georgia

Regional District of Nanaimo

Highway 91

Richmond

Metro Vancouver Regional District

Surrey

Mission

Lougheed Highway

TEMPORARY MOORAGE AREA

PROJECT FOOTPRINT

Langley (City)

Langley (District)

Delta

Highway 99

MUSQUEAM 4

Abbotsford

Tsawwassen First Nation

White Rock

Capital Regional District

500000

LEGEND

- MUSQUEAM INDIAN BAND
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 8 16

1:400,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT

FRASER RIVER TUNNEL PROJECT

TITLE

MUSQUEAM INDIAN BAND

CONSULTANT

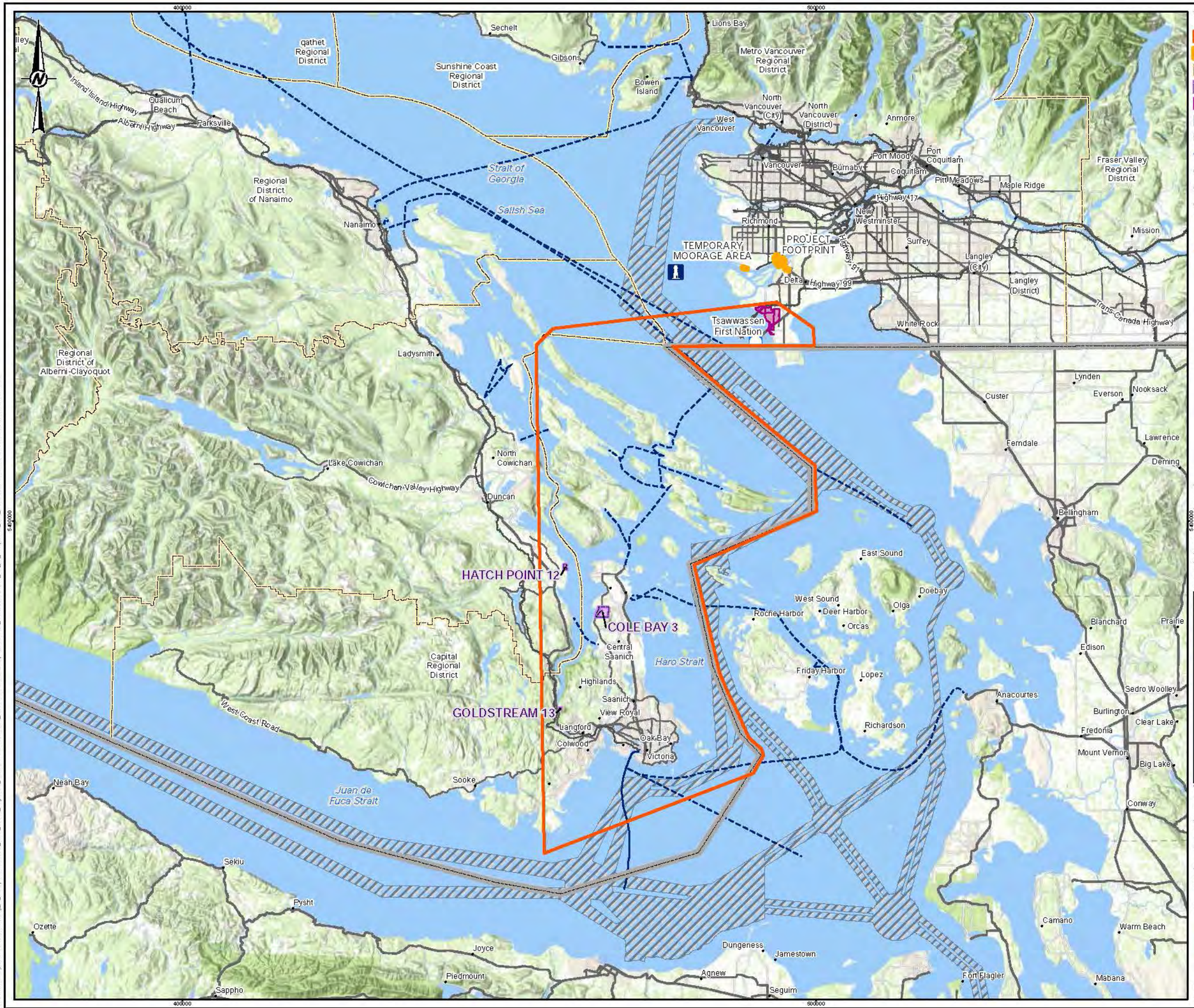
GOLDER MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\Journals\KJ\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\Plot_Realized\21490984_PN_05_Musqueam_Indian_Band.mxd PRINTED ON 2022-12-21 AT: 10:33:00 AM



LEGEND

- PAUQUACHIN FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 12 24

1:600,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE.
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT

FRASER RIVER TUNNEL PROJECT

TITLE

PAUQUACHIN FIRST NATION

CONSULTANT

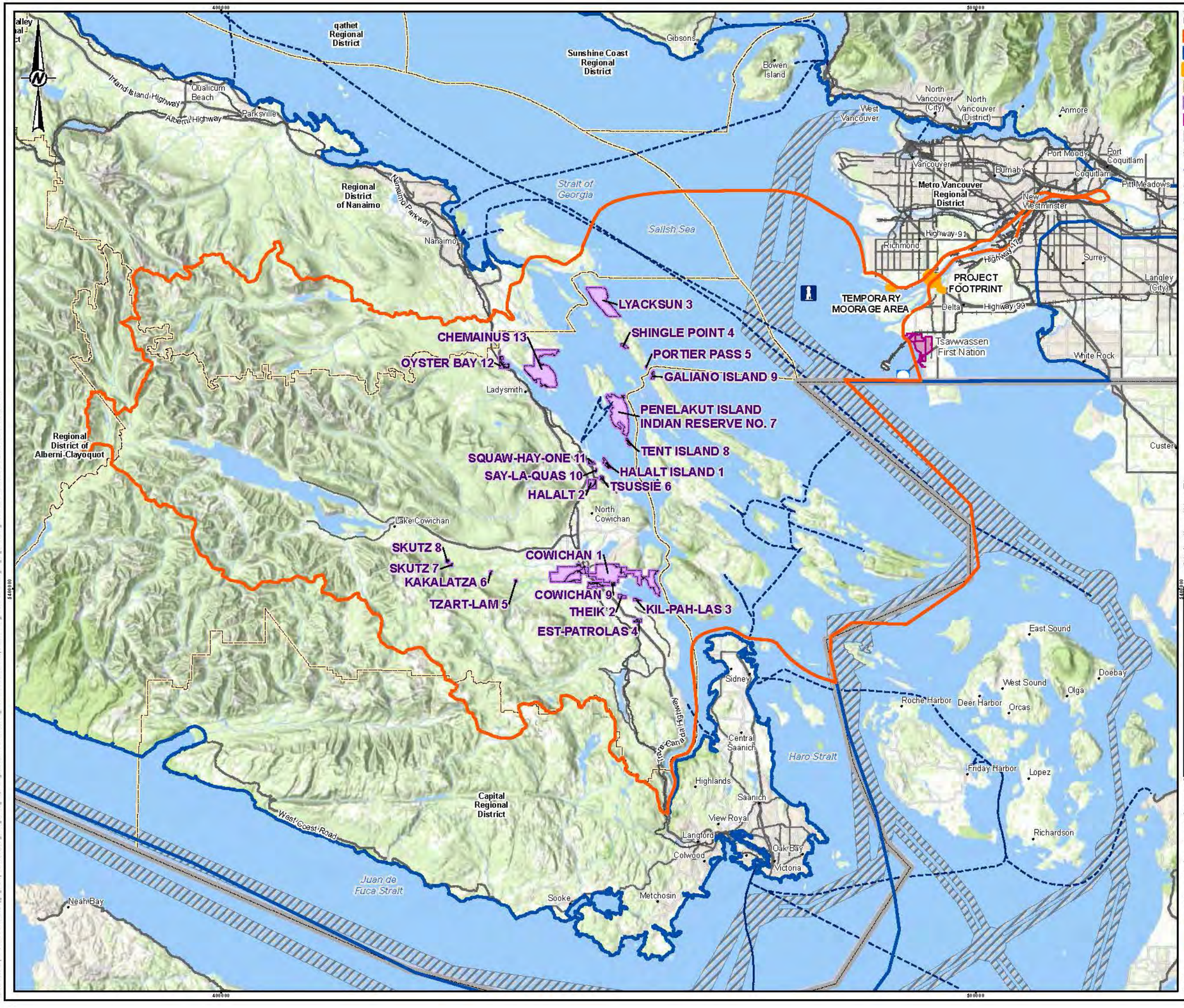
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\burnab\JOBS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\TSP\21490984\02_PRODUCTION\MXD\Report\DPD\Rpt_Nations\21490984_FN_07_Pauquachin_Rpt_Nation.mxd PRINTED ON 2022-12-21 AT 10:33:54 AM



LEGEND

- QUW'UTSUN NATION - CORE TERRITORY
- QUW'UTSUN NATION - MARINE TERRITORY
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20
1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
QUW'UTSUN NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\Golder\CAD-GIS\Client\Mining\Fraser River Tunnel Project\Projects\PROJECTS\21490984\02_PRODUCTION\MXD\ExportMXD\FRT_Map_Template_21490984_FN_QUWUTSUN.mxd PRINTED ON: 2022-12-21 AT: 10:36:21 AM

LEGEND

- QUW'UTSUN NATION - CORE TERRITORY
- QUW'UTSUN NATION - MARINE TERRITORY
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07

CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
COWICHAN TRIBES

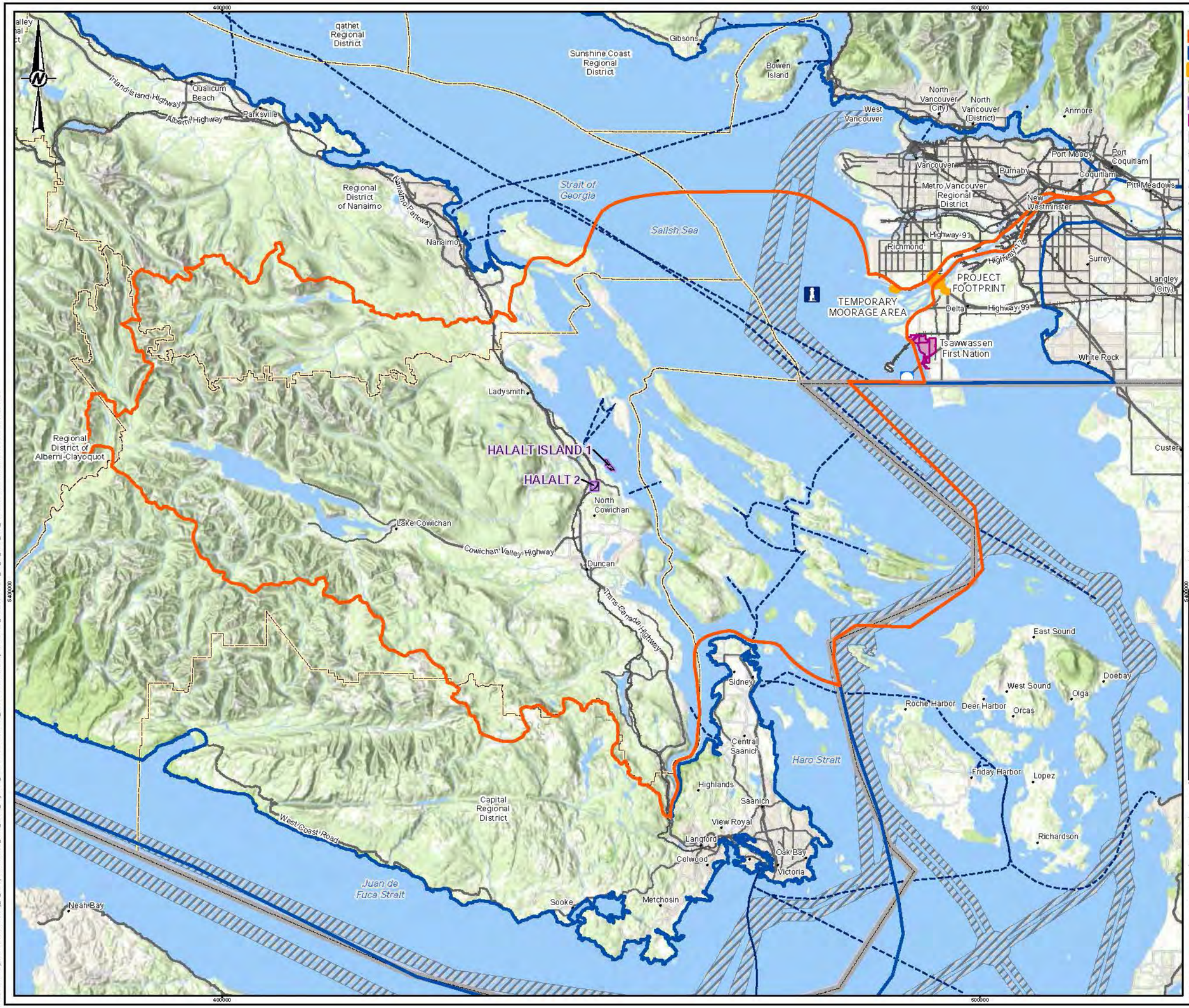
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: V:\Vantage\PC-All\GIS\Cartography_01_Transportation\Fraser_River_Tunnel_Project\09_PROJECTS\21490984\02_PRODUCTION\MXD\Report\21490984_FN_09_Coastsa_Tribes.mxd PRINTED ON: 2022-12-21 AT: 10:39:22 AM



LEGEND

- HALALT FIRST NATION - CORE TERRITORY
- HALALT FIRST NATION - MARINE TERRITORY
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20
1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
HALALT FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	10

PATH: Y:\burnab\VC-ADG\STC\Clerk\Working_ot_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\Fnet_Halalt_First_Nation.mxd PRINTED ON: 2022-12-21 AT 10:42:16 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

LEGEND

- LYACKSON FIRST NATION - CORE TERRITORY
- LYACKSON FIRST NATION - MARINE TERRITORY
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07

CLIENT

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT

FRASER RIVER TUNNEL PROJECT

TITLE

LYACKSON FIRST NATION

CONSULTANT

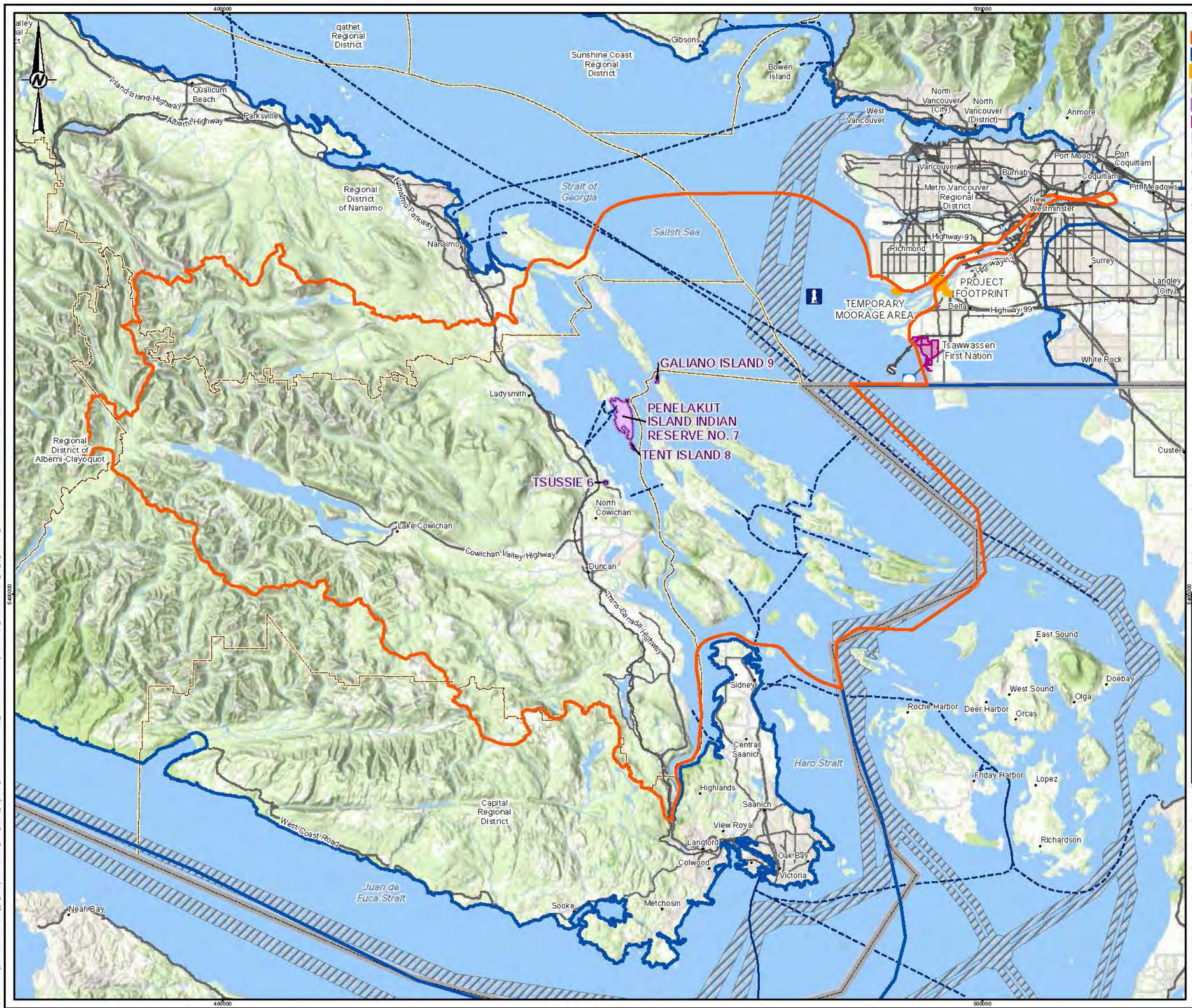
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\Journals\YCAD\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\DReport\DPD\First_Nations\21490984_FN_11_Lyackson_First_Nation.mxd PRINTED ON: 2022-12-21 AT 10:45:07 AM



REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA
Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
PENELAKUT TRIBE

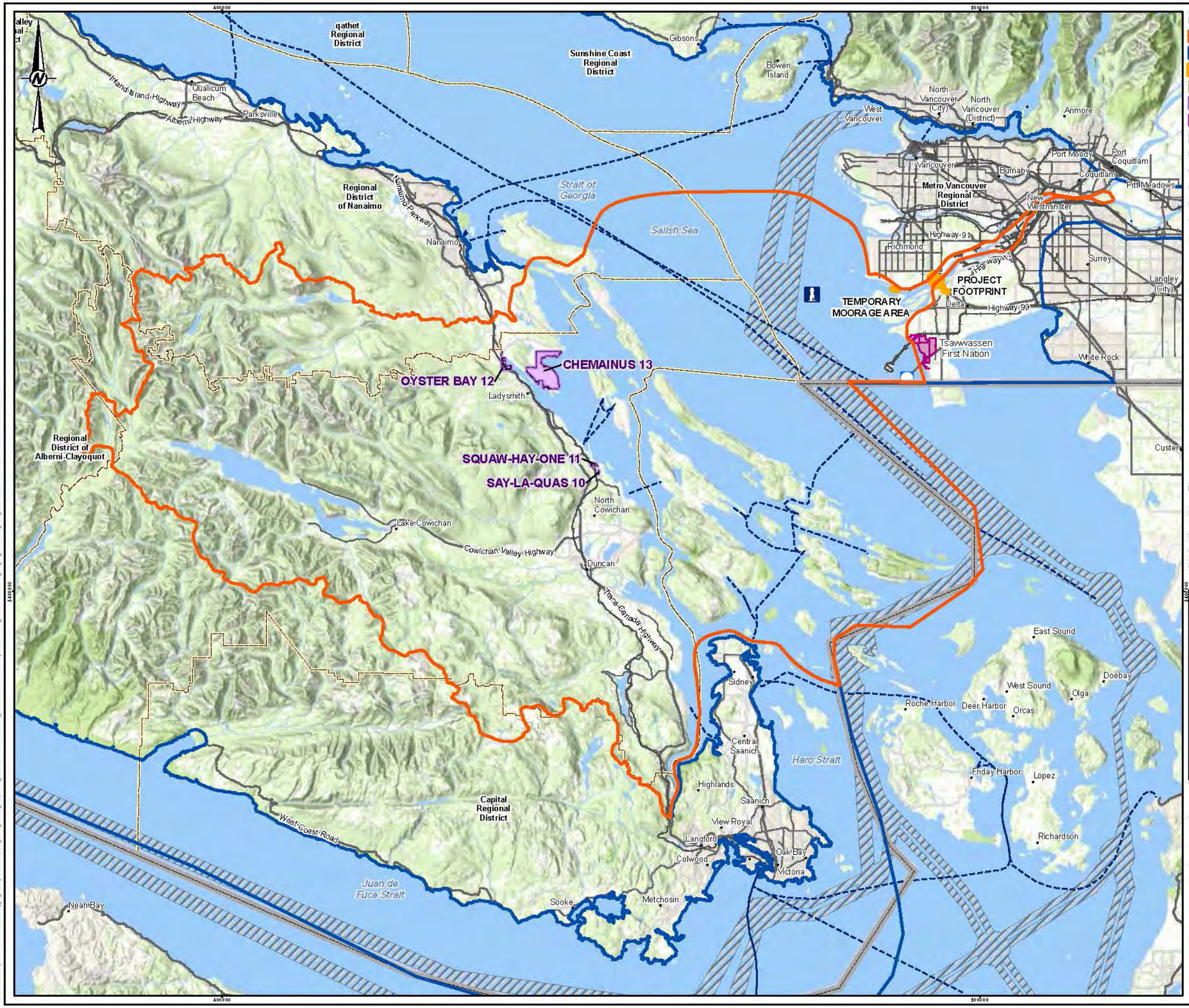
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnab\VC-ADGIS\Clients\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Deposit\DPD\Fraser_Tunnel_Penelakut_Tribe.mxd PRINTEDON: 2022-12-21 AT: 10:47:56 AM



REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92J/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
STZ'UMINUS FIRST NATION

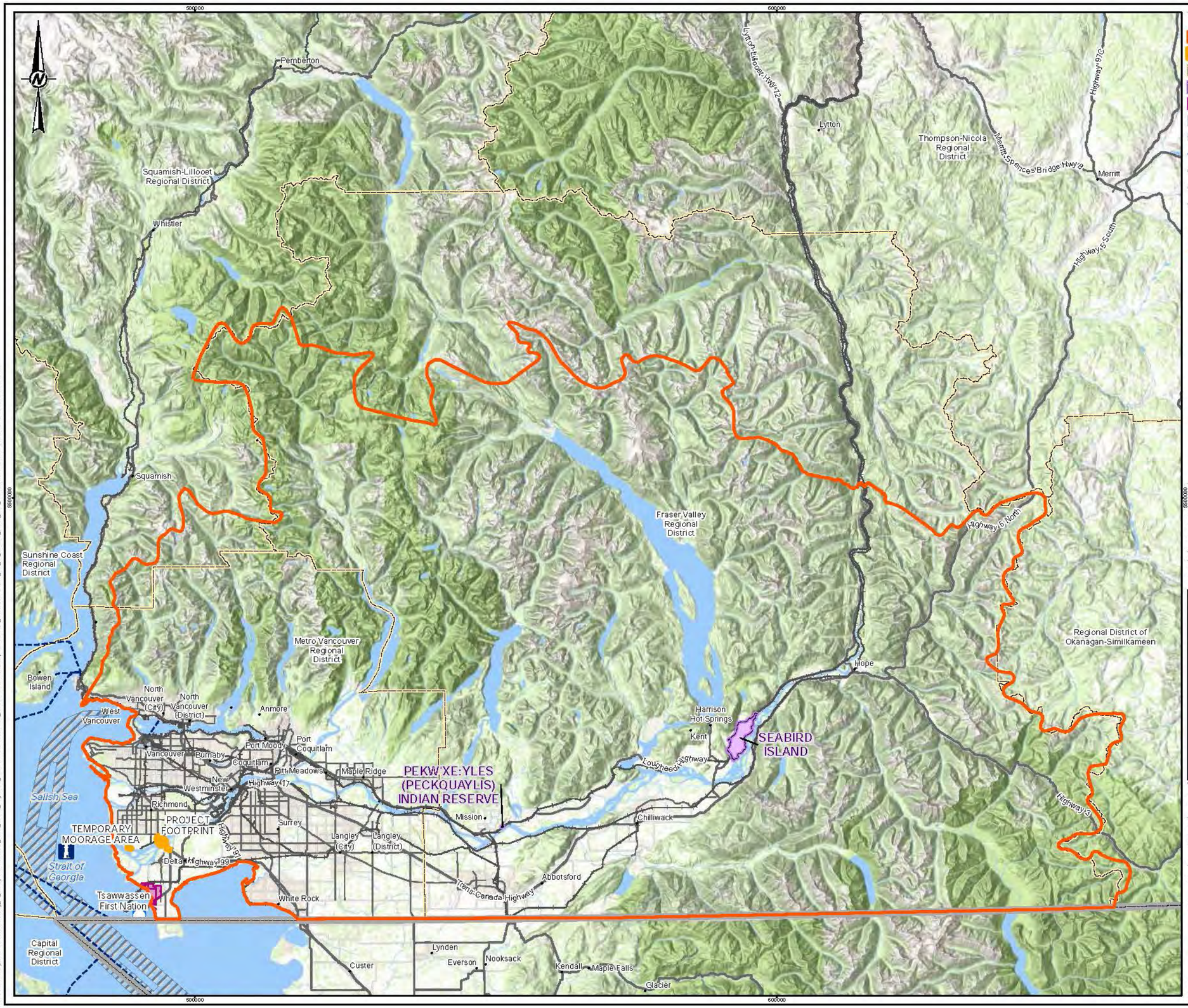
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\01-Data\CAD-GIS\Cartography_of_Transportation\Fraser_River_Tunnel_Project\09_PRODUCTION\MXD\PDF\Fig_13_Stzuminus_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:58:51 AM



REFERENCE(S)
1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OBTAINED FROM THE STATE OF WASHINGTON.
COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
SEABIRD ISLAND FIRST NATION

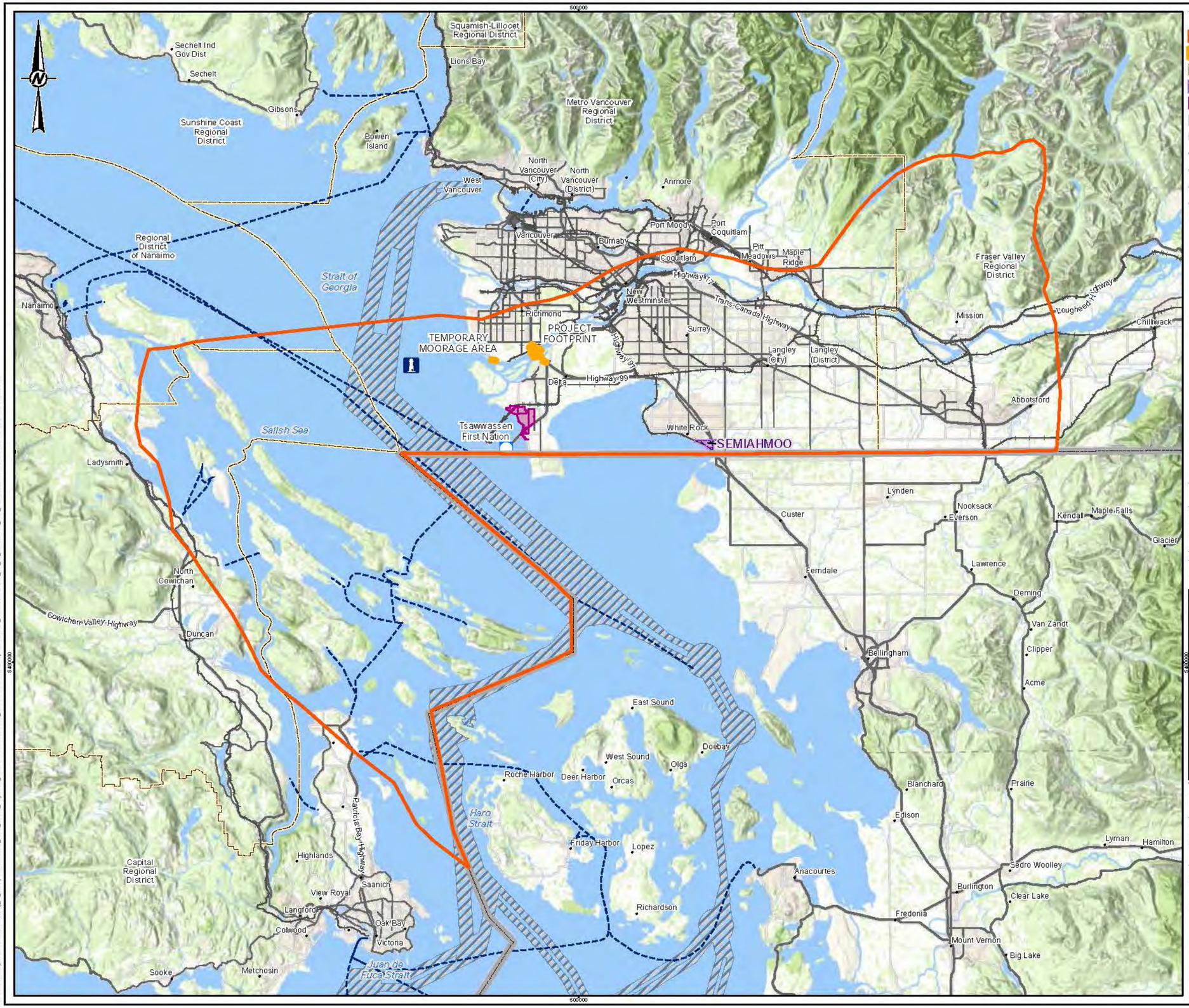
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\Journals\KJ\ALG\SC\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\DRs\port\DPD\Fist_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:55:10 AM



LEGEND

- SEMIAHMOO FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
SEMIAHMOO FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\Burnaby\JOB\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPO\Post_Mailout\21490984_FN_15_SemiahmooFirst_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:55:59 AM

500000 600000

Pemberton
Squamish-Lillooet Regional District
Whistler
Squamish
Sunshine Coast Regional District
Capital Regional District
Metro Vancouver Regional District
Fraser Valley Regional District
Thompson-Nicola Regional District
Regional District of Okanagan-Similkameen
Lytton
Lytton-Lillooet Hwy 12
Highway 97C
Merritt-Spences Bridge Hwy 8
Merritt
Highway 5 South
Highway 5 North
Hope
Kent
Harrison Hot Springs
Mission
Chilliwack
Abbotsford
Langley (City)
Langley (District)
Surrey
White Rock
Delta
Richmond
New Westminster
Burnaby
Vancouver
North Vancouver (City)
North Vancouver (District)
West Vancouver
Anmore
Port Moody
Port Coquitlam
Coquitlam
Pitt Meadows
Maple Ridge
Bowen Island
Salish Sea
Strait of Georgia
Highway 17
Highway 91
Highway 99
Trans-Canada Highway
Loughheed Highway
Highway 3
Lynden
Everson
Nooksack
Kendall
Maple Falls
Glacier
Custer
Tsawwassen First Nation
KUTHLALTH 3
WAHLEACH ISLAND 2
OHAMIL 1
PEKW'XE:YLES (PECKQUAYLIS) INDIAN RESERVE
PROJECT FOOTPRINT
TEMPORARY MOORAGE AREA

LEGEND

- SHXW'ŌWHÁMÉL FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 13 26
1:650,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
SHXW'ŌWHÁMÉL FIRST NATION

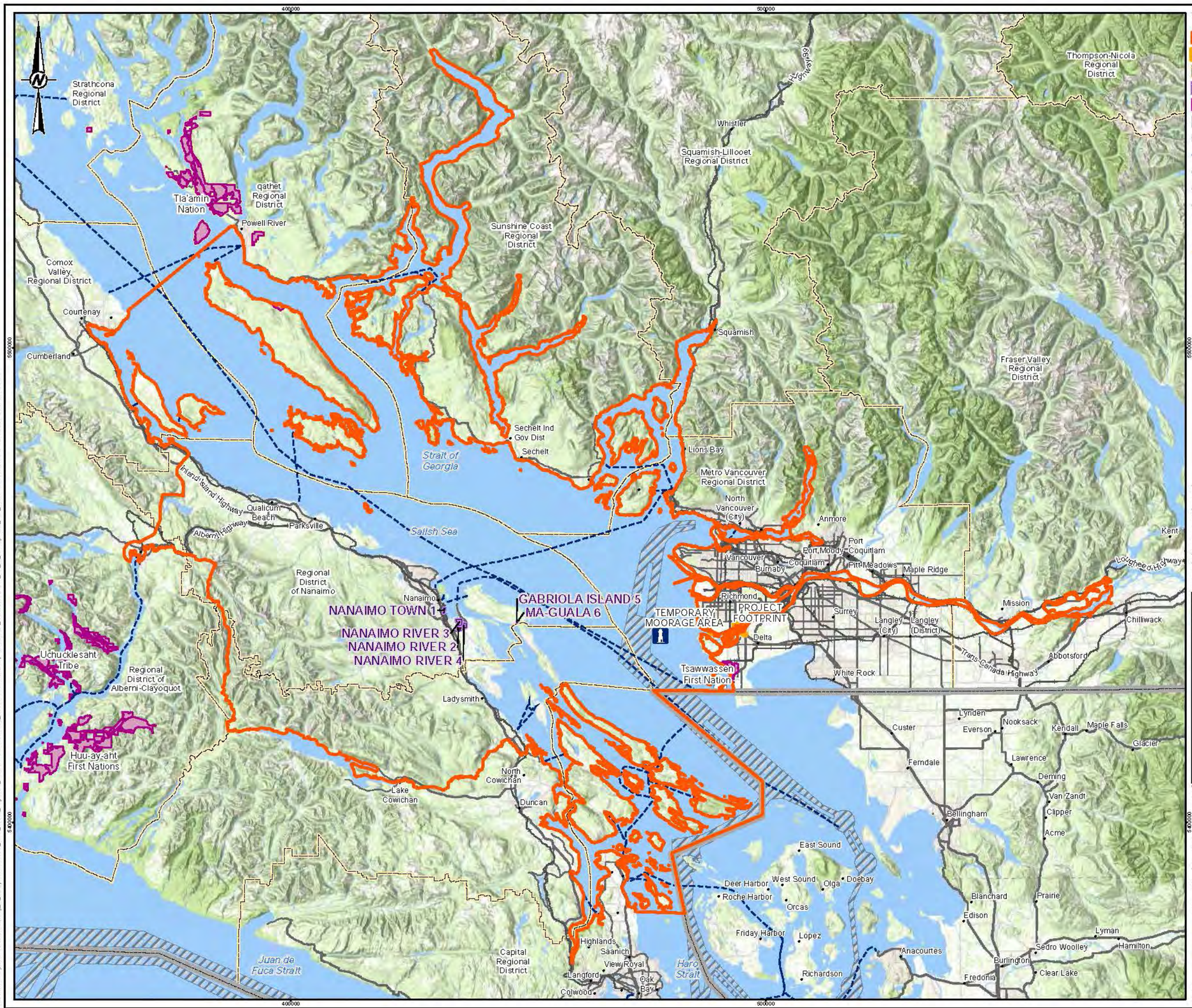
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	16

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\Burnaby\CAD-GIS\Client Data\By_Org\Transportation\Fraser_River_Tunnel_Project\GIS\Projects\PROJECTS\21490984\02_PRODUCTION\MXD\Report\RPT\Part_Nation\21490984_FN_16_SHXWOWHAMEL_FirstNation.mxd PRINTED ON: 2022-12-21 AT: 10:57:30 AM



LEGEND

- SNUNEYMUXW FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 16 32

1:800,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
SNUNEYMUXW FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnaby\ACAD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DFO\First_Nations\21490984_FN_17_Snuneymuxw_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 10:57:51 AM

500000

600000

Pemberton

Squamish-Lillooet Regional District

Whistler

Squamish

Sunshine Coast Regional District

Bowen Island

Capital Regional District

Lytton-Lillooet Hwy 12

Lytton

Thompson-Nicola Regional District

Merritt-Spences Bridge Hwy 8

Merritt

Highway 97C

Highway 5 South

Fraser Valley Regional District

Metro Vancouver Regional District

Regional District of Okanagan-Similkameen

Highway 5 North

Highway 3

North Vancouver (City)

North Vancouver (District)

West Vancouver

Anmore

Port Moody

Port Coquitlam

Vancouver

Burnaby

Coquitlam

Pitt Meadows

Maple Ridge

New Westminster

Richmond

Surrey

Langley (City)

Langley (District)

Delta

Mission

Abbotsford

White Rock

Tsawwassen First Nation

Harrison Hot Springs

Kent

Lynden

Everson

Nooksack

Custer

Kendall

Maple Falls

Glacier

Salish Sea

Strait of Georgia

Trans-Canada Highway

Highway 17

Highway 91

Highway 99

PROJECT FOOTPRINT

TEMPORARY MOORAGE AREA

FOUR AND ONE HALF MILE 2

YALE 24

YALE 25

YALE 23

YALE 22

YALE 20

YALE 21

YALE 19

KUTHLALTH 3

YALE TOWN 1

QUALARK 4

YALE 18

ALBERT FLAT 5

SQUEAH 6

KAYKAIP 7

STULLAWHEETS 8

SCHKAM 2

TUNNEL 6

CHAWATHIL 4

HOPE 1

SKAWAHLOOK

RUBY CREEK 2

GREENWOOD ISLAND 3

WAHLEACH ISLAND 2

LUKSEETSISSUM 9

OHAMIL 1

SEABIRD ISLAND

SCOWLITZ 1

WILLIAMS 2

SQUAWKUM CREEK 3

SKWALI 3

SKUMALASPH 16

TSEATAH 2

CHEAM 1

SKWAY 5

SCHELOWAT 1

KWAWKWAWAPILT 6

SKWAHLA 2

SQUIAALA 8

GRASS 15

PEKW'XE:YLES (PECKQUAYLIS) INDIAN RESERVE

AITCHELITCH 9

SKWAH 4

SQUIAALA 7

YAKWEAKWIOOSE 12

SKOWKALE 11

SKOWKALE 10

TZEACHTEN 13

SOOWAHLIE 14

UPPER SUMAS 6

LEGEND

- S'OLH TEMEXW STEWARDSHIP
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 13 26

1:650,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA-USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT

MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT

FRASER RIVER TUNNEL PROJECT

TITLE

S'OLH TEMEXW STEWARDSHIP ALLIANCE

CONSULTANT

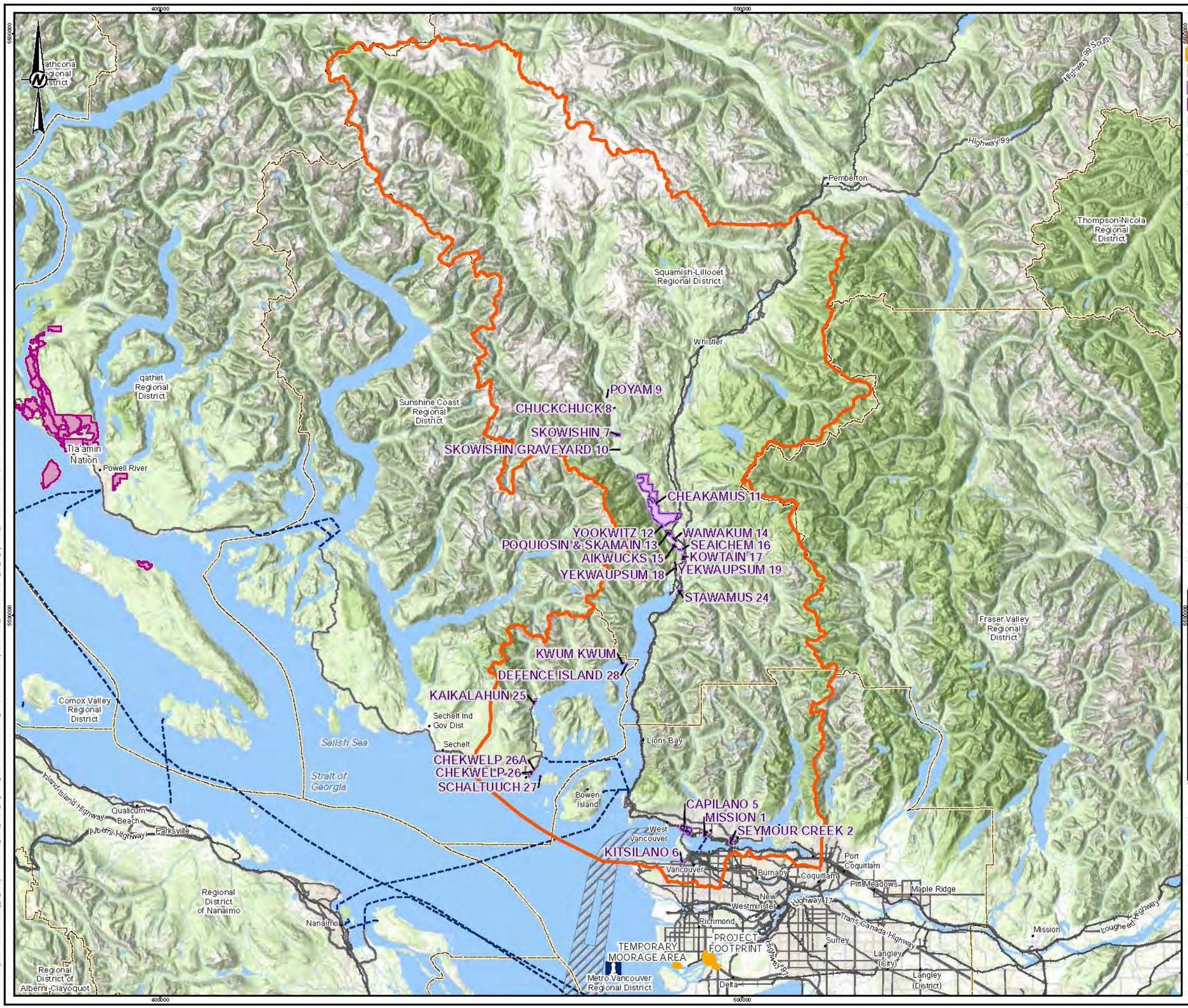
GOLDER MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\Vancouver\CAD-GIS\Active\Projects\Fraser_River_Tunnel_Project\09_Figures\Report\RPT\Fig_18_Soils_Traverse_Steward\Fig_18_Soils_Traverse_Steward.mxd PRINTED ON: 2022-12-21 AT: 10:59:39 AM



LEGEND

- SQUAMISH NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 13 26

1:650,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
SQUAMISH NATION

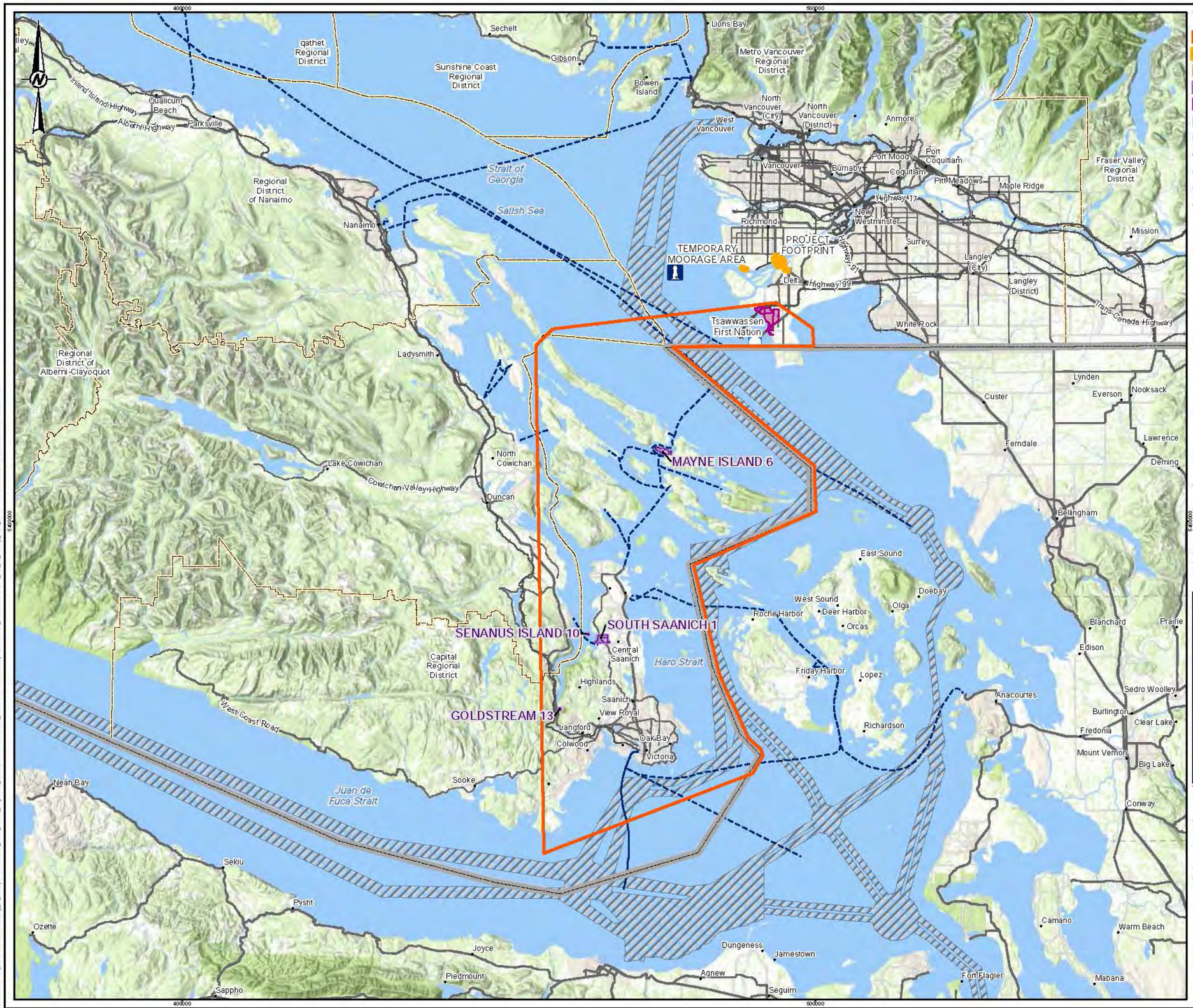
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	19

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\Burnaby\JOB\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\21490984\02_PRODUCTION\MXD\DReport\DPCR\Rpt_Nation\rd21490984_FN_19_2qsquish_Nation.mxd PRINTED ON: 2022-12-21 AT 11:00:29 AM



LEGEND

- TSARTLIP FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 12 24

1:600,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE.
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N

NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TSARTLIP FIRST NATION

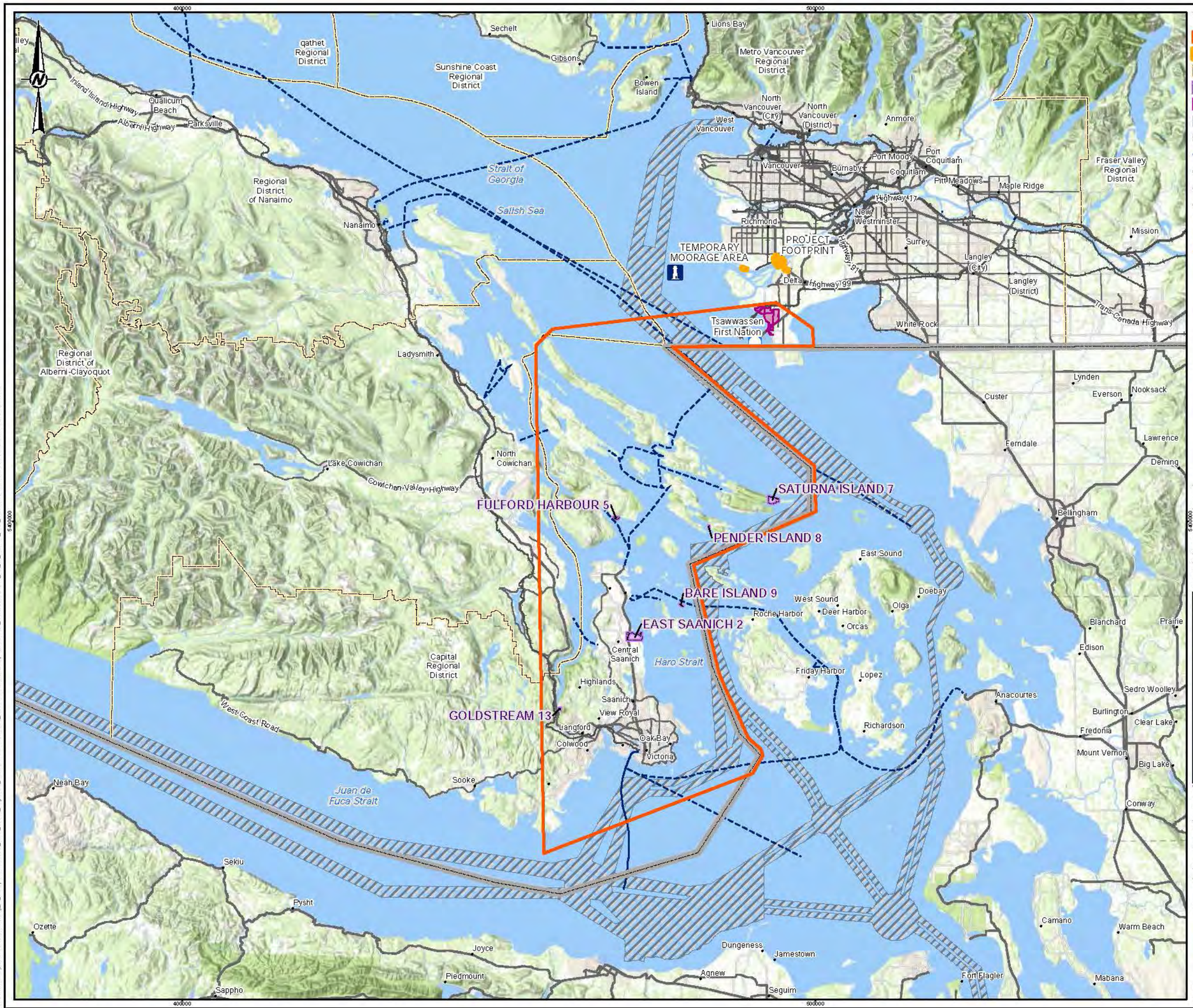
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	20

PATH: Y:\burnab\JC\DLG\EC\ClientMinistry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\TSY21490984\02_PRODUCTION\MXD\Report\DPD\First_Nations\21490984_FN_20_Tsartlip_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 11:01:19 AM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



LEGEND

- TSAWOUT FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE.
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA — Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TSAWOUT FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\burnab\JOBS\EC\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\TSY21490984\02_PRODUCTION\MXD\Report\DPD\Rpt_Nations\21490984_FR_21_Tsawout_Fir

500000

5500000

5400000

Squamish

Squamish-Lillooet Regional District

Sunshine Coast Regional District

Sechelt Ind Gov Dist

Sechelt

Gibsons

Lions Bay

Metro Vancouver Regional District

Bowen Island

Fraser Valley Regional District

North Vancouver (City)

North Vancouver (District)

West Vancouver

Anmore

Port Moody

Port Coquitlam

Vancouver

Burnaby

Coquitlam

Pitt Meadows

Maple Ridge

New Westminster

Regional District of Nanaimo

Nanaimo Parkway

Strait of Georgia

Salish Sea

Highway 91

Richmond

TEMPORARY MOORAGE AREA

PROJECT FOOTPRINT

Surrey

Langley (City)

Langley (District)

Delta

Highway 99

Tsawwassen First Nation

Mission

Chilliwack

Trans-Canada Highway

Abbotsford

Ladysmith

Lynden

Custer

Everson

Nooksack

Kendall

Maple Falls

Glacier

Ferndale

Lawrence

Deming

Van Zandt

Clipper

Acme

Bellingham

North Cowichan

Capital Regional District

Cowichan Valley Highway

Duncan

East Sound

Haro Strait

Sidney

Roche Harbor

Deer Harbor

West Sound

Orcas

Olga

Doebay

Blanchard

Prairie

600000

LEGEND

- TSAWWASSEN FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TSAWWASSEN FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

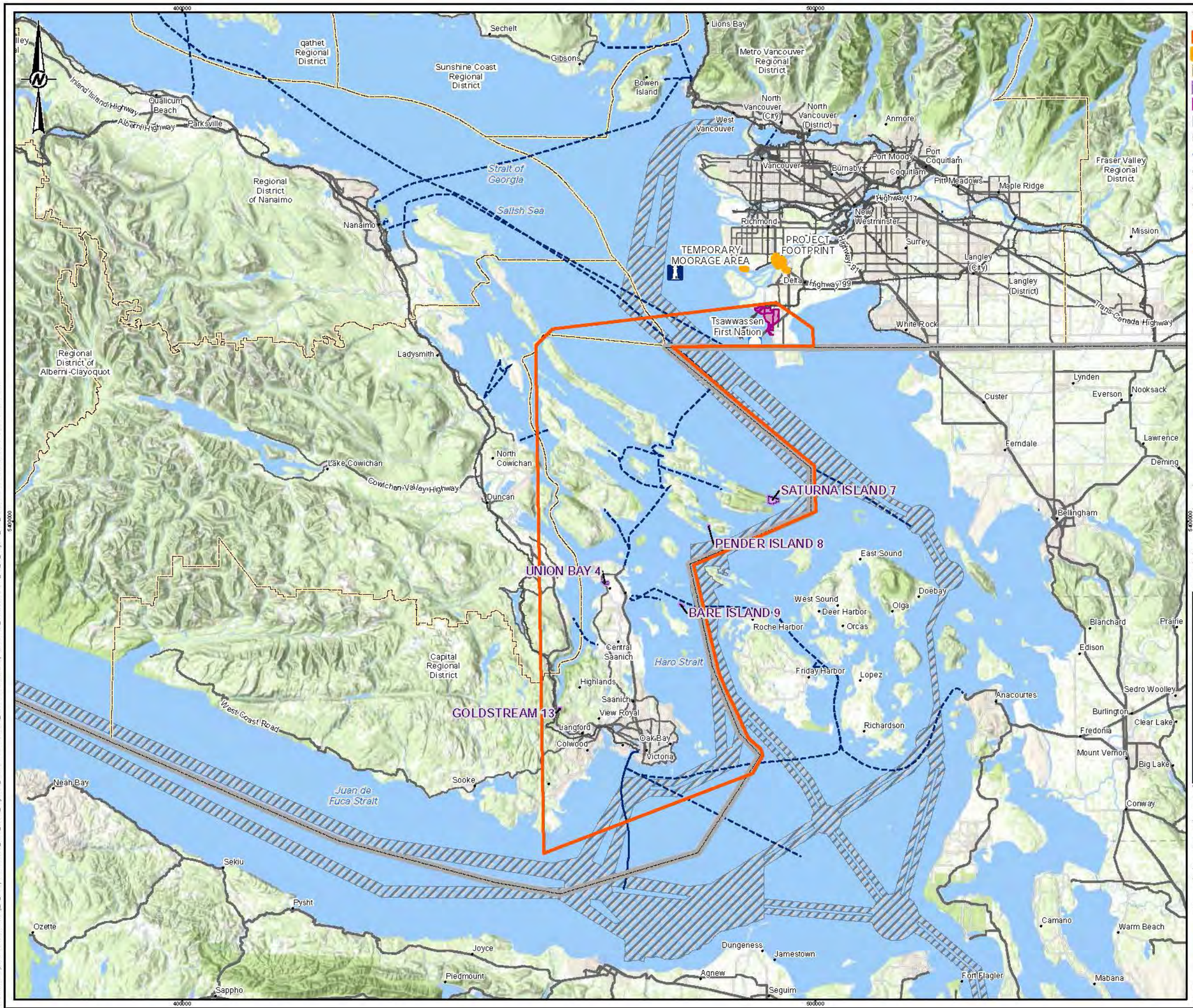
YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	22

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: Y:\burnab\JC\AD-GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\Fraser_Tsawwassen_First_Nation.mxd PRINTEDON: 2022-12-21 AT: 11:06:06 AM



LEGEND

- TSEYCUM FIRST NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 12 24

1:600,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TSEYCUM FIRST NATION

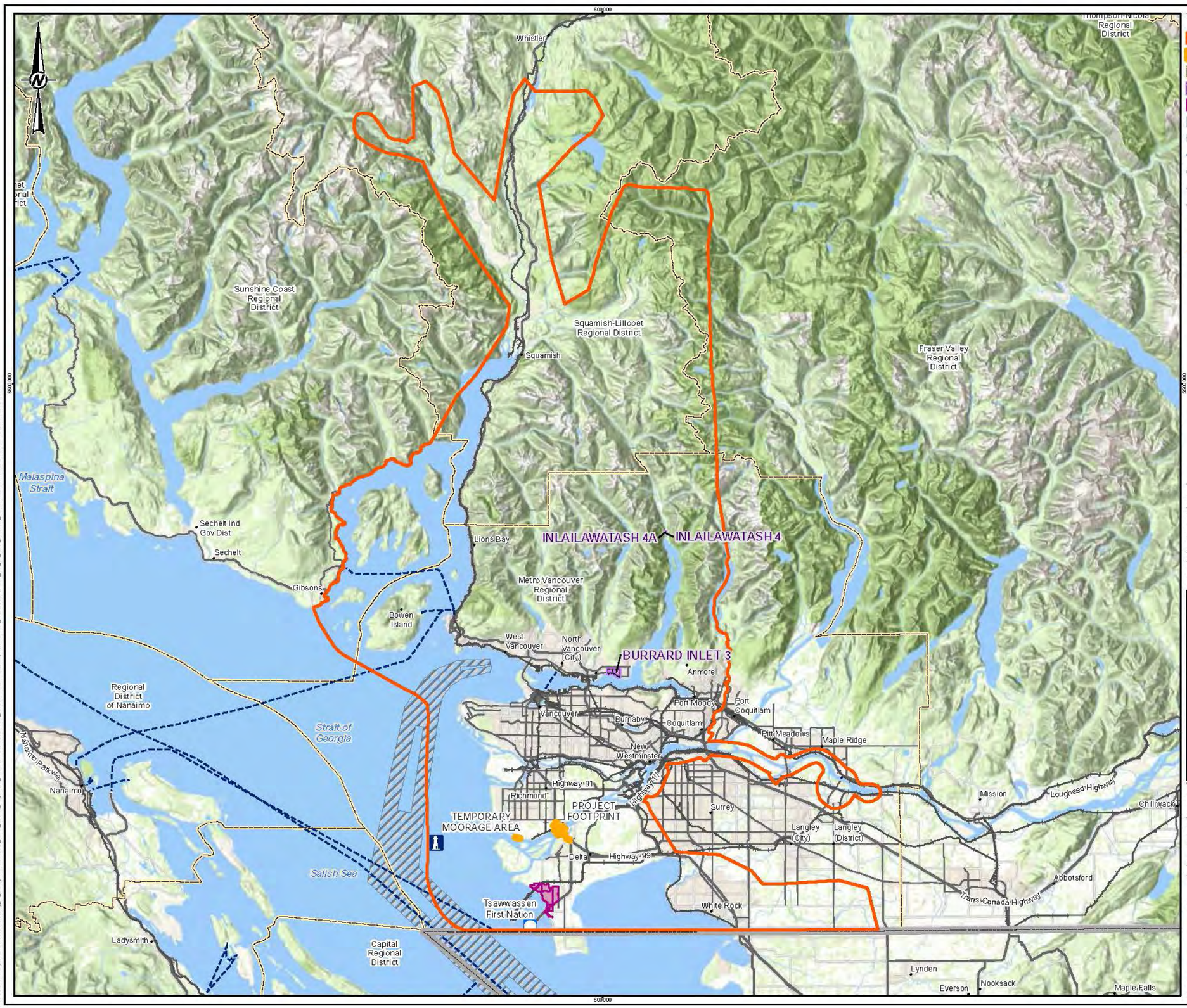
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	23

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: Y:\burnab\JOBS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECT\21490984\02_PRODUCTION\MXD\Report\DPD\First_Nations\21490984_FN_23_Tseycum_First_Nation.mxd PRINTED ON: 2022-12-21 at 11:05:57 AM



LEGEND

- TSLEIL-WAUTUTH NATION
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 13 26

1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA - USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC © DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BRITISH COLUMBIA Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TSLEIL-WAUTUTH NATION

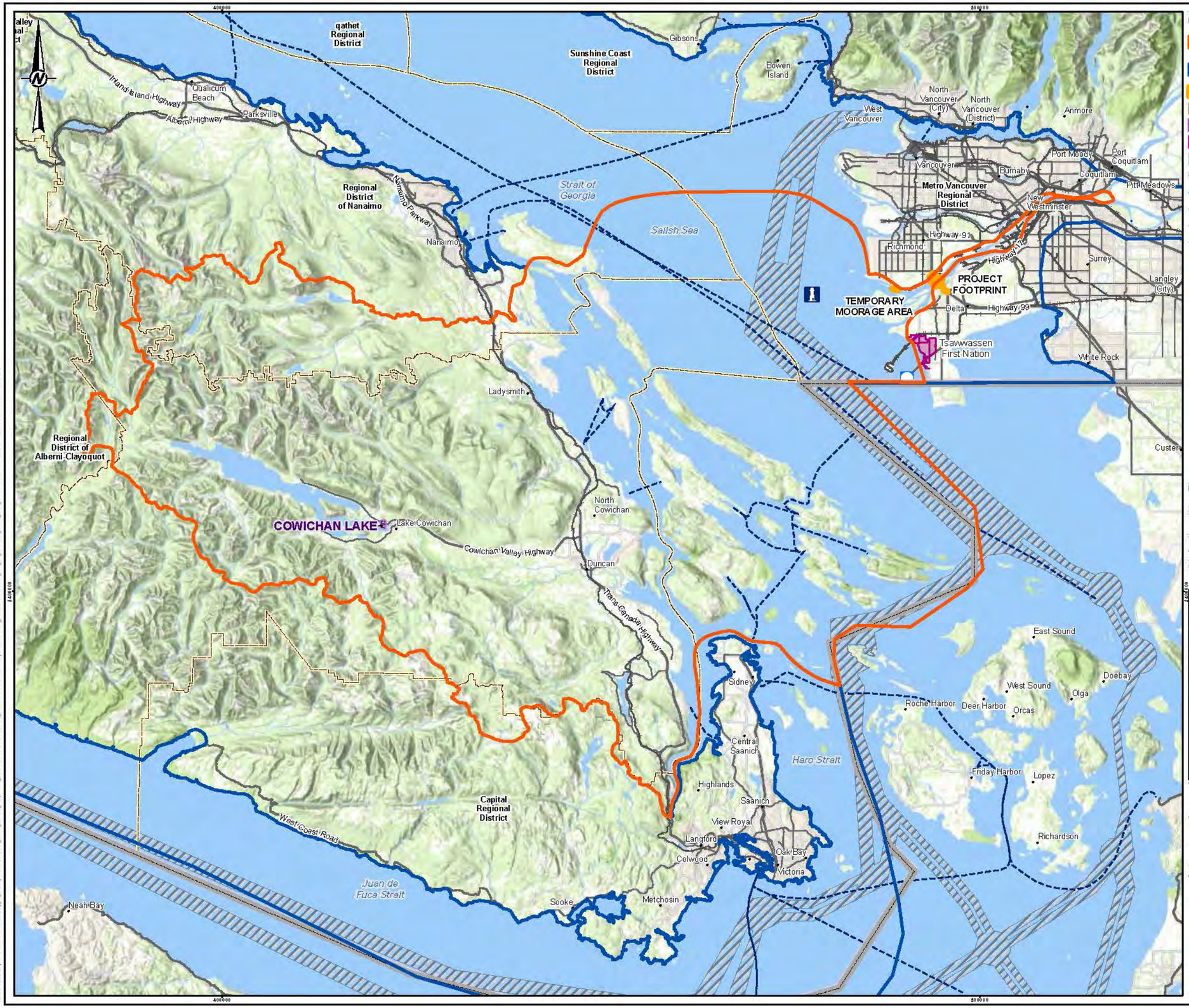
CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	24

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: Y:\burnaby\JOBS\GIS\Client\Ministry_of_Transportation\Fraser_River_Tunnel_Project\99_PROJECTS\21490984\02_PRODUCTION\MXD\Report\DPD\Fig1_Nations.mxd PRINTED ON: 2022-12-21 AT 11:09:18 AM



LEGEND

- TS'UUBAA-ASATX FIRST NATION - CORE TERRITORY
- TS'UUBAA-ASATX FIRST NATION - MARINE TERRITORY
- PROJECT FOOTPRINT
- REGIONAL DISTRICT BOUNDARY
- FIRST NATION RESERVE
- TREATY LANDS
- INTERNATIONAL SHIPPING LANE
- CANADA - U.S.A BORDER
- FERRY ROUTE
- HIGHWAY
- ROAD
- RAILWAY
- SAND HEADS LIGHTHOUSE
- FERRY TERMINAL

0 10 20
1:500,000 KILOMETRES

REFERENCE(S)

1. REGIONAL DISTRICT BOUNDARIES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF MUNICIPAL AFFAIRS - GOVERNANCE AND STRUCTURE
2. CANADA- USA BORDER, FERRY TERMINALS, FERRY ROUTES, SAND HEADS LIGHTOUSE, INDIAN RESERVES PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF FORESTS, LANDS, NATURAL RESOURCE OPERATIONS AND RURAL DEVELOPMENT.
3. TSAWWASSEN FIRST NATION LANDS PUBLISHED BY AND OBTAINED FROM THE MINISTRY OF INDIGENOUS RELATIONS AND RECONCILIATION - INTERGOVERNMENTAL AND COMMUNITY RELATIONS.
4. ROADS AND RAILWAYS OBTAINED FROM CANVEC @ DEPARTMENT OF NATURAL RESOURCES CANADA. ALL RIGHTS RESERVED.
5. WASHINGTON STATE ROADS AND WATER FEATURES OPBTAINED FROM THE STATE OF WASHINGTON.

COORDINATE SYSTEM: NAD 1983 CSRS UTM ZONE 10N
NATIONAL TOPOGRAPHIC SYSTEM (NTS) MAP(S): 92G/02, 92G/03, 92G/06, 92G/07



CLIENT
MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

Ministry of Transportation and Infrastructure

PROJECT
FRASER RIVER TUNNEL PROJECT

TITLE
TS'UUBAA-ASATX FIRST NATION

CONSULTANT
GOLDER
MEMBER OF WSP

YYYY-MM-DD	2022-12-21
DESIGNED	PT
PREPARED	JP
REVIEWED	HC
APPROVED	RS

PROJECT NO.	CONTROL	REV.	FIGURE
21490984	2	0	25

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

PATH: V:\Vantaby\PC-AG-GIS\Clients\Miscellaneous\Ministry_of_Transportation\Fraser_River_Tunnel_Project\09_PRODUCTION\MXD\Project_Maps\21490984_FN_25_TS'UUBAA-ASATX_First_Nation.mxd PRINTED ON: 2022-12-21 AT: 11:10:03 AM

ATTACHMENT 7: TECHNICAL ADVISOR FEEDBACK ON INITIAL PROJECT DESCRIPTION

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
1	General	Ministry of Agriculture and Food	Ministry staff recommend that an Agricultural Impact Assessment of the project be conducted in order to determine the degree of impact on agricultural lands and nearby agricultural operations.	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, and mitigation measures to minimize, and where possible, avoid potential impacts will be identified.	N/A	Yes
2	Page 31	Ministry of Agriculture and Food	Portions of the project fall within the Agricultural Land Reserve (ALR). Prime agricultural lands are incredibly important and scarce in B.C. It is important that this project minimize its impact to immediate and surrounding ALR farmland.	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, and mitigation measures to minimize, and where possible, avoid potential impacts will be identified.	N/A	Yes
3	Pge 6 and 9	Ministry of Agriculture and Food	The IPD describes the requirement to construct temporary site facilities on agricultural lands (pg. 6 & 9). Mitigation measures should be developed to eliminate/reduce any impacts to agricultural land that may occur as a result of these temporary construction site facilities.	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations. The agricultural assessment will include potential effects associated with both permanent and temporary project components. Mitigation measures to minimize, and where possible, avoid potential impacts will be identified.	N/A	Yes
4	Page 17 - Temporary Offsite Moorage	Ministry of Agriculture and Food	The IPD describes the need for temporary flood protection during construction (pg. 17).Potential impacts that may result if localized flooding were to occur on farmland adjacent to the project site should be considered.	An agricultural assessment will be completed for the Project EAC Application, to identify potential impacts to farmland, including potential impacts from temporary flood protection during construction. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
5	Page 16	Ministry of Agriculture and Food	Increased truck traffic associated with the construction of the project may impede access to farmland, affect farm vehicles, lead to increased dust, and disturb livestock. This is of particular concern during spring planting (April to June) and fall harvest (August to October). Widening of roadways that cut into agricultural land will further reduce the land base available for farming. Road development plans must ensure that access to land is equivalent to before (be aware of changes to access due to ditches etc.). Any road development, including emergency access roads should not cut into agricultural land if possible. Widening of roads should occur on the non -farm side of the roads.	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture, such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. The agricultural assessment will include potential effects associated with both permanent and temporary project components. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts to agricultural land and uses.	N/A	Yes
6	Page 26	Ministry of Agriculture and Food	The IPD describes potential dust emissions caused by the project (pg. 26). Dust generated as a result of project construction may impact neighbouring fields of crops that are prepared for the fresh and frozen markets. U -pick operations are very sensitive to the effects of dust on crop quality. Significant amounts of dust will reduce the quality and marketability of crops.	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture and will include evaluation of potential effects of dust on crop quality. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts related to dust on crop quality. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
7	Page 26	Ministry of Agriculture and Food	If the project proceeds, a Dust Mitigation Plan should be developed and implemented to ensure that the construction of the project does not have impact on nearby farms. Particular attention should be given to the potential of contaminated dust and impacts on soil and water.	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture including the evaluation of potential effects of dust on crop quality. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts related to dust on crop quality. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
8	Page 45	Ministry of Agriculture and Food	The IPD notes that increases to atmospheric noise are potential impacts resulting from project construction (pg. 45). Both vibrations and noise may disturb livestock, leading to stress, reduction in animal welfare, comfort, and decreased livestock productivity. It should be understood whether vibrations and noise from the project will affect any nearby agricultural operations. Ministry staff recommend that agriculture be added to the list of noise-sensitive land uses.	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture which will assess potential Project impacts from noise, lighting, vibrations, and dust. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts related to noise and vibrations from the Project on livestock.	N/A	Yes
9	Page 46	Ministry of Agriculture and Food	The IPD notes that the project crosses several roadside drainage and irrigation ditches (pg. 46). Mitigation and containment measures should be considered to eliminate/significantly reduce likelihood of contaminated waters entering irrigation ditches.	The EAC Application will include an assessment of potential effects to surface watercourses, including roadside drainage and irrigation ditches, from construction areas and access roads. The scope of the surface water assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the EA. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts to water quality within irrigation ditches. A Construction Environmental Management Plan (CEMP) will be prepared prior to construction with performance -based environmental specifications to maintain water quality from construction sites and access roads discharging into irrigation ditches.	N/A	Yes
10	Page 46	Ministry of Agriculture and Food	Irrigation water intakes may be located within the vicinity of the project area. The presence of water intakes should be identified in the project and monitoring plan. Consideration should be given to managing the impacts of project construction and accidental spills on water quality.	An agricultural assessment will be completed for the Project EAC Application which will assess potential Project impacts to agriculture such as changes to water quality for irrigation. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
11	Page 64 - Accidents and Malfunctions	Ministry of Agriculture and Food	Safety risks due to accidents, malfunctions, and spills during project construction are referenced in the IPD. Ministry staff recommend that as part of any Emergency and Accident Response Plan, sampling of water and soils impacted by the accident should be included and compensation to potential impacted farmers be considered. A notification system should be in place for environmental contamination incidents which may affect the local agricultural community, such as water or air contamination.	Contingency and emergency response procedures and requirements, including for monitoring and notification, will be addressed in the EAC Application. An Emergency and Accident Response Plan will be prepared prior to construction detailing procedures for sampling of water and soils impacted in the event of an accident, notification procedures, and mechanisms for possible compensation.	N/A	Yes
12	Page 86 - Engagement	Ministry of Agriculture and Food	Engagement of the local agricultural community (City of Delta Agricultural Advisory Committee, City of Richmond Food Security & Agriculture Advisory Committee, and Delta Farmers' Institute) is strongly encouraged to discuss ways the proposed development and disturbance can be minimized, and impacts mitigated.	The Proponent will develop engagement programs with the local agricultural community including the City of Delta Agricultural Advisory Committee, City of Richmond Food Security & Agriculture Advisory Committee, and Delta Farmers' Institute as basis for developing mitigation measures to minimize, and where possible, avoid potential impacts to agricultural land and operations. The Proponent anticipates engaging with these communities through the Community Advisory Committee.	N/A	N/A
13	Accidents and Malfunctions: accidental failure of stormwater and/or erosion and sediment control measures resulting in localized flooding, erosion, and/or a release of sediment laden water to the aquatic environment (pg. vi)	Ministry of Agriculture and Food	Potential impacts to farmland adjacent to project site if localized flooding were to occur. Sufficient mitigation measures should be considered.	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, including those related to localized flooding. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
14	"additional temporary land requirements for the construction site facilities on industrial and agricultural lands adjacent to the Highway 99 ROW" (pg. 6)	Ministry of Agriculture and Food	Mitigation measures should be developed to eliminate/reduce any impacts to agriculture land that may occur as a result of the temporary construction site facilities	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts, both temporary and permanent, to ALR farmland and nearby agricultural operations, and to identify mitigation measures to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
15	Table 3.1-1. Construction site facilities: The Project will require temporary space for site offices and staff facilities, material testing facilities, onsite concrete batching plants, material storage, laydown, equipment storage, parking for construction staff, site services including power, water, sanitary and communications, and site drainage and water treatment facilities. Construction site facilities will be located on industrial and agricultural lands adjacent to the Highway 99 ROW within 1 km of the Project Footprint (Figure 3.1-1). (pg. 9)	Ministry of Agriculture and Food	Mitigation measures should be developed to eliminate/reduce any impacts to agriculture land that may occur as a result of the temporary construction site facilities	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts, both temporary and permanent, to ALR farmland and nearby agricultural operations. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
16	Table 3.2.1. North and South approaches including roads, tunnel portal structures, and flood protection: On the Richmond side of the river the excavation will breach the dike and temporary flood protection will need to be in place prior to excavation. (pg. 17)	Ministry of Agriculture and Food	Potential impacts to farmland adjacent to project site if localized flooding were to occur. Sufficient mitigation measures should be considered.	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, including those related to localized flooding. Recommended mitigation measures will be developed to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
17	Table 3.2.1. New ITT: Timing of this work will factor in the established DFO least risk window (July 16 to February 28). In-river construction activities will be carried out 24 hours a day, 7 days a week. (pg. 18)	Ministry of Agriculture and Food	Increased truck traffic in project area may impact local farm operation's harvest (August to October). Least risk windows for the protection of aquatic and terrestrial ecological receptors overlap with harvest season resulting in potential conflicts (pg. 19)	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, including those related to increased truck traffic during the harvest season (August to October). Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to construction truck traffic on local farm operations during the harvest season. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
18	No other seasonal timing considerations have been identified at this time. (pg. 19)	Ministry of Agriculture and Food	Spring planting and fall harvest should be considered as construction -related truck traffic may impede farm equipment	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, including those related to increased truck traffic during the spring planting and fall harvest seasons (August to October). Recommended mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to construction truck traffic on local farm operations during the spring planting and fall harvest seasons. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
19	Construction laydown and storage will be accommodated using the existing Highway 99 ROW and temporary upland construction areas located on industrial and agricultural lands adjacent to the Highway 99 ROW. (pg. 20)	Ministry of Agriculture and Food	Mitigation measures should be developed to eliminate/reduce any impacts to agriculture land that may occur as a result of the temporary construction site facilities	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts, both temporary and permanent, to ALR farmland and nearby agricultural operations, and to identify mitigation measures to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
20	Section 4.1. Air and Dust Emissions: - Dust emissions may be generated by construction activities causing soil or asphalt disturbance. - Criteria air contaminants (CACs), which have the potential to affect human health, would be emitted during the Project. CACs include carbon monoxide (CO), nitrogen oxides (NOx), sulphur dioxide (SO2), volatile organic compounds, ammonia (NH3), particulate matter (PM10), and fine particulate matter (PM2.5). (pg. 26)	Ministry of Agriculture and Food	Need for Dust Mitigation Plan.	Mitigation measures will be identified to minimize, and where possible, avoid potential impacts related to dust on crop quality. Mitigation measures used to manage fugitive particulate matter (i.e., dust) during the construction phase will be incorporated into a Construction Environmental Management Plan (CEMP).	N/A	N/A
21	Section 4.4. Stormwater Runoff	Ministry of Agriculture and Food	Mitigation measures should to be considered to reduce likelihood of contaminated waters entering nearby irrigation canals	An agricultural assessment will be completed for the Project EAC Application which will assess potential Project impacts to agriculture such as changes to water quality for irrigation. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
22	Land immediately adjacent to the Project footprint in Delta is mainly private land composed of agricultural land within the ALR. The ALR is a provincial designation in which agriculture is recognized as the priority use. (pg. 31)	Ministry of Agriculture and Food	Need for an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. The assessment will include evaluation of potential effects of the spring planting and fall harvest seasons. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to the Project. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
23	In Richmond, land immediately adjacent to the Project footprint is mainly private agricultural lands within the ALR and privately - owned industrial lands. (pg. 31)	Ministry of Agriculture and Food	Need for an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture, such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. The assessment will include evaluation of potential effects of the spring planting and fall harvest seasons. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to the Project. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
24	Land adjacent to and west of the north tunnel approach roads and portal is designated as agricultural, (pg. 31)	Ministry of Agriculture and Food	Need for an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture, such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. The assessment will include evaluation of potential effects of the spring planting and fall harvest seasons. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to the Project. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
25	Section 8.1.3 Atmospheric Noise: The Project will temporarily increase atmospheric noise during the construction phase because of heavy equipment operation during construction activities. Noise- sensitive land uses in the vicinity of the Project alignment may experience an increase in noise over time during Project operations if vehicle speeds, traffic volumes, and the proportion of heavy trucks increase. The Ministry will study the existing atmospheric noise conditions at locations representative of noise-sensitive land uses **(e.g., residential, institutional, and recreational**) where Project-related changes in atmospheric noise are likely to occur.(pg. 45)	Ministry of Agriculture and Food	Increases in noise may impact livestock in vicinity of project. Please add agriculture to list of noise - sensitive land uses.	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture which will assess potential Project impacts from noise, lighting, vibrations, and dust. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to noise and vibrations from the Project on livestock. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
26	8.1.5 Fraser River Hydrology (pg. 46)	Ministry of Agriculture and Food	Irrigation water sourced from Fraser River. Impacts to the Fraser River hydrology may impact quality and availability of fresh water for irrigation.	A River Hydraulics and Morphology Assessment will be completed as part of the EAC Application to assess potential impacts on river hydrology associated with the Project. Any in-river works potentially affecting water quality and availability for fresh water irrigation, would be undertaken under the terms and conditions of a Water Sustainability Act Change Approval. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to the quality and availability of fresh water for irrigation. The scope of the river hydraulics and morphology assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
27	8.1.6 Water and Sediment Quality: In addition to the Fraser River South Arm and Deas and Green Sloughs, the Project alignment also crosses several roadside drainage and irrigation ditches (Figure 8.2- 1), most of which support ecological values in addition to agriculture and stormwater management purposes.(pg. 46)	Ministry of Agriculture and Food	Mitigation measures should to be considered to reduce likelihood of contaminated waters entering nearby irrigation canals	The EAC Application will include an assessment of potential effects to surface watercourses, including roadside drainage and irrigation ditches, from construction areas and access roads. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts to water quality within irrigation ditches and canals. Prior to construction, a Construction Environmental Management Plan (CEMP) will be prepared with performance -based environmental specifications to maintain water quality from construction sites and access roads discharging into irrigation ditches. The scope of the surface water assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
28	8.3.3 Land and Marine Use: With land use in the general Project area being predominantly agricultural, agricultural activities and transportation of farming inputs, supplies, and products to market are prominent activities surrounding the Project. These agricultural and supporting activities contribute significantly to the local and BC economy and cultural identity of the region. (pg. 56)	Ministry of Agriculture and Food	Rationale for completion of an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, and to identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
29	8.3.3 Land and Marine Use: Project interactions with agricultural land availability, irrigation and drainage systems, and farm utilities services could affect agriculture land use. Once operational, the Project is not expected to adversely affect land and marine uses and will provide benefits such as improved reliability for the agricultural community in getting goods to market. (pg. 57)	Ministry of Agriculture and Food	Rationale for completion of an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to assess potential project impacts to ALR farmland and nearby agricultural operations, and to identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
30	8.3.3 Land and Marine Use: With respect to agriculture, the Ministry will study irrigation and drainage systems, ALR land by capability class, and farm infrastructure and operations, with a focus on the agricultural land base potentially affected by the Project. (pg.58)	Ministry of Agriculture and Food	Please include impact of dust and noise during construction phase of project on agriculture.	An agricultural assessment will be completed for the Project EAC Application which will assess potential Project impacts on agriculture from dust and noise emissions. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
31	8.3.5 Services, Infrastructure, and Transportation: A traffic impact assessment will be completed for the Project EAC Application. Traffic volumes, patterns, and forecasts will be used to assess potential Project construction impacts to vehicle, bike, and pedestrian transportation safety, travel times, and reliability, as well as changes to vehicle, transit, cycling, and pedestrian transportation under Project operations. Potential impacts to rail transportation as a result of removal of the CN Railway overpass will also be assessed. (pg. 61)	Ministry of Agriculture and Food	Please include potential impacts to farm access and impediments to moving farm equipment	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture, such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts related to the Project.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
32	8.3.7.1 Human Health Risk: Other human health considerations include potential changes to atmospheric noise and environmental quality (e.g., soil, sediment, surface water, and country foods). Noise conditions along the Project alignment are heavily influenced by the high volumes of vehicle traffic along the highway and feeder routes. Atmospheric deposition may influence soil and country food quality, while sediment and surface water quality may be impacted by dredging activities. (pg. 62)	Ministry of Agriculture and Food	Rationale for completion of an agricultural impact assessment	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture, such as those which could impede access to farmland, farming infrastructure, farm vehicles equipment, and which could affect crops and livestock. Mitigation measures will be developed to minimize, and where possible, avoid potential impacts related to the Project. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
33	8.4 CUMULATIVE EFFECTS: Expanding water and road transportation infrastructure to support trade and urban development have resulted in local road and marine transportation congestion. Planned port, land, and infrastructure development continue to place competing demands on the extensively developed Lower Fraser River waterway, as well as adjacent lands for Indigenous, industrial, residential, and agricultural uses. Farmers and municipalities have expressed challenges with drainage and irrigation, flooding, and saltwater intrusion affecting the maintenance of agricultural capability and resources. Maintaining safety and navigation of the shipping channel and balancing competing needs for industrial and agricultural lands have all been identified as priority objectives through coordinating planned development with municipalities, Indigenous groups, and community stakeholders. (pg. 63)	Ministry of Agriculture and Food	Good to see that this has been acknowledged. Further analysis needed on cumulative impacts to the local agriculture sector	An agricultural assessment will be completed as part of the EAC Application to assess potential Project impacts to agriculture. This will include a cumulative effects assessment of potential residual Project impacts to agriculture. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
34	8.4 CUMULATIVE EFFECTS: The cumulative effects assessment will be informed by the following: (pg. 64)	Ministry of Agriculture and Food	Please ensure that the City of Delta and Richmond Agriculture Advisory Committees are engaged as well as the Delta Farmers' Institute	The Delta Farmers' Institute is listed as a stakeholder in Table 5 of the Engagement Plan. The City of Delta and Richmond Agriculture Advisory Committees will be included in the Project stakeholder list.	N/A	N/A
51	Page iii - Project Components	City of Delta	I thought this [Existing Deas Island Bridge] would stay and be re -purposed for the MUP connection to Delta?	Repurposing the existing Deas Slough Bridge as a potential MUP connection is being considered as part of our Reference Concept development. However a complete removal represents the maximum disturbance that will be assessed as part of the environmental assessment.	N/A	Yes
52	Page iv - Crossing Configuration	City of Delta	Does this [high occupancy vehicle users] mean transit -only lanes will allow HOV as well? If not, please remove this.	HOV lanes will not be re -installed as part of the project. The reference to high occupancy vehicle users has been removed in Section 5.7.2.	N/A	Yes
53	Page v - Land and Water Use	City of Delta	Please notify Delta ASAP if any land in needed within Delta so we can confirm impacts.	The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
54	Page vi - Physical, Biological, and Human Environment Conditions	City of Delta	Are noise impacts covered under 'human health'? This will be very important to assess from Delta's perspective.	Changes in noise and vibration levels will be considered in the Acoustic VC (including Noise and Vibration). The Community Health and Wellbeing VC will assess the impacts of changes in noise and vibration relative to Human Health criteria (e.g., percent highly annoyed, sleep disturbance).	Section 10.5.1 Human Health Risk	N/A
55	Page vii - Indigenous Engagement and Interests	City of Delta	Should this say 8 lane ITT instead?	In this section, the Proponent is referring to engagement with Indigenous nations during review of the previous 10 -lane bridge concept that was cancelled in 2017.	N/A	N/A
56	Page vii - Indigenous Engagement and Interests	City of Delta	Please provide Delta with a copy of this [records and a summary of issues and interests raised by identified indigenous groups during these previous engagements].	This information will be included in the Detailed Project Description and, once it is accepted by the Environmental Assessment Office, it will be posted on the EAO website.	Section 13 Indigenous Nation Interests Summary in Table 13.2-1	N/A
57	Page 1 - Project Introduction	City of Delta	Please identify any [additional temporary and permanent land requirements] within Delta ASAP so we can review.	The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
58	Page 4 - Previous Iterations of the Project	City of Delta	The cost of the 8 -lane ITT is higher than the original 10 lane bridge. This statement is not true.	This statement is referring to conclusions of the Independent Technical Review of the George Massey Crossing (Westmar Advisors, 2018).	N/A	N/A
59	Page 6 - Project Rationale	City of Delta	If needed in future, could the new ITT accommodate a counter -flow system similar to the existing tunnel? The new ITT design wouldn't preclude that, correct?	Although a counter -flow system is not currently included in the project scope the ITT design is not expected to preclude future potential for a counter -flow system.	N/A	N/A
60	Page 7 - Project Rationale	City of Delta	Please consider providing a wider (6.0m wide) bi -directional separated MUP so that e -bikes/e-scooters can be separated from pedestrians to reduce collisions.	The project continues to investigate best practices for safety relating to users of the proposed MUP and will continue to seek feedback from the City of Delta on this matter; however, increasing the width of the multi -use path within the ITT is not feasible .	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
61	Page 9 - Project Components	City of Delta	Please notify Delta if any land owned by or within Delta will be used for this purpose [construction site facilities] so we can assess the impact.	The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
62	Page 10 - Casting Basin	City of Delta	How will ground water be managed [comment relates to the casting basin]?	The specifics for groundwater disposal are still under consideration. Applicable permits will be obtained from the Ministry of Land, Water and Resource Management prior to any release of groundwater as part of the casting basin construction/ongoing maintenance.	N/A	N/A
63	Page 11 - South approach including roads, tunnel portal structure, flood protection	City of Delta	Delta has requested an overpass for River Road over Highway 99. It was shown as part of the original project scope on numerous occasions in 2019 and 2020. Delta residents took note of the River Road connection shown on the roll plots during the Public Information Meetings in 2020 and staff continue to receive many inquiries from the public about this future connection. This connection across Highway 99 is critical for pedestrians, cyclists, emergency responders and vehicles.	The Transportation Investment Corporation, on behalf of the Ministry of Transportation and Infrastructure, has been provided a defined scope to deliver the Fraser River Tunnel Project. The project scope does not include an overpass of Highway 99 for River Road. The Proponent continues to have ongoing conversations with its regional partners about future projects and priorities, and will ensure the improvements to Highway 99 do not preclude a River Road overpass in the future.	N/A	N/A
64	Page 11 - Existing Deas Slough Bridge Removal	City of Delta	Our understanding was that the Deas Slough Bridge would be re -used for the MUP. Please confirm.	Repurposing the existing Deas Slough Bridge as a potential MUP connection is being considered as part of our Reference Concept development. However a complete removal represents the maximum disturbance that will be assessed as part of the environmental assessment.	N/A	Yes
65	Page 12 - Project Footprint Map	City of Delta	Why does the highway widen here [comment is on figure, pointing to widening on north side of Highway 99 where it approaches Highway 17A]?	The existing highway right -of-way widens in this area. No modifications to existing highway 99 right -of way have been made to accommodate this project.	N/A	N/A
66	Page 13 - Immersed Tube Tunnel Rendering	City of Delta	Will an updated rendering [of the ITT] be provided showing the MUP in the centre?	Yes, an updated rendering of the ITT has been provided in Section 5.2 of the Detailed Project Description.	Figure 5.2-2	N/A
67	Page 13 - Immersed Tube Tunnel Rendering	City of Delta	Which direction is this facing [rendering of the ITT]? Is this the south portal since there's no evident of a technical building in the rendering?	This is the south portal.	N/A	N/A
68	Page 14 - Aerial Rendering	City of Delta	Can't see the ramp connecting to River Road [in aerial rendering]	Thank you for the comment. These renderings are highly conceptual and not yet fully representative of the final project.	N/A	N/A
69	Page 15 - South Tunnel Entrance Rendering	City of Delta	Wouldn't existing Deas Slough bridge remain and existing tunnel be removed [comment in south tunnel entrance rendering]?	The project is considering the re -use of Deas Slough Bridge as a multi -use path connection. However a complete removal represents the maximum disturbance that will assessed as part of the environmental assessment. The Existing Tunnel will be removed.	N/A	N/A
70	Page 15 - South Tunnel Entrance Rendering	City of Delta	Will the rendering be updated to show a centre running MUP [comment in south tunnel entrance rendering]?	Yes, an updated rendering of the ITT has been provided in Section 5.2 of the Detailed Project Description.	Figure 5.2-2 Immersed Tube Tunnel Rendering with MUP in Middle	N/A
71	Page 17 - Temporary Offsite Moorage	City of Delta	Is dredging also required along the river from the casting basin leading to the temporary offsite moorage? Or is the river already deep enough to accommodate the movement of elements?	The elements will be moved from the casting basin to the temporary offsite moorage site through the navigation channel. The navigation channel has sufficient depth to accommodate movement of the elements without requiring dredging. Dredging may be required to move the elements into, and out of, the navigation channel.	N/A	N/A
72	Page 17 - North and Sough approaches including roads, tunnel portal structures, and flood protection	City of Delta	Is this the case on the Delta side too [relates to statement "on the Richmond side of the river the excavation will breach the dike and temporary flood protection will need to be in place prior to excavation"]?	Yes, the Delta side will be similar. A surrounding cut -off wall will be installed, but will not be used for casting of tunnel elements, but will be used to construct the cut & cover and ramp section for the north end of the tunnel.	N/A	N/A
73	Page 18 - Final Fit Out	City of Delta	How will the tunnel safely accommodate all dangerous goods? What safety equipment will be in place? Please provide more info as project progresses	Unlike the existing tunnel, the new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations. As part of the tunnel design development, safety provisions/measures are provided in the tunnel to systematically cover prevention & detection of accidents, mitigation of consequences from accidents together with facilitating escape/evacuation and emergency response. Among others, a ventilation system, a fixed fire fighting system / fire sprinkler system and continuous tunnel monitoring and traffic management system are provided as safety measures. As the project progresses and design develops, more details on design and safety equipment/provisions in the tunnel will be provided.	N/A	N/A
74	Page 20 - Infrastructure and Labour Requirements	City of Delta	Please confirm if any Delta -owned roads will be used to transport materials to the site. City bylaws would apply.	Noted and thank you for the comment. The Project will continue to liaise with the City of Delta as we move closer to construction. It is anticipated that some use of municipal roadways will be required to construct the new ITT.	N/A	N/A
75	Page 20 - Infrastructure and Labour Requirements	City of Delta	Please confirm which properties in Delta would be impacted [relates to statement "construction laydown and storage will be accommodated using….temporary upland construction areas located on industrial and agricultural lands adjacent to Highway 99 ROW"].	The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
76	Page 23 - Crossing Configuration	City of Delta	Does this mean that the new tunnel can provide counter -flow, if needed in future?	Although a counter -flow system is not currently included in the project scope, the ITT design is not expected to preclude future potential for a counter -flow system.	N/A	N/A
77	Page 28 - Stormwater Runoff	City of Delta	Will sediment control plans be provided to reduce the amount of sediment entering the ditches and watercourses? Please describe.	The EAC Application will include an assessment of potential effects to surface watercourses, including roadside drainage and ditches, from construction areas and access roads. The scope of the surface water assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment. Mitigation measures will be identified to minimize, and where possible, avoid potential impacts to water quality within irrigation ditches. A Construction Environmental Management Plan (CEMP) will be prepared prior to construction with performance -based environmental specifications to maintain water quality from construction sites and access roads discharging into irrigation ditches.	N/A	Yes
78	Page 31 - Land Water Ownership, Designation, and Tenures	City of Delta	From the Open House, it looked like part of the new highway may be on a parcel owned by Delta adjacent to the River Woods complex. Can you please confirm?	The Reference Concept currently under development requires the highway to be realigned beyond the existing right -of-way near the River Woods complex. The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
79	Page 33 - Land Ownership Map	City of Delta	Why is this grey area labelled as 'Unknown' [on land ownership figure]?	At the time of preparing the IPD, the Proponent had not yet confirmed whether the referenced land areas were municipally -owned or privately -owned properties, and therefore shaded as grey areas and labelled as 'Unknown' on the Land Ownership map. Mapping has been updated for inclusion in the DPD, outlining ownership for lands identified as unknown in the IPD.	Figure 7.4-1 Land Ownership	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
80	Page 33 - Land Ownership Map	City of Delta	It looks like the highway may be encroaching on a parcel owned by the City of Delta adjacent to the River Woods complex. Please confirm.	The Reference Concept currently under development requires the highway to be realigned beyond the existing right -of-way near the River Woods complex. The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD has been updated to include several additional parcels of land in Delta which may be required for the Project. The Proponent will continue to engage with City of Delta regarding potential property requirements as they emerge to better understand impacts and mitigations.	Section 7.4 Land Designation & Ownership Figure 7.4-1 Land Ownership	N/A
81	Page 34 - Land Use Designations	City of Delta	What does EMP mean?	Environmental Management Plan (EMP)	N/A	N/A
82	Page 41 - Anticipated Authorizations and Permits	City of Delta	FYI - Soil Deposit and Removal permit would be required from the City of Delta if soil is being transported along Delta -owned roads. Highway Use Permit would be required if there are any new driveway accesses or other potential uses along Delta roads. Other Delta bylaws may apply, unless the future Municipal Agreement governs.	Noted and thank you for the comment. The Project will continue to liaise with the City of Delta as we move closer to construction. It is anticipated that some use of municipal roadways will be required to construct the new ITT.	N/A	N/A
83	Page 47 - Disturbed Areas	City of Delta	Please identify which 5 properties have a moderate risk of potential contaminants.	The following properties were identified as having a moderate risk of potential contaminants: 1) two properties adjacent to the north and south portals of the tunnel, 2) a property occupied by CN Railway situated on the north side of the Fraser River, 3) 5404 - 64th Street in Delta occupied by the City of Delta Municipal Yard, and 4) a median between Highway 99 and Steveston Highway. These properties were identified by a limited desktop study conducted by Hemmera in 2017. A more detailed investigation, a Stage 1 Preliminary Site Investigation is being prepared for the Project. The summary of results have been added to the DPD in Section 10.1. The Stage 1 PSI identified 12 areas of potential environmental concern. These 12 areas are identified on Figure 10.1 -1 of the DPD.	Figure 10.1-1 Areas of Potential Environmental Concern (APEC)	N/A
84	Page 50 - Disturbed Areas	City of Delta	Will the Burvilla heritage house on Deas Island that houses bats be impacted by the project?	The Project will not directly impact the Burvilla heritage house. However, the scope of the Environmental Assessment will consider the potential for Project related indirect impacts (e.g. noise) on the Burvilla Heritage House.	N/A	Yes
85	Page 54 - Human Environment Conditions	City of Delta	What about noise impacts? Or is this part of 'human health'?	As indicated in IPD Sections 8.1.3 Atmospheric Noise, Section 8.3.3 Land and Marine Use, and Section 8.3.7.2 Community Heath and Wellbeing, the Proponent will study the existing atmospheric noise conditions at locations representative of noise -sensitive uses (e.g., residential, institutional, commercial and recreational) to form the baseline for which Project-related changes in atmospheric noise and potential noise impacts are predicted at these sensitive receptors.	N/A	N/A
86	Page 62 - Cultural Heritage	City of Delta	Our records show an archeological find on the south side of Deas Island near the Deas Island Bridge. Do you have a record of that?	The Proponent is aware of archaeological site DgRs -114, the Deas Slough barge wreck. This is a heritage site protected under the *Heritage Conservation Act.*	N/A	N/A
87	Page 65 - Accidents and Malfunctions	City of Delta	What about risks with removing the existing tunnel?	An overview of potential accidents and malfunctions that could occur during Project construction, operation, and subsequent decommissioning of the existing George Massey Tunnel was provided in the IPD. Detailed identification and assessment of the risk scenarios will be presented in the Accidents and Malfunctions assessment for the EAC Application.	N/A	Yes
88	Page 66 - Accidents and Malfunctions	City of Delta	There were a number of other concerns raised at the meeting on April 12, 2022 with emergency responders. Please list them all in the document: - request for repeater mid -tunnel for emergency communications - access to CCTV footage - if emergency vehicles can use MUP for access? - request for turnarounds on either side of the tunnel - request to have hydrants located close to the entrances of the tunnel	Noted. These has been included in the Detailed Project Description in Section 11, Accidents and Malfunctions.	11 Accidents and Malfunctions	N/A
89	General	City of Delta	Delta would like to confirm that the impacts to the River Woods Complex and other nearby developments on the Delta side will be fully assessed as part of the EA, including construction noise during and after the project, potential land impacts/covenants that could be impacted, and removal of sensitive habitat	Receptor location representing the River Woods Complex and other nearby potentially affected developments will be included in the Atmospheric Noise, Land Use and Community Health and Wellbeing assessments for the EAC Application to assess potential noise and land use effects to nearby residents. The EAC Application will assess potential direct and indirect impacts to sensitive habitat, such as the wetland area near the River Woods Complex. The Application will use Atmospheric Noise data to assess potential disturbance on wildlife that may occupy habitat adjacent to the Project. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
90	General	City of Delta	To continue to incentivize ride -sharing, carpooling and the use of the electric vehicles, please consider revisiting the transit -only lanes to include HOV as well.	The current HOV lanes directly north and south of the tunnel were installed to help alleviate congestion. With the new tunnel there will be an increase in vehicle capacity and average travel speeds, as well as dedicated bus lanes, that will result in travel time savings for travel between Westminster Highway and Highway 17. HOV lanes will not be re-installed as part of the project.	N/A	N/A
91	General	City of Delta	Please ensure the potential effects on the dike from the project during construction and operation are fully assessed and in consideration of future sea level rise.	The Services, Infrastructure, and Transportation Assessment for the EAC Application will assess dike infrastructure existing conditions, to support the assessment of potential Project effects on dike infrastructure in the context of Sea level rise, completed as part of the River Hydrology assessment for the EAC Application. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
92	General	City of Delta	Please provide more info regarding the study being done for the relocation of the BC Hydro transmission lines and share the study with Delta once complete.	The replacement of the BC Hydro transmission lines fall outside of the scope of the Fraser River Tunnel Project and is being determined as part of BC Hydro's capital planning process, as the owner of the transmission line. The ITT Project continues to consider the potential needs of BC Hydro if the transmission line is determined to be placed in the new tunnel.	N/A	N/A
93	General	City of Delta	It is vital that light rail within the new tunnel not be precluded as part of this project. As the region's population grows, it is imperative that we invest in fast and reliable transit options to reduce dependency on cars.	In collaboration with TransLink and Metro Vancouver, the Proponent studied the need and service delivery options for rapid transit along the Highway 99 Corridor. These studies concluded that bus rapid transit would best serve the projected demand and distribution South of the Fraser River. Peak transit demand in 2080 was projected to be approximately 3,100 passengers per hour per direction at peak times. TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. So, in 60 years, the projections from TransLink and Metro Vancouver suggested the demand will only be slightly more than half the threshold number. For context, pre-COVID peak demand was approximately 900 to 950 passengers per hour through the tunnel. In addition, demand for service South of the Fraser is dispersed over a wide geo -graphic area, which means a flexible bus rapid transit system that can fan out across the region is a better option, versus a fixed link SkyTrain line.	N/A	N/A
94	General	City of Delta	Please provide more info regarding the test dredge being done currently and any info you can provide on potential dump sites for dredged material.	The test dredge falls outside the scope of the environmental assessment. The Project team is happy to meet with the City of Delta if further information is required.	N/A	N/A
95	General	City of Delta	Please ensure any project related effects to Delta's utility infrastructure are fully assessed as part of the EA with appropriate mitigation measures proposed for Delta's consideration.	Municipal infrastructure potentially to be affected by the Project will be identified and assessed as part of the Services, Infrastructure, and Transportation Assessment for the EAC Application. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment. If potential effects are identified, mitigation measures will be proposed.	N/A	Yes
131	Key Issues and values to be considered in EA	City of Richmond	EA process should include BC Hydro infrastructure relocation required to accommodate the project works	The replacement of the BC Hydro transmission lines fall outside of the scope of the Fraser River Tunnel Project and is being determined as part of BC Hydro's capital planning process, as the owner of the transmission line. The ITT Project continues to consider the potential needs of BC Hydro if the transmission line is determined to be placed in the new tunnel.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
132	Suggested design changes	City of Richmond	* Section 3.6.2, Crossing Configuration: Confirm that 2 of the 8 lanes will be dedicated as transit lanes rather than all 8 lanes for GP traffic	The FRTP proposed crossing configuration involves 2 of the 8 lanes being dedicated transit lanes.	N/A	N/A
133	Suggested design changes	City of Richmond	* Stormwater runoff needs to be mitigated/managed through the construction phase and should not enter any of local watercourses. Need further details on how construction will be managed.	Stormwater runoff management during construction will be addressed as part of the future development of the project construction specifications. This will include best practices to manage construction stormwater runoff and mitigate potential impacts to local watercourses.	N/A	N/A
134	Suggested design changes	City of Richmond	* Flood protection considerations should include robust monitoring of the existing dikes before, during and after all construction activities, in particular during ground improvement works, and including all third party activities such as BC Hydro works.	The Project understands the importance of the monitoring program. The Project commits to providing the requirements for monitoring of the existing dikes.	N/A	N/A
135	Suggested design changes	City of Richmond	* Liquefaction and geotechnical analysis on project impacts to the City's dike under current, seismic, and future conditions should be conducted prior to commencing any works.	The Project understands the importance liquefaction and geotechnical analysis. The Services, Infrastructure, and Transportation Assessment for the EAC Application will assess dike infrastructure existing conditions, to support the assessment of potential Project effects on dike infrastructure in the context of Sea level rise, completed as part of the River Hydrology assessment for the EAC Application. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
136	Suggested design changes	City of Richmond	* More details required on the temporary flood protection measures and how these will work while they are in place. How long will they be in place for? What level of protection will they provide?	Temporary flood protection will be provided around the construction site, mostly by using earth berm structures and, in other area, temporary walls. Temporary flood protection will be provided for the entire duration of the construction period until the permanent flood protection is effective. Temporary flood protection will be provided for a level of +4.5m geodetic.	N/A	N/A
137	Suggested design changes	City of Richmond	* Dike Maintenance Act will also need to be addressed for the decommissioning of the existing tunnel.	The Proponent will seek and obtain all required federal and provincial regulatory approvals, including those under the provincial *Dike Maintenance Act* , required for the decommissioning and removal of the existing George Massey Tunnel.	N/A	N/A
138	Suggested design changes	City of Richmond	* The revised IPD does not consider lighting implications for the new tunnel or the tunnel approaches. Include a section that speaks to potential lighting impacts both on the surrounding environment as well as the potential lighting impacts on motorists, active transport users and pedestrians using the tunnel infrastructure.	The light assessment under the Visual Quality VC will consider impacts from lighting of the tunnel on the surrounding environment, fisheries, wildlife, and human receptors. Section 10.3.3 of the DPD was updated to include the following: “The potential change in light levels from proposed Project components will be modelled so that lighting effects on sensitive receptors such as motorists and pedestrians may be assessed.”	Section 10.3.3 Visual Quality	N/A
139	Missing project interactions	City of Richmond	* When noting key benefits of Project with respect to traffic congestion relief, reference associated traffic congestion on the adjacent municipal road network and the impacts (e.g., idling, GHG emissions). Further details are required on the impacts of the decommissioning on flood protection. Richmond would like to see a new dike built after the decommissioning of the existing tunnel.	Traffic congestion and associated impacts will be assessed as part of the Proponent's Application for Environmental Assessment Certificate. This assessment will be captured under the Greenhouse Gas Emissions assessment of the EAC Application. Impacted dikes within the right-of-way of the project will be rebuilt to an elevation of +5.5 m geodetic.	N/A	Yes
140	Missing project interactions	City of Richmond	* The revised IPD should make reference to both the further study and creation of a Contaminated Soils Management Plan, as well as an assessment of emerging contaminants of concern.	In Section 10.1.7 of the DPD an update on the status of the Soils and Contaminated Sites Assessment is provided, and the process for preparing a Contaminated Soils Management Plan. The Proponent is assessing the potential presence of sources of soil and groundwater contamination within the Project area by initially conducting a Stage 1 Preliminary Site Investigation (PSI). This initial stage involves a combination of site visits, review of previous reports and data sources, aerial photos, and interviews to identify activities that may have previously impacted the Project area as well as resulting in potential contaminants of concern. Following the Stage 1 assessment, a Stage 2 PSI will target potential impact areas that pose a medium -to-high risk of impact (based on type of activity, location relative to the project area and likelihood of impact). The Stage 2 PSI will include intrusive investigations to obtain soil and groundwater samples for laboratory analysis to be compared with the BC Contaminated Site Regulations Standards for the proposed land use. The information obtained will identify areas that could impact the construction activities with respect to soil handling and disposal options. Additional investigation may be necessary in the event that delineation of contamination for purposes of assessing the volume of impacted soils becomes necessary. Results of the Stage 2 PSI investigation will be provided as part of the EAC Application. If contamination is identified, a Contaminated Soils Management Plan will be required at a construction stage. As part of the EAC Application, The Proponent will outline general content and layout of the plan which will provide performance -based environmental requirements for managing contaminated soils and groundwater. The Contaminated Soils Management Plan will identify, for example, areas of excavation impacted by identified soil and groundwater contamination, proposed stockpiling areas, soil handling and disposal options, methods to prevent cross contamination, dust control, and disposal sites licences to accept contaminated soils.	10.7.1 Soil	Yes
141	Missing project interactions	City of Richmond	* In addition to wildlife, fish, and vegetation impacts, the IPD should also consider impacts to invertebrates (specifically insects and aquatic invertebrates) and microbes.	The EAC Application will consider potential impacts to a variety of fish, wildlife, and vegetation resources. Surrogate guilds or species may be used to represent wildlife associated with specific habitat types to facilitate analyses. It is anticipated that potential effects to invertebrates can be inferred from assessed impacts to surrogate species or guilds. As such, an assessment of the potential for the Project to effect invertebrates or microbes has not been proposed. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
142	Missing project interactions	City of Richmond	* Related to the assessment of wildlife, there is the potential for dike riprap to provide habitat for marmots. An assessment for marmots and marmot habitat should also be a consideration of the IPD.	The EAC Application will include an assessment of potential effects to wildlife and wildlife habitat. Marmots have been recorded in the area, however, this species has been introduced to the region and does not naturally occur in the Lower Mainland. As such, inclusion of marmots within the assessment to wildlife and wildlife habitat will be as an invasive/introduced species. The scope of the assessment of effects to wildlife and wildlife habitat will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
143	Missing project interactions	City of Richmond	* The IPDs vegetation assessments should also include provisions for the surveying, studying and management of invasive species communities within the project area.	The Proponent is conducting field surveys for invasive plants to an operational survey standard using a custom electronic version of the Invasive Alien Plant Program Site and Invasive Plant Survey Record in ArcGIS Survey123. The management of invasive species would be included as part of mitigation planning in the EAC Application. This will be reflected in the DPD. Invasive plant management is site-specific and species-specific; therefore, a site-specific and/or species-specific invasive plant management plan would be developed for implementation during project construction.	Section 10.1.8 Vegetation	N/A
144	Missing project interactions	City of Richmond	* The revised IPD should include some detail of anticipated habitat offsetting work and when those anticipated works are proposed to be delivered (i.e. in the construction phase of the project). It is understood that more complete details of habitat offsetting will be finalized through the EA and associated senior government permitting processes; but should be a consideration during early project planning phases.	The offsetting program will be developed concurrently with the EAC Application in conjunction with Indigenous nations, regulatory agencies, and local governments.	N/A	Yes
145	Missing project interactions	City of Richmond	* Regarding relocation of the BC Hydro infrastructure, Richmond’s strong preference is for this to be underground rather than overhead. Minister Rob Fleming indicated that this is also MoTI's preference at the UBCM meeting in September 2021. In a December 17, 2021 letter to Mayor Brodie, Minister Rob Fleming and Minister Bowinn Ma indicated that the ministry is working with BC Hydro on a design to incorporate the existing hydro lines into the new tunnel.	The replacement of the BC Hydro transmission lines fall outside of the scope of the Fraser River Tunnel Project and is being determined as part of BC Hydro's capital planning process, as the owner of the transmission line. The ITT Project continues to consider the potential needs of BC Hydro if the transmission line is determined to be placed in the new tunnel.	N/A	N/A
146	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Agricultural land is identified for construction site facilities. If used, agricultural land should be restored to current (minimum) or improved (preferred) condition	An agricultural assessment will be completed as part of the EAC Application to identify potential project impacts to ALR farmland and nearby agricultural operations, and to identify mitigation measures to minimize, and where possible, avoid potential impacts. Recommended mitigation measures will be designed to restore temporary impacts to agricultural land, and where possible, to improve current agricultural land use quality. The scope of the agricultural assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
147	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Need more information on location and size of temporary laydown areas, crew parking, etc. to assess any impacts to City	The Proponent is committed to ensuring municipalities and other third parties are made aware of any potential property impacts as soon as possible. As project planning proceeds, properties may be identified for further investigation to determine project requirements. The DPD provides an updated Project footprint that includes several additional parcels of land in Richmond which may be required for the Project. The Proponent will continue to engage with City of Richmond regarding potential property requirements as they emerge to better understand impacts and mitigations.	Figure 7.4-1 Land Ownership	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
148	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Need more information on location and design of MUP and how CPTED and security issues for users will be addressed	The Project has established a Tunnel Design and Safety Consultation Group where issues relating to emergency response, safety, and security will be addressed with First Responder and municipal entities. The DPD has been updated in Section 14.3.2 to mention the purpose of this group in the design and safety of the MUP.	Section 14.3.2 The Public and Other Interested Parties	N/A
149	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* All land associated with flood protection infrastructure should include SRW in favour of the City for future flood protection operation and maintenance	Temporary flood protection will be provided around the construction site, mostly by using earth berm structures and, in other area, temporary walls. Temporary flood protection will be provided for the entire duration of the construction period until the permanent flood protection is effective. Temporary flood protection will be provided for a level of +4.5 m geodetic.	N/A	N/A
150	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Detailed assessments and studies should be conducted to assess potential impacts that the project will have on fuel consumption and emissions from daily commuter use.	As part of the assessment a future vehicle fuel mix (e.g., the increase in electric vehicle usage) will be developed and an emission inventory will be developed to support the air quality assessment - based on the future vehicle fuel mix. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
151	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Potable water is proposed to be used for the batch concrete plant. Additional detail should be provided for exploring alternatives to using potable water for this purpose; as the region is expected to experience continued pressure on potable water sources due to climate change. Has the use of river water been considered for the batch concrete plant?	Water for use in mixing mortar for masonry construction must be fit for human consumption. River water could contain organic impurities that might affect the mortar's properties. Notwithstanding, the source of potable water has not yet been determined. There is the potential for connection to a municipal/regional source, or secure by truck.	N/A	N/A
152	Additional Information required in the Detailed Project Description to inform the Readiness Decisions	City of Richmond	* Section 6.6 of the IPD should be updated to include reference to any anticipated Municipal Agreements that will result from the tunnel works, if applicable.	Municipal agreements are in the initial stages of development between the Project team and select stakeholders. As agreements progress and become confirmed they will be referenced in future descriptions of the project.	N/A	N/A
153	Other comments/questions	City of Richmond	* Section 5.2, bottom of Page 31: Sentence should read as “Land adjacent to and east of the north tunnel approach roads and portal is designated as agricultural, while land adjacent to and west of the north tunnel approach is designated as mixed employment (which is inclusive of industrial, commercial, and other employment - related uses) and industrial”	Section 5.2 of the IPD (now Section 7.4 in the DPD) has been updated to capture this language.	Section 7.4 Land Designations and Ownership	N/A
154	Other comments/questions	City of Richmond	* Given that the City and MoTI drainage systems are interconnected, additional work must be done by MoTI to plan and construct new drainage infrastructure that can accommodate large rainfall events and to proactively maintain existing drainage infrastructure. The City expects that MoTI will improve drainage along the Highway 99 corridor from the north to south end of Lulu Island by increasing the overall drainage system capacity.	For the areas within the project limits and affected by the project, improvements to the drainage system will be provided to maintain hydraulic grade lines through the system to existing conditions during the design storm events including future climate change requirements.	N/A	N/A
155	Other comments/questions	City of Richmond	* Consider depositing the dredged material on Sturgeon Bank.	Comment has been noted. The Proponent is committed to complying with the hierarchy of preferences for the management of dredged sediments based on the guidance of the Canadian Environmental Protection Act, SC 1999, c. 33, which provides expectations for the assessment of waste disposal, including beneficial re -use and upland disposal as preferred alternatives to disposal at sea.	N/A	N/A
156	Other comments/questions	City of Richmond	* Table 5.5-1 should be updated to include reference to the City’s Industrial Lands Intensification Initiative; as the project is located in an area identified for industrial uses by the City: (https://www.richmond.ca/ shared/assets/ILII_GP_01052157450.pdf).	Table 7.6-1 (formerly Table 5.5-1) of the DPD has been updated to include reference to the City’s Industrial Lands Intensification Initiative. This management plan will be considered relevant to the assessment of potential Project effects on Land and Resource Use in the EAC Application.	Table 7.6-1 Land and Water Use Management Plans	N/A
101	Table 5.5-1 Land and Water Use Management Plans	Fisheries and Oceans Canada	The column 'Responsible Agency' in Table 5.5 -1 cites 'Department of Fisheries and Oceans'. Please refer to DFO as 'Fisheries and Oceans Canada'.	Table 5.5-1 of the IPD (now Table 7.6 -1 of the DPD) has been revised to reflect the correct reference to DFO as ‘Fisheries and Oceans Canada’ in the DPD.	Table 7.6-1 Land and Water Use Management Plans	N/A
102	Section 3.3 Project Schedule	Fisheries and Oceans Canada	Section 3.3 states that 'In -river construction activities are planned to occur during the Fisheries and Oceans Canada (DFO) least risk window (July 16 to February 28) [...]'. DFO notes that the proposed Project location is bounded by two timing windows: -Fraser River Estuary (from mouth upstream to Oak Street Bridge and the George Massey Tunnel): July 16 - February 28; and -Fraser River Estuary (from Oak Street Bridge and George Massey Tunnel to Mission Bridge): June 16 - February 28. DFO recommends a precautionary approach when applying timing windows to instream works for the protection of fish and fish habitat.	The Proponent agrees with the precautionary approach when applying timing windows related to instream works for the protection of fish and fish habitat. Accordingly, the least risk window from July 16 to February 28 was referenced in Section 3.3, corresponding to the more conservative of the two timing windows within which the Project location is bounded.	N/A	N/A
103	Table 6.5-1: Anticipated Authorizations and Permits	Fisheries and Oceans Canada	The column 'Permit' in Table 6.5 -1 lists 'Section 35(2) Authorization'. Under the amended *Fisheries Act* , an authorization is referred to as a 'Paragraph 34.4(2)(b) and 35(2)(b) *Fisheries Act* Authorization'. Please update Table 6.5 - 1 accordingly.	IDP Table 6.5-1 (now Table 8.5-1 of the DPD) has been updated in the DPD to reflect the current paragraph references to a Fisheries Act Authorization under the amended Fisheries Act [i.e. 'Paragraph 34.4(2)(b) and 35(2)(b)]	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	N/A
104	Section 8.1.4 Underwater Noise	Fisheries and Oceans Canada	Section 8.1.4 states that ambient underwater noises levels recorded in 2014 will be used as baseline data to model potential auditory and behavioural impacts to fish and marine mammals associated with exposure to elevated levels of underwater noise during construction (e.g., during pile driving). Since ambient underwater noise levels in the Fraser River may have changed since 2014 (e.g., with the construction and operation of new marine terminals and related shipping), DFO recommends collecting new Project -specific data to better reflect existing baseline conditions when modeling underwater noise impacts on fish and fish habitat.	The increase in underwater noise from the proposed Project is an indicator in the assessment for marine mammals and fish. When considering the effects of underwater noise on these species, we will compare the noise generated by the Project to thresholds for injury and behavioural disturbance. There currently are no “above baseline” dB values presented in any guidance or scientific literature that would allow us to characterize the effects of underwater noise other than comparing it to thresholds. For the assessment of operational noise from traffic within the new immersed tube tunnel, we have proposed that the assessment use the underwater noise levels recorded near the existing George Massey Tunnel (in 2014) by JASCO to determine how an increase in traffic volumes may increase these chronic noise levels. We consider the 2014 information sufficient for these purposes as it captures baseline noise levels close to the George Massey Tunnel during a 24 -hour operating period, and would capture the range in noise levels generated over a days traffic pattern, including high traffic periods where noises would expect to be highest. In addition, these data are likely to be more indicative of non -pandemic traffic patterns which will provide a better understanding of baseline conditions from which modelling can be completed. This information will be incorporated into Underwater Noise Modelling program that considers relevant behavioural and injury thresholds for marine mammals and fish to characterize potential effects and would be summarized in the Underwater Noise Modelling Report. The underwater noise levels generated by the Project will also be discussed in general as they relate to the current state of the environment and the fact that the species currently occupy the area. This can be done by comparing existing activities in the river with the activities generated by the Project (e.g., on -going maintenance dredging versus dredging proposed for the tunnel). In terms of the assessment, it makes the most sense to include this level of discussed/comparison in the EAC Application when justifying the effects of the underwater noise on specific species. Baseline underwater noise values are important when determining what is termed a loss in communication space, referred to as a listening range reduction (LRR). This metric assesses the percentage decrease in the maximum distance an animal can acoustically detect an important sound producer, such as prey or other vocalizing animals, due to increased masking noise. LRR has been used in several recent studies as a proxy metric for acoustic masking although there are limitations in this approach. There are no established regulatory thresholds under any jurisdiction that would aid in the determination of significance of acoustic masking effects on marine mammals. Characterization of acoustic masking effects is an emerging science and a complex phenomenon. Masking levels can be variable and dependent on several factors including: physiological and anatomical characteristics, activities of the sender and receiver, levels of ambient noise and the degree of habituation of the individuals, as well as any anti -masking strategies employed. More research is needed to understand the process and biological significance of masking, as well as the risk of masking by various anthropogenic activities, before masking can be incorporated into regulation strategies or approaches for mitigation (Erbe et al. 2016). At present, we do not anticipate that a quantitative assessment of acoustic masking will be required for this Project due to its location (in freshwater/estuarine region) and the nature of the proposed Project activities which for marine mammals, will be limited to effects generated by a small number of vessels in the Strait of Georgia. Erbe, C., M. Ainslie, C. DeJong, R. Racca and M. Stocker. 2016. Summary report panel 1: The need for protocols and standards in research on underwater noise impacts on marine life. . In Popper, A. and A. Hawkins (eds.). The effects of noise on aquatic life. Springer, New York. 1265 -1271.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
105	Section 8.1.5 Fraser River Hydrology	Fisheries and Oceans Canada	Dredging will re-suspend sediment into the water column and create an area of sediment deposition in and around the dredge pocket. The size, profile, and density of the resulting sediment plume, and the subsequent deposition of sediment onto nearby habitats depends on the dredging equipment, local hydrology, and sediment conditions, among other factors. Since the deposition of sediment has the potential to adversely affect fish habitat (e.g., by burying sensitive habitats or changing the substrate type), DFO recommends using a sediment dispersion model to predict the area of habitat potentially affected by sediment deposition. DFO will rely on this information to assess whether dredging is likely to result in prohibited effects under the *Fisheries Act* and therefore require a *Fisheries Act* authorization.	We understand and appreciate the importance of sediment dispersion modelling to DFO. We agree that this is an important task to understand the impacts of dredging. We intend to undertake sediment dispersion modelling.	N/A	N/A
117		Ministry of Land, Water and Resource Management	Approximate size of the dredge cuts(s) LxWxD and volume of dredgeate - mitigation of impacts of dredging on sturgeon	The approximate dimensions and design of the dredge cut will be formalized as Project design advances. The assessment of dredge activities impact on valued components, including sturgeon, will be provided in the EAC Application, along with specific impact avoidance and mitigation measures will be identified to avoid and limit impacts of dredging on sturgeon and other fish species. The scope of the EAC Application assessment will be provided in the draft Application Information Requirements to the Technical Advisory Committee for review during the Process Planning Phase.	N/A	Yes
118		Ministry of Land, Water and Resource Management	Area of permanent impacts to aquatic and terrestrial habitats	Section 8.2.2 of the IPD notes that the Project could result in loss of wildlife habitat. Areas of potential permanent versus temporary impacts to aquatic and terrestrial habitats will be determined as the base engineering concept for the Project is refined during preparation of the EAC Application. Mitigation measures will be identified to avoid, minimize, restore, and/or offset potential permanent impacts to aquatic and terrestrial habitats as part of the EAC Application	N/A	Yes
119		Ministry of Land, Water and Resource Management	Area of temporary impacts to aquatic and terrestrial habitats	Section 8.2.2 of the IPD and Section 10.1.9 of the DPD note that the Project could result in temporary impacts to wildlife and degradation of habitat due to disturbance through sources such as noise. Direct and indirect habitat losses have also been added into Table 10.6 -1 (summary of preliminary effects and mitigation strategies) of the DPD. Areas of potential permanent impacts versus temporary impacts to aquatic and terrestrial habitats will be determined as the base engineering concept for the Project is refined during preparation of the EAC Application. Mitigation measures will be recommended to avoid and/or minimize potential temporary impacts to aquatic and terrestrial habitats as part of the EAC Application.	10.1.9 Wildlife and Wildlife Habitat Table 10.6-1 Summary of Preliminary Potential Effects, Mitigation and Management Strategies	Yes
120		Ministry of Land, Water and Resource Management	Duration of temporary instream impacts (i.e., time to recover)	The duration of temporary instream impacts will be assessed as part of the EAC Application assessment and will be captured within the River Hydraulics and Morphology, Surface Water and Sediment Quality, Fish and Fish Habitat, and Marine Mammal assessments. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
121		Ministry of Land, Water and Resource Management	Temporary and permanent impacts to hydrology	Temporary impacts to river hydraulics are expected during in-river construction. A detailed assessment of the Project impacts (temporary and permanent) on river hydraulics will be conducted as part of the EAC application. It is expected that river velocities and water depths will be locally altered due to the dredging during in -river construction activities. This information is included in Section 10.1.5 of the DPD.	10.1.5 River Hydraulics and Morphology	Yes
122		Ministry of Land, Water and Resource Management	Area of Rip rap shoreline and Rip rap bottom armouring	The approximate dimensions and design of the shoreline rip rap and bottom armouring across the Fraser River will be confirmed as Project design advances. Specific impact avoidance and mitigation measures will be identified to avoid and limit impacts. The assessment of rip rap and armouring activities impact on valued components will be provided in the EAC Application. The scope of the EAC Application assessment will be provided in the draft Application Information Requirements to the Technical Advisory Committee for review during the Process Planning Phase.	N/A	Yes
123		Ministry of Land, Water and Resource Management	River Closing Schedule	It is anticipated that a number of river closures will be required for tunnel construction, and six closures for existing tunnel demolition. However, the exact number of closures and duration of the closures will not be confirmed until the Project advances through the EA and other permitting processes with Transport Canada to determine the appropriate timing. This information has been updated in the DPD in Table 5.3 -1. The timing of the closures of the river will be undertaken during the approved in -river works window of least impact to fisheries resources (i.e. July 16 – February 28) and will be communicated to marine users and other stakeholders once known.	Table 5.3-1 Description of Project Activities	Yes
124	Baseline Information/Studies	Ministry of Land, Water and Resource Management	Freshwater Study Area Fish and fish habitat within the Site and the following areas immediately surrounding the Site. The South Arm of the Fraser River, from the project area, downstream to Sand Heads Light station Fresh water habitats need to include the altered streams (ditches) that currently drain the upland side of the dike and not just Tilbury slough	The proposed spatial boundaries for Fish and Fish Habitat studies includes the Fraser River South Arm (including Canoe Pass) extending from the river mouth to 1,000 m upstream of the Project alignment, as well as 500 m on either side of the Project alignment in upland area. The study area for Fish and Fish Habitat includes upland watercourses (e.g., rivers, streams, sloughs, and ditches) located within these spatial boundaries, which include ditches on the upland side of the dike. Field assessments will be conducted for tributaries and ditches on the upland side of the dike and will include assessment of riparian and aquatic habitat values, as well as fish species and life stage presence. These spatial boundaries will be further defined through input and consultation with Indigenous nations and the Technical Advisory Committee during development of the DPD in the Early Planning and Process Planning phases through VC selection and scoping discussions as well as input provided on the draft Application Information Requirements (dAIR).	Table 10.1-11 Summary of Topics Related to Fish and Fish Habitat Arising from Early Engagement	Yes
125		Ministry of Land, Water and Resource Management	Cumulative Impacts to riparian habitats and salt marshes	The EAC Application will include the assessment of cumulative effects of other development and activities on saltwater marshes on the South Arm of the Fraser River.	N/A	Yes
126		Ministry of Land, Water and Resource Management	Following the BC Environmental Mitigation Policy hierarchy of mitigation measures for both temporary and permanent impacts The mitigation hierarchy and the corresponding types of mitigation measures to be applied under this Policy are outlined here, in order of priority. All feasible measures should be considered and applied at one level before moving to the next. a. avoid impacts on environmental values and associated components. b. minimize impacts on environmental values and associated components. c. restore on-site the environmental values and associated components that have been impacted. d. offset impacts on environmental values and associated components. Considerations made in moving from one level of the hierarchy to the next should be documented in a detailed mitigation plan.	The Proponent intends to engage and collaborate closely with Indigenous nations, DFO, Ministry of Forests (formerly FLNROD), local governments, and stakeholders to develop a detailed mitigation plan that is consistent with the BC Environmental Mitigation Policy hierarchy of mitigation measures, focusing efforts in a sequential manner on impact avoidance, minimization, restoration, and finally offsetting.	N/A	N/A
127		Ministry of Land, Water and Resource Management	Protecting habitat mitigation from climate change effects Any proposed habitat offsets need to consider climate change models regarding water levels over the long term	The habitat offsetting program will take into consideration the effects of climate change, including models of future anticipated water levels. The habitat offsetting program will also include a long term environmental effects monitoring program to evaluate the effectiveness of the mitigation measures, and productivity of the constructed and enhanced habitats in response to climate change.	N/A	N/A
174	General	Ministry of Land, Water and Resource Management	References to FLNRORD should be changed to the Ministry of Land, Water and Resource Management [LWRS] and/or the Ministry of Forests [FOR] for Decisions under the Wildlife Act	References to the former FLNROD have been updated and changed to the Ministry of Land, Water and Resource Management (LWRS) and/or Ministry of Forests (FOR) for Decisions under the Wildlife Act.	N/A	N/A
175	8.2.3 Fish and Fish Habitat	Ministry of Land, Water and Resource Management	How will the proponent assess the potential impacts to fish and fish habitat within the Site and the following areas immediately surrounding the Site: The South Arm of the Fraser River, from the project area, downstream to Sand Heads Light station	The scope of the fish and fish habitat assessment, including the spatial boundaries of the assessment beyond the Project footprint, will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment. Potential effects to fish and fish habitat in the identified areas will be assessed through examination of appropriate potential impact pathways. In addition to the construction and footprint effects in the Project area, results from the surface water quality, underwater noise modelling, and river morphology studies will be used to assess potential effects on fish and fish habitat. Mitigation measures will be identified to reduce potential adverse effects. Where valuable fish habitat may be lost as a result of the Project a habitat offsetting plan will be developed and implemented to restore, enhance, and create new fish habitat within the lower Fraser River. Details of the mitigation measures and habitat offsetting program will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders and provided in the Project EAC Application.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
176	8.2.3 Fish and Fish Habitat	Ministry of Land, Water and Resource Management	LWRS data indicates that juvenile sturgeon use the area particularly in low salinity conditions. Request that the proponent assess the juvenile suitable / presence during low salinity conditions.	A targeted angling program for juvenile sturgeon is occurring between May and September 2022 which coincides with lower salinity conditions in the Project area. The Proponent is interested in obtaining the LWRS data on juvenile sturgeon use of this area and any other sturgeon data available for this area for use in assessing potential effects, identifying applicable mitigation measures, and for contributing to the habitat offsetting program. This assessment will be provided in the EAC Application.	N/A	Yes
177	8.2.3 Fish and Fish Habitat	Ministry of Land, Water and Resource Management	What are the potential impacts of dredging, drilling and pile driving on sturgeon? This includes assessing the impacts to feed sources such as eulachon etc.	A Fish and Fish Habitat Assessment will be completed as part of the EAC Application to identify potential direct and indirect impacts to fish and their habitat during the construction and operation phases of the proposed Project. The assessment will consider the potential impacts of dredging, drilling and pile driving on sturgeon. Mitigation measures will be developed for potential adverse effects. The scope of the assessment of fish and fish habitat will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
178	8.2.3 Fish and Fish Habitat	Ministry of Land, Water and Resource Management	As decommissioning is scheduled immediately after construction is complete, any mitigation or offset must consider the impacts of the proposed 3 year period	Decommissioning the existing George Massey Tunnel is part of the Project, and therefore, the EAC Application will include an assessment of potential effects, mitigation measures, and habitat offsetting programs related to this Project component.	N/A	Yes
179	8.2.2 Wildlife and Wildlife Habitat	Ministry of Land, Water and Resource Management	What is the total area of permanent impacts to aquatic, riparian and terrestrial habitats and how will they be assessed and mitigated or offset?	Permanent impacts to aquatic, riparian, and terrestrial habitats will be assessed and detailed in the EAC Application. Permanent impacts will be assessed for both quantity and quality of habitat. A hierarchal approach will be taken to avoid, minimize, mitigate and offset these impacts. The specific details around mitigation and offsetting will be developed through consultation with Indigenous nations, regulatory agencies, local government, and stakeholders during the development of the EAC application, and through Project permitting phases.	N/A	Yes
180	8.2.2 Wildlife and Wildlife Habitat	Ministry of Land, Water and Resource Management	What is the total area of temporary impacts to aquatic, riparian and terrestrial habitats and how will they be assessed and mitigated or o ffset? o What is the duration of temporary instream impacts? (i.e. time to recover)	Temporary impacts to aquatic, riparian, and terrestrial habitats will be assessed during the EAC Application. Temporary impacts will be assessed for both quantity and quality of habitat. A hierarchal approach will be taken to avoid, minimize, mitigate and offset these impacts. The specific details around mitigation and offsetting will be developed through consultation with Indigenous nations, regulatory agencies, local government, and stakeholders during the development of the EAC application, and through Project permitting phases.	N/A	Yes
181	8.2.2 Wildlife and Wildlife Habitat	Ministry of Land, Water and Resource Management	What is the area of rip rap shoreline and rip rap bottom armouring and how will the effects be assessed and mitigated or offset?	The approximate dimensions and design of the shoreline rip rap and bottom armouring across the Fraser River will be confirmed as Project design advances. Specific impact avoidance and mitigation measures will be identified to avoid and limit impacts. The assessment of rip rap and armouring activities impact on valued components will be provided in the EAC Application. The scope of the EAC Application assessment will be provided in the draft Application Information Requirements (dAIR) to the Technical Advisory Committee for review during the Process Planning Phase.	N/A	Yes
182	8.2.2 Wildlife and Wildlife Habitat	Ministry of Land, Water and Resource Management	What are the projects potential effects on salt marsh habitat? How will they be assessed and mitigated or offset? The assessment should consider the historic, cumulative effects of development on salt marsh habitat on the South Arm of the Fraser River	Saltwater marsh habitats are within the scope of our wetland function assessment, which is part of our existing conditions field program. This field program will delineate and classify saltwater marshes and quantify their existing function. These data will be used to determine if direct and indirect interaction between the project and saltwater marshes are likely. The assessment of effects on salt marsh habitat will be provided in the EAC Application. Direct interactions with saltwater marshes are not anticipated at this time (e.g., direct removal); however, indirect interactions are possible (e.g., water runoff, spread of invasive plants, garbage, changes to wetland function). The assessment will consider the historic, cumulative effects of development on saltwater marshes along the South Arm of the Fraser River. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
183	8.2.2 Wildlife and Wildlife Habitat	Ministry of Land, Water and Resource Management	Is there an opportunity to enhance river habitat? i.e. opening the causeway on Deas slough	Habitat offsetting requirements have not yet been determined and will be developed in consultation with Indigenous nations and regulators. The Proponent will be preparing a Fish Habitat Offsetting Conceptual Program that will take into consideration a combination of habitat restoration, enhancement, and creation opportunities within the lower Fraser River area, including among others, potential for opening the Deas Island causeway.	N/A	N/A
184	8.6 Effects of the environment on the Project - sea level rise	Ministry of Land, Water and Resource Management	Any change in sediment load on the Fraser River has the potential to affect resilience to climate change. What are the expected sediment load changes and how might they impact climate change resilience on any proposed mitigation or offset ?	The potential for sediment load changes will be assessed as part of the River Hydraulics and Morphology section of the EAC Application. These changes will be used in the assessment of potential climate change impacts, and monitored during Project construction and operation to assess resilience on mitigation measures and habitat offsetting. The scope of the assessment of will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
185	8.6 Effects of the environment on the Project - sea level rise	Ministry of Land, Water and Resource Management	Any change in sediment load on the Fraser River has the potential to affect resilience to climate change. What are the expected sediment load changes and how might they impact climate change resilience on the South Arm Marshes, Roberts Bank and Sturgeon Bank Wildlife Management Areas?	The salt marshes are nourished by fine sediments supplied by the Fraser River washload that are transported in suspension. Concentrations of suspended sediment in the lower Fraser River are influenced by numerous factors including river discharge (and the discharge leading up to an event); land use; and upstream mass movements (inputs). Climate change is expected to alter the river discharge regime and the tidal water levels, and these changes could potentially affect suspended sediment loads. Previous and ongoing work has forecast these expected changes in hydrology. As indicated in response to comment number 184, the potential for sediment load changes will be assessed as part of the River Hydraulics and Morphology section of the EAC Application. These changes will be used in the assessment of potential climate change impacts, and monitored during Project construction and operation to assess resilience on mitigation measures and habitat offsetting.	N/A	Yes
186	8.2.1 Vegetation and Terrestrial Ecosystems	Ministry of Land, Water and Resource Management	The IPD talks about two red listed ecological communities that overlap with construction area: large -headed sedge (Carex macrocephala) herbaceous vegetation beach ecosystem, and Sitka willow - Pacific willow / skunk cabbage (Salix sitchensis - Salix lasiandra var. lasiandra / Lysichiton americanus) swamp"... IPD should provide reasoning if avoidance is not an option.	As part of the EAC Application, potential effects to the red -listed ecological communities will be further characterized, and mitigation measures identified to avoid, mitigate and/or offset these impacts. When identifying mitigation measures a hierarchal approach will be taken to avoid, minimize, mitigate and offset impacts.	N/A	Yes
35	3.5 Alternatives to the Project	Metro Vancouver	The IPD appears to acknowledge a number of transportation benefits while downplaying risks. For example, transit capacity is cited as a contributor to mode shift and bike/ped facilities are identified as incentives for active transportation (again, mode shift). However, the general purpose lane capacity increases would work at cross -purposes and encourage more driving. The IPD is selective in describing these GP capacity improvements, suggesting they would decrease congestion and improve reliability without influencing the demand for driving. Reducing congestion on this highway will attract motorists (triple convergence) and it will stimulate urban development (induced demand). Key questions that should be considered include: How will these effects be mitigated? How will travel demand be managed? From the public's perspective: How will this impact traffic/congestion?	The improvements to GP lane capacity associated with the provision of 3 continuous modern standard GP lanes in each direction and removal of the existing counter -flow lane system is intended to provide capacity relief to the current traffic congestion and un -serviced demand. The provision of a dedicated transit lane in each direction and active transportation facilities would allow for mode shift of both current and future traffic demands.	N/A	N/A
36	11 - References	Metro Vancouver	For RGS reference ("Metro Vancouver. 2015. Regional Growth Strategy") please use Metro Vancouver hyperlink instead of City of Vancouver.	This will be updated in the DPD; the Metro Vancouver hyperlink will be used when referencing the 2015 Regional Growth Strategy.	15 References	N/A
37	5.4 Project Water Requirements	Metro Vancouver	The source of the potable water should be confirmed as well as the projected average day demand and projected peak flows. Will need to confirm that there is capacity in the distribution system at the connection point.	The source of potable water has not yet been determined. There is the potential for connection to a municipal/regional source, or secure by truck. During construction, we anticipate the need for approximately 60 cubic meters/month primarily for use by on site staff usage, assuming concrete delivery by truck to site. During tunnel operation, the only use for potable water is, for example, in kitchen/rest rooms in the tunnel operations building. Water for fixed fire fighting system use may be delivered by truck.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
38	1.1 - MUP discussion, as per May 20 meeting between TI Corp and MV staff	Metro Vancouver	A cycling connection between the FRTP Multi-Use Pathway (MUP) and Deas Island Regional Park trails would cause significant operational issues within the park due to incompatibility of cycling with current trail design and existing equestrian use. Cycling connections are currently available to the park through the existing Millennium Trail connection; an additional connection for cyclists to access the park through the park is not a necessity given the planned MUP connection with the Millennium Trail. A cycling connection to the park is problematic for several interconnected reasons: 1. Cycling commuter use will be 24/7, whereas the park is closed dusk to dawn. The park is an unlit nature park, and public access outside of open hours is not and will not be permitted (safety and liability concerns, etc.). Any direct connection into the park would need to be constructed to physically bar after-hours access. 2. Park trails are constructed to pedestrian-only standard (narrow, winding) or to be shared with equestrians, whereas MUP users by contrast will be a mixture of cyclists and pedestrians. As a cycling connection is incompatible with current park trails, such a connection would introduce safety and other issues (note that signage etc. requiring cyclists to dismount and walk bikes while in the park is not a solution - this is an ongoing issue at numerous other parks, where cyclists will not comply with requirements to dismount expressed through signage and enforcement, creating user and wildlife safety issues). 3. A cycling connection to the park from the MUP would likely lead to active transportation commuter users using the limited parking available in the park for informal 'Park and Ride,' getting them closer to the tunnel from their neighbourhoods. This could significantly reduce or eliminate parking availability for park users. Any 'Park and Ride' use would also likely lead to vehicles remaining in parking lots past park closing hours (particularly in months with earlier dusk). New measures such as signage and enforcement would need to be brought in to discourage issues associated with any such new pattern of use. To support a pedestrian connection to the park from the MUP: Any MUP connection would need to be designed with a gate that would automatically shut at park closing times to stop users from accessing the park after hours. Access for pedestrians would be easily supported by current park infrastructure, so the gating mechanism should also be designed to be 'access-restricting' for cyclists (e.g., 'kissing gate' incorporated into design), and MUP signage should direct cyclists to use the Millennium Trail connection as an alternative route to the park (at the existing Millennium Trail connection, bike racks are provided so cyclists can lock bikes up and walk the trails). A bike rack should be available on the MUP side of the gate to allow cyclists to lock bikes and walk the park's pedestrian trails. The MUP outlet area should also be designed with comprehensive and secure fencing (e.g., Omega architectural fencing systems) that ensures that MUP users cannot 'unofficially' access the park by creating unauthorized access points (i.e., habitat damage to the park) to use the park after hours and/or to use the park for unauthorized cycling. MVRD Parks requests a specific meeting with TI Corp/MOTI/designers and City of Delta staff to discuss MUP connection opportunities and constraints.	Thank you for the feedback. The Project commits to continuing to meet with Metro Vancouver Parks to better understand the preferred MUP connections on Deas Island and to mitigate any impacts if a connection is to be included.	N/A	N/A
39	Temporary Workspace within Deas Island Regional Park	Metro Vancouver	Note that MVRD Parks requires more specific data (e.g., arcGIS shapefile projected in UTM NAD 83 zone 10) and/or mapping that illustrates the proposed FRTP temporary workspace in order to provide comment on impacts and associated concerns.	Figures with footprints of temporary work areas are included in the Detailed Project Description. The Proponent will share arcGIS shapefiles projected in UTM Nad 83 zone 10 with MVRD. Iterations of maps and shapefiles are being shared through regular dialogue with MVRD. Temporary land requirements outside of the Highway 99 ROW will continue to be developed as the engineering and property requirements for the Project are further defined and will be reflected in subsequent stages of the EA process. Opportunities for MVRD to comment on impacts and associated concerns with the use of Deas Island Park will be ongoing through the EA Readiness, Process Planning, Application Development, and Application Review Phases of the environmental assessment.	Figure 5.2-1 Project Footprint and Components	Yes
40	Table 3.1-1 Project Components	Metro Vancouver	A longer Deas Slough Bridge may put the southern abutment over the GVWD River Road West Main. Please confirm if this will be addressed in the Detailed Project Description.	We are aware of the existing MV River Road West watermain located near the south approach of the Deas Slough Bridge. The location of this watermain will be considered in order to minimize impacts as we finalize the Reference Concept configuration.	N/A	N/A
41	Table 3.2-1 Description of Project Activities	Metro Vancouver	Marine equipment for work on the Deas Slough Bridge will transit Lulu Island-Delta Water Main Deas Slough Crossing to the west. Work staging and safety plans to be reviewed by MV prior to work commencing. No spudding within 30 m of pipe crossing.	We are aware of the existing Lulu Island-Delta Water Main. The location of this watermain will be considered in order to minimize impacts as we finalize the Reference Concept configuration. The Proponent will continue to engage with Metro Vancouver to better understand potential impacts and mitigations to protect existing infrastructure.	N/A	N/A
42	Initial Project Description document	Metro Vancouver	The project mentions in a number of areas the possible need for temporary workspace beyond the lands owned by MOTI and owned by MVRD. Such requirement will require a temporary licence agreement to be granted by MVRD to MOTI. MVRD needs to determine if this is amenable to them.	More detailed figuresare provided provided in the Detailed Project Description. The Proponent will share arcGIS shapefiles projected in UTM Nad 83 zone 10 with MVRD. Iterations of maps and shapefiles are being shared through regular dialogue with MVRD.	Figure 5.2-1 Project Footprint and Components	N/A
43	Initial Project Description document	Metro Vancouver	Please also quantify the GHG impact of incidental activities in relation to this project (i.e., change in traffic flow patterns/congestion because of the new immersed tube tunnel and corresponding impact on GHGs related to vehicles that will be using the tunnel).	The scope of the greenhouse gas (GHG) emissions provided in the IPD are consistent with EAO's Early Engagement Policy, Version 1.0 (2019). The scope of the GHG emissions assessment associated with incidental activities related to the Project due to changes in traffic flow patterns, congestion, and vehicles using the new immersed tunnel will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
44	Initial Project Description document	Metro Vancouver	Please use the federal Strategic Assessment on Climate Change (SACC) to conduct the GHG assessment. While this project does not trigger a federal impact assessment and therefore is not bound by the SACC, the SACC provides a strong framework for the evaluation of GHG emissions.	The Project does not trigger a federal impact assessment and therefore the SACC will not be applied to the assessment. Greenhouse gas emissions will be evaluated consistent with provincial guidance in part provided in the EAO's Effects Assessment Policy (Version 1.0), the Application Information Requirements Guideline (Version 1.0), and CleanBC's Roadmap to 2030.	N/A	N/A
45	Initial Project Description document	Metro Vancouver	The April version of the IPD notes that scope of the dispersion modelling will be determined during the Process Planning Phase as part of the Application. It would be beneficial to prepare and submit the dispersion modelling plan to Metro Vancouver for review and comment prior to commencing any air dispersion modelling. The model plan template can be found here: http://www.metrovancouver.org/services/Permits-regulations-enforcement/PermitRegulationEnforcementPublications/MVDispersionModellingPlan.docx	An air dispersion model plan will be submitted to Metro Vancouver during the Process Planning Phase in conjunction with development of the draft Application Information Requirements, prior to the start of dispersion model.	N/A	Yes
46	Table 3-1-1, Page 11	Metro Vancouver	There is a potential impact on MV River Road West Water Main at the south approach. A complete review of any proximal impacts to MV's Infrastructure must be done for any activities within the project footprint.	We are aware of the existing MV River Road West watermain located near the south approach of the Deas Slough Bridge. The location of this watermain will be considered in order to minimize impacts as we finalize the Reference Concept configuration.	N/A	N/A
47	Section 5.2- Pages 30-32	Metro Vancouver	Full review of the project impacts on River Road West Main right of way and access to be conducted to ensure that access for operations and maintenance of the main is not impacted negatively by the tunnel project.	We are aware of the existing MV River Road West watermain located near the south approach of the Deas Slough Bridge. The location of this watermain will be considered in order to minimize impacts as we finalize the Reference Concept configuration.	N/A	N/A
48	Section 8.3.5 - Page 60	Metro Vancouver	On page 60 of the IPD, MV's Lulu Island-Delta Water Main has been noted as an utility in proximity of the tunnel project. River Road West Water Main is another MV utility in the south approach that should also be noted here in the IPD.	The DPD has been updated to include River Road West Water Main as another Metro Vancouver utility.	Section 10.3.4 Infrastructure and Services	N/A
49	Table 8	Metro Vancouver	Please add that MV's interest in the project includes the potential effects of the project on our infrastructure.	This change will be made to our records and reflected in the FRTP Engagement Plan.	N/A	N/A
50	Table 8	Metro Vancouver	Incorrect email addresses have been provided for Metro Vancouver in Table 8. Please revise the email addresses to the following: Catherine Braun Rodriguez Senior Policy and Planning Analyst Catherine.Braunrodriguez@metrovancover.org Neal Carley General Manager, Parks & Environment Neal.Carley@metrovancouver.org	This change will be made to our records and reflected in documents moving forward.	N/A	N/A
96	Table 3.2.1: Description of Project A	Ministry of Environment and Climate Change Canada	In reference to the 'management of excavated material in an approved manner' listed for the casting basin in Table 3.2.1, ECCC notes that while many of the chemical and physical requirements for the dredged and excavated material may be similar, the approach for the assessment of excavated material subject to Disposal at Sea is different for dredge material. ECCC requests the Proponent confirm whether this material is planned for Disposal at Sea. Further information on ECCC's Disposal at Sea permitting program is provided below.	Alternative uses for excavated materials will be explored. The Proponent will maximize the volume of excavated material that can be recycled or re-purposed. Remaining volumes of excavated material will be disposed of at an approved facility. Disposal at sea may be utilized for excavated material where other feasible disposal option are limited, the Proponent will engage with ECCC (DAS program) to understand sampling and testing requirements in advance of permitting in accordance with ECCC guidance.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
97	Table 3.2.1: Description of Project A	Ministry of Environment and Climate Change Canada	In reference to 'dredging and installation of piles and decking' listed for the outfitting jetty in Table 3.2.1, ECCC requests the Proponent confirm whether this material is planned for Disposal at Sea.	Alternative uses for excavated materials will be explored. The Proponent will maximize the volume of excavated material that can be recycled or re -purposed. Remaining volumes of excavated material will be disposed of at an approved facility. Disposal at sea (DAS) may be utilized for excavated material where other feasible disposal option are limited, the Proponent will engage with ECCC (DAS program) to understand sampling and testing requirements in advance of permitting in accordance with ECCC guidance. The Proponent understands that piles and decking are not eligible for disposal at sea. Piles and decking materials will be re -used, recycled, or disposed of at an appropriate upland facility.	N/A	N/A
98	Table 3.2.1: Description of Project A	Ministry of Environment and Climate Change Canada	In reference to 'construction of the north and south tunnel approaches will require ground improvements, deep excavation, onsite water management, and foundation preparation' listed for the north and south approaches in Table 3.2.1, ECCC advises that while many of the chemical and physical requirements for the dredged and excavated material may be similar, the approach for the assessment of excavated material subject to Disposal at Sea is different for dredge material. ECCC requests the Proponent confirm whether this material is planned for Disposal at Sea.	Alternative uses for excavated materials will be explored. The Proponent will maximize the volume of excavated material that can be recycled or re -purposed. Remaining volumes of excavated material will be disposed of at an approved facility. Disposal at sea (DAS) may be utilized for excavated material where other feasible disposal option are limited, the Proponent will engage with ECCC (DAS program) to understand sampling and testing requirements in advance of permitting in accordance with ECCC guidance.	N/A	N/A
99	8.2.2: Wildlife and Wildlife Habitat	Ministry of Environment and Climate Change Canada	ECCC recommends that section 8.2.2 of the Initial Project Description (IPD) include references to Barn Owl critical habitat polygons, which intersect with the Project footprint areas. Information on critical habitat is described in the Barn Owl (Tyto alba), western population: recovery strategy, proposed 2021. Reference: Barn Owl (Tyto alba): recovery strategy, western population, proposed 2021 - Canada.ca	Section 10.1.9 of the DPD (Wildlife and Wildlife Habitat) has been updated to include a reference to the barn owl critical habitat polygons. Additionally, the critical habitat polygons have been added to Figure 10.1 -3.	Section 10.1.9 Wildlife and Wildlife Habitat Figure 10.1-3 Wildlife Features	N/A
100	8.2.2: Wildlife and Wildlife Habitat	Ministry of Environment and Climate Change Canada	ECCC recommends revisions to the following statement on PDF p. 67, 'it is expected that barn swallow nests that may be removed during replacement of the Deas Slough Bridge would be removed outside the specified nesting period in accordance with guidance from Environment and Climate Change Canada (ECCC 2019)'. ECCC advises that barn swallow nests can only be removed outside the nesting period if they are inactive and only if necessary to complete the Project. There is no mechanism for the removal of active barn swallow nests or for the removal of inactive nests during the nesting period. ECCC recommends that the Proponent consider mitigation measures to offset for the loss of any barn swallow nests.	The DPD has been updated in Section 10.1.9 to reference the restrictions applicable to both active and inactive barn swallow nests. The DPD further references the restrictions applicable to barn swallow nest and establish that the Proponent will work with ECCC to develop mitigation measures as part of the EAC Application.	Section 10.1.9 Wildlife and Wildlife Habitat	N/A
193	Page iii Project Schedule	Ministry of Environment and Climate Change Strategy	"Dredge Disposal - The Project would generate sediment from the dredging required for the new ITT and soils from excavation of the portals. The options for disposal are based on the guidance of the Canadian Environmental Protection Act, SC 1999, c. 33, which provides expectations for the assessment of waste disposal. Wouldn't the Environmental Management Act also apply so therefore should be consulted for expectations. Also effluent management from potential de-watering of dredge material before transport."	The text on Page 10 (Section 3.1, Project Components) of the IPD is in particular referencing disposal of dredged material and inorganic excavated soils at sea. Where disposal at an upland facility is necessary, material will be characterized following applicable technical guidance related to the E *nvironmental Management Act* . This has been updated in Section 5.7 (Alternative Means of Carrying out the project) of the DPD, and the *Environmental Management Act* has also been added into Table 8.5 -1 (Anticipated Authorizations and Permits) of the DPD.	Table 5.7-1 Alternative Means of Carrying out the project Table 8.5-1 Anticipated Authorizations and permits	N/A
194	Page 10	Ministry of Environment and Climate Change Strategy	"Casting basin - The tunnel elements will be fabricated in a temporary casting basin. The casting basin will have a base below sea level and that can be dewatered to allow fabrication of the tunnel elements in the dry. The casting basin would be flooded to allow the completed tunnel elements to be floated out. The Ministry Highway 99 ROW on Deas Island is large enough to accommodate a casting basin suitable to cast tunnel elements. Any dewatering would require analysis of the discharge to ensure the effluent meets the water quality standards	Discharge from dewatering will be analysed to confirm the effluent meets the regulatory expectations under the Environmental Management Act regarding prevention of pollution.	N/A	N/A
195	Page 16	Ministry of Environment and Climate Change Strategy	"CONSTRUCTION, OPERATIONS, AND DECOMMISSIONING PHASE ACTIVITIES Construction in and around water should have an approved construction management plan to ensure contaminants are not released into the environment without authorization during this phase of the project."	A Construction Environmental Management Plan will be developed prior to the start of project -related construction, including construction in and around water. This plan will include measure to prevent the unauthorized release of contaminants into the environment.	N/A	N/A
196	Page 24	Ministry of Environment and Climate Change Strategy	"Beneficial use in construction of estuarine marsh and mudflat" I support this	Comment has been noted. The Proponent is committed to complying with the hierarchy of preferences for the management of dredged sediments based on the guidance of the Canadian Environmental Protection Act, SC 1999, c. 33, which provides expectations for the assessment of waste disposal, including beneficial re -use and upland disposal as preferred alternatives to disposal at sea.	N/A	N/A
197	Page 25	Ministry of Environment and Climate Change Strategy	" Upland disposal at a facility Material that cannot be sold or otherwise used for beneficial purposes or that contains contaminants or materials not suitable for alternative disposal may be disposed of at a landfill. Receiving facilities have yet to be identified and could vary depending on the volumes and chemical composition of dredge materials. Receiving facilities would be licensed to accept the volume and chemistry of material being sent." Soil washing may be a possible option then re -used as "clean" material	Thank you for the suggestion. The EAC Application will include an assessment of potential beneficial use options, which may include soil washing. The scope of the beneficial use options assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
198	Page 39	Ministry of Environment and Climate Change Strategy	Regulatory requirement for all soil relocated from a site that has had Schedule 2 activities and/or Independent Remediation and/or Certificate of Compliance Environmental Management Act, SBC 2003, c. 53 Contaminated Sites Regulation, B.C. Reg 375/96, including amendments up to B.C. Reg. 161/2020, February 1, 2021. Ministry of Environment and Climate Change Strategy Soils and sediments may be removed and disposed of off site. May require a waste discharge authorization under the Waste Discharge Regulation for soil and/or effluent if de -watering or during soil storage onsite.	Management of contaminated soil and water onsite should be conducted under "contaminated site contaminant management" scenario of Waste Discharge Regulation, B.C. Reg. 320/2004. In the event that contamination is encountered on Site and its handling or remediation results in generation of effluent, a waste discharge authorization will be sought from Land Remediation Section of the Ministry of Environment and Climate Change Strategy (ENV). Additionally, in in the event that the Site is found to be contaminated and discharge of effluent in the environment is required as part of the remediation method, an Approval in Principle (AiP) application may be submitted to ENV presenting remediation methods, schedule and performance verification plan. An AiP may authorize waste discharge and be used as a permit for contaminated sites only. Reference to permits under the Waste Discharge Regulation have been added to Table 8.5 -1 Anticipated Authorizations and Permits) of the DPD	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	N/A
199	Page 64	Ministry of Environment and Climate Change Strategy	ACCIDENTS AND MALFUNCTIONS Although risks may be low an emergency response plan may be required for spills	Potential accidents and malfunctions, involving spills, during Project construction, operation and decommissioning will be managed through implementation of a project-specific Emergency Response and Spill Contingency Plan. Further details of the Emergency Response Plan and Spill Prevention and Response Plan are provided in the DPD in Section 11, and will be further expanded upon in the EAC Application.	Section 11. Accidents and Malfunctions	Yes
128		Ministry of Forests	WSA and Land Act permit review and processing for restoration and habitat offset areas	The Proponent will support the EAO in the development of a Regulatory Coordination Plan as part of the EA Readiness and Process Planning Phases to identify regulatory permits and approvals required for Project construction, including those required for habitat offsetting. These are anticipated to include, among others, Water Sustainability Act, Land Act, Heritage Conservation Act, and Fisheries Act authorizations. Lands Act approvals has been added to Table 8.5 -1: Anticipated Authorizations and Permits in the DPD and a statement explaining the Permit Plan development as part of the environmental assessment Process.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	Yes
129		Ministry of Forests	WSA and Land Act Permit review and processing for the project itself	The Proponent will support the EAO in the development of a Regulatory Coordination Plan as part of the EA Readiness and Process Planning Phases to identify regulatory permits and approvals required for Project construction and operations. These are anticipated to include, among others, Water Sustainability Act, Land Act, Heritage Conservation Act, and Fisheries Act authorizations. Lands Act approvals has been added to Table 8.5 -1: Anticipated Authorizations and Permits in the DPD and a statement explaining the Permit Plan development as part of the environmental assessment Process.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	Yes
130		Ministry of Forests	Wildlife Act Permit review and processing	Table 6.5-1 of the IPD provides a summary of the potential application of the Wildlife Act.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
187	General	Ministry of Forests	References to FLNRORD should be changed to Ministry of Forests [FOR] for decisions under the Land Act, Dike Maintenance Act and Water Sustainability Act	References to FLNROD have been updated to Ministry of Forests (FOR) for decisions under the Land Act, Dike Maintenance Act, and Water Sustainability Act in the DPD	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	N/A
188	4.5 Dredged material and excavated soils	Ministry of Forests	As marine disposal of dredge material is considered, the project footprint should include the area that would be used for this purpose	As noted in the IPD, the Point Grey Disposal at Sea site is being considered for eligible materials. As the Point Grey Disposal at Sea is an established disposal at sea location it is not considered part of the Project's Footprint, rather it is an offsite Project - related activity. However, the Proponent will assess disposal at sea in the Application. The scope of the assessment of will be outlined in the Project's draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
189	6.5 Anticipated authorizations and permits	Ministry of Forests	The proponent should consider the timing of WSA, DMA and Land Act permit review and adjudication for the timely completion of the project	The Proponent will support the EAO in the development of a Regulatory Coordination Plan as part of the EA Readiness and Process Planning Phases to identify regulatory permits and approvals required for Project construction and operation. The Plan will include expected submission dates of the other permit applications.	N/A	Yes
190	6.5 Anticipated authorizations and permits	Ministry of Forests	The proponent should consider the timing of WSA and Land Act permit review and adjudication for restoration and habitat offset areas	The Proponent will support the EAO in the development of a Regulatory Coordination Plan as part of the EA Readiness and Process Planning Phases to identify regulatory permits and approvals required for Project construction, including those required for habitat offsetting. These are anticipated to include, among others, Water Sustainability Act, Land Act, Heritage Conservation Act, and Fisheries Act authorizations. Lands Act approvals has been added to Table 8.5 -1: Anticipated Authorizations and Permits in the DPD and a statement explaining the Permit Plan development as part of the environmental assessment Process.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	Yes
191	Land and Water Use	Ministry of Forests	"The IPD is quite vague on what land is needed for the construction of the project: T *he majority of the Project would be located within the existing Highway 99 ROW; however, there may be additional land requirements during construction for the southern portion of Deas Island, as well as additional temporary land requirements for the construction site facilities. The location of the temporary construction site facilities and extent of additional land requirements that may be required outside of the Highway 99 ROW will be determined as the engineering and property requirements for the Project are confirmed....* There should be some discussion on expected timelines for knowing when additional land is needed and a list of candidate areas or at least the selection criteria for candidate areas. The concern is that new area may need timely Provincial permitting "	The Project's relation with current land designations, title and ownership is described in Section 7.3 and illustrated in Figure 7.3 -1 of the DPD. The locations of temporary land requirements for construction is shown in Figure 5.2 -1 of the DPD. The temporary use of lands for construction and the construction schedule will be further described as part of the EAC Application. Engineering design and permitting work will be advanced concurrent with the environmental assessment process. Additional temporary land requirements outside of the Highway 99 ROW will continue to be developed as the engineering and property requirements for the Project are further defined and will be reflected in subsequent stages of the environmental assessment process. Changes that are material to the Project Footprint presented in the DPD will be communicated to all relevant Indigenous nations, stakeholders, and provincial and federal regulators as details are finalized. The current understanding of authorization and permitting requirements for the Project is provided in Section 8.5 (Anticipated Authorizations and Permits) of the DPD.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	Yes
192	Land and Water Use	Ministry of Forests	Will the new tunnel require a new Land Act tenure from the Province or any amendment to the existing one?	The consistency of the Project with local planning and zoning, including consideration of tenure, is identified for assessment as a potential effect of the Project on Land and Resource Use (see Table 10.4 -1, summary of Effects, Mitigation and Management Strategies). Engineering design and permitting work will be advanced concurrent with the environmental assessment process. The current understanding of authorization and permitting requirements for the Project is provided in Section 8.5 (Anticipated Authorizations and Permits) of the DPD.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	Yes
200	page iii Project Schedule	Ministry of Transportation and Infrastructure	The Proponent should be aware that DFO's least risk window was shortened to January 31 versus February 28 for the Pattullo project at the behest of the Indigenous groups and will likely do so for this project	Thank you for your comment. The Proponent is aware of the shortened window for the Pattullo Project. For the purposes of the DPD, the window of July 16 to February 28 is proposed.	Table 5.3-1 Description of project Activities Section 5.4 Project Timing and Schedule	N/A
201	Page iv Alternatives to the Project	Ministry of Transportation and Infrastructure	May want to mention that alternatives, such as a smaller bridge were considered.	Alternatives to the Project were described under section 3.5 of the IPD (currently Section 5.6 of the DPD).	Section 5.6 Alternatives to the Project	N/A
202	Page xv Version 1.0	Ministry of Transportation and Infrastructure	K. Fennel should be K. Fennell	The correct spelling of K. Fennell has been provided in the DPD	Version History	N/A
203	Page 1 Sec 1.1	Ministry of Transportation and Infrastructure	Suggest that Highway 99 be defined as Highway 99 in the Lower Mainland. Highway 99 goes all the way to Cache Creek.	The DPD has been updated to include the description of Highway 99 that is within the scope of the Project: Section 5.1 of the DPD describes the project location and boundaries which includes Highway 99. The section of Highway 99 that is within the scope of the Project is defined in Section 5.2 of the DPD as the existing Highway 99 between Steveston Highway and Highway 17.	Section 5.1 Project Location Section 5.2 Project Components	N/A
204	Page 1 Sec 1.1	Ministry of Transportation and Infrastructure	2nd paragraph - "marine port" should be plural	Marine port has been changed to "marine ports" (plural) in Section 1.1 (Project Overview) of the DPD	Section 1.1 Project Overview	N/A
205	Page 6	Ministry of Transportation and Infrastructure	Again, "port" should be plural.	Marine port has been changed to "marine ports" (plural) in Section 1.1 (Project Overview) of the DPD	Section 1.1 Project Overview	N/A
206	P 6 last paragraph	Ministry of Transportation and Infrastructure	What "incidents"? Suggest clarification to "traffic incidents" or "accidents" etc.	The term "incidents" used in Section 2.1 (Project Rationale) of the IPD has been updated to "traffic accidents" in Section 4.1 (Purpose and Rationale) of the DPD.	Section 4.1 Traffic Accidents	N/A
207	P 13	Ministry of Transportation and Infrastructure	Is this rendering for the North approach or just generic?	The rendering on Page 13 of the IPD was for the south approach. The renderings in the DPD have been updated to the current design, with the Multi -use Path in the middle rather that at the east side. As such, the rendering in the DPD is generic and could be either the north or south approaches.	Figures 5.2.2 to 5.2.4 Renderings	N/A
208	P16 Temporary Access Trestle.	Ministry of Transportation and Infrastructure	Roberta Dight of Nav Waters has suggested not using the term "trestle" but instead platform	The term 'platform' does not accurately reflect the scale or use of the temporary access trestle. We will continue to use Trestle.	N/A	N/A
209	P 18 Timing Windows	Ministry of Transportation and Infrastructure	Please see Item 1	Item 1 refers to DFO's least risk window being shortened to January 31 versus February 28 for the Pattullo project at the behest of the Indigenous nations. The Proponent is aware of the shortened window for the Pattullo Project. For the purposes of the DPD, the window of July 16 to February 28 will be used.	Table 5.3-1 Description of project Activities Section 5.4 Project Timing and Schedule	N/A
210	P 22	Ministry of Transportation and Infrastructure	Will there be continuous bus lanes leading up to the tunnel? Will there queue jumping opportunities for Transit?	Yes, bus-only transit lanes will be continuous leading up to the tunnel. The current HOV lanes directly north and south of the tunnel were installed as queue jumps to help alleviate congestion. With the new tunnel there will be an increase in vehicle capacity and average travel speeds that will result in travel time savings for travel between Westminster Highway and Highway 17. HOV lanes will not be re -installed as part of the project. Reference to HOV lanes has been removed from the DPD in section Passenger vehicles will see significant time -travel savings on opening day and steps are being taken to ensure public transit also sees time savings by giving buses a dedicated lane.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
211	P 24 3.6.3	Ministry of Transportation and Infrastructure	Will soil densification and rip rap placement be necessary?	Yes, to meet seismic requirements and erosion protection, soil densification and rip -rap will be required, respectively.	N/A	N/A
212	P 29	Ministry of Transportation and Infrastructure	Suggest that a DAS permit "will" be required for dredgate dumping at sea, not "may"	Comment has been noted. The Proponent is committed to complying with the hierarchy of preferences for the management of dredged sediments based on the guidance of the Canadian Environmental Protection Act, SC 1999, c. 33, which provides expectations for the assessment of waste disposal, including beneficial re -use and upland disposal as preferred alternatives to disposal at sea. Based on the hierarchy mentioned above a DAS permit may be required for dredgeate disposal at sea. Section 6.6 of the DPD has been revised to include this clarification.	Section 6.6 Dredged Material and Excavated Soils	N/A
213	P 31	Ministry of Transportation and Infrastructure	BC Rail is a crown Corp so calling it "private land" is a bit tenuous.	Land ownership of the rail right-of-way is identified as private by the Ministry of Citizens Services – DataBC geodatabase. Information on land ownership for parcels that intersect the Project footprint has been included in Table 7.4 -1 and shown in Figure 7.4-1 within Section 7.3 of the DPD.	Table 7.4-1 Land Ownership Figure 7.4-1 Land Ownership	N/A
214	P 47	Ministry of Transportation and Infrastructure	How will the actual ITT generate additional stormwater run off? I understand how the approaches would. What kind of stormwater management is proposed for the tunnel interior?	The Proponent anticipate that stormwater runoff from approaches may collect in the new ITT. All stormwater collected within the ITT will be collected using sump pumps placed at both entrances to the tunnel to collect stormwater from the open ramps. Additionally, a sump will be placed at the low point of the tunnel. Collected stormwater will be treated prior to discharge.	N/A	N/A
215	P 56	Ministry of Transportation and Infrastructure	Do you want to mention BCIB?	The role of provincial Crown corporations, such as British Columbia Infrastructure Benefits (BCIB), and government programs in mitigating adverse effects and enhancing the economic benefits of the Project will be considered in the EAC Application.	N/A	Yes
216	8.3.3 1st paragraph	Ministry of Transportation and Infrastructure	It should be the "Cities" of Richmond and Delta - not singular	Reference to "cities" has been removed. The DPD uses the terms "City of Richmond" and "City of Delta" as well as "Richmond" and "Delta"	Multiple references throughout DPD	N/A
217	P 57	Ministry of Transportation and Infrastructure	3rd para is really awkward. It could use a rewrite	The 3rd paragraph on page 57 (8th paragraph in Section 8.3.3 Land and Marine Use) has been revised and clarified to state: "The Fraser River South Arm is used extensively by Indigenous fishers to fish and access other Indigenous fishing areas in the vicinity of the Project. The Lower Fraser River and surrounding lands also support a range of other important historical and current Indigenous, economic, and recreational resources, uses, cultural activities, and practices. A number of Indigenous nations have established or asserted traditional territories where the Project is located, with the river providing transportation, cultural identity, and values connections." DECEMBER 2022 Update: Further wording updates were made to this section as part of the process to finalize the Detailed Project Description.	Section 10.3.2 Marine Use (paragraph 2)	N/A
218	P 57	Ministry of Transportation and Infrastructure	Will there be temporary closures for more than tunnel element immersion i.e. Soil densification, dredging etc.?	There will be impacts to marine navigation as part of the construction phase, however the Proponent only anticipates full river closures for tunnel element immersion and removal of the existing tunnel elements.	N/A	N/A
219	P 57	Ministry of Transportation and Infrastructure	Generally, capitalised terms are defined. Be consistent in the use of Indigenous "interests". Here you have capitalised yet in the other uses throughout the document you use lower case. Suggest you remove "other"	Consistency in the use of upper case for terms such as "Indigenous Interests" has been applied the DPD.	Multiple references throughout DPD	N/A
220	P60 8.3.4	Ministry of Transportation and Infrastructure	Will there be any beneficial changes from the existing conditions?	A visual assessment will be completed as part of the EAC Application to identify potential project impacts to landscape aesthetics, and mitigation measures to minimize, and where possible, avoid potential impacts will be identified. The possibility for such net beneficial effects with mitigation will be considered in the EAC Application. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
221	P 62 8.3.7.1	Ministry of Transportation and Infrastructure	Suggest you use a different phrase than "active transportation corridor". Active Transportation has a different meaning now. Maybe a "busy transportation corridor"	The term "active transportation corridor " has been changed to "busy tranportation corridor" in Section 10.5.1, Human Health Risk, of the DPD. The term "active trasporation" is still used in other parts of the document, and is defined in a footnote in Section 4.1 (Purpose and Rationale) of the DPD"	Section 10.5.1 Human Health Risk Section 4.1 Purpose and Rationale	N/A
222	8.3.7.2	Ministry of Transportation and Infrastructure	How is sediment impacted by dredging? Isn't that what dredging is?	The text from Section 8.3.7.1 of the IPD has been updated to "while resuspension of sediment during dredging may disperse constituents that have settled in the river bottom and impact surface water and downstream sediment quality" in Section 10.5.1 of the DPD.	Section 10.5.1 Human Health Risk	N/A
223	P65 2nd para	Ministry of Transportation and Infrastructure	Add Construction Environmental Management Plan	The Environmental Managemental Plan referenced in the IPD will be updated in the DPD in Section 10.6 to rephrase as a Construction Environmental Management Plan (CEMP) to distinguish from the operation and decommissioning phases of the Project.	Table 10.6-1 Summary of Preliminary Potential Effects, Mitigation and Management Strategies	N/A
224	P65 2nd para	Ministry of Transportation and Infrastructure	I'm not sure that "contractor selection" is useful in the situation	The text in the Section 11 (Accidents and Malfunctions) of the DPD has been updated to remove reference to "Contractor selection"	Section 11. Accidents and Malfunctions	N/A
225	4th para	Ministry of Transportation and Infrastructure	See item 20 re: capitalisation	Consistency in the use of upper case for terms such as "Indigenous Interests" has been applied the DPD.	Multiple references throughout DPD	N/A
226	P 68 Table 8.7-1	Ministry of Transportation and Infrastructure	Suggest having the column heading on all pages of the table	Column headings for tables have been on all pages for tables that span multiple pages, to improve readability in the DPD.	Multiple tables throughout DPD	N/A
227	P78	Ministry of Transportation and Infrastructure	8th bullet down, should be Musqueam Indian Band	The comment appears to refer to the use of "Musqueam" on Page 76 of the IPD. The lists of Indigenous nations in the DPD have changed format since the IPD; however, the Proponent has used "Musqueam Indian Band" rather than "Musqueam".	13.1 Identified Indigenous Nations	N/A
IG01	Executive Summary	Musqueam Indian Band	"The Project is also located within Tsawwassen First Nation Territory as defined in the Tsawwassen Final Agreement and within or near the asserted traditional territories of several Indigenous groups. The two closest Indigenous communities to the Project are the Tsawwassen First Nation and Musqueam Indian Band" (emphasis added) This is an update from the below language on a previous IPD iteration. The new language is less respectful of Musqueam territory than before. The separation between the municipalities demarcated by the "also" implies something lesser than. There is no acknowledgement of Musqueam's constitutional rights in the area. The area is not near Musqueam's asserted territory, it is within Musqueam's territory as per the Musqueam declaration (1976). Musqueam's territory encompasses the project area. "The Project is located within the municipalities of Richmond, Delta, the Treaty lands of Tsawwassen First Nation, adjacent to Musqueam Indian Band Title area" This is not correct. The Project is within the Treaty lands of Tsawwassen First Nation and within Musqueam Indian Band's territory. It should be noted that Musqueam has established constitutional rights in this area.	Comments noted. The following (or a variation) has been used throughout the Detailed Project Description: "The Project is within Tsawwassen First Nation Territory as defined in the Tsawwassen First Nation Final Agreement and within Musqueam Indian Band's core Traditional Territory."	Multiple references throughout DPD	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
IG02	Construction Activities	Musqueam Indian Band	“Communications with Vancouver Fraser Port Authority (VFPA) and marine users will be essential to maintaining safe use of the river while the tunnel construction activities occur”. Distinct Indigenous marine users protocols will be required which should be listed here.	This mitigation has been noted and will be considered in the assessment of potential Project effects on Marine Use in the EAC Application. Within the DPD, this has been included as preliminary mitigation for potential adverse effects on Marine Use (Table 10.6 -1, Summary of Preliminary Potential Effects, Mitigation and Management Strategies).	Table 10.6-1 Summary of Preliminary Potential Effects, Mitigation and Management Strategies	Yes
IG03	Health Conditions	Musqueam Indian Band	This section does not make use of any of the provided negative health impacts previously provided by Musqueam (loss of cultural knowledge transfer, loss of access to traditional resources, impacts of out of community employment, etc.) and does not mention Indigenous communities at all.	The Community Health and Wellbeing assessment in the EAC Application will address potential Project related health effects identified and information provided by Musqueam Indian Band. Within the DPD, reference to effects information provided by Indigenous nations has been added to Section 10.5.2 (Community Health and Wellbeing). Section 13 of the DPD also includes the Proponents prelimenary understanding of Indigenous interests .	Section 10.5.2 Community Health and Wellbeing Section 13 Indigenous Nations Interests	Yes
IG04	Indigenous Nations Interests	Musqueam Indian Band	“Also, Musqueam asserts that the Project occurs within its area of recognized fishing rights as per Sparrow, 1992.” Again, Musqueam does not assert this. It is a supreme court case, it has been determined. The “also” is once again unnecessary. The language include don page 2 is worded more acceptably.	Comment noted. The Proponent has updated the language in the Detailed Project Description to accurately recognize the Project area is within Musqueam's territory.	Executive Summary Section 1.1 Project Overview	N/A
IG05	Current use of lands and resources for traditional purposes	Musqueam Indian Band	“However, once operational, it is anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor.” This should not be the goal as access to the area is already significantly depleted from pre -contact time. Access and usage for traditional purposes should be expanded.	The potential effects of the Project on Land and Resource Use and Marine Use will be assessed in the EAC Application relative to existing land use conditions. Past uses, including per-contact times, will be referenced for context. Opportunities for the Project to expand access and use by Indigenous nations will be considered in the EAC Application.	N/A	Yes
IG06	Project Offsetting	Musqueam Indian Band	What is the expected timeline on the development of offsetting for this project? No mention appears in the document other than to say loss of in-river habitat will be offset with the demolition of existing structures which may not be accurate and does not account for other kinds of habitat loss.	The Proponent anticipates engaging with Indigenous nations and regulatory agencies regarding conceptual offsetting plans during the environmental assessment process.	N/A	Yes
IG07	Multiple Sections	Musqueam Indian Band	We are noting the responses and commitments made from the Ministry in response to the draft version of the EP that relate to: developing an appropriate consultation process; incorporating feedback provided through previous GMTR process; and Musqueam agency regarding decision making. We look forward to following up on these conversations.	Comment noted. The Proponent looks forward to discussing these items further with Musqueam Indian Band.	N/A	N/A
157	3.2 Construction, Operations, and Decommissioning Phase Activities Table 3.2-1: Description of Project Activities	Snuneymuxw First Nation	Under the New ITT component, the description states: "Timing of this work will factor in the established DFO least risk window (July 16 to February 28). In-river construction activities will be carried out 24 hours a day, 7 days a week." (p. 18) Snuneymuxw First Nation should be involved in the development of key documents for all of the Project's phase activities that involve timing windows to ensure this accounts for potential impacts to Snuneymuxw First Nation's Section 35 rights and interests.	The Proponent is committed to working with SFN to develop a thorough understanding of SFN’s Section 35 rights and interests related to fish timing windows.	N/A	N/A
158	3.3 Project Schedule	Snuneymuxw First Nation	"Least risk windows for the protection of aquatic and terrestrial ecological receptors will be integral to the development of construction plans and will reflect regulatory requirements and feedback from Indigenous groups, stakeholders, and regulatory agencies during the environmental assessment process." (p. 19) From a perspective of impacts to Section 35 rights, construction timing windows are not limited to the protection of aquatic and terrestrial ecological receptors. Indigenous groups should also be consulted on any potential impacts to harvesting and cultural rights as they pertain to timing windows.	The Proponent is committed to working with Indigenous nations to develop a thorough understanding of Section 35 rights and interests related to harvesting and cultural rights as they pertain to fish timing windows. The Project environmental assessment will assess project-related effects on identified valued components of the Biological, Human, Physical, and Cultural environment. In addition, how these effects then also impact Indigenous Interests related to Indigenous nations and their rights recognized and affirmed by Section 35 of the Constitution Act, 1982, including Treaty rights and Aboriginal rights and title. Where an Indigenous Interest is directly impacted by the Project, this too will be assessed.	N/A	Yes
159	3.4 Infrastructure and Labor Requirements And 8.3.2 Employment and Economy	Snuneymuxw First Nation	"As the majority of the construction workforce is anticipated to be sourced from within the existing large and skilled l local labour force, special workforce accommodations are not anticipated to be required for the Project." (p. 20) Please elaborate in the Detailed Project Description what types of employment and training opportunities related to the Project will be available for Indigenous groups.	The DPD describes in Section 10.2, based on the current Project design information, where the share of the workforce is expected to be from local communities, including Indigenous communities. The Employment and Economy existing conditions information in the EAC Application will identify and characterize the existing labour market and training opportunities, and include a focus on Indigenous peoples and businesses. Further details on the types of employment and training opportunities will be detailed within the effects assessment for the EAC Application. The DPD was further updated to reflect additional input after the engagement on the IDP, and this section now indicates that: “The proponent will analyze Project capital and operational expenditures and labour and supplier requirements to understand Project effects on local and regional economic production, direct and indirect employment and procurement opportunities, labour market balance, local and regional supplier revenues, and government revenues.If applicable, the studies will collect and analyze data to characterize the economic conditions of distinct sub-groups, including Indigenous nations, that may disproportionately experience Project effects and identify mechanisms to support uptake of Project economic benefits and opportunities.	Section 10.2.1 Employment and Economy	Yes
160	4.1 Air and Dust Emissions	Snuneymuxw First Nation	"Primary sources of em1ss1ons to the air (i.e., air emissions) related to the Project would occur during construction ... Operation emissions would be related to construction vehicles and equipment used in maintenance .. .Dust emissions may be generated by construction activities causing soil or asphalt disturbance." (p26) Project-related impacts to Section 35 rights and interests as a result of changes in air and dust emissions must also be assessed in the Project's Environmental Assessment, as these may impact accessibility to preferred harvesting areas. This should include the use of sensitive receptors (i.e., Snuneymuxw-specific receptors representative of Snuneymuxw harvesters and land/marine users who may access areas in proximity to the Project).	The detailed list of sensitive receptors used to support the air quality assessment will be developed in consultation and collaboration with Indigenous nations during the development of VC selection and the Application Information Requirements. Snuneymuxw -specific receptors representative of Snuneymuxw harvesters and land/marine users will be included in the assessment.	N/A	Yes
161	6.6 Other Agreements	Snuneymuxw First Nation	"Agreements that will facilitate engagement between the Province and Indigenous groups include the following: ... (p. 41) The Ministry should include that Snuneymuxw First Nation has a tripartite Memorandum of Understanding with the Province of British Columbia and the federal government (signed in July 2021), whose purpose is to establish a common table to explore new approaches to reconciliation that advance each parties' mutual priorities. Additionally, Snuneymuxw First Nation has a Reconciliation Implementation Framework Agreement with British Columbia (signed in September 2020), which served to establish "a shared vision and framework for deepening a relationship between the Parties that reflects the recognition and implementation of Snuneymuxw Section 35 Rights ... and UNDRIP in a manner consistent with DRIPA, and advances clarity and predictability for all governments and people within Snuneymuxw Territory ... " (s. 1(a)(i)). This Agreement provisions for shared decision -making in the framework for reconciliation, as “the Province and Snuneymuxw agree for the purposes of reconciliation to explore negotiating and agreeing on agreements that would establish joint or consent -based decision-making in accordance with section 7 of the Declaration on the Rights of Indigenous Peoples Act." (s. 4(e)). This project will require the development of a constructive arrangement or agreement to address the Snuneymuxw Treaty of 1854 impacts or infringements.	Thank you, the DPD (Section 13.3.16) includes details regarding: - The Memorandum of Understanding between Snuneymuxw First Nation, British Columbia and the Federal government regarding reconciliation; and - The Snuneymuxw First Nation Reconciliation Implementation Framework Agreement. The Proponent is committed to work with Snuneymuxw First Nation to develop constructive arrangements and a thorough understanding of Snuneymuxw First Nation’s Indigenous interests related to the Project and to develop appropriate accommodation of those interests.	Section 13.3.16 Snuneymuxw First Nation	N/A
162	8.0 Physical, Biological, and Human Environment Conditions	Snuneymuxw First Nation	During the proponent's assessment of potential effects resulting from the interaction of Project components and various physical, biological, and human values, these effects should be linked to an assessment on impacts to Section 35 rights and interests.	The Project environmental assessment will assess project-related effects on identified environment, economic, social, cultural and health valued components. In addition, how these effects then also impact Indigenous Interests related to Indigenous nations and their rights recognized and affirmed by Section 35 of the Constitution Act, 1982, including Treaty rights and Aboriginal rights and title. Where an Indigenous Interest is directly impacted by the Project, this too will be assessed.	N/A	Yes
163	8.1.3 Atmospheric Noise	Snuneymuxw First Nation	The Ministry will study the existing atmospheric noise conditions at locations representative of noise -sensitive land l uses (e.g., residential, institutional, and recreational) where Project-related changes in atmospheric noise are likely to occur." (p. 45) Noise-sensitive land use receptors should also include receptors representative of Indigenous harvesters who may l access the area to exercise harvesting rights (see comment 4). Adverse changes in noise can impact the experiences and preferences of harvesters accessing their harvesting sites.	The detailed list of sensitive receptors used to support the noise assessment will be developed during the EAC Application assessment phase which will include Snuneymuxw-specific receptors representative of Snuneymuxw harvesters and land/marine users. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
164	8.1.6 Water and Sediment Quality	Snuneymuxw First Nation	"The Ministry will study the quality of water and sediment in the Fraser River and Deas Slough in and around the Project alignment. The results of these studies will be used to support the assessment of environmental values such as fish and fish habitat, marine mammals, and land and resource use." (p. 47) See comment 6. Results of the studies conducted on water and sediment quality should also be used to support assessments of impacts to Section 35 rights and interests.	Potential effects on the various physical, biological, and human values will be linked to an assessment on impacts to Section 35 rights and interests. These linkages will be informed by the Traditional Land Use studies, Indigenous -led Assessments, and ongoing consultation programs within each of the Indigenous nations.	N/A	N/A
165	8.2.2 Wildlife and Wild life Habitat	Snuneymuxw First Nation	Terrestrial wildlife along Highway 99 (i.e., within 1 km of the Project alignment) consists primarily of common species of raptors, songbirds, amphibians, and small mammals that are adapted to anthropogenic disturbances." (p. 50) While this may be the case in the Project area's existing conditions, it will be prudent for the proponent to adequately I assess any disturbance thresholds for these wildlife species to ensure that Project components and activities will not I create greater anthropogenic disturbances resulting in adverse impacts to wildlife health and habitat.	A Wildlife and Wildlife Habitat Assessment will be completed as part of the EAC Application to identify potential direct and indirect impacts to wildlife resources and their habitat during the construction and operation phases of the proposed Project. The assessment will consider disturbance thresholds, where available, for wildlife species to determine whether the Project will result in potential adverse effects. Mitigation measures will be developed for potential adverse effects. The Proponent intends to engage and collaborate closely with Indigenous nations, regulatory agencies, local governments, and stakeholders to develop a detailed mitigation plan that is consistent with the BC Environmental Mitigation Policy hierarchy of mitigation measures, focusing efforts in a sequential manner on impact avoidance, minimization, restoration, and finally offsetting. The scope of the assessment of wildlife and wildlife habitat will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
166	8.2.4 Marine Mammals	Snuneymuxw First Nation	Critical habitat for southern resident killer whales is established at the mouth of the Fraser River and extends into the Strait of Georgia and the Strait of Juan de Fuca ... Potential Project -related effects on marine mammals include injury and behavioural disturbance effects from underwater noise, injury and mortality from vessel strikes, potential contaminant exposure from dredging and disposal at sea, and effects to prey items." (p. 53) It is essential to Snuneymuxw First Nation that any potential impacts to Southern Resident Killer Whales ("SRKW") be adequately mitigated and that Snuneymuxw First Nation be consulted on proposed mitigation measures relating to SRKW. SRKW hold significant spiritual and cultural significance to Snuneymuxw, and losing SRKW has been compared to losing language and culture (See the Trans Mountain Pipeline ULC Application for the Trans Mountain Expansion National Energy Board reconsideration of aspects of its OH -001-2014 Report: https://docs2.cer-rec.gc.ca/ll-eng/llisapi.dl l/fetch/2000/90464/90552/548311/956726/2392873/3614457 /37 51789/3754555/ A98021 -1_N EB_ -_N EB_Reconsideration_Report_ -_Reconsideration_ -_Trans_Mountain_Expansion_-_MH-052-2018_-_A6S2D8.pdf?nodeid=3754859&vernum= -2).	The Proponent acknowledges the importance of SRKW to Snuneymuxw First Nation. The Proponent will engage and collaborate with the Snuneymuxw First Nation on the development of mitigation measures for the Project and specifically on measures related to SRKW.	N/A	N/A
167	8.3.6 Cultural Heritage	Snuneymuxw First Nation	"The existing Highway 99 corridor has been substantially altered by past development and while sites that contain physical evidence of past human activities are known to exist in the vicinity of the Project alignment, no recorded heritage sites are currently identified within the Project alignment...Through consultation with Indigenous communities and background data review, the Ministry will identify areas of archaeological potential within the J Project alignment and those areas will be assessed through field investigations ... " (p. 62) While it is essential to identify any potential cultural sites or sites of spiritual significance before construction, it is equally important for the Ministry to develop a chance finds plan in consultation with potentially impacted Indigenous nations. Regulatory or legislative requirements for chance finds that do not align with the cultural values and protocols of Indigenous communities can result in the mishandling of sacred sites, sacred and cultural items, and ancestral remains. It will be essential that the Ministry consult with Indigenous communities to not only identify areas of archaeological potential, but to also identify proper protocols upon the chance find of previously unknown sacred, cultural or burial sites.	A Cultural Heritage Resource Management Plan will be developed and will include a chance find procedure (CFP). The CFP will be specific to cultural heritage resources that are protected under the Heritage Conservation Act. The Proponent will consult with Indigenous communities to not only identify areas of archaeological potential, but to also identify proper protocols upon the chance find of previously unknown sacred, cultural or burial sites.	N/A	N/A
168	8.5 Accidents and Malfunctions	Snuneymuxw First Nation	"The potential accidents and malfunctions during Project operation will be managed through design according to the Ministry's and other applicable standards, including ... the implementation of quality assurance/quality control, maintenance plan, spill prevention and response plan, emergency response plan, and other operational procedures in accordance with applicable provincial and federal requirements and guidelines." (p. 65) The framework of standard emergency response plans for the public do not often account for Indigenous harvesters and their specific contexts. It will be important for the proponent to explore the development of emergency response plans in consultation with Indigenous communities who may access the lands and water around the Project area and down river from the Project area, in order to ensure the safety of Indigenous harvesters.	The Proponent intends to engage and collaborate closely with Indigenous nations, local governments, and stakeholders to develop the Project's emergency response plan.	N/A	N/A
169	9.2 Indigenous Engagement to Date	Snuneymuxw First Nation	The Ministry states on page 75 that it has referred the Project to Snuneymuxw First Nation and indicates there was I no engagement record during the previous iteration of the project. Later, on page 76 -77 the IPD lists Snuneymuxw j First Nation as a community engaged by the Ministry in previous iterations of the Project. Please clarify this discrepancy. Additionally, page 76 states: "Engagement with Indigenous groups during previous iterations of the Project included a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous goals and objectives, information sharing, and meetings in person and virtually." For the George Massey Crossing assessment Snuneymuxw provided comments on the IPD and Engagement Plan before the application was withdrawn. However, for the George Massey Tunnel Replacement application, Snuneymuxw was not sufficiently engaged and was only provided the opportunity to comment on the Amendment Application. As such, the proponent cannot rely on any assessment of effect in relation to the George Massey Crossing project as SFN did not participate in the effects assessment and did not provide information to the EAO or proponent to facilitate such an assessment.	Comments noted and will be reflected in the DPD in Section 13. The Proponent has noted the previous assessments (GMC and GMTR) to provide context within this section. The DPD will ensure clarity on this point and make clear that when referencing the previous studies that it is not inferred that this includes Snuneymuxw First Nation.	13.3.16.1 Overview of Engagement Activities Table 13.3-8 Snuneymuxw First Nation-Specific Table	N/A
170	9.4 Current Use of Lands and Resources for Traditional Purposes	Snuneymuxw First Nation	"Potential effects to current use of lands and resources for traditional purposes may result from in -river and upland construction activities and subsequent decommissioning of the Existing Tunnel. However, once operational, it is 1 anticipated that use of lands and resources will return to existing levels along the Highway 99 corridor." (p. 85) While the operation phase of the Project may not create further adverse impacts compared to the Existing Tunnel, the Existing Tunnel was originally built in the 1950s, and Snuneymuxw First Nation was not consulted or involved in the Project, despite their status as Treaty of 1854 signatories. As such, understanding the historical context of Snuneymuxw First Nation's Section 35 rights, including the Treaty of 1854, is important. The Ministry should recognize throughout its subsequent EA documents and Application that Snuneymuxw First Nation has previously been displaced from important cultural and harvesting sites as a result of the construction and operation of the Existing Tunnel. As part of this recognition, the Ministry can discuss in collaboration with Snuneymuxw First Nation how the current altered landscape can be assessed throughout the Project's EA. Furthermore, the project requires an indigenous -led assessment to fully review the impacts to the Snuneymuxw Treaty of 1854.	As part of the Project environmental assessment, the proponent is required to assess both project -related impacts and potential cumulative impacts. The assessment of these potential impacts will take into consideration the historical context kindly provided here by Snuneymuxw First Nation when assessing the past, present and future conditions of a valued component or Indigenous Interest in the context of Project related effects. The context provided here will be incorporated into the Project's EAC Application. The Proponent is aware of Snuneymuxw First Nation's intention to deliver an Indigenous -led assessment (ILA) and is working with Snuneymuxw First Nation to support the delivery of this work.	N/A	Yes
171	4.1 and 4.2	Snuneymuxw First Nation	The Ministry states on pages 19-20 that it has referred the Project to Snuneymuxw First Nation and indicates there was no engagement record during the previous iteration of the project. Later, page 21 -22 of the IPD incorrectly lists Snuneymuxw First Nation has a community engaged by the Ministry in previous iterations of the Project. Please clarify this discrepancy. Additionally, page 21 states: "Engagement with Indigenous groups during previous iterations of the Project included I a detailed review of crossing options, development of environmental studies targeted at developing knowledge of some culturally important fish and wildlife species, capacity funding agreements to support Indigenous goals and objectives, information sharing, and meetings in person and virtually." For the George Massey Crossing assessment Snuneymuxw provided comments on the IPD and Engagement Plan before the application was withdrawn. However, for the George Massey Tunnel Replacement application, Snuneymuxw was not sufficiently engaged and was only provided the opportunity to comment on the Amendment Application.	Comments noted and will be reflected in the Engagement Plan.	N/A	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
172	4.5 Summary of Relevant Agreements	Snuneymuxw First Nation	" ... agreements that will facilitate engagement between the Province and Indigenous groups include the following: ... " (p. 29) The Ministry should include that Snuneymuxw First Nation has a tripartite Memorandum of Understanding with the Province of British Columbia and the federal government (signed in July 2021), whose purpose is to establish a common table to explore new approaches to reconciliation that advance each parties' mutual priorities. Additionally, Snuneymuxw First Nation has a Reconciliation Implementation Framework Agreement with British Columbia (signed in September 2020), which served to establish "a shared vision and framework for deepening a relationship between the Parties that reflects the recognition and implementation of Snuneymuxw Section 35 I Rights ... and UNDRIP in a manner consistent with DRIPA, and advances clarity and predictability for all governments and people within Snuneymuxw Territory ... " (s. 1(a)(i)). This Agreement provisions for shared decision -making in the framework for reconciliation, as "the Province and Snuneymuxw agree for the purposes of reconciliation to explore nego1iating and agreeing on agreements that would establish joint or consent -based decision-making in accordance with section 7 of the Declaration on the Rights of Indigenous Peoples Act." (s. 4(e)).	Your comment has been noted and SFN's agreements will be included in the Engagement Plan.	N/A	N/A
IG08	Issues raised by Tsawwassen First Nation	Tsawwassen First Nation	TFN reviewed a draft IDP earlier this year and provided comments to the Proponent. That draft was very rough and we are pleased to see that the final IDP has been advanced considerably. In addition, comments raised by TFN during that review have been addressed satisfactorily for the most part.	Thank you for your comment. The preliminary draft IPD provided in December 2021 was intended to be shared as an early draft rather than as a finished document to collect early feedback on content and structure.	N/A	N/A
IG09	Issues raised by Tsawwassen First Nation	Tsawwassen First Nation	The three issues raised in the table (9.2 -1) are those that Tsawwassen First Nation raised in relation to the draft Engagement Plan, not the draft IPD. Issues raised by TFN on the draft IPD need to be presented here. That said, in our view, for comments on the draft IPD to which a response has been provided, the revised IPD does an adequate job of addressing comments raised during the draft review in early 2022. The DPD needs to account for this. It may be appropriate in te DPD to indicate that, in response to questions and concerns raised by TFN and some other Indigenous groups, the Proponent provided funding for TFN to conduct baseline studies of eulachon and migratory birds and that those data will be used to inform the project's EA (we note that Attachment 2 lists progres reports for the bird project, but not the final report).	Comment noted. Tsawwassen First Nation's feedback on the IPD is outlined in Appendix 5 of the Detailed Project Description. In addition, section 10.1.10, 10.1.11 and 13.2.22 of the Detailed Project Description include the Eulachon and migratory birds studies conducted by Tsawwassen First Nation.	Section 10.1.10 Fish and Fish Habitat Section 10.1.11 Marine Mammals Section 13.2.22 sc̓awaθən məsteyaxʷ (Tsawwassen) First Nation	N/A
IG10	CURRENT USE OF LANDS AND RESOURCES FOR TRADITIONAL PURPOSES	Tsawwassen First Nation	The DPD needs to clearly describe the fact that Tsawwassen First Nation has a Treaty right to harvest fish in the Fraser River, including the Project Area. Further, the conservation status of some stocks has meant that those harvests have been severly curtailed (e.g., Eulachon) or halted all together (i.e., White Sturgeon). Avoiding additional (cumulative) harm to the stocks and/or their habitat is of paramount importance to Tsawwassen First Nation. This includes harm that might be caused by the construction of a new tunnel and/or decommissioning of the existing tunnel.	Tsawwassen First Nation Treaty lands and right to harvest fish in the Project area are included in section 13.3.22 of the DPD. Interests regarding cumulative impacts of the Project and harm caused by decommissioning of the existing tunnel are included in Table 13.2 -1 and section 13.3.22.2 of the DPD.	Section 13.2.22 sc̓awaθən məsteyaxʷ (Tsawwassen) First Nation Table 13.2-1 Summary of Indigenous Nations Key Issues Heard during Pre-Early Engagement Section 13.3.22.2 Description of Issues That Have Been Raised	N/A
IG11	Casting Basin	Tsawwassen First Nation	In the DPD, please describe the possible means by which the casting basin will be flooded (p. 17 mentions pumping for flooding the basin) and dewatered. TFN has concerns about the potential for fish entrainment and stranding.	The methodology for flooding the casting basin has not yet been determined. For pumping activities, intakes will be appropriately screened to prevent fish entrainment. Fish salvage would also be conducted where appropriate to mitigate the risks of stranding in dewatered areas. Intake screening and fish salvage are provided as mitigaiton measures to mitigate the potential effect of "Fish mortality due to entrainment in intakes during flooding and dewatering (e.g., casting basin and tunnel elements)". This effect and mitigaiton is provided in Table 10.6 -1, Summary of Preliminary Potential Effects, Mitigation, and Management Strategies, of the DPD.	Table 10.6-1 Summary of Preliminary Potential Effects, Mitigation and Management Strategies	N/A
IG12	Temporary offsite moorage	Tsawwassen First Nation	At present, the Proponent is examining a site near Steveston Island. TFN is currently pursuing a fish trap project on the southern shore of Steveston Island. Fish would be harvested there under the TFN Treaty right to fish. Provided the temporary mooring works are all well upstream of the fish trap location, there should not be any interference with the fish trap that TFN is planning on building along the shore of Steveston Island. The DPD should account for this to the extent that it describes a temporary moorage site at the location as proposed at presnt. Temporary moorage construction activities that generate noise (i.e., pile driving) and sediment (i.e., dredging) should happen outside the period when the fish trap is in use; such details can be worked out during the EA.	We look forward to working with TFN to limit project -related disturbance to the fish -trap project on the southern shore of Steveston Island.	N/A	N/A
IG13	Temporary offsite moorage	Tsawwassen First Nation	In the DPD, please describe the possible means by which the tunnel elements will be flooded and dewatered. TFN has concerns about the potential for fish entrainment and stranding. In addition, TFN has concerns about the potential for the tunnel elements to crush fish as the elements sink to the riverbed.	The methodology for flooding the casting basin has not yet been determined. For pumping activities, intakes will be appropriately screened to prevent fish entrainment. Fish salvage would also be conducted where appropriate to mitigate the risks of stranding in dewatered areas.	N/A	N/A
IG14	Table 3.3-1: Anticipated Project Schedule Cumulative Effects	Tsawwassen First Nation	With construction spanning 7+ years, the potential for conflict between the Project and TFN Treaty - right uses of the river (e.g., fishing) will be significant. Mitigating the impacts of this effect will be challenging and is expected to comprise a crucial part of the project's EA.	Comment noted. The Proponent looks forward to discussions regarding mitigating impacts to Tsawwassen First Nations' Treaty -right to use of the Fraser River.	N/A	N/A
IG15	9.4 CURRENT USE OF LANDS AND RESOURCES FOR TRADITIONAL PURPOSES	Tsawwassen First Nation	TFN Treaty rights are acknowledged in other parts of the IDP, however, for the DPD, we would like to see this heading expanded (or a separate section added) to address TFN's Treaty rights. While there is often a linkage between treaty rights and traditional uses, the distinction between the two is suffficiently different as to warrant separation.	Comment noted. This has been incorporated into section 13.3.22 of the DPD.	Section 13.2.22 sc̓awaθən məsteyaxʷ (Tsawwassen) First Nation	N/A
106	8.1.1	Vancouver Coastal Health	P61 - VCH encourages the proponent to seek direct engagement with particularly vulnerable groups or users that utilize nearby spaces (e.g. childcare facilities, schools) that may be impacted by noise and localized air quality, to identify appropriate mitigation measures, particularly as a result of construction required for the interchange / highway improvements.	The Proponent will convene several stakeholder working groups to hear directly from impacted residents and communities. These include mobility -focused groups related to active transportation, as well as groups whose mandates include a focus on equity and diversity. The project will meet with these working groups to provide an overview of the project and seek feedback on project design and development. Stakeholders include women's' groups, LGBTQIA2S organizations, local walking groups, elderly groups or elderly care homes, and as suggested childcare facilities and schools. The DPD in Section 14 has been updated to describe the working groups.	Section 14 Engagement and Consultation with Local Governments, Regional Authorities, Stakeholders and the Public	N/A
107	8.1.3	Vancouver Coastal Health	P61 - VCH encourages the proponent to seek direct engagement with particularly vulnerable groups or users that utilize nearby spaces (e.g. childcare facilities, schools) that may be impacted by noise and localized air quality, to identify appropriate mitigation measures, particularly as a result of construction required for the interchange / highway improvements.	The Proponent will convene several stakeholder working groups to hear directly from impacted residents and communities. These include mobility -focused groups related to active transportation, as well as groups whose mandates include a focus on equity and diversity. The project will meet with these working group to provide an overview of the project and seek feedback on project design and development. Stakeholders include women's' groups, LGBTQIA2S organizations, local walking groups, elderly groups or elderly care homes, and as suggested childcare facilities and schools. The DPD in Section 14 has been updated to describe the working groups.	Section 14 Engagement and Consultation with Local Governments, Regional Authorities, Stakeholders and the Public	N/A

ID #	Subject - EA Topic	Comment Organization	Participant Issues, Description or Comment	TRAN Response	DPD Section Updated	Comment to Inform dAIR and/or EA Application
108	8.3.3	Vancouver Coastal Health	p73 - VCH supports maximizing the use of natural and recreational lands to increase opportunities to engage with the natural environment. Where possible, it would be beneficial to see the overall increase / decrease in overall land uses based on the FRT project parameters. (This could also be compared to the original GMT 10 -lane bridge project to illustrate public benefit.)	The proposed MUP connections at both ends of the new ITT would provide convenient cycling/pedestrian access to the Fraser River foreshore in Richmond and Deas Island in Delta. This could allow for maximizing use of natural and recreational lands, and increase opportunities to engage with the natural environment. The EAC Application will assess the increase/decrease in access to natural and recreational lands. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
109	3.6.1	Vancouver Coastal Health	IPD p40 / Engagement Plan P40 - VCH requests participation in the stakeholder workshop hosted by the Ministry to provide input on the proposed MUP design.	The proposed MUP connections at both ends of the new ITT would provide convenient cycling/pedestrian access to the Fraser River foreshore in Richmond and Deas Island in Delta. This could allow for maximizing use of natural and recreational lands, and increase opportunities to engage with the natural environment. The Project Team would welcome participation by VCH in the MUP design process/stakeholder workshop. The EAC Application will assess the increase/decrease in access to natural and recreational lands. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
110	3.1	Vancouver Coastal Health	p26 - VCH notes that as the MUP will also be tunneled, design and operation / maintenance considerations must be included to optimize use of the MUP, ensure safety of the path and improve road safety for vulnerable road users, and create an attractive option to encourage mode shift. VCH supports implementation as per the BC Active Transportation Design Guidelines, as well as research into best practices for tunneled active transportation routes. Features that VCH would like to see considered include: -good lighting and maintenance schedules to ensure they are maintained to ensure good lighting at all times -lane / directional separation of users to reduce mode conflict -art installations / attractive design features -access to / from and connections with existing and planned bike and pedestrian routes -benches or places of respite along the path -accessibility of the route for users of all ages and abilities (including technical engineering considerations, such as grade) -appropriate design of the tunnel to minimize potential exposures of traffic -related air pollution and noise for MUP users, as well as ensuring sufficient air circulation within the tunnel -safety and security of all users with thought given to visibility -design and maintenance schedules to prevent and minimize pooling of water -access to call for emergencies	As part of the design development process for the MUP, issues concerning safety of the MUP users will be considered and the required safety provisions in this regard will be included in the design.	N/A	N/A
111	Project location, activities, and components	Vancouver Fraser Port Authority	The port authority will require that the new immersed tube tunnel be installed to the same depth or deeper than the existing tunnel to maintain the current vessel fleet using the navigation channel. The navigation channel envelope includes a channel width of 200 m plus a 61 m safety zone on each side. The channel is dredged to a depth of 10.6 m below chart datum to accommodate vessels with a 11.5 m draft with an under keel clearance of 0.9 m for vessel less than 250 m and 1.4 m for vessels greater than 250 m (LOA) using tidal aid. We recommend that the EAO require the proponent to include this information when describing the project components in the Detailed Project Description. The Initial Project Description indicates that temporary 48 -hour closures of the river to navigation will be required during installation of the new immersed tube tunnel and removal of the existing tunnel. We recommend that through project design the proponent seek to reduce the number and duration of navigation closures and request that the proponent include information about the number, timing, and duration of the closures in the Detailed Project Description.	The Project will continue to mitigate operational impacts to the navigability of the Fraser River as part of the Operations Technical Group, which focuses on reviewing marine navigation impacts as part of the Fraser River Tunnel Project. The Proponent will consider options to minimize the number and/or duration of river closures during the installation of the new tunnel elements, and subsequent removal of the existing George Massey Tunnel as the design progresses.	N/A	N/A
112	Legislative and regulatory context	Vancouver Fraser Port Authority	The project components within the navigational jurisdiction of the port authority are subject to the Canada Marine Act, Port Authorities Operations Regulations, and Port Information Guide, 2022, as amended from time to time, and may require authorization by the port authority. The port authority will require regulatory coordination and input into the permitting process under the Canadian Navigable Waters Act. We recommend that the EAO require the proponent to include this information in the Detailed Project Description.	Noted. The Proponent anticipates working closely with the VFPA through the permitting process as part of Transport Canada's Navigable Waters Act permit issuance. Table 8.5-1 of the DPD has been updated to refer to potential authorizations including *Canada Marine Act* and Port Authority Operations Regulations.	Table 8.5-1 Anticipated Provincial, Federal and Regional Authoriztaions and Permits	N/A
113	Land and water use	Vancouver Fraser Port Authority	To inform the Environmental Assessment Readiness Decision and enable the proponent to chart a path to resolve potential effects on navigation and port users, we recommend that the EAO require a marine use study be included with the Detailed Project Description. This study should describe the use of the navigation channel at the proposed project site by international and domestic vessel operators, marine terminal operators, and other commercial and recreational users. This should include information on the type of vessels and frequency of movements, and the business operators that would be affected by the project impacts to the navigation channel. It should also include early identification of the mitigation measures that will address the anticipated project impacts on navigation and business operators.	A marine transportation and use assessment will be completed for the EAC Application, which will gather information on use (by vessel type and frequency) of the navigation channel by vessel and marine terminal operators, and commercial and recreational users, to understand potential project impacts to navigation and business operators, and required mitigation measures. The scope of the EAC Application assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the environmental assessment.	N/A	Yes
114	Land and water use	Vancouver Fraser Port Authority	Section 3.6.3 of the Initial Project Description indicates that the tunnel element storage location will either be 11 km downstream or 6 km upstream of the project location. We understand that these sites have not been selected and note that early engagement and regulatory coordination would be required should the sites be within the federal lands managed by the port authority, which includes the bed of the Fraser River approximately 6 km upstream of the project location.	The Proponent anticipates working closely with the VFPA through the permitting process as part of Transport Canada's Navigable Waters Act permit issuance. The Proponent has recently selected the Steveston Debris Wall, just upstream of Steveston Island and outside of the navigation channel as the proposed area for the tunnel element temporary storage location. Potential environmental effects of the proposed tunnel element storage area will be assessed within the EAC Application. The Proponent will support the EAO in the development of a Regulatory Coordination Plan as part of the EA Readiness and Process Planning Phases to identify regulatory permits and approvals required for Project construction and operation. This would include any overlap with federal lands under the authority of the VFPA. At this time the Proponent does not anticipate the need for use of federal lands or water lots.	N/A	Yes
115	Potential project effects	Vancouver Fraser Port Authority	The port authority recommends that the EAO require a dedicated section in the Detailed Project Description focused on Marine Operations and Navigation Safety to begin to identify and address the impacts to international and domestic shipping, marine terminal operators, and other commercial and recreational users. This would include: 1. A description of potential project effects on trade including domestic and international shipping, marine terminal operators, and other commercial and recreational users. This must include detailed information on the scope and scale of potential effects during construction, including disruptions to the port users and impact on the marine vessels. 2. A description of potential changes to sedimentation downstream as a result of the project, including hydrographic studies and modeling. 3. A summary of key conclusions from feasibility studies, for example: - Vessel simulations for navigation restrictions - Identification of navigation hazards and operating restrictions 4. An initial description of measures to prevent or reduce potential negative effects to an acceptable level, including a description of: - Engagement plans with the federal agencies that have shared responsibility for safe navigation (i.e., Canadian Coast Guard, Fisheries and Oceans Canada, Pacific Pilotage Authority, Fraser River Pilots and Transport Canada) - Engagement plans for a Marine Users working group prior to, and during, construction phases - Potential mitigation measures for safe transit of vessels - Early identification of potential mitigation measures for impacted stakeholders, such as terminal operators and port users, during project construction.	A marine transportation and use assessment will be completed for the EAC Application which will describe navigation existing conditions, and identify potential project impacts to marine vessels, navigation, and commercial shipping, marine terminal operators and other commercial and recreational users. This assessment will include information on navigation and operating restrictions and hazards. Mitigation measures to address potential impacts and support engagement with marine users during construction will be identified. The scope of the marine transportation and use assessment will be outlined in the Project draft Application Information Requirements (dAIR) and will be available to the Technical Advisory Committee for review in the Process Planning Phase of the EA. The Proponent has initiated engagement with marine users to inform the scope of the assessment. A River Hydrology assessment will be completed for the EAC Application that will detail potential changes to sedimentation as a result of the project.	N/A	Yes

ATTACHMENT 8: TECHNICAL ADVISOR FEEDBACK ON DETAILED PROJECT DESCRIPTION

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-DFO-001	EA Readiness	Project Components	22-Sep-22	Fisheries and Oceans Canada	Based on Table 5.2-1 (Project Components), up to four Material Offloading Facilities (MOFs) will be constructed to support the Project; however, Figure 5.2-1 (Project Footprint and Components) displays the location of three MOFs. Please update Figure 5.2-1 with the location of the fourth MOF.	28-Nov-22	There are currently three proposed Material Offloading Facilities. Table 5.2-1 has been updated to reflect this. The terminology in the DPD has also been updated to refer to "Material Offloading Facilities and/or outfitting jetties" as "Temporary Jetties"	Section 5.2	N/A
DPD-DFO-002	EA Readiness	Project Activities	22-Sep-22	Fisheries and Oceans Canada	Table 5.3-1: Description of Project Activities includes decommissioning-related activities; however, the table does not provide a description of how existing infrastructure will be decommissioned. Please update Table 5.3-1 to include a description of how existing infrastructure, including the existing Deas Slough Bridge, will be decommissioned.	28-Nov-22	Table 5.3-1 has been updated to include additional details to the description of decommissioning activities for the Deas Slough bridge, existing CN Railway overpass and existing Rice Mill Road overpass.	Section 5.3	N/A
DPD-DFO-003	EA Readiness	Project Timing and Schedule	22-Sep-22	Fisheries and Oceans Canada	Section 5.4 states that 'In-river construction activities are planned to occur […] July 16 to February 28 [...] from the mouth of the Fraser River up to the Existing Tunnel (DFO 2014).' DFO recommends updating Section 5.4 to clarify the construction activities that will be limited to the DFO Least Risk Timing Window.	28-Nov-22	Section 5.4 of the DPD has been updated to include the following text: “In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and Technical Advisors.” Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform if project-specific least risk timing windows may be required. These timing windows will inform the project construction timelines.	Section 5.4	Yes
DPD-DFO-004	EA Readiness	River Hydraulics and Morphology	22-Sep-22	Fisheries and Oceans Canada	Section 10.1.5 states that Project-related changes in river hydraulics are expected to occur, and these changes may influence sedimentation and erosion patterns in the Fraser River. As a result, DFO recommends conducting hydrodynamic modelling to predict changes in sediment erosion and accretion patterns due to the presence of in-water infrastructure (e.g., due to presence of a dredge pocket and the ITT). This information is needed in order to understand whether predicted changes in sediment erosion and accretion patterns from in-water infrastructure are likely to result in detrimental effects to fish and fish habitat. Consideration should also be given to whether there are design considerations or mitigation measures to lessen effects to fish and fish habitat from changes in river hydraulics.	28-Nov-22	There are currently three proposed Material Offloading Facilities. Table 5.2-1 has been updated to reflect this. Note that materials offloading facilities and outfitting jetties are now combined in Table 5.2-1 and referred to as "temporary jetties".	Section 5.2	N/A
DPD-DFO-005	EA Readiness	Fish and Fish Habitat	22-Sep-22	Fisheries and Oceans Canada	Section 10.1.10 states that upland tributaries of the Fraser River have the potential to be impacted by the Project; however, the location of the upland tributaries and the fish species that may be impacted is not discussed. Please update Section 10.1.10 to include a map showing the location of potentially affected upland tributaries and a discussion of the types of fish species/taxa and habitat that may be impacted. DFO will rely on this information to understand if there are sensitive or vulnerable fish or fish habitats located in upland tributaries that have the potential to be affected by the Project.	28-Nov-22	Section 10.1.10 of the DPD has been updated to include a map showing the location of potentially affected upland tributaries/ditches including a discussion of the types of fish species/taxa and habitat that may be impacted.	Section 10.1.10	N/A
DPD-DFO-006	EA Readiness	Marine Mammals	22-Sep-22	Fisheries and Oceans Canada	Section 10.1.11 states 'Table 10.1-13 summarizes the topics related to groundwater resources […]'; however Table 10.1-13 (Summary of Topics Related to Marine Mammals Arising from Early Engagement) relates to marine mammals. DFO assumes this is an error and as such, please replace the words 'groundwater resources' with 'marine mammals'.	28-Nov-22	Section 10.1.11 of the DPD has been updated to replace the words 'groundwater resources' with 'marine mammals'. The sentence will read: "Table 10.1 13 summarizes the topics related to marine mammals that were raised during Early Engagement with Indigenous nations, technical advisors, stakeholders, the CAC, and the public."	Section 10.1.11	N/A
DPD-DFO-007	EA Readiness	Marine Mammals	22-Sep-22	Fisheries and Oceans Canada	Attachment 3 (List of Studies, Schedule, Guidance and Standards) states that no studies to characterize existing conditions for marine mammals are currently underway or planned. As such, DFO recommends updating Section 10.1.11 (Marine Mammals) to indicate that no existing conditions studies will be conducted, and to include a discussion of the existing data that will be used to support the marine mammals effects assessment (e.g., monitoring reports, previous EAs, regional studies, and/or other sources of information [e.g., BC Cetacean Sightings Network]).	28-Nov-22	Section 10.1.11 of the DPD has been updated to indicate that no existing conditions studies will be conducted. A discussion of the existing data that will be used to support the marine mammals effects assessment, such as monitoring reports, previous EAs, regional studies, and/or other sources of information (e.g., BC Cetacean Sightings Network), has also been added.	Section 10.1.11	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-DFO-008	EA Readiness	Mitigation Measures	22-Sep-22	Fisheries and Oceans Canada	Table 10.6 (Summary of Preliminary Potential Effects, Mitigation, and Management Strategies) indicates that a Habitat Offsetting Plan will be used to mitigate effects to fish and fish habitat. As such, DFO recommends engaging with Indigenous Groups early to discuss what offsetting could look like, and to include a draft offsetting plan in the application for an Environmental Assessment (EA) Certificate. Inclusion of a preliminary plan will allow DFO to evaluate whether the proposed approach to offsetting is technically feasible and biologically effective and to communicate its expectations around offsetting. Furthermore, early discussions with Working Group members on the proposed approach to offsetting can benefit future conversations during the permitting phase, should a *Fisheries Act* authorization be needed. DFO recommends submitting a Request for Review if there is uncertainty as to whether the proposed works, undertakings or activities require authorization under the *Fisheries Act* (and in turn, whether offsetting of effects to fish and fish habitat will be required by DFO).	28-Nov-22	Table 10.6-1 of the DPD has been updated to include the following text "TI Corp will engage with Indigenous nations, regulatory agencies, local government, and stakeholders early to collaborate on the development of a habitat offsetting plan. TI Corp intends to include a draft habitat offsetting plan in the EAC Application."	Section 10.6	Yes
DPD-DFO-009	EA Readiness	Mitigation Measures	22-Sep-22	Fisheries and Oceans Canada	Table 10.6 (Summary of Preliminary Potential Effects, Mitigation, and Management Strategies) identifies a list of preliminary measures that will be used to avoid or mitigate effects to fish and fish habitat. DFO recommends consulting the DFO Projects Near Water website for a list of mitigation measures and best practices for avoiding or mitigating effects to fish and fish habitat : https://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html	28-Nov-22	Table 10.6-1 of the DPD has been updated to include a link and reference to "DFO's measures to protect fish and fish habitat". This website will be referenced when developing mitigation measures for avoiding, and/or mitigating potential adverse effects to fish and fish habitat.	Section 10.6	N/A
DPD-DFO-010	EA Readiness		22-Sep-22	Fisheries and Oceans Canada	Section 10.1.10 (Fish and Fish Habitat) indicates that potential Project-related effects on fish and fish habitat may occur in the Fraser River, Deas Slough, and Green Slough. As such, DFO recommends that the scope of the fish and fish habitat studies listed in the row 'Fraser River - Fish and Fish Habitat' of Attachment 3 (List of Studies, Schedule, Guidance and Standards) include Deas Slough and Green Slough.	28-Nov-22	Section 10.1.10 of the DPD has been updated to clarify that the scope of the fish and fish habitat existing conditions studies includes Green Slough (Upland Tributaries Existing Conditions Study) and Deas Slough (Fraser River Fish and Fish Habitat Study, White Sturgeon Existing Conditions Study, Eulachon Existing Conditions Study, Benthic Invertebrates Existing Conditions Study).	Section 10.1.10	N/A
DPD-DFO-011	EA Readiness	List of Studies, Schedule, Guidance and Standards	22-Sep-22	Fisheries and Oceans Canada	Attachment 3 (List of Studies, Schedule, Guidance and Standards) indicates that a field study on Eulachon Run Timing will be conducted using eDNA. Given the limitations of eDNA sampling, DFO recommends using additional methods such as hydroacoustic - perhaps in additional to eDNA - to characterize the distribution of eulachon during the migration period up the Fraser River.	28-Nov-22	The eDNA sampling program, as designed, is considered sufficient for determining simple presence/absence of eulachon at the Project site, given there are negative control sites and independent verification of results using an alternative laboratory and different Eulachon eDNA assay. However, additional methods such as gillnets, spawning mats, and/or obtaining data from third parties (e.g., LFFAs ongoing gillnet study) are being considered to augment eDNA results.	-	N/A
DPD-TL-001	EA Readiness		22-Sep-22	TransLink	As shown in the draft DPD, the continued inclusion of 2 transit-exclusive lanes where HOV will not be reinstated as part of the project scope is supported	28-Nov-22	Noted, thank-you.	-	N/A
DPD-TL-002	EA Readiness		22-Sep	TransLink	In the draft DPD, Figures 5.2-3 ‘Aerial Rendering’ and 5.2-4 ‘South Tunnel Entrance Rendering’ appear to show a different configuration for the Multi-Use Path (MUP) component than what was seen in the earlier stage. Currently, it appears to show a centre-running MUP connecting from Deas Island to Delta with no apparent MUP connection to Deas Island Regional Park. Previously, there was a direct MUP connection to Deas Island Regional Park, as well as a separate bridge crossing Deas Slough from Deas Island to Delta. Please clarify if this has changed or if it is simply a matter of how the proposal was rendered.	28-Nov-22	The renderings are conceptual designs for the MUP and have been updated as the Project's design progresses. The intent remains to provide a MUP connection to/from Deas Island as well as across Deas Slough to/from Delta. The design of the MUP will be influenced by feedback received during the environmental assessment process.	-	N/A
DPD-COR-001	EA Readiness	Habitat Offset Plan	03-Oct-22	City of Richmond	Remove reference to the City's Rice Mill Road properties as part of project description and temporary staging areas.	28-Nov-22	The Project will continue to work with the City of Richmond to understand land use planning objectives for the City's Rice Mill Road Properties. For the purposes of the environmental assessment process, the Project has included the City's Rice Mill Road Properties in the Project Footprint to fully assess lands that may be utilized for the Project.	-	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-002	EA Readiness	Habitat Offset Plan	03-Oct-22	City of Richmond	The Contaminated Soils Management Plan should discuss required regulatory compliance documentation including Notices of Independent Remediation and Site Risk Classification Reports. Effort should be made to keep clean soils in Richmond.	28-Nov-22	The Contaminated Soils Management Plan will discuss required regulatory compliance documentation including Notices of Independent Remediation and Site Risk Classification Reports. It will include disposal and treatment options for soils that exceed applicable standards, as well as procedures and regulatory compliance documentation required for remediation activities and confirmation of remediation. Table 10.6-1 of the DPD has been updated as follows (bold text shows revision): Potential Effect "Relocation of potentially contaminated excavated soil within the site or offsite disposal" / Preliminary Mitigation - ".... The layout of the Contaminated Soil Management Plan Will include disposal or treatment options for soil that exceeds applicable Environmental protection standards, all procedures and regulatory compliance documentation required for remediation activities and confirmation of remediation.	Section 10.6	N/A
DPD-COR-003	EA Readiness	Habitat Offset Plan	03-Oct-22	City of Richmond	The Habitat Offset Plan is listed as preliminary mitigation for the temporary and permanent loss of instream and riparian habitat. It is requested that additional details of the Habitat Offset Plan be included as a part of the Process Planning and Application Development phases of the EA. Details of the Habitat Offset Plan are required by the City of Richmond to assess the impact of this project.	28-Nov-22	Habitat offsetting measures have not yet been determined and will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Preparation Phase and provided in the Project EAC Application.	-	Yes
DPD-COR-004	EA Readiness	Habitat Offset Plan	03-Oct-22	City of Richmond	It is requested that the Steveston Harbour Authority be included in the Working Group to provide comment on the location of the Temporary Offsite Tunnel Element Moorage, and additional information be provided by the Proponents for the plan to minimize impacts to the Steveston community caused by the placement of this activity.	28-Nov-22	The Steveston Harbour Authority has been added to the Marine and Terminal Users Working Group mentioned in section 14.2.6 of the Detailed Project Description.	Section 14.2.6	N/A
DPD-COR-005	EA Readiness	Habitat Offset Plan	03-Oct-22	City of Richmond	There are areas adjacent to the Hwy 99 that are designated as ESA in the OCP. A biophysical inventory should be prepared by a Qualified Environmental Professional (QEP). All existing City identified ESAs and any impacts to these ESAs should be considered as part of the Habitat Offset Plan. The Project will need to demonstrate that there are no adverse impacts on Riparian Management Areas (RMA) and Environmentally Sensitive Areas (ESA) and that any impacts should be considered as part of the Habitat Offset Plan.	28-Nov-22	Section 10.1.10 of the DPD has been updated to acknowledge that there are areas classified by the City of Richmond as Intertidal, Shoreline and Freshwater Wetland Environmentally Sensitive Areas (ESAs) within the Project footprint, LAA and RAA. Additionally, there are areas along freshwater surface features classified as Riparian Management Areas (RMAs) located within the Project footprint, LAA and RAA. Some of these areas are considered likely to experience temporary or permanent potential Project effects. A fish and fish habitat assessment will be completed as part of the EAC Application. As part of this assessment, existing conditions studies are ongoing to characterize these areas, including Intertidal and Shoreline ESAs, upland tributaries with RMAs, and Freshwater Wetland ESAs. Habitat offsetting planning and design will consider the City of Richmond's and City of Delta's ESA and RMA / Streamside Protection and Enhancement Area (SPEA) designations, where possible. The Proponent will collaborate with Indigenous nations, regulators, local government, and other organizations to align the offsetting plans with fisheries management objectives of the Fraser River during the Application Preparation Phase. As referenced in Section 10.1.9 of the DPD, a wildlife and wildlife habitat assessment will be completed as part of the EAC Application. In addition to aquatic ESA, the LAA and RAA for the wildlife and wildlife habitat assessment overlap upland forest and old field and shrubland ESAs. Surveys for wildlife presence and use of these habitats are ongoing as part of the existing condition studies, where land access is available. Data from the existing condition studies will be used to characterize wildlife potential occurrence in these areas, potential Project related effects, and mitigation strategies, potentially including restoration and offsetting as part of the EAC Application. The scope of both the fish and fish habitat assessment, and the wildlife and wildlife habitat assessment, will be refined during development of the Application Information Requirements (AIR) in the Process Planning Phase, in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.	Section 10.1.10	Yes
DPD-COR-006	EA Readiness	Drainage	03-Oct-22	City of Richmond	Given that the City and MoTI drainage systems are interconnected, additional work shall be done by MoTI to plan and construct new drainage infrastructure that can accommodate large rainfall events and to proactively maintain existing drainage infrastructure. The City expects that MoTI will improve drainage along the Hwy 99 corridor from the north to the south end of Lulu Island by increasing the overall drainage system capacity. This was emphasized during a July 14, 2022 meeting between the City and FRTP, where City staff expressed that drainage near the Hwy 99/Hwy 91 interchange should be included in the assessment due to flooding that occurred on the Hwy during last year's atmospheric river rainfall events.	28-Nov-22	The review includes drainage influences within the project's catchment area and the scope of improvements are limited to that within the Project footprint. The Project will continue to engage with the City of Richmond on storm drainage designs. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including drainage infrastructure, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-007	EA Readiness	Drainage	03-Oct-22	City of Richmond	Canals upstream of Richmond's No. 6 Road South drainage pump station and Horseshoe Slough drainage pump station are used by farmers for irrigation purposes. Drainage works impacting these systems will require consultation with the agricultural community and the City.	28-Nov-22	An agricultural assessment will be completed as part of the EAC Application to identify potential project effects to agriculture, including existing agricultural operations, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the agricultural assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-COR-008	EA Readiness	Drainage	03-Oct-22	City of Richmond	The existing drainage canal along the west side of Hwy 99 within the project area is a designated Riparian Management Area. There should be some comment about the need to ensure that the riparian area being restored/improved as part of the project or the loss of habitat being addressed through the Habitat Offset Plan.	28-Nov-22	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential project effects to fish and fish habitat, including riparian habitat, and to recommend mitigation measures intended to minimize, and where possible, avoid potential effects. Further, aquatic and riparian habitat effects, including harmful alteration, disruption, or destruction (HADD) of habitat and death of fish will be addressed in the Permitting Phase according to regulatory requirements, and in consultation with DFO, Ministry of Forests, Indigenous nations, and the City of Richmond. This will include habitat offsetting to compensate for project-related HADD and/or death of fish. TI Corp will engage with Indigenous nations, regulatory agencies, local government, and stakeholders early to collaborate on the development of a habitat offsetting plan. TI Corp intends to include a draft habitat offsetting plan in the EAC Application. The scope of the fish and fish habitat assessment will be outlined in the Project Application Information Requirements (AIR) and will be available to the TAC for review in the Process Planning Phase of the EA.	-	Yes
DPD-COR-009	EA Readiness	BC Hydro	03-Oct-22	City of Richmond	Regarding the relocation of the BC Hydro infrastructure, Richmond's strong preference is for this to be underground rather than overhead. Ministry Rob Fleming indicated that this is also MoTI's preference at the UBCM meeting in September 2021. In a December 7, 2021 letter to Mayor Brodie, Ministry Rob Fleming and Minister Bowinn Ma indicated that the Ministry is working with BC Hydro on a design to incorporate the existing BC Hydro lines into the new tunnel. As BC Hydro's work is initiated as a result of this project, the scope of the BC Hydro infrastructure works should be addressed in the DPD.	28-Nov-22	The BC Hydro relocation project is a separate project from the Fraser River Tunnel Project, is being designed and delivered by BC Hydro, and is therefore not included in the Project's scope of work or DPD.	-	N/A
DPD-COR-010	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Further to comments on the IPD and the DPD's response regarding temporary flood protection, the alignment and design of any temporary flood protection works shall be determined through coordination with the City of Richmond. Conventional earth fill dikes are preferred wherever possible, and the use of walls as a means for flood protection for the City is not encouraged unless specifically agreed upon by the City. MoTI will also be responsible for coordinating the work with neighbouring properties as required to ensure a continuous dike alignment.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO on the required upgrades to existing flood protection infrastructure that may be impacted by the Project. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including flood protection infrastructure, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-011	EA Readiness	Flood Protection	03-Oct	City of Richmond	Prior to any ground improvement or excavation works, the associated geotechnical and seismic assessment pertaining to any impacts to City infrastructure and flood protection infrastructure shall be submitted for the City's review. This should include all necessary monitoring plans to the satisfaction of the City.	28-Nov-22	The Project will continue to engage with the City of Richmond and will share detailed plans for ground improvements and excavations works prior to construction.	-	N/A
DPD-COR-012	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	All land associated with flood protection infrastructure should include SRW in favour of the City for future flood protection access, operation and maintenance needs. City of Richmond should gain ownership of the permanent dike and flood protection infrastructure upon completion of construction.	28-Nov-22	Lands associated with flood protection infrastructure will be discussed with the City of Richmond during the development of the Municipal Agreement.	-	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-013	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	DPD indicates that existing dikes affected by the Project will be re-constructed to current standards. All permanent flood protection works within the MoTI ROW should be designed and constructed for the future with allowance for climate change induced sea level rise, and be in alignment with Richmond's Flood Protection Management Strategy and dike master plans. Flood protection infrastructure shall be designed and constructed to match the expected lifespan of the tunnel, with a minimum dike elevation of 5.5 m geodetic. The site surrounding the dike should be raised to match the dike elevation wherever possible to create a superdike as described in the City's dike master plans to provide the most robust protection possible around the new tunnel. The City's Dike Master Plan Phase 3 indicates a preference for a separated dike and road for this segment of dike. The geotechnical and seismic design and performance standards for all flood protection infrastructure shall be consistent with industry best practices, the City's Flood Protection Management Strategy and be developed in coordination with the City.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO on the required upgrades to existing flood protection infrastructure that may be impacted by the Project. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including flood protection infrastructure, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-014	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	As outlined in Table 5.7-1 of the DPD, the City is supportive of the beneficial use of dredge material in the construction of estuarine marsh and mudflats within the Sturgeon Bank Wildlife Management Area. Improvements to the marsh habitat supports and enhances the City's flood protection infrastructure by increasing wave dissipation properties of the marsh, as identified in the City's Dike Master Plan Phase 2.	28-Nov-22	Thank you for the comment. The Project will continue to work with the City of Richmond and other stakeholders to identify opportunities for beneficial reuse of dredged materials.	-	N/A
DPD-COR-015	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Per the City's Dike Master Plan Phase 1, as part of the City's long- term flood protection strategy, the City intends on pursuing the re- alignment of the dike in the Steveston area to Shady Island, with sea gates on either ends of the Island, to act as the primary flood protection measure in this area. The proposed temporary moorage facility is in conflict with planned future infrastructure associated with this plan. TRAN to work closely with the City to coordinate this work to identify synergies and eliminate conflict. In addition, the City has ongoing work upgrading sections of the south dike and drainage pump stations in the vicinity of the proposed works. All project construction activities must be coordinated with the City.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO on the required upgrades to existing flood protection infrastructure that may be impacted by the Project. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including flood protection infrastructure, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects including those associated with the temporary moorage of tunnel elements at Steveston Island. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-016	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Include Flood Protection Management Strategy and Dike Master Plans as listed documents for the City of Richmond.	28-Nov-22	Table 7.6-1 of the DPD has been updated to include the following links: "City of Richmond Flood Protection Management Strategy 2019 https://www.richmond.ca/__shared/assets/Flood_Protection_Management_Strategy57596.pdf and the City of Richmond Dike Master Plans https://www.richmond.ca/services/rdws/dikes/dikemasterplan.htm."	Section 7.6	N/A
DPD-COR-017	EA Readiness	Noise	03-Oct-22	City of Richmond	All construction activities to be in compliance with Richmond's Noise Regulation Bylaw - No. 8856	28-Nov-22	An acoustic assessment will be completed as part of the EAC Application to identify potential sources and levels of noise to be generated during the construction and operation phases of the Project. The scope of the acoustic assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-COR-018	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Access to all flood protection infrastructure including dikes and pump stations should be maintained at all times during construction. An access plan shall be prepared for Richmond's review prior to construction.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO to verify that access to flood protection infrastructure (dikes and pump stations) is maintained during construction. An infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including access to flood protection infrastructure, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-019	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Analysis required to assess the construction impact of the proposed works on the salt wedge and to ensure there are no adverse impacts to Richmond's agricultural and irrigation activities. Potential impacts shall be mitigated by the project.	28-Nov-22	Section 10.1.5 of the DPD has been updated to indicate that the results of the river hydraulics and morphology studies will be used to support the Agricultural Assessment, particularly with respect to irrigation activities. Reference to Agricultural Land Use has been incorporated into the following sentence in Section 10.5.1 of the DPD: "Results of the river hydraulics and morphology studies will be used to support the assessment of potential effects of the Project on Fish and Fish Habitat, Marine Mammals, Land and Resource Use, Land and Resource Use (including agricultural land use), and Marine Use VCs." The scope of these assessments will be developed during preparation of the Application Information Requirements (AIR) during the Process Planning Phase, in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and public stakeholders.	Section 10.1.5 Section 10.5.1	Yes
DPD-COR-020	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	Analysis of river morphology is required to confirm that any increase in flows or river levels are minimized and reviewed with the City of Richmond, both during temporary and permanent conditions. This includes the main project site and the proposed temporary moorage facility. The analysis shall include risks to erosion and scouring of Richmond's south dike. Any notable impacts shall be mitigated by the project, with plans to be coordinated with the City. Any increase in flooding risks to Richmond as a result of the project is not acceptable.	28-Nov-22	The project does not currently anticipate effects on river discharges or water levels as a result of this project. A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology. This will include numerical modelling and evaluation of potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-021	EA Readiness	Flood Protection	03-Oct-22	City of Richmond	All flood protection infrastructure shall be protected during the decommissioning of the existing tunnel, with decommissioning plans to be reviewed by the City.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO on the decommissioning methodology for existing flood protection infrastructure that may be impacted by the Project. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including effects to flood protection infrastructure from decommissioning of the existing tunnel, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-022	EA Readiness	Missing Project Interactions	03-Oct-22	City of Richmond	Suspended sediment reduces the amount of light penetration into the water column and hence reduces the energy available for aquatic plant photosynthesis. A reduction in algae results in a major loss of food for invertebrates. This impact to aquatic invertebrates is requested to be monitored with baseline, construction, and post-construction investigations.	28-Nov-22	A fish and fish habitat assessment will be completed as part of the EAC Application. This pathway of effect to benthic invertebrate communities will be assessed as part of the Fish and Fish Habitat Assessment, and the outcome of the effects assessment will support future monitoring component selection. An existing conditions study for benthic invertebrates has commenced which aims to determine benthic invertebrate abundance, biomass, and richness within the proposed densification and dredge areas. The scope of the Fish and Fish Habitat Assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-COR-023	EA Readiness	Land Use	03-Oct-22	City of Richmond	City Lands to be used within project footprint for temporary and permanent project components need to be clearly defined for proper review. As well, the land use designation will need to be verified.	28-Nov-22	Any permanent or temporary land requirements will be clearly defined in the EAC Application once detailed design is complete. The Proponent will continue to engage with the City of Richmond regarding permanent or temporary land use. Land use designations will be as per available information, and Project requirements will be also be defined in the EAC Application.	-	Yes
DPD-COR-024	EA Readiness	Land Use	03-Oct-22	City of Richmond	Recognize use of City lands for temporary and permanent components will require Council approval. Additional detailed information will determine any permitting and approval processes in accordance with City bylaws and policies. The project will need to demonstrate there are no adverse impacts on the Riparian Management Areas (RMA) & Environmentally Sensitive Areas (ESA) that exist in the project area.	28-Nov-22	The Project will continue to discuss potential impacts to City owned lands with City of Richmond. Any impacts on Riparian Management Areas and Environmentally Sensitive Areas as well as mitigation or restoration requirements, will be identified through the EA Process EAC Application preparation phase in collaboration with technical advisors and Indigenous nations.	-	Yes
DPD-COR-025	EA Readiness	Land Use	03-Oct-22	City of Richmond	On Page 43 the 3rd bullet highlighted should indicate which municipality is being referenced. If in Richmond, the west side of the ROW is Mixed Employment not Agricultural.	28-Nov-22	The 3rd bullet in Section 7.3 of the DPD has been updated to include the following text: •private land and Crown agency land east and west of the ROW respectively, in Delta, which is all designated for agriculture	Section 7.3	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-026	EA Readiness	Land Use	03-Oct-22	City of Richmond	Consider potential impacts to agricultural lands requiring restoration to existing or better conditions. Both Council and ALC approval of a non-farm use application will be required to use these lands for construction staging. The application process will require referral to the City's Food Security and Agricultural Advisory Committee (FSAAC) as part of the review process and demonstration that the agricultural lands must be restored to existing or better agricultural condition than what currently exists.	28-Nov-22	An agricultural assessment will be completed for the Project EAC Application to identify potential Project effects of temporary work spaces on agricultural land and requirements for mitigation measures. An existing conditions study will be completed to document the condition of agricultural lands, with the goal of Project mitigation being to restore to agricultural lands to existing or better agricultural condition. The scope of the agricultural assessment will be outlined in the Application Information Requirements (AIR) and will be available to the TAC for review in the Process Planning Phase of the EA.	-	Yes
DPD-COR-027	EA Readiness	Land Use	03-Oct-22	City of Richmond	In Section 10.3 the IPD does not say that the agricultural land that will be used temporarily will be returned back to its current or improved state of production (as per our previous comment (as summarized on Page 107). Instead the DPD indicates the improvement is the agricultural community can get their goods to market easier.	28-Nov-22	Section 10.3.1 of the DPD has been updated to indicate that the goal of mitigation of Project construction effects on agricultural lands that will be temporarily used, will be to restore agricultural lands to existing or better agricultural condition. As indicated in Section 10.3.1, once operational, the Project is not expected to adversely affect agricultural or other land uses and will provide benefits such as improved reliability for the agricultural community in getting goods to market.	Section 10.3.1	N/A
DPD-COR-028	EA Readiness	Detailed Design	03-Oct-22	City of Richmond	Additional details on MUP connections to City active transportation networks is required.	28-Nov-22	The Project will continue to engage with the City of Richmond on the design of the MUP. The renderings included in the DPD display conceptual designs for the MUP and have been updated as the Project's design progresses. The design of the MUP will be influenced by feedback received from technical advisors and Indigenous nations during the environmental assessment process.	-	N/A
DPD-COR-029	EA Readiness	Soil	03-Oct-22	City of Richmond	From a process perspective, no permits typically need to be obtained from the City for depositing and/or removing soil that is related to a project undertaken by the Province. However, should the ALC deem portions of the project undertaken on Lands in the ALR to be a Non-Farm Use (NFU), Council authorization would be required prior to the ALC providing a decision. If both Council and ALC approve the NFU, then depositing/removing soil associated with the project could proceed without a soil deposit and/or removal permit from the City.	28-Nov-22	Section 10.3.1 of the DPD has been updated to indicate that should the ALC deem portions of the project undertaken on Lands in the ALR to be a Non-Farm Use (NFU), Council authorization would be required prior to the ALC providing a decision. If both Council and ALC approve the NFU, then depositing/removing soil associated with the project could proceed without a soil deposit and/or removal permit from the City. TI Corp will continue to meet regularly with the ALC, the City of Delta, City of Richmond throughout the Application Preparation and will continue through the EA and permitting processes the to keep them informed about the Project and seek input on Project effects on agriculture and identify required mitigation measures.	Section 10.3.1	N/A
DPD-COR-030	EA Readiness	Council Authorization and ALC	03-Oct-22	City of Richmond	It is imperative that the project coordinator(s) for the Province be advised that the City requires written assurance from the ALC that project work which involves deposition or removal of soil or other material on or from Lands in the ALR does not require Council authorization.	28-Nov-22	Thank you for the comment. The Project will continue to work with the City of Richmond and the ALC to communicate technical and process requirements during the review of future submissions to the ALC.	-	N/A
DPD-COR-031	EA Readiness	Land Use	03-Oct-22	City of Richmond	As of summer 2022, Real Estate Services staff have been working with other City staff on a short term license at 12151 Rice Mill Road with Flatiron for the Steveston Interchange project. Anything beyond that agreement for 12151 Rice Mill Road should not be included as Project Lands without further discussion with the City of Richmond. City staff are not able to fetter these lands without further staff review, direction from Senior Management and approval by Council.	28-Nov-22	The City of Richmond owned lands at 12751 Rice Mill Road have been defined as within the project footprint and may be identified for potential temporary use by the Project. It is acknowledged that a consensual agreement to use these lands are subject to further discussions with City staff and ultimately a decision by City Council.	-	N/A
DPD-COR-032	EA Readiness	Project Water Requirements	03-Oct-22	City of Richmond	To facilitate construction of the pre-cast tunnel elements, the use of potable water sources obtained through water servicing agreements from nearby municipalities is proposed. The DPD does not address the City's IPD comments relating to the exploration of the use of non-potable water sources, such as river water, for the production of the concrete elements. The project should aim to use as little potable water as possible considering the extended nature of the construction timeline and the regional concern regarding climate change and its impact on regional potable water supply.	28-Nov-22	The Project will continue to engage with the City of Richmond and MFLNRO on potential sources of potable water during construction. In addition, an infrastructure and services assessment will be completed as part of the EAC Application to identify potential project effects to infrastructure and services, including potable water supply and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the infrastructure and services assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-COR-033	EA Readiness	Soil	03-Oct-22	City of Richmond	The DPD notes that the in-river portion of the existing tunnel and upland portals will be removed and backfilled. It is assumed that temporary construction areas such as the concrete casting areas and tunnel element mooring areas will require backfill as well. The DPD should be updated to outline a high level approach for backfilling operations, and include basic details such as the proposed types of backfill materials, sourcing and transportation of materials, and methods for installing backfill.	28-Nov-22	Once the tunnel elements are cast, the casting basin will turn into the south tunnel portal. The backfilling of the existing IT tunnel trench and the tunnel portals will be based on engineering requirements and applicable regulations. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations. Backfill of the temporary moorage site with Fraser River sand may be required, however, the project expects the temporary moorage area to backfill via natural sedimentation aggradation from the River. Table 5.3-1 of the DPD has been updated to include this information. Additional details on backfill methodology, sources, volumes and transportation will be included in the EAC Application.	Section 5.3	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-COR-034	EA Readiness	Soil	03-Oct-22	City of Richmond	It is unlikely that any natural rock will be exposed within the project area given the geomorphology of the area, but there could be the risk of importing rock material that is sulfide bearing/acid causing. The project's proposed Contaminated Soils Engagement Plan should not only address the quality of soils/materials on-site, but should also outline procedures and processes to ensure that all imported materials and fill meet requirements of the EMA/CSR. All material proposed to be placed in and around the Fraser River should be contaminant free.	28-Nov-22	Fill and aggregate materials brought to the site will be certified and meet the applicable Environmental protection standards as outlined in Table 10.6-1 "Import and Placement of potentially contaminated fill at the site to backfill excavations". Table 10.6-1 has been updated to include the following text "This will include screening for sulfide bearing/acid generating potential" In addition, section 10.1.7 of the DPD has been updated to include the following text: "The content outlined for the Contaminated Soil Management Plan will include recommendations for fill screening parameters and analytical methods, a requirement for a laboratory certificate for the imported fill, and other procedures for fill assessment. Fill screening parameters of imported rock would include screening for sulfide bearing and acid generating potential."	Section 10.6 Section 10.1.7	N/A
DPD-COR-035	EA Readiness	Project Activities	03-Oct-22	City of Richmond	The DPD indicates that fill materials will be placed along the sides of the tunnel elements to lock them in place within the tunnel trench. A high level overview outlining the types of fill utilized to protect the tunnel and how that fill will be sourced, transported and put in place should be included within the DPD. Will a protective fill also required over the top of the proposed ITT, or is fill placement just limited to the sides of the tunnel elements?	28-Nov-22	The type, source and transportation of backfill material used to protect the tunnel will be based on engineering requirements and applicable regulations. Additional details on backfill methodology, sources, types, volumes and transportation will be included in the EAC Application. Table 5.3-1 of the DPD has been updated to include the following revision: "Once immersion is complete, fill will be placed along the top and sides of the tunnel element to lock the element into the tunnel trench. Backfill material will be clean engineering-grade fill and will be sourced in accordance with applicable regulations".	Section 5.3	Yes
DPD-COR-036	EA Readiness	Fish and Fish Habitat	03-Oct-22	City of Richmond	The DPD notes mitigation and offsetting measures for fish and fish habitat, but does not provide detail on the potential for avoidance of impacts to fish and fish habitat. The DPD should highlight Fish Timing Windows for the Fraser River and further define the proposed project construction timelines in the context of least risk timing for impacts to fish.	28-Nov-22	Section 5.4 of the DPD has been updated to include the following text: “In-river construction activities will be conducted both within and outside of the DFO least risk timing window, and/or during a modified work window. The specific in-river construction activities that would need to be conducted within applicable least-risk windows would be determined during the EAC Application Development Phase and subsequent Fisheries Act permitting, in consultation with Indigenous nations, DFO, and Technical Advisors.” Avoidance measures, including determining project-specific least risk timing windows for fish, are an important component of the Project. Ongoing Indigenous-led studies and existing conditions studies are currently being undertaken to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform if project-specific least risk timing windows may be required. These timing windows will inform the project construction timelines.	Section 5.4	Yes
DPD-ECCC-001	EA Readiness	Wildlife	04-Oct-22	Ministry of Environment and Climate Change Canada	The draft DPD states the following in section 10.1.9 on PDF p. 98: *“Aquatic, riparian, and wetland habitat may support semi-aquatic mammals, such as river otter (Lontra canadensis), and bats may forage over these habitat types.”* ECCC notes that birds may also forage over these habitat types, such as common nighthawks and swallows.	28-Nov-22	Section 10.1.9 refers to potential habitat use in the LAA by all forms of Wildlife. The comment by ECCC refers to a paragraph related to potential habitat use in the LAA by mammal species. It is acknowledged that aquatic, riparian, and wetland habitat may also provide foraging habitat for birds, as referenced in the preceding paragraph in Section 10.1.9 that characterizes potential bird habitat in the LAA as including "roadside, agricultural fields, riparian habitat, wetlands, forests, and aquatic habitats". The Existing Conditions report will describe potential habitat use by common nighthawk and swallows as a basis for the wildlife and wildlife habitat assessment component of the EAC Application. The scope of the wildlife and wildlife habitat assessment will be outlined in the Project Application Information Requirements (AIR) and will be available to the TAC for review in the Process Planning Phase of the EA.	Section 10.1.9	Yes
DPD-ECCC-002	EA Readiness	Wildlife	04-Oct-22	Ministry of Environment and Climate Change Strategy	ECCC recommends minor additions (in bold text) to the following paragraph in section 10.1.9 on PDF p. 99: 'Terrestrial habitat may be lost **and degraded** during vegetation clearing and grubbing. Construction and operational noise levels and the temporary presence and movement of crews, machinery, and equipment may impact habitat connectivity, reduce habitat quality, **and increase wildlife mortality'.**	28-Nov-22	Section 10.1.9 of the DPD has been updated to include the following text (revisions in bold) "Terrestrial habitat may be lost and altered during vegetation clearing and grubbing. Construction and operational noise levels and the temporary presence and movement of crews, machinery, and equipment may impact habitat connectivity, reduce habitat quality, and increase wildlife mortality."	Section 10.1.9	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-ECCC-003	EA Readiness	Wildlife	04-Oct-22	Ministry of Environment and Climate Change Strategy	The draft DPD states the following in section 10.1.9 on PDF p. 99: *"…inactive barn swallow nests that may be required to be removed to facilitate replacement of the Deas Slough Bridge would be removed outside the specified nesting period in accordance with guidance from Environment and Climate Change Canada (ECCC 2019)."* ECCC advises that barn swallow nests can only be removed outside the nesting period if they are not occupied by a live bird or viable egg, and only if necessary to complete the Project. ECCC recommends that the Proponent consider mitigation measures to compensate or offset for the loss of any barn swallow nests. ECCC also directs the Proponent to the recent updates to the Migratory Bird Regulation (MBR 2022) found here: https://www.canada.ca/en/environment-climate-change/services/avoiding-harm-migratory-birds.html	28-Nov-22	A wildlife and wildlife habitat assessment will be completed as part of the EAC Application to identify potential project effects to wildlife and wildlife habitat, including barn swallows, and, as appropriate will identify mitigation measures intended to reduce, and where possible, avoid potential impacts. The scope of the wildlife and wildlife habitat assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review in the Process Planning Phase of the EA.	-	Yes
DPD-ECCC-004	EA Readiness	Wildlife	04-Oct-22	Ministry of Environment and Climate Change Strategy	ECCC recommends the addition of habitat restoration/offsetting to the list of *preliminary mitigations* for wildlife described in Table 10.1-6.	28-Nov-22	Table 10.6-1 of the DPD identifies habitat restoration under the "Preliminary Mitigation" column and proposes monitoring of restored habitat under the "Preliminary Proposed Monitoring" column. The EAC Application will characterize and assess potential habitat loss and recommend corresponding mitigation strategies designed to avoid, reduce, and/or restore those effects. Mitigation strategies, could include offsetting if identified as necessary in the EAC Application. Table 10.6-1, Preliminary Mitigation column has been updated to read "Restoration of disturbed habitat, and may include habitat offsetting if identified as a requirement in the EAC application"	Section 10.6	Yes
DPD-VCH-001	EA Readiness	Air Quality	04-Oct-22	Vancouver Coastal Health	PDF PG.49 - It would be helpful to list some of the ways by which criteria air contaminants may affect human health (e.g. respiratory and cardiovascular effects). The proponent should ensure an appropriate Regional Assessment Area and Local Assessment Area is selected, and consult with Metro Vancouver on the most appropriate air quality dispersion model and assessment boundaries.	28-Nov-22	The text in Section 6.1 of the DPD has been updated as follows: Criteria air contaminants, which have the potential to affect human health (i.e., respiratory and cardiovascular effects), would be emitted during the Project. A detailed modelling plan will be provided to Metro Vancouver for their review and approval prior to conducting the air dispersion modelling assessment. The detailed modelling plan will include the proposed air quality dispersion model to be considered for the assessment, and the specifications for the Regional Assessment Area and the Local Assessment Area. The existing conditions local and regional assessment areas for air quality have incorporated feedback provided by Metro Vancouver during review and comment on the corresponding existing conditions workplan. The scope of the air quality assessment and the draft Air Quality Workplan will be outlined in the Project Application Information Requirements (AIR) and will be available to the TAC for review in the Process Planning Phase of the EA.	Section 6.1	Yes
DPD-VCH-002	EA Readiness	Greenhouse Gas Emissions	04-Oct-22	Vancouver Coastal Health	PDF PG.51 - We have noted issues of induced demand when making assumptions about reducing traffic congestion and reduction of GHG emissions, especially given potential for development and increase in region's population over the operational timeline of the tunnel.	28-Nov-22	Estimating GHG emissions during the construction and operation phases of the tunnel will be undertaken with the most representative data available at the time of the Environmental Assessment Application, and will take into consideration existing and proposed government legislation aimed at reducing GHG emissions. These forecasts will also consider projected increases in Metro Vancouver's regional population over the life span of the tunnel, and resulting potential for increases in GHG emissions. Key assumptions to be used in the prediction of GHG emissions and effects will be detailed in EAC Application. The scope of the GHG assessment will be outlined in the Application Information Requirements (AIR) to be prepared during the Process Planning Phase of the EA in collaboration with Indigenous nations, Technical Advisory Committee (TAC) members, and stakeholders.	-	Yes
DPD-VCH-003	EA Readiness	Land and Resource Use	04-Oct-22	Vancouver Coastal Health	PDF PG.53 - Reference source is not found for the first sentence of section 7.1.	28-Nov-22	Section 10.3 of the DPD has been updated to include the following text (bold text added): Table 10.3-2 and 10.3-3 in Section 10.3.2 and 10.3.3 provide updates on engagement with Indigenous nations, technical advisors, stakeholders, and the public, key issues pertaining to land use, marine and water use identified through engagement and how these issues were considered and responses to the issues	Section 10.3	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-VCH-004	EA Readiness	Land and Resource Use	04-Oct-22	Vancouver Coastal Health	PDF PG.64 - It would be helpful to note that the new Regional Transportation Strategy has been approved (Transport 2050), along with investment plans. https://www.translink.ca/-/media/translink/documents/plans-and-projects/regional-transportation-strategy/transport-2050/final_report/rts_introductions.pdf?sc_lang=en&hash=EF4E3F7E74C7DA75EA0EED6046075A70	28-Nov-22	Table 7.6-1 in the DPD has been updated to reference TransLink's Regional Transportation Strategy (Transport 2050) and 2022 Investment Plan.	Section 7.6	N/A
DPD-VCH-005	EA Readiness	Air Quality	04-Oct-22	Vancouver Coastal Health	PDF PG.76 - We caution against the assumption that improved air quality and GHGs will come from improved traffic flow over the long-term - induced demand will threaten these assumed improvements in absence of additional programs / measures / incentives to take alternative forms of transport (e.g. transit, active transport).	28-Nov-22	Estimating emissions during the construction and operation phases of the tunnel will be undertaken with the most representative data available at the time of preparing the EAC Application, and will take into consideration existing and proposed government legislation aimed at reducing emissions. These forecasts will also consider projected increases in Metro Vancouver's regional population over the life span of the tunnel, and resulting potential for increases in emissions. Key assumptions to be used in the prediction of emissions and effects will be detailed in EAC Application. The scope and methodologies for undertaking the air quality assessment and process for developing mitigation measures will be determined in collaboration with Indigenous nations and Technical Advisory Committee (TAC) members during the development of the Application Information Requirements (AIR) in the Process Planning Phase. The Proponent will continue to collaborate with Indigenous nations and TAC members to assess potential effects to air emissions during the Application Development Phase of the environmental assessment.	-	Yes
DPD-VCH-006	EA Readiness	Acoustic	04-Oct-22	Vancouver Coastal Health	PDF PG.79 - We are glad to see there will be inclusion of acoustics at noise-sensitive land uses. We encourage the inclusion of areas that include residential areas, schools, childcare spaces, residential care spaces, and recreational areas (e.g. parks).	28-Nov-22	Section 10.1.2 of the DPD lists residential, institutional, and recreational land uses as noise-sensitive, which includes residential areas, schools, childcare spaces, residential care spaces, and recreational areas (e.g., parks), as applicable.	-	N/A
DPD-VCH-007	EA Readiness	Infrastructure and Services	04-Oct-22	Vancouver Coastal Health	PDF PG.132 - We recommend including impacts to transit safety, travel times, and reliability in the transportation impact assessment (TIA).	28-Nov-22	Section 10.3.4. has been updated as follows (bolded text): "..Project construction impacts to vehicle, bike, transit, and pedestrian transportation safety, travel times, and reliability... (statement continues).	Section 10.3.4	N/A
DPD-VCH-008	EA Readiness	Human Health	04-Oct-22	Vancouver Coastal Health	PDF PG.139 - Human health considerations for the project are much broader than air quality, particularly as per the downstream health impacts related to the project (physical activity rates associated with time spent commuting by car; greenhouse gas emissions and air contaminants in relation to climate change; risks to food security as a result of the project's impact on agricultural land; impact of noise on development). These are hard measures to quantify, but should be acknowledged as potential impacts of the project on health.	28-Nov-22	Section 10.5.2 of the DPD has been updated to indicate consideration of Project effects on food security as a result of the Project's impact on agricultural lands. Section 10.5.2 references community wellbeing effects as a result of Project related noise and vibration. Human health considerations and assessment will be undertaken consistent with regulatory guidance in the EAC Application. The contributing effect of the Project once completed, as a component of various upgrades proposed to improve functionality of the Highway 99 corridor, including effects on physical activity rates as a result of reduce time spent commuting will be highlighted in the "Project Effects on Current and Future Generations" section of the EAC Application. The scope of these assessments will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	Section 10.5.2	Yes
DPD-VCH-009	EA Readiness	Human Health	04-Oct-22	Vancouver Coastal Health	PDF PG. 139 - We are pleased to see that there is consideration of how the project will impact agriculture, noise and air quality in other sections of the DPD. We would like to see recognition of physical activity impacts included in the community health and wellbeing effects, noting that induced demand over time may impact anticipated results - we note that this will require a community-based approach in analysis.	28-Nov-22	The land and resource use and community wellbeing assessments will be completed as part of the EAC Application to identify potential project effects to physical activity including recreational land and water use and effects to active transportation. The potential effects of the Project operations, as a component of various upgrades proposed to improve functionality of the Highway 99 corridor - including physical activities will be further considered in the EAC Application Section "Project Effects on Current and Future Generations". The scope of these assessments will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-VCH-010	EA Readiness	Human Health	04-Oct-22	Vancouver Coastal Health	PDF PG.139 - We would also like to see specific acknowledgement and attention given to spaces where particularly vulnerable individuals may take residence (e.g. schools, childcare spaces, residential care spaces) within the assessment areas.	28-Nov-22	As reflected in Section 10.1.2 Acoustic and Section 10.5.2 Community Health and Wellbeing of the DPD, receptor mapping will be completed to identify the location of vulnerable groups and individuals, including schools, childcare centres, residential care centres, and residents. As noted in Section 10.5.2, this mapping will support assessment of potential disproportionated Project effects on community health and wellbeing (as well as Project effects on acoustics (noise) in the EAC Application.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-VCH-011	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG. 157 - We recommend including more detail with regards to how the Socio-economic Effects Management Plan will contribute to emergency health services. From the description on PDF PG. 131, it's not clear how a Socio-economic Effects Monitoring Program / Management Plan will contribute to establishing hospital services, etc.…	28-Nov-22	Section 10.3.4 of the DPD has been revised to indicate that, where potential effects to infrastructure and services are identified, mitigation measures will be developed during the preparation of the EAC Application in consultation with Indigenous nations, local and regional government, and service providers. These measures will be incorporated into relevant Management Plans to address socio-economic effects of the Project. To clarify, where potential effects on emergency services are identified, an Onsite Health and Safety Management Plan will identify measures to mitigate demand on local emergency services directly related to Project construction and operational activities.	Section 10.3.4	Yes
DPD-VCH-012	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG.157 - We suggest including metrics for use (e.g. traffic counts) for all modes. It's not clear for how long the improved traffic flows are anticipated, but induced demand would illustrate need to monitor for potential congestion / change in traffic volumes over time. It would be helpful to have this monitored over time.	28-Nov-22	The Infrastructure and Services Assessment will assess potential effects of Project construction components and activities, and tunnel operational activities (e.g. tunnel maintenance) on different modes of transportation. Where potential effects are identified, mitigation measures including associated metrics and monitoring will be developed during the preparation of the EAC Application in consultation with Indigenous nations, local and regional government, and service providers.	-	Yes
DPD-VCH-013	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG.158 - We recommend including sensitive / vulnerable individuals and spaces (e.g. schools, childcare spaces, residential care spaces) to considerations regarding air quality, noise, vibration, and traffic.	28-Nov-22	As indicated in Section 10.5.2 of the DPD, receptor mapping of vulnerable individuals, including schools, childcare centres, residential care centres, and residents will be completed to support the assessment of potential Project effects on human health, and community health and wellbeing pertaining to nuisance effects as a result of Project related changes in air quality, noise and vibration, and traffic. As noted in Section 10.5.2, this mapping will support assessment of potential disproportionated Project effects on community health and wellbeing in the EAC Application.	-	Yes
DPD-VCH-014	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG.159 - Changes in mode share are anticipated across all modes. Mode share distribution through the tunnel (transit, auto, truck alike) and multi-use paths (MUP) may be useful additions as metrics that could illustrate utility of MUP addition, as well as indicative of ability to of these infrastructure pieces to contribute to incorporation of physical activity in users' day-to-day lives.	28-Nov-22	An Infrastructure and Services Assessment will be completed as part of the EAC Application to identify potential project effects of Project construction components and activities and tunnel operational activities (e.g. tunnel maintenance) on transportation, including public transit, vehicles, and active transportation. Where potential effects are identified, mitigation measures including associated metrics and monitoring will be developed during the preparation of the EAC Application in consultation with Indigenous nations, local and regional government, and service providers. The effect of the Project once completed, as a component of various upgrades proposed to improve functionality of the Highway 99 corridor, on utilization of various transportation modes and contribution to physical activity and wellbeing of people and communities will be considered in the EAC Application Section "Project Effects on Current and Future Generations".	-	Yes
DPD-VCH-015	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG.162 - We recommend including children, youth, older adults as "factors potentially contributing to vulnerability and disproportionate adverse project effects" who may change in experience for public transit users and cyclists, as well as for nuisance to nearby residents.	28-Nov-22	Table 10.6-2 of the DPD has been updated to include children, youth, and older adults as population sub-groups who could potentially experience disproportionate transportation effects and nuisance effects as a result of Project construction components and activities, and subsequent tunnel operational activities.	Section 10.6	N/A
DPD-VCH-016	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG. 173/175 - VCH has expressed interest in participating in providing feedback on design of MUP from a road safety and injury prevention perspective. We have not received notice of meetings or opportunity for participation to date. We do not necessarily feel that we need to be included in the working group; however, we would appreciate the opportunity to provide input to this process.	28-Nov-22	TI Corp will be providing the opportunity for interested parties to give feedback on the MUP in Dec 2022 and notes that VCH is interested in participating in this opportunity.	-	N/A
DPD-VCH-017	EA Readiness	Summary of Preliminary Potential Effects, Mitigation, and Management Strategies	04-Oct-22	Vancouver Coastal Health	PDF PG.175 - We are pleased to see that there will be intentional inclusion of care facilities, childcare facilities, and schools involved in the equity, diversity and inclusion working group. We encourage the proponent to seek input from those who are likely to notice the most significant impact.	28-Nov-22	TI Corp conducted initial outreach with community organizations during the Early Engagement phase and will continue reaching out to these groups throughout the EA process.	-	Yes
DPD-MV-001	EA Readiness	Design	04-Oct-22	Metro Vancouver	DPD states (page26): "On the Delta side, the excavations will be on Deas Island where there is no diking system" and (page 27) "existing dikes within the MoTI ROW that are affected by the project will need to be re-constructed to current standards. A specific flood protection system will be constructed using berms, dikes and walls to protect the tunnel from flooding. " Despite no formal dike system being in place on Deas Island, current site topography partially protects upland areas within Deas Island Regional Park from flooding. Regional Parks would like the flood protection plan to include upland areas outside of the MoTI ROW on Deas Island as opposed to only "protecting the tunnel from flooding.	28-Nov-22	As stated in Section 10.1.5 of the DPD, the Proponent will study river hydraulics and morphology in the Fraser River and Deas Slough to understand potential changes in river velocity, water levels, and flow patterns and their influence on sedimentation and erosion in the Fraser River and potential impacts to flood protection and utility infrastructure and Deas Island Regional Park. The EAC Application will identify potential project effects to Deas Island Regional Park including potential for flooding and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the EAC Application will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MV-002	EA Readiness	Design	04-Oct-22	Metro Vancouver	DPD states: Construction of the separation wall will require partial removal of the scour protection on the existing tunnel. Will this removal increase scour downstream of the existing tunnel?	28-Nov-22	The project does not currently anticipate increased downstream scour or erosion as a result of partially removing scour protection for the existing tunnel. A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology. This will include numerical modelling and evaluation of potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-003	EA Readiness	Project Footprint	04-Oct-22	Metro Vancouver	Why does the project footprint drawing on page 33 differ from the project drawing on pages 59 and 60?	28-Nov-22	The project footprint shown on Figures 5.2-1, Figure 7.3-1, and Figure 7.3-2 were reviewed and confirmed to be the same.	-	N/A
DPD-MV-004	EA Readiness	Project Footprint	04-Oct-22	Metro Vancouver	Unclear if rowing activities and other Deas Slough uses would be interrupted because of the work?	28-Nov-22	Section 10.3.2 of the DPD has been updated as follows: The tidal waters of the South Arm within and proximate to the Project, including Deas Slough, are also popular for recreational boating (including canoeing, motor-boating, sailing, windsurfing, river rafting, rowing, and kayaking)... (paragraph continues) As stated in Section 10.3.2, the marine use assessment completed for the EAC Application will address potential project related effects to marine use. This includes potential effects on rowing.	Section 10.3.2	Yes
DPD-MV-005	EA Readiness	Other	04-Oct-22	Metro Vancouver	MVRD Board recently approved a new Regional Parks Plan (July 2022) and it is available online: http://www.metrovancouver.org/services/parks/learn/plans-and-reports/parks-plan/Pages/default.aspx.	28-Nov-22	Table 7.6-1 of the DPD has been updated to reference the more recent 2022 Regional Parks Plan.	Section 7.6	N/A
DPD-MV-006	EA Readiness	Permitting	04-Oct-22	Metro Vancouver	Parks research permits are only provided for research/data collection purposes. Any construction activities (including geo tech, archaeology, etc.) will require a License of Use which is issued from MV Properties. Also a license agreement will be required for temporary workspace. This should be corrected in the DPD.	28-Nov-22	References to the Regional Parks Research Permit in Table 8.5-1 have been removed. Future permitting requirements will be determined in discussion with Metro Vancouver.	Section 8.5	N/A
DPD-MV-007	EA Readiness	Vegetation	04-Oct-22	Metro Vancouver	Detailed survey of plant and vegetation communities is required for temporary workspace to ensure comprehensive restoration takes place.	28-Nov-22	Vegetation and ecosystems field data were collected by the vegetation team as part of existing conditions studies following methods described in the DPD. These data are suitable for developing restoration plans. As a result, no changes to the methods section of the DPD are required to address this comment. Proposed restoration and revegetation plans will be developed in consultation with technical advisors and Indigenous nations for potentially impacted areas during the Application Preparation Phase.	-	Yes
DPD-MV-008	EA Readiness	Wildlife	04-Oct-22	Metro Vancouver	DPD states that "Remote cameras have been added as a method to incidentally collect data on mammal wildlife species". Metro Vancouver would appreciate receiving data collected from these cameras.	28-Nov-22	TI Corp will share data from remote cameras with Metro Vancouver, as part of the existing conditions reports.	-	N/A
DPD-MV-009	EA Readiness	Visual Quality	04-Oct-22	Metro Vancouver	There is no mention of visual quality/impact to the Deas Island Regional Park as a result of the requested temporary workspace that will strip all trees and vegetation from a 4 + hectare area of park land.	28-Nov-22	Section 10.3.3 has been updated to reference visual effects to users of Deas Island Regional Park from temporary and permanent Project structures and activities.	Section 10.3.3	N/A
DPD-MV-010	EA Readiness	River Hydraulics	04-Oct-22	Metro Vancouver	MV Regional Parks is concerned with the currently reported large scour hole/underwater landslide in proximity to the existing tunnel and the potential ongoing erosion to the Regional Park. Suggested mitigation measures should be reviewed and updated based on this recent event.	28-Nov-22	The Project is aware of areas of existing scour and erosion in proximity to the Project and will continue to study this subject by way of bathymetric surveys and numerical modelling, and include evaluation of potential effects of scour, erosion, and sedimentation. The Project will continue to engage with the Metro Vancouver regarding existing scour in proximity to the Project. In addition, a river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The assessment will consider various peak flow design scenarios, including the effects of climate change on the river hydrology. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-011	EA Readiness	Vegetation	04-Oct-22	Metro Vancouver	DPD states a two year review following completion of vegetation and wetland function. MV requests a longer time horizon and regular intervals of wetland and vegetation re-establishment as it relates to the Regional Park.	28-Nov-22	Table 10.6-1 of the DPD has been updated to indicate that the frequency and duration of post-restoration monitoring programs will be determined in collaboration with Metro Vancouver, other technical advisors, and Indigenous nations beginning during consultation on the Application Information Requirements (AIR) during the Process Planning Phase of the EA.	Section 10.6	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MV-012	EA Readiness	Wildlife	04-Oct-22	Metro Vancouver	Wildlife habitat restoration, invasive plant monitoring - note that a time period has not been provided for post-construction monitoring (10 years recommended).	28-Nov-22	Section 10.6 of the DPD has been updated to indicate that the frequency and duration of wildlife habitat post-construction monitoring within Deas Island Park will be determined in collaboration with Metro Vancouver, other TAC members, and Indigenous nations beginning during consultation on the Application Information Requirements (AIR) during the Process Planning Phase of the EA.	Section 10.6	Yes
DPD-MV-013	EA Readiness	Land and Resource Use	04-Oct-22	Metro Vancouver	Impact to Deas Island Regional Park is not specifically noted. Because of the major impacts (length of time and type of impact), MV requests Deas Island be identified by name under "Potential Impact" and a more detailed explanation of mitigation efforts be provided.	28-Nov-22	Section 10.3.1 has been updated to reference potential land use effects to Deas Island Regional Park from temporary and permanent Project components and activities. Potential effects to Deas Island Regional Park and users of the Park, including mitigation measures, will be more fully identified and assessed in the EAC Application.	Section 10.3.1	Yes
DPD-MV-014	EA Readiness	Community Health and Wellbeing	04-Oct-22	Metro Vancouver	Impacts of recreation and competitive use of the Deas Slough does not appear. More information on the impacts to the rowing club in the slough is required.	28-Nov-22	A marine use assessment will be completed as part of the EAC Application to identify potential effects of Project components and construction activities, and tunnel operational activities on marine based activities in Deas Slough, including effects to recreation and competitive access and use by the rowing club. This detail has been added to Section 10.3.2 of the DPD.	Section 10.3.2	Yes
DPD-MV-015	EA Readiness	Design	04-Oct-22	Metro Vancouver	It seems at this point the concrete casting of the tunnel elements is planned to take place on Deas Island prior to temporary storage downstream on the river near Shady Island. Can the size of temporary land required for onsite facilities be reduced by creating offsite concrete production/ tunnel element casting facilities somewhere along the river instead? Before the elements are going to be floated to site for later installation?	28-Nov-22	Section 5.7 of the DPD has been updated to describe the alternative means analysis undertaken to identify a site for the casting basin (concrete batching and tunnel element fabrication). In order to meet the proposed project schedule, on-site concrete batching and tunnel element fabrication will be required. A summary of the alternatives considered, criteria applied, and rationale for the selected casting basin location are summarized in Table 5.7-1.	Section 5.7	N/A
DPD-MV-016	EA Readiness	Soils	04-Oct-22	Metro Vancouver	Are excavated natural soils stored onsite for later habitat restoration of temporary construction land?	28-Nov-22	Section 5.7 of the DPD has been updated to include a description of alternative means analysis undertaken for management of excavated material (including dredged materials). Table 5.7-1 outlines the options for reuse and/or disposal of excavated materials considered for the Project, including potential use for habitat restoration.	Section 5.7	N/A
DPD-MV-017	EA Readiness	Community Health and Wellbeing	04-Oct-22	Metro Vancouver	MV operational impacts to Parks and Water Services are not noted in detail (i.e., how will our required operations and maintenance access to the western part of Deas Island look like in detail)? Also, the tunnel ROW has traditionally served as an emergency access route to the more remote areas of the park (i.e., for ambulance and fire service).	28-Nov-22	Land and resource use and marine use assessments will be completed as part of the EAC Application to identify potential project effects on Parks and Water Services including effects to maintenance access on western part of Deas Island. This detail has been added in Section 10.3.1 of the DPD. An infrastructure and services assessment will be completed as part of the EAC Application to identify potential Project effects on emergency service transportation and route access. This detail has been added in section 10.3.4 of the DPD.	Section 10.3.1 Section 10.3.4	Yes
DPD-MV-018	EA Readiness	Accidents & Malfunction	04-Oct-22	Metro Vancouver	The risk management information provided is general and would need to be more specific, including potential immediate and cumulative impacts to stakeholders, park visitors and neighbouring communities, and how these potential public and environmental safety risks are planned to be mitigated?	28-Nov-22	The level of risk management detail provided in the DPD is preliminary, and will be expanded upon throughout the EAC Application Development Phase as engineering design and construction sequencing is advanced, potential effects are assessed and mitigation measures are identified in collaboration with Indigenous nations, regulatory agencies, local government, and public stakeholders. An accidents and malfunctions assessment will be completed as part of the EAC Application which will include Detailed risk management information, prevention measures and an emergency response plan. The scope of the EAC Application will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase	-	Yes
DPD-MV-019	EA Readiness	Greenhouse Gas Emissions	04-Oct-22	Metro Vancouver	Responding to MV's initial comment on the IPD related to confirming to the strategic assessment on climate change, as the Proponent has outlined in the DPD, the environmental assessment must consider the impacts of the Province being able to achieve its GHG targets. It is advisable that the Proponent at least use the Strategic Assessment of Climate Change to guide their GHG assessment, which includes useful tools such as a net-zero plan and a best available technology assessment. However, the more critical aspect of the SACC that should be included in this project is an upstream greenhouse gas emissions assessment. Construction materials, most saliently, concrete and steel, require a significant amount of energy to produce, and thus result in the emission of greenhouse gases. Should those construction materials be produced within BC, this could impact achievement of BC's GHG targets. Therefore, it is strongly suggested that the Proponent conduct an upstream GHG assessment, which would include embodied carbon within construction materials such as concrete and steel.	28-Nov-22	An upstream GHG assessment from the manufacture of construction materials, such as concrete and steel, including energy to fabricate these products is outside of the scope of the environmental assessment for the Project.	-	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MV-020	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	Localized dredging may be required for the temporary material off-loading facility/outfitting jetty. Please include impacts to MV's water main downstream of these areas in the hydrotechnical assessment.	28-Nov-22	The Lulu Island-Delta Watermain is listed in Section 10.3.4 of the DPD which describes infrastructure and services in proximity to the Project. The Project will continue to engage with Metro Vancouver regarding potential impacts to the Lulu-Delta Water Main. A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The river hydraulics assessment will inform the infrastructure and services assessment with potential project effects to infrastructure and services, including Lulu-Delta Water Main and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of these assessments will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-021	EA Readiness	River Hydraulics	04-Oct-22	Metro Vancouver	A recent submarine slope failure occurred where the elevation lowered by up to 6 m at the Southbank downstream of the existing GMT. How does this affect the proposed temporary material off-loading/outfitting jetty proposed over this location?	28-Nov-22	The Project is aware of the recent submarine slope failure at the Southbank downstream of the existing tunnel. As a result, the constructability of the outfitting jetties has been reviewed and are not anticipated to materially impact the loading/outfitting jetty construction or use. In addition, a river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The assessment will consider various peak flow design scenarios, including the effects of climate change on the river hydrology. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-022	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	Please include the effects of the piled separation wall on MV's water main in the hydrotechnical assessment.	28-Nov-22	The Lulu Island-Delta Watermain is listed in Section 10.3.4 of the DPD which describes infrastructure and services in proximity to the Project. The Project will continue to engage with Metro Vancouver regarding potential impacts to the Lulu-Delta Water Main. A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The river hydraulics assessment will inform the infrastructure and services assessment with potential project effects to infrastructure and services, including Lulu-Delta Water Main and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of these assessments will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-023	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	Please show locations of the casting basins.	28-Nov-22	Figure 5.2-1 of the DPD has been updated to include the location of the casting basin to be located within the Highway 99 right-of-way near the western end of Deas Island.	Section 5.2	N/A
DPD-MV-024	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	During construction of the new ITT, please confirm that MV's water main downstream of the site will be monitored for scour induced as a result of the upstream works.	28-Nov-22	The Project will continue to engage with Metro Vancouver regarding potential impacts to the Lulu-Delta Water Main. In addition, a river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The river hydraulics assessment will inform the infrastructure and services assessment which potential project effects to infrastructure and services, including MV's watermain and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. Construction monitoring requirements will be identified during development of the EAC Application in collaboration with technical advisors and Indigenous nations.	-	Yes
DPD-MV-025	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	Access by MV to the water main air valve at the southwestern tip of Deas Island must be maintained throughout construction.	28-Nov-22	The Project will continue to engage with the Metro Vancouver and MFLNRO to ensure access to the water main air value on Deas Island is maintained throughout construction.	-	N/A
DPD-MV-026	EA Readiness	Proximal Works	04-Oct-22	Metro Vancouver	Will the removed in-river portion of the existing tunnel be backfilled? If not how will this trench affect MV's water main crossing downstream?	28-Nov-22	As described in Table 5.3-1 the existing tunnel trench will be backfilled once the ITT is removed. Any potential effects to the Water Main crossing will be assessed in the EAC Application.	-	Yes
DPD-MV-027	EA Readiness	Other	04-Oct-22	Metro Vancouver	Please show the Lulu Island-Delta Main as an active pipeline crossing and proximal to the project footprint.	28-Nov-22	Figure 10.3-2 of the DPD has been updated to include the Lulu Island-Delta Main as an active pipeline crossing.	Section 10.3.2	N/A

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MV-028	EA Readiness	River Hydraulics	04-Oct-22	Metro Vancouver	Please add 'Metro Vancouver pipeline crossing' to the assessment of potential effects of the Project'	28-Nov-22	Table 10.6-1 of the DPD has been updated to include the Metro Vancouver Lulu Island - Delta Main pipeline crossing. Text has been updated to read: "Potential for physical disturbance to existing utilities and infrastructure (e.g., Lulu Island perimeter dike in Richmond, Lulu Island-Delta Main pipeline crossing) adjacent to the Existing Tunnel."	Section 10.6	N/A
DPD-MV-029	EA Readiness	Air Quality	04-Oct-22	Metro Vancouver	Will a summary of the engagement with the equity, diversity and inclusion working group be provided to Metro Vancouver?	28-Nov-22	TI Corp conducted initial outreach with community organizations during the Early Engagement phase and will continue reaching out to these groups throughout the EA process and documenting input received in an engagement summary which will be shared. TI Corp has received limited response from these groups to date but is willing to meet with Metro Vancouver to discuss input received throughout the EA process.	-	N/A
DPD-MV-030	EA Readiness	Other	04-Oct-22	Metro Vancouver	Please consider an evaluation of potential transportation demand management / pricing strategies. The Independent Technical Review (page 54) calls for the reference concept to address “g) Trade offs of different crossing capacity vs. policy management options (utilization over 24 hours, tolls, travel demand management, mobility pricing).”	28-Nov-22	The 8-lane configuration for the proposed Project was determined through the Ministry’s response to the Independent Technical Review, including the 2019 Technical Services Report and 2021 Business Case, and endorsement of the Metro Vancouver Board for the 8-Lane Immersed Tunnel option	-	N/A
DPD-MV-031	EA Readiness	Other	04-Oct-22	Metro Vancouver	Construction activities 24/7 during in-river construction activities will disrupt night-time use of Deas Island Regional Park. The park is available for community groups to camp over-night. Noise and light abatement will be important during these construction periods.	28-Nov-22	As indicated in Section 10.3.3, a visual quality assessment will be completed as part of the EAC Application to identify potential project effects to nighttime viewing. Potential Project effects to noise and vibration will be assessed in the Acoustic assessment completed for the EAC Application which will include the identification of noise abatement measures, in consultation with technical advisors and Indigenous nations. These assessments will inform the Land and Resource Use Assessment completed for the EAC Application which will consider potential Project construction and operational effects on the recreational environmental setting for Deas Island Park visitors due to changes in noise and vibration, dust, and visual changes including light.	-	Yes
DPD-MV-032	EA Readiness	Other	04-Oct-22	Metro Vancouver	Stormwater management should be independent of using upland areas of Deas Island Regional Park. No discharge of stormwater should occur within regional parklands during and after construction despite water quality conditions that would allow for discharge to groundwater. Deas Island is burdened with high water tables and inadequate drainage capacity as it is.	28-Nov-22	Stormwater management facilities will be described in the EAC Application to identify potential project effects related to storm water management and, as appropriate to identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the EAC Application will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-033	EA Readiness	Other	04-Oct-22	Metro Vancouver	The new draft DPD includes temporary workspace requirements within Deas Island Regional Parks that were not originally anticipated in the IPD. The use of these lands will result in considerable change to the park assets including trails, wildlife viewing opportunities and potentially significant impacts to natural assets including mature forest areas. The project team should consider avoidance and mitigation of impacts to park resources in detailed planning as opposed to relying on compensation and restoration as the default.	28-Nov-22	The Project will continue to engage with the Metro Vancouver regarding minimizing spatial and park impacts throughout the design and implementation of the Project. Spatial requirements will be balanced in alignment with the Project schedule requirements. In addition, a land and resource use assessment will be completed as part of the EAC Application to identify potential project effects to Deas Island Regional Park, including recreational and conservation values, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the land and resource use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MV-034	EA Readiness	Project Footprint	04-Oct-22	Metro Vancouver	DPD states: "the southern portion of Deas Island and municipal lands designated for conservation recreation on the east site of the ROW in Richmond." This should be corrected to state the lands are in Delta.	28-Nov-22	The 1st bullet in Section 7.3 of the DPD has been updated to the following (revision in bold): •the southern portion of Deas Island and municipal lands designated for conservation recreation on the east side of the ROW in Delta	Section 7.3	N/A
DPD-MV-035	EA Readiness	Land and Resource Use	04-Oct-22	Metro Vancouver	The mandate of Metro Vancouver Regional Parks is to protect natural areas and connect people with them. Implied by this is some level of conservation and not just recreation. The second paragraph states that "land within and adjacent to the Project footprint has been previously developed and currently used for road and rail transportation, agriculture, public utilities, industrial and commercial activities, recreation and mixed urban uses." It should be acknowledged that land within the Deas Island Regional Park has conservation value.	28-Nov-22	Section 7.4 of the DPD has been updated to include the following text: Deas Island Regional Park has recreational value for its historic buildings, picnic areas, and hiking, biking and equestrian trails. In addition to these recreational values, Deas Island has conservation values for its wetlands, mixed forest and grasslands, and for supporting a variety of aquatic and terrestrial wildlife species."	Section 7.4	N/A
DPD-MV-036	EA Readiness	Acoustic	04-Oct-22	Metro Vancouver	Should the forested area within the temporary workspace located in Deas Island Regional Park be significantly disturbed (I.e. cleared) it will affect the acoustic environment of the park - traffic noise will likely be louder in areas of the park currently benefitting from forest cover's role in noise attenuation. This will be particularly important for park users that use the overnight camp site within the park. Engineered noise barriers should be considered to mitigate increased noise pollution in the park.	28-Nov-22	An acoustic assessment will be completed as part of the EAC Application which will include noise modelling. The change in vegetation near noise-sensitive receptors (i.e., the camp site within Deas Island Regional Park) will be evaluated in the noise modelling where existing vegetation is expected to be impacting noise propagation. The noise modelling results will be used to identify mitigation measures, including appropriate engineered noise mitigation, in collaboration with TAC members, Indigenous nations, local and regional government during development of the EAC Application.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MV-037	EA Readiness	Groundwater	04-Oct-22	Metro Vancouver	See comments on line 32 regarding stormwater management - groundwater discharge should not be directed into upland areas within Deas Island Regional Park.	28-Nov-22	Section 10.1.6 of the DPD has been updated to include the following text "Stormwater mitigation measures and controls will be developed as the detailed engineering for the Project is advanced taking into consideration Best Available Technologies (BATs), and applicable water quality regulations. The Proponent will collaborate with Indigenous nations, and local governments during the preparation of the EAC Application to incorporate relevant and applicable stormwater management and mitigation measures."	Section 10.1.6	Yes
DPD-MV-038	EA Readiness	Wildlife	04-Oct-22	Metro Vancouver	What is the nature of the "additional areas that will be available to re-establish wildlife connectivity On Deas Island?"	28-Nov-22	Areas around the existing tunnel that are currently maintained could potentially be restored to provide additional habitat for wildlife. A wildlife and wildlife habitat assessment will be included in EAC Application and will review potential restoration areas and assess the feasibility of improving wildlife habitat connectivity within the Highway 99 on Deas Island. The scope of the wildlife and wildlife habitat assessment will be outlined in the AIR and will be available to the TAC for review in the Process Planning Phase of the EA.	-	Yes
DPD-MV-039	EA Readiness	Visual Quality	04-Oct-22	Metro Vancouver	Currently, the MoTI ROW is only visible from a few sections of trail within Deas Island Regional Park. Most trails are shielded from the ROW by the mature trail side forests. Removal of the forest located within the temporary work space will have profound impacts to the visual and spiritual quality of the trail surroundings. Renderings of the bridge currently show existing vegetation in areas that will be impacted by construction and temporary workspace development. Can renderings be created to understand what the visual impacts of the projects will be in the short and long term?	28-Nov-22	As indicated in Section10.3.3, potential Project construction and operational effects to viewing conditions surrounding the Project will be assessed in the Visual Quality assessment component of the EAC Application. This includes viewing conditions within Deas Island Regional Park. This assessment will include photographs of current viewing conditions and simulations of the Project from key viewpoints to inform the analysis of potential Project construction and operational effects on visual quality. The scope of the Visual Quality assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-MV-040	EA Readiness	Wildlife	04-Oct-22	Metro Vancouver	More detailed studies relating to bat use of all areas of Deas island Regional Park is required. These would include surveys to establish the relative importance of ecosystem types to foraging bats. We know where they roost, we do not have an appreciation of where they feed within the park and what other resources are important to the bats beyond the important maternity roost in Burr Villa.	28-Nov-22	A wildlife and wildlife habitat assessment will be completed as part of the EAC Application. Acoustic surveys for bats are being undertaken as part of the existing conditions wildlife program within Deas Island Regional Park to provide data on bat presence and species richness in habitats within the wildlife and wildlife habitat Local Assessment Area (LAA). The results of the acoustic study may also be used to infer habitat use and distribution in the LAA.	-	Yes
DPD-VFPA-001	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	The temporary material offloading facility/temporary outfitting jetty on the southwest side of the tunnel appears to enter into the safety channel. The port authority requests it moved so that the safety channel remains clear.	28-Nov-22	Figure 5.2-1 in the DPD has been updated to show that the outfitting jetty has been adjusted to avoid overlap with the administrative safety zone.	Section 5.2	N/A
DPD-VFPA-002	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	The port authority requires detailed information on the mooring arrangements for the temporary offsite tunnel element moorage area, identified at Steveston Debris Wall, in relation to the navigation safety channel.	28-Nov-22	The Project will continue to engage with the VFPA regarding the design and use of the temporary moorage area. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-VFPA-003	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	The proposed marine construction staging area must avoid overlap with PID 003-464-890 and the WWL Vehicle Services Canada Ltd. Agreement area that includes the berth corridor and is within federal lands administered by the port authority. In addition, access for vessels in and out of the berth corridor must be maintained during construction and staging activities.	28-Nov-22	The Project will continue to engage with the VFPA regarding the design and use of the construction staging area and considerations related to PID 003-464-890 and the WWL Vehicle Services Canada Ltd. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-VFPA-004	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	Detailed information about the number, timing, and duration of the temporary closures of the river to navigation. We recommend that through project design the proponent seek to reduce the number and duration of the proposed 48-hour navigation closures.	28-Nov-22	The Project will continue to engage with the VFPA, Indigenous Marine Users Group and the Marine Users Group regarding the immersion process and proposed river navigation restrictions and closures. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-VFPA-005	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	A marine use study to enable Transportation Infrastructure Corporation to chart a path to resolve potential effects on navigation and port users (please refer to our June 3, 2022 letter to the BC Environmental Assessment Office (EAO) for details).	28-Nov-22	The Project will continue to engage with the VFPA regarding navigation and port users. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-VFPA-006	EA Readiness		04-Oct-22	Vancouver Fraser Port Authority	A Marine Operations and Navigation Safety assessment to identify and address the impacts to international and domestic shipping, marine terminal operators, and other commercial and recreational users (please refer to our June 3, 2022 letter to the BC EAO for details).	28-Nov-22	A marine use assessment will be completed as part of the EAC Application to identify potential project effects, which will include consideration of Project effects on marine operations and navigation safety. The scope of this assessment will be outlined in the AIR in the Process Planning Phase and will be available to VFPA and other TAC members, Indigenous nations, and the Marine User Group. Section 10.3.2 of DPD has been updated to further clarify information on the specific Marine Operations and Navigation Safety aspects as identified by VFPA. This includes a preliminary description of potential Project effects; consideration of sedimentation, vessel simulations and navigation hazard and operational restrictions studies; and initial description of mitigation measures.	Section 10.3.2	Yes
DPD-MLWRS-001	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	LWRS generally very concerned with regards to dredging impacts on aquatic values habitat. Timing of dredging proposed will be very important.	28-Nov-22	Section 5.4 of the DPD has been updated with the following text: "Ongoing Indigenous-led studies by the Musqueam Indian Band and Tsawwassen First Nation, and existing conditions studies by the Proponent are currently being undertaken to determine fish habitat values and to determine when sensitive and/or important fish species are present at the Project site, including white sturgeon, eulachon, and salmonids. The results of these studies will inform project-specific least risk timing windows. These timing windows will inform the project construction timelines, including those for dredging."	Section 5.4	N/A
DPD-MLWRS-002	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	Our biologists will be very keen to understand how impacts to fish and fish habitat (particularly sturgeon) within the site and surrounding areas will be assessed – what will these studies look like? Our biologists will be keen to have input on this.	28-Nov-22	The EA methodology will be developed during the EA Readiness and Process Planning Phases and referenced in the DPD. The specific requirements will be detailed in the AIR and will be developed through consultation with Indigenous nations, regulatory agencies, and stakeholders. A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential project effects to fish and fish habitat , including sturgeon, and as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential adverse effects. The scope of the fish and fish habitat assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-MLWRS-003	EA Readiness	Fish and Fish Habitat	12-Oct-22	Ministry of Lands, Water and Resource Stewardship	As mentioned in IPD comments, is there an opportunity to enhance river habitat	28-Nov-22	Habitat offsetting measures have not yet been determined and will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Preparation Phase and provided in the Project EAC Application.	-	Yes
DPD-MLWRS-004	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	As mentioned in IPD comments, how will effects of rip rap shoreline and bottom be assessed and mitigated/offset?	28-Nov-22	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential effects to fish and fish habitat, including those related to riprap installation, and as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential adverse effects. Where effects cannot be appropriately mitigated, opportunities for habitat offsetting will be considered. Details of the mitigation measures and habitat offsetting program will be developed in consultation and collaboration with Indigenous nations, regulatory agencies, local government, and stakeholders during the Application Development Phase.	-	Yes
DPD-MLWRS-005	EA Readiness		12-Oct-22	Ministry of Agriculture and Food	Area is important specifically to juvenile sturgeon. Will want to see that the project addresses juvenile sturgeon specifically. (I'm unsure if this is still a topic too specific to be included in the DPD – but would want to see it accounted for in the more detailed future documents) Request that the proponent assess the juvenile suitable / presence during low salinity conditions	28-Nov-22	Existing conditions studies related to fish and fish habitat are ongoing and include an Indigenous-led targeted angling study for juvenile sturgeon by the Musqueam Indian Band. The temporal scope of that study includes targeted angling at the project site during low salinity conditions. The detailed methodology of this study was shared with the TAC during consultation on the existing conditions workplans in the spring of 2022. The results of these existing conditions studies will serve as the basis for the fish and fish habitat assessment will be completed as part of the EAC Application. The scope of the fish and fish habitat assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by Indigenous nations and the Technical Advisory Committee (TAC) in the Process Planning Phase of the environmental assessment process.	-	Yes

Comment ID #	Stage	Subject - EA Topic	Comment/Issue Date	Comment Organization	Participant Issues, Description or Comment	Response Date	Ministry Response	DPD Section Updated	Comment to inform dAIR and/or EAC Application
DPD-MLWRS-006	EA Readiness		12-Oct-22	Ministry of Agriculture and Food	In draft DPD it states re sturgeon "Project-related effects will be assessed, mitigated, and offset as required in accordance with regulatory requirements and in consultation with Indigenous nations" – LWRS (specifically sturgeon biologist Colin Schwindt) will very much want to be included in the consultation as well	28-Nov-22	This specific contact at LWRS has been noted.	-	N/A
DPD-MLWRS-007	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	Keen to understand the impacts of the project dredging, drilling and pile driving on sturgeon	28-Nov-22	A fish and fish habitat assessment will be completed as part of the EAC Application to identify potential effects to fish and fish habitat. This assessment will include assessment of potential effects related to project dredging, drilling and pile driving on sturgeon. The scope of the fish and fish habitat assessment will be determined in collaboration with Indigenous nations, TAC members, and public stakeholders during development of the Application Information Requirements (AIR) in the Process Planning Phase.	-	Yes
DPD-MLWRS-008	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	Temporary and permanent impacts to hydrology •As mentioned previously by Tom, this issue is a large concern – I believe this will be addressed more specifically in next EAO process	28-Nov-22	A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The assessment will consider various peak flow design scenarios, including the effects of climate change on the infrastructure. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-MLWRS-009	EA Readiness		12-Oct-22	Ministry of Lands, Water and Resource Stewardship	Temporary and permanent impacts to hydrology •As outlined in IPD Comments – LWRS concerned re sediment load on the river. Would want proponent to examine sediment load changes and include mitigations/offset.	28-Nov-22	A river hydraulics assessment will be completed as part of the EAC Application to identify potential project effects to river hydrology and morphology, including potential effects of scour, erosion, and sedimentation and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential effects. The assessment will consider various peak flow design scenarios, including the effects of climate change on the infrastructure. The scope of the river hydraulics assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-TC-001	EA Readiness		24-Oct-22	Transport Canada	Table 5.3 - Temporary Access Trestle for Deas Slough Bridge. The trestle should be designed to accommodate transit of local vessels of appropriate size, throughout the duration the trestle is in place.	28-Nov-22	TI Corp acknowledges that the temporary access trestle across Deas Slough will need to be designed to accommodate transit of local vessels, when safe to do so, throughout the duration of its use.	-	N/A
DPD-TC-002	EA Readiness		24-Oct-22	Transport Canada	Table 5.3 - The reference to temporary closures will need to be confirmed via ongoing marine users consultations, and the proponent may need to accommodate certain vessel transit in emergency or special cases.	28-Nov-22	The Project will continue to engage with the Transport Canada, Indigenous Marine Users Group and the Marine Users Group regarding the immersion process and proposed river navigation restrictions and closures. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes
DPD-TC-003	EA Readiness		24-Oct-22	Transport Canada	Section 10.3.2 - TC does not look favorably on the term 'temporary closures of the river to navigation'. TC does not authorize closures to waterways, but rather approves works that may temporarily impact navigation on waterways. It would better be referred to as temporary restrictions to navigation at site. Complete closure may not be possible should a need for emergency vessels to access or transit the site.	28-Nov-22	The Project will continue to engage with the Transport Canada, Indigenous Marine Users Group and the Marine Users Group regarding the immersion process and proposed river navigation restrictions and closures. In addition, a marine use assessment will be completed as part of the EAC Application to identify potential project effects to marine use, including navigation, and, as appropriate will identify mitigation measures intended to minimize, and where possible, avoid potential impacts. The scope of the marine use assessment will be outlined in the Project Application Information Requirements (AIR) and will be available for review by technical advisors and Indigenous nations in the Process Planning Phase of the EA.	-	Yes

ATTACHMENT 9: PUBLIC FEEDBACK ON INITIAL PROJECT DESCRIPTION

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-001	The least intrusive method would be a bridge, rather than a tunnel, as expense would be less given the short distance involved. Data on the original tunnel would be beneficial for citizens to view regarding engineering challenges.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-002	Just build the bridge. It would be in place by now if not for the last minute cancelation after large amount of money was spent and work done. Het on with it. No more consultation is necessary. The bridge is an excellent design.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-003	We should have continued with the bridge option - it would be ready 5-7 years before a tunnel can be approved. What a waste of everyone's time that is sitting waiting in the Massey Tunnel.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-004	It should of been a bridge. Less potential environmental damage, cheaper and it would have been completed by now. This is a disaster and nothing will get built. To bad.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	Yes
IPD-PUBLIC-005	For long term planning and cost savings, we should consider a 9th lane for the Skytrain network. Eventually there'd be a demand for Skytrain service to the Tsawwassen Ferry Terminal. This would reduce traffic congestion and offer a much lower carbon footprint. In the meantime, the 9th lane could be restricted to emergency vehicles.	The new 8-lane tunnel will feature a dedicated transit lane in both directions, however the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	N/A	N/A
IPD-PUBLIC-006	Build for the future, not the moment. We are always playing catching up. Build the bridge that you should never have cancelled. It would be operational and able to accommodate rail transit!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-007	replacing the Massey tunnel with another tunnel is absurd. It is wrong on so many levels. Next to Fast Ferries it is the biggest mistake I have seen. I doubt it will ever be built because it will not pass the environmental standards required.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-008	It should go back to being a bridge.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-009	The proposed tunnel project is a great idea and will improve traffic into Richmond, but nobody has thought about the increased traffic once it reaches the Oak Street bridge. This bridge is always backed up especially in rush hour. I wonder about making Oak Street one way going North and Granville Street to go South? Something to think about?	Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area.	N/A	N/A
IPD-PUBLIC-010	I prefer with the old proposal - 10 lanes bridges as tunnels create more problem if there is any traffic issues or accidents. It also cannot accommodate the needs. Other options may include trains along with the bridges,	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-011	I feel that whether a bridge or a tunnel, the crossing should accomplish 2 goals: 1-increase the flow of vehicular traffic 2-provide for the possibility of expansion of SkyTrain or other mass transit (i.e. not buses) I don't feel the current proposal does either. There needs to be at least 2 more dedicated lanes for vehicles, and there needs to be infrastructure in place to provide a crossing for potential SkyTrain expansion.	The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. The analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050.	N/A	N/A
IPD-PUBLIC-012	This tunnel replacement is long overdue. Great to see the inclusion of a cycling /pedestrian laneway and I hope to see 1 lane each way to be HOV/Electric only. In the RFP/selection process, preference should be given to BC-owned suppliers, builders, architects, workers, etc. BC taxpayers who will be footing the bill deserve to know that their hard-earned taxes will contribute as much as possible to the benefit of all residents of BC whether or not they will make use of this much-needed tunnel replacement.	Procurement processes must be fair, open and transparent to assure the public and potential partners of the integrity of the process and the desired outcome. Required qualifications for bidders (e.g. financial capacity and technical capability) are proportionate to project size and complexity. To ensure that BC taxpayers receive the best value for money, several factors including requirements that will ensure good-paying jobs, better training and apprenticeships, and more trades opportunities for Indigenous peoples, women and youth will be incorporated.	N/A	N/A
IPD-PUBLIC-013	I am highly in favour of an expansion project of the current Massey Tunnel with a much wider and updated crossing; however, I support the original ten-way bridge crossing over the proposed 8-lane tunnel crossing. I find the decision of the Minister of Transportation concerning to reject the funding for a ten-lane bridge to replace the Massey Tunnel as irresponsible and politically motivated as both urban planners and engineers favoured the original 10-lane bridge. It was also a more economical option and environmental studies favoured the 10-lane bridge. The only group that opposed this proposal were politicians at municipal levels and the new NDP government when it formed government. We now face a tighter labour market with increasing costs and the decision to delay this project and make into a tunnel will cost tax payers well over $1-billion in extra costs. More so, the idea of designating four lanes in either direction where two lanes will not be for automobile traffic is not planning for the future population growth as it hardly meets current demand. Currently, the rush hour three-lane switch is congested which means that a new tunnel will have the same issue. The plan also looks at a submerged tunnel on the banks of a river that can potentially flood given what we experienced in Abbotsford. The maintenance of a tunnel will also be more expensive in the long-run compared to a bridge. Please don't let the Massey Tunnel replacement project be categorized as another missed opportunity in relieving congestion and providing infrastructure needs well into the future. This isn't just my opinion but a shared sentiment by the vast majority of people as per the poll by the online publication Daily Hive that posted the following question to it's readers: ""Should a new eight or 10-lane bridge be built to replace the George Massey Tunnel?"" 83% (2,851 votes) said YES Furthermore when asked, ""Do you think a new 10-lane replacement bridge for the George Massey Tunnel is 'too big'?"" 69.2% (2,528 votes) said NO While I'm confident that you're fully aware of the exhausted lifespan of the current tunnel and its inherent safety risks as well the congestion issues and bottleneck for commerce between the Fraser Valley and Greater/Metro Vancouver and access to Vancouver Island via Tsawwassen; I would like to appeal to you from a personal perspective as a constituent that uses this roadway artery. The congestion at the tunnel can be over an hour and much more in the summer. For people that need to make this daily commute is unbearable. Imagine a parent that spends three hours of their day to travel to work and how that impacts their health and their time away from their spouse and children. This isn't a simple matter of commerce but the impact on people's lives."	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. The analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change.	N/A	N/A
IPD-PUBLIC-014	What I am going to remember from this project is that the NDP cancelled and then delayed one of the most important infrastructure projects in the region where we would have a completed bridge in use today. Instead, we have to wait years before construction even begins on an underbuilt tunnel. This is because of the NDP. The NDP is the only reason why this delay is happening right now, why we continue to use a tunnel that should be have been replaced by now. This will be remembered when the next election comes around. This project should have been a bridge with dedicated bus/HOV lanes, multiple lanes for cars in each direction and pedestrian/bike paths In addition to improvements in areas to and from the bridge just like the project that would be completed today. Instead we are getting a tunnel which will be underbuilt at the time of its opening and costs more than the bridge. Another wonderful BC infrastructure project comes to fruition.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-015	A tunnel is not suitable for vehicles transporting products such as fibreglass rosen and hardener because it is classed as a dangerous good and there are many other similar products that are not allowed to be taken through a tunnel. A bridge is far better for moving goods. The transporters need to be able to take large sized loads that aren't allowed in tunnels. Build a bridge. Tunnels are not good for the river, not good for large ships. Ray Richards	The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the *Transportation of Dangerous Goods Act* and Regulations, giving an alternative to the Alex Fraser Bridge.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-016	The new project renderings look wonderful. It is way past time that the Massey Tunnel was improved. I would like to make sure that there will be active transportation (walking/biking) connections to Deas Island from the new Deas Slough Bridge on both sides of the highway (if possible) with suitable connections to River Road and other local roads on the south side of Deas Slough.	We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-017	There has been so much time, money and effort spent on the bridge proposal already! It should be almost ready to go. Thus I much prefer this than the tunnel	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-018	Please proceed with twinning the tunnel, with a lane for transit. This is a better proposal than the bridge - an engineer friend said that the bridge would have been built on soft soil on the Richmond side. In the event of an earthquake, the whole bridge would have collapsed! Thank you for asking.	The new eight-lane tunnel will have three general purpose lanes and a dedicated transit lane in each direction. The new tunnel will also include a separated active transportation corridor for cyclists and pedestrians for the first time.	N/A	N/A
IPD-PUBLIC-019	hi I just want to ask the following question. what are the emergency planning measures in place to ensure drivers safety inside the tunnel during major earthquake with high risk of flooding? thx Melody "	As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change. Further, the new tunnel will be classified as a Lifeline Structure, meaning a 1:2475 year seismic event would result in repairable damage to the tunnel. Additionally, the environmental assessment for the Project will assess risks such as earthquakes and flooding. In addition, to design mitigations, additional mitigation and management options will be developed as part of the EA and presented in the EAC Application.	N/A	Yes
IPD-PUBLIC-020	Bring back the bridge so BC doesn't waste the $1B already spent. Bridge makes much more sense. Just get on with it	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-021	"1) The choice of a tunnel vs. a bridge appears to be a purely political decision - since the Liberals approved a bridge, the NDP would approve a tunnel. The environmental impact on the Fraser of a tunnel is going to be significantly higher than a bridge. The lower mainland is full of bridges and no other tunnels for good reason. Scrap the tunnel and build a bridge. The bridge would have almost been completed already. Instead we have many years of environmental study ahead of us and many cost overruns to come. **2) It seems to me that a bridge will be safer than a tunnel when an earthquake happens. I would like to see data comparing the two.** 3) Transit - the best feature on the original bridge was the ability to include a future rapid transit line (trains, not buses). South Delta, TFN, BC Ferries all need to have rapid transit access and it will never happen if we need to build a separate bridge or sink a separate tunnel in the future. Do it now. Don't make the same mistake the province always makes by trying to save a few initial dollars and then retrofit the solution that costs many times more than doing it right the first time. Such as the exchange at Highway 17 and the Alex Fraser which was in the original Highway 17 plan. The current ""bus / train"" solution for South Delta prevents many people (me included) from using it. The service is too slow and too inconvenient compared to car. Put in a tunnel / bridge lane that can support rapid transit train in the future. "	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030. As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change. Further, the new tunnel will be designed and constructed to lifeline standards and will withstand earthquakes as large as magnitude 9. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour, as such it was concluded by TransLink that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050.	N/A	Yes
IPD-PUBLIC-022	I am opposed to a Massey tunnel. I prefer a bridge.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-023	The project documentation must include a longitudinal section through the tunnel so that the commenters will have a greater understanding of the scope of the project. From the section they will be able to see the depth of the tunnel below sea-level, the clearance above the tunnel for ship travel, the slope of the highway going through the tunnel, the length of the tunnel, the elevation of the highway above sea-level on either side of the tunnel. One concern is the comfort level that pedestrians and cyclists will have travelling through this confined space and will there be health effects due to poor air quality. Another concern is to see how the tunnel is built to deal with rising sea-levels. Will the highway be 5.2 m above sea-level or greater? Another concern is what will be the impact on the Oak Street Bridge for traffic congestion. Are we just moving the problem to a new location?	Thank you for your comment. The detailed project description will include updated images and renderings of the proposed components. The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users. Climate change predictions, including sea-level rise, will be considered in the design of the project. The scope of the EA also is required to assess the resiliency of the Project to withstand environmental changes due to climate change. Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area. The new tunnel will also have a dedicated transit lane that connect to the bus-on-shoulder system along Highway 99 to provide better travel and transit options for everyone. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99.	Figures 5.2.2 to 5.2.4 Renderings	Yes
IPD-PUBLIC-024	Appreciate the opportunity to comment on the new tunnel/bridge project that has now dragged on far too long. In a nutshell the tunnel needs to be scrapped and replaced by the bridge option which would have now been almost completed rather than subject everyone to endless surveys, information gatherings and deliberations. It's time to rectify the current issues with the Massey Tunnel and get the bridge built.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030. The previous project targeted completion this year, but was cancelled because it was deemed not to be the right option for the region.	N/A	N/A
IPD-PUBLIC-025	This project has been extremely poorly managed to have dragged on for so long. The current documentation does not provide a sound justification for changing from the earlier bridge concept. Significant time and money has been wasted. Sometimes we do need to look at the greater good of the area rather than too much focus on narrow local interests which seem to have been the driver for the change. I also find it hard to believe that a significant number of bikes/pedestrians will use the tunnel, compared to those who would have used a bridge.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030. The previous project targeted completion this year, but was cancelled because it was deemed not to be the right option for the region. The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users.	N/A	N/A
IPD-PUBLIC-026	I have several comments about this: 1) the proposed 8 lane tunnel is not big enough. it is not future focused. it is only catching up to handle the current volume of cars and is not sufficient to deal with future traffic level as population continues to grow. this is the main traffic vein connecting Washington to British Columbia and will continue to increase in traffic. It should be built to handle traffic levels of 25 years from now, not just todays volume. 2) the Steveston overpass needs to be rebuilt as part of this project. it is completely insufficient and creates terrible traffic and dangerous driving conditions. both the Steveston on-ramps by the tunnel are single lane and insufficient, and the Steveston overpass bridge to get across the highway is also single lane and insufficient. it would be silly to build a new tunnel and not change this overpass. like drinking through a straw from a larger bucket.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The Steveston Interchange Project will replace the existing two-lane overpass structure at Steveston Highway and Highway 99 with a new structure that accommodates two eastbound lanes and three westbound lanes, including a left-turn lane. The new interchange will also improve access to transit stops and pedestrian and cycling connections on Highway 99.	N/A	N/A
IPD-PUBLIC-027	Build the 10 lane bridge and build it now	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-028	The project plan with a tunnel through the river and park has unacceptable impacts on the environment and this project should be immediately halted.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	Yes
IPD-PUBLIC-029	Looks like the tunnel is going to be a environmental disaster. Therefore I prefer the original bridge plan.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	Yes
IPD-PUBLIC-030	A bridge is so much better than a tunnel. We have mountains and water and beauty that can be seen from a bridge. A tunnel restricts views, restricts draught of vessels, disrupts fish migration and results in traffic slowing perhaps by claustrophobia. Build a bridge!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The determination on depth of the new tunnel was made after working closely with Vancouver Fraser Port Authority to determine the required depth of the new tunnel given current and future planned navigational use of the lower Fraser River, as well as planned development of river-adjacent lands.	N/A	Yes
IPD-PUBLIC-031	I understand the current plan is for a cut and cover tube tunnel. It is my understanding that this would require digging a large trench through the river, dropping in the concrete sections that make up the tunnel, and then covering them with fill. This would seem like a very large environmental impact to the river its self. Furthermore, I understand that there were a number of plans, including a deep bore tunnel, that were considered because they would not have such a large environmental impact on the river itself. I am deeply concerned that this current proposal has the greatest environmental impact out of all the options. Furthermore, I am concerned that this current proposal was picked without consideration for that environmental impact.	Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. The Ministry considered both tunnel options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the crossing options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	Yes
IPD-PUBLIC-032	What's the use of a ten lane tunnel or bridge when the increased traffic it will create will still funnel in to a two lane each way Oak street bridge. What am I missing here???	Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area.	N/A	N/A
IPD-PUBLIC-033	Please prioritize access for bicycles. I cross the Fraser River by bike often and currently have to do so via TransLink. TransLink frequently doesn't have enough space for all of the cyclists needing it. The bike shuttle doesn't run late enough in the day and adds a full hour to commuting time on the rare occasion I am arriving earlier enough to take it. Cyclists need good access.	Transit and active transportation are a priority for the region and this project. The new tunnel will have a separated, 5-metre wide tube for pedestrians and cyclists providing an active transportation connection across the Fraser River at this location for the first time. We are still working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users.	N/A	N/A
IPD-PUBLIC-034	I grew up in Delta during the time the Deas Island Tunnel was built. Initially it provided good access to Richmond and Vancouver, but it has proven to be too small for the last 20+ years and is due for replacement. The previous government did a lot of engineering and other work and decided on a 10 lane bridge which I think is the best solution technically and environmentally. The proposed 8 lane tunnel will be more expensive to build and during the build will disturb the river bottom resulting in environmental damage. The tunnel will limit the size of ships that can navigate the river. Quit delaying this vital infrastructure project. Use the work that has already been done and build the 10 lane bridge. The bridge will be a far better solution now and into the future.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The determination on depth of the new tunnel was made after working closely with Vancouver Fraser Port Authority to determine the required depth of the new tunnel given current and future planned navigational use of the lower Fraser River, as well as planned development of river-adjacent lands.	N/A	Yes
IPD-PUBLIC-035	To those this concerns. At present vehicles carrying dangerous goods cannot use the tunnel. By building another tunnel this situation will not be alleviated. We are experiencing more Recreation vehicle use by families and would not like to think of the repercussions of an accident that could produce an explosion in a tunnel. Environmentally a bridge would also be a wiser decision for our food fish. We believe the bridge proposal is the best option.	The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the *Transportation of Dangerous Goods Act* and Regulations, giving an alternative to the Alex Fraser Bridge. The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process.	N/A	Yes
IPD-PUBLIC-036	I am wondering why the option of a tunnel was chosen? as far I know a tunnel costs more money vs a Bridge and also a tunnel is less safe during event of earthquake etc. Why would government go with a more expensive and less safe option? Unless somehow the tunnel is a lot cheaper to make but I don't think this is the case.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The new tunnel will be designed and constructed to lifeline standards and will withstand earthquakes as large as magnitude 9.	N/A	N/A
IPD-PUBLIC-037	At what point will the government start to build for the future, and not for 20 years ago? Having lived in Delta this is overdue by at least 20 years, probably more by the time anything is built. Enough delays just do something.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-038	"BACKGROUND The Province seems to ignore the negative Climate Change effects of Infrastructure Projects including both the Massey Replacement and the Broadway Subway. The emissions arising from the construction of these projects can be likened to setting off a series of Carbon Bombs. These particular comments deal with the Massey Replacement environmental assessment and the results of an FOI request made to the Province late last year. EMBODIED EMISSIONS AND INFRASTRUCTURE PROJECTS All infrastructure projects result in the emission of greenhouse gases from the manufacture of materials, excavation, fabrication, transport to sites, construction activities, etc. The numbers can be quite significant. Worldwide, just the manufacture of cement and steel is estimated to result in about 16% (approx. 8% each) of all ghg emissions. The emissions for projects like the Massey replacement are typically referred to as Embodied Emissions. Put simply, Embodied Emissions are the sum total of all the CO2 and other ghg emissions arising from all aspects of the construction of the new crossing (aka its 'carbon footprint) before it opens to traffic. FOI REQUEST TO BC GOVERNMENT RE MASSEY PROJECT EMBODIED GHGS In late 2021 an FOI request was made to the Province asked for records relating to the Massey Tunnel Replacement project and its associated Embodied CO2 Emissions. The specific records requested in the FOI were: 1.Records describing or otherwise outlining the overall approach, methodology and analytical framework used by MoTI to assess the Embodied CO2 Emissions of major infrastructure projects 2.Records of reports and other records showing estimates of the Embodied CO2 Emissions associated with each of the Massey Tunnel replacement option 3.Records showing how it is proposed that the Embodied CO2 Emissions of each option would be mitigated or offset (for example through direct carbon capture, tree planting, etc.) 4.Records showing how the Embodied CO2 Emissions were considered in the evaluation of crossing alternatives FOI RESPONSE - BC DOES NOT CONSIDER EMBODIED EMISSIONS The reply to the FOI request is attached and states Although a thorough search was conducted, no records were located associated to Embodied CO2 Emissions. The reply revealed that the Province has no records whatsoever considering or investigating this crucial aspect of the project. Embodied emissions were not considered in comparing a bridge versus a tunnel or any other aspect of the project. It also shows that there are no plans to offset the emissions, (unlike the Quebec project described below).	Thank you for your comment. The GHG assessment will be undertaken consistent with regulatory guidance and recommendations. Specifically, standards and regulatory guidance documents provided by the BC Environmental Assessment Office (EAO) pertaining to GHG requirements, including the EAO's Effects Assessment Policy (Version 1.0; EAO 2020a), and Application Information Requirements Guideline (Version 1.0; EAO 2020b) to understand general GHG requirements for EAC Applications as specified under the British Columbia Environmental Assessment Act, SBC 2018, c. 51 (BCEAA; Government of BC 2018). Inclusion of embodied carbon (e.g., upstream carbon emissions) are not currently required under the current guidance.	N/A	Yes
IPD-PUBLIC-039	How about environmental impact? isn't a bridge less impact vs a tunnel? also can future projects like larger oak st bridge/knight st bridge be also in works? also if a 10 lane option (4 lanes driving and 1 lane Bus lane) could the bus lane in future be changed for a SkyTrain if that option ever opens up. a SkyTrain lane in future to save on costs of making separate SkyTrain bridge?	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. Relevant mitigation measures will be identified as part of the environmental assessment to avoid, minimize or offset any predicted effects. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050	N/A	Yes
IPD-PUBLIC-040	I grew up in delta my whole life and would like to see more access for bicycles and pedestrians and hopefully expansion of rapid transit	The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050	N/A	N/A
IPD-PUBLIC-041	Must be 10 lanes and a bridge. A tunnel has a lot more impact to the environment. An eight lane configuration will soon have delays and more pollution from idling vehicles. 10 lanes would accommodate near future traffic and rapid transit. 8 lanes will not. A tunnel precludes dangerous goods and they must drive out of their way to Alex Fraser causing further congestion. A bridge would eliminate this. The current proposed design is driven by politics not common sense or engineering science.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge.	N/A	Yes
IPD-PUBLIC-042	A bridge would have less of an impact on the environment than the proposed tunnel. A tunnel makes absolutely no sense. The only reason the NDP want a tunnel is because the Liberals wanted a bridge. Its absolutely ridiculous to disturb the continually moving & changing river bed to build a tunnel that the majority of people in Delta don't want.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. Environmental impacts associated with tunnel construction will be assessed and confirmed as part of the Environmental Assessment process. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	Yes
IPD-PUBLIC-043	This bridge project should have gone ahead. No one is fooled that because we didn't vote NDP out here that is why the bridges in other districts are going ahead and not here. What a colossal waste of money that the bridge project was thrown out. Three lanes both ways will not be sufficient in 10 years. Why are we building mega projects for what we needed ten years ago instead of planning for the future? There is no allowance here for rapid transit, like there was for the bridge. The language in your document makes it difficult to ascertain what you actually have planned for pedestrians and bikes- seems like they will be connected to transit whatever that means. is that the same as the horrible system in place now? That is a disincentive for walkers and cyclists.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are still working to determine how the path would be built and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users.	N/A	Yes
IPD-PUBLIC-044	Good Morning I am baffled by the concept of another Tunnel crossing the Fraser River. The George Massey Tunnel was built in the 50's and it worked for the people and the traffic at the time. Now it is too small and too shallow to allow the Fraser River to be used, like the Mississippi River, as a Viable Addition to Vancouver Harbour. Millions have been spent during the decades to keep the traffic moving. My bewilderment is one of 'Climate Change' - what kind of logic is being used when it is more than likely that sea levels will rise, Richmond, as a whole, is already 3 feet below sea level with a dyke all the way around it. And now, NDP intelligence will spend 'B' Billions to build a new tunnel that may well be underwater before too long - listening to the Alarmists here - One would hope that Logic and Reality will take hold before the NDP again, waste the dollars because they will not be around to suffer the consequences of their Bright Idea. I remember the FastCats - built by the NDP for $400 Million, offered, to alleviate the pain, @ $200 Million, declined, then sold the whole thing, including the Vancouver Harbour Waterfront Property for $20 Million. Hello ? History repeating itself, unfortunately, a sunken tunnel will be useless to all except perhaps creatures in the marine environment. As led Zeppelin sang out - 'where's that confounded Bridge ?'	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change. Further, the new tunnel will be classified as a Lifeline Structure, meaning a 1:2475 year seismic event would result in repairable damage to the tunnel. Additionally, the environmental assessment (EA) for the Project will assess risks such as earthquakes and flooding. In addition, to design mitigations, additional mitigation and management options will be developed as part of the EA and presented in the EAC Application.	N/A	Yes

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-045	The tunnel option is inferior to the 10 lane bridge because: 1. tunnel will add zero regular commuter lanes in the direction of rush hour 2. was done with almost no public consultation (how many tunnel public consultation vs bridge were there?!) 3. tunnel option will increase the negative effect on the environment 4. tunnel option will limit the size of ships able to access Surrey/Richmond docks. 5. tunnel option has delayed solution by 1 decade 6. costs have skyrocketed due to inflation 7. tunnel will not allow for future rail transit option that bridge included 8. tunnel option will result in the departure of many commercial businesses due to generational gridlock & lack of increased capacity 9. tunnel option is less seismically safe 10. tunnel option will result in a higher probability of extreme fire/accidents, and increased loss of life 11. tunnel lack of capacity will increase pollution due to continued gridlock.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The determination on depth of the new tunnel was made after working closely with Vancouver Fraser Port Authority to determine the required depth of the new tunnel given current and future planned navigational use of the lower Fraser River, as well as planned development of river-adjacent lands. As part of the tunnel design, significant consideration is being given to ensuring the tunnel and supporting infrastructure is resilient to future impacts of flooding and climate change. Further, the new tunnel will be classified as a Lifeline Structure, meaning a 1:2475 year seismic event would result in repairable damage to the tunnel. Additionally, the environmental assessment (EA) for the Project will assess risks such as earthquakes and flooding. In addition, to design mitigations, additional mitigation and management options will be developed as part of the EA and presented in the EAC Application.	N/A	Yes
IPD-PUBLIC-046	As a regular user of the existing tunnel, I am in support of a replacement tunnel however the environmental impact must remain an integral part of the decision making process. I understand there are methods that may be less harmful - we must stop making decisions that damage our planet simply for future generations. Finally, I am opposed to a bridge replacing the existing tunnel.	The Project is currently undergoing a rigorous provincial environmental assessment. The assessment of Project-related effects and identification of mitigation measures to avoid, minimize or offset predicted effects are part of this process and will be presented in the Projects EAC Application. The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution.	N/A	Yes
IPD-PUBLIC-047	The tunnel proposal is inadequate for the current volume of traffic at rush hour. It will only be worse by the time it is completed and for the next several decades. Please go with the bridge proposal. The bridge proposal is much better in terms of environmental impact and the 10 lanes will handle the traffic volume for many years to come, thus avoiding another replacement or additions down the road. The Massey tunnel should have been replaced 20 years ago. Both the Liberals and NDP are complicit in their failure to provide adequate basic infrastructure for industry, the economy, commuters and the general public. Just get it done NOW.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority.	N/A	Yes
IPD-PUBLIC-048	I would like to know what is going to happen to all the traffic heading northbound after they exit the tunnel and pass Steveston hwy. What improvements are going to be made from 4 lanes that go into 2 lanes just past northbound Westminster hwy. and on to the oak st bridge into Vancouver.	The Steveston Interchange Project is replacing the existing two-lane overpass structure at Steveston Highway and Highway 99 with a new five-lane structure that accommodates two eastbound lanes and three westbound lanes, including a left-turn lane. The new interchange will also improve access to transit stops and pedestrian and cycling connections on Highway 99. Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area. The new tunnel will also have a dedicated transit lane that connect to the bus-on-shoulder system along Highway 99 to provide better travel and transit options for everyone. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99.	N/A	N/A
IPD-PUBLIC-049	Hi, I'd rather have a bridge. I'm not a tunnel fan. Get on with it.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-050	This is a terrible idea. The real reason that the tunnel is being replaced is quite evident, the ALR land and the areas of Ladner and North Delta will be redeveloped, making the Provinces growth plans even more grotesque. It's not hard to see that once the larger pathway is created, those lobbying for it mean to prosper from it, and the sprawl that we are so terrible at regulating will continue to in a canyon from Oak Street to the Peace Arch. Set some limits on growth and manage what we have before we continue this race to end up like Bakersfield.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-051	Swallow your pride and build the 10 lane bridge, hell make it 12 lane.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority	N/A	N/A
IPD-PUBLIC-052	Build the bridge! Everyone knows is the best option and you just canceled out of spite because the previous government started it and you didn't want them to take the credit. Now you are you to spend years and tens of millions of dollars studying the project and end up building a worse solution.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-053	If you're going to do this, do it right. A 10-lane bridge, or tunnel, with dedicated transit lane. You know, like the bridge that was supposed to already be completed.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority	N/A	N/A
IPD-PUBLIC-054	The Province really dropped the ball on this project by scrapping the original bridge proposal. If the incumbent party stuck with it, this would've been done already. Now, it is going to take even longer and will surely end up costing more than the original project. Way to go!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-055	The NDP government is a joke when it comes to this crossing. They don't want to build a bridge cause that was the Liberals plan. Which is a much better plan, the tunnel plan is not the correct plan. They should have stuck with the bridge, it'd be built by now.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-056	The existing tunnel bisects the natural area of Deas Island Park. The project should be designed to reduced this encroachment into natural and shoreline areas and reconnect both sides of the park. The existing tunnel portal should be removed out of the Park and a pathway network for park users re-established as part of this project. On the north side re-establishment of dyke trail and natural area access along the Richmond shoreline should also occur. Currently this area is bisected by the existing tunnel trench and Rice Mill Road overpass. Please consider Envision certification for this project to actually improve the natural areas.	We understand how important this park is to the region and to those who use it. Portions of Deas Island Park will be affected during construction, primarily within the Ministry's Right of Way. Some disruption will be unavoidable, and we will work with Metro Vancouver to explore opportunities ways to mitigate these disruptions and improve the natural condition of the park.	N/A	N/A
IPD-PUBLIC-057	"Tunnel confine the commuters in a small area which is lit with unnatural light both day/night and it causes further harm to our salmon habitat. It becomes a possible death trap in an event of a fuel truck fire. I hope the decision to make the tunnel is not a political one since the Liberal set the plan to build a bridge. If NDP builds a bridge then it becomes a Liberal idea. Kill the salmon so they can put a NDP stamp on it."	The project team is in close contact with local emergency service and response organizations, such as police, fire, and ambulance, to ensure it is designed in a way that facilities safe use by the public, dangerous goods, and the efficient response by emergency service providers should an incident occur. Environmental impacts associated with tunnel construction, including potential affects on salmon, will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects.	N/A	Yes

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-058	Please don't make a tunnel instead a bridge with 12 lanes, two dedicated HOV.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-059	"Please cancel the tunnel and proceed with the bridge asap. The bridge is better for salmon migration and is preferred by nearby First Nations. I believe it would be safer in a major earthquake. Most importantly, it's ""shovel ready"" and would be improving traffic flow much sooner than the tunnel."	Since 2018, the Province has worked closely with Indigenous nations, local governments and stakeholders to identify the right project for the region. The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Environmental impacts associated with tunnel construction are still to be assessed and confirmed. As part of this assessment, robust consultation with participating Indigenous nations will be completed to hear from, understand and potentially mitigate any potential impacts to Indigenous nations' interests.	N/A	Yes
IPD-PUBLIC-060	I actually do not believe the George Massey Tunnel Replacement should be completed. It makes sense to fortify and make sure the tunnel itself is going to be operational into the future, but to spend 4 billion dollars on more automobile infrastructure makes no sense to me in the current climate crisis. I think the money should be used for mass public transit throughout the Province so we can wean ourselves of automobile dependency.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The Ministry also assessed the long-term viability of the tunnel and found that while it remains safe for use today, it should not be considered as part of a long-term solution due to risk of concrete deterioration from a condition known as alkali-silica reaction. The reaction is not a concern in the near-term.	N/A	N/A
IPD-PUBLIC-061	"Quite frankly, I am glad to be able to comment. Several years ago, many, many dollars were spent looking into this issue. A bridge was recommended and would have been available next year. Instead, we are looking at HOW MANY Years from now, will MAYBE a tunnel might be ready to go??? Yeah right! By then your proposed 8 lanes will be redundant. And, again a change of government, could again set us back to square one. Such a waste of taxpayer's dollars. Get a bridge done and forget more and more dollars involved into looking into a tunnel. Every day, week, month costs us frustration, gridlock and no end to the money being spent looking into this issue. Come on; we are tired of the endless bottom of the government waste, going no where! We need the bridge, not more money spent on government egos."	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-062	Just build a tunnel or bridge to replace Massey Tunnel now!!! We cannot wait until 2032 or 2034!!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030.	N/A	N/A
IPD-PUBLIC-063	"The original 10-lane bridge option to replace the existing George Massey Tunnel was not without its challenges, but they pale in comparison to the drawbacks of this proposed 8-lane immersed tube tunnel. It's true that the bridge piers would be founded on some of the weakest soils in the region and the foundations would be incredibly deep, but the reference concept design as well as the static pile load test already completed proved feasibility of this option. Design-Builders had had an opportunity to review the available information and provided both technical and financial proposals to undertake the design and construction of a bridge in this location. The Environmental Assessment (EA) for the bridge was completed and approved while the immersed tube tunnel has yet to be vetted through this process. Clearly an immersed tube tunnel requiring a dredged trench across the entire river bed, large portal excavations on both shorelines, and an immersed tube segment casting and launching dock has a significantly larger environmental impact as compared to the localized in-stream works required at pier locations and potential earthworks near shorelines for approaches that a bridge requires. Certainly both projects have an impact on the environment, but what people seem to forget is that doing nothing also has an environmental impact due to increased idling and longer travel distances/times due to detouring when traffic volumes through the tunnel lead drivers to seek alternative routes through the region. As part of the Business Case for major public projects, a Benefit-Cost Analysis is typically completed to determine feasibility of the project and whether it should be funded. I cannot see how if this process was fairly implemented on both the 10-lane bridge option and the 8-lane immersed tube tunnel option that the tunnel option could ever win out over the bridge option. I could be wrong and I hope that I am, but this appears to be a case of politics outweighing sense. Whether you are the Liberals, the NDP, the Greens, or any other provincial party, the best value for your citizens should be more important than your ego. It honestly pains me to see our taxpayers being treated this way. We elect you to govern so let's stop getting in the way of projects with wide public support and start leading by example. Planners consider current requirements and future use when determining high-level considerations such as lane counts, lane dedications, and potential for future upsizing. In the case of the 8-lane immersed tube tunnel option, it appears that the overarching assumptions for capacity determination has changed drastically from the assumptions previously considered when planning for the 10-lane bridge option. I€™m not involved in this project so I cannot comment on the validity of these assumption changes, but I do find it surprising that such a significant downsize and limitation of future expansion is now being considered. 10-lanes could be too many, but 8-lanes with no provision for upsizing in the future feels restrictive to me. I stress feels because again I am not involved on this project and rely on the experience of the Project Team. As a final note I would like to stress that something is better than nothing in most cases, and right now the citizens in the region are getting nothing for many more years. That€™s the nature of major public projects. Even if the NDP read all these comments, have a change of heart, and pivot back to the 10-lane bridge option previously approved, the bridge won€™t be built anytime soon. The EA has likely expired and I don€™t know of a mechanism currently on the books to allow for reinstatement without going through at least an expedited EA which takes time. Once this is complete the Project Agreement (PA) will need to be dusted off, reviewed, amended, etc. The Request for Qualifications (RFQ) and Request for Proposals (RFP) will need to be sent out and the whole procurement phase of the project will need to be restarted even though it has already previously been completed. I understand the anger and frustration voiced in the comments thus far, but I am sorry to say going back to the 10-lane bridge option is not a simple endeavor anymore and would be political suicide."	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget	N/A	N/A
IPD-PUBLIC-064	I feel strongly that as long as we're upgrading the tunnel, we absolutely need to account for future Skytrain expansion. This is an area that absolutely will need expanded access to public transportation in the near future, especially for connections to and from the ferry, the airport, and downtown Vancouver. Laying the foundation for future Skytrain rails is much, much cheaper to do right now compared to later. The Canada line will need to expand further south eventually, and when it does, we should be ready for it, with the necessary foundations already in place in the tunnel. To sum up: while building the tunnel, we should lay the foundation for future Skytrain expansion. This will save us a ton of money in the long term, and at the same time, encourage future public transportation expansion. To me at least, this is a no-brainer.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050	N/A	N/A
IPD-PUBLIC-065	I am not in favour of the tunnel! I think the government should go back to the original bridge plan. If they had not abandoned the bridge plan we would be opening a new bridge this year. This has been a complete waste of tax dollars.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-066	What about expanding highway99 south with 3-4 lanes all the way to 32nd Ave interchange or even to 16th Ave and replace Ladner trunk road interchange. Make the bus lane a full HOV Lane. There is a lot of housing construction in south Surrey, why not provide proper highway infrastructure. Build the tunnel now and not in 10plus years. BC highways are a joke compared to other provinces. 3-4 lanes with HOV south of the tunnel to south Surrey should be done now.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-067	Tunnel or Bridge should be minimum 10 lanes. If the extra lanes are not required yet, then block them off like when the Alex Fraser Bridge first was built. Only 4 lanes were used and the 2 others were blocked. NDP has bad history with highway construction, look at Inland Island Highway. Built long after initial completion date and kept traffic lights instead of interchanges. Nanaimo Bypass prime example, same as Highway 91 when first built. Highway 99 south of tunnel needs to have 3-4 lanes all the way to at least 32nd Ave interchange or 16th Ave interchange. Also stop thinking all traffic for tunnel is for Vancouver. There are other places more important than downtown Vancouver. While we are on topic. Get rid of the 80th st /Tilbury connector lights on Highway 17.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The current HOV lanes directly north and south of the tunnel were installed as queue jumps to help alleviate congestion. With the new tunnel there will be an increase in vehicle capacity and average travel speeds that will result in travel time savings for travel between Westminster Highway and Highway 17. Widening of Highway 99 to accommodate HOV lanes is identified as a potential long-term strategy if transit ridership does not significantly increase. The widening would require replacement of many structures along the corridor as well as interchange modifications. These upgrades would be taken into consideration in future projects that requires replacement of any structures along the corridor.	N/A	N/A
IPD-PUBLIC-068	Tunnel or Bridge replacement should be done now and it should be minimum 10 lanes. We need to build for future and not for the present. Also Highway 99 south of tunnel should be at least 3-4 lanes all the way to 32nd AVE Interchange. Stop doing minor fixes with highways and start building for what we need. Population in Greater Vancouver is growing each year. Time to build highways to match. Rapid Transit should also be included to go straight down to South Surrey.	"The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. In collaboration with TransLink and Metro Vancouver, the Ministry studied the need and service delivery options for rapid transit along the Highway 99 Corridor. These studies built on the Ministry's earlier Highway 99 Corridor Study and TransLink's ongoing technical work in support of planning for Transport 2050. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-069	"you should be building a bridge that will be a long term solution, tunnels restrict height of vehicles, leak, and do not allow for larger ships into the docks. we need progress not politics. "	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority.	N/A	N/A
IPD-PUBLIC-070	This should be a bridge for a multitude of reasons, the fact that the bridge was cancelled and likely would have been nearing completion by now is an indictment of wasteful our government is. Build a bridge and build it now!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030.	N/A	N/A
IPD-PUBLIC-071	Either tunnel or bridge option should include space for SkyTrain expansion. Ok if the bus rapid transit lanes can be converted, but consideration for rail transit should be included. Future SkyTrain station in Ladner makes sense, eventually all the way to the ferry. Don't build the tunnel without it.	"The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050"	N/A	N/A
IPD-PUBLIC-072	This will be another Fast Ferries debacle. It should be a less expensive bridge. I will remember this next election.	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-073	"Should return to original Bridge concept. Current Tunnel plan already undersized and does not provide any possibility of future Canada Line expansion or Light Rapid Rail traffic. If the objective is to reduce carbon emissions, then the tunnel plan seems to be a major step backwards as it does nothing to reduce vehicle emissions. Most cars will be electric by the time the tunnel is finished anyways. As an avid cyclist, I am disappointed to have to transit through a tunnel instead of an open air bridge. We should be commuting to work on the completed bridge NOW and not waiting another 8 years for a flawed political decision. "	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-074	Start building now and make the lanes south of the tunnel 3-4 all the way to the border. Stop punishing drivers south of the Fraser. The lower mainland world does revolve around Vancouver.	Since 2018, the Province has worked closely with Indigenous nations, local governments and stakeholders to identify the right project for the region. The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-075	This project is very necessary. The timeline needs to be expedited as the need for this bottleneck to be removed is very great	Comment noted	N/A	N/A
IPD-PUBLIC-076	Another tunnel is a terrible idea and the First Nations people have clearly stated publicly they are 100% against a tunnel. A bridge is the only realistic option.	Since 2018, the Province has worked closely with Indigenous nations, local governments and stakeholders to identify the right project for the region. The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-077	I believe there should be at least four or five more studies done on this project. I believe a start date around 2040 or 45 would be about right. That way this government could be really sure to make the right decision!	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030.	N/A	Yes
IPD-PUBLIC-078	"Hi, can the preliminary design be shared, so we understand the details of how interchanges at the south and north of the Tunnel will be affected? Also, it would be good to expedite this project, given the age of the Tunnel and it vulnerability."	Preliminary project footprints and impacts are available on the EAO's Epic website. We appreciate the importance of this project to the people who use the tunnel, and the shared interest in getting to the opening day as quickly as possible. More information about the preliminary design will be available through the Detailed Project Description which will be publicly available during the EA Readiness Decision phase of the Environmental Assessment.	Section 5 Project Loc	Yes
IPD-PUBLIC-079	Before construction of the new Massey Bridge (which would be open now, by the way) started Environmental Reviews were done on a tunnel and a bridge. They determined a tunnel would have more impact. Why on earth are we redoing this. What a colossal waste of time and money. Does anyone on your team travel through the tunnel on a daily basis to understand the issues? It sure appears not from the decisions you are making. We currently have three lanes each way (which you say is insufficient) in rush hour with regular backups. What makes you think three lanes will be sufficient in ten years with all the new residents south of Fraser? You may as well design a reversible lane now as it appears it will be required as soon as the new tunnel opens. Even with the new bright lighting, traffic slows down entering the tunnel. Whether it's claustrophobia, paranoia or fear of passing a big truck it happens virtually every time you enter the tunnel. I've been cruising along at 85 toward the tunnel with light traffic and on come the brake lights and we're down to 60 as we enter the tunnel. Trucks would like to maintain their speed but they are slowed down by the slow drivers. Once the loaded trucks are down to 50 or 60, they can't gain any speed up the steep incline out of the tunnel. The new plan still has you exiting the tunnel northbound to a stoplight which in heavy traffic backs traffic up onto 99. Why aren't you making a proper cloverleaf so that you exit north of Steveston Highway and circle back onto Steveston Hwy. without a stop light. The bridge proposal handled this nicely by having an overpass directly to #5 and Steveston. They're currently building 5 more towers downtown and proposing many along Broadway. Most of the people working in those towers won't be able to afford to live in Vancouver so they be coming from south of Fraser. Our son lives in Ladner and even with express bus service he requires three connections and over an hour to get to work. Even with traffic delays a car is notably quicker. People don't look at tunnels when they travel. They look at the big bridges that have been built. And while we're not building it for that reason all extra tourist attractions provide jobs and help our economy. The biggest issue is the eight year delay you've caused. You're spending more money on a solution that provides less throughput and doesn't seem to understand that daily problems voters face here 18 hours per day.	The Ministry considered several options and an immersed tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. It worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. Our analysis found that by 2050, during the morning peak, hourly demand volumes in the peak direction would still be manageable with three lanes. Afternoon volumes are higher so there will still be congestion in the peak. This is in keeping with our commitment to accept and manage congestion during the peak period as opposed to eliminating it. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The Steveston Interchange Project will replace the existing two-lane overpass structure at Steveston Highway and Highway 99 with a new structure that accommodates two eastbound lanes and three westbound lanes, including a left-turn lane. The new interchange will also improve access to transit stops and pedestrian and cycling connections on Highway 99.	N/A	N/A
IPD-PUBLIC-080	Ideally the crossing would be a bridge given the successfully completed environmental review and the monies already spent on the bridge project. The project needs to be completed in the shortest time frame possible. Waiting until 2030 or beyond is not an acceptable solution. The crossing regardless of type needs to be built with the future in mind. i.e.. 100+ years. The crossing should be 10 lanes as originally planned and definitely needs to have a rapid transit (light rail) component or space designed into it. Ladner access; Due to traffic congestion entering/exiting Ladner on Ladner Trunk road there should be two access points for Ladner to the new crossing. One at the existing 17A/99 interchange and one at the River Road location. (Currently only an exit€needs to be two way) Thanks for your time, Mark Ladner, B.C."	We appreciate the importance of this project to the people who use the tunnel, and the shared interest in getting to the opening day as quickly as possible. The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The Ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. In collaboration with TransLink and Metro Vancouver, the Ministry studied the need and service delivery options for rapid transit along the Highway 99 Corridor. These studies built on the Ministry's earlier Highway 99 Corridor Study and TransLink's ongoing technical work in support of planning for Transport 2050. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050. The Ministry supports Delta's desire to extend River Road to support improved local connectivity as population in Ladner Village continues to grow, and we have ensured that the project reference design will allow for a future connection. Our focus for the project is improving connections to and from Highway 99, which will help reduce congestion throughout Delta. This includes maintaining and improving the existing River Road off ramp from Highway 99 southbound.	N/A	N/A
IPD-PUBLIC-081	I hope the project team will really read the comments and not orchestrate for the sake of early engagement! I've seen so many comments asking for SkyTrain and it makes me wonder if the team will for a minute even entertain this idea or be like nope, not feasible and move on. I'd like to see action and not some arbitrary comment response written back! I personally do not care what gets built but I just want this process to be through and REAL as possible may it be engagement with Nations or Public! Thank you!	Since 2018, the Province has worked closely with Indigenous nations, local governments and stakeholders to identify the right project for the region. Open houses were also held in Richmond and Delta in early 2020 on various crossing options. In collaboration with TransLink and Metro Vancouver, the Ministry studied the need and service delivery options for rapid transit along the Highway 99 Corridor. These studies built on the Ministry's earlier Highway 99 Corridor Study and TransLink's ongoing technical work in support of planning for Transport 2050. This collaboration concluded that bus rapid transit on Highway 99 would best serve the projected demand and travel patterns South of the Fraser River through to at least 2050. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-082	Keeping both tunnels opened would be the superior option, because then when rush hour comes or when there is an accident, there is a closer option then waiting for traffic to clear, especially in emergency situations. Her majesty came to Ladner to open the George Massey Tunnel, that being said it is a important part of Ladner and its community. George Massey had a Machine shop on Chisholm Street which still stands there today and was an important pioneer in Delta. Now a days we use machinery to do everything, back then they did not have that option. Destroying the George Massey Tunnel, would destroy a sentimental part of Ladner's history.	During the Ministry's assessment of alternatives in 2019, options that would have used the existing tunnel were found to have greater impacts than all-new options. Specifically: dIf we used the existing tunnel for any kind of traffic, we would have had to incorporate costly upgrades oAssociated in-river ground densification would have extended the timeline for the environmental assessment review oBecause of the lane configuration, it will add up to 5 minutes for transit travel times and reduce transit reliability relative to the 8-lane options. The Ministry also assessed the long-term viability of the tunnel and found that while it remains safe for use today, it should not be considered as part of a long-term solution due to risk of concrete deterioration from a condition known as alkali-silica reaction. The reaction is not a concern in the near-term. As the existing tunnel will no longer be needed, removing it is an important step in reducing future risk to surrounding infrastructure.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-083	When the project is done, the bottleneck will move to Oak street bridge -- the problem on H-99 is still there.	Additional capacity through the new tunnel will have limited impact on congestion across the Oak Street Bridge. In the peak-direction approximately 80 to 85% of tunnel users will exit the Highway 99 corridor before reaching the bridge. This means that only 15 to 20% of tunnel users will transit Highway 99 from South of the Fraser River to cross the Oak Street Bridge into Vancouver. As the Oak Street Bridge is already congested today, with about 3,500 vehicles per hour (vph) in the peak direction and approximately up to 2,500 vph in the non-peak direction, there is limited room for additional congestion to grow. Due to this limited capacity in non-peak direction, the bridge will only see about 8 to 9% increase in traffic due to improved capacity through the tunnel, with some people commuting to jobs in the South of the Fraser area.	N/A	N/A
IPD-PUBLIC-084	Transit and active transportation corridors of good quality are absolutely necessary.	Transit and active transportation are a priority for the region and this project. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99. The new tunnel will have a separated, 5-metre wide tube for pedestrians and cyclists providing an active transportation connection across the Fraser River at this location for the first time.	N/A	N/A
IPD-PUBLIC-085	Thank you for accepting comments from the public on the proposed tunnel replacement project. I am a local resident of Ladner and have lived in this community for over 30 years and travelled through the existing tunnel 1000s of times. I appreciate the comprehensive nature of the EA process but I also share the frustration of many in the public who are eager to see the project move forward. Included in moving forward is finalizing the detailed design aspects of the project. It is difficult to provide comment as there are significant aspects of the tunnel and construction process that remain undetermined. I will make some comments and suggestions for consideration as the design team continue their diligence. The millennium trail access from Captain's Cove to River Road enroute to Deas Island and other east Ladner destinations is used extensively by local residents and others. During the construction process it is easily understood that this access will be impacted in some way. The proposed tunnel includes a pedestrian/bicycle tube pictured either in the centre or on one side of the vehicle traffic lanes. Access will be required for pedestrians and cyclists to this new lane as well as connecting to the millennium trail, Captain's Cove, etc. I recommend that the design team consider a tunnel access below Hwy 99 for this purpose. A "T" shaped tunnel would replace the existing millennium trail below the slough bridge as well as providing access northbound through the tunnel via the new slough bridge. Building this component early on in the construction process would provide an opportunity to minimize the likely closure of the millennium trail access. I understand that connecting River Road east and west of Hwy 99 is not in scope of this project, however, I would like to note that I would NOT be in favour of including this connection in the proposed project scope. This connection would create traffic flows that would have potentially negative impacts to local residents. I will continue to monitor your websites for new information and I encourage the project team to work efficiently in order to move the project along in a timely manner. Thanks	Thank you for your comments. We appreciate the importance of this project to the people who use the tunnel, and the shared interest in getting to the opening day as quickly as possible. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-086	Sorry do not agree with the replacement tunnel. A bridge is a much better option, provide more capacity and a wider range of uses. Further I would expect if we really had the correct cost would be cheaper option. Also would be quicker to build,	The Ministry considered both options and a tunnel was chosen as the option that best meets the region's vision and interests, including reducing noise and visual impacts for local residents, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. The eight-lane immersed tube tunnel also emerged as the solution that best supports congestion relief and improved reliability and accessibility. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. With the tunnel crossing now approved through the Ministry's Business Case process, it is now TI Corp's role to deliver the project in line with the approved scope, schedule and budget.	N/A	N/A
IPD-PUBLIC-087	Build it now. NDP can push through billion dollars for new BC museum but can't build proper infrastructure for residents south of Fraser. The tunnel or bridge should be minimum 10 lanes and at least 3-4 lanes should go all the way south of the tunnel to at least 16th Ave. you need to replace the old overpasses. Stop messing around with highways and under build and take double time to build like NDP govt did with the Island highway. BC is the worst for highways compared to other provinces	We appreciate the importance of this project to the people who use the tunnel, and the shared interest in getting to the opening day as quickly as possible. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. To move forward with construction, a provincial Environmental Assessment Certificate is required. B.C.'s Environmental Assessment Act was updated in 2018, including significant enhancements to the environmental-assessment process that were developed through in-depth consultation including with Indigenous nations and the public. One of the changes is a requirement for more engagement throughout the review process. Because the new, regionally-supported tunnel crossing is substantially different than the previous bridge replacement concept, it must be reviewed under the new act. Based on the current schedule, including the environmental assessment process, construction will begin in 2026 with the tunnel opening in 2030.	N/A	Yes
IPD-PUBLIC-088	The notion that a trenched tunnel project across the Fraser River will be less environmentally disruptive than a bridge does not make sense, and is not supported by the information provided to date in the public domain. it certainly has not been supported by the Tsawwassen First Nation. The risk of catastrophic failure of the existing tunnel during construction of a new tunnel immediately adjacent and upstream of the existing tunnel does not seem to have been adequately assessed, or if it has, it has not been communicated. A bridge would be a much more rational solution, with significantly less impact on the Fraser.	The Province has been work closely with Indigenous nations, local governments and stakeholders to identify the right project for the region since 2018. The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. While the immersed tube tunnel option would have an impact due to in-river construction, it was identified as having the lowest long-term impact and the greatest potential for environmental enhancements. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The project is now in the Environmental Assessment process, to assess and mitigate any potential impacts, which includes very focused consultation with Indigenous nations in relation to any potential impacts to Indigenous nations' interests on those whose traditional lands the project is located.	N/A	Yes
IPD-PUBLIC-089	It seems like 10 lanes makes more sense than the 8 proposed - or at least 8 + dedicated HOV/light rail. The 8 lanes including dedicated bus lanes as proposed is a week solution. Bridge or Tunnel - the previous Liberal government proposed bridge, so that is why we're getting a tunnel. It doesn't really matter much to me either way, but it seems like a waste to throw away all the engineering/design/consultation work that had already been done to prepare for a bridge. By now all that money has probably been double spent for the tunnel proposals - and now we have to save some money by building less lanes?	Thank you for your comment. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority.	N/A	N/A
IPD-PUBLIC-090	Build a bridge now and ensure it is minimum 10 lanes. Majority of the north traffic is not going to Vancouver. Highway 99 south of the existing tunnel needs to be at least 4 lanes each way including HOV. Stop wasting our time and not building for what w e need. Pattullo bridge replacement of 4 lane bridge is a joke. Highway 1 thru Fraser Valley should be 3-4 lanes each way including HOV form Langley to Chilliwack. Inland Island Highway and Nanaimo bypass should get rid on Traffic lights and be replaced with Interchanges for the growing population on the Island. NDP Gov't cashing in on the ridiculous Gas Taxes.	The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The eight-lane immersed tube tunnel emerged as the solution that best the benefits congestion relief, improved reliability and accessibility, while respecting the region's wishes and reducing noise and visual impacts for local residents. The current HOV queue jumpers will not be re-installed as part of the FRTP project. Car drivers will see significant time-travel savings on opening day and we are taking steps to ensure transit also sees time savings by giving buses a dedicated lane. The current HOV lanes directly north and south of the tunnel were installed as queue jumps to help alleviate congestion. With the new tunnel there will be an increase in vehicle capacity and average travel speeds that will result in travel time savings for travel between Westminster Highway and Highway 17.	N/A	N/A
IPD-PUBLIC-091	2022 05 26 Comments to Environmental Assessment for Massey Tunnel Replacement The Bridge always was the best option for the following reasons: 1. The Timeline • Tunnel completion in 2030 or later – another at least 8 years of deterioration • More expense in keeping it open • Major fear it may not make it until the proposed new tunnel is completed • Could have been driving on a bridge this year (2022) 2. Cost • Bridge budget was approximately $3.3 billion • Cost came in at approximately $2.9 billion – a result of savings found by the contractor that bid • New tunnel stated cost – approximately $4.3 billion, with expectation that this will increase 3. The Environmental Assessment • Will take at least 3 years if not fast tracked • No indication that the NDP is in a hurry • Assessment may determine that the impact of a tunnel is too great because of the effect on shipping (economy), fisheries and other environmental considerations • Over $56 million in contracts awarded in February, 2022, ahead of the environmental assessment taking place • Contracts specific to a tunnel should not be awarded – This is an arrogant process that is intended to nullify any negative environmental assessment review – if a lot of money and contracts are awarded – the expectation is that the tunnel will go ahead even though it does not pass the assessment test. • Installation of a tunnel involves dredging a new path, dropping rock as a bed, lowering six, 60,000-ton concrete sections into the river on top of the rock, the probability of having to blow sand or another medium underneath the sections between the rock to stabilize and properly align the sections. Without significant disturbance in the river? • Creating a flooded staging area to build the tunnel sections. Then the mitigation of this staging area dealing with cleanup of soil and material without any contamination of the river? 4. Port Metro Vancouver • Original submission preferred a high bridge without an obstacle underneath to allow passage of newer class deep draft ships to river ports • Stated that if these ships are unable to navigate these waters, it would seriously impact our economy • PMV stated "The Fraser River is a thriving national asset, as economically significant as the St. Lawrence Seaway. The single biggest challenge to growing or even just maintaining these benefits is the George Massey Tunnel. With a growing trend toward large vessels.....the percentage of the global fleets that can transit the river is decreasing. The tunnel deters new investment to expand or develop new marine terminals." (letter - from PMV to MOTI April 26, 2013) • Larger ships now cannot pass over the tunnel fully loaded (letter Richmond Council July 10, 2015, P4) • The proposed tunnel is said to be the same height as the existing tunnel, maintaining the same major obstacle for larger ships and expansion of ports. • The tunnel is a permanent obstruction. • With larger ships, could there be a future restriction at the first narrows that could result in ships diverting to the Fraser? • Is this a move to limit or even eliminate future expansion on the Fraser?	The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The eight-lane immersed tube tunnel emerged as the solution that best the benefits congestion relief, improved reliability and accessibility, while respecting the region's wishes and reducing noise and visual impacts for local residents. We are moving forward with the project that the region supports, based on the approved business case released last August, which is available online. Environmental, social, economic, heritage, and health impacts associated with tunnel construction, including from dredge activities, impacts to shipping, local economy, fisheries, contaminated soils etc., will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects. The determination on depth of the new tunnel was made after working closely with Vancouver Fraser Port Authority to determine the required depth of the new tunnel given current and future planned navigational use of the lower Fraser River, as well as planned development of river-adjacent lands. The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge. hanks to the collection of traffic volumes using Bluetooth and GPS, we know that the majority of traffic crossing the tunnel today disperses well before the Oak Street Bridge. Only about 30% crosses over Oak Street to Vancouver. The new tunnel will have a dedicated transit lane that connect to the bus-on-shoulder system along Highway 99 to provide better travel and transit options for everyone. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99. The Steveston Interchange Project will replace the existing two-lane overpass structure at Steveston Highway and Highway 99 with a new structure that accommodates two eastbound lanes and three westbound lanes, including a left-turn lane. The new interchange will also improve access to transit stops and pedestrian and cycling connections on Highway 99.	N/A	Yes

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
	• Port Metro Vancouver now indicates (their website) that there is no plan for future expansion on the Fraser for ports or larger ships with no mention of effect to economy or viability of existing Fraser facilities. • The major question: Why has the Port Metro Vancouver done a 180 degree turn on its original position and concerns? 5. The plan for the proposed tunnel is said to address the problem of transportation of Hazardous Material but no detail or indication if there continues to be any specific restrictions. 6. The proposed tunnel does not allow for rapid transit such as Skytrain • Study in favour of a tunnel states that there will be no significant growth south of the crossing therefore rapid transit other than buses will never be required. • Many disagree with this study. 7. Current Traffic Studies • Approximately 60% of the traffic going north exits to Richmond • There is great concern that with a bridge, there will be a significant impact at the Oak Street Bridge. • Is a tunnel instead of a bridge going to eliminate traffic problems north of the crossing? • This implies that a tunnel will have less volume than with a bridge. • Is development south being discouraged to avoid problems in Richmond and Vancouver? 8. The Steveston Interchange Project was recently awarded • The current cost is $137 million and will probably grow. • After the announcement, it was brought up that if the Liberals win the next election, they would switch back to a bridge. • The response from Minister Fleming was that the interchange and other improvements would be well underway by 2024. He stated that the Liberals would "have to rip it out", "he (Kevin Falcon) is going to have to rip up contracts. He is going to expose the taxpayer to more delays, more liability". (Vaughn Palmer Vancouver Sun, March 22, 2022). • This strongly implies that the design of the interchange is specific to a tunnel. If this is so, it should not have been awarded prior to the environmental assessment that may result in the tunnel being scrapped. 9. Metro Mayors Support a Tunnel • How is it that all of the metro mayors came to support a tunnel "unanimously"? • Many of those mayors very seldom. if ever, travel through it to gain "the experience". • Richmond's preference for a tunnel is noted (with one of their concerns the "extra increase" in traffic that would come with a bridge) 10. Delta Residents in the Area • Concerns were expressed that residents in the area would be affected by a bridge • Traffic noise for one would not disappear with a tunnel • If growth continues in this area, these residents would be impacted by a tunnel that does not serve their transportation needs.			
IPD-PUBLIC-092	A 10-lane bridge will induce more demand onto the bridge and away from highway 91. 8 lane tunnel clears current congestion but will not attract more traffic from 91. Tunnels are also cheaper to maintain than bridges and will not require the cars to climb a lot reducing petrol spent. The bus lanes should have the capability to be upgraded to light rail later. The bike and pedestrian tunnel will need supporting bike lanes around it as I don't think many people bike south of the river right now.	Thank you for your comments. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-093	Thank you for the due diligence in the EA process and I understand the difficulty with dealing with the political frustrations among residents regarding this sensitive issue. I would just like to say that there are South Delta residents who support the tunnel project as presented. We are optimistic for the benefits that the smaller (yet adequately sized) tunnel would have for the region's development, both in terms of a community-plan standpoint and a hydrological standpoint. As mentioned by interest groups and scientists, there are strong concerns about the effects of the previously proposed bridge on the sedimentation and erosion of the Fraser. Given the Fraser River's environmental importance to the region, especially in terms of bird habitat, agricultural land, and salmon, I would like for these issues to further be taken into account when designing the Tunnel replacement. Even if a tunnel would have less of a hydrological impact, topics like erosion and salmon conservation are still very relevant. All steps possible should be taken to minimize this impact. In addition, I would like for the EA process to prioritize efforts to lower the emissions from the tunnel. While construction emissions are necessary and welcomed, the design of the tunnel should take steps to prioritize smart growth in the region in a way that is environmentally relevant. Prioritizing public transport, minimizing suburban sprawl, protecting parks and agricultural land. All in all, I strongly support the proposed tunnel replacement and I ask that a thorough environmental review be done to create genuinely good growth in Delta. Please continue to involve the Metro Vancouver community beyond this EA, including citizen science initiatives and public consultations.	Thank you for your comments. The active transportation corridor will be fully separated from the vehicles lanes through a dedicated tube that has its own ventilation and fire-life-safety features to provide a comfortable experiences for all users.	N/A	N/A
IPD-PUBLIC-094	Thanks for the opportunity to provide some feedback on the Tunnel Project. I am a resident of Ladner, Delta, and frequently use the existing tunnel. While I cannot comment on much of the plan (due to its technical nature), I have a few general comments that I would like to share. 1. The document indicates there will be a dedicated pedestrian and cycling facility. I would strongly recommend that any lanes or paths for cycling and walking be set as far away as possible from any vehicular traffic, with high concrete barriers in between. So many bike and walking lanes in the lower mainland are unusable because they are much too close to traffic. 2. The document also states that there will be 6 general purpose lanes and 2 dedicated transit lanes. I would recommend that 1 lane be dedicated to just large truck traffic. Right now the trucks travel in any of the lanes, even though they are supposed to stay to the right. It is a bit unnerving driving with these larger trucks, many of which seem to be in poor condition. 3. The current tunnel does not seem to properly vent out the exhaust fumes and the air quality going through the tunnel is noticeably poor. I just want to recommend that the new tunnel has the ability for exhaust fumes to vent to the outside.	Thank you for your comment. The construction methods for the project are still being refined. The Project's goal is to minimize impacts relating to construction traffic on the local road network. Similarly, the project is still evaluating what laydown locations will be offered to the future Design-Build Contractor. As these details are developed they will be communicated publicly to help communities understand the extent and scope of the project and its activities. Environmental impacts associated with tunnel construction, including potential for dust, noise, traffic, and associated economic impacts to local businesses, will be assessed and confirmed as part of the Environmental Assessment process. Relevant mitigation measures will be identified as part of the assessment to avoid, minimize or offset any predicted effects.	N/A	Yes
IPD-PUBLIC-095	Construction Impacts Will construction access impact River Road north of Hwy 99 and or the intersection of 60 Ave/Vasey Rd and 62B? - A traffic study by the city of Delta for the proposed residential development beside the new Casino (File Number: LU009175) indicates a 1% increase of "construction traffic" due to the tunnel project. - "The City have informed Bunt that the construction of the GMT, which is expected to begin later this year, will require some construction traffic to route along 60 Avenue past the site access towards River Road" Why would there be more construction traffic at this location? Will there be a construction site built on either of the two parcels of land between River Road and the new Casino just north of existing Hwy 99? - If so, what will the impacts be to the Delta Pacific Seafoods business, the 75 homes and the RiverHouse Restaurant and Pub along that portion of River Road at the end of 60 Ave/Vasey Road. For example, increased road traffic, potentially heavy vehicles, noise and dust. It appears in the attached conceptual picture that the intent is to build the 8 new lanes upstream, closer to the residential development (RiverWoods) than the current highway 99. The new lanes plus median plus easement will require most of the existing space comprised of the highway easement, the City of Delta owned Millennium Trail and the Environmentally Sensitive Area (ESA) and potentially land belonging to the residential development of RiverWoods. - Noise levels will increase from regular and emergency traffic. - Road debris will increase (dust, garbage etc.) - The Millennium Trail will have to move closer to the RiverWoods property line - The ESA portion north of the existing highway will be lost. - The mature growth already there in the ESA that will need to be removed, will eliminate any positive effect it already provides to mitigate the highway noise and debris. So, for this environment study, it must take into consideration the negative impact of the highway moving close to this residential development. If in fact the highway can fit into the land space as the conceptual model shows, there must be added mitigation for those residential owners, both during construction and when normal traffic flow begins. The goal should be to make the impact no greater than what exists before the construction of the new tunnel.	The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The new tunnel will be designed and constructed to lifeline standards and will withstand earthquakes as large as magnitude 9.	N/A	N/A
IPD-PUBLIC-096	Dumbest idea ever, to replace a tunnel with another tunnel. Almost impossible to make earthquake proof. Build the bridge that was originally planned..	The Ministry considered several crossing options and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests, and was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The Ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. Furthermore, the new tunnel will be designed and constructed to lifeline standards and will withstand earthquakes as large as magnitude 9.	N/A	N/A
IPD-PUBLIC-097	What a joke for tunnel. The previous govt had planned a 10 lane bridge and the construction had started on it ..then cones NDP scraps plan just bcas it's a liberal govt plan ..rest story well known. Tunnel is not a suitable replacement, seismic unsafe, prone to accidents with mo room to expand..the bridge is 10 lane which is need of time and demand 9f local residents. Big No to tunnel	Thank you for your comment. Our focus for the project is improving connections to and from Highway 99, which will help reduce congestion. This includes maintaining and improving the existing River Road off ramp from Highway 99 southbound.	N/A	N/A
IPD-PUBLIC-098	Where is the first exit to Ladner heading south out of tunnel? The maps that I have seen are clear. Have you seen how many car use this exit and how the main road into Ladner will be even more congested and concentrated?	Our focus for the project is improving connections to and from Highway 99, which will help reduce congestion. This includes maintaining and improving the existing River Road off ramp from Highway 99 southbound.	N/A	N/A
IPD-PUBLIC-099	Re: the proposed River Road off ramp is an issue. Ladner residents were never asked for their input on the proposed off ramp specifically and many of us oppose it. The proposed off ramp leads directly into a residential community and also has an elementary school nearby. Trucks are not allowed on this exit. This off ramp will become a speedway and put residents at risk. We do not want the off ramp at all and the exit should be closed.	The Project understands the concerns relating to cycling and pedestrian connectivity along the Millennium Trail. The Project is working with local municipalities, Indigenous nations, and cycling advocacy organizations to ensure that the use and benefit of active transportation connections reflect the needs of the community. Further iterations of engagement on the project will have more specific details on the multi-use path connections.	N/A	N/A
IPD-PUBLIC-100	If you integrate the active transportation corridor routes to/from the tunnel with River Rd from the East and the West sides, this will greatly improve the quality of the travel experience for cyclists.	Thank you for your comment. The Project continues to liaise with cycling advocacy groups, local municipalities, Indigenous nations, and the general public on the use and functionality of the multi-use path. The center running alignment for the multi-use path was determined after evaluating fire and life safety components such as emergency egress and evacuation, and first responder access. Further iteration of engagement on the project will have more specific details on the multi-use path connections	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-101	First off as a Ladner resident I'm pleased that the tunnel was chosen over a bridge. The noise pollution radiating from a bridge would have made the Wetland habitats nearby unpleasant for wildlife. Would have also helped fuel more unsustainable car-centric development in the area. I would like to speak to the designs and orientation of the active Transportation tunnel. I'm hoping for it to be offset to the west to allow for more comfortable integration into Ladner and Ironwood. I can understand how a tunnel orientated between the two Road tunnels could be desirable from the engineer's point of view. I would caution against this approach though. Extra Care must be taken so that users can excess root safely and generally in North America we have done this poorly.	The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority. The active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues. In addition to the new crossing, construction is underway on the improvements to Highway 99 transit and cycling infrastructure, which includes the Highway 99 bus-on-shoulder lane extension and the transit and cycling improvements at Bridgeport Road and at the Highway 147A/Highway 99 Interchange.	N/A	N/A
IPD-PUBLIC-102	I regularly travel from Vancouver to South Surrey using the George Massey Tunnel. 8-lanes is too big and will just induce more traffic in the area. 6-lanes (including 2 dedicated HOV-lanes) is more appropriate. The only solution to congestion is better public transport - more money should be spent on that than creating more lanes in the tunnel. The plan also includes pedestrian and cycling infrastructure - this will have to be very well separated from vehicle traffic and more infrastructure will be needed North and South of the tunnel to better connect pedestrians and cyclists with a safe/convenient way to get around. Without proper separation and a proper network, no one is going to walk or cycle through the tunnel	The Ministry considered several crossing options, and an immersed tube tunnel was chosen as the option that best meets the region's vision and interests. It was endorsed by the Metro Vancouver Board as its preferred crossing solution. A complete review of the bridge and tunnel options was completed as part of the business case, which is available online. The ministry worked together with TransLink, Metro Vancouver and key affected communities to prepare traffic forecasts to 2050, which is the current standard horizon in this region. It is based on these forecasts that the Metro Vancouver Mayors Task Force recommended, and the province supported, an 8-lane crossing that includes transit priority.	N/A	N/A
IPD-PUBLIC-103	Stop wasting time and build 10 lane bridge. As north of the tunnel already has 4 lanes. South of the tunnel should be 4 lanes each side all the way to 32nd Ave in South Surrey. The existing Interchanges (Westminster Highway, Highway 17A and Ladner Trunk Road) should be replaced with new interchanges. Build for the future not present. Population continues to increase so build for the extra people.	During our assessment of alternatives in 2019, options that would have used the existing tunnel were found to have greater impacts than all-new options. Specifically: oIf we used the existing tunnel for any kind of traffic, we would have had to incorporate costly upgrades oAssociated in-river ground densification would have extended the timeline for the environmental assessment review oBecause of the lane configuration, it will add up to 5 minutes for transit travel times and reduce transit reliability relative to the 8-lane options. We also assessed the long-term viability of the tunnel and found that while it remains safe for use today, it should not be considered as part of a long-term solution due to risk of concrete deterioration from a condition known as alkali-silica reaction. The reaction is not a concern in the near-term. As the existing tunnel will no longer be needed, removing it is an important step in reducing future risk to surrounding infrastructure. BC Hydro's South Fraser Transmission Line will be relocated when the existing tunnel is removed following completion of the new Fraser River Tunnel Project, given the challenges we face with the aging George Massey Tunnel. BC Hydro owns the transmission line and is responsible for its relocation.	N/A	N/A
IPD-PUBLIC-104	I don't support this tunnel as it was wreak more havoc on the environment and destroy animal habitats. Please listen and don't allow this construction. Isn't and won't be enough environment survey to show the true outcome. Tunnel needs be canceled	Thank you for your comment. The determination on depth of the new tunnel was made after working closely with Vancouver Fraser Port Authority to determine the required depth of the new tunnel given current and future planned navigational use of the lower Fraser River, as well as planned development of river-adjacent lands.	N/A	N/A
IPD-PUBLIC-105	I would suggest that the original bridge across Deas Slough be left as a pedestrian bridle access to the park.	Thank you for your comment. The new 8-lane tunnel will feature a dedicated transit lane in both directions, however the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	N/A	N/A
IPD-PUBLIC-106	Environmental concerns are paramount, particularly fish! Salmon migration & spawning runs need to be protected! We know when the various runs are SUPPOSED to show up. But what happens when they are early, or late. Do environmental personnel have the ability/authority to issue STOP WORK ORDER??? This is my primary concern. Otherwise I think the project is fantastic! Is it big enough??? Do we have enough lanes for future considerations???	Thank you for your comment. Transit and active transportation are a priority for the region and this project. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99. The new tunnel will have a separated, 5-metre wide tube for pedestrians and cyclists providing an active transportation connection across the Fraser River at this location for the first time. The new 8-lane tunnel will feature a dedicated transit lane in both directions, however the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	N/A	N/A
IPD-PUBLIC-107	Save the Project schedule time and money by not removing the existing GMTunnel. Keep the existing tunnel as an utility tunnel and possibly a back-up emergency tunnel link, Leave the existing BC Hydro high power lines that are currently fitted, In other words, save taxpayers money by not removing existing and operational infrastructure.	The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge.	N/A	N/A
IPD-PUBLIC-108	I am totally against dredging and ground improvement for this very important fish bearing river. I think the impacts on the environment and the Fraser River is way too much of a risk. I also find it hard to imagine how you are going to improve the soils beneath the immersed tube given it the potential for liquefaction in an earthquake. I like the concept of the Alex Fraser Bridge just upstream with piers on little island at each shore and no impact on the river. Alex Fraser still looks great 36 years later. I think a tunnel should be denied a permit.	Thank you for your comments. Transit and active transportation are a priority for the region and this project. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99. The new tunnel will have a separated, 5-metre wide tube for pedestrians and cyclists providing an active transportation connection across the Fraser River at this location for the first time. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-109	The proposed tunnel is too shallow. Ships are already too big/too deep draft for the existing tunnel.	Thank you for your comments. Transit and active transportation are a priority for the region and this project. The new eight-lane tunnel, combined with the transit and cycling improvement projects currently underway will help get more people out of their cars, improve traffic flow, manage traffic congestion and make travel by transit, walking and cycling more convenient and attractive along this section of Highway 99. The new tunnel will have a separated, 5-metre wide tube for pedestrians and cyclists providing an active transportation connection across the Fraser River at this location for the first time. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-110	My opinion is... much better than a bridge!	Comment noted	N/A	N/A
IPD-PUBLIC-111	I feel that light rapid transit, rail or sky train, should be included in the tunnel A.S.A.P. in order to combat climate change. We need to get more cars off our roads in order live sustainably.	The new 8-lane tunnel will feature a dedicated transit lane in both directions, however the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	N/A	N/A
IPD-PUBLIC-112	GREAT PROJECT. GET ON WITH IT!!	Comment noted	N/A	N/A
IPD-PUBLIC-113	I am pleased to see that there is progress being made on this important issue. As a pedestrian who doesn't drive (a decision I consciously made), I would like to see well-lit pedestrian and cycling tunnels on both sides of the tunnel, as well as dedicated bus lanes and light-rail/SkyTrain tracks as well. Since we are in a climate and biodiversity emergency, then the priority for the tunnel should be active transportation rather than simply widening it to accommodate more low-capacity vehicles. At the moment, those are the only remarks I have to make, so thank you for the opportunity to submit my comment.	The active transportation corridor will be fully separated from the vehicles lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experiences for all users. The new 8-lane tunnel will feature a dedicated transit lane in both directions, however the decision was made not to incur the additional costs associated with incorporating the potential for future rail-based rapid transit based on the work the Ministry did with TransLink to understand forecast demand for transit. Peak transit demand in this corridor in 2080 – almost 60 years from now – was projected to be approximately 3,100 passengers per hour per direction. While that represents significant growth in transit demand, TransLink's threshold for adding SkyTrain service is 5,000 trips per hour.	N/A	N/A
IPD-PUBLIC-114	Clearly no one in government thought about dangerous goods vehicles.. they got one option that is normally a joke. This should be a bridge to open up key routes for us dangerous goods drivers.	The new tunnel crossing will be designed and operated to accommodate the safe transportation of dangerous goods, as per the Transportation of Dangerous Goods Act and Regulations, giving an alternative to the Alex Fraser Bridge.	N/A	N/A

Comment ID#	Comment	Proponent Response	DPD Section Updated	Comment to inform dAIR and/or EA Application
IPD-PUBLIC-115	****NOTE: Images part of the comment are not captured here, please see attachment (Hwy 99 Fraser River Tunnel Project Submission 9 June 2022 (002)) sent by David Grigg, Infrastructure Advisor to the Great Blue Heron Way** **Submission to the Highway 99 Fraser River Tunnel Project** Thank you for taking submissions on the design of the Fraser River Tunnel. This lies on the route of the Great Blue Heron Way, described at this link: https://trailsbc.ca/the-great-blue-heron-way-vision-gbhw/ TFN Elder Ruth Adams' vision is to connect First Nation communities and welcome all users, local residents and travellers, on a cultural education pathway, and to safely walk and wheel in wildlife habitats around the Salish Sea, along the Sto:lo - Fraser River, following paths Indigenous peoples have taken for thousands of years. Today, First Nations live and work throughout the Metro Vancouver region. Having an active travel pathway through the Tunnel helps connect all communities in a spirit of reconciliation. **Tunnel and Connections Design Suggestions** At recent Highway 99 Tunnel Program meetings, including online meetings held on May 12th and 17th, we, the members of the Great Blue Heron Way (GBHW) trail advocacy team, were invited along with the general public to provide comments and ideas for pedestrian and cycle access to and from the proposed Fraser River Tunnel. The goal of the GBHW team is to see modern triple-A connections between Delta, Richmond and the Deas Island Regional Park. Accordingly, we request that you give serious consideration to our ideas, laid out below, and follow-up with our liaison communications person, Sandra Jones, who is registered as a Highway 99 Tunnel Program stakeholder with HUB Cycling TFN Delta Local Committee where she represents the GBHW team. **Fraser River Tunnel north (Richmond) side** Our goal is for seamless access No.5 Rd on the west side via Rice Mill Rd. Seamless access to No.5 Rd provides Active Transportation choices - either walking or riding south to the Dyke Rd and Trail circumnavigating the west side of Lulu Island or north to central Richmond and Vancouver via Shell Rd and the Canada Line Bridge. At this time we are deferring advocacy for access to the immediate east side of the tunnel egress as the area is firmly ensconced in the ALR and the roads lack basic active travel infrastructure, however, we do note that there is a need to access work and leisure complex destinations in Richmond east. Therefore, we have made a suggestion, for potential east side access, as part of our idea (below) for the tunnel's central multi-use passageway. Our idea is that the centre passageway, after emerging from the tunnel's north portal, intersects with an east to west access tunnel below the main tunnel approach lanes and is optimally located in the area between the Steveston Interchange and the point where the highway starts its main tunnel ascent/ descent. The example given below shows how the intersecting centre passageway would be open to natural light but have overhead protection from flying vehicle debris as an essential design criterion. **Connecting tunnel design example** Although our primary goal is to gain direct access to the west side of Rice Mill Rd and No.5 Rd we suggest that this may be the right time, during construction, to construct a complete side to side access tunnel below the realigned highway. This more complete option could provide some resiliency, over the years, to accommodate unplanned events such as accidents and medical emergencies, operations and maintenance work requiring detours and potential changes in farming land use on the east side. A note on maintaining the existing Richmond Bike Shuttle service during construction – after which it will no longer be required. The current shuttle service location is isolated, has little weather protection and does not pick up or drop of transit users-the complete antithesis of modern Active Transportation infrastructure. Our recommendation is that the pick up/ drop off location is relocated to the car parking area currently servicing the Model Airplane Park adjacent to Rice Mill Rd. The Great Blue Heron Way advocates for connected greenways. Our second recommendation, that we strongly advocate for, is the need to construct a protected Multi-Use Path, prior to any tunnel construction, along the north side of Rice Mill Rd from the car park to No.5 Rd. Rice Mill Rd shown in orange here on the Richmond Recreational Trails & Cycling Map is currently a two-lane, centre lined, asphalt pavement with soft shoulders and shallow ditches on both sides. Traffic volumes, outside the beginning and end of the working day are low and shoulder vehicle parking is tolerated. However, during tunnel construction, construction workers will be looking for zero cost parking. This situation is likely to change drastically as the owners of the property on the south side of the road (BC Government?) have applied for a permit to construct three fleet maintenance sheds. Rice Mill Road is destined to become a very busy thoroughfare and pedestrian/cyclist safety issues will arise unless proactive measures are taken very soon. A Multi-Use Path constructed on the north side of Rice Mill Rd will also serve the long-term use of Active Transportation tunnel access. **Fraser River Tunnel south (Delta) side** Our goal is to ensure that the completed Fraser Tunnel provides access to both the Millennium Trail adjacent to the south bank of the Deas Island Slough and also to River Rd. Further, that the currently truncated east and west River Roads are effectively connected with each other and with the Millennium Trail. Again, we propose a tunnel running at a right angle and below the north and southbound lanes to connect both components of River Road. Connecting both sides of River Rd would not only facilitate access to the new tunnel centre passageway but potentially, separate from the Millennium Trail, become the catalyst for an area super bikeway. The connection may become a much-needed Active Transportation facility through Delta for the ever-expanding and economically important working population of Tilbury Island and to the Alex Fraser Bridge. During construction of the new Deas Bridge, a new pathway connection must be made, alongside the new highway, between the west and east legs of the Millennium Trail. Despite the close proximity of the highway to the nature reserve and housing complex on the east side, every effort must be made to ensure that an MUP on both the west and east side meets fully the aspirations of MoTI standards for Multi-Use Paths. Maintaining access along the Millennium Trail, during construction, is vital to the economic viability of the River House and Primerose restaurants and other businesses on the east side of the realigned highway, the Delta 'Ale Trail' including Four Winds and Barnside Brewing, and Farm Stands in East Ladner. It is also equally important for recreational trail users to maintain accessibility along River Road to Deas Island Regional Park (left photo at Vasey Road) and along 60 Ave and 64 Street (right photo) to the Boundary Bay Regional Park Greenway – on which the Great Blue Heron Way routes towards Peace Arch. **To maintain the Millennium Trail access during construction;** 1. we recommend that the project initiates a small Aquabus type service, on a 15 to 20-minute return cycle, between the public Ferry Rd boat slip at the west end of Captains Cove Marina and a new public access docking facility at the east end of the River House Restaurant Marina. Provision of these minimally sized docking facilities could become a permanent, left in place, project legacy for small craft launching such as canoes, kayaks and rowing skiffs. The responsibility for ongoing operations and maintenance of the docks could fall, with their concurrence, to Delta Parks, Recreation and Culture. 2. an alternative option involves moving the trail and ped/bike bridge south, as described on a sketch map below. The 64 Street tunnel, pictured on the right, is a great example of a simple, highly functional, tunnel for bike, pedestrian, horse and farm access below eight lanes of Highway 99 in Delta, suitable for the Millennium Trail. The map below shows a new location for the ped/bike bridge and alternative route under Highway 99 at the River Road alignment. **Further Project Considerations** Please take into account: • the need for access to convenient transit stops, to enable less abled walkers access to the flat trails at either end of the new Tunnel; • the need for noise reduction for pedestrian comfort in and at the access and egress both sides of the Tunnel. In the "open to the sky" components of tunnel access walls should be sound absorbing and constructed of irregular surfacing to discourage the scourge of graffiti. Within the tunnel the use of ceramic tiling treated with anti graffiti coating will largely eliminate the need for high pressure water cleaning; • the use of bright and joyful artwork to stimulate the senses for the 22 minute minimum walk from end to end of the Tunnel Project area. The GBHW would like to suggest regional Indigenous artwork be incorporated within and at the portals. Thank you. Sincerely, David Grigg The Great Blue Heron Way team	Comments noted. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues.	N/A	N/A
IPD-PUBLIC-116	From: Peter Stary Subject: Fraser River Tunnel Project Environmental Assessment Recommendations: 1.Walking and cycling access to the tunnel should be designed to minimize travel distances, travel times and grades throughout the project area. 2.Walking and cycling facilities should be designed to connect not only to existing facilities but also to potential future facilities, recognizing that cycling facilities in particular are incomplete and further development is anticipated on both sides of the tunnel. 3.Separate walking and cycling facilities to maximize the safety and comfort of users. 1 & 2. Walking and Cycling Access to the Tunnel The Fraser River Tunnel plays a key role in TransLink's conceptual Regional Bikeway Network. It provides the most direct connections among significant destinations (Burrard Peninsula, Richmond, the US border) and transportation hubs (Tsawwassen ferry terminal, YVR). As with motor vehicle access, walking and cycling access should be direct, intuitive and efficient. Cycling facilities should be designed for speeds of at least 50 km/h bearing in mind the grades involved and the burgeoning use of e-bikes and other forms of personal mobility. Designs should minimize the distance, time and effort required for walking and cycling in order to maximize the number of non-motorized trips that people are willing to make. The flat terrain on both sides of the crossing lends itself to facilitating longer distance cycling and e-bike trips given efficient connections. Direct, high quality cycling connections to major destinations should be included in the project scope rather than relying on municipal infrastructure that may be inefficient or incomplete. It is understandable that the corridor for walking and cycling is located between the northbound and southbound motor vehicle corridors in order to serve as an emergency access. However, I am concerned that project staff has labeled the connections between the walking and cycling corridor and destinations on both ends of the tunnel as "to be determined". The efficiency of these connections should not be treated as something to be worked out to fit around other project parameters but should itself be a priority. This is our one generational opportunity to maximize the potential of the project to increase the mode share of active transportation and decrease GHG emissions. 3. Separation of Walking and Cycling Facilities As is best practice in leading jurisdictions, walking and cycling facilities should be separated rather than shared. Operating characteristics of the two modes are very different. Pedestrians walking together do so side by side, and can stop or turn instantaneously. They should not be subject to sharing space with wheeled devices that can easily attain 50 km/h on downhill grades. Likewise, people cycling or using e-bikes or other personal mobility devices should not have to compromise the efficiency of their trips by having to slow down and negotiate passage with pedestrians. It should be noted that numerous studies, including one focused locally and conducted by researchers at UBC, have identified multi-use paths as generating a higher crash rate than other facilities. Conclusion The new Fraser River Tunnel will be a key link in the comprehensive regional cycling network that will be needed to meet TransLink's Transport 2040 mode share and GHG reduction targets and has the potential to contribute to the province's own CleanBC targets. Given the substantive concerns outlined above, I respectfully ask that the Environmental Assessment Office direct the proponent to consult with and receive the endorsement of the appropriate representatives for transportational cycling in Metro Vancouver and the Province of BC as a condition related to the Fraser River Tunnel Project.	Comments noted. We're working with our municipal and regional partners to develop options for how best to connect the crossing path to the local and regional walking and cycling networks. Following this work, we will seek input from stakeholders and the public as project planning continues. The active transportation corridor will be a five-metre path that would accommodate pedestrians and cyclists. We are working to determine how the path will connect to active transportation infrastructure in Delta and Richmond, and how the space would be allocated. However, we do know that the active transportation corridor will be fully separated from the vehicle lanes and will have its own ventilation and fire-life-safety features to provide a comfortable experience for all users.	N/A	N/A