

Eagle Mountain – Woodfibre Gas Pipeline Project

Traffic Control Management Plan

P-00763-REG-PLN-0010

Rev. 1

October 2022

FortisBC Energy Inc.

Prepared for:



16705 Fraser Highway
Surrey, BC V4N 0E8
Tel: 250.380.5707

Prepared by:

Jacobs

Metrotower II – Suite 2100
4720 Kingsway
Burnaby, BC V5H 4N2
Tel: 604.684.3282

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 Project Manager: Liz Swift
 Author: Reece Bishop, P.Eng.

Jacobs Consultancy Canada Inc.

2100, Metrotower II 4720 Kingsway
 Burnaby, BC V5H 4N2
 Canada
 T +1.604.684.3282
 www.jacobs.com

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Document History and Status

Date Issued	Description	Distribution
2021	Detailed Plan Outline	Squamish Nation (Sḵw̓xwú7mesh Úxwumixw), Tsleil-Waututh Nation, District of Squamish, City of Coquitlam, Squamish-Lillooet Regional District, Metro Vancouver.
2022	100% Draft Review	Squamish Nation (Sḵw̓xwú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, Kwikwetlem First Nation, BC MoTI, Forest Tenure Holders and BC Timber Sales, District of Squamish, City of Coquitlam, Squamish-Lillooet Regional District, Metro Vancouver.
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2022	Final (Rev. 1)	Squamish Nation (Skwxwú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, Kwikwetlem First Nation, BC EAO, BC MoTI, Forest Tenure Holders and BC Timber Sales, District of Squamish, City of Coquitlam, Squamish-Lillooet Regional District, Metro Vancouver.

1 **Sḱwḱwú7mesh Úxwumixw (Squamish Nation) Preamble**

2 The FortisBC Energy Inc. Eagle Mountain – Woodfibre Gas Pipeline intersects
3 Sḱwḱwú7mesh-ulh Temíxw (Squamish Territory), including Selílwit Staḱw (Indian River),
4 Sḱwéḱwel t'l'a Mámxwem (Mamquam Valley), Skwelwílem (Squamish River Estuary), and the Northwest
5 side of Nexwnéwu7ts Átlk'a7tsem (Howe Sound).

6 The eastern portion of the Eagle Mountain – Woodfibre Gas Pipeline lies within the shared territory of
7 Sḱwḱwú7mesh Úxwumixw (Squamish Nation) and Selílwit-ulh (Tseil-Waututh Nation).

8 The path of the Eagle Mountain – Woodfibre Gas Pipeline follows an ancient route used by
9 Sḱwḱwú7mesh stélmexw (Squamish People) for millennia, which connects villages from Indian Arm to
10 Sḱwḱwú7mesh (Squamish).

11 The existing pipeline was established in an era where the Sḱwḱwú7mesh Úxwumixw (Squamish
12 Nation) was not consulted and had no legal recourse. Today, we are an independent environmental
13 regulator on the Eagle Mountain – Woodfibre Gas Pipeline Project (the EGP Project) and are involved in
14 key decision-making as per the Squamish Nation Environmental Assessment Agreement. Through
15 effective cooperation and negotiation Sḱwḱwú7mesh Úxwumixw (Squamish Nation) ensures our unique
16 environmental stewardship standards and economic benefits are realized.

17 Sḱwḱwú7mesh Úxwumixw (Squamish Nation) maintains Aboriginal Rights and Title through
18 the EGP Project area.

19 The Traffic Control Management Plan is primarily written in English with
20 important place names, species, phrases, and passages provided in Sḱwḱwú7mesh Sníchim (the Squamish
21 language) and English.

1 Table of Concordance

- 2 Table 0-1 describes how the Traffic Control Management Plan (TCMP) meets the applicable British
 3 Columbia (BC) Environmental Assessment Certificate (EAC) Conditions.

Table 0-1. Concordance with Environmental Assessment Certificate Conditions 2: Plan Development and 23: Traffic Control Management Plan

EAC Condition	Section
<i>EAC Condition No. 2 – Plan Development</i>	
Where a Condition of this EAC requires the Holder to develop a plan, program, or similar documents, any such document must, at a minimum, include the following information:	Subsection 2.1
a) Purpose and objectives of the document	
b) Roles and responsibilities of the Holder, project personnel, and Contractors	Subsection 2.3
c) Names and if applicable, professional certifications and professional stamps/seals, for those responsible for the preparation of the document	Section 13
d) Schedule for implementing the document throughout the relevant project phases	Subsection 2.4
e) The means by which the effectiveness of mitigation measures to be implemented under the applicable document are to be evaluated	Sections 10 and 11
f) Adaptive management to address effects of the EGP Project if those effects: i) Are not mitigated to the extent contemplated in the EAC Application ii) Are not predicted in the EAC Application	Subsection 11.3
g) Schedules and methods for the submission of reporting to specific agencies, Aboriginal Groups, and the public, and the required form and content of those reports	Section 12
h) Process and timing for updating and revising the document, including any consultation with agencies and Aboriginal Groups that would occur in connection with such updates and revisions	Subsection 2.5
<i>EAC Condition No. 23 – TCMP</i>	
The Holder must develop a plan for traffic control management. The plan must be developed in consultation with BC MoTI, the District of Squamish, the City of Coquitlam, and the individuals and entities referenced in EAC Condition No. 16.	Subsection 2.5 and Section 3
The TCMP must be developed in accordance with the <i>Traffic Management Manual for Work on Roadways</i> (BC MoTI 2020). The plan must at a minimum:	Section 4 and Appendix E
a) Identify measures to mitigate the impacts of project-related transportation during construction on the safety of other users, and the efficiency of, the transportation network.	
b) Include measures for traffic control, public communications, incident management and response, and plan implementation.	Sections 6, 7, 8, and 9

Table 0-1. Concordance with Environmental Assessment Certificate Conditions 2: Plan Development and 23: Traffic Control Management Plan

EAC Condition	Section
The Holder must provide the TCMP to the BC EAO, BC MoTI, the District of Squamish, and the City of Coquitlam for review a minimum 45 days prior to the planned commencement of construction. The plan, and any amendments thereto, must be implemented throughout construction to the satisfaction of BC EAO.	Section 3

^a "Aboriginal" was used at the time of the EAC. "Indigenous" is now preferred.

Notes:

BC EAO = BC Environmental Assessment Office

BC MoTI = BC Ministry of Transportation and Infrastructure

EGP Project = Eagle Mountain – Woodfibre Gas Pipeline Project

No. = number

- 1 In addition, Squamish Nation (Skwxwú7mesh Úxwumixw) and FortisBC Energy Inc. (FortisBC) entered into
- 2 the Squamish Nation Environmental Assessment Agreement (SNEAA), outlining Squamish Nation
- 3 (Skwxwú7mesh Úxwumixw) environmental conditions of approval for the EGP Project. Subsection 4.5 of
- 4 the SNEAA identifies regulated and non-regulated plans. The TCMP is non-regulated.

- 5 The Squamish Nation (Skwxwú7mesh Úxwumixw) mitigation effectiveness monitoring program is relevant
- 6 to the TCMP, as well as the Access Management Plan, the Construction Environmental Management Plan,
- 7 and the Community Services and Infrastructure Management Plan for the EGP Project.

1 Definitions of Terms

Terms	Definition
Contractor	A Contractor is an entity contracted by FortisBC to construct a portion of the EGP Project.
Contractor TCP	<p>Contractor TCPs are for construction activities that involve work on or near travelled roadways. The Contractor TCP outlines how the safety of workers and the public is maintained and how negative impacts on traffic operations are mitigated. Contractor TCPs are prepared using a combination of text, layouts and, if required, drawings that specifically define which traffic control measures will be provided for each EGP Project work zone, activities, or applicable elements, as well as a description of how they will be implemented and on which schedule.</p> <p>Contractors are responsible for supplying Contractor TCPs, as required, to support the EGP Project permitting requirements and for their own use in obtaining municipal permits. It is expected that Contractors will work with local municipalities and Road Authorities in the development and approval of Contractor TCPs through ongoing Technical Advisory Committees.</p> <p>Contractor TCPs typically include the following elements:</p> <ul style="list-style-type: none"> ▪ Text descriptions of the location of the work zone, proposed work activities, proposed traffic control measures, and the specific times and dates work will be conducted on the highway. ▪ Layouts (schematic diagrams) of the roadway, showing the placement and general arrangement of Traffic Control Devices. The Contractor TMP contains standard layouts. Custom layouts may be required for a construction site if standard layouts are inadequate. Layouts need not be to scale, but should include dimensions. ▪ Customized Drawings (scaled drawings) of the highway in the vicinity of the work zone that identify the arrangement of Traffic Control Devices in accordance with the standards incorporated into the TCMP. Drawings are only required for a Contractor TCP if standard layouts contained in the Contractor TMP are not adequate. Drawings will show painted markings and physical features (including signage, guardrails, and lamp standards) that may affect traffic operations, geometry, and lane configurations, and will include dimensions.
Contractor TMP	<p>The Contractor TMP is the responsibility of the Contractor to complete. It forms the basis of overall traffic management and must meet the minimum specification(s) of the TCMP. It may be required from the Contractor as part of the EGP Project Provincial permitting acquisition process. It is expected to conform to appropriate regulatory requirements including, but not limited to:</p> <ul style="list-style-type: none"> ▪ An overall strategy ▪ A risk assessment of traffic impacts and specific mitigations ▪ Traffic Control Layout Drawing(s) ▪ An Implementation Plan ▪ A Public Information Plan that integrates with the EGP Project ▪ An Incident Response Plan or an Incident Management Plan <p>The Contractor TMP serves as a method for coordinating work planning and reducing traffic effects between work zones.</p> <p>The Contractor may require more than one traffic plan as it pertains to required submittals to regulatory agencies for the purposes of planning and/or permitting, but in all cases, the Contractor TMPs must align to reduce impact to Public Roadways.</p>
Indigenous nations	Indigenous nations referenced in the TCMP are Squamish Nation (Skwxwú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation.

Terms	Definition
Public Roadway	<p>A Public Roadway is a public street, road, trail, lane, bridge, trestle, tunnel, ferry landing, ferry approach, any other public way, or any other land (Temixw) or improvement that becomes or has become a highway by any of the following:</p> <ul style="list-style-type: none"> a) Deposit of a subdivision, reference, or explanatory plan in a land title office under Section 107 of the <i>Land Title Act</i> b) A public expenditure to which Section 42 applies c) A common law dedication made by the government or any other person d) Declaration, by notice in the <i>Canada Gazette</i>, made before December 24, 1987 e) In the case of a road, colouring, outlining, or designating the road on a record in such a way that Section 13 or 57 of the <i>Land Act</i> applies to that road f) An order under Section 56 (2) of this act g) Any other prescribed means
Resource Road	<p>Resource Roads are typically one- or two-lane gravel roads built for industrial purposes to access natural resources in remote areas. Resource Roads are constructed to develop, protect, and access BC's natural resources. They are used primarily by industrial vehicles engaged in forestry, mining, oil and gas, or agriculture operations. In addition to resource industries, Resource Roads (including Forest Service Roads) are used by the general public and commercial operators (such as, ski hills or fishing lodges). They serve as crucial links for rural communities and access to recreational opportunities.</p>
Road Authority	<p>A Road Authority is the body responsible for the care, control, and management of roads within a given jurisdiction.</p>
Stakeholders	<p>Stakeholders are persons or organizations effected by or with interests in EGP Project activities, including, but not limited to, the public, local government, Road Authorities, applicable regulatory agencies, local service providers, community service organizations, and business organizations.</p>
TCMP	<p>The TCMP is the responsibility of FortisBC to complete. It forms the basis of overall traffic management planning and must meet the minimum specifications listed in the Table of Concordance (Table 0-1). It will serve as a framework for Contractor TMPs and outlines the specifications required throughout the Contractor's entire work scope.</p>
Temporary infrastructure sites	<p>Temporary infrastructure sites include TWAs, offices, and parking for EGP Project personnel and EGP Project material storage sites.</p>
Traffic Control Device	<p>A Traffic Control Device is a sign, signal, pavement marking, or other device that is placed upon, over, or adjacent to a road by a public authority or official having jurisdiction; the device is intended to guide the road user.</p>
Traffic Control Layout Drawing	<p>Traffic Control Layout Drawings are scaled drawings of the highway in the vicinity of the work zone that identify the arrangement of Traffic Control Devices in accordance with the standards incorporated into the TCMP.</p>
TWA	<p>A TWA is a temporary construction camp, as described in the approved Certified Project Description.</p>

Notes:

Contractor TCP = Contractor Traffic Control Plan

Contractor TMP = Contractor Traffic Management Plan

TWA = temporary workforce accommodation

1 Squamish Nation Language Terms

English	Squamish Nation Language
<i>General Terms</i>	
Squamish Nation	S̓k̓w̓x̓w̓ú7mesh Úxwumixw
Squamish language	S̓k̓w̓x̓w̓ú7mesh Sníchim
Monitoring	Ínexwantas
Land, earth, dirt	Temixw
Water, river	Stak̓w
Wildlife	Sekw'ekw'inexw
<i>Locations</i>	
Darrell Bay	Kwtsá7tsutsin
Squamish	S̓k̓w̓x̓w̓ú7mesh

Note: This list only contains the terms that are used in the TCMP.

2

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1 Acronyms and Abbreviations

2	AMP	Access Management Plan
3	BC	British Columbia
4	BC EAO	British Columbia Environmental Assessment Office
5	BC MOF	British Columbia Ministry of Forests
6	BC MoTI	British Columbia Ministry of Transportation and Infrastructure
7	TMM	<i>Traffic Management Manual for Work on Roadways</i>
8	CEMP	Construction Environmental Management Plan
9	Contractor TMP	Contractor Traffic Management Plan
10	Contractor TCP	Contractor Traffic Control Plan
11	CSIMP	Community Services and Infrastructure Management Plan
12	EAC	Environmental Assessment Certificate
13	EGP Project	Eagle Mountain – Woodfibre Gas Pipeline Project
14	FortisBC	FortisBC Energy Inc.
15	FSR	Forest Service Road
16	IMP	Incident Management Plan
17	km/hr	kilometre(s) per hour
18	KP	Kilometre Post
19	LoS	Level of Service
20	PIP	Public Information Plan
21	Q	quarter
22	QC	quality control
23	RCMP	Royal Canadian Mounted Police
24	SNEAA	Squamish Nation Environmental Assessment Agreement
25	TCMP	Traffic Control Management Plan
26	TMS	Traffic Management Strategy
27	TWA	temporary workforce accommodation
28	WLNG	Woodfibre LNG Limited

1. Introduction

On August 9, 2016, FortisBC Energy Inc. (FortisBC) received Environmental Assessment Certificate (EAC) Number (No.) E16-01 from the British Columbia (BC) Environmental Assessment Office (EAO) for the Eagle Mountain – Woodfibre Gas Pipeline Project (EGP Project). The EAC granted for the EGP Project is subject to 30 Conditions. The Traffic Control Management Plan (TCMP) has been developed to meet the requirements of the BC EAO for EAC Condition No. 2 (Plan Development) and EAC Condition No. 23 (TCMP).

In addition to the EAC, Squamish Nation (Sḵw̱x̱wú7mesh Úxwumixw) conducted an independent Environmental Assessment, establishing the Squamish Nation Environmental Assessment (SNEAA) agreement between FortisBC and Squamish Nation (Sḵw̱x̱wú7mesh Úxwumixw). The SNEAA provides Squamish Nation (Sḵw̱x̱wú7mesh Úxwumixw) Conditions applicable to FortisBC and describes the process by which the Squamish Nation (Sḵw̱x̱wú7mesh Úxwumixw) Conditions will be satisfied.

The TCMP outlines strategies and Contractor requirements to mitigate the impacts on transportation systems during construction of the EGP Project. The TCMP should be read in conjunction with the Construction Environmental Management Plan (CEMP) and applicable regulatory approvals and permits.

The FortisBC-Squamish Nation Environmental Working Group, which operates under the terms of the SNEAA and comprises Sḵw̱x̱wú7mesh Úxwumixw and FortisBC representatives, provided the Squamish Nation language (Sḵw̱x̱wú7mesh Sníchim) place names and wildlife (Sekw'ekw'inexw) species names to be included in the Condition Management Plans. Squamish Nation (Sḵw̱x̱wú7mesh Úxwumixw) terms appear, when available in parenthesis, following the English name throughout the body text of the TCMP.

Downriver Halkomelem language (Key hən'qəminəm) terms exist, but have not been provided by Tsleil-Waututh Nation and therefore have not been included in the TCMP.

For more information on the EGP Project, refer to the EGP Project summary provided in Section 1 of the CEMP.

2. Traffic Control Management Plan Overview

The purpose of the TCMP is to meet the requirements of the BC EAO for EAC Condition Nos. 2 and 23. The TCMP was developed according to EAC Condition No. 23 requirements using the following guideline:

- BC Ministry of Transportation and Infrastructure (MoTI) *Traffic Management Manual for Work on Roadways* (TMM) (BC MoTI 2020)

The TMM (BC MoTI 2020) is used in municipalities and for BC MoTI roads.

The scope of the TCMP includes the following sections:

- Section 3, Consultation and Engagement:** Provides a summary of parties consulted for development of the TCMP.
- Section 4, Traffic Management Strategy (TMS):** Provides a strategic level of transportation management to be applied throughout the EGP Project.
- Section 5, Requirements for Contractor Traffic Management Plans (Contractor TMPs):** Identifies the components of Contractor TMPs for their respective activities.
- Section 6, Access Management - Urban:** Provides a framework for the strategy to conduct access management to and from the construction work zones during the construction activities. This section focuses on the roadways under the jurisdiction of BC MoTI, the District of Squamish, and the City of Coquitlam. For Resource Road access management, please refer to the FortisBC Access Management Plan (AMP).
- Section 7, Requirements for Public Information Plan (PIP):** Provides a high-level overview of communication protocols and the interaction between the public, FortisBC, and the Contractor.
- Section 8, Requirements for Incident Management Plan (IMP):** Identifies a general set of incident management protocols, which must be met so that emergency services are aware of effects of the EGP Project on Public Roadways and to otherwise allow emergency service vehicles to and through construction areas.
- Section 9, Requirements for Implementation Plan:** Identifies the roles and responsibilities of the various traffic management team members and the interaction between FortisBC and the Contractor.
- Section 10, Requirements for Contractor Traffic Control Plans (Contractor TCPs):** Outlines the requirements for Contractor TCPs.
- Section 11, Quality Management, Monitoring, and Adaptive Management:** Provides a framework for FortisBC to perform effective monitoring (Ínexwantas) over the Contractor TMP and Contractor TCP implementation, maintenance, and monitoring (Ínexwantas) during construction periods.
- Section 12, Condition Reporting Requirements:** Provides a plan for FortisBC to report on the status of EAC compliance to the appropriate Road Authority and regulatory agencies, as specified in the TCMP.
- Section 13, Professional Authentication:** Provides the name and professional certification for those responsible for the preparation of the TCMP.
- Section 14, References:** Provides documents used for reference in the TCMP.

2.1 Purpose and Objectives

This document specifies which common aspects of traffic management the EGP Project will meet as a minimum, irrespective of provincial, regional, or municipal jurisdiction. The TCMP includes an overview of the public information and communication planning, incident management protocols, roles of traffic management team members, and other aspects of traffic control (for example, accommodation of different traffic modes, pedestrians, cyclists, and transit) that must be considered for the development of Contractor TMPs. The Contractor TMP and site-specific Contractor TCPs will comply with the TCMP.

The four key objectives of the TCMP include:

- 1) To develop a TCMP that addresses traffic management in a consistent manner to mitigate traffic management risks and meet the requirements of EAC Condition Nos. 2 and 23 with respect to the planning of traffic management for the EGP Project, specifically as it relates to the development process for Contractor TCPs.
- 2) To define the methods for communicating information to Indigenous nations Squamish Nation (Skwxwú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation), Municipalities (the City of Coquitlam, the District of Squamish, and the Squamish-Lillooet Regional District Jurisdiction), residents and landowners, business owners, and regulatory agencies, as related to traffic management.
- 3) To act as a guiding traffic plan for the EGP Project for Provincial and local traffic management regulators, including BC MoTI, the District of Squamish, and the City of Coquitlam, whereby the Contractor will supply a person or persons to provide oversight of EGP Project traffic impacts on BC MoTI, the BC Ministry of Forests (MOF), District of Squamish, and City of Coquitlam roads. It is the responsibility of the Contractor to supply an Engineer of Record for the development of the Contractor TCPs, as required.
- 4) To provide the requirements that EGP Project Contractors must follow on the EGP Project as they relate to the development of Contractor TMPs.

The Table of Concordance (Table 0-1) at the beginning of the TCMP outlines the specific requirements for EAC Condition Nos. 2 and 23 of the EAC.

2.2 Linkages to Other Condition Management Plans

Table 2-1 provides information on other Condition Management Plans prepared for the EGP Project that have been considered in the TCMP.

Table 2-1. Linkages to Other Condition Management Plans

Plan	Linkages to the TCMP
CEMP (EAC Condition No. 9)	The CEMP provides the roles of key individuals with environmental responsibilities. The CEMP also provides instructions for incident responses related to environmental issues that may impact traffic management.
AMP (EAC Condition No. 12)	The AMP is for FSRs, existing public roads, and other industrial roads (such as, non-status or private roads) and is complementary to the TCMP. The AMP sets out measures to safely manage access issues that are anticipated as a result of construction of the EGP Project on Resource Roads and will consider EGP Project phases including pre-construction, construction, and clean-up activities.

Table 2-1. Linkages to Other Condition Management Plans

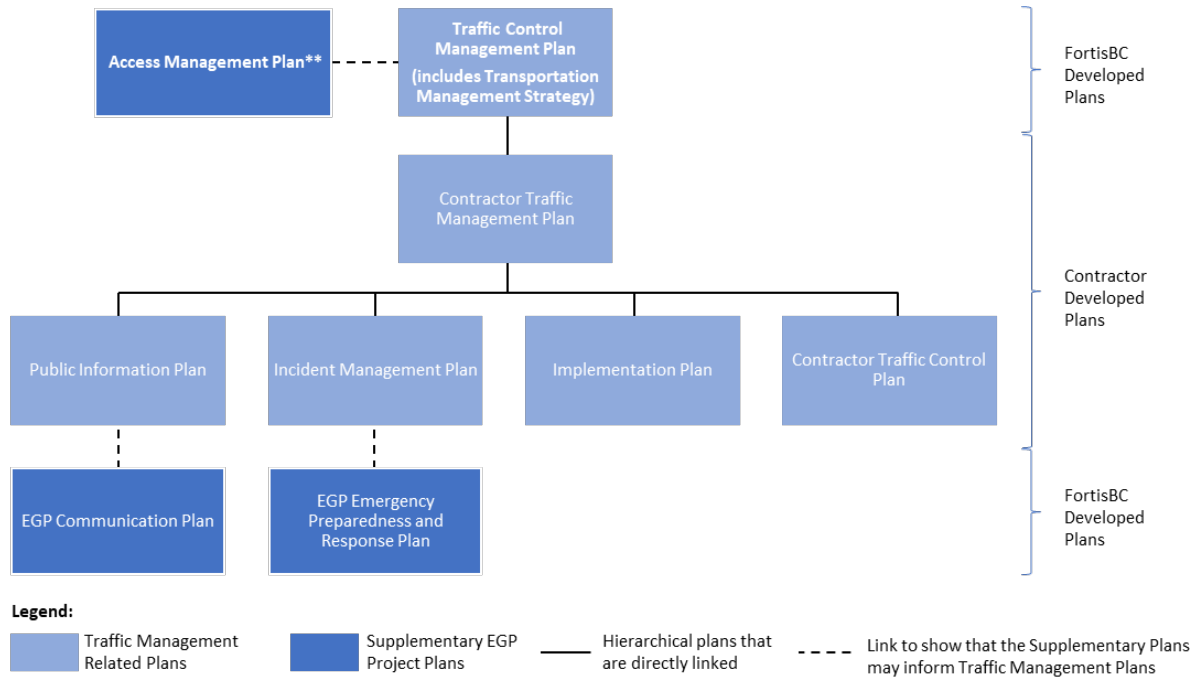
Plan	Linkages to the TCMP
CSIMP (EAC Condition No. 22)	The CSIMP contains measures for mitigating EGP Project-related impacts to community services and infrastructure, as well as for communicating with potentially affected Indigenous nations and stakeholders.

Notes:

CSIMP = Community Services and Infrastructure Management Plan

FSR = Forest Service Road

- 1 Figure 2-1 provides an overview of transportation-related plans and linkages to other Condition
- 2 Management Plans.



3

4 **Figure 2-1. EGP Project Plans Related to Traffic Control Management**

5 **** The AMP is a separate document that outlines Resource Road access management.**

6 **2.3 Roles and Responsibilities**

7 This subsection outlines the roles and responsibilities for implementing the TCMP. The CEMP contains the
 8 details of the roles and responsibilities for the overall environmental management of the EGP Project. In
 9 addition to the roles and responsibilities included in the CEMP, the TCMP requires additional roles and
 10 responsibilities (Table 2-2).

11 Position titles may vary or change, but they will align with the role and responsibility described and
 12 intended. Section 9 further discusses roles and responsibilities for the implementation of traffic control.

Table 2-2. Roles and Responsibilities Matrix for Traffic Control Management Plan

FortisBC Eagle Mountain - Woodfibre Gas Pipeline Project

TASKS	ROLES							CONTRACTOR				INDIGENOUS
	Project Director	Project Manager	Construction Manager	Permitting and Compliance Manager	Regulatory Compliance Lead	Qualified Professional	Project Manager	Traffic Control Manager	Construction Superintendent	Traffic Engineer	Indigenous Nation Representative	
CONSTRUCTION												
Implement site-specific mitigation measures		C	S	I		C	A	R	S	C	I	
Implement the Contractor TMP		I	C				A	R	S	C	I	
Mitigation compliance monitoring		A	R	S	S	C	A	D	R	C	I	
REPORTING												
Submit the TCMP to the BC EAO at least 45 days prior to construction	I	I		I	R		I	I			I	
Report on the status of compliance with the EAC 30 days prior to the start of construction	I	I		A	R			I			I	
RECORDS MANAGEMENT												
Documentation of consultation, engagement, and communication records	I	A		I	R		A	S	D	I	I	
Completion of traffic control records		A	I	I			A	D	R	I	S	
Permits and contracts/Road Authority approvals		A	I	I			A	D	R	I		
LEGEND												
A Accountable	Has final decision-making authority and accountability											
D Directs	Directs work											
R Responsible	Assigned to complete the tasks											
S Support	Provides support during implementation											
C Consulted	Consulted and provides input before a decision or action is made or completed											
I Informed	Must be informed after a decision or action is made or completed											

1 2.4 Implementation Schedule

2 The TCMP must be submitted to the BC EAO at least 45 days before the commencement of construction.
 3 The TCMP will be implemented throughout construction to the satisfaction of the BC EAO in addition to
 4 the governing Road Authorities and regulators mentioned in the TCMP. Table 2-3 provides a current
 5 preliminary schedule for implementation of the TCMP through the EGP Project phases.

Table 2-3. Traffic Control Management Plan Implementation through the Project Phases

Project Phase	Timeline
Planning	Present to Q4 2023
Pipeline construction	Q2 2023 to Q1 2026
Permanent facilities construction	Q4 2023 to Q1 2026
Temporary facilities construction	Q1 2023 to Q3 2026
Access road construction	Q1 2023 to Q4 2023
Tunnel construction	Q1 2023 to Q4 2025

Notes: References to “pre-construction” may refer to the “planning” phase or the timeframe of “prior to construction” or prior to various construction activities in a given area.

Q = quarter

6 2.5 Future Updates to the Traffic Control Management Plan

7 FortisBC will consult with the BC EAO to establish if required updates to the TCMP are considered material
 8 revisions. As determined by BC EAO, FortisBC will notify regulatory agencies, Squamish Nation
 9 (Sḵw̱w̱ú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation
 10 and provide opportunities to review material revisions.

11 The consultation and engagement period will depend on the nature of the revision, the relative interests of
 12 applicable regulatory agencies, and the Aboriginal Rights and Indigenous interests of potentially affected
 13 Indigenous nations, as determined by BC EAO. Squamish Nation (Sḵw̱w̱ú7mesh Úxwumixw) will be given
 14 the opportunity to review and approve material revisions in accordance with the SNEAA.

15 The Document History and Status table, included at the beginning of the TCMP, will be updated in
 16 accordance with any future updates and will list the document version, date, and distribution.

17 2.6 Collaboration with Woodfibre LNG Limited Project

18 The EGP Project will transport natural gas to the planned Woodfibre LNG Limited (WLNG) Project. The
 19 Woodfibre LNG Project will be constructed by WLNG and their Contractors. As part of the Woodfibre LNG
 20 Project, WLNG will develop its own TCMP, as required by the conditions in WLNG EAC No. 15-02.

21 FortisBC acknowledges that Indigenous nations, stakeholders, and local governments have a particular
 22 interest in considering the combined effects from both the EGP Project and the Woodfibre LNG Project on
 23 transportation, specifically during construction. FortisBC and WLNG are responsible for mitigating the
 24 transportation effects related to their respective projects. FortisBC has considered the combined effect on

Traffic Control Management Plan

- 1 transportation of both the WLNG Project and the EGP Project in developing its mitigation measures in this
- 2 plan and will continue collaboration with WLNG during construction.

3. Consultation and Engagement

The TCMP was developed through consultation with BC MoTI, the City of Coquitlam, the Squamish-Lillooet Regional District, the District of Squamish, Metro Vancouver, Squamish Nation (Sk̓w̓x̓w̓ú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, Kwikwetlem First Nation, and forest tenure holders. The TCMP will be provided to those groups at least 45 days prior to the planned commencement of construction.

Table 3-1 provides information on the TCMP engagement schedule for review of the Detailed Plan Outline, the 100% Draft Plan, Rev. 0, and Rev. 1. FortisBC prepared comment tracking tables that document comments received on the TCMP and FortisBC responses to each comment. The final TCMP incorporates the feedback received from reviewers.

Table 3-1. Consultation and Engagement Schedule

Draft Plan	Reviewer	Date
Detailed Plan Outline	Squamish Nation (Sk̓w̓x̓w̓ú7mesh Úxwumixw)	July 5, 2021
	Tsleil-Waututh Nation	July 5, 2021
	City of Coquitlam	August 6, 2021
	Squamish-Lillooet Regional District	August 17, 2021
	District of Squamish	August 26, 2021
	Metro Vancouver	September 7, 2021
100% Draft	Squamish Nation (Sk̓w̓x̓w̓ú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation	February 3, 2022
	Squamish-Lillooet Regional District, District of Squamish, Metro Vancouver, and City of Coquitlam	February 7–8, 2022
	BC MoTI	February 8, 2022
	Inlailawatash, Allen Woods, BC Timber Sales, Sqomish Forestry, and Chilliwack Forest District	February 8, 2022
Final (Rev. 0)	Squamish Nation (Sk̓w̓x̓w̓ú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation	May 16–17, 2022
	Squamish-Lillooet Regional District, District of Squamish, Metro Vancouver, and City of Coquitlam	May 16, 2022
	BC MoTI	May 16, 2022
	Inlailawatash, Allen Woods, BC Timber Sales, Sqomish Forestry, and Chilliwack Forest District	May 16, 2022

Records of consultation will be maintained and provided to the BC EAO and the consulted party, as warranted, in accordance with EAC Condition No. 3. Indigenous Consultation records will be managed in accordance with EAC Condition No. 24.

4. Traffic Management Strategy

The TMS provides approaches based on existing information, the anticipated construction activities and schedules, and the requirements from regulatory agencies and Road Authorities. The TMS discusses each Contractor's affected roadways and neighbourhoods, and the traffic impacts as a result of construction activities. It also provides recommended mitigations to the impacts and strategies that the Contractor will meaningfully implement to maintain a safe environment for traffic streams (such as, motorists, cyclists, pedestrians, and construction staff). Appendix E includes the mitigation measures for traffic and access restrictions.

The TMS sets the basis for requirements for the Contractor TMPs. The TMS delivers a framework at a strategic level, providing general requirements and addressing identified challenges.

FortisBC has identified construction areas that will use the Public Roadway network to provide access for construction vehicles. The use of these vehicles will require traffic management planning. The level of disruption is dependent on the existing road use, as well as the projected construction activities and timelines or schedules. The Traffic Management Category, which can be Category 1 to 3, is determined through a structured process outlined in the TMM (BC MoTI 2020):

- 1) Initial Category Assessment: Assess the roadway and traffic features.
- 2) Risk Analysis: Identify the project-specific risks.
- 3) Final Category Determination: Combine the initial project assessment with the risk analysis to determine the final Project Category.

The Category for the EGP Project (that is, for roads directly affected by EGP Project construction) was assessed at a high level, based on where the key EGP Project components are located. Based on this high-level assessment, the Category for the EGP Project is Category 2; however, this will have to be verified in the Contractor TMP, based on the final Contractor operations.

Appendix A includes detailed requirements for a Traffic Management Category 2 Project, as outlined in the TMM (BC MoTI 2020).

The Contractor will prepare and submit their Contractor TMP packages to the Road Authority for review and acceptance, which will include the following four components, namely: (1) the PIP; (2) the IMP; (3) the Implementation Plan; and (4) the Contractor TCP.

The Contractor TMPs are reviewed and approved by the Road Authority after confirming that the relevant regulations have been met. The TCMP provides strategies for developing effective Contractor TMPs. Contractors will prepare the Contractor TMP components in accordance with the TMM (BC MoTI 2020) and requirements, as included in Appendix A.

The seven key objectives of Contractor TMPs for the EGP Project are as follows:

- 1) Maintain the safety of the public, workers, and equipment while using Public Roadways.
- 2) Reduce disruptions and delays to the travelling public.
- 3) Maintain safe access to active transportation facilities (if impacted by the construction activities), including sidewalks, crosswalks, cycling lanes, and transit stops.
- 4) Provide residential accesses, parking areas, and pedestrian routes with a safe environment for vulnerable users (for example, pedestrians, children attending school, and cyclists).

- 1 5) Maintain emergency vehicle access, as required by regulatory agencies.
- 2 6) Maintain civil services, including waste collection and mail delivery, where needed.
- 3 7) Maintain access to businesses.
- 4 These key objectives pertain to potential impacts of the EGP Project. The Contractor TMPs will not address
- 5 how other external factors, not related to the EGP Project, may affect these services.
- 6 Drawings issued for construction or Contractor construction execution plans will provide the construction
- 7 activities within each work zone, dictating what level of traffic management will be required. This
- 8 subsection reviews the general construction requirements of the EGP Project.

9 **4.1 Work Area Determination**

10 The EGP Project has five primary construction areas (listed herein). Each construction area has individual
11 challenges that will be identified and addressed by the Contractor. These locations are primarily for
12 access. Currently, the only planned construction area is Highway 99 at Finch Drive.

- 13 1) **Highway 99 and Darrell Bay Road:** Highway 99 is a high-volume freeway, with pedestrians and cyclists.
14 This route has a high profile and additional traffic on this route will warrant additional considerations.
15 The Road Authority for Highway 99 is BC MoTI. Darrell Bay Road is used to access the Darrell Bay Ferry
16 Terminal, and the Road Authority is the District of Squamish. Permitting for the work within these work
17 areas will require Road Authority approval before any construction work begins. Early engagement will
18 be critical to align the Road Authority with the Contractor's final plans.
- 19 2) **District of Squamish:** The District of Squamish is an urban centre with vehicle, cyclist, and pedestrian
20 traffic. Challenges include increased traffic on local roads, disruption to citizens' daily activities and
21 businesses, and safety of pedestrian, cyclists, and vehicular traffic. The Road Authority for this work
22 area is the District of Squamish.
- 23 3) **Resource Roads (such as, FSRs) (refer to the AMP):** A Resource Road's primary focus is to
24 accommodate logging operations and occasional recreational traffic. These roadways do not have
25 significant pedestrians or cyclist traffic and they do not have access to private residences. Users of
26 these roadways are typically professional drivers or recreational traffic and minimal disruption to
27 logging operations should be maintained. The Road Authority for Resource Roads is BC MOF and
28 permitting within this work area will require their approval.
- 29 4) **City of Coquitlam:** The routes to the Eagle Mountain Compressor Station, Electrical Substation, and
30 Coquitlam Twinning are owned and maintained by the City of Coquitlam and will have unique
31 specifications and engagement. The Road Authority for this work area is the City of Coquitlam and
32 permitting within this work area will require their approval.
- 33 5) **Squamish-Lillooet Regional District Jurisdiction:** The construction-related use of roadways is largely
34 outside of the jurisdiction of the Squamish-Lillooet Regional District. However, the Squamish-Lillooet
35 Regional District Communications Department should be made aware of relevant closures that may
36 affect the Squamish-Lillooet Regional District and the District of Squamish. Highway 99 will not be
37 closed during construction and alternate routes and access on other roads will be part of the Contractor
38 TMPs.

1 4.2 Potential Construction Impacts (Traffic Reroutes and Delays)

2 This subsection discusses the potential impacts of construction-related activities on adjacent roadways.
3 The sequential construction activities adjacent to public infrastructure, including municipal roadways and
4 provincial highways, will be planned with an objective to avoid adverse effects on the traffic flows and
5 safety. In general, the construction activities involve the following conditions:

- 6 ▪ **Adjacent construction activities:** Most of the construction activities carried out in the vicinity of public
7 routes are likely to have a minimum effect on the travelled lane utilization. For these activities, the
8 associated work will be planned and implemented with a sufficient clearance distance, as set by
9 applicable guidelines. This may include lane offsets with reduced widths and speed zones, but are
10 otherwise expected to have a minimal effect on the travelling public.
- 11 ▪ **Partial lane closure:** Construction activities along travelled lanes may involve partial lane closures,
12 which may create potential traffic delays. To reduce disruptions, the Contractor TMPs will include
13 practical solutions to mitigate capacity reduction that will be reflected in appropriate Contractor TCPs.
14 The Contractor TMP will also show alternative routes for emergencies or for general traffic calming.
15 Alternative routes will be communicated to the public in advance. Activities that may require partial
16 closures are typically carried out along sections of the roadway, with work zones that do not have
17 sufficient clearance distances. The partial closures will consequently create sufficient clearance
18 distances for the duration of the activities.
- 19 ▪ **Full lane closure:** Intermittently, the construction activity may involve a full lane closure. Full lane
20 closures will be conducted in accordance with detailed Contractor TMPs that display alternative routes
21 to maintain accesses during the closure. After being approved by the Road Authorities, the full
22 closures and associated alternate routes or detours will be effectively communicated to the public.
23 This will be strategized by the PIP component of the Contractor TMP. Activities that may require full
24 lane closures typically involve open-cut road crossings on lower impact roads. Construction activities
25 will be planned to reduce the full closure duration. Full lane closures will be advertised in advance to
26 allow travellers to plan usage of alternate routes.
- 27 ▪ **Access off public roads:** Construction activity will require access off public roads. This may be to
28 access areas such as work areas, stockpiles, or the temporary workforce accommodation (TWA) lodge.
29 It is the responsibility of the Contractor to develop TWA traffic management plans and obtain relevant
30 approvals from the Road Authorities. In these locations, the Contractor TMP will identify the areas and
31 type of traffic management for consideration. This may include signage, Traffic Control Personnel, or
32 other devices. The Contractor TMP must also consider the impact to traffic that increased construction
33 traffic or new accesses off public roads may cause. The Contractor must demonstrate that construction
34 traffic will not cause significant impacts to existing traffic volumes, which may include the need for
35 traffic analysis.

36 The following steps are required to be taken by the Contractors for each work zone area for activities that
37 require full or partial lane closures. Figure 4-1 provides information on the work zone areas described in
38 the following subsections.

39 4.2.1 District of Squamish

40 The primary work zone areas for the District of Squamish include:

- 41 ▪ Finch Drive
- 42 ▪ Logger's Lane
- 43 ▪ Industrial Way

Traffic Control Management Plan

- 1 ▪ Queens Way

2 The following steps are required by the Contractor for the District of Squamish work zone areas:

- 3 ▪ Review the construction activity, its planned work zone areas, and required clearance spaces based on
4 which potential lane closures are designed.
- 5 ▪ Identify the potential disruptions on the public traffic flows, as required by the responsible Road
6 Authority. This includes pedestrian and cyclist traffic.
- 7 ▪ Implement the Contractor TCP for local roads within the District of Squamish for adjacent construction
8 activities, partial lane closure, or full lane closure, as it pertains to the construction activities.
- 9 ▪ Ensure that roadway use application submissions are in place prior to conducting the work, including
10 (and as may be required) appropriate communication or consultation being conducted with regulatory
11 agencies.
- 12 ▪ If required, produce detour layout plans to be submitted to the District of Squamish 45 days prior to
13 the beginning of construction.

14 **4.2.2 Resource Roads**

15 The following are work zone areas for Resource Roads:

- 16 ▪ Between Kilometre Post (KP) 0 (Universal Transverse Mercator 10N 512994E, 5485226N), at the
17 eastern end of the Hixon FSR, and KP 36.8, where the EGP Project meets Finch Road in Squamish
18 (Skw̓wú7mesh), BC
- 19 ▪ A new access road to the Coquitlam component (Coquitlam Twinning and Eagle Mountain Compressor
20 Station) of the EGP Project

21 The following steps are required by the Contractor for the Resource Roads work zone areas:

- 22 ▪ Review the construction activity, its planned work zone, and required clearance spaces based on which
23 potential lane closures are required.
- 24 ▪ Confirm that roadway use approvals are in place prior to conducting the work, including (and as may
25 be required) appropriate communication or consultation being conducted with regulatory agencies.
- 26 ▪ Implement the Contractor TCP for full lane closure, partial lane closure, or adjacent work to a
27 Resource Road for the duration of the construction activities.
- 28 ▪ Continue communications with BC MOF and licensees.

29 The AMP provides further details on Resource Roads, as well as a key map of the Resources Roads within
30 the EGP Project area.

31 **4.2.3 Highway 99**

32 The following are the primary work areas for Highway 99:

- 33 ▪ Industrial Way
34 ▪ Darrell Bay (Kwtsá7tsutsin)

1 The following steps required by the Contractor for the Highway 99 work zone areas:

- 2 ▪ Review the construction activity, planned work zone, and required clearance spaces based on which
3 potential lane closures are required.
- 4 – Implement the Contractor TCP for Highway 99 for adjacent construction activities, partial lane
5 closure, or full lane closure as it pertains to construction activities.
- 6 – Implement the site-specific Contractor TCP for the specific intersections identified in Table A-1 in
7 Appendix A.
- 8 ▪ Confirm that appropriate roadway use approvals are in place prior to conducting the work, including
9 (and as may be required) appropriate communication or consultation being conducted with regulatory
10 agencies.

11 **4.2.4 City of Coquitlam**

12 The following are work areas for the City of Coquitlam:

- 13 ▪ Eagle Mountain Compressor Station
14 ▪ Electrical Substation
15 ▪ Coquitlam Twinning

16 The following steps are required by the Contractor for the City of Coquitlam work zone areas:

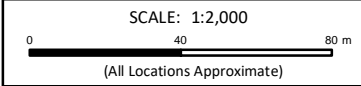
- 17 ▪ Review the construction activity, planned work zone, and required clearance spaces based on which
18 potential lane closures are required.
- 19 ▪ Implement the Contractor TCP for adjacent construction activities, partial lane closure, or full lane
20 closure as it pertains to construction activities.
- 21 ▪ Confirm that roadway use approvals are in place prior to conducting the work. including (and as may
22 be required) appropriate communication or consultation being conducted with regulatory agencies.

23 **4.2.5 Squamish-Lillooet Regional District Jurisdiction**

24 Construction-related road use is largely outside of the jurisdiction of the Squamish-Lillooet Regional
25 District; however, Squamish-Lillooet Regional District residents will be affected by the work. The
26 Squamish-Lillooet Regional District Communications Department will be made aware of relevant closures
27 that may affect Squamish-Lillooet Regional District residents (that is, Highway 99) such that these
28 closures can be communicated to residents through Squamish-Lillooet Regional District communication
29 channels.



- Highway
- Road
- Railway
- Watercourse
- Municipality
- Parks & Protected Area

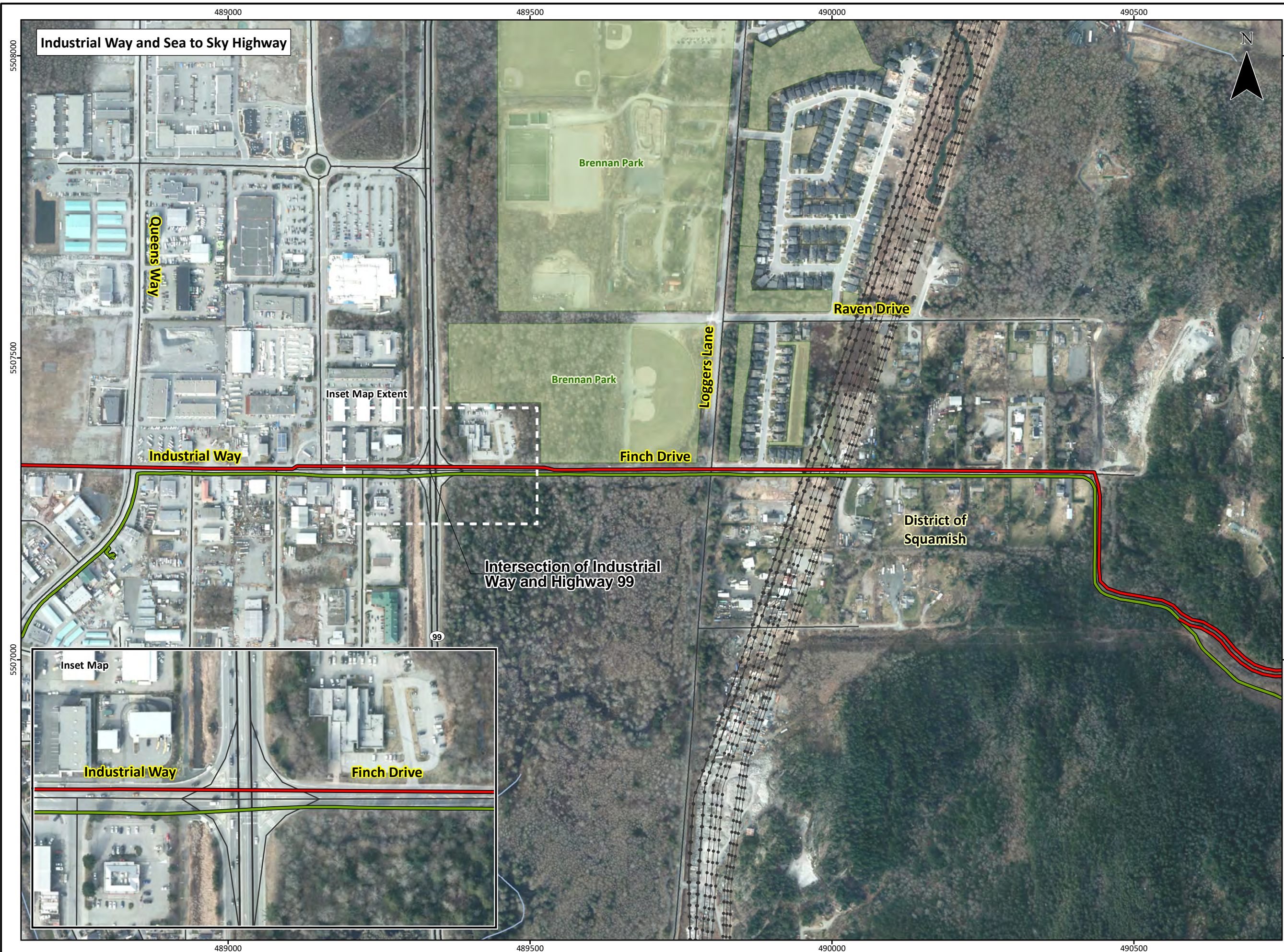


UTM Zone 10 North, NAD 1983.
 Proposed NPS 24 Pipeline, KP: Universal Pegasus International (UPI) 10-20-2021 (Route 1025/4003); Tunnel Easement/Corridor: Jacobs 2020; 08-14-2015; Compressor Station, Fortis 2015-01-11; Existing Pipeline: FortisBC 2012; Existing Electrical Transmission Line: ICIS, 2014; Municipal and Regional District Boundaries: BC Ministry of Municipal Affairs and Housing, 2018; Park and Protected Areas: BC FLNRO, 2008; District of Squamish, City of Coquitlam; Coquitlam Conservation Reserve; Metro Vancouver (07/02/2017); Morgan Stewart and Company, 1995 provided by Fortis BC 2019; Hydrography: BC FLNRO 2008; Recreation Trails and Polygons: Open Government License - British Columbia
 2008-02-15; Municipal Trail: City of Coquitlam; Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

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

Mapped By: KA Checked By: DJN





- Proposed NPS 24 FortisBC Pipeline Route
- Existing FortisBC Pipeline
- Highway
- Road
- Existing Transmission Line
- Watercourse
- Municipality
- Parks & Protected Area

SCALE: 1:6,000
0 120 240 m
(All Locations Approximate)



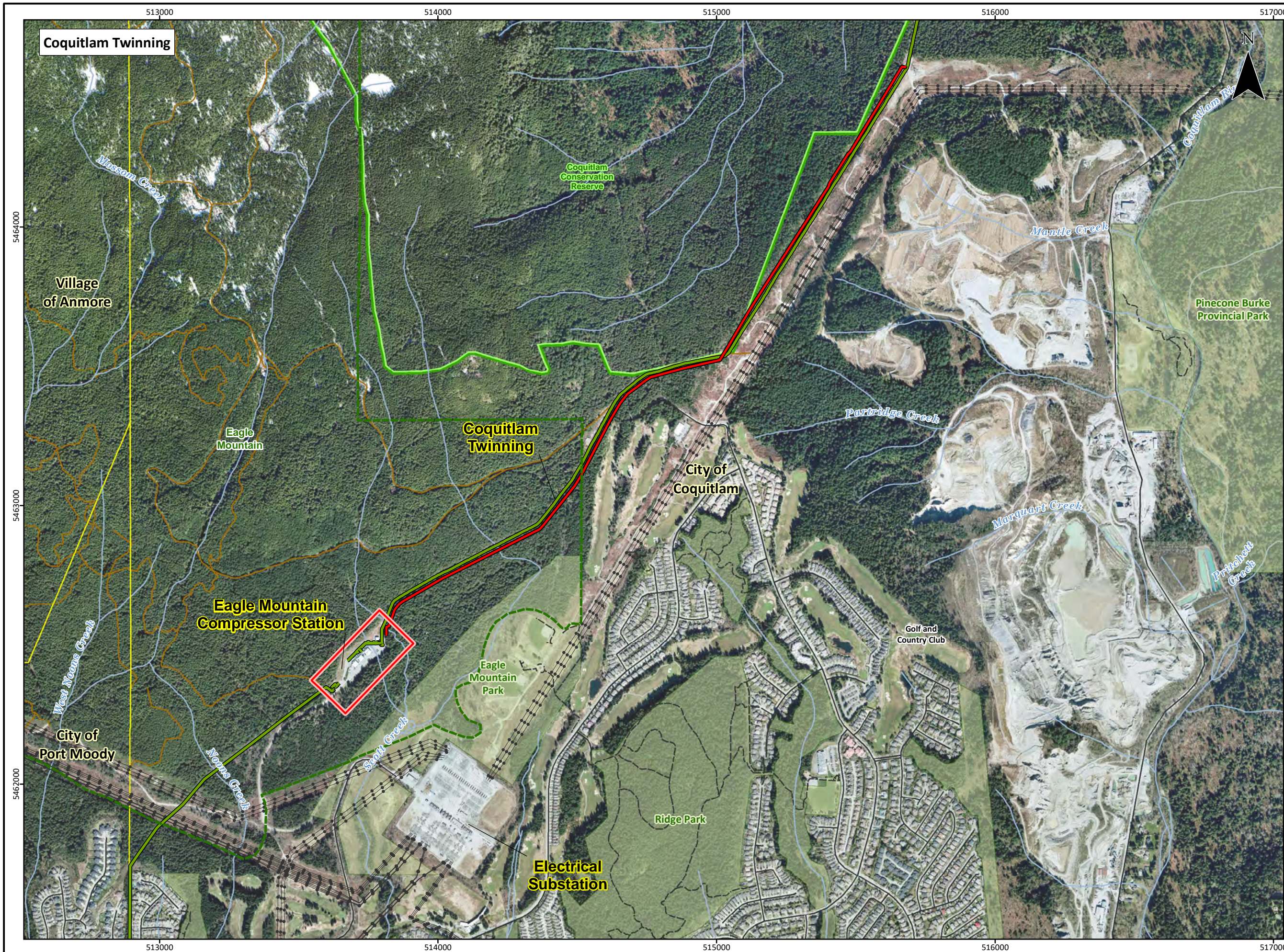
JACOBS Project Number CE833400

UTM Zone 10 North, NAD 1983.
Proposed NPS 24 Pipeline, KP: Universal Pegasus International (UPI) 10-20-2021 (Route 1025/4003); Tunnel Easement/Corridor: Jacobs 2020; 08-14-2015; Compressor Station, Fortis 2015-01-11; Existing Pipeline: FortisBC 2012; Existing Electrical Transmission Line: ICIS, 2014; Municipal and Regional District Boundaries: BC Ministry of Municipal Affairs and Housing, 2018; Park and Protected Areas: BC FLNRO, 2008, District of Squamish, City of Coquitlam; Coquitlam Conservation Reserve; Metro Vancouver (07/02/2017); Morgan Stewart and Company, 1995 provided by Fortis BC 2019; Hydrography: BC MFLNRO 2008; Recreation Trails and Polygons: Open Government License - British Columbia
2008-02-15; Municipal Trail: City of Coquitlam; Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

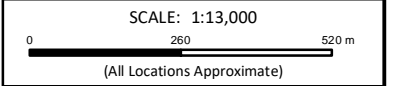
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- Proposed NPS 24 FortisBC Pipeline Route
- Eagle Mountain Compressor Station
- Existing FortisBC Pipeline
- Road
- Existing Transmission Line
- Watercourse
- Recreation Trail
- - - Municipal Trail
- Recreation Site
- Municipality
- Parks & Protected Area
- Coquitlam Conservation Reserve

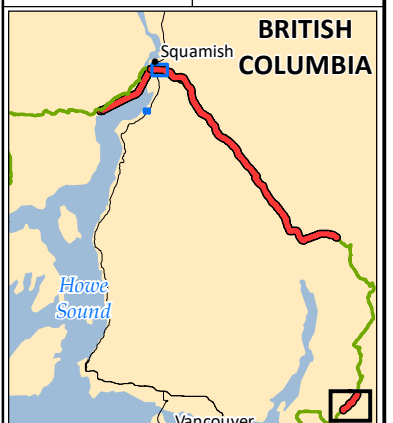


JACOBS Project Number CE833400

UTM Zone 10 North, NAD 1983.
 Proposed NPS 24 Pipeline, KP: Universal Pegasus International (UPI) 10-20-2021 (Route 1025/4003); Tunnel Easement/Corridor: Jacobs 2020; 08-14-2015; Compressor Station, Fortis 2015-01-11; Existing Pipeline: FortisBC 2012; Existing Electrical Transmission Line: ICIS, 2014; Municipal and Regional District Boundaries: BC Ministry of Municipal Affairs and Housing, 2018; Park and Protected Areas: BC FLNRO, 2008, District of Squamish, City of Coquitlam; Coquitlam Conservation Reserve: Metro Vancouver (07/02/2017); Morgan Stewart and Company, 1995 provided by Fortis BC 2019; Hydrography: BC MFLNRO 2008; Recreation Trails and Polygons: Open Government License - British Columbia
 2008-02-15; Municipal Trail: City of Coquitlam; Imagery Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community.

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

Mapped By: KA Checked By: DJN



1 4.3 Condition Assessment of Existing Roadways and Infrastructure

2 Prior to the start of construction that impacts any road, the Contractor will conduct a pre-construction
3 Condition Assessment of roadways and associated infrastructure that will be used by the Contractor to
4 complete their work, including temporary haul routes to access work sites, material storage sites, and so
5 forth. The Condition Assessments will be completed prior to the commencement of work and will include
6 an agreement on any improvements that may be required before the work begins to accommodate
7 increased traffic or altered traffic patterns, the expected Level of Service (LoS) to be maintained, and the
8 maintenance requirements and responsibilities during construction.

9 During construction, the Road Authority's existing maintenance operations and responsibilities will remain
10 with the Road Authority, unless otherwise agreed upon between FortisBC and the Road Authority.
11 Additional maintenance requirements resulting directly from the Contractor's operations will be the
12 responsibility of the Contractor.

13 For example, the maintenance of paved surfaces impacted by mud tracking by construction vehicles will
14 be the responsibility of the Contractor, whereas seasonal street sweeping will remain with the Road
15 Authority. As maintenance requirements will vary by location, Road Authority, condition of the existing
16 infrastructure, and the Contractor's planned operations, existing and proposed maintenance requirements
17 and designated responsibility should be documented and agreed upon through the Condition Assessment.
18 At the request of the Road Authority, FortisBC, or the Contractor, a standalone maintenance agreement
19 may be used to document and agree upon maintenance requirements and responsibilities.

20 The LoS of roadways should be kept the same as original conditions, unless approved by the Road
21 Authority to be lower during construction. Traffic assessments, including traffic modelling, may be
22 required to demonstrate both the existing LoS and to show that the LoS is maintained during construction.
23 It is expected that parties, including the Contractor, will be present for the Condition Assessment
24 inspections. The Condition Assessments will document findings with:

- 25 ▪ Digital photographs and videos that will be date- and time-stamped
- 26 ▪ Sketches, where required or beneficial
- 27 ▪ Traffic modelling for the LoS that will be provided in writing to the Contractor, Road
28 Authority/Infrastructure Owner, and FortisBC

29 Examples of existing conditions to be documented include, but are not limited to:

- 30 ▪ Pavement with significant fatigue cracking, random cracking, transverse or longitudinal cracking, or
31 rutting
- 32 ▪ Potholes
- 33 ▪ Cracked, spalling, or otherwise damaged curbs, sidewalks, drive entries, and barriers
- 34 ▪ Damaged or missing signs and signposts
- 35 ▪ Missing or faded paint lines
- 36 ▪ The condition of maintenance hole covers or surrounds, water (Stakw) valves, and so forth
- 37 ▪ Broken or damaged catch basins
- 38 ▪ Landscaping

1 Condition Assessment of underground utilities (such as, stormwater management infrastructure) may be
2 required, as reasonably required by the utility owner, based on planned use by the Contractor, including,
3 but not limited to, haul routes used by trucks that exceed loading limits and concerns regarding sediment
4 buildup during construction that result from construction activity. The Contractor must comply with load
5 regulations unless approval is given in writing by the Road Authority to exceed load limits.

6 The documentation of Condition Assessment is the responsibility of the Contractor unless otherwise
7 mutually agreed upon with the Road Authority. However, any agreements with respect to the Condition
8 Assessment, maintenance requirements, and infrastructure improvements will be submitted to the Road
9 Authority by FortisBC and will be between FortisBC and the Road Authority, unless otherwise mutually
10 agreed upon by the Road Authority.

11 It is recommended that the Contractor or the Road Authority/Infrastructure Owner conduct periodic
12 re-examination, jointly or independently, to identify third-party damage and to identify locations of
13 significant deterioration that may require temporary repairs due to immediate safety or operational
14 concerns. Any third-party damage will be documented and shared with both parties and FortisBC as soon
15 as it is found, documenting that such damage was not the result of the EGP Project nor the responsibility
16 of the Contractor to address.

17 Once construction is complete, a post-construction Condition Assessment will be completed in the same
18 manner as the pre-construction Condition Assessment. The LoS is to be restored to existing conditions,
19 and any improvement to LoS post-construction will not be made without agreement between FortisBC and
20 the Road Authority.

21 Damage to the roadway or associated infrastructure deemed to be in excess of reasonable wear and tear
22 by the Road Authority/Infrastructure Owner, acting reasonably, will be repaired by the Contractor in a
23 manner as agreed to in writing with the Road Authority/Infrastructure Owner prior to construction. It is
24 recommended to reach a formal agreement on the condition of road expected after the post-construction
25 assessment in the initial pre-construction Condition Assessment.

26 **4.4 Category 2 Requirements**

27 As discussed earlier in this section, the EGP Project has been preliminary assessed as Category 2 using the
28 Initial Project Category Assessment, the Project Risk Analysis, and the Final Project Category
29 Determination matrix in the TMM (BC MoTI 2020). The assessment is based on the initial considerations
30 for road and traffic characteristics and anticipated specific work activities. The Final Category level must be
31 confirmed by the Contractor. Contractor TCPs are typically required by the Road Authority for projects that
32 may be located on higher-speed or higher-volume corridors and where impacts to the travelling public
33 may be higher due to the roadway characteristics or the type of work to be conducted.

34 For projects on freeways, expressways, or roads where the posted speed limit is 70 kilometres per hour
35 (km/hr) and above, there may be a requirement to have a Contractor TMP prepared under the direction of
36 a Professional Engineer who is licensed in BC and qualified and experienced in traffic management
37 planning and highway safety.

38 Contractors will prepare the Contractor TMP components in accordance with the TCMP and the TMM (BC
39 MoTI 2020) for work zones on BC MoTI roadways and requirements, as included in Appendix A. The
40 Contractor will provide applicable updates of the Contractor TMP to FortisBC, who will forward it to the
41 Road Authority's EGP Project representative for review and acceptance.

- 1 Appendix A includes detailed requirements for Category 2 work, as outlined in the TMM (BC MoTI 2020).
- 2 The Category level is to be reviewed and finalized by the Contractor before developing the Contractor
- 3 TMP.

5. Requirements for Contractor Traffic Management Plan

The Contractor TMP is a comprehensive document created by the Contractor that focuses on how traffic is managed throughout construction of the EGP Project. The Contractor TMP may be required to be signed and sealed by a Professional Engineer, licensed in BC. The Contractor TMP will include the following:

- Access management involving urban requirements (outlined in Section 5 of the TCMP).
- A PIP to identify the actions and procedures to inform the travelling public, impacted businesses, Indigenous nations, and Road Authorities of current and planned changes to operations (requirements outlined in Section 7 of the TCMP).
- An IMP to address unplanned events or incidents so that incident response operations within the work site are managed effectively (requirements outlined in Section 7 of the TCMP).
- An Implementation Plan that verifies that subplans are implemented and operated in a coordinated manner (requirements outlined in Section 8 of the TCMP).
- A Contractor TCP prepared by a Professional Engineer, including applicable drawings and layouts (requirements outlined in Section 9 of the TCMP).
- Mitigation Measures that, as a minimum, follow the mitigation measure outlined in Appendix E.

5.1 Contractor Traffic Management Plan – General Components

It is the responsibility of the Contractor to develop a Contractor TMP specific to their work area. More than one Contractor TMP may be required to meet jurisdictional requirements of each Road Authority. The Contractor TMP must meet the minimum requirements of the TCMP. The Contractor TMP will be completed and signed-off by a Professional Engineer, as required. In general, a Contractor TMP will include the following:

- Road Authority contact information
- A description of the project area, including the following:
 - Classification of roadway
 - Number of lanes (that is, undivided and expressway)
 - Normally posted speed limit
 - Road alignment
- A description of the work activity, including the following:
 - Type of hours of work
 - Location and size of the work zone
 - Contractor heavy equipment transport operations
 - Lanes affected by works and lane configuration in work zone
 - Maximum proposed delays or closure times
- A description of site factors, hazards, and impacts, including the following:
 - Location, nature, and impacts of hazards
 - Accesses or intersections that will be affected by the work in that area or by Traffic Control Devices
 - Deviations in traffic patterns or traffic behaviours
 - Geometric roadway conditions (horizontal and vertical roadway geometry)
 - Anticipated weather conditions

Traffic Control Management Plan

1 – Other relevant risks

2 The level of detail required for the Contractor TMP is dictated by the Final Project Category Determination,
3 which is to be decided by conducting a risk assessment using templates provided by BC MoTI. Appendix B
4 summarizes the details of this risk assessment, including identification of potential issues or hazards,
5 assignment of a risk factor to each issue, and determination of possible actions to mitigate the particular
6 risk factor to each issue. Appendix E consists of construction mitigation measures for several traffic and
7 access restrictions. It is the responsibility of the Contractor to follow the mitigation measures mentioned
8 in, but not limited to, Appendix E for better traffic management.

9 The Contractor TMP must also address other areas of concern, at a strategic level, irrespective of details
10 supplied within individual Contractor TCPs. Such items include the following:

- 11 ▪ Appropriately managed EGP Project vehicle use to reduce the impact to Public Roadways, including
12 the use of shuttles, buses, or carpooling to transport staff to and from construction activity areas
- 13 ▪ Transit stops
- 14 ▪ School zones and school areas
- 15 ▪ Playground zones and playground areas
- 16 ▪ Pedestrian traffic through and around the work zones
- 17 ▪ Public protection measures
- 18 ▪ Emergency vehicle access
- 19 ▪ Civil services
- 20 ▪ Security of the work area
- 21 ▪ Business access

22 Contractor TMPs must also address general area traffic interaction between EGP Project work sites and
23 work sites of other Contractors, in consultation with Road Authorities (BC MoTI, the District of Squamish,
24 City of Coquitlam), Metro Vancouver, and third-party roadway users in the area.

1 **6. Access Management – Urban**

2 This section addresses access management in urban areas and on Highway 99. For Rural Access
 3 Management, refer to the AMP.

4 The Contractor will use designated heavy truck routes and approved access routes. To the extent practical,
 5 to reduce impacts on businesses or residences, the Contractor should seek to schedule heavy construction
 6 traffic to periods of less traffic and to reduce interactions with school buses and students along EGP
 7 Project-related traffic routes.

8 The EGP Project will acquire Road Use Agreements with Road Permit Holders, or permits where required
 9 by Road Authority, when applicable, for roads affected by the EGP Project.

10 As part of the EGP Project construction, Darrell Bay Road will be used to facilitate the movement of
 11 personnel and small deliveries. There is an existing rail line crossing along Darrell Bay Road that will need
 12 to be crossed to access the Darrell Bay Ferry Terminal. The existing crossing does not meet current
 13 Transport Canada standards.

14 The Contractors TMP will address the possible need to upgrade the crossing, based on the Contractor's
 15 planned use of Darrell Bay Road. Any upgrades required to facilitate the Contractor's use of Darrell Bay
 16 Road will be the responsibility of the Contractor. The Contractor must coordinate with the Rail Authority
 17 and the District of Squamish to confirm the feasibility of using Darrell Bay Road.

18 The Contractor may refer to the *Shannon Falls Grade Crossing Safety Assessment Summary Report*
 19 (Stantec 2016) for information regarding the crossing. The Contractor will approach the District of
 20 Squamish to obtain the document, as required. It is the responsibility of the Contractor to demonstrate to
 21 the Road Authorities the impact that construction traffic may have to the public use of Darrell Bay Road
 22 parking to access the ferry ramp and to obtain necessary approvals. The use of Darrell Bay Road will be
 23 subject to approval by Road and Rail Authorities.

24 Where modifications to this roadway are needed as part of the EGP Project for construction access
 25 purposes, work permits will be required from the District of Squamish. To mitigate permitting issues and
 26 delays, early engagement with the District of Squamish regarding use of Darrell Bay Road will be required
 27 by the Contractor. As most EGP Project-related traffic on this road is determined to be light vehicle traffic,
 28 upgrades to the road may not be necessary.

29 Table 6-1 provides locations that may require further access management considerations.

Table 6-1. Access Management Considerations

Location	Access Management Consideration
Pioneer Way	Roadway structure in poor condition
Logger's Lane East Neighbourhood	Residential access
Industrial Way	Commercial access
RCMP office	Allow for emergency access
East Tunnel access (entry location for tunnel drilling to Woodfibre)	Not on truck route

Table 6-1. Access Management Considerations

Location	Access Management Consideration
Darrell Bay (Kwtsá7tsutsin)	Ferry access roadway structure in poor condition; road and parking used by public and ferry users
Government Road	Poor condition
Government Road rail crossing at the north end of the rail yards	Poor condition

Note:

RCMP = Royal Canadian Mounted Police

- 1 The Contractor will be required to maintain pedestrian access to residential and institutional sites during
- 2 the construction period. The Contractor needs to provide continual property access by vehicle or make
- 3 other mutually agreeable arrangements with the resident or occupant of the property being affected.
- 4 Where blocking an access (pedestrian or vehicular) is required, efforts will be taken to reduce delays and
- 5 provide alternative safe access.

- 6 Emergency access to properties must always be available. During emergencies, the Contractor will adjust
- 7 construction operations to provide immediate access. The Contractor TMP must consider parking and
- 8 delivery access to residential and commercial properties. The Contractor will also communicate with RCMP
- 9 and emergency services personnel to keep these organizations informed of traffic schedules, and enlist
- 10 their services as needed.

- 11 In urban areas (such as, within the District of Squamish and the City of Coquitlam), peak period restrictions
- 12 may be required by the Road Authority. Consultation with Road Authority staff will be required to
- 13 determine whether any specific peak period road restrictions apply and the Contractor will make best
- 14 efforts to facilitate the least impact to the travelling public. Refer to the AMP for information specific to
- 15 rural areas.

- 16 Within the District of Squamish, the City of Coquitlam, and other communities, the Contractor must follow
- 17 the following Road Authorities' designated truck routes, unless otherwise approved by the Road
- 18 Authorities.:
- 19
 - City of Coquitlam truck routes and information (City of Coquitlam 2022)
 - 20 ▪ District of Squamish Official Community Plan: Schedule G, Major Road Network Plan (District of
 - 21 Squamish 2017)

1 7. Requirements for Public Information Plan

2 FortisBC will develop a Communication Protocol that, for the purposes of interfacing with the Contractor
3 on traffic management-related issues, will work in conjunction with the Contractor's PIP. FortisBC and
4 Squamish Nation (Skwxwú7mesh Úxwumixw) will develop a Communications Protocol that outlines
5 requirements for communication between the two parties during construction activities. A process for
6 Squamish Nation (Skwxwú7mesh Úxwumixw) to make the requests will be outlined to access cultural sites
7 and other traditional activities, under special circumstances. It is the responsibility of the Contractor to stay
8 updated on the Communications Protocol and to integrate aforementioned protocol into the PIP.

9 7.1 Public Information Plan - General

10 The Contractor's PIP identifies actions and procedures for informing the travelling public, businesses, and
11 the Road Authority of current traffic operations and planned changes to traffic operations. It will be
12 modified throughout the EGP Project life cycle to address issues as they arise.

13 The PIP will be developed in collaboration with FortisBC, and will align with FortisBC's Communication
14 Protocol, which is being developed for the EGP Project. The purpose of PIP is to:

- 15 ▪ Make stakeholders aware of the EGP Project and its impacts.
- 16 ▪ Inform emergency services and the travelling public, in a timely manner, of events that may negatively
17 affect traffic operations through multiple means of communication and social media platforms.
- 18 ▪ Identify communication issues.

19 In addition, the Contractor's PIP must identify:

- 20 ▪ Methods and procedures for communicating scheduled work plans and traffic delays, as well as
21 unscheduled traffic delays, to the travelling public and the Road Authority
- 22 ▪ Appropriate area-specific work information signs
- 23 ▪ The process to provide work updates to the Road Authority
- 24 ▪ EGP Project contact information for stakeholders to ask questions or seek more information
- 25 ▪ Methods and procedures for resolving issues from stakeholders, including the travelling public and
26 Road Authorities

27 7.2 Public Information – FortisBC and Contractor Responsibilities

28 EGP Project information will be regularly posted on the EGP Project website, including construction
29 updates. A toll-free phone line, an EGP Project public email address, email subscriptions, digital
30 newsletters, and social media updates will also be available for direct communication to FortisBC. The
31 Contractor PIP must be consistent with FortisBC's Communication Protocol.

32 The Contractor will support FortisBC during implementation of the Communication Protocol by
33 developing responses to public enquiries and by working with FortisBC to resolve issues arising from traffic
34 management communications. Direct lines of communication with FortisBC will be established as
35 previously described. However, the Contractor may need to communicate directly with stakeholders when
36 providing a response to such communications made to FortisBC. A checklist outlining FortisBC's

1 information requirements will be developed and used as the basis for providing concise, accurate, and
2 understandable information to stakeholders with appropriate advance notice.

3 These messages will be incorporated in the traffic advisory signage plans. Additional methods of
4 communication will be employed, including site signage and, where necessary, local newspaper or radio.
5 Hand-delivered notifications will be provided in advance to those directly impacted by construction.

6 Advisory signs will be positioned within key areas, as identified in the Traffic Control Layout Drawings and
7 designs, to communicate potential traffic impacts resulting from the implementation of the Contractor's
8 construction work zones.

9 The Contractor will provide information to FortisBC and the Road Authority regarding major traffic control
10 changes (such as, major stoppages, lane closures, and new detour alignments) in the form of an advance
11 multiweek schedule that includes the locations of each construction work zone. This schedule will be
12 reviewed regularly between the Contractor and FortisBC until completion of the construction scope of
13 work.

14 **7.3 Indigenous Communication**

15 In addition to the public information methods outlined in subsection 7.2, FortisBC will continue to engage
16 with the Indigenous nations that have Indigenous interests in the EGP Project area.

8. Requirements for Incident Management Plan

The Contractors are responsible for effective incident management planning so that emergency vehicles can access an incident in a roadway construction zone. It is expected that the Contractors will communicate with local emergency providers during the development of their IMP for feedback during the development of their Contractor TMP. Appendix C provides general incident response requirements. The following subsections provide an overview of IMP requirements.

8.1 Incident Management – General

An IMP is required from the Contractor as part of their Contractor TMP that identifies the Contractor's priorities and procedures for detecting and responding to unplanned events or incidents, within the work zone, with the goal of safeguarding workers and the public, and restoring traffic flow as quickly as possible.

The IMP defines a process of regular review and analysis to identify actions that will reduce the frequency and severity of incidents along the work zone. The Contractor must take responsibility for managing traffic operations in a manner that protects public safety and must modify the IMP throughout the EGP Project life cycle to address issues as they arise.

The requirements outlined in the TMM (BC MoTI 2020) for a Category 2 Project have been referenced for the development of the IMP. The IMP will comply to the TCMP and the TMM (BC MoTI 2020).

8.2 Roles and Responsibilities During an Incident

The primary objective of the IMP is to facilitate incident response, including emergency access and assistance, and to move traffic safely and expeditiously through or around an incident to reduce inconvenience to the public. Though emergency access must be accounted for at all times, the IMP should also include provisions for emergency access through the active work zone, as required for emergency vehicles to access incidents not related to the EGP Project.

Any collision or incident that occurs within an active work zone must be immediately brought to the attention of the Traffic Control Supervisor. The Traffic Control Supervisor will be responsible for coordinating safety and emergency response efforts that relate to the incident during the operational hours of an active work zone. Incident information will be relayed to the appropriate Road Authority as required by the TMM (BC MoTI 2020), and the centre will provide communication and coordination support during the response (BC MoTI 2020).

Immediately following the incident, the Traffic Control Supervisor will complete an Incident Management Report. A preliminary copy of Incident Management Reports will be submitted to the Contractor's management team, FortisBC, and the Road Authority representative within 24 hours. The full Incident Management Report will be submitted within 48 hours, and the final Incident Management Report will be submitted within 5 days.

8.2.1 Incident Types

This subsection identifies the following types of collisions or incidents that may occur in an active work zone:

- Motor vehicle collisions within an active work zone

Traffic Control Management Plan

- 1 ▪ Motor vehicle collisions adjacent to an active work zone
- 2 ▪ Construction vehicle collisions
- 3 ▪ Worker collisions with injuries
- 4 ▪ Debris or hazardous material spills on the roadway
- 5 ▪ Collisions involving animals
- 6 ▪ Emergency road repairs
- 7 ▪ Passage of emergency vehicles
- 8 ▪ Unexpected natural events (such as, heavy rainfall, extreme settlements, and washouts)
- 9 ▪ Unexpected construction issues (such as, slope instability and any other condition that may cause
- 10 prolonged and unplanned closure of the highway)
- 11 ▪ Disabled motor vehicles within an active work zone
- 12 ▪ Disabled motor vehicles adjacent to an active work zone
- 13 ▪ Utility impacts, including utility strikes, or an encounter of an abandoned or unknown utility during
- 14 excavation

15 **8.3 Response Improvement**

16 To maintain a successful IMP, the Contractor will update and improve the plan on an ongoing basis. The
17 incident management response will be reviewed after each incident and any correct actions or
18 improvements will be updated in the IMP. This will be achieved through ongoing monitoring (Inexwantas)
19 and documentation of conditions along active work zones, proper training, and review of response
20 procedures following each incident.

21 The Contractor will, from time to time, review Incident Management Reports for trends in frequency,
22 location, or types. The review will be followed up with action plans or additional Traffic Control Devices
23 and procedures that will reduce the incidents or make the area safer from future potential incidents.

24 **8.4 Coordination with Emergency Services**

25 All emergency services will have priority access during incidents. Emergency services may include the
26 following:

- 27 ▪ Fire
- 28 ▪ Police
- 29 ▪ Operations, Maintenance, and Rehabilitation Contractors
- 30 ▪ Ambulance
- 31 ▪ Municipal utilities
- 32 ▪ Utility companies
- 33 ▪ Search and rescue
- 34 ▪ Vehicle recovery

35 Communications and coordination with emergency agencies, the Road Authority representatives, and
36 other work areas should be conducted, as required, to assist with the stabilization of the situation, but not
37 as the primary coordination hub for incident management.

- 1 Table 8-1 provides an emergency contacts list for incidents during construction.

Table 8-1. Emergency Contacts

Contact		Contact Number
Police/Ambulance/Fire		911
FortisBC Natural Gas Safety		1-800-663-9911
Emergency Management BC		1-800-663-3456
Fisheries and Oceans Canada Spill Reporting Line		1-800-465-4336
BC Conservation Officer Service		1-877-952-7277
BC Safety Authority Safety Manager (Gas)		1-866-566-7233
BC One-Call		1-800-474-6886
BC Forest Fire Reporting Centre		1-800-663-5555 (or *5555)
BC Oil and Gas Commission Incident Reporting		1-866-663-3456
24-hour Emergency Line, District of Squamish		1-877-890-5711
Public Works Emergencies, District of Squamish		1-604-815-4040 (24 hours) 1-604-815-6868 (7 a.m. to 3:30 p.m.)
Engineering Department, District of Squamish		1-604-815-5021
Communications Department, District of Squamish		1-604-815-5025
Squamish-Lillooet Regional District Jurisdiction Communication		1-604-894-6371
Miller Capilano (Roads Maintenance Contractor)		1-604-892-1010
BC MoTI Area Manager		1-236-455-4577 shannon.payne@gov.bc.ca
BC MoTI Operations, Maintenance and Rehab Technician		1-604-323-4986 daniel.johnson@gov.bc.ca
Local Contact (Non-emergency)	Location	
RCMP	City of Coquitlam	1-604-945-1550
	District of Squamish	1-604-892-6100
Ambulance	City of Coquitlam	1-866-952-2448
	District of Squamish	1-604-872-5151
Hospital	City of Coquitlam	1-604-777-8730
	District of Squamish	1-604-894-6371
Fire	City of Coquitlam	1-604-927-6400
	District of Squamish	1-604-898-9666

Table 8-1. Emergency Contacts

Local Contact (non-emergency)	Location	
Environmental Manager	Squamish Nation (Skwxwú7mesh Úxwumixw) Rights and Title Department	To be determined

- 1 The Contractor will confirm the appropriate Squamish Nation (Skwxwú7mesh Úxwumixw) emergency
- 2 contacts and numbers as part of their final Contractor TMPs. The Contractor’s TMP must include contact
- 3 information for emergency services within the work area and must communicate this information to Traffic
- 4 Control Personnel.

1 **9. Requirements for Implementation Plan**

2 The Implementation Plan will be prepared in accordance with the requirements outlined in the TCMP and
3 will identify responsibilities and procedures so that the Contractor TMP subplans (such as, the Contractor
4 TCPs, the IMP, and the PIP) are developed and implemented in a coordinated manner. The
5 Implementation Plan will also identify the qualifications, responsibilities, and duties of the supervisory and
6 management personnel who will implement the Contractor TMP, including the Traffic Manager and the
7 Traffic Control Supervisor.

8 The Implementation Plan, as a minimum, will be developed as outlined in Section 3.4 of the TMM (BC
9 MoTI 2020), and will be aligned with the final assessed Category of the EGP Project. As the requirements
10 may differ between BC MoTI, the District of Squamish, the City of Coquitlam, and BC MOF, the
11 Implementation Plan may vary across jurisdictions.

12 The minimum qualifications and responsibilities of supervisory and management personnel will be as
13 outlined in the TMM (BC MoTI 2020) and will be referenced in the development of the Implementation
14 Plan. The Implementation Plan will provide site-specific monitoring (Inexwantas) strategies for the
15 duration of active and inactive work. The Road Authority will review and accept the Implementation Plans
16 as part of their Contractor TMP reviews.

17 Generally, the Contractor will be responsible for obtaining permits and the approval of the Contractor
18 TMPs for each work zone, as needed by the relevant Road Authority. The Contractors are responsible for
19 implementing the Contractor TMP according to the approved guidelines of the applicable Road Authority.

10. Requirements for Contractor Traffic Control Plans

Contractor TCP requirements are outlined at a high level within the TCMP and are broken down by area and work scope. They will be further developed by the Contractor and shared with the public in accordance with the TCMP and the governing Road Authority. The Contractor TCPs are revised after consulting with the relevant Road Authorities, as necessary. The TCMP will only be updated as outlined in subsection 2.5 and as determined by the BC EAO. The Contractor will prepare the detailed Contractor TCP within their own Contractor TMP in accordance with in the amended TCMP as a result of public consultation.

A Contractor TCP is required for every work zone on or near Public Roadways where the Contractor's operations directly or indirectly impact the operations and safety of the roadway or active transportation facilities and their users. It will be designed to reduce the EGP Project's impacts on traffic and maximize worker and public safety. The Contractor will develop work zone-specific Contractor TCPs. The Contractor will obtain the appropriate Road Authority approval and permits, where applicable, for Contractor TCPs prior to the implementation of any traffic control. The main objective of a work zone Contractor TCP is to reduce the impacts of construction activities, including the traffic generated to and from the work zone into adjacent public routes.

The Contractor TCP must be modified throughout the EGP Project life cycle to address issues as they arise. When the Contractor TCP is updated, the modifications must be approved by FortisBC, and the revised document must be accepted by the relevant Road Authority.

The Contractor TCP defines specific traffic control measures that will be used on the EGP Project, how they will be implemented, and on which schedule. The Contractor TCP includes the following combination of text, Traffic Control Layout Drawings, and customized drawings:

- **Text descriptions** of the location of the work zone, proposed work activities, proposed traffic control measures, and the specific times and dates when work will be conducted on the roadway.
- **Traffic control layouts** (schematic diagrams or Traffic Control Layout Drawings) of the roadway showing the placement and general arrangement of Traffic Control Devices. Customized layouts may be required to address unique situations. Layouts need not be to scale, but should include dimensions and site-specific characteristics.
- **Customized drawings** (scale drawings) of the roadway in the vicinity of the work zone that identify the arrangement of Traffic Control Devices in accordance with the standards identified in the TMM (BC MoTI 2020). The drawings must show painted markings, physical features that may affect traffic operations (including signage, guardrails, and lamp standards), road geometry, and lane configurations, and must include dimensions. The Contractor may use typical Traffic Control Layout Drawings for the majority of the work zones unless the Road Authority requires specific layout plans. Site-specific Traffic Control Layout Drawings may also be required if the nature of work on-site does not align with the general layout plans that have been produced. The Contractor TCP will identify:
 - Hours of work
 - The work zone location and direction and distance to nearest landmarks
 - The size of the work zone
 - Lanes affected by the works
 - Lane configuration in the work zone
 - Whether accesses or intersections will be affected by the work zone or by Traffic Control Devices
 - Requirements for vehicle storage

- 1 – Vehicle storage areas to meet requirements
- 2 – Hazards, and if any have been identified, the Contractor TCP will provide a layout showing:
 - 3 • The location of the work zone
 - 4 • The location of vehicle storage areas
 - 5 • The location and nature of hazardous areas and mitigation measure to be implemented
- 6 – Proposed traffic control areas by referencing the specific layout(s) contained in the TMM (BC
- 7 MoTI 2020) or by showing custom Traffic Control Layout Drawings if layouts in the TMM (BC
- 8 MoTI 2020) are not applicable
- 9 – Maximum proposed delays or closure times

10 10.1 Key Construction Activity and Key Construction Location Contractor Traffic Control Plans

12 For the EGP Project, the Contractor TCPs will be unique to the distinct work areas. All Contractor TCPs

13 developed for key construction activities will be required to meet the requirements of the TCMP. The

14 Contractor TCPs will be separated into the following work areas, as a minimum:

- 15 1) Highway 99 and Darrell Bay (Kwtsá7tsutsin)
- 16 2) District of Squamish
- 17 3) Resource Roads
- 18 4) City of Coquitlam

19 10.1.1 Contractor Traffic Control Plans in Rural Areas

20 The majority of the EGP Project will be situated in rural areas, where the pipeline construction will be

21 accessed by Resource Roads and will be constructed using trenched techniques. There are sample Traffic

22 Control Layout Drawings in the TMM (BC MoTI 2020) that address most construction scenarios. Traffic

23 Control Layout Drawings submitted to the Road Authority will require customization depending on local

24 site conditions, requirements, and the complexity of the work being conducted.

25 10.1.2 Contractor Traffic Control Plans in Cities and Municipalities

26 The EGP Project will traverse through the District of Squamish and the City of Coquitlam, where

27 open-trench construction will be required along various local roadways (for example, Logger's Lane East

28 Neighbourhood Industrial Way or Government Road). In these areas, sample Traffic Control Layout

29 Drawings in the TMM (BC MoTI 2020) will likely adequately address these work zones. Traffic Control

30 Layout Drawings submitted to the Road Authority will require customization depending on local site

31 conditions, requirements, and the complexity of the work being conducted.

32 The highway crossing on Highway 99 at Industrial Way will be constructed using a trenchless method. This

33 will avoid road surface construction on BC MoTI right-of-way and will require a site-specific Traffic Control

34 Layout Drawing to address the BC MoTI highway, as well as the turning movements on Industrial Way or

35 toward the Loggers Lane East Neighbourhood. Any pedestrian or bike detours at Highway 99 and

36 Industrial Way will be reviewed by BC MoTI and the District of Squamish.

37 The Contractor must develop other site-specific Contractor TCPs and Traffic Control Layout Drawings to

38 accommodate unique situations and constraints during detailed construction review. In such cases, they

39 should involve the appropriate Qualified Professionals in developing these layouts, which will also need to

40 be approved by the appropriate Road Authority.

1 **10.1.3 Pedestrian and Cyclist Accommodations**

2 Pedestrians will be diverted around work zones in urban areas. Provisions will be made to warn pedestrians
3 of any sidewalk or path closures, and safe detours will be provided.

4 When crosswalks, sidewalks, or other pedestrian facilities are blocked, closed, or relocated, temporary
5 facilities will include accessibility features consistent with the features present in the existing pedestrian
6 facility.

7 Mobility-assisted pedestrians may be using wheelchairs or scooters. These devices require smooth and
8 solid transition and running surfaces, and care must be taken to prevent tipping hazards.

9 Work on roadways may impede cyclists; therefore, the road surface and route length are important
10 considerations. Under the *Motor Vehicle Act*, cyclists have the same rights and duties as the operators of
11 motor vehicles, so signage and traffic control measures used for drivers also apply to cyclists.

12 Municipal staff will be contacted to determine where pathways may intersect with construction work
13 zones. Where cyclists or pedestrians need to take an alternate route, details will be included on the
14 Contractor's Traffic Control Layout Drawings and detour design drawings.

15 This information will be communicated in the PIP.

16 **10.1.4 School Zones**

17 School zones will be avoided, where practical. Haul routes and delivery routes will be communicated to
18 truck drivers on the EGP Project to avoid school zones. Detailed maps will be supplied to trucking
19 companies to help communicate expected streets to be used as part of the EGP Project hauling
20 requirements.

21 **10.1.5 Impact of Haul Routes**

22 It is the responsibility of the Contractor to engage the Road Authority and stakeholders being affected by
23 the Contractor's haul routes. The Contractor is responsible for meeting Road Authority standards and
24 obtaining approvals and permits, where required. Consideration will be given to loading on underground
25 utilities, including those owned by Metro Vancouver, municipalities, and private utility owners. The
26 Contractor will complete loading checks and obtain approvals, where required.

27 **10.1.6 Transit and School Bus Accommodation**

28 The Contractor will be responsible to contact the transit and school districts to obtain routes and
29 schedules to use when planning EGP Project traffic control.

30 **10.1.7 Construction Vehicle and Equipment Access and Egress**

31 In rural areas, access and egress for construction vehicles and equipment will primarily be via existing
32 highway or Resource Road and roadway shoulders, and may require assistance from Traffic Control
33 Personnel, including the installation of appropriate signage. Where this is not possible, lane closures may
34 be necessary or may involve the temporary construction of widened shoulders for construction vehicle
35 acceleration and deceleration purposes.

1 These details will be clearly shown as part of the Contractor's submitted Traffic Control Layout Drawings. It
2 is anticipated that some long sections of pipe will be transported via tractor-trailer trucks to the work sites,
3 and the access and egress designs will need to accommodate these vehicle-type sizes.

4 **10.1.8 Traffic Control Devices and Temporary Pavement Markings**

5 The Contractor is solely responsible for supplying Traffic Control Devices and other traffic control
6 implementation equipment.

7 Signs and other Traffic Control Devices that do not apply to existing conditions will be removed or if they
8 will be required for subsequent traffic control measures, they will be covered temporarily to conceal the
9 sign information. Additionally, the Contractor will replace any pavement markings eradicated as a result of
10 temporary adjustments or any other cause during the construction.

11 Any removed BC MoTI pavement markings must be replaced with inlaid, highly reflective pavement
12 markings. Where operations are carried out in stages, only those Traffic Control Devices that apply to the
13 current stage should be left in place. The temporary traffic signage consists of construction, temporary
14 warning, and regulatory-type signs that will be clearly shown on the Contractor's Traffic Control Layout
15 Drawings.

16 The Contractor will also provide Portable Changeable Message Signs, as required, and use the signs to
17 provide advance notification of planned traffic pattern changes. Sign locations and messages will be
18 shown on the Traffic Control Layout Drawings. In addition, the Contractor will use the Portable Changeable
19 Message Signs to provide notification of incidents or unplanned traffic pattern changes as part of the IMP.

20 Where existing pavement markings conflict with temporary lane alignments, the existing markings will be
21 eradicated and adequate delineation will be installed along the temporary alignments. Any eradicated
22 pavement markings will be replaced by the Contractor.

23 The temporary lane delineation may be in the form of flexible drums, traffic cones, tubular markers, or
24 temporary pavement markings. The application of temporary Traffic Control Devices, signage, and
25 pavement markings will be in accordance with the TMM (BC MoTI 2020). Reflectorized, raised pavement
26 markings should be installed to provide proper visibility during nighttime traffic operations.

11. Quality Management, Monitoring, and Adaptive Management

11.1 Quality Management

Quality control (QC) is the responsibility of the Contractor. Quality management will be performed at each stage of traffic management, including monitoring (Inexwantas), auditing, and corrective actions. FortisBC will remain actively involved in the traffic quality management process through compliance reviews and audits of the Contractor's design and implementation of traffic control.

The primary goal of traffic management is to safeguard workers and cause the fewest disruptions to road users while work is taking place. Several stretches of the EGP Project involve different approaches to accommodate traffic by taking safety implications into consideration. It is necessary to identify potential impacts during the planning stage and to constantly monitor them. The adaptive management will be re-evaluated should monitoring (Inexwantas) programs indicate that the measures implemented were not adequate or effective.

Traffic management will be monitored and inspected regularly to verify that traffic control achieves the following targets:

- 1) Meets the requirements specified by the Road Authority.
- 2) Adequately provides for the safety of roadway users.
- 3) Reduces disruption to road users.
- 4) Maintains effective communication.

Work zones will be monitored and inspected regularly to identify and analyze evidence of traffic incidents and conflicts. Incidents and near misses will be investigated, and relevant information will be recorded, including details about any required changes made to the Traffic Control Layout Drawings.

If potential opportunities for improvements are recognized, the Contractor will amend and resubmit the Contractor TMP to the Road Authority for review and acceptance. As outlined in subsection 2.5, FortisBC will consult with the BC EAO to establish if updates are required to the TCMP.

11.2 Monitoring

11.2.1 Traffic Control Monitoring

The Contractor will monitor traffic flows through the construction work zone such that motorists are not excessively delayed or disrupted. Traffic monitoring (Inexwantas) may be completed in two ways:

- 1) Field traffic counts to assess current traffic volumes
- 2) Vehicular queue monitoring (Inexwantas)

The Contractor's Traffic Control Manager and Traffic Control Personnel will be responsible for monitoring (Inexwantas) traffic while the construction work zone is active. These personnel will have the authority to make real-time changes and decisions to the traffic control operations to provide continuous safe travel through the construction work zone with minimal disruptions. As a minimum, the Contractor will inspect the traffic control setups at the beginning and end of each workday. On non-working days, the Contractor may occasionally inspect the traffic control setups depending on the complexity of the setup and location.

Traffic Control Management Plan

1 Should the traffic control appear to be causing unnecessary delays or safety issues, the Traffic Control
2 Supervisor and Traffic Control Personnel will be responsible for correcting the issues and potentially
3 removing the traffic control when it is practical and safe to do so.

4 On the EGP Project, maintenance of traffic control is the responsibility of the Contractor. Once the work zone
5 traffic control has been installed, it is important to verify that it functions as intended, and that any
6 subsequent modifications resulting from an inspection process are implemented and maintained.
7 Maintenance is needed to service the equipment and make corrections that may be needed due to changes
8 in conditions. The inspection and maintenance of traffic control will be included as part of the Contractor
9 TMP.

10 The Traffic Control Supervisor also verifies that traffic is monitored between work zones when in proximity
11 and when traffic interaction between work zones could be negatively affected. It is the responsibility of the
12 Traffic Control Supervisor to confirm that impacts between work zones are appropriately mitigated. Work
13 zone monitoring (Inexwantas) will be reviewed closely so that delays along the Resource Road corridor are
14 reduced to prevent constant stopping. This will also be reviewed in urban areas to prevent work zone
15 overlapping and unreasonable queuing.

16 11.2.2 Traffic Control Records

17 Recordkeeping will be maintained throughout the duration of the EGP Project by the Contractor and
18 significant control actions taken by the field crews will be recorded. Good traffic control records prove to
19 be particularly critical in the event of a traffic incident. Documentation will include detailed descriptions of
20 the activities and impacts on traffic, including the type of work, the closure type, the closure location and
21 direction, closing and opening times, queue lengths, and any comments relating to the operations or
22 causes of possible delays.

23 Documentation should also include:

- 24 ▪ Daily photo logs of construction activities
- 25 ▪ Photographs accompanied by a brief description of the time, location, direction, and photographer's
26 name
- 27 ▪ Up-to-date Contractor TCPs by recording notes on construction plans
- 28 ▪ Daily diary entries of times, locations, and names of individuals included in the installation, change,
29 and removal of Traffic Control Devices

30 When the traffic control inspection process reveals a condition that requires changes, the documentation
31 should include:

- 32 ▪ A description and the location of the changes required, when the requirement was noted, and by
33 whom
- 34 ▪ Instructions given to make changes
- 35 ▪ What changes or replacements were made and when
- 36 ▪ If changes were deferred and why

37 Completion and control of traffic recordkeeping assurance is the responsibility of the Contractor. Any
38 follow-up information and action requests that are a result of traffic control measure changes will be
39 documented such that rectification of deficiencies can be tracked. The Contractor's proposed traffic
40 control documentation should be identified as part of their Contractor TMP development. The Contractor

1 will be prepared to provide such records, if and/or when requested, to the Road Authority or FortisBC at
 2 any time. The Road Authority may audit the Contractor's records at any time.

3 **11.2.3 Traffic Quality Control**

4 Traffic QC is the responsibility of the Contractor. It describes effective traffic control and identifies issues
 5 and corrective actions. It also examines the quality of the work to determine whether it complies with
 6 relevant standards and identifies ways to eliminate the causes of unsatisfactory service performance.

7 Traffic QC includes inspection, maintenance, and documentation. Traffic QC also includes audits of the
 8 traffic management and traffic control documentation, and field audits of the implemented Contractor
 9 TCPs. Although the Traffic QC is the responsibility of the Contractor, FortisBC will have a qualified delegate
 10 reviewing QC throughout the life of the EGP Project for process compliance.

11 As part of the Traffic QC, specific Traffic QC measures will be required to complement submission of the
 12 Contractor TMP. The Traffic QC measures describe how the construction traffic management processes will
 13 be administered in accordance with the requirements of the contract and the TMM (BC MoTI 2020) in a
 14 manner that is compliant with International Organization for Standardization 9001:2000, *Quality*
 15 *management systems — Requirements* (December 2000). In this regard, the Contractor's traffic
 16 management team will be responsible for verifying that the traffic control design and implementation are
 17 managed in accordance with the QC measures.

18 **11.2.4 Traffic Management Audits**

19 TCMP and Contractor TCP audits are typically conducted by FortisBC when reviewing the documentation
 20 and field layout plan of the Contractor. The traffic management audits will be executed by a competent
 21 and qualified delegate identified by FortisBC.

22 Section 3.7.2 of the TMM (BC MoTI 2020) provides further information on the audit process found in .

23 Table 11-1 provides information on monitoring (Inexwantas) and targets.

Table 11-1. Traffic Management Performance Indicators and Targets

Goal	Monitoring Strategy	Performance Indicator	Target
Maintain effective methods of communication among the public, Indigenous nations, businesses, and Road Authorities	Number and types of complaints received regarding impacts related to traffic management	<ul style="list-style-type: none"> ▪ EGP Project traffic information traffic is communicated through construction updates. ▪ Substantial complaints related to insufficient traffic communication. ▪ Emergency services and the travelling public are informed of changes to traffic operations through multiple means of communication and social media platforms. 	All parties involved in the EGP Project are well-informed of the EGP Project routes, activities, and schedules in advance of traffic pattern changes without any miscommunication.

Table 11-1. Traffic Management Performance Indicators and Targets

Goal	Monitoring Strategy	Performance Indicator	Target
Maintain safe access to active transportation facilities, residential and recreational areas, businesses, Indigenous use areas, and pedestrian routes throughout the EGP Project	<ul style="list-style-type: none"> ▪ Traffic control records ▪ Field traffic counts to assess current traffic volumes ▪ Vehicular queue monitoring (Inexwantas) 	No safety issues for road users.	Access is maintained for recreational, cultural, residential, and commercial traffic without substantial delays and active transportation facilities are maintained or alternative routes are provided.
Mitigate potential construction impacts to road users		No substantial unnecessary delays to road users.	The sequence of construction activities planned and the associated Contractor TCPs should cause least disruptions to traffic flow and maintain the safety of the public, Indigenous nations, businesses, and workers.
Maintain the safety of the public, Indigenous nations, businesses, and workers at all times	<ul style="list-style-type: none"> ▪ Traffic control records ▪ Field traffic counts to assess current traffic volumes ▪ Vehicular queue monitoring (Inexwantas) 	No traffic management safety-related issues.	Traffic control requirements will consider the safety of the public, Indigenous nations, businesses, and workers as a paramount. The Contractor will have a well-established incident management strategy to manage any incidents that may occur and to improve the response and Contractor TCPs on an ongoing basis, based on continual lessons learned.
Accommodate the needs of vulnerable road users		No safety issues and no complaints from pedestrians or cyclists.	Vulnerable road users are accommodated in traffic management. Include provisions to warn the pedestrians and cyclists of any facility closures, and provide safe detours.

1 11.3 Adaptive Management

2 An adaptive management approach will be implemented if monitoring (Inexwantas) programs indicate
 3 that the mitigation measures are not adequate or effective. The Contractor’s Traffic Control Manager is
 4 responsible for the oversight and implementation of the Contractor’s traffic control and implementation
 5 of site-specific measures, including adaptive management measures. The following provides information
 6 on the adaptive management process:

- 1 ▪ The Traffic Control Manager will conduct regular inspections of documentation and field activities to
 2 ensure that the Contractor’s work sites that require traffic control are being operated in a safe and
 3 efficient manner for both the public and workers as mentioned in subsection 11.2.
- 4 ▪ The Contractor’s Construction Superintendent will complete field inspections on a daily basis and keep
 5 a journal as mentioned in subsection 11.2.2.
- 6 ▪ The results of the daily inspection and any major concerns will be communicated directly to the Traffic
 7 Control Manager and the Contractor’s Project Manager for immediate corrective action.
- 8 – Where necessary, the Contractor will implement temporary measures until a permanent corrective
 9 action can be implemented.
- 10 – Any deficiencies noted by the Contractor’s Construction Superintendent will be communicated to
 11 the Traffic Control Manager, who will be required to complete a corrective action plan to ensure
 12 the timely resolution of any traffic safety issues.
- 13 – Where necessary, the Traffic Control Manager will consult the Traffic Engineer to update the
 14 Contractor TCP.
- 15 – The Contractor’s Construction Superintendent will review the operation of adaptive measures as
 16 they review all traffic control measures. Findings will be documented in in their journals with
 17 summarized findings in their weekly report.
- 18 – Where applicable, the Traffic Control Manager and the Contractor’s Project Manager will
 19 communicate adaptive measures made to stakeholders, specifically when the adaptive measure is
 20 directly related to stakeholder or public inquiry.
- 21 The Traffic Control Manager will review locations to ensure that the localized emergency response plan is
 22 effective for emergency vehicles through the work zone. These locations may include those with complex
 23 traffic control requirements and a lengthy duration of the construction work.
- 24 Corrective actions must be conducted as soon as is practicable and any safety issues must be immediately
 25 addressed either through temporary or permanent measures. The success of the corrective actions will be
 26 compared against the measurable targets, similar to all traffic control measures, based on monitoring
 27 (Inexwantas).
- 28 Table 11-2 briefly outlines the examples of the mitigation measures and corrective actions.

Table 11-2. Examples of Corrective Actions

Goal	Target	Example of Underperforming Mitigation	Corrective Action
Maintain effective methods of communication among the public, Indigenous nations, businesses, and Road Authorities	All parties involved in the EGP Project are well-informed of the EGP Project routes, activities, and schedules in advance of traffic pattern changes without any miscommunication.	<ul style="list-style-type: none"> ▪ Complaints from the public, Indigenous nations, and businesses on rerouting, noise levels, not receiving communications, and so forth. ▪ Complaints from Indigenous nations, businesses, and Road Authorities regarding lack of communication about changes or impacts to traffic patterns. 	FortisBC will work with the Contractor to re-evaluate the methods of communication in place and identify where the communication process broke down. The Contractor will modify the methods of information exchange to align with changing conditions and feedback.

Table 11-2. Examples of Corrective Actions

Goal	Target	Example of Underperforming Mitigation	Corrective Action
<p>Maintain safe access to active transportation facilities, residential and recreational areas, businesses, Indigenous use areas, and pedestrian routes throughout the EGP Project</p>	<p>Access is maintained for recreational, cultural, residential, and commercial traffic without substantial delays and active transportation facilities are maintained or alternative routes are provided.</p>	<ul style="list-style-type: none"> ▪ Complaints on access delays or access prevention. ▪ User confusion on access. ▪ Closure of active transportation facilities without establishing alternative routes. 	<ul style="list-style-type: none"> ▪ FortisBC will work with the Contractor to re-evaluate the access management measures and provide necessary revisions. ▪ Where alternative routes are not feasible, the Contractor will consider effective communication and approval and feasible alternatives.
<p>Mitigate potential construction impacts to road users</p>	<p>The sequence of construction activities planned and the associated Contractor TCPs should cause least disruptions to traffic flow and maintain the safety of the public, Indigenous nations, businesses, and workers.</p>	<ul style="list-style-type: none"> ▪ Unusual or unpredictable delays on roads and complaints on improper signage. ▪ Improper communication on alternative routes availability. ▪ Safety concerns identified by workers, public, Indigenous nations, businesses, or the Road Authority. 	<ul style="list-style-type: none"> ▪ FortisBC will work with the Contractor to re-evaluate signage and EGP Project communication. ▪ For repeated impacts, the Contractor will review overall TMS in place and make necessary and feasible modifications to construction methods and sequences. ▪ The Contractor will take immediate corrective action where safety concerns are present.
<p>Maintain the safety of the public, Indigenous nations, businesses, and workers at all times</p>	<p>Traffic control requirements will consider the safety of the public, Indigenous nations, businesses, and workers as a paramount. The Contractor will have a well-established incident management strategy to manage any incidents that may occur and to improve the response and Contractor TCPs on an ongoing basis, based on continual lessons learned.</p>	<ul style="list-style-type: none"> ▪ Increase in frequency of safety incidents by road users. ▪ Lack of appropriate knowledge to respond to an incident at a site. 	<ul style="list-style-type: none"> ▪ If an incident does occur, FortisBC will work with the Contractor to take immediate corrective actions ▪ FortisBC and the Contractor will use lessons learned to re-evaluate the Contractor TCPs and response plans by analyzing and identifying the actions, trends, and frequency of incidents.

Table 11-2. Examples of Corrective Actions

Goal	Target	Example of Underperforming Mitigation	Corrective Action
Accommodate the needs of vulnerable road users	Include provisions to warn pedestrians and cyclists of any facility closures, and provide safe detours.	<ul style="list-style-type: none"> ▪ Complaints on road conditions or detours, including tripping or mobility hazards. ▪ Complaints from mobility-assisted pedestrians regarding detours or temporary facilities. 	<ul style="list-style-type: none"> ▪ FortisBC will work with the Contractor to re-evaluate the existing accommodations for pedestrians and cyclists in the Contractor TCP, and address the issues. ▪ The Contractor will immediately address safety issues. Temporary solutions will be provided if permanent correction cannot be made immediately.

1 12. Condition Reporting Requirements

2 FortisBC will provide annual EAC compliance reports to the BC EAO at the following times:

- 3 ▪ At least 30 days prior to the start of construction
- 4 ▪ On or before January 31 in each year after the start of construction
- 5 ▪ At least 30 days prior to the start of operations
- 6 ▪ On or before January 31 in each year after the start of operations

7 As part of reporting, FortisBC will provide a Table of Concordance outlining the EAC Condition, the activity
8 conducted to date to fulfill the Condition, and the Condition requirements and status of completion.

9 Reports will be submitted electronically to applicable regulatory agencies, Squamish Nation
10 (Skwxwú7mesh Úxwumixw), Tsleil-Waututh Nation, Musqueam Indian Band, and Kwikwetlem First Nation.

11 Reports will be made available to the public through the BC EAO Project Information Centre portal.

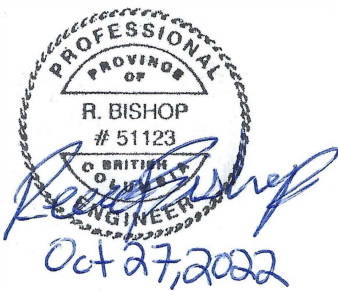
1 13. Professional Authentication

2 The TCMP has been developed by a Qualified Professional. This individual is directly responsible for
3 providing professional services and submitting accurate work as directed by FortisBC in support of the
4 submission as required by the BC EAO.

5

6

7 Reece Bishop, P.Eng, MBA



1 14. References

- 2 British Columbia Environmental Assessment Office (BC EAO). 2016. *EAC E16-01 Eagle Mountain –*
3 *Woodfibre Gas Pipeline – Environmental Assessment Certificate.*
4 <https://www.projects.eao.gov.bc.ca/p/588511ddaaecd9001b826f0d/certificates>.
- 5 British Columbia Ministry of Transportation and Infrastructure (BC MoTI). 2020. *Traffic Management*
6 *Manual for Work on Roadways.*
- 7 City of Coquitlam. 2022. *Truck & Goods.* <https://www.coquitlam.ca/171/Trucks-Goods>.
- 8 District of Squamish. 2017. *District of Squamish Official Community Plan: Schedule G, Major Road Network*
9 *Plan* [map]. <https://squamish.civicweb.net/document/52615>.
- 10 Stantec. 2016. *Shannon Falls Grade Crossing Safety Assessment Summary Report.*

Appendix A
Traffic Management Category
Assessment and Plan Requirements

1 Appendix A. Traffic Management Category Assessment and Plan 2 Requirements

3 Categories specify the level of detail and consideration required for the Contractor Traffic Management
4 Plan (Contractor TMP) by the British Columbia (BC) Ministry of Transportation and Infrastructure (MoTI)
5 for the Contractors.

6 A.1 Highway 99 and Darrell Bay Road Category Determination

7 Highway 99 and Darrell Bay (Kwtsá7tsutsin) have specific requirements as a result of the BC MoTI Road
8 Authority. For BC MoTI roadways, Category determination is conducted to determine the extent of
9 information required in the Contractor TMP and the subplans.

10 The Contractor TMP is then developed based on these requirements.

11 The *Traffic Management Manual for Work on Roadways* (TMM) (BC MoTI 2020) outlines a structured
12 process that is used to determine the Project Category. The process is summarized as follows:

- 13 1) **Initial Category Assessment:** Generally assesses the roadway, traffic features, and construction
14 complexities.
- 15 2) **Risk Analysis:** Identifies the specific Eagle Mountain-Woodfibre Gas Pipeline Project (EGP Project)
16 risks based on a structured approach.
- 17 3) **Final Category Determination:** Combines the initial EGP Project assessment with the risk analysis to
18 determine the final EGP Project Category.

19 Project categories are generally defined as follows:

- 20 ▪ **Category 1** projects would have minimal impacts on public road functionalities and capacities. They
21 are typically applied to projects along simple terrains and two-lane undivided roadways with lower
22 speeds and traffic volumes.
- 23 ▪ **Category 2** projects are typically located along higher-speed or higher-volume corridors with
24 complexities regarding construction activities. Impacts to the travelling public are moderate due to
25 the roadway capacities or construction activities.
- 26 ▪ **Category 3** projects are large and complex, and have visible impacts on the public traffic
27 functionalities. These projects involve corridors with high traffic volumes and speeds, project duration,
28 active night work, mountainous terrains, or a requirement for lane closures and/or detours. In addition,
29 Category 3 is usually applied to projects along urban corridors.

30 A.1.1 Initial Category Assessment

31 The TMM (BC MoTI 2020) includes several traffic-related considerations in its initial assessment of the
32 Category, which are listed as follows:

- 33 ▪ Posted or statutory speed (posted speed of the roadway)
- 34 ▪ Traffic volume, including traffic volume during peak hours (both directions)
- 35 ▪ Lanes (number of lanes in both directions)
- 36 ▪ Encroachment (location of work)
- 37 ▪ Detours

Traffic Control Management Plan

- 1 ▪ Duration of work
 - 2 ▪ Allowable delays (delay time plus time to travel through work zone in minutes)
 - 3 ▪ Time of day (that work will occur)
 - 4 ▪ Vertical alignment
 - 5 ▪ Horizontal alignment
 - 6 ▪ Intersections
 - 7 ▪ Runaway lanes
 - 8 ▪ Pedestrians and cyclists
 - 9 ▪ High-occupancy vehicle (HOV) or bus lane
 - 10 ▪ Counter-flow lane
- 11 The final Project Category will be included in the Contractor TMP and it will be the responsibility of the Contractor to complete the Category and risk analysis based on their operations. Based on the information known to date, an initial Category Assessment was developed for the EGP Project.
- 12
- 13
- 14 The assessment determined that the EGP Project was a Category 2 project. Table A-1 contains the assessment table from the TMM (BC MoTI 2020).
- 15

Table A-1. Initial Category Assessment

Traffic Consideration	Value	Point Value	Score
Posted or Statutory Speed Regular posted speed limit of the roadway	≤ 50 km/hr	1 point	4
	60 to 70 km/hr	3 points	
	≥ 80 km/hr	4 points	
Traffic Volume Traffic volume (both directions) in peak hours	< 1,000 vehicles per hour	1 point	3
	1,000 to 3,000 vehicles per hour	3 points	
	> 3,000 vehicles per hour	4 points	
Lanes Number of lanes in both directions (including auxiliary lanes)	Two lanes	0 point	3
	Three lanes	2 points	
	Four lanes or more	3 points	
Encroachment Location of work	Off roadway	0 point	0
	Shoulder work or partial lane closure	3 points	
	Full lane closure, ramp closure, or intersection closure	4 points	
Detours	No detour during construction	0 point	0
	Detour traffic on temporary roadway during construction next to work zone	3 points	
	Detour route during construction takes traffic off regular route away from work zone; requires detour signing	4 points	

Table A-1. Initial Category Assessment

Traffic Consideration	Value	Point Value	Score
Duration of work	Short-duration work (no more than one daytime shift)	1 point	4
	Long-duration work (less than 2 weeks)	2 points	
	Long-duration work (2 or more weeks)	4 points	
Allowable delays	< 20 minutes	1 point	1
	≥ 20 minutes	3 points	
	No allowable delay	4 points	
Time of day Time of day that work will occur	Daytime only work	1 point	3
	Active daytime work, with Traffic Control Devices in place at night	3 points	
	Active nighttime work	4 points	
Vertical alignment	Flat terrain	0 point	0
	Rolling terrain	1 point	
	Mountainous terrain	2 points	
Horizontal alignment	Tangent	0 point	0
	Horizontal curves, no curve advisory speeds	1 point	
	Horizontal curves, with curve advisory speeds	2 points	
Intersections	No intersections or stop-controlled intersection(s)	0 point	4
	Signalized intersection(s) with no left or right turn phases, or single-lane roundabout	2 points	
	Signalized intersection(s) with left or right turn phase(s), or multilane roundabout	4 points	
	Interchange(s)	5 points	
Runaway lanes	No runaway lanes	0 point	0
	Runaway lanes in or near the work zone; they will not be blocked at any time during course of work	1 point	
	Runaway lanes in or near work zone; they may be blocked by work or queues during course of work	4 points	

Table A-1. Initial Category Assessment

Traffic Consideration	Value	Point Value	Score
Pedestrians and cyclists	No pedestrians or cyclists	0 point	3
	Possible pedestrians and cyclists	2 points	
	Designated cycle route, sidewalk, or multiuse pathway	3 points	
HOV or bus lane	No HOV or bus lane	0 point	0
	HOV or bus lane	4 points	
Counter-flow lane	No counter-flow lane	0 point	0
	Counter-flow lane	4 points	
		Total score	25
		Category 1	< 16
		Category 2	16 to 25
		Category 3	> 25
		Initial Project Category	2

Source: BC MoTI, 2020.

Notes:

> = greater than

≥ = greater than or equal to

< = less than

≤ = less than or equal to

km/hr = kilometre(s) per hour

1 A.1.2 Risk Analysis and Final Category Determination

2 A high-level risk assessment for the four primary zones of construction was conducted using templates
 3 provided by BC MoTI. The final EGP Project Category Determination will dictate the level of detail required
 4 in the Contractor TMP for each work zone.

5 A.2 Category 2 Contractor TMP Requirements

6 Category 2 Contractor TMPs are typically required for projects that may be located on higher-speed or
 7 higher-volume corridors. Impacts to the travelling public may be higher because of the roadway
 8 characteristics or the type of work being conducted.

9 For projects on freeways, expressways, or roads where the posted speed limit 70 km/hr and above, there
 10 may be a requirement to have the Contactor TMP prepared under the direction of a Professional Engineer
 11 who is licensed in BC and qualified and experienced in traffic management planning and highway safety.

- 1 The Contractor will provide updates of the Contractor TMP to the Road Authority's EGP Project
2 representative for review and acceptance.
- 3 Category 2 Contractor TMPs will include:
- 4 ▪ Road Authority contact information
 - 5 ▪ A description of EGP Project area, including the following:
 - 6 – The classification of roadway
 - 7 – The number of lanes (that is, undivided or expressway)
 - 8 – The normally posted speed limit
 - 9 – The road alignment
 - 10 ▪ A description of the work activity, including the following:
 - 11 – The type and hours of work
 - 12 – The location and size of work zone
 - 13 – The lanes affected by the works and lane configuration in the work zone
 - 14 – The maximum proposed delays or closure times
 - 15 ▪ A description of site factors, hazards, and impacts, including the following:
 - 16 – The location, nature, and impacts of hazardous areas
 - 17 – The accesses or intersections that will be affected by the work zone or by Traffic Control Devices
 - 18 – The deviations in traffic patterns or traffic behaviours
 - 19 – The geometric roadway conditions (horizontal and vertical roadway geometry)
 - 20 – The anticipated weather conditions
 - 21 – Any other relevant risk factors

22 An Implementation Plan is required for Category 2 projects. Category 2 Implementation Plans will identify
23 the names and duties of individuals responsible for overseeing the implementation of the Contractor
24 TMPs in accordance WorkSafeBC legislation (WorkSafeBC 2007) and the duties outlined in Section 1.2.3,
25 Traffic Control Responsibilities, and Section 5, Traffic Control Personnel of the TMM (BC MoTI 2020),
26 which includes the following:

- 27 ▪ Site Supervisor
- 28 ▪ Traffic Control Manager
- 29 ▪ Traffic Control Supervisor
- 30 ▪ Traffic Control Personnel
- 31 ▪ Traffic Engineer (if required)

32 **A.3 References**

33 British Columbia Ministry of Transportation and Infrastructure (BC MoTI). 2020. *Traffic Management*
34 *Manual for Work on Roadways*.

35 Workers' Compensation Board of B.C. (WorkSafeBC). 2007. *Occupational Health and Safety Regulation*
36 Part 18, "Traffic Control." (Effective January 1, 2007).

Appendix B

Risk Assessment

1 Appendix B. Risk Assessment

2 Table B-1 summarizes the details of this assessment, including identification of potential issues or
 3 hazards, assignment of a risk factor to each issue, and determination of possible actions to mitigate the
 4 particular risk factor to each issue.

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Falling objects	Object of any kind (rock, earth [Temixw], tools, or construction materials) that could fall on the roadway, pedestrian walkway, or right-of-way accessed by the public.	Low risk, given that the EGP Project primarily involves trenching, pipe ramming, or tunnelling construction under the roadways and pedestrian facilities.	Where overhead work may be required, provide a lateral offset or install hoarding to protect pedestrians. Detour pedestrian and cycle paths away from overhead work, wherever possible.
Nature of work activity	Does the work activity create a hazard? Blasting, rock scaling, and excavation are obvious examples. However, excessive dust, dirt (Temixw), or gravel on the roadway, or paint overspray can also cause hazards. Any work activity that distracts a driver or creates unanticipated driving conditions should be considered as a potential hazard.	Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques. Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, potential dirt [Temixw], dust, or gravel on the road surface, trench safety and trench engineered loading, and so forth).	Where construction is required immediately adjacent to the highway, incorporate visual screening, as appropriate. Where open-trench construction is implemented along municipal roadways, incorporate physical separation between traffic and the work area, along with appropriate warning signage. Where tracking of mud and dirt (Temixw) is a potential concern, provide wheel-washing facilities or regularly sweep the roadway, or both.
Removal of safety device	If the work activity requires that safety devices be removed, does this create a hazard that must be mitigated? Examples of safety devices include guardrail, crash attenuators, lighting, pavement markings, signage, traffic signals, or reflectors.	Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques. Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, requiring lane closures, removal of existing signing and pavement markings, or both).	Where open-trench construction is implemented along municipal roadways, incorporate reduced speed zones (as appropriate) along with warning signage and lane delineation. Coordinate any required changes to existing traffic signal operations with the Municipal Road Authority. Provide safety devices that are required for temporary relocation (including barriers and crash attenuation) in the interim.

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Equipment movement through work zone	Is equipment movement likely to conflict with normal traffic in the work zone? An example would be construction vehicles causing vehicle queues as they arrive at and leave the work area.	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques (that is, no direct impact to travel lanes).</p> <p>Medium risk, where construction traffic accesses the work zone off of public roads, not at existing entrances and exits off the roadway, or construction traffic increases the overall volume of traffic to a point that the Level of Service decreases.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, may involve lane closures and construction vehicle access during peak traffic periods).</p>	<p>Where open-trench construction is implemented along municipal roadways, some lane closure may be required in communication with local Road Authorities.</p> <p>Establish protocols for moving construction equipment across roadways (that is, involving Traffic Control Personnel with jurisdictional authorities). Furthermore, construction access points off or onto the Public Roadway should be included in the Contractor Traffic Control Plan and Traffic Control Personnel should be used, as needed, to maintain the safety of the public.</p> <p>The public traffic will be protected from the construction equipment during non-work hours.</p>
Roadway surface condition during construction	Will the roadway surface create a hazard? For example, pavement milling may create difficulties for motorcycles and cyclists.	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, may involve traffic temporarily running on rough surfaces prior to final asphalt lift re-instatement).</p>	Place contractual requirements on the allowable duration of running traffic on milled surfaces. Install adequate signage to provide advanced warning to motorcycles and cyclists.
Storage of equipment and material	Will storage of equipment or materials at the work area create a hazard? A hazard could be a physical obstacle created by an object stored too close to the travelled roadway. Another type of hazard could be created by poor control of material such that vandalism is a possibility.	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques (that is, construction occurs outside of roadway lanes and shoulders).</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, equipment and materials may be located adjacent to travel lanes).</p>	<p>Where open-trench construction is implemented along municipal roadways, requiring the storage of equipment and materials adjacent to travel lanes, incorporate reduced speed zones (as appropriate) along with warning signage and lane delineation.</p> <p>Where clear zone requirements apply (that is, higher-speed areas), but cannot be met, locate equipment and material storage behind barriers.</p>

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Load restrictions as a result of construction	Should restrictions on the types of vehicles using the roadway be imposed during construction?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques (that is, construction occurs outside of roadway lanes and shoulders).</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, some localized narrowing of the road carriageway will be required, possibly restricting the passage of overwide load vehicles).</p>	Where open-trench construction is implemented along municipal roadways, requiring localized narrowing of the road carriageway, discussion with the Municipal Road Authority may be required to establish and define alternate truck routes. Establish a Communication Protocol with the local trucking agencies for any impacted truck routes.
Lane widths	Are lane widths in the open lanes reduced to less than 3.6 metres or are objects located closer to the edge of the roadway than acceptable for the highway classification?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, some localized narrowing of lane widths may be required, including potential areas with single lanes or alternating traffic).</p>	Where open-trench construction is implemented along municipal roadways, requiring localized narrowing of lane widths, single-lane or alternating traffic, or some combination of these, incorporate reduced speed zones (as appropriate) along with warning signage. In addition, explore opportunities to re-instate full lane widths during no construction periods, such as at night and on weekends, by temporary backfilling and steel-plating trenches.
Work zone or queues block access (active or inactive site)	Is the work zone or traffic queues created by the work zone likely to block road or business accesses?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, requiring temporary blockage of some private business and residential driveways).</p>	Where open-trench construction is implemented along municipal roadways, requiring temporary blockage of some private driveways, provide Traffic Control Personnel to direct safe passage of private property traffic (where alternative access cannot be provided). Alternatively, some lane closures and certain construction activities may need to be restricted during the peak traffic periods (confirmation with the municipalities required).

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Transit access	Will the work zone impede transit access through the work zone? Will the work zone affect bus stops?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques (that is, construction occurs outside of roadway lanes and shoulders).</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, may impact some bus routes and require the occasional local bus stop relocation).</p>	<p>Where open-trench construction is implemented along municipal roadways, coordinate closely with the local transit authority regarding potential impacts to bus stops and routing.</p> <p>Alternatively, some lane closures and certain construction activities may need to be restricted during the peak traffic periods.</p>
Impact of special events	Is the route on which the EGP Project is located likely to be affected by special events? If so, what special events are likely to cause problems for the EGP Project?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, where large venues exist for the purposes of hosting events).</p>	<p>Where open-trench construction is implemented along and within municipal roadways, liaise closely with the Municipal Road Authority and large private venues regarding special event schedules through the permitting process. Include any local special event schedules as part of the Public Information Plan and process.</p> <p>The Traffic Control Management Plan and the Contractor Traffic Management Plans will address special event requirements, if needed.</p>
Overlapping work	Are there other construction works in the immediate or nearby area where the respective traffic controls could impact one another?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, multiple nearby construction sites requiring traffic control with overlapping zones of influence – either conducted by the same or different Contractors).</p>	<p>Where open-trench construction is implemented along municipal roadways, include contractual requirements whereby the Contractor must coordinate multiple work zone traffic controls (that is, in the instance of the same EGP Project works). Liaise closely with Municipal Road Authorities on other potential overlapping work zone traffic controls (that is, in the instance of different EGP Project works).</p>

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Emergency facility (that is, hospital, police, ambulance, and fire stations)	Are there any nearby emergency facilities that rely on the subject roadway for access?	<p>Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, potential impedance to designated response routes of nearby emergency facilities, including the Royal Canadian Mounted Police, the Squamish General Hospital, the Squamish Fire Hall, fire response routes, ambulances, and so forth).</p>	Where open-trench construction is implemented along municipal roadways, liaise with Municipal Road Authorities on potential locations of nearby emergency facilities and their designated response routes. Include protocols as part of the Incident Management Plan to deal with such instances and provide sufficient Traffic Control Personnel on-site. The Contractor will include protocols for allowing the passage of emergency vehicles through a work zone in their traffic management requirements.
<i>Additional Risks not included in the British Columbia Ministry of Transportation and Infrastructure Project Risk Analysis</i>			
Noise levels created by work activities	Will local residents or businesses be negatively impacted by noise created by work activities? Will municipal bylaws be a consideration?	<p>Generally low risk, given that the majority of construction will be located along remote areas of the EGP Project corridor.</p> <p>Medium risk, where open-trench construction will be implemented along some municipal roadways (that is, particularly in areas with nearby residences).</p> <p>Areas adjacent to the BC Rail site where the tunnel portal will be constructed. Noise from the boring machine and transport of waste material.</p>	Where open-trench construction is implemented along municipal roadways, municipal noise bylaws should apply (and be included in contractual requirements). Plan to limit night work in residential areas to low-noise activities only.
Pedestrian and cyclist movements through traffic	Will special measures be needed to convey pedestrians or cyclists through the work zone?	<p>Generally low risk, where highway and major roadway crossings will be constructed using trenchless techniques (that is, construction occurs outside of roadway lanes and shoulders).</p> <p>Medium or high risk, where open-trench construction will be implemented along municipal roadways (that is, particularly along municipally designated bike routes).</p>	Where open-trench construction is implemented along municipal roadways, liaise closely with the Municipal Road Authorities to determine the existing bike network and potential alternate routes. Where existing bike and pedestrian paths are maintained or locally detoured, provide adequate signage and keep travel surfaces clear of debris. Due consideration needs to be given to accessibility for the mobility impaired and the need for cyclist dismounting.

Table B-1. Risk Assessment

Issue	Description	Risk Factor	Mitigation
Nighttime work	What nighttime safety considerations must be addressed to maintain a safe work zone for the travelling public and workers? Consider the use of additional Traffic Control Devices optimized for nighttime work, work area lighting, and traffic control supervision.	Generally low risk, given that highway and major roadway crossings will be constructed using trenchless techniques. Medium risk, where open-trench construction will be implemented along some municipal roadways, as well as access to and from the tunnel portal at the BC Rail site.	Keep signage clean and use high-reflective sheeting and reflective pavement markings. Traffic Control Personnel should also wear high-visibility clothing. Use flashing arrow boards, as required. Implement temporary lighting to mitigate dimly lit areas. Delineate lanes with retroreflective markers and hazards using low-intensity, flashing warning lights.
Dust and debris	Are there other construction works that may increase the dust and debris on a public use roadway?	Generally low risk, given that trucks are required to cover their load prior to travel.	Water trucks may be needed to maintain low dust on roadways with active construction.

Note:

EGP Project = Eagle Mountain-Woodfibre Gas Pipeline Project

Appendix C

Incident Response

1 **Appendix C. Incident Response**

2 This appendix describes how to respond to Level 1 and Level 2 incidents (with or without injury) that occur
3 in an active work zone.

4 **General response for incidents:**

- 5 ▪ Have someone call **911**, if necessary.
- 6 ▪ Stop or detour traffic.
- 7 ▪ Give proper attention to injured parties.
- 8 ▪ Inform the Road Authority.
- 9 ▪ Provide the Road Authority with regular updates.
- 10 ▪ Inform construction supervisors and workers of the situation.
- 11 ▪ Provide a route for emergency vehicles to enter and leave the active work zone, using available
12 resources.
- 13 ▪ Redirect traffic flow, if possible, within the construction zone and away from the collision.
- 14 ▪ Photograph the scene of the collision.
- 15 ▪ Document information pertaining to the collision.
- 16 ▪ Await recovery.
- 17 ▪ Resume traffic flow, redirecting traffic, as necessary.
- 18 ▪ Inform the Road Authority when the incident has cleared.

19 **Response for oils and hazardous materials emergency:**

- 20 ▪ Refer to the Spill, Fuel, and Hazardous Materials Contingency Plan in the Construction Environmental
21 Management Plan (CEMP).

22 **Response for collisions involving animals:**

- 23 ▪ Refer to the Wildlife Encounter Contingency Plan in the CEMP.
- 24 ▪ Contact the Roads Maintenance Contractor to initiate corrective actions.
- 25 ▪ Inform the Road Authority.
- 26 ▪ Document information pertaining to the collision.

27 **Response for disabled motor vehicles:**

- 28 ▪ Notify the Operations, Maintenance, and Rehabilitation Contractor.

Table C-1. Emergency Contacts

Contact	Contact Number
Police/Ambulance/Fire	911
FortisBC Natural Gas Safety	1-800-663-9911
Emergency Management BC	1-800-663-3456

Table C-1. Emergency Contacts

Contact		Contact Number
Fisheries and Oceans Canada Spill Reporting Line		1-800-465-4336
BC Ministry of Environment and Climate Change Strategy Conservation Officer		1-877-952-7277
BC Safety Authority Safety Manager (Gas)		1-866-566-7233
BC One-Call		1-800-474-6886
BC Forest Fire Reporting Centre		1-800-663-5555 (or *5555)
BC Oil and Gas Commission Incident Reporting		1-866-663-3456
24-hour Emergency Line, District of Squamish		1-877-890-5711
Public Works Emergencies, District of Squamish		1-604-815-4040 (24 hours) 1-604-815-6868 (7 a.m. to 3:30 p.m.)
Engineering Department, District of Squamish		1-604-815-5021
Communications Department, District of Squamish		1-604-815-5025
Squamish-Lillooet Regional District communication		1-604-894-6371
Miller Capilano (Roads Maintenance Contractor)		1-604-892-1010
BC MoTI Area Manager		1-236-455-4577 shannon.payne@gov.bc.ca
BC MoTI Operations, Maintenance and Rehab Technician		1-604-323-4986 daniel.johnson@gov.bc.ca
Local Contact (Non-emergency)	Location	
Royal Canadian Mounted Police	City of Coquitlam	1-604-945-1550
	District of Squamish	1-604-892-6100
Ambulance	City of Coquitlam	1-866-952-2448
	District of Squamish	1-604-872-5151
Hospital	City of Coquitlam	1-604-777-8730
	District of Squamish	1-604-894-6371
Fire	City of Coquitlam	1-604-927-6400
	District of Squamish	1-604-898-9666

Table C-1. Emergency Contacts

Contact		Contact Number
Environmental Manager	Squamish Nation (Sk̓w̓wú7mesh Úxwumixw) Rights and Title Department	To be determined

Notes:

BC = British Columbia

BC MoTI = British Columbia Ministry of Transportation and Infrastructure

Appendix D
Sample Traffic Control Layout Drawings

1 **Appendix D. Sample Traffic Control Layout Drawings**

2 The following layouts provided from Section 7 of the *Traffic Management Manual for Work on Roadways*
3 (BC MoTI 2020) are examples of the traffic setups and possible drawings that the Contractor needs to
4 provide to the Roadway Authorities. The final responsibility to provide appropriate layouts for relevant
5 traffic or site conditions and to get approval from the relevant Road Authority lies with the Contractor.

6 **D.1 References**

7 British Columbia Ministry of Transportation and Infrastructure (BC MoTI). 2020. *Traffic Management*
8 *Manual for Work on Roadways*.

Figure 7.2: Typical Construction Speed Zone Signing – Two-Lane, Two-Way Roadway

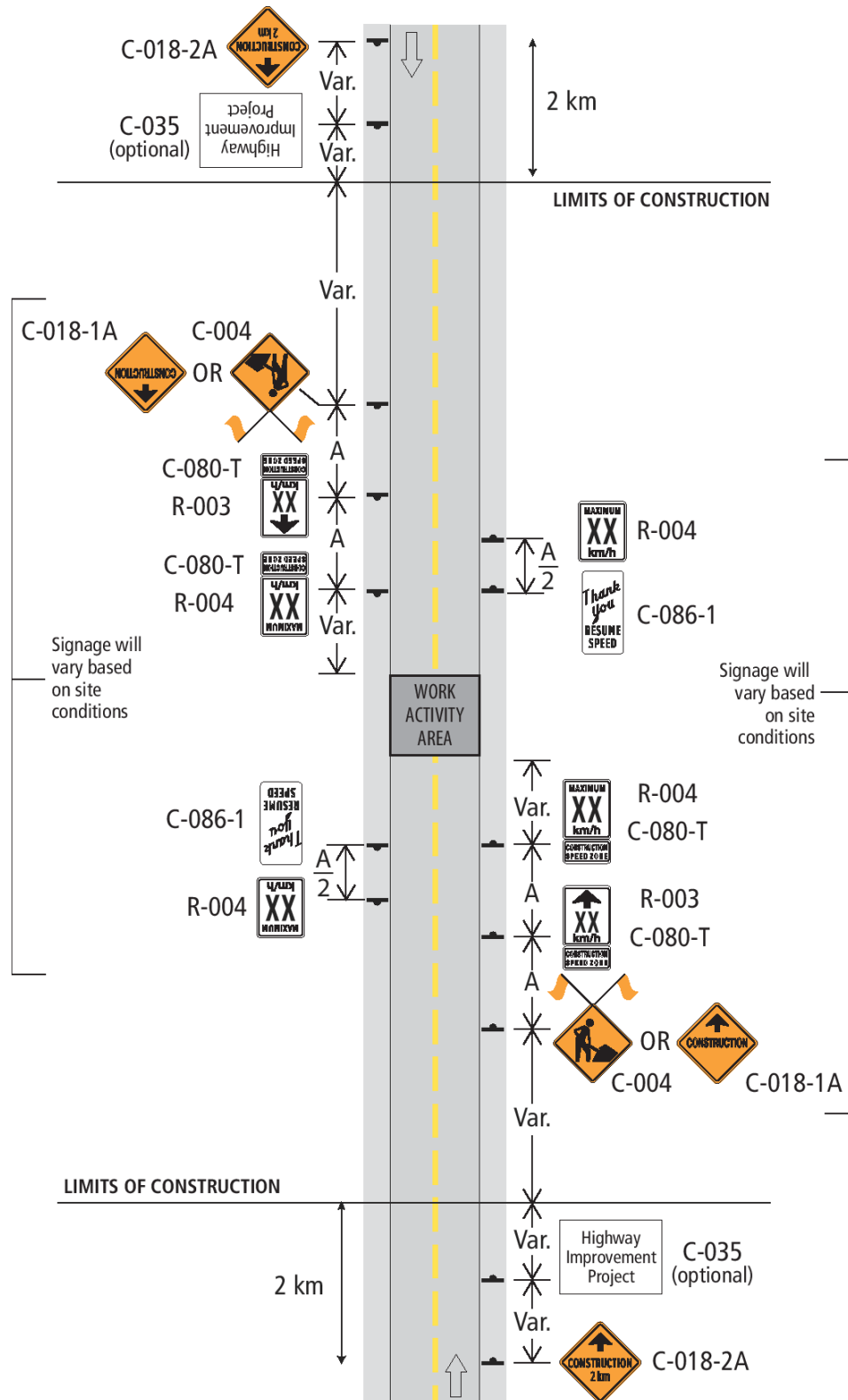


Figure 7.5: Work on Shoulder – Short and Long Duration

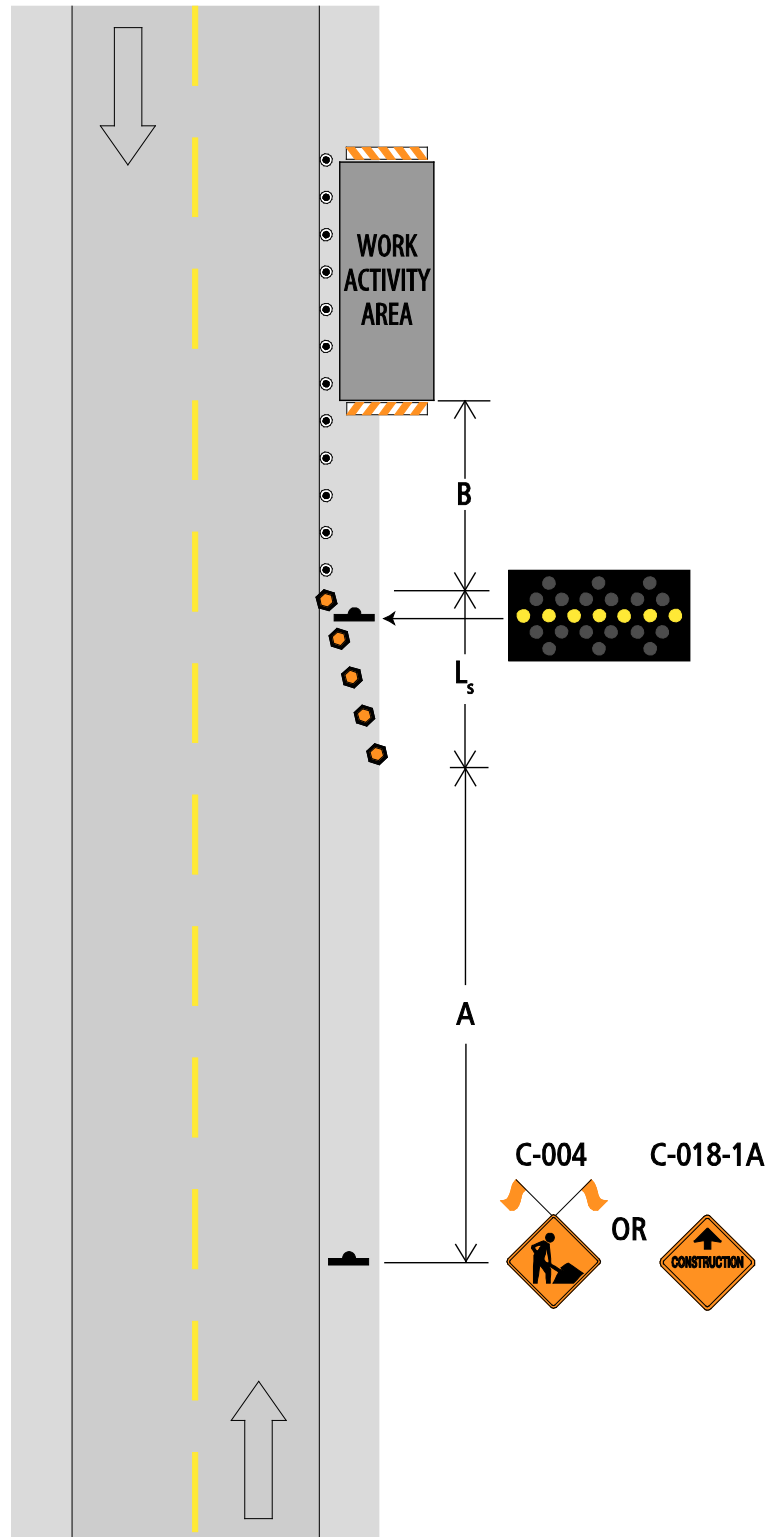


Figure 7.9: Lane Closure with AFADs – Short and Long Duration

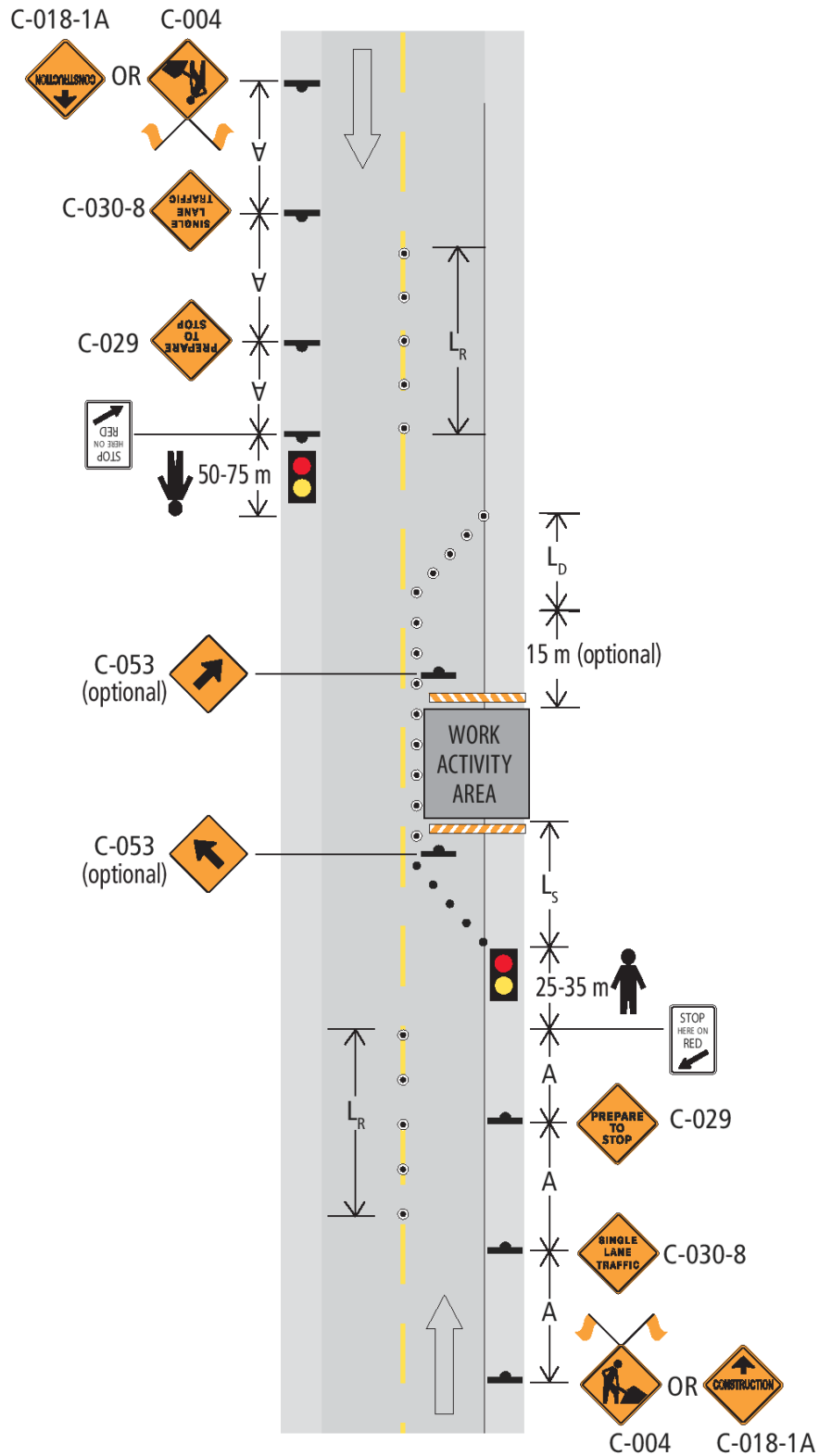


Figure 7.12: Work on Low-Volume Roadway – No Centreline – Long Duration

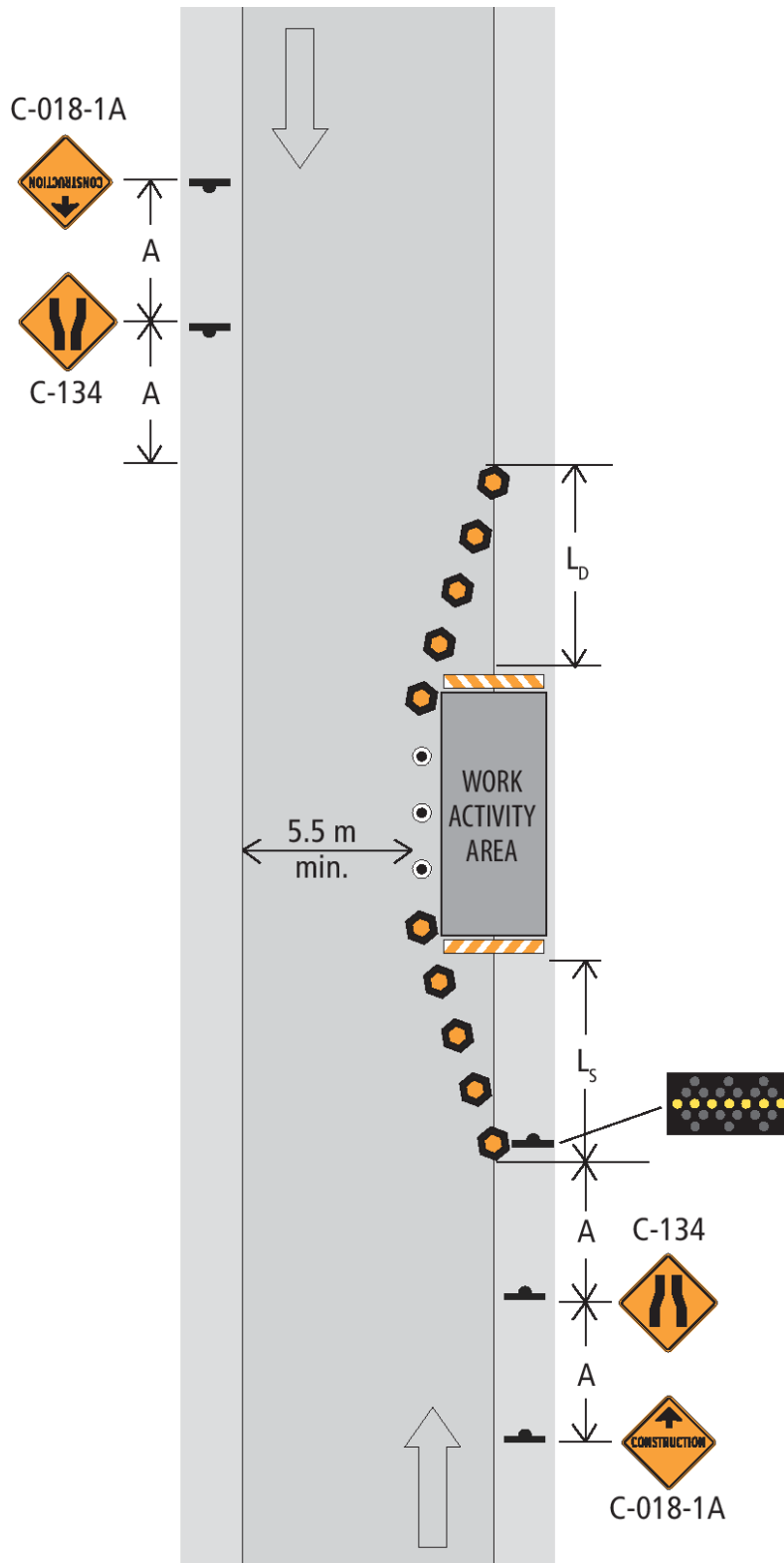


Figure 7.8: Lane Closure with TCPs – Single Lane Alternating – Short and Long Duration

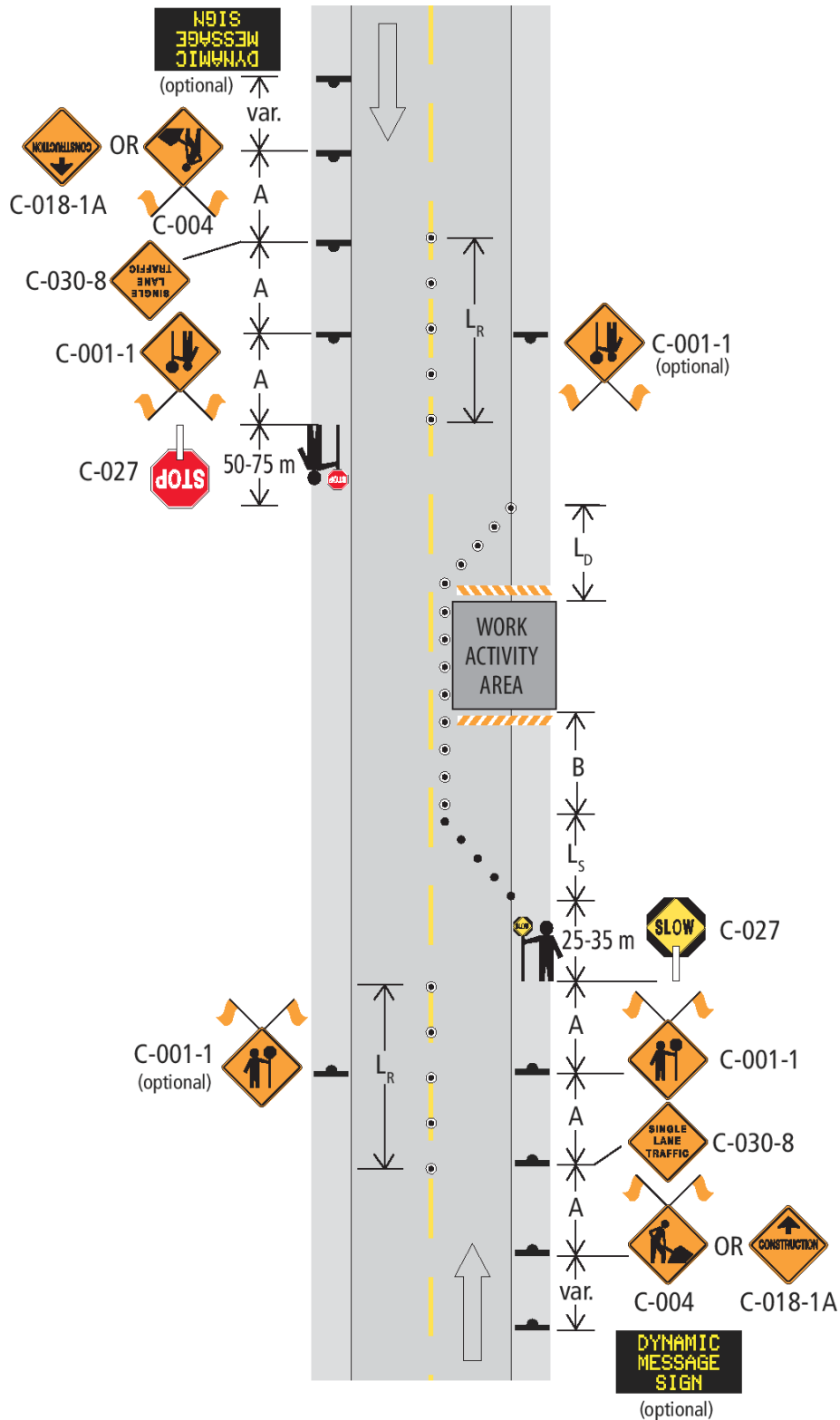


Figure 8.2: Typical Construction Speed Zone Signing – Multilane Undivided Roadway

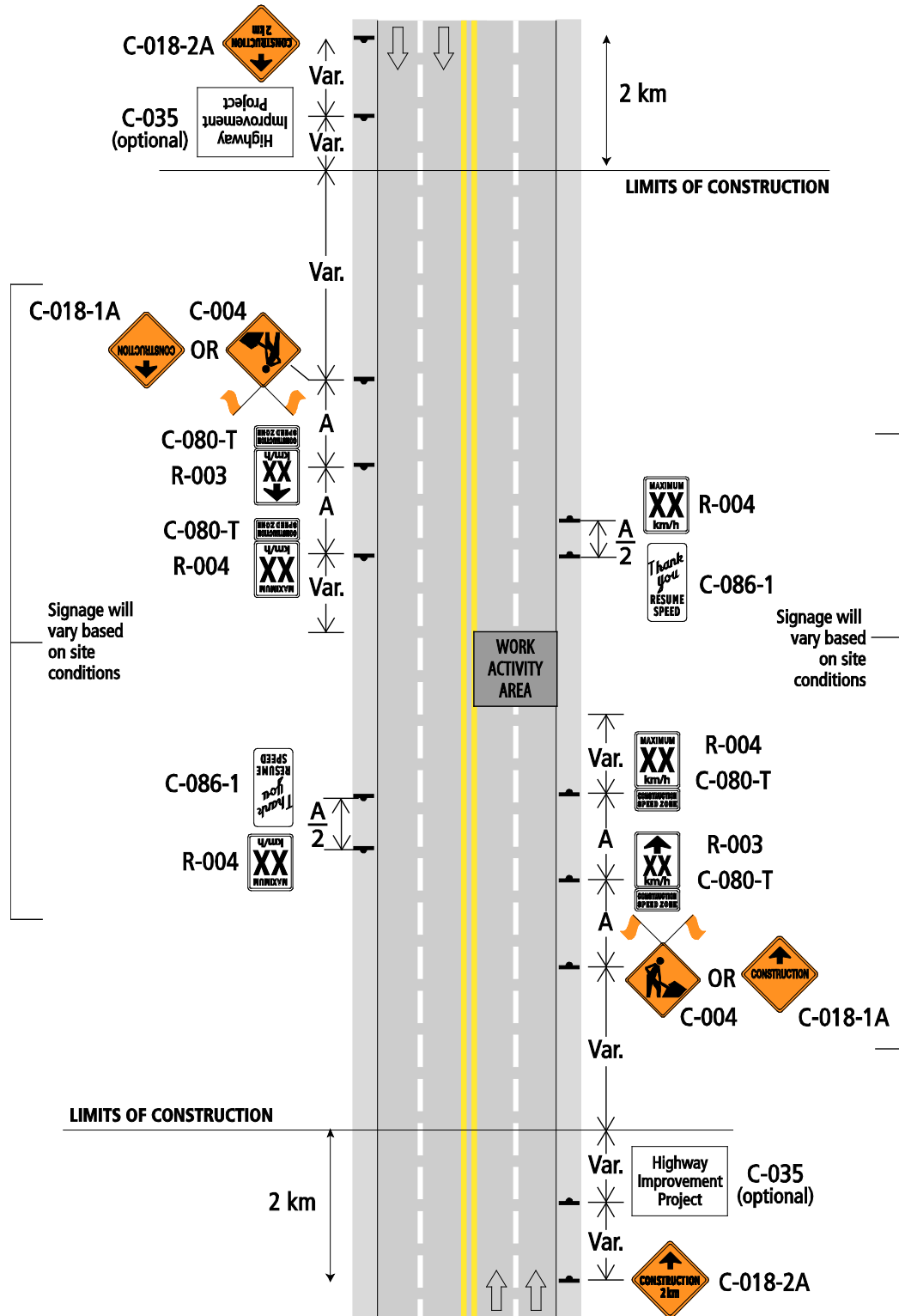
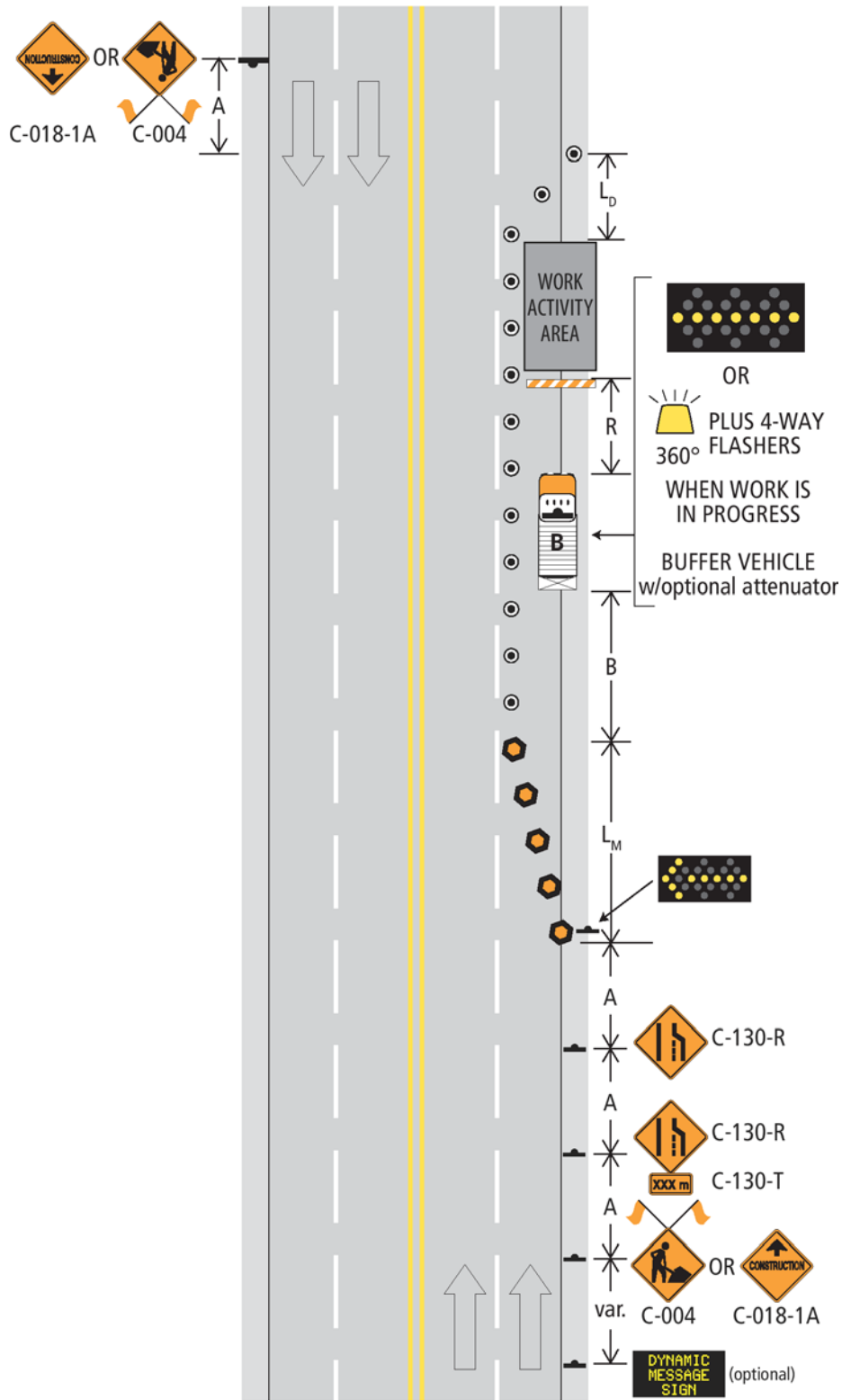


Figure 8.6: Right Lane Closed – Short and Long Duration



Appendix E
Construction Mitigation for Traffic Management

1 Appendix E. Construction Mitigation for Traffic Management

Activity/Concern	Mitigation Measures
<i>Traffic and Access Restrictions</i>	1. Acquire Road Use Agreements with Road Permit Holders for roads affected by the EGP Project. Discuss EGP Project schedules and potential access restrictions, construction time frames necessary for access, expected traffic volumes, road maintenance, road safety issues and radio frequencies, with the applicable Road Permit Holders [R-79].
	2. Use existing access to the extent practical [R-78].
	3. Review and adhere to the measures related to pre-construction and construction traffic in the Access Management Plan and Traffic Control Management Plan. Contractor personnel will adhere to applicable traffic, road use, and safety requirements [NR-315].
	4. Follow acceptable heavy truck routes and approved access routes. To the extent practical, seek to schedule heavy construction traffic to periods of less traffic where it would reduce impacts on businesses, residences, schools, and school bus routes [R-147].
	5. Obtain required bridge restriction and oversize load permits [R-148].
	6. Communicate with Royal Canadian Mounted Police, police, and emergency services personnel to keep these organizations informed of traffic schedules and enlist their services as needed [R-149].
	7. Prohibit the recreational use of all-terrain vehicles by construction personnel on the EGP Project Footprint or at associated EGP Project facility sites [R-150].
	8. Establish speed limits on the EGP Project Footprint and access roads. Post signs stating the applicable speed limits for construction traffic. Advise construction personnel to comply with applicable provincial- and EGP Project-related traffic, road use, and safety laws or requirements [R-152].
	9. Transport workers to and from the EGP Project by multipassenger vehicles to the extent practical. Pick up and drop off workers at marshalling areas to limit traffic volumes and the potential for vehicle-wildlife interactions [R-153].
	10. Install appropriate protection to prevent damage at road and rail crossings when moving construction equipment across roads and rail lines [R-155].
	11. Install temporary erosion and sediment control measures on sloped approaches to roads and rail crossings where the vegetative mat has been disturbed, as required [R-156].
	12. Shovel and sweep clean mud tracked onto paved roads following equipment crossings [R-157].
	13. Repair any damage to roads, caused by the EGP Project activities, to pre-construction condition. Seek to avoid physical disturbance to roads used for regional access to parks and protected areas, to the extent practical [R-158].
	14. Locate turnaround points in natural clearings, to the extent practical. Obtain approval from the Contractor Environment Coordinator and landowner or land authority if extra temporary workspace is needed for turnaround points [R-159].
	15. Maintain access to established recreation features, through the clearing, construction, and restoration period, to the extent practical [R-161].

Traffic Control Management Plan

Activity/Concern	Mitigation Measures
<i>Traffic and Access Restrictions (cont'd)</i>	16. Notify the public in accordance with FortisBC Energy Inc.'s Communication Plan at the commencement of construction of the EGP Project components, including the pipeline, tunnel, east shaft, Woodfibre LNG Limited Portal, facilities, and temporary infrastructure sites, and as required by EGP Project approvals, or when there is the potential to restrict access, until the EGP Project is complete [R-162].
	17. Place signage on access roads in the vicinity of the construction activities, notifying road users that construction activities are taking place [R-163].
	18. For construction in urban areas, establish alternate access routes for commercial or residential areas, to the extent practical. Install signage to direct traffic flows to alternate access routes [R-165].
	19. Use multipassenger vehicles for the transport of crews to and from the job sites, to the extent practical, to reduce emissions during construction [R-133].

Note:

EGP Project = Eagle Mountain-Woodfibre Gas Pipeline Project