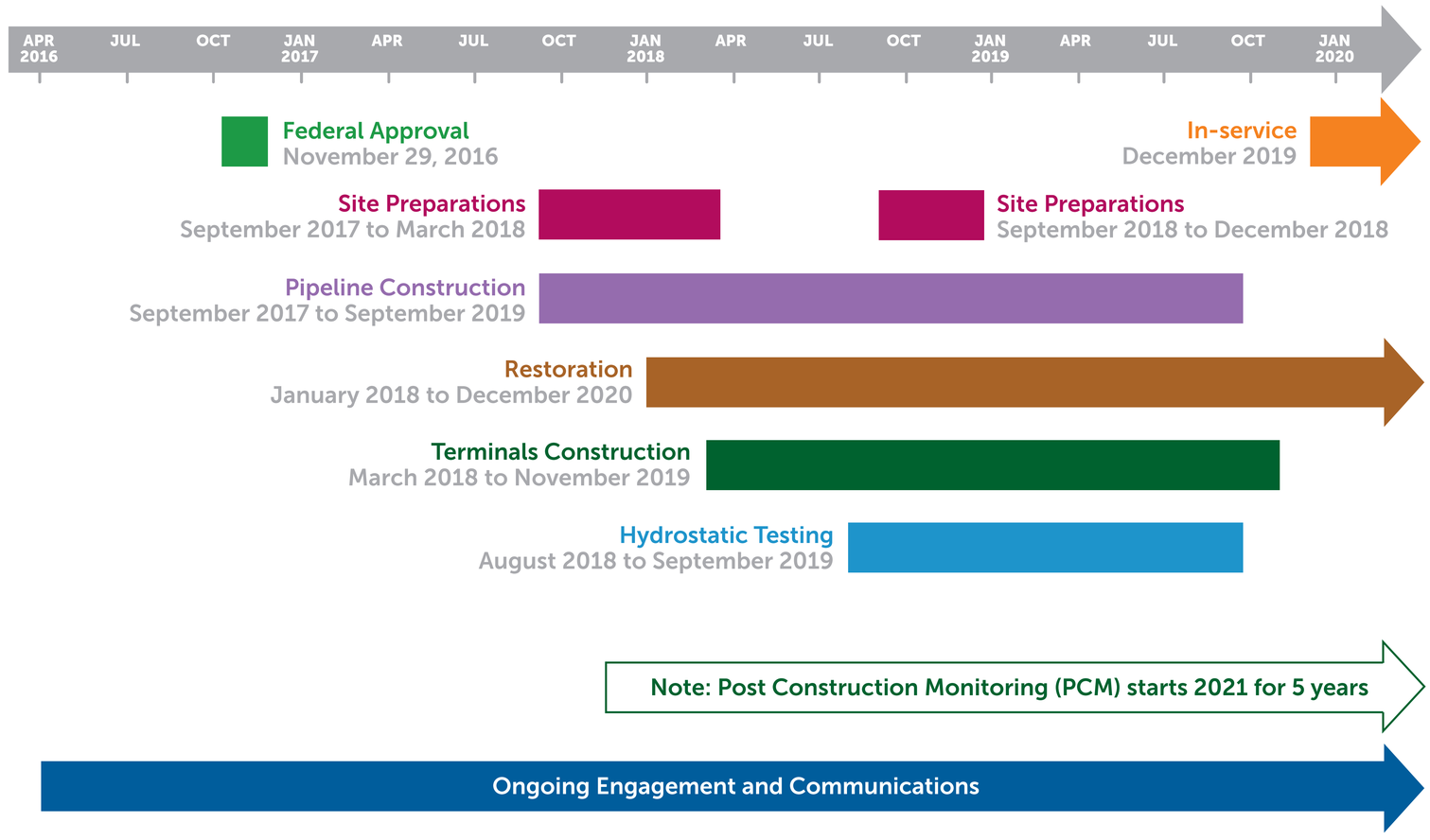
PROJECT CONSTRUCTION TIMELINE



Federal Approval • Governor in Council approved the Project following a positive recommendation from the National Energy Board in May 2016

Site Preparations • Line sweep, clearing, access

Pipeline Construction • Haul, string, weld, lower-in, tie-in

Restoration • Cleanup, remove access, reclamation, monitoring

Hydrostatic testing

In-service

TRANSMOUNTAIN

PROJECT SYSTEM MAP WITH SPREADS

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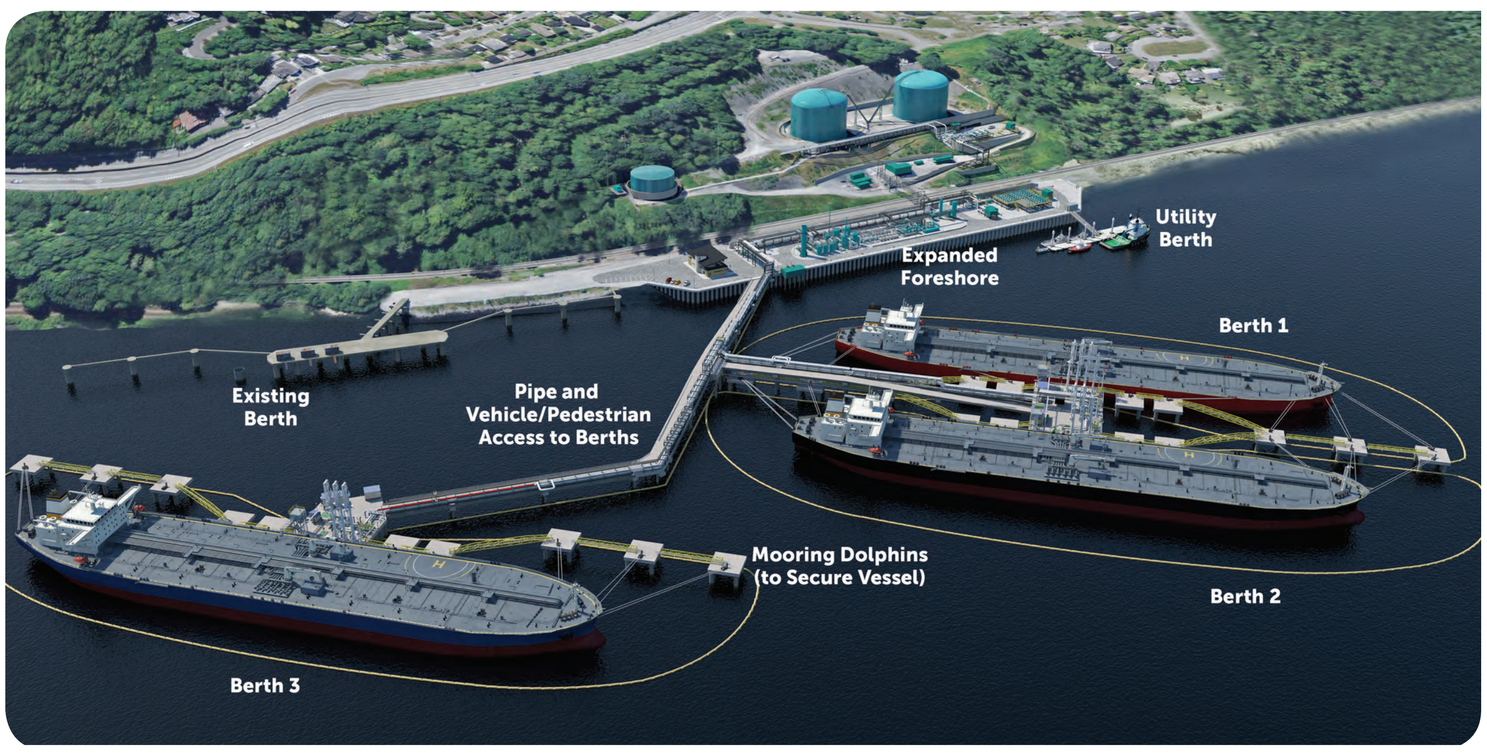
WESTRIDGE MARINE TERMINAL CONSTRUCTION SCOPE: MARINE

The Westridge Marine Terminal expansion includes a new dock complex with three berths that will increase loading capacity from one Aframax-size tanker to the ability to load three Aframax-size tankers. Aframax vessels are the existing vessel size.

The new dock complex also includes a utility dock to moor tugs, boom boats and emergency response vessels.



Most marine construction will occur from the water using floating equipment such as marine derricks, barges, tugs and workboats. Some construction may use land-based equipment working out into the water from shore.

In-water construction of new berths includes:

- Marine construction safety boom installation to mark active construction zone in the marine waterway
- To accommodate new berths and trestles, installation of approximately 152 in-water piles to support new berth structures and trestles (piles range in size from approximately 1.4 m to 2.0 m in diameter)
- Construction of new in-water rock habitat areas for rock fish
- A new utility dock including a new float and steel gangway for support vessels

Berths 1 and 2 will be constructed first and are anticipated to be in-service in late 2019. Construction of Berth 3 will be completed after Berth 1 and 2 and is anticipated to be in-service by Q2 2020.

These images represent a conceptual design for the Westridge Marine Terminal expansion, based on preliminary engineering. The design may be refined during the detailed engineering and design phase, assuming the current Project schedule is maintained.

KINDER MORGAN CANADA LIMITED

September 2017

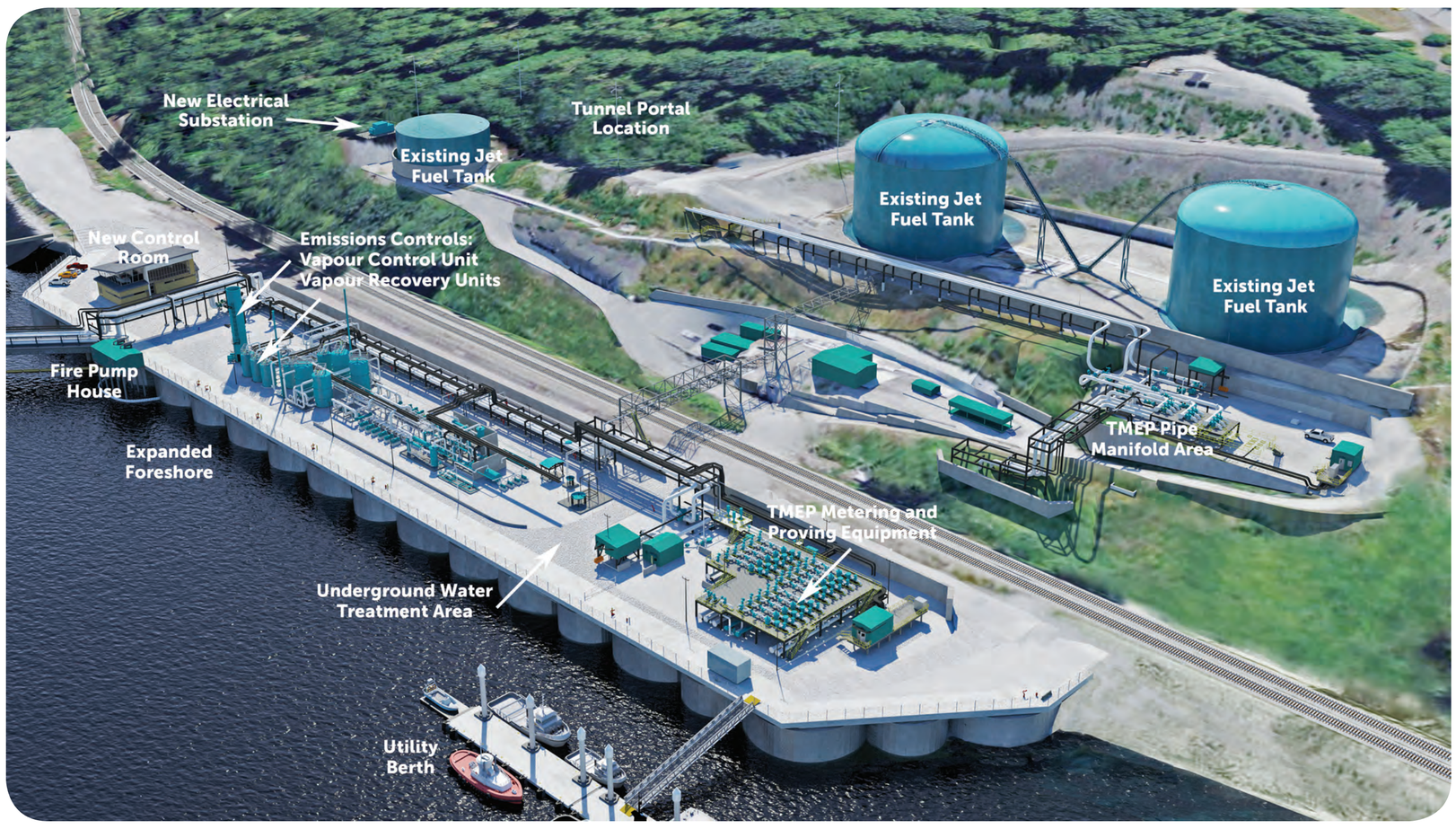
WESTRIDGE MARINE TERMINAL
CONSTRUCTION SCOPE: ON-SHORE

Three new 30-inch delivery lines will be laid in a tunnel from Burnaby Terminal to supply each berth at the Westridge Marine Terminal.

We will be extending the land between the water and the terminal facilities (foreshore) further into the water to accommodate new equipment.

Foreshore extension including:

- Rip-rap removal
- Installation of circular sheet pile cells, addition of structural fill, soil improvements
- Installation of foundations and construction of buildings
- A new concrete railway derailment protection barrier north of the property line to protect the facility from existing train tracks
- Installation of equipment to support loading operations and emergency response enhancements



On-shore and construction on land including:

- Replacement of existing electrical substation at Westridge Marine Terminal
- Replacement of powerline within the terminal
- A two-story operations building to house offices, a control room for the facilities, first aid facilities and washrooms
- New ancillary buildings including storage, equipment buildings and electrical kiosks
- Installation of new electrical cables, control systems and pipe
- Perimeter security fencing with new vehicle access gates
- Tunnel portal construction within Westridge property, tunnel boring and installation of pipelines within the tunnel
- Demobilizing of construction and site restoration

Relocation of Existing Infrastructure:

- Some pre-construction works will be required in fall of 2017 to accommodate the facility expansion. This includes the relocation of jet fuel and vapour combustion facilities.

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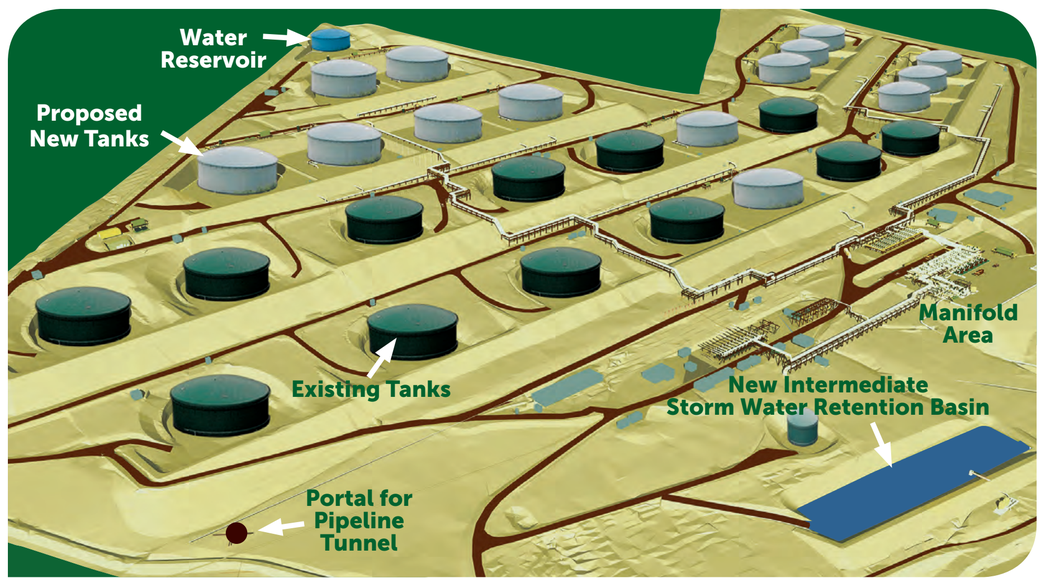
BURNABY TERMINAL CONSTRUCTION SCOPE

Burnaby Terminal will be expanded within the existing property. One existing tank will be demolished and 14 new tanks, including secondary containment, will be built resulting in a total of 26 tanks. Additional changes will ensure continued facility safety and include full-surface fire-protection systems and odour abatement equipment on all new tanks. The expansion will also incorporate sophisticated shut-down systems, other instrumentation and include an enhanced stormwater treatment system.

Scope of Construction Activities:

- Tree removals required to accommodate construction activities
- Install fencing
- Install of environmental controls
- Site access roads
- Construction office
- Tank construction which includes tank area excavation, shoring of tank areas and building tank foundations
- Installation of piping to connect tanks to pipelines including: pipe headers, valve and tank manifolds, electrical upgrades (includes pile driving)
- Installation of additional mechanical and pump equipment, and electrical, instrumentation and control equipment
- Enhanced fire protection and new emergency response equipment
- Relocate existing Silver and Eagle Creek into culverts
- New intermediate stormwater retention basin
- Tunnel portal development and tunnel construction
- Tie-in piping to Burnaby Mountain Tunnel



Relocation of Existing Infrastructure:

- To accommodate the expansion a portion of four pipelines will be relocated within Burnaby Terminal
- These pipelines include the pipeline delivering petroleum products to the Suncor distribution terminal in Port Moody and three pipelines connecting existing storage tanks at Burnaby Terminal to the manifold area

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BURNABY MOUNTAIN TUNNEL CONSTRUCTION SCOPE

A tunnel will be constructed through Burnaby Mountain directly connecting Burnaby Terminal and Westridge Marine Terminal. It will accommodate three 30-inch delivery pipelines to service three Westridge Marine Terminal berths. As the tunnel portals will be built on existing Trans Mountain facilities construction impacts to neighbours will be reduced.

- The tunnel has been designed for two new Westridge Delivery Pipelines as a result of input received during engagement, avoiding construction through residential neighbourhoods
- The existing Westridge Delivery Pipeline will be moved into the tunnel, subject to a separate regulatory application and all required approvals

Tunnel Construction Scope:

- Excavate and support 2.6 km of 4-m diameter tunnel
- Excavation will be via tunnel boring machine
- Boring direction: Westridge to Burnaby Terminal
- Ground support will be precast concrete
- Portal excavation and support for launch and reception
- Install pipelines
- Backfill tunnel with grout

Images for illustrative purposes only

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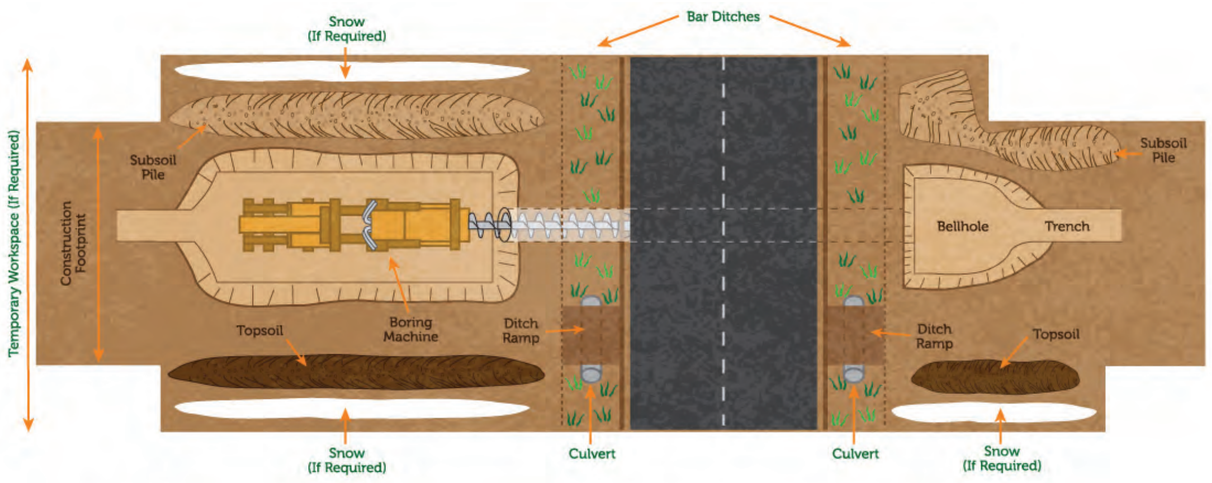
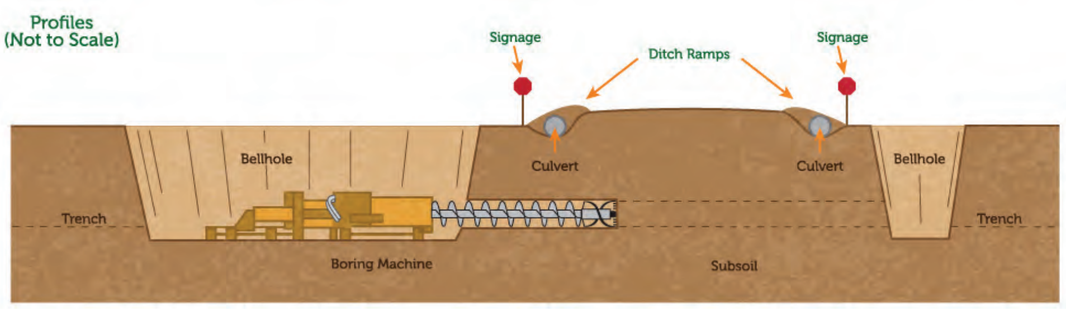
BURNABY PIPELINE CONSTRUCTION SCOPE

The Trans Mountain Expansion Project (TMEP) requires approximately five kms of pipeline construction in Burnaby between North Road and Burnaby Terminal. Due to urban infill around the existing Trans Mountain Pipeline, Trans Mountain is not following its existing pipeline route through Burnaby. Routing has been carefully considered and instead, it follows existing linear infrastructure such as rail corridors, roadways and other utility infrastructure.





Pipeline construction will be completed using a variety of techniques including typical trenched construction, and trenchless crossings of major roadways and a rail line. The pipeline crossing of all watercourses are also carefully planned and completed to ensure least impact to streams. Construction methods across streams in Burnaby vary.

The crossing of Stoney Creek will be completed as an aerial crossing so there is no impact to the adjacent riparian area and stream bed.

To complete construction activities, temporary access points and a temporary construction footprint will be required along the route. The amount of temporary work space varies by specific location and will be fully reclaimed after construction is complete; and then monitored to ensure success.

Permanent Right-of-Way

To meet National Energy Board requirements, Trans Mountain requires a permanent right-of-way to allow for future maintenance and access, and to indicate the presence of underground infrastructure. There are specific requirements about the type of vegetation and activities permitted on permanent rights-of-way. In most areas along the existing pipeline and other sections of the TMEP, rights-of-way are 18 m wide. To reduce our footprint in some urban areas, including Burnaby, Trans Mountain's right-of-way for the TMEP will be reduced to 10 m in width.

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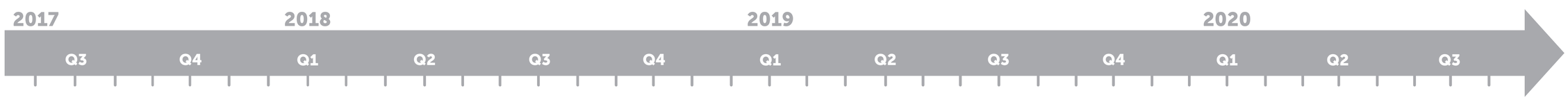
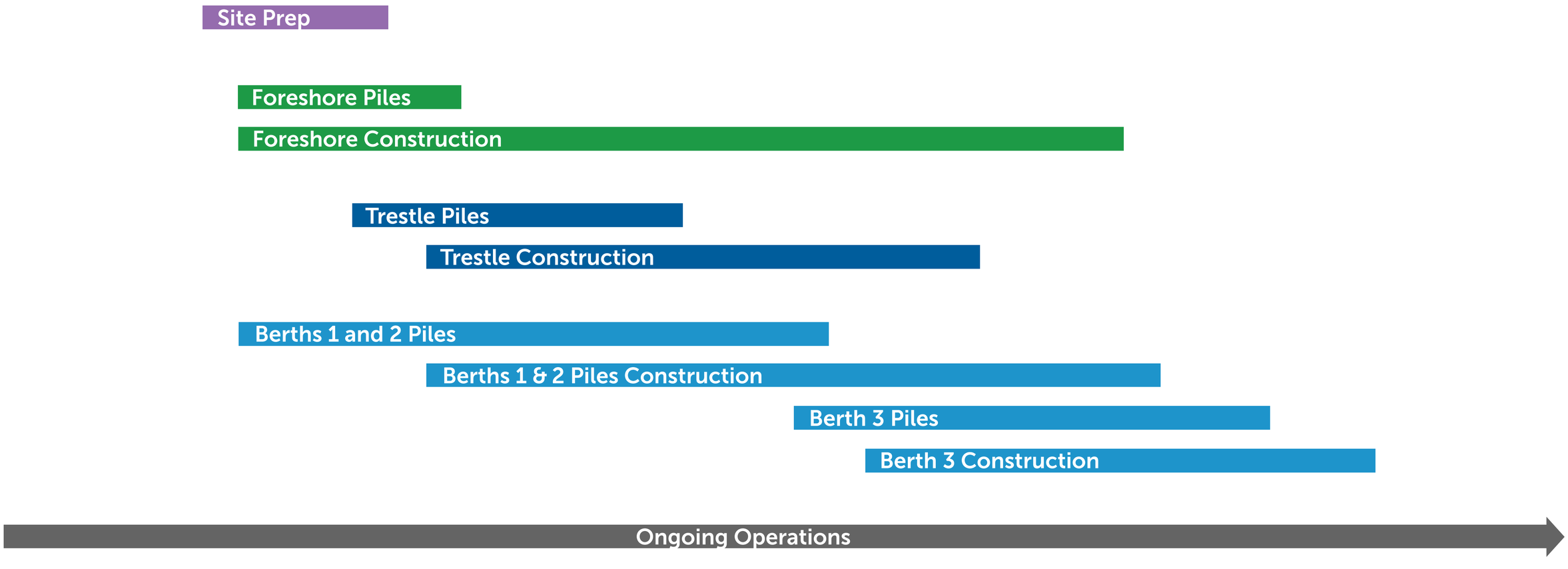
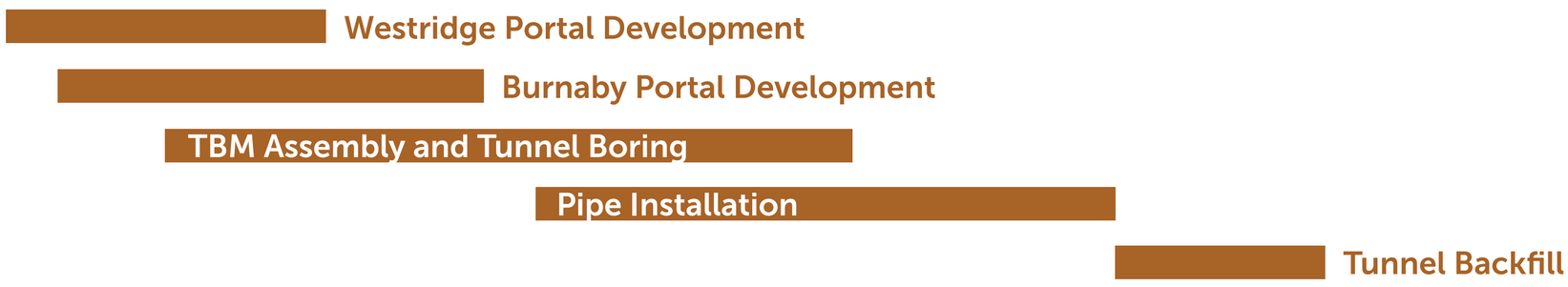
BURNABY CONSTRUCTION TIMELINES



Westridge Marine Terminal

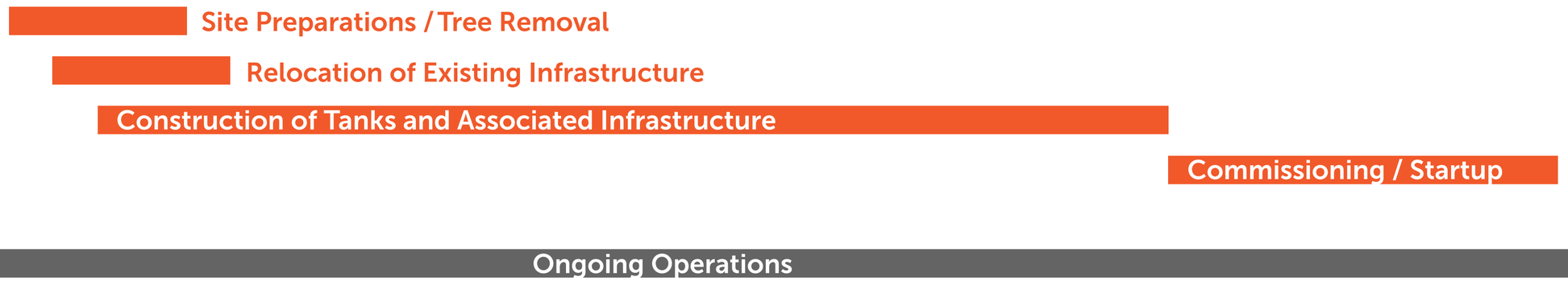


Tunnel



Spread 7

Burnaby Terminal



September 2017. Subject to change.

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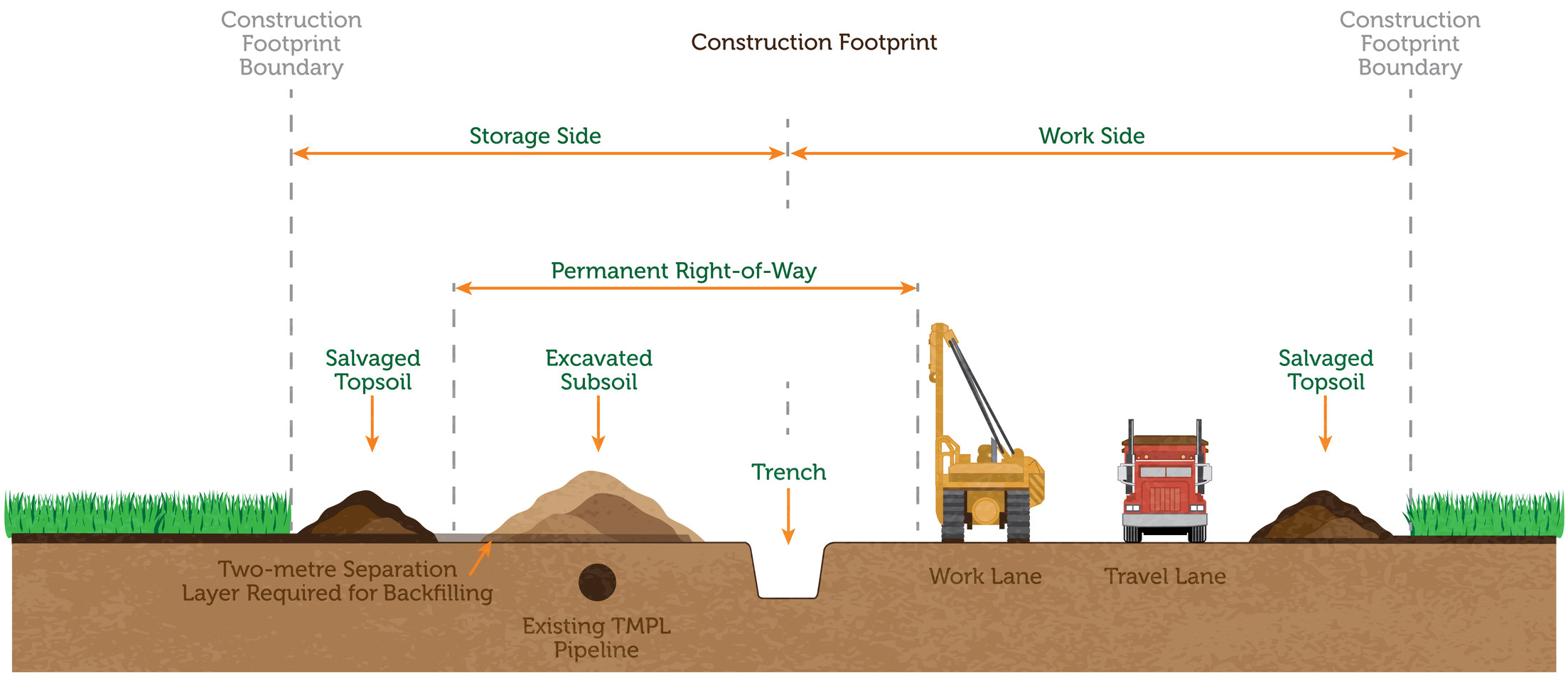
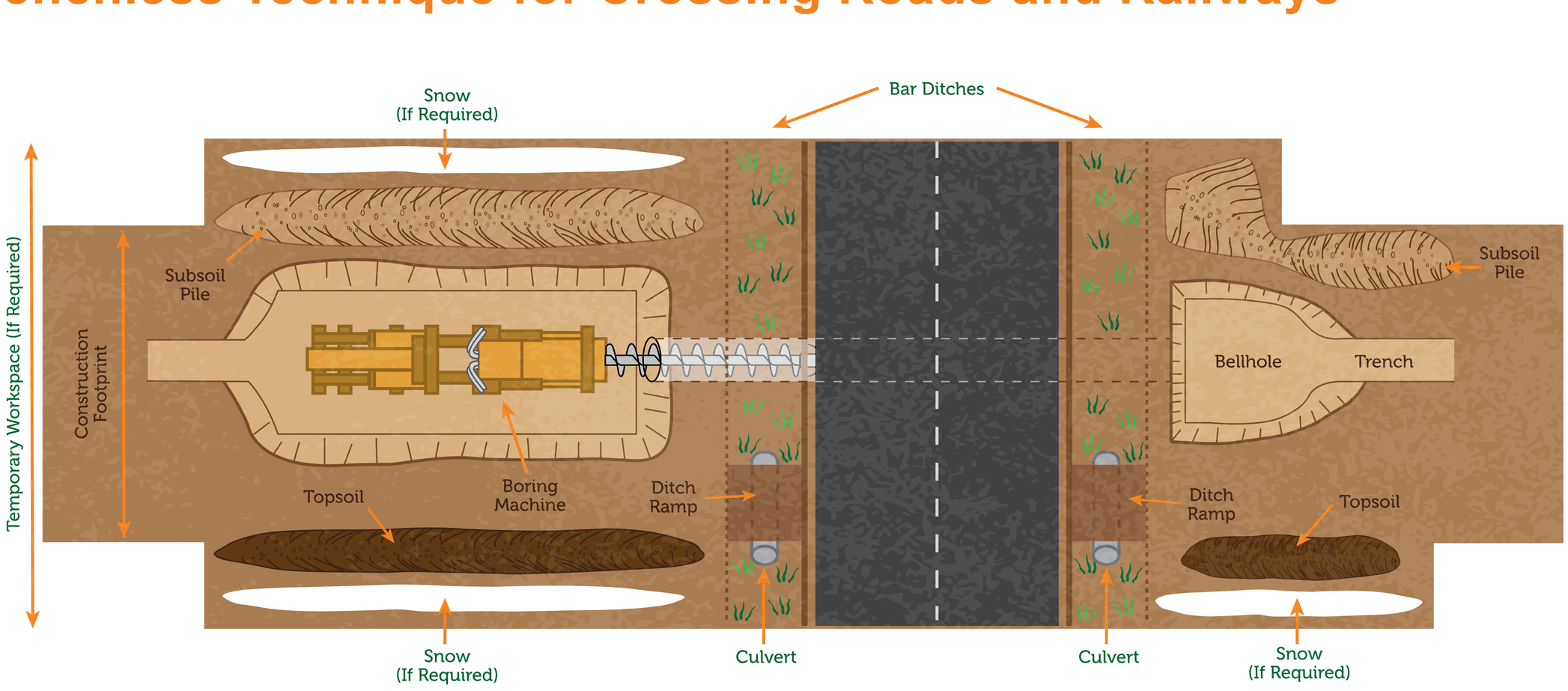
PIPELINE CONSTRUCTION METHODS

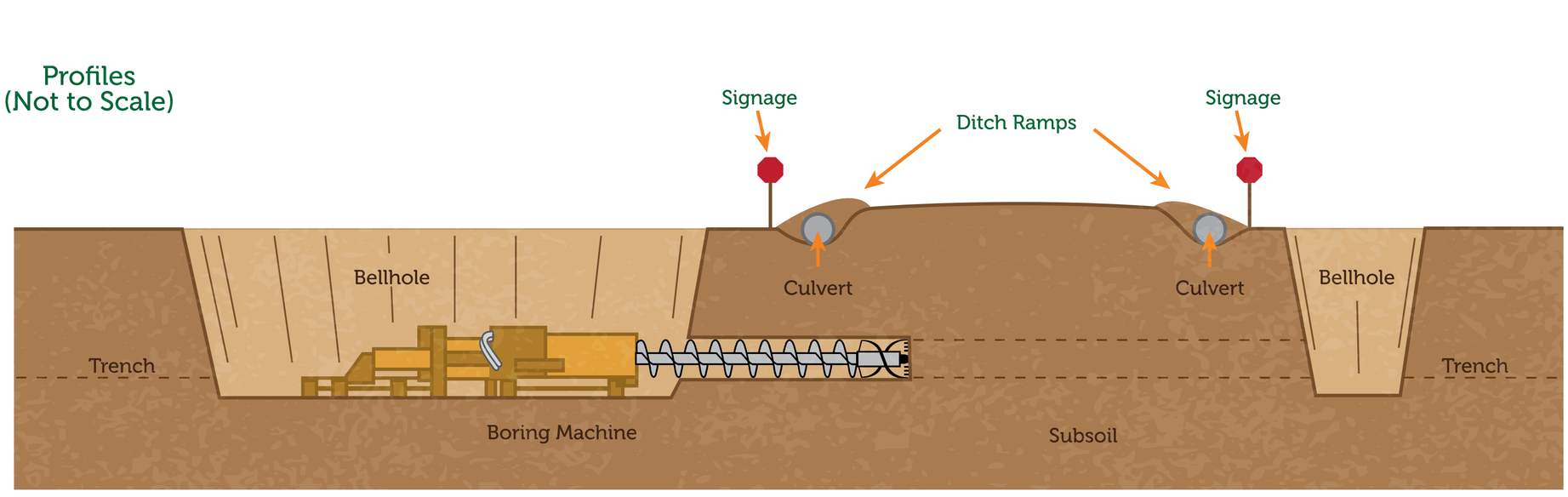
Conventional Pipeline Construction



Trenchless Technique for Crossing Roads and Railways



Profiles (Not to Scale)

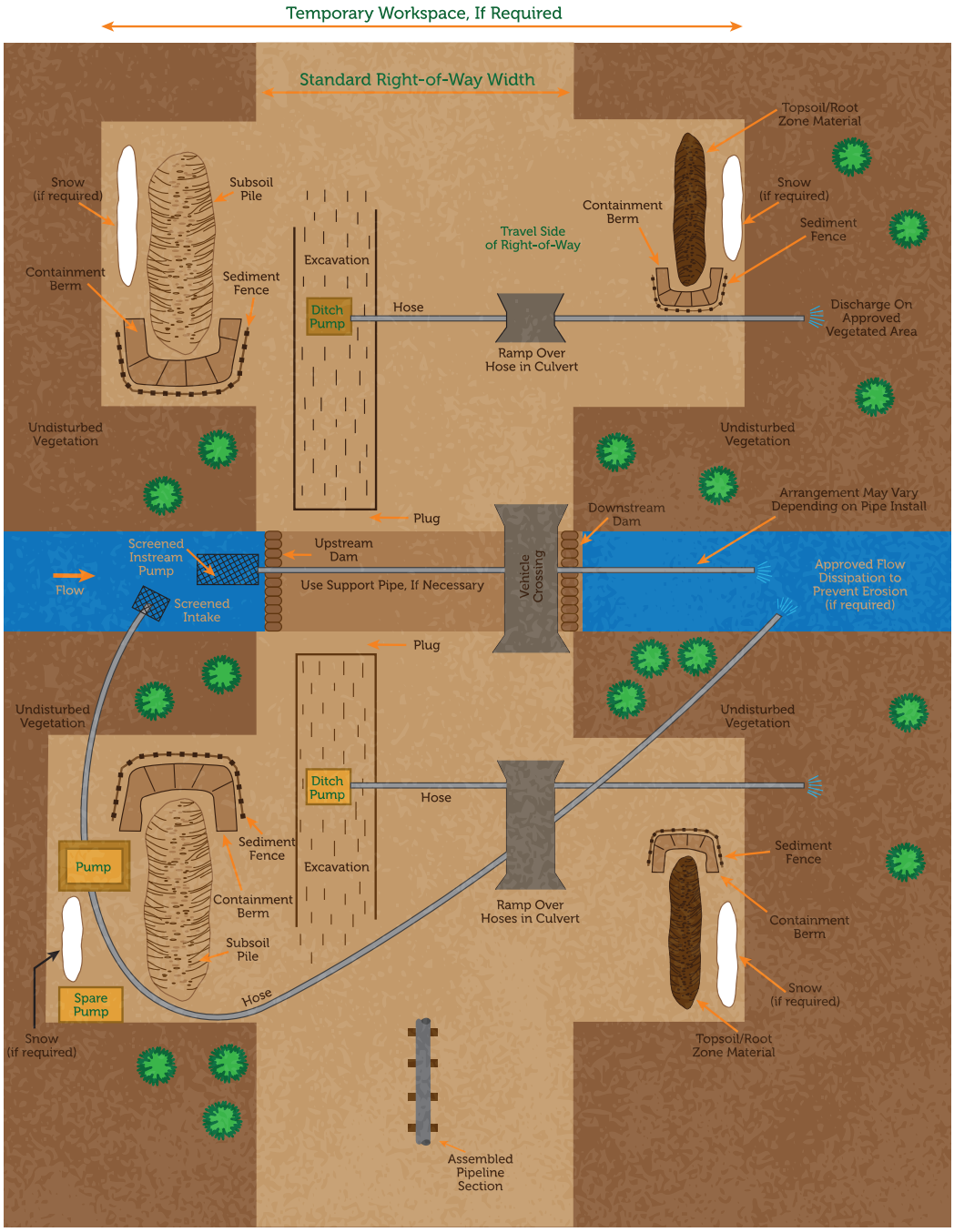


These are representations of standard pipeline construction techniques. Trans Mountain will use the most appropriate technique for each specific location.

TRANSMOUNTAIN

RIVERCROSSINGS
WATERCOURSES

Stream Isolation: Dam and Pump Technique



Plan View
(Not to Scale)

The river and watercourse crossing construction technique may be refined during the detailed engineering and design phase.

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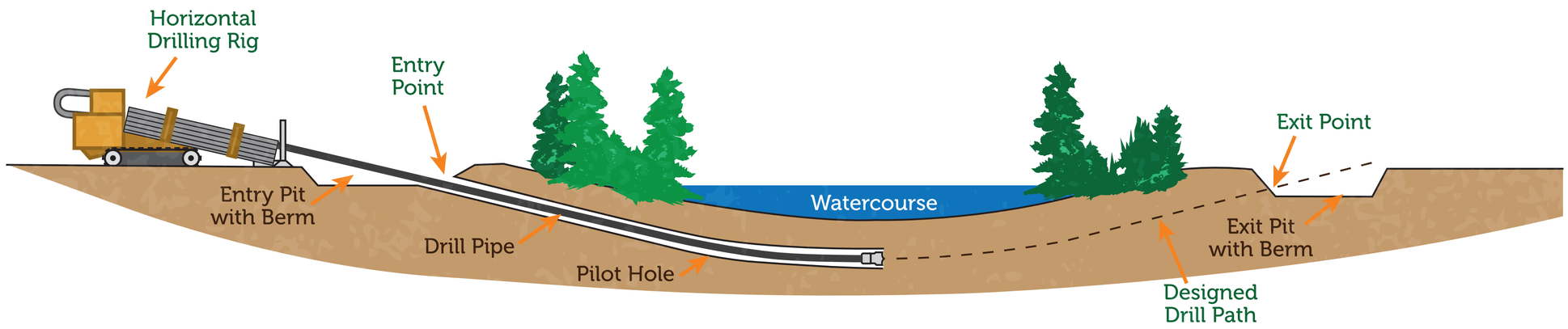
RIVER AND WATERCOURSE CROSSING CONSTRUCTION TECHNIQUE

Horizontal Direction Drill (HDD)

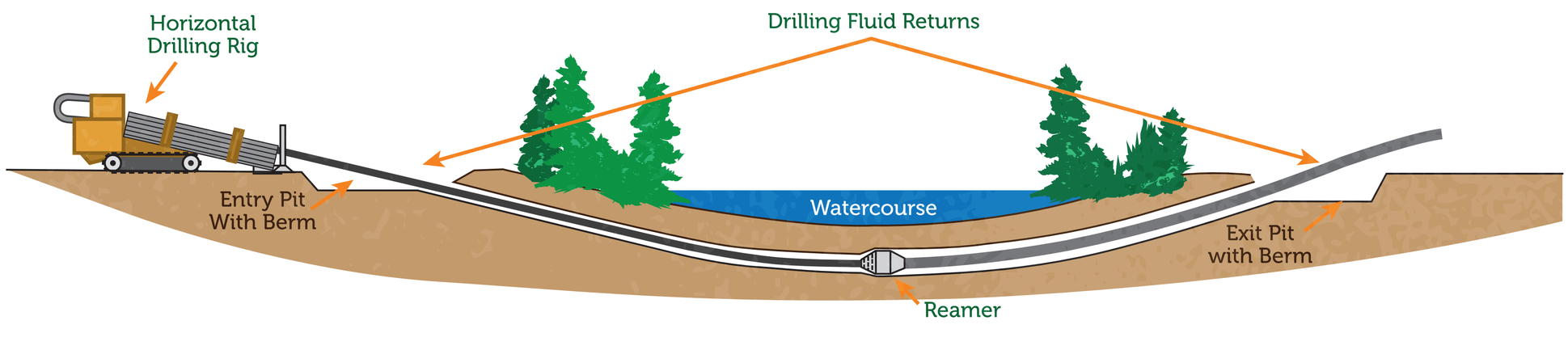
Stage 1: Pilot Hole Directional Drilling



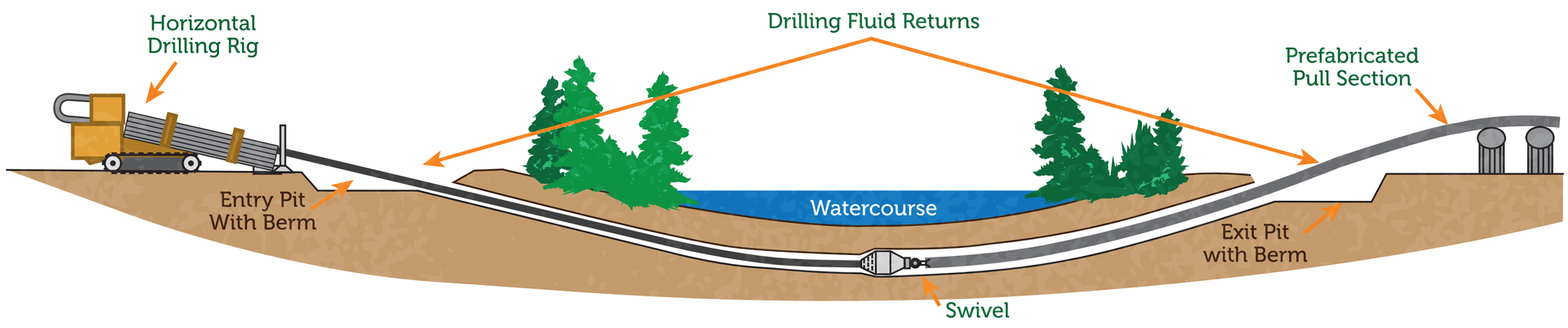
Profiles (Not to Scale)

Direction of Pilot Hole Drilling →

Stage 2: Reaming and Pulling Back



← Direction of Progress Reaming



← Direction of Pull Back

The river and watercourse crossing construction technique may be refined during the detailed engineering and design phase.

RECLAMATION AND MITIGATION

Overview

Trans Mountain is committed to reclaiming the right-of-way following construction, to the same or better than its existing condition where practical. Activities to optimize conditions to ensure effective reclamation include:

- Soil salvage and storage – pre-construction phase
  - Salvage and store topsoil and rootzone material
  - Plan grading and subsoil material stockpiles
- Erosion Control – initial post-construction phase
  - Control soil erosion through placement of shrub wind barriers, applying product to provide temporary erosion and sediment control, increase moisture retention and to control dust and wind scour, installing logs or by spreading woody debris on the soil
- Revegetation – post-construction phase
  - Apply appropriate revegetation techniques that best suit the unique characteristics of each location
- Weed control during pre-construction and post-construction phases to avoid impacts to revegetation and ensure seeded and planted species survival
- Five-year post-construction monitoring in the areas disturbed by construction activities
- 10-year post-construction monitoring in the grassland areas disturbed by construction, as specified in the NEB conditions
- Conditions on the right-of-way after that time period will be monitored by KMC Operations

RECLAMATION AND MITIGATION

Urban/Residential Areas

Trans Mountain will re-landscape any private properties disturbed by construction activities in residential areas with the goal to return the landscaping to as good as or better than that which existed prior to construction.

Agricultural Land

On agricultural lands, the primary considerations for reclamation are the management and preservation of top soil and preventing the spread of weeds and invasive species.

Parks and Sensitive Areas

Trans Mountain takes steps to protect sensitive habitats and ecosystems when conducting construction and reclamation activities in parks and environmentally sensitive areas such as wetlands. Primary considerations include protection of rare plant species, re-establishment of native plant communities and scheduling activities to adhere to wildlife timing constraints to the extent feasible.

MINIMIZING DISRUPTION DURING CONSTRUCTION

Trans Mountain and its Contractors will work to limit noise, dust and night lighting during construction in order to minimize disruption to communities.

Where practical, Trans Mountain will meet or exceed expectations outlined in applicable municipal and provincial permits and bylaws. Trans Mountain will continue to engage and communicate regarding construction activities before and during construction and will establish a community liaison in each affected community.

Light

Lights are used to enhance worker safety and job site security. Trans Mountain will seek to minimize light disturbance through measures such as directional lighting, diffusion, coating on bulbs and turning off lights when not in use. Some lights will be left on during night hours for security reasons.

Dust

Trans Mountain will use a number of techniques in urban, rural and agricultural settings to minimize dust created by construction vehicles and activities. These measures may include speed control, site watering, use of dust suppressants, as well as physical measures to limit the spread of dust.

Viewscapes

The Environmental Protection Plan (EPP) identifies measures to limit visual disturbance including screening, replacement of ornamental trees and vegetation, as well as reclamation techniques to ensure regrowth blends with nearby vegetation.

Noise

The Noise Control Plan identifies techniques to minimize noise effects including construction scheduling, equipment selection and maintenance, vehicle operation, position of noisy equipment and use of enclosures and baffles. The Noise Control Plan also outlines how Trans Mountain will monitor and report on the effectiveness of these measures.

Construction Scheduling

Construction will typically take place 5 – 6 days per week for 10 – 12 hours during the day. In special circumstances more night-time or weekend hours may be required to complete a critical construction activity.

These images are representative of urban pipeline construction in general. Trans Mountain construction activities may vary depending on the location.

ENVIRONMENTAL PROTECTION

Commitment to Minimizing Impact to Environment

As part of the Trans Mountain Expansion Project, substantial work has gone into determining environmental impacts and mitigation methods to reduce the impact to the environment.

Our goal is to protect the environment, have as little impact as possible and where we do have an impact, to ensure we are returning the land to its original function.

Where we disrupt land, we will ensure it is returned to pre-construction conditions. We also look for opportunities to leave a legacy for communities around the pipeline, potentially creating walking trails or other features for local residents to enjoy.

Field Studies and Analysis

Field studies were completed in 2012 and 2013 all along the proposed pipeline corridor. During these two years, many studies were undertaken, reported on and filed with the National Energy Board. The intent of these studies were to:

- Identify and describe the current biophysical and socio-economic setting of each element in the area where the Project occurs in order to establish the baseline for environmental conditions prior to any construction being carried out
- Determine the possible impacts of construction and operations
- Guide the protection and mitigation methods committed to by Trans Mountain

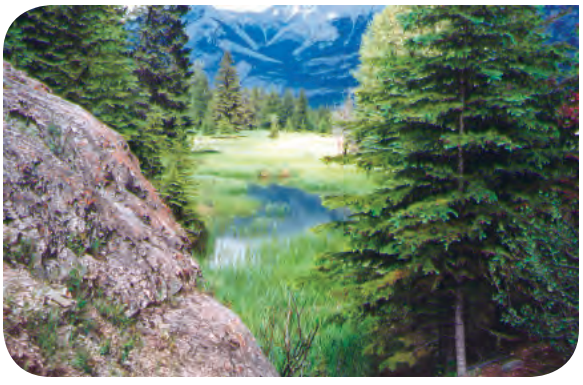
These studies cover environmental features such as: wildlife, fisheries, plants, species at risk or species of special status, soils, heritage resources or traditional land use and air and greenhouse gas emissions. Following the field studies identifying the baseline conditions, extensive analysis is conducted to predict the effects associated with the Project, including those that could be caused by construction, operations, decommissioning or abandonment, as well as potential accidents and malfunctions.

- Volume 5A of the Facilities Application covers the biophysical studies conducted and the possible effects of construction. Volume 5B of the Facilities Application examines the socio-economic baseline conditions and effects of the Project.

Environmental Protection Plans

Trans Mountain has developed Environmental Protection Plans describing the mitigation measures and their adequacy for addressing the Project effects. As well, we will indicate how we will ensure commitments about mitigative measures will be communicated to the field team for implementation.

- Volume 6A presents plans for environmental compliance, including our commitment to environmental protection, pre-construction activities, environmental education for construction personnel, inspection and monitoring during construction, and post-construction monitoring. Volume 6B, 6C and 6D presents the environmental protection plans for the pipeline itself, the pipeline facilities and Westridge Marine Terminal, respectively.
- Environmental alignment sheets are produced as a means to communicate all elements of the environmental protection plan to the construction personnel while on-site. Volume 6E presents these sheets.



ENVIRONMENTAL PROTECTION

Environmental Plans to Meet National Energy Board Conditions

The Project is subject to National Energy Board (NEB) established 157 conditions from the National Energy Board (NEB) and 37 conditions from the BC Environmental Assessment Office (BC EAO). Some of these conditions relate to environmental protection.

Trans Mountain incorporated public input from stakeholders and Aboriginal groups to help refine our environmental plans and to meet the conditions set out by the National Energy Board and the BC EAO.

The plans are available on our website at www.transmountain.com/environmental-plans

The plans address the following areas:

- Environmental Protection Plans (Trans Mountain's overall plans for mitigating and addressing impacts of the Project)
- Wildlife (detailed measures to protect specific species of wildlife and species at risk along the pipeline corridor)

Watercourses, water ecosystems and marine (measures to protect rivers, streams, wetlands and aquatic/marine habitats)

- Vegetation (management and protection of rare and native plants, shrubs and trees)
- Air quality (measures to maintain air quality standards)
- Construction and workforce impacts (plans for addressing specific impacts of construction and the construction workforce)
- Other environmental management plancs

The NEB conditions can be found in the May 19, 2016 National Energy Board Report on the Trans Mountain Expansion Project (Appendix 3, starting on Page 413).

More information about the BC EAO 37 conditions can be found on our website at www.transmountain.com/bceao.

TRAFFIC MANAGEMENT DURING CONSTRUCTION

Trans Mountain is committed to ensuring that construction-related traffic impacts such as road and lane closures or use of public roads by construction vehicles pose as little disturbance as is practical to neighbouring residents, landowners, businesses and communities.

Trans Mountain will develop plans to manage traffic and access control during construction.

Plans will include the following:

- Details about the timing, location and nature of any lane and road closures and other impacts, as well as the controls to be implemented to ensure traffic safety

- Communication strategies and tactics to ensure affected road users are aware of traffic impacts and can provide feedback during construction

- How access for emergency vehicles to and through the work sites will be provided

The Traffic and Access Control Management Plan will be developed in consultation with affected municipal, regional and provincial government agencies.

BURNABY TERMINAL FIRE SAFETY

Trans Mountain's facilities are designed and operated to meet stringent fire safety standards and incorporate industry best practices, including:

- Early detection systems
- Fire suppression systems
- Operational procedures, maintenance practices, training exercises and site-specific fire pre-plans
- Regular NEB audits
- Compliance with American Petroleum Institute (API) and National Fire Protection Association (NFPA) Standards

Did you know?

- Storage tank fires are very rare worldwide, even though there are thousands of tanks in service
- Trans Mountain has not experienced a storage tank fire in its 60+ year history

Fire Safety at Burnaby Terminal

- Advanced on-site fire protection and fire suppression system that meets the requirements of the applicable codes and standards for storage tank terminals and includes:
  - Fire-water reservoir with more than 1,000,000 gallons (3,785,412 litres = 3.785 m^3) of water
  - Foam concentrate storage tank of 10,000 gallons (37,854 litres = 37.8 m^3)
  - Full-surface fire suppression capacity which includes large volume foam pump, high-volume manifolds and a large-volume firefighting cannon
- 24/7 monitoring for early fire detection of all floating roof storage tanks

Fire eyes on tank roof

- Spacing between each tank meets the requirements of NFPA 30 (Flammable and Combustible Liquids Code) and the National Fire Code (NFC) of Canada

Fire protection system enhancements will include:

- Larger fire-water reservoir to enhance the current fire-water supply
- New higher capacity fire-water pump and associated foam systems
- New higher capacity fire-water/foam pump and distribution system connected to the existing tank areas further enhancing fire protection for the overall site
- All new tanks will have early fire detection systems
- Fixed full-surface fire suppression system on the new tanks with remote activation
- Backup redundant mobile firefighting systems which include foam trailer, cannon and associated fire suppression equipment available for KMC's facilities and to our mutual aid partners

WESTRIDGE MARINE TERMINAL FIRE SAFETY

Trans Mountain's facilities are designed and operated to meet stringent fire safety and prevention standards and incorporate industry best practices, including:

- Early detection systems
- Fire suppression systems
- Engineer controls
- Operational procedures, maintenance practices, training exercises and site-specific fire pre-plans
- Regular NEB audits
- Compliance with American Petroleum Institute (API) and National Fire

Fire Safety at Westridge Marine Terminal

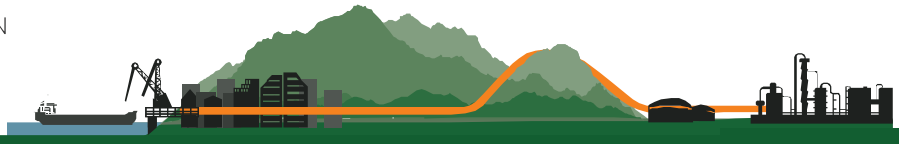
- Two high-capacity firefighting foam-capable turrets for fighting loading dock fires or deploying a foam blanket on an oil spill to reduce the likelihood of a fire starting or to reduce vapour migration away from the terminal site
- Additional fire-water supply to ensure the safety of workers and fire suppression in other areas of the terminal using fixed monitors and portable fire hoses
- 1,200-gallon (4,542 litres = 4.5 m^3) portable firefighting foam bladder trailer for use at Westridge Marine Terminal or to our industry partners for mutual aid
- All vessels calling at Westridge must be constructed, equipped and operated to all applicable local and global codes and standards, including operating inert gas system to prevent fire in cargo tanks

With expansion, the terminal will have the following enhanced systems:

- Each berth will have three high-capacity firefighting foam-capable turrets which can be directed to the tanker's deck and manifold area if required
- High-capacity fire-water pumping capacity using seawater to supply an expanded fire-water hydrant system that also allows water supply to the vessel through International Shore Connections
- High-volume foam manifolds on the foreshore and dock area, which can also be used for vapour suppression in case of a spill
- Access to additional firefighting support from tug boats equipped with high-capacity fire systems and firefighters trained in fighting vessel fires
- Onboard firefighting capacity on the vessels

TRANSMOUNTAIN

Committed to Safety Since 1953.



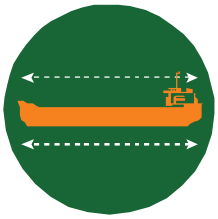
Westridge Marine Terminal

Marine Safety

Trans Mountain has safely loaded marine vessels with petroleum products since 1956. Tanker traffic to Westridge Marine Terminal is expected to grow from approximately five tankers per month to 34. The region's already robust marine safety regime is well managed, with important risk controls for all traffic and for oil tankers in particular.

Measures to Mitigate Risk

Trans Mountain has identified further precautionary risk control measures that will mitigate risk due to increased tanker traffic. Some of these measures have already been put into place and are not dependent on the Expansion Project. These include:



- Vancouver Fraser Port Authority will establish a shipping channel for East Burrard Inlet (east of Second Narrows Bridge)

- Laden tanker tug escort will cover the entire tanker shipping route from Westridge to Buoy J, which marks the western entrance to the Juan de Fuca Strait (situated about 12 nautical miles from the Canadian coast)

- Marine pilot disembarkation will take place near Race Rocks (pilots have now been trained to disembark by helicopter)

Enhanced Situational Awareness techniques will be applied that will require:

- Safety calls by pilots and masters of laden tankers
- Notices to industry issued by Pacific Pilotage Authority
- Tactical use of escort tug along shipping route
- Boating safety engagement and awareness program

WESTRIDGE MARINE TERMINAL
NAVIGATION AND NAVIGATION SAFETY

The potential effects associated with Westridge Marine Terminal (WMT) construction include:

- Disruption to marine traffic in vicinity of the construction area during construction and operations
- Concern for the safety of marine users due to changing vessel traffic movement patterns

The construction work area for Westridge will be defined by a floating construction safety boom, which will be marked with appropriate navigation lighting and controls. The work area will consist of the entire expanded dock area as well as a temporary working area needed for the terminal's construction.

- Dock design and siting will not impede boating traffic
- Trans Mountain will continue to work with VFPA on permitting, design requirements
- Trans Mountain will notify marine commercial and recreational operators of hazards associated with construction; place warning signs offshore and onshore near construction activities
- Trans Mountain and its contractors will ensure barges for heavy equipment access are placed in appropriate areas; and that Project vessels operate at low speeds

Navigation Safety During Construction

- VFPA intends to implement a channel design to ensure vessels can continue to safely navigate in the vicinity of WMT and other deep sea terminals in the area
- The working zone will be demarcated by navigation buoys, construction safety boom and other means in consultation with the CCG and VFPA
- On-water safety vessels will provide guidance and assistance as required

Constructon safety boom

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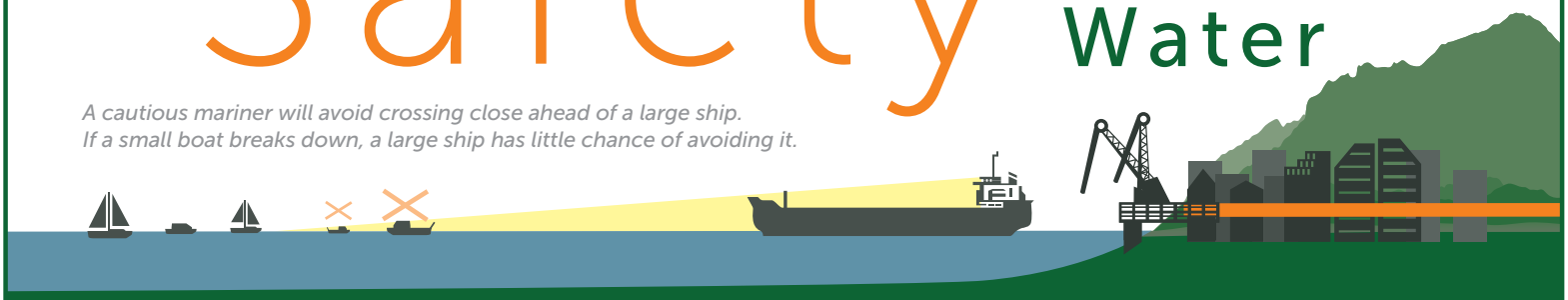
Safety on the Water

A cautious mariner will avoid crossing close ahead of a large ship.
If a small boat breaks down, a large ship has little chance of avoiding it.



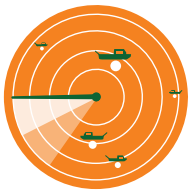
SHIPS CAN'T STOP IMMEDIATELY
– large ships require more space

Collision Regulations take priority at all times – be completely familiar with these Rules of the Road and any local regulations

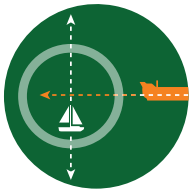
SAFETY TIPS

• Maintain a lookout by sight and sound. Sounding five short and rapid blasts is a warning signal

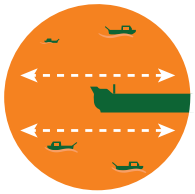
• Make sure the required navigational lights are displayed



• Consider fitting your small craft with AIS (Automatic Identification System) or a radar reflector to be more visible to large vessels



• When in a shipping lane or designated traffic separation scheme, be aware of large ships; cross shipping lanes at a 90-degree angle and keep clear of large ships



• If fishing is allowed in a shipping lane or designated traffic separation scheme, keep as near to the outer edge as possible and leave the centre of the channel open for large ship traffic

• Keep a listening watch on the appropriate VHF channel and set your AIS (if fitted) for information on other ship movements in the area

Trans Mountain has been operating at Westridge Marine Terminal for six decades safely due in part to the stringent precautions we put in place.

Close collaboration between Pilotage Authorities, Transport Canada, the Canadian Coast Guard and the Port of Vancouver ensures vessels navigate our waters safely, guided by highly qualified local pilots.

For more information on marine safety go to:
transmountain.com/marine

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"The Collision Regulations" of Canada Shipping Act 2001 can be found at: http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1416

All images are a graphic representation only.

July 2017

WESTRIDGE MARINE TERMINAL
Traffic Management During Construction

September 2017

Trans Mountain has developed plans ensuring construction impacts on traffic are well managed with least-possible impacts to commuters and other road-users. A Traffic and Access Control Management Plan was prepared to meet National Energy Board Condition 73 for the Trans Mountain Expansion Project.[1] (TMEP) It was developed in consultation with a wide range of stakeholders and government authorities.

In addition, Trans Mountain's contractors are required to develop plans for minimizing disruptions. Kiewit-Ledcor TMEP Partnership (KLTP) is the Contractor for Westridge Marine Terminal and is currently planning and scheduling construction activities at Westridge.

CONSTRUCTION AT WESTRIDGE MARINE TERMINAL

Construction is planned to commence in fall 2017 and end in spring 2020 (the expansion will be in-service at the end of 2019). The scope of work includes a new dock complex with three berths, expansion of the foreshore to accommodate new mechanical equipment, installation of new equipment in the facility, a tunnel connecting WMT to Burnaby Terminal and underground conduit connecting the Westridge facilities south of the rail to the foreshore area.

KLTP is establishing a 2.6-hectare office/yard on the north side of Barnet Highway to support this work. Primary road access to Westridge will be via traffic travelling about 2 km westbound on Barnet Highway and turning right onto Bayview Drive. Exiting traffic from Westridge will turn right from Bayview Drive westbound onto Barnet Highway, merging into the existing flow of traffic. The pedestrian trail crossing at Bayview Drive will be maintained. Secondary access will be via Cliff Avenue.

MINIMIZING WORKER TRAFFIC

KLTP plans to reduce overall traffic by bussing the majority of workers to site at shift change and maximizing support for marine expansion at Westridge through Burrard Inlet.

Total average daily traffic associated with Westridge construction (AM and PM) is approximately 10 bus trips, 110 light vehicle trips and 35 transport truck loads. At the peak of construction, there will be approximately 15 total bus trips daily, 140 light vehicle trips and 50 transport truck loads.

[1] Trans Mountain filing of Condition 73 with the National Energy Board (Filing ID A84149) https://apps.neb-one.gc.ca/REGDOCS/Item/View/3283207

WESTRIDGE MARINE TERMINAL
Traffic Management During Construction

Trans Mountain construction activities are planned with an objective to avoid adverse effects on traffic flows. Trans Mountain is requiring noise control measures for construction traffic and restrictions on idling.

Figure I: Westridge Marine Terminal Access Points

Trans Mountain is committed to communicate any material Project changes to affected stakeholders so that safety, traffic pattern changes, local and regional traffic management plans, and emergency services requirements are well understood.

The Project website, **transmountain.com** is the best information source for construction updates. Browsers can sign up to receive updates by email or text message.

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BURNABY TERMINAL
Traffic Management During Construction

September 2017

Trans Mountain has developed plans ensuring construction impacts on traffic are well managed with least-possible impacts to commuters and other road-users.

Burnaby Terminal will be the site of construction activities beginning in fall 2017 through to late 2019. Trans Mountain will minimize local traffic impacts. Planning to manage traffic during construction at Burnaby Terminal is guided by Traffic Management Principles and is outlined in the Traffic and Access Control Management Plan (TACMP) submitted to the NEB on June 1, 2017 to meet NEB Condition 73.[1]

With temporary construction activities planned over 28 months at Burnaby Terminal, our TACMP aims to minimize disruption to neighbours. The TACMP outlines access to Burnaby Terminal as follows:

1. Burnaby Terminal main gate at the corner of Shellmont and Underhill Streets
2. An alternate access point

Trans Mountain is investigating two options for alternate access. The first option is an access from Gaglardi Way into the northeast corner of Burnaby Terminal. Our February 2017 newsletter requested your input into the idea of a Gaglardi Way access. Trans Mountain continues to investigate this option; however after further technical review and after considering input received, Trans Mountain is also investigating a second option from Greystone Drive.

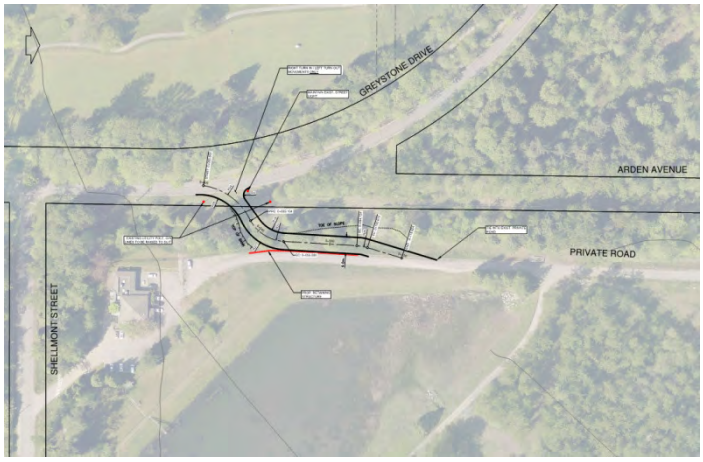

Figure I: Alternate access proposed for Burnaby Terminal

This second option would provide access to the Burnaby Terminal just north of Shellmont Street (see Figure 1). An alternate access minimizes the impact of traffic to the Burnaby Terminal main gate and reduces the traffic impact to any single residential neighbourhood. The access points to Burnaby Terminal for construction will be confirmed prior to the start of construction.

More than 30,000 truckloads of excavated material will remain on-site, substantially reducing construction-related truck traffic.

[1] Trans Mountain Expansion Project NEB Condition 73 filing: apps.neb-one.gc.ca/REGDOCS/Item/Filing/A84822

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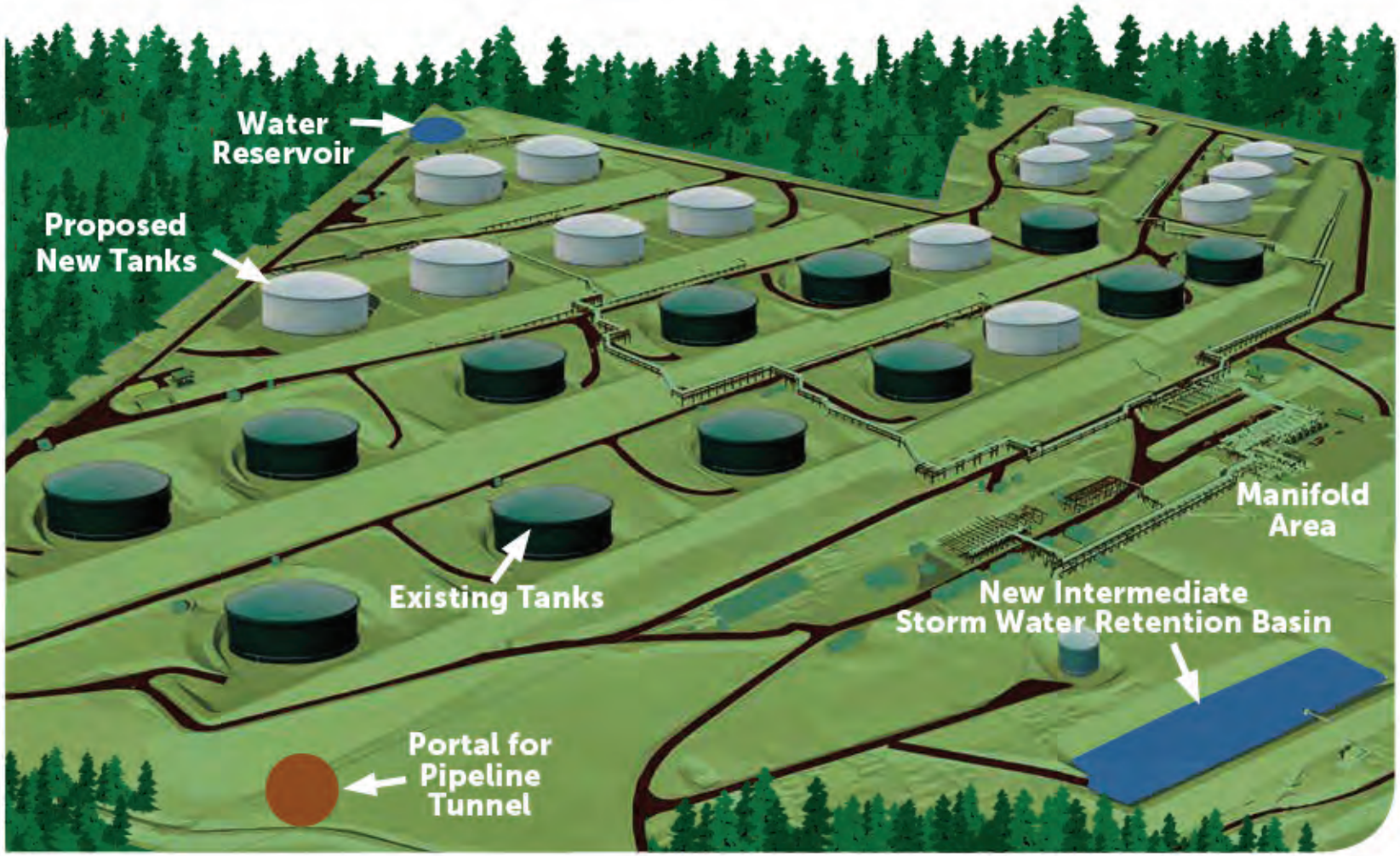
BURNABY TERMINAL NEW TANK DIAGRAM



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September 2017

BURNABY TERMINAL

Traffic Management During Construction

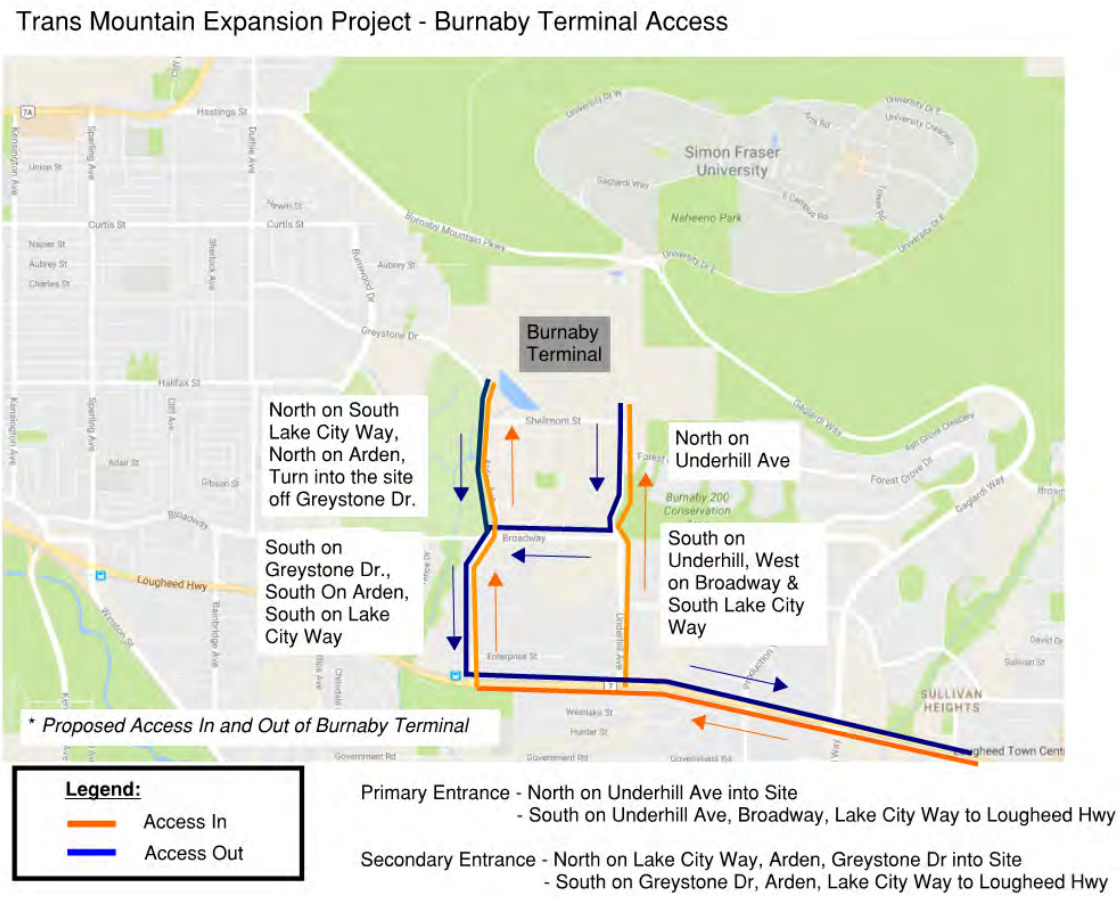

Figure II: Burnaby Terminal Access Points

Construction workers will arrive at the terminal by bus from a central parking area off-site. Total average daily Burnaby Terminal construction traffic is estimated at 18 bus trips, 150 light vehicle trips and 20 transport truckloads — rising to 24 bus trips, 200 light vehicle trips and 75 transport truckloads when construction activity peaks. Given that the areas around the targeted site for Burnaby Terminal are fully developed, it is anticipated that the traffic generated by the construction activities will be negligible in consideration of current traffic volumes.

TMEP construction activities are planned with an objective to avoid adverse effects on traffic flows. Trans Mountain is committed to communicate any material Project changes to affected stakeholders so that safety, traffic pattern changes, local and regional traffic management plans, and emergency services requirements are well understood.

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Trans Mountain Expansion Project Proposed Temporary Use of Land for Construction

Background

Planned construction activities of the Trans Mountain Expansion Project are expected to begin in September 2017 in a phased approach, with the pipeline system anticipated to be in operation at the end of 2019. To facilitate construction, Trans Mountain is exploring options for a temporary lease of land in your area. In addition to the permanent pipeline right-of-way, the Project requires lands temporarily for a variety of construction activities, including contractor yards and offices, stockpile sites for materials and equipment, and camps to house workers.

Selection of a temporary site is based on a number of considerations, such as location, road access, prior land use, and feedback from local communities and stakeholders. In selecting a site, Trans Mountain's goal is to minimize potential impacts to communities and maximize economic opportunities, while ensuring the safe and efficient construction of the Project.

Location

Trans Mountain is currently exploring the potential to temporarily use a site at 7585 Barnet Highway, Burnaby, BC for construction related activities.

Potential Temporary Use

This site may be used as a contractor yard or office to manage engineering, construction, safety and security of the Project, including storing, maintaining and staging equipment, vehicles and materials; as a stockpile site to accommodate delivery, storage and distribution of pipeline material during installation at various locations along the pipeline corridor; or as a combination of both.

The site is expected to be established in Q3 2017 and in operation through Q3 2019.

Regulatory Requirements

Construction of the Project is subject to 157 conditions from the National Energy Board (NEB), and 37 conditions from the BC Environmental Assessment Office (BCEAO). These conditions apply during various stages of the Project's life cycle, including before construction, during construction and during operation. Conditions are developed to reduce possible risks, and to ensure the Project is planned, built and operated safely. In order to finalize planning and meet NEB conditions, Trans Mountain has been seeking community and stakeholder feedback in a number of areas related to temporary sites and infrastructure, including:

- Environmental and socio-economic assessment for temporary construction lands and infrastructure (Condition 60)
- Environmental protection plan (Condition 78)
- Traffic control plans for public roadways (Condition 73)
- Worker accommodation strategy (Condition 59 and BCEAO Condition 23)

Environmental Considerations
Trans Mountain understands the potential impacts of temporary land use during construction. Substantial work has been completed to determine the potential environmental impacts of the Project, and mitigation measures are developed to reduce these impacts during construction. Trans Mountain's goal is to have as little impact as possible, and ensure the land is returned to its original function. All temporary site locations will be reclaimed to the same or better condition based on pre- and post- disturbance surveys.

An assessment of this site has determined the following:

- Located on industrial site (Kask Bros. concrete facility)
- Barnet Highway is located along the south boundary of the site
- Burrard Inlet is located approximately 90 m north of the site, separated from the site by CN railway and treed land. No new temporary access is required.
- Minimal vegetation present; limited to edges of facility site
- No watercourses present
- There are no wetlands located within 30 m of the site
- Located within the English Bay and Burrard Inlet Important Bird Area.

The following are some of the mitigation measures Trans Mountain will implement in order to minimize the potential impacts to the lands at this site:

- Ensure a 100 m separation distance is maintained between watercourses and wetlands and fuel or hazardous material storage sites, and oil change and refuelling areas, unless otherwise approved.
- Ensure equipment arrives on-site clean and free of soil or vegetative debris, as well as clean equipment involved in topsoil/root zone material handling at weed infested sites prior to leaving the location
- Schedule clearing and construction activities outside of the migratory bird nesting period, where feasible.

For more detail about Trans Mountain's environmental management plans, please visit https://www.transmountain.com/environmental-protection-plans .

Traffic
Trans Mountain's goal is to maintain safe work environments and minimize any traffic disruptions. Here is a summary of traffic information related to temporary sites.

Stockpile sites

- Stockpile sites are generally located in non-residential, rural areas.
- Truck traffic to and from stockpile sites will be spread throughout the working day and will not intensify during existing morning and evening peak hours.
- Traffic to and from stockpile sites is not expected to add operational pressure on the adjacent road network.
- Vehicles at stockpile sites will not occupy off-site public parking spaces.

Construction yards

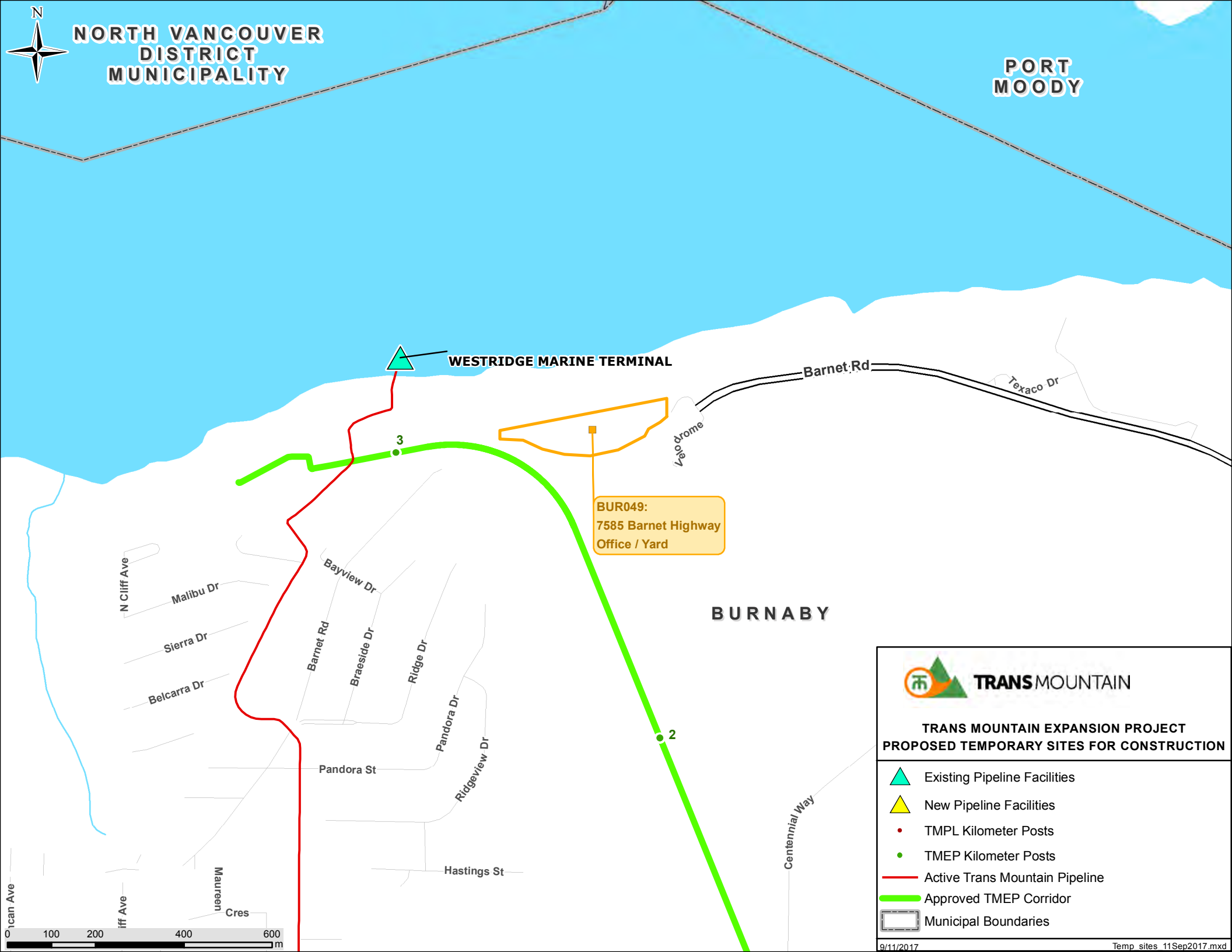
- Construction yards will generally be located in rural areas with industrial or agricultural zonings, and within a short driving distance from Project work sites.
- Traffic to and from construction yards will peak just before 6:00 AM and have a moderate impact on public roadways in the morning (7:00 AM to 9:00 AM) and in the evening (5:30 PM to 7:30 PM).
- Short driving distances to and from Project work sites will help reduce overall traffic effects on the adjacent road network.
- Construction vehicles will not occupy off-site public parking spaces.

Construction activities will take place mostly during daytime hours, including travel to and from stockpile sites and construction offices/yards. For all temporary sites, traffic noise is not expected to be significant. Dust from construction traffic will be controlled using water trucks, and vehicles will be kept as clean as feasible (as weather allows). Roads and shoulders will be swept to reduce accumulation of road debris, as required.

For more detail about traffic management plans during construction, please visit https://www.transmountain.com/traffic-plan .

Next Steps

Trans Mountain continues to explore options for the location of construction yards, stockpile sites and camps for workers, and will continue to provide updates as construction planning and execution moves forward. As sites are finalized, Trans Mountain will comply with federal, provincial and municipal permitting requirements where applicable, and file any required updates to the NEB. Should you have feedback about the use of this site, or any questions, please contact Trans Mountain at info@transmountain.com. For more Project information, visit transmountain.com.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NORTH VANCOUVER DISTRICT MUNICIPALITY
PORT MOODY
WESTRIDGE MARINE TERMINAL
Barnet Rd
Texaco Dr
Velodrome
3
2
BUR049:
7585 Barnet Highway
Office / Yard
BURNABY
N Cliff Ave
Malibu Dr
Sierra Dr
Belcarra Dr
Bayview Dr
Barnet Rd
Braeside Dr
Ridge Dr
Pandora Dr
Ridgeview Dr
Pandora St
Hastings St
Maureen Cres
Centennial Way
0 100 200 400 600 m
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PROPOSED TEMPORARY SITES FOR CONSTRUCTION
Existing Pipeline Facilities
New Pipeline Facilities
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TMEP Kilometer Posts
Active Trans Mountain Pipeline
Approved TMEP Corridor
Municipal Boundaries
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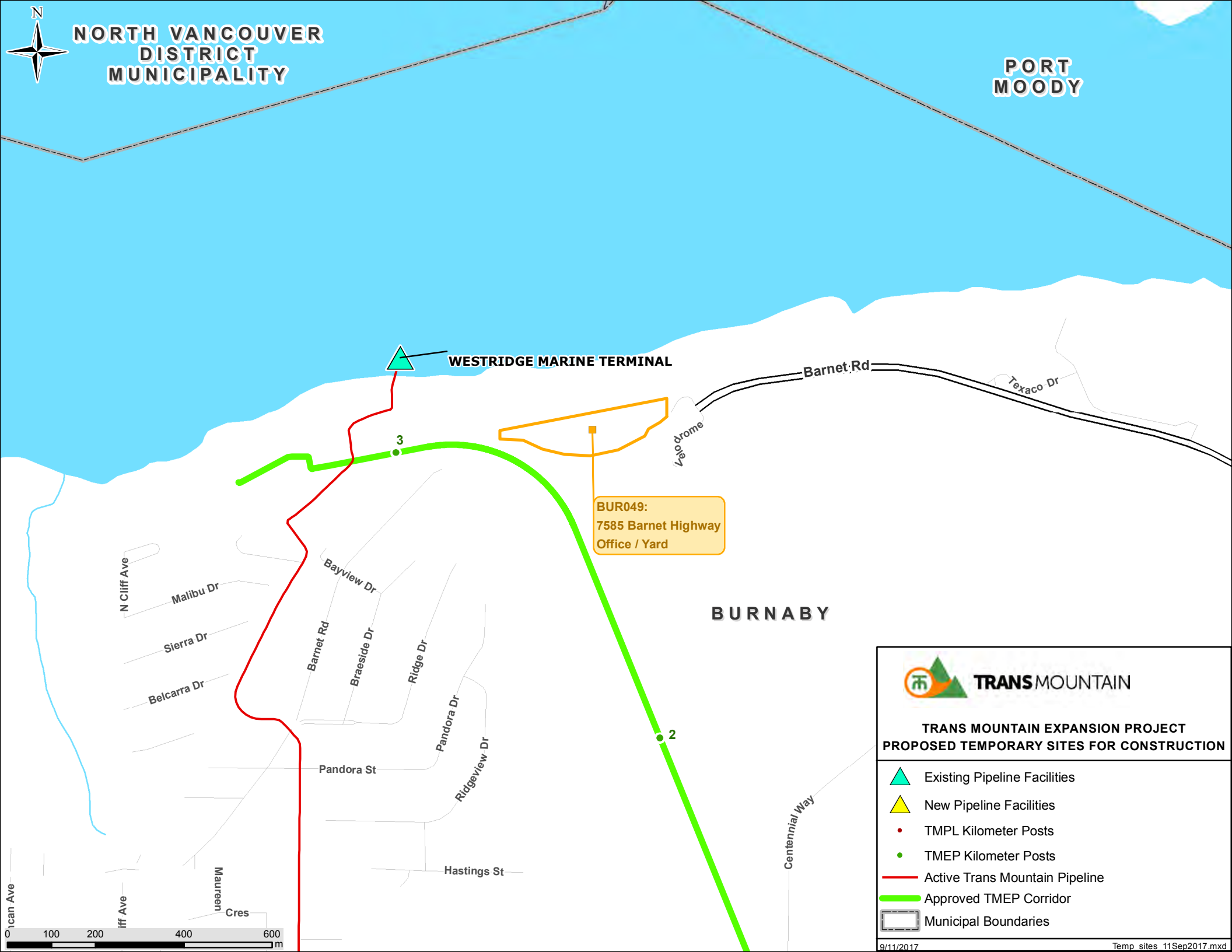
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NORTH VANCOUVER DISTRICT MUNICIPALITY
PORT MOODY
WESTRIDGE MARINE TERMINAL
Barnet Rd
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BUR049:
7585 Barnet Highway
Office / Yard
BURNABY
N Cliff Ave
Malibu Dr
Sierra Dr
Belcarra Dr
Bayview Dr
Barnet Rd
Braeside Dr
Ridge Dr
Pandora Dr
Ridgeview Dr
Pandora St
Hastings St
Maureen Cres
Centennial Way
0 100 200 400 600 m
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PROPOSED TEMPORARY SITES FOR CONSTRUCTION
Existing Pipeline Facilities
New Pipeline Facilities
TMPL Kilometer Posts
TMEP Kilometer Posts
Active Trans Mountain Pipeline
Approved TMEP Corridor
Municipal Boundaries
9/11/2017
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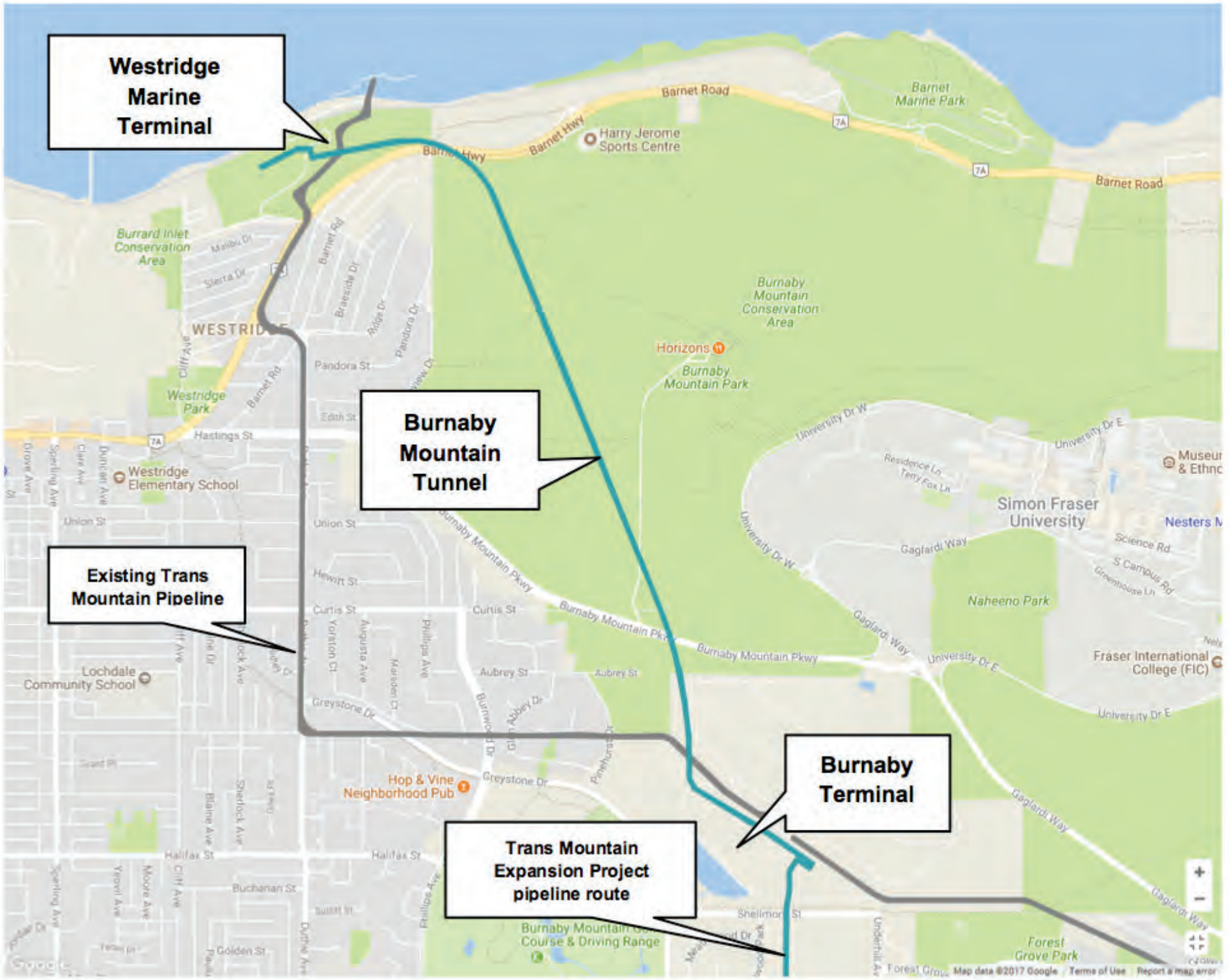
Westridge Marine Terminal
Burnaby Mountain Tunnel
Existing Trans Mountain Pipeline
Burnaby Terminal
Trans Mountain Expansion Project pipeline route
Barnet Road
Barnet Hwy
Harry Jerome Sports Centre
Barnet Marine Park
Burrard Inlet Conservation Area
Burnaby Mountain Conservation Area
Horizons
Burnaby Mountain Park
Westridge Park
Westridge Elementary School
Pandora St
Hastings St
Union St
Hewitt St
Curtis St
Aubrey St
Greystone Dr
Halifax St
Buchanan St
Golden St
Lochdale Community School
Hop & Vine Neighborhood Pub
Burnaby Mountain Pkwy
University Dr W
University Dr E
Gaglardi Way
Simon Fraser University
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Fraser International College (FIC)
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Burnaby Terminal
Existing Trans Mountain Pipeline
Trans Mountain Expansion Project pipeline route
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Port Moody
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Naheeno Park
Burnaby Mountain Golf Course & Driving Range
Burnaby 200 Conservation Area
Stoney Creek Trail System
Costco Wholesale
Lougheed Town Centre
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CARIBOO
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