Burnaby Terminal

Evacuation Plan

TRANSMOUNTAIN

BURNABY TERMINAL EVACUATION PLAN

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PLAN MAINTENANCE

Responsibility

Single point accountability for the Trans Mountain Burnaby Terminal Evacuation Plan (the Plan) development and maintenance rests with the Manager, Emergency Management. This accountability is for:

- The development of the Plan and management of any future revisions.
- Ensuring the Incident Command System (ICS) and response structure are in place and able to meet the requirements set out in the Plan.
- Ensuring an annual review of the Plan is conducted for completeness.

Plan holders are responsible for:

- Keeping their copies current and ensuring that all revisions are appropriately filed.
- Studying all new material issued and incorporating it into their work practice.
- Suggesting changes to correct existing materials and contributing new content to improve the quality of the Plan.

Plan Revisions

All revision requests must be made through the Manager, Emergency Management using the Revision Request Form located in this section of the Plan.

Revision Distribution

Plan revisions are issued with an Acknowledgement of Receipt Form and a brief description of the changes itemized by section. The Acknowledgment of Receipt Form must be signed and returned to the Emergency Management Department as specified.

Revisions to the Distribution List will be maintained in a secure electronic location managed by Trans Mountain Corporation and will be distributed to confidential Plan holders only. All other revisions will be distributed to Plan holders in a timely manner. A revised date is shown at the bottom of each updated or new page. The original date of the Plan is 08/2022. All revisions will be tracked on the Control Sheet.

Revisions after an Incident or Exercise

In the event that Trans Mountain experiences an incident (worst case or otherwise) or conducts an exercise or training session that uses this Plan, the effectiveness of the Plan will be evaluated and updated as necessary or no longer than every three years.

Changes in Operating Conditions

If a new or different operating condition or information would substantially affect the implementation of the Plan, Trans Mountain will modify the Plan to address such a change.

Revision Request Form

Requested by:	Date:
Dept/ Agency:	Phone No.:
Revision Type: ___ Addition ___ Deletion ___ Correction	
Manual Section:	Page:
Revision (attach separate sheet if necessary):	
Signature of Requestor:	
Send to: Manager, Emergency Management Trans Mountain Corporation 2700-300 - 5th Avenue S.W. Calgary, AB T2P 5J2 Canada Email: Emergency_management@transmountain.com	

To be completed by Manager, Emergency Management	
Date Received:	Comments:
Date Reviewed:	
Issued as Revision: Y/N	
If no, reason for Rejection:	
Signature Manager, Emergency Management	

Control Sheet

Revision Number	Date of Revision	Change(s)	Approval
0	October 31, 2022	Manual submitted as per Trans Mountain Expansion Project CER Condition 123 *Evacuation Plans*	K. McLernon
1	April 30, 2023	Added definition of vulnerable groups to the glossary Updated agency title change from Emergency Management BC (EMBC) to Emergency Management and Climate Readiness (EMRC)	K. Malinoski
2	August 22, 2023	Updated Appendix E	K. Malinoski
3	November 18, 2024	Updated sections 1.4, 1.5, 7.4 and appendices C, E, F, G, and H. Minor editorial updates throughout.	K. Malinoski
4	July 2, 2025	City of Burnaby inputs incorporated throughout. Updated Appendix E PCOC Table Updated Appendix F Vulnerable Sector map Updated Appendix G IIZ and PAZ system maps Updated Appendix H Evacuation maps Updated Appendix I Muster Sites Maps	K. Malinoski

1.0 INTRODUCTION

1.1 Purpose

This Trans Mountain Burnaby Terminal Evacuation Plan (Evacuation Plan) describes the measures Trans Mountain personnel complete, in conjunction with those with the authority to issue evacuation orders, shelter-in-place alerts, during an emergency at the Burnaby Terminal (the Terminal) that may require the evacuation or shelter-in-place of the surrounding community. For the Burnaby Terminal, this would be the local authority designated and assigned resources.

When an emergency is declared at the Burnaby Terminal, and it has been determined that the incident poses a risk to the public, which may require the implementation of public safety measures, this Plan will be activated.

Trans Mountain will supply incident-specific information to assist in the decision to evacuate and supply resources (financial, human, etc.) to the local authority, as needed, to implement public protection measures.

The local authority has the authority to declare a State of Local Emergency (SOLE) in situations where an emergency is imminent or existing to support the implementation of public safety measures.

1.2 Scope

This Evacuation Plan covers:

- The initial actions that Trans Mountain personnel will take to establish the Initial Isolation Zone and to evacuate the zone to mitigate *immediate* danger to life and health.
- The actions that the local authority, as well as other relevant government departments and assisting entities, may complete to implement the appropriate safety measures to mitigate potential impacts to the public arising from an incident at the Terminal, with assistance from Trans Mountain, as required.

Public safety measures within the scope of this Plan include two types of evacuation:

- Evacuation (of area)
- Shelter-in-place

This Evacuation Plan was developed with input from the City of Burnaby and considers the City of Burnaby's evacuation planning and preparedness procedures.

This Evacuation Plan is intended to be activated in coordination with the City of Burnaby and in conjunction with:

- Trans Mountain Terminals Emergency Response Plan (ERP);
- Trans Mountain Public Health Assessment and Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents; and
- Burnaby Terminal Fire Pre-plan and applicable tactical workbook.

The Evacuation Plan is considered a subset of the Trans Mountain Terminals ERP and has been developed to align with the Incident Command System (ICS).

1.3 Out of Scope

This Evacuation Plan does not cover:

- Evacuation of the Burnaby Terminal itself (for further information refer to the Burnaby Terminal Fire Safety Plan);
- Procedures for the evacuation of individual buildings;
- Long-term shelter-in-place;
- Evacuation of livestock
- Re-entry of evacuees;
- Specific evacuation procedures to be taken by local authorities and all other relevant government departments and assisting entities.

1.4 Plan Implementation

When an emergency is declared and it has been determined that the incident poses a risk to the public, which may require the implementation of public safety measures, this Evacuation Plan will be activated.

Activation of the Trans Mountain Terminals ERP (the ERP) will occur when an emergency at the Terminal is declared by Trans Mountain. The Trans Mountain Public Health Assessment and Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents will be activated in conjunction with the Terminals ERP. The Trans Mountain Public Health Assessment and Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents supports the implementation of public protection measures.

1.5 Legislation

As stated in the ***Environmental Management Act*** **SBC 2003, c. 53:**

Section 91.2 – Responsible Persons – Spill Response

(2) Subject to the regulations, if a spill occurs or is at imminent risk of occurring, the responsible person in relation to the spill must ensure that the actions necessary to address the threat or hazard caused by the spill are taken, which actions may include, but are not limited to, the following actions, if applicable:
  (a) assess, monitor and prevent, or prevent the continuation of, the threat or hazard caused by the spill;
  (b) stabilize, contain, remove and clean up the spill;
  (c) identify and evaluate the immediate risks to and impacts on the environment, human health or infrastructure and, as necessary,
    (i) advise persons to take protective action in relation to the spill,
    (ii) protect infrastructure, and
    (iii) protect, recover and restore the environment;
  (d) identify and evaluate the long-term impacts of the spill;
  (e) take steps to resolve or mitigate those immediate and long-term impacts.

Section 91.4 – Government Spill Response

(1) The government may carry out actions described in Section 91.2 (2*) [responsible persons — spill response]* if an officer considers that
  (a) a spill has occurred or there is an imminent risk of a spill occurring,
  (b) action is necessary to address a spill or the risk of a spill or to resolve or mitigate long term effects of a spill, and

(c) one or more of the following apply:
  (i) there is no responsible person in relation to the spill;
  (ii) an officer has reasonable grounds to believe that government action is required to safeguard the environment, human health or infrastructure;
  (iii) the responsible person in relation to the spill requests that the government assist with spill response and recovery actions.

As stated in the ***Emergency and Disaster Management Act*** **SBC 2023, Chapter 37**:

Part 2, Division 3-Section 19 Authority to act as or on behalf of local authority

(2) Subject so subsection (5), a local authority may designate one or more of the following to act on behalf of the local authority:
  (a) A member of the local authority's emergency management organization;
  (b) In a case where powers or duties have been set out in an agreement or other instrument made for the purposes of joining a multijurisdictional emergency management organization, an employee of a member of the multijurisdictional emergency management organization.

(3) A local authority must ensure that the process for determining who among the local authority's designates may exercise powers or perform duties is set out
  (a) In the local authority's emergency management plan, or
  (b) In an agreement or other instrument made for the purposes of joining a multijurisdictional emergency management organization.

Division 3-Section 20 – Local Authority Emergency Organization

(1) The purposes of a local authority's emergency management organization include the following:
  (a) to provide, in all or part of the area within the jurisdiction of the local authority, oversight, leadership and coordination of activities with respect to each phase of emergency management;
  (b) to make recommendations to the local authority respecting emergency management

(2) A local authority must do at least one of the following:
  (a) in accordance with the regulations, if any, establish, appoint members to and maintain an emergency management organization.
  (b) join a multi jurisdictional emergency management organization established under section

(3) If a local authority has more than one emergency management organization or has one or more emergency management organizations and joins a multijurisdictional emergency management organization, the local authority must ensure that, in the aggregate, the purposes referred to in subsection (1) are fulfilled in relation to all of the areas within the jurisdiction of the local authority.

As stated in the ***Fire Safety Act,*** **SBC 2016, Chapter 19**

Part 5 – Division 1 -Evacuations

Tactical Evacuations

13 (1) If a fire chief, or a person authorized by a fire chief, believes that there is an immediate threat to life due to a fire hazard of explosion, the fire chief or person authorized by the fire chief may evacuation a geographic area or premises.

(2) For the purposes of evacuation under this section, the fire chief or person authorized by the fire chief may call on the assistance of a police officer.

(3) Persons evacuated under this section must not return to the geographic area or premises until notified by the fire chief or person authorized by the fire chief that it is safe to do so.

Preventive Evacuation

14 (1) Subject to subsection (2), a local authority or the fire commissioner may evacuate premises if:

(a) The local authority or the fire commissioner, as the case may be, believes that conditions exist on or in the premises that a fire on or in the premises would endanger life.

As stated in the ***Public Health Act,*** **SBC 2008, c. 28:**

Section 31 – General Powers Respecting Health Hazards and Contraventions

(1) If the circumstances described in section 30 [when orders respecting health hazards and contraventions may be made] apply, a health officer may order a person to do anything that the health officer reasonably believes is necessary for any of the following purposes:

(a) to determine whether a health hazard exists;
(b) to prevent or stop a health hazard, or mitigate the harm or prevent further harm from a health hazard;
(c) to bring the person into compliance with the Act or a regulation made under it;
(d) to bring the person into compliance with a term or condition of a licence or permit held by that person under this Act.

2.0 ROLES AND RESPONSIBILITIES

In the event of an incident at the Terminal, Trans Mountain will liaise with those with the authority to issue evacuation or shelter-in-place orders through Unified Command (UC), and/or in concert with their own Emergency Operations Centre (EOC), if activated. The entities identified in Appendix B, *Roles and Responsibilities for Responding Agencies and Assisting Entities*, will be notified of the incident and invited to participate in Trans Mountain's Incident Command Post (ICP) as members of the Incident Management Team (IMT) and/or within the Liaison Office.

2.1 Trans Mountain Roles and Responsibilities

Trans Mountain is responsible for:

- Taking immediate action to identify the hazards and/or potential hazards that may arise from an incident at the Terminal.
- Confirming the parameters of the Initial Isolation Zone and implementing the appropriate safety measures to protect people and property.
- Providing hazard-specific and technical information to the local authority to aid in the determination of public safety measures required for the community surrounding the Terminal.

As the incident evolves, Trans Mountain is responsible for providing updated information to the local authority to support the ongoing assessment of risk to the public and the implementation of public safety measures, as outlined in Section 7.4 *Notifications*.

Trans Mountain support may include, as requested, the sharing of personnel and resources to aid in the preparation and execution of the local authority's evacuation procedures.

Financial compensation for the consequences arising from an incident at the Terminal is the responsibility of Trans Mountain; the Finance and Administration Section of the Incident Management Team will communicate with displaced residents to address concerns and settle and/or resolve damage claims arising from the incident.

2.2 Unified Command Roles and Responsibilities

Trans Mountain uses ICS. If Unified Command is established, invitations would be extended to the City of Burnaby, Indigenous Communities (if impacted), the Canada Energy Regulator (CER), and Environment and Climate Change Canada, or British Columbia Ministry of Environment and Climate Change Strategy to participate. If Unified Command is established, Command will fulfill the following responsibilities.

Unified Command's responsibility during an incident is to provide overall guidance and support to respond to the incident at the Terminal. This is achieved through the drafting of key objectives, identifying response priorities, and following an inclusive decision-making process. Unified Command sets the direction of response activities including developing and implementing strategic decisions, endorsing Incident Action Plans (IAPs), and approving the order and release of resources. The Unified Command maintains situational awareness of the incident and its evolving hazards and will confirm the local authority has updated information to aid in its decision-making on public safety. Members of the Unified Command will support the local authority in the implementation of the public safety measures. This can include the provision of a liaison to the local authority ECC.

2.3 Local Authority Roles and Responsibilities

The local authority has the authority to declare a State of Local Emergency (SOLE) in situations where an emergency is imminent or existing. Declaration of a SOLE as outlined in Part 6 Division 1-Local Authority Response and Recovery Phases-Response Phase, by Part 6, Division 4-Local Authority's Response Powers and Part 5, Division 4 – Provincial Response and Recovery Phases all parts of the Emergency and Disaster Management Act (British Columbia). Provides a local authority with expanded powers to do all acts and implement all procedures that it considers necessary to prevent, respond to or alleviate the effects of an emergency or a disaster.

This includes the authority to exercise specific powers in a declared state of emergency that are generally only available to the Minister responsible for the *Emergency and Disaster Management Act.*

As noted in Emergency and Disaster Management Act, a SOLE is not required to be in effect for the local authority to implement emergency plans.

The local authority reviews and assesses the incident as per its appropriate procedures and plans, in coordination with the hazard-specific and technical information provided by Trans Mountain, to aid in the identification and determination of appropriate public safety measures.

Note: Non-treaty Indigenous Communities can put in place Band Council Resolutions (BCRs) with an evacuation order or to conduct a tactical evacuation, if required.

3.0 HAZARD IDENTIFICATION AND ASSOCIATED RISKS

The immediate hazards associated with an incident at the Terminal that could result in the implementation of public safety measures within the Terminal boundaries, or the surrounding area include heat, vapour, and smoke.

Following an incident, Trans Mountain personnel will conduct an initial assessment, as outlined in Section 4.0 *Initial Incident Assessment*, to distinguish the applicable hazards.

The details on each of the hazards, described below, will be used to support the initial assessment.

3.1 Hazards

3.1.1 Heat

Thermal radiation decreases as the distance from the source increases.

Potential impacts from heat include:

- Injuries
- Burns from thermal radiation (in extreme cases)

Calculations have been done to determine the radiant heat effects based on product, volume, and infrastructure present at the Terminal.

In the scenario of a full-surface fire (the credible worst-case scenario for the Terminal), the distance that could be impacted by heat is 192 m[1].

3.1.2 Vapour & Smoke

Dispersion of vapour and/or smoke is dependent on environmental and atmospheric conditions and may pose risks beyond the boundaries of the Terminal.

Potential impacts from vapour and/or smoke include:

- Injuries resulting from inhalation
- Reduced air quality that may impact community members with pre-existing respiratory conditions such as asthma

Air monitoring of vapour and smoke is an essential component in determining when to implement applicable public safety measures and which measure (evacuation or shelter-in-place) is appropriate. Odours can be strong and may be detected by the nose at levels much lower than the levels that pose negative health effects.

Smoke dispersion is incident specific. Smoke dispersion modelling is dependent on several product-based variables, including the rate of release, estimated cloud size, atmospheric conditions, height of release, and distance from the release. Modelling can also support local authorities and the health authority in making incident-specific decisions regarding any expansion of initial public safety measures and/or returning people safely home.

[1] Radiant heat impact intensity of 1.0 kW/m^2 was used to identify the Protective Action Zone, which is the equivalent intensity to potentially cause a sunburn on exposed skin dependent on the time of exposure.

The Trans Mountain Public Health Assessment & Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents will be activated in conjunction with the Trans Mountain Terminals ERP and the Evacuation Plan. The Trans Mountain Public Health Assessment & Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents provides the initial air monitoring strategy as an interim measure until the incident-specific air monitoring plan is developed.

The initial strategy sets out action levels for pre-identified Potential Chemicals of Concern (PCOCs); when monitoring data indicates that an action level is reached, the Environmental Unit Leader will initiate an assessment of public health risk, as contact with smoke and/or vapour may pose a risk to human health. The Trans Mountain Public Health Assessment & Response Plan for Airborne Health Risks Associated with Pipeline/Terminal Operations and Incidents includes *Standards for PCOCS: Sources and Detection Limits*[2] as reference material, which provides action levels to reference when assessing the risk to public health. The Environmental Unit, composed of inter-jurisdictional agencies and the Air Monitoring Technical Specialist(s), will evaluate the air monitoring data and, in consultation with the Medical Health Officer from the health authority, determine whether the air monitoring strategy should be altered and if public safety measures should be adjusted. The assessment and recommendation will be communicated to the Unified Command for implementation by the local authority. A copy of the Potential Chemicals of Concern Standards (PCOCs) is included in Appendix *E Standards for Potential Chemicals of Concern: Sources and Detection Limits*, of this document for ease of reference. The Acute Exposure Guideline Level 1 (AEGL-1) is the airborne concentration (expressed as ppm or mg/m^3) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic non-sensory effects.

3.1.3 Boil-over

A boil-over is a potential consequence of a full-surface tank fire and has the ability to impact the public outside of Terminal boundaries. When a boil-over occurs, hot and/or burning crude oil is ejected upward and outward from the impacted storage tank and then falls to the ground, potentially in all directions from the impacted storage tank.

Potential impacts from a boil-over include:

- Injuries resulting from contact with hot and/or burning crude oil, e.g., burns

In the scenario of a full-surface fire (the credible worst-case scenario for the Terminal), the distance that could be impacted is up to 10x the diameter of the tank that is on fire. Therefore, the Protective Action Zone for a full-surface tank fire is 10x the diameter of the largest tank at the Terminal to ensure public safety during extinguishment activities.

The largest potential impacted storage tank at Burnaby Terminal is 56.2 m in diameter[3], and thus, the boil-over has the potential to reach as far as 562 m from the impacted storage tank.

3.1.4 Other

Dispersion of product, and/or firefighting fluids, beyond the boundaries of the terminal is dependent on environmental and atmospheric conditions. These may pose a risk to human health if there is transdermal

[2] The Standards *for PCOCs: Sources and Detection Limits* table outlines the published, recognized standards and guidelines for ambient air quality, worker exposure limits, and acute public exposure levels applicable to the measurable PCOCs for a product release or fire.

[3] Since the McCutcheon Risk Assessment in 2013, tank design was adjusted, and the largest tanks have a diameter of 56.2 meters.

contact or ingestion. Public protection measures may include rerouting or minimizing traffic, closure of roads and trails, and limitation of access to parks.

4.0 INITIAL INCIDENT ASSESSMENT

Each incident type coincides with an Initial Isolation Zone and Protective Action Zone. Table 1 and Table 2 will form the basis of the initial assessment to identify the associated zones at risk.

4.1 Initial Isolation Zone

Trans Mountain personnel will complete an initial assessment of the incident to identify the hazards and determine the corresponding risk to those within the Initial Isolation Zone.[4] Each incident type corresponds with an Initial Isolation Zone, as seen in Table 1, where access will be restricted to response personnel as there may be an immediate danger to life and health. The size of the Initial Isolation Zone for each incident represents the area where there is potential for significant injury and/or fatality of persons without appropriate personal protective equipment (PPE).[5]

Table 1: Incident-Specific Initial Isolation Zone

Incident Type	Hazard	Initial Isolation Zone
Spill, no fire	Vapour	50 metres
3D/rim seal fire	Heat	91 metres
Full-surface fire	Heat	91 metres

4.2 Protective Action Zone

Trans Mountain personnel will provide the local authority, as well as all other relevant government departments and assisting entities, with incident-specific technical information and air monitoring data, through the initial first responders and subsequent incident briefings, and/or through the ICP (e.g., UC, Liaison Office, and/or Environmental Unit). Trans Mountain personnel will also communicate the incident-specific Protective Action Zone and recommendations for evacuation or shelter in place due to the potential for imminent threat to health or life.

Using Table 2 as a reference, together with the incident-specific technical and hazard information provided by Trans Mountain and the local authority's evacuation procedures, the local authority will be advised to execute a tactical evacuation or shelter-in-place in the areas immediately surrounding the incident, as outlined in Table 2, starting in the downwind direction, as outlined in Section 6.0, *Initial Incident Public Safety Transition*, of this plan.

[4] Details on the evacuation procedure of the Terminal are contained within the Burnaby Terminal Fire Safety Plan.

[5] Zone sizes are calculated according to Centre for Chemical Process Safety and Major Industrial Accidents Council of Canada hazard distance standards for thermal intensities as it relates to Trans Mountain Terminals.

Table 2: Incident Specific Protective Action Zone

Incident Type	Hazard	Protective Action Zone
Spill, no fire	Vapour	300 metres
3D/Rim seal fire	Heat	192 metres
Full-surface fire	Heat and boil-over	562 metres (10x diameter of largest tank at the Burnaby Terminal)

Initial Isolation Zone maps and Protective Action Zone maps for each tank at Burnaby Terminal are provided in Appendix D, *Burnaby Terminal Initial Isolation Zone and Protective Action Zones*. Zone sizes are calculated according to the Centre for Chemical Process Safety and Major Industrial Accidents Council of Canada hazard distance standards for thermal intensities as it relates to Trans Mountain Terminals. The local authority may use its own distances, but they should not be smaller than those calculated by Trans Mountain.

5.0 EVACUATION OF INITIAL ISOLATION ZONE

5.1 Evacuation

Upon identification of an incident, all non-essential personnel at the Terminal will muster at the pre-determined sites highlighted in the Burnaby Terminal Fire Safety Plan. Trained responders will confirm and establish physical barriers or other means of demarcation such as flagging or landmarks that are easily identifiable by responders to distinguish the boundaries of the Initial Isolation Zone. This is a high-risk area and only response personnel with appropriate PPE and training are permitted. Terminal personnel will ensure the areas within the Initial Isolation Zone that fall outside the terminal boundary is evacuated and will erect physical barriers at pathways leading to the evacuated area. Trans Mountain will post security personnel with the intention to prevent members of the public from entering the area. Trans Mountain may request assistance from local law enforcement on a temporary basis until additional resources arrive.

5.2 Assessment of Initial Isolation Zone

Response personnel and UC will continually monitor the hazards and the incident boundaries to ensure they are appropriate and will expand and/or contract the Initial Isolation Zone, as needed. Once it has been determined that there are no longer adverse risks to personnel, the assessment and recommendation will be communicated to the Unified Command. Upon confirmation, Trans Mountain will remove the physical barrier of the Initial Isolation Zone.

6.0 INITIAL INCIDENT PUBLIC SAFETY TRANSITION

During the first hour of an incident Trans Mountain will ensure the safety of responders and the public within the Initial Isolation Zone, due to the immediate threat to life and health. The tank tactical workbook contains the procedure for public evacuation. The procedure has been extracted and included as Appendix D, *Evacuation Procedure.* Trans Mountain personnel will expand the Initial Isolation Zone, as required, based on the continued air monitoring for the presence and levels of PCOCs and/or intense heat.

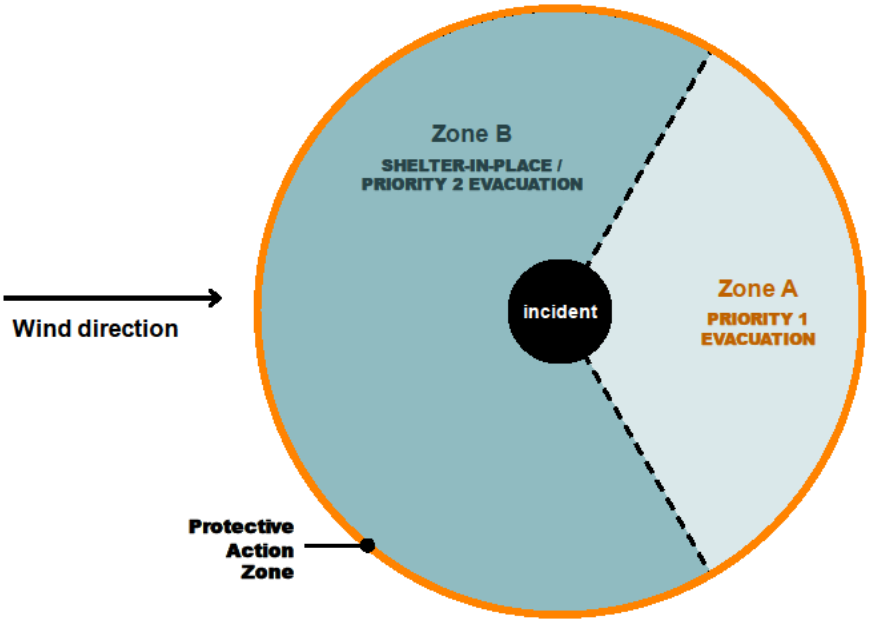
Upon arrival of the local authority at the entrance or other appropriate meeting location dependant on the incident, Trans Mountain will provide an Initial Briefing as outlined in the Fire Pre-plan tactical workbooks. The Initial Incident Briefing, in addition to incident specific information, also includes information on the evacuation of the Initial Isolation Zone and if any members of the public were evacuated, where they were directed to muster, and any contact information and status/location of any roadway/trail blockages to prevent public entry to the Initial Isolation Zone.

Trans Mountain will recommend public safety measures such as evacuation and shelter-in-place to the local authority upon their arrival. The local authority will determine the appropriate actions to be taken to protect the public and limit the movement of the public in an area of heightened risk and/or responder activity.

7.0 EVACUATION OF PROTECTIVE ACTION ZONE

Trans Mountain recommends evacuation or shelter-in-place measures within the Protective Action Zone for each event as listed in Section 4.2, Protective Action Zone, to commence as soon as reasonably practicable by the local authority, due to the potential for an imminent threat to health. This evacuation/shelter-in-place is to be tactical in nature. Trans Mountain, through the Operations Section and/or Liaison Office of the ICP will support, as required, the implementation of the public safety measures at the request of local authority. The evacuation should start in the downwind direction, and those closest to the incident first, followed by those in the upwind direction, moving outward from the incident site.

Diagram 1.0 Evacuation Zones



7.1 Vulnerable Groups

Appendix F *Burnaby Terminal Vulnerable Groups* and Land Use, identifies both the community plan area land use designs surrounding the Terminal and pre-identified vulnerable groups within the Protective Action Zone. Vulnerable groups are considered, in this circumstance, to be schools, daycares, senior centers, and medical centres. This information can aid with preliminary assessment of logistical needs and assistance required to conduct the evacuation and support evacuees. Much of the land use proximal to the Burnaby Terminal includes park and public use land, low/medium/high density multiple family residential land, and institutional land use. Pre-identified vulnerable groups currently within the combined Protective Action Zones for the Terminal are Forest Grove Elementary and Family Literacy Centres located to the Southeast of the Burnaby Terminal and SFU.

The three pre identified groups will be notified by Trans Mountain, as per the Terminal ERP, of an incident at Burnaby Terminal and communicated regularly through the Liaison Office. SFU and Burnaby School District (School District 41) will be invited to participate in the ICP Liaison Office.

7.2 Ongoing Assessment

The ICP, together with the local authority, will continually monitor the hazards and the incident outside of Terminal boundaries to determine if the situation has evolved, using the technical information and air monitoring data collated by the Environmental Unit. This additional assessment will be used to determine if subsequent actions are required, including if the Protective Action Zone requires expansion or contraction. Trans Mountain will support the local authority in these efforts by assisting with the implementation of further public safety measures, as required.

7.3 Evacuation Routes, Methods, and Destinations

Trans Mountain has included the anticipated evacuation routes identified in Appendix E, *Anticipated Evacuation Routes*. If a formal evacuation order of the Protective Action Zone is to be instituted, the local authority determines the most appropriate evacuation routes and methods based on the circumstances of the incident. Trans Mountain will support this decision-making process. Evacuation routes can include applicable roads, walking paths, trails, as well as other local means of egress specific to the Burnaby Terminal. Modes of transportation may include walking, driving, bike, transit buses, etc., as identified by the local authority.

In all cases it is recommended that those on Burnaby Mountain, including Simon Fraser University (SFU) and those living in the UniverCity District shelter-in-place if Burnaby Mountain Parkway and/or Gaglardi Way are impacted by the incident until the incident has been resolved, or stabilized allowing for traffic movements on Burnaby Mountain Parkway and/or Gaglardi Way.

Evacuated members of the public may first be directed towards Muster Locations during the early portions of the incident for a short time while resources are being assembled. The Muster Locations are identified in Appendix I, *Anticipated Muster Sites*. If the event requires mid-term or longer-term evacuation evacuees will be directed to local Reception Centre(s) that are identified collectively by the City of Burnaby and Trans Mountain. Trans Mountain will support and collaborate with the local authority in the selection and designation of applicable Reception Centre(s). Location options include those identified in the local authority's plans; community support centres identified in the Trans Mountain Terminal ERP or incident specific locations identified by the Logistics Section of the ICP.

7.4 Notifications

Trans Mountain is responsible for:

- Dissemination of evacuation notifications due to the immediate threat to life and health within the Initial Isolation Zone (as per Section 4.0 *Initial Incident Assessment*)
- Dissemination of information on the incident
- Dispatching a Trans Mountain representative to reception centres to liaise between the public and the company
- Collection of relevant information from evacuees

The Information Officer, as a member of the Incident Management Team, is responsible for developing and releasing information about the incident to the media (news, social, print, TV), incident personnel, members of the public, and impacted parties through the implementation of the Crisis Communications Plan.

The goal of the Crisis Communications Plan is to establish Trans Mountain as the foremost and reliable source of information while fostering and sustaining public trust through professional and strategic incident response.

The Crisis Communications Plan's objectives are to:

- Safeguard and elevate the Trans Mountain brand.
- Provide timely information to employees and the public
- Demonstrate empathy and provide support for employees and those affected by an incident.
- Proactively prevent, anticipate and correct misinformation.
- Establish a unified information source for the timely and coordinated release of accurate information.
- Support timely and accurate information flow to the Crisis Management Team, through the Incident Support Team structure.
- Ensure an efficient information flow between the Information Office, media, the public, IC/UC, Liaison Office, and relevant agencies involved in an incident.
- Monitor emerging trends, anticipate issues, and promptly address rumors and misinformation.
- Establish Trans Mountain as a responsible corporate citizen that effectively addresses all issues and manages incidents appropriately through consistent, accurate and reliable communications

The Information Officer is supported by a team of pre-assigned employees to assist in implementing the Crisis Communications Plan. This group is known as the External Relations and External Communication Team.

It is recommended that a Joint Information Centre (JIC) under Unified Command be established between Trans Mountain and the local authority. The Trans Mountain Crisis Management Plan can guide the activities of the JIC. A template for the initial media holding statement for the incident is available in Appendix C *Initial Holding Statement (Template).*

The local authority has the primary responsibility for the development and dissemination of notifications to the community. The JIC can prepare and/or support these activities; or if not established, Trans Mountain, as requested. Communications could include but is not limited to:

- Public notification and situation updates
- Official communications to key audiences
- Media relations

7.4.1 Notification Platforms

Various notification platforms may be used to send emergency information to affected persons and communities. These could include but are not limited to:

- Personal notification, e.g., loud hailer, door-to-door delivery of notifications
- Social media
- Radio and television announcements
- City of Burnaby Alertable notification app
- Trans Mountain's Incident Specific website
- Local authority website
- BC Emergency Alert system

APPENDIX A GLOSSARY AND ACRONYMS

Glossary

Word or Phrase	Definition
Boil-over	An escalation event because of a full-surface tank fire. A boil-over is the sudden ejection of a crude oil tank's contents that occurs when residue from surface burning becomes denser that the unburned oil. The residue forms a "hot layer" that moves down in the tank and as the fire progresses, this layer reaches the water, or water-in-oil emulsion, at the bottom of the tank. The water or water-in-oil emulsion becomes superheated, boils, and rapidly expands, causing the sudden ejection of the tank contents.
Evacuation (of area)	Due to an impending or actual risk to public safety, individuals are ordered to vacate (evacuate) a defined area based on the hazards present and the threat to immediate life.
Evacuation Notifications	**Evacuation (of area) Alert** A notification that informs all or part of a community of a potential or impending danger. It also provides community members and businesses time to undertake preparatory activities prior to an evacuation (of area) order being issued. Evacuation (of area) alerts: • Do not require a declaration of a state of local emergency • May be surpassed by the issuance of an evacuation (of area) order **Evacuation (of area) Order** A notification to all or part of a community of an impending danger that requires individuals to evacuate from the area. Evacuation (of area) orders: • Are issued through a formal process and recorded in writing • Require a declaration of a state of local emergency to be in place for the order to be valid • Can only be issued for area(s) of the community identified in the declaration of a state of local emergency • Do not allow for any discretionary action on the part of the population at risk • Should be stated that the identified area(s) will be under controlled access until further notice **Evacuation (of area) Rescindment** When the emergency that necessitated the evacuation (of area) alert or order is under control and the primary and secondary emergency zones are declared safe, an evacuation rescindment can be issued.
Full-surface fire	A fire that engulfs the entire upper surface of a tank after the tank roof has sunk. Vapour from exposed product is ignited by lightning or spark.
Heat	A thermal radiation from the ignition of a flammable substance that could be caused by a surface tank fire, 3D/pool fires, flash fires, or vapour cloud explosions.

Word or Phrase	Definition
Initial Isolation Zone	The geographical area near a continuous hazardous release where all non-response personnel should be evacuated as there may be an immediate danger to life and health for those not protected by appropriate PPE as the result of the incident.
Potential Chemicals of Concern (PCOC)	A pre-determined list of chemicals that may be released into the atmosphere during a product release or fire.
Protective Action Zone	The geographical area associated with a credible worst-case incident that is used to educate community members on the public safety measures, including evacuation or shelter-in-place, that may be required during an incident due to the potential for an imminent threat to health. This area will be adjusted during an incident to account for the actual incident type and the safety measures required to mitigate potential impacts to the public. May be referred to by other entities as the Emergency Planning Zone (EPZ).
Shelter-in-place	Due to an impending or actual risk to public safety, individuals are to take refuge (shelter), to remain indoors, or if outside, to go indoors immediately.
Shelter-in-place notifications	**Shelter-in-place Advisement** A notification to all or part of a community of an impending danger that requires individuals to take refuge (shelter). Shelter-in-place advisories: • Are issued through a formal process and recorded in writing • Require a declaration of a state of local emergency to be in place for the order to be valid • Can only be issued for area(s) of the community identified in the declaration of a state of local emergency • Should be stated that the identified area(s) will be under controlled access until further notice **Cancellation of Shelter-in-place Advisory** When the emergency that necessitated the shelter-in-place advisory has evolved and/or is under control, such that it has been determined that it is safe to be outdoors, the advisory can be cancelled; cancellation may occur in stages.
Three-dimensional (3D) fire	A three-dimensional fire is a liquid-fuel fire in which the fuel is being discharged from an elevated or pressurized source, creating a pool of fuel on a lower surface.
Smoke	The mixture of gases and suspended carbon particles that is likely visible and results from the ignition of a flammable substance.
Vapour	A substance diffused or suspended in the air that is normally a liquid or solid. Once diffused or suspended, it may be invisible. It is not the result of the ignition of a flammable substance.
Vulnerable Groups	Pre-identified vulnerable groups when considering evacuation under these circumstances include schools, daycares, senior centers, and medical centres.

Acronyms

Abbreviation	Full Description
CER	Canada Energy Regulator
EOC	Emergency Operations Centre
EMRC	Emergency Management and Climate Readiness
ERP	Emergency Response Plan
ESS	Emergency Support Services
EU	Environmental Unit
IAP	Incident Action Plan
ICP	Incident Command Post
ICS	Incident Command System
JIC	Joint Information Centre
PCOC	Potential Chemicals of Concern
PPE	Personal protective equipment
PREOC	Provincial Regional Emergency Operations Centre
SOLE	State of Local Emergency
UC	Unified Command
3D Fire	Three-dimensional Fire

APPENDIX B ROLES AND RESPONSIBILITIES FOR RESPONDING AGENCIES AND ASSISTING ENTITIES

A responding agency is an organization that either has the legislative authority and responsibility to implement evacuation/shelter-in-place orders or has a regulatory responsibility to be a member of Unified Command.

Table 3: Responding Agencies

Responding Agencies		
Entity	**Role**	**Authority**
Trans Mountain	Trans Mountain is responsible for taking immediate action to identify the hazards present following an incident and will establish and evacuate members of the public within the Initial Isolation Zone. Trans Mountain provides technical advice to the local authority to aid in the determination of appropriate public safety measures. Trans Mountain supports the local authority with evacuation (of area) or shelter-in-place and the communication of information to impacted community members.	Trans Mountain has no legislative authority to evacuate the public, except in circumstances where there is an immediate threat to life and health. A member of Unified Command.
Local authority: City of Burnaby	The City of Burnaby (the local authority) is responsible for protecting life and property within their jurisdiction. The local authority implements its emergency plan, which includes activation of its evacuation (of area) or shelter-in-place procedures. In coordination with the Trans Mountain ICP, the local authority's Emergency Operation Centre (EOC) and supporting entities issues evacuation (of area) and shelter-in-place advisories and cancellations. The local authority may declare a local state of emergency, if required. Supports Burnaby Fire Department with response activities as requested. • Response activities can include assisting with the implementation of a public safety order, traffic management, etc. Leads setup and staffing of the evacuee Reception Centre, through ESS; provides support services that preserve the emotional and physical well-being of evacuees and response workers in emergency situations.	Has the authority to declare a state of local emergency and order evacuations and/or advise shelter-in-place. A member of Unified Command.

Responding Agencies		
Entity	**Role**	**Authority**
Local authority: Burnaby Fire Department	Burnaby Fire Department is responsible for implementing the actions for a tactical evacuation (of area) or shelter-in-place actions for immediate life safety. Burnaby Fire Rescue Service: • Communicates evacuation (of area) alerts and orders or shelter-in-place advisories to threatened or impacted community members and businesses. • May represent the City in Unified Command.	Has authority to evacuate in situations of immediate life safety.
Ministry of Environment and Climate Change Strategy (BC MoE) (Provincial representative)	The province will coordinate available resources to provide emergency response assistance that supplements but does not substitute community resources.	No legislative authority to evacuate unless a provincial State of Emergency is declared. A member of Unified Command.
Canada Energy Regulator (CER)	The CER's top priority in any emergency is to make sure that people are safe and secure, and that the environment and property are protected. The CER oversees the company's response, including ensuring emergency plans are in place and executed, and will require that all reasonable actions are taken to protect employees, the public, and the environment.	No legislative authority to evacuate. A member of Unified Command.

An assisting entity is an organization that has the authority, a role, and/or responsibility to support the implementation of an evacuation/shelter-in-place decision.

Table 4: Assisting Entities

Assisting Entities		
Entity	**Role**	**Authority**
Local Authority		
First Responder: Burnaby RCMP (Police)	Burnaby Detachment RCMP supports the tactical response and executing of actions of an evacuation (of area) or shelter-in-place. • Acts at the direction of the City of Burnaby.	Has authority to evacuate in situations of immediate life safety or of a security nature.
Burnaby School District (School District 41)	The school district works with local authorities to ensure students are protected. Burnaby School District: • Supports schools in the implementation of safety measures when evacuation alerts and orders, or shelter in place advisories are issued. Invited to participate in the Trans Mountain ICP.	Primary function in an emergency is to keep students safe. An assisting agency.
Family Literacy Centres (Located within the combined Protective Action Zones for the Burnaby Terminal)	Works to ensure attendees are protected. Family Literacy Centres: • Implements safety measures at the Centre when evacuation alerts and orders, or shelter in place advisories are issued.	Authority to evacuate building. An assisting agency.
Forest Grove Elementary School (Located within the combined Protective Action Zones for the Burnaby Terminal)	The elementary school works to ensure students are protected. Forest Grove Elementary School: • Implements safety measures at the school when evacuation alerts and orders, or shelter in place advisories are issued.	Authority to evacuate school. An assisting agency.
Metro Vancouver (MV)	Metro Vancouver will provide Air Quality Team subject matter experts to identify possible impacts to air quality from the incident. Metro Vancouver: • Contributes to meteorological and air monitoring via the MV fixed network of stations. • Dispatches MV mobile air monitoring for supplemental data collection, if appropriate. • Invited to participate in the Trans Mountain ICP; through participation in the Trans Mountain ICP Environmental Unit,	No legislative authority to evacuate. An assisting agency.

Assisting Entities		
Entity	**Role**	**Authority**
	evaluates air monitoring data and contributes to the air monitoring strategy.	
Neighbouring local authorities	Neighbouring local authorities monitor and assess potential risk to their jurisdiction and may provide mutual assistance to the affected community.	No legislative authority to evacuate outside of their jurisdiction. An assisting agency to impacted local authority.
Simon Fraser University (SFU) (Access routes to/from SFU are located within the combined Protective Action Zones for the Burnaby Terminal)	Simon Fraser University works with local authorities to ensure students are protected. Simon Fraser University: • Activates the SFU Evacuation/Shelter-in-Place plan and processes when advised of an incident at the Burnaby Terminal which affects the Burnaby Mountain Parkway and/or Gaglardi Way. Invited to participate in the Trans Mountain ICP.	Authority to evacuate SFU campus. Primary function in an emergency is to keep students safe. An assisting agency.
Provincial Entities		
Emergency Management and Climate Readiness (EMCR)	Provides and coordinates provincial support for local authorities and First Nations within designated regional boundaries. Support and coordination at this level are provided by a Provincial Regional Emergency Operations Centre (PREOC). EMCR: • Authorizes a local authority to implement a local emergency plan or emergency measures for all or any part of the jurisdictional area for which the local authority has responsibility. • Requires a local authority for a municipality or an electoral area to implement a local emergency plan or emergency measures for all or any part of the municipality or electoral area for which the local authority has responsibility. • Causes the evacuation of persons and the removal of livestock, animals, and personal property from any area of British Columbia that is or may be affected by an emergency or a disaster and arrange for the adequate care and protection of those persons, livestock, animals, and personal property. Invited to participate in the Trans Mountain ICP.	EMCR has the legislated authority, if and when the criteria outlined in Section 9 of the EPA are met, to declare a State of Emergency An assisting entity.

Assisting Entities		
Entity	**Role**	**Authority**
First Nations Health Authority (FNHA)	FNHA has subject matter experts who can participate and support the identification of possible impacts to health from the incident. FNHA: • Provides guidance regarding health impacts and air quality to support First Nations decisions in issuing alerts, orders, and rescindments for both evacuation (of area) and shelter-in-place advisories. Invited to participate in the Trans Mountain ICP.	No legislative authority to evacuate. An assisting agency.
Fraser Health Authority	Fraser Health Authority will provide subject matter experts to identify possible impacts to health from the incident. Fraser Health Authority: • Provides guidance regarding health impacts and air quality to support the local authority decisions in issuing alerts, orders, and rescindments for both evacuation (of area) and shelter-in-place advisories. Invited to participate in the Trans Mountain ICP.	Has legislated authority to mitigate or prevent further harm of the public from a health hazard if and when the criteria outlined in the *Public Health Act* is met. An assisting agency.
Health Emergency Management British Columbia (HEMBC)	HEMBC will provide leadership and support to the health authorities. HEMBC: • Coordinates between health authorities' communications personnel and the ICP Public Information Officer on public messaging and media releases related to public health. • Supports evacuees through the provision of health services and care to existing patients and clients and psychosocial supports through the Disaster Psychosocial Services (DPS) program. • Supports the re-establishment of key health services prior to the lifting of an Evacuation Order. Invited to participate in the Trans Mountain ICP.	No legislative authority to evacuate. An assisting agency.

APPENDIX C INITIAL HOLDING STATEMENT (TEMPLATE)

The following statement can be issued upon receipt of approved information (and as applicable) that a possible incident has occurred:

MEDIA STATEMENT

FOR IMMEDIATE RELEASE – [date]

DATE – Trans Mountain is responding to a [release/incident] at Burnaby Terminal in Burnaby, BC approximately (approximately x km north/south/east/west of major centre) involving a [crude oil release/other] on our pipeline system. The release was discovered by [Trans Mountain personnel/Control Centre/other]. [Line 1/Line 2/the system] was immediately shut in and isolated. Crews are onsite and [cleanup has been initiated/the product has been fully contained].

Applicable regulators and responders have been notified and there is no threat to the [community/water bodies]
The [Line 1/Line 2/the system] remains [shut down/partially shut down] and an Incident Command Post has been set up to manage the incident and clean-up.

At this time, the volume of the release remains under investigation. [However, an early volume estimate provided to the regulator is that approximately X cubic meters (X barrels) has been released/there is no estimated volume at this time].

Updates will be posted as new information becomes available at www.transmountain.com.

Contact: media@transmountain.com, 1-855-908-9734

Trans Mountain will use X as the primary social channel for communication in the event of an incident. Facebook and LinkedIn will not be used during an event but may be used after resolution of an incident to share a summary post or news release. All social media posts must be translated and posted in both languages.

X (Formerly known as Twitter)

X is a primary source of communication and/or news channel among first responders, the media and the general public. Follow these general guidelines:

- Only include links to Trans Mountain content
- Include relevant community hashtags on all posts. Do not create additional hashtags.
- Anything posted on X could be used in media coverage of the incident

Sample X Posts

X users and followers subscribe to content conventions to post, review and search information. The examples below adhere to a best practice approach to posting on X.

• ALERT: #TransMountain crews are investigating reports of an #oil sheen in #Burnaby.

We will provide updates as more information becomes available.

• UPDATE: #TransMountain crews have identified XXX in #Burnaby. Crews are on site and clean-up efforts are underway. We will continue to provide updates as more information becomes available.

• UPDATE: #TransMountain crews are on site at a Burnaby Terminal in #Burnaby. More information about ongoing response efforts can be found here: LINK

• UPDATE: #TransMountain crews have completed their response to XXX in

APPENDIX D EVACUATION PROCEDURE[6]

Initial Public Safety Assessment and Actions

Response personnel will continually monitor the hazards and the incident boundaries to ensure they are appropriate and will expand and/or contract the Initial Isolation Zone, as needed.

- ❑ Don appropriate PPE; this includes:
    - Flame retardant outerwear
    - CSA/ANSI approved hard hat
    - CSA-approved footwear
    - Protective eyewear
    - In the case of a fire, fire fighting turnout gear and/or SCBA may also be required.
- ❑ Utilize handheld air monitors for *initial* and continuous monitoring until contracted services arrive to confirm the Initial Isolation Zone and need for the expansion of the zone.
- ❑ Gather the following equipment to establish radius of gas readings:
    - Portable gas detector (Ventis MX4 gas monitor)
    - Communication device (radio)
    - UltraRAE compound specific PID monitor
- ❑ Perform air sampling for H_2S, LEL, O2, and CO along the perimeter of the Initial Isolation Zone using the Ventis MX4 personal gas monitor.
- ❑ Assign a supplemental rover to conduct at least one 15-minute air sampling event using a Jerome H_2S Analyzer and UltraRAE monitor; One air sampling event consists of four (4) separate air sampling readings taken at five-minute intervals.
- ❑ Calculate the average of the four readings for the appropriate instrument and parameter.
- ❑ Maintain a record of the air monitoring results using Section B of the Odour Complaint Investigation Form.
    - If abnormal levels are identified, notify the IC.
- ❑ Note wind direction and wind speed.
    - A shift in wind direction requires immediate re-evaluation.
- ❑ Notify the IC immediately if the numerical average for the second air sampling event meets or exceeds 0.005 ppm for H_2S, and/or 10 ppm for VOC.
- ❑ Conduct a second air sampling event.
- ❑ Maintain awareness of levels in context of responder safety, including rovers and those staffing roadblocks.

If abnormal levels are identified:

- ❑ Expand the Initial Isolation Zone if required.
- ❑ Deploy personnel downwind and upwind depending on how the plume is tracking.
- ❑ Communicate the need for public protective measures (evacuation) to IC or Control Centre.

[6] Extracted from the Burnaby Terminal Fire Pre-Plan Tactical Workbook, a confidential document.

- ❑ Request communication of public protective measures to emergency services.
- ❑ Identify parties within the Initial Isolation Zone.
- ❑ Identify additional rovers.
- ❑ Identify exit route and muster points using map (in tactical workbook or evacuation plan).

Rovers

- ❑ Deploy personnel downwind and upwind depending on how the plume is tracking.
- ❑ Monitor gas migration; verify boundary of the safety perimeter.
- ❑ Advise impacted public to evacuate.
- ❑ Begin notification of public with those in closest proximity to the incident location and downwind of the location.
- ❑ Record name and address If evacuation is refused; notify the Control Centre to notify RCMP.
- ❑ If contact cannot be made through a personal visit, request resources to conduct a thorough survey of the area.

Road and trail blocks

- ❑ Establish access control (roadblocks) to the Initial Isolation Zone.
- ❑ Establish roadblocks to limit access; Consider access/egress of responders and evacuees.
- ❑ Position vehicle in a highly visible area to oncoming traffic.
- ❑ Use intersecting crossroads as much as possible to maximize the monitoring of traffic flow.
- ❑ Do not completely block road.
- ❑ Engage the four-way flashers on vehicle.
- ❑ Wear traffic vest to maintain visibility to traffic.
- ❑ Erect physical barriers at pathways leading to evacuated areas (or implement other means of demarcation such as flagging).
- ❑ Record names, addresses, and contact information of evacuees leaving the area; ask those leaving the area to register at the identified muster site.
- ❑ Post security personnel to prevent members of the public from entering the area.
- ❑ Request additional resources to aid in manning sites.
- ❑ Request assistance, as needed, from local law enforcement on a temporary basis until additional resources arrive.

Re-evaluate regularly, or upon a change in the circumstances, to expand or contract the zone in consultation with emergency services.

Upon arrival of the local authority at the fence, Trans Mountain will provide an Initial Briefing as outlined in the ERP which in addition to incident specific information, also includes the evacuation of the Initial Isolation Zone and if any members of the public were evacuated, where they are located, and contact information. The status/location of any roadway/trail blockages to prevent entry to the Initial Isolation Zone.

Trans Mountain recommends evacuation of the Protective Action Zone to the local authority upon their arrival. Shelter-in-place may be used if the local authority determines the incident is either under control or expected to be under control in the immediate future and may choose to isolate the area to prevent additional members of the public from entering the area.

APPENDIX E STANDARDS FOR POTENTIAL CHEMICALS OF CONCERN: SOURCES AND DETECTION LIMITS[7]

Guideline Criteria																		
		AB AAQO[1]			BC AAQO[2]			Metro Vancouver AAQO[3]			AB OHS OEL[4] *8-hr***	AB OHS CL[4]	BC OHS STEL[5] *15 mins****	BC OHS CL[5]	BC OHS TWA[5] *8-hr****	AEGL-1[6]		Monitoring Equipment Detection Limit**
PCOC	Unit	1-hr	8-hr	24-hr	1-hr	8-hr	24-hr	1-hr	8-hr	24-hr						1-hr	8-hr	
H_2S	ppb	10	-	3	5	-	2	5 (desirable) 10 (acceptable)	-	-	10,000	15,000	-	10,000	-	510	330	100
	ppm	0.01	-	0.003	0.005	-	0.002	0.005 (desirable) 0.01 (acceptable)	-	-	10	15	-	10	-	0.51	0.33	0.1
C_6H_6	ppb	9	-	-	-	-	-	-	-	-	500	2,500	2,500	-	500	52,000	9,000	50
	ppm	0.009	-	-	-	-	-	-	-	-	0.5	2.5	2.5	-	0.5	52	9	0.05
SO_2	ppb	172	-	48	70	-	-	70	-	-	2,000	5,000	5,000	-	2,000	200	200	100
	ppm	0.172	-	0.048	0.070	-	-	0.07	-	-	2	5	5	-	2	0.2	0.2	0.1
CO	ppb	13,000	5,000	-	13,000	5,000	-	13,000	5,000	-	25,000	-	100,000	-	25,000	83,000	27,000	1,000
	ppm	13	5	-	13	5	-	13	5	-	25	-	100	-	25	83[7]	27[7]	1
NO_2	ppb	159	-	-	60	-	-	42	-	-	3,000	5,000	-	1000	-	500	500	100
	ppm	0.159	-	-	0.06	-	-	0.042	-	-	3	5	-	1	-	0.50	0.50	0.1
TPM*	ug/m³	-	-	100	-	-	120	-	-	-	10	-	-	-	10	-	-	0.001
PM_{10}	ug/m³	-	-	-	-	-	50	-	-	50	3	-	-	-	3	-	-	0.001
$PM_{2.5}$	ug/m³	80	-	29	-	-	25	-	-	25	-	-	-	-	-	-	-	0.001

[1] Alberta Ambient Air Quality Objectives/Guidelines (2024)
[2] British Columbia Ambient Air Quality Objectives (2021)
[3] Metro Vancouver Ambient Air Quality Objectives (2024)
[4] Alberta Occupational Health and Safety Occupational Exposure Limit
[5] OHS Guidelines Part 5: Chemical Agents and Biological Agents
[6] US Environmental Protection Agency Acute Exposure Guideline Level
[7] AGEL-2 limit is presented for carbon monoxide. Carbon monoxide has no applicable AGEL-1.

* Particulates Not Otherwise Regulated (Total Dust). In Alberta and British Columbia, this refers to "total suspended particulate matter (TSP)"
** PCOC can be detected by fixed and mobile monitoring equipment
*** 8-hour TWA limit means the time weighted average (TWA) concentration of a substance in air which may not be exceeded over a normal 8-hour work period.
**** Short-term exposure limit (STEL) means the time weighted average (TWA) concentration of a substance in air which may not be exceeded over any 15-minute period, limited to no more than 4 such periods in an 8-hour work shift with at least one hour between any 2 successive 15-minute excursion periods.

C_6H_6 = Benzene
CO = Carbon Monoxide
H_2S = Hydrogen Sulfide
NO_2 = Nitrogen Dioxide
OEL = Occupational Exposure Limits
OHS = Occupational Health and Safety
PCOC = Potential Chemical of Concern
PM_{10} = Particulate matter 10 micrometers
$PM_{2.5}$ = Particulate matter 2.5 micrometers
SO_2 = Sulfur Dioxide
STEL = Short-Term Exposure Limits
TPM = Total particulate matter
TWA = Time Weighted Average

[7] From Appendix II of the Trans Mountain Public Health Assessment & Response Plan for Airborne Risk.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

APPENDIX F BURNABY TERMINAL VULNERABLE GROUPS AND LAND USE[8]

This appendix identifies the community plan area land use designs surrounding the Terminal and any pre-identified vulnerable groups within the Protective Action Zone. Vulnerable groups are considered, in this circumstance, to be schools, daycares, senior centers, and medical centres. Preidentified vulnerable groups currently within the combined Protective Action Zones for the Terminal are Forest Grove Elementary and Family Literacy Centres located to the Southeast of the Burnaby Terminal.

[8] Sourced from City of Burnaby Open Data Land Use Web Service. Gaps exist in this web service resulting in several Areas Under Review.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

APPENDIX G BURNABY TERMINAL INITIAL ISOLATION ZONE AND PROTECTIVE ACTION ZONES

Initial Isolation Zone – Tank 71

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

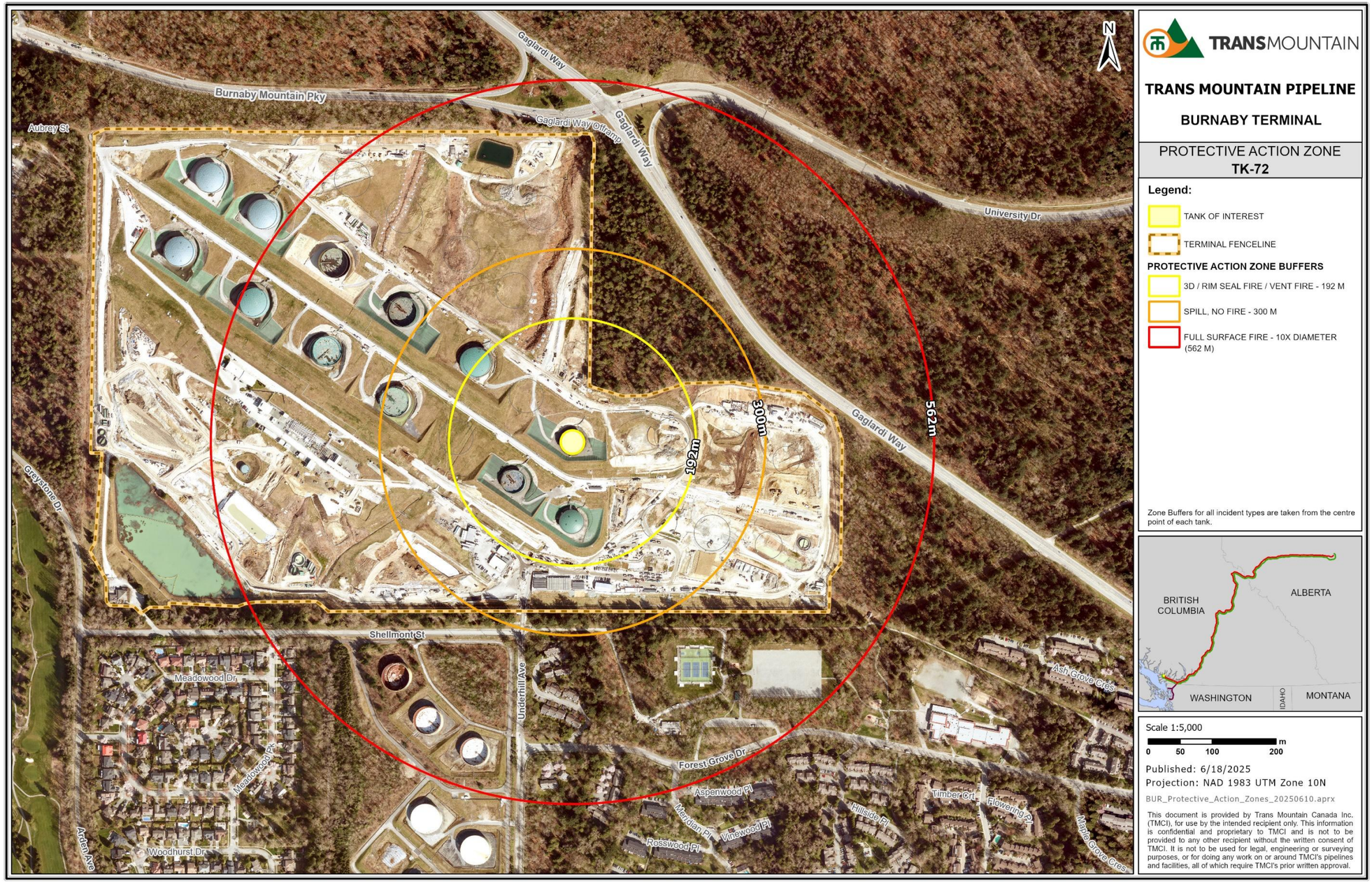
Protective Action Zone – Tank 71

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 72

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 72



Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 73

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

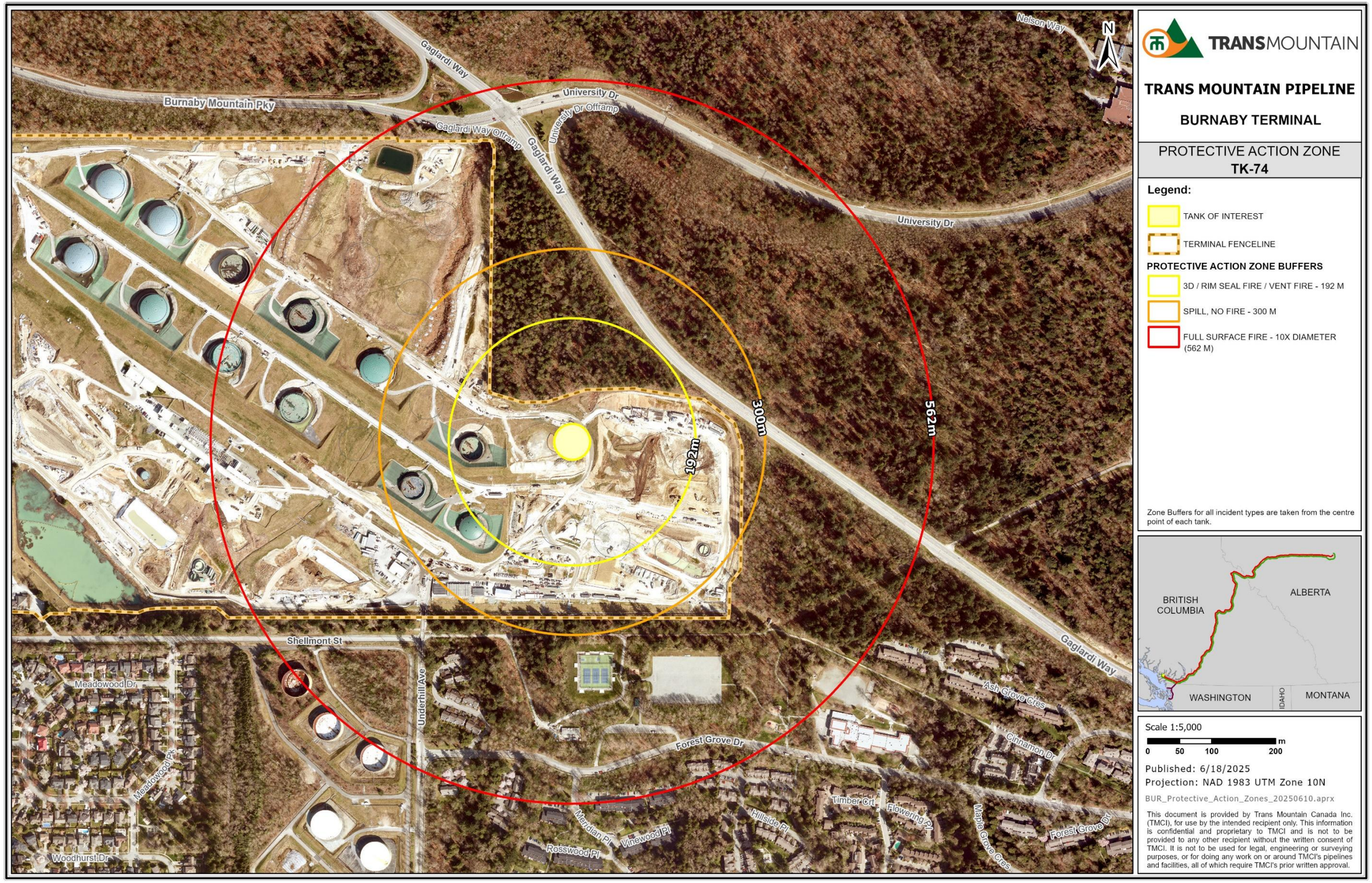
Protective Action Zone – Tank 73

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 74

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 74



Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 75

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 75

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 76

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 76

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 77

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

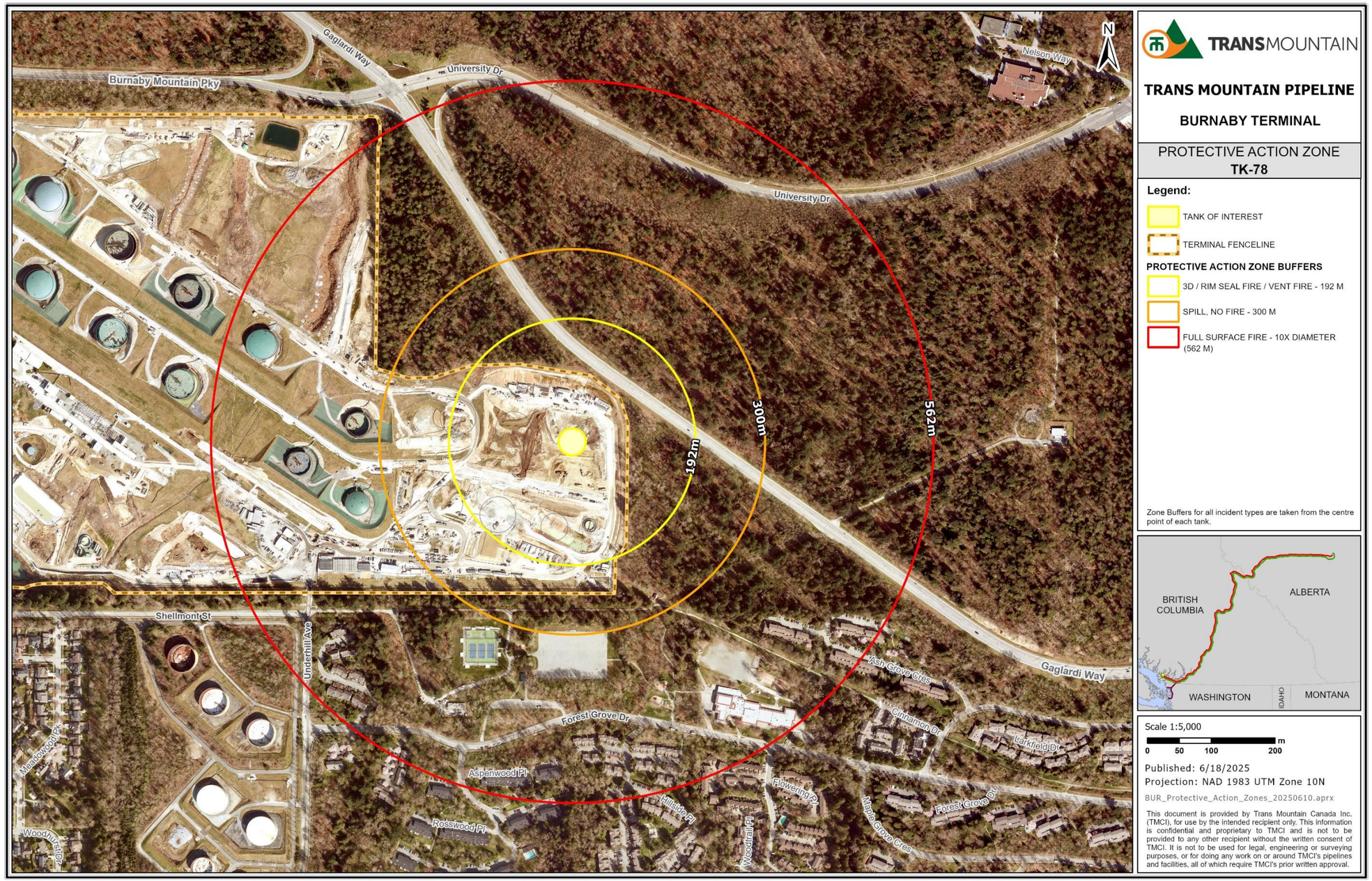
Protective Action Zone – Tank 77

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 78

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 78



Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 79

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 79

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 80

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 80

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 81

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 81

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 82

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

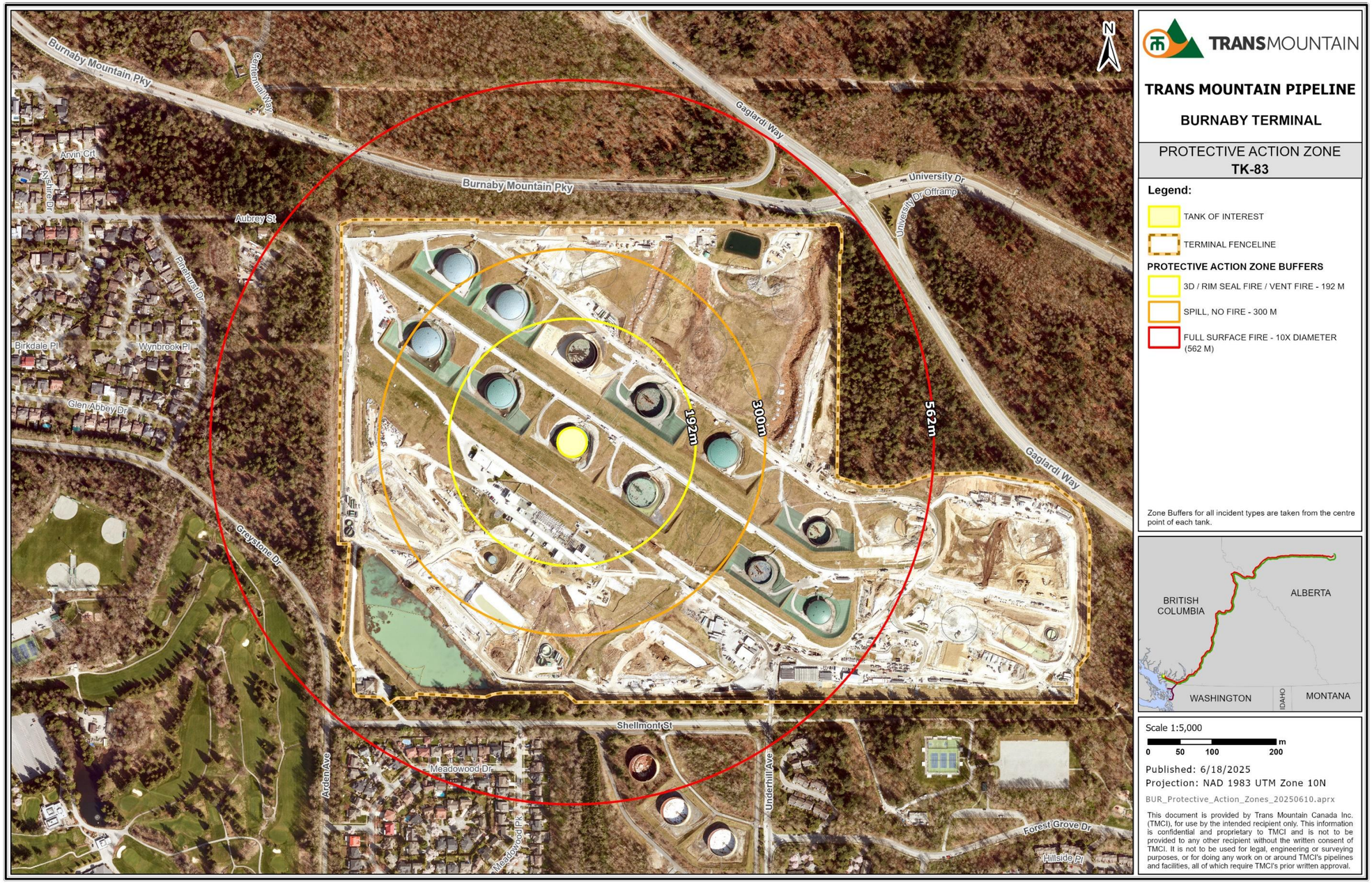
Protective Action Zone – Tank 82

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 83

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 83



Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 84

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 84

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 85

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 85

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 86

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 86

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 87

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 87

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 88

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 88

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 89

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 89

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 90

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 90

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 91

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 91

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 93

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 93

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 95

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 95

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 96

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 96

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 97

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

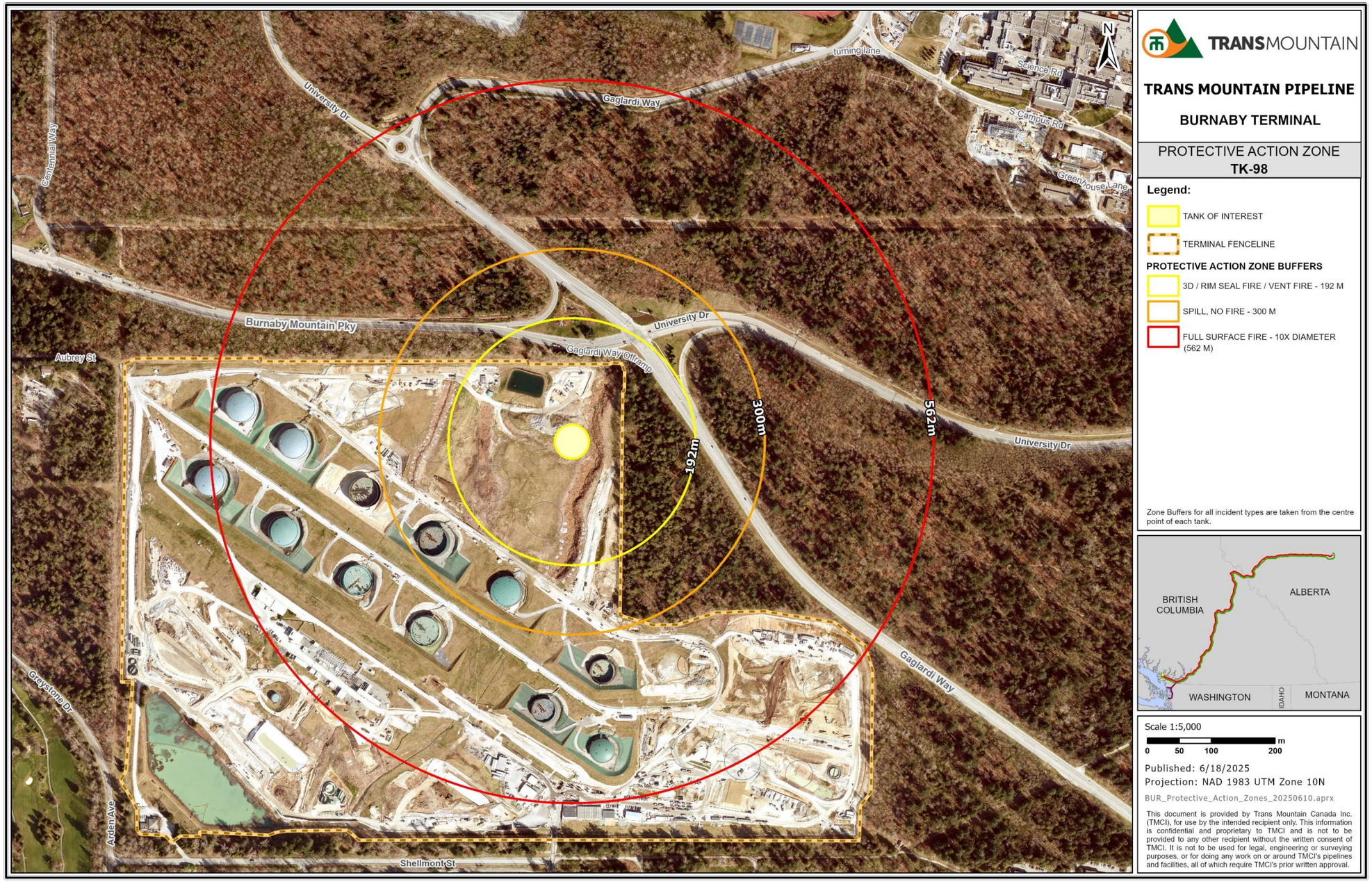
Protective Action Zone – Tank 97

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Initial Isolation Zone – Tank 98

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Protective Action Zone – Tank 98



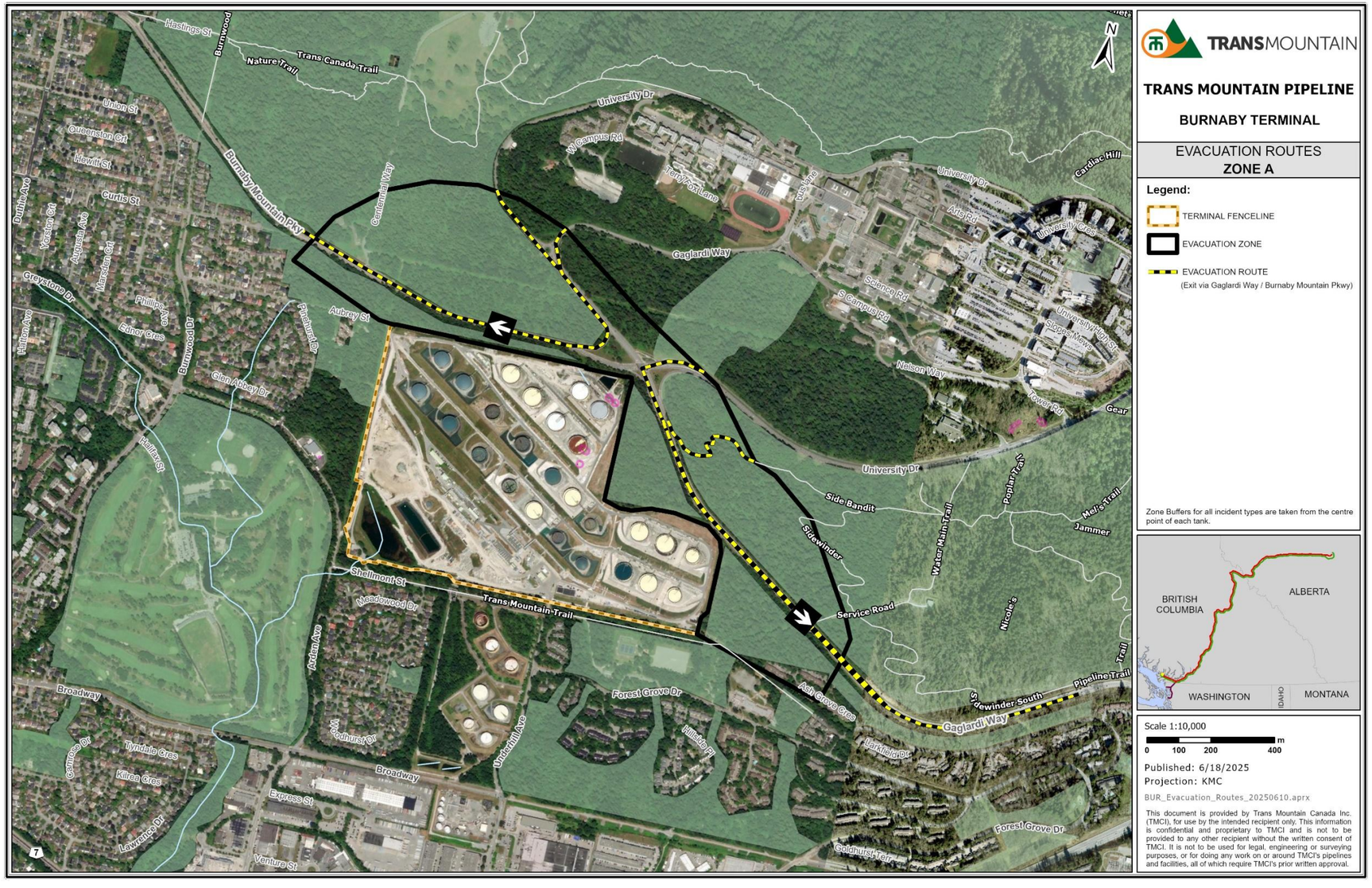
Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

APPENDIX H ANTICIPATED EVACUATION ROUTES

Evacuation Route Overview

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Evacuation Zone A



ZONE A Evacuation Directions:

Exit the Simon Fraser University hiking and biking trails onto University Dr heading South and exit either via
a) Burnaby Mountain Pkwy westbound; or
b) Gaglardi Way eastbound.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Evacuation Zone B

ZONE B Evacuation Directions:

Exit residential area in a westerly fashion via Aubrey St or Greystone Dr and either
a) turn left onto Burnwood Dr southbound to exit; or
b) turn right onto Burnwood Dr northbound, exiting onto Curtis St westbound.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Evacuation Zone C

ZONE C Evacuation Directions:

Exit the industrial area onto Underhill Ave southbound. Exit the residential areas in an easterly fashion, following Forest Grove Dr and heading southbound towards Lougheed Hwy.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

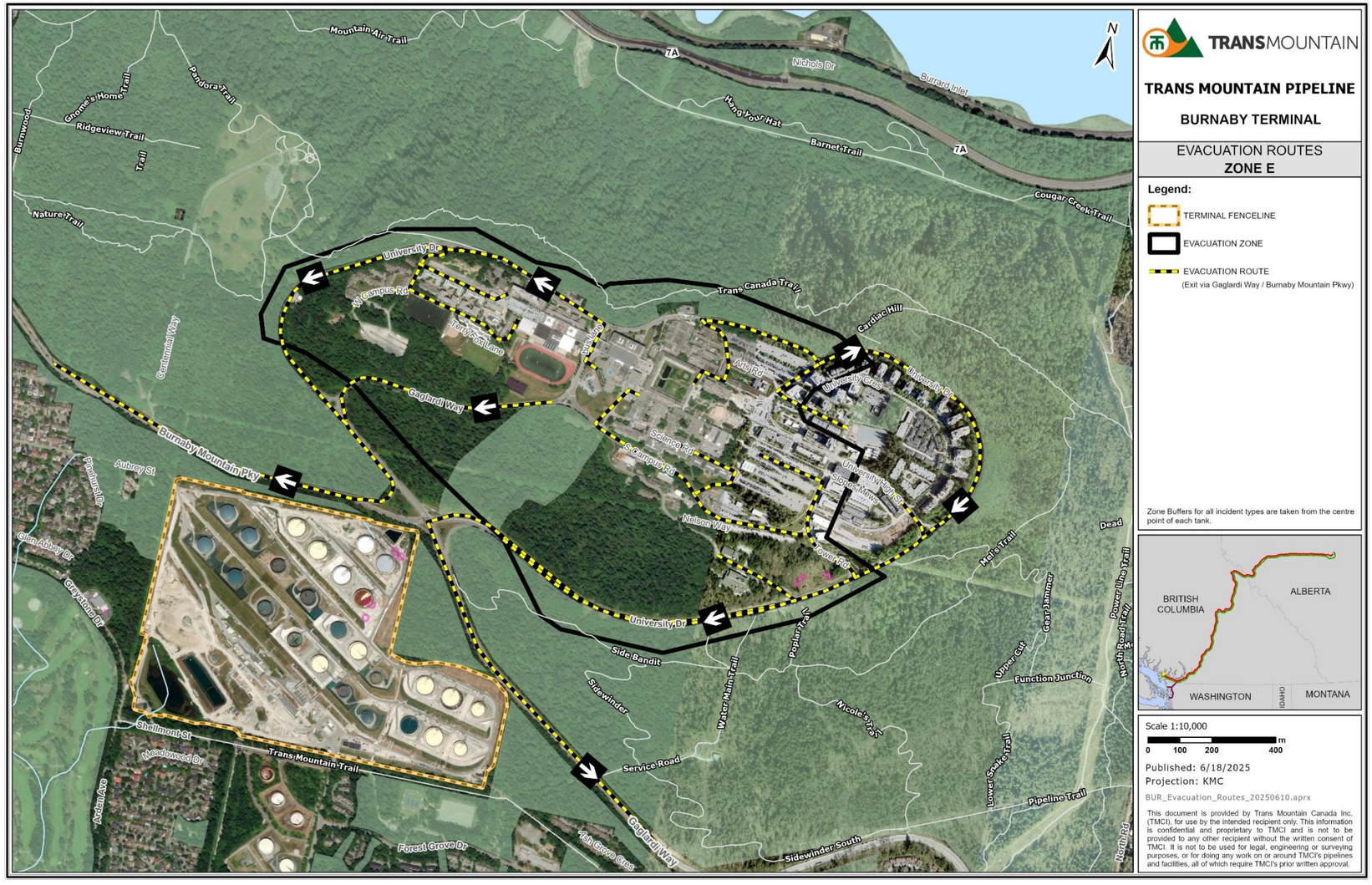
Evacuation Zone D

ZONE D Evacuation Directions:

Exit Simon Fraser University campus onto the surrounding main roads (University Dr East, University Dr West, or Gaglardi Way) and either
a) exit the hillside campus via Burnaby Mountain Pkwy westbound; or
b) exit the hillside campus via Gaglardi Way southbound.

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Evacuation Zone E



ZONE E Evacuation Directions:

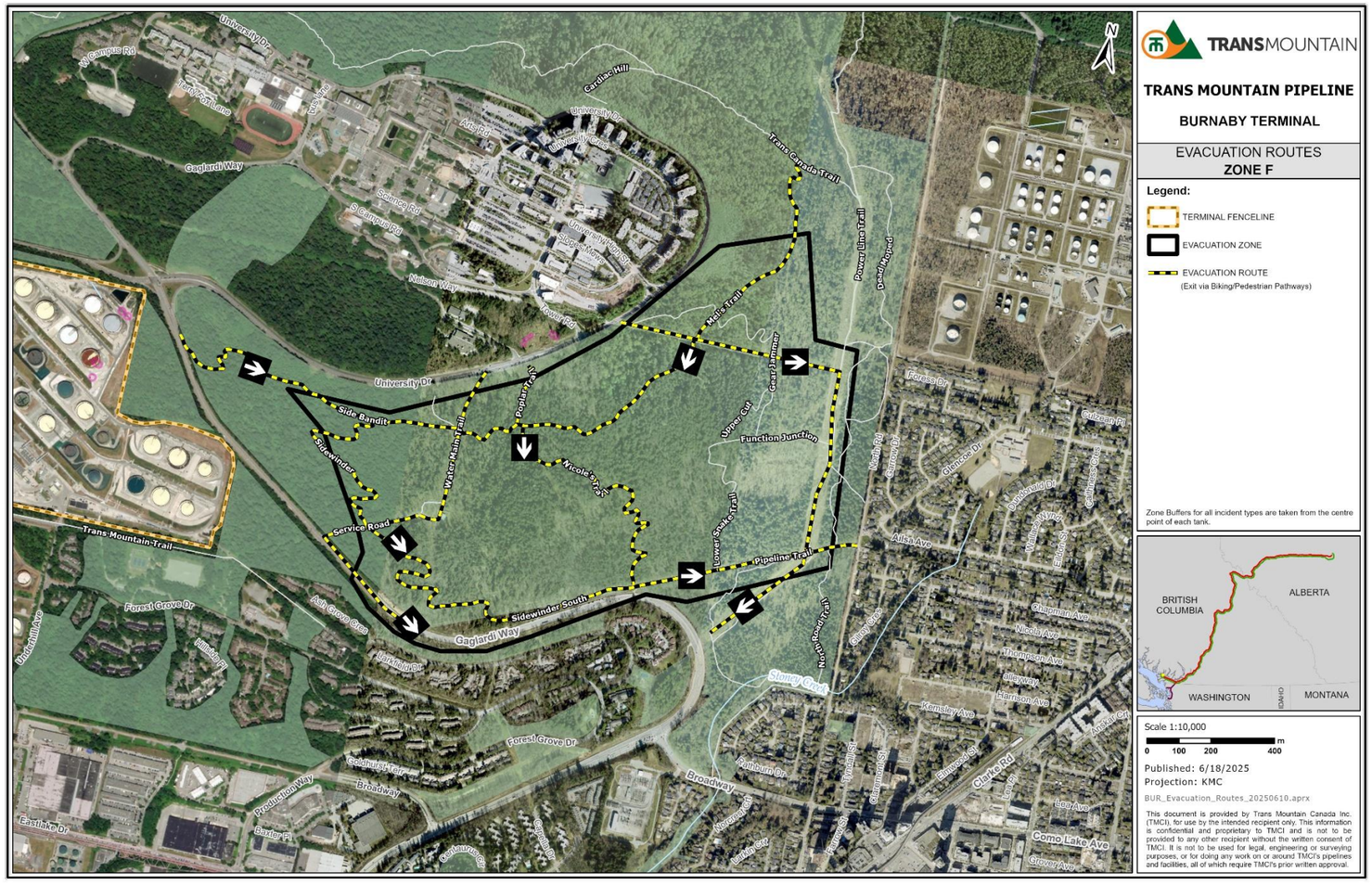
Exit Simon Fraser University campus onto the surrounding main roads (University Dr East, University Dr West, or Gaglardi Way) and either

a) exit the hillside campus via Burnaby Mountain Pkwy westbound; or

b) exit the hillside campus via Gaglardi Way southbound.

Simon Fraser University is outside of the Protective Action Zone; however, it has been included in the plan as per the condition requirements.

Evacuation Zone F



ZONE F Evacuation Directions:

Exit Simon Fraser University via University Drive East toward either

a) Side Bandit Trail
b) Poplar Trail
c) Mel's Trail

Exit South/Southwest along Sidewinder Trail & Nicole's Trail to arrive at Sidewinder Trail South.

Exit East toward Pipeline Trail Westbound and/or Gagliardi Way Southbound.

Simon Fraser University is outside of the Protective Action Zone; however, it has been included in the plan as per the condition requirements.

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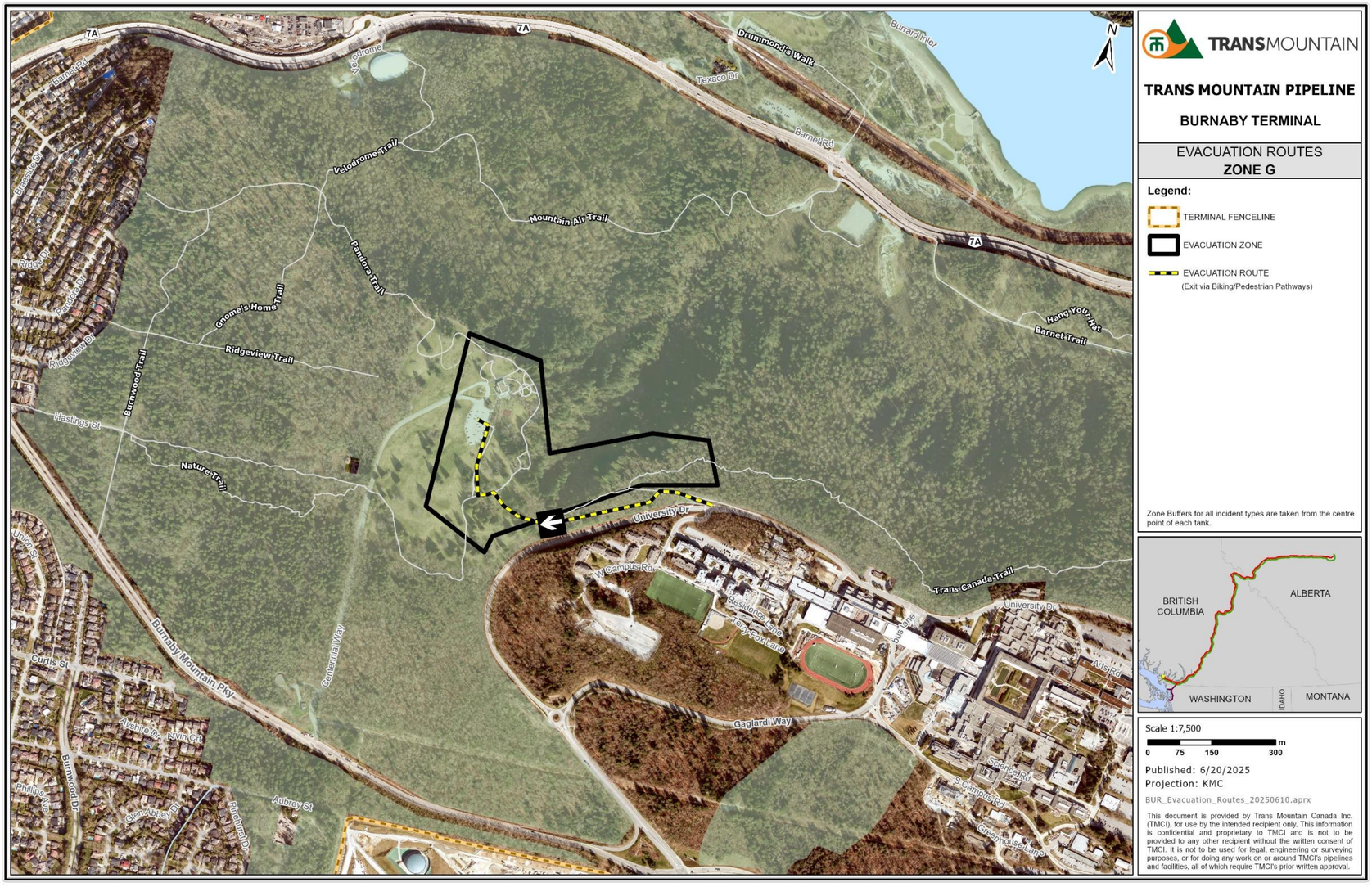
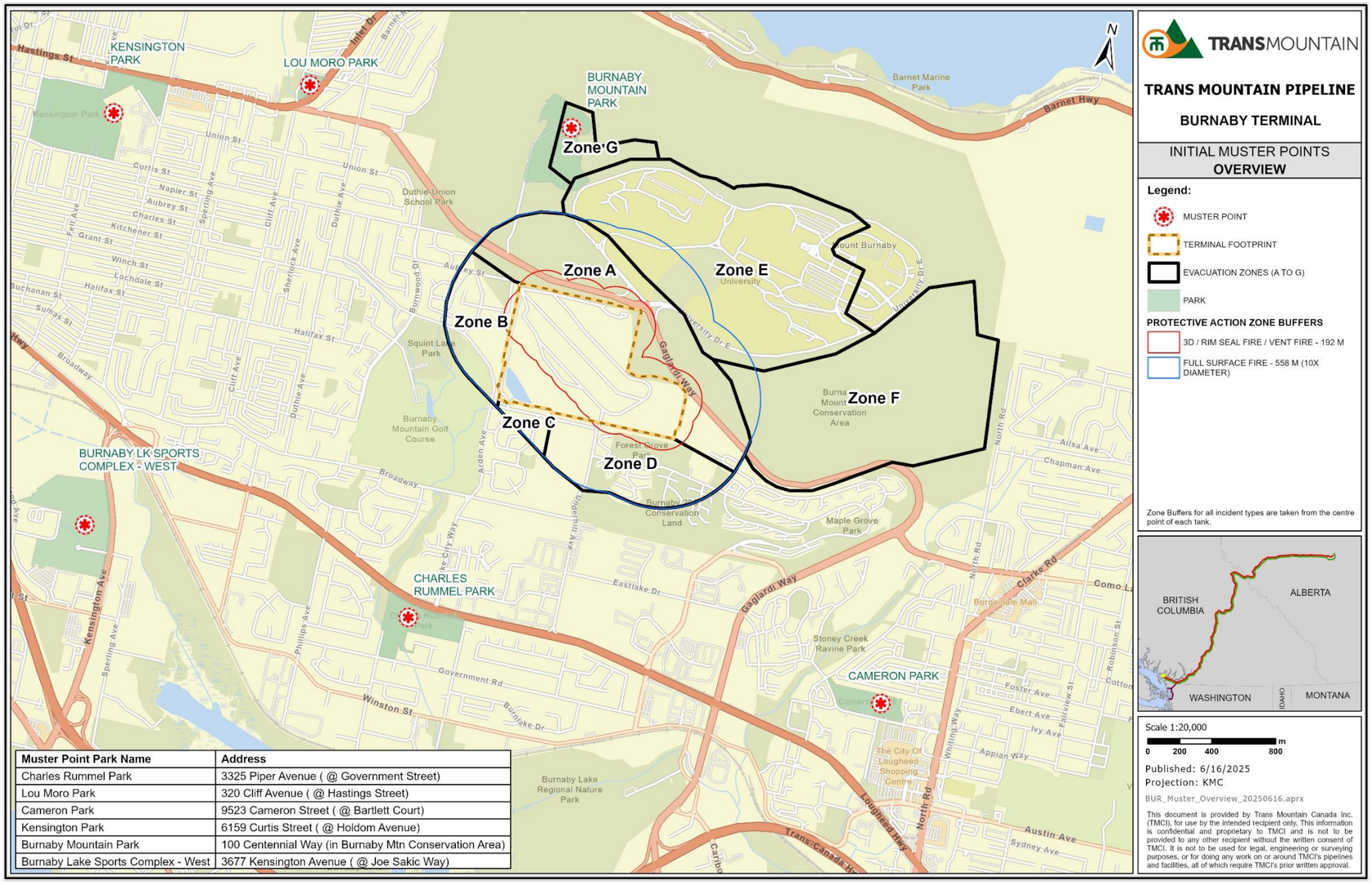
Evacuation Zone G



ZONE G Evacuation Directions:
Exit Simon Fraser University via University Drive West toward Burnaby Mountain Walking Path.
Exit Burnaby Mountain Walking Path via Centennial Road and head South toward Burnaby Mountain Pkwy.
Exit hillside campus via Burnaby Mountain pkwy westbound.
Simon Fraser University is outside of the Protective Action Zone; however, it has been included in the plan as per the condition requirements.

APPENDIX I ANTICIPATED MUSTER SITES

Muster Zone Overview



Muster Point Park Name	Address
Charles Rummel Park	3325 Piper Avenue (@ Government Street)
Lou Moro Park	320 Cliff Avenue (@ Hastings Street)
Cameron Park	9523 Cameron Street (@ Bartlett Court)
Kensington Park	6159 Curtis Street (@ Holdom Avenue)
Burnaby Mountain Park	100 Centennial Way (in Burnaby Mtn Conservation Area)
Burnaby Lake Sports Complex - West	3677 Kensington Avenue (@ Joe Sakic Way)

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Muster Zone A

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone B

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone C

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone D

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone E

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone F

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.

Muster Zone G

Maps included in Appendices F–I are for planning purposes only. Specific mapping will be completed based on the details and scope of the incident.