

**Trans Mountain Pipeline ULC  
Trans Mountain Expansion Project  
NEB Hearing Order OH-001-2014  
Responses to Information Request from  
Township of Langley**

**Emergency Management and Response****2.01 Emergency Response Time****Reference:**

- i. C352-1-1 - Township of Langley's Information Request No. 1 to Trans Mountain - A3W7K1, IR q. 1.03(b), PDF p. 5.
- ii. B91-1 - Trans Mountain Response to Langley IR No. 1 - A3X6U7.
- iii. C352-3-1 - Township of Langley Motion to Compel Full and Adequate Responses to Round 1 IRs - A3Y8E1.
- iv. A81-3 – Appendix 1 to NEB Ruling No. 33 - Motions to compel full and adequate responses to the first round of intervenor information requests - A4C4H7.
- v. B280-3 - Trans Mountain Follow-Up Response to NEB Ruling 33 – A4D3G2, PDF pp. 292-293.

**Preamble:**

In Reference (i), the Township requested an anticipated response time in the event of a spill, leak, or breach within the Township's boundaries.

Trans Mountain provided an inadequate response to the Township's IR question No. 1.03(b) in Reference (ii). The Township filed a motion to compel an adequate response, requesting a number value or a number range (Reference iii). The NEB granted the Township's motion (Reference iv).

Trans Mountain issued its follow-up response in Reference v, which states:

“Upon detection of a spill, leak or breach of the pipeline KMC's response will be immediate. Response actions initiated by the control center, include shut down of pumps, closure of valves, dispatch of field operations personnel and in some cases notification of first responders. The maximum time for field operations personnel to arrive on site is not defined and may exceed 10 minutes. However, trained personnel and response equipment are located in strategic locations along the pipeline to allow their prompt deployment.”

Trans Mountain's follow-up response is no more specific regarding the anticipated response time than it was in Reference ii.

**Request:**

- a) Using a specific number or a number range, please indicate what the anticipated response time will be in the event of a spill, leak or breach within the Township's boundaries. If the number will vary based on the type of event, please indicate the response time for each event type.

**Response:**

- a) A report of a release related to the Trans Mountain terminals or pipelines received by our control centre would result in the immediate shut down of pumps, closure of valves, and dispatch of field operations personnel to investigate the report. The maximum response time for field operations personnel to arrive on site is not defined. Field personnel are stationed strategically along the pipeline in order to be able to respond promptly to issues that arise anywhere along the pipeline route. Based upon past performance, it is reasonable to assume initial response personnel would arrive on site to confirm an emergency condition and begin an initial assessment between 0 and 3 hours depending on location and any adverse conditions which may include time of day, weather conditions, communication interruptions, transportation issues such as roadway blockages, site seizure by law enforcement, civil unrest, secondments of resources by other agencies, and any other situation that compromises the safety of responders and/or the public.

Kinder Morgan Canada Inc. (KMC) begins staffing and mobilization of the Incident Management Team (IMT) immediately. The time it takes for all individuals to assemble at the incident command post varies based on location, however once an individual is assigned a role they begin working regardless of their current location and will relocate as soon as possible to the incident command post. The IMT members are trained and regularly exercise in the positions they could be tasked with. Each of the key positions in the Incident Command System structure has at least 3 individuals trained and prepared to respond, ensuring a fully functional response team at all times.

## 2.02 Location of Mainline Block Valves (MLBVs)

### Reference:

- i. B91-1 - Trans Mountain Response to Langley IR No. 1 - A3X6U7, PDF p. 8.

### Preamble:

Reference (i) says “Trans Mountain is willing to meet with representatives of the Township of Langley to share information on mainline block valve locations as the detailed engineering design is progressed.”

### Request:

- a) Please share the information with the Township that has been obtained during the detailed design and engineering phase to date about the location of MLBVs within the Township’s boundaries.
- b) If Trans Mountain claims there is no information to date, please identify when it will share this information.

### Response:

- a) The exact location of the mainline block valves (MLBVs) will be established by the end of the Detailed Engineering and Design phase of the Project. The Detailed Engineering and Design phase for pipeline engineering is expected to be complete by July 2016 as per Part 9 of Technical Update No. 4 submitted to the NEB in Q4 2014 (Filing ID [A4F5A9](#)).

Preliminary results indicate that there will potentially be four mainline block valves within or near the Township of Langley. These mainline block valves are expected to be located at the following Reference Kilometres (RK) along the pipeline:

- |           |   |
|-----------|---|
| RK 1137.0 | Nathan Creek (near Joanita PI, Abbotsford)            |
| RK 1142.0 | West Creek (approximately 254 Street and 76 Ave)      |
| RK 1146.6 | Salmon River (approximately 232 Street and 80 Ave)    |
| RK 1156.2 | Unnamed Valve Site (approximately 197 St and 98b Ave) |

Please note that these locations are preliminary and subject to change in the Detailed Engineering and Design phase. Also note that site specific conditions will be taken into consideration in determining the final locations. If any potential relocations are identified, it will be communicated to the City through the protocol and process identified in response to Langley IR No. 2.10a.

- b) Please refer to the response to a) above.

## 2.03 Emergency Response: Multiple Incidents

### Reference:

- i. B279-5 - Attachment 2.3 Trans Mountain Pipeline ERP (Publish Date July 2014) - A4D3F2, PDF p. 66; and B279-6 - Attachment 2.4 Terminals and Tank Farms ERP (Publish Date July 2014) - A4D3F3, PDF p. 46.

### Preamble:

Reference (i) outlines “multiple hazards” but it does not identify the emergency response plan in the event of multiple and simultaneous spills, leaks, breaches or other security incidents.

### Request:

- a) What is the emergency response plan in the event of multiple emergencies occurring simultaneously or in close temporal proximity along the pipeline?

### Response:

- a) Please see Volume 7, Section 4 (Filing ID [A3S4V5](#)) for a description of Kinder Morgan Canada Inc.’s (KMC) Emergency Management Program. The emergency response plans are comprehensive in their application regarding hazards and potential emergency situations on the Trans Mountain System which includes checklists for various emergency events.

Kinder Morgan Canada (KMC) acknowledges the interest of Intervenors to seek more information about the existing EMP documents, and reference materials related to the Trans Mountain Pipeline system, which is why KMC filed a redacted copy of the existing Emergency Response Plans publicly (Filing ID [A63573](#)). In Ruling No. 50 (Filing ID [A4G5I9](#)) the NEB determined that it was “satisfied that sufficient information has been filed from the existing EMP documents to meet the Board’s requirements at this stage in the process.”

The Application, Volume 7, Section 4.8 outlines the process to enhance Kinder Morgan Canada’s (KMC) existing emergency management programs (EMP) as they relate to the Trans Mountain Pipeline system to address the needs of the Project (Filing ID [A3S4V5](#)). The final programs will be developed in a manner consistent with the National Energy Board’s (NEB or Board) draft conditions related to emergency response (Filing ID [A3V8Z8](#)).

Although the information requested is not within the scope of this proceeding and not relevant to the National Energy Board’s (NEB) List of Issues, Trans Mountain Pipeline ULC (Trans Mountain) offers the following response to your question:

KMC uses the Incident Command System (ICS), an internationally recognised response protocol, for incident planning which is adaptable to different emergency scenarios and allows for quick identification of resources, and a method of procurement. It is KMC’s

preference to enter into a Unified Command with the municipal, provincial and federal agencies to ensure a safe and thorough response to any emergency.

In the low likelihood of such an event, KMC will respond to the emergency with all regionally available resources, while procuring additional resources from outside of the region. KMC would also endeavor to coordinate with and assist communities with the overall response to the event, not just those impacts associated with the Trans Mountain pipeline system.

## 2.04 Emergency Response: Local Government Notification

### Reference:

- i. B279-5 - Attachment 2.3 Trans Mountain Pipeline ERP (Publish Date July 2014) - A4D3F2, PDF p. 33.

### Preamble:

Reference (i) states that the Trans Mountain “liaison team” will conduct notifications of local governments “as soon as possible” in the event of an internally confirmed emergency.

The Township of Langley is concerned that “as soon as possible” is unacceptably vague.

### Request:

- a) Will Trans Mountain notify local governments of any confirmed emergency incident, or only one requiring municipal resources?
- b) When will notification occur?

### Response:

- a) In the unlikely event of a pipeline release, Kinder Morgan Canada Inc. (KMC) immediately shuts down the pipeline and allows the pressure to dissipate, thus stopping further release of petroleum. When this shut down occurs there are a number of things happening at the same time by different individuals to ensure a timely response to the incident. These simultaneous actions are:
  - Local emergency services are contacted immediately and trained KMC technicians would be dispatched to the location to help secure the area and commence air monitoring to ensure air quality for those in the immediate vicinity.
  - KMC consults with the local Authority to determine the best course of action to protect the public.
  - Control Centre issues an Emergency Response Line (ERL) notification to the Incident Management Team (IMT). Upon notification the IMT calls the conferencing line to get information about the incident and begin pre-assigned response duties.
  - Immediately following the ERL conference call KMC notifies the Transportation Safety Board of Canada (TSB) and the National Energy Board (NEB) through the single TSB emergency telephone number when required. Depending on severity and incident location, various other regulatory agencies (BC Provincial Emergency Program, Federal and Provincial Fisheries agencies, etc.) will also be contacted.
  - Information Officer – begins preparing an initial media statement and communication plan.

- Liaison Officer – begins notifications to other groups not included in the above notifications. Notifications may include, but are not limited to:
  - Additional Liaison Team Members
  - Local Emergency Services/Program (if not already notified)
  - Affected First Nations communities
  - Elected Officials
  - Provincial or National Parks (if impacted)
  - Health Authorities (if not already notified)
  - Provincial Environment Ministry (if not notified by Provincial Emergency Program)
- Logistics Section Chief – begins identification of resources required for the response and ordering supplies and equipment.
- Operations Section Chief – begins field operations, containment and clean-up.
- Planning Section Chief – begins planning recovery operations and contacting team members required including the Environmental Unit Leader.

The Application, Volume 7, Section 4.8 outlines the process to enhance Kinder Morgan Canada's (KMC) existing emergency management programs (EMP) as they relate to the Trans Mountain Pipeline system to address the needs of the Project (Filing ID [A3S4V5](#)). The final programs will be developed in a manner consistent with the National Energy Board's (NEB or Board) draft conditions related to emergency response (Filing ID [A3V8Z8](#)).

- b) Please refer to response to Langley IR No. 2.04a.

## 2.05 Clean-up of Sunken Dilbit

### Reference:

- i. B279-5 - Attachment 2.3 Trans Mountain Pipeline ERP (Publish Date July 2014) - A4D3F2, PDF p. 55.
- ii. B225-2 Attachment Table A3Z2C1, PDF p. 9-10.

### Preamble:

Reference (i) outlines Trans Mountain's emergency response plans and recovery tactics for sunken and submerged oil.

At Reference (ii), Trans Mountain said: "In the event that dilbit were to be spilled, the procedures for cleaning up the spill would be similar to cleaning up a conventional crude spill. Trans Mountain completed research to study the fate and behavior of diluted bitumen in large simulation spill tanks and was able to demonstrate the effectiveness of conventional equipment in recovering the spilled material. Trans Mountain is committed to continued participation in government and industry research programs to further inform emergency management programs for heavy oil spills."

The Township is concerned that the factors that cause dilbit to sink in freshwater rivers is poorly understood, and conventional equipment used for cleaning up conventional crude oil spills is insufficient to clean up sunken dilbit.

### Request:

- a) Please provide the research that Trans Mountain completed to reach the conclusion that using conventional equipment in recovering sunken dilbit is acceptable.
- b) What equipment will Trans Mountain use to clean up sunken dilbit in the Fraser River?
- c) What percentage of the sunken dilbit will be unrecoverable with this equipment under various spill scenarios?
- d) How long will the clean-up take under a worse case spill scenario?

### Response:

- a) The research conducted at Gainford showed that convention spill response equipment is appropriate for the spilled dilbits tested on water. The Gainford report, (TR 8C-12 S7 – A Study of Fate and Behaviour of Diluted Bitumen Oils on Marine Waters, Filing ID [A3S5G2](#)) showed that fresh and weathered representative samples of diluted bitumen (CLB and AWB) would float on freshwater for eight days or more depending on local factors such as turbulence and mixing energy. The same tests showed that conventional skimming equipment is capable of removing both fresh and weathered oil. The products shipped on the Trans Mountain Pipeline system (TMPL system) are, by tariff, restricted from having a specific gravity greater 0.94 and will not sink in their un-weathered state.



Tests conducted by Trans Mountain, Environment Canada (2013), and by SLRoss (2010, 2011) for the Northern Gateway application, show that weathered representative samples of diluted bitumen (CLB and AWB) are expected to remain floating on saltwater.

While likely oil behaviour and potential response options can be predicted from knowledge of the type of oil spilled and its physical and chemical characteristics, details of oil behaviour and response options cannot be specified until the actual circumstances of a spill are known.

A systematic approach, which involves both prevention and response, is employed to minimize conditions that may lead to oil sinking. Spill prevention is the most effective countermeasure as it avoids the consequences of oil spills. Spill prevention measures related to the pipeline and are described in Volume 4C (Filing ID [A3S1L1](#)) of the Application and spill prevention measures related to tankers are described in Section 1.4.2 of Volume 8A (Filing ID [A3S4X3](#)).

In the unlikely event of a spill, the responsible party Trans Mountain Pipeline ULC (Trans Mountain) for a pipeline spill, the tanker owner (for a tanker spill) will work with regulatory agencies in a Unified Command to determine both response and remediation strategies appropriate for the specific circumstances of the event. Response strategies employed to avoid sinking oil are those focused on:

- controlling the source of the spill,
- preventing released oil from entering a waterbody,
- containing, intercepting and promptly removing oil from the water surface, and
- removing stranded oil that could be remobilized from the shoreline.

Please also refer to responses to Katzie FN IR No. 1.11b and 1.11d (Filing ID [A60816](#)).

Prompt response is important given that the weathering process is in part related to the time over which oil is exposed to the environment. Westridge loading operations will be conducted inside a pre-deployed boom, which will contain a release. Additional boom and response equipment, including skimmers, will be maintained on site. Similarly the Western Canada Marine Response Corporation (WCMRC) Report (TR 8C-12 S12 Future Oil Spill Response Approach Plan, Trans Mountain Expansion Project (TMEP) Filing ID [A3S5I9](#)) describes enhanced planning standards that will lead to increased response capacity and reduced response time for WCMRC. Volume 7 Section 4 of the Application Filing ID [A3S4V5](#) describes Trans Mountain's emergency preparedness and response programs and plans for their review and modification to address the needs of the Project.

The behaviour and fate of spilled dilbit (bitumen blended (diluted) with condensate or synthetic crude oil) was canvassed extensively in the Joint Review Panel hearings relating to Northern Gateway, and the Panel in assessing the issue accepted the following facts:

- The maximum initial density of the dilbit would be 940 kilograms per cubic metre, in conformance with the proposed pipeline tariff specification. When initially spilled, the density would be less than that of fresh water or salt water, making dilbit a floating oil,
- Experts agreed that dilbit is not a simple two-phase mixture of bitumen and condensate, but is instead a new, cohesive, blended product. When spilled into water, lighter hydrocarbon fractions of the entire blend will begin to evaporate. As lighter fractions evaporate, the viscosity of the weathered dilbit will increase, and evaporation of remaining lighter fractions will be progressively inhibited,
- Past examples of spills do not indicate that products similar to dilbit are likely to sink within the timeframe for response options, or in the absence of sediment or other suspended particulate matter interactions,
- Dilbit may sink when it interacts with sediment or other suspended particulate matter, or after prolonged weathering,
- Bench-top and wave tank testing indicated that dilbit is not likely to sink due to weathering alone within a short to medium timeframe. The evidence indicated that multiple factors, such as the interaction between density, viscosity, potential emulsion formation, and environmental conditions must all be examined together in considering the fate of spilled oil, including the possibility of sinking. Much of the evidence that the Panel heard did not consider these factors collectively,
- The weight of evidence indicates that, when spilled in water, dilbit with a maximum density of 940 kilograms per cubic metre would behave similarly to an intermediate fuel oil or lighter heavy fuel oil with a density of less than 1,000 kilograms per cubic metre. Various experts, including those involved in spill response, said that these products provide reasonable analogs for dilbit behaviour as it relates to oil spill response,
- Transport Canada said that a response organization would be likely to treat a dilbit spill as a blended crude oil product spill.

Please also refer to responses to NEB IR No. 1.63a and 1.74c (Filing ID [A3W9H8](#)).

**References:**

Government of Canada. 2013. Federal Government Technical Report – Properties, Composition, and Marine Spill Behaviour, Fate and Transport of Two Diluted Bitumen Products from the Canadian Oil Sands (30 November 2013).

National Energy Board. 2013. Considerations Report of the Joint Review Panel for the Enbridge Northern Gateway Project Volume 2.

SL Ross. 2010. Properties and Fate of Hydrocarbons Associated with Hypothetical Spill at the Marine Terminal and in the Confined Channel Assessment Area. Report prepared for Enbridge Northern Gateway.

SL Ross. 2011. Meso-scale Weathering of Cold Lake Bitumen/Condensate Blend. Report prepared for Enbridge Northern Gateway.

b) With the assumptions in mind that a spill of dilbit has occurred into water, and that over time a portion has weathered, agglomerated to sediment, and has sunk, a number of methods and equipment may be appropriate to recovery sunken oil. Where warranted they may include:

- capturing the oil where currents and hydrographic conditions are amenable to the deployment of oleophilic material to trap the oil,
- remobilization, containment and removal of the oil through agitation of sediments, (raking, dragging, pneumatic agitation),
- bulk removal of the oil through pumping and/or dredging,
- long-term monitoring and natural attenuation in areas where other remedial actions would result in more environmental harm than benefit,
- Booms and silt curtains can also sometimes be successful where current velocities are within the operational range of these techniques and allow their deployment.

A summary of the strategies and tactics that may be considered in planning and for response, should a portion of oil sink and require recovery is provided in Langley IR No 2.05b - Attachment 1.

c) Research into the fate, behaviour, and cleanup of diluent-bitumen mixtures has been conducted for more than 20 years in Canada. Similar to crude oil, there are different types of dilbit that display varying physical and chemical characteristics. Environment Canada has been at the forefront of some of this research and continues to investigate the properties of these oil mixtures.

Although several detailed studies have been completed that characterize the fate and behavior of heavy crude oils from Alberta oil sands, the majority of testing has been laboratory and bench-scale tests. In May, 2013 scientific tests were conducted at the request of Trans Mountain Pipeline ULC (Trans Mountain) by Witt O'Brien's, Polaris Applied Sciences and Western Canada Marine Response Corporation. They produced the report 'A study of Fate and Behaviour of Diluted Bitumen Oils on Marine Water, Dilbit Experiments, Gainford, Alberta' (the Gainford Study) which is included in Volume 8C, TR 8C-12, S7 (Filing ID [A3S5G2](#)). This study built on earlier laboratory and bench scale tests through larger, mesoscale tests of diluted bitumen in brackish water over a 10 day weathering cycle and under a wide range of imposed wind and wave conditions. Various spill response countermeasures including skimmers, burning and chemical dispersants were tested on floating oil as part of the study.

In the low probability case that a spill does happen AND that a portion of that spill actually sinks after binding with particulates, a number of methods are available for

recovery of sunken oil (also refer to response to Langley IR No. 2.05b). The decisions regarding recovery method(s) used will be made in consultation with appropriate Provincial and/or Federal regulatory bodies after an assessment is made to define the extent and character of any sunken oil and in consideration of the net environmental benefit of the treatment options. Each situation will be unique. Where warranted, methods may include:

- capturing the oil where currents and hydrographic conditions are amenable to the deployment of oleophilic material to trap the oil,
- remobilization, containment and removal of the oil through agitation of sediments, (raking, dragging, pneumatic agitation),
- bulk removal of the oil through pumping and/or dredging,
- long-term monitoring and natural attenuation in areas where other remedial actions would result in more environmental harm than benefit.

Oil recovery rates are incident-specific and cannot be defined a-priori.

- d) Numerous variables such as time of year, weather, river flow velocities and several others would affect the progress and time necessary to clean up a spill, irrespective of size. Therefore, the time to complete clean-up operations cannot be defined.

Clean-up would continue until it is deemed complete in consultation with the response Unified Command and in consideration of Federal and Provincial regulatory requirements.

## 2.06 Commitment to Increase Liability Insurance

### Reference:

- i. B32-2 Trans Mountain response to Board IR No. 1, A3W9H8 IR 1.8b, PDF p. 28.
- ii. B18-14 - V7\_APPG\_CLEANUP\_COST\_POTEN\_OIL\_SPILL - A3S4W8, p. 24.
- iii. Goodman, Ian and Brigid Rowan, "Economic Costs and Benefits of the Trans Mountain Expansion (TMX) Project for BC and Metro Vancouver" Simon Fraser University, November 10, 2014, PDF p. 63-64. [Attachment #1].
- iv. *Pipeline Safety Act (Bill C-46)*  
<http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=6825928&Language=E&Mode=1&File=48#8>

### Preamble:

In Reference (i), Trans Mountain states that it has a total of \$750 million in liability insurance coverage:

1. \$150 million General Liability insurance component, which covers all of the Kinder Morgan assets located in Canada, except for the Canadian section of the Kinder Morgan Cochin Pipeline, and the Puget Sound Pipeline; and
2. \$600 million of coverage for all of the entities in the Kinder Morgan (North America) group of companies.

Reference (ii) estimates that total clean-up costs for various spill scenarios could range from \$102.9 to \$315.9 million.

Reference (iii) asserts that Trans Mountain's estimates at Reference (ii) are too low and clean-up costs for a worst case scenario would more likely be in the range of \$2 to \$5 billion US.

The federal *Pipeline Safety Act*, which has passed first reading, will require pipeline companies to have the financial resources to pay for the limit of liability of at least \$1 billion [see s. 48.13 and 48.12(5)] (Reference iv).

The Township is concerned that Trans Mountain does not carry sufficient liability coverage to pay for the potential clean-up costs of a spill.

### Request:

- a) Will Trans Mountain commit now to increasing its liability coverage to \$1 billion to meet proposed federal legislative requirements?
- b) Will Trans Mountain commit to increasing its liability coverage to \$2 billion?
  - i) What is the difference in premium costs to Trans Mountain between \$1 billion, \$2 billion and \$5 billion in liability coverage?

**Response:**

- a) Trans Mountain supports the polluter pay principle and its reinforcement in the proposed *Pipeline Safety Act*. Trans Mountain expects that, as a condition of approval for the Project, it will be required to provide financial resources that meet the financial requirements as described in the proposed *Pipeline Safety Act*. Trans Mountain has made a commitment to provide a financial assurance package of accessible cash, insurance, other financial resources that the NEB may deem appropriate and, if necessary, a parental guarantee as further described in Trans Mountain's responses to NEB IR 2.002g and NEB IR 2.003c [Filing ID [A3Z4T9](#)]. Liability coverage through its insurance program will form a part of the overall financial assurance package, however, the placement of the insurance program is subject to dynamic market conditions as further described in Trans Mountain's response to NEB IR 2.002e [Filing ID [A3Z4T9](#)].
- b) i) As indicated in Trans Mountain's response to Langley IR No. 2.06a, Trans Mountain has made a commitment to provide a financial assurance package if required as a condition of approval for this Project and the amount of coverage available for insurance as part of the financial assurance package is subject to dynamic market conditions at the time of placement as further described in Trans Mountain's response to NEB IR 2.002e [Filing ID [A3Z4T9](#)]. In all likelihood, Trans Mountain would not be able to secure liability coverage at \$2 billion or \$5 billion as the insurance market simply does not have the capacity to provide coverage at these levels.

## 2.07 Volume of Crude Oil Spilled

### Reference:

- i. B280-3 Trans Mountain Follow Up Responses to NEB Ruling 33 A4D3G2, PDF p. 293.
- ii. B279-5 - Attachment 2.3 Trans Mountain Pipeline ERP (Publish Date July 2014) - A4D3F2, PDF p. 14, 21, 22, 29.

### Preamble:

After being compelled by the NEB to respond to the Township of Langley's question about Trans Mountain's anticipated response time in the event of a spill, leak or breach, Trans Mountain says:

"Upon detection of a spill, leak or breach of the pipeline KMC's response will be immediate.

Response actions initiated by the control center, include shut down of pumps, closure of valves, dispatch of field operations personnel and in some cases notification of first responders. The maximum time for field operations personnel to arrive on site is not defined and may exceed 10 minutes. However, trained personnel and response equipment are located in strategic locations along the pipeline to allow their prompt deployment" [Reference (i)].

Reference (ii) indicates that KMC's immediate response initially consists of internally confirming a spill, leak or breach irrespective of whether the notification of the spill comes from an experienced emergency first responder:

"If the detection method comes from alarms to the CCO or a member of the public the potential incident must then be visually verified by KMC personnel. If a leak, fire or other emergency event is confirmed the on-site operator will inform the CCO of the incident and CCO will initiate the internal notification procedure" (emphasis added).

The Township is concerned about the volume of oil spilled in the time it takes for Trans Mountain to arrive on site and confirm a spill, which will likely take longer than 10 minutes.

### Request:

- a) What is the volume of bitumen that would escape in a worst case scenario in a 30 minute time span?
- b) Please also identify the volume of oil spilled in 1 hour and 2 hours.

### Response:

- a) An oil spill analysis was conducted using a model that was described in Section 3.1.6 of Volume 7 of the Application (Filing ID [A3S4V5](#)). For the purposes of this analysis, a most-credible worst-case scenario, full-bore rupture was used to establish outflow volumes. This outflow model does not take account of any response, intervention, or of

any attenuation of volumes prior to reaching a high consequence area. In this respect the volumes modeled are highly idealized and conservative, and a review of information relating to past incidents would support the contention that these should not be taken to be representative of expectations for real-life spill events.

Based on the above analysis, the maximum expected outflow within the Township of Langley was determined to be 2,855 m<sup>3</sup>. The outflow volume represents the estimated spill volume based on the preliminary design, and does not include mitigation options that will be employed through the detailed design to reduce risks in HCAs. Examples of typical risk mitigation strategies include the mitigation of 3rd Party damage through increased depth of cover, increased wall thickness or pipeline markers, the mitigation of environmental consequences through the installation of mainline valves, and the mitigation of geotechnical threats through threat avoidance.

Although the request specifically asks for the volumes that would be released within a 30 minute time span, the above outflow analysis includes all volumes that could potentially spill, assuming an indefinite drain-down period. Results at a 30-minute interval are not available.

- b) Please refer to response to Langley IR No. 2.07a.



## Hydrogeological Assessment

### 2.08 Hydrogeological Assessment

#### Reference:

- i. C352-1-1 - Township of Langley's Information Request No. 1 to Trans Mountain - A3W7K1, IR q. 1.03(b), PDF p. 9.

#### Preamble:

As noted in Reference (i), the Township relies heavily on groundwater for agricultural, commercial, industrial and residential uses. Approximately 80% of the Township of Langley's water supply comes from municipal and private wells.

#### Request:

- a) Will Trans Mountain commit to conducting a hydrogeological assessment of the portion of the TMEP going through the Township of Langley and provide the results and mitigation measures from the assessment? If so, when?

#### Response:

- a) Trans Mountain Pipeline ULC (Trans Mountain) commits to pre-construction sampling of water wells that are 10 m deep or less within 150m of the proposed right-of-way.

#### Summary of New Commitments

- Trans Mountain will conduct pre-construction sampling of water wells that are 10m deep or less within 150m of the proposed right-of-way.

**Pipeline Location****2.09 Provision of GIS Files****Reference:**

- i. B91-1 - Trans Mountain Response to Langley IR No. 1 - A3X6U7, PDF p. 21.

**Preamble:**

Reference (i) says “Trans Mountain commits to provide municipalities as-built shape files on location of TMEP Line 2”.

**Request:**

[This IR was labelled “IR No. 2.09b” in the Information Request received – IR was renumbered to “IR No.2.09a” by Trans Mountain to avoid duplicate numbering.]

- a) Will Trans Mountain fulfill its commitment to the Township of Langley in Reference (i) before the TMEP is operational and to provide sufficient time for the Township to conduct emergency management planning and training and municipal operations planning? In your response, identify when Trans Mountain will fulfill its commitment.

[This IR was labelled “IR No. 2.09c” in the Information Request received – IR was renumbered to “IR No.2.09b” by Trans Mountain to avoid duplicate numbering.]

- b) Will Trans Mountain provide these files directly to municipal staff?

**Response:**

- a) Yes, Trans Mountain will provide the Township of Langley with GIS shape files as soon as they are available. The first version of the GIS shape files that can be shared are the “issued for construction centre line” version. Trans Mountain will follow up with the Township of Langley to advise when these files will be ready for distribution and in sufficient time for the Township to conduct emergency management planning. Trans Mountain reiterates its commitment to engage with the Township of Langley throughout Trans Mountain’s consultation process to update the Emergency Management Program (EMP) for the Project (see the last paragraph of this response).

Once pipeline installation is complete, Trans Mountain commits to providing the Township of Langley with “surveyed as-built centre line” shape files. As part of Kinder Morgan Canada Inc.’s (KMC) damage prevention program, KMC requests that the Township of Langley complete and return to KMC the *KMC-TMX GIS Pipeline Data Request form* (Langley IR No. 2.09a – Attachment 1).

The Application, Volume 7, Section 4.8 outlines the process to enhance Kinder Morgan Canada’s (KMC) existing emergency management programs (EMP) as they relate to the Trans Mountain Pipeline system to address the needs of the Project (Filing ID [A3S4V5](#)). The final programs will be developed in a manner consistent with the National Energy

Board's (NEB or Board) draft conditions related to emergency response (Filing ID [A3V8Z8](#)).

b) Please refer to response to Langley IR No. 2.09a.

**Summary of Commitments:**

- Trans Mountain will provide the Township of Langley with “issued for construction centre line” shape files as soon as they are available.
- Trans Mountain will provide the Township of Langley “surveyed as-built center line” shape files once pipeline installation is complete.

**Pipeline Depth****2.10 Consultation with the Township****Reference:**

- i. B91-1 - Trans Mountain Response to Langley IR No. 1 - A3X6U7, PDF p. 25.

**Preamble:**

Reference (i) says “Trans Mountain will consult with Township of Langley on pipeline depth proximate to existing and future municipal infrastructure.”

**Request:**

- a) Will Trans Mountain commit to obtaining the Township’s approval on pipeline depth proximate to existing and future municipal infrastructure?

**Response:**

- a) Trans Mountain is committed to working cooperatively with the Township of Langley. Currently, Trans Mountain is developing a draft protocol agreement and will meet with the Township to discuss and review whether to refine or extend the protocol agreement to suit their unique circumstances.

Trans Mountain is in the process of initiating more detailed technical relationships with the local municipalities, regional districts and utility companies, and envisions the process as a dialogue with municipalities which involves five phases. Starting by proposing an interaction protocol and templates, the process includes:

1. Initiating the project relationship and communication process – this process is well underway in many communities through the establishment of Technical Working Groups as described in Section 1.13 (page 29 of 119), Consultation Update No. 3, Part 1, filed on February 3, 2015 as NEB IR No. 3.005a – Attachment 1 (Filing ID [A4H1W3](#)). Trans Mountain would be pleased to establish an informal technical working relationship at the staff-level where these types of discussions can take place;
2. Obtaining design constraints and confirming existing utilities and conditions;
3. Setting up the permitting and agreement process;
4. Submitting and revising permitting and agreement information for final review; and
5. Executing the permit and agreement.

Within the above framework, Trans Mountain will work with the Township to develop appropriate pipeline depths through the Township of Langley which address its concerns.

**Construction Phase****2.11 Excavated Material Deposited on Private Property****Reference:**

- i. B5-9 Application Volume 5A, ESA – Biophysical A3S1L3, PDF p. 63.

**Preamble:**

Reference (i) says excess trench soil will be feathered-out over adjacent portions of the construction right-of-way where topsoil or root zone material salvage has occurred.

**Request:**

- a) Will Trans Mountain commit to:
  - i) not depositing any soil or excavated material within 3 metres of a property line;
  - ii) if soil or excavated material is deposited within 6 metres of a property line, Trans Mountain commits to grading the deposited material in such a manner that the slope of the deposit closest to the property line is not steeper than 1 metre vertical to 5 metres horizontal;
  - iii) not depositing any material in the immediate vicinity of any utilities or services which may be damaged by any settlement resulting from such deposit; and
  - iv) not depositing any material over wells or private sewage disposal systems.
- b) How will Trans Mountain ensure that any deposited or removed materials will not interfere with the hydrological function and established above or below ground drainage pattern or capacity of adjoining or adjacent lands?
- c) How will Trans Mountain ensure that deposited or removed materials will not cause the groundwater table to rise on the land or on adjacent or adjoining land?

**Response:**

- a) Under standard pipeline construction procedures, excess trench material is first feathered out across the construction right-of-way on top of existing subsoil, and then the topsoil is replaced on top of the subsoil. Typically, some excess soil material is placed in a row over top of the trench to allow for settlement of the un-compacted trench material in that area. Under that practice, over the 26.7 m construction right-of-way, the excess trench material creates a thin, approximately 2.5 cm thick, layer of additional material over the construction right-of-way. While this approach to managing trench material typically results in few issues, Trans Mountain inspectors will be monitoring construction activities to ensure that grading does not create issues, including drainage. During construction, construction and environmental inspectors also monitor construction activities to ensure that construction materials are contained within the

approved construction right-of-way, and neither migrate off, nor cause settlement issues with adjacent properties or services.

- b) Please refer to Volume 6A of the Application (Filing ID [A3S2S1](#)).

This chapter outlines Trans Mountains Environmental Compliance initiatives. The Township should specifically refer to the following sections within Volume 6A:

- Section 3.0 – Environmental Compliance Program
- Section 4.0 – Approach to Environmental Management
- Section 8.0 - Issue Monitoring During Construction
- Section 9.0 – Post-Construction Environmental Monitoring

- c) Please refer to response to b) above.

**Summary of New Commitments:**

- Trans Mountain inspectors will monitor construction activities to ensure that grading does not create issues, construction materials are contained within the approved construction right-of-way, and no settlement issues arise with adjacent properties or services.

## 2.12 Pollution or Impediment of Watercourses

### Reference:

- i. B248-16 – Trans Mountain Pipeline ULC Tech Update 1 Cons Update 2 Part 1 Routing Pt15 - A3Z8F9, PDF p. 9-11.

### Preamble:

The Township of Langley has identified its concern that pipeline construction works may pollute or obstruct the flow of watercourses, resulting in damage to public property and public infrastructure [Reference (i)].

### Request:

- a) Please commit to not causing or permitting any material or substance that is dangerous, deleterious or toxic including: chemicals, chlorinated water, cleaning compounds, detergents, fertilizers, herbicides, pesticides, paints, soaps, solvents and waste oil or any material whose direct or indirect release into a watercourse would violate the *Fisheries Act* or the *Environmental Management Act*.
- b) Please commit to not impeding or obstructing a watercourse with any material or substance.
- c) Will Trans Mountain commit to taking any remedial action as specified by the Township, including suspending construction activities, if the Township discovers damage to public watercourses or infrastructure or endangerment to human life and safety as a result of Trans Mountain's activities? If not, explain why.
- d) Will Trans Mountain commit to paying the Township for all costs and expenses incurred by on behalf of the Township for undertaking remedial action to protect its watercourses from Trans Mountain construction activities should Trans Mountain fail to take action?

### Response:

- a) Trans Mountain will take all possible measures to prevent the direct or indirect release of dangerous, deleterious or toxic materials into a watercourse as outlined in Section 7.0 of Volume 6B (Filing ID [A3S2S3](#)) and the Waste Management Standard (Section 11.0 of Appendix C of Volume 6B; Filing ID [A3S2S3](#)). Trans Mountain will ensure that both employees and contractors adhere to responsible waste management practices and that no fuel, lubricating fluids, hydraulic fluids, methanol, antifreeze, herbicides, biocides or other chemicals are dumped on the ground or into watercourses/wetlands/lakes. Trans Mountain will also implement applicable mitigation measures as outlined in the Soil Erosion and Sediment Control Contingency Plan (Section 8.0 in Appendix B of Volume 6B; Filing ID [A3S2S3](#)), if warranted during the construction of the Project.
- b) Watercourse crossing construction will include trenched crossings which may temporarily impede watercourses. However, all watercourse crossings will be

constructed in compliance with all applicable legislation as well as the conditions of permits and approvals that allow the work to proceed.

Trans Mountain will implement the Pipeline Environmental Protection Plan (EPP) throughout construction activities to minimize and mitigate disturbance. Watercourse crossings and temporary access will be installed as per Appendix I: Aquatic Resources Table 1-2. Volume 6B; Filing ID [A3S2S3](#)). Temporary vehicle/equipment crossings and pipeline watercourse crossings will be installed using the methods described in Sections 8.7.2 and 8.7.3 of the Pipeline EPP (Volume 6B; Filing ID [A3S2S3](#)).

Trans Mountain will ensure that both employees and contractors adhere to responsible waste management practices to prevent the release of dangerous, deleterious or toxic materials into a watercourse or to the ground as outlined in the Spill Contingency Plan and Waste Management Standard (Section 11.0 of Appendix B and Section 11.0 of Appendix C of Volume 6B, respectively; Filing ID [A3S2S3](#)).

Trans Mountain is committed to removing all construction materials during final clean-up and reclamation. After the completion of instream work, Trans Mountain will return the watercourse bed and banks to their preconstruction configuration and alignment (Table I-3 of Appendix I of Volume 6B; Filing ID [A3S2S3](#)).

- c) Trans Mountain will commit to undertaking all reasonable remedial actions required to repair any damage to the Townships watercourse or infrastructure that have been caused as a direct result of Trans Mountain's construction works. In the unlikely event of endangerment of human life and safety, Trans Mountain will suspend construction activities.
- d) In keeping with its regulatory obligation under the NEB Act and the company's practice to minimize and mitigate impacts to the extent practicable, Trans Mountain uses a variety of construction and environmental practices as documented in the application, including the Pipeline Environmental Protection Plan (EPP) and Facilities EPP. In addition to construction management personal, TMPL will have environmental inspectors in place during construction to ensure EPP measures are implemented as needed and as committed to. Should residual impacts or damages remain, Trans Mountain would provide commensurate compensation for damages directly related to and caused by the construction of the pipeline and inspection, maintenance or repair of the pipeline. TMPL would utilize the services of an environmental consultant with expertise in watercourse restoration to conduct an assessment of the specific riparian area identified by the Township of Langley to determine the extent of damage to the stream, stream banks or riparian area and, should damage have been identified, to determine whether the damage was material. Working with TMPL and the Township of Langley the consultant would then provide a valuation of any residual damage identified during the assessment. Compensation would be based on the expert assessment and valuation.



**Summary of New Commitments:**

- Trans Mountain will commit to any remedial actions required to fix any damage to the Township's watercourse or infrastructure that have been caused as a direct result of Trans Mountain's construction works.

## 2.13 Sediment Discharge into Drainage System

### Reference:

- i. B11-4 - V6B\_1of2\_PIPELINE\_EPP - A3S2S3, PDF p. 52, 57, 180.

### Preamble:

Reference (i) sets out Trans Mountain's sediment control measures and sediment contingency plan, for example:

"Install additional erosion and sediment control measures prior to or during wet conditions and extreme weather events, to ensure the protection of sensitive environments. The Lead Activity Inspector, the Lead Environmental Inspector and the Environmental Inspector(s) in consultation with the Construction Manager, will determine if and when to suspend work if an extreme weather event occurs onsite that may pose risks to the environment or environmental protection measures." (p. 52)

"Install and maintain appropriate erosion and sediment control measures to prevent sediments from disturbed areas from being transported into watercourses/wetland/lakes (see Drawings [Erosion Control – Rollback in Riparian Areas] and [Mounding in Riparian Areas] provided in Appendix R)." (p. 57)

The Township of Langley is concerned that pipeline construction works may discharge sediments (including rock, gravel, sand, silt, clay, earth, construction or excavation wastes) into its drainage system, which includes rivers, streams, creeks, waterways, watercourse, ditches, channels, storm sewers and drains located in the Township.

### Request:

- a) Please commit to not discharging sediment or sediment-laden water directly or indirectly into the Township's drainage system.
- b) Please commit to not discharging water with a turbidity greater than 100 NTU (nephelometric turbidity unit), or as indicated by current Fisheries and Oceans Canada standards, into the Township's drainage system within 24 hours of a significant rainfall event (which means any precipitation event that meets or exceeds 25 mm in a 24 hour period).
- c) Please provide the location(s) of existing drainage infrastructure in the Township and Trans Mountain's proposed measures to protect it during construction.
- d) Please provide the location(s) of existing and proposed watercourses, ditches, swales or any other body of water within 50 metres of the TMEP construction site boundaries, along with Trans Mountain's proposed protection measures.
- e) Will Trans Mountain commit to entering into a legally binding agreement with the Township to retain an independent qualified professional at Trans Mountain's cost (an engineer, biologist, geoscientist, CPESC, applied scientist or technologist, registered

and in good standing in British Columbia with an appropriate professional organization constituted under an Act who is an expert in erosion and sediment control) to monitor and inspect Trans Mountain's sediment and erosion control measures once per week and report failures and maintenance requirements to Trans Mountain and the Township?

**Response:**

- a) Trans Mountain will install and maintain appropriate erosion and sediment control measures to prevent runoff of sediment-laden water from the right-of-way and other construction sites associated with the Project during and following construction as outlined in Sections 7.0 and 8.0 as well as Section 8 of Appendix B of the Pipeline Environmental Protection Plan (Filing ID [A3S2S3](#)).
- b) Discharge water from dewatering is generally not quantitatively measured for turbidity. Rather, the Environmental Inspector(s) will monitor discharge water and dewatering sites to ensure the discharge water is not causing sedimentation or erosion. Preferred discharge locations for dewatering will be located on stable terrain areas (rather than directly into a watercourse/wetland/lake), where feasible, to allow the discharged water to be filtered through vegetation and soils prior to returning to a watercourse/wetland/lake. Preferred locations for dewatering include bar ditches, if feasible, and non-arable lands. Sediment reduction methods will be implemented on the bed, banks and approaches to the water source or discharge site, if warranted, to protect downstream fish, fish habitat and water users from increased sedimentation or reduced water quality. Discharge locations will be monitored to ensure that no erosion, flooding or icing occurs. During discharge procedures from trucks for road/access construction and maintenance, Trans Mountain will ensure that discharged water is maintained within the major drainage basin and dispersed as per the conditions located within the applicable approval/license (Section 13.0 of Appendix C of Volume 6B; Filing ID [A3S2S3](#)).

When working in the vicinity of a watercourse/wetland/lake, Trans Mountain will adhere to the best practices and measures outlined in the BC Users Guide for Working In and Around Water as well as the BC Standards and Best Practices for Instream Works. In addition, Trans Mountain will implement applicable measures to avoid serious harm to fish or any permanent alteration to, or destruction of, fish habitat (Section 8.7 of Volume 6B; Filing ID [A3S2S3](#)).

- c) The requested information will not be available until after detailed engineering and design is complete, during the detailed construction planning process. Trans Mountain is currently developing a detailed inventory of the municipal infrastructure located along the proposed pipeline corridor. Per the response to Langley IR No. 2.10a, Trans Mountain welcomes the Township's input in this regard at a Technical Working Group level.

Protection of utility infrastructure will be developed through the Detailed Design and Engineering phase, currently scheduled for completion Q1/Q2 of 2016. Mitigation Measures designed to protect surface features, should they be located on or directly adjacent to the Project footprint, including erosion and sediment control, are included in

the Pipeline Environmental Protection Plan, as referenced in the response to part (a) of this IR.

Trans Mountain is required to file the engineering alignment sheets and drawings with NEB, at the latest 90 days months prior to start of pipe installation as per NEB Draft Conditions (Filing ID [A3V8Z8](#)), draft condition 47.

- d) A list of all currently defined watercourses and unmapped drainages identified within the proposed pipeline corridor is provided in Appendix A1 of the Supplemental Fisheries (BC) Technical Report (Triton Environmental Consultants 2014). This supplemental technical report was attached to the response to NEB IR No. 3.039a (Filing ID [A4H1Z2](#)). Proposed protection measures for construction activities at both fish-bearing and nonfish-bearing watercourses are provided in Sections 7.0, 8.1, 8.2 and 8.7 as well as Sections 3.0, 4.0 and 5.0 of Appendix B and Sections 3.0, 12.0 and 13.0 of Appendix C in the Pipeline Environmental Protection Plan (Volume 6B; Filing ID [A3S2S3](#)).
- e) Trans Mountain anticipates that should TMEP be approved, the NEB will establish a set of terms and conditions as part of the NEB Act Section 52 approval. The company expects that implementation of the environmental protection measures documented in the Pipeline Environmental Protection Plan (Volume 6B of the Application; Filing ID [A3S2S3](#)) will be a condition of the approval. Trans Mountain will be bound by those terms and conditions and will work collaboratively with the Township of Langley in meeting those NEB terms and conditions.

During construction, Environmental and Construction inspectors monitor contractor activities to ensure the environmental conditions of the approval are being met. Erosion and sediment control is a key environmental issue for construction and Trans Mountain inspectors are trained and educated in environmental protection to ensure potential sedimentation and erosion control issues are recognized early and mitigated prior to problems occurring. The roles and responsibilities of Trans Mountain's professional environmental personnel, such as Environmental Inspectors and Resource Specialists are outlined in the Pipeline Environmental Protection Plan (Table 1.2.1, Volume 6B [Filing ID [A3S2S3](#)]).

In addition to monitoring of construction activities by Trans Mountain construction and environmental inspectors, NEB inspectors also visit construction sites to ascertain whether environmental protection measures are being properly applied and to issue directives if any issues are identified.

Trans Mountain expects to draw upon municipal staff and resources to support safe construction of the Trans Mountain Expansion Project (Project). Trans Mountain is prepared to reimburse municipalities for reasonable costs and staff time required to monitor and assist Trans Mountain workers in constructing the Project on municipal lands and in locations where municipal services are located (either parallel to or crossed by Project). Trans Mountain is prepared to discuss with the Township of Langley the need for and costs of additional inspection to ensure potential issues related to erosion control and sedimentation are managed during construction. The Company believes that

the Township of Langley and Trans Mountain share the objective of ensuring watercourses and municipal infrastructure do not suffer damage as a result of TMEP.

**Summary of New Commitments:**

- Trans Mountain is prepared to reimburse municipalities for reasonable costs and staff time required to monitor and assist Trans Mountain workers in constructing the Project on municipal lands and in locations where municipal services are located (either parallel to or crossed by Project).
- Trans Mountain is prepared to discuss with the Township of Langley the need for and costs of additional inspection to ensure potential issues related to erosion control and sedimentation are managed during construction.

## 2.14 Damage to Riparian and Environmentally Sensitive Areas

### Reference:

- i. B11-4 – V6B 1of2 Pipeline EPP A3S2S3, PDF p. 89, 100, 105, 124, 238.

### Preamble:

The Township of Langley contains over 1,600 kilometres of watercourses. Approximately 700 kilometres are streams providing direct or indirect habitat for local fish species, including seven salmonid and two endangered fish species. The remaining 900 kilometres are roadside and field ditches primarily serving to drain land and convey water. As many of these ditches were created to drain wetland areas or reroute historical flow patterns, some of them also provide fish habitat. The Township contains fourteen watersheds or drainage catchment areas. As such, it has designated a number of watercourse areas that require streamside protection. The Township is concerned that TMEP construction will damage these riparian and environmentally sensitive areas.

Reference (i) outlines Trans Mountain's proposed mitigation measures and a reclamation strategy for riparian areas and streambanks.

### Request:

- a) At p. 89 of the Pipeline EPP, Trans Mountain says it will adhere to clearing guidelines for the protection of streams and wetlands where riparian management zones (widths) are identified. Which entity is identifying riparian management zones?
  - i) Will Trans Mountain recognize and adhere to the Township's identification of riparian management zones?
- b) Will Trans Mountain commit to submitting a tree protection plan consisting of tree retention, protection and replacement details acceptable to the Township for the disruption to trees caused by pipeline construction in riparian areas?
- c) Will Trans Mountain commit to submitting a landscape plan prepared by a qualified landscape professional indicating the location of the vegetation or trees to be planted, the type and size of materials to be used, planting methodology and timing, and a three year monitoring schedule to ensure survival of planted materials?
- d) Will Trans Mountain commit to providing an assessment, prepared by a qualified independent professional, of the predicted changes to site drainage and propose measures to manage drainage impacts?
- e) Will Trans Mountain commit to submitting a stormwater management plan depicting the proposed measures to mitigate drainage impacts including sediment control from the development site?
- f) Will Trans Mountain commit to providing the Township with evidence that the minimum requirements of the Provincial Riparian Areas Regulation, B.C. Reg 376/2004 as

amended have been complied with; and where applicable, evidence that Section 35 (HADD) of the Federal *Fisheries Act* is being complied with during construction?

**Response:**

- a) i) Riparian Management Zones will be identified using the BC Riparian Management Area Guidebook (BC Ministry of Forests 1995) as outlined in the *Forest and Range Practices Act*. Trans Mountain will work with the Township of Langley to solidify riparian management zones and appropriate reclamation measures for these areas.

**Reference:**

British Columbia Ministry of Forests. 1995. Forest Practices Code, Riparian Management Area Guidebook. Victoria, BC.

- b) Trans Mountain recognizes the sensitivity of riparian areas and where practical, construction techniques that reduce disturbance to sensitive areas are implemented, including narrowing down the cleared area and not grubbing the vegetation (see Sections 8.1 and 8.7 of the Pipeline Environmental Protection Plan [Volume 6B; Filing ID [A3S2S3](#)]). Following construction, the objective of streambank and riparian area reclamation is to stabilize disturbed lands and revegetate the area in a manner that will in time achieve land productivity along the right-of-way that is equivalent to the adjacent land use (see Section 8.6 of Volume 6B; Filing ID [A3S2S3](#)]).

In recognition of the interests of the Township of Langley, Trans Mountain commits to meet with the Township of Langley to further discuss the concerns regarding riparian vegetation that have been raised in this Information Request. Final reclamation strategies for sensitive areas will be prepared before construction. The strategies will be developed in consultation with landowners, Crown land managers and the applicable regulatory authorities, including municipalities.

- c) Trans Mountain is committed to working with the Township of Langley to understand the applicability of its bylaws and standards to the construction and operation of the Project, including landscape design and vegetation to be used during reclamation of the construction right-of-way (*i.e.*, permanent easement and temporary workspace) as well as the monitoring program to follow. Detailed reclamation methods, such as exact planting methods, vegetation to be planted and the type and size of materials to be used will be developed prior to construction (see the Reclamation Management Plan provided in Section 7 of Appendix C in Volume 6B [Filing ID [A3S2S3](#)]). Post-construction environmental monitoring will be conducted following construction to ensure the success of reclamation and the establishment of vegetation (see Section 9.0 of Volume 6A [Filing ID [A3S2S1](#)] for more information). Trans Mountain will address landscape reclamation on private lands as per the agreements that are established with individual landowners during the land acquisition process.

- d) As per Trans Mountain response to Langley IR No. 2.10a, Trans Mountain is committed to working with the Township of Langley regarding impacts of the Project, including drainage impacts.

Trans Mountain's design team includes competent professionals who are registered and in good standing in British Columbia with appropriate professional organizations constituted under law. Such professionals will address and manage drainage impacts.

Trans Mountain will meet with the Township to discuss the need for third-party engineering review of the Project design.

- e) As per Trans Mountain's response to Langley IR No. 2.10a, Trans Mountain will work with Township of Langley to develop a mutually beneficial protocol agreement. Such an agreement will include how Trans Mountain will work with the Township of Langley to mitigate drainage impacts, including erosion control and sediment management for the construction work.
- f) Trans Mountain is committed to following all applicable provincial and federal legislative requirements that apply to NEB regulated pipeline construction activities in riparian areas associated with watercourse crossings. All required permits and authorizations will be posted in the construction offices and will also be available on site during construction.

**Summary of New Commitments:**

- Trans Mountain commits to meet with the Township of Langley to further discuss the concerns regarding riparian vegetation that have been raised in this Information Request.



## 2.15 Highway Use Permit

### Reference:

- i. B91-1 - Trans\_Mountain\_Response\_to\_Langley\_IR\_No.\_1 - A3X6U7, PDF p. 31-32.

### Preamble:

In Reference (i), the Township of Langley asked if Trans Mountain would commit to obtaining a highway use permit from the Township during the construction phase, to which Trans Mountain said it would “work with the Township of Langley to understand the applicability of its bylaws”.

### Request:

- a) What is Trans Mountain’s understanding of the applicability of the Township of Langley’s Highway and Traffic Bylaw to the TMEP?
- b) Will Trans Mountain commit to applying for a Highway Use permit (s. 510, Highway and Traffic Bylaw 2010 No. 4758) and complying with the terms of that permit during construction of the TMEP through the Township of Langley?
- c) If Trans Mountain will not commit to applying for a permit, will it commit to:
  - i) Not parking a commercial vehicle in excess of 5700 kg on a highway between the hours of 9 pm and 6 am of the following day?
  - ii) Not parking a commercial vehicle in excess of 5600 kg on a highway within a residential zone or on either side of a highway where residential zoned property exists on one side of the highway, or adjacent to a park or school?
  - iii) Not drive or operate a commercial vehicle exceeding 10,000 kg on any highway in the Township except those designated as Truck Routes in Schedule C of the *Highway and Traffic Bylaw*?
  - iv) Not undertake any works, construction, dig up, break up or remove any part of a highway or excavate in or under a highway?
  - v) Not cause damage to, trim, cut down, or remove trees or timber, sod, shrubs, plants, bushes and hedges from a highway?
  - vi) Not cause damage to, deface, or remove fences, signs, posts, benches or other street furniture, utilities, survey monuments and services or other things erected by the Township on or under a highway?
  - vii) Not place, construct or maintain a loading platform, skids, rails, mechanical devices, buildings, signs, street furniture, ramps, or any other structure or thing on a highway?



- viii) Not erect or maintain any sign, advertisement or guide-post on or over any highway or alter, repaint, tear down or remove any sign, advertisement or guide-post erected or maintained on any highway;
- ix) Not ride, drive, lead, move or propel any vehicle or any animal in excess of 270 kg over or across a boulevard including any curb, sidewalk or ditch unless such has been constructed or improved to form a suitable crossing?
- x) Not construct a boulevard crossing, including a curb, ditch or sidewalk crossing?
- xi) Not in any way obstruct or create an obstruction to the flow of traffic on a highway?
- xii) Not plant a tree or shrub on any highway, or landscape the boulevard?
- xiii) Not construct or maintain a driveway or roadway on any highway?

**Response:**

- a) As a federally regulated entity under the *National Energy Board Act*, if Trans Mountain Pipeline ULC (Trans Mountain) is granted a Certificate of Public Convenience and Necessity, it will proceed to apply for all permits and authorizations that are required by law. Trans Mountain will continue to work with the Township of Langley to understand the applicability of its Highway and Traffic Bylaw to the construction and operation of the Project. As detailed engineering design and construction planning progress, continued consultation will take place with affected municipalities, including the Township of Langley, to determine specific roadway impacts and possible mitigation measures. It is anticipated that during remainder of 2015 consultation will take place between Trans Mountain and the Township of Langley regarding traffic management requirements.

As detailed engineering design and construction planning are still being undertaken, specific applicability and impacts to the Project by the Township of Langley's Highway and Traffic Bylaw are not completely understood at this time.

- b) As a federally regulated entity under the *National Energy Board Act*, if Trans Mountain Pipeline ULC (Trans Mountain) is granted a Certificate of Public Convenience and Necessity, it will proceed to apply for all permits and authorizations that are required by law. Trans Mountain will commit to applying for a highway use permit (s. 510, Highway and Traffic Bylaw 2010 No. 4758). Until detailed engineering design and construction planning are complete, the impact of the Township of Langley's Highway and Traffic Bylaw cannot be fully known. It is anticipated that Trans Mountain will use construction techniques and Traffic Control Plans (TCP's) to meet the Township of Langley's Highway and Traffic Bylaw although continued consultation with the Township of Langley is required to make a final determination as to what, if any, variances or deviations may be requested by Trans Mountain.
- c) Please refer to response to Langley IR No. 2.15b. Trans Mountain (TM) will commit to applying for a permit. It is anticipated that Trans Mountain will use construction

techniques and Traffic Control Plans (TCP's) to meet the Township of Langley's Highway and Traffic Bylaw although continued consultation with the Township of Langley is required to make a final determination as to what, if any, variances or deviations may be requested by Trans Mountain.

TM is currently undertaking detailed engineering and design and through this process will develop a more complete understanding of transport and traffic requirements necessary to support pipeline construction. TM will develop these plans in consultation with the Municipality of Langley.

## 2.16 Design Standards and Requirements for Pipeline Infrastructure

### Reference:

- i. B91-1 - Trans\_Mountain\_Response\_to\_Langley\_IR\_No.\_1 - A3X6U7, PDF p. 31-32.

### Preamble:

In Reference (i), Trans Mountain said it would “work with the Township of Langley to understand the applicability of its bylaws”.

### Request:

- a) Will Trans Mountain commit to meeting or exceeding the design criteria and construction requirements and specifications as outlined in Schedule B and C of the Township’s Subdivision Development and Servicing Bylaw 2011 No. 4861?

### Response:

- a) Trans Mountain anticipates that should TMEP be approved, the NEB will establish a set of terms and conditions as part of the NEB Act Section 52 approval. Trans Mountain will be bound by those terms and conditions and will work collaboratively with the Township of Langley in meeting those NEB terms and conditions. Trans Mountain intends to consult with the Township of Langley regarding the Township’s design criteria, and construction requirements and specifications as part of the Company’s efforts to minimize construction damage. As per Trans Mountain’s response to Langley IR No. 2.10a, Trans Mountain anticipates the Company and the Township will work together through detailed dialogue to confirm the application of by-laws, regulations and standards before starting construction of the Project.

### Summary of New Commitments:

- Trans Mountain commits to consulting with the Township of Langley regarding the Township’s design criteria, and construction requirements and specifications.

## 2.17 Noise Disruption and Hours of Work

### Reference:

- i. B5-2 - V4B\_4.2.1.2\_TO\_6.1\_PROJ\_DES\_AND\_EXEC-CONSTR - A3S1K6, Section 4.4.3 and Section 5.2.8, PDF p. 13, 24.

### Preamble:

Reference (i) states: “Hours of work will be determined after review of local bylaws, consideration of community input, consultation with contractors, assessment of critical path activities, and other factors. Typical construction schedules will be 10 to 12 hours per day, 5 to 6 days per week, in the day-time hours. Night-time activities will generally be limited to those that produce very low noise (e.g., NDT, dewatering). In special circumstances (i.e., critical tie-ins or critical crane lifts, where work cannot be stopped until complete), somewhat more significant night-time or weekend activity may be required.”

Section 5.2.8 outlines a Noise Control Plan, which includes adhering to municipal regulations and guidelines for noise management.

### Request:

- a) Will Trans Mountain commit to not carry on works in connection with the construction of the TMEP, including excavation or operating any kind of machine or engine to the disturbance of the quiet, peace, rest or enjoyment of the public in residential areas of the Township between the hours of:
  - i) 8:00 p.m. and 7:00 a.m, Monday to Friday;
  - ii) 5 p.m. and 9 a.m., Saturdays; and
  - iii) No construction activity whatsoever on Sundays and statutory holidays.
- b) Will Trans Mountain commit to not make or cause continuous noise, the sound level of which exceeds 55 dBAs (decibel reading on the “A” level of a sound level meter) between the hours of 7:00 a.m. and 8:00 p.m., or which exceeds 45 dBAs between the hours of 8:00 p.m. and 7:00 a.m. in residential areas of the Township?
- c) Will Trans Mountain include these noise level requirements in its contracts with its contractors and subcontractors?
- d) Please explain how Trans Mountain will monitor and enforce compliance with these or any agreed upon noise level restrictions.

### Response:

- a) As indicated in the preamble of this question, Trans Mountain (TM) has outlined a number of circumstances where adherence to specific time windows may not be possible or indeed practical from the perspective of Township residents and the specific work schedule within the Township of Langley is unknown. Trans Mountain is committed, as part of the discussion with the Township, to early identification of such

instances, seeking stakeholder input and subsequently obtaining relevant exemptions, and providing forward notification to affected residents and/or businesses.

TM is committed to working with the Township of Langley to establish days and hours of work. Detailed engineering and construction planning require further development for the Trans Mountain Expansion Project (TMEP) before specific details are developed for days and hours of work. TM will consider the quiet, peace, rest and enjoyment of the public in residential areas during the construction planning phase and in continued consultation with the Township of Langley. As a federally regulated entity under the *National Energy Board Act*, if Trans Mountain Pipeline ULC (Trans Mountain) is granted a Certificate of Public Convenience and Necessity, it will proceed to apply for all permits and authorizations that are required by law.

Noise Management Plans that will be developed for construction and operation of the Project will incorporate the applicable components of the draft conditions as stated in the NEB's *Letter – Draft Conditions and Regulatory Oversight* dated April 16, 2014 (Filing ID [A3V8Z8](#)) to limit the effect of noise at sensitive receptors and include a monitoring component to verify effectiveness of controls and compliance with applicable limits. The Noise Management Plan for the Project will encompass any elements outlined in the final conditions issued by the NEB.

- b) Please refer to response to Langley IR No. 2.17a. Trans Mountain is committed to understanding the applicability of all municipal noise bylaws, including the Township of Langley's Noise Control Bylaw 1988 No. 2573, to the Trans Mountain Expansion Project (TMEP) as it pertains to noise levels and hours of work. Detailed engineering and construction planning require further development for the TMEP before details or commitments surrounding noise levels or hours of work can be fully understood. Trans Mountain remains committed to continued consultation with the Township of Langley regarding construction planning as it pertains to noise.
- c) Trans Mountain will develop and commit to contractual language regarding noise control for all construction works and is most likely to take the form of a commitment of Contractors to the Trans Mountain Expansion Project (TMEP) Noise Control Plan indicated in the preamble.

Please refer to response to Langley IR No. 2.17a. The type of noise control requirements may vary based on the type of contractor and the location/type of activity they will be performing. Contractor requirements that could be considered in contracts include:

- Hours of work by location or location type such as rural, residential, industrial or other such designation as may be made by a governing or regulatory body
- Days of work, including any provisions regarding statutory holidays

- providing noise controls on specific equipment to be used (e.g., heavy equipment providers could be told the type of sound suppression that must be installed on equipment) if it exceeds regulatory, including municipal bylaws, requirements;
  - proving that work sites are not exceeding regulatory requirements, most likely in the form of spot or continuous monitoring as necessary
  - reporting of equipment maintenance and noise control inspection logs to Trans Mountain; and,
  - committing to respond to the direction of Trans Mountain requiring additional noise controls based on the results of environmental monitoring programs or community feed-back
- d) Trans Mountain expects there will be time periods during construction when noise levels may temporarily exceed local noise bylaws. Trans Mountain will inform local authorities and residents when construction activities that may extend beyond hours and noise levels that are specified in local bylaws are required. Trans Mountain will also acquire all necessary permits from applicable authorities that will allow these activities to occur.

Mitigation measures will be implemented, especially in sensitive or residential areas, to ensure noise levels are controlled to the lowest level feasible. For example, noise suppression equipment will be maintained in good order on vehicles and mufflers installed, where possible, on heavy equipment working in proximity to homes (for more information, see Table 7.2.6-2 of Volume 5A, Filing ID [A3S1Q9](#)). A Noise Management Plan will be developed prior to construction to ensure measures are in place to minimize disturbance caused by construction noise that will also incorporate the applicable components of the draft conditions stated in the NEB's *Letter – Draft Conditions and Regulatory Oversight* dated April 16, 2014 (Filing ID [A3V8Z8](#)).

An inspection team of qualified and experienced personnel will inspect all phases of the pipeline construction activities for compliance with procedures, specifications and mitigation measures. Construction environmental management, monitoring, inspection and reporting procedures will be implemented as described in Volume 6A (Filing ID [A3S2S1](#)). Responsibilities will include checking for compliance with all applicable legislative requirements and approved permit conditions, and that construction activities are in conformance with the health, safety, security, and environmental plans and procedures of the Project. In particularly sensitive areas, for example, where homes are within close proximity of construction activities, monitoring of noise may be conducted as part of regular inspection. The noise monitoring of construction activity for the Project will encompass any elements outlined in the final conditions issued by the NEB.

## 2.18 Damage to Parks and Boulevards

### Reference:

- i. A3S1S4 Volume 5B, ESA - Socio-Economic, Table 5.4-3, PDF p. 11
- ii. A3S1S7 Volume 5B, Socio-Economic Effects Assessment, Table 7.2.4-2, PDF p. 65; A3S2S4 Volume 6B, Pipeline Environmental Protection Plan, Appendix E v. A3S2S3 Volume 6B, Pipeline Environmental Protection Plan, PDF p. 64

### Preamble:

Reference (i) identifies 3 municipal parks in the Township of Langley through which the pipeline passes.

Reference (ii) describes the mitigation measures for effects on parks. The table outlining site-specific mitigation measures for terrain features is blank, and states that these measures “will be included prior to construction”.

Reference (iii) indicates that Trans Mountain will ensure that “any required approvals, licenses and permits that are necessary are in place prior to commencing applicable construction activities”.

### Request:

- a) Will Trans Mountain commit to obtaining the Township of Langley government Council's approval prior to making changes to the Township's parks or regarding construction damage, vehicle use and parking in the Township's parks? If not, why?
- b) Will Trans Mountain commit to obtaining the Township's approval to Trans Mountain's site-specific mitigation measures at least 6 months prior to the construction start date? If not, why?

### Response:

- a) Trans Mountain's regulatory requirement and corporate objective is to minimize damage during the construction and operations of the TMEP. Trans Mountain has been operating and working cooperatively with municipalities for the past 60 years and intends to continue to cooperate with municipalities through the development and operation of TMEP, to address questions and concerns and establish approaches and programs designed to minimize damage.

Trans Mountain anticipates that should TMEP be approved, the NEB will establish a set of terms and conditions as part of the NEB Act Section 52 approval. Trans Mountain will be bound by those terms and conditions and will work collaboratively with the Township of Langley in meeting those NEB terms and conditions. Trans Mountain intends to consulting with the Township of Langley regarding changes to the Township's parks, and minimizing construction damage, vehicle use and parking within the Township parks.



Trans Mountain's response to Langley IR No. 2.10a provides additional details on a proposed protocol agreement between Trans Mountain and the Township.

- b) As stated in Trans Mountain's response to Langley IR No. 2.18a, Trans Mountain anticipates that should TMEP be approved, the NEB will establish a set of terms and conditions as part of the NEB Act Section 52 approval. The company expects that implementation of the environmental protection measures documented in the Pipeline Environmental Protection Plan (Volume 6B of the Application) will be a condition of the approval. Trans Mountain will be bound by those terms and conditions and will work collaboratively with the Township of Langley in meeting those NEB terms and conditions. The Company will use those terms and conditions as a basis for developing site specific mitigation measures for the parks within the Township of Langley. Trans Mountain intends to consult with the Township of Langley regarding mitigation and restoration within the Township's parks, under the framework of the terms and conditions of the NEB approval. Trans Mountain will continue to work with the Township of Langley to understand the content of the Township's bylaws and standards as they may relate to NEB approval, and the construction and operation of the Project. During the pre-construction planning phase of TMEP, Trans Mountain anticipates that working with the Township of Langley, the Company will be able to address site-specific mitigation measures regarding the three (3) municipal parks in the Township of Langley through which the pipeline passes on a timely basis.

**Summary of New Commitments:**

- Trans Mountain commits to working with the Township of Langley to address site-specific mitigation measures regarding the three (3) municipal parks affected by the proposed pipeline prior to construction in the parks.

## 2.19 Pavement Restoration of Municipal Roads

### Reference:

- i. B1-9 - V3A\_1.5.6\_TO\_2.0\_PUBL\_CONSULT - part 4 - A3S0R5 Table 1.7.7, PDF p. 74

### Preamble:

In Reference (i), Trans Mountain stated: “Kinder Morgan is responsible for repaving any sections of road that need to be excavated during pipeline construction, and will cover all of these costs. Should the project proceed, we will plan our construction process in such a way that allows us to minimize the amount of time that any given road is closed or disrupted.”

The Township is concerned about the standard to which Trans Mountain will restore the pavement to municipal roads or roads running parallel to municipal roads.

### Request:

- a) Will Trans Mountain commit to adhering to the Township’s specifications when reinstating pavement cuts?
- b) Will Trans Mountain commit to maintaining pavement cuts for a minimum of one year after the work is completed?
- c) Will Trans Mountain commit to paying a non-refundable pavement reinstatement fee to the Township as set out in the Township’s fee schedule?

### Response:

- a) Yes, Trans Mountain will commit to reinstating pavement cuts to the Township’s specification.
- b) Trans Mountain commits to maintain pavement cuts for a minimum of one year after the work is completed.
- c) As per Trans Mountain’s response to Langley IR No. 2.19b, Trans Mountain anticipates incorporation of the Township’s standards for pavement reinstatement as part of the design development, thus precluding the need for a pavement reinstatement fee. That notwithstanding, Trans Mountain is amenable to discussing alternative execution approaches as requested by the Township.

### Summary of New Commitments:

- Trans Mountain will commit to reinstating pavement cuts to the Township’s specification.
- Trans Mountain commits to maintain pavement cuts for a minimum of one year after the work is completed.

## 2.20 Commitment to Use Concrete Casings or Heavy Wall Pipe

### Reference:

- i. B91-1 - Trans\_Mountain\_Response\_to\_Langley\_IR\_No.\_1 - A3X6U7, PDF p. 3.

### Preamble:

In Reference (i), Trans Mountain said: “During the Detailed Engineering and Design Phase of the Project, Trans Mountain will determine the segments of the pipeline where heavy wall and extra heavy wall pipe will be used. Generally heavier wall pipe is used at stream and river crossings.”

### Request:

- a) Please provide a commitment to use concrete casings or heavy wall/extra heavy wall pipe at every municipal road allowance and at all water bodies in the Township of Langley. If Trans Mountain will not commit to this, please explain why.
- b) Please state how much it costs to add concrete casing or heavy wall to a segment of pipeline.
- c) Will Trans Mountain share with the Township which locations it has determined where heavy wall and extra heavy wall pipe will be used? If so, by what date?

### Response:

- a) Heavy wall pipe will be utilized at all developed municipal road allowances. If undeveloped municipal road allowances exist, they will be assessed on a site by site basis with input from the Township of Langley.

As per Table 5.1.8 of Volume 4A (Filing ID [A3S0Z5](#), PDF pages 16 of 93), the default wall thickness for watercourse crossings is heavy wall pipe. This will be further elaborated in the detailed design and engineering phase based on the results of site specific data and a comprehensive risk assessment.

In addition to the above, and as outlined in Section 3 of Volume 7 (Filing ID [A3S4V5](#)), Trans Mountain is undertaking a risk-based design process for Line 2 and the New Delivery Lines. Risk-based design is a rigorous design approach that goes beyond the minimum requirements of the CSA Z662 code. It is an industry-leading, world class design approach that will enable the design team to identify potential risks along Line 2 and the new delivery lines and to pre-emptively adopt mitigation measures at the design phase to address those risks. These mitigation measures, once incorporated into the final design, will reduce failure likelihood and/or consequence (and hence risk) by targeting risk mitigation strategies directed at the principal drivers of risk that have been identified in the risk assessment.

Risk-based design is an iterative process that is currently underway, and will continue to progress through to detailed design. Until this process is completed, a full list of detailed

and specific risk mitigation measures that will be incorporated into the final design, and the risk that is associated with that final design will not be available. Nevertheless, examples of typical risk mitigation strategies include the mitigation of 3rd Party damage through increased depth of cover, increased wall thickness or pipeline markers, the mitigation of environmental consequences through the installation of mainline valves, and the mitigation of geotechnical threats through threat avoidance.

- b) Costs will vary widely according to the location/application in question, and therefore cannot be provided in summary format. As per the response to part c) above, Trans Mountain will work with the Township to address specific concerns in this regard.
- c) Pipe wall thickness will be finalized through risk based design during the Detailed Design and Engineering phase. Detailed Design and Engineering for pipeline engineering is expected to be complete in July 2016, as per Part 9 of Technical Update No. 4 submitted to the NEB in Q4 2014 (Filing ID [A4F5A9](#)), though Trans Mountain is willing to share results of the risk assessment and determination of the pipeline wall thickness as the design progresses.

Risk-based design is a rigorous design approach that goes beyond the minimum requirements of the CSA Z662 code. It is an industry-leading, world class design approach that will enable the design team to identify potential risks along Line 2 and the new delivery lines and to pre-emptively adopt mitigation measures at the design phase to address those risks. These mitigation measures, once incorporated into the final design, will reduce failure likelihood and/or consequence (and hence risk) by targeting risk mitigation strategies directed at the principal drivers of risk that have been identified in the risk assessment.

The iterative risk-based design approach described in the documents cited above is currently underway, and will continue to progress through to detailed design. Until this process is completed, a full list of detailed and specific risk mitigation measures that will be incorporated into the final design, and the risk that is associated with that final design will not be available. Examples of typical risk mitigation strategies include the mitigation of 3rd Party damage through increased depth of cover, increased wall thickness or pipeline markers, the mitigation of environmental consequences through the installation of mainline valves, and the mitigation of geotechnical threats through threat avoidance.

Trans Mountain would welcome the opportunity to meet and discuss risk assessment methodology and mitigation options with the Township of Langley through the Technical Working Group as the detailed design progresses.

#### **Summary of New Commitments:**

- Trans Mountain would welcome the opportunity to meet and discuss risk assessment methodology and mitigation options with the Township of Langley through the Technical Working Group as the detailed design progresses.

## 2.21 Recovery of Costs of Policing during Construction

### Reference:

- i. B295-1 - Response to City of Burnaby Letter dated December 5, 2014 - 1 - A4F8Q3, PDF p. 4.

### Preamble:

In Reference (i), Trans Mountain states that “Trans Mountain is not in control of third parties who decided to break the law. The police were required to maintain public order and safety. Policing costs are a service provided to taxpaying citizens and corporations in Burnaby, including Trans Mountain, to protect their lawful rights,”

The Township is concerned that it will incur additional policing costs during pipeline surveying and construction work, that it would not incur but for the expansion project.

### Request:

- a) Will Trans Mountain commit to compensating the Township of Langley for any or all of the additional policing costs incurred between the start of construction and the completion of the TMEP construction? If not, explain why.

### Response:

- a) In general, Trans Mountain believes that municipalities are responsible for the provision of conventional municipal services that include law enforcement, traffic planning and management, municipal infrastructure, emergency response services and other services normally provided by a municipality to its citizens. In communities where Trans Mountain is present, the Company contributes to the costs of such services through municipal taxes, and typically draws little on municipal services given the nature of standard pipeline operations.

As indicated in Table 7.2.7-12 in Section 7.2.7 of Volume 5B of the TMEP Application, Trans Mountain currently contributes approximately \$367,000 in municipal taxes to the Township of Langley annually. With TMEP, that contribution would increase to approximately \$575,000 annually. In the Application, Section 3.4.1 (Filing ID [A55987](#)) Trans Mountain estimates that the Project will generate \$309 million and \$727 million of addition tax revenue to BC during development and 20 years of operations, respectively. It is likely that the additional tax revenue to BC would cause some benefits to the City. Trans Mountain also contributes communities by providing funds for the support of community events and groups through its Community Investment Program. Trans Mountain would not expect to pay additional amounts to a municipality for TMPL or TMEP over and above the standard costs assessed for similar industries and businesses for the provision of standard municipal services. This principle would apply to policing costs incurred between the start of and completion of TMEP construction.

Notwithstanding the general principle, however, should TMEP be approved, Trans Mountain would intend to work with the Township of Langley to plan and coordinate

activities in an effort to minimize policing costs, and the Company will retain private security services to supplement, assist and work with municipal policing.

## Detailed Design and Engineering Phase

### 2.22 Detailed Design Specifications Developed to Date

#### Reference:

- i. B91-1 - Trans\_Mountain\_Response\_to\_Langley\_IR\_No.\_1 - A3X6U7.

#### Preamble:

Reference (i) generically refers to many detailed specifications being completed in the “Detailed Engineering and Design Phase of the Project”.

#### Request:

- a) Please outline and explain the detailed design specifications that have been developed to date in the Township of Langley with respect to:
  - i) Township of Langley flood plains;
  - ii) Yorkson Creek;
  - iii) Depth of the pipeline at railways in the Township of Langley; and
  - iv) Valves within the Township of Langley.

#### Response:

- a)
  - i) Detailed design is ongoing, and the specifications requested are not yet available. As per Section 2.9.4 of Volume 4A (Filing ID [A3S0Y8](#)), during the Detailed Engineering and Design phase, the notable watercourse crossings will be designed for scour and bank stability to meet the conditions of a 1 in 200 year flood event and, as such, the proposed Line 2 pipeline will be sufficiently buried, or otherwise protected, to ensure its long-term integrity.

Throughout British Columbia, the flood protection standard for dikes advocated by the BC Ministry of Forest, Lands and Natural Resource Operations is a 200-year return period. There are no provincial or federal guidelines that provide guidance or specify to what return period pipelines should be protected against scour or other hydrotechnical hazards. As such, a 200-year flood event has been adopted for hydrotechnical hazards that could potentially impact the proposed pipeline.

It is further noted that many of the hydrotechnical hazards the pipeline will be exposed to are not necessarily dependent on the magnitude of floods. Bank erosion and encroachments tend to develop slowly over time and represent the cumulative impacts of numerous floods. Therefore, the setback allowances for the pipeline will be conservatively designed for long-term trends in river behaviour. Of all the hydrotechnical hazards, potential scour depth is most strongly dependent on flood magnitude. However, scour estimates typically have a level of conservatism built into them.



In addition, buoyancy control measures will be implemented to prevent pipe uplifting in areas with high water tables.

- ii) Refer to response i) above.
- iii) The minimum depth of cover at all railway crossings will be as per Table 5.1.13 in Volume 4A (referred to in part i). These dimensions are based on Transport Canada document *TC E-10 Standards Respecting Pipeline Crossings Under Railways*. Adjustments for deeper burial may be made in accordance with terrain, geotechnical conditions, alignment specifics, etc.
- iv) Please refer to Trans Mountain's response to Langley IR No. 2.02a.

**Reference:**

Transport Canada. June 21, 2000. Standards Respecting Pipeline Crossings under Railways.  
3 pp.



**Public Consultation****2.23 Questions from Township of Langley Residents****Reference:**

- i. Questions from Langley residents [Attachment #2].

**Preamble:**

Reference (i) outlines questions and comments received from the Township regarding the TMEP for Trans Mountain's response.

**Request:**

- a) Please respond to the questions in Reference (i).

**Response:**

- a) Please refer to Langley IR No. 2.23a – Attachment 1, which addresses comments and questions that the Township of Langley received from residents regarding the Project.