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LETTER DECISION

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30 June 2021

To: All participants in Detailed Route Hearing MH-026-2020

**Trans Mountain Pipeline ULC (Trans Mountain)
Trans Mountain Expansion Project (TMEP)
Certificate of Public Convenience and Necessity (Certificate) OC-065
Detailed Route Hearing MH-026-2020 – City of Chilliwack (Chilliwack)
Decision of the Commission of the Canada Energy Regulator (Commission)**

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1 Background

On 16 December 2013, Trans Mountain filed an application with the National Energy Board (NEB or Board) under section 52 of the *National Energy Board Act*¹ (NEB Act) for a Certificate authorizing the construction and operation of the TMEP.

The TMEP includes twinning the existing 1,147-kilometre-long Trans Mountain Pipeline (TMPL) system in Alberta and British Columbia (BC) with approximately 981 kilometres of new buried pipeline; new and modified facilities, such as pump stations and additional tanker loading facilities at the Westridge Marine Terminal in Burnaby; and reactivating 193 kilometres of the existing pipeline between Edmonton and Burnaby. Trans Mountain requested approval of a 150-metre-wide corridor for the TMEP pipeline's general route.

Upon receipt of the application, the NEB commenced a public Certificate hearing process. Following the Certificate Hearing, on 19 May 2016, the NEB issued its OH-001-2014 Recommendation Report ([A77045](#)) recommending that the Governor in Council (GIC) approve the TMEP and its general pipeline corridor.

The TMEP was approved by Order in Council (OIC) P.C. 2016-1069 in November 2016. The NEB issued Certificate OC-064 and began work on various regulatory processes, including the 2017/18 detailed route approval process.

Certificate OC-064 included approval of a corridor through Chilliwack that followed BC Hydro transmission lines for some distance (Original Corridor). On 27 March 2017, Trans Mountain applied for the Chilliwack BC Hydro Route Realignment ([A82269](#)) in order to vary the NEB-approved corridor through Chilliwack (Chilliwack Realignment). A public hearing (OH-001-2017) was held. Chilliwack, the S'ólh Téméxw Stewardship Alliance (STSA), and The WaterWealth Project (WaterWealth) participated as intervenors and the NEB received 11 letters of comment.

The Chilliwack Realignment was to vary the pipeline corridor for a short section, relocating the TMEP away from the BC Hydro lines and to within the existing TMPL right-of-way (RoW). The realignment was outside the Original Corridor for approximately 1.8 kilometres. In April 2018, the NEB issued its OH-001-2017 Report ([A91053](#)) [Realignment Report] in which it recommended approval of the application to vary the corridor (Approved Corridor). On 21 June 2018, the GIC, via OIC P.C. 2018-859, approved the issuance of Order AO-007-OC-064 to vary Certificate OC-064 to reflect the Chilliwack Realignment, subject to conditions. This Order was issued on 4 July 2018 ([A92817](#)).

The Original Corridor and Approved Corridor related to the Chilliwack Realignment are shown in **Figure 1** below.

¹ R.S.C., 1985, c. N-7 (repealed).

Figure 1 – Original Corridor and Approved Corridor in the Chilliwack Realignment (Source: [A91053](#))



On 30 August 2018, the Federal Court of Appeal (FCA) issued its decision in *Tsleil-Waututh Nation v. Canada (Attorney General)*² (FCA Decision), setting aside OIC P.C. 2016-1069 and remitting the matter back to the GIC for appropriate action. Following the FCA Decision, the NEB reconsidered the matter of TMEP-related marine shipping and the Government of Canada reinitiated consultations with Indigenous³ peoples.

Following a second public hearing process, the NEB issued its MH-052-2018 Reconsideration Report ([A98021](#)) in February 2019. Canada's Crown Consultation and Accommodation Report ([C00219-5](#)) was issued in June 2019. The GIC approved the TMEP again in June 2019 via OIC P.C. 2019-820 ([C00219](#)) and the NEB subsequently issued Certificate OC-065 ([C00061](#)).

On 19 July 2019, following a public comment process, the NEB set out how it would resume the TMEP detailed route approval process ([C00593](#)). The NEB directed Trans Mountain to file its Plan, Profile and Book of Reference (PPBoR) for the entire proposed TMEP route. Trans Mountain served landowners along the length of the TMEP with a notice that the detailed route approval process was underway, and placed notices in local publications. The NEB placed Trans Mountain's published notices on the NEB's website. The notices indicated that landowners and Indigenous peoples with a continued or new objection to the proposed detailed route, or to the methods or timing of construction, were required to file a Statement of Opposition (SOO). Notices advised interested persons (other than an owner of lands) who anticipated their lands may be adversely affected by the proposed detailed route, the methods of construction, and/or the timing of construction that they could file a SOO, indicated the timeline for doing so, and described how to obtain further information or assistance.

² 2018 FCA 153.

³ The use of the term "Indigenous" has the meaning assigned by the definition of "aboriginal peoples of Canada" in subsection 35(2) of the *Constitution Act, 1982* which states:

In this Act, "aboriginal Peoples of Canada" includes the Indian, Inuit, and Métis Peoples of Canada.

In addition, on 23 August 2019, the NEB notified by letter 70 Indigenous communities,⁴ whose rights and interests could be potentially affected by the TMEP detailed route approval process in Segments 6 and 7, of the detailed route approval process ([C01164](#), [C01167](#)). All notices advised that interested Indigenous communities could file a SOO in relation to the proposed detailed route, the methods of construction, and/or the timing of construction; indicated the timeline for doing so; and described how to obtain further information or assistance.

Landowners and Indigenous peoples whose 2017/18 detailed route hearings were put on hold following the FCA Decision were required to file a new SOO to continue with their detailed route hearings. Landowners and Indigenous peoples seeking a new detailed route hearing (i.e., those who did **not** have a 2017/18 detailed route hearing underway at the time of the FCA Decision) were required to file SOOs that demonstrated a material change in circumstances in relation to the proposed route or to the methods or timing of construction. Only SOOs that were filed on time, made in good faith, not withdrawn, and not frivolous or vexatious were accepted.

On 28 August 2019, the *Canadian Energy Regulator Act*⁵ (CER Act) came into force, repealing the NEB Act. As a result, the Commission is considering approval of the PPBoR under the provisions of the CER Act.

2 Process changes due to the COVID-19 pandemic

The detailed route hearing processes began prior to the COVID-19 pandemic and contemplated an oral cross-examination portion, as well as optional site visits by the Commission to the lands subject to each hearing. After the pandemic struck, the Commission issued a Procedural Direction on 21 April 2020 ([C05817](#)) for in-progress detailed route hearings, modifying its processes to exclude steps that involved in-person contact. Oral cross-examination was replaced with rounds of written questions (called information requests or IRs) and answers. Site visits were replaced with the opportunity for parties to file photographs or videos with their written evidence.

As explained in the Procedural Direction, the process changes were aimed at finding alternative ways to ensure that the detailed route hearings could continue in a manner that is fair and transparent, while protecting the health of those involved.

3 Detailed Route Hearing MH-026-2020

3.1 Hearing participants

On 16 September 2020, the Canada Energy Regulator (CER) received two SOOs from Chilliwack ([C01654](#), [C01655](#)) seeking to resume its 2017/2018 detailed route hearing ([MH-020-2018](#)).

On 23 September 2019, the CER received a SOO from the STSA ([C01778](#)) opposing the proposed detailed route and the methods and timing of construction throughout various segments of the TMEP, including the lands at issue in this detailed route hearing. The STSA filed amended SOOs on 1 and 16 October 2019 ([C02000](#), [C02290](#)).

⁴ In referring to Indigenous communities, the Commission is using this term to describe the individual First Nations, treaty associations, tribal councils, local and provincial Métis associations, and Métis settlement governing bodies that were identified as being potentially impacted by the TMEP.

⁵ S.C. 2019, c. 28, s. 10.

No other notified Indigenous community filed a SOO regarding the proposed detailed route for the lands at issue in this hearing (described below).

On 29 November 2019, the Commission issued SOO Decision No. 4 ([C03323](#)) outlining its consideration of all SOOs that had been filed with respect to Segments 5, 6, and 7 of the TMEP, and reasoning for deciding which SOOs met its assessment criteria and were set down for detailed route hearings.

The Commission granted Chilliwack a detailed route hearing regarding **all** tracts of land in Segments 6.2, 6.3, and 6.4, which appear on PPBoR Sheets M002-PM03015 (001 to 009), M002-PM03016 (001 to 003), and M002-PM03017 (001 to 006) [[C00974-3](#), [C00974-4](#), and [C00974-5](#), respectively].

On 31 January 2020, the Commission issued the Hearing Order ([C04466](#)) for all Segment 6 detailed route hearings that overlapped geographically with Chilliwack's opposition. The Commission confirmed that WaterWealth would remain an intervenor in Detailed Route Hearing MH-026-2020, as it was previously an intervenor in Chilliwack's 2017 detailed route hearing. For the same reason, the Commission also confirmed that Pro Information Pro Environment United People Network (PIPE UP), Cultus Lake Aquatic Stewardship Strategy, and Great Blue Heron Nature Reserve would remain commenters in this hearing.

On 6 May 2020, the STSA filed a letter ([C06175](#)) requesting leave to substitute Semá:th First Nation (Semá:th) in the place of the STSA for the purposes of representing their own interests in the SOOs filed by the STSA for Segments 5, 6, and 7. The STSA explained that all original signatory communities, with the exception of Semá:th, had withdrawn their signatures from the SOOs.

On 13 May 2021, the Commission granted the STSA's substitution request ([C06261](#)). On 16 April 2021, Trans Mountain filed a letter ([C12443](#)), to which a letter from Semá:th was attached, notifying the Commission that Semá:th was withdrawing its SOOs.

3.2 Overlap with other Chilliwack-area detailed route hearings

On 31 January 2020, the Commission issued a Procedural Direction ([C04458](#)) explaining that there are a number of instances where the geographical focus of one detailed route hearing overlaps with that of one or more other hearings. Pursuant to section 203 of the CER Act, the Commission makes detailed route decisions for specific tracts of land and/or PPBoR sheets. This Detailed Route Hearing **MH-026-2020** relates to all tracts of land in Segments 6.2, 6.3, and 6.4, except Tracts 2307, 2352, 2410, and 2438 (the Lands). No decisions are being made in respect of these tracts in this Letter Decision as these lands are the subject of Detailed Route Hearings **MH-010-2020**, **MH-011-2020**, **MH-013-2020**, and **MH-015-2020**, respectively. These five hearings are referred to collectively as the "Chilliwack-Area Hearings." The following table identifies the SOO Filers and intervenors involved in these hearings, and the lands at issue in each.

Table – Chilliwack-Area Hearings

Hearing	Subject lands	SOO Filers	Intervenors
MH-026-2020	Segments 6.2, 6.3, and 6.4 (except Tracts 2307, 2352, 2410, and 2438)	<ul style="list-style-type: none"> Chilliwack 	<ul style="list-style-type: none"> WaterWealth
MH-010-2020	Tract 2307 (Segment 6.3)	<ul style="list-style-type: none"> Chilliwack School District #33⁶ District Parent Advisory Council Chilliwack 	
MH-011-2020	Tract 2352 (Segment 6.3)	<ul style="list-style-type: none"> Christine Bloom Chilliwack 	
MH-013-2020	Tract 2410 (Segment 6.4)	<ul style="list-style-type: none"> Rudolf and Debra Enns Chilliwack 	
MH-015-2020	Tract 2438 (Segment 6.4)	<ul style="list-style-type: none"> Michael Hale (Yarrow Ecovillage) Chilliwack 	

This Letter Decision is based on the record of this proceeding (MH-026-2020) only, considers its own evidentiary record and unique issues, and applies to specific tracts of land. Likewise, all other Chilliwack-Area Hearing decisions are based on their own separate evidentiary records and apply to specific tracts of land unique to each hearing. However, in some cases, parties cross-referenced and adopted evidence from other Chilliwack-Area Hearings, and/or repeated similar evidence and argument in more than one hearing. For example, similar proposed alternate routes were being considered in several of the Chilliwack-Area Hearings. The Chilliwack-Area Hearings also shared common parties. Chilliwack was a party to all Chilliwack-Area Hearings, given that its geographical interests span across all relevant tracts. Therefore, the Commission’s Letter Decisions for all Chilliwack-Area Hearings are related; they collectively decide the detailed route, methods of construction, and timing of construction for the Chilliwack area, and are therefore being released concurrently.

3.3 Hearing record and scope

As explained in the Hearing Order ([C04466](#)), because Chilliwack was resuming its 2017/18 detailed route hearing (MH-020-2018), the Commission decided that it would bring forward and adopt the entirety of that previous record, including Chilliwack’s 2017 SOO ([A87113](#)), Trans Mountain’s written evidence ([A93714](#)), and Cultus Lake Stewardship Strategy’s letter of comment ([A91754](#)).

Since the hearing’s resumption, Trans Mountain, Chilliwack, and WaterWealth filed written evidence, asked and replied to IRs, and Trans Mountain filed reply evidence. PIPE UP was the only commenter to file a letter of comment since the resumption ([C06889](#)).

All argument by all parties was provided in writing. Trans Mountain filed argument on 2 October 2020 ([C08698](#)), Chilliwack ([C08914](#), [C08915](#)) and WaterWealth filed argument ([C08916](#)) on 15 October 2020, and Trans Mountain filed reply argument on 21 October 2020 ([C09042](#)).

⁶ This SOO Filer has also been referred to in the Commission’s detailed route hearing processes as the Chilliwack Board of Education.

The written record of Detailed Route Hearing MH-026-2020 can be found in the CER's online public registry, in the hearing's dedicated folder (Folder [3890553](#)).

The three issues to be decided in this detailed route hearing are:

- 1) Is Trans Mountain's proposed detailed route for the TMEP pipeline the best possible detailed route? (see **Section 4**).
- 2) Are Trans Mountain's proposed methods of constructing the TMEP pipeline the most appropriate? (see **Section 5**).
- 3) Is Trans Mountain's proposed timing of constructing the TMEP pipeline the most appropriate? (see **Section 6**).

Trans Mountain bears the onus to prove its case with respect to these issues on a balance of probabilities.

As explained in the Hearing Order, evidence not related to the route location, or to the methods or timing of construction (as applicable), or that is not site-specific, was **not** considered. The Commission clarified that it would **not** consider the following topics:

- Matters that were addressed in the completed hearings that pertained to Trans Mountain's application to construct and operate the TMEP,⁷ such as the need for the TMEP, risks and impacts of accidents or malfunctions (i.e., spills), overall pipeline design, or the broader environmental or socio-economic impacts of the TMEP.
- Issues that relate to the existing pipeline.
- Landowner compensation matters.

Some matters were raised in this detailed route hearing that are outside the scope of the issues being considered. For example, PIPE UP raised concerns that the TMEP poses risks to fish and fish habitat. The Commission is of the view that such concerns are general in nature and were addressed in the Certificate hearings, including the imposition of a number of conditions to address residual effects.

3.4 Overview of the proposed route on the Lands

As described previously, the Lands at issue in this Detailed Route Hearing MH-026-2020 consist of all tracts of land in Segments 6.2, 6.3, and 6.4, except Tracts 2307, 2352, 2410, and 2438, as shown on PPBoR Sheets M002-PM03015 (001 to 009), M002-PM03016 (001 to 003), and M002-PM03017 (001 to 006).

The following figures depict Trans Mountain's proposed detailed route, as well as various alternate routes proposed by the SOO Filers and intervenors in the Chilliwack-Area Hearings:

- **Figure 2** shows Trans Mountain's proposed route (in red) and Chilliwack's alternate routes (in purple and yellow) on the Lands.
- **Figure 3** shows Trans Mountain's proposed route (in red) and WaterWealth's alternate route (in yellow) on the Lands.
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⁷ For example, Hearing OH-001-2014 related to Trans Mountain's 2013 application for the TMEP, and Hearing MH-052-2018 related to the reconsideration of TMEP-related marine shipping.

- **Figure 4** shows Trans Mountain's proposed route (in red); alternate routes proposed by Chilliwack (in navy blue) and WaterWealth (in green); and locations of properties, features, and alternate routes proposed by parties in other Chilliwack-Area Hearings (MH-010-2020, MH-011-2020, MH-013-2020, and MH-015-2020).

Figure 2 – Trans Mountain's proposed route and Chilliwack's alternate routes (Source: [C08698](#))

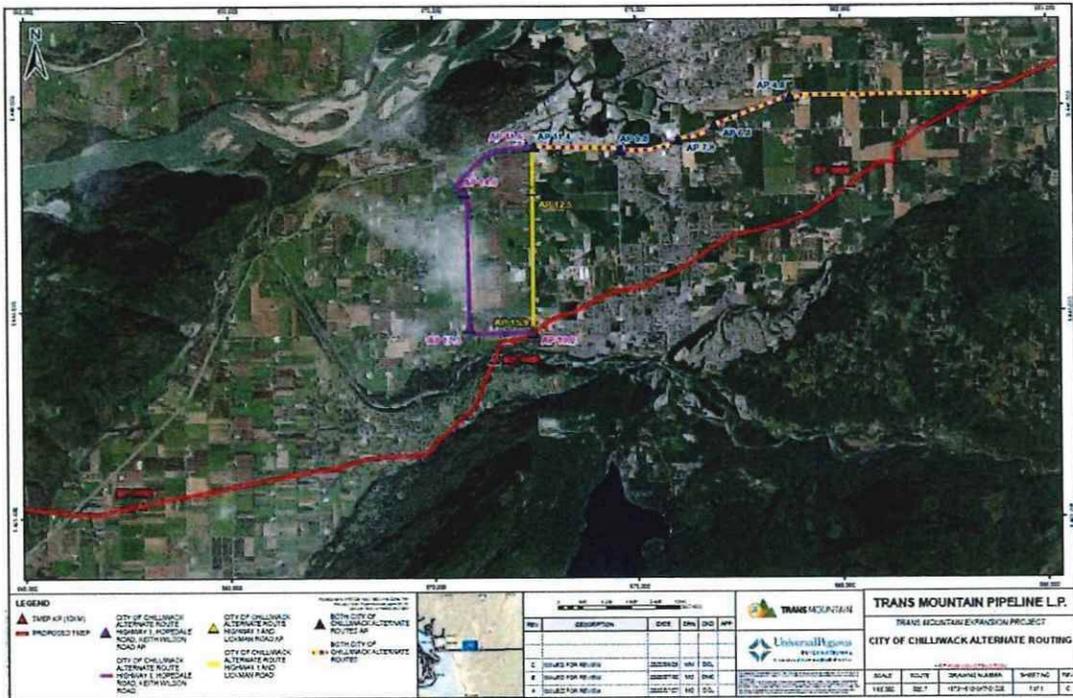


Figure 3 – Trans Mountain's proposed route and WaterWealth's alternate route (Source: [C08698](#))

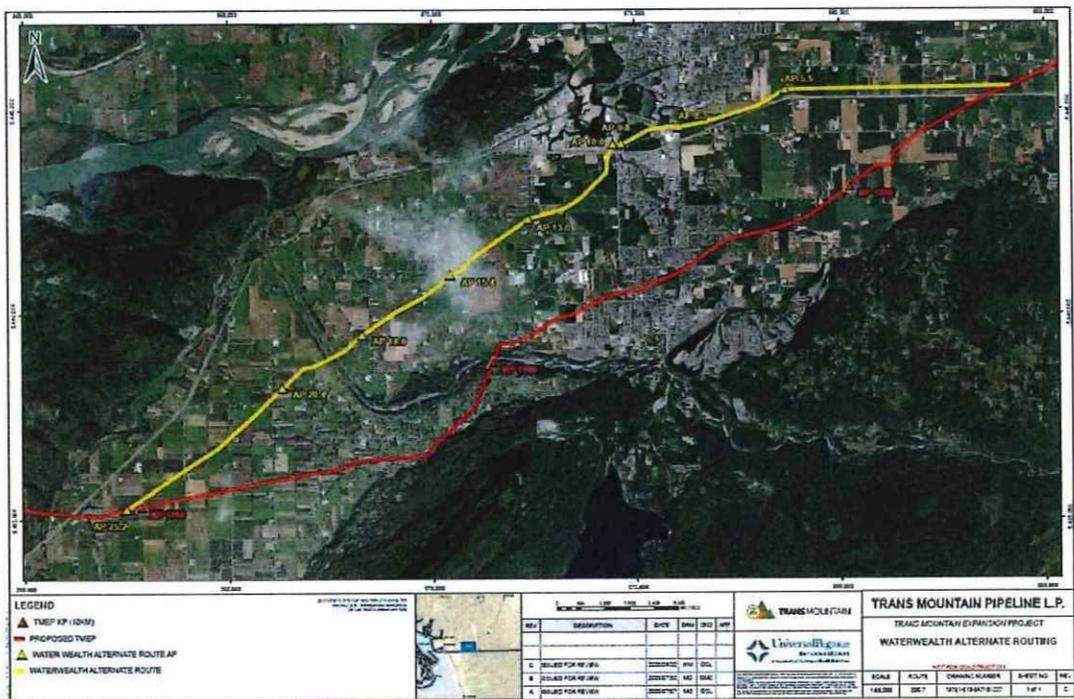
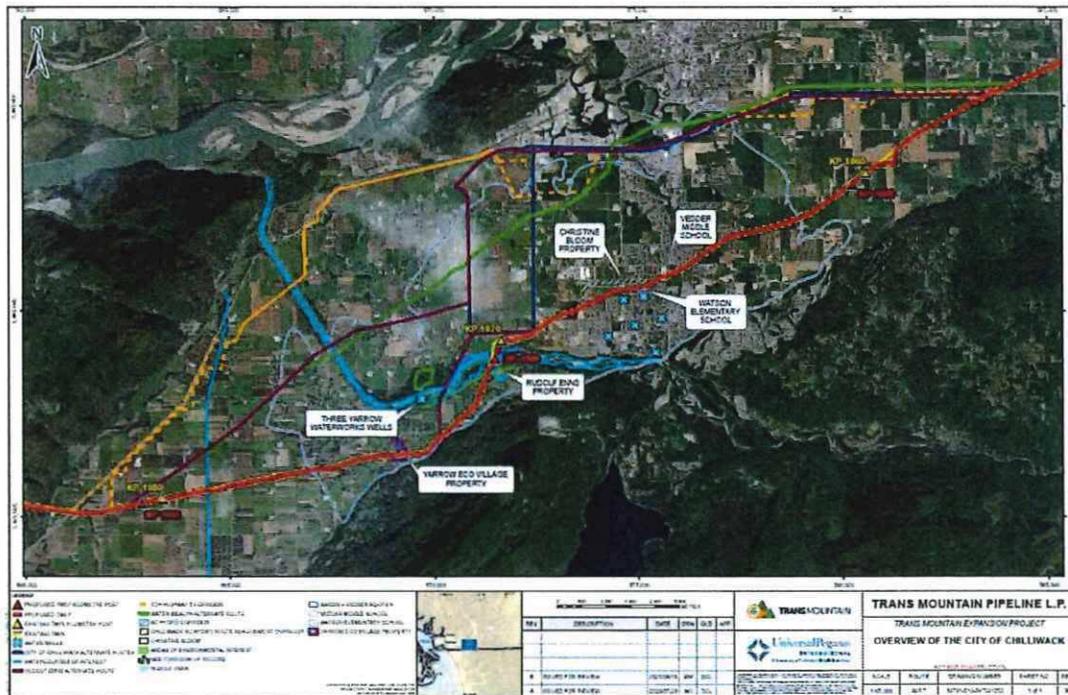


Figure 4 – Trans Mountain’s proposed route, various alternate routes, and various properties and features in the Chilliwack area (Source: [C07932](#))



3.5 Preliminary matters

3.5.1 How does the Chilliwack Realignment relate to this proceeding?

Trans Mountain's submissions

- In accordance with the decision on resuming the TMEP regulatory processes, where the NEB determined the conditions under which decisions and orders issued prior to the FCA Decision would be reviewed, the Commission should only review a prior decision or order in the event that a material change in circumstances is established.
- In the Realignment Report (PDF page 21), the NEB separated the issues that were considered to be within the scope of the Chilliwack Realignment hearing from the issues that were considered to be outside its scope and referred to other regulatory processes:
 - a) **Issues considered and decided on** included the potential environmental and socio-economic effects of the Chilliwack Realignment, the suitability of the design of the Chilliwack Realignment, potential impacts of the Chilliwack Realignment on landowners and land use, and contingency planning for spills, accidents or malfunctions during construction and operation of the Chilliwack Realignment.
 - b) **Issues not considered and referred to other regulatory processes** included alternate routes to that proposed by Trans Mountain for the Chilliwack Realignment.
- A review of the issues regarding which the NEB issued a decision in the Realignment Report requires a material change in circumstances.

Chilliwack's submissions

- While the NEB has held that topics outside the scope of a detailed route hearing include general design and safety matters that have already been considered in a Certificate hearing (e.g., Burnaby Tunnel Hearing at PDF page 2 [[A90020](#)]), it follows that matters that are not general in nature, or that have not been considered in a Certificate hearing, may be considered in a detailed route hearing. This is consistent with NEB practice, and is seen in the detailed route hearing involving Sarango and Sarango, where the NEB concluded that the TMEP Certificate conditions did not list septic systems as an issue to be monitored by Trans Mountain, and that additional conditions were required to address the Sarangos' property ([A90306](#)). In that case, the NEB added two additional pages of conditions addressing matters not addressed in the Certificate conditions.

WaterWealth's submissions

- Trans Mountain has been trying to conflate the detailed route hearing for Segments 6.2, 6.3, and 6.4 with the Chilliwack Realignment hearing since the Chilliwack Realignment hearing, where Trans Mountain requested that the NEB deal with the related PPBoR together with its variance application. The NEB refused that request and, in its Realignment Report, stated that, "should the Chilliwack Realignment be approved by GIC, the detailed routing provisions of the NEB Act would remain to be satisfied, which would include determination of the best possible detailed route of the pipeline and the most appropriate methods and timing of constructing the pipeline." The NEB also stated that, "[g]iven that determination of the best routing is part of the detailed route approval process, and was not therefore part of this variance application, the Board declines to order [Chilliwack's] requested examination of other alternate routes (e.g. [Trans-Canada Highway]) in this matter."

The Commission: This is not a review of the Chilliwack Realignment

The Commission is not reviewing the NEB's Realignment Report and subsequent GIC- approved variance of the Certificate. In no way is a detailed route proceeding a review of a Certificate or variance decision. Therefore, the "material change in circumstances" test for reviewing decisions and orders issued prior to the FCA Decision, as referred to by Trans Mountain in its submissions, does not apply.

In the Chilliwack Realignment hearing, the NEB considered Trans Mountain's application for a variance to Certificate OC-064, pursuant to section 21 of the NEB Act, to revise the previously approved TMEP general pipeline corridor. The NEB's task was to make a recommendation to the GIC on whether a variation to the Certificate should be issued. This naturally involved consideration of issues similar to those upon which the Certificate was based, insofar as they were related to the applied-for variance. The NEB was clear throughout its Realignment Report that it considered the corridor, or general route, and was not considering or deciding upon the detailed route. In Section 2.4 of the Realignment Report, under the heading "What did the Board consider?" the NEB stated the following:

The Board considered the following issues:

- 1) The potential environmental and socio-economic effects of the proposed Chilliwack Realignment, as set out in the NEB's Filing Manual.
- 2) The appropriateness of the **general route** and land requirements for the proposed Chilliwack Realignment.
- 3) The suitability of the design of the proposed Chilliwack Realignment.

- 4) Potential impacts of the Chilliwack Realignment on Aboriginal interests.
- 5) Potential impacts of the Chilliwack Realignment on landowners and land use.
- 6) Contingency planning for spills, accidents or malfunctions, during construction and operation of the Chilliwack Realignment.
- 7) Safety and security during construction of the proposed Chilliwack Realignment and operation of the Chilliwack Realignment, including emergency response planning and third-party damage prevention.
- 8) The terms and conditions to be included in any approval the Board may issue in relation to the Chilliwack Realignment.

The Board included in its consideration the differences in benefits and burdens between the approved TMEP corridor (i.e. P1 routing) and the Chilliwack Realignment routing (i.e. P2 routing). The Board was presented with some evidence regarding the alternative P1A and TCH routes. The Board notes those alternate routes were not the subject of this variance application, although the Board discusses them as appropriate in this Report.

As noted in Section 1.2 above, should the Chilliwack Realignment be approved by GIC, **the detailed routing provisions of the NEB Act would remain to be satisfied, which would include determination of the best possible detailed route of the pipeline and the most appropriate methods and timing of constructing the pipeline.** (*emphasis added*)

The legislative scheme of the NEB Act (in force at the time) made it clear that to commence construction, a company needed both a Certificate approving the proposed project generally pursuant to section 52 (which was varied in this case pursuant to section 21), and approved PPBoR specifying the precise location of the pipeline pursuant to sections 33 to 37. These are two different requirements for approval, with independent legislative provisions, each triggering public hearings if opposed. The legislative scheme of the CER Act is the same, with similar provisions.⁸

In assessing the proposed detailed route of a pipeline and the methods and timing of construction put forward by a company at the detailed route stage, the Commission hears evidence and argument on all relevant matters. Some matters that were relevant and considered during the Certificate proceeding for the purpose of deciding a general corridor may also be relevant in the detailed route proceeding, given both considerations relate to location of the pipeline, and construction, for example. The NEB discussed this overlap in its *Emera* decision⁹ ([A18668](#)):

The Board notes that it has indicated in many detailed route hearings that it will not reconsider matters determined at the certificate stage of the regulatory process, such as the need for the pipeline, during the detailed route hearing. This is because many issues considered at the certificate hearing are matters that are not relevant to the Board in determining the best possible route for the pipeline and the most appropriate methods and timing of constructing the pipeline. However, other matters which are considered at a certificate hearing overlap with decisions the Board must make in a detailed route hearing. Timing and methods of construction are considered in a certificate hearing, but are matters that the Board is required, by section 36 of the NEB Act, to decide in a detailed route

⁸ Under the CER Act, Certificates are issued pursuant to section 183 (which can be varied pursuant to section 69) and approved PPBoR are required prior to construction pursuant to sections 198 to 210.

⁹ *Emera Brunswick Pipeline Company Ltd.*, Detailed Route Hearing MH-3-2007, PDF page 27 of 89.

hearing. Similarly, in the Board's view, the corridor is a matter that, while considered in the certificate hearing, may also be an issue for consideration in a detailed route hearing, particularly when a corridor is narrow and the flexibility for locating the best possible detailed route in a particular location is in issue.

In the Hearing Order for Detailed Route Hearing MH-026-2020, the Commission stated upfront that it would not consider certain topics, including "matters that were addressed in the completed hearings that pertained to Trans Mountain's application to construct and operate the TMEP,¹⁰ such as the need for the TMEP, risks and impacts of accidents or malfunctions (i.e., spills), overall pipeline design, or the broader environmental or socio-economic impacts of the TMEP."

However, some topics that were considered for the purpose of approving the TMEP's general corridor (or realignment of that corridor) may also be relevant to the consideration of the proposed detailed route. Accordingly, all matters that were considered for the purpose of approving the general corridor (or realignment) are not necessarily out of scope for this detailed route hearing. The Commission has considered matters that it considers relevant to the issues being decided in this hearing.

3.5.2 Was Trans Mountain's notice to Chilliwack sufficient?

Chilliwack's submissions

- A threshold matter regarding the sufficiency of Trans Mountain's notice must be addressed in this hearing for parts of the Trans Mountain route which are vested in Chilliwack.
- In the NEB's 19 July 2019 decision on resuming the TMEP regulatory processes, it ordered, among other things, that Trans Mountain must serve landowner notice on all current landowners of lands to be acquired. That notice is governed by paragraph 34(1)(a) of the NEB Act.
- In August 2019, Chilliwack received notices from Trans Mountain concerning certain lands that have registered title in the name of Chilliwack in the Land Titles Office (Registered Title Lands), but was not served notice for additional lands owned by Chilliwack as highways or RoWs pursuant to section 35 of the *Community Charter*, S.B.C. 2003 c.26 (Charter Lands).
- Chilliwack expects that its Municipal Lands (including its Registered Title Lands and Charter Lands) will be adversely affected by the TMEP. Trans Mountain has not provided Chilliwack with sufficient information about where within the Municipal Lands it proposes to undertake work for the TMEP, the proposed method of construction, or the timing of construction.
- Trans Mountain has not disputed the existence of the Charter Lands, Chilliwack's ownership of the Charter Lands, or that the route crosses the Charter Lands, which are within the area covered by the Hearing Order.
- Trans Mountain has not provided any evidence that contradicts Chilliwack's evidence of the lack service of section 34 notice with respect to the Charter Lands. For example, Trans Mountain has not identified any record showing service on Chilliwack of notices under paragraph 34(1)(a) for the Charter Lands or indicated the date of such service.

¹⁰ For example, Hearing OH-001-2014 related to Trans Mountain's 2013 application for the TMEP, and Hearing MH-052-2018 related to the reconsideration of Project-related marine shipping.

- With issues having been raised from the start of this proceeding, and Chilliwack's evidence being that it was not served with the notices, the onus was on Trans Mountain to show compliance with this statutory prerequisite for seeking approval of a detailed route.
- The failure of Trans Mountain to serve that notice would make the issuance of any order approving Trans Mountain's proposed route with respect to the Charter Lands void *ab initio*.

Trans Mountain's submissions

- Trans Mountain has met the notice requirements of paragraph 34(1)(a) of the NEB Act, which only requires that notice be given to the owners of the lands at issue.
- Chilliwack is not the owner of the Charter Lands as per section 35 of the *Community Charter* and, therefore, was not entitled to individual notice for those Charter Lands. Prior to Chilliwack's argument submission, it appeared satisfied with Trans Mountain's previous response on the issue, considering that it did not seek to compel further IR responses from Trans Mountain in this regard.
- There has been no prejudice to Chilliwack due to the alleged lack of notice. Indeed, the geographical scope of the hearing spans all lands within the Chilliwack area, including the Charter Lands. As previously stated, "Chilliwack was granted a Hearing by the Commission with respect to all [PPBoR] Sheets within Segments 6.2, 6.3 and 6.4."
- The above matters are best managed through the ongoing Technical Working Groups. Issues related to coordination of activities and infrastructure during TMEP construction will be addressed through utility crossing agreements between Trans Mountain and Chilliwack. Notwithstanding the above, in order to address Chilliwack's concerns in relation to potential impacts on its operations, Table 3 (of Trans Mountain's reply evidence) identified the method and timing of construction for the Charter Highways. Chilliwack's suggestion that legal defect in service of the notice results in voiding any attempts at expropriation is not applicable.

The Commission: Chilliwack had sufficient notice with respect to its Charter Lands

Subsection 34(1) of the NEB Act required Trans Mountain to serve and publish notice that it submitted a PPBoR to the NEB:

34 (1) Where a company has prepared and submitted to the Board a plan, profile and book of reference pursuant to subsection 33(1), the company shall, in a manner and in a form to be determined by the Board,

(a) serve a notice on all owners of lands proposed to be acquired, in so far as they can be ascertained; and

(b) publish a notice in at least one issue of a publication, if any, in general circulation within the area in which the lands are situated.

To comply with paragraph 34(1)(a), the Commission is of the view that performing searches of the public registry (Land Titles Office) is a reasonable and reliable method for ascertaining the owners of lands, for the reasons that follow.

The legislation does not require a company to go beyond performing searches of the public registry (Land Titles Office). As a principle of statutory interpretation, legislative provisions are to be read in their ordinary and grammatical sense harmoniously with the purpose of the

act and the intention of Parliament.¹¹ Accordingly, paragraph 34(1)(a) must be read in its entirety; it requires the company to serve notice on owners of land, *but only in so far as they can be ascertained* (emphasis added). In the Commission's view, performing searches of the public registry (Land Titles Office) is a reasonable and reliable process for ascertaining the owners of land.

Trans Mountain's proposed form and manner of notice was approved by the NEB on 19 July 2019 (C00600). Its proposal included a sample notice (C00457) indicating that it would be served on "registered owner(s) in so far as they can be ascertained," which is consistent with the language of paragraph 34(1)(a). In its decision, the NEB found that Trans Mountain's sample notice, proposed form of PPBoR, PPBoR filing schedule, and list of publications (collectively, the form and manner of notice) satisfied the requirements of section 50 of the *National Energy Board Rules of Practice and Procedure, 1995*¹² (Rules), with suggested revisions.

The overall purpose of the section 34 notice provision was to alert all persons whose interests in lands may be impacted by the filing of a PPBoR, so that they could take steps to protect their interests by participating in the NEB/Commission's detailed route approval process. The Commission is of the view that this purpose has been fulfilled. As a principle of statutory interpretation, paragraph 34(1)(a) should not be read alone. Section 34 required that notice be given to affected parties, whether they are "owners of land" or "persons who anticipate their lands may be adversely affected" for the purpose of providing a regulatory process to hear any objections. As indicated in subsection 34(2), the content of the notice is the same, whether it is to be served on owners of land pursuant to paragraph 34(1)(a) or published for persons who anticipate that their lands may be adversely affected pursuant to paragraph 34(1)(b). Section 34 is not limited to the formality of service on owners of land; it requires broader notice as well, to alert all persons whose interests in lands may be impacted by the proposed detailed route of a pipeline. Subsection 34(4) of the NEB Act provided that a person who anticipated that their lands may be adversely affected by the proposed detailed route of a pipeline, other than an owner of lands who has been served with a notice, may also oppose that proposed route by filing a SOO. This detailed route hearing was designed to consider the views of SOO Filers with varying types of interests in lands.¹³

The Commission is satisfied that the purpose of the notice requirement was met in these circumstances. Chilliwack was alerted that its Charter Lands could be affected by the proposed detailed route. The notice, which included PPBoR sheets and ownership sketches mapping out the proposed route on the specific lands in question, was sufficient for Chilliwack to identify that the Charter Lands could be impacted, and to take steps to protect its interests. Chilliwack acknowledged in one of its SOOs (C01655) that it received notice concerning lands that have title registered in the name of Chilliwack in the Land Titles Office. Chilliwack filed that SOO as an owner of lands who was served with a detailed route notice. Chilliwack's other SOO (C01654) indicated that it is a person who anticipates its lands will be adversely affected (and that is not an owner of lands who was served with a detailed route notice). It acknowledged that, through the notice for its registered ownership interests (specifically, the inclusion of Trans Mountain's PPBoR), its other interests or Charter Lands

¹¹ Ruth Sullivan, ed., *Driedger on the Construction of Statutes*, 3rd ed. Toronto: Butterworths, 1983 and section 12 *Interpretation Act*, RSC 1985, s.1-21.

¹² *National Energy Board Rules of Practice and Procedure, 1995* SOR/95-208.

¹³ Subsection 203(1) of the CER Act provides:

Subject to subsections (2) and 202(6), the Commission must not approve a plan, profile and book of reference unless it has taken into account, in order to determine the best possible detailed route of the pipeline and the most appropriate methods and timing of its construction,

- (a) all written statements filed under subsection 201(3) or (4); and
- (b) all representations made to the Commission at a public hearing.

would also be adversely affected by the proposed route. It sought a hearing in relation to the Charter Lands, and provided a list of those lands as an attachment.

The Commission commenced a public hearing to consider Chilliwack's interests, including its Registered Title Lands and Charter Lands. In its 29 November 2019 SOO Decision No. 4, the Commission found that Chilliwack's SOOs met the Commission's assessment criteria, confirmed the resumption of Chilliwack's detailed route hearing, and indicated that the hearing would examine all PPBoR within Segments 6.2, 6.3, and 6.4.

Chilliwack has had the opportunity throughout the hearing process to present its case regarding both its registered ownership and Charter Land interests. Chilliwack has made representations throughout this hearing, including in its SOOs, evidence, and argument, referring to the impacts of the proposed detailed route and methods and timing of construction on its Registered Title Land and Charter Land interests. While these representations are consistent throughout the hearing, Chilliwack chose to limit its participation to general descriptions of the impacts on its interests, rather than providing specific information to describe these potential impacts, as discussed further throughout this Letter Decision. The Commission is of the view that this is not attributable to a lack of notice, information, or opportunity, but was a choice that Chilliwack made. The Commission finds that Chilliwack has suffered no prejudice in its ability to participate, and the process was procedurally fair.

The Commission has considered the case law put forward by Chilliwack in support of its submission that failure to serve paragraph 34(1)(a) notice with respect to the Charter Lands renders void any decision in relation to the Charter Lands. The Commission finds the case law presented to be distinguishable from these circumstances. The *Costello* decision¹⁴ centers on legislative powers involving expropriation by a municipality and involves particular procedural rules requiring strict compliance with statutory notice. The lack of timely notice to the landowner and the fact that they did not participate in the proceedings or make any representations at the hearing were significant factors in that case. The Supreme Court relied on cases involving municipal governments exercising powers impacting individual interests, which are not applicable here. As explained above, the Commission is operating under its own legislative scheme, including procedural rules regarding the form and manner of notice. In the present circumstances, Chilliwack was alerted that its legal interests in the Charter Lands may be impacted by a decision of the regulator and it participated in the detailed route hearing, including filing SOOs and evidence in order to be heard with respect to protecting its interests.

Detailed Route Hearing MH-026-2020 included a number of procedural steps and provided opportunities for participants to ask IRs about each other's evidence, compel full and adequate responses (as needed), and make motions to the Commission for procedural relief. Chilliwack had the opportunity to make use of these opportunities with respect to its interests in this proceeding.

In conclusion, the Commission is of the view that Trans Mountain complied with paragraph 34(1)(a) by ascertaining the owners of lands through the Land Titles Office and serving notice on them. As described above, the Commission finds that Chilliwack has suffered no prejudice in its ability to participate, and the process was procedurally fair. Chilliwack was aware that its Charter Lands would be affected by the proposed route and by a decision of the Regulator. It was able to, and did, respond by filing a SOO, and the Commission provided Chilliwack with a detailed route hearing with respect to all of its interests on the Lands. Chilliwack had the opportunity to fully participate and advance its Charter Land interests throughout the hearing.

¹⁴ *Costello v. City of Calgary*, [1983] 1 S.C.R. 14.

3.5.3 Was Trans Mountain's notice to Indigenous peoples sufficient?

As noted in **Section 1** above, 70 Indigenous communities whose rights and interests could be potentially affected by the TMEP detailed route approval process in Segments 6 and 7 were notified of the detailed route approval process by NEB letter dated 23 August 2019. This followed a public comment process regarding the resumption of the TMEP regulatory processes, as well as notices that Trans Mountain was directed to, and did, place in local publications, and the publication of notices on the NEB's website.

The Commission is of the view that there has been appropriate notification provided to Indigenous communities regarding the TMEP detailed route approval process and that potentially impacted Indigenous communities have been provided the opportunity to participate in that process.

4 Is Trans Mountain's proposed route the best possible detailed route?

4.1 What is the risk to the Sardis-Vedder Aquifer and associated water wells?

Realignment Report

The Chilliwack Realignment hearing (OH-001-2017) considered Trans Mountain's variance application to move the pipeline corridor from the Original Corridor (the BC Hydro alignment) to instead follow the TMPL (see **Figure 1** above). That hearing included detailed consideration of risks to the Sardis-Vedder Aquifer and Chilliwack water wells for the purpose of approving the corridor.

As the parties referred to these considerations extensively in this Detailed Route Hearing MH-026-2020, the following is a brief summary of the Realignment Report¹⁵ as it relates to the topics of the Sardis-Vedder Aquifer and associated water wells for the purpose of background and context:

- The NEB noted that, although some evidence was presented regarding alternate routes (such as along the Trans-Canada Highway), those routes were not the subject of the variance application. The NEB noted that, if the variance were approved, the detailed routing provisions of the NEB Act would remain to be satisfied, including determining the best possible detailed route. The NEB, therefore, declined to order Chilliwack's requested examination of other alternate routes.
- The NEB noted that oil from a pipeline leak or spill would reach Chilliwack's water wells if it enters one of their capture zones, although there are inherent uncertainties in modelling the extent of capture zones. The NEB included an excerpt from a draft 2017 Golder Report (Golder Report) filed by Chilliwack in that hearing showing, for example, the overlap between estimated capture zones for a 1,095 litres/second (l/s) well-pumping scenario and the realignment corridor.
- The NEB found that for leaked or spilled oil to reach the wells, all of the following would have to occur:
 - either existing modelling would have to be underestimating the extent of the capture zones, or Chilliwack would have to increase pumping;
 - the underlying capture zone would have to extend vertically up to the water table, which the NEB found to be unlikely, but not certain;

¹⁵ Refer to the Realignment Report directly for a full understanding of its recommendations.

- a pipeline leak or spill would have to occur in the relatively short distance where the realignment is above the capture zone and such a zone extends up to the water table, despite Trans Mountain's integrity management program and other preventative mitigation;
- the leak or spill would have to continue for long enough to provide a large enough source of oil to reach the water table, despite Trans Mountain's leak detection and spill remediation measures, and the depth of the unsaturated zone; and
- degradation of the oil constituents would have to leave sufficient contaminants in the groundwater by the time it reaches the wells.
- The NEB stated that it considered the probability of the above sequence of events all happening to be minimal, but not zero.
- The NEB declined to grant Chilliwack's request to require Trans Mountain to carry out further detailed analysis of the capture zones, given the multiple analyses already conducted, including the Golder Report.

Chilliwack's submissions

- Chilliwack draws water from wells located to the south of Trans Mountain's proposed route. Water from Chilliwack's wells is used for drinking water and other domestic, commercial, and industrial uses. It is also used for fire protection. While drinking water can theoretically be provided with bottled water or water that is trucked to temporary storage, fire protection can only be provided by maintaining full reservoirs. If reservoirs are not full, Chilliwack's ability to provide adequate fire protection would become impaired. Chilliwack's reservoirs are sized to provide flows for between 4 and 10 hours of fire suppression. Thus, the ability to provide sufficient water for fire protection can be quickly compromised if water supply is reduced.
- Chilliwack has established a Development Permit Area in the aquifer area to protect its wells from possible contamination.
- The proposed route between Watson Road and Silverthorne Road (generally located in Segment 6.3) is within the capture zone for Chilliwack's wells that supply potable water from the aquifer. The aquifer provides excellent quality water, but is unconfined and is categorized in the BC Aquifer Mapping System as highly vulnerable.
- Chilliwack's prime objective is to protect the aquifer and wells that are supplied by it. No further infrastructure posing contamination risk should be added through the well capture zones.
- Chilliwack is permitted to operate its wells at up to 845 l/s, as long as the monthly average does not exceed 700 l/s. Therefore, 845 l/s is the appropriate pumping rate to consider when estimating capture zones.
- Chilliwack has decreased the groundwater extraction license it is seeking under the provincial *Water Sustainability Act* from approximately 27 to 20 million cubic metres per year (m³/year) in order to address beneficial uses of existing water extractions. However, the Province of BC's issuance of a license to Chilliwack does not prevent Chilliwack from making further applications for additional capacity if it is needed.
- Trans Mountain referred to a 912 l/s scenario from the Golder Report that avoids overlap with its proposed route, but that scenario is based on a faulty assumption. It assumes that three of Chilliwack's northern wells would be operating at a fraction of their maximum pumping rates. However, these wells are not fitted with variable drives. The maximum flow rate that can be achieved with these three wells not in operation, and the fourth northern well pumping at 50 per cent of capacity to avoid

overlap with a spill, is 685 l/s. This would not meet peak demands that Chilliwack anticipates seeing before 2040, or earlier dates in response to fire demand.

- It is Chilliwack's view that the evidence filed in this proceeding shows that the risk of using Trans Mountain's proposed route as the pipeline route is unacceptable. To the extent the risk is viewed as uncertain, Chilliwack submits that the only reasonable and prudent decision that can be made is to act in a precautionary manner and not permit the pipeline route to cross those parts of the aquifer that are risk.
- In the event that the Commission's approves the proposed route, Trans Mountain should be directed to provide a secondary containment system along the part of the pipeline that crosses the aquifer, to help address the risks that the aquifer would face from the pipeline. While it would require further design work, Chilliwack proposes that the secondary containment would incorporate one of the following:
 - a) increasing the size for the liner zone to a minimum of twice the pipeline diameter;
 - b) installing a separate cathodic protection system; or
 - c) installing a different liner material, such as bentonite or clay.

WaterWealth's submissions

- Downstream on the south side of the TMPL Vedder River crossing and Browne Creek Wetlands are the Yarrow Waterworks wells that are listed in Trans Mountain's Certificate Condition 93 filing in which Trans Mountain addressed a commitment to the Province of BC to list drinking water supply sources at risk from the TMEP. From the TMPL route, each of Hopedale Slough, Browne Creek, Trestle Channel, and the Vedder River flows toward the Yarrow Waterworks wells.
- Trans Mountain submits in its reply evidence to WaterWealth that the proposed route does not cross the Yarrow Waterworks wells. WaterWealth never suggested that Trans Mountain's proposed route crosses the Yarrow Waterworks wells. However, those wells are listed in Trans Mountain's list of drinking water supply sources that could be impacted by a release from the pipeline.

Trans Mountain's submissions

- Trans Mountain has proposed comprehensive mitigation measures to protect the aquifer, which were accepted by the NEB, including those identified in Certificate Condition 72 filings.
- Trans Mountain has adopted a series of comprehensive measures to mitigate risks to all aquifers that may arise as a result of TMEP construction and operation, some of which are outlined in Trans Mountain's Groundwater Management Plan.
- Trans Mountain has also incorporated supplemental mitigation measures, exceeding regulatory requirements, to provide added protection to the aquifer. Some of these measures include (i) limiting trenching of ditches for open-trench construction to the dry season; (ii) treating construction activities over the aquifer as a water crossing; and (iii) adding a pipeline valve upstream of the aquifer and an enhanced leak detection system to be able to respond to potential leaks and ruptures. In its Realignment Report, the NEB considered and subsequently approved Trans Mountain's enhanced measures to protect the aquifer, Chilliwack's wells, and their capture zones.
- In its Realignment Report, the NEB made a determination in respect of the impacts, and the proposed mitigation measures to address impacts, on the aquifer and Chilliwack's wells.

- The mitigation measures proposed by Trans Mountain and accepted by the NEB included increased pipeline wall thickness and depth of cover to decrease the risk of third-party damage, and sourcing of alternative drinking water if Chilliwack's water supplies were to be impacted by a pipeline leak or spill.
- The NEB's analysis regarding potential impacts on the aquifer remains applicable and correct, and that relevant circumstances have not materially changed since the issuance of the Realignment Report. Trans Mountain relies on the record of the Chilliwack Realignment hearing with respect to potential risks to the aquifer. In its reply evidence in those proceedings, Trans Mountain stated it is committed to rectifying any impacts on the municipal water supply that result from the unlikely event of a pipeline release.
- Issues relating to groundwater contamination and aquifer protection are outside the scope of this Detailed Route Hearing MH-026-2020, as they were previously considered and addressed by the NEB in its Realignment Report.
- The decreased volume of extraction Chilliwack seeks in its BC groundwater license application (down from 27 to 20 million m³/year) is now equivalent to 635 l/s averaged over a year, and this means the size of the capture zones are expected to be smaller than previously suggested, and so the capture zones are unlikely to extend under the TMEP route.
- The size of a well's capture zone is determined by, among other factors, pumping rates, applicable licence requirements, and the period of time for which a well or well field is pumped. Chilliwack expressed the opinion that the most representative scenario for estimating capture zones is a total pumping rate of 845 L/s. Trans Mountain disagrees. Chilliwack's future licence, if any, will only permit Chilliwack to pump their wells at a rate of 845 L/s for a limited period of time.
- Modelling submitted in the Chilliwack Realignment hearing (in the Golder Report) showed that Chilliwack could sustain a pumping rate of up to 912 l/s while still avoiding the capture zones extending under the TMPL and TMEP.
- With regard to this 912 l/s scenario, Chilliwack has stated that the conclusions in its own technical expert report are incorrect. If the Golder Report's conclusions in relation to this scenario are incorrect, the Commission has no certainty that the other conclusions in the Golder Report that Chilliwack is seeking to rely on are correct.
- The mitigation measures approved by the NEB in respect of the aquifer are consistent with the precautionary principle. In its Realignment Report, the NEB analyzed the sequence of events that would have to occur for leaked oil to reach the capture zones of Chilliwack's wells. The NEB concluded that the probability of this sequence of events occurring was minimal, although not non-existent. Accordingly, the NEB noted that the "slightly increased risk of a leak or spill" was considered in the weighing of benefits and burdens supporting the approval of the Chilliwack Realignment.
- The risk analysis completed for the TMEP (considering all applicable risks) has determined that the highest failure frequency within the study area is estimated to be 0.0000574 failures/kilometre*year. This failure risk probability is considered very unlikely.
- Regarding Chilliwack's request to install an impermeable liner as secondary containment along a 1.6-kilometre-long section of the TMEP, Trans Mountain's engineering assessment concluded that installation of the proposed trench liner, while technically feasible, would add significant construction complexity. A subsequent review by Trans Mountain concluded the installation of a liner will impact the long-term integrity of the pipeline by interfering with cathodic protection and

would likely lead to an increased risk of corrosion. The proposed trench liner does not meet the Canadian Standards Association Z662 standard for pipeline construction. Trans Mountain is not aware of any similar use of a pipeline trench liner within the pipeline industry.

- Trans Mountain's robust spill prevention and emergency management protocols ensure that (i) all practicable steps are taken in a proactive manner to avoid the occurrence of a leak, rupture, or spill; and (ii) measures are in place to respond to a release, in the unlikely event that it should occur.
- The Commission has reviewed the Groundwater Management Plan and has approved it pursuant to Certificate Condition 72, which requires Trans Mountain to file a Pipeline Environmental Protection Plan with the Commission for approval prior to commencing TMEP construction. In addition, pursuant to Certificate Condition 130, Trans Mountain must file with the CER for approval, at least three months prior to commencing operations, a Groundwater Monitoring Program that pertains to all terminals and pump stations, and for any vulnerable aquifers along the pipeline route. This program includes the methods, criteria, and rationale for identifying vulnerable aquifers along the project route, as well as criteria for comparing monitoring results, and a process outlining what steps will be followed should monitoring results indicate a negative change in groundwater quality.
- The proposed route does not cross the Yarrow Waterworks wells, which are located approximately 1 kilometre from the route. The Yarrow Waterworks wells' capture zone will depend on the licensed extraction rate of the wells, and is likely to be of limited areal extent due to the wells' proximity to the Vedder River.

4.1.1 The Commission: Trans Mountain's proposed route does pose some risk to the aquifer and associated water wells, but there will be substantial mitigation in place to minimize that risk

In scope

As noted in **Section 3.3** above, depending on the circumstances, some topics that were considered for the purpose of approving the TMEP's general corridor (or realignment of that corridor) may also be relevant to the consideration of the proposed detailed route, and are not necessarily out of scope for this Detailed Route Hearing MH-026-2020.

In these circumstances, given that risks to the aquifer and water wells are a specific potential burden of Trans Mountain's proposed route, and alternate routes could potentially avoid such risks, protection of the aquifer and water wells are relevant to the consideration of best routing. Therefore, the Commission disagrees with Trans Mountain that these matters are not in the scope of the present hearing. While the Commission is considering evidence and argument related to protection of the aquifer and water wells that was also raised and considered in the Chilliwack Realignment hearing, the evidence and argument relates to the detailed route issues at hand, including the proposed alternate route(s).

Risk to the aquifer and Chilliwack water wells

As noted in the NEB's MH-052-2018 Reconsideration Report, risk is a product of likelihood and consequences.

The Chilliwack Realignment hearing considered in detail the risk that the Approved Corridor (and thus of Trans Mountain's proposed route) posed to Chilliwack's water wells. Relatively little new evidence was submitted in this Detailed Route Hearing MH-026-2020 concerning that risk, although the Commission finds the following:

- The yearly annual groundwater extraction that Chilliwack seeks in its license application to the Province of BC has been reduced from approximately 27 to 20 million m³/year (equivalent to 635 l/s averaged over a year). In addition, the monthly average is not to exceed 700 l/s. Given that the overall extent of a capture zone is related to the sustained rate of extraction, these monthly and yearly maximums are expected to result in reduced capture zone size compared to other scenarios that considered higher sustained rates of extraction (such as the 1,095 l/s scenario excerpted in the NEB's Realignment Report). This will therefore tend to reduce overlap between the capture zones and the proposed route, and thus reduce the likelihood of Chilliwack's water wells being contaminated.
- Chilliwack noted that three of its four northern wells do not have variable drives, and that they would have to be taken out of operation entirely to avoid overlap with a spill. This would decrease Chilliwack's water pumping rate and thus increase the consequences of a spill. However, Chilliwack stated that, in such a case, it could still pump up to 685 l/s. Thus, the shortfall in water supply as a result of a spill is not expected to be the total Chilliwack demand (up to 845 l/s, as long as the monthly average does not exceed 700 l/s), but rather the difference between that demand and what can still be pumped. The Commission also notes Trans Mountain's commitment in the Chilliwack Realignment hearing to rectify any impacts on municipal water supply that result from the unlikely event of a pipeline release. As Trans Mountain is already bound by this commitment pursuant to Condition 1 of Order AO-007-0C-065, the Commission considers there to be suitable mitigation in place.

With regard to the Golder Report, both Chilliwack and Trans Mountain relied upon it at times, despite Chilliwack noting some faulty assumptions within it and Trans Mountain then suggesting other conclusions within it may be incorrect. The Commission accepts that the faulty assumptions pointed out by Chilliwack were specific and reasoned, but does not consider them to change the fundamental analysis here or in the NEB's Realignment Report. As similarly noted in the NEB's Realignment Report, the Commission understands that there are inherent uncertainties in modelling the extent of capture zones, and has taken this into account in its consideration of risk.

The Chilliwack Realignment hearing process that led to the NEB's Realignment Report included the filing of written evidence (including technical evidence from hydrogeologists) and IRs, oral Indigenous knowledge, oral cross-examination, and argument. The Commission considers that hearing process, together with this detailed route hearing process, to be adequate for the purposes of considering whether Trans Mountain's proposed route is the best possible detailed route, including consideration of the proposed alternate routes.

The Realignment Report concluded that the risk to Chilliwack's wells is minimal, but not zero. The Commission agrees. The substantial mitigation summarized above will reduce both the likelihood of a spill, and the consequences should one occur. The Commission considers this suite of mitigation to be appropriate for Trans Mountain's proposed route. Nevertheless, some risk will remain, and the Commission takes it into account in its consideration of proposed alternate routes below, and ultimate consideration of evidence in making its detailed route decision.

The Commission will not direct Trans Mountain to install a trench liner as a secondary containment measure to provide protection to Chilliwack's water wells and their capture zones.

The Commission finds that a trench liner would likely introduce pipeline integrity challenges. As stated in Chilliwack's Secondary Containment Engineering Assessment included in its written evidence (C06893), a trench liner would create a more corrosive environment for the pipeline by containing any soil contaminants within the liner zone; the liner integrity may be compromised after installation; and it may create false indications of leaks. While the Commission acknowledges that Chilliwack proposed mitigation to address these issues (e.g., increase the liner zone size, install a separate cathodic protection system, or use a different liner system), the Commission is of the view that such mitigation poses additional technical challenges. The Commission agrees with Trans Mountain that there are no best practices, or studies upon which to rely, for using trench liners with pipelines. There is not enough evidence indicating that placing a pipeline directly on top of the liner will not cause liner damage during installation or pipeline operation.

Further, the Commission is of the view that a trench liner is unnecessary. As noted in the Realignment Report, the TMEP will rely on a three-tiered leak detection system with built-in redundancies to monitor for potential leaks. The Commission is satisfied that this leak detection system minimizes the risk of potential leaks, especially considering the specific mitigations that have been committed to and approved to protect the aquifer. This mitigation includes limiting ditch trenching for open-trench construction to the dry season, treating construction activities over the aquifer as a water crossing, using 14.7 millimetre heavy-wall pipe, increasing the depth of cover to between 0.9 and 1.2 metres to reduce the risk of third-party damage, installing a marker tape to indicate the presence of the pipeline to third parties, and adding a remote mainline block valve upstream of the aquifer.

The Commission finds that the net effect is that the trench liner would add little-to-no benefit, but risk other complications to pipeline integrity.

The Commission is of the view that Chilliwack's concerns about emergency response, such as its concern over the lack of detail regarding Trans Mountain's commitment to replace water in the event of contamination, are beyond the scope of this Detailed Route Hearing MH-026-2020. These concerns are general in nature and do not specifically relate to the issues at hand. They were addressed in the previous Certificate or Chilliwack Realignment hearings, including through Trans Mountain's commitments and the imposition of a number of conditions to address residual effects.

Risk to the Yarrow Waterworks wells

The Commission accepts that the proposed route does not cross the Yarrow Waterworks wells, which are located approximately 1 kilometre from the route.

Nevertheless, the Commission accepts that spills or leaks from a pipeline can have broad impacts downstream or downgradient. The potential effects of spills or leaks were extensively examined during the Certificate hearings, which resulted in numerous commitments and conditions regarding pipeline integrity, leak detection, and spill response.

The residual risk to the Yarrow Waterworks wells is included in the consideration of proposed alternate routes below.

4.2 What are the potential effects on the Vedder River and adjacent ecosystems?

Chilliwack's submissions

- The Browne Creek Wetlands, just south of the Vedder River, form part of Chilliwack's natural ecosystem. Construction will have an impact on these protected natural

areas. Chilliwack requests a reconsideration of the route to move the pipeline away from this important and sensitive natural feature.

Cultus Lake Aquatic Stewardship Strategy's submissions

- With the current proposed routing, a pipeline spill into or near the Vedder Canal could severely damage approximately 7 kilometres of fish habitat and a river corridor that is vital for several species of fish traveling upstream to countless tributaries and spawning channels, one of which is the Browne Creek Wetlands. A robust scientific review should be conducted to find the most environmentally safe route.

WaterWealth's submissions

- Peach Creek on the north side of the Vedder River is considered one of the most productive groundwater-fed side channels in the Vedder system. Downstream of where Trans Mountain proposes to cross Peach Creek and the Vedder River, on the north side is the Great Blue Heron Nature Reserve, known locally as the Heron Reserve. Pipeline leaks or ruptures along Trans Mountain's proposed route would pose an ongoing threat to this reserve.
- Along both sides of Vedder River are areas where significant investments have been made in habitat enhancement for salmon spawning and rearing.
- Trans Mountain states that grass-dominated wetlands such as at Browne Creek Wetlands are "likely to recover wetland function equivalent to pre-construction conditions within two years or less following reclamation." However, there is no need to impact wetlands in Chilliwack for two years from TMEP construction, or to put this highly valued habitat at risk of future impacts from maintenance or pipeline emergency.

Trans Mountain's submissions

- The proposed route crosses the Browne Creek Wetlands in Segment 6.4. Trans Mountain has undertaken field investigations of the Browne Creek Wetlands and developed substantial mitigation measures applicable to wetlands and watercourses. As a result, it does not expect that the Browne Creek Wetlands will be significantly impacted by pipeline installation.
- The Browne Creek Wetlands have been documented to be dry in the summer months at the crossing location, and the proposed construction timeframe is consistent with this dry period. Trans Mountain expects that construction in dry conditions will reduce potential impacts on the wetlands, and that wet meadow marshes such as this are likely to recover wetland function within two years or less following reclamation.
- Construction will not affect the recent restoration and habitat work that has taken place in this area.
- With regard to the trenchless crossing of the Vedder River, the entry point for the Direct Pipe¹⁶ is located south of the river and it will exit approximately 100 metres north of Peach Creek within an existing open area.
- The other lands identified by WaterWealth are not within the geographical scope of this Detailed Route Hearing MH-026-2020, as they are not crossed by the proposed

¹⁶ Direct Pipe is a construction methodology that combines elements of micro-tunneling and horizontal directional drilling.

route. In particular, Trans Mountain notes that the proposed route does not cross the Great Blue Heron Natural Reserve. The closest distance between the proposed route's centreline and the Great Blue Heron Natural Reserve is 1.15 kilometres.

4.2.1 The Commission: There will be some effect on the Browne Creek Wetlands, although it is expected to be temporary

In scope

The Commission finds that WaterWealth's concerns regarding the Vedder River, Peach Creek, and the Browne Creek Wetlands, are within the scope of this Detailed Route Hearing MH-026-2020 because they are crossed by Trans Mountain's proposed route.

Participants also raised concerns about risks from a pipeline spill to particular downstream environmental features, namely local fish habitat (raised by Cultus Lake Aquatic Stewardship Strategy) and the Great Blue Heron Natural Reserve (raised by WaterWealth). For many downstream environmental features, the risk to them from a spill will be similar or identical for all reasonably considered alternate routes. Therefore, risks to such features would not be relevant to determining best routing in a detailed route hearing. However, risks to environmental features that are differentially affected in a substantial way by reasonably considered alternate routes would be relevant. This is the case for the environmental features downstream of Trans Mountain's proposed route but that would be upstream of a reasonably considered alternate route. As with the Commission's findings above on the scope of this hearing with regard to risks to the aquifer and associated water wells, such downstream risks could be substantially reduced or eliminated by such an alternate route.

Risk to environmental features crossed by the proposed route

The trenchless crossing proposed by Trans Mountain is expected to avoid most adverse effects on the Vedder River and adjacent Peach Creek because it will pass beneath them.

Regarding the Browne Creek Wetlands, effects on wetlands were extensively considered in the Certificate hearings, and multiple conditions (e.g., Conditions 41, 72, 151, 156) were attached to Certificate OC-065 to mitigate, offset, and monitor such effects. In addition, the Commission accepts Trans Mountain's submissions that the Browne Creek Wetlands have been documented to be dry in summer months at the crossing location, and construction during this dry period will further reduce potential impacts.

The Commission finds that the Certificate conditions and proposed mitigation appropriately mitigate potential impacts on the wetlands. The Commission notes that some effects to the Browne Creek Wetlands will remain; however, they are expected to be temporary. Such residual effects are further considered in the discussion of alternate routes below, and have been taken into account in the Commission's ultimate detailed route decision.

Risk to environmental features downstream of the proposed route

With regard to fish habitat immediately downstream of the proposed route, and the Great Blue Heron Natural Reserve, the Commission accepts that spills or leaks from a pipeline can have broad impacts downstream or downgradient. During the Certificate hearings, the NEB extensively examined and considered the potential effects of spills or leaks, which resulted in numerous commitments and conditions regarding pipeline integrity, leak detection, and spill response. The residual risk to the immediately downstream fish habitat and to the Great Blue Heron Natural Reserve is included in the consideration of proposed alternate routes below, and has been taken into account in the Commission's ultimate detailed route decision.

4.3 What are the potential effects on municipal infrastructure, schools, and residential areas?

Chilliwack's submissions

Municipal infrastructure

- Chilliwack anticipates installing additional significant infrastructure within Trans Mountain's proposed route, including a water transmission pipeline and an arterial highway, and states that Trans Mountain has not sought information from Chilliwack about such future infrastructure.
- Chilliwack is concerned that the route location will affect Municipal Lands needed for highway and infrastructure purposes and the plans provided by Trans Mountain to date are insufficient to assess how municipal planning objectives will be impacted.
- Information from Trans Mountain has been lacking, and communications from Trans Mountain has been one-way, with Trans Mountain telling Chilliwack what it intends to do, rather than responding to or even acknowledging Chilliwack's concerns.
- Chilliwack appreciates the value of parties working together, and notes that the NEB has often found that approach to be of value. However, Chilliwack is finding reliance upon that approach in this case to be hollow and not protective of the public interest.
- Placing a pipeline on or along Municipal Lands affects the construction, maintenance, repair, expansion, and upgrading of those lands and the public infrastructure that is or will be located within and along those lands. It also limits Chilliwack's ability to ensure that the Municipal Lands remain a safe and efficient means for travel by users that include Chilliwack's employees, residents, and others, and compromises Chilliwack's and third parties' ability to provide municipal and utility services on Chilliwack's lands.

WaterWealth's submissions

Schools and residential areas

- Significant impacts on schools and residences by future maintenance are part of why the pipeline should not be built unnecessarily across school properties or through residential areas where future access to the pipeline will be difficult and disruptive.

Trans Mountain's submissions

Municipal infrastructure

- Trans Mountain is of the view that the evidence on the record does not support the proposition that Chilliwack anticipates installing "significant" infrastructure. However, Trans Mountain acknowledges Chilliwack's concerns in relation to potential impacts on Chilliwack's long-term municipal plans.
- As noted in Trans Mountain's argument, considering that Trans Mountain is proposing to install the TMEP within the TMPL easement, many issues raised by Chilliwack already exist and will change marginally with the TMEP's installation.
- Trans Mountain has actively engaged with Chilliwack since 2012 and will continue this engagement, including through technical working groups, before, during, and following the TMEP's construction. Trans Mountain and Chilliwack have participated in extensive engagement activities and discussions regarding a broad range of

project-related topics and Trans Mountain has shared considerable amounts of information and details with Chilliwack in relation to the TMEP. Chilliwack's feedback was considered in project planning.

- Technical working groups are a mechanism to collaboratively address issues of interest to Trans Mountain and affected municipalities, including concerns regarding the pipeline's location and potential impacts and future costs on a municipality's long-term plans.

Schools and residences

- This issue was addressed in the Chilliwack Realignment hearing. The NEB noted that, "...although many of these concerns can be resolved through standard mitigation and the mitigation identified during the OH-001-2017 Hearing, Trans Mountain has committed to implementing additional mitigation measures in this hearing...These mitigations appear to the Board to appropriately address the potential safety concerns associated with constructing in densely populated areas. The Board also notes that the Chilliwack Realignment leverages the knowledge and experience of landowners already familiar with living in proximity to an existing pipeline."
- Trans Mountain relies on the Chilliwack Realignment hearing record in response to the WaterWealth's concerns regarding the pipeline's safety within Chilliwack.
- In addition to the mitigation measures approved in the Realignment Report, Trans Mountain is proposing further mitigation measures in collaboration with the Chilliwack Board of Education to assess site access and safety.

4.3.1 The Commission: Potential effects on municipal infrastructure, schools, and residential areas will be minimized through substantial mitigation and condition compliance mechanisms

Municipal infrastructure

The Commission recognizes generally that the proposed TMEP location may impact future municipal infrastructure. It also recognizes that Trans Mountain's proposed route will involve crossing some of Chilliwack's utilities (i.e., highways and drainage), which will result in inconvenience to Chilliwack associated with balancing work and maintenance on its utilities with its ongoing responsibilities in the prescribed area of the pipeline under pipeline damage prevention legislation. Potential impacts caused during the TMEP's construction phase are discussed further in **Section 5** below.

Chilliwack did not submit evidence to describe its water transmission pipeline along Prairie Central Road, arterial highway, or any other municipal infrastructure plans, or to explain how they would be impacted by the proposed route. Likewise, Chilliwack has provided little specific evidence related to ongoing impacts related to its Charter Lands or utilities.

Chilliwack has taken the position that Trans Mountain's plans to date are insufficient for Chilliwack to assess how municipal planning objectives will be impacted. The Commission views the PPBoR (which provides the precise location of the proposed route on the Lands), Trans Mountain's detailed maps, and other evidence provided in this hearing further describing the proposed route as sufficient detail for Chilliwack to understand and predict impacts of the proposed route on both its infrastructure plans (to the degree its own plans may be defined), and impacts on its other infrastructure, including utilities.

The Commission is of the view that this hearing provided ample opportunity for Chilliwack to understand and describe such impacts. Without the benefit of evidence relating to Chilliwack's proposed water transmission pipeline, arterial highway, other municipal infrastructure plans, or utilities, or an explanation of how they would be impacted by the proposed route, the Commission is unable to find specific impacts of Trans Mountain's proposed detailed route on these plans or utilities, other than to recognize potential impacts in a general manner.

The Commission agrees with Trans Mountain that, since the TMEP would be installed within the TMPL easement, potential impacts on future municipal infrastructure already exist in relation to the TMPL's operation and will change marginally with the TMEP's installation.

The Commission expects Trans Mountain to continue working with Chilliwack, including through technical working groups as defined by Certificate Conditions 14 and 49, to address these future concerns. As outlined in the conditions, these technical working groups were established to address specific technical and construction issues with affected municipalities from prior to construction until after commencing operations.

The Commission disagrees with Chilliwack that reliance upon the parties' ability to work together is "a hollow approach that is not protective of the public interest." The Commission places value on these conditions, and reminds both parties of their respective roles in using these technical working groups to meaningfully address technical and construction issues throughout the stages of construction. The Commission also notes that this Detailed Route Hearing MH-026-2020 was an opportunity, independent of the above-noted Certificate conditions, which permitted Chilliwack to describe and specify to the Commission impacts of the proposed detailed route on Chilliwack's interests in the Lands, either to justify Chilliwack's position that Trans Mountain's proposed route is not the best possible detailed route, or to justify any mitigation measures beyond the noted conditions with respect to potential impacts on its existing and future infrastructure.

Schools and residential areas

The Commission recognizes WaterWealth's concern that the proposed route will impact school properties and residential areas.

For clarity, the proposed route in Segments 6.2 and 6.3 crosses two tracts of land within which school properties are located. The first, Tract 2284 within which Vedder Middle School is located, is being considered in this Detailed Route Hearing MH-026-2020. The second, Tract 2307 within which Watson Elementary School is located, is the subject of a separate Detailed Route Hearing (MH-010-2020) and is not being considered in this Detailed Route Hearing MH-026-2020.

In the Chilliwack Realignment hearing, the NEB found that Trans Mountain's proposed mitigation during construction appropriately address the potential safety concerns associated with constructing in densely populated areas, and that construction can therefore be undertaken safely. These mitigation measures include:

- scheduling construction activities on certain lands between the months of July and August to avoid impacts on schools;
- restricting access to the construction zone by fencing the entire construction area;
- implementing traffic management plans; and
- measures relating to project vehicles and equipment.

The Commission agrees that Trans Mountain's proposed mitigation sufficiently addresses potential safety concerns associated with the proposed route through the Vedder Middle

School property and residential areas within the Lands. Mitigation with respect to methods and timing of construction are discussed below. The Commission recognizes that, while safety concerns on the Lands will be sufficiently mitigated, locating the pipeline in Chilliwack causes residual effects, including difficulties and disruptions for schools and residential areas, which must be taken into consideration in weighing the evidence.

4.4 Did Trans Mountain apply its routing criteria appropriately?

Trans Mountain's submissions

- Trans Mountain developed its routing criteria and the method by which those criteria would be applied for determining the best possible detailed route for the TMEP as part of its application for the TMEP. The criteria Trans Mountain used to select the TMEP corridor were found to be appropriate and were approved by both the NEB and the Federal Cabinet.
- During the route selection process undertaken by Trans Mountain, a hierarchy of routing options was established. In descending order of preference, these were:
 - 1) where practicable, co-locate the TMEP on or adjacent to the existing TMPL easement to:
 - reduce land use fragmentation;
 - reduce the use of unencumbered lands by using the existing TMPL RoW for the location of the TMEP pipeline and construction workspace; and
 - leverage the existing pipeline protection program and landowner knowledge of the location and nature of the existing TMPL to optimize pipeline integrity and safety;
 - 2) where co-location with the TMPL is not practicable, minimize the creation of new linear corridors by installing the TMEP segments adjacent to existing easements or RoWs of other linear facilities, including other pipelines, power lines, highways, roads, railways, fibre-optic cables, and other utilities;
 - 3) if co-location with an existing linear facility is not feasible, install the TMEP segments in a new easement selected to balance safety, engineering, construction, environmental, cultural, and socio-economic factors; and
 - 4) in the event a new easement is necessary, minimize the length of the new easement before returning to the TMPL easement or other RoWs.
- As a practice, determining routing feasibility for the entire TMEP included consideration of a range of factors including constructability; long-term geotechnical stability; and environmental, cultural, and socio-economic suitability.
- In addition to adhering to the routing criteria and corridor selection strategy, the following guidelines were used to enable and maintain consistent decision-making regarding route and corridor selection:
 - minimize the length of the TMEP pipeline;
 - avoid areas that have significant environmental or cultural value or restrictions;
 - minimize routing through areas of extensive urban development;
 - be consistent with established land use planning;
 - avoid areas of potential geotechnical or geological hazards;
 - avoid areas of extremely rough terrain or areas that have limited access;
 - minimize the number of watercourse, highway, road, railway, and utility crossings; and
 - establish the crossing of watercourses at as close as practical to right angles.

- To determine the location of the pipeline alignment, the easement, and temporary workspace on a specific land parcel, Trans Mountain employed the same process and criteria as was used in determining the location of the proposed pipeline corridor. Where possible, the TMEP easement was fixed within the overlapping easement. Required temporary workspace was located as much as possible on open and undeveloped lands to avoid proximity to residences, treed areas, and areas of environmental or cultural sensitivity.
- The proposed route within Chilliwack, generally, and more specifically on Chilliwack's Lands, follows the existing TMPL alignment. Trans Mountain proposes to construct the TMEP within the existing RoW for the majority of the route through Chilliwack, consistent with its routing principles. The route deviates from the existing TMPL easement to accommodate the trenchless crossings of Dunville Creek (in Tract 2203) and Peach Creek and the Vedder River (in Tract 2407).
- Trans Mountain's routing selection process was not designed, nor is it applied, as a one-way process hierarchy. Applying Trans Mountain's routing criteria as a mathematical formula or a one-way process hierarchy would prevent Trans Mountain from considering and accommodating the particularities and unique circumstances of distinct areas of the TMEP and incorporating new information. Trans Mountain's routing selection process is necessarily a fact-based iterative process informed by technical and environmental studies, engagement with interested parties, and on-the-ground fieldwork.
- While applying the routing selection process as a rigid formula free of variation may have the benefit of predictability as suggested by Chilliwack, it would also have major flaws:
 - It would preclude Trans Mountain from testing and ruling out different routing alternatives to arrive at the best possible detailed route.
 - It would lead to illogical results. For example, if Trans Mountain first explored colocation with the TMPL, then considered a route located adjacent to other linear infrastructure, and then finally a new easement, to find that none of these options are practicable, it would be precluded from exploring colocation with other linear infrastructure or greenfield easements. In essence, this process would preclude Trans Mountain from finding a route that would permit the pipeline to be built.
- In its Realignment Report, the NEB acknowledged Trans Mountain's "extensive efforts" in developing its routing for the Chilliwack area, and was ultimately satisfied with Trans Mountain's application of its routing criteria in proposing the Chilliwack Realignment.
- Trans Mountain originally selected a corridor identified as the "BC Hydro Corridor" because of the limited impacts this option would have on residents and built-up urban areas when compared to the TMPL easement where residential properties have been developed since the original pipeline installation. As such, contrary to WaterWealth's assertions, at no time did Trans Mountain consider its proposed route to be "not feasible."

Chilliwack's submissions

- In using routing criteria that have a descending order of preference, if the first preference cannot be met, the next one is selected. Once it is determined that a higher criterion is unacceptable, it is "spent," and the next available criterion is to be used to determine the best possible detailed route. The "spent" nature of a criterion is particularly so in the case where Trans Mountain's first criterion, co-location on the

TMPL RoW, was initially not selected by Trans Mountain. That is, once the routing was found to be unsuitable under the first criterion, Trans Mountain must go to the next descending criterion; there is no going back or “ascending” to the first one. If Trans Mountain’s routing criteria are going to be given any weight, they have to be applied in the manner they are intended to be applied, and that is to go from higher criteria to lower criteria, and not vice versa.

- Applying Trans Mountain’s routing criteria, Trans Mountain had determined that the TMPL RoW between Kilometre Post (KP) 1095.5 and 1097.3 was not appropriate for the TMEP’s routing. Trans Mountain then applied its routing criteria and went in descending order to the second principle, which was to co-locate the TMEP adjacent to other linear facilities’ existing easements or RoWs; in this case, a BC Hydro transmission corridor. Trans Mountain determined that routing to also be problematic. Applying the “descending order of preference” to Trans Mountain’s routing criteria would then result in applying the third principle, which is to “install the TMEP segments in a new easement selected to balance safety, engineering, construction, environmental, cultural and socio-economic factors.”

WaterWealth’s submissions

- Trans Mountain had initially determined it was not feasible for the TMEP to follow the TMPL. Given the residential density around the proposed pipeline route, the closeness of peoples’ houses, and the crossing of an elementary school and the capture zones of Chilliwack’s drinking water wells, going backward in the hierarchy of routing criteria is a mistake.

4.4.1 The Commission: Trans Mountain applied its routing criteria appropriately

Following the Certificate hearings, and the issuance of the NEB’s OH-001-2014 Recommendation Report and OH-001-2017 Realignment Report, the GIC approved the TMEP and its general pipeline corridor. The criteria proposed by Trans Mountain were found to be appropriate for determining the pipeline’s general route. In assessing whether a proposed detailed route is the best possible detailed route, the Commission considers how the proponent has applied its routing criteria, while also considering the concerns of affected parties, including any measures the proponent has taken to avoid or mitigate those concerns.

The majority of Trans Mountain’s proposed route through the Lands follows the existing TMPL, with most of the route through Chilliwack being constructed within the existing TMPL RoW, such that the first routing criterion applies.

The Commission has considered Chilliwack’s submission that, since Trans Mountain’s originally proposed corridor deviated from the TMPL in the Chilliwack area and instead followed the BC Hydro route (i.e., moved from the first criterion to the second), Trans Mountain cannot now revert back to the first criterion. The Commission cannot accept this argument.

First, the NEB’s Realignment Report recommended approving Trans Mountain’s application to move the corridor from the BC Hydro route (the Original Corridor) to follow the existing TMPL (the Approved Corridor), and so the NEB and GIC, at that time in the context of that variance application, found it acceptable to revert to the first routing criterion.

Second, routing through a highly populated area is a complex and complicated constraint mapping activity. It involves weighing the interests and concerns of various stakeholders and careful consideration of site-specific risks and impacts to find the best possible detailed

route. As noted in the MH-018-2020 Letter Decision ([C09840](#)), the approved routing criteria are a hierarchy that follow a descending order of preference. However, this does not mean a pre-determined, strict sequencing, or descending-only approach to applying the routing criteria. The weight attributed to each routing criterion is informed on a case-by-case basis, having regard to the site-specific facts and circumstances. Applying the criteria otherwise would be inappropriately rigid; it could quickly exhaust all possible routing locations and result in the best possible detailed route not being found because it would deny the opportunity to consider all available criteria for the next-best option if a route under consideration is found to be unsatisfactory.

The Commission finds it appropriate that, in applying the criteria, Trans Mountain considered site-specific factors (such as constructability; long-term geotechnical stability; and environmental, cultural, and socio-economic suitability) and its own routing guidelines. The strength or weight of these factors depends on the facts and circumstances unique to the Lands. The Commission expects proponents to engage with potentially affected parties and take all of their concerns, as well as potential risks and effects, into account in routing. This requires flexibility in applying the routing criteria to settle on the best possible detailed route, and address remaining concerns through mitigation.

The Commission expects Trans Mountain to justify the application of its criteria. This should include explaining why it has followed a certain criterion (with reference to the relative importance of that criterion), consideration of site-specific factors associated with its proposed route in the circumstances, and consideration of its own guidelines, which it states it used to enable and maintain consistent decision-making regarding route and corridor selection. There is no notion of a criterion being "spent," as suggested by Chilliwack, merely on the basis of past consideration or past circumstances.

The Commission is of the view that Trans Mountain appropriately applied its routing criteria in this flexible manner in this case. Trans Mountain's Original Corridor applied the second general criterion (routing alongside an existing RoW), as Trans Mountain was attempting to avoid the site-specific densely populated area associated with the first general criterion (routing alongside the existing TMPL). However, when even more substantial site-specific engineering challenges with the Original Corridor came to light, circumstances changed, and Trans Mountain considered that the next-best option was to apply the first criterion.

The Commission notes that the NEB's OH-001-2014 Recommendation Report placed weight on the fact that the TMEP would be co-located with the TMPL. The NEB stated:

The Board further finds that aligning the majority of the proposed pipeline route alongside, and contiguous to, existing linear disturbances is reasonable, as this would minimize the environmental and socio-economic impacts of the [TMEP].

The Commission is of the view that Trans Mountain's application of the first criterion in routing the pipeline is reasonable and appropriate in these circumstances. As discussed above, Trans Mountain's proposed TMEP route, like the route of the existing pipeline, passes through dense residential neighbourhoods and the Vedder Middle School property and will temporarily affect municipal infrastructure. The proposed route passes through certain areas that have significant cultural value, will temporarily impact a wetland, and poses some risk to Chilliwack's water wells and downstream fish habitat. As noted above, substantial mitigation will be in place for each of these impacts, although some residual effects and risks will remain. Therefore, a viable alternate route with potentially less impacts than Trans Mountain's proposed route might call into question whether the proposed route is the best possible detailed route. The Commission has considered the alternate routes proposed by Chilliwack and WaterWealth, as discussed in **Sections 4.6 and 4.7** below. The Commission is of the view that using the first criterion, in these circumstances, carries

greater weight than the third or fourth criteria, considering all of the site-specific advantages and disadvantages of each, and application of the guidelines, as discussed further in **Sections 4.6 and 4.7.**

With respect to the deviations from the TMPL to accommodate the trenchless crossings of Dunville Creek (in Tract 2203) and Peach Creek and the Vedder River (in Tract 2407), the Commission is of the view that Trans Mountain properly applied the routing criteria, finding that co-location within existing linear facilities' easements was not feasible, such that the third criterion applies. The new easement for the TMEP pipeline should balance safety, engineering, construction, environmental, cultural, and socio-economic factors, and its length should be minimized before returning to the TMPL easement or other linear easements.

4.5 Who has the burden of proof with respect to alternate routes?

Chilliwack's submissions

- Trans Mountain has the onus of showing that its proposed route is the best possible detailed route. Trans Mountain is trying to place on Chilliwack and other intervenors a burden of proof that, as a matter of law, does not exist.
- There is no requirement in a detailed route hearing that other parties must identify an alternate route.

WaterWealth's submissions

- Trans Mountain is motivated to find fault with alternatives and not to find the best route across Chilliwack.
- The alternate route drawn by WaterWealth was not meant to show a precise pipe location, but to show a corridor that offers many advantages over Trans Mountain's proposed route. Refinements would occur just as they are continuing to occur on Trans Mountain's approved corridor.
- At the approach to the Vedder Canal crossing, WaterWealth does not know whether Trans Mountain would choose to run the pipeline alongside the Keith Wilson Bridge, the BC Hydro RoW or the natural gas pipeline RoW. WaterWealth's drawings illustrate the concept of crossing in that area, not a precise line for the actual pipe. In the process of finalizing a route through that area, any tweaks to best avoid buildings would be made.

Trans Mountain's submissions

- Trans Mountain acknowledges that it has the onus of proving, on a balance of probabilities, that its proposed route is the best possible detailed route.
- As stated by the Commission in its 21 April 2020 Procedural Direction, landowners and intervenors must file details of the alternate route as part of their written evidence. In accordance with NEB guidance in other processes, the Commission will consider deficiencies in SOO Filers' evidence in relation to alternate routes in determining whether they have successfully challenged the proposed route.
- The NEB, in its MH-034-2017 Letter Decision (City of Coquitlam) [[A91283](#)] for example, has previously approved routes proposed by Trans Mountain and rejected alternative routes on the basis of evidentiary deficiencies in cases where the landowner did not assess the alternate route in technical reports submitted in evidence, failed to consult landowners affected by the alternate route, and where

their evidence did not take into account conditions imposed as part of the Certificate proceedings.

- The Burnaby Residents Decision¹⁷ ([A91504](#)) suggests that Trans Mountain's burden is not to exhaustively review alternate routes that are clearly inferior. Instead, its burden is to conduct an appropriate and practical technical review in order to determine whether alternate routes present challenges and have more negative impacts when compared to the route proposed by Trans Mountain.
- WaterWealth has not reasonably undertaken feasibility studies, or stakeholder and landowner engagement, in respect of the areas that would be affected by the alternate routes.

4.5.1 The Commission: The burden of proof with respect to alternate routes

There is no disagreement among the parties that Trans Mountain has the onus (or burden) to prove, on a balance of probabilities, that its proposed route is the best possible detailed route, and that its proposed methods and timing of construction are the most appropriate.

There is no requirement in a detailed route hearing for SOO Filers or intervenors to identify an alternate route. Trans Mountain's citation of the Commission's 21 April 2020 Procedural Direction in its reply argument is best understood when the sentence is read in its entirety:

As stated in the Hearing Orders, if a SOO Filer and/or intervenor wishes to identify an alternate pipeline route for the Commission's consideration in determining whether Trans Mountain's proposed route is the best possible route, they must file details of the alternate route as part of their written evidence.

A party who advocates a particular position has an evidentiary burden; that is, it bears the onus of producing evidence in support of its position, to persuade the decision-maker. If a SOO Filer or intervenor presents an alternate route for consideration, the alternate route must be described in sufficient detail for the proponent and Commission to understand where it would be located and how it would address the SOO Filer's or intervenor's concerns. However, the Commission does not necessarily require SOO Filers or intervenors to undertake engineering or other field studies, or consult with all landowners along a proposed alternate route, to persuade the Commission that Trans Mountain's proposed route is not the best possible detailed route. The Commission recognizes that SOO Filers and intervenors are typically individual landowners, Indigenous peoples, and companies that may not have access to pipeline alignment experts with specialized knowledge of the proponent's project.

The proponent is generally the party with the best ability to design and propose a route for a pipeline project, and the proponent will always bear the ultimate burden to prove entitlement to the relief it seeks.

The Commission's consideration of the issues in a detailed route hearing is a highly fact-specific exercise. The amount of detail required to persuade the Commission on a balance of probabilities will depend on the facts and circumstances in any given case.

The NEB's comments in the MH-034-2017 Letter Decision (City of Coquitlam) cited by Trans Mountain are a result of the unique set of circumstances and evidence that were considered in that proceeding. In that case, the NEB was not persuaded by the alternate route for several reasons, including the SOO Filer's failure to raise one of its alternates during the written evidence portion of the hearing. Further, in that case, the NEB balanced the SOO

¹⁷ Pertaining to Detailed Route Hearings MH-049-2017, MH-050-2017, MH-051-2017, MH-052-2017, MH-057-2017, and MH-058-2017.

Filer's lack of detail respecting its alternate route against the specific detail provided by the company about its own consideration of alignment alternatives, including specific consultation with the parties that would be impacted by the alternate route. These were among other reasons for the NEB's detailed route decision in that case.

When alternate routes are raised, the Commission does not require a proponent to complete an exhaustive review of each proposed alternate route. Again, this will depend on the facts and circumstances, and the nature of the alternate route that has been presented. The Commission echoes the NEB's statement in the Burnaby Residents Decision, which was cited by Trans Mountain:

There is no need for Trans Mountain to exhaustively review routes that clearly present significant challenges and have more negative impacts; further studies would only confirm this, are unnecessary and beyond the onus a proponent must meet.

The Commission adds, however, that if an alternate route presents a viable option, or an option with potentially less impacts than the proponent's proposed route, the proponent's evidentiary burden would be greater; such circumstances would require stronger evidence from the proponent to prove, on a balance of probabilities, that the proposed alternate route is inferior to its proposed route. In such circumstances, the proponent would be encouraged to file evidence to assist the parties and Commission in understanding the benefits and burdens of each.

The Commission is of the view that an alternate route should not be disregarded on the basis that aspects of that route present technical feasibility issues, especially if those feasibility issues could reasonably be avoided or mitigated with alterations or improvements by the proponent's technical specialists. As stated above, the Commission is mindful that the proponent is generally the party with the best ability to design and propose a route for a pipeline project.

4.6 Considering Chilliwack's alternate routes, is Trans Mountain's proposed route the best possible detailed route?

Figure 2 above shows Chilliwack's alternate route options. Chilliwack proposes routing the TMEP north of the Approved Corridor and either routing along Highway 1 and Lickman Road, or along Highway 1, Hopedale Road, and Keith Wilson Road.

Chilliwack's submissions

Sardis-Vedder Aquifer and Chilliwack's wells

- Protection of the aquifer as a water supply can be achieved by limiting the TMEP's rerouting to Hopedale Road as the most westerly leg, and rejoining the existing TMPL corridor at Keith Wilson Road. This eliminates the extensive crossing of the Vedder Canal and uncertainty associated with entering the neighbouring jurisdiction, the City of Abbotsford. The alignment could be set to avoid the center median of Highway 1 and offer as much clearance as possible from the existing edge of the pavement. While additional design work would be required, the alternate route involving the Highway 1 corridor is feasible and any conclusion to the contrary is premature.

Municipal infrastructure

- Chilliwack's alternate routes would avoid having to cross several municipal roads and avoid conflicts with numerous existing Chilliwack utilities.

Feasibility

- One of the main landowners affected by the Chilliwack's alternate routes is Chilliwack. Put simply, the fact that Chilliwack is making this submission shows its willingness to allow a significant amount of its roadway to be used for the pipeline, and addresses the purpose of engagement.
- Trans Mountain has not provided any evidence from the Ministry of Transportation and Infrastructure (MOTI) saying that the MOTI would object to the Chilliwack's alternate routes. The evidentiary and legal burden to show this lies with Trans Mountain. That is, as Trans Mountain has the burden of proof in this proceeding, then Trans Mountain has to lead evidence to that effect.

Trans Mountain's submissions

Sardis-Vedder Aquifer and Chilliwack's wells

- Chilliwack submits that the prime objective of its alternate routes is to protect the aquifer and wells. The alternate routes are unnecessary to address Chilliwack's concerns because Trans Mountain has proposed comprehensive mitigation measures to protect the aquifer.
- Chilliwack's alternate routes do not eliminate the overlap with the aquifer. Contrary to Chilliwack's rationale, its alternate routes overlap with the aquifer.

Feasibility

- Trans Mountain has undertaken a detailed and comprehensive technical analysis of the alternate routes, including substantial mapping, and has identified major flaws in their design and various technical defects for both alternate routes which are analogous to those considered by the NEB in the Burnaby Residents Decision, such as non-adherence to Trans Mountain's routing criteria, conflicts with existing infrastructure, and lack of sufficient space to safely and efficiently construct the pipeline.
- Trans Mountain provided evidence supporting its opinion that major stakeholders affected by Chilliwack's alternate routes, such as the MOTI, TELUS, and BC Hydro, would not consent to those routes. Trans Mountain obtained this information through its engagement with these stakeholders in relation to the TMEP.
- Chilliwack's alternate routes are unfeasible from an engineering and constructability perspective for five main reasons:
 - i) they parallel the Trans-Canada Highway, and at times cross the highway, in contravention of the policies and guidelines of the MOTI;
 - ii) they do not allow for sufficient space to safely and efficiently construct the pipeline due to the presence of other linear infrastructure;
 - iii) they require third-party consents which are unlikely to be provided;
 - iv) they require trenchless crossings, at least some of which are unfeasible; and
 - v) they create conflicts with a MOTI overpass and a rail bridge, which cannot be avoided.
- In contravention of Trans Mountain's routing criteria, the alternate routes unnecessarily affect a large number of previously unencumbered and unaffected

lands. As stated above, the alternate routes cross between 68 and 73 land parcels not previously affected by TMEP.

- Pursuing the alternate routes would result in major project delays of at least two years associated with submitting a variance application; engaging with and satisfying offset and other requirements from the MOTI, BC Hydro, and TELUS; obtaining necessary variances; engaging with other affected landowners and First Nations; and conducting requisite geotechnical studies and detailed engineering, which could take two to three years to complete.

4.6.1 The Commission: Chilliwack's alternate routes are inferior to Trans Mountain's proposed route

Chilliwack proposes two alternate route options which would route the TMEP north of the Approved Corridor and would involve either Highway 1 and Lickman Road, or Highway 1, Hopedale Road, and Keith Wilson Road (see **Figure 2** above).

Burden of proof

As noted in **Section 4.5** above, Trans Mountain's burden of proof requires consideration of proposed alternate routes, considering reasonable modifications, to prove on a balance of probabilities that they are unfeasible or inferior to its own proposed route. The Commission is of the view that Trans Mountain has undertaken sufficient technical analyses with respect to Chilliwack's alternate routes to meet this burden.

Potential benefits of the alternate routes

Sardis-Vedder Aquifer and Chilliwack's wells

Although Chilliwack's alternate routes still cross the aquifer (see **Figure 4** above), they do so significantly downgradient of Chilliwack's water wells, and there is no suggestion that the capture zones of those wells extend to the location of the alternate routes. Thus, while the alternate routes could pose some risk to the aquifer and uses of it downgradient from those alternate routes, the risk to the current Chilliwack water wells would effectively be eliminated.

Municipal infrastructure

As noted above, construction of the TMEP on the Lands as proposed may cause operational conflicts with municipal infrastructure. The Commission notes that Trans Mountain's proposed route involves an extensive list of utility (highway) crossings. While the Commission is of the view that utility crossing agreements are outside the scope of this Detailed Route Hearing MH-026-2020, as there are other legislative provisions and potential regulatory processes for that issue as discussed above, the Commission notes that a potential benefit of Chilliwack's alternate routes is that they would avoid some of this municipal infrastructure and associated inconvenience. While the Commission notes that Chilliwack's alternate routes also have operational conflicts with municipal infrastructure, it accepts that Chilliwack is the best judge of which operational conflicts would cause it more inconvenience and notes its preference for its proposed alternate routes in that regard.

Feasibility

Despite the above-noted potential benefits of the alternate routes, the Commission finds that Trans Mountain's proposed route is the best possible detailed route when the feasibility of constructing the alternate routes is considered.

Both of Chilliwack's alternate routes parallel the Trans-Canada Highway for approximately 60 to 70 per cent of its length (depending on which proposed alignment is pursued) and conflicts with other linear infrastructure (a 69-kilovolt BC Hydro power line and TELUS fibre optic telecommunications cables).

Trans Mountain argues that the MOTI is unlikely to consent to Chilliwack's alternate routes, and Chilliwack argues that Trans Mountain must provide evidence to support such a claim. The Commission agrees it has little specific evidence upon which to draw a conclusion on the MOTI's specific views, either in support of or opposition to Chilliwack's alternate routes. The Commission notes that the MOTI has expressed to Trans Mountain that having an oil pipeline within their RoW would limit future expansions of the highway and expansion of interchanges and could entail Trans Mountain having to re-route the TMEP pipeline in the future. Agreement or disagreement from potentially affected parties may be relevant but is not always determinative. The Commission recognizes that, in some cases, the best possible detailed route is not one that has full consent of affected parties.

Based on the evidence provided, the Commission is persuaded that Chilliwack's alternate routes are likely to contravene MOTI guidelines with respect to paralleling highway infrastructure, the angle of crossings, prohibited crossings, and on- and off-ramps. The likely conflict with the MOTI's guidelines is relevant in this case given the nature of the MOTI's conflicting interest. The Commission recognizes that constructing a pipeline near the Trans-Canada Highway would, at the very least, involve operational conflicts and associated inconvenience, and notes the heavy use and importance of the Trans-Canada Highway to Canadians. However, this alone does not make Chilliwack's alternate routes unfeasible.

As mentioned above, the Commission takes note that infrastructure in Chilliwack is also important to Canadians, Chilliwack has its own policies opposing utility crossings, and the proposed route would involve operational conflicts with Chilliwack's infrastructure and associated inconvenience. The Commission notes Trans Mountain's routing criteria favours following existing linear disturbances (either the TMPL or other linear infrastructure). Thus, challenges with other infrastructure, such as crossings and finding suitable space, are to be expected. The Commission expects efforts to be made to overcome such challenges unless it is clear they are insurmountable or that other factors make following existing linear infrastructure unfeasible.

Trans Mountain argues that Chilliwack's alternate routes do not allow for sufficient space to construct the pipeline. The Commission notes that the combined presence of the MOTI, BC Hydro, and TELUS infrastructure creates layers of restrictions (such as the safe distance between BC Hydro's 69-kilovolt powerline and the pipeline), and finds that it would be difficult-to-impossible to construct the pipeline in the area without posing risk to that infrastructure. The Commission recognizes that, while Trans Mountain can restrict RoW width (and has done so) over short lengths to accommodate other infrastructure or avoid potential impacts, MOTI, BC Hydro, and TELUS infrastructure span great distances, leaving no open land in reasonable proximity to the restricted area for preparatory work. The Commission also recognizes that Trans Mountain's proposed route involves construction through a city, a highly populated area where space is tight and numerous parties with existing infrastructure likewise have conflicting interests. However, the Commission finds that Trans Mountain can construct through Chilliwack, with its occasional restricted RoWs, by way of a stove pipe construction methodology,¹⁸ and can find occasional areas of open space as well.

¹⁸ Stove pipe is a construction methodology that reduces temporary workspace areas, and facilitates welding and coating within the shored excavation ([C08078-1](#)).

Chilliwack's alternate routes do not have this flexibility. Overall construction along Lickman Road and Hopedale Road would have a high potential for construction incidents using a stove pipe construction methodology, due to the elevated number of residences and businesses along these roads (63 land parcels along Lickman Road, and 23 land parcels along Hopedale Road) without alternate access points. Trans Mountain's proposed route does a better job of avoiding the risk of construction incidents by affecting fewer properties (75 land parcels), all of which have the existing TMPL within them.

The Commission notes Chilliwack's statement that some construction challenges can be reduced by using highway on- and off-ramps, facilitating conventional trenching instead of using trenchless construction techniques, relocating hydro poles if required, and implementing traffic management provisions. However, the Commission finds that using a trenchless construction technique at Prest Road, Chilliwack River Road, Vedder Road, Evans Road, and Lickman Road is the most appropriate construction methodology for road crossings, in order to decrease disturbances.

Trans Mountain argues that at least three out of the five trenchless crossings (i.e., Vedder Road, Lickman Road, and Evans Road) are technically unfeasible. The Commission agrees with Trans Mountain on the following assertions:

- There is not enough temporary workspace for the crossings at Vedder Road, Lickman Road, and Evans Road.
- The conflicts with MOTI infrastructure (i.e., the overpass at Evans Road and rail bridge at Vedder Road) add significant complexity to construction because the pipeline would go directly under the supporting structures of that infrastructure.

As explained in **Section 4.5.1** above, the Commission is of the view that an alternate route should not be disregarded on the basis that aspects of that route present technical feasibility issues, especially if those feasibility issues could reasonably be avoided or mitigated with alterations or improvements by the proponent's technical specialists. The Commission viewed Chilliwack's alternate routes with that lens. However, with the following factors combined, the Commission is of the view that Chilliwack's alternate routes have the following safety and engineering challenges that are insurmountable:

- They do not allow for a safe distance between the pipeline and infrastructure of the three other stakeholders in the corridor (MOTI, TELUS, and BC Hydro).
- They involve an increased safety risk along Lickman Road and Hopedale Road if a stove pipe construction methodology is used.
- They do not include enough temporary workspace for trenchless crossings. If horizontal directional drilling (HDD) is used, it would restrict the size and capability of the drilling rig and the length of the pipe string, adding complexity to the technique.
- They conflict with MOTI infrastructure (i.e., the overpass at Evans Road and rail bridge at Vedder Road), adding significant complexity to construction because the pipeline would go directly under the supporting structures of that infrastructure.

The Commission finds that, combined, the safety and engineering challenges associated with Chilliwack's alternate routes are insurmountable.

Land fragmentation

The Commission finds that the alternate routes would cross lands previously unencumbered by a pipeline RoW (between 68 and 73 parcels), which would introduce land fragmentation.

The Commission is of the view that this is inconsistent with the approved routing criteria, and is a notable disadvantage of Chilliwack's alternate routes.

Potential delays

Trans Mountain argued that pursuing Chilliwack's alternate routes would result in major project delays and require it to engage with many affected landowners, whereas it has reached agreements with 90 per cent of all affected landowners with respect to its proposed route. The Commission did not consider project delays and inconvenience associated with a denial of Trans Mountain's proposed route to be relevant factors in assessing whether it is the best possible detailed route.

Conclusion

Upon considering the potential benefits of Chilliwack's alternate routes, assessing their feasibility and the adverse effect of land fragmentation, the Commission finds Trans Mountain's proposed route is superior to Chilliwack's alternate routes. Given this finding, the Commission did not find it necessary to further examine other potential adverse environmental and socio-economic effects of the proposed alternate routes in more detail.

If the Commission were to find that either of Chilliwack's alternate routes was superior to Trans Mountain's proposed route that would be sufficient on its own to reject the proposed route. However, having found that Chilliwack's alternate routes are inferior, the Commission continued with its assessment of Trans Mountain's proposed route.

4.7 Considering WaterWealth's alternate route, is Trans Mountain's proposed route the best possible detailed route?

Figure 3 above illustrates WaterWealth's alternate route. This alternate route departs from the proposed TMEP at approximately KP 1085, runs north, then west, and rejoins the proposed TMEP at approximately KP 1110.35.

WaterWealth's submissions

Sardis-Vedder Aquifer

- WaterWealth's opposition spans the whole of Chilliwack, based on care for the community, its people, its future, and the natural spaces and species that figure prominently in any discussions among those who live there about what they love about their home. Various concerns arise in relation to specific sites along Trans Mountain's proposed route that cumulatively demand a broader realignment of the TMEP route across Chilliwack. Among WaterWealth's stated goals is to "protect [Chilliwack] and Yarrow Waterworks wells." It is not necessary to eliminate the overlap with the aquifer to protect those wells. WaterWealth's alternate route guarantees that the TMEP will not impact those community wells. No measures Trans Mountain offers on the proposed route can make that guarantee.
- Protecting the aquifer itself is secondary to protecting the community wells that supply the homes, businesses, and institutions of this rapidly growing city. The aquifer flows generally north and, the further south one goes, the more wells overall could be impacted by contamination of the aquifer. WaterWealth's alternate route protects most of the aquifer, putting a great deal less of it and the streams that emerge from it at risk than does Trans Mountain's proposed route.

Routing criteria and WaterWealth's alternate route

- WaterWealth agrees that the route selection criteria are suitable for the TMEP broadly and submits that WaterWealth's alternate route is superior to Trans Mountain's proposed route for constructability, and environmental, cultural, and socio-economic suitability. The alternate route is potentially shorter, better avoids areas of significant environmental and cultural value, and better minimizes routing through areas of extensive urban development. It is also more consistent with established land use planning, better avoids areas that have limited access, has only one more watercourse crossing while avoiding more ecologically sensitive watercourse and wetland crossings, and has fewer road crossings. This route does follow the BC Hydro RoW on the 230 kilovolt side from Vedder Canal westward.
- Below is a summary comparison of some considerations between the TMPL alignment and WaterWealth's alternate route:

	TMPL	Alternate route
Length (metres)	25,400	25,184
Watercourse crossings	49	50
Road crossings	26	23
Properties crossed	185	109
Wells within 150 metres	30	16
Schools within 1 kilometre	12	8
Schools crossed	2	0

Vedder River and adjacent ecosystems

- The alternate route avoids Peach Creek on the North Side of the Vedder River, and the Browne Creek Wetlands on the south side of Vedder River.
- In WaterWealth's filings, where the alternate route crosses the Vedder is referred to as "Vedder Canal," the name commonly used by local people and found on Chilliwack's web map to refer to the canal that was built around the time Sumas Lake was drained. Chilliwack residents refer to the portion of the river between Vedder Canal and Vedder Crossing as "Vedder River." Upstream of Vedder Crossing, it is called Chilliwack River. The nature of the waterway itself and of the adjacent lands at Vedder Canal is very different than that at Vedder River. A crossing at the canal in the area where the BC Hydro and the Enbridge natural gas pipeline RoWs cross would involve no forest or wetlands. Access is easy using dyke roads on either side of the canal from the nearby Keith Wilson Bridge, and the Vedder itself is far less active in the canal section. There is no fish and wildlife habitat in that area of the canal that compares to the rich habitat found along the river. While the canal is popular for walking, cycling, and fishing, its recreational use is minimal compared to the river.
- A crossing at the canal could be completed by HDD or Direct Pipe. An isolated trench crossing during the least-risk biological window could be easily done with methods similar to those used by excavators engaged in gravel removal in the canal on many even-numbered years.

Feasibility

Trans Mountain has said multiple times that WaterWealth's alternate route is not feasible. In one instance, Trans Mountain cites the four main reasons as: "(i) the alternate route is not supported by Chilliwack; (ii) the alternate route relies on an unfeasible crossing of the Trans-Canada Highway; (iii) the alternate route creates various conflicts with existing infrastructure; and (iv) the alternate route does not allow for sufficient space to safely and efficiently construct the pipeline." WaterWealth's submissions regarding each are below.

- i) Chilliwack's SOOs strongly expressed that the TMEP must be routed away from Chilliwack's drinking water source and that the pipeline location, timing of construction, and method of construction proposed by Trans Mountain for the Browne Creek area are unacceptable and must be reconsidered. WaterWealth's alternate route achieves Chilliwack's goals of protecting its drinking water sources and Browne Creek Wetlands by using the Trans-Canada Highway route Chilliwack expressed support for.
- ii) Perhaps nothing demonstrates Trans Mountain's intransigence more than its Figure 3 – Conflicts in Intervenor Figure 12, which shows as the only conflict a line passing under the end of a building west of Evans Road and north of Yale Road. Refining the alternate route to optimize following other linear infrastructure would likely place the pipeline closer to the north side of Yale Road West than was depicted in Appendix L of WaterWealth's written evidence. Such a refinement would naturally move the entry point of the trenchless crossing of Evans Road closer to Yale Road and would bring the pipeline out from the footprint of the building to instead pass under the parking area and landscaping south of the building. Crossing Highway 1 in the area of Evans Road is feasible.
- iii) Trans Mountain elaborates that the existing infrastructure referred to are "a major two-story commercial building east of Evans Road and a house." This highlights that Trans Mountain is motivated to find fault with alternatives and not to find the best route across Chilliwack. The two-story commercial building at the Evans Road crossing has already been addressed under (ii) above. At the approach to the Vedder Canal crossing, WaterWealth does not know whether Trans Mountain would choose to run the pipeline alongside the Keith Wilson Bridge, the BC Hydro RoW, or the natural gas pipeline RoW. WaterWealth's drawings illustrate the concept of crossing in that area, not a precise line for the actual pipe. In the process of finalizing a route through that area, any tweaks to best avoid buildings would be made.
- iv) The route drawn by WaterWealth was not meant to show a precise pipe location, but to show a corridor that offers many advantages over Trans Mountain's proposed route. Refinements would occur just as they are continuing to occur on Trans Mountain's approved corridor. A variety of possibilities can be found to address requirements for space.

Trans Mountain's submissions

Routing criteria and WaterWealth's alternate route

- Trans Mountain's preferred criterion of paralleling the TMPL pursues the goals of reducing land use fragmentation, avoiding the use of previously undisturbed lands, reducing the use of unencumbered lands, and leveraging the existing pipeline protection program and landowner knowledge of the location and nature of the existing TMPL to optimize pipeline integrity and safety. In its Realignment Report, the NEB recognized that Trans Mountain's preferred criterion of paralleling the TMPL is conducive to achieving these goals, where it stated that "[...] by choosing to use the

existing TMPL [RoW], the Chilliwack Realignment minimizes the potential area of environmental disturbance and involves residents who are already familiar with living in proximity to the existing TMPL which has safety benefits.”

- WaterWealth has proposed an alternate route which, for the most part, does not parallel any existing linear infrastructure.
- Pursuing WaterWealth's alternate route would result in project delays of at least two years associated with submitting a variance application, engaging with and satisfying requirements from the MOTI for the Evans Interchange Crossing (where the alternate route crosses the intersection of the Trans-Canada Highway and Evans Road), engaging with other affected landowners and First Nations, and conducting requisite geotechnical studies for trenchless crossings and detailed engineering.

Feasibility

- After WaterWealth's alternate route passes along Kerr Avenue near Vedder Road, it then continues southwest to the intersection of Evans Parkway and Yale Road West, passing through a crowded commercial area and under a portion of the Mr. Liquidator commercial building.
- After WaterWealth's alternate route turns south, crossing the Trans-Canada Highway approximately 200 metres west of Evans Road, it then turns southwest, going diagonally across several fields, and continues in a westward direction to pass through backyards and private fields to the intersection of Adams Road and Lickman Road. The route then crosses Lickman Road and continues southwest across private fields for approximately 1.7 kilometres. It then crosses Hopedale Road and South Sumas Road, weaving between several homes.
- WaterWealth's alternate route is unfeasible because:
 - i) it is not supported by Chilliwack;
 - ii) it relies on an unfeasible crossing of the Trans-Canada Highway;
 - iii) it creates various conflicts with existing infrastructure; and
 - iv) it does not allow for sufficient space to safely and efficiently construct the pipeline.

4.7.1 The Commission: WaterWealth's alternate route is inferior to Trans Mountain's proposed route

New evidence

WaterWealth's argument includes new evidence, including text and aerial photos responding to Trans Mountain's alleged flaws in WaterWealth's alternate route. In its 2 June 2020 ([C06617](#)) and 31 July 2020 ([C07624](#)) Procedural Directions, the Commission stated, and emphasized, that new evidence cannot be provided in argument. There was adequate opportunity for WaterWealth to file a motion to provide additional evidence before its argument deadline. However, it did not seek such relief or otherwise attempt to justify including this evidence at the argument stage. Therefore, the Commission disregarded all portions of WaterWealth's argument that constituted new evidence. For clarity, this includes the maps on PDF pages 12 and 13 and portions of paragraphs 60 to 65 of its argument.

Burden of proof

As noted above, Trans Mountain's burden of proof involves considering proposed alternate routes, with reasonable modifications, to prove on a balance of probabilities that they are unfeasible or inferior to the proposed route. The Commission is of the view that Trans

Mountain has undertaken sufficient technical analyses with respect to WaterWealth's alternate route.

Potential benefits of the alternate route

Sardis-Vedder Aquifer and water wells

Although the alternate route crosses the aquifer (see **Figure 4** above), it does so significantly downgradient of the Chilliwack and Yarrow Waterworks wells, and there is no suggestion that the capture zones of those wells extend to the location of the alternate route. Thus, while the alternate route could pose some risk to the aquifer and uses of it downgradient from that route, the risk to the current Chilliwack and Yarrow Waterworks wells would effectively be eliminated.

Vedder River and adjacent ecosystems

As noted above, the planned trenchless crossing would pass under Vedder River and Peach Creek, but temporary adverse effects on the Browne Creek Wetlands are anticipated. The alternate route would avoid the Browne Creek Wetlands and those temporary adverse effects. It would also avoid residual risk from a pipeline spill to the fish habitat immediately downstream of Trans Mountain's proposed crossing of the Vedder River, and to the downstream Great Blue Heron Natural Reserve.

Despite the above-noted potential benefits of the alternate route, the Commission finds that it is inferior to Trans Mountain's proposed route. The proposed route is the best possible detailed route when Trans Mountain's routing criteria and the feasibility of the alternate route are considered.

Routing criteria

WaterWealth submits that its alternate route better fits Trans Mountain's routing criteria. The Commission does not accept this submission. Trans Mountain's proposed route follows the existing TMPL, meaning that it minimizes the amount of new linear disturbance. WaterWealth's alternate route, for the most part, does not parallel existing linear infrastructure, and would require substantial disturbance to lands and infrastructure not currently impacted by the TMPL.

The Commission is of the view that the benefits of WaterWealth's alternate route, noted above, are far outweighed by the burden of requiring substantial disturbance to lands and infrastructure not currently impacted by the TMPL. The Commission is of the view that applying the first routing criterion (that is, following the existing TMPL) is preferable in these circumstances, all factors considered. As a result, the Commission is of the view that Trans Mountain's proposed route is superior to WaterWealth's alternate route.

Feasibility

WaterWealth's alternate route involves construction and engineering challenges that the Commission finds to be insurmountable.

WaterWealth's alternate route involves the Evans Interchange Crossing. WaterWealth proposes to use Direct Pipe as the construction methodology at this location and provided seven potential crossing alignments. Trans Mountain argues that the potential alignments are not feasible because they pass directly under buildings, could conflict with a gas station's underground facilities, and/or cross roads at oblique angles. Further, Trans Mountain's previous geotechnical studies completed at other locations in the Fraser Valley, such as the

TMPL's crossing of the Vedder River, found soil conditions unsuitable for a successful HDD. Trans Mountain is of the view that, without a feasible contingency plan for the Direct Pipe construction methodology and a suitable alignment, the Evans Interchange Crossing is not feasible.

The Commission accepts Trans Mountain submission that, without a suitable construction methodology for the Evans Interchange Crossing, WaterWealth's alternate route is not feasible.

Land fragmentation

The Commission finds that WaterWealth's alternate route would cross lands previously unencumbered by a pipeline RoW, which would introduce land fragmentation. The Commission is of the view that this is not consistent with the approved routing criteria, and is a notable disadvantage of the alternate route.

Potential delays

Trans Mountain argued that pursuing the WaterWealth's alternate route would result in major project delays, and require Trans Mountain to engage with many affected landowners, whereas it has reached agreements with 90 per cent of all affected landowners with respect to the proposed route. As mentioned above, the Commission does not consider project delays and inconvenience associated with a denial of Trans Mountain's proposed route to be relevant factors in assessing whether it is the best possible detailed route.

Conclusion

Upon considering the potential benefits of WaterWealth's alternate route, the adverse effects of land fragmentation, and feasibility challenges, the Commission finds that Trans Mountain's proposed route is superior to WaterWealth's alternate route. Given this finding, the Commission did not find it necessary to further examine other potential adverse environmental and socio-economic effects of the alternate route in more detail.

If the Commission were to find that WaterWealth's alternate route was superior to Trans Mountain's proposed route that would be sufficient on its own to reject the proposed route. However, having found that WaterWealth's alternate route is inferior, the Commission continued with its assessment of Trans Mountain's proposed route.

4.8 The Commission: Trans Mountain's proposed route is the best possible detailed route

As explained above, the Commission has considered the proposed route, including assessing and weighing the risk to the Sardis-Vedder Aquifer and associated water wells; potential effects on the Vedder River and adjacent ecosystems; and potential effects on municipal infrastructure, Vedder Middle School, and residential areas, including ongoing general impacts associated with utility crossings. Finding that Trans Mountain appropriately applied the approved routing criteria in the circumstances, the Commission also considered and weighed the benefits and feasibility of all proposed alternate routes, and issues that Chilliwack and WaterWealth sought to address in proposing those routes, again weighing the benefits and burdens of Trans Mountain's proposed route.

For the reasons provided, the Commission is of the view that, on a balance of probabilities, Trans Mountain's proposed route, along with the commitments and conditions that apply to it, is the best possible detailed route.

5 Are Trans Mountain’s proposed methods of constructing the pipeline the most appropriate?

Trans Mountain’s submissions

- Trans Mountain proposes a combination of conventional open-trench and trenchless construction methodologies on the Lands.
- Trenchless methodologies will be used for crossings of the Vedder River, Dunville Creek, Peach Creek, and most crossings of Chilliwack’s Charter Lands (e.g., a boring methodology).
- Trans Mountain has committed to treat construction activities over the aquifer as a water crossing and to limit ditch trenching for open-trench construction to the dry season. To reduce and mitigate impacts on homes and properties between Watson Elementary School and Deerfield Crescent in Segment 6.3, Trans Mountain will develop site-specific construction execution plans before starting construction activities and proposes to construct affected sections using a narrower Heavily Restricted Construction Footprint model. Through these restricted footprint areas, shored trench and stove pipe construction methodologies will be employed as required to safely execute construction.

Trans Mountain proposes to employ the following construction methodologies on Chilliwack’s Registered Title Lands:

Tract	Parcel Identifier	Land features	Construction methodology
2197	024-874-710	<ul style="list-style-type: none"> • BC 707E – unnamed drainage • Nevin Road 	Trenchless crossing of Nevin Road includes BC 707E
2203	023-768-258	<ul style="list-style-type: none"> • BC 709 – Dunville Creek • McElwee Road 	Trenchless crossing of McElwee Road includes BC 709
2236	024-742-121	<ul style="list-style-type: none"> • BC 713E – unnamed drainage • Prairie Central Road 	Trenchless crossing of Prairie Central Road includes BC 713E
2235	024-742-139	<ul style="list-style-type: none"> • BC 713E – unnamed drainage • Prairie Central Road 	Trenchless crossing of Prairie Central Road includes BC 713E
2233	024-742-147	<ul style="list-style-type: none"> • BC 713D – unnamed drainage • Gibson Road 	Trenchless crossing of Gibson Road includes BC 713D
2248	024-802-832	<ul style="list-style-type: none"> • BC 714B – unnamed drainage • McGuire Road 	Trenchless crossing of McGuire Road includes BC 714B
2263	029-145-341	Chilliwack River Road	Trenchless crossing
ADJ 93	029-920-019	n/a	Temporary workspace only
2362	023-688-122	Watson Road	Trenchless crossing
2362.01	011-698-870	Watson Road	Trenchless crossing
2373	014-043-572	Canterbury Drive	Trenchless crossing
2401.01	025-617-320	Keith Wilson Road	Trenchless crossing
2407	001-035-070	Fairway Street	Trenchless crossing
2409	001-035-258	Vedder South Dyke Trail	Open-cut
2413	016-264-185	Road Allowance – Treeline	Conventional open-trench

Tract	Parcel Identifier	Land features	Construction methodology
2416	016-264-193	<ul style="list-style-type: none"> • BC 720 – unnamed drainage • Lumsden Road 	Trenchless crossing of Lumsden Road includes BC 720A
2429	013-495-488	Old Wagon Trail and Yarrow Road	Trenchless crossing

Trans Mountain proposes to employ the following construction methodologies on Chilliwack's Charter Lands:

Segment	PPBoR sheet	Description	Tract	KP	Construction methodology
6.2	1	Nevin Road	2197	1080.4	Bore
6.2	1	RW 18680	2201	1080.7	Isolation / open-cut
6.2	2	McElwee Road	2203	1081.2	Bore
6.2	3	Ford Road	n/a (between 2206/2207)	1082.2	Bore
6.2	3	RW 23415	2208	1082.6	Isolation / open-cut
6.2	3	Annis Road	n/a (between 2217/2218)	1083.9	Bore
6.2	3	Chilliwack Central Road	n/a (between 2217/2218)	1083.9	Bore
6.2	3	Upper Prairie Road	2236	1085.4	Bore
6.2	5	Gibson Road	2233	1087.5	Bore
6.2	5	Prairie Central Road	2235	1087.6	Bore
6.2	5	RW 64501	2237	1087.6	Bore
6.2	6	Banford Road	n/a (between 2243/2244)	1089.7	Bore
6.2	6	McGuire Road	2248	10905	Bore
6.2	6	RW 41635	2258	1092	Open-cut
6.2	8	Chilliwack River Road	2263	1093	Bore
6.2	8	RW 57952	2264	1093	Open-cut
6.2	9	Vedder Road	2283.09, 2283.091	1094.7	Bore
6.2	9	RW 61832	2287	1095.3	Open-cut
6.3	1	RW 9111	2290	1095.4	Open-cut
6.3	1	Arlington Road	n/a (between 2329/2332)	1095.8	Bore
6.3	2	Tyson Road	n/a (between 2356/2357)	1096.1	Bore
6.3	2 and 3	Watson Road	2362	1096.9	Bore
6.3	3	Canterbury Drive	2373	1097	Bore
6.4	1	Unsworth Road	n/a (between 2393/2394)	1097.9	Bore
6.4	2	Lickman Road	n/a (between 2400/2401)	1098.6	Bore

Segment	PPBoR sheet	Description	Tract	KP	Construction methodology
6.4	2	Keith Wilson Road	2401.01	1098.7	Bore
6.4	3	Lumsden Road	2416	1101.0	Bore
6.4	4	Simmons Road	n/a (between ADJ 68.05/2424)	1101.8	Bore
6.4	4	RW 13178	2427	1101.9	Open-cut
6.4	4	Vedder Mountain Road	n/a (between 2427/2429)	1102.2	Bore
6.4	4 and 5	Wilson Road	n/a (between 2435/2437)	1103	Bore
6.4	5	Eckert Street	n/a (between 2440/2441)	1103.8	Bore
6.4	5	RW 42761	2441	1104	Isolation / open-cut
6.4	6	Stewart Road	n/a (between 2445/2447)	1104.6	Bore
6.4	6	Boundary Road	n/a (between 2450/2451)	1105.5	Bore

- In its MH-052-2018 Reconsideration Report, the NEB found that technical working groups could be an effective mechanism to collaboratively address issues of interest to Trans Mountain and affected municipalities, including concerns in relation to the pipeline's location and potential impacts and future costs on a municipality's long-term plans.
- Trans Mountain has actively engaged with Chilliwack since 2012 and will continue this engagement through technical working groups before, during, and following TMEP construction.
- Issues related to coordinating activities and infrastructure during TMEP construction will be addressed through utility crossing agreements between Trans Mountain and Chilliwack.

Chilliwack's submissions

- Any approval of the methods of construction is premature, as Chilliwack has been unable to:
 - complete an assessment of physical or operational conflicts between existing works that are owned or operated by Chilliwack within the Municipal Lands, including water mains, roads, and piping for storm water drainage and sewage, and the works proposed by Trans Mountain;
 - complete an assessment of physical or operational conflicts with proposed works on Municipal Lands;
 - determine whether the works proposed by Trans Mountain will affect the safe access by Chilliwack employees and agents to its existing, proposed, or reasonably anticipated works on Municipal Lands; or
 - determine if the proposed methods of construction will affect Chilliwack's ability to undertake its works or works of third parties on Municipal Lands.

- Trans Mountain provided information on methods and timing of construction in its reply evidence, after the deadlines had expired for Chilliwack to ask IRs of Trans Mountain, and to introduce its own evidence on timing and methods of construction.
- Information from Trans Mountain has been lacking, and communications from Trans Mountain has been one-way, with Trans Mountain telling Chilliwack what it intends to do, rather than responding to or even acknowledging Chilliwack's concerns.
- Chilliwack appreciates the value of parties working together, and notes that the NEB has often found that approach to be of value. However, Chilliwack is finding reliance upon that approach in this case to be hollow and not protective of the public interest.

5.1 The Commission: Trans Mountain's proposed methods of constructing the pipeline are the most appropriate for the Lands

The Commission finds that, on a balance of probabilities, Trans Mountain's proposed methods of construction on the Lands are most appropriate in the circumstances. Trans Mountain proposed to use open-trench (such as stove pipe construction and isolation / open-cut) and trenchless (such as Direct Pipe and boring) construction methodologies on different portions of the Lands to minimize disruption to landowners and environmental impact.

The Commission finds that Trans Mountain's proposal to limit ditch trenching for open-trench construction to the dry season minimizes potential effects on the Browne Creek Wetlands. Further, the trenchless crossings of the Vedder River, Dunville Creek, and Peach Creek minimize impacts on these features and associated ecosystems.

Trans Mountain's commitments to develop site-specific construction execution plans before starting construction activities in Segment 6.3, and to construct the pipeline based on a Heavily Restricted Construction Footprint model, appropriately minimize impacts on homes in this densely populated area of the Lands.

The Commission notes that, on the Charter Lands, Trans Mountain proposes to use a boring method for road crossings, and an open-cut method for crossings of other utilities for which there are existing easements over open land parcels. The Commission finds that this is appropriate and consistent with industry practice. In addition, Trans Mountain's commitment to work with Chilliwack through technical working groups as defined by Certificate Conditions 14 and 49, will minimize impacts on Chilliwack's city works (e.g., water mains, roads, and piping for storm water drainage and sewage) associated with TMEP construction, and associated inconvenience to Chilliwack and its citizens.

As noted **Section 4.3.1** above, the Commission disagrees with Chilliwack's position that reliance upon the parties' ability to be able to work together (i.e., through technical working groups) is a "hollow approach that is not protective of the public interest." The Commission places value on these conditions, given the unique interests of municipalities and the complexity of the issues on municipal lands. In addition, Certificate Conditions 14 and 49 are in place to require transparent reporting to the Commission of any potential issues raised by municipalities, including Chilliwack, regarding TMEP design and construction, which provides for ongoing regulatory oversight throughout the stages of construction. The Commission reminds both parties of their respective roles in using these technical working groups to meaningfully address technical and construction issues.

Regardless, this Detailed Route Hearing MH-026-2020 was an opportunity for parties who have been unable to work together to have their concerns heard and adjudicated. This hearing permitted Chilliwack to describe its interests and concerns for the Commission's consideration. Chilliwack has taken the position that it has not been given enough information on Trans Mountain's proposed methods of construction, and that approval of the

methods of construction is premature. The Commission is of the view that there was sufficient information contained in Trans Mountain's evidence to enable the Commission and parties to understand the proposed methods of construction on the Lands.

Trans Mountain's written evidence (filed in Detailed Route Hearing MH-020-2018 and placed on the record of this Detailed Route Hearing MH-026-2020) and its supplemental written evidence (filed at the outset of this hearing) contained PPBoR and detailed maps for all of the Lands (including Chilliwack's Registered Title Lands and Charter Lands), which indicated the proposed construction footprint and location of temporary workspace. The Commission is of the view that this provided adequate information for Chilliwack to submit its own evidence of concerns or impacts with respect to construction.

Further, the hearing process provided Chilliwack with two consecutive opportunities to ask IRs of Trans Mountain in order to obtain any additional information that Chilliwack needed before being required to file its own evidence. In the first round of IRs, Chilliwack limited its questions to verifying its own belief that Trans Mountain's notice and information to date was insufficient to meet its needs, rather than seeking the information it allegedly needed to describe its concerns about impacts. Trans Mountain answered the questions posed. Chilliwack did not seek any further information in the form of a motion to compel full and adequate IR responses, nor did it seek any information from Trans Mountain on methods of construction in its second round of IRs.

Chilliwack also argued that it was not provided with specifics of Trans Mountain's proposed methods and timing of construction on the Charter Lands until the reply evidence stage, when it was too late in the process for Chilliwack to provide its own evidence in response.

The Commission views Trans Mountain's reply evidence, notably its table identifying methods and timing of construction for the Charter Lands (reproduced above), to have been appropriately provided at the reply evidence stage, as it was evidence in response to the concerns presented in Chilliwack's evidence. Some, but not all, of this information had already been provided in Trans Mountain's supplemental written evidence.

As mentioned, the Commission is of the view that Chilliwack had sufficient information to present its own evidence to the Commission regarding its concerns. However, also as mentioned, Chilliwack could have sought additional information earlier through the IR process, but chose not to. Further, if Chilliwack felt Trans Mountain's reply evidence was new and needed to be tested and responded to at that stage in the process, Chilliwack could have sought procedural relief by filing a motion, but it did not do so.

Chilliwack did not provide detailed or site-specific evidence to support its concerns regarding potential impacts from the proposed methods of construction. Absent any specific evidence of potential impacts, the Commission notes Chilliwack's general concerns about the impact on Chilliwack of TMEP construction on the Lands. The Commission finds that Trans Mountain's proposed methods of construction have adequately addressed these concerns.

The Commission reminds Chilliwack of its role in using the technical working groups to meaningfully address methods of construction going forward. As stated in **Section 4.3.1** above, the Commission recognizes that the proposed route will involve several utility crossings, which are considered an impact on Chilliwack that was weighed in assessing whether the proposed route is the best possible detailed route. Other than to assess the proposed methods and timing of construction, further details of the crossings that would typically be included as terms of utility crossing agreements are outside the scope of this Detailed Route Hearing MH-026-2020. The Commission encourages Trans Mountain and Chilliwack to further engage and discuss terms of such agreements. If Trans Mountain and Chilliwack cannot agree on these matters, Trans Mountain would need to apply to the

Commission under section 217 of CER Act for an order granting leave to cross Chilliwack's utilities, which would provide Chilliwack with another opportunity for its concerns to be heard by the Commission.

6 Is Trans Mountain's proposed timing of constructing the pipeline the most appropriate?

Trans Mountain's submissions

- Trans Mountain has been engaging with Chilliwack since May 2012. Engagement has been undertaken in consideration of the timing of construction currently proposed by Trans Mountain and the availability of project information.
- Trans Mountain proposes to construct within the Lands in 2021, with the crossings identified above planned to be completed between Q2 and Q3 of 2021. In addition, Trans Mountain considered preparatory activities on the Lands which may be completed between Q4 2020 and Q1 2021, subject to regulatory approval.
- Trans Mountain reports its TMEP construction schedules on a monthly basis, as part of its Certificate Condition 62 filings.
- Regarding the Browne Creek Wetlands at the Vedder River Corridor crossing, construction will occur during dry conditions in the summer.
- With respect to the timing of work for each watercourse crossed by the pipeline, the Water Course Crossing Inventory identifies the provincial instream work window and least-risk biological window. Where the watercourse is being crossed by trenchless methods (e.g., bore or HDD), no in-stream activity will occur and, therefore, construction timing is not restricted by the least-risk biological windows. For other fish-bearing watercourses where trenched watercourse crossing methods (e.g., isolation or open-cut) will be used, Trans Mountain will adhere to the least-risk biological windows during construction or at alternative times of low risk where additional mitigation has been proposed and approved by the Commission and/or the Fisheries and Oceans Canada.
- Issues related to coordinating activities and infrastructure during TMEP construction will be addressed through utility crossing agreements. Nonetheless, to address Chilliwack's concerns, Trans Mountain proposed Q2 and Q3 2021 for the timing of construction for the Charter Highways, as set out in its reply evidence.

Chilliwack's submissions

- Chilliwack has been unable to determine whether the timing of construction will negatively affect Chilliwack's undertaking of work on, or related to, its Municipal Lands. Chilliwack anticipates that future additional infrastructure will be located within the proposed route (e.g., a water transmission pipeline along Prairie Central Road).
- Trans Mountain has not provided Chilliwack with sufficient information about where within the Municipal Lands it proposes to undertake work for the TMEP, the proposed methods of construction, or the timing of construction, and has failed to address Chilliwack's concerns regarding the terms under which such work would occur.
- Trans Mountain's reply evidence regarding the location, methods of construction, and timing of construction with respect to the Charter Highways was provided at the end of August 2020, after deadlines had expired for Chilliwack to ask IRs of Trans Mountain, and for it to file its own evidence on timing and methods of construction.
- Chilliwack requested that Trans Mountain undertake construction at the Vedder River during summer months.

PIPE UP's submissions

- Timing and methods of construction are concerns for the entire life of the pipeline. BC watercourse regulations require that any work in fish-bearing watercourses be limited to the low-risk window.

6.1 The Commission: Trans Mountain's proposed timing of constructing the pipeline is the most appropriate for the Lands

The Commission finds that Trans Mountain's proposed timing of constructing the TMEP on the Lands is the most appropriate.

The Commission recognizes that Chilliwack would like more specificity or certainty with respect to the timing of construction on the Lands so it can undertake and plan future projects and activities accordingly. The Commission recognizes that a lack of specificity and certainty can negatively affect a municipality's ability to manage its own operational planning. However, the Commission also recognizes that a proponent must be able to manage its own construction schedule, which realistically involves providing evidence that accounts for variables such as regulatory approval, weather, terrain, environmental constraints, worker availability, and condition compliance.

The Commission finds that the specificity of Trans Mountain's evidence on timing of construction in this Hearing is reasonable, noting that construction planning at this stage of the Project lifecycle is subject to a number of variables, one being the outcome of this Hearing. This finding is consistent with the Commission and NEB's practice of assessing timing in detailed route decisions.

The purpose of assessing whether the proposed timing of construction is appropriate at the detailed route stage is not to limit the proponent's ability to plan construction and manage variables by establishing, for example, a specific date or date range approved for construction. Rather, this assessment at this stage is meant to allow the Commission to hear and consider any specific concerns of SOO Filers or intervenors with respect to construction timing. SOO Filers could have concerns with construction during a particular season, for example, due to activities they undertake on their lands. The Commission can then take these concerns into account along with any other timing considerations, such as least-risk environmental windows, in deciding whether the proposed timing is the most appropriate.

The Commission notes that the NEB's OH-001-2014 Recommendation Report recognizes that construction planning is an ongoing process, as evidenced in the design of Certificate Condition 62, which is an ongoing requirement for Trans Mountain to file its TMEP construction schedule on a monthly basis from the commencement of construction until after commencing operations.

The Commission notes Trans Mountain's evidence that preparatory activities *may* be completed between Q4 2020 and Q1 2021, subject to regulatory approval. The Commission notes that the timing of this Letter Decision renders this estimated timing outdated. The Commission finds that it is consistent with Trans Mountain's evidence, and appropriate, for preparatory activities to occur after Q1 2021. The Commission expects Trans Mountain to continue to manage its own construction schedule and file it with the Commission pursuant to Certificate Condition 62. The Commission also expects Trans Mountain to thoroughly engage with Chilliwack with respect to the timing of construction up to and throughout construction on the Lands, as required by Certificate Condition 49 and Trans Mountain's commitments.

The Commission is of the view that the details provided by Trans Mountain in its evidence were sufficient for Chilliwack to predict and present evidence of the potential impacts on its municipal operations and planning during the proposed timing window. However, Chilliwack has provided little evidence of its own operational planning process, variables or factors that it must consider, potential plans, or other specific information that would assist the Commission in assessing how the proposed timing of construction addresses Chilliwack's specific concerns.

Chilliwack argued that it was not provided with specifics of Trans Mountain's proposed methods and timing of construction on Chilliwack's Charter Lands until the reply evidence stage, when it was too late in the process for Chilliwack to provide its own evidence in response. The Commission reiterates its views in this regard, as presented in **Section 5.1** above.

The Commission notes that the timing of construction for the Charter Lands is scheduled for Q3 2021, which is within the broader timeframe for construction presented by Trans Mountain in its earlier evidence. The Commission is of the view that Chilliwack had sufficient information to present evidence to the Commission of its concerns at the evidentiary stage of the hearing. Alternatively, if Chilliwack felt that Trans Mountain's reply evidence was new and needed to be tested and responded to, it could have sought procedural relief to do so, but did not.

Therefore, the Commission is satisfied that Trans Mountain provided sufficient evidence on the timing of construction to enable Chilliwack's participation in this hearing, and to provide specific evidence. Chilliwack did not provide detailed or specific evidence to support its concerns regarding potential impacts from the proposed timing of construction. Absent any specific evidence of potential impacts, the Commission is left to take note of Chilliwack's general concerns about the residual burden on Chilliwack of TMEP construction on the Lands. The Commission finds that Trans Mountain adequately addressed these concerns.

The Commission reminds both parties of their respective roles in using the technical working groups to meaningfully address timing of construction going forward.

As stated in **Section 4.3.1** above, the Commission recognizes that the proposed route will involve several utility crossings, which are considered an impact on Chilliwack that was weighed in assessing whether the proposed route is the best possible detailed route. Other than to assess the proposed methods and timing of construction, further details of the crossings that would typically be included as terms of utility crossing agreements are outside the scope of this Detailed Route Hearing MH-026-2020. The Commission encourages Trans Mountain and Chilliwack to further engage and discuss terms of such agreements. If Trans Mountain and Chilliwack cannot agree on these matters, Trans Mountain would need to apply to the Commission under section 217 of CER Act for an order granting leave to cross Chilliwack's utilities, which would provide Chilliwack with another opportunity for its concerns to be heard by the Commission.

Given that Trans Mountain plans to construct across the Browne Creek Wetlands (at the Vedder River crossing) in the summer, at which time the wetland is anticipated to be dry where the crossing occurs, and that no specific impacts or concerns regarding timing have been raised other than those discussed above, the Commission finds that, on a balance of probabilities, Trans Mountain's proposed timing of construction on the Lands is the most appropriate in the circumstances.

7 Conclusion

The Commission appreciates the time and effort spent by Chilliwack, WaterWealth, and PIPE UP in providing their evidence and argument for consideration in this detailed route hearing.

The Commission has decided that Trans Mountain's proposed route is the best possible detailed route on the Lands, and the proposed methods and timing of constructing the pipeline are the most appropriate, subject to the commitments made by Trans Mountain and ongoing compliance with the Certificate OC-065 conditions. The Commission has arrived at this conclusion having considered the obligations under the CER Act and finds that its determinations are consistent with those obligations.

The Commission will not direct Trans Mountain to install a secondary containment (or trench liner) between KP 1095 and KP 1097. The Commission finds that Trans Mountain's enhanced leak detection system along with the other approved mitigation (i.e., limiting ditch trenching for open-trench construction to the dry season, treating construction activities over the aquifer as a water crossing, and adding a pipeline valve upstream of the aquifer) would minimize the risk of potential leaks and would outweigh the benefits of adding a trench liner.

Having decided that Trans Mountain's proposed route is the best possible detailed route on the Lands, and that its proposed methods and timing of construction are the most appropriate, the Commission will issue an Order approving the PPBoR for the Lands. Any future Order approving the PPBoR for the Lands will include conditions requiring Trans Mountain to list and fulfill the commitments it made in the course of this Detailed Route Hearing MH-026-2020, to file updated environmental and construction alignment sheets, and to maintain a copy of the Order and condition filings at its construction office(s).

The Commission reminds Trans Mountain that it has articulated in this Letter Decision a number of expectations that Trans Mountain is expected to meet. The Commission also reminds Trans Mountain that the relevant conditions of approval in Certificate OC-065 apply to the construction and operation of the TMEP pipeline on the Lands.

Finally, as the Commission has communicated in previous correspondence in this hearing, under Part 6 of the CER Act, parties may apply to the Commission to determine compensation disputes in relation to land matters. The CER's [Land Use Compensation webpage](#) provides further information about when compensation may be available.

The CER offers alternative dispute resolution (ADR) services to assist parties in reaching resolution of outstanding issues outside of the regulatory process. To take advantage of ADR, both parties must agree to take part. This process is voluntary and facilitated by trained CER mediators, or by another neutral third party mediator. If interested in using the CER's ADR services or learning more information about ADR options, please email ADR-RED@cer-rec.gc.ca or call 1-800-899-1265.

Yours sincerely,

Signed by

Jean-Denis Charlebois
Secretary of the Commission

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