VOLUME 6
ENVIRONMENTAL MANAGEMENT PLANS

SECTION 8.2
WATER QUALITY MONITORING MANAGEMENT PLAN FOR THE TRANS MOUNTAIN PIPELINE ULC TRANS MOUNTAIN EXPANSION PROJECT NEB CONDITION 72

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Prepared for:

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1.0 INTRODUCTION

Trans Mountain Pipeline ULC (Trans Mountain) has prepared the Environmental Management Plans (EMPs) (Volume 6 of the Environmental Plans) as a companion to the Environmental Protection Plans (EPPs) (Volumes 1 through 5 and Volume 9 of the Environmental Plans) for the Trans Mountain Expansion Project ("the Project" or "TMEP"). The EMPs are intended to be read in conjunction with the EPPs and include further detail regarding mitigation strategies to be employed to avoid or reduce potential adverse environmental effects during the construction and operations phases of the Project. The various components of the EMPs supplement information contained in the Project EPPs and address National Energy Board (NEB) Conditions for the Project, where applicable. This Water Quality Monitoring (WQM) Management Plan (the Plan) is Section 8.2 of the EMPs (Volume 6 of the Environmental Plans).

This Plan was submitted to Appropriate Government Authorities and affected landowners/tenants on December 10, 2016 for a review and feedback period which concluded on March 10, 2017, although feedback was accepted up until April 2017. A letter was sent to Aboriginal groups with a copy of the Plan on April 28, 2017 for a second review and feedback period, which concluded on May 19, 2017. Trans Mountain incorporated any feedback into the final Plan or has provided rationale for why input has not been included, as summarized in Appendix A.

1.1 Objectives

The primary objective of WQM is to ensure that the water quality and quantity at watercourses crossed are maintained and not adversely affected by Project construction activities. The measures to be taken to achieve this objective include:

- assessing water quality during both pre-construction and construction conditions;
- providing information and immediate feedback to the Environmental Inspector and contractor to assist in protecting aquatic resources;
- identifying key activities that have the potential to affect water quality;
- developing mitigation strategies to reduce or avoid the potential effect as well as contingency measures to be implemented at the first indication of a potential adverse effect occurring;
- monitoring and documenting these activities and the effectiveness of the mitigation measures; and
- continually improving water crossing construction techniques and mitigation measures based on review of WQM trends.

1.2 Links to Other Trans Mountain Environmental Plans

This Plan is not meant to replace or contradict mitigation measures presented elsewhere in the Environmental Plans but rather to be used in association with the following plans:

- Pipeline EPP (Volume 2 of the Environmental Plans);
- Watercourse Crossing Inventory (NEB Condition 43, Section 8 of Volume 6 of the Environmental Plans)
- Summary of Watercourses Identified in Alberta (Volume 7 of the Environmental Plans);
- Summary of Watercourses Identified in British Columbia (BC) (Volume 7 of the Environmental Plans);
- Environmental Alignment Sheets (Volume 8 of the Environmental Plans);
- Horizontal Directional Drilling (HDD)/Trenchless Planning and Procedures Management Plan (Section 8, Volume 6 of the Environmental Plans); and
- Water Withdrawal and Discharge Procedures Management Plan (Section 8, Volume 6 of the Environmental Plans).

2.0 CONSULTATION AND ENGAGEMENT

Consultation and engagement activities related to WQM management were conducted between May 2012 and May 2017 with Appropriate Government Authorities, potentially affected Aboriginal groups and affected landowners/tenants. Opportunities to discuss WQM management issues or concerns were provided to public stakeholders through online information, workshops, meetings and ongoing engagement activities during the reporting period. Appendix A includes a comprehensive record of these engagement activities, stakeholder feedback and Trans Mountain responses.

The draft Plan was released to Appropriate Government Authorities and affected landowners/tenants on December 10, 2016 for a review and feedback period which concluded on March 10, 2017, although feedback was accepted up until April 2017. A letter was sent to Aboriginal groups with a copy of the draft Plan on April 28, 2017 for a second review and feedback period, which concluded on May 19, 2017. Feedback specific to this Plan received during this period is summarized in Appendix A.

3.0 BACKGROUND

Water quality is determined by its biological, chemical and physical characteristics. Alteration of these characteristics can affect its potential value for the biotic species present and/or human needs or use. If not mitigated, construction of the Project could negatively influence water quality, primarily through sediment releases resulting from instream activities or on-shore and marine Project-related construction activities, including:

- inadvertent sediment releases during HDD/trenchless activities;
- trenched watercourse crossing construction activities;
- sediment inputs in runoff from disturbed areas resulting from development activities (*i.e.*, clearing and grading); and
- discharge of hydrostatic test water back to the environment.

Aquatic resources can be protected when in-water construction activities occur by ensuring that the total suspended solid (TSS) concentration does not exceed the Canadian Water Quality Guidelines for the Protection of Aquatic Life (Canadian Council of Ministers of the Environment [CCME] 2007). The CCME guidelines indicate that a biologically important average increase in TSS concentration over a short-term period (*i.e.*, 24 hours) is 25 mg/L above the background level (CCME 2007). The guidelines also indicate that the recommended maximum average increase of TSS for sustained periods (*i.e.*, between 24 hours and 30 days) is 5 mg/L above background levels. Although the Appropriate Government Authorities prefer to have results reported as TSS, TSS analysis requires taking water samples that are sent to a lab for analysis. In contrast, turbidity readings can be taken in the field and can provide an instantaneous indication of a sediment event, and its magnitude and is considered an acceptable technique.

Turbidity measurements in Nephelometric Turbidity Units (NTU) determine how particles in the water column reflect light and, therefore, can be used to provide an indirect measurement of TSS. The amount of light reflected for a given amount of particulate matter is dependent upon properties of the particles (*e.g.*, shape, colour and reflectivity). Different types of particles that can reflect light include suspended solids, tannins and phytoplankton, therefore, a correlation between turbidity and TSS is often unique for each location or situation.

For the reasons noted above, regulatory authorities such as Fisheries and Oceans Canada (DFO), typically allow proponents to monitor turbidity if the proponent determines the site-specific relationship between TSS and turbidity when warranted (*i.e.*, in the event of an exceedance of CCME guidelines). Typically, this relationship is established by collecting samples over the range of TSS concentrations that occur during a sediment event while simultaneously taking turbidity readings. After the TSS sample results are obtained from the lab, a relationship between TSS and turbidity can be determined. This relationship then allows turbidity results to be compared to exceedance criteria for TSS.

3.1 Water Crossings

WQM typically occurs within a watercourse's established zone-of-influence (ZOI). The ZOI is the reach of the watercourse that has the highest potential to be affected from construction activities. The length of the ZOI is determined in the field based on the professional experience and judgment of the Qualified Aquatic Environmental Specialist (QAES) (in Alberta) or Qualified Environmental Professional (QEP) (in BC) who takes into account a variety of factors (*e.g.*, stream gradient, channel width, channel depth, channel morphology, flow velocity and discharge at the time of construction). The ZOI typically represents the area of the watercourse where 90% of the sediment load caused by construction activities is expected to fall out of suspension and be deposited (Government of Alberta 2013a,b).

The placement of WQM sampling transects needs to be strategic. Not only do the results from sampling at the transects help document the magnitude of sediment mobilization events and the potential effect they may have had downstream, the results can also be used to help identify the location of the sediment source in the event of an inadvertent bentonite fluid release during a trenchless crossing installation. During trenched construction, the source of sediment is often obvious. In these cases, the transect distribution focuses primarily on magnitude data collection through the ZOI. It has, therefore, been

assumed that the potential ZOI at each crossing will remain unchanged regardless of whether trenchless or trenched methods are used. It should be noted that if sampling results suggest that the expected ZOI does not extend far enough from the crossing site, the monitoring crew will adjust sampling locations accordingly.

The monitoring of water quality will be necessary at specific water crossings in order to ensure aquatic resources are protected during and following construction, as well as to ensure compliance with applicable water crossing permit conditions. The methodology, frequency and duration of monitoring will vary depending upon the following considerations (among others):

- sensitivity of the aquatic resources at the crossing and within the ZOI of the water crossing;
- regulatory requirements (*e.g.*, for *Species at Risk Act* listed species);
- pipeline and equipment crossing method;
- construction season and timing of instream construction activities; and
- flow characteristics of the watercourse at the time of crossing construction.

A list of the specific watercourses/wetlands that are proposed for WQM are provided for Alberta and BC in Volume 7 of the Environmental Plans and are indicated on the Environmental Alignment Sheets (Volume 8 of the Environmental Plans). The primary criteria used in pre-selecting water crossings to be monitored is the presence of high sensitivity habitat in fish-bearing watercourses, and where commercial, recreational or Aboriginal (CRA) fish species or species of management concern are present. As outlined in this Plan, the QAES/QEP will assess and determine the necessity for WQM and the monitoring effort required at each water crossing based on conditions encountered prior to construction.

4.0 MANAGEMENT APPROACH

Prior to water crossing construction, contractors will be required to prepare site-specific water crossing plans for classified watercourses and open water wetlands to demonstrate full comprehension of the water quality management objectives, as well as the recommended mitigation measures for construction. The goal is to share information, provide prompt response at the first indication of a potential adverse effect, and to ensure that construction and inspection/monitoring groups understand their respective responsibilities in the process.

WQM will be conducted at sampling points or transect locations upstream and downstream of each of the water crossings selected for WQM. The sampling locations, depth, frequency and duration will be determined by a QAES/QEP as part of a site-specific WQM plan. During construction, the QAES/QEP will regularly inform the Environmental Inspector of the data including an initial interpretation of the results. The Contractor will modify the construction activities, as approved by the Environmental Inspector. Monitoring information will be shared with Trans Mountain's Regulatory and Compliance Team, who will notify the NEB, other Appropriate Government Authorities and local interested parties (*e.g.*, downstream water users) if required.

Communication between the QAES/QEP, the Environmental Inspector, the Construction Manager or designate, and the Contractor will be maintained throughout the implementation of the water crossing and the WQM. Effective communication is necessary to ensure protection of aquatic resources during crossing construction by meeting or keeping within acceptable values and ranges provided by CCME (2007) guidelines and/or alternative regulatory requirements (*i.e.*, provincial permits, codes of practice, DFO authorizations).

Other Environmental Management and Contingency Plans are in place to guide Project activities with the potential to result in exceedance of water quality objectives. See the Soil Erosion and Sediment Control Contingency Plan and the Bentonite Fluid Release Contingency Plan provided in Appendix B of the Pipeline EPP (Volume 2 of the Environmental Plans) and the HDD/Trenchless Planning and Procedures Management Plan in Section 8 of Volume 6.

4.1 Sampling Methods

WQM methods will range from routine monitoring at small watercourses to more detailed sampling and monitoring at major crossings or as deemed appropriate during certain types and phases of construction activities. Point samples will be collected at locations upstream and downstream of water crossings during routine WQM. At large water crossings, crossings of sensitive fish habitat and HDD/trenchless sites, multiple transects will be monitored both upstream and downstream of the crossing at a higher frequency and with the site-specific use of different sampling methods. Data gathered from upstream locations will provide information regarding background levels and will be compared against the results of downstream monitoring to identify increases in sediment loads resulting from construction activities. Data gathered from locations downstream from the construction area will provide information regarding background levels and will be compared with results from within the construction area to identify sediment release.

In situ sampling results will be obtained using a portable turbidity meter for point measurements, or the use of an underwater sonde (*i.e.*, an instrument probe that automatically transmits information about its underwater surroundings) where continuous measurements and or personnel safety is a consideration. Turbidity readings will be collected across transects from the bank or near shore areas within the wetted channel of watercourses. During the open water season, crews will sample from the banks, wade instream or sample from a boat for watercourses unless sonde arrays have been deployed. During frozen conditions for water crossings, sampling will occur through holes in ice (if present) created by an ice auger. If warranted (*e.g.*, during a sedimentation event) water sampling frequency will be increased and representative water samples will be collected over a range of turbidity values and sent to an analytical laboratory for TSS analysis to form the basis of the TSS-turbidity relationship. A detailed photographic record will also be obtained for documentation purposes and reference. In addition to the turbidity measurements, pH and dissolved oxygen (DO) may be measured, where deemed necessary by the QAES or QEP as part of the water quality assessment (see the Water Withdrawal and Discharge Procedures Management Plan provided in Section 8 of Volume 6 of the Environmental Plans).

4.2 Criteria Proposed for Implementation of Water Quality Monitoring

WQM is proposed in high sensitivity fish-bearing watercourses and where CRA fish species or species of management concern are present, or immediately downstream of nonfish-bearing reaches with documented presence of CRA fish species or species of management concern within the ZOI. The need for WQM and the level of sampling/monitoring at each specific water crossing will be determined by the Environmental Inspector in consultation with the QAES/QEP, at the time of construction. Dry or frozen to the bottom conditions in a watercourse at the time of construction will preclude the need to undertake WQM. Very low flow or standing water conditions at the time of construction may also preclude the need for WQM beyond the precautionary salvage of fishes at each isolated trenched crossing of a fish-bearing watercourse. WQM is proposed for all HDD/trenchless crossings of high sensitivity fish-bearing habitat, regardless of timing.

Trans Mountain will adopt the most current guidelines (*e.g.*, Canadian Water Quality Guidelines for the Protection of Aquatic Life [CCME 2007]) and industry-accepted practices and procedures for use within its WQM program and, at a minimum, will ensure the short-term exposure level of TSS will not exceed an average of 25 mg/L over a 24-hour period (CCME 2007). Additional parameters (*e.g.*, DO, pH) may be measured where determined necessary by the QAES/QEP during construction activities that could affect these parameters (*e.g.*, winter beaver dam removals, and/or hydrostatic testing procedures). See the Water Withdrawal and Discharge Procedures Management Plan provided in Section 8 of Volume 6 of the Environmental Plans for further details regarding water withdrawal and discharge procedures during hydrostatic testing.

5.0 WATER QUALITY MONITORING RATIONALE

5.1 Isolated Trenched Crossings

Trenched watercourse crossing construction with flow isolation is an effective pipeline water crossing technique for maintaining water quality objectives. The isolated trenched crossing method will require some equipment to work closely adjacent to and across streams, installing and removing isolation measures, as well as during trench excavation, pipe lower-in, backfill and channel restoration stages. Monitoring water quality turbidity is an effective way to confirm the duration and magnitude of sediment mobilized during watercourse crossing construction.

The short-term mobilization of sediment during certain steps of isolated pipeline crossings (*e.g.*, installation and subsequent removal of isolation barriers) is largely unavoidable. However, when the placement of the isolation is completely effective, mobilized sediment is not expected to occur outside the isolation during the subsequent construction stages. The magnitude and duration of sediment released following the removal of the isolation is a function of the water discharge over the disturbed isolation area and can be mitigated by effectively restoring the channel substrate prior to release of natural flow, using clean cap material or washed channel substrate where practical, and a controlled release of the upstream isolation barrier and flows through the isolated area.

The duration of mobilization events resulting from isolated crossings typically vary, depending on the size of the watercourse or wetland, type of isolation measures used, substrate at the crossing site and the success and ease of the isolation installation, trench excavation and isolation removal efforts. Mitigation measures to be implemented during isolated water crossings to meet water quality management objectives will be focused on minimizing the duration and magnitude of instream disturbance, particularly during the mobilization, maintenance and removal of the isolation.

WQM activities can occur during all stages of an isolated trenched crossing and it is recommended that this be the standard monitoring approach (Figure 5-1) However, if a successful isolation is achieved (*i.e.*, no leakage occurs) and the management of grey water from the isolated area is demonstrated to be effective, WQM during trenching, pipe installation and backfilling stages may not be necessary or may be reduced in frequency. The Environmental Inspector will determine in consultation with the QAES/QEP whether monitoring will be limited to installation and removal of isolation measures or whether monitoring will occur, or monitoring frequency be reduced, over the entire course of the isolated crossing.

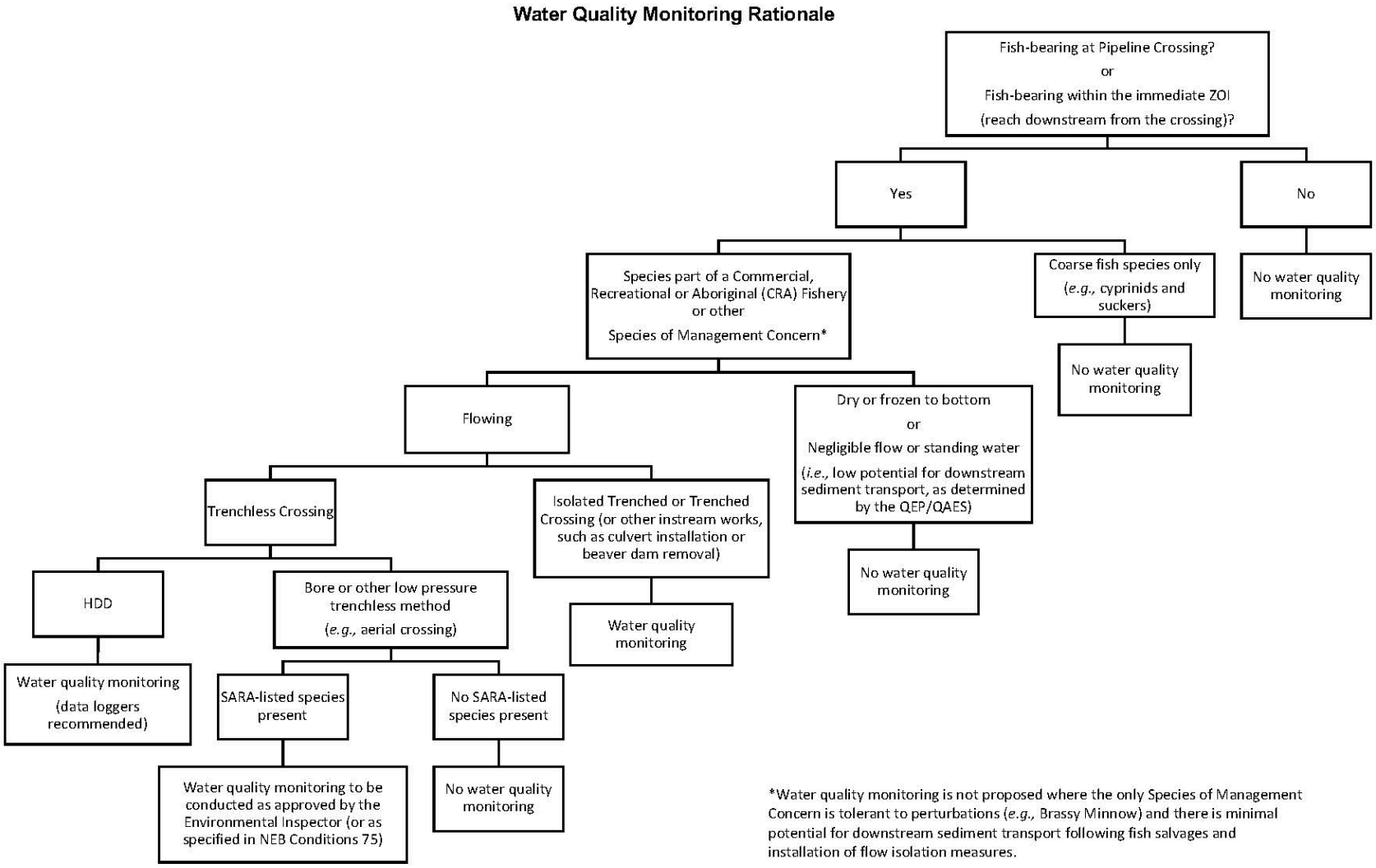

Figure 5-1 Water Quality Monitoring Rationale

5.2 Flowing Open Cut Trenched Crossings

The mobilization of sediment during open cut installation of pipeline crossings in flowing water (*i.e.*, trenched installations without flow isolation) is unavoidable and may result in disturbances to fish and aquatic habitat. As a result, an open cut construction method is the least preferred option for instream construction measures and is usually reserved for watercourses that are dry or frozen to the bottom. However, in the event a trenchless crossing fails or proves unfeasible and water flow cannot be effectively isolated, then an open cut crossing of a flowing watercourse would be considered as an alternate contingency method.

During flowing open cut pipeline crossing construction activities, potential effects to fish include: effects to behaviour (*e.g.*, habitat selection); the abundance and/or type of food organisms available; survival and/or development of eggs; and fish mortality. Monitoring water quality for TSS concentrations is an effective way to document and assess the magnitude, duration and extent of any sediment mobilization events resulting from the instream construction activities, and to provide insight into potential effects (if any) on aquatic resources.

Although it may not be possible to effectively isolate the open cut water crossing there are mitigation measures that can be applied to reduce the duration of exceedances to the water quality objectives. The installation of turbidity curtains, where practical, are secondary measures that can be applied to flowing open cut trenched crossings to help take sediment out of suspension. Coupled with sequencing (start and stop) of instream construction activity, turbidity curtains may be more effective during periods of no activity and to help reduce the downstream extent of the ZOI, and ultimately reducing the overall effect on fishes and their habitat. The applicability of these types of measures will need to be assessed individually at each site where flowing open cut trenched crossings are contemplated.

Trenched crossing construction without flow isolation will require some equipment to work instream during trenching, lowering-in and backfilling stages. It is anticipated that sediment mobilized during instream activities will vary, depending on the size of the system, stream velocity, substrate at the crossing site and the ease of pipe installation efforts. Site-specific water crossing plans will be prepared by the Contractor and reviewed by the QAES/QEP and Environmental Inspector to ensure that measures are taken to minimize the handling of materials instream and to lessen the overall time instream is required to install the pipeline through the watercourse. Detailed WQM will be undertaken on any open cut trenched crossing of a flowing watercourse (Figure 5.1).

5.3 Horizontal Directional Drill/Trenchless Crossings

The purpose of WQM during an HDD/trenchless crossing is two-fold: 1) to enhance the potential for early warning of an inadvertent release of bentonite fluid or other potential sediment mobilization event; and 2) to help document the extent of the effects and the need for additional mitigation from any sediment events, should they occur. The inclusion of WQM during HDD/trenchless crossings is also important where there is potential for construction to encounter technical difficulty and/or sensitive fish habitat is present in the vicinity of the crossing and the ZOI (Figure 5.1).

In the event of an inadvertent bentonite release during HDD or trenchless crossings, Contingency Plans are in place to guide Project activities with the potential to result in exceedance of water quality objectives (see Bentonite Fluid Release Contingency Plan provided in Appendix B of the Pipeline EPP [Volume 2 of the Environmental Plans]).

5.4 Water Quality Monitoring for Beaver Dam Removals during Winter

In the event beaver dam removal is required during winter, the potential for negative effects to fish and fish habitat from the beaver dam removal (*e.g.*, sediment transport, water released downstream with low DO and/or pH values) will need to be monitored and/or mitigated. Note that beaver dam removal in both Alberta and BC requires a permit and adherence to specific permit conditions. Where required, a fish salvage will also be attempted prior to or during dam removal. Special steps may be required to ensure suitable salvage efforts during construction in frozen conditions. These steps could include the removal of ice (with heavy machinery) from the channel prior to dam removal to allow for electrofishing effort and/or the use of traps. Provincial codes of practice or guidelines and best management practices require the controlled breach and removal of the dam in a manner that avoids stranding fishes and allows a crew to effectively salvage fish via dip nets or seine nets.

The QAES/QEP will conduct water quality sampling prior to the removal of beaver dams in fish-bearing watercourses, or in fish-bearing reaches of receiving watercourses within the ZOI, to compare water quality parameters (*i.e.*, DO and pH) between the release water within the beaver dam and receiving water downstream from the beaver dam. The QAES/QEP will determine if differences in DO and pH have the potential to negatively affect the aquatic environment downstream from the beaver dam requiring removal, based on CCME (2007) guidelines or as otherwise required by DFO and/or other regulatory authorities. The need for WQM during the release of beaver dams will be determined in consultation with the Environmental Inspector and QAES/QEP.

Because of low flows, ponded areas and multiple dams that are often present in watercourses and drainages where beaver activity is present, the potential for mobilizing suspended sediment to downstream habitat may be reduced when beaver dam removals are occurring (*i.e.*, removals occurring within part of a beaver dam complex). The need for WQM for turbidity will be determined by the QAES or QEP in consultation with the Environmental Inspector and will be based on the expected quantity and duration of mobilized sediment, flow conditions and fish habitat (*i.e.*, wintering, rearing) conditions present at the time of construction. For example, low flows and an absence of wintering or rearing fish habitat in receiving waters may eliminate the need for turbidity monitoring.

6.0 TOTAL SUSPENDED SOLIDS VARIANCES

Should a release of bentonite fluid be suspected and associated turbidity values are observed instream, water samples for laboratory analysis of TSS will be collected. This is necessary to establish the site-specific relationship between TSS and turbidity. However, laboratory analysis will require multiple days for completion, resulting in a delay in the conversion of turbidity data collected at the crossing site. As a result, previous observed relationships between TSS and turbidity may be used as a reference to approximate TSS levels in the field prior to the receipt of laboratory results. All *in situ* turbidity values collected, both upstream (background) and downstream of the inadvertent bentonite fluid release, sedimentation site and construction zone, will be retroactively converted to TSS values and will then be compared against TSS thresholds outlined in the CCME (2007) TSS guidelines.

If an exceedance of TSS criteria is expected, crossing activities will be suspended or modified, until the source of the high turbidity or TSS is identified and corrective action(s) identified and implemented.

Construction may resume when corrective action(s) have been undertaken as approved by the Environmental Inspector. A summary of corrective actions taken will be documented and provided to Trans Mountain's Regulatory and Compliance Team, who will notify Appropriate Government Authorities within the legislated reporting timeframes.

6.1 Reporting

Where WQM is completed during construction, Trans Mountain will report the results of assessments and a summary of any corrective actions that were carried out. WQM reports will be provided to the regulator following construction. These reports will be publicly available. Where a non-compliance event occurs as described above, additional event reporting will be provided once laboratory analysis of TSS values has been completed. Until that time, the QAES/QEP can report suspected exceedances based on turbidity thresholds in the CCME guidelines. If WQM indicates that exceedances of established TSS levels has occurred as a result of Project construction activities, Trans Mountain will report the incident to Appropriate Government Authorities (*e.g.*, NEB, DFO).

7.0 REFERENCES

Canadian Council of Ministers of the Environment. 2007. Canadian Water Quality Guidelines for the Protection of Aquatic Life: Summary Table. Updated in December 2007 from the Canadian Environmental Quality Guidelines, 1999. Canadian Council of Ministers of the Environment. Winnipeg, MB.

Government of Alberta. 2013a. Code of Practice for Watercourse Crossings. Website: http://www.qp.alberta.ca/documents/codes/crossing.pdf. Accessed: December 2016.

Government of Alberta. 2013b. Code of Practice for Pipelines and Telecommunication Lines Crossing a Water Body. Website: http://www.qp.alberta.ca/documents/codes/pipeline.pdf. Accessed: December 2016.

Fisheries and Oceans Canada. 2015. Measures to Avoid Causing Harm to Fish and Fish Habitat. Website: http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/measures-mesures-eng.html. Accessed: December 2016.

APPENDIX A

CONSULTATION AND ENGAGEMENT

Consultation and engagement activities related to WQM management were completed with Appropriate Government Authorities, potentially affected Aboriginal groups, and affected landowners/tenants. Opportunities to discuss WQM management and identify issues or concerns were also provided to public stakeholders during meetings, workshops and ongoing engagement activities.

Consultation and engagement opportunities began in May 2012 with the Project announcement and are ongoing.

1.0 CONSULTATION AND ENGAGEMENT OVERVIEW: DRAFT PLAN DEVELOPMENT

Reports on activities completed between May 2012 and June 30, 2015 were filed with the NEB and are available in the Application (Volume 3A: Stakeholder and Volume 3B: Aboriginal; Filing ID A55987) as well as in Consultation Update No. 1 and Errata, Technical Update No. 1 (Filing ID A59343) / Consultation Update 2 (Filing IDs A62087 and A62088), Consultation Update 3 (Filing IDs A4H1W2 through A4H1W8) and Consultation Update 4 (Filing ID A72224). These reports include the results of consultation conducted to June 30, 2015, identification of issues and concerns as well as Trans Mountain's response and are included below.

Consultation and engagement activities completed between July 1, 2015 and May 2017 have not been filed on the public record with the NEB. Any new issues, concerns regarding WQM management identified during this period, as well as Trans Mountain's response, are described below.

Implementation of WQM is linked to the properties of watercourses crossed by the route. Consultation related to watercourse sampling methodology is found in the Watercourse Crossing Inventory (Section 8 of Volume 6 of the Environmental Plans).

2.0 CONSULTATION AND ENGAGEMENT OVERVIEW: DRAFT PLAN

The draft Plan was released for review and feedback on December 10, 2016. The comment period closed on March 10, 2017, although feedback was accepted up until April 2017. Email or mail notification regarding the Plan was sent to 141 public stakeholders, 17 regulatory authorities, and all affected landowners. A letter was sent to 133 Aboriginal groups with a copy of the draft Plan on April 28, 2017 for a second review and feedback period, which concluded on May 19, 2017. The notification included a summary description of the Plan, a request for review, the timing of the comment period and contact information. Aboriginal groups were offered the opportunity for an in-person meeting to review the Plan. See Appendix B for a complete list of notified stakeholders.

In addition to direct notification, the online posting of each Plan was promoted through Trans Mountain's weekly e-newsletter, Trans Mountain Today, which provides Project updates, regulatory information, stories and interviews to more than 6,000 subscribers. Each week Trans Mountain Today included a focus on a specific plan, or group of plans, as well as a reminder of all plans available for review.

2016:

- September 22 - Wildlife Mitigation and Habitat Restoration Plans;
- September 29 - Pipeline Environmental Protection Plans;
- October 6 - Air Quality Management Plans;
- October 13 - Watercourse and Water Ecosystems Plans;
- October 20 - Vegetation Management Plans;

- October 27 - Air Quality Plans;
- November 3 - Socio-Economic Effects Monitoring Plan;
- November 10 - Access Management Plan;
- December 22 - General promotion all plans; and
- December 29 - General promotion all plans.

2017:

- January 5 - General promotion all plans; and
- January 12 - General promotion all plans.

Trans Mountain is committed to ongoing engagement throughout the life of the Project. The start and end date for the review and comment period for each environmental management plan is defined. These timelines are required to allow time for preparation of the final Plan in order to meet regulatory requirements and NEB submission dates.

3.0 CONSULTATION AND ENGAGEMENT: ACTIVITIES AND FEEDBACK

Consultation and engagement activities completed with identified stakeholder groups are described below, including: public stakeholders (Section 3.1); Appropriate Government Authorities (Section 3.2); Aboriginal groups (Section 3.3); and landowner/tenants (Section 3.4).

3.1 Public Consultation

3.1.1 Public Consultation Summary – May 2012 to June 2015

Feedback regarding WQM management received during public consultation and engagement activities between May 2012 and June 30, 2015 is summarized in Table A-1.

TABLE A-1

SUMMARY OF PUBLIC CONSULTATION RELATED TO WATER QUALITY MONITORING MANAGEMENT (MAY 2012 TO JUNE 2015)

Issue or Concern	Trans Mountain Response	Where Addressed
Water quality impacts on drainage canals at Colony Farm	There are two proposed watercourse crossings of drainage canals that border Colony Farm. One will be crossed using a trenchless method, as part of the Fraser River HDD, the second crossing will use an isolated crossing method. While small elevations in turbidity are anticipated during installation of the isolation and clean-water bypass, use of an isolated crossing method will ensure that adjacent water quality is maintained during the pipeline installation.	Section 5.1 of this Plan
In response to the Fraser Valley Regional District and during the March 2013 workshop, Trans Mountain has stated that there is "good research" which shows that short-term increases in suspended sediment have little impact on benthic invertebrate communities. However, it is understood that this research is based on small mountain streams, not the slow-moving, low gradient streams or sloughs common in the Fraser Valley. What measures will be taken to avoid sedimentation and turbidity impacts on the region's watercourses and wetlands?	Pollution in sediments influences the development of benthic invertebrates, the base of the food chain and can lead to modification of the whole ecological structure (Beasley and Kneale 2002). Benthic invertebrates are a useful indicator of water quality for effluent discharge, but may not be the most practical indicator to use for short-term disturbances such as those from pipeline watercourse crossings. However, that does not suggest potential effects to benthic invertebrates from increased suspended solids at pipeline watercourse crossings should be overlooked. Benthic invertebrates are an important food source for many aquatic organisms, including fish and, consequently, are considered under the fish and fish habitat element. Further details are located in Volume 5A, Section 7.2.7.	Volume 5A, Socio-Economic Assessment – Biophysical Section 7.2.7

3.1.2 New Interests, Issues, Concerns and Response – July 2015 to March 2017

No new issues or concerns regarding WQM management were identified by public stakeholders through engagement and communication opportunities during the July 2015 and March 2017 reporting period.

3.2 Appropriate Government Authority Consultation

Trans Mountain has initiated consultation and will continue to work with Appropriate Government Authorities to ensure that the Plan aligns with relevant government policy.

3.2.1 Regulatory Consultation Summary – May 2012 to June 2015

Appropriate Government Authority consultation related to WQM management received during May 2012 to June 30, 2015 is summarized in Table A-2.

TABLE A-2

SUMMARY OF APPROPRIATE GOVERNMENT AUTHORITY CONSULTATION RELATED TO WATER QUALITY MANAGEMENT (MAY 2012 TO JUNE 2015)

Name and Title of Contact	Method of Contact	Date of Consultation Activity	Issue or Concern	Trans Mountain Response	Where Addressed in the Plan
Krista Morten and Carol Jenkins BC Ministry of Jobs, Tourism and Innovation	In Person	September 2012	Water quality is an issue for tourism businesses	Water quality is considered in the Project EPPs.	Project EPPs (Volumes 1 through 5 and Volume 9 of the Environmental Plans)

3.2.2 New Interests, Issues, Concerns and Response – July 2015 to April 2017

Table A-3 includes new interests, issues and concerns, as well as Trans Mountain's response with respect to WQM management identified through consultation with appropriate government authorities between July 2015 and April 2017.

TABLE A-3

SUMMARY OF APPROPRIATE GOVERNMENT AUTHORITY CONSULTATION RELATED TO WATER QUALITY MANAGEMENT (JULY 2015 TO APRIL 2017)

Name and Title of Contact	Method of Contact	Date of Consultation Activity	Issue or Concern	Trans Mountain Response	Where Addressed in the Plan
Township of Langley	Email	April 11, 2017	Section 2.1 (now Section 3.1) indicates the primary criteria in pre-selecting water crossings to be monitored is the presence of high sensitivity habitat in fish-bearing watercourses. As mentioned in Langley comments on Plan 8.8 (Batch 1) the determination of fish-bearing watercourses should be re-assessed at 24 crossings, and this may increase the number of WQM sites.	Trans Mountain has completed an extensive field program investigating the fish presence and fish habitat potential at all watercourses along the TMEP route proposed. Sampling and investigations have often included multiple seasons of sampling, and sometimes in multiple years. Trans Mountain remains confident in the updated Watercourse Inventory provided. WQM is proposed in high sensitivity fish-bearing watercourses and where CRA fish species or species of management concern are present, or immediately downstream of nonfish-bearing reaches with documented presence of CRA fish species or species of management concern within the ZOI. The need for WQM and the level of sampling/monitoring at each specific water crossing will be determined by the Environmental Inspector in consultation with the QAES/QEP, at the time of construction.	Section 4 of this Plan Watercourse Crossing Inventory (Section 8, Volume 6 of the Environmental Plans)

TABLE A-3 Cont'd

Name and Title of Contact	Method of Contact	Date of Consultation Activity	Issue or Concern	Trans Mountain Response	Where Addressed in the Plan
Township of Langley	Email	April 11, 2017	Section 5.1 discusses Isolated Trenched Crossings and the effectiveness of isolation barriers in reducing sediment mobilization. It should be expanded to discuss conditions which might result in excessive TSS loadings, such as heavy rainfall events which result in flows overtopping isolation barriers. Langley requests that Trans Mountain revise Section 5.1 and commit to assess, and discuss with Langley, conditions which might result in excessive TSS loadings. Also, Trans Mountain should commit to developing management plans to address any such conditions.	Trans Mountain acknowledges that isolation barriers that are overtopped or 'blown out' during heavy rainfall events may result in excessive increases in turbidity. It is for this reason, Trans Mountain has stated that any isolation (particularly at larger watercourses) would not be commenced unless a window of favourable weather (*i.e.,* respective channel hydrograph) is available. This is addressed in the "Flood and Excessive Flow Contingency Plan".	Appendix B, Contingency Plans, of the Pipeline Environmental Protection Plan (Volume 2 of the Environmental Plans).
Township of Langley	Email	April 11, 2017	Section 6.1 Langley requests copies of these WQM reports.	Information will be provided to the regulator following construction and will be publicly available.	Section 6 of this Plan

3.3 Aboriginal Engagement

Since April 2012, Trans Mountain has engaged with Aboriginal communities that might have an interest in the Project or have Aboriginal interests potentially affected by the Project based on the proximity of the Aboriginal community and their assertion of traditional and cultural use of the land along the pipeline corridor to maintain a traditional lifestyle. The objectives of Aboriginal engagement are to:

- have an open, transparent and inclusive process that seeks to exchange information in a respectful manner;
- address concerns shared by those who might have an interest in the Project or have Aboriginal interests potentially affected by the Project;
- incorporate feedback into Project planning and execution; and
- provide opportunities to maximize Project benefits to Aboriginal communities and Aboriginal groups.

A comprehensive Aboriginal engagement process is led by experienced engagement advisors in Alberta and BC, specialized in the areas of Aboriginal relations, law, economic development, education, training, employment, and procurement. Trans Mountain's engagement process for the Project is flexible, allowing each community and group to engage in meaningful dialogue in the manner they choose and in a way to meet their objectives and values.

Each community had the opportunity to engage with Trans Mountain, depending on Project interests and potential effects. The following opportunities to engage have been provided:

- Project announcement;
- initial contact with Aboriginal community or Aboriginal group;
- meetings with Chief and Council and meetings with staff;
- host community information session(s);

- conduct Traditional Land Use (TLU) studies and socio-economic interviews;
- identify interests and concerns; and
- identify mitigation options.

There were no issues and concerns related to the Plan raised during Aboriginal engagement from between early 2012 to May 2017.

Trans Mountain continues to liaise with Indigenous and Northern Affairs Canada, the Government of Canada's Major Projects Management Office, the BC Ministry of Aboriginal Relations and Reconciliation, and the Alberta Ministry of Aboriginal Affairs to provide updates regarding Trans Mountain's engagement activities with Aboriginal groups.

3.3.1 Identifying Aboriginal Groups for Consultation

Appendix C lists the Aboriginal groups identified for consultation. Throughout regular engagement with TMEP, any Aboriginal groups would have been added to the list if they had identified WQM management as a concern.

3.3.2 Consultation Activities

A letter was sent to the Aboriginal groups listed in Appendix C with a copy of the draft Plan in April 2017 on April 28, 2017 for a review and feedback period, which concluded on May 19, 2017. Where appropriate and upon request, a follow up meeting was arranged to discuss this Plan in more detail and address any concerns. This final Plan will be shared with the Aboriginal groups at the same time as the Plan is filed with the NEB in 2017.

No concerns or questions about the Plan were expressed by Aboriginal groups.

3.4 Landowners/Tenants

Trans Mountain has implemented a comprehensive landowner engagement process for the TMEP to:

- ensure landowners are informed of the Project and how it may affect them;
- enable landowners to gain an understanding of their rights under the *NEB Act*, and the regulatory process and their opportunities for comment within the NEB regulatory process; and
- have a number of opportunities to discuss the Project, identify my concerns or questions they may have with the project, and have those questions and concerns addressed by Trans Mountain.

In addition to these opportunities for engagement, Trans Mountain is required to provide formal notifications of landowners under Sections 87 and 34 of the *NEB Act*, and Trans Mountain has or will, at the appropriate time, provide such notices.

Individual landowners and tenants have different preferences with respect to communications, and Trans Mountain tailors its communications as requested. Land representatives working for Trans Mountain have been in discussions with landowners for over three years and issues or concerns raised with land agents have been documented in the Project landowner database, addressed within site specific construction plans and documented within the land rights agreements. Trans Mountain has filed reports with the NEB providing details on the landowner engagement program and results to date. In accordance with NEB Condition 99, records of engagement and consultation with landowners and tenants will be filed with the NEB at least two months prior to commencing construction and every six months thereafter until five years after commencing Project operations.

Trans Mountain's landowner/tenant consultation strategy includes the activities described below.

1. Prior to Project approval - obtain landowner permission for survey, provide information on the project and landowner rights, provide copies of land agreement documents to the landowners for their review and consideration, dialogue with each landowner to answer questions and address concerns raised by landowners, provide Project updates, and disseminate any other information necessary to satisfy landowner requests and regulatory requirements. After addressing outstanding questions and issues, obtain land agreements from landowners voluntarily. Land agreements have and will address specific landowner concerns regarding construction and reclamation activity.
2. After obtaining a Certificate of Public Convenience and Necessity from the NEB, Trans Mountain will provide Section 34 notices indicating the detailed route for the pipeline and the specific lands affected by the Project, and complete any additional regulatory procedures required prior to commencement of construction, including providing reasonable notice through land agents of commencement date and activities. Trans Mountain land representatives will continue to maintain contact with landowners through construction to answer questions and address any issues that may arise. Following construction, maintain communication with landowners to discuss reclamation activities and timing. Upon completion of reclamation, Trans Mountain will transition the Project land program to operations.

Respecting this report, Trans Mountain notified landowners by letter in September 2016 that NEB Condition plans were being released for consultation and feedback. The landowner notification letter requested that landowners review the reports available on the TMEP website, or alternatively contact their assigned land representative or Trans Mountain directly if they wished to receive hard copies of the reports to review. No responses or requests for copies of the reports were received by Trans Mountain and no concerns or questions about the reports were expressed by landowners.

APPENDIX B

RECORD OF STAKEHOLDER NOTIFICATIONS OF PLAN

TABLE B-1

RECORD OF NOTIFICATION

Regulator/Stakeholder Group	Contact Name (if applicable)	Date	Method of Contact
Landowners	N/A	September 11, 2016	Letter
Aboriginal Groups	N/A	April 28, 2017	Letter
Vancouver Fraser Port Authority	Tim Blair	December 22, 2016	Email
Jasper National Park of Canada	Mayabe Dia	December 22, 2016	Email
Alberta Environment and Parks	Corinne Kristensen	December 22, 2016	Email
Ministry of Transportation and Infrastructure	Lisa Gow	December 22, 2016	Email
BC Parks	Ken Morrison	December 22, 2016	Email
BC Oil and Gas Commission	Brian Murphy	December 22, 2016	Email
Ministry of Natural Gas Development	Linda Beltrano	December 22, 2016	Email
Forests, Lands and Natural Resource Operations	Andrea Mah	December 22, 2016	Email
Forests, Lands and Natural Resource Operations	Susan Fitton	December 22, 2016	Email
FVAQC	Roger Quan	October 21, 2016	Email
ECCC	Phil Wong	October 21, 2016	Email
ECCC	Rachel Mayberry	October 28, 2016	Email
ECCC	Coral Deshield	December 21, 2016	Email
ECCC	Phil Wong	December 21, 2016	Email
Vancouver Fraser Port Authority	Patrick Coates	January 31, 2017	Email
Department of Fisheries and Oceans	Sandra Hollick-Kenyon	December 3, 2016	Email
Department of Fisheries and Oceans	Alston Bonamis	December 3, 2016	Email
City of Edmonton	N/A	November 29, 2016	Letter
City of Spruce Grove	N/A	November 29, 2016	Letter
Municipality of Jasper	N/A	November 29, 2016	Letter
Parkland County	N/A	November 29, 2016	Letter
Strathcona County	N/A	November 29, 2016	Letter
Town of Edson	N/A	November 29, 2016	Letter
Town of Hinton	N/A	November 29, 2016	Letter
Town of Stony Plain	N/A	November 29, 2016	Letter
Village of Wabamun	N/A	November 29, 2016	Letter
Yellowhead County	N/A	November 29, 2016	Letter
City of Kamloops	N/A	November 29, 2016	Letter
City of Kamloops RCMP Detachment	N/A	November 29, 2016	Letter
City of Merritt	N/A	November 29, 2016	Letter
City of Merritt RCMP Detachment	N/A	November 29, 2016	Letter
Clearwater Chamber of Commerce	N/A	November 29, 2016	Letter
District of Clearwater	N/A	November 29, 2016	Letter
District of Clearwater RCMP Detachment	N/A	November 29, 2016	Letter
Interior Health	N/A	November 29, 2016	Letter
Merritt Chamber of Commerce	N/A	November 29, 2016	Letter
Northern Health	N/A	November 29, 2016	Letter
Regional District of Fraser Fort George	N/A	November 29, 2016	Letter
Thompson Nicola Regional District	N/A	November 29, 2016	Letter
Town of Blue River	N/A	November 29, 2016	Letter
Venture Kamloops	N/A	November 29, 2016	Letter
Village of Valemount	N/A	November 29, 2016	Letter
Village of Valemount RCMP Detachment	N/A	November 29, 2016	Letter
Nicola Stock Breeder's Association - on behalf of the BC Cattlemen's Association	N/A	November 29, 2016	Letter
Grassland's Conservation Council	N/A	November 29, 2016	Letter
Thompson Rivers University	N/A	November 29, 2016	Letter
Southern Interior Weed Management Committee	N/A	November 29, 2016	Letter

TABLE B-1 Cont'd

Regulator/Stakeholder Group	Contact Name (if applicable)	Date	Method of Contact
Fraser Basin Council	N/A	November 29, 2016	Letter
Northwest Invasive Plant Council (NWIPC)		November 29, 2016	
Grassland's Conservation Council	N/A	November 29, 2016	Letter
Abbotsford Chamber of Commerce	N/A	November 29, 2016	Letter
Abbotsford Police Department	N/A	November 29, 2016	Letter
ASCA	N/A	November 29, 2016	Letter
BC Invasive Species	N/A	November 29, 2016	Letter
BC Ministry of Children and Family Development	N/A	November 29, 2016	Letter
BC Ministry of Social Development	N/A	November 29, 2016	Letter
BC Nature	N/A	November 29, 2016	Letter
BC Wildlife Federation	N/A	November 29, 2016	Letter
Burnaby Board of Trade	N/A	November 29, 2016	Letter
Burnaby RCMP Detachment	N/A	November 29, 2016	Letter
Chilliwack Chamber of Commerce	N/A	November 29, 2016	Letter
Chilliwack Economic Partners	N/A	November 29, 2016	Letter
City of Abbotsford	N/A	November 29, 2016	Letter
City of Burnaby	N/A	November 29, 2016	Letter
City of Chilliwack	N/A	November 29, 2016	Letter
City of Coquitlam	N/A	November 29, 2016	Letter
City of New Westminster	N/A	November 29, 2016	Letter
City of Port Coquitlam	N/A	November 29, 2016	Letter
City of Port Moody	N/A	November 29, 2016	Letter
City of Surrey	N/A	November 29, 2016	Letter
Coquitlam RCMP Detachment	N/A	November 29, 2016	Letter
Corporation of Delta	N/A	November 29, 2016	Letter
District of Hope	N/A	November 29, 2016	Letter
Eagle Creek	N/A	November 29, 2016	Letter
Fraser Valley Invasive Plant Council	N/A	November 29, 2016	Letter
Fraser Valley Regional District	N/A	November 29, 2016	Letter
Glen Valley Watershed Society	N/A	November 29, 2016	Letter
Hope Chamber of Commerce	N/A	November 29, 2016	Letter
Hope Community Policing Office	N/A	November 29, 2016	Letter
Langley Chamber of Commerce	N/A	November 29, 2016	Letter
LEPS	N/A	November 29, 2016	Letter
LFVAQCC	N/A	November 29, 2016	Letter
Metro Vancouver	N/A	November 29, 2016	Letter
Newton RCMP Detachment	N/A	November 29, 2016	Letter
RCMP Division 'E'	N/A	November 29, 2016	Letter
Sapperton Fish and Game	N/A	November 29, 2016	Letter
Stoney Creek	N/A	November 29, 2016	Letter
Surrey Board of Trade	N/A	November 29, 2016	Letter
Surry Environmental Partners	N/A	November 29, 2016	Letter
Surrey RCMP Detachment	N/A	November 29, 2016	Letter
Township of Langley	N/A	November 29, 2016	Letter
Township of Langley RCMP Detachment	N/A	November 29, 2016	Letter
TriCities Chamber of Commerce	N/A	November 29, 2016	Letter
Upper Fraser Valley Regional Detachment	N/A	November 29, 2016	Letter
Village of Anmore	N/A	November 29, 2016	Letter
Village of Belcarra	N/A	November 29, 2016	Letter
Yorkson	N/A	November 29, 2016	Letter
ACGI Shipping	N/A	November 29, 2016	Letter
Barnett Marine Park	N/A	November 29, 2016	Letter
BC Ambulance	N/A	November 29, 2016	Letter
BC Chamber of Shipping	N/A	November 29, 2016	Letter
BC Coast Pilots (BCCP)	N/A	November 29, 2016	Letter

TABLE B-1 Cont'd

Regulator/Stakeholder Group	Contact Name (if applicable)	Date	Method of Contact
BROKE (Burnaby Residents Opposed to Kinder Morgan Expansion)	N/A	November 29, 2016	Letter
Canadian Pacific (CP) Rail	N/A	November 29, 2016	Letter
Canexus- Ero- Newalta-Univar Community Advisory Panel (CAP)	N/A	November 29, 2016	Letter
Canexus Chemicals	N/A	November 29, 2016	Letter
Chevron	N/A	November 29, 2016	Letter
CN Rail	N/A	November 29, 2016	Letter
Council of Marine Carriers	N/A	November 29, 2016	Letter
District of North Vancouver	N/A	November 29, 2016	Letter
Empire Shipping	N/A	November 29, 2016	Letter
Erco Worldwide	N/A	November 29, 2016	Letter
First Nation Emergency Services Society (FNESS)	N/A	November 29, 2016	Letter
First Nation Health Authority	N/A	November 29, 2016	Letter
Fraser Health Authority	N/A	November 29, 2016	Letter
Inchcape Shipping	N/A	November 29, 2016	Letter
Island Tug and Barge	N/A	November 29, 2016	Letter
Kask Brothers	N/A	November 29, 2016	Letter
Ledcor Resources and Transportation Limited Partnership	N/A	November 29, 2016	Letter
Mason Agency (Shipping Service)	N/A	November 29, 2016	Letter
MLA- Burnaby Lougheed	N/A	November 29, 2016	Letter
MLA- Burnaby North	N/A	November 29, 2016	Letter
MLA- Coquitlam – Burke Mountain	N/A	November 29, 2016	Letter
MLA- North Vancouver Lonsdale	N/A	November 29, 2016	Letter
MLA- North Vancouver Seymour	N/A	November 29, 2016	Letter
MLA- Port Moody- Coquitlam	N/A	November 29, 2016	Letter
MP- Delta	N/A	November 29, 2016	Letter
MP- North Burnaby Seymour	N/A	November 29, 2016	Letter
MP- North Vancouver	N/A	November 29, 2016	Letter
MP- Vancouver Centre	N/A	November 29, 2016	Letter
MP- Vancouver East	N/A	November 29, 2016	Letter
MP- Vancouver Quadra	N/A	November 29, 2016	Letter
MP- West Vancouver – Sunshine Coast – Sea to Sky Country	N/A	November 29, 2016	Letter
North Shore NOPE	N/A	November 29, 2016	Letter
North Vancouver Chamber of Commerce	N/A	November 29, 2016	Letter
Pacific Coast Terminal	N/A	November 29, 2016	Letter
Pacific Pilotage Authority	N/A	November 29, 2016	Letter
Pacific Wildlife Foundation	N/A	November 29, 2016	Letter
Peter Kiewit Infrastructure Co.	N/A	November 29, 2016	Letter
Seaspan	N/A	November 29, 2016	Letter
Shell Terminal	N/A	November 29, 2016	Letter
Simon Fraser University	N/A	November 29, 2016	Letter
SMIT Marine	N/A	November 29, 2016	Letter
Suncor Terminal	N/A	November 29, 2016	Letter
UBC Stellar Sea Lion (Marine Mammal) Research Centre	N/A	November 29, 2016	Letter
Vancouver Aquarium	N/A	November 29, 2016	Letter
Vancouver Board of Trade	N/A	November 29, 2016	Letter
Vancouver Coastal Health Authority	N/A	November 29, 2016	Letter
Vancouver Pile and Dredge	N/A	November 29, 2016	Letter
West Vancouver Chamber of Commerce	N/A	November 29, 2016	Letter
Westward Shipping	N/A	November 29, 2016	Letter
Wild Bird Trust	N/A	November 29, 2016	Letter
Metro Vancouver Regional District	Ali Ergudenler	November 29, 2016	Email
Metro Vancouver Regional District	Roger Quan	November 29, 2016	Email

APPENDIX C

ABORIGINAL GROUPS ENGAGED ON THE WATER QUALITY MONITORING MANAGEMENT PLAN

TABLE C-1

ABORIGINAL GROUPS ENGAGED ON THE WATER QUALITY MONITORING MANAGEMENT PLAN

- Adams Lake Indian Band
- Aitchelitz First Nation (Stó:lō)
- Alexander First Nation
- Alexis Nakota Sioux Nation
- Aseniwuche Winewak Nation
- Ashcroft Indian Band (Nlaka'pamux Nation)
- Asini Wachi Nehiyawak
- Boothroyd Indian Band (Nlaka'pamux Nation)
- Boston Bar First Nation (Nlaka'pamux Nation)
- British Columbia Métis Federation
- Canim Lake Band (Tsq'escenemc')
- Canoe Creek (Stswecem'c Xgat'tem) First Nation
- Chawathil First Nation (Stó:lō)
- Cheam First Nation (Stó:lō)
- Clinton Indian Band / Whispering Pines
- Coldwater Indian Band (Nlaka'pamux Nation)
- Cook's Ferry Indian Band (Nlaka'pamux Nation)
- Cowichan Tribes
- Enoch Cree Nation
- Ermineskine First Nation
- Foothills Ojibway Society
- Halalt First Nation (CNA)
- High Bar First Nation
- Horse Lake First Nation (Treaty 8)
- Huu-ay-aht First Nation
- Hwlitsum First Nation (CNA)
- Kanaka Bar Indian Band
- Katzie First Nation
- Kelly Lake Cree Nation
- Kelly Lake First Nation
- Kelly Lake Métis Settlement Society
- Ktunaxa Nation
- Kwantlen First Nation (Stó:lō)
- Kwaw-kwaw-Apilt First Nation (Stó:lō)
- Kwikwetlem First Nation
- Lake Cowichan First Nation
- Leq'á:mel First Nation (Stó:lō)
- Lheidli-T'enneh First Nation
- Lhtako Dene Nation
- Little Shuswap Indian Band
- Louis Bull Tribe
- Lower Nicola Indian Band (Nlaka'pamux Nation)
- Lower Similkameen Indian Band
- Lyackson First Nation
- Lytton First Nation (Nlaka'pamux Nation)
- Matsqui First Nation (Stó:lō)
- Métis Nation of Alberta Gunn Métis Local 55
- Métis Nation of British Columbia

TABLE C-1 Cont'd

- Métis Regional Council Zone IV of the Métis Nation of Alberta
- Michel First Nation
- Montana First Nation
- Musqueam Indian Band
- Nakcowinewak Nation of Canada
- N'laka'pamux Nation Tribal Council
- Neskonlith Indian Band
- Nicola Tribal Association
- Nicomen Indian Band (NTA)
- Nooaitch Indian Band (Nlaka'pamux Nation)
- O'Chiese First Nation
- Okanagan Indian Band
- Oregon Jack Creek Band (Nlaka'pamux Nation)
- Pacheedaht First Nation
- Paul First Nation
- Penelakut First Nation
- Penticton Indian Band
- Peters Band (Stó:lō)
- Popkum First Nation (Stó:lō)
- Qayqayt First Nation (New Westminster)
- Saddle Lake Cree Nation
- Samson Cree Nation
- Scowlitz First Nation (Stó:lō)
- Seabird Island Band (Stó:lō)
- Sechelt (Shíshálh Nation)
- Semiahmoo First Nation
- Shackan Indian Band (Nlaka'pamux Nation)
- Shuswap Indian Band
- Shuswap Nation Tribal Council
- Shxw'ōwhámel First Nation (Stó:lō)
- Shxwhá:y Village (Skway First Nation) (Stó:lō)
- Simpcw First Nation
- Siska Indian Band (Nlaka'pamux Nation)
- Skawahlook First Nation (Stó:lō)
- Skeetchestn Indian Band
- Skowkale First Nation (Stó:lō)
- Skuppah Indian Band (Nlaka'pamux Nation)
- Skway First Nation (Stó:lō)
- Soowahlie Indian Band (Stó:lō)
- Splatsin First Nation
- Spuzzum First Nation (Nlaka'pamux Nation)
- Squamish Nation
- Squiala First Nation (Stó:lō)
- St'at'imc Chiefs Council
- Stool Collective
- Stoney Nakoda First Nation
- Sts'ailes Band (Chehalis Indian Band) (Stó:lō)
- St'uxwtews (Bonaparte Indian Band)
- Stz'uminus First Nation (Chemainus)
- Sucker Creek First Nation
- Sumas First Nation (Stó:lō)
- Sunchild First Nation
- Tk'emlúps te Secwe̓pemc (Kamloops)
- Toosey Indian Band
- Treaty 8 First Nations of Alberta

TABLE C-1 Cont'd

- Tsawwassen First Nation
- Tsilhqot'in National Government
- Ts'kw'aylaxw (Pavilion Indian Band)
- Tsleil-Waututh Nation
- Tsuut'ina First Nation
- Tzeachten First Nation (Stó:lō)
- Union Bar Indian Band (Stó:lō)
- Upper Nicola Band (N'laka'pamux Nation)
- Upper Similkameen Indian Band
- Westbank First Nation
- Whitefish (Goodfish) Lake First Nation #128
- Williams Lake (T'exelc) Indian Band
- Xatśūll First Nation (Soda Creek Indian Band)
- Yakweakwioose First Nation (Stó:lō)
- Yale First Nation (Stó:lō)