GEORGE MASSEY TUNNEL REPLACEMENT PROJECT

(PROJECT)

SCHEDULE B

TABLE OF CONDITIONS FOR AN ENVIRONMENTAL ASSESSMENT CERTIFICATE

DEFINITIONS

Aboriginal Groups Cowichan Tribes, Halalt First Nation, Katzie First Nation, Kwantlen

First Nation, Lake Cowichan First Nation, Lyackson First Nation, Musqueam Indian Band, Penelakut Tribe, Hwlitsum, Semiahmoo

First Nation, Squamish Nation, Stz'uminus First Nation, Tsawwassen First Nation, and Tsleil-Waututh Nation.

Application The Application for an Environmental Assessment (EA) Certificate

submitted by the Holder on July 27, 2016.

Certified Project Corridor Defined in the Certified Project Description attached as Schedule A

to this Certificate.

Construction The phase of the Project during which physical alteration of land,

vegetation or any other aspect of the natural environment, occurs. For the purposes of this Schedule B, Construction: (i) does not include any activities conducted solely for investigative purposes under a valid permit or authorization, (ii) includes upgrading, repairing, replacing, or removing, any existing work or infrastructure,

including Tunnel Decommissioning; and (iii) does not include Site

Preparation in Advance of Construction.

Metro Vancouver Greater Vancouver Regional District.

Holder The Proponent or, if this Certificate has been transferred in

accordance with the conditions below, the person to whom this Certificate has been transferred in accordance with such conditions.

Operations The phase of the Project commencing on the date on which the

Project has commenced operations of the new bridge and Highway

upgrades.

Project The George Massey Tunnel Replacement Project as described in

the Certified Project Description attached as Schedule A to this

Certificate.

Project Footprint The area directly disturbed by activities relating to the Project,

including associated physical works and activities.

Qualified Professional A person who has training, experience and expertise in a discipline

relevant to the field of practice set out in the condition, and who is registered with the appropriate professional organization in British Columbia, is acting under that organization's code of ethics

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and is subject to disciplinary action by that organization.

Site Preparation in Works and activities undertaken by the Holder to prepare the

Advance of Construction Certified Project Corridor. For the purposes of this Schedule B, Site

Preparation in Advance of Construction means: land clearing,

construction of new access roads, drainage works, placement of fill as preload in areas where highway widening will occur, and the management of soil or other material removed to permit fill placement.

Tunnel Decommissioning

The Construction phase of the Project during which the George Massey Tunnel (Tunnel) will be decommissioned. For the purposes of Schedule B, Tunnel Decommissioning includes: (i) removal of the central four segments of the Tunnel, (ii) flooding of the two remaining segments of the Tunnel, (iii) backfill of the Tunnel approaches, and (iv) removal of the ventilation shafts and associated above ground enclosures.

ACRONYMS AND ABBREVIATIONS

ALC Agricultural Land Commission

BC British Columbia

Certificate Environmental Assessment Certificate

DFO Fisheries and Oceans Canada EA Environmental Assessment

EAO Environmental Assessment Office

ECCC Environment and Climate Change Canada

FLNRO Ministry of Forests, Lands and Natural Resource Operations

IAWG Inter-Agency Working Group

IEM Independent Environmental Monitor

MOTI Ministry of Transportation and Infrastructure

QP Qualified Professional

TWG Transportation Working Group VFPA Vancouver Fraser Port Authority

TABLE OF CONDITIONS

No.	Condition
1.	Document Review and Implementation
	 Where a condition of this Certificate requires the Holder to provide a plan, program or other document, the Holder must provide the plan, program or other document to EAO in the timeframe referenced in such condition, unless otherwise approved by EAO. EAO may, within 60 days of receiving a copy of such plan, program or other document, advise that: a) The Holder may proceed to implement the plan, program or other document with or without revisions; or b) A revised plan, program or other document must be provided for approval of EAO prior to a specified activity or milestone.
	If EAO advises pursuant to paragraphs (a) or (b) that changes are required to a plan, program or other document, then the Holder must follow the instructions of EAO in that regard.
	If EAO does not advise on a) or b) within 60 days of EAO receiving a plan, program or other document, the Holder may proceed to implement the plan, program or other document.
	The Holder may, or EAO may require the Holder to, revise any plan, program or other document if the Holder or EAO determines that the implementation of the plan, program or other document is not: a) Meeting one or more objectives of the plan, program or other document set out in the relevant condition of this Certificate;
	 b) Having the effects contemplated or intended, as set out in the plan, program or other document itself; c) Consistent with the Certificate; or d) Consistent with changes in industry best practices or technology.
2.	Plan Development
	 (1) Where a condition of this Certificate requires the Holder to develop a plan, program or similar document, any such document must, at a minimum, include the following information: a) Purpose and objectives of the document; b) Roles and responsibilities of the Holder, Project personnel and contractors; c) Names, and if applicable, professional certifications and professional stamps/seals of those responsible for the preparation of the plan, program, or other document;

- d) Schedule for implementing the plan, program, or other document throughout the relevant Project phases;
- e) Means by which the effectiveness of mitigation measures will be evaluated, including a schedule for evaluating effectiveness;
- f) Adaptive management plan to address effects of the Project if the monitoring conducted under section 2 of this condition shows that those effects:
 - i) Are not mitigated to the extent contemplated in the Application; or
 - ii) Are not predicted in the Application;
- g) Schedules and methods for the submission of reporting to specific agencies, Aboriginal Groups and the public and the required form and content of those reports; and
- h) Process and timing for updating and revising the plan, program, or other document, including any consultation with agencies and Aboriginal Groups that would occur in connection with such updates and revisions.
- (2) Where the plan, program or other document includes monitoring requirements, the plan, program or other document must include:
 - a) Description of baseline information that will be used to support monitoring of the effectiveness of mitigation;
 - b) Methodology, location, frequency, timing and duration of monitoring; and
 - c) Scope, content and frequency of reporting of the monitoring results.

3. Consultation

Where a condition of this Certificate requires the Holder to consult a particular party or parties regarding the content of a plan, program or other document, the Holder must, to the satisfaction of EAO:

- a) Provide written notice to each such party that:
 - i) Includes a copy of the plan, program or other document;
 - ii) Invites the party to provide its views on the content of such plan, program or other document; and
 - iii) Indicates:
 - If a timeframe providing such views to the Holder is specified in the relevant condition of this Certificate, that the party may provide such views to the Holder within such time frame; or
 - ii. If a timeframe providing such views to the Holder is not specified in the relevant condition of this Certificate, specifies a reasonable period during which the party may submit such views to the Holder:
- b) Undertake a full and impartial consideration of any views and other information provided by a party in accordance with the timelines specified in a notice given pursuant to paragraph (a);

- c) Provide a written explanation to each party that provided comments in accordance with a notice given pursuant to paragraph (a) as to:
 - How the views and information provided by such party to the Holder have been considered and integrated or otherwiseaddressed in a revised version of the plan, program or other document; or
 - ii) Why such views and information have not been addressed in a revised version of the plan, program or other document;
- d) Maintain a record of consultation with each such party regarding the plan, program or other document; and
- e) Provide a copy of such consultation record to EAO, the relevant party, or both, promptly upon the written request of EAO or such party.

4. Compliance Reporting and Verification

The Holder must submit a report to EAO on the status of compliance with this Certificate at the following times:

- a) At least 30 days prior to the start of Construction;
- b) On or before January 31 in each year after the start of Construction;
- c) At least 30 days prior to the start of Operations; and
- d) On or before January 31 in each year after the start of Operations, until three years after the start of Operations.

The reports must be in a form satisfactory to EAO. EAO may adjust or extend this reporting requirement by providing written notice to the Holder.

The Holder must provide any document, data or information requested by EAO for the purposes of compliance inspection and verification.

5. **Project Status Notification**

The Holder must notify EAO, City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups, in writing, 30 days prior to commencing Site Preparation in Advance of Construction, Construction, Tunnel Decommissioning and Operations.

Should the primary contact for the Project change, the Holder must notify EAO, City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups, in writing, within 30 days of such change and provide the physical address, email address and phone number(s) of the new primary contact.

6. Compliance Notification

The Holder must notify EAO after the Holder determines that it has not complied with this Certificate, within the following time periods:

- a) As soon as practicable; or
- b) Within 72 hours.

whichever is less.

7. Transfer of Certificate

- a) Except as provided below, neither this Certificate nor any interest in it may be transferred to any person. This Certificate will be effectively transferred if the proposed Holder acknowledges that, upon transfer, it will be responsible for complying with the conditions of the Certificate, and both the proposed Holder and the Holder:
 - i) Obtain consent for the transfer from the Executive Director;
 - Apply under Section 19 of the Act for such amendments to this Certificate, if any, as the Executive Director deems necessary to ensure compliance with and enforceability of this Certificate and to otherwise reflect the proposed transfer; and
 - iii) Confirm by written notice to the Executive Director, within 14 days of the completion of all aspects of the transfer transaction other than this notice, that the transfer has been completed.
- b) An interest in this Certificate may be transferred by way of a grant of security to lenders or financers without consent.
- c) A transfer of this Certificate to a trustee in bankruptcy, by a receiver or a trustee in bankruptcy pursuant to a court approved sale, or as part of a court approved arrangement under the Company Creditors Arrangement Act may occur without consent.

If this Certificate is transferred without consent, the new and former Holder must notify the Executive Director within 30 days of the transfer and apply within the time specified by the Executive Director for any amendments to this Certificate that the Executive Director deems necessary to ensure compliance with and enforceability of this Certificate and to otherwise reflect the proposed transfer.

8. Transfer of Interest in Project

- a) Except in connection with the granting of security to Project lenders or financers, prior to the Holder transferring a significant interest in the Project, the Holder and proposed transferee must:
 - i) Obtain consent for the transfer from the Executive Director, and
 - ii) Apply under Section 19 of the Act for such amendments to this

Certificate, if any, as the Executive Director deems necessary to ensure compliance with and enforceability of this Certificate and to otherwise reflect the proposed transfer;

- A transfer to a trustee in bankruptcy, by a receiver or a trustee in bankruptcy pursuant to a court approved sale or as part of a court approved arrangement under the Company Creditors Arrangement Act may occur without consent; and
- c) If a significant interest in the Project is transferred without consent, the Holder must notify the Executive Director within 30 days of the transfer and apply within the time specified by the Executive Director for any amendments to this Certificate that the Executive Director deems necessary to ensure compliance with and enforceability of this Certificate and to otherwise reflect the proposed transfer.

9. Independent Environmental Monitor

The Holder must retain the services of a QP to act as an IEM. The IEM will:

- a) Observe and record for, and report to EAO on compliance with the Certificate;
 and
- b) Provide information to EAO and Aboriginal Groups;

as directed by EAO. Subject to any exceptions set out in the terms of engagement for the IEM, when providing information or reports to EAO, the IEM must not provide such information or reports to the Holder in advance of providing such information or reports to EAO.

The Holder must retain the IEM throughout Site Preparation in Advance of Construction and Construction. The Holder must develop the terms of engagement for the IEM in consultation with City of Richmond, Corporation of Delta, FLNRO, Metro Vancouver and Aboriginal Groups.

30 days prior to the start of Site Preparation in Advance of Construction, the Holder must:

- a) Submit to EAO for review the name, organization and qualifications of the proposed IEM and the IEM terms of engagement; and
- b) Provide notice to Aboriginal Groups of the name, organization and qualifications of the proposed IEM.

The Holder must not start Site Preparation in Advance of Construction until the selection of the IEM and the terms of engagement have been approved by EAO.

The terms of engagement must include, at a minimum, the following:

- a) The role, responsibilities and qualifications of the IEM;
- b) The roles, responsibilities and qualifications of any staff or other persons that will assist the IEM with performing the IEM's roles and responsibilities (each an

"IEM Support");

- c) The nature and frequency of monitoring;
- d) The process whereby the IEM or an IEM Support will make recommendations to the Holder to take mitigative or corrective actions to address any noncompliance or potential non-compliance with this Certificate;
- e) The process by which these recommendations will be communicated to EAO and the Holder;
- f) The situations in which the IEM will have the authority to stop work on part or all of the Project if the IEM determined that:
 - The Holder has not, or may have not, complied fully with the requirements of this Certificate; and
 - ii) Stopping work is necessary to prevent or reduce Project-related adverse effects as determined by the IEM or any IEM support;
- g) The details of a report to be submitted to EAO upon completion of Site Preparation in Advance of Construction and upon completion of Construction. The report must be written by the IEM and include, but is not necessarily limited to:
 - i) A record of all non-compliances with this Certificate;
 - ii) A record of the recommendations made by the IEM to the Holder to prevent or address any non-compliance with this Certificate;
 - iii) A record of whether any such recommendations from the IEM were implemented and the corresponding outcome of implementation;
 - iv) A record of all stop work orders issued to prevent or address a noncompliance with this Certificate and any other Provincial or Federal legislation or authorization applicable to the Project;
 - v) Assessment of the effectiveness of the mitigation measures for Site Preparation in Advance of Construction and Construction; and
 - vi) Recommendations on how to achieve and maintain compliance with the conditions of the Certificate for the next Project phase; and
- h) Be otherwise satisfactory to the EAO (including with respect to the qualifications of IEM support).

10. Cumulative Effects

During any phase of the Project, the Holder must participate in initiatives related to the monitoring, assessment, or management of cumulative environmental effects if requested by federal, provincial or regional government agencies, to the satisfaction of EAO.

11. Involvement of Aboriginal Groups in Construction Monitoring

The Holder must, to the satisfaction of EAO, offer opportunities for members of Aboriginal Groups to participate in monitoring activities during Construction, including,

but not limited to, monitoring of Construction activities that may affect traditional use and related environmental values. The Holder must communicate these opportunities to Aboriginal Groups at least 60 days prior to the Holder's planned date to commence Construction and must continue to provide such opportunities to Aboriginal Groups throughout Construction.

12. Inter-Agency Working Group

At least 90 days prior to commencing Construction, the Holder must establish an Inter-Agency Working Group (IAWG). The Holder must invite, at a minimum, the government agencies and Aboriginal Groups listed in Appendix A of the draft "Inter-Agency Working Group Terms of Reference" (November 21, 2016 or as amended or replaced from time to time), to participate in the IAWG. The Holder must implement the IAWG during Construction and Operations.

The Holder must:

- a) Ensure the purpose, format, structure and management of the IAWG is consistent with the "draft Inter-Agency Working Group Terms of Reference" (November 21, 2016 or as amended or replaced from time to time) and to the satisfaction of EAO;
- b) Ensure the IAWG Terms of Reference demonstrate how the Holder will seek input from the IAWG at a minimum on the following prior to the start of Construction:
 - Design of infrastructure for the Project, including drainage not constructed during Site Preparation in Advance of Construction, cycling and pedestrian trails, landscaping and visual considerations;
 - ii) Meeting Project lighting requirements that minimize light spill on adjacent areas:
 - iii) Implementation of noise mitigation;
 - iv) Development and implementation of Construction and Operations environmental management plans; and
 - v) Post-Construction environmental monitoring and adaptive management programs.

13. Construction Environmental Management Plan

The Holder must retain a QP to develop a Construction Environmental Management Plan. The plan must be developed in consultation with City of Richmond, Corporation of Delta, ECCC, FLNRO, Fraser Health, Metro Vancouver, Vancouver Coastal Health and Aboriginal Groups.

The Construction Environmental Management Plan must include the means by which the following will be addressed:

- a) Human-wildlife conflict;
- b) Waste management;
- c) Invasive plant management;
- d) Revegetation;
- e) Site restoration;
- f) Erosion and sediment control;
- g) On-site storage and handling of hydrocarbons, including spill prevention and response;
- h) Accidents and malfunctions; and
- i) Air quality.

The Holder must provide the Construction Environmental Management Plan to EAO, City of Richmond, Corporation of Delta, ECCC, FLNRO, Fraser Health, Metro Vancouver, Vancouver Coastal Health and Aboriginal Groups for review a minimum of 60 days prior to the planned commencement of Construction.

The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

14. Site Preparation in Advance of Construction

The Holder must retain a QP to develop an environmental management plan for addressing environmental effects associated with Site Preparation in Advance of Construction. The plan must be developed in consultation with City of Richmond, Corporation of Delta, ECCC, FLNRO, Metro Vancouver, and Aboriginal Groups.

The plan must identify measures to address:

- a) i) in condition 13;
- Water quality;
- Drainage and stormwater management;
- Fish and fish habitat;
- Wildlife;
- Vegetation; and
- Noise.

The Holder must provide the plan to EAO, City of Richmond, Corporation of Delta, ECCC, FLNRO, Metro Vancouver, and Aboriginal Groups for review a minimum of 45 days prior to the planned commencement of Site Preparation in Advance of Construction.

The plan and any amendments thereto, must be implemented throughout Site Preparation in Advance of Construction including the operation of any works constructed during Site Preparation in Advance of Construction, under the supervision of a QP and to the satisfaction of EAO.

15. Water Quality

The Holder must retain a QP to develop a plan for the management of water quality during Construction. The plan must be developed in consultation with FLNRO and Aboriginal Groups.

The plan must include at least the following:

- a) Measures to mitigate soil erosion and prevent sediment-laden water from affecting water quality;
- b) The means by which resuspension of sediments will be minimized during Tunnel Decommissioning;
- c) Details outlining how, when, and where water quality will be monitored to determine Project effects on water quality. Water quality monitoring must be consistent with the BC Water Quality Guidelines: Aquatic Life, Wildlife & Agriculture (March 2016, or as amended or replaced from time to time) (BC Water Quality Guidelines) as they apply to aquatic life, the BC Field Sampling Manual (2013 or as amended or replaced from time to time), and the BC Guidelines for Designing and Implementing a Water Quality Program (1997 or as amended or replaced from time to time); and
- d) Clauses that state that the Holder will:
 - Monitor water quality under the supervision of a QP at locations upstream and downstream of work that a QP determines has the potential to impact water quality;
 - ii) Conduct all works in and around watercourses in accordance with MOTI's Environmental Best Practices for Highway Maintenance Activities (2012, or replaced or amended from time to time) and the BC Water Sustainability Act (as replaced or amended from time to time);
 - iii) Manage turbidity in runoff discharged from the Project to watercourses in accordance with the BC Water Quality Guidelines and Canadian Council for Ministers of the Environment (CCME) Water Quality Guidelines for the Protection of Aquatic Life (2007 or as amended or replaced from time to time);
 - iv) Inform FLNRO of any Project-caused exceedance of the BC Water Quality Guidelines within 24 hours of the Holder becoming aware of it:
 - v) In consultation with FLNRO, immediately undertake measures to eliminate the cause of a Project-caused exceedance of the BC Water Quality Guidelines and remedy the effects of it, to the satisfaction of a QP.

The Holder must provide the plan to EAO, FLNRO and Aboriginal Groups for review a

minimum of 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction, under the supervision of a QP, to the satisfaction of EAO.

16. Drainage and Stormwater

The Holder must design and construct roadside ditches in a manner that maintains or improves water quality and pre-Construction flow regimes in these watercourses, as determined by a QP.

The Holder must retain a QP to develop a plan for drainage and stormwater management during Construction and Operations. The plan must be developed in consultation with the City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups.

The plan must include at least the following:

- a) Measures to avoid or minimize impacts to drainage and stormwater quality and volume resulting from the Project;
- b) Performance objectives related to stormwater volume and quality;
- Specification of the stormwater collection and distribution system that will be incorporated into the bridge and interchange design, including collection method and locations of associated works;
- d) Description of the program for monitoring stormwater quality and volume against the performance objectives identified under b), including methodology, locations, frequency, and duration of monitoring; and
- e) Measures proposed to rectify any lack of conformance with performance objectives, as identified by a QP.

The Holder must provide the plan to EAO, City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups for review a minimum of 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction and Operations under the supervision of a QP and to the satisfaction of EAO.

17. A) Fish and Fish Habitat

The Holder must retain a QP to develop a plan for the management of adverse effects to fish and fish habitat during Construction. The plan must be developed in consultation with FLNRO and Aboriginal Groups.

The plan must include at least the following:

a) Identification of reduced-risk work windows and the work that will occur within these windows:

- b) Identification of any work that will occur outside of the reduced-risk work windows, and measures to mitigate impacts of such works to fish and fish habitat:
- c) The means by which baseline monitoring of fish presence at the Tunnel will be undertaken to support the development of mitigation and monitoring to address potential effects to fish, including white sturgeon, during Tunnel Decommissioning, as determined by a QP;
- d) Identification of the geographic areas where, and periods of time when, underwater noise monitoring in the Fraser River South Arm and Deas Slough will be conducted; and
- e) Description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups for consideration, has been incorporated into the plan.

The Holder must provide the plan to EAO, FLNRO and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

B) Fish Habitat Offsetting

The Holder must retain a QP to develop a plan for offsetting the loss of fish habitat from the Project. The plan must be developed in consultation with FLNRO and Aboriginal Groups.

The plan must include at least the following:

- a) Measures to offset effects of the Project on fish and fish habitat, which must include at a minimum:
 - Restoration of Green Slough under the south approach span of the new bridge;
 - ii) Removal of the existing Deas Slough Bridge instream support piers and restoration of shallow subtidal habitat in Deas Slough; and
 - iii) Offsetting, as required by DFO and relevant regulatory authorities.
- Description of a monitoring program to evaluate the effectiveness of offsetting measures; and
- c) Description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups for consideration, has been incorporated into the plan.

The Holder must provide the plan to EAO, FLNRO and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented under the supervision of a QP and to the satisfaction of EAO.

18. Marine Mammals

The Holder must retain a QP to develop a plan for the management of potential effects on marine mammals during Construction. The plan must be developed in consultation with FLNRO and Aboriginal Groups.

The plan must include at least the following:

- a) Identification of the geographic areas where, and periods of time when, underwater noise monitoring in the Fraser River South Arm and Deas Slough will be conducted:
- b) Specification of the role of a QP in observing and reporting marine mammal presence during Construction in areas where marine mammals may be exposed to underwater noise at levels that can result in potential injury;
- c) Identification of the Construction activities which must stop or not start if a marine mammal is sighted in areas where marine mammals may be exposed to underwater noise at levels that can result in physical injury, and not re-start until the marine mammal has moved out of the relevant area, to the satisfaction of the QP; and
- d) Specification of mitigation measures for Construction underwater noise that will prevent or reduce behavioural change or injury to marine mammals.

The Holder must provide the plan to EAO, FLNRO and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

19. A) Wildlife - Construction

The Holder must retain a QP to develop a plan for the management of potential effects on wildlife and wildlife habitat during Construction. The plan must be developed in consultation with ECCC, FLNRO, Metro Vancouver and Aboriginal Groups.

The plan must include at a minimum:

- a) Description of how vegetation clearing boundaries will be determined in order to avoid encroachment on wildlife habitat;
- b) Identification of reduced-risk work windows and the work that will occur within these windows;
- c) Identification of any work that will occur outside of the reduced-risk work windows, and measures to mitigate impacts to wildlife and wildlife habitat;
- d) Identification of the geographic areas where, and periods of time when, nest surveys will be conducted to confirm the presence or absence of breeding birds. For any nests identified in surveys, a QP must confirm that the nest is not occupied by a species protected at that time of year by the *BC Wildlife Act*

- prior to commencing Construction in any area that a QP determines may impact the nest;
- e) Description of how the Holder will support emergence monitoring to be conducted of the maternal bat colony located on Deas Island Regional Park;
- f) Description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups for consideration, has been incorporated into the plan.

The Holder must provide the plan to EAO, ECCC, FLNRO, Metro Vancouver and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

B) Wildlife – Operations

The Holder must retain a QP to develop a plan for the management of potential effects on wildlife and wildlife habitat during Operations. The plan must be developed in consultation with ECCC, FLNRO, Metro Vancouver and Aboriginal Groups.

The plan must include at a minimum:

- a) Description of measures for mitigation and monitoring of effects to barn swallow nests associated with the removal of the Deas Slough Bridge;
- b) Identification of the geographic areas where, and periods of time when, vehicle collision for barn owls will be monitored, a description of how the monitoring will be conducted and a description of how vehicle collision for barn owls will be reported;
- Description of how Project lighting requirements will be met while minimizing light spill on adjacent areas; and
- d) Description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups for consideration, has been incorporated into the plan.

The Holder must provide the plan to EAO, ECCC, FLNRO, Metro Vancouver and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Operations. The plan and any amendments thereto, must be implemented throughout Operations under the supervision of a QP and to the satisfaction of EAO.

20. A) Vegetation – Construction

The Holder must retain a QP to develop a plan for the management of potential effects on vegetation during Construction. The plan must be developed in consultation with ECCC, FLNRO, Metro Vancouver and Aboriginal Groups.

The plan must include at a minimum:

a) Measures to minimize disturbance and loss of vegetation;

- b) Means by which sites will be revegetated during and following Construction;
- Measures that will be taken to mitigate and offset adverse effects on the cattail marsh situated between Green Slough and River Road;
- d) Description of how native plants will be incorporated into post-Construction revegetation to support aquatic, riparian and terrestrial habitat values; and
- e) Description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups for consideration, has been incorporated into the plan.

The Holder must provide the plan to EAO, ECCC, FLNRO, Metro Vancouver and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence Construction. The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

B) Vegetation – Site Habitat Assessment Surveys

The Holder must:

- a) Retain a QP to assess the potential for presence of red- and blue-listed plants and ecological communities identified by the BC Conservation Data Centre, in locations proposed for clearing, and plan and conduct site surveys for listed species prior to commencing clearing in areas that are determined by the QP as having the potential to support such species;
- b) Cause a QP to develop mitigation measures to avoid or minimize impacts identified through the surveys in a); and
- c) Provide the survey results and mitigation measures to EAO, ECCC, FLNRO, and Aboriginal Groups for review a minimum 30 days prior to the planned commencement of vegetation clearing in areas identified by the QP as having the potential to support red- and blue-listed plants and ecological communities identified by the BC Conservation Data Centre.

C) Invasive Plant Species

The Holder must control invasive plant species during Site Preparation in Advance of Construction, Construction and Operations in accordance with MOTI's *Best Practices for Managing Invasive Plants on Roadsides* (2015 or as amended or replaced from time to time).

21. Agricultural Use

The Holder must retain a QP to develop a plan for mitigating potential adverse effects to agriculture. The plan must be developed in consultation with the ALC, City of Richmond, Corporation of Delta, Delta Farmers Institute, FLNRO, Richmond Farmers

Institute and Aboriginal Groups.

The plan must include at least the following:

- a) The means by which topsoil salvage and reclamation will be implemented;
- Description of post-Construction monitoring to be conducted to ensure reconstructed roadside ditches that are used or will be used for agricultural purposes are functioning as intended;
- c) The timing, duration and frequency of in-river salinity monitoring to be undertaken at the 80th Street Pump Station;
- d) Methods to identify and inform potentially-affected farm operators of any potential disruption to utility services during Construction; and
- e) Description of how the Holder will offset the acquisition of parcels of farmland by restoring suitable lands within unused portions of the Highway 99 right-ofway and how the Holder will make these lands available for agricultural use, as determined by a QP.

The Holder must provide the plan to EAO, ALC, City of Richmond, Corporation of Delta, Delta Farmers Institute, FLNRO, Richmond Farmers Institute and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence Construction. The plan and any amendments thereto, must be implemented throughout Construction and for a period of two years following the end of Construction under the supervision of a QP and to the satisfaction of EAO.

22. River Bed and Hydrology

The Holder must retain a Qualified Professional to develop a plan to monitor for and mitigate potential adverse effects to the river bed and foreshore of the Fraser River South Arm caused by Tunnel Decommissioning. The plan must be developed in consultation with the City of Richmond, Corporation of Delta, FLNRO, Metro Vancouver, VFPA and Aboriginal Groups.

The plan must include at least the following:

- a) Parameters to be monitored, as determined by a QP;
- b) The locations at and frequency with which river bed and foreshore monitoring will be conducted, as determined by a QP; and
- c) A description of current baseline conditions and trends in river hydrology within the Project area, in the year prior to Tunnel Decommissioning, to provide a means of identifying changes in river bed profile following Tunnel Decommissioning.

The Holder must provide the plan to EAO, City of Richmond, Corporation of Delta, FLNRO, Metro Vancouver, VFPA and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence Tunnel Decommissioning. The plan and any amendments thereto, must be implemented throughout Tunnel Decommissioning and

for up to three years following the end of Tunnel Decommissioning, under the supervision of a QP and to the satisfaction of EAO.

23. Lulu Island-Delta Water Main

The Holder must retain a QP to develop a plan for managing potential Project-related effects on the Lulu Island-Delta Water Main (Water Main). The plan must be developed in consultation with Metro Vancouver and Aboriginal Groups.

The plan must include at least the following:

- a) The approach undertaken for updating hydraulic modelling, based on final Construction plans, to support mitigation planning;
- The location of monitoring stations at or adjacent to the Water Main, in areas that could potentially be affected by scour caused by Tunnel Decommissioning;
- Duration, frequency and periods of time when river bed monitoring adjacent to the Water Main will be conducted, and parameters that will be monitored, as determined by a QP; and
- d) Proposed measures for addressing any Project-related effect on the Water Main, as identified through updated modelling and/or monitoring, as per a) c) above.

The Holder must provide the plan to EAO, Metro Vancouver and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence Tunnel Decommissioning. The plan and any amendments thereto, must be implemented throughout Tunnel Decommissioning and for a period of up to two years following the end of Tunnel Decommissioning, under the supervision of a QP and to the satisfaction of EAO.

24. Noise

The Holder must retain a QP to develop a plan for noise management to monitor and mitigate Project-related noise.

The plan must be developed in consultation with the City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups.

The plan must include at least the following:

- a) Hours of day and night work, including a process to vary hours if the Holder determines it is necessary to do so;
- b) The means by which the Holder will, under the supervision of a QP, monitor and mitigate noise resulting from Construction;
- c) A community and stakeholder communication program to inform communities potentially affected by Project-related noise during Construction, which

- includes a process for receiving and addressing complaints and inquiries from the public and Aboriginal Groups;
- d) The means by which the Holder will, under the supervision of a QP, monitor and mitigate noise resulting from Operations, as identified by a QP, in accordance the BC Ministry of Transportation and Infrastructure Policy For Assessing And Mitigating Noise Impacts from New and Upgraded Numbered Highways (2016, or as amended or replaced from time to time) (MOTI's Noise Policy);
- e) A noise monitoring and follow-up program developed in accordance with MOTI's Noise Policy, which includes the geographic locations where, times when, and the road-use conditions under which, noise monitoring will be conducted during Construction and the first 12 months of Operations; and
- f) The means by which the Holder will, under the supervision of a QP, mitigate noise if the noise monitoring and follow-up program indicate the minimum objectives specified in MOTI's Noise Policy have not been met.

The Holder must implement the noise monitoring program under the supervision of a QP during Construction and for 12 months following the start of Operations, to monitor the effectiveness of the mitigation set out in the plan.

The Holder must provide the plan to EAO, City of Richmond, Corporation of Delta, Metro Vancouver and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence Construction. The plan and any amendments thereto, must be implemented during Construction and Operations under the supervision of a QP and to the satisfaction of EAO.

25. Marine Users Group

At least 90 days prior to commencing in-river activities, the Holder must establish a Marine Users Group. The Holder must invite, at a minimum, the government agencies, commercial and recreational marine users and Aboriginal Groups listed in Appendix A of the draft "Multi-Stakeholder Marine Users Group" (October 27, 2016 or as amended or replaced from time to time) to participate in the Marine Users Group.

The Holder must:

- a) Ensure the purpose, format, structure and management of the Marine Users
 Group is consistent with the draft "Multi-Stakeholder Marine Users Group
 Terms of Reference" (October 27, 2016, or as amended or replaced from time
 to time), and to the satisfaction of EAO;
- b) Following the establishment of the Marine Users Group, host meetings for the Marine Users Group a minimum of 4 times a year until the completion of Construction. The Holder must provide notice of the date and location of the meeting to the members of the Marine Users Group 30 days prior to the meeting;

- c) Within 15 business days after each meeting, the Holder must provide a report to the Marine Users Group and EAO which must include at a minimum to the satisfaction of EAO:
 - i) A demonstration of how the concerns, issues and matters raised by members of the Marine Users Group were considered and how each of the concerns, issues, and matters raised are proposed to be addressed and remedied, and
 - ii) If the Holder proposes not to address or remedy in whole or in part any concern, issue or matter raised by a member of the Marine Users Group, provide reasons why it proposes not to do so; and
- d) Address or remedy concerns, issues or matters raised by the Marine Users Group to the satisfaction of EAO.

26. Marine Access

The Holder must develop a plan for marine access management for Construction. The plan must be developed in consultation with the Marine Users Group (as defined in condition 25 of this Certificate) and Aboriginal Groups.

The plan must include at least the following:

- a) Construction activities, including staging areas and any offset plans, that have the potential to interfere with marine access and navigation, as determined by a QP:
- b) Identification of travel corridors for Project-related marine vessels and equipment into and within the Project area;
- Existing and traditional navigational routes, fishing areas, habitat areas, harvesting areas, commercial shipping use, recreational and tourism use, Aboriginal Groups' use, and any associated timing windows;
- d) A description of how the Holder will avoid or mitigate any disruption caused by the Construction of the Project to access for members of Aboriginal Groups to carry out traditional use activities that have been identified and communicated by Aboriginal Groups to the Holder in relation to this and other relevant plans;
- e) A complaint resolution process for loss or damage to commercial traps, nets and other fishing equipment, and anchors and other vessel-related gear due to interactions with Project-related marine vessels;
- f) Actions to inform the public and Aboriginal Groups of the anticipated Project schedule for marine-based activities during Construction;
- g) Methods to coordinate activities with other marine users;
- h) Mitigation measures to reduce disruption of marine navigation in the Fraser River and Deas Slough as a result of Construction activities:
- i) A description of marine communications and emergency preparedness procedures;
- j) Methods to monitor the effects of the Holder's marine-based activities on marine users during Construction; and

k) A description of how Aboriginal traditional knowledge and Aboriginal traditional use information, shared with the Holder by Aboriginal Groups, has been incorporated into the plan.

The Holder must provide the plan to EAO, the Marine Users Group, and Aboriginal Groups no less than 60 days prior to the Holder's planned date to commence in-river Construction activities. The Holder must implement the plan throughout in-river Construction activities and the remainder of Construction after in-river Construction activities are complete to the satisfaction of EAO.

For the purposes of this condition, 'in-river Construction activities' includes activities related to Construction where Project-related marine vessels, equipment, or machinery are present within the Fraser River South Arm or Deas Slough, and shore-based activities that involve work across or on top of these water courses.

27. Fisheries Access

If DFO sets openings for Aboriginal or commercial fisheries that occur within 2.5 km downstream and 5 km upstream of the Tunnel at any time during Construction, the Holder must ensure that access to such fisheries is not impeded during the length of the opening.

Protection of access will apply to Aboriginal fishers with asserted or established Aboriginal rights to fish within the South Arm of the Fraser River under DFO communal or communal commercial fishing licences as well as other commercial fishers with DFO-issued communal licences for fishing in the South Arm of the Fraser River.

28. Transportation Working Group for Highway 99

The Holder must establish a Transportation Working Group (TWG) for the Highway 99 corridor, as identified by the Traffic Local Assessment Area identified in the Application. The purpose of the TWG is to share the results of traffic monitoring and to moderate a forum for TWG members to identify and discuss the operation of transportation infrastructure in the Project area and the improvement of the operation of Project-related infrastructure and integration with adjacent infrastructure

The Holder must provide reports to members of the TWG on Operations traffic conditions within the Highway 99 corridor one year after the commencement of Operations and three years after the commencement of Operations. The reports must include a comparison of actual data from pre-Construction and Operations.

The reports must at a minimum include:

- a) Annual average daily traffic;
- b) Annual average weekly traffic;
- c) Traffic fleet profiles;
- d) Transit ridership;
- e) Cyclist traffic;
- f) Pedestrian traffic; and
- g) Travel time savings along Highway 99.

The reports must be to the satisfaction of EAO and must be submitted to members of the TWG no later than 180 days after the start of the first and third year of Operations.

A Terms of Reference for the TWG must be developed prior to the commencement of Operations, in consultation with the City of Richmond, Corporation of Delta, Fraser Health, Metro Vancouver, TransLink, Vancouver Coastal Health and Aboriginal Groups.

The Terms of Reference must, at a minimum:

- a) Identify how TWG membership will be determined;
- b) Identify the TWG structure;
- c) Identify a representative of the Holder who will be accountable for implementing the Terms of Reference;
- d) Describe the scope and mandate to be addressed or implemented by the TWG, including:
 - i) The TWG's goals; and
 - ii) The issues and activities that will be within the TWG's mandate, which include but are not limited to, the requirement for the Holder to;
 - i. Present to the TWG the results of traffic monitoring following the first year of Operations and the third year of Operations; and
 - ii. Moderate a forum for TWG members to identify and discuss the operation of transportation infrastructure in the Project area and the improvement of the operation of Project-related infrastructure and integration with adjacent infrastructure; and
 - iii) The protocols for reporting and communicating with members of the TWG and other potentially-affected or interested parties.

The Terms of Reference for the TWG must be submitted to EAO no less than 60 days prior to the commencement of Operations. The Terms of Reference must be to the satisfaction of EAO.

29. Traffic and Access

The Holder must develop a plan for traffic and access management. The plan must be developed in consultation with City of Richmond, Corporation of Delta, Fraser Health,

Metro Vancouver, TransLink, Vancouver Coastal Health and Aboriginal Groups. The plan must be developed in accordance MOTI's *Traffic Management Guidelines for Work on Roadways* (September 2001 or as amended or replaced from time to time), the *BC Workers Compensation Act* and *Occupational Health and Safety Regulation*, and the *Standard Traffic Signs and Pavement Markings Manual (2000 or as amended or replaced from time to time)*.

The plan must include at least the following:

- a) Measures to avoid or mitigate potential effects associated with Project Construction and Operations to cycling, pedestrian and vehicular traffic, and levels of public transit service;
- Measures for traffic control, traffic interruptions, restrictions and re-routing scenarios, and how those measures will be communicated to stakeholders, emergency responders, transit agencies, municipalities and adjacent land users;
- c) Identification of how access will be provided for emergency vehicles where emergency vehicle and response personnel require passage through the Project area;
- d) Description of the requirements for consultation with the agricultural community to facilitate efficient movement of agricultural traffic, goods, and services during Construction;
- e) Description of the requirements for consultation with TransLink in regards to potential impacts to transit operations and routing during Construction;
- f) Description of the roles and responsibilities of traffic control personnel that will be involved in the development, implementation, and management of the plan;
- g) The means by which the Holder will provide opportunities for Aboriginal Groups, that have plant gathering areas identified through Project traditional land use studies, to access these areas in order to harvest, salvage or translocate any traditional use plants that would be cleared, prior to the commencement of clearing;
- h) The means by which the Holder will:
 - i) Control public access along the right of way during Construction;
 - ii) Maintain, restore or enhance existing recreational trails and access to public use areas during Construction and Operations;
 - iii) Avoid or mitigate any disruption caused by the Construction and Operations of the Project to the access for members of Aboriginal Groups to harvest medicinal and food source plants, or to carry out other land-based traditional use activities that have been identified and communicated by Aboriginal Groups to the Holder in relation to this and other relevant plans; and
 - Avoid or mitigate any disruption caused by the Construction and Operations of the Project to the access required by Metro Vancouver parks and utilities staff and farm operators;

- i) Measures to notify:
 - The public of the location and timing of Construction activities, impacts to transit services, closures, and any areas that will not be available for use due to the Construction of the Project; and
 - ii) Aboriginal Groups, Metro Vancouver parks and utilities staff, farm owners, landowners and lessees, and recreational organizations of the Construction schedule and when access to the areas used by these groups will be restricted; and
- j) Specification of a monitoring program to confirm the effectiveness of mitigation measures.

The Holder must provide the plan to EAO, City of Richmond, Corporation of Delta, Fraser Health, Metro Vancouver, TransLink, Vancouver Coastal Health and Aboriginal Groups for review a minimum 60 days prior to the planned commencement of Construction. The plan, and any amendments thereto, must be implemented throughout Construction and Operations to the satisfaction of EAO.

30. **Archaeological - Heritage Resources**

The Holder must retain a QP to develop a plan for the mitigation of any impacts of the Project on archaeological and heritage resources in accordance with the *Heritage Conservation Act*. The plan must be developed in consultation with FLNRO and Aboriginal Groups. The plan must include the means by which the Holder will:

- a) Consult with Aboriginal Groups on the reporting, management and mitigation of impacts archaeological and heritage sites and resources not previously discovered, including consideration and integration of input from Aboriginal Groups;
- b) Provide training to employees and contractors of the Project to recognize and identify archaeological and heritage values; and
- c) Identify, mitigate impacts to, and manage chance finds of traditional land use sites and values, and archaeological and heritage sites and resources during Construction, including those that may be present in areas that were covered by infrastructure installed as part of the Highway 99 corridor development and that are unearthed or excavated during Construction.

The Holder must provide the plan to EAO, FLNRO and Aboriginal Groups for review a minimum of 60 days prior to the planned commencement of Construction. The plan and any amendments thereto, must be implemented throughout Construction under the supervision of a QP and to the satisfaction of EAO.

31. Aboriginal Cultural Awareness and Recognition

The Holder must develop a plan for Aboriginal cultural awareness and recognition.

The plan must be developed in consultation with Aboriginal Groups.

The plan must include at least the following:

- a) Description of a process for continuing engagement with Aboriginal Groups to further identify, explore and plan for opportunities for cultural awareness and recognition;
- Description of how opportunities for cultural awareness and recognition that have been requested by Aboriginal Groups have been considered and supported by the Holder, or a rationale explaining why a specific request or activity is not practicable; and
- c) The process by which Aboriginal Groups will be involved in the implementation of the cultural awareness or recognition opportunity and associated activities.

The Holder must provide the plan to EAO and Aboriginal Groups for review a minimum of 45 days prior to the planned commencement of Construction and must be implemented to the satisfaction of EAO throughout Construction and Operations.

32. Aboriginal Engagement Reports

The Holder must continue to engage Aboriginal Groups to the satisfaction of EAO from the date of issuance of this Certificate and throughout the implementation of monitoring and follow-up programs required in the conditions described in this Certificate. Engagement must demonstrate the Holder's efforts to address information shared and recommendations made by Aboriginal Groups in the plans, programs, and other documents required in this Certificate, with the objective of mitigating adverse effects of the Project on Aboriginal Groups.

The Aboriginal engagement reports must be to the satisfaction of EAO, and must:

- a) Summarize the efforts undertaken by the Holder to consult with Aboriginal Groups, including consultation to meet the conditions set out in this Certificate;
- b) Identify the comments, information and recommendations received from Aboriginal Groups during consultation;
- c) Demonstrate how any new information obtained through consultation with Aboriginal Groups, including through traditional land use investigations, has been integrated into the Holder's activities, plans or programs with the objective of mitigating Project effects on Aboriginal Groups, or why it was not integrated;
- d) Provide an update on the status of issues resolution with Aboriginal Groups:
- e) Identify the measures the Holder has implemented, or intends to implement, and the timeframe for implementation, to address issues raised by Aboriginal Groups, including measures to mitigate the adverse effects of the Project on Aboriginal Groups;

- f) Describe the outcomes of the actions taken by the Holder pursuant to (e);
- g) Describe the actions the Holder has taken or will take to provide training,
 Construction monitoring, employment, business, and contracting opportunities to Aboriginal Groups;
- h) Outline on-going or future consultation activities, including those required by the conditions set out in this Certificate; and
- Identify the comments received from Aboriginal Groups during consultation on the draft Aboriginal engagement report and explain how the comments were integrated.

The Holder must provide Aboriginal engagement reports to EAO at least 30 days prior to the commencement of Construction, one year after commencement of Construction, and one year after commencement of Operations. EAO may amend these timelines and may request additional reports at any time by providing written notice to the Holder.

Prior to providing an Aboriginal engagement report to EAO, the Holder must share the draft Aboriginal engagement report with Aboriginal Groups for their review and comment for no less than 30 days.

33. Public Communications and Engagement

The Holder must continue to engage the public from the date of issuance of this Certificate until the implementation of monitoring and follow-up programs required in the conditions described in this Certificate, to the satisfaction of EAO.

Within 60 days of the issuance of this Certificate, the Holder must establish and maintain a dedicated Project website throughout Construction and for two years after the completion of Construction a dedicated publicly-available Project website. The website must:

- a) Provide general information regarding the Project and Project status;
- b) Provide information about Project activities during Construction and for two years after the completion of Construction;
- c) Provide information regarding progress in permitting processes that follow the issuance of this Certificate;
- d) Include information that would promote safety in and surrounding the Project area; and
- e) Provide contact information.

The Holder must provide a public engagement report one year after the commencement of Construction and one year after the commencement of Operations, unless otherwise directed by EAO.

The public engagement report must include for each individual or party with which the

Holder engaged:

- a) The name of the individual or party;
- b) The methods(s), date(s), and location(s) of engagement activities;
- c) A summary of issues or concerns raised; and
- d) The measures taken, or that will be taken, to address or respond to concerns, or an explanation why no further action is required to respond to issues or concerns.