

GEORGE MASSEY TUNNEL REPLACEMENT PROJECT

MONTHLY STATUS REPORT
JUNE 2017

FOREWORD TO MONTHLY STATUS REPORT

The government is currently in transition. The Project is focused on site preparation works to improve drainage and ground conditions in both Richmond and Delta. The work will be completed in the Fall 2017.

George Massey Tunnel Replacement Project – Project Delivery Framework

The George Massey Tunnel Replacement Project (the Project) is being delivered to the Province by Transportation Investment Corporation (“TI Corp”). TI Corp and its Project Team are committed to supporting the Ministry of Transportation and Infrastructure’s mandate to provide sound infrastructure solutions that meet the requirements for the safe and efficient movement of goods, services and people.

Leadership, Experience and Resources

TI Corp is committed to delivering the Project on time and on budget. The Project’s leadership team, whose collective experience includes an extensive breadth of knowledge and experience in delivering P3 projects to the Province, provides guidance and direction on behalf of TI Corp. The Project Team’s comprehensive expertise includes senior advisors, senior project management and engineering professionals, and subject matter experts across all disciplines.

A Project Delivery Framework for Success

The Project is delivered within a framework that ensures adequate planning, guidance and controls are in place for all aspects of project work. Planning is based upon industry best practices; accepted principles, standards, and policies; and risk-based thinking.

The application of the international standard ISO 9001 Quality Management Systems builds the foundation for excellence, accountability and continual improvement on the Project. The Project Quality Management System is an integral component of the Project delivery framework and requires that appropriate resources are available to ensure conformance with internal project requirements, as well as contractual and legal requirements (statutory and regulatory).

The Project delivery framework is built on a systematic approach to all disciplines, combined with the application of proven and recognized standards, principles and guidelines to these areas. The following provides a sampling of how this is applied on the Project:

- Safety planning and management of all Project activities are governed by the requirements of the Workers Compensation Act and WorkSafeBC Occupational Health and Safety Regulation;

- The Project’s commitment to developing sound partnerships with Project stakeholders, community partners, and all project-related organizations is achieved by fostering and maintaining effective and collaborative relationships, and employing best practices that draw upon international standards.
- Environmental protection is managed within a framework provided by ISO 14001 Environmental Management Systems, ensuring that all statutory and regulatory requirements are met;
- Project Controls are governed by numerous Provincial policies such as the Ministry of Finance Capital Asset Management Framework and the BC Government Core Policy and Procedures Manual;
- Procurement processes are based on past transportation infrastructure projects, Ministry of Finance Capital Asset Management Framework (CAMF), Core Policy and Procedures Manual (CPPM), and industry best practices such as the “First Principles” method of estimating;
- Engineering is governed by the APEGBC Act and Bylaws, quality management guidelines, industry best practices, and the application of local and international standards including CSA-S6-14 Canadian Highway Design Bridge Code (CHBDC), Supplement to CHBDC S6-14, Transportation Association of Canada (TAC) Geometric Design Guide and BC Supplement to TAC; and
- The direction for risk management practices on the Project is provided by the Risk Management Guideline for the BC Public Sector issued by the Province of British Columbia Risk Management Branch and Government Security Office, the companion CAN/CSA ISO 31000: Risk Management – Principles and Guidelines, and the Core Policy and Procedures Manual, Chapter 14 (CPPM 14).

Stringent reviews during planning and development ensure a rigorous system is in place to ensure all Project requirements are met. Ongoing internal reviews for each aspect of the Project are conducted to ensure accountability, integrity, and continual improvement of the Project and the Quality Management System. Internal reviews confirm compliance, documentation, progress and performance throughout the lifecycle of the Project.

PROJECT STATUS DASHBOARD

The government is currently in transition. The Project is focused on site preparation works to improve drainage and ground conditions in both Richmond and Delta. The work will be completed in the Fall 2017.

Scope

Status*

- The project scope includes:
 - A new 10-lane (8 lanes plus 2 dedicated transit/HOV lanes), clear span bridge over South Arm of Fraser River
 - Replacing the Westminster Highway, Steveston Highway and Highway 17A interchanges
 - Widening Highway 99 corridor between Bridgeport Road in Richmond to Highway 91 in Delta to accommodate dedicated transit/High Occupancy Vehicle lanes
 - Multi-use pathways for cyclists and pedestrians on the bridge with connections to walkways and cycling routes on either sides of the crossing
 - Transit enhancements:
 - 50 km of dedicated transit/HOV lanes
 - Dedicated transit ramp from Highway 99 to Bridgeport Road in Richmond
 - Integrated transit stops at Steveston Highway and Highway 17A interchanges
 - Decommissioning the George Massey Tunnel



Schedule

Status*

- **Consultation**
 - Phase 1 – Understanding the Need (2012)
 - Phase 2 – Exploring the Options (2013)
 - Phase 3 – Project Definition Report (2015/16)
 - Environmental Assessment Consultation (2016)
- **Environment**
 - Environmental Assessment Certificate obtained on February 9, 2017.
 - Approval from the Agricultural Land Commission (ALC) obtained on February 24, 2017.
- **Technical Studies**
 - Engineering, traffic, geotechnical and other technical studies.
- **Procurement**
 - A business case and Request for Qualifications evaluation has been completed.
 - The RFP was issued to short-listed Proponents in October 2016.
 - The RFP technical and financial evaluation has been completed.
- **Construction**
 - Site preparation works commenced in both Richmond and Delta in April 2017.



Cost

Status*

- The forecast for the current fiscal year is \$583M; to date, \$10M has been spent (this includes actuals plus incurred).
- The approved capital budget for the Project is \$3.5B.



***Status Legend:** *Green = No issues to report; Yellow = Minor issues to report; Red = Significant issues to report.*

Report Structure

The table below provides a brief description of the contents of this report.

1. Introduction	<ul style="list-style-type: none">• Project overview and goals, key milestones achieved and current month highlights
2. Schedule	<ul style="list-style-type: none">• High-level Project schedule including major milestones and deliverables
3. Project Management	<ul style="list-style-type: none">• Objectives, monthly accomplishments and upcoming activities related to Safety, Quality and Project Controls
4. Project Development	<ul style="list-style-type: none">• Scope, monthly accomplishments and upcoming activities for the each of the major disciplines: Stakeholders, Environment, Agriculture, Aboriginal Groups, Procurement, Engineering, Construction and Property
5. Cost Report	<ul style="list-style-type: none">• Fiscal year cost summary
6. Risk Management	<ul style="list-style-type: none">• Key risks and mitigation strategies

1. INTRODUCTION

Project Overview

The George Massey Tunnel is an important link in the regional and provincial transportation system, carrying an average of 80,000 vehicles each day. It connects to key gateways such as Vancouver International Airport (YVR), the Peace Arch and Pacific Canada-U.S. border crossings, BC Ferries' Tsawwassen terminal, Deltaport and the Boundary Bay Airport. It is a vital goods movement route that fuels our local, regional, provincial and national economies, and a key access point for businesses in Delta, Surrey, Richmond, and Tsawwassen First Nation.

Since the Tunnel opened in 1959, Metro Vancouver's population and economy have grown, and its population is forecast to continue to grow by more than one million people over the next 30 years. Without improvements to this crossing, economic growth and regional livability will be constrained by congestion and increasing travel times for commuters, goods movers, commercial traffic and other traffic.

With growing concerns about public safety and congestion in and near the Tunnel, in 2012, the government of B.C. commenced a study of options to address the Highway 99 corridor. After analysis and consultation, a new bridge to replace the Tunnel emerged as the most appropriate and supported solution. Construction began in spring 2017.

Project Goals

Based on the Ministry's mandate and results of consultation to date, six primary goals have been identified for the Project:

1. **Improve safety.** This includes improving traffic and seismic safety, as well as emergency response capabilities.
2. **Reduce congestion.** Improve travel times and reliability for all users.
3. **Support increased transit on the Highway 99 corridor.** Provide dedicated transit/HOV lanes on the new bridge to improve travel time reliability and add capacity for long-term transit improvements.
4. **Provide options for pedestrians and cyclists.** Provide multi-use pathways on the new bridge to connect cycling and pedestrian corridors in Richmond and Delta.
5. **Enhance the environment.** Enhance the environment under the new bridge and in the Project right-of-way on Deas Island.
6. **Support trade and commerce.** Improve access to local businesses and gateway facilities, and improve travel time reliability for goods movers and service providers.

Key Milestones Achieved to Date

Key milestones achieved to date are listed by category below. The reports can be found within the Document Library of the George Massey Tunnel Replacement Project website.

Consultation	<ul style="list-style-type: none"> • Phase 1 – Understanding the Need (2012) <ul style="list-style-type: none"> ○ Five Open Houses • Phase 2 – Exploring the Options (2013) <ul style="list-style-type: none"> ○ Three Open Houses • Phase 3 – Project Definition Report (2015/16) <ul style="list-style-type: none"> ○ Two Open Houses • Environmental Assessment Consultation (2016) <ul style="list-style-type: none"> ○ Three Open Houses ○ Working Group Meetings
Project Planning and Development	<ul style="list-style-type: none"> • Conceptual Highway and Interchange Design Summary Report (2014) • Evaluation of Crossing Scenarios (2014) • Project Definition Report (2015) • Business Case (2015) • Capital Cost Estimate Report (2015) • Operations, Maintenance and Rehabilitation Cost Estimate Report (2015) • Risk Report (2015) • Review of Replacement Options (2016) • Tunnel Decommissioning Options (2017)
Environmental	<ul style="list-style-type: none"> • Baseline studies • Environmental Assessment Certificate (February 2017) • Water Sustainability Act Approval – Upland Ditches (March 2017)
Agriculture	<ul style="list-style-type: none"> • Agricultural Land Commission (ALC) approval (February 2017)
Design/Engineering	<ul style="list-style-type: none"> • Compiled historical engineering information and studies about the Tunnel from Tunnel construction to the present • Reference Concept (2015) • Multiple traffic data and analysis reports (2013 to 2016) • Multiple geotechnical studies (2013 to 2017) • Pile Load Test (2016)
Procurement	<ul style="list-style-type: none"> • Procurement Options Report • RFQ issued (2016) • Proponent shortlist • RFP issued (including draft Concession Agreement) • RFP technical evaluation completed • RFP financial evaluation completed

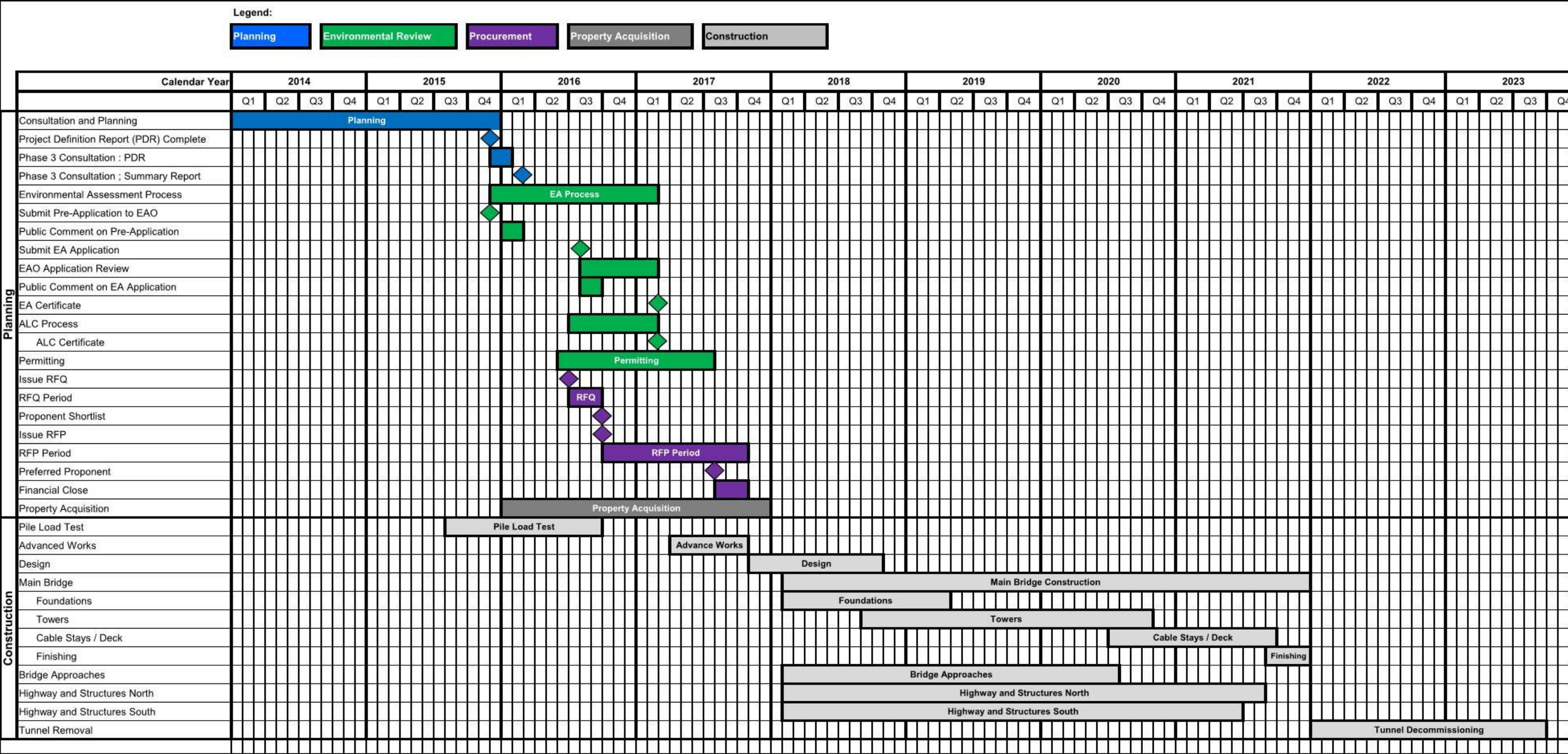
	<ul style="list-style-type: none">• The Project team has identified a potential preferred proponent
Construction	<ul style="list-style-type: none">• Pile Load Test (2016)• Commenced site preparation works in Richmond and Delta (April 2017)

June 2017 Highlights

Construction	<ul style="list-style-type: none">• Continued site preparation works in Richmond and Delta.
Environment	<ul style="list-style-type: none">• Continued consultation with stakeholders on permit applications.• Undertook environmental auditing of site preparation activities.

2. SCHEDULE

The following schedule depicts deliverables, milestones and associated dates and timelines for the planning and procurement phases of the Project as well as anticipated construction timelines.



3. PROJECT MANAGEMENT

Safety

Objectives:	<ul style="list-style-type: none"> • Ensure a safe worksite at all times. • Provide clear information on health and safety responsibilities. • Ensure all required training is provided and evaluated. • Ensure that management of all Project activities is governed by the Workers Compensation Act and WorkSafeBC Occupational Health and Safety Regulation.
Accomplished in month:	<ul style="list-style-type: none"> • Conducted Joint Occupational Health and Safety Committee meeting. • Conducted Project safety orientations with site preparation contractors. • Performed scheduled safety inspections.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Provide ongoing safety training to Project Team. • Conduct Joint Occupational Health and Safety Committee meetings. • Provide Project safety orientations as required. • Conduct joint meetings with WorkSafeBC.

Quality

Objectives:	<ul style="list-style-type: none"> • Ensure design services and construction works delivered to the Province are implemented within a quality standard consistent with Ministry standards and ISO 9001. • Ensure internal processes are conducted per Project quality requirements, consistent with Ministry standards and ISO 9001.
Accomplished in month:	<ul style="list-style-type: none"> • Review of Project Management Plan sub-plans and internal processes. • Quality Management input to site preparation works. • Implemented project-specific quality assurance program, including site monitoring and surveillance audits on site preparation works.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continue Quality Management input and support to site preparation works. • Ongoing review of internal processes.

Project Controls

Objectives:	<ul style="list-style-type: none">• Effectively manage the Project’s contracts, scope, schedule and cost.• Minimize potential negative impacts of any changes to the Project.• Ensure an efficient system for document control and records management.• Ensure project controls are governed by provincial policies such as the Ministry of Finance Capital Asset Management Framework and the Core Policy and Procedures Manual.
Accomplished in month:	<ul style="list-style-type: none">• Held regular monthly project controls meetings with discipline leads.• Ongoing development and updates to the Project schedule.
Key activities for next 3 months:	<ul style="list-style-type: none">• Conduct monthly project controls meetings with discipline leads.• Monitor project schedule.

4. PROJECT DEVELOPMENT

Stakeholders

Scope:	<ul style="list-style-type: none"> • Management of phased and ongoing public and stakeholder consultation, community relations and Project communications, employing best practices that draw upon international standards.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Phase 1 Consultation – Understanding the Need (2012) • Phase 2 Consultation – Exploring the Options (2013) • Phase 3 Consultation – Project Definition Report (2015/16) • 675 stakeholder meetings/presentations • Environmental Assessment Consultation (2016)
Accomplished in month:	<p><i>Meetings were held with the following stakeholder groups:</i></p> <p>Government</p> <ul style="list-style-type: none"> ○ BC Hydro ○ Ministry of Forests, Lands and Natural Resources ○ Metro Vancouver
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continue to communicate site preparation activities. • Continue community and stakeholder engagement. • Conduct business and community group presentations on request.

Environment

<p>Scope:</p>	<ul style="list-style-type: none"> • Obtain Environmental Assessment (EA) Certificate. • Conduct project monitoring in accordance with conditions of the Environmental Assessment Certificate. • Manage the permitting process. • Ensure environmental protection is managed within the framework provided by ISO 14001 Environmental Management Systems.
<p>Key milestones achieved to date:</p>	<ul style="list-style-type: none"> • Baseline studies <ul style="list-style-type: none"> ○ At-Risk Amphibians ○ Barn Owl Habitat Suitability ○ Conspicuous Raptor and Great Blue Heron ○ Contaminated Sites ○ Health Impact Assessment ○ Heritage Significance and Conservation Opportunities ○ Hydrogeology ○ Land Use ○ Sediment and Water Quality ○ Small Mammal ○ Terrestrial Vegetation: At-Risk Plants Study and Terrestrial Ecosystem Mapping • Environmental Assessment Consultation, including public open houses • Environmental Assessment Certificate (February 2017) • Environmental Management Plan (March 2017) • Water Sustainability Act Approval – Upland Ditches (March 2017)
<p>Accomplished in month:</p>	<ul style="list-style-type: none"> • Continued consultation with stakeholders on permit applications. • Continued to support the Ministry of Forests, Lands and Natural Resources (FLNRO) in review and referrals of permit application for Green Slough. • Continued to support the Department of Fisheries and Oceans (DFO) in review and referrals of Federal Fisheries Act permit application. • Reviewed Environmental Monitoring Reports and deliverables for site preparation works. • Undertook environmental auditing of site preparation activities.
<p>Key activities for next 3 months:</p>	<ul style="list-style-type: none"> • Obtain approval from FLNRO for permit applications under the Water Sustainability Act for Green Slough works. • Review environmental components required for site preparation and construction activities. • Continue environmental monitoring and auditing in association with site preparation works.

Agriculture

Scope:	<ul style="list-style-type: none">• Identify and work with farmers and other agricultural stakeholders potentially affected by the Project.• Obtain official Project approval from the Agricultural Land Commission (ALC).• Prepare appropriate plans to mitigate potential agricultural effects and to enhance agricultural land use.
Key milestones achieved to date:	<ul style="list-style-type: none">• ALC approval (February 2017)• Consultation with farmers from the Richmond Farmers' Institute and Delta Farmers' Institute.• Consultation with Richmond and Delta Municipalities.
Accomplished in month:	<ul style="list-style-type: none">• Coordinated with ALC staff regarding the ALC application approval requirements.
Key activities for next 3 months:	<ul style="list-style-type: none">• Prepare agricultural plans, including monitoring programs, to meet EAC and ALC requirements.• Meet with Agricultural Land Reserve property owners and operators to review project status and to work on mitigation and enhancement strategies.• Review progress on meeting agricultural-related conditions contained within each of the EAC and ALC resolution.

Aboriginal Groups

Scope:	<ul style="list-style-type: none"> • Consultation and engagement with Aboriginal Groups.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Completion of consultation plans with all Aboriginal Groups. • Engagement of Aboriginal Groups in initial, pre-Application and Application review phase consultation. • Submission of Aboriginal consultation reports (initial, pre-Application phase and Application review phase). • Receipt of Project-related studies by 13 Aboriginal Groups.
Accomplished in month:	<ul style="list-style-type: none"> • Ongoing consultation with Aboriginal Groups.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continue to engage Aboriginal Groups in accordance with the GMT Aboriginal Consultation Plan and to undertake activities specific to the needs of each group. • Continue to obtain and consider Aboriginal Groups' input on key documents such as permit applications, DFO authorization and draft plans required under the Environmental Assessment Certificate. • Finalize follow-up consultation required for the Water Sustainability Act Green Slough Partial Infill permit application.

Procurement

Scope:	<ul style="list-style-type: none"> • Development of Request for Qualifications (RFQ), Request for Proposals (RFP) and subsequent evaluation of submissions.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Procurement Options Report • RFQ issued (2016) • Proponent shortlist • RFP issued (including draft Concession Agreement) • RFP technical evaluation completed • RFP financial evaluation completed • The Project team has identified a potential preferred proponent
Accomplished in month:	<ul style="list-style-type: none"> • Ongoing updates to RFP Data Room materials. • Developed approach in preparation of Preferred Proponent engagement and negotiations.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continue the competitive selection process in accordance with the RFP. • Ongoing updates to Data Room materials. • Negotiations with Preferred Proponent to achieve financial close. • Finalize the draft Concession Agreement for execution. • Support Project contract management team following financial close.

Engineering

Scope:	<ul style="list-style-type: none"> • Development of a reference concept, technical requirements/specifications and related technical studies for the Project. • Traffic operations modelling, traffic data collection, and other related engineering services in support of the Project. • Technical input to the procurement and environmental processes. • Compliance reviews of work by Concessionaire.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Draft reference concept for EA application, RFQ and RFP • Multiple traffic data and analysis reports • Multiple geotechnical studies • Pile Load Test • Reviewed technical compliance of proposals
Accomplished in month:	<ul style="list-style-type: none"> • Provided technical support to the Project.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Ongoing support to procurement process. • Review of Concessionaire’s Design Management Plan. • Review of Concessionaire’s geotechnical program. • Ongoing review of project risks, costs, scope and schedule.

Construction

Scope:	<ul style="list-style-type: none"> • Overall planning, coordination and implementation of construction activities.
Key milestones achieved to date:	<ul style="list-style-type: none"> • Pile Load Test (2016) • Commenced site preparation works in both Richmond and Delta
Accomplished in month:	<ul style="list-style-type: none"> • Completed excavation and continued preload placement at the Delta preparation site. • Continued excavation and preload placement at the Richmond preparation site. • Commenced concrete barrier placement and settlement gauge installation at both Delta and Richmond preparation sites.
Key activities for next 3 months:	<ul style="list-style-type: none"> • Continue preload and concrete barrier placement at the Delta preparation site. • Complete excavation and continue preload and concrete barrier placement at the Richmond preparation site. • Review settlement gauge data for both Richmond and Delta preparation sites.

Property

Scope:	<ul style="list-style-type: none">• The acquisition of land rights required to deliver the Project.• Review of properties along the Project corridor and development of a property acquisition strategy.• 36 properties have been identified for acquisition, the majority of which are partial acquisitions given the Project is primarily within the existing Highway 99 Right-of-Way.
Key milestones achieved to date:	<ul style="list-style-type: none">• Finalized agreements on 12 properties.• Established five parcels as Arterial Hwy.• Completed legal surveys on 33 properties.
Accomplished in month:	<ul style="list-style-type: none">• Received additional appraisals and began preparation of offers to owners.• Finalized right-of-way required on one parcel.• Continued negotiations with owners regarding planned property acquisitions.
Key activities for next 3 months:	<ul style="list-style-type: none">• Continue property negotiations with owners.• Meet with affected stakeholders and discuss options for settlement.• Update appraisal reports on select properties.• Finalize appraisal reports on select properties.• Conduct legal surveys on remaining properties.

5. COST

<p>Objectives:</p>	<ul style="list-style-type: none"> • Development of the Capital Cost and, Operation, Maintenance and Rehabilitation Cost Estimates • Ensure costs for works performed are in accordance with scope and schedule • Control cost variance from budget • Regular review of the estimated Project Cost • Ensure cost control activities are governed by provincial policies such as: <ul style="list-style-type: none"> ▪ Ministry of Finance Capital Asset Management Framework (CAMF) (2002); ▪ Ministry of Finance Core Policy and Procedures Manual (2015); ▪ Auditor General Act; ▪ Financial Administration Act; ▪ Balanced Budget and Ministerial Accountability Act; ▪ Supply Act; ▪ Budget Transparency and Accountability Act; and ▪ Transportation Investment Act.
<p>Key milestones achieved to date:</p>	<ul style="list-style-type: none"> • Business Case (2015) • Capital Cost Estimate Report • Operation, Maintenance and Rehabilitation Cost Estimate Report • Risk Report
<p>Status:</p>	<ul style="list-style-type: none"> • The forecast for the current fiscal year is \$583M; to date, 10M has been spent (this includes actuals plus incurred). • The approved capital project budget is \$3.5 billion.

6. RISK MANAGEMENT

Objectives:	<ul style="list-style-type: none">• Implementation of risk management at the operational level, while abiding by enterprise-level protocols and other considerations• Development of a Risk Management Plan that details the standard risk management processes and practices implemented on the Project• Ongoing development and management of a risk register for the Project, which includes risk mitigation strategies• Ensuring that risk is managed using the following guiding framework, principles and policies:<ul style="list-style-type: none">▪ Core Policy and Procedure Manual, Chapter 14 (CPPM 14) (2015)▪ Risk Management Guideline for the BC Public Sector (2012)▪ CAN/CSA ISO 31000: Risk Management – Principles and Guidelines (2010)
Key milestones achieved to date:	<ul style="list-style-type: none">• Risk Report (October 2015)• Project Risk Management Plan• Creation and management of the Project’s Risk Register
Status:	<ul style="list-style-type: none">• Risk register to be updated in advance of selection of Preferred Proponent and again after financial close to reflect specifics of the technical proposal and the executed Concession Agreement