



**Wastewater
Treatment Project**

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: July - September 2017

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1. Executive Summary

1.1 Introduction

This quarterly report covers the reporting period of July - September 2017, and outlines the progress made on the Wastewater Treatment Project over this time.

The Wastewater Treatment Project (the “Project” or the “WTP”) includes three main components (the “Project Components”): the McLoughlin Point Wastewater Treatment Plant (the “WWTP”), the Residuals Treatment Facility (the “RTF”) and the Conveyance System (which includes upgrades to the conveyance network, including the construction of pump stations and pipes). The Project scope will be delivered through a number of contracts with a variety of contracting strategies.

Overall the Project is progressing as planned. The set-up of the CRD Project Management Office (“PMO”) was substantially completed over the reporting period. Recruitment efforts were successful with the staffing level increasing over the reporting period from 22 to 25 full time equivalents (“FTE”); the PMO office is now fully-staffed for this phase of the Project.

The construction of the WWTP has progressed in accordance with the overall schedule, with Harbour Resource Partners (“HRP”) furthering design while materials and equipment were mobilized, construction sites were prepared, at Ogden Point casing installation was completed and horizontal directional drilling commenced, and at McLoughlin Point blasting and soil excavation commenced.

The RTF is in the procurement phase and the Request for Proposals (“RFP”) process was ongoing during the reporting period: collaborative meetings were held and enquiries from proponents were responded to. The RFP is progressing as planned, with technical submissions from the three shortlisted proponents received in September 2017. The financial submission due date was extended to November 2017 (from October) to allow proponents more time to prepare their financial submissions, but this extension is not anticipated to have an impact on the overall schedule.

The Conveyance System will be delivered through seven construction contracts: two design-build contracts and five design-bid-build contracts.

Procurement of the two design-build Conveyance System contracts progressed over the reporting period:

- Clover Point Pump Station: the RFP for the Clover Point Pump Station closed on August 16, 2017. Evaluations were completed in September, and a Preferred Proponent was selected; and
- Macaulay Point Pump Station and Forcemain: the RFQ for the Macaulay Point Pump Station and Forcemain closed on July 5, 2017. The submissions were evaluated during August and three short-listed proponents were selected to participate in the Request for Proposals (RFP) process. The RFP was issued on August 24, 2017, and is scheduled to close in November.

The five design-bid-build Conveyance System contracts are in the engineering phase. Stantec (as the owner's engineer) progressed the indicative design over the reporting period. For each of the design-bid-build contracts the Project Team will procure design consultant services (including the “Engineer of Record” role). The procurement of design consultant services progressed over the reporting period for three of the design-bid-build Conveyance System contracts:

- Clover Forcemain: Kerr Wood Leidal (KWL) was awarded the design consultant contract for the Clover Forcemain; they are currently providing Second Engineering Firm services for the review of Stantec's indicative design before progressing with completion of the detail design;

- Arbutus Attenuation Tank: KWL was re-engaged as the design consultant for the Arbutus Attenuation Tank; and
- Residual Solids Conveyance Line: proposals were received for design consultant services for the Residual Solids Conveyance Line, and are currently being evaluated.

1.2 Dashboard

Table 1 indicates the high level status of the Project and each Project Component with regards to the six Key Performance Indicators (“KPI”) that were defined within the Project Charter.

Table 1- Executive Summary Dashboard

| Key Performance Indicators | | Project Overall | WWTP | RTF | Conveyance System | Comments |
|----------------------------|--|-----------------|------|-----|-------------------|---|
| Safety | Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*. | | | | | No recordable incidents; site inspections ongoing. |
| Environment | Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction | | | | | No environmental issues. |
| Regulatory Requirements | Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations. | | | | | No regulatory issues. |
| Stakeholders | Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders. | | | | | Engagement activities were ongoing in the reporting period related mainly to the Ogden and McLoughlin Point construction activities. Significant efforts will continue to be made to provide accurate and timely information to stakeholders. |
| Schedule | Deliver the Project by December 31, 2020. | | | | | No schedule issues |
| Cost | Deliver the Project within the Control Budget (\$765 million). | | | | | Project expenditures within Control Budget but cost pressures identified. Corrective action has been identified and is being implemented (see section 2.7 for details). |

* A TRIF of no more than 1 means that there is 1 or fewer recordable incidents (being a work-related injury or illness that requires medical treatment beyond first aid or causes death, days away from work, restricted work or transfer to another job, or loss of consciousness) for every 200,000 person-hours of work.

| Status | Description |
|--------|--|
| | KPI unlikely to be met |
| | KPI at risk unless correction action is taken |
| | KPI at risk but corrective action has been identified/is being implemented |
| | Good progress against KPI |

2. Wastewater Treatment Project Progress

2.1 Safety

Safety information for the reporting period and cumulative for the Project from January 1, 2017 is summarised in Table 2. The total recordable incident frequency (TRIF) for the reporting period, inclusive of Project Contractors and Project Management Office (PMO) staff was zero.

HRP continued drilling and construction at WWTP work sites over the reporting period. At the end of the reporting period there were 63 HRP staff working on the Project.

In addition to HRP's work, geotechnical investigations were undertaken over the reporting period to gather information for future construction: by Stantec along Dallas and Douglas Road, related to the alignment of the Clover Forcemain, and on Willis Point Road by Frontier Geosciences for geophysical and geotechnical field work related to the Residual Solids Conveyance Line.

Daily site safety tours and weekly safety inspections were carried out by Project Team construction and safety personnel over the reporting period. With ongoing construction activities on the Project these inspections continued and documented site inspections were performed weekly with an HRP and CRD representative. Office and site orientations were delivered as required.

In July, key safety activities included:

- corrective action taken regarding a “High Potential Near Miss” at McLoughlin Point involving an excavator contacting a utility line: the utility owner contacted and repaired damaged lines; the contractor’s practices and procedures were reviewed; and overhead lines were marked with flagging;
- a hazard incident report at Ogden Point site issued to HRP when a sub-contractor excavator operator moved a concrete block too quickly and too close to the edge of the excavation; causing some material to fall back into the hole. The work was stopped immediately, the operator was instructed on the safe handling of materials, and the work area was leveled-out close to the excavation to prevent any further impact;
- the WTP Safety Manager attended a coordination meeting with CRD corporate safety representatives and HRP with a WorkSafeBC officer at the McLoughlin site. Roles and responsibilities, safety compliance and expectations in regards to Project Management were discussed;
- the WTP Safety Manager attended a safety meeting with CRD corporate safety representatives and HRP regarding reporting procedures and timelines for incident reporting;
- the CRD Safety Manager accompanied the geotechnical drilling crew to complete the study of Dallas and Douglas Road;

- the Project Team reviewed HRP's revised and updated Blasting Plan, and integrated CRD's Corporate Fleet Driver and Management CRD policies and procedures into vehicle training for all Project Team drivers.

In August, key safety activities included:

- two safety-related incidents occurred in August that did not result in recordable incidents:
 - two PMO Team members were involved in a motor vehicle incident while delivering construction notices in Esquimalt. No significant injuries were received in the incident and both Team members were able to return to work after the incident;
 - a safety intervention regarding signage and unsafe operation of a motor vehicle in a construction zone was performed at Willis Point Road. A Jacob Brothers' employee (who was undertaking work at Hartland Landfill) and Island Flagging personnel (who was controlling traffic for the geotechnical crew on Willis Point Road) were spoken to regarding appropriate communication and adhering to control zones for worker(s) safety;
- a safety talk was held with a surveying contractor, including road safety tips and CRD WTP communication cards for crew to provide to the public in the event of any questions regarding the Project;
- A safety observation at the Ogden Point work site regarding ladder access to the drilling machine presented some safety risks. The Contractor replaced the ladder with a ramp for safer access;
- new safety related materials were added to the office safety bulletin board; and
- a Prolog training seminar was held for WTP staff for document control orientation and management (including safety documentation).

In September key safety activities included:

- at the end of August, rock crushing activities were suspended at McLoughlin site Area A due to potential silica dust exposure. In September a regulatory compliance review of the silica Hazard Assessment and Exposure Control Plan was completed, permitting work to resume. Island EHS was contracted to perform silica hygiene services for HRP to obtain Silica testing and results to ensure proper dust control measures were being met. The CRD requested an incident investigation be performed regarding exposure control testing initiated after the job had commenced. Silica dust hygiene test results confirmed that the safety measures in place were not sufficient to prevent silica dust from entering the cab of the excavator while loading rocks into the crusher, putting the operator at risk for silica exposure.
- incident investigation corrective action was taken and the prime contractor was reminded to ensure that sub-contractor assessments and control plans met regulatory standards and a thorough review of documentation by HRP site supervisors what to be undertaken prior to commencement of all future higher risk tasks. A formal communication was sent to the prime contractor and a meeting was held to review safety plans and procedures.
- the geotechnical investigation team performing geotechnical investigations in September at sites along Willis Point Road were accompanied by a CRD WTP inspector to ensure safety compliance during investigations and effective communication with the public in the event of questions or concerns by citizens and homeowners along the geotechnical test route.
- hazardous materials testing records for Clover Point and Macaulay Point Pump Stations were provided to the CRD for their use. The test records indicated no outstanding issues with respect to hazardous materials.
- a 1 inch diameter water line was uncovered by an excavator at McLoughlin site while preparing the site for a BC Hydro right of way. The water line was unexpected as it was not identified on

the BC 1 Call pipe and infrastructure location documentation provided and reviewed prior to work on the site.

- an old abandoned gun turret line that was used by the Department of National Defence (DND) was un-covered at the McLoughlin site during site preparation in the area. DND was notified and a DNE representative confirmed that the line was inactive as it too was not identified on the BC 1 Call pipe and infrastructure location document.
- the CRD WTP Safety Manager participated in team “Lines of Communication” training;;
- safety spot checks were performed on geotechnical crews by the CRD WTP Safety Manager;
- three designated WTP staff participated in a Level 1 First Aid training course to ensure PMO office regulatory compliance.

Table 2 – WTP Safety Information

| | Reporting Period (Q3 2017) | Project Total to-Date (from January 1, 2017) |
|--|-------------------------------|---|
| Person Hours | | |
| PMO | 11,590 | 21,660 |
| Project Contractor | 34,219 | 55,168 |
| Total Person Hours | 45,809 | 76,828 |
| Number Of Employees | | |
| PMO | 25 | |
| Project Contractors working on Project site | 63 | |
| Total Number Of Employees | 88 | |
| Number Of Occurrences | | |
| Near Miss Reports | 1 | 2 |
| High Potential near Miss Reports | 1 | 1 |
| Report Only | 2 | 2 |
| First Aid | 0 | 0 |
| Medical Aid | 0 | 0 |
| Medical Aid (Modified Duty) | 0 | 0 |
| Lost Time | 0 | 0 |
| Total Recordable Incidents | 0 | 0 |
| Frequency Rates | | |
| First Aid Frequency | 0 | 0 |
| Medical Aid Frequency | 0 | 0 |
| Lost Time Frequency | 0 | 0 |
| Total Recordable Incident Rate | 0 | 0 |

2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period related both to the planning of upcoming work and the execution of current work.

2.2.1 Environment

Environmental work progressed as planned over the reporting period.

Key environmental management activities completed in July included:

- HRP began characterizing and delineating contaminated soils at the McLoughlin Point site. Test-pitting and analysis of soil samples followed Provincial protocols and continued throughout the month; and
- the Project Team had a field visit with City of Victoria staff to plan the management of rare plants at Clover Point.

Key environmental management activities completed in August included:

- HRP continued characterizing and delineating, and began removing contaminated soils at the McLoughlin Point site. Test-pitting and analysis of soil samples followed Provincial protocols and continued throughout the month.

Key environmental management activities completed in September included:

- HRP continued characterizing, delineating and removing contaminated soils at the McLoughlin Point site. All activities related to contaminated materials followed Provincial protocols and continued throughout the month.

2.2.2 Regulatory Management

Regulatory management work progressed as planned over the reporting period.

The progression of the various Project permits continues to be an area of focus due to the potential for adverse schedule impacts. The regulatory management activities were in-line with the planned Project progress for the period, with good progress being made on the MWR Registration scope and assignment of responsibilities.

The Project Team continued engagement with provincial and federal government agencies throughout the reporting period.

In July, key regulatory activities included:

- Stantec (as owner's engineer) submitted applications to the Township of Esquimalt and District of Saanich for street-occupancy permits related to geotechnical investigations for the Residual Solids Conveyance Line;
- the Project Team and HRP met with the BC Ministry of Environment to discuss the Municipal Wastewater Regulation (MWR) Registration process and how it applies to the McLoughlin Wastewater Treatment Plant;
- HRP submitted a request to the BC Ministry of Environment for permission to begin construction of the McLoughlin facility prior to the MWR Registration being in effect;

- the Project Team met with the BC Ministry of Environment to discuss the Residuals Treatment Facility and the regulatory framework and permitting regime that is applicable;
- Millennia, the Project's archaeological contractor, prepared background material in support of a Heritage Conservation Act Inspection Permit application to the Province, to enable intrusive (i.e. ground disturbing) studies to be undertaken to inform Millennia's Archaeological Impact Assessment of the entire Project; and
- archaeological (*Heritage Conservation Act*) permits from the Ministry of Forests, Lands, and Natural Resource Operations for the Project were submitted by Millennia, the Project's archaeological contractor.

In August, key regulatory activities included:

- Stantec (as owner's engineer) received authorizations from the Township of Esquimalt and District of Saanich for street-occupancy permits related to geotechnical investigations for the Residual Solids Conveyance Line;
- Millennia completed a preliminary field reconnaissance ("PFR") to assess the need for archaeological permits during the geotechnical investigations of the Residual Solids Conveyance Line. Geotechnical investigation sites that required an archaeological permit were delayed until the permit was obtained. Other 'low archaeological risk' sites were monitored during drilling;
- the Project Team met again with the BC MoE to discuss the MWR Registration. The purpose of the meeting was to provide the MoE with an overview of the Project and determine the scope of the MWR Registration. MoE have requested that the Project be registered under a single MWR Registration, rather than separate registrations related to the different Project Components. MoE's preference has implications on how the MWR Registration will be applied for, as outlined below in Table 3;
- HRP submitted a Water Lot Licence application, and received a Water Lot Licence from Transport Canada. The Water Lot Licence allows HRP to anchor a barge adjacent to the McLoughlin Point site in Victoria Harbour; and
- HRP submitted and received an amendment to the DND Licence Agreement to allow the use of DND sewer infrastructure for the disposal of water from excavations at McLoughlin Point.

In September, key regulatory activities included:

- the Project Team held bi-weekly meetings with BC MoE to advance the MWR Registration, and submitted a completed version of the MWR Registration Information Requirements Table (IRT). The IRT serves as the scope of the MWR Registration application;
- The Project Team received the Archaeological Inspection Permit (Heritage Conservation Act) from FLNRO, allowing intrusive (i.e. ground disturbing) studies to be undertaken to inform Millennia's Archaeological Impact Assessment of the entire Project;
- Millennia continued archaeological monitoring activities for the Residual Solids Conveyance Line geotechnical investigations when warranted;
- HRP received a Notice from the Director to Construct under Section 40 (b) of the MWR, allowing construction at the McLoughlin Point facility to begin; and
- HRP contacted Transport Canada (TC) to enquire about the status of the Facilities Alteration Permit and Licence for the McLoughlin Point Outfall. TC indicated that Fisheries and Oceans Canada (DFO) required additional information prior to making a decision. HRP provided additional information regarding potential effects from construction and proposed mitigation measures to DFO.

The Project Team continued to meet the CRD's commitments under Project-related agreements.

The status of the key Project permits are summarized in Table 3. The table is not a list of all required Project permits, but rather a summary of the status of key Project permits.

Updates to Table 3 from that presented in the Project's June 2017 Quarterly report are as follows:

- i) related to the McLoughlin Point WWTP:
 - o the party responsible for obtaining the MWR Registration has been changed from HRP to the CRD. MoE have requested that the Project be registered under a single MWR Registration. As this registration will cover the McLoughlin Point WWTP as well as other Project Components (that HRP is not responsible for) the Project Team will lead the MWR Registration with support from relevant Project Contractors;
 - o the process for obtaining MWR registration is underway and this registration is required prior to commissioning of the plant. However, in order to start construction of the plant foundations a Notice from the Director to Construct was required under Section 40 (b) of the MWR. In July, a request was submitted to the MoE for a Notice from the Director to Construct the wastewater treatment plant and the notice was received in September;
- ii) related to the McLoughlin Point Harbour Crossing: the responsibility for obtaining the Transport Canada Lease has been updated to HRP based on the responsibilities under the Project Agreement;
- iii) related to the McLoughlin Point Outfall:
 - o Provincial Tenure Crown Grant was advanced to Q4 2017 in response to a request from BC MoE. They requested that the CRD obtain a tenure for the outfall prior to issuing a 'Notice from a Director' for outfall construction;
 - o the responsibility for obtaining the Provincial Tenure Crown Grant and Transport Canada Lease has been updated to HRP based on the responsibilities allocated under the Project Agreement;
 - o the responsibility for obtaining the Transport Canada Lease has been updated to HRP based on the responsibilities under the Project Agreement; and
 - o the process for obtaining MWR registration is underway and this registration is required prior to commissioning of the plant. However, in order to start construction of the outfall a Notice from the Director to Construct is required under Section 40 (b) of the MWR. A request is planned to be submitted to MoE in October 2017, pending receipt of approvals from Transport Canada.
- iv) related to the Residuals Treatment Facility: the addition of the Operational Certificate. MoE have determined that this is the authorizing mechanism most applicable to the RTF. It will be the RTF Project Co's responsibility to obtain the Operational Certificate prior to operations starting at the facility.

Table 3- Key Permits Status

| Permit / Licence | Anticipated Date | Status | Responsible Party |
|---|--------------------------------------|---|-------------------|
| <i>McLoughlin Point WWTP</i> | | | |
| Rezoning within the Township of Esquimalt | Obtained | Complete | CRD |
| Township of Esquimalt Development Permit | Obtained | Complete | HRP/CRD |
| Township of Esquimalt Development Permit Amendment | Q4 2017 | On track | HRP |
| Township of Esquimalt Phased Building Permits <ul style="list-style-type: none"> Phase 1: Early Works | Obtained | Complete | HRP |
| Township of Esquimalt Phased Building Permits <ul style="list-style-type: none"> Future phases to be determined with Township of Esquimalt | TBD | TBD | HRP |
| Department of National Defence Licence (facility siting, works access and laydown, including for Macaulay Point) | Obtained | Complete | CRD |
| Municipal Wastewater Regulation (“MWR”) Registration | Q4 2018 | On track | CRD |
| Notice from the Director to Construct under Section 40 (b) of the MWR | Q3 2017 | Complete | HRP |
| <i>McLoughlin Point Harbour Crossing</i> | | | |
| Greater Victoria Harbour Authority Licence (works access) | Obtained | Complete | CRD |
| Transport Canada Licence (works access) | Obtained | Complete | HRP |
| Transport Canada Facility Alteration Permits (HDD and installation of the casing and pipe) | Obtained | Complete | HRP |
| Transport Canada lease | Following completion of construction | On track | HRP |
| <i>McLoughlin Point Outfall</i> | | | |
| Transport Canada Facility Alteration Permit | Q4 2017 | Submitted: under review by Transport Canada | HRP |
| Transport Canada Licence (works access) | Q4 2017 | Submitted: under review by Transport Canada | HRP |
| Provincial Tenure Crown Grant | Q4 2017 | On track | HRP |
| Transport Canada Lease | Following completion of construction | On track | HRP |

| Permit / Licence | Anticipated Date | Status | Responsible Party |
|---|----------------------------------|----------|-------------------|
| Notice from the Director to Construct under Section 40 (b) of the MWR | Q4 2017 | On track | HRP |
| <i>Macaulay Point Pump Station Upgrade</i> | | | |
| Township of Esquimalt Development Permit | Q1 2018 | On track | DB Contractor |
| <i>Clover Forcemain</i> | | | |
| City of Victoria Licence (works access) | Obtained | Complete | CRD |
| <i>Clover Point Pump Station</i> | | | |
| Rezoning within the City of Victoria | Obtained | Complete | CRD |
| City of Victoria Licence (facility siting) | Obtained | Complete | CRD |
| <i>ECI/Trent Twinning</i> | | | |
| City of Victoria Licence (works access) | Q1 2019 | On track | Design Consultant |
| <i>Arbutus Attenuation Tank</i> | | | |
| Vancouver Island Health Authority Licence (works laydown) | Q2 2019 | On track | CRD |
| <i>Residual Solids Pipes and Pump Stations</i> | | | |
| Ministry of Transportation and Infrastructure permits (works access) | Q1 2018 | On track | Design Consultant |
| <i>Residuals Treatment Facility</i> | | | |
| Operational Certificate | Prior to start of RTF operations | On track | RTF Project Co |
| District of Saanich Development Permits | Q2 2018 | On track | RTF Project Co |

2.3 First Nations

First Nations communication and engagement were ongoing and progressed as planned over the reporting period. The CRD First Nations Relations Division worked with the Environmental, First Nations and Regulatory Manager to advance consultation reporting in support of federal and provincial permit applications.

In July, the Songhees Liaison was very helpful in finding an available cultural worker to assist Millennia, with activities at the Ogden Point site. The First Nations monitor participated in screening excavated soils, identification and classification and sharing traditional knowledge of the area with the on-site crew.

Also in July, Millennia submitted an application to the Province for a Heritage Conservation Act Investigation Permit which allows for ground testing in areas of the Project with high potential for cultural materials. The permit required 30 day referral notifications to First Nations outside the core area.

In August, First Nation monitors representing Songhees and Tsartlip Nation assisted Millennia with field reconnaissance along the Residual Solids Conveyance Line route to ground-truth desktop assessments.

In September, the first meeting of the First Nations Liaison Working Group was held, made up of the core members Kevin Simpson (Project Team Environmental, First Nations and Regulatory Manager), Sue Hallatt, (CRD First Nations Relations Division), Florence Dick, (Songhees Nation), and Ed Thomas (Esquimalt Nation). Additional participants included D'Ann Owens (Millennia Archeology) and will include other members of the Project Team as appropriate. The working group intends to meet bi-monthly, with the first priority for the upcoming meetings identified as the review and refinement of the current Archeology Protocol.

2.4 Stakeholder Engagement

The Project has maintained its ongoing two-way Communications and Engagement Plan to provide Project information to stakeholders, communities and the public and to respond to public inquiries. The key focus of the communications and engagement activities over the reporting period was to keep residents and stakeholders informed of Project plans, progress and construction information, and to receive and respond to questions and concerns raised by the community.

A variety of materials and methods supported the implementation of the Communications and Engagement Plan, including a public inquiry program, Project website updates, construction notifications, community and stakeholder meetings and door-to-door notifications.

In addition, weekly McLoughlin Point blasting schedules were posted to the website to ensure the public is aware of what to expect in the upcoming week. An example of one of these blasting schedules is attached as Appendix A.

The Project website, wastewaterproject.ca, was updated throughout the reporting period. The site includes all construction and media releases, relevant reports, and updates to the "Community Questions" webpage to provide stakeholders with answers to commonly-asked questions.

July Overview

Construction was underway in the month of July at two main work sites: McLoughlin Point and Ogden Point. Key communications tools were used to keep the community aware of construction activities including construction notices emailed to James Bay and Esquimalt email list and stakeholders, website updates, 24-7 phone line, and community meetings.

Project Update #3 (Appendix B) was developed, posted on the website and distributed to 34,000 households in James Bay, Fairfield, Esquimalt, and Victoria West, as well as to the municipalities of Victoria, Esquimalt, and Saanich. Three construction notices were issued to stakeholders and uploaded onto the Project website (Appendices C, D, and E).

There were two Briefing Notes developed and distributed in July to provide detailed information to the Project Board on how the casing installation at Ogden Point was proceeding (Appendices F and G).

In July, the Project Team held meetings with the following community groups and representatives, Members of the Legislative Assembly of BC, and municipality representatives:

- James Bay Neighbourhood Association;
- Township of Esquimalt Liaison Committee;
- MLA Andrew Weaver, Oak Bay – Gordon Head;
- MLA Adam Olsen, Saanich North and the Islands;
- Hon. Lana Popham, Saanich South; and
- District of Saanich Technical Working Group.

August Overview

Construction was underway in the month of August in three areas: McLoughlin Point, Ogden Point, and geophysical and geotechnical work along the proposed route of the Residual Solids Conveyance Line in Esquimalt, Victoria and Saanich.

In August, two construction notices were emailed to stakeholders and uploaded onto the Project website (Appendices H and I). These construction notices were also mailed to 3,547 residents and businesses in Saanich along the proposed conveyance line route alignment and 150 notices were hand delivered to nearby residents and businesses in Esquimalt and Victoria. The weekly McLoughlin Point blasting schedules were posted to the website to ensure the public was aware of what to expect in the upcoming week.

One media release was issued in August: “Macaulay Point Pump Station and Forcemain Proponents Shortlisted” (Appendix J).

In August, the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- Township of Esquimalt Liaison Committee;
- District of Saanich & Saanich Technical Working Group;
- Township of Esquimalt Technical Working Group; and
- City of Victoria.

Members of the Project Team also staffed an information booth at a Canada 150 Celebration event in Esquimalt to provide members of the public with information about the Project and an opportunity to ask questions.

September Overview

Construction was underway in the month of September in three areas: McLoughlin Point, Ogden Point, and geophysical and geotechnical work along the proposed route of the Residual Solids Conveyance Line in Esquimalt, Victoria and Saanich. The weekly McLoughlin Point blasting schedules were posted to the website to ensure the public was aware of what to expect in the upcoming week.

The Project website, wastewaterproject.ca, was updated throughout the month, including the addition of the updated Clover Point Pump Station Information Sheet and the Arbutus Attenuation Tank Information Sheet (Appendices K and L). In September, there were 4251 page views of the Project website, of which 2875 are unique page views.

In September, the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- James Bay Neighbourhood Association;
- Fairfield Gonzales Community Association Land Use Committee;
- Saanich Community Association Network; and
- Township of Esquimalt Liaison Committee.

Members of the Project Team also staffed an information booth at the Fall Fairfield Festival to provide members of the public with information about the Project and an opportunity to ask questions.

Table 4 - Public Inquiries July – September, 2017

| Inquiry Source | Contacts for July - September |
|----------------------------------|-------------------------------|
| Information phone line inquiries | 44 |
| Email inquiries responded to | 78 |

Key themes of the public inquiries are as follows:

- construction work and noise mitigation at Ogden Point;
- geotechnical work along Dallas Road and the plan for the Clover Forcemain;
- amenities in Esquimalt and public realm improvements in Victoria;
- the Arbutus Attenuation Tank;
- construction and impacts of the Residuals Treatment Facility;
- route of the Residual Solids Conveyance Line;
- potential impacts of the Residual Solids Conveyance Line and Residuals Treatment Facility on groundwater wells;
- geotechnical work in Esquimalt and Saanich;
- risk management and home insurance for homes and buildings which may be impacted by construction;
- environmental impact of construction;
- CRD Board members' proposed trip to Europe related to the development of the Integrated Resource Management plan – the IRM process is a CRD process which is separate from the Wastewater Treatment Project; and not part of the Project;
- concerns about upcoming construction on Niagara Street;
- requests for an information meeting;
- requests to be added to email update list; and
- employment, supplier and contractor interest.

2.5 Resolutions from Other Governments

There were no resolutions related to the Project passed by other Governments during the reporting period. An update is provided to a resolution passed at the Core Area Liquid Waste Management Committee's (CALWMC) April 12th meeting.

2.5.1 Core Area Liquid Waste Management Committee Past Resolutions – Green Shores Certification Update

The Project Board received a number of resolutions from the CALWMC's April 12th meeting. The Project Board considered these resolutions at its May 2nd meeting and directed staff to prepare the response. The CALWMC's resolutions are in italics and the Project Board's responses follow.

That the CRD Board request that the Core Area Wastewater Treatment Project Board:

5. Explore a Green Shores certification for the Clover Point Pump Station

The Project Board reviewed this request and discussed it at the May 2, 2017, open Project Board meeting. At the conclusion of the discussion, the Project Board voted unanimously in favour of the staff recommendation, which is in agreement with the request, and was as follows:

The Project Team will review the Green Shores certification process and determine whether the certification might be appropriate for the Clover Point Pump Station, and identify any impacts to cost and schedule of pursuing the certification.

The Project Team have now completed this review and the results are as follows:

Background

Green Shores is a voluntary certification program run by the Stewardship Centre for British Columbia (SCBC) that promotes sustainable use of shoreline ecosystems. Green Shores provides tools and best practices for shoreline property owners to minimize the impacts of new development and restore shoreline ecosystem functionality of previously developed sites. The Green Shores assessment framework is based on the premise that the application process would commence in the early stages of the facility planning, siting and design effort.

The Green Shores certification process is built on a similar format to the LEED rating system. Certification is obtained by meeting five prerequisite criteria as well as a specific number of optional credits for which a project can achieve points.

The Project Team, in consultation with Stantec (as the Owner's Engineer), conducted an assessment of the eligibility for the Clover Point Pump Station to achieve Green Shores Certification. The assessment concluded that there is a significant concern that the scope of the Clover Point Pump Station would limit the number of available credits/points there by making the project ineligible for certification. The Team also note that regardless of the projects ability to achieve the overall certification, a number of the Green Shores points were similar to the LEED certification requirements, which were already incorporated into the design of the Clover Point Pump Station.

Recommendation

Given that the project is now in the implementation stage, the uncertainty in obtaining a certification, and considering that many of the requirements needed to obtain Green Shores certification are already incorporated into the design of the Clover Point Pump Station through the LEED design objectives and principles, the Project Team recommends that Green Shores certification not be pursued. This conclusion will be confirmed with the CALWMC at its October meeting.

2.6 Schedule

The Project progressed as planned over the reporting period, with construction at the WWTP and Ogden. In addition, geotechnical investigations were conducted along Dallas Road by Stantec related to the alignment of the Clover Forcemain and at Willis Point Road by Frontier Geosciences related to the Residual Solids Conveyance Line.

In the reporting period, HRP continued construction with blasting, excavation and horizontal directional drilling at McLoughlin Point & Ogden Point. HRP construction, design and procurement has progressed in accordance with the overall schedule.

HRP submitted the WWTP resource loaded schedule which was reviewed and returned with comments/recommendations. HRP continue to incorporate CRD comments and plan to re-issue early October.

The RTF Project Component procurement phase and the Conveyance System Project Component procurement phase progressed as planned over the reporting period.

2.6.1 Update to the Wastewater Treatment Project Schedule

Components of the Wastewater Treatment Project schedule was updated as project planning progressed; specifically schedule updates were made to the anticipated dates of construction and commissioning of portions of the Conveyance System.

Updates were made as follows:

- i) The duration of the construction timeframe for the Residual Solids Conveyance Line was extended to two years: previously it was scheduled to occur from Q2 of 2018 to Q4 of 2019, it is now scheduled from Q2 of 2018 to Q2 of 2020.
- ii) The start of construction for the Macaulay Point Pump Station and Forcemain was adjusted from the start of Q1 of 2018 to the start of Q2 of 2018 to reflect the procurement schedule, which anticipates a closing date for RFP submissions in November 2017, followed by evaluation, contract award, design, development and building permit processes extending through Q1 of 2018.
- iii) The start of construction for the Clover Forcemain was adjusted from Q1 of 2018 to Q2 of 2018, and the duration was extended to Q1 of 2020. The time frame for the Clover Forcemain was adjusted in consideration of the recent award and scope of the design consultant contract to KWL, which includes an independent expert technical review of the indicative design, followed by public consultation and design development through Q1 of 2018 and construction start in Q2 of 2018. Completion in Q1 of 2020 allows full integration of the conveyance system

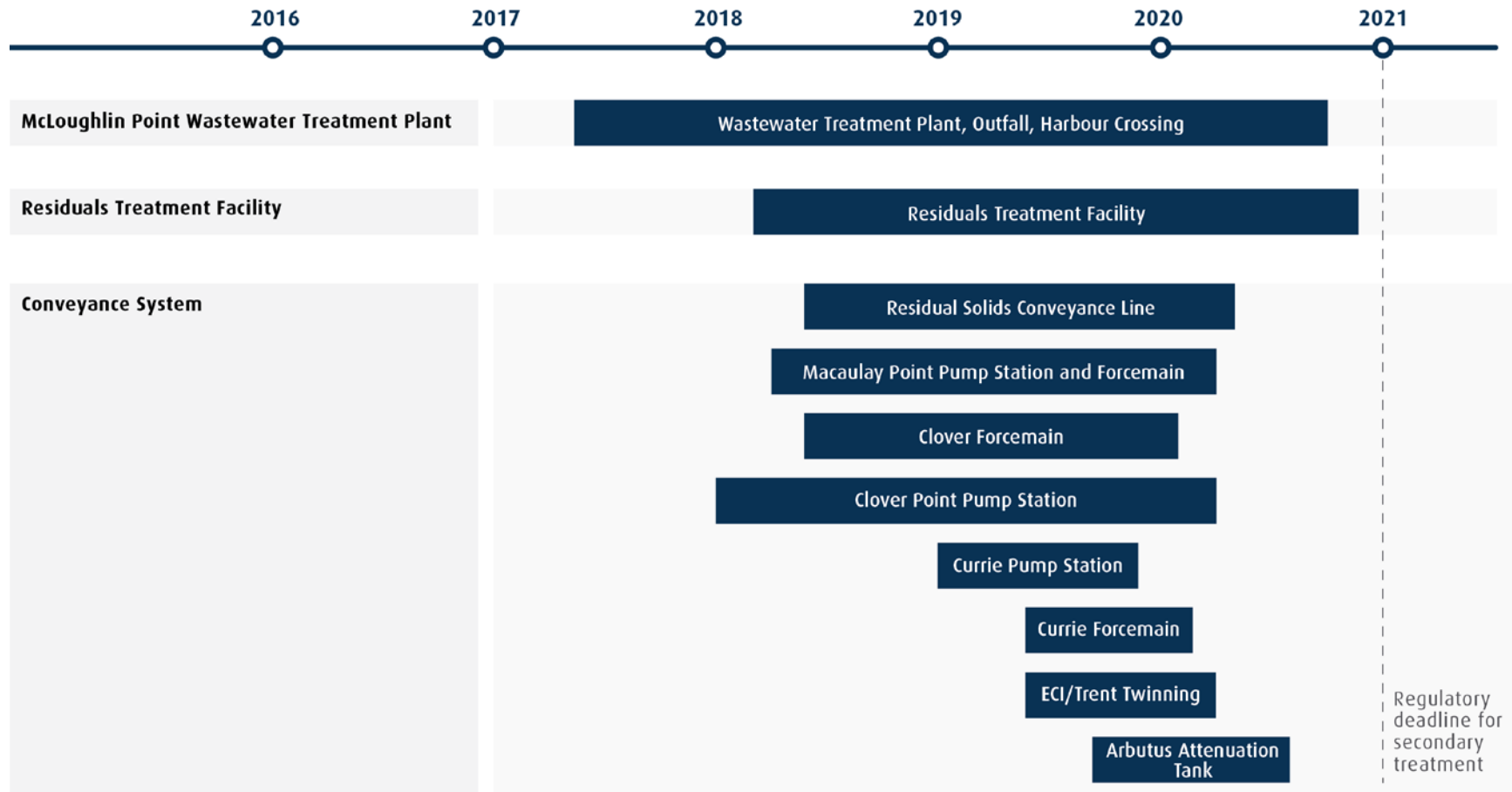
commissioning with the completion dates for the Clover Point Pump Station and the McLoughlin Point Wastewater Treatment Plant.

Figure 1 shows the high-level Project schedule. This schedule has changed from the schedule shown in the last quarterly report: The procurement period is not shown, and the timelines for the Residual Solids Conveyance Line, Macaulay Point Pump Station and Forcemain, and Clover Forcemain have been extended. This schedule remains subject to optimization as the Project and planning progress.

Figure 1-High-Level Project Schedule

Wastewater Treatment Project Schedule*

Construction + Commissioning



* Schedule subject to updates as project planning progresses.

2.6.2 30 day and 60 day lookahead

Key activities and milestones for the next 30 days (October) are:

Safety

- the WTP Safety Manager will provide office safety orientations to any new Project Team staff;
- WTP Safety Manager and/or Construction Manager will conduct daily site inspections at all active Project work sites;
- Project Team review of incident reports: these reviews will be ongoing for the duration of the Project. As incident reports are submitted by Project contractors they will be reviewed to ensure that measures are put in place to prevent a recurrence. Depending on the type of incident notices may be sent to other Project contractors to advise them of the incident and the preventative measures taken;
- participation in Joint Occupational Health and Safety Committee meeting; and
- participation in bi-weekly CRD safety meetings.

Environment and Regulatory Management

- Project Team to continue preparing application for MWR Registration;
- HRP to continue delineation of contamination;
- HRP to will begin preparation of the Detailed Site Investigation Report, followed by the Risk Assessment Report for McLoughlin Point; and
- Millennia to continue Archaeological Impact Assessment field investigations.

First Nations

- First Nations cultural monitors will be in the field, supporting Millennia archeologists as they further assess the Project construction and work to mitigate potential disturbance of cultural materials;
- a meeting with the WSANEC Leadership Council is scheduled for October 6th 2017, with the WTP as a standing agenda item. At the Leadership's request, CRD staff will be making a presentation on the management of the Hartland Landfill and provide an update on the plans for the Residuals Treatment Facility; and
- the Esquimalt and Songhees Nation Liaisons are working to schedule a meeting in October with their Chiefs to seek direction on developing an archeology protocol.

Stakeholder Engagement

- presentation to District of Saanich Council;
- planning for Fall Community Information Meetings in Victoria, Esquimalt and Saanich;
- ongoing community liaison meetings; and
- development of Project Update #4.

Cost Management and Forecast

- assign WBS codes to the new contracts;

- prepare cost reports;
- monitor schedule; and
- grant claim submission(s) to Building Canada Fund.

Construction

Ogden Point

- complete drilling of Horizontal Directional Drill (HDD) pilot hole; and
- begin drilling of reaming passes.

McLoughlin Point

- tsunami wall and planter wall construction;
- outfall shaft blasting;
- blast rock crushing;
- excavation and disposal of contaminated material;
- Victoria View Road widening and BC Hydro utility right of way construction
- geo concrete column installation; and
- groundwater treatment for hydrocarbon contamination and discharge.

Engineering

- McLoughlin WWTP HRP Submittal of Construction Package 1 Tsunami and Planter Walls for 100% review
- McLoughlin WWTP HRP Submittal of Construction Package 2 Geo-Concrete Columns for 100% review
- McLoughlin WWTP HRP Submittal of Construction Package 3 Deep Foundations for 100% review;
- commencement of Residual Solids Conveyance Line 30% design;
- completion of the Second Engineering Firm review of Stantec's Clover Forcemain indicative design and the 30% design submission; and

Procurement

- award design-build contract for Clover Point Pump Station;
- award design consultant contract for Residual Solids Conveyance Line; and
- evaluate Technical Submissions for the RTF RFP.

Key activities and milestones for the next 60 days (November) are:

Safety

- the WTP Safety Manager will provide office safety orientations to any new Project Team staff;

- WTP Safety Manager and/or Construction Manager will conduct daily site inspections at all active Project work sites;
- Project Team review of incident reports: these reviews will be ongoing for the duration of the Project. As incident reports are submitted by Project contractors they will be reviewed to ensure that measures are put in place to prevent a recurrence. Depending on the type of incident notices may be sent to other Project contractors to advise them of the incident and the preventative measures taken;
- participation in Joint Occupational Health and Safety Committee meeting; and
- participation in bi-weekly CRD safety meetings.

Environment and Regulatory Management

- Project Team to continue preparing application deliverables (including HRP updates to the Marine Environmental Impact Study) for MWR Registration;
- HRP to complete delineation of contamination;
- HRP to continue preparation of the Detailed Site Investigation Report, followed by the Risk Assessment Report for McLoughlin Point; and
- Millennia to prepare Archaeological Impact Assessment based on results of field investigations.

First Nations

- the Project Team will be visiting Songhees and Esquimalt Nations on November 8th to help foster deeper understanding of Lkwungen culture and build stronger relationships. The Nations have generously offered to take staff on tours of the Songhees Wellness Centre and Esquimalt Nation's new Longhouse; and
- a tour of the Hartland Landfill for WSANEC leadership and staff is tentatively scheduled for November.

Stakeholder Engagement

- distribution of Project Update #4;
- notify public of upcoming meetings;
- two Community Information Meetings in Saanich;
- Community Information Meeting in Victoria;
- Community Information Meeting in Esquimalt;
- meeting with Willis Point residents; and
- ongoing community liaison meetings.

Cost Management and Forecast

- assign WBS codes to the new contracts;
- prepare cost reports;
- monitor schedule; and
- grant claim submission(s) to Building Canada Fund.

Construction

- Ogden site: continue reaming of HDD hole;

- McLoughlin site: continue construction of structural foundations; and
- McLoughlin site: complete delineation of contamination.

Engineering

- McLoughlin WWTP HRP Submittal of 50% design;
- commencement of Clover Forcemain 50% design; and
- evaluate Financial Submissions for the RTF RFP and announce Preferred Proponent.

Procurement

- closure of the RFP for Macaulay Point Pump Station and Forcemain.

2.7 Cost Management and Forecast

The monthly cost report for September and the quarterly cost report are shown in Appendices M and N. The cost report summarizes Project expenditures and commitments by the three Project Components and the major cost centres common to the Project Components.

The Project expenditures for the reporting period were as expected.

The main Project expenditures incurred over the reporting period were associated with: WWTP construction activities; third-party commitments; communications and engagement activities and PMO-related costs.

We have adjusted the status of the Cost item in the KPI Dashboard from green to yellow. Yellow indicates that the KPI is at risk however corrective action has been identified/is being implemented. While our confidence level is still high that we will be able to deliver the project with the approved Control Budget cost pressures identified as a result of two risks that materialised over the reporting period need to be accounted for. The two items are:

- contaminated materials at McLoughlin Point; and
- proposal price greater than budget for Clover Point Pump Station, expected to be on account of cost escalation due to inflationary pressures in the Victoria area construction market.

In order to address these pressures the Project team in concert with Stantec are reviewing the scope and construction cost estimates for the remainder of the contracts and identifying opportunities where savings could be realized.

2.7.1 Cost and Finance System Set up

The allocation of the Project's Control Budget, and associated implementation of the Prolog Project cost management software system is complete.

The WBS structure and WBS dictionary approved in the previous quarter was created in Prolog and SAP and the transfer of costs was finalized.

In July the allocation set up was completed and tested, HRP's financial model was reviewed, and the workflow for draft and final invoicing was prepared.

2.7.2 Expenses and invoicing

The Project expenditures were within the budget allocations for each of the budget areas, with no variance to the planned budgets during the reporting period.

2.7.3 Contingency

Contingency funds were drawn during the reporting period:

A total of \$400k was drawn from contingency during August and September for Wastewater Treatment Plant (WWTP) costs including the Ogden Point Noise Attenuation Wall, HRP Supervening event #1 related to archaeological finding at Ogden Point, and a change order to the HRP contract (related to the excavation of contaminated materials).

A total of \$530k was drawn from contingency during August for Conveyance System costs including the commitment to temporarily relocate CRD operations staff from Macaulay Point Pump Station while it is under expansion.

A total of \$508k was drawn from contingency during July, August, and September for Project Management Office costs related to procurement contracts, including Rate setting advisor and the Fairness Advisor, and consulting services to support the PMO Team in review of contractual issues and development of commercial strategies.

A total of \$30k was drawn from the Management Reserve for costs related to the recruitment of a new Project Board Member.

The contingency draws are shown by Project Component in Table 5. The remaining contingency is anticipated to be sufficient to deliver the Project within the Control Budget.

Table 5 - Actual Contingency and Management Reserve Draw-down Table

| WTP Contingency Draw | Draw Date | \$ 1,438,198 |
|--|-----------|-------------------|
| Ogden Point Noise Attenuation Wall | Aug-17 | \$ 369,620 |
| Insurance Premiums adjustment | Aug-17 | \$ (538,639) |
| Discovered Hydrocarbons Disposal Costs | Aug-17 | \$ 570,821 |
| HRP staf substitution | Aug-17 | \$ (50,000) |
| Archeological Finding | Sep-17 | \$ 47,914 |
| WWTP Total Draw | | \$ 399,716 |
| | | \$ - |
| RTF Total Draw | | \$ - |
| Leasing cost of Tennyson Ave. Building | Aug-17 | \$ 530,000 |
| Conveyance Total Draw | | \$ 530,000 |
| Budget required for Consultants/Advisors - Conveyance | Jul-17 | \$ 139,482 |
| Budget required for Rate Setting & Fairness Advisor - Conveyance | Aug-17 | \$ 54,000 |
| Budget required for PBC's continued assistance with the RTF Tender, obtaining the Province of B.C.'s approval and PPP Canada's Conditional approval of CRD Business Case | Aug-17 | \$ 155,000 |
| Budget required to assist PMO Team in review of contractual issues & development of commercial strategies | Sep-17 | \$ 160,000 |
| PMO Total Draw | | \$ 508,482 |
| | | \$ - |
| BC Hydro Total Draw | | \$ - |
| Recruitment of New Project Board Member | Aug-17 | \$ 29,500 |
| WTP Management Reserve Draw | | \$ 29,500 |

2.8 Key Risks and Issues

The Project Team actively identified and managed Project risks over the reporting period.

Table 6 summarizes the highest-level risks that were actively managed over the reporting period, as well as the mitigation steps identified and/or undertaken over the reporting period.

Risk level trends remained unchanged from the previous reporting period and risks reduced to a 'low' risk level in the last Quarterly report are not shown.

| Risk Level Key - Assessed risk level (based on likelihood and potential impact) | |
|---|--------|
| L | Low |
| M | Medium |
| H | High |



Table 6- Project Active Risks Summary

| Risk No. | Risk | Risk Status | Risk mitigation activities undertaken or planned in the reporting period | Assessed risk level (based on likelihood and potential impact) | Trend in risk level from previous reporting period |
|----------|---|---|--|--|--|
| 2 | First Nations engagement | The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with First Nations interfacing with, or interested in, the Project. | First Nations engagement activities remained ongoing over the reporting period (see section 2.3 for further details). | M | No change |
| 6 | Divergent interests between multiple parties and governance bodies whose co-operation is required to successfully deliver the Project | The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with municipal, provincial and federal government departments. | The Project Team continued engagement with municipal, provincial and federal government departments throughout the reporting period. | M | No change |
| 7 | Misalignment between Project objectives/scope and stakeholder expectations | The assessed risk level reflects the Project Team's priority of establishing strong and effective community stakeholder engagement. | Community engagement activities were on-going over the reporting period. | M | No change |
| 10 | Senior government funds issue delayed | The assessed risk level reflects the Project Team's priority of ensuring Project funding commitments are honoured. | Responsibility for meeting funding commitments have been assigned and are being monitored. | M | No change |



| Risk No. | Risk | Risk Status | Risk mitigation activities undertaken or planned in the reporting period | Assessed risk level (based on likelihood and potential impact) | Trend in risk level from previous reporting period |
|----------|---|---|--|--|--|
| 18 | Provincial or Federal government/agency permit requirements not met | Project Component required Provincial or Federal permit conditions are not met by Project contractors resulting in delays or work stoppage. | The Project Team is compiling a permit compliance register to monitor and manage Project permit condition compliance by Project contractors. Meetings with Federal and Provincial agencies to fully understand and meet requirements in a timely fashion | M | No change |

2.9 Status (Engineering, Procurement and Construction)

2.9.1 WWTP

The WWTP continued in the construction phase during the reporting period. The construction progressed in-line with the schedule, with HRP furthering design and completing areas A and E for construction laydown and employee parking areas. (Figure 2) During the reporting period the site characterization process continued to obtain closure samples in contaminated areas to minimize the total volume of contaminated material.

In July drilling and blasting commenced (Figure 3) and blast rock was stockpiled in area A for crushing that began in August (Figure 4). Excavation, loading and hauling of contaminated material to an accredited disposal facility commenced in August and continued through September (Figure 5). Crushing of blast rock continued through September. Also in September, HRP stockpiled the crushed aggregate in area A, set up and fit out their office complex (Figure 6) and prepared the BC Hydro right of way on the west side of Victoria View road (Figures 7, 8 & 9).

At Ogden Point the HDD steel casing was completed in July and drilling of the pilot hole commenced. Drilling of the pilot hole continued through the reporting period with 337 metres drilled at the end of August. At 470 metres HRP reported a loss of drilling fluid which did not impact the surrounding environment. The emergency response plan was initiated, the appropriate measures were taken and the appropriate parties were notified. The source of the loss was sealed on the 4th grouting attempt (Figure 10) and drilling continued 14 days after the loss of fluid. A total of 560 metres (60%) of the Harbour Crossing pilot hole was drilled at the end of September.

Treatment plant design also progressed as planned with the completion and submission of the Issued For Construction (IFC) construction package 1, tsunami and planter walls.



Figure 2- HRP employee parking in area E



Figure 3 - Drilling and blasting at McLoughlin Point



Figure 4 - Crush blast rock in area A



Figure 5 - Excavate contaminated materials



Figure 6 - Set up HRP office complex



Figure 7 - Clearing and grubbing BC Hydro right-of-way



Figure 8 - Arborist cutting around power lines



Figure 9 – Place and compact aggregate at BC Hydro right-of-way



Figure 10 – Grout pumped in pilot hole to seal fissure

2.9.2 RTF

The RTF Project Component was in the procurement phase throughout the reporting period and had progressed as planned.

The Project Team held the final round of collaborative meetings with the proponents, issued the Final Draft Project Agreement (which will form the basis of proponents' proposals), and prepared for the technical and financial evaluations.

Technical submissions were received in September and the financial submissions are due in early November.

2.9.3 Conveyance System

Throughout the quarter the Conveyance System Project Component was in the engineering and procurement phase.

The two design-build Conveyance System contracts continued through the procurement phase over the reporting period:

- the RFP for the Clover Point Pump Station closed on August 16, 2017. Evaluations were completed in September, and the Project Board approved a Preferred Proponent at the September 28, 2017 Board Meeting; and
- the RFQ for the Macaulay Point Pump Station and Forcemain closed on July 5, 2017. The submissions were evaluated during August and three short-listed proponents were selected to participate in the Request for Proposals (RFP) process. The RFP was issued on August 24, 2017, and is scheduled to close in November.

The five design-bid-build Conveyance System contracts were in the engineering phase. Stantec (as the owner's engineer) progressed the indicative design over the reporting period. For each of the design-bid-build contracts the Project Team will procure design consultant services (including the "Engineer of Record" role). During the quarter, the project team made significant progress, as follows:

Clover Forcemain

Stantec continued developing the indicative design of the forcemain and cycle path, and identified a forcemain route along Dallas Road as the preferred alignment. On August 18, 2017 Kerr Wood Leidal (KWL) was awarded the contract for completing the design of the forcemain and providing Engineer of Record services. As the "Second Engineering Firm", KWL's scope includes a review of Stantec's indicative design by a team of technical experts. Stantec and PMO staff held a workshop to review the entire Clover Forcemain along Dallas Road from Clover Point to Ogden Point, with a focus on refining the forcemain route through an evaluation of alternative forcemain alignments and construction methods. Extensive consideration was given to the geotechnical and environmental aspects of the Dallas Road Bluffs and the seawall. KWL is preparing a report summarizing the review of the indicative design, and recommending adjustments to the alignment to mitigate social, environmental, geotechnical, cost and schedule impacts.

Arbutus Attenuation Tank

2.9.3.1 KWL Fees Under Seaterra for the Arbutus Attenuation Tank

In November 2013, Kerr Wood Leidal (KWL) was retained under the Seaterra Program (Seaterra) to provide design consultant services for the Arbutus Attenuation Tank. The scope of services included preliminary and detailed design, tender support services, and construction and post construction services, as well as the related project management activities. The total budget for the original scope of services, as established in KWL's proposal, was \$724,108 (excluding taxes). The original budget is summarized in Table 7.

Table 7 – Summary of KWL's Original Budget

| Description | Original Budget |
|---|------------------|
| Preliminary Design Services | \$16,394 |
| Detailed Design and Tender Services | \$455,633 |
| Construction Engineering Services | \$165,805 |
| Post Construction Services | \$13,659 |
| Project Management | \$72,617 |
| Total Fees (including Disbursements) | \$724,108 |

Design progressed until August 13, 2015, at which time Seaterra issued KWL a letter, formally terminating their contract, due to the Seaterra program's suspension. KWL completed the Final Design Report for the Arbutus Road Attenuation Tank (ARAT) in September 2015. At the time of terminating the contract, KWL had completed the preliminary and detailed design services, and provided Seaterra with a tender ready set of contract documents, including 95% complete drawings and specifications. KWL was paid a total of \$681,733 (excluding taxes) for services performed up to the termination date. Additionally, during the course of design, Seaterra had approved the following two changes orders to KWL's scope, both of which required additional design effort.

1. Secant Pile Shoring System. A secant pile shoring system was identified as an alternative to the traditional shotcrete shoring system that was the basis of the original design scope. The secant piles were proposed to mitigate construction risks associated with the shotcrete shoring system due to unforeseen groundwater conditions. Although additional design effort was required, the secant pile system would have a lower construction cost, as it eliminated the need for an extensive dewatering system. The total value of the approved change order was \$103,406 (excluding taxes).
2. Tank Siting Revision. During a review meeting following the 50% design milestone, the District of Saanich (DoS) asked (and Seaterra agreed) to locate the tank below the natural ground elevation of the site. To satisfy this request, the tank had to be moved a further 10 m to the west, and lowered by 1.0 m. This change increased the structural loading on the tank, and it triggered the need for additional re-design effort. The total value of the approved change order was \$38,700 (excluding taxes).

The following table provides a summary of the authorized budget, including the approved change orders noted above. It also provides a breakdown of the total fees that were paid to KWL prior to Seaterra terminating the contract.

Table 8 – Comparison of Original Budget and Total Fees Incurred

| Description | Authorized Budget | Total Fees Paid to KWL |
|---|-------------------|------------------------|
| Preliminary Design Services | \$16,394 | \$16,394 |
| Detailed Design and Tender Services | \$455,633 | \$446,611 |
| Construction Engineering Services | \$165,805 | \$ - |
| Post Construction Services | \$13,659 | \$ - |
| Project Management | \$72,617 | \$63,209 |
| Secant Pile Shoring System (CO #1) | \$116,820 | \$116,820 |
| Tank Siting Revisions (CO #2) | \$38,700 | \$38,700 |
| Total Fees (including Disbursements) | \$879,628 | \$681,733 |

As shown by the breakdown in Table 9, the total fees paid to KWL at the time the contract was terminated are aligned with the authorized budget for the services provided. The total remaining budget of \$197,895 (i.e. authorized budget of \$879,628 less the total fees paid to KWL of \$681,733) is attributed to the original budget for tender support, and construction and post construction services (as well as the related project management activities).

In June 2017, the Project Team held preliminary discussions with KWL to confirm their willingness to complete the remaining scope of services and assume the obligation of the Engineer of Record. KWL confirmed that they would be willing to provide the services using the rate structure from their original Seaterra contract, with an adjustment for escalation (2 percent per annum between 2013 and 2018).

An updated scope and budget was obtained from KWL that included the adjustment for escalation. It also included effort associated with (1) reviewing changes to the building code that occurred subsequent to completing the design in 2015, and (2) providing construction and post construction services for the secant pile system. The following table is a summary of KWL's updated budget.

Table 9 – KWL Updated Budget (June 2017)

| Description | Updated Budget |
|---|------------------|
| Remaining Budget (from original contract) | \$197,895 |
| Review Building Code Changes | \$4,148 |
| Secant Pile Construction Services | \$10,793 |
| Escalation | \$20,597 |
| KWL Updated Budget | \$233,433 |

The updated KWL budget is consistent with the fees in their original proposal. The estimated cost of KWL's remaining services, as reported at the Project Board meeting of June 6, 2017, was \$300,000 (excluding taxes). This value is being carried for budget purposes to account for additional support services that KWL will be providing for the Arbutus Attenuation Tank, e.g.



preparation of presentation materials and attendance at open houses, assistance with securing the laydown area at Queen Alexandra Hospital, etc.

On August 21, 2017 KWL was retained under contract to complete the remaining scope under their original contract (i.e. finalize the drawings and specifications, and provide tender and construction period services, as the Engineer of Record).

Residual Solids Conveyance Line

Stantec continued survey and geotechnical investigations while developing the indicative design of the Residual Solids Conveyance Line. On August 10, 2017 a design consultant services Request for Proposals was issued for completing the detail design and providing Engineer of Record services. Three proposals were received on September 14, 2017 and are currently being evaluated.

Appendix A: Blasting Schedule- week commencing September 25th 2017



September 25, 2017

McLoughlin Point: Blasting Schedule

Site preparation for the McLoughlin Point Wastewater Treatment Plant is underway. The contractor, Harbour Resource Partners, will conduct controlled blasting and excavation as a part of this work.

Blasting Schedule for the week of September 25*:

| | |
|-------------------------|--------------------|
| Monday, September 25 | 4-6 blasts per day |
| Tuesday, September 26 | 4-6 blasts per day |
| Wednesday, September 27 | 4-6 blasts per day |
| Thursday, September 28 | 4-6 blasts per day |
| Friday, September 29 | 4-6 blasts per day |

*Blasting Schedule is subject to change.

Blasting Procedure

- Each blast will last less than 60 seconds.
- All blasts will be covered with 5,000 pound blast mats. Blasting signs will be posted on the site boundary, and warning signals will be used as follows:
 - 12 short whistles at one second intervals followed by a two minute pause
 - Blast will be detonated
 - One long whistle signals all is clear

Blasting Hours: Monday to Friday, 8:00 a.m. to 4:30 p.m.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

Harbour Resource Partners is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix B: Project Update #3

Wastewater Treatment Project: Construction Underway

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Project will be built so we comply with federal regulations by the end of 2020.

The Wastewater Treatment Project includes three main components: the Residuals Treatment Facility, the McLoughlin Point Wastewater Treatment Plant and the Conveyance System (which includes the pump stations and pipes).

CONSTRUCTION IS UNDERWAY ON THE MCGLOUGHLIN POINT WASTEWATER TREATMENT PLANT AND CROSS-HARBOUR UNDERSEA PIPE

The first phase of construction includes work at the McLoughlin Point Wastewater Treatment Plant and the cross-harbour undersea pipe from Ogden Point to McLoughlin Point.

At McLoughlin Point, site preparations are underway, and excavation and blasting will start in the coming weeks.

At Ogden Point, crews have installed a 5-metre high sound wall, and are installing the casing, or entry point, for the cross-harbour pipe between Ogden Point and McLoughlin Point. This is the noisiest part of the work at Ogden Point, and we thank local residents for their patience while this work is completed. Crews will begin the horizontal directional drilling for this pipe in the coming weeks, which will involve mobilizing equipment and running generators to power the equipment.

THREE COMPONENTS OF THE WASTEWATER TREATMENT PROJECT ARE IN THE PROCUREMENT PHASE

Competitive selection processes are underway for the Residuals Treatment Facility, the Clover Point Pump Station, and the Macaulay Point Pump Station and Forcemain. More information on procurement can be found on the website at: crd.bc.ca/project/wastewater-treatment-project/news-and-information/procurement.



Crews placing aggregate in a laydown area for the McLoughlin Point Wastewater Treatment Plant in Esquimalt.



The horizontal directional drill bit being used to drill the hole for the cross-harbour undersea pipe that will go from Ogden Point to McLoughlin Point.



Talking About Treatment

WHAT IS WASTEWATER?

Wastewater is the term used to describe water that has been contaminated by human activity such as dishwashing, doing laundry, and flushing the toilet. Some pollutants in wastewater include industrial and commercial waste, detergents, cooking fats and prescription drugs.

High concentrations of these pollutants can have negative effects on fish and wildlife.

The purpose of treating wastewater is to remove contaminants prior to releasing the effluent into the environment. There are three different levels of treatment: primary, secondary and tertiary. Each level of treatment removes a higher percentage of contaminants from the wastewater.

The McLoughlin Point Wastewater Treatment Plant will provide tertiary treatment for wastewater from the core area municipalities.

What's Happening in the Next Three Months?

- **Construction of the cross-harbour undersea pipe continues** from Ogden Point to McLoughlin Point using a process called horizontal directional drilling.
- **Geotechnical investigation work** to inform the design of the pipe to the Residuals Treatment Facility.
- The project team is looking forward to **meeting with the Saanich community** this fall, as we move into the next phase of project planning and construction for project components in Saanich.
- **Ongoing meetings with the Esquimalt Liaison Committee** and Victoria, Saanich and Esquimalt municipal technical working groups.
- **Continuing to engage with communities** to provide updates on current and future construction.

Wastewater Treatment Project Community Engagement Summary

OCTOBER 2016 – JUNE 2017

40 meetings with municipalities (Mayors, Councils, and staff)

21 meetings with funding agencies (federal government, P3 Canada, Infrastructure Canada, provincial government)

14 meetings with community associations

5 public open houses

14 meetings with stakeholders (such as the Department of National Defence, Tourism Victoria and Greater Victoria Harbour Authority)

211 responses to email inquiries

30 responses to phone inquiries



Meet a Member of the Project Team

ERNIE MASCHNER, PROJECT DIRECTOR FOR HARBOUR RESOURCE PARTNERS



Ernie enjoys a weekend afternoon with his dogs, Daphne and Zeke.

Ernie Maschner is the Project Director for Harbour Resource Partners (HRP). HRP is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point. As Project Director, Ernie has overall responsibility for delivery of this part of the project to the CRD. He has been involved in a variety of large wastewater treatment plants in Canada, the United States, and Europe. He is the winner of the Associated General Contractors project of the year award for the North Shoreline Protection Project on the Point Loma Wastewater Treatment Plant in California.

Which wastewater projects have you worked on?

I recently spent five years at the Point Loma Wastewater Treatment Plant in San Diego, California performing various projects (a 900 megalitre/day plant). I also have worked on the Beckton Sewage

Treatment Works in London, UK. Beckton is one of the largest sewage treatment plants in Europe, serving 3.5 million people. I have been involved in the construction of other plants in Canada and the United States.

What is your educational background?

I have a BSc in Applied Mechanics and Engineering Science from the University of California, San Diego and an MBA from San Diego State University. I also have executive education from the University of Michigan and University of California, Los Angeles.

What do you see as some of the challenges for the Wastewater Treatment Plant?

Construction in an urban area is always more challenging. We need to get the plant built while being respectful of the communities and try to mitigate impacts and disruption as much as we can.

What is the best part of your job?

Leading teams of the best construction and engineering professionals in the country.

What do you do in your spare time?

In my spare time I like to cycle, play guitar and visit my children and grandchildren with my wife.

What do you like about Victoria?

Since moving to Victoria, I've come to appreciate the proximity to outdoor recreation and have had a chance to cycle throughout the region. I like the ease and ability of bicycle commuting to work every day. I also like Victoria's strong sense of community.

How long have you had your Great Danes?

My wife and I have been raising Great Danes for six years, we have two with us in Victoria (Daphne is on the left in the photo, and Zeke on the right), and one has remained with my daughter. All three are rescue dogs.



By the Numbers: Project Facts



The project will cost **\$765 million**. The government of Canada is contributing \$120 million through the Building Canada Fund, \$50 million through the Green Infrastructure Fund and \$41 million through P3 Canada. The Government of British Columbia will provide up to \$248 million for the project and the CRD will provide the remaining \$306 million.



The Wastewater Treatment Plant at McLoughlin Point will provide tertiary treatment to **108 megalitres of wastewater per day**.

The Arbutus Attenuation Tank is an underground concrete container in Saanich which will provide temporary storage of wastewater during large storm events to prevent overflows at various points along the coastline of Saanich, Oak Bay, and Victoria. The Arbutus Attenuation Tank will have a **volume of 5,000 metres cubed**.



The cross-harbour undersea pipe from Ogden Point to McLoughlin Point is almost **1 kilometre long (940 metres)**.

The pipe under Dallas Road carrying wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant will be approximately **1.2 metres in diameter, and 1.2 metres underground**.



The Wastewater Treatment Project will be **complete by the end of 2020**.



3 WAYS TO KEEP INFORMED ABOUT THE WASTEWATER TREATMENT PROJECT

Project Website: wastewaterproject.ca

It is regularly updated with new information, including construction bulletins, media releases, and reports. There is a "Community Questions" section on the website that provides answers to commonly-asked project questions and is frequently updated.

24-7 Project Information Line: **1.844.815.6132**

Residents can call to receive information or report a concern.

Email Address: wastewater@crd.bc.ca

Submit inquiries or let us know you are interested in being on a distribution list to receive construction notices.

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

24-7 Project Information Line: 1.844.815.6132

Appendix C: Construction Notice- McLoughlin Point Excavation and Controlled Blasting



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

UPDATE

July 14, 2017

McLoughlin Point: Excavation and Controlled Blasting

Site preparation for the McLoughlin Point Wastewater Treatment Plant is underway. The contractor, Harbour Resource Partners, will conduct controlled blasting and excavation as a part of this work. Excavation work has begun and blasting is expected to begin next week. It is anticipated that this work will take approximately four months to complete.

What to Expect

- Fencing around the McLoughlin Point construction site has been installed
- Heavy equipment will be used
- No street closures will be required
- On average 30 trucks per day (roundtrips) hauling excavated material from the site

Blasting Procedure

- Blasting will occur approximately 2-4 times per day, with each blast lasting less than 60 seconds.
- All blasts will be covered with 5,000 pound blast mats. Blasting signs will be posted on the site boundary, and warning signals will be used as follows:
 - 12 short whistles at one second intervals followed by a two minute pause
 - Blast will be detonated
 - One long whistle signals all is clear

Work Hours: Blasting Hours: Monday to Friday, 8:00 a.m. to 4:30 p.m.
Excavation Hours: Monday to Friday, 7:00 a.m. to 7:00 p.m.

The Wastewater Treatment Plant includes construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point. More information on the directional drilling and timing will be provided in a subsequent notice.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations and will be complete by the end of 2020.

Harbour Resource Partners is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix D: Construction Notice- Ogden Point: Casing Installation



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

UPDATE

July 17, 2017

Ogden Point: Casing Installation

The McLoughlin Point Wastewater Treatment Plant includes construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point. The contractor for the treatment plant, Harbour Resource Partners, will complete this work using a process called horizontal directional drilling. Crews are installing the casing, or entry point for the pipe, in preparation for the horizontal directional drill operation. This involves driving the casing into place (a process similar to pile driving). This work will continue during the week of July 17 behind the 5-metre high noise wall.

What to expect

- 5-metre high noise wall and signage will be in place
- Intermittent noise while casing is being driven into place (this is the noisiest part of the work at Ogden Point)
- Once casing installation is complete, the directional drilling will begin, which involves running equipment and generators for the drilling operation

Traffic Impacts

- No traffic disruptions are anticipated as part of this work
- On average five trucks per day (round trips) to and from the site
- Local access to businesses and residences will be maintained
- The boat launch will remain open with minor access delays
- Crews will park at the Ogden Point worksite, not on local streets

Work Hours:

- Monday to Friday, 7:00 a.m. to 7:00 p.m.
- Saturday, 10:00 a.m. to 7:00 p.m.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations and will be complete by the end of 2020.

Harbour Resource Partners is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix E: Construction Notice- Ogden Point: Horizontal Directional Drilling



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

July 25, 2017

Ogden Point: Horizontal Directional Drilling

The McLoughlin Point Wastewater Treatment Plant includes construction of a cross-harbour undersea pipe from Ogden Point to McLoughlin Point. The contractor for the treatment plant, Harbour Resource Partners, will complete this work using a process called horizontal directional drilling.

On Saturday, July 22, the Wastewater Treatment Project completed driving the casing, which provides the entry point for the horizontal direction drill. This concluded the noisiest part of the work that will take place at Ogden Point.

Thank you for your continued patience during the course of construction. The drilling operation will commence this week and will continue for approximately one year.

What to expect

- 5-metre high noise wall and signage are in place
- In order to begin the drilling operation, the site will be graded for safety and erosion control
- Equipment will be running in the work area
- Approximately 10 person work crew

Traffic Impacts

- No street closures will be required
- On average five trucks per day (round trips) to and from the site
- Local access to businesses and residences will be maintained at all times
- Boat launch will remain open with minor access delays
- Work crews will park at the Ogden Point site

For the safety of the public and workers, please respect the posted restricted construction access zones.

Work Hours: Monday to Friday, 7:00 a.m. to 7:00 p.m.
Saturday, 10:00 a.m. to 7:00 p.m.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Harbour Resource Partners is the contractor selected by the CRD to build the McLoughlin Point Wastewater Treatment Plant, cross-harbour undersea pipe, and marine outfall for treated wastewater at McLoughlin Point.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix F: Project Board Briefing Note July 7, 2017

Wastewater Treatment Project T: 250.360.3002
510-1675 Douglas Street F: 250.360.3071
Victoria, BC, V8W 2G5 www.wastewaterproject.ca



Wastewater
Treatment Project
Treated for a cleaner future

Wastewater Treatment Project

Briefing Note

July 7 2017

Casing installation at Ogden Point began on June 29. The work has occurred intermittently for a few hours on each of the following days: June 29, July 4 and July 6. This work is required to install the casing, or entry point, in preparation for the horizontal direction drill operation. We had indicated that this particularly noisy part of the work would take about two weeks, which remains the case.

On July 6th we received a number of complaints from area residents regarding the noise generated by the activities occurring at the Ogden Point construction site. HRP (the Contractor) was installing another section of the casing which started at approximately 1 p.m. The driving of the casing finished at approximately 3 p.m., however limited progress was made due to encountering an obstruction. The contractor will be mobilizing an auger in order to clear soil from the casing in an attempt to facilitate installation. Once this operation is complete we anticipate recommencing driving the casing the early part of next week.

The sound wall is working to reduce the noise from the site to levels that are generally in accordance with the City of Victoria Noise By-Law, although we understand that it is still impacting residents in the area. We anticipate the casing installation will be complete within the next week. Over the coming days, excluding Sunday, the driving of the casing will occur intermittently but will not be continuous throughout the day.

CRD staff and our noise consultant (RWDI) have been on site each day the driving operation has taken place to monitor the activities and review noise levels in the area. We have summarized the driving time and measured noise levels on each of those days:

| Date | Driving Time | Noise Level | Noise Level |
|---------------|--------------|-------------------|-------------|
| | | Top of Sound Wall | Dallas Road |
| June 29, 2017 | 35 minutes | 85 db | 74-78 db |
| July 4, 2017 | 3 hours | 99-101 db | 85-89 db |
| July 6, 2017 | 2 hours | 100 db | 83-88 db |

We completed broad notification for this work that included hand-delivering notices to local residents, e-mailing those who have signed up for project updates, and posting a notice to the sound wall, so local residents are aware of the work. We also provided the Project information phone line and e-mail address so that people can contact us directly with concerns or questions.

These communication methods will continue to be used as construction progresses. Once the casing installation is complete, the noise level will be significantly lower for the remainder of the construction at Ogden Point within the 75 db, which we had indicated. However the project team will continue to monitor the noise levels and work with the contractor to consider additional noise mitigation measures to further reduce noise levels.



Project Board - July 7, 2017
Casing installation at Ogden Point

2

Our dialogue with the James Bay Neighborhood Association is continuing. We had a prescheduled meeting with the Neighborhood Committee yesterday at 2:30pm and we took the opportunity to discuss the project on the Ogden site. We discussed the progress and the current noise issue and provided an update on activities scheduled over the next 90 days. It was a productive and positive meeting and we are looking forward to working with the Committee as we continue to progress the components of the project affecting James Bay and its residents.





Appendix G: Project Board Briefing Note July 25, 2017

Wastewater Treatment Project T: 250.360.3002
510-1675 Douglas Street F: 250.360.3071
Victoria, BC, V8W 2G5 www.wastewaterproject.ca



Wastewater
Treatment Project
Treated for a cleaner future

Wastewater Treatment Project Briefing Note

July 25, 2017

Casing Installation Complete

On Saturday July 22, the Wastewater Treatment Project completed driving the casing, which provides the entry point for the horizontal direction drill at Ogden Point. This casing installation work was the noisiest part of the work that will take place at Ogden Point.

The installation work began on June 29th and occurred intermittently for a few hours on each of the following days: June 29, July 4, July 6, July 17, July 19, July 21, and July 22. The total time that was required to drive the casing was 11 hours and 56 minutes over the 7 days outlined above.

After the first three days of the casing being driven the Project Team began to hear from residents regarding the impact of the noise. In order to further mitigate the noise the Project Team, when possible, looked to minimise the number of driving hours on any given day.

CRD staff and our noise consultant (RWDI) were on site each day the driving operations took place to monitor the activities and review noise levels in the area. The data from the first three days of driving was provided previously. The final four days of driving time and measured noise levels at Dallas Road are provided below:

| Date | Driving Time | Noise Level at Dallas Road |
|---------------|-------------------|----------------------------|
| July 17, 2017 | 1 hour 43 minutes | 81-87 dBA |
| July 19, 2017 | 1 hour 13 minutes | 81-87 dBA |
| July 21, 2017 | 2 hours 5 minutes | 83-89 dBA |
| July 22, 2017 | 1 hour 20 minutes | 79-82 dBA |

The data collected by our noise consultant further confirmed that the sound wall is an effective barrier and is working to reduce the level of noise from the site, although we fully understand that the noise was still impacting residents in the area.

The Project Team will now begin implementing the Horizontal Directional Drilling operation. The Project Team has identified the anticipated noise level during the drilling operations as 75dBA at the midpoint of Dallas Road. Now that the casing installation is complete, the noise level will be significantly lower for the remainder of the construction at Ogden Point and is anticipated to be within the previously identified 75 dBA. This phase of the work is anticipated to take approximately one year to complete. The sound wall will remain in place for the duration of the work at Ogden Point and will continue to reduce noise during the drilling operation.

Our approach has been to inform residents and stakeholders of the Wastewater Treatment Project's ongoing progress. We completed broad notification for the casing installation that included hand-delivering notices to local residents, e-mailing those who have signed up for project updates, and posting a notice to the sound wall, so local residents are aware of the work, as well as providing the project information phone line and e-mail address.

WWTP-694219604-838



July 25, 2017

Casing installation Complete

2

These communication methods will continue to be used as we move into the directional drilling phase of work. The Project Team will monitor the noise levels and continue to consider additional noise mitigation measures to further reduce noise levels if necessary.

We are extremely appreciative of the patience and understanding shown by the residents in the area as we completed the casing installation and the noisiest portion of the work at Ogden Point.

Safety Alert

The Wastewater Treatment Project Team has identified a safety concern at the Ogden Point work site. Members of the public have been approaching the gate where heavy trucks are entering and exiting.

The Project Team has been advised that people have been coming inside the restricted area to take pictures and to measure sound. Given the active nature of the construction site this represents a significant safety concern. Harbour Resource Partners, the contractor who is in charge of this work, have had a meeting with GVHA to go over this issue. They have increased the safety and warning signage and have painted warning markings on the ground to more clearly indicate the area where pedestrians are not allowed.

The Project Team has also followed up with the James Bay Community Liaison Committee to inform them of the issue and request that they assist in distributing the information regarding safety at the site and encouraging people to refrain from approaching the gate area.

We fully understand the interest that the public has in the work happening at the Ogden Point site. The Project Team is committed to providing updated information as the project progresses and will work to ensure that the public is well informed about what is happening on site through previously outlined communication methods.

Our main priority is the safety and wellbeing of the public and Project Team members in and around our construction sites. We ask you for your cooperation to keep this area a safe and functional work place.

WWTP-694219604-838



Appendix H: Construction Notice – Saanich, August 9, 2017



Wastewater
Treatment Project
Treated for a cleaner future

Construction Notice

August 09, 2017

Wastewater Treatment Project: Residual Solids Conveyance Line

The Wastewater Treatment Project is being built to meet the provincial and federal regulations for treatment of the Core Area's wastewater by December 31, 2020.

The Project consists of three components:

1. A 108 megalitre per day tertiary treatment plant at McLoughlin Point in Esquimalt;
2. A conveyance system for piping the wastewater to the plant and the residual solids to the Residuals Treatment Facility at Hartland Landfill; and
3. A Residuals Treatment Facility at Hartland to produce Class A biosolids.

The Residual Solids Conveyance Line includes two pipes along with four or five pumping stations. The two pipes will be installed in a common trench where possible and will connect the McLoughlin Point Wastewater Treatment Plant to the Residual Solids Facility at Hartland Landfill. The first pipe will be 200mm wide, 18.5km long, and will transport residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility. The second pipe will be 350mm wide, 11.5km long, and will return the liquid removed from the Residual Solids during the treatment process to the Marigold pumping station which will then be directed to the Wastewater Treatment Plant through the existing collection system.

The Wastewater Treatment Project Team is currently establishing a process for communications and engagement in Saanich that will include working with community associations and/or the Saanich Community Association Network.

The Project Team anticipates holding information meetings in Saanich in the fall of this year. The Project Team plans to coordinate these meetings with staff from the District of Saanich and the Saanich Community Advisory Network as well as Willis Point, Todd Creek and Peninsula Streams. The purpose of these meetings will be to share the indicative design for the Residual Solids Conveyance Line pipe alignment (including the anticipated location of the pump stations) and to seek public input that could be considered, along with technical and financial considerations, in finalizing the design.

Before and during the construction phase of the Residual Solids Conveyance Line the Project Team will engage with nearby communities as we plan communications activities and develop plans to mitigate construction impacts. The team will also provide information about communications tools and seek feedback about the most effective ways to communicate with Saanich communities during construction.

The Project Team has discussed with District of Saanich staff the establishment of a Saanich Community Liaison Committee. It is anticipated that a Saanich Liaison Committee would be made up of members of Saanich community associations, and/or the Saanich Community Association Network. The Project Team anticipates establishing this committee by the end of this year prior to construction in the spring of 2018.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



Preliminary field study work anticipated to start August 21

The Wastewater Treatment Project Team is currently working with the municipalities of Saanich, Esquimalt, and Victoria on the route of the Residual Solids Conveyance Line. Preliminary geophysical and geotechnical work will provide additional information about the subsurface conditions along the proposed route. This information will assist in developing the indicative design and alignment of the Residual Solids Conveyance Line. You will find a map on the last page of this notice that outlines the locations for the geophysical and geotechnical work.

Subject to receiving the necessary permits, the geotechnical work is anticipated to begin on the week of August 21 and will take approximately six weeks to complete depending on the weather. A truck mounted drilling rig will be used to drill approximately 70 boreholes along the proposed route of the Residual Solids Conveyance Line. The estimated duration for drilling each borehole is approximately 2-3 hours. The actual duration could extend longer depending on the soil conditions encountered during the drilling operation.

Concurrently, the Wastewater Treatment Project Team will also be conducting geophysical work along certain sections of the proposed route. This work is part of the preliminary planning work and will be used to identify the bedrock profile along areas on Interurban Road, Interurban Trail, and Willis Point Road where shallow bedrock may be encountered.

Hours of work

- 8 a.m. to 6 p.m. seven days a week
- Hours will be reduced on weekdays in higher traffic volume areas

Traffic impacts

- Temporary single lane closures*
- Flaggers will be on site for traffic control

* Labour Day weekend - no work be conducted on Labour Day weekend

Construction of the Residual Solids Conveyance Line is anticipated to begin in the second quarter of 2018.

For more information on the Wastewater Treatment Project you can go online to wastewaterproject.ca or contact us through email at wastewater@crd.bc.ca or phone our 24-7 Project Information Line 1.844.815.6132.

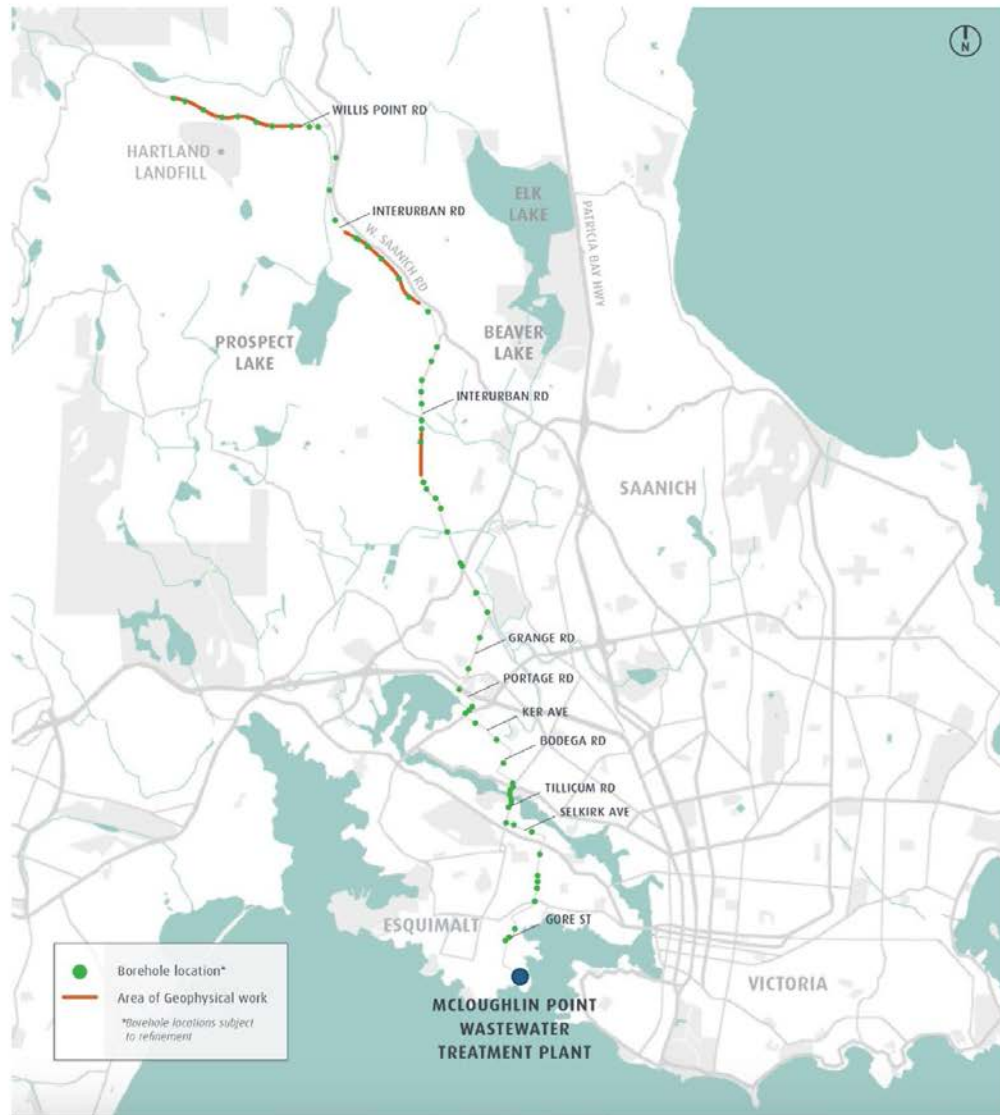
About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Wastewater Treatment Project Treated for a cleaner future **Construction Notice**

Map of proposed areas of geotechnical and geophysical work:



To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix I: Construction Notice – Esquimalt, August 9, 2017



**Wastewater
Treatment Project**
Treated for a cleaner future

Construction Notice

August 09, 2017

Wastewater Treatment Project: Residual Solids Conveyance Line

The Residual Solids Conveyance Line is part of the Wastewater Treatment Project and will include the construction of two pipes along with four or five pumping stations. The two pipes will be installed in a common trench where possible and will connect the McLoughlin Point Wastewater Treatment Plant to the Residual Treatment Facility at Hartland Landfill. The first pipe will be 200mm in diameter, 18.5km long, and will transport residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility. The second pipe will be 350mm in diameter, 11.5km long, and will return the liquid removed from the residual solids during the treatment process to the Marigold pump station, from where it will be returned to the McLoughlin Point Wastewater Treatment Plant through the existing conveyance system.

Preliminary field study work anticipated to start August 21

The Wastewater Treatment Project Team is currently working with the municipalities of Saanich, Esquimalt, and Victoria on the route of the Residual Solids Conveyance Line. Preliminary geophysical and geotechnical work will provide additional information about the subsurface conditions along the proposed route. This information will assist in developing the indicative design and alignment of the Residual Solids Conveyance Line. You will find a map on the last page of this notice that outlines the locations for the geophysical and geotechnical work.

Subject to receiving the necessary permits, the geotechnical work is anticipated to begin on the week of August 21 and will take approximately six weeks to complete depending on the weather. A truck mounted drilling rig will be used to drill approximately 70 boreholes along the proposed route of the Residual Solids Conveyance Line. The estimated duration for drilling each borehole is approximately 2-3 hours. The actual duration could extend longer depending on the soil conditions encountered during the drilling operation.

Concurrently, the Wastewater Treatment Project Team will also be conducting geophysical work along certain sections of the proposed route. This work is part of the preliminary planning work and will be used to identify the bedrock profile along areas of Interurban Road, Interurban Trail, and Willis Point Road where shallow bedrock may be encountered.

Hours of work

- 8 a.m. to 6 p.m. seven days a week*
- Hours will be reduced on weekdays in higher traffic volume areas

Traffic Impacts

- Temporary single lane closures*
- Flaggers will be on site for traffic control

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.



**Wastewater
Treatment Project**
Treated for a cleaner future

Construction Notice

* Labour Day weekend - no work be conducted on Labour Day weekend

Construction of the Residual Solids Conveyance Line is anticipated to begin in the second quarter of 2018.

For more information on the Wastewater Treatment Project you can go online to wastewaterproject.ca or contact us through email at wastewater@crd.bc.ca or phone our 24-7 Project Information Line 1.844.815.6132.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Wastewater Treatment Project Treated for a cleaner future **Construction Notice**

Map of proposed areas of geotechnical and geophysical work:



To learn more about the Wastewater Treatment Project, or to sign up for construction updates, please visit wastewaterproject.ca. To contact the project, please email wastewater@crd.bc.ca or call 1.844.815.6132.

Appendix J: Media Release August 25, 2017

Macaulay Point Pump Station and Forcemain Proponents Shortlisted

Aug 25, 2017

Victoria, BC– The Wastewater Treatment Project has issued a Request for Proposals (RFP) to three qualified proponents as part of the competitive selection process for the contract to design and build the Macaulay Point Pump Station and Forcemain.

Five submissions were received in response to the Request for Qualifications (RFQ) which closed on July 05, 2017. The following three teams have been selected to move forward to the RFP stage:

- AECOM Canada Ltd/Graham Infrastructure LP Joint Venture
- Aecon Water Infrastructure Inc.; and
- Kenaidan Contracting Ltd.

Proponents are scheduled to submit their proposals in the late fall and the Wastewater Treatment Project Team expects to award a contract in early 2018. Construction on the Macaulay Point Pump Station and Forcemain will start in 2018 and is anticipated to be complete by spring 2020.

As part of the overall conveyance system, the new Macaulay Point Pump Station will pump wastewater it receives from Colwood, Langford, View Royal, Esquimalt, Saanich and Victoria to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment, and the forcemain will connect the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant.

The new pump station will be constructed adjacent to the existing pump station at Macaulay Point. The existing pump station will continue to provide bypass pumping to the Macaulay Point outfall during storm events. Upgrades will be made to the existing pump station, including to the site, and the design of the new pump station will consider its location on the waterfront.

The Wastewater Treatment Project, including the conveyance system components, is being funded by the Government of Canada, the Government of British Columbia and the Capital Regional District (CRD).

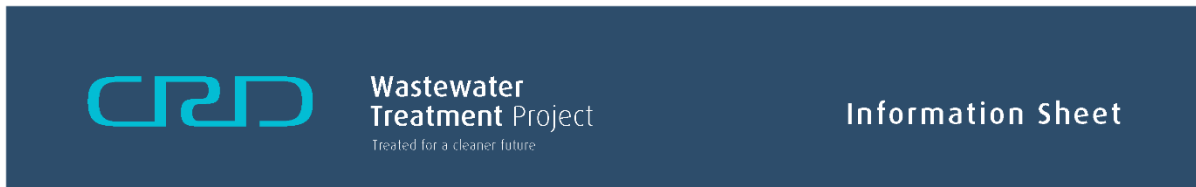
About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations. The Wastewater Treatment Project will be built to comply with



federal regulations by the end of 2020 and consists of the McLoughlin Point Wastewater Treatment Plant, the Residuals Treatment Facility at Hartland Landfill, and the conveyance system that will carry wastewater from across the core area to the treatment plant, and residual solids to the Residuals Treatment Facility. For more information, please visit www.wastewaterproject.ca.

Appendix K: Clover Point Pump Station Information Sheet



Clover Point Pump Station and Clover Forcemain

The Clover Point Pump Station will be upgraded and expanded as part of the Wastewater Treatment Project. The current pump station pumps sewage directly into the ocean. The expanded pump station will pump wastewater to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment during normal flows and provide bypass pumping to the existing outfall during storm events.

The Clover Forcemain is the pipe that will transport wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. Construction of the Clover Point Pump Station expansion and Clover Forcemain will begin in early 2018 and be complete in early 2020. The City of Victoria has agreed to the public realm improvements that will be built as part of the expansion and forcemain (outlined below and on the next page) and approved the rezoning.

PROJECT DESCRIPTION

The Clover Point Pump Station expansion will be below the grade of the adjacent section of Dallas Road. Similar materials to those on the current pump station will be used to blend the expanded facility with the existing facility and surrounding area. The expansion will increase the internal pump station area from approximately 500m² to approximately 1500m². The expanded facility will include upgraded odour and noise control features.

As part of the pump station expansion, the existing split rock wall facing the waterfront will be extended to enable access to the pump station and maintain the seaside walkway.



Conceptual image.

Public realm improvements at Clover Point will include:

- Public plaza accessible to pedestrians and cyclists, to replace the existing parking lot above the pump station
- Street furniture and bicycle facilities (e.g. benches, bike racks, a bike rack for bicycle maintenance and repair, and a drinking fountain) on the plaza
- Bike node (pathway intersection for bike and pedestrian traffic)
- Interpretive signage and wayfinding signs at the public plaza
- Two replanted grassed open spaces to the west and east of the public plaza
- Two public washrooms
- Clover Point Road and Dallas Road intersection improvements
- New connecting walkway and bike path across Clover Point Road to the Dallas Road/Ross Bay Seawalk
- Pedestrian path from Dallas Road alongside Clover Point Road and connecting to the existing Clover Point Park path

(Continued on next page)



Public realm improvements for Dallas Road will include:

- Cycle track extending from Dock Street at the Ogden Point breakwater to Clover Point
- Gathering/dismount area for the cycle track incorporated on the west side of Clover Point Road at Dallas Road
- Site furnishings (bike rack and a bench at a minimum of six locations at key intersections)
- Barrier fencing between dog off-leash areas
- Wayfinding signage
- One-time payment for the construction of additional capital improvements by the City of Victoria

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

Next Steps: Design Finalization

Public Input:

- Presentation to James Bay Neighbourhood Association (on the design and alignment of the cycle track and alignment of the Clover Forcemain) at 50% design finalization
- Presentation to Fairfield-Gonzales Community Association (on the design for the exterior of the Clover Point Pump Station and the public realm improvements, as well as the design and alignment of the cycle track and alignment of the Clover Forcemain) at 50% design finalization

City of Victoria Input:

- 3 Design Workshops between CRD and City of Victoria regarding pump station exterior and public realm improvements (at 30%, 50% and 90% design finalization)
- Presentation to the City Council at a public meeting at 50% design finalization
- Final design of the exterior of the pump station, public realm improvements, conveyance pipeline alignment subject to City of Victoria approval in accordance with the criteria set out in the licences

First Nation Engagement:

- The CRD will invite the Songhees and Esquimalt Nations to nominate a representative to participate in the final design of the pump station exterior and public realm improvements

For More Information

Website: wastewaterproject.ca
Email: wastewater@crd.bc.ca
24-7 Project Information Line: 1.844.815.6132

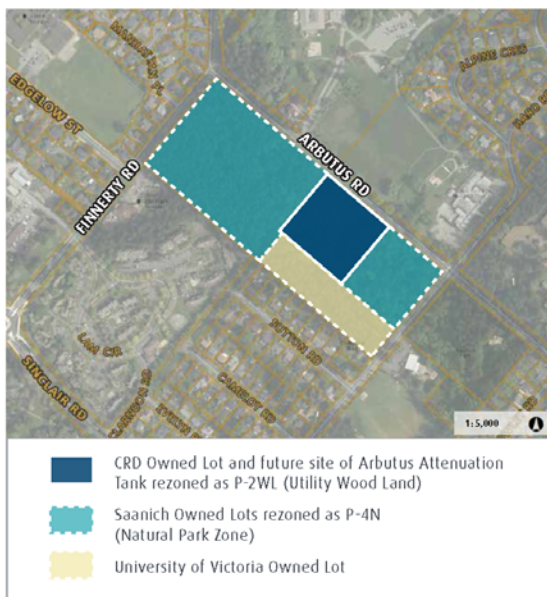
Appendix L: Arbutus Attenuation Tank Information Sheet



Arbutus Attenuation Tank - Saanich

The Arbutus Attenuation Tank is part of the Wastewater Treatment Project. It will be a buried underground concrete tank that will temporarily store wastewater flows during high volume storm events, to reduce the number of sewer overflows. The tank is one of several wastewater conveyance system upgrades that are part of the Wastewater Treatment Project to deliver tertiary wastewater treatment to residents in the Capital Regional District (CRD)'s core area municipalities.

HARO WOODS AND PROPERTY LOCATION



PROJECT DESCRIPTION

The Arbutus Attenuation Tank will be located on Arbutus Road, across the street from Queen Alexandra Hospital, in Saanich.

- In July 2013, Saanich Council approved the rezoning and subdivision of two properties on Arbutus Road. This enabled a land exchange agreement with the CRD, which allows the Arbutus Attenuation Tank to be installed on lands that are already partially cleared and have been previously disturbed during the construction of existing sewers.
- The land exchange secured the long-term preservation of the vast majority of Haro Woods as a nature park, adding 2.8 hectares of land to Saanich's park inventory.
- As part of the construction of Arbutus Attenuation Tank, there will be road frontage improvements including bike lanes, sidewalks, and stormwater management.
- Once construction is complete the site will be planted with vegetation considering the local woodland setting.



CONSTRUCTION

- Construction of the tank is expected to begin in 2019 and will take approximately one year to complete.
- The Wastewater Treatment Project Team will engage with the surrounding communities before and during construction to ensure that the community is fully informed on the progress of the construction and has advance notice of construction activity. Communication tools include: a project information phone line, email, social media, website, community updates, construction notices, traffic media updates, advisories where appropriate, and community information meetings.

WHAT IS THE ARBUTUS ATTENUATION TANK?

- The Arbutus Attenuation Tank will temporarily store wastewater flows caused by inflow and infiltration (of rainwater and groundwater) during high volume storms.
- The 5,000m³ tank will be empty except during high volume storm events.
- High volume storm events usually occur in the winter. During these events, excess wet weather flows will be diverted into the Arbutus Attenuation Tank.
- The temporary storage of wastewater will mitigate overflows and reduce impacts along the coastline.
- Once the high storm flow has passed, the tank will empty back into the existing sewer system, through the East Coast Interceptor (ECI) trunk sewer system, which directs wastewater to the Clover Point Pump Station and then to the McLoughlin Point Wastewater Treatment Plant.
- Once the tank is emptied, an automatic cleaning system will be activated to clean the floors, walls and columns of the tank.
- CRD staff will inspect the tank after each use to ensure it is cleaned and that all wastewater has drained back into the sewer system.
- The tank will be kept under negative air pressure to draw air within the tank directly into an activated carbon absorber system that will contain and suppress potential odours. This system has been implemented successfully at the Marigold Attenuation Tank.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees First Nations. The Wastewater Treatment Project will be built so we comply with federal regulations by the end of 2020, and is being funded by the Government of Canada, the Government of British Columbia and the CRD.

For More Information

Website: wastewaterproject.ca
Email: wastewater@crd.bc.ca
Project Information Line: 1.844.815.6132



Appendix M: Quarterly Cost Report

| WTP QUARTERLY COST REPORT as at September 30, 2017 | | | | | | | | | | | | | | |
|--|----------------|------------------|---------------------------|---|--------------------------------|---|---|--|---|--|----------------------|------------------------|---------------------------|---|
| Project Component | COST EXPENDED | | | | | | | COMMITMENTS | | | FORECAST | | VARIANCE | |
| | Control Budget | Allocated Budget | Expended to June 30, 2017 | Expended over reporting period (Q3 2017 June - Sept.) | Expended to September 30, 2017 | Expended to September 30, 2017 as a % of Budget | Remaining (Unexpended) Budget at September 30, 2017 | Total Commitment at September 30, 2017 | Unexpended Commitment at September 30, 2017 | Uncommitted Budget at September 30, 2017 | Forecast to Complete | Forecast at Completion | Variance at Completion \$ | Variance at Completion as a % of Budget |
| McLoughlin Point Wastewater Treatment Plant ¹ | 317 | 317 | 38 | 12.8 | 51 | 16% | 266 | 306 | 255 | 11 | 266 | 317 | - | 0% |
| Residuals Treatment Facility ¹ | 147 | 147 | 7 | - | 7 | 5% | 140 | 8 | 0.2 | 140 | 140 | 147 | - | 0% |
| Conveyance System ¹ | 141 | 142 | 20 | - | 20 | 14% | 122 | 21 | 1 | 121 | 121 | 142 | - | 0% |
| Project Management Office | | | | | | | | | | | | | | |
| Project Management Office ("PMO") | 71 | 72 | 10 | 4.0 | 14 | 20% | 58 | 45 | 31 | 27 | 58 | 72 | - | 0% |
| Common Costs | | | | | | | | | | | | | | |
| BC Hydro | 12 | 12 | 0.3 | 0.2 | 0.5 | 4% | 11 | 2 | 1 | 10 | 11 | 12 | - | 0% |
| Third Party Commitments | 8 | 8 | 2 | - | 2 | 25% | 6 | 6 | 4 | 2 | 6 | 8 | - | 0% |
| Program Reserve and contingencies | 69 | 68 | - | - | - | 0% | 68 | - | - | 68 | 68 | 68 | - | 0% |
| Total Costs | 765 | 765 | 78 | 17 | 95 | 12% | 670 | 388 | 293 | 377 | 670 | 765 | - | 0% |

¹ - Excluding PMO, Common Costs and
* Values presented in Millions, results in minor rounding differences
** Cost report presents approved expenditures



Appendix N: Monthly Cost Report

| ASSET MANAGEMENT COST REPORT as at September 30, 2017 | | | | | | | | | | | | | | |
|--|----------------|------------------|-----------------------------|---|--------------------------------|---|---|--|---|--|----------------------|------------------------|---------------------------|---|
| Project Component | Control Budget | Allocated Budget | COST EXPENDED | | | | | COMMITMENTS | | | FORECAST | | VARIANCE | |
| | | | Expended to August 31, 2017 | Expended over reporting period (September 2017) | Expended to September 30, 2017 | Expended to September 30, 2017 as a % of Budget | Remaining (Unexpended) Budget at September 30, 2017 | Total Commitment at September 30, 2017 | Unexpended Commitment at September 30, 2017 | Uncommitted Budget at September 30, 2017 | Forecast to Complete | Forecast at Completion | Variance at Completion \$ | Variance at Completion as a % of Budget |
| McLoughlin Point Wastewater Treatment Plant ^A | 378 | 378 | 54 | 4.5 | 58 | 15% | 320 | 335 | 276 | 44 | 320 | 378 | - | 0% |
| Residuals Treatment Facility ^A | 195 | 195 | 11 | 0.2 | 11 | 6% | 184 | 17 | 6 | 178 | 184 | 195 | - | 0% |
| Conveyance System ^A | 192 | 192 | 25 | 0.2 | 26 | 13% | 166 | 36 | 11 | 155 | 166 | 192 | - | 0% |
| Total Costs | 765 | 765 | 90 | 5 | 95 | 12% | 670 | 388 | 293 | 377 | 670 | 765 | - | 0% |

A - Including PMO and Common Costs
* Values presented in \$millions, results in minor rounding differences
** Cost report presents approved expenditures