

**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF WEDNESDAY, JANUARY 20, 2021**

SUBJECT **Wastewater Treatment Project Q4 2020 Quarterly Report**

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project Q4 2020 Quarterly Report.

BACKGROUND

On May 25, 2016 the Regional Board of the CRD:

- i) Adopted by resolution the Core Area Wastewater Treatment Project Board Terms of Reference (Project Board Terms of Reference) for the purposes of establishing principles governing the Core Area Wastewater Treatment Project (the Wastewater Treatment Project or the WTP);
- ii) Established the Core Area Wastewater Treatment Project Board (Project Board) under Bylaw 4109 (the CRD Core Area Wastewater Treatment Board Bylaw No. 1, 2016) for the purposes of administering the Core Area Wastewater Treatment Project; and
- iii) Delegated certain of its powers, duties and functions to the Project Board under Bylaw 4110 (the CRD Core Area Wastewater Treatment Project Board Delegation Bylaw No. 1, 2016).

On September 14, 2016 the Regional Board of the CRD:

- i) Received the final report of the Project Board with respect to its recommendation for the CAWTP, dated September 7, 2016 (the Final Report); and
- ii) Approved the business case attached as Appendix 1 (the Business Case) to the Final Report.

DISCUSSION

The Core Area Wastewater Treatment Project Board (the Project Board) Terms of Reference requires, amongst other things: that the Project Board provide the CRD Board with monthly progress reports and a comprehensive quarterly report on the Project.

The Quarterly report for the period of October – December 2020 is attached as Appendix A.

RECOMMENDATION

That the Core Area Wastewater Treatment Project Board approve the following resolution:

RESOLVED that:

The Staff Report, 'Wastewater Treatment Project Q4 2020 Quarterly Report', be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.



Elizabeth Scott, Deputy Project Director
Wastewater Treatment Project



Dave Clancy, Project Director
Wastewater Treatment Project
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project Q4 2020 Quarterly Report

ES:er



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: October- December 2020

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1 Executive Summary

1.1 Introduction

This Quarterly Report covers the reporting period of October - December 2020 and outlines the progress made on the Wastewater Treatment Project over this time.

The Wastewater Treatment Project (the “Project”) includes three main Project Components (the “Project Components”): the McLoughlin Point Wastewater Treatment Plant (the “McLoughlin Point 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 is being delivered through a number of contracts with a variety of contracting strategies.

On December 15, 2020, the Government of Canada, the Government of British Columbia, and the Capital Regional District (CRD) announced that the Wastewater Treatment Project is treating wastewater and is exceeding regulatory requirements. The majority of construction is complete on the major components of the Wastewater Treatment Project. Construction continues on the Trent Forcemain and Arbutus Attenuation Tank. These are being built to increase the capacity of the conveyance system and are expected to be complete in spring 2021.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. The Project Team and Project contractors are actively monitoring the status of the COVID-19 public health emergency and are taking additional precautions to protect our staff, contractors, and the public. At each of the remaining Project sites, construction is ongoing in accordance with guidelines established by the Provincial Health Officer.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) progressing: site landscaping; air flush of heating ventilation and air conditioning (HVAC) system; commissioning of biological systems; final commissioning of safety systems; and completion of the acceptance test.

The RTF Project Component is continuing with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain contractor for the RTF) progressing construction activities including: installation of roof handrails on the Digester Building; installation of the canopy on the Other Municipal Solids Receiving Facility; poured foundation for the main gate; drained water from Digester 1, and the Digested Solids Storage Tank; ongoing commissioning of various systems; completing site landscaping; installation fencing and the main gate; and progressing commissioning activities.

The Conveyance System is being delivered through seven construction contracts: two design-build contracts and five design-bid-build contracts, one of which (the Clover Forcemain) concluded in October 2020.

The two design-build Conveyance System contracts progressed over the reporting period as follows:

- Clover Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction and commissioning activities over the

reporting period including: fine tuning performance of screen and degritting system; completing exterior stone veneer; grading for walkways outside of the pump station; progressed painting; and completing architectural works inside the washroom at the public plaza.

- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction and commissioning activities over the reporting period including: backfilling around existing drop structure and new diversion chamber; new diversion chamber was completed; installation of screen covers; ongoing topsoil placement; completed preparation for landscaping; completed demolition of the old pump station.

The design-bid-build Conveyance System contracts progressed over the reporting period, as follows:

- Clover Forcemain: Windley Contracting Ltd. (“Windley” as the Construction Contractor) completed construction and commissioning activities including: final clean-up of the lay down area.
- Residual Solids Conveyance Line (“RSCL”): the RSCL is being delivered through two construction contracts, with work progressing as follows:
 - Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor) continued construction activities over the reporting period for the Saanich infrastructure improvement being undertaken at Peers Creek, and began construction of a BC Hydro access road in the Township of Esquimalt including:
 - for the Peer’s Creek culvert replacement: backfilling both headwalls; removing west side cofferdam; replacing archaeological material; pumps being set up to lower the water level and inverts cut into the culverts; the concrete curb and sidewalk on the east side was replaced; final paving was completed; line painting including replacement of crosswalk lines, fog lines, and centreline; reinstated asphalt curb along the west side of the road; and
 - for the BC Hydro access road: lawn basin was installed at Bewdley Avenue; commencement of tree removal; excavated 60 meters and placed subgrade gravel on Thomas Street; and excavated road and subgrade gravels placed to the first rock outcropping on Bewdley Avenue.
 - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor) continued construction and commissioning activities including: regraded and backfilling the centrate return line on Willis Point Road near the RTF entrance; installed odour control unit fences at pump stations 1, 2 and 3; scaffolding was removed from the Tillicum and Admirals bridges; Hartland Flow Control Bypass was installed; piping at Hartland Pump Station was completed and pressure tested; installation of odour control heat trace and insulation at pump stations 1, 2 and 3; commencement of irrigation work at pump stations 1 and 2; landscape restoration, trail screening and odour control unit (OCU) damper installation at Marigold Pump Station; completed fencing at pump stations 2 and 3.

- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor) continued construction activities including: completing installation of attenuation tank perimeter walls and divider wall reinforcing steel; installation of column reinforcing steel; ongoing concrete pours for majority of columns; installed wall formwork; perimeter wall and interior room divider wall concrete pours; completed attenuation tank wall formwork installation and concrete pours and commenced shoring installation for the main roof slab.
- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor) progressed construction activities including: installation of 35 metres of forcemain; completion of gravity main low-pressure air test; installation of approximately 160 meters of sheet piles along Ross Bay seawall; excavation of pipe trench; pre-fused high density polyethylene pipe at laydown area; excavation of pipe trench between existing seawall and sheet pile wall; installed two 40 metre sections of HDPE pipe; hydro seeded sections of topsoil on Lower Memorial Green as part of City of Victoria improvements; and restoration of curb and gutter, sidewalk, pavement and topsoil along the forcemain’s route.

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.

There were no changes made to the KPIs over the reporting period.

The safety KPI for the Project and the conveyance system remains yellow. Over the reporting period one recordable safety incident occurred and the total recordable incident frequency was 1.5 at the start and end of the reporting period.

The Project Team continues to work with and ensure that all of the prime contractor partners maintain safety as their number one priority. The Project Team is also actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. The BC Government has designated construction as an essential service, and issued guidelines for construction sites to minimize the risks of COVID-19 transmission or illness. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. These measures follow the direction set by the BC Government, including emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas. The Project Team will continue to monitor contractors’ compliance with the direction of the government as the situation evolves.

The schedule KPI for the Project overall and the Project components remains green. The COVID-19 public health emergency is impacting the Project. However, construction is ongoing in accordance with provincial guidelines and the Project met the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.

The cost KPI for the Project overall and the conveyance system remained red over the reporting period, and are expected to remain red for the duration of the Project, primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical

























considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020. As a result of these budget pressures, the Project Team forecast the cost to complete the Project at \$775M, or \$10M over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M.

Subsequent to May 2019 the Project Team have continued to manage risks and there have been two main opposing budget drivers:





- i) The Project's financing costs to-date have been lower than budgeted for two reasons: firstly as a result of low interest rates since the start of the Project, and secondly due to the receipt of funding from the provincial government earlier than forecast; and
- ii) The Project's construction costs may be higher than budgeted as many contractors have advised that there are cost impacts from the COVID-19 public health emergency. Impacts include labour availability, work modifications to comply with provincial guidelines, and delays to the delivery of equipment and supplies.

It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.

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*.					One recordable incident occurred over the period. Site inspections are ongoing. The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					There were four environmental incidents over the reporting period: in October there were: two releases of residual solids (one at the Residuals Treatment Facility and one at a valve chamber on the Residual Solids Conveyance Line), and a release of wastewater at the McLoughlin Point Wastewater Treatment Plant; in December, due to heavy rains, there was surface run-off from the construction site at the Clover Point Pump Station into the ocean, causing a plume of silty-looking water. All four releases were reported to Emergency Management BC, in accordance with the Spill Reporting Regulation. In each case environmental professionals assessed the affected area, and where warranted, provided oversight over remediation and monitoring activities.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					Over the reporting period the Project met the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020. The majority of construction is complete on the major components of the Wastewater Treatment Project. Construction continues on the Trent Forcemain and Arbutus Attenuation Tank: these are being built to increase the capacity of the conveyance system and are expected to be complete in spring 2021.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					Over the reporting period the Project met the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020. The majority of construction is complete on the major components of the Wastewater Treatment Project. Construction continues on the Trent Forcemain and Arbutus Attenuation Tank: these are being built to increase the capacity of the conveyance system and are expected to be complete in spring 2021.
Cost	Deliver the Project within the Control Budget (\$765 million).					<p>The CRD Board approved an increase to the Project's budget by \$10M, to \$775M, based on the Project Team's forecast of the cost to complete the Project. The increase was required primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.</p> <p>Many contractors have advised that there are cost impacts from the COVID-19 public health emergency. It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.</p>

* 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 summarized in Table 3.

The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. The BC Government has designated construction as an essential service, and issued guidelines for construction sites to minimize the risks of COVID-19 transmission or illness.

All Project contractors have implemented additional precautions to ensure the health and safety of their workers. These measures follow the direction set by the BC Government, including emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas. The Project Team will continue to monitor contractors' compliance with the direction of the government during this evolving situation.

Site safety tours and weekly safety inspections were carried out by Project Management Office ("PMO") construction and safety personnel over the reporting period at all active worksites: McLoughlin Point WWTP, RTF, Macaulay Point Pump Station, Clover Point Pump Station, Clover Forcemain, Residual Solids Pipes, Residual Solids Pump Stations, Arbutus Attenuation Tank and Trent Forcemain.

Over the quarterly reporting period (October – December 2020) eleven safety incidents occurred, comprising: two near-miss, six report-only, one medical aid recordable, and two first aid incidents, as summarized in Table 2.

Table 2: Safety Incidents over the Reporting Period

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
October 2, 2020	McLoughlin Pt WWTP	Report Only	Water hose developed a leak allowing potable water to escape.	An operator that was in the immediate area was sprayed by the potable water.	Tool-Box talk to discuss inspection of hoses and replacing anything that looks defective was held.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
October 12, 2020	RTF	Medical Aid Recordable	While grinding a worker had a small sliver of steel enter their eye.	The worker went to first aid where they flushed the eye, but were unable to remove the object. The worker was then sent to the hospital where the sliver was removed.	Worker was wearing appropriate safety glasses at the time of the incident. Upon review of the activity use of a face shield for further protection was added to the job task description.
October 15, 2020	McLoughlin Pt WWTP	Report Only	Drainage of a waterline in the Tertiary Building in order to perform repairs resulted in the Tertiary Building basement flooding causing equipment damage.	Area was drained of water and equipment was removed to be inspected and repaired. Workers were never at risk.	Tool-Box talk to discuss isolation procedures and ensuring personnel are available to monitor activity. Also reminded team that a permit review is to be performed prior to commencement of work.
October 20, 2020	McLoughlin Pt WWTP	First Aid	While cutting rebar a worker received a small cut to their forearm from a portable saw.	Worker reported to first aid where the cut was cleaned and bandaged. No further treatment was required.	Tool-box talk to remind workers that hazard assessments of the work activity must be conducted prior to commencement.
October 28, 2020	Clover Point Pump Station	Report Only	Sub-contractors inadvertently interrupted operations of the grit system.	While maneuvering scaffolding in a restricted space part of their scaffold hit the emergency STOP button for the grit pump. No damage occurred and the operators restarted the equipment.	Tool-box talk to discuss proper care and control while moving materials in a restricted area.
November 3, 2020	McLoughlin Pt WWTP	Report Only	While demobilizing site trailers at the laydown area workers were removing de-energized temporary power cables.	All cables were tested and deemed not energized. Unfortunately there were a number of cables and it was determined after removal that they had cut a low voltage cable which was to remain in service.	There were no injuries and the cable was reinstalled.
November 12, 2020	Trent Forcemain	Report Only	A vehicle moving through an active worksite struck and damaged the contractor's site trailer. The trailer was well off the travelled portion of the road and delineators adequately placed around the trailer.	The driver misjudged the roadway and drove over the delineators. The front right of the vehicle hit the corner of the trailer damaging a panel. At the time of the incident normal two-way traffic was occurring though the site on Dallas Road.	The contractor ensured the driver was uninjured, contacted the police and aided in safely removing the vehicle. Delineators were reinstated around the corner of the trailer.
November 12, 2020	McLoughlin Pt WWTP	Near Miss	Worker while moving around the site stopped, made eye contact with a driver of a moving vehicle. The driver signaled for the worker to proceed.	The driver pulled forward while worker was in close proximity to the vehicle.	Tool-box talk held to discuss proper communication and eye contact. Emphasis placed on vehicle movement and signaling pedestrian to proceed.
November 24, 2020	McLoughlin Pt WWTP	Report Only	Operator identified a leak from a manway door in the BAF area.	The manway was isolated and resealed.	No injuries or damage to any equipment were recorded.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
November 26, 2020	McLoughlin Pt WWTP	Near Miss	While demobilizing site trailers at the laydown area workers were removing a stockpile of crushed blast rock. While excavating the operator notice a conduit exposed in the side of the bank.	A conduit was exposed and removal of rock immediately ceased. Upon investigation it was determined that the conduit housed an active 120V power feed.	There were no injuries or damage recorded. The conduit was re-buried and the contractor reviewed Ground Disturbance requirements when removing stockpiles from site.
December 1, 2020	McLoughlin Pt WWTP	First Aid	Worker sustained minor injury to hand while using a hand held reciprocating saw to cut a lock.	The blade jumped, causing 1/2 inch laceration to the left thumb. Worker was wearing gloves at time of incident however had not secured the lock.	Worker attended first aid and was treated on site. Tool-box talk topic on the safe use of hand tools.

Key safety activities conducted during October included:

- bi-weekly project update meetings with prime contractors: Knappett, NAC, HRMG, Kenaidan, Jacobs Brothers;
- monthly update meetings with prime contractors: HRP;
- monthly Incident Investigation reviews;
- Great Shake Out Earthquake and Annual Emergency Evacuation Drill;
- reviewed site specific safety plans and high risk tasks; and
- Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Key safety activities conducted during November included:

- bi-weekly project update meetings with prime contractors: Knappett, NAC, HRMG, Jacob Brothers, Don Mann and Kenaidan;
- monthly update meetings with prime contractor: HRP;
- monthly Incident Investigation reviews;
- participated in BC Hydro access road pre-job planning meeting;
- hosted Prime Contractor Safety Meeting;
- reviewing daily progress reports and contacting Primes of any safety notations or observations contained within those reports;
- reviewed COVID-19 document submissions from CRD Corporate;
- reviewed site specific safety plans and high risk tasks; and
- Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Key safety activities conducted during December included

- bi-weekly project update meetings with prime contractors: Knappett, NAC, HRMG, Kenaidan, Jacobs Brothers and Don Mann;
- monthly update meetings with prime contractor: HRP;
- reviewed site specific safety plans and high risk tasks;
- reviewed daily progress reports and contacting Primes of any safety notations or observations contained within those reports;
- participated in CRD Corporate Health and Safety Risk Registry meeting; and
- reviewed COVID-19 document submissions from CRD Corporate.

Table 3: WTP Safety Information

	Reporting Period (October - December 2020)	Project Totals
Person Hours		
PMO	8062	166,290
Project Contractor	137,485	2,323,273
Total Person Hours	145,547	2,489,563
PMO	23	
Project Contractors (& Project Consultants) working on Project Sites	729	
Total Number of Employees	752	
Near Miss Reports	2	49
High Potential Near Miss Reports	0	7
Report Only	6	185
First Aid	2	69
Medical Aid	1	12
Medical Aid (Modified Duty)	0	2
Lost Time	0	5
Total Recordable Incidents	0	19
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.5
Medical Aid Frequency		1.1
Lost time Frequency		0.4
Total Recordable Incident Frequency		1.5

2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating primarily to the execution of current work.

2.2.1 Environment

Environmental work progressed as planned over the reporting period. The focus was on environmental monitoring of construction activities.

Key environmental management activities completed in October included:

- Riparian restoration planting was completed at the Peers creek and Colquitz River sites. Plantings included replacement trees and native plants.
- The CRD submitted an Environmental Effects Determination Amendment to the Department of National Defence for the construction of an access road for new BC Hydro power lines.

Key environmental management activities completed in November included:

- An End-of-Spill report was submitted to the BC Ministry of Environment and Climate Change Strategy (ENV) in fulfilment of requirements related to the minor release of

residual solids at a low point drain valve location on the Residual Solids Conveyance Line within Hartland Landfill;

- An End-of-Spill report was submitted by HRP to ENV in fulfilment of requirements related to the small release of wastewater into the ocean at the McLoughlin Point Site; and
- HRMG continued with spill remediation and environmental monitoring associated with the release of residual solids at the Residuals Treatment Facility (RTF) site that occurred on October 13.

Key environmental management activities completed in December included:

- HRMG continued monitoring activities associated with the release of residual solids at the RTF site and began preparing an End-of-Spill report for submission to ENV.

Over the reporting period, there were four environmental incidents:

- On October 13, there was a release of residual solids at the Residuals Treatment Facility (RTF) site. A temporary pipe failed during the commissioning process. Some of the residual solids were contained on-site (within Hartland Landfill) but some travelled through a culvert and collected in a nearby low area in the CRD's Mount Work Regional Park. The release was reported to Emergency Management BC, in accordance with the Spill Reporting Regulation. Environmental professionals assessed the affected area and provided oversight over remediation activities, including on the appropriate monitoring and testing protocols. It was determined that there was no surface flow to Durrance Lake but samples were taken as a precaution: microbiological indicators in the samples were present at consistent or slightly lower levels than prior to the incident, demonstrating that the release did not impact Durrance Lake.
- On October 19, there was a minor release of residual solids at a low point drain valve location on the Residual Solids Conveyance Line within Hartland Landfill, as a result of a valve failure. The valve was changed and all valve chambers on the Residual Solids Conveyance Line were inspected to confirm that the installed fail-safe mechanisms were operable. The release was mostly contained within a manhole, although some residual solids over-topped the manhole and drained through gravel. The release was reported to Emergency Management BC, in accordance with the Spill Reporting Regulation. Environmental professionals assessed the affected area and provided oversight over remediation activities, including on the appropriate monitoring and testing protocols.
- On October 27, there was a small release of wastewater into the ocean at the McLoughlin Point Site. After a power outage a gate closed resulting in wastewater flowing into the site's storm system. The majority of wastewater was collected on-site but approximately 5 cubic meters entered a planter in the site's storm system and then into the ocean. An environmental professional assessed the potential impacts to be very low, and water samples were collected to confirm this. There is no indication of public health or long-term environmental impacts. The release was reported to Emergency Management BC, in accordance with the Spill Reporting Regulation.
- During heavy rains on December 21, sediment control measures at the Clover Point pump station were initially overwhelmed, leading to a surface run-off and sediment-laden water entering the marine environment. Once Kenaidan repaired the silt fencing at the site, sediment ceased entering the environment. Kenaidan reported the sediment

release to Emergency Management BC. No long-term environmental impacts are anticipated.

2.2.2 Regulatory Management

Over the reporting period, the Project Team continued to support or lead the advancement of the few regulatory approvals remaining.

Key permitting activities in October included:

- The CRD received a Certificate of Compliance (CoC) from the Province for the McLoughlin Point site. The CoC is a provincial legal instrument that demonstrates that a given site complies with contamination remediation standards.

Key permitting activities in November included:

- The Department of National Defence (DND) approved an Environmental Effects Determination (EED) Amendment related to the construction of an access road for new BC hydro power lines.

Key permitting activities in December included:

- The CRD completed and submitted an EED Amendment to DND for the temporary storage of material on their property.

The status of the two remaining key Project permits are summarized in Table 4. The table is not a list of all required Project permits, but rather a summary of the status of key Project permits. For the two permits in the table, the anticipated date and party responsible were updated from the table presented in the Project's Q3 2020 Quarterly Report:

- The anticipated date was changed from 'following completion of construction' to Q1 2021; and
- The party responsible was updated from HRP to the CRD, as HRP have met their responsibilities and the CRD is finalizing the text of the leases with Transport Canada

Table 4- Key Permits Status

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Permitting</i>
McLoughlin Point Harbour Crossing			
Transport Canada Lease	Q1 2021	On track	CRD
McLoughlin Point Outfall			
Transport Canada Lease	Q1 2021	On track	CRD

2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, as did meetings with the WSÁNEĆ Leadership Council's (WLC) liaison. The meetings are a forum for covering both Project-related issues with the potential to impact First Nations, as well as an opportunity for broader discussion of CRD-related issues.

Key activities in October included:

- The CRD and the Songhees, Esquimalt and WLC liaisons discussed re-interment of Ancestral remains following Project completion. Discussions included scheduling of a burning ceremony to honour the Ancestors and planning a burning ceremony that complies with COVID protocols.

Key activities in November included:

- The CRD and the Songhees and Esquimalt liaisons discussed close-out of Support Agreement commitments and how that should be documented.

Key activities in December included:

- The CRD's archaeologist joined meetings with the Songhees, Esquimalt and WLC liaisons to provide an update on analysis of artifacts that have been uncovered during project work.

2.4 Stakeholder Engagement

The Project 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 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 communications tools and engagement activities were utilized to support the implementation of the plan, including stakeholder meetings, Project website updates and notifications of construction through notices and a public inquiry program, among other methods.

October Overview

One construction notice was issued to stakeholders in October:

- Trent Forcemain: Dallas Road Closure (October 19, 2020) (Appendix A)

The construction notice was hand delivered to four buildings, including an apartment building, on Dallas Road near the road closure. In addition, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway impacts, were notified by hand delivery of notices.

In October the Project website, wastewaterproject.ca, was updated with information about the Project. The construction notice and an update on the Environmental Incident at the Residual Treatment Facility (Appendix B) were posted.

The CRD's Twitter and Facebook accounts were used to provide Project information to the public, including: a traffic advisory regarding the closure of Dallas Road required for Trent Forcemain construction work; and information on the Environmental Incident at the Residual Treatment Facility.

Over the month of October, the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- City of Victoria Technical Working Group;

- District of Saanich Technical Working Group; and
- meeting and site tour with representative from the Willis Point Residents Association.

November Overview

One construction notice and one letter were issued to stakeholders in November:

- McLoughlin Point: BC Hydro Access Road (November 6, 2020) (Appendix C)
- Trent Forcemain: Dallas Road Update Letter (November 23, 2020) (Appendix D)

The construction notice was hand delivered to 54 homes on Thomas Street, Bewdley Avenue between Peek Street and Anson Street; and Anson Street between Bewdley Avenue and Thomas Street. A letter providing more information to residents about the Trent Forcemain work taking place along the Dallas Road Seawall was hand delivered to 54 residents along Dallas Road between Clover Point and Memorial Crescent, Bushby Street between Dallas Road and George Street, and Eberts Street between Dallas Road and Bushby Street. In addition, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway impacts, were notified by hand delivery of notices.

A sign was posted at the Macaulay Point Pump Station providing an update on the work that was taking place (Appendix E).

In November, the Project website, wastewaterproject.ca, was updated with information about the Project. The construction notice and Macaulay Point Pump Station sign were posted.

The CRD's Twitter account was used to provide Project information to the public, including: information about the McLoughlin Point Wastewater Treatment commissioning.

Over the month of November, the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- Esquimalt Liaison Committee;
- City of Victoria Technical Working Group;
- District of Saanich Technical Working Group; and
- meeting and site tour with representatives from the Willis Point Residents Association.

December Overview

In December, the CRD announced that the Wastewater Treatment Project is now treating wastewater and is exceeding regulatory requirements. This announcement was coordinated with the Project's funding partners – the Province of BC and Government of Canada – and the Project's First Nations service participants (Songhees and Esquimalt Nations).

Given the public health guidance, in-lieu of an in-person opening event the announcement was made through a media release (Appendix F) and a video (https://www.youtube.com/watch?v=w8_U5-Ofq44) which showcased the Project components, thanked the funding partners, acknowledged First Nations on whose traditional territory the Project has been built, and recognized the patience of residents over the construction period.

The announcement and video were emailed to local and Seattle media; posted to the Project website and the CRD's Twitter, Facebook, YouTube, and LinkedIn accounts; and distributed by

email to the Esquimalt Liaison Committee and more than 730 residents and stakeholders who have signed up to receive Project updates.

While the CRD were hoping to celebrate achievement of this milestone with an in-person event, we were pleased to receive the coverage that was hoped for – locally, provincially, nationally and internationally – to inform stakeholders of Project progress.

Over the month of December, the Project Team held meetings with the following community groups and representatives, and municipality representatives:

- City of Victoria Technical Working Group; and
- District of Saanich Technical Working Group.

Public Inquiries

Public inquiry numbers from the Project email address and 24/7 information phone line (1 844 815-6132) are noted in Table 5.

Table 5 – Project Inquiries- October - December 2020

Inquiry Source	Contacts for October to December 2020
Information phone line inquiries	74
Email inquiries responded to	69

Key themes of the public inquiries were as follows:

- questions regarding scaffolding at Gorge Bridge and Admirals Bridge;
- interest in restoration, landscaping along Dallas Road and at Clover Point;
- questions regarding impacts to driveway access and parking due to construction and restoration work;
- questions regarding vibrations caused by Trent Forcemain work;
- questions regarding odour during the commissioning process, especially for the Residuals Treatment Facility;
- interest in tours or public access to the McLoughlin Point Wastewater Treatment Facility; and
- interest in restoration, landscaping and the final look of facilities.

2.5 Resolutions from Other Governments

There were no resolutions related to the Project passed by other governments during the reporting period.

2.6 Schedule

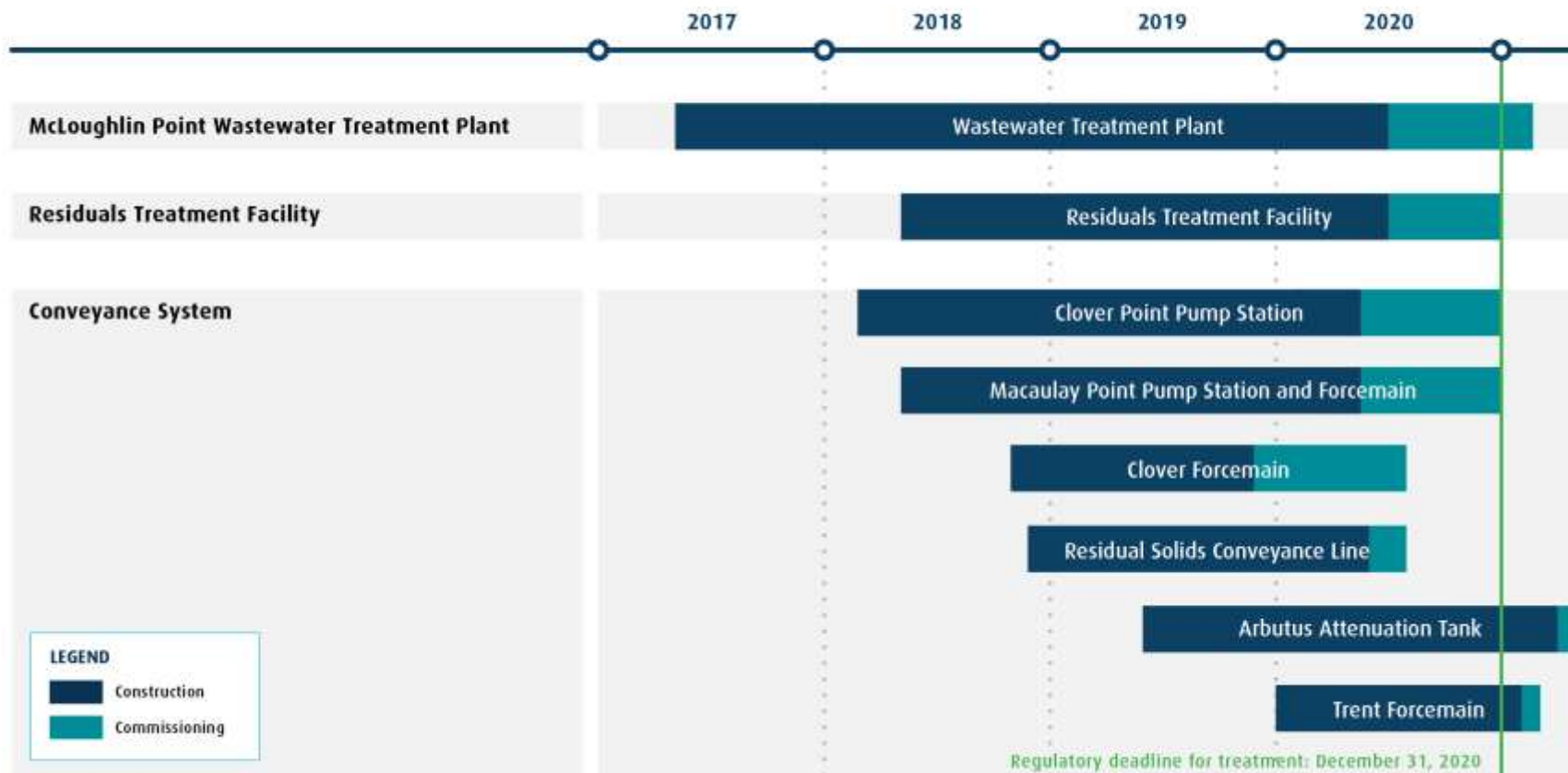
Progress over the reporting period is summarized in Section 2.9.

Figure 1 shows the high-level Project schedule. This schedule has been updated from that shown in the Q3 2020 Quarterly Report with the extension of commissioning activities at both Clover Point Pump Station and Macaulay Point Pump Station to the end of December 2020.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. However, on December 15, 2020, the Government of Canada, the Government of

British Columbia, and the Capital Regional District (CRD) announced that the Wastewater Treatment Project is treating wastewater and is exceeding regulatory requirements. The majority of construction is complete on the major components of the Wastewater Treatment Project. Construction continues on the Trent Forcemain and Arbutus Attenuation Tank. These are being built to increase the capacity of the conveyance system and are expected to be complete in spring 2021.

Figure 1- High-Level Project Schedule

Wastewater Treatment Project Schedule***Construction + Commissioning**

*Schedule subject to updates as Project planning progresses.

2.6.1 30 day look ahead

Key activities and milestones for the next 60 days (January) are outlined below by function.

Safety

- bi-weekly and monthly prime contractor progress meetings;
- host Prime Contractor Safety Meeting;
- review Daily Progress reports and contact prime contractors of any safety notations or observations contained within those reports;
- updating Prime Contractors WorkSafeBC Clearance and Rate information for 2021;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- issue Safety Notices for trending observations or similar incidents occurring on project sites;
- WTP Safety Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

Environment and Regulatory Management

- HRMG to submit an End-of-Spill report to ENV related to the October 13 residual solids spill.

First Nations

- CRD to continue meeting with the Songhees and Esquimalt liaisons and WSANEC liaison.

Stakeholder Engagement

- ongoing construction communications with stakeholders; and
- ongoing community liaison meetings.

Cost Management and Forecast

- prepare cost reports;
- prepare 2020 Final Service Budgets;
- monitor schedule; and
- fiscal year end close.

Construction

McLoughlin Point

- clean up and demobilize site.

Clover Point Pump Station

- installation of public art; and
- ongoing landscaping.

Macauley Point Pump Station

- reinstate surfaces; and
- landscaping.

Residuals Treatment Facility

- load testing; and
- progress commissioning.

Residual Solids Pump Stations

- landscaping.

Arbutus Attenuation Tank (AAT)

- install electrical duct banks for power;
- install valve chamber piping;
- install air intake and supply tank;
- install air intake heating ventilation and air conditioning (HVAC) ducting;
- install gas detection panel and system in electrical room;
- install motor control centre; and
- complete roofing.

Trent Forcemain

- install sanitary sewer on Dallas Road between Bushby and Clover Point Pump Station; and
- surface restoration.

2.6.2 60 day look ahead

Key activities and milestones for the next 60 days (February) are outlined below by function.

Safety

- bi-weekly and monthly prime contractor progress meetings;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- issue Safety Notices for trending observations or similar incidents occurring on project sites;
- WTP Safety Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

Environment and Regulatory Management

- HRMG to continue monitoring activities associated with the release of residual solids at the RTF site.

First Nations

- Songhees and Esquimalt to host a ceremonial burning to honour the ancestors that were encountered during Project construction prior to their reburial.

Stakeholder Engagement

- ongoing construction communications with stakeholders; and
- ongoing community liaison meetings.

Cost Management and Forecast

- prepare cost reports;
- monitor schedule; and
- prepare for CRD 2020 Financial Statement Audit.

Construction

Clover Point Pump Station

- install asphalt walkways, and concrete curbs;
- install public art;
- fabricate and install feature railings; and
- odour control performance testing.

Macaulay Point Pump Station

- complete landscaping.

Residuals Treatment Facility

- acceptance testing.

Residual Solids Pump Stations

- continue to work with Contractor to finalize project turnover documentation

Arbutus Attenuation Tank (AAT)

- install motor control centre;
- install Heating ventilation and air conditioning and ductwork in tank entrance room;
- install permanent overflow for attenuation tank;
- install fire alarm system; and
- install air intake and ducting.

Trent Forcemain

- Continue with installation of the gravity section of forcemain along Dallas Road.

2.7 Cost Management and Forecast

The monthly cost report for December and the quarterly report for the period (October to December 2020) are attached in Appendices G and H respectively. The cost reports summarize Project expenditures and commitments by Project Components and the major cost centres common to the Project Components.

The Project Team has been reporting budget pressures through its monthly reports to the Project Board (and CRD Board) since September 2017, primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.

The Project Team forecast the cost to complete the Project at \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

Subsequent to May 2019 the Project Team have continued to manage risks and there have been two opposing budget drivers:

- i) The Project's financing costs to-date have been lower than budgeted for two reasons: firstly as a result of low interest rates since the start of the Project, and secondly due to the receipt of funding from the provincial government earlier than forecast; and
- ii) The Project's construction costs may be higher than budgeted as many contractors have advised that there are cost impacts from the COVID-19 public health emergency. Impacts include labour availability, work modifications to comply with provincial guidelines, and delays to the delivery of equipment and supplies.

It is too early to determine the cost impact to the Project, but given the ability to offset the unforeseen costs of COVID-19 through the finance cost savings, the Project Team remain confident that, if construction continues at the current pace, the Project cost will be within the Project's \$775M budget.

2.7.1 Commitments

Commitments were made over the reporting period in furtherance of delivering the Project. The net commitments made during the reporting period resulted in an increase in committed costs of \$3.5 million. The significant commitments made in the reporting period include work on the Trent Forcemain sanitary sewermain and the installation of a secant pile to protect the sanitary sewer main, work on the BC Hydro access road, ferric dosing at the WWTP, the RTF biosolids load chute, and the approval of provisional items in construction contracts and contract change orders.

2.7.2 Expenses and Invoicing

The Project expenditures for the reporting period were as expected and were within the budget allocations for each of the budget areas. The main Project expenditures incurred over the reporting period were associated with commissioning, construction activities and project management office-related costs.

2.7.3 Contingency and Program Reserves

Over the reporting period contingency draws of \$0.9M were made as summarised in Table 6. The draws to-date and remaining contingency and program reserve balances are also summarized in Table 6.

Table 6- Contingency and Program Reserve Draw-Down Table

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	\$ Amount
Contingency and Program Reserve (in Control Budget)		\$ 69,318,051
Net Contingency and Program Reserve draws to September 30, 2020		\$ (54,424,667)
Contingency and Program Reserve balance as at September 30, 2020		\$ 14,893,384
DND Request to Convert Temporary Area D Yard Works Laydown into Permanent Facility (CCN-021)	Oct-20	\$ 15,000
WWTP- Z.48 – Sample Sinks Washdown Water	Oct-20	\$ (25,595)
Costs associated with seeking the Certificate of Compliance for Remediation of WWTP Site	Oct-20	\$ (64,735)
Costs associated with seeking the Certificate of Compliance for Remediation of WWTP Site	Nov-20	\$ (15,909)
Ferric dosing at the Wastewater Treatment Plant	Nov-20	\$ (457,100)
WWTP Total Draw		\$ (548,339)
Changes to the Biosolids Loadout Chute	Dec-20	\$ (86,276)
RTF Total Draw		\$ (86,276)
Additional SCADA Licenses for Clover Point Pump station	Nov-20	\$ (24,414)
Relocation of the Cathodic Protection Rectifier Panel	Nov-20	\$ (83,440)
Additional SCADA Licenses for Macaulay Point Pump Station	Nov-20	\$ (24,414)
Exhaust Stack Cladding Installation	Dec-20	\$ (39,453)
Peers Creek Culvert Replacement and Supporting Utility Replacement	Dec-20	\$ (78,000)
Conveyance Total Draw		\$ (249,720)
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve credits in the reporting period		\$ 15,000
Contingency and Program Reserve draws in the reporting period		\$ (899,335)
Contingency and Program Reserve balance as at December 31, 2020		\$ 14,009,048

2.7.4 Project Funding

The federal and provincial governments are assisting the Capital Regional District in funding the Project.

The Government of British Columbia will provide \$248 million towards the three components of the Project, while the Government of Canada is contributing:

- \$120 million through the Building Canada Fund Major infrastructure Component towards the McLoughlin Point WWTP;
- \$50 million through the Green Infrastructure Fund towards the conveyance system; and
- up to \$41 million towards the RTF through the P3 Canada Fund.

The Project Team has applied to the Federation of Canadian Municipalities (FCM) for additional funding and has executed a grant agreement for the contribution of up to \$346,900 towards the delineation of the contamination and remediation and risk assessment for the McLoughlin Point Wastewater Treatment Plant.

In December the Federation of Canadian Municipalities awarded the CRD a \$20 million loan and \$3 million grant funded by the Government of Canada through the Green Municipal Fund (GMF). This funding body is focused on investing in innovative solutions to reduce pollution and improve energy efficiency. The combination of the loan and the grant will reduce interest costs to the Core Area Wastewater Service: it will not reduce the CRD's contribution towards the capital cost of the Project and therefore will not be tracked in Table 7.

The status of funding claims is summarised in Table 7. Note that the timing for the provision of Government of British Columbia and Government of Canada's funding differs by funding source. The Project Team will submit claims to the funding partners in accordance with the relevant funding agreements. In accordance with the funding agreements, the remainder of the funding cannot be claimed until relevant Project components are substantially complete.

Table 7- Project Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120M	-	\$108M
Government of Canada (Green Infrastructure Fund)	\$50M	-	\$45M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$186M
Federation of Canadian Municipalities	\$0.3M	-	-
TOTAL	\$459.3M	-	\$339M

2.8 Key Risks and issues

The Project Team actively identified and managed Project risks over the reporting period. Table 8 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.

The following changes were made to the active risks summary over the quarterly reporting period: the removal of two risks (downstream and upstream work delays) that were closed in the previous quarterly reporting period.

The COVID-19 public health emergency continued to have impacts on the Project over the reporting period. It is anticipated that these impacts may affect several of the Project's risks. The Project Team are currently evaluating the impact of the public health emergency on the Project's risks, and anticipates that changes may be made to several of the risks as the situation evolves. Those risks that the Project Team have identified as potentially impacted, and that are currently under review, are identified in Table 8.

Table 8- Project Active Risks Summary

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	Trend in risk level from previous reporting period
Project				
Misalignment between First Nations' interests and the implementation of the Project.	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).	L	No change
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.	L	No change
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 ongoing over the reporting period (see section 2.4 for further details).	L	No change
Lack of integration between Project Components.	Planning challenges and system integration between the McLoughlin point WWTP, RTF and Conveyance System components of the Project results in schedule delays and/or additional Project costs.	Physical and schedule interfaces are clearly delineated in all construction contracts along with the requirement for commissioning and control plans. The Project Team has used a single Owner's engineer (Stantec) to develop the indicative design for all critical project components with significant interfaces. Commissioning and control plans are under development	L	No change
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 has been assigned and is being monitored.	L	No change
Public directly contacting contractors at sites.	Direct contact between the public and contractors could expose both parties to worksite hazards and potential injuries.	Communications and engagement plan and coverage of communications in contractor orientations.	L	No change.

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	Trend in risk level from previous reporting period
Change in law.	A change in law impacts the scope, cost or schedule of the Project.	Keep apprised of proposed modifications to relevant regulations so as to do the following as appropriate: submit comments on proposed modifications; and/or consider including anticipated modifications in contracts.	H	No change: this risk has been impacted by the COVID-19 public health emergency
Labour - availability and/or cost escalation.	There is insufficient labour available to construct the Project, and/or there is significant labour cost.	The Project Team will, through the use of competitive selection processes for all construction contracts, ensure that all Project contractors have appropriate experience and therefore understand labour risk.	L	No change
Disagreement on contractual obligations of the construction contractors.	There is a disagreement between the Project Team and a contractor regarding the performance of their contractual obligations.	The Project Team takes a proactive management approach to the resolution of any changes, claims and disputes that arise, working expeditiously to achieve resolution with the goal of minimizing any impacts to budget and schedule while ensuring adherence to the terms of the construction contracts.	M	No change but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)

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

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component continued with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) progressing construction and commissioning activities.

Key activities in progress or completed by HRP in October were as follows:

- Primary, secondary and tertiary treatment areas: commissioned biological systems.
- O&M building:
 - heating ventilation and air conditioning (HVAC) air flush underway; and
 - safety systems nearing final commissioning.
- Site works:
 - achieved functional completion; and
 - site landscaping nearing completion.

Key activities in progress or completed by HRP in November were as follows:

- commencing the acceptance test; and
- progressing site landscaping.

Key activities in progress or completed by HRP in December were as follows:

- acceptance test completed.

Photographs of construction progress over the month of December at McLoughlin Point WWTP are shown in Figures 2-4.



Figure 2– McLoughlin Point Wastewater Treatment Plant- Blower outlet process air piping insulation installed.



Figure 3– McLoughlin Point Wastewater Treatment Plant- Aerial view of plant



Figure 4– McLoughlin Point Wastewater Treatment Plant- Site view looking east

2.9.2 Residuals Treatment Facility

The RTF Project Component continued with Hartland Resource Management Group (“HRMG” as the Design-Build-Finance-Operate-Maintain contractor for the RTF) progressing construction and commissioning activities.

Key activities in progress or completed by HRMG in October were as follows:

- Digester Area: installed roof handrails on Digester Building.
- Other Municipal Solids Receiving Facility: installed canopy.
- Residuals Drying Facility: commissioning of various systems in progress.
- Site Works:
 - poured main gate foundation; and
 - hydro seeded storm ponds.

Key activities in progress or completed by HRMG in November were as follows:

- draining water from Digester 1 and the Digested Solids Storage Tank;
- ongoing commissioning of various systems;
- completed fencing and main gate; and
- completed landscaping.

Key activities in progress or completed by HRMG in December were as follows:

- progressed commissioning.

Photographs of construction progress over the month of December at the Residuals Treatment Facility are shown in Figures 5-6.



Figure 5- Residuals Treatment Facility- Residuals Drying Facility Building



Figure 6– Residuals Treatment Facility- Aerial view of RTF

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

The Clover Point Pump Station continued with Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressing construction and commissioning activities.

Key construction activities in progress or completed by Kenaidan in October included:

- progressed exterior stone veneer;
- progressed grading for walkways outside of pump station;
- commenced demobilizing site compound;
- functional testing of HVAC;
- installed pipe straps to pipe supports;
- progressing painting and coating;
- fine tuning performance of screen and degritting systems; and
- complete installation of grinder pump/forcemain for public washroom.

Key construction activities in progress or completed by Kenaidan in November included:

- completed exterior stone veneer;
- grading for walkways outside of pump station;
- continue demobilizing site compound; and
- landscaping and exterior works in plaza.

Key construction activities in progress or completed by Kenaidan in December included:

- install pavement to multiuse pathway's walkways outside of pump station;
- continued demobilizing site compound;
- progressing painting;
- completed architectural works inside the washroom at the public plaza;
- progressed landscape and public plaza works.

Photographs of construction progress over the month of December at Clover Point are shown in Figures 7-8.

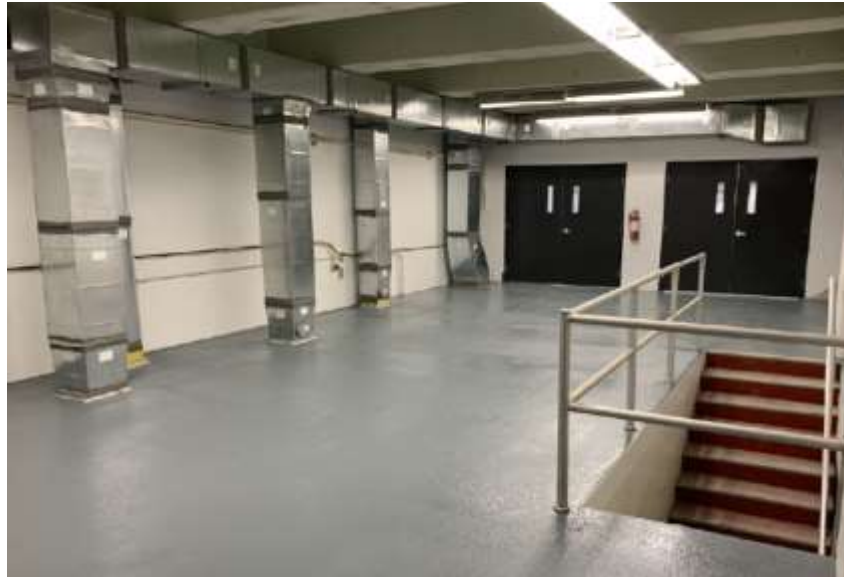


Figure 7–Clover Point Pump Station- Protective Coating Installation at Mezzanine Level



Figure 8–Clover Point Pump Station- Site Overview

2.9.3.2 Macaulay Point Pump Station and Forcemain

The Macaulay Point Pump Station and Forcemain continued with Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressing construction and commissioning activities.

Key construction activities in progress or completed by Kenaidan in October were as follows:

- Diversion Chamber
 - completed new diversion chamber;
 - ongoing backfill around the existing drop structure and new diversion chamber; and
 - completed foreshore drain works.
- Pump Station
 - demolition for the old pump station is ongoing;
 - installed non-classified flow switches;
 - installed door sidelights; and
 - installed genset stair.

Key construction activities in progress or completed by Kenaidan in November were as follows:

- completed demolition of the old pump station;
- installed screen covers;
- completed air balancing test;
- completed grit sampling test;
- backfill around the existing drop structure and new diversion chamber; and
- completed tree planting.

Key construction activities in progress or completed by Kenaidan in December were as follows:

- completed preparation for landscaping; and
- ongoing topsoil placement.

A photograph of construction progress over the month of December at Macaulay Point Pump Station is shown in Figure 9.



Figure 9–Macaulay Point Pump Station

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) completed all construction and commissioning activities over the reporting period, including:

- completed final clean up

2.9.3.4 Residual Solids Conveyance Line

The RSCL is being delivered through two construction contracts:

- Residual Solids Pipes; and
- Residual Solids Pump Stations

Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor for the Residual Solids Pipes) continued construction activities over the reporting period for the Saanich infrastructure improvement being undertaken at Peers Creek, and began construction of a BC Hydro access road in the Township of Esquimalt.

Key construction activities in progress or completed by Don Mann in October were as follows:

- Peers Creek Culvert Replacement:
 - backfilled both headwalls;
 - outlet weir was shaped and cobbles placed;
 - west side cofferdam was removed and the area cleaned up, including cobble placement around the inlet;
 - all archaeological material was able to be replaced onsite and the entire east side area was topped with screened topsoil;
 - garden mulch was delivered and placed around east headwall for use by Current Environmental as they replant the riparian area;

- coco matting was secured to the gravel embankment on either side of the west headwall;
- storm drain installation was completed;
- replaced concrete curb and sidewalk on the east side;
- topsoil and grass seed were placed over the storm drain alignment adjacent to the new sidewalk; and
- completed final paving.

Key construction activities in progress or completed by Don Mann in November were as follows:

- Peers Creek Culvert Replacement:
 - pumps were set up to lower the water level on the west side of the culvert;
 - inverts of both culverts were cut out to lower the effective invert elevation;
 - installed guardrails at both headwalls; and
 - completed line painting including replacement of crosswalk lines, fog lines, and centreline.
- BC Hydro Access Road:
 - installed lawn basin at Bewdley Ave and tied into the existing drain main;
 - commenced tree removal;
 - commenced roadwork at Bewdley Ave; and
 - drilled new anchor hole for a conflicting guywire anchor.

Key construction activities in progress or completed by Don Mann in December were as follows:

- Peers Creek Culvert Replacement
 - reinstated asphalt curb along the west side of the road.
- BCH Access Road
 - excavated road and subgrade gravels placed up to the first rock outcropping on Bewdley Avenue; and
 - excavated 60 meters and placed subgrade gravel on Thomas Street

A photograph of construction progress over the month of December on the Residual Solids Pipes is shown in Figure 10.



Figure 10–Residual Solids Pipes – View of site from Bewdley Ave facing south

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction and commissioning activities over the reporting period.

Key construction activities in progress or completed by Knappett in October included:

- regraded and backfilled the centrate return line on Willis Point Rd near the RTF entrance;
- backfilled the Residuals Treatment Facility chamber and leachate connection chamber
- completed the odour control unit fence at pump stations 1, 2 and 3;
- completed backfill and trail prep at pump station 2;
- installed dampers in the Marigold valve chamber at Marigold Pump Station;
- removed fencing from multiple locations on the project;
- scaffolding was removed and sites cleaned up at Tillicum and Admirals Bridges;
- installed Hartland Flow Control Bypass;
- completed and pressure tested piping at Hartland Pump Station; and
- commenced installation of Hartland Reservoir kiosks.

Key construction activities in progress or completed by Knappett in November included:

- installed RTF leachate chamber castings, and final restoration on Willis Point Road;
- commenced irrigation work at pump stations 1 and 2;
- installed odour control unit (OCU) heat trace and insulation at pump stations 1, 2 and 3;
- Installed surge tank heat trace and insulation at pump stations 1, 2 and 3;
- landscape restoration, trail screening and OCU damper installation at Marigold Pump Station; and
- pipe tested and chlorinated at Hartland Pump Station.

Key construction activities in progress or completed by Knappett in December included:

- completed fencing at pump stations 2 and 3;
- ongoing landscaping at pump stations; and
- Hartland Reservoir:
 - installed final pad and bollards poured in place;
 - completed electrical work; and
 - reservoir filled, chlorinated, backfilled and graded.

Photographs of construction progress over the month of December on the Residual Solids Pump Stations are shown in Figures 11 and 12.



Figure 11–Residual Solids Pump Stations– Tower Fence installed around the Surge Tank



Figure 12 –Residual Solids Pump Stations – Pump Station Landscaping

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities over the reporting period.

Key construction activities in progress or completed by NAC Constructors Ltd. in October included:

- completed installation of valve chamber suspended slab reinforcing steel, water stop, and shoring;
- completed installation of attenuation tank perimeter walls and divider wall reinforcing steel;
- ongoing caisson wall system cleaning;
- commenced installation of attenuation tank column reinforcing steel;
- commenced installation of wall formwork;
- ongoing perimeter wall and divider wall concrete pours took place; and
- poured concrete for valve chamber suspended slab.

Key construction activities in progress or completed by NAC Constructors Ltd. in November included:

- installed Attenuation Tank interior room divider walls lower floor reinforcing steel;
- caisson wall system cleaning;
- installed column reinforcing steel;
- ongoing concrete pours for the majority of columns;
- installed wall formwork; and
- perimeter wall and interior room divider walls concrete pours.

Key construction activities in progress or completed by NAC Constructors Ltd. in December included:

- completed attenuation tank interior room divider walls upper floor reinforcing steel installation;
- completed caisson wall system cleaning;
- ongoing column reinforcing steel installation and concrete pours;
- completed intermediate slab rebar installation;
- completed attenuation tank wall formwork installation and concrete pours; and
- commenced shoring installation for the main roof slab.

Photographs of construction progress during the month of December at the Arbutus Attenuation Tank are shown in Figures 13 and 14.



Figure 13–Arbutus Attenuation Tank- View of Tank looking south



Figure 14–Arbutus Attenuation Tank- Concrete Pour completed at the South end of the tank

2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed construction activities over the reporting period.

Key construction activities in progress or completed by Jacob Bros. in October included:

- completed 35m of St Charles Street Forcemain;
- ongoing storm and watermain relocation;
- recommenced Eberts Street Gravity Main at intersection with Dallas Road;
- large diameter manhole installed on Dallas Road;
- completed curb and gutter restoration on Memorial Crescent, and Bushby Street and Memorial Crescent;
- completed sidewalk restoration on Memorial Crescent and Bushby Street, and Bushby Street and Eberts;
- completed pavement restoration at Bushby Street, Brooke Street and Stannard Avenue intersection, and Memorial Crescent and May Street intersection;
- completed top-soil restoration at Ross Bay Cemetery; and
- completed stop bars on Bushby Street, Brooke Street, and May Street.

Key construction activities in progress or completed by Jacob Bros. in November included:

- completed gravity main low-pressure air test;
- installation of approximately 60m of sheet piles along Ross Bay seawall;
- excavate pipe trench;
- pre-fused high density polyethylene pipe at laydown area;
- installed electrical conduit and light post bases on Memorial Crescent;
- completed Lower Memorial Green sidewalk;
- restoration on St. Charles Street of curb, gutter, sidewalk, pavement and topsoil;
- restoration on Dallas Road at Eberts Street of curb, gutter, and pavement; and
- restoration on Memorial crescent of pavement and topsoil.

Key construction activities in progress or completed by Jacob Bros. in December included:

- installation 100m of sheet piles along Ross Bay Seawall;
- excavated pipe trench between existing seawall and sheet pile wall;
- installed two 40m sections of high density poly ethylene(HDPE) pipe;
- hydro-seeded sections of topsoil on Lower Memorial Green as part of City of Victoria improvements;
- restoration of topsoil on Lower Memorial Green; and
- restoration of pavement on Memorial Crescent/Dallas Road.

Photographs of construction progress during the month of December at the Trent Forcemain is shown in Figures 15 and 16.



Figure 15–Trent Forcemain- Seeding along Memorial Avenue.



Figure 16–Trent Forcemain- Work area by Seawall

Appendix A– Trent Forcemain: Dallas Road Closure (October 19, 2020)



UPDATE

October 21, 2020

Trent Forcemain: Dallas Road Closure

As part of construction for the Trent Forcemain, a pipe will be installed along Dallas Road and under the pedestrian path on the Dallas Road Seawall. This work will require the closure of Dallas Road at Eberts Street during work hours on the following dates:

- Monday, October 19
- Tuesday, October 20
- Wednesday, October 21
- Thursday, October 22
- Friday, October 23

On street parking along Dallas Road between Eberts Street and Memorial Crescent will be restricted during this work. Please refer to construction signage.

What to Expect

- A trench will be excavated, the pipe will be installed, and the trench will be backfilled.
- Steel road plates may be installed overnight in some locations.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Equipment will be temporarily stored in the area.

Traffic Impacts

- Dallas Road will be closed at Eberts Street during work hours for approximately one week. A detour will be in place.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Access

- On street parking along Dallas Road between Eberts Street and Memorial Crescent will be restricted while construction takes place on Dallas Road.
- Access to your property may be impacted for short periods of time due to the presence of equipment.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Saturday 8:00 a.m. to 7:00 p.m.

Thank you for your patience while we complete this work. We apologize for any inconvenience this may cause.

Any questions about the work, please contact the Project Team.



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix B– Environmental Incident at the Residual Treatment Facility

Residual Treatment Facility Environmental Incident

During commissioning of the Residuals Treatment Facility, a temporary pipe failed on October 13, 2020 resulting in the release of residual solids. Some of the residual solids were contained on-site (within the Hartland Landfill) but some travelled through a culvert and collected in a nearby low area in the CRD's Mount Work Regional Park. Signs have been installed advising park users not to enter the affected area.

There is no indication of public health or long-term environmental impacts, including to Durrance Lake.

Environmental professionals assessed the affected area, are overseeing the remediation activities, and are advising on the appropriate monitoring and testing protocols.

The release was reported to Emergency Management BC, in accordance with the Spill Reporting Regulation.

Any questions about the work, please contact the Project Team.



24/7 Phone Line
1.844.815.6132



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Appendix C– McLoughlin Point: BC Hydro Access Road (November 6, 2020)



November 6, 2020

McLoughlin Point: BC Hydro Access Road

As part of construction for the McLoughlin Point Wastewater Treatment Plant, BC Hydro and the Capital Regional District will be installing new power lines and an access road. The power lines will run along Munro Street, Anson Street, and Thomas Street and a new gravel access road will be built between Thomas Street and Bewdley Avenue (please see map on reverse).

Work is expected to begin on the access road in the week of November 9 and is expected to be complete in approximately 10 weeks. Once the access road is in place BC Hydro will begin working to install the power lines.

What to Expect for the Construction of the Access Road

- The access road route will be cleared and the area prepared for construction.
- Rock will be removed by blasting and mechanical means.
- Pre- and post-blast surveys will be conducted when blasting is required. Notification will be provided to residents directly.
- The road will be graded and the gravel surface will be installed.
- Noise associated with this work includes blasting, excavation machinery, and truck back-up beepers.
- Equipment will be temporarily stored in the area.

Blasting Procedure

- Each blast will last less than 60 seconds
- All blasts will be covered with blast mats. Blasting signs will be posted, 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.

Work Hours

- Monday to Friday 7:00 a.m. to 7:00 p.m.

Traffic Impacts

- There are no traffic impacts anticipated for work on the BC Hydro access road.

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 by the end of 2020.

Any questions about the work, please contact the Project Team.



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca



BC Hydro Power Line and Access Road Route



Any questions about the work, please contact the Project Team.



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix D– Trent Forcemain: Dallas Road Update Letter (November 23, 2020)



Wastewater Treatment Project

November 23, 2020

Dear Resident,

We would like to provide an update about the construction on the Dallas Road Seawall and acknowledge concerns we have heard regarding impacts on the neighbourhood.

Unfortunately, the construction along the seawall causes some unavoidable noise and vibration due to the nature of the work and location of infrastructure.

While vibrations have and will occur, the contractor is required to ensure that no damage is caused by construction activities. The vibrations are being monitored to ensure that they remain below the threshold for damage.

The work along the seawall is taking place in segments. It takes approximately two weeks for the contractor to install the sheet piles in one segment. For the following two weeks, after the sheet piles are installed, the work changes and a trench is excavated, pipe is installed and the trench is backfilled within that segment. The work then moves onto the next segment and the sheet piling begins once again. This approach means that the vibrations experienced due to the sheet piling activities will pause for approximately two weeks at a time.

Another concern we have been hearing is that the contractor is stockpiling materials in a parking area along Dallas Road. This location was approved by the City of Victoria and was selected for a number of reasons including safety. While the location for this stockpile won't change the contractor is looking into ways to reduce the noise and vibrations caused by working in this area.

Construction on the Trent Forcemain is nearly 80% complete and we expect the work along Dallas Road should be finished by early next year.

We appreciate your patience as this work is being completed. Please feel free to contact us at our 24/7 phone line 1-844-815-6132 or email wastewater@crd.bc.ca if you have any questions.

Thank you,

Wastewater Treatment Project Team

Appendix E– Macaulay Point Pump Station Sign

Macaulay Point Pump Station Update

The Wastewater Treatment Project Team wants to thank you for your patience during the construction of the Macaulay Point Pump Station. We are close to the end of the Project and are now in the final restoration stage.

Construction on the new Macaulay Point Pump Station is coming to an end and it is undergoing the commissioning (or testing) phase. This means that the new pump station is now pumping wastewater to the McLoughlin Point Wastewater Treatment Plant for treatment rather than releasing untreated sewage into the ocean. During this phase some short-term increases in odour may occur. Thanks to the state-of-the-art odour control system, there should be no discernible odour in the community once testing is complete.

Landscaping

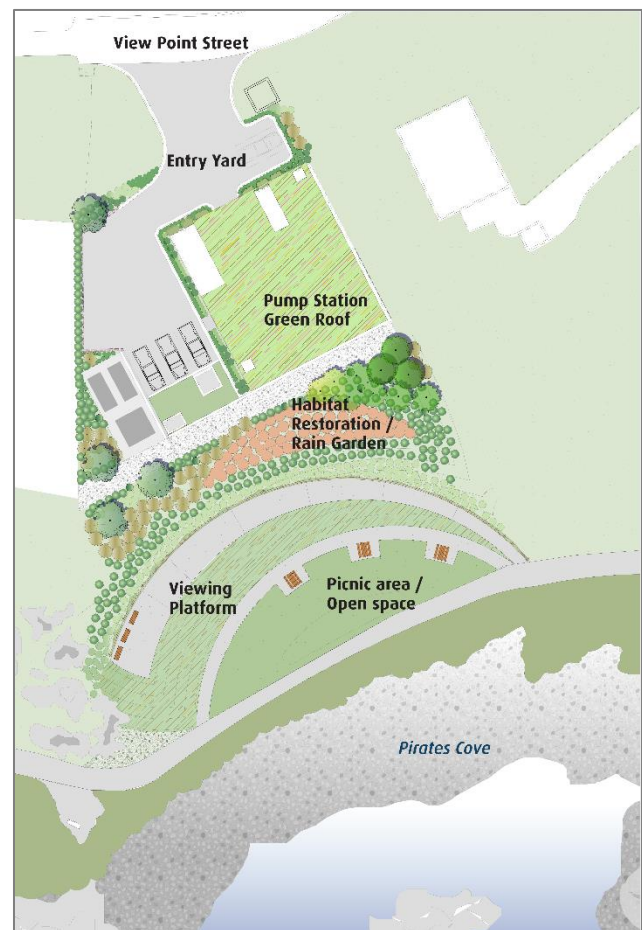
The next steps include landscaping and restoration. The landscaping will create an attractive and welcoming waterfront space to be enjoyed.

Thank you

We recognize construction has been disruptive and want to thank you for your patience. We hope you will enjoy the new park-like setting once it is complete.

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 by the end of 2020.



Any questions about the work, please contact the Project Team.



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix F– Media Release- CRD’s Wastewater Treatment Project begins treating wastewater (December 15, 2020)



Media Release

For Immediate Release

December 15, 2020

CRD's Wastewater Treatment Project begins treating wastewater

Victoria, BC– The Government of Canada, the Government of British Columbia, and the Capital Regional District (CRD), are pleased to announce that the Wastewater Treatment Project is now treating wastewater and is exceeding regulatory requirements.

The \$775-million Wastewater Treatment Project provides wastewater treatment for the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Colwood and Langford and the Esquimalt and Songhees Nations. It was approved in 2016 and has been under construction for four years. The Project consists of three main components:

- The McLoughlin Point Wastewater Treatment Plant in Esquimalt, which provides tertiary treatment to the core area's wastewater;
- The Residuals Treatment Facility located in Saanich at the Hartland Landfill, which turns residual solids into Class A biosolids; and
- A conveyance system, which carries wastewater from across the core area to the treatment plant, and residual solids to the Residuals Treatment Facility.

The Wastewater Treatment Project was built to meet federal and provincial regulations for wastewater treatment. The McLoughlin Point Wastewater Treatment Plant can treat 108 megalitres of wastewater per day to a tertiary level – one of the highest levels of treatment available which exceeds the regulatory requirements. The wastewater system is controlled and monitored 24/7. The state-of-the-art facility has 24-hour odour control monitoring and there will be no discernible odour in the community.

The Residuals Treatment Facility turns residual solids from the McLoughlin Point Wastewater Treatment Plant into Class A biosolids. These are the highest quality by-product suitable for beneficial use. The biosolids will be transported to the Lower Mainland where they will be used as an alternative fuel source for a cement manufacturing facility for five years, helping reduce their reliance on non-renewable fuels to power the facility. The CRD is currently in the process of determining a long-term biosolids strategy.

The majority of construction is complete on the major components of the Wastewater Treatment Project. Construction continues on the Trent Forcemain and Arbutus Attenuation Tank. These are being built to increase the capacity of the conveyance system and are expected to be completed in spring 2021.

The CRD would like to thank the Lekwungen speaking peoples, known today as Songhees and Esquimalt Nations, for their support of the Wastewater Treatment Project, much of which is located on their traditional territories. The CRD would also like to thank the W̱SÁNEĆ Nations as the Residuals Treatment Facility and parts of the conveyance system are located within their traditional territories.

The Wastewater Treatment Project is funded by the Government of Canada (\$211 million), the Government of British Columbia (\$248 million) and the Capital Regional District (\$316 million).

Please enjoy a video to celebrate this achievement. https://youtu.be/w8_U5-Ofq44

Video Speaking Times

00:51 – Florence Dick, Songhees Nation Liaison

04:41 - The Honourable Catherine McKenna, Minister of Infrastructure and Communities

05:27 - The Honourable John Horgan, Premier of BC and Jay Inslee, Governor of Washington State

07:31 – Colin Plant, CRD Board Chair

A backgrounder follows.

Quotes:

The Honourable Catherine McKenna, Minister of Infrastructure and Communities – “The Government of Canada’s investments in wastewater treatment are helping keep the Strait of Juan de Fuca safe and clean for marine life. Operations at the new McLoughlin Point Wastewater Treatment Plant are now underway, saving energy, supporting community development and preserving the Strait for future generations. Canada’s infrastructure plan invests in thousands of projects, creates jobs across the country, and builds cleaner, more inclusive communities.”

The Honourable John Horgan, Premier of British Columbia – “Congratulations to the Capital Regional District for completing the McLoughlin Point Wastewater Treatment Plant. This state-of-the-art facility means a cleaner future for the region. Our government will continue to support initiatives like this one that protect our environment and create jobs for generations to come.”

Colin Plant, CRD Board Chair – “This Project has been years in the making and I’m very pleased we are meeting our regulatory requirements to treat wastewater. I would like to thank the Project Board and all the staff who have delivered this project before the end of the year. I’d also like to thank residents for their patience during many months of construction and disruptions. This is the largest infrastructure project in the region’s history and is a demonstration of our commitment to protect our ocean and our environment.”

Proud to be recognized as one of [BC’s Top Employers](#) and [Canada’s Greenest Employers](#), the CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works

collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at www.crd.bc.ca

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Media Contacts:

Capital Regional District

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Infrastructure Canada

Chantalle Aubertin
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Chantalle.Aubertin@canada.ca

Ministry of Municipal Affairs

Media Relations: 778.584.2433

Backgrounder

The Wastewater Treatment Project: By the Numbers

The Wastewater Treatment Project is the largest infrastructure project in CRD history.

Key Facts:

- Construction for the Wastewater Treatment Project has taken place across three municipalities and within the traditional territories of the Esquimalt, Songhees, Tsartlip, Tsawout, Tseycum and Pauquachin Nations.
- The McLoughlin Point Wastewater Treatment Plant has capacity to treat 108 megalitres of wastewater per day. That's the equivalent of 43 Olympic-sized swimming pools.
- The plant has capacity to accommodate future population growth.
- Three levels of wastewater treatment take place at McLoughlin Point: primary treatment is the physical separation of solids from wastewater; secondary treatment is a biological process that

removes dissolved and suspended organic compounds in the wastewater; and tertiary treatment is a physical process that reduces solids that remain after the secondary treatment process.

- A new outfall was installed at McLoughlin Point that is 2 km long and discharges treated effluent at a water depth of 60 metres. The outfall pipe is made of HDPE (high density polyethylene) and has 350 concrete ballast weights spaced 4-6 metres apart, each weighing approximately 11,400 kg. There are also 20 bridges across the pipe to allow for migration of sea life across the pipe. Additionally, artificial reefs were constructed near the shoreline to create habitat for a variety of marine species, including salmon.
- A cross-harbour undersea pipe from Ogden Point in Victoria to McLoughlin Point in Esquimalt was installed in 2018, to connect the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. The cross-harbour pipe is made of steel and is 1.1 metres in diameter. It took 9 months to drill a 1 kilometre-long tunnel under the harbour, 6 weeks to assemble and weld 78 pieces of steel pipe sections together on Niagara Street, and 3 days to pull the 1 kilometre pipe through the tunnel. At its deepest, the harbour crossing is more than 60 metres below the ocean floor.
- The Residuals Treatment Facility has capacity to treat more than 14,000 dry tonnes of residual solids per year.
- The Clover Point Pump Station was originally built in the 1970s to discharge wastewater from Victoria, Oak Bay and Saanich into the ocean. It has been expanded and upgraded to convey wastewater to the McLoughlin Point Wastewater Treatment Plant for treatment.
- A new Macaulay Point Pump Station has been built in Esquimalt, replacing the 48-year-old pump station that was located on that site. The Macaulay Point Pump Station conveys wastewater from Esquimalt, View Royal, Langford, Colwood, Saanich, Victoria and the Esquimalt and Songhees Nations to the McLoughlin Point Wastewater Treatment Plant for treatment.
- Over 35 km of pipes were installed to carry wastewater from across the core area to the McLoughlin Point Wastewater Treatment Plant for treatment, and residual solids to the Residuals Treatment Facility at Hartland Landfill for further treatment.
- At the peak of construction, over 650 people were working on the Project at 24 construction sites.
- Over 2.5 million hours have been worked on the Wastewater Treatment Project, by eleven major contractors (five headquartered in BC, four in Canada and two US) with the support of multiple subcontractors:
 - Don Mann Excavating
 - Harbour Resource Management Group
 - Bird Construction Inc.
 - Maple Reinders PPP Ltd.
 - Synagro Capital
 - Harbour Resource Partners
 - AECOM Canada
 - Graham Infrastructure
 - Jacob Brothers

- Kenaidan Contracting Ltd.
- Knappett Projects Inc.
- NAC Constructors Ltd.
- Windley Contracting Ltd.
- Safety of the public and workers has been the Project's and the Project contractors' top priority. All Project contractors implemented additional precautions to ensure the health and safety of their workers and the public during the global health pandemic.
- The Project has been built to post-disaster standards so it will remain operational following a major earthquake.
- Sustainable design features include:
 - The Operations and Maintenance Building at the McLoughlin Point Wastewater Treatment Plant has been built to LEED Gold design standards.
 - Heat recovery from wastewater will be used to heat buildings at McLoughlin Point Wastewater Treatment Plant.
 - Green roofs at both the McLoughlin Point Wastewater Treatment Plant and the Macaulay Point Pump Station contribute to lower urban air temperatures by absorbing the sun's rays, retain rain water and provide wildlife habitat.
 - Processing of residual solids into class A biosolids that are suitable for beneficial use.
 - The dryer at the Residuals Treatment Facility will be fueled by biogas generated during the digestion process.
- One of the Project's goals was to add value to the surrounding community and enhance the livability of neighborhoods. This was achieved by improving infrastructure and adding amenities in neighbourhoods impacted by the construction of the Project, including:
 - Clover Point public space improvements including a viewing plaza and public washrooms
 - Dallas Road cycle track
 - Creating a park amenity at Macaulay Point Pump Station
 - Improving the level of water service to properties in Saanich near Hartland Landfill

For more information, visit www.wastewaterproject.ca.

Appendix G– Monthly Cost Report (December)

MONTHLY COST REPORT as at December 31, 2020														
Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to November 30, 2020	Expended over reporting period (December 2020)	Expended to December 31, 2020	Expended to December 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at December 31, 2020	Total Commitment at December 31, 2020	Unexpended Commitment at December 31, 2020	Uncommitted Allocated Budget at December 31, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	331.4	329.7	313.2	2.4	315.6	96%	14.1	322.3	6.8	7.4	14.1	329.7	-	0%
Construction	306.7	321.7	312.9	2.4	315.3	98%	6.4	321.7	6.3	0.1	6.4	321.7	-	0%
Contingency	14.9	1.1	-	-	-	0%	1.1	-	-	1.1	1.1	-	-	0%
Financing	9.8	6.9	0.3	(0.0)	0.2	3%	6.7	0.7	0.4	6.2	6.7	6.9	-	0%
Residuals Treatment Facility	159.4	140.7	12.1	0.3	12.4	9%	128.3	139.4	127.0	1.3	128.3	140.7	-	0%
Construction	145.4	139.4	12.1	0.3	12.4	9%	127.0	139.4	127.0	-	127.0	139.4	-	0%
Contingency	12.3	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	-	-	0%
Financing	1.7	0.4	-	-	-	0%	0.4	0.0	0.0	0.4	0.4	0.4	-	0%
Conveyance System	158.0	213.4	187.7	2.8	190.5	89%	22.9	199.1	8.6	14.3	22.9	213.4	-	0%
Macaulay Point Pump Station	25.4	31.1	30.0	0.6	30.6	98%	0.5	31.1	0.5	0.0	0.5	31.1	-	0%
Macaulay Forcemain	5.6	7.4	-	-	7.4	100%	-	7.4	-	-	-	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	-	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.3	25.8	0.0	25.8	94%	1.5	27.3	1.5	0.0	1.5	27.3	-	0%
Currie Pump Station^	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	19.6	0.8	20.4	83%	4.1	23.8	3.4	0.7	4.1	24.6	-	0%
Clover Forcemain	14.6	31.9	31.7	-	31.7	99%	0.2	31.9	0.2	0.1	0.2	31.9	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.6	6.9	0.6	7.5	65%	4.1	9.4	1.9	2.2	4.1	11.6	-	0%
Residual Solids Conveyance Line	19.1	36.9	36.5	0.2	36.7	99%	0.2	36.9	0.2	0.0	0.2	36.9	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	17.9	16.6	0.5	17.1	96%	0.8	17.8	0.7	0.1	0.8	17.9	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.3	0.3	-	0.3	100%	-	0.3	-	-	-	0.3	-	0%
Contingency	16.8	7.5	-	-	-	0%	7.5	-	-	7.5	7.5	-	-	0%
Financing	5.8	4.1	0.1	-	0.1	3%	3.9	0.3	0.2	3.7	3.9	4.1	-	0%
Project Management Office ("PMO")	75.8	77.9	62.2	0.8	63.0	81%	14.8	71.2	8.2	6.6	14.8	77.9	-	0%
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.9	16.3	-	16.3	91%	1.6	17.9	1.5	0.0	1.6	17.9	-	0%
Conveyance Design	5.0	9.3	8.4	0.1	8.4	91%	0.9	9.1	0.7	0.2	0.9	9.3	-	0%
Advisors & Professional Support	7.0	15.1	10.7	0.2	10.9	73%	4.1	11.8	0.8	3.3	4.1	15.1	-	0%
Project Board	2.0	1.3	1.0	0.0	1.0	82%	0.2	1.0	-	0.2	0.2	1.3	-	0%
Project Board Expenses	0.3	0.1	0.1	-	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.0	18.0	0.5	18.5	81%	4.5	23.0	4.5	-	4.5	23.0	-	0%
Project Leadership Team Expenses	0.7	0.4	0.2	-	0.2	65%	0.1	0.2	-	0.1	0.1	0.4	-	0%
Project Support Team Expenses	0.5	0.2	0.1	-	0.1	73%	0.0	0.1	-	0.0	0.0	0.2	-	0%
CRD Financial Services	1.5	1.4	1.0	0.0	1.1	78%	0.3	1.4	0.3	-	0.3	1.4	-	0%
CRD Human Resources	0.3	0.3	0.3	0.0	0.3	100%	-	0.3	-	-	-	0.3	-	0%
CRD Corporate Communications	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Real Estate	0.3	0.3	0.3	-	0.3	100%	-	0.3	-	-	-	0.3	-	0%
CRD Information Technology	0.4	0.4	0.3	0.0	0.3	79%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6	0.5	0.0	0.5	95%	0.0	0.6	0.0	-	0.0	0.6	-	0%
CRD Legislative Services	0.1	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Office Lease	1.9	1.3	1.0	0.0	1.0	78%	0.3	1.2	0.2	0.1	0.3	1.3	-	0%
Office Supplies	0.1	0.2	0.2	-	0.2	92%	0.0	0.2	-	0.0	0.0	0.2	-	0%
Vehicles	0.2	0.2	0.2	-	0.2	95%	-	0.2	-	-	-	0.2	-	0%
Connections Call Center	-	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
Communication support materials	0.5	0.2	0.1	-	0.1	61%	0.1	0.1	-	0.1	0.1	0.2	-	0%
Computer Hardware, Software & Training	1.0	1.0	0.7	-	0.7	70%	0.3	0.7	-	0.3	0.3	1.0	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	-	-	0%
BC Hydro	12.9	4.3	2.1	-	2.1	48%	2.2	2.1	0.0	2.2	2.2	4.3	-	0%
Third Party Commitments	8.1	8.1	4.3	0.1	4.4	54%	3.7	6.9	2.5	1.3	3.7	8.1	-	0%
Program Reserves	19.2	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	-	-	0%
Core Area Wastewater Treatment Project	765.0	775.0	581.6	6.3	587.9	76%	187.0	741.0	153.0	34.0	187.0	775.0	-	0%

* Values presented in \$millions, results in minor rounding differences

** Cost report presents approved expenditures

^ Component no longer required, and would not provide any value therefore removed from Project Scope; Costs include Seaterra initiation, planning and design

Appendix H– Quarterly Cost Report

QUARTERLY COST REPORT
as at December 31, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to September 30, 2020	Expended over reporting period (Q4 2020 Oct-Dec)	Expended to December 31, 2020	Expended to December 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at December 31, 2020	Total Commitment at December 31, 2020	Unexpended Commitment at December 31, 2020	Uncommitted Allocated Budget at December 31, 2020	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	331.4	329.7	311.0	4.6	315.6	96%	14.1	322.3	6.8	7.4	14.1	329.7	-	0%
Construction	306.7	321.7	310.6	4.8	315.3	98%	6.4	321.7	6.3	0.1	6.4	321.7	-	0%
Contingency	14.9	1.1	-	-	-	0%	1.1	-	-	1.1	1.1	1.1	-	0%
Financing	9.8	6.9	0.4	(0.2)	0.2	3%	6.7	0.7	0.4	6.2	6.7	6.9	-	0%
Residuals Treatment Facility	159.4	140.7	11.5	0.9	12.4	9%	128.3	139.4	127.0	1.3	128.3	140.7	-	0%
Construction	145.4	139.4	11.5	0.9	12.4	9%	127.0	139.4	127.0	-	127.0	139.4	-	0%
Contingency	12.3	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Financing	1.7	0.4	0.0	-	-	0%	0.4	0.0	0.0	0.4	0.4	0.4	-	0%
Conveyance System	158.0	213.4	180.8	9.7	190.5	89%	22.9	199.1	8.6	14.3	22.9	213.4	-	0%
Macaulay Point Pump Station	25.4	31.1	28.7	1.9	30.6	98%	0.5	31.1	0.5	0.0	0.5	31.1	-	0%
Macaulay Forcemain	5.6	7.4	7.4	-	7.4	100%	-	7.4	-	-	-	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	-	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.3	24.7	1.0	25.8	94%	1.5	27.3	1.5	0.0	1.5	27.3	-	0%
Currie Pump Station^	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	18.0	2.4	20.4	83%	4.1	23.8	3.4	0.7	4.1	24.6	-	0%
Clover Forcemain	14.6	31.9	31.1	0.5	31.7	99%	0.2	31.9	0.2	0.1	0.2	31.9	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.6	6.0	1.5	7.5	65%	4.1	9.4	1.9	2.2	4.1	11.6	-	0%
Residual Solids Conveyance Line	19.1	36.9	35.8	0.9	36.7	99%	0.2	36.9	0.2	0.0	0.2	36.9	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	17.9	15.7	1.4	17.1	96%	0.8	17.8	0.7	0.1	0.8	17.9	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.3	0.3	-	0.3	100%	-	0.3	-	-	-	0.3	-	0%
Contingency	16.8	7.5	-	-	-	0%	7.5	-	-	7.5	7.5	7.5	-	0%
Financing	5.8	4.1	0.1	-	0.1	3%	3.9	0.3	0.2	3.7	3.9	4.1	-	0%
Project Management Office ("PMO")	75.8	77.9	60.1	2.9	63.0	81%	14.8	71.2	8.2	6.6	14.8	77.9	-	0%
Project costs Aug 2016-Dec 2016	2.2	2.2	2.2	-	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.9	15.7	0.6	16.3	91%	1.6	17.9	1.5	0.0	1.6	17.9	-	0%
Conveyance Design	5.0	9.3	8.3	0.1	8.4	91%	0.9	9.1	0.7	0.2	0.9	9.3	-	0%
Advisors & Professional Support	7.0	15.1	10.5	0.4	10.9	73%	4.1	11.8	0.8	3.3	4.1	15.1	-	0%
Project Board	2.0	1.3	1.0	0.1	1.0	82%	0.2	1.0	-	0.2	0.2	1.3	-	0%
Project Board Expenses	0.3	0.1	0.1	-	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.0	17.1	1.4	18.5	81%	4.5	23.0	4.5	-	4.5	23.0	-	0%
Project Leadership Team Expenses	0.7	0.4	0.2	0.0	0.2	65%	0.1	0.2	-	0.1	0.1	0.4	-	0%
Project Support Team Expenses	0.5	0.2	0.1	0.0	0.1	73%	0.0	0.1	-	0.0	0.0	0.2	-	0%
CRD Financial Services	1.5	1.4	1.0	0.1	1.1	78%	0.3	1.4	0.3	-	0.3	1.4	-	0%
CRD Human Resources	0.3	0.3	0.2	0.0	0.3	100%	-	0.3	-	-	-	0.3	-	0%
CRD Corporate Communications	0.2	0.2	0.2	0.0	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Real Estate	0.3	0.3	0.3	0.0	0.3	100%	-	0.3	-	-	-	0.3	-	0%
CRD Information Technology	0.4	0.4	0.3	0.0	0.3	79%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6	0.5	0.0	0.5	95%	0.0	0.6	0.0	-	0.0	0.6	-	0%
CRD Legislative Services	0.1	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1	0.1	0.0	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Office Lease	1.9	1.3	0.9	0.1	1.0	78%	0.3	1.2	0.2	0.1	0.3	1.3	-	0%
Office Supplies	0.1	0.2	0.2	-	0.2	92%	0.0	0.2	-	0.0	0.0	0.2	-	0%
Vehicles	0.2	0.2	0.2	-	0.2	95%	-	0.2	-	-	-	0.2	-	0%
Connections Call Center	-	0.0	0.0	0.0	0.0	100%	-	0.0	-	-	-	0.0	-	0%
Communication support materials	0.5	0.2	0.1	-	0.1	61%	0.1	0.1	-	0.1	0.1	0.2	-	0%
Computer Hardware, Software & Training	1.0	1.0	0.7	0.0	0.7	70%	0.3	0.7	-	0.3	0.3	1.0	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	12.9	4.3	2.1	-	2.1	48%	2.2	2.1	0.0	2.2	2.2	4.3	-	0%
Third Party Commitments	8.1	8.1	4.2	0.2	4.4	54%	3.7	6.9	2.5	1.3	3.7	8.1	-	0%
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Core Area Wastewater Treatment Project	765.0	775.0	569.6	18.3	587.9	76%	187.0	741.0	153.0	34.0	187.0	775.0	-	0%

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