



Notice of Meeting and Meeting Agenda Capital Regional District Board

Wednesday, April 22, 2020

1:10 PM

Room 488
625 Fisgard Street
Victoria, BC

Special Meeting

1. TERRITORIAL ACKNOWLEDGEMENT

2. APPROVAL OF THE AGENDA

3. PRESENTATIONS/DELEGATIONS

Please note that during the COVID-19 situation, as Board meetings are electronic, submissions will be accepted in written form only – no in-person presentations.

3.1 Presentations

3.2 Delegations

4. CONSENT AGENDA

(Voting rule on each item may vary)

4.1. [20-232](#) Wastewater Treatment Project Q4 2019 Quarterly Report

Recommendation: That this report be received for information.
(NWA)

Attachments: [Staff Report: WTP Quarterly Report Q4 2019](#)

4.2. [20-233](#) Wastewater Treatment Project January 2020 Monthly Report

Recommendation: That this report be received for information.
(NWA)

Attachments: [Staff Report: WTP Monthly Report January 2020](#)

4.3. [20-273](#) Wastewater Treatment Project February 2020 Monthly Report

Recommendation: That this report be received for information
(NWA)

Attachments: [Staff Report: WTP February 2020 Quarterly Report](#)

4.4. [20-277](#) Metchosin Regional Context Statement Consideration

Recommendation: That the District of Metchosin regional context statement be considered in relation to the 2018 Regional Growth Strategy (Bylaw No. 4017) and be accepted in accordance with the requirements of section 448 of the Local Government Act.
(WP - All except SGI & SSI)

Attachments: [Staff Report: Metchosin Reg'l Context Statement Consideration](#)
[Appendix A: Metchosin's Regional Context Statement](#)
[Appendix B: Regional Context Statement Evaluation](#)

4.5. [20-227](#) Capital Regional District Investment Portfolio Update

Recommendation: That the Capital Regional District Investment Portfolio Holdings and Performance Annual Update be received for information.
(NWA)

Attachments: [Staff Report: CRD Investment Portfolio Update](#)
[Appendix A: CRD & CRHD Investment Policy](#)

5. SPECIAL MEETING MATTERS

5.1. [20-270](#) MFABC SEAPARC Equipment Financing Program Borrowing Resolution

Recommendation: That the following borrowing resolution be approved:
1. That the Board of the Capital Regional District authorizes up to \$227,000 be borrowed, under Section 403 of the Local Government Act, from the MFABC Equipment Financing Program, for the purpose of purchasing fitness equipment for the SEAPARC fitness gym.
2. That the loan be repaid within five (5) years, with no rights of renewal.
(WA)

Attachments: [Staff Report: MFABC SEAPARC Eqpt Financing Borrowing Resolution](#)
[Appendix A: MFABC SEAPARC Eqpt Financing Borrowing Resolution](#)

5.2. [20-269](#) Bylaw No. 4355: Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 1, 2020

Recommendation: 1. That Bylaw No. 4355, "Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 1, 2020" be introduced and read a first, second and third time; and,
2. That Bylaw 4355 be adopted.
(WA, 2/3 maj, on adoption)

Attachments: [Staff Report:BL 4355 Temp Borrow Magic Lake Estates Wastewater](#)
[Appendix A: BL 4355 Temp Borrow Magic Lake Estates Wastewater](#)

MOTIONS WITH NOTICE

5.3. [20-246](#) Property Taxes in the CRD

Recommendation: [The following motions were made at the special CRD Board meeting on March 18, 2020, deferred to the April 8th meeting, and then deferred again to April 22:]
That the CRD Board Chair write the Minister of Finance Surveyor of Taxes requesting the option of a 6 month deferral of the CRD EA property taxes and that the interest costs of deferral be financed by the Province.

(NWA)

That the CRD Board Chair write the Minister of Finance Surveyor of Taxes requesting the option of a 6 month deferral of local government requisitions to Regional Districts and that the interest costs of deferral be financed by the Province.

(NWA)

5.4. [20-282](#) Community Works Funds Criteria - Director Holman

Recommendation: [The following was read into the record at the CRD Board meeting of April 8, 2020:]
That the CRD Board Chair immediately write the Boards of UBCM and FCM requesting their advocacy to the federal government, that in light of the economic and financial impacts of the COVID-19 pandemic, the guidelines governing expenditures of Community Works Funds be relaxed for a temporary period of up to a year, allowing a broader range of capital and operating expenditures than currently allowed, subject to the due diligence of local government, and as long as such expenditures are in the broad public interest.

(NWA)

6. MOTION TO CLOSE THE MEETING

6.1. [20-286](#) Motion to Close the Meeting

Recommendation:

1. That the meeting be closed for Appointments under s. 90 (1)(a) of the Community Charter [1 item].
2. That the meeting be closed for Labour Relations under s. 90 (1)(c) of the Community Charter [1 item]; and
3. That the meeting be closed for Proposed Municipal Service under s. 90 (1)(k) of the Community Charter [1 item].

(NWA)

7. RISE AND REPORT

8. ADJOURNMENT

Voting Key:

NWA - Non-weighted vote of all Directors

NWP - Non-weighted vote of participants (as listed)

WA - Weighted vote of all Directors

WP - Weighted vote of participants (as listed)



**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF THURSDAY, MARCH 5, 2020**

SUBJECT **Wastewater Treatment Project Q4 2019 Quarterly Report**

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project Q4 2019 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 2019 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 2019 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 2019 Quarterly Report

ES:er



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: October- December 2019

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1 Executive Summary

1.1 Introduction

This Quarterly report covers the reporting period of October- December 2019 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.

Overall the Wastewater Treatment Project progressed as planned with no changes to the construction/commissioning start and completion dates.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction including: work on Biological Aerated Filter (BAF) Mono Floor; fire suppression work in Operations and Maintenance (O&M) building; commenced installation of Lamella plate settling equipment in Primary Clarifier No. 1; progressing building envelope on Electrical, Blower and Heat Recovery buildings; progressing concrete work in the Process Building; receiving delivery of large process equipment; progressing O&M Building exterior walls and interior finishes; progressing off-site utility installation and ongoing installation of plant inlet piping and plant by-pass piping; layout and phase 1 installation of Densadeg 2 and completion of Densadeg 1; progressing concrete in Moving Bed Biofilm Reactor #2; delivery and installation of motor control centres; progression of heating, ventilation, and air conditioning (HVAC), electrical and plumbing trade work throughout the O&M building; completion of raw influent valve installation; and progression of pig receiving piping and raw influent piping.

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: completion of Digester 1; final piping installation at Digester 2; commencement of installation of Digester 3 including concrete base, foundation and starter panels; continued construction of Water Pump House; completion of masonry and continued equipment installation, piping, electrical and fire suppression in the Dryer building; continued installation of exterior cladding, and sprinklers at the Residuals Handling Building, Equalization building, Water Pump House and Digester Building; continued electrical, process piping, HVAC, drywall, and sprinklers at the Residuals Handling Building; installation of equipment in the Dryer Building; pouring slab; continued stabilization of the south slope and commencement of structural steel for the Operations Building.

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

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 activities over the reporting period including:

installation of motor control centres, and Programmable Logic controls in the electrical room; openings between existing and new inlet channels were cut; completion of backfill over new structure; ongoing work on retaining wall structure; installation of sanitary forcemain and pigging chamber; completion of interior masonry work in new station; installation of surge relief and domestic water piping; installation of forcemain discharge bend; completion of sanitary and storm wet well benching; ongoing work on public washroom facilities; installation of sanitary and storm pump discharge spools; ongoing installation of check valve; permanent BC Hydro power installed; ongoing piping installation throughout the station; and completion of forcemain fusion to flange.

- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of process piping and lighting circuits; suspended slab and pump room concrete poured; receipt and installation of cross laminated timber; inlet sewer pipe, and vortex degritter delivered to site; motor control centres installed in electrical room; commencement of installation of sanitary pipe; commencement of backfill around building exterior; installation of odour control unit; and cross laminated timber roof and bridge installed. Macaulay Forcemain progressed along View Point Street, providing for a total installed length to the end of December of 750m with tie in at McLoughlin Point WWTP all that remains.

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

- Clover Forcemain: Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; landscaping; completion of watermain lining; ongoing electrical lighting installation; completion of final tie in to the harbour crossing pipe in the transition chamber; and completion of final assembly of transition chamber.
- 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 for the Residual Solids Pipes) continued construction activities including installation of approximately 2000m of pipes; installation of valve chambers; and road restoration.
 - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities at all three pump stations and bridge crossings including: erection of scaffolding at Tillicum and Admirals bridges; continued rock breaking at Pump Station 1; continued concrete work including footings and retaining walls for Pump Station 2, kiosk pad at Pump Station 3, and wet well slab for Pump Station 1; installation of watermain at Hartland and water system improvements were completed on Willis Point Road; and commencement of valve chamber spool installation at Pump Station 3.

- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities with a focus on excavation and structural secant pile construction works. Ongoing activities also include maintaining the dewatering system; completing bypass pumping for tie-in works during construction; commenced installation of permanent yard piping and manholes; and decommissioned existing overflow system infrastructure within tank footprint.
- Trent Forcemain: The Project Team, with Stantec (as the design consultant for the Trent Forcemain) progressed work through the procurement phase, including: responding to tender inquiries and issuing addenda; receiving tenders and selecting the tenderer in accordance with the Invitation to Tender; and initiating contract award.

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 quarterly reporting period three reportable safety incidents occurred and the total incident frequency increased from 1.3 at the end of the third quarter of 2019 to 1.5. The Project Team continues to work with, and ensure that all of the prime contract partners maintain safety as their number one priority.

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.

Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete to Project at \$775M, or \$10M over the Project’s control budget. The CRD Board has approved an increase in the Project’s budget by \$10M to \$775M.

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*.					Three recordable incidents occurred over the period. Site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					Four minor environmental incidents occurred over the period. All four were sediment releases associated with heavy rain events. Environmental controls were re-established and the releases ceased.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues.
Cost	Deliver the Project within the Control Budget (\$765 million).					Based on the value of the contracts awarded to-date and a refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project's Control Budget. This is 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 CRD Board have approved an increase in the Project's budget by \$10M, to \$775M.

* 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.

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 and Forcemain, Clover Point Pump Station, Clover Forcemain, Residual Solids Pipes, Residual Solids Pump Stations and Arbutus Attenuation Tank.

Over the reporting period (October to December) 30 safety incidents occurred in total: nine in October, twelve in November and nine in December, comprising: one lost time recordable, two medical aid recordable, three near miss reports, three first aid and twenty-one report-only 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 5, 2019	McLoughlin Pt WWTP	Report Only	While moving a piece of equipment a worker lost their grip pinching their hand between the equipment and the stair railing.	Worker reported incident to First Aid but no treatment was rendered and worker returned to work.	Tool-box talk to discuss good communication methods when performing manual lifts with multiple people. Ensure everyone has a good grip on the load before proceeding.
October 5, 2019	McLoughlin Pt WWTP	Near Miss	Workers cutting the concrete on the second floor of the O&M building allowed a core to fall to the first floor. The control zone below the work area had been established but was deficient.	No one was injured in the incident.	Job area was immediately shutdown and control zone established in the correct location Tool-box talk held to coordinate activities and communication between crews on upper and lower slabs
October 14, 2019	Residual Solids Pump Stations	Report Only	Police notified our contractor that a road plates had shifted creating a potential hazard.	Police controlled the area around the excavation until contractor arrived to reinstall road plate.	Plate was reinstalled with an increased overhang for better coverage and pinned in place to prevent the plates from shifting
October 16, 2019	Residual Solids Pipes	Report Only	Altercation between an aggressive driver and a Traffic Control Person (TCP)	Police were called and a file number was opened with the Saanich Dept.	Monthly Prime Contractor meeting discussed the dangers of Flagging and the importance of not confronting dangerous drivers.
October 16, 2019	Macaulay Point Pump Station	Near Miss	Worker exposed to small electrical shock from a road plate while installing Macaulay forcemain.	It was determined that a broken wire from a street lights base came in contact with the steel plate.	Electrical line repaired and isolated from road plate.
October 18, 2019	Residual Solids Pump Stations	Report Only	Altercation between an aggressive driver and a Traffic Control Person (TCP)	Police were contacted and a police file opened.	Monthly Prime Contractor meeting discussed the dangers of Flagging and the importance of not confronting dangerous drivers.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
October 30, 2019	McLoughlin Pt WWTP	Report Only	Worker reported to first aid as they were experiencing pain and stiffness in their wrist from previous day activities.	Worker was referred to a medical clinic for an evaluation and no further treatment was provided.	Tool-box talk reminder to report all incidents
October 30, 2019	McLoughlin Pt WWTP	Report Only	Worker's hand struck a piece of reinforcing steel.	Worker reported incident, no first aid required and returned to work	Tool-box talk to discuss awareness of surroundings and to ensure that all hazards are identified on their Daily Field Level Risk Assessment cards
October 31, 2019	Residual Solids Pump Stations	Near Miss	Watering truck backed into an open excavation.	Contractor utilized an excavator to move the water truck.	Tool-box talk on the use of spotters when backing any vehicles with limited line of site
November 1, 2019	McLoughlin Pt WWTP	Medical Aid	Worker rolled ankles while descending stairs.	While trying to take the weight off of his right ankle the worker ended up rolling his left ankle as well.	Worker has been placed on modified duty until ankles are completely healed Tool- box talk reminding workers to use handrail while ascending and descending stairs.
November 4, 2019	Residual Solids Pump Stations	Report Only	Worker was observed smoking on the Hartland Site.	This is in contravention to site safety rules at the landfill. The worker was removed from site.	Tool-box talk with crew reviewed the landfill site rules and reinforced compliance with all including the smoking policy.
November 5, 2019	Residual Solids Pump Stations	Report Only	Low voltage electrical conduit struck while excavating.	Conduit was not identified on any as-built drawings. The electrical conduit was damaged and repairs undertaken by CRD Hartland staff. There were no injuries to any personnel.	Utility locates documents updated to reflect the conduit.
November 7, 2019	RTF	Report Only	Scissor lift working in a congested area struck a cable tray while lowering.	Scissor lift was removed from service for inspection and repair.	Any further work requiring a scissor lift in that area will require a spotter present at all times.
November 8, 2019	McLoughlin Pt WWTP	Report Only	Worker while climbing a ladder experienced discomfort in their hip.	Worker reported to Medical aid for an assessment but no treatment rendered.	Worker was reminded to be aware of their surroundings.
November 12, 2019	Residual Solids Pump Stations	Medical Aid	Employee injured hand while installing rebar.	Employee was assessed on site by the First Aid Attendant and sent to hospital where he received 3 stitches.	Tool-box talk held to remind crew to wear gloves, be mindful of hand positioning and the use of the proper equipment for the task.
November 19, 2019	RTF	Report Only	While moving a telescopic lift the operator struck a job box.	Minor damage to job box, no injuries to workers.	Tool-box talk to remind crews to use a spotter when moving equipment in congested areas.
November 25, 2019	RTF	Report Only	Excavator contacted an overhead telecommunication line.	Shaw was contacted and line reinstated.	Tool-box talk discussed working in close proximity to utilities.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
November 27, 2019	McLoughlin Pt WWTP	Lost Time Recordable	While dislodging a chain on an excavator a worker's hardhat was contacted by the bucket.	Worker stated he was fine and continued to work. After leaving the work place he attended a hospital where he was assessed by a doctor. He has not returned to work.	Tool-box talk regarding the operations of equipment when workers are in close proximity. Excavator was inspected to ensure proper operations of controls.
November 28, 2019	Residual Solids Pump Stations	Report Only	Careless driving by a subcontractor.	A worker was witnessed overtaking on a double solid line in a dangerous manner on Hartland Ave.	Worker was spoken to in the morning before the start of their shift and given a verbal warning.
November 29, 2019	Clover Forcemain	Report Only	A Traffic Control Person was struck on Dallas Road by a work van that proceeded to drive through a controlled stop.	TCP sustained minor bruising but did not need medical attention.	Tool-box talk reviewing safe traffic control practices and staffing assignments at busy intersections was held.
November 29, 2019	Residual Solids Pipes	Report Only	Telus overhead service line was struck by an excavator.	Excavator was equipped with an overhead skylight however visor was stuck closed at the time restricting operator's vision.	Crew will ensure that low overhead lines are marked with surveyor tape. Machine was returned to the yard where the skylight was inspected and repaired.
December 2, 2019	McLoughlin Pt WWTP	First Aid	Worker sustained a hand injury while using an electrical grinder. Worker was wearing gloves at the time of the injury,	Worker reported to First Aid to have injury treated. No further follow up was required.	Tool-box talk discussing safe use of power tools was held.
December 2, 2019	McLoughlin Pt WWTP	Report Only	Worker was lifting a pump through a tank opening.	Worker's back felt a bit stiff and reported to First Aid but no follow up was required.	Tool-box talk regarding the proper method for lifting was held.
December 3, 2019	WTP Office	Report Only	Worker sustained a hand injury while in the office kitchen.	Worker felt pain at the time of incident but did not report to office first aid attendant until 2 days later. No first aid required.	Worker reminded to report any incident the day of occurrence.
December 5, 2019	Residual Solids Pump Stations	Report Only	While working adjacent to Marigold Road there was a partial collapse of the excavation wall which impacted one of the travelled lanes.	No workers were in the excavation. Public safety was the top priority with traffic control measures implemented immediately.	Contractor/Engineer re-assess the soil conditions and a restoration plan was established. Marigold Road was limited to single lane alternating while the roadway was reinstated.
December 5, 2019	Residual Solids Pump Stations	Report Only	Traffic Control Person (TCP) was struck by a vehicle while directing traffic on Marigold Road.	TCP was not seriously injured however did have some bruising.	Flagging Safety discussion was held at the site and reinforced at the monthly Prime Contractor Safety Meeting. Police were notified of the incident.
December 9, 2019	McLoughlin Pt WWTP	First Aid	Workers ankle injured while fitting a pipe.	Worker reported to first aid and put on modified duty.	Tool-box talk in regards to appropriate securing of materials and awareness of surrounding work space was held.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
December 12, 2019	Residual Solids Pump Stations	Report Only	A contractor's pickup was observed using the outbound lane at the Hartland landfill.	CRD bylaw officer was notified and the Contractor was put on notice of the infraction.	Tool-box talk was held with the crew to reemphasize the site rules. Driver was required to re-take the Hartland site orientation to ensure the site rules were understood.
December 12, 2019	Clover Point PS	Report Only	A worker had wastewater splashed back into their face.	The First Aid Attendant had worker wash their face with clean water and disinfecting soap. No further follow up was needed.	Tool-box talk reinforcing the use of full-face shield protection was held with the crew.
December 17, 2019	Macaulay Point PS	First Aid	Worker's wrench slipped and struck his arm.	Worker reported to first aid and returned to work with no further follow up.	Tool-box talk regarding the safe use of hand tools was held with the worker.

Key safety activities conducted during October included:

- WTP Project Office participation in the Great Shake Out and annual emergency response drill;
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- hosted Prime Contractor Safety Coordination Meeting;
- weekly project update meetings with prime contractor: HRMG;
- monthly incident investigation reviews;
- reviewed site specific safety plans and high risk tasks;
- daily site safety audits during habitat restoration work at Colquitz Creek; and
- WTP 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: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- participated in IWS's Safety Day;
- monthly Incident Investigation reviews;
- reviewed site specific safety plans and high risk tasks;
- daily site safety audits during work at Colquitz;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- circulated a Safety Notice Recall for Self-Retracting Lifelines;
- circulated a Safety Notice Recall for defective Crosby Shackles; and
- "Shift into Winter" program completed by WTP staff that are using CRD vehicles.

Key safety activities conducted during December included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- monthly incident investigation reviews;
- reviewed site specific safety plans and high risk tasks;
- daily site safety audits during work at Colquitz;

- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- host Prime Contractor Safety Coordination Meeting focusing on the upcoming holiday and resuming work in the New Year; and
- attended a meeting with WorkSafeBC and Prime Contractor to discuss Confined Space work and documentation.

Table 3: WTP Safety Information

	Reporting Period (October- December 2019)	Project Totals
Person Hours		
PMO	10 134	127 488
Project Contractor	285 402	1 355 471
Total Person Hours	295 536	1 482 959
Total Number of Employees		
PMO	31	
Project Contractors (& Project Consultants) working on Project Sites	556	
Total Number of Employees	587	
Near Miss Reports		
Near Miss Reports	3	36
High Potential Near Miss Reports	0	5
Report Only	21	116
First Aid	3	34
Medical Aid	2	5
Medical Aid (Modified Duty)	0	2
Lost Time	1	4
Total Recordable Incidents	3	11
		Project Frequency (from January 1, 2017)
First Aid Frequency		4.6
Medical Aid Frequency		0.9
Lost time Frequency		0.5
Total Recordable Incident Frequency		1.5

2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating to both the planning and permitting of upcoming work and 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:

- The CRD completed an Environmental Effects Determination (EED) Amendment for submission to the Department of National Defence. The EED Amendment was prepared to evaluate environmental effects from construction of a parking area near the McLoughlin Point WWTP.

Key environmental management activities completed in November included:

- McElhanney Consulting Services (as the qualified environmental professional for Knappett, Don Mann and NAC Constructors Ltd. – being the Construction Contractor for the Residual Solids Pump Stations, the Residual Solids Pipes, and the Arbutus Attenuation Tank, respectively) completed environmental monitoring and inspections at numerous sites over the course of the reporting period. Generally, any environmental risks that were identified by them were corrected at the time of the inspection.

Over the reporting period there were four minor environmental incidents.

- In October HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) experienced a minor environmental incident. During an environmental inspection that coincided with a heavy rainfall event, HRP's Environmental Manager observed sediment laden water discharging from a storm sewer outfall near their temporary office buildings at McLoughlin Point. The sediment laden water was entering the storm sewer system through a storm drain that was in proximity to some excavating activity. HRP implemented additional sediment control measures and the discharge of sediment laden water ceased. Due to the short duration of the discharge, no adverse environmental effects were observed.
- On December 12, the environmental monitor (EM) for Windley (the Construction Contractor for the Clover Forcemain) attended the work site to complete inspections as it was a heavy rain day. The EM observed that residual topsoil material on Dallas Road was being mobilized by the heavy rain, and some turbid run-off was entering a catch basin with no sediment protection. Crews were informed and immediately cleaned up the street, eliminating the flow of turbid water. The short duration of the discharge and limited turbidity led to the conclusion that no adverse environmental effects resulted from the release.
- On December 31, the City of Victoria received notices that a City of Victoria stormwater outfall along Dallas Road was discharging turbid water to the environment, and upon investigation found that some catch basins that led to the outfall did not have sediment protection. The City of Victoria installed sediment protection and the flow of turbid water from the outfall ceased. The catch basins were previously within the work area of Windley (the Construction Contractor for the Clover Forcemain), who decommissioned the

sediment protection after completing their work. However, the intensity of the rainfall mobilised sediments from further away than would normally be expected; Windley will ensure that all catch basins that could be affected by their work are protected and maintained until all work is complete. The short duration of the discharge and limited turbidity led to the conclusion that no adverse environmental effects resulted from the release.

- Also on December 31, while the Department of National Defence (DND) was completing outfall monitoring near the Macaulay Point Pump Station, sediment laden water was observed to be discharging to the environment. Kenaidan determined that the source of the sediment was likely unprotected or poorly protected catch basins in proximity to the Macaulay Forcemain, and so installed new filter fabric in all catch basins along the Forcemain route. Due to the short duration of the release, no adverse environmental effects are thought to have occurred.

2.2.2 Regulatory Management

During the reporting period, the Project Team continued to monitor the advancement of construction-related regulatory approvals and supported or led the advancement of permit applications.

Key permitting activities for October included:

- The BC Ministry of Environment and Climate Change Strategy (ENV) authorized the temporary bypass of some parts of the Clover Point Pump Station to allow Kenaidan (as the Design-Build Contractor) to complete critical tie-in work.

Key permitting activities for November included:

- The CRD, Lorax, Stantec and HRP met with ENV to review the results of the marine outfall dispersion modelling. The review resulted in a series of technical questions from ENV about the model and underlying assumptions.

Key permitting activities for December included:

- Lorax Environmental Services (Lorax, the CRD's dispersion modelling consultant) prepared a technical memo that addressed a request for additional information from the BC Ministry of Environment and Climate Change Strategy (ENV). The request from ENV was to clarify technical details of the dispersion model (see Regulatory Management section below).
- Kenaidan (as the Design-Build Contractor) prepared a request for submission to ENV to authorize the temporary bypass of some parts of the Clover Point pump station while critical tie-ins and other construction activities occur.

The status of 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. There were no updates made to the table from that presented in the Project's Q3 2019 Quarterly Report.

Table 4- Key Permits Status

Permit/Licence	Anticipated Date	Status	Party Responsible for Obtaining Perming
McLoughlin Point WWTP			
Municipal Wastewater Regulation ("MWR") Registration	Q1 2020	Submitted September 2019	CRD
McLoughlin Point Harbour Crossing			
Transport Canada Lease	Following completion of construction	On Track	HRP
McLoughlin Point Outfall			
Transport Canada Lease	Following completion of construction	On Track	HRP
Residuals Treatment Facility			
Operational Certificate	Prior to start of RTF operations	Submitted May 2019	HRMG

2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point and Macaulay Point.

Millennia Research (as the Project's archaeological advisor) continued archaeological monitoring of excavations at Clover Point and along the RSCL route with members of local First Nations.

Key activities in October included:

- Representatives of CRD and HRMG met with the W̱SÁNEĆ Technical Advisory Committee and presented the Technical Assessment Report and the CRD's Biosolids Beneficial Use Strategy. The Environmental Impact Study and Environmental Protection Plan prepared for the RTF were also discussed. This meeting occurred as a result of the CRD sharing (in June, 2019) a Technical Assessment Report that was prepared by Hartland Resource Management Group (the Design-Build-Finance-Operate-Maintain Contractor for the RTF) with each of the Esquimalt, Malahat, Pauquachin, Songhees, Tsartlip, Tseycum and Tsawout Nations, with the offer to meet to review: the report findings, any other aspects of the construction and operation of the RTF, or the plan for the beneficial use of the biosolids that will be produced. In July the W̱SÁNEĆ Leadership Council accepted the CRD's offer and asked that the CRD present to the W̱SÁNEĆ Technical Advisory Committee. The meeting was scheduled for, and occurred, in October.

Key activities in November included:

- The CRD and the W̱SÁNEĆ Leadership Council scheduled a signing ceremony (to be held in December) for a Memorandum of Understanding, as described in the following section.

Key activities in December included:

- Representatives of the Project Team and the Capital Regional District have been meeting with the W̱SÁNEĆ Leadership Council to discuss the construction and operation of Wastewater Treatment Project components in W̱SÁNEĆ Territory. In December, the CRD and the W̱SÁNEĆ Leadership Council participated in a signing ceremony for a Memorandum of Understanding that will provide \$400,000 of capacity funding and allow this productive engagement to continue. This is an important step in furthering the

important relationship between the CRD and the W̱SÁNEĆ Nation, and is a positive step toward re-establishing W̱SÁNEĆ decision-making in the region and implementing the recommendations of the CRD's Special Task Force on First Nations Relations. In addition to providing capacity funding, the Memorandum of Understanding commits the CRD to move toward a negotiated agreement that considers the Project's presence within W̱SÁNEĆ territory, and engage in further discussions towards an agreement involving the broader relationship between CRD and the W̱SÁNEĆ Nations that takes into consideration CRD's operations within W̱SÁNEĆ territory and the recommendations of CRD's First Nations Task Force Final Report as adopted by the Board of the CRD.

- The CRD, City of Victoria and Esquimalt and Songhees Liaisons met to review the proposals submitted in response to the Clover Point Call to Artists. The Call to Artists was for the provision of an Indigenous design for incorporation at Clover Point.

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

Four construction notices were issued to stakeholders in October:

- Residuals Treatment Facility (Hartland): Blasting Notice (October 1, 2019) (Appendix A);
- Traffic Advisory: Interurban, Marigold and Grange Roads (October 9, 2019) (Appendix B);
- Residual Solids Conveyance Line: Tillicum Bridge Lane Closure (October 10, 2019) (Appendix C); and
- Clover Point Pump Station: Overnight Work (October 22, 2019) (Appendix D).

The Project Team hand delivered three of these construction notices in the community: Residuals Treatment Facility: Blasting Notice (33 residences near Hartland Landfill); Residual Solids Conveyance Line Tillicum Bridge Lane Closure (24 residences and businesses near the Tillicum Bridge); and Clover Point Pump Station: Overnight Work (92 residences along Dallas Road and Hollywood Crescent). The construction notice for Interurban, Marigold and Grange Roads was issued as a Traffic Advisory to local schools and media outlets in the region.

Over the month of October, the Project website, wastewaterproject.ca, was updated with information about the Project. Four construction notices were posted. The photo gallery section was updated with additional photos. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix E) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about anticipated delays and single lane alternating traffic along construction corridors.

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

- City of Victoria Staff;
- City of Victoria Technical Working Group;
- District of Saanich Technical Working Group;
- School District #61 Staff; and
- Township of Esquimalt Liaison Committee.

November Overview

Two construction notices and a traffic advisory were issued to stakeholders in November:

- Residual Solids Conveyance Line: Admirals Bridge Work (November 15, 2019) (Appendix F);
- Arbutus Attenuation Tank: Overnight Bypass Pumping (November 19, 2019) (Appendix G); and
- Traffic Advisory: 24-Hour Single Lane Traffic on Interurban Road (November 19, 2019) (Appendix H).

The Project Team hand-delivered the two construction notices in the communities around the respective construction sites: Residual Solids Conveyance Line (79 residences in proximity to the Admirals Bridge) and Arbutus Attenuation Tank (53 residences near Haro Woods). These notices were also circulated to stakeholders via email. The traffic advisory (Appendix H) regarding 24-hour single lane traffic on Interurban Road was issued to local media outlets in the region. As well, a letter regarding construction updates for Peters Street was delivered to 16 residences in Esquimalt.

Over the month of November, the Project website, wastewaterproject.ca, was updated with information about the Project. Two construction notices, one traffic advisory and an updated information sheet were posted. The photo gallery section was updated with additional photos. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix I) was updated regularly.

The CRD's Twitter account was used to provide Project information to the public, including notifications about construction along the RSCL route and a road closure at Clover Point. A Facebook update regarding anticipated traffic delays along Interurban Road was posted.

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

- City of Victoria Technical Working Group;
- Department of National Defence;
- District of Saanich Technical Working Group;
- Environment and Climate Change Canada (the Federal Government's Department of Environment) McLoughlin Point WWTP Tour;
- EOCP (Environmental Operators Certification Program) McLoughlin Point WWTP Tour; and
- Township of Esquimalt Liaison Committee.

December Overview

Two construction notices were issued to stakeholders in December:

- Overnight Work: Interurban and Wilkinson Intersection (December 5, 2019) (Appendix J); and
- Residual Solids Conveyance Line: Tillicum Road (December 9, 2019) (Appendix K).

Both construction notices were distributed to 287 residents and stakeholders by email. As well, the Project Team hand delivered the *Overnight Work: Interurban and Wilkinson Intersection* construction notice to 211 residences and businesses in Saanich.

Project Update #8 was distributed (Appendix L) in December. The update provided an overview of construction progress, work completed in 2019, activities underway, and what to expect in 2020. This document was posted to the Project website, CRD Twitter and Facebook accounts, and distributed by email to more than 730 residents and stakeholders who have signed up to receive Project updates.

Over the month of December, the Project website, wastewaterproject.ca, was updated with information about the Project. Two construction notices and Project Update #8 were posted. The photo gallery section was updated with additional photos. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix M) was updated regularly.

The CRD's Twitter and Facebook accounts were used to provide Project information to the public, including notifications and a traffic advisory about construction along the RSCL route.

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

- City of Victoria Staff;
- City of Victoria Technical Working Group;
- District of Saanich Technical Working Group;
- Fairfield Gonzales Community Association Neighbourhood Improvement Committee;
- Greater Victoria Harbour Authority;
- Township of Esquimalt Liaison Committee; and
- Vancouver Island Engineering Society.

Public Inquiries

Table 5 – Project Inquiries- October- December 2019

Inquiry Source	Contacts for Q4
Information phone line inquiries	76
Email inquiries responded to	55

Key themes of the public inquiries were as follows:

- questions about traffic management and delays on Interurban and Willis Point roads;
- concerns regarding noise, gravel, trucks and other construction impacts;
- questions about traffic management and timelines on Interurban Road;
- interest regarding construction schedule and school drop-off time considerations for work around Burnside and Grange roads;
- inquiries about timing and extent of restoration along the Residual Solids Conveyance Line and Clover Forcemain; and
- interest in amenities along Dallas Road and Clover Point Park.

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

Overall the Project's scheduled activities progressed as planned during the period. All major and key interface milestones were on target to be completed as per the schedule. Progress over the reporting period is summarised in section 2.9.

Figure 1 shows the high-level Project schedule. This schedule has been updated from that shown in the Project's Q3 2019 Quarterly Report to delineate between construction and commissioning activities, and remains subject to optimization as the Project progresses.

The Project remains on-schedule to meet the provincial and federal regulations for treatment for the Core Area's wastewater by December 31, 2020.

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 30 days (January) are outlined below by function.

Safety

- host Prime Contractor Safety Coordination Meeting;
- attend weekly and bi-weekly prime contractor progress meetings;
- prime contractor project safety meeting with Project safety representatives;
- office/site inspections with contractors and CRD corporate at all active sites;
- prime contractor project safety meeting with Project safety representatives;
- review of any site-specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- incident reporting review with prime contractors at active work locations;
- conduct Quality Safety Assurance Audits on Arbutus Attenuation Tank and Residuals Solids Pump Stations Prime Contractors; and
- Trent Forcemain Project Safety Orientation for Prime Contractor.

Environment and Regulatory Management

- CRD to submit the Dispersion Model memo to ENV.
- CRD to submit Clover Point pump station Bypass Authorization request to ENV on behalf of Kenaidan.

First Nations

- Award contract for Indigenous art for installation at Clover Point.

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;
- fiscal year end close; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- commence Primary pipe rack installation;
- commence receiving Biological Aerated Filter (BAF) media;
- install cladding on building exterior;
- install insulation and drywall in upper penthouses;
- install Primary Odour Control tank;
- commence masonry façade;
- complete dirty back wash and sludge storage tank piping systems;
- commence fine screen room building envelope and plate settler tank cover installation;

- continue mono floor installation and Biological Aerated Filter structural tie-in work;
- continue BAF equipment installation and cable trays and cable pulls in BAF gallery;
- continue Tertiary lower level equipment layout and setting, and continue disk filter channel walls;
- complete cinder block walls in Operations and Maintenance building (O&M);
- continue fire stopping and glazing in O&M; and
- continue heating, ventilation, and air conditioning (HVAC) and plumbing installation in O&M.

Clover Point Pump Station

- backfill structure;
- complete installation of pig launching chamber;
- complete 1500mm tie-in to new inlet channel;
- reinstate seawall walkway;
- complete north retaining walls;
- pressure test process piping in pump room;
- BC Hydro energize sub-station; and
- commence functional testing of odour control system, air handling unit, storm pumps and sewage pumps.

Macaulay Point Pump Station

- continue to backfill structure;
- form and pour transformer and fuel tank pad;
- install chain link fence at transformer containment area;
- form and pour slab and walls for diversion chamber;
- continue installation of cross laminated timber (CLT) panels;
- install platforms, grating and metal stairs in bin room;
- install epoxy liner in wet well;
- install insulation and vapour barrier;
- install potable and non-potable pipes and plumbing fixtures;
- install discharge piping;
- install air supply and exhaust ducting to bin room;
- reinstate concrete curbs and pressure test forcemain;
- install jib crane in odour control room; and
- continue installation of cable tray and motor control centres, variable frequency drives and programmable logic control.

Residuals Treatment Facility

- continue hydro testing at Digester 1;
- complete Digester 2 ready for hydro testing;
- continue tank erection for Digester 3;
- continue electrical, piping, and sprinkler work at the Digester Building;
- continue piping installation in the Digested Sludge Storage Tank;
- commence steel stud and cladding construction of Operations Building;
- continue electrical cabling and pumps installation at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, HVAC, sprinklers, and drywall at the Residuals Handling Building;
- continue building systems, equipment and electrical installation and process piping at the Dryer Building;

- complete drywall and continue mechanical and electrical work at Equalization Building;
- complete installation of process equipment, cladding, and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue road/cycle track construction in areas 2, 4, and 6;
- continue upgrades to Montreal St; and
- continue Dallas Rd restoration between Government St and Douglas St.

Residual Solids Pipes

- continue pipe installation on Tillicum Rd to Tillicum Bridge;
- continue pipe installation on Tillicum Rd from Gorge Rd to Vincent Ave.;
- continue pipe installation on Interurban Rd from Knibbs PI to Wilkinson Rd; and
- continue road restoration and valve installations.

Residual Solids Pump Stations

- continue installation of pipes in Interurban Rd from Marigold Rd to Grange Rd;
- continue installation of supports and piping on Tillicum Bridge;
- commence installation of hangers and piping on Admirals Bridge;
- commence installation of submersible sewage pump, equipment pads, kiosk and odour control at Pump Station 3;
- commence installation of submersible sewage pump, water service, underground electrical at Pump Station 2;
- continue with substructure construction at Pump Station 1; and
- continue Hartland water system improvements reservoir construction.

Arbutus Attenuation Tank (AAT)

- continue drilling operation for secant piles;
- continue of concrete pour operations for reinforced and plain secant piles; and
- initiate formwork / reinforcement for ring beam, western end of tank footprint.

Trent Forcemain

- Project kick off with Contractor; and
- Review contractor's construction management plans.

2.6.2 60 day look ahead

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

Safety

- attend CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- attend weekly and bi-weekly prime contractor progress meetings;
- office/site inspections with contractors and CRD corporate at all active sites;
- prime contractor project safety meeting with Project safety representatives;
- review of any site-specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- incident reporting review with prime contractors at active work locations; and
- conduct Quality Safety Assurance Audits on Arbutus Attenuation Tank Prime Contractor.

Environment and Regulatory Management

- CRD, Stantec and HRP to meet with ENV to discuss ENV review of the Environmental Impact Studies that form the basis of the MWR Registration application.

First Nations

- Continue advancing Indigenous art and signage development and procurement.

Stakeholder Engagement

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

Cost Management and Forecast

- prepare cost reports;
- monitor schedule;
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund); and
- prepare for CRD 2019 Financial Statement Audit.

Construction

McLoughlin Point

- demobilise south tower crane and commence demobilisation of north tower crane;
- install perimeter water line and hydrants;
- complete construction of remaining plant and tsunami walls;
- install stairs, exterior brick, roofing and glazing at primary odour control;
- install instrumentation and cables and commence terminations to motor control centre (MCC) at secondary odour control;
- install tank covers at Densadeg 2 & 3;
- install Suez walkways and equipment at Densadeg 2 & 3;
- install roofing and membrane at fine screen room;
- construct cinder block walls at Primary Treatment;
- install process mechanical and process electrical throughout;
- install pipe racks and cable trays in plate settlers 1 & 2;

- install building electrical finishing in secondary treatment;
- install nozzles, diffusers and gravel layer in BAF tanks;
- install tertiary filters in disk filters 1, 2 & 3;
- complete terminations to internal switchgear; and
- connect to BC Hydro plant power supply.

Clover Point Pump Station

- commence new public plaza;
- install interior finishes to washroom;
- install stone façade to exterior retaining walls; and
- commence operational testing of odour control, air handling unit, storm pumps and relocated existing screens.

Macaulay Point Pump Station

- paint mechanical room and washroom;
- install plumbing fixtures and washroom tiles;
- install HVAC, unit heaters and mechanical louvers and dampers;
- install jib crane in pump room;
- commence installation of diesel generator exhaust and diesel fuel tank;
- pull cable for permanent power feed and terminate to transformer;
- terminate cable in odour control, bin room, electrical room, pump room, and generator room; and
- commence installation of site paving and sidewalks.

Residuals Treatment Facility

- complete hydro testing at Digester 1;
- commence hydro testing at Digester 2;
- continue tank erection for Digester 3;
- continue mechanical and electrical installations and complete building envelope work at the Digester Building;
- complete piping and pump installation in the Digested Sludge Storage Tank;
- continue steel stud and cladding construction and commence roofing and building systems at Operations Building;
- continue electrical cabling and install stairs, rails and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, HVAC, sprinklers, and drywall at the Residuals Handling Building;
- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- complete installation of water pump and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue road/cycle track including paving Dock St to Government St and Douglas St west to Douglas St east;
- continue installing lamp standards on Dallas Rd and cycle track; and
- perform road restoration Government St to Douglas St.

Residual Solids Pipes

- final pavement restoration as required;
- pipe installation at Portage Rd and Esson Rd; and
- pipe installation on Tillicum Rd from Gorge Rd to Tillicum bridge.

Residual Solids Pump Stations

- commence installation of pipes on Marigold Rd from Colquitz River to Marigold pump station;
- continue installation of pipes on Interurban from Violet Ave to Grange Rd;
- continue installation of supports and piping on Tillicum Bridge and Admirals Bridge; and
- continue installation of process mechanical and electrical at pump stations 1, 2 & 3.

Arbutus Attenuation Tank (AAT)

- complete drilling operation for secant piles;
- complete installation of plain and reinforced secant piles;
- continue installation of ring beam (formwork, rebar, pour concrete);
- commence installation of cross and diagonal strut beams;
- commence excavation within tank footprint to base slab elevation; and
- commence installation of Rock Anchors.

Trent Forcemain

- contractor to mobilize to site; and
- contractor to start pot holing and utility relocation activities.

2.7 Cost Management and Forecast

The monthly cost report for December and quarterly cost report for the reporting period (October – December 2019) are shown in Appendices N and O 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, and these pressures steadily increased as each conveyance contract was awarded. The Project Team forecasts that the Project can be completed at a total cost of \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the Project Board sought and received the CRD Board's approval to increase the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

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 \$19.0 million. The significant commitments made in the reporting period were related to the Trent Forcemain contract (the award of which was initiated over the reporting period), and the remediation of contamination at the McLoughlin Point site, as outlined below.

The McLoughlin Point site on which the Wastewater Treatment Plant is being constructed contains contaminated materials, as a result of its previous use as an oil tank farm. Harbour Resource Partners, the contractor building the Wastewater Treatment Plant, are remediating the

site to provincial standards. Remediation work has been ongoing since HRP commenced the excavation of contaminated soils at the site, and over the reporting period payments totalling \$7.1M were made to HRP related to the remediation of contamination at or from the McLoughlin Point site. The extent of contamination on-site is now known, and the delineation of contamination off-site is close to complete. Further payments to HRP will be required associated with:

- remediating contamination that has migrated onto DND lands; and
- completing remediation of the site and obtaining a Certificate of Compliance.

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 construction activities and project management office-related costs.

2.7.3 Contingency and Program Reserves

Contingency draws totalling \$7.4 million were made over the reporting period, as summarised in Table 6. The draws were partially-offset by a \$1.6 million reallocation from budget to contingency over the reporting period, resulting in a net decrease in contingency of \$5.8 million. The draws to-date and remaining contingency and program reserve balances are 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
Contingency and Program Reserve Draws to September 30, 2019		\$ (56,838,429)
Contingency and Program Reserve addition (May 2019)		\$ 10,000,000
Contingency and Program Reserve balance as at September 30, 2019		\$ 22,479,622
IT and Server Equipment	Oct-19	\$ (22,101)
Marine Environmental Impact Study	Oct-19	\$ (78,186)
SCADA plan for CRD operational requirements	Nov-19	\$ (143,420)
Remediation of Contaminated Soils on DND Lands	Nov-19	\$ (316,097)
McLoughlin Point Contaminated Site Remediation	Nov-19	\$ (5,968,000)
Remediation of Contaminated Soils on DND Lands	Dec-19	\$ (778,975)
WWTP Total Draw		\$ (7,306,779)
RTF Total Draw		\$ -
Macaulay Pump Station - Radio Telemetry Equipment	Nov-19	\$ (4,320)
Clover Pump Station - Radio Telemetry Equipment	Nov-19	\$ (7,544)
Clover Pump Station - Additional Rock Removal Quantities	Nov-19	\$ (39,061)
Macaulay Pump Station - Sprinkler Sleeve Installation	Dec-19	\$ (14,643)
Conveyance Total Draw		\$ (65,568)
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve additions in the reporting period (reallocation from budget)		\$ 1,600,000
Contingency and Program Reserve draws in the reporting period		\$ (7,372,347)
Contingency and Program Reserve balance as at December 31, 2019		\$ 16,707,274

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.

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, funding from the P3 Canada Fund and the majority of the funding from the Government of British Columbia cannot be claimed until relevant Project components are substantially complete, which is scheduled to occur in 2020. However, as reported in the Project's July 2019 Monthly Report, the timing for the receipt of part of the funding from the Government of British Columbia was brought forward, with \$62 million to be paid by March 2020. As shown in Table 7, this funding was received in the reporting period.

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	\$25.2M	\$92.1M
Government of Canada (Green Infrastructure Fund)	\$50M	\$10.4M	\$35.9M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	\$62.0M	\$62.0M
Federation of Canadian Municipalities	\$346K	-	-
TOTAL	\$459.3M	\$98.7M	\$189.7M

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 changes to the active risks summary from that presented in the Project's Q3 2019 Quarterly Report were as follows:

- The risk level of unexpected contaminated soil conditions during excavation was reduced to low as the extent of contamination at the McLoughlin Point site is now known, and the delineation of contamination off-site is close to complete;
- The following risks were closed due to the initiation of contract award for the last conveyance contract (for the Trent Forcemain):
 - Unexpected geotechnical conditions results in higher procurement and/or construction costs;
 - Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted; and
- Engineering design development results in increases to the estimated construction cost.

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).	M	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 is using 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

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
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Upstream works delays.	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	L	No change
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project's schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. The MWR Registration application was submitted to the Ministry of Environment in September 2019. The Project Team, MOE and relevant contractors will continue to meet regularly to track progress and discuss issues.	M	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.	M	No change
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.	M	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
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.	M	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
McLoughlin Point Wastewater Treatment Plant				
Unexpected contaminated soil conditions during excavation.	Site has more contaminated soils than initial assessment.	CRD and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) are working collaboratively to minimize the costs associated with remediating the McLoughlin Point site while ensuring that contaminated materials are removed and disposed of in accordance with all applicable legislation.	L	The risk level was reduced from high to low as the extent of contamination at the McLoughlin Point site is now known, and the delineation of contamination off-site is close to complete.

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
Conveyance				
Unexpected geotechnical conditions results in higher procurement and/or construction costs.	Geotechnical conditions result in redesign and/or higher construction cost than budgeted.	Ensure adequate investigations to manage the risk of unexpected geotechnical conditions: comprehensive geotechnical investigations have been undertaken for the Clover Forcemain, Macaulay Point Pump Station and Forcemain, and RSCL. This geotechnical information has been provided to procurement participants. Geotechnical investigations have been undertaken for the Trent Forcemain as part of the detailed design process.	C	The risk was closed due to the initiation of contract award for the last conveyance contract (for the Trent Forcemain).
Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted.	Cost of conveyance contracts higher than estimated and budgeted.	There is only one conveyance contract remaining to be procured (the Trent Forcemain). It will be competitively-procured, as has been done for all of the construction contracts. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money, and in order to identify any opportunities where savings could be realized to partially-offset escalation.	C	The risk was closed due to the initiation of contract award for the last conveyance contract (for the Trent Forcemain).
Engineering design development results in increases to the estimated construction cost.	Conveyance contract amounts higher than budget due to design development (through indicative and detailed design phases).	There is only one conveyance contract remaining to be procured (the Trent Forcemain), for which the Project Team recently refreshed the cost estimate. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money.	C	The risk was closed due to the initiation of contract award for the last conveyance contract (for the Trent Forcemain).

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 is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP): progressing construction including: work on Biological Aerated Filter (BAF) Mono Floor; fire suppression work in Operations and Maintenance (O&M) building; commenced installation of Lamella plate settling equipment in Primary Clarifier No. 1; progressing building envelope on Electrical, Blower and Heat Recovery buildings; progressing concrete work in the Process Building; receiving delivery of large process equipment; progressing O&M Building exterior walls and interior finishes; progressing off-site utility installation and ongoing installation of plant inlet piping and plant by-pass piping; layout and phase 1 installation of Densadeg 2 and completion of Densadeg 1; progressing concrete in Moving Bed Biofilm Reactor #2; delivery and installation of motor control centres; progression of heating, ventilation, and air conditioning (HVAC), electrical and plumbing trade work throughout the O&M building; completion of raw influent valve installation; and progression of pig receiving piping and raw influent piping.

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

- installation of the Macaulay Forcemain progressed from Patricia to Victoria View;
- bypass line excavation and installation progressed to valve slab;
- BAF gallery pipe supports and cable tray install continued;
- continued work on BAF Mono Floor with all but slabs 7, 9 and 12 poured;
- moving bed bioreactor infill work started;
- Odour Control room walls started;
- commenced north apron work with slab and pump room walls;
- completed installation of Switchgear and Transformer slabs;
- commenced installation of Lamella1 equipment;
- coating of dirty backwash walls completed;
- commenced staging of equipment in Tertiary including setting of fibre reinforced plastic chemical tanks;
- started suspended slab work in Fine Screen room;
- clean water tank roof slab started;
- glazing installation started in O&M building;
- fire suppression work started in O&M building; and
- building envelope work progressing on Electrical, Blower and Heat Recovery Buildings.

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

- Primary treatment area:
 - west entry structure nearing completion;
 - north pump room influent boxes complete;
 - odour control walls complete;
 - Densadeg shotcrete sloping is complete;
 - High Density Polyethylene (HDPE) liner welding nearing completion;
 - fine screen room suspended slab complete;
 - fine screens set in place, influent and effluent gates set;
 - Lamella 1 installed;
 - Lamella 2 construction complete;
 - secondary odour control tanks set in place;
 - dirty backwash tank piping and equipment installation continues; and
 - sludge storage tank piping and equipment installation continues.

- Secondary treatment area:
 - Moving Bed Biofilm Reactor #2 (MBBR) concrete in progress;
 - continued installation of pipe rack 2 in the BAF gallery;
 - BAF scouring air distributions systems continue;
 - electricians continue to progress in the BAF gallery;
 - blowers set on final housekeeping pads;
 - cable tray and supports continue in all three penthouse structures;
 - motor control centre installation ongoing in the electrical building;
 - HVAC units set on the penthouse roofs; and
 - penthouse building envelopes in progress.

- Tertiary treatment area:
 - clean water tank slab poured;
 - disk filter slab poured, commencing on upper channels walls;
 - baffle slabs in progress;
 - lower level 1 pumps and mechanical piping install continues; and
 - commenced HVAC and electrical work.

- O&M building:
 - masonry block wall continues;
 - HVAC and plumbing continues throughout the building;
 - electrical trade continues good progress through the O&M; and
 - glazing contractor continues on the lower level.

- Off-Site Utilities:
 - continued progress on underground utility work along Victoria View Road and Patricia Street;
 - continued progress on plant by-pass pipe installation (phase 3 underway); and
 - continued progress on raw influent piping, valves and pig receiving piping.

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

- Primary treatment area:
 - west entry structure complete;
 - north pump room roof slab complete;
 - Odour Control roof slab complete;
 - HDPE liner welding is complete;
 - fine screen room structural steel install complete;
 - chemical tanks in fine screen building set in place;
 - fine screen room chemical containment walls complete;
 - layout and phase 1 installation of Densadeg 1 complete;
 - layout and phase 1 installation of Densadeg 2 ongoing;
 - dirty back wash tank piping and equipment install is ongoing; and
 - sludge storage tank piping and equipment install is in progress.

- Secondary treatment area:
 - MBBR #2 concrete nearing completion;
 - MBBR #1 concrete work underway;
 - continued installation of pipe rack 2 in the BAF gallery;
 - installation of 16 inch pipe ongoing;

- BAF scouring air distributions systems in progress;
 - electricians continue to progress in the BAF gallery;
 - 4 blowers set on final housekeeping pads;
 - cable tray and supports ongoing in all three penthouse structures;
 - motor control centre delivered and installation work commenced in the electrical building;
 - HVAC units set on penthouse roofs; and
 - penthouse building envelopes progressing.
- Tertiary treatment area:
 - BAF effluent shaft complete;
 - continued upper disk filter walls;
 - tertiary perimeter walls complete;
 - baffle slabs in progress;
 - lower level 1 pumps and mechanical piping ongoing; and
 - continued HVAC and electrical work.
 - O&M building:
 - cinder block wall nearing completion;
 - HVAC and plumbing trades continue to progress throughout the building;
 - electrical trade continues to progress throughout the building;
 - glazing contractor ongoing at the lower level; and
 - roofing contractor began roof sloping package installation.
 - Off-Site Utilities:
 - vault progressed on underground utility work along Victoria View & Patricia Street;
 - plant bypass line installation phase 3 ongoing, raw influent valve installation complete; and
 - pig receiving piping and raw influent piping is in progress.

Photographs of construction progress over the month of December at McLoughlin Point are shown in Figures 2-6.



Figure 2– McLoughlin Point Wastewater Treatment Plant- Backfilling harbour crossing pipe.



Figure 3– McLoughlin Point Wastewater Treatment Plant- Installing transformers in O&M electrical room.



Figure 4– McLoughlin Point Wastewater Treatment Plant- Installation of control valves and check valves for backwash piping.



Figure 5– McLoughlin Point Wastewater Treatment Plant-Fforming odour control roof parapet and roof penetration curbs.



Figure 6– McLoughlin Point Wastewater Treatment Plant- Landing electrical feeds in Motor Control Centres.

2.9.2 Residuals Treatment Facility

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: completion of Digester 1; final piping installation at Digester 2; commencement of installation of Digester 3 including concrete base, foundation and starter panels; continued construction of Water Pump House; completion of masonry and continued equipment installation, piping, electrical and fire suppression in the Dryer building; continued installation of exterior cladding, and sprinklers at the Residuals Handling Building, Equalization building, Water Pump House and Digester Building; continued electrical, process piping, HVAC, drywall, and sprinklers at the Residuals Handling Building; installation of equipment in the Dryer Building; pouring slab; continued stabilization of the south slope and commencement of structural steel for the Operations Building.

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

- pipe installation ongoing for Digester 2;
- commence concrete base for Digester 3;
- structural steel erection at Digester Building;
- commenced foundation preparation for Operations Building;
- continue piping installation at Other Municipal Solids Receiving Facility;
- continued exterior cladding, masonry walls, process piping, and electrical cable tray installation for the Residuals Handling Building;
- continued tank erection for Residuals Effluent Tank;
- completed tank erection Residuals Solids Tank 1 and 2;
- commenced structural steel erection of Equalization Building;
- continued construction of Water Pump House; and
- commenced erection of Water Storage Tank.

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

- nearing construction completion of Digester 1;
- piping installation at Digester 2;
- commenced foundation work and starter panels for Digester 3;
- completed tank erection at Digested Solids Storage Tank;
- completed structure erection and commenced process piping, electrical, masonry and HVAC at Digester Building;
- continued cladding, electrical, process piping and started HVAC, and sprinklers at the Residuals Handling Building;
- completed masonry and continued equipment installation, piping, electrical and fire suppression at the Dryer Building;
- nearing completion of Residuals Effluent Tank;
- nearing completion of Residuals Solids Tanks 1 and 2;
- commenced construction of Water Storage Tank;
- completed structural steel erection and commenced roofing and sprinklers at the Equalization Building;
- completed structural steel erection and commenced roofing and sprinklers at the Water Pump House;
- continued foundation work at the Operations Building; and
- commenced slope stabilization work at the south slope.

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

- construction completion of Digester 1;
- final piping installation at Digester 2;
- poured foundation and commenced starter panels for Digester 3;
- piping installation at Digested Solids Storage Tank;
- completed cladding and masonry and continued process piping, electrical, and HVAC at Digester Building;
- continued electrical, process piping, HVAC, drywall, and sprinklers at the Residuals Handling Building;
- continued equipment installation, piping, electrical, drywall, and fire suppression at the Dryer Building;
- completed erection of Residuals Effluent Tank;
- completed erection of Residuals Solids Tanks 1 and 2;
- continued construction of Water Storage Tank;
- continued cladding, drywall, and sprinklers at the Equalization Building;
- continued cladding and completed sprinklers at the Water Pump House;
- poured foundation slab and erected primary structural steel at the Operations Building;
- and
- continued slope stabilization work at the south slope.

Photographs of construction progress over the month of December at the Residuals Treatment Facility are shown in Figures 7-10.

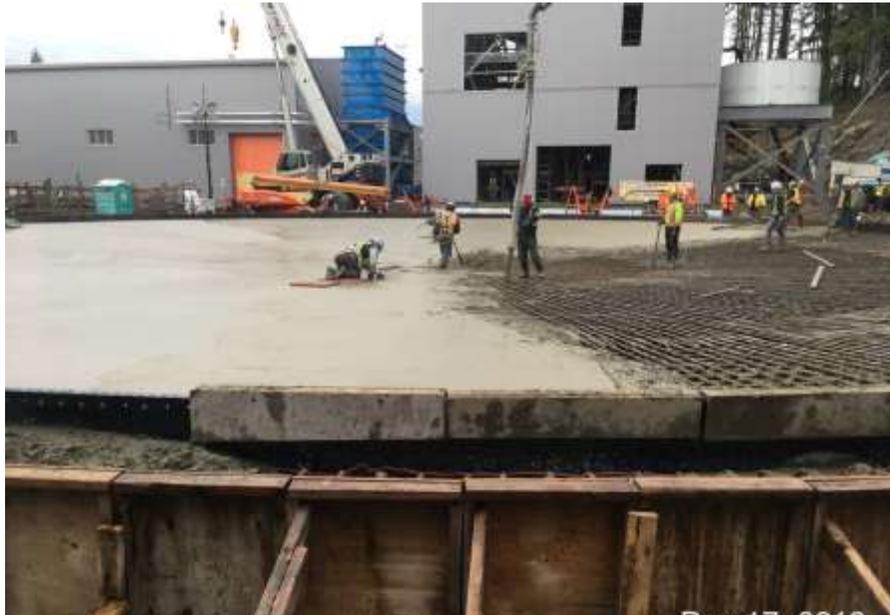


Figure 7– Residuals Treatment Facility- Concrete placement for digester #3 tank slab.



Figure 8– Residuals Treatment Facility- Product storage silo being constructed on south side of dryer building.



Figure 9– Residuals Treatment Facility- Installation of exterior insulated cladding on Equalization Building.



Figure 10– Residuals Treatment Facility -Installation of motor control centres and switchgear in Residuals Handling Building electrical room.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of motor control centres, and Programmable Logic controls in the electrical room; openings between existing and new inlet channels were cut; completion of backfill over new structure; ongoing work on retaining wall structure; installation of sanitary forcemain and pigging chamber; completion of interior masonry work in new station; installation of surge relief and domestic water piping; installation of forcemain discharge bend; completion of sanitary and storm wet well benching; ongoing work on public washroom facilities; installation of sanitary and storm pump discharge spools; ongoing installation of check valve; permanent BC Hydro power installed; ongoing piping installation throughout the station; and completion of forcemain fusion to flange.

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

- pumps are being installed in the lower pump room along with discharge pipe and valves;
- Motor Control Centres, and interconnecting cables are being installed;
- the Programmable Logic Control was installed in the electrical room and is being wired;
- cable tray and cable installation is ongoing;
- retaining wall structure work is ongoing;
- public washroom structure is being built;
- stairways and platforms are being installed in the wet wells;
- openings between the existing and new storm inlet channels were cut out;
- backfill over the new structure was completed;
- forcemain work has started; and
- cinder block walls are being installed in the screening room.

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

- sanitary and storm wet wells benching completed;
- forming of curved retaining wall ongoing;
- masonry block walls installed at odour control and screen room;
- knife gate and check valve installation is ongoing;
- installed surge relief and domestic water piping;
- forcemain discharge bend installed;
- sanitary and storm pump discharge spools installed;
- lower and upper pump room ducting installed;
- grounding, cable pulls and terminations continued throughout; and
- continued installation of sanitary forcemain and pigging chamber.

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

- inlet channel benching;
- inlet channel weir wall;
- interior masonry complete in new pump station;
- sanitary pump surge relief piping;
- check valve installation ongoing;
- interior pigging chamber waterline installed;
- HDPE forcemain fusion complete to Windley blind flange;
- HDPE pigging chamber wye fusion complete;

- sanitary pump intake spools installed;
- piping installation ongoing;
- west slide gate placed inside new inlet channel;
- BC Hydro permanent power installed;
- cable tray and strut ongoing;
- cabling run to workshop; and
- vendor cables terminated in Pump Room.

Photographs of construction progress over the month of December at Clover Point are shown in Figures 11-14.



Figure 11–Clover Point Pump Station- Upper pump room looking south.



Figure 12–Clover Point Pump Station- Transformer room.



Figure 13–Clover Point Pump Station- Telescopic monorail installed.



Figure 14- Clover Pump Station - Lower pump room looking north.

2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of process piping and lighting circuits; suspended slab and pump room concrete poured; receipt and installation of cross laminated timber; inlet sewer pipe, and vortex degritter delivered to site; motor control centres installed in electrical room; commencement of installation of sanitary pipe; commencement of backfill around building exterior; installation of odour control unit; and cross laminated timber roof and bridge installed. Macaulay Forcemain progressed along View Point Street, providing for a total installed length to the end of December of 750m with tie in at McLoughlin Point WWTP all that remains.

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

- installation of process piping in pump room;
- installation of lighting circuits in pump room;
- poured suspended slab and pump room topping poured at 8.20 m elevation;
- cross laminated timber (CLT) received and staged for installation;
- inlet sewer pipe delivered to site;
- lowered existing vent pipe from diversion chamber to pump station; and
- Macaulay forcemain progress to the corner of Bewdley and Peter streets, providing for a total installed length to the end of October of 690m.

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

- installed concrete curbs;
- commenced installation of Cross Laminated Timber (CLT) panels;
- commenced back filling around building exterior;
- commenced installation of 1800 mm sanitary pipe;
- lowered existing vent pipe from diversion chamber to pump station; and
- Macaulay forcemain progressed along View Point Street, providing for a total installed length to the end of November of 700m.

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

- motor control centre has been installed in the electrical room;
- odour control unit has been installed in the odour control room;
- backfill around exterior wall is ongoing;
- vortex degritter equipment was received on site;
- Cross Laminated Timber roof and bridge have been installed;
- housekeeping pad in electrical room has been poured;
- concrete pad in the bin room has been poured;
- steel stair in the screen room has been assembled; and
- Macaulay forcemain progressed for a total installed length to the end of December of 750m.

Photographs of construction progress over the month of December at Macaulay Point are shown in Figures 15-16.



Figure 15–Macaulay Point Pump Station- Pump station progression, facing east.

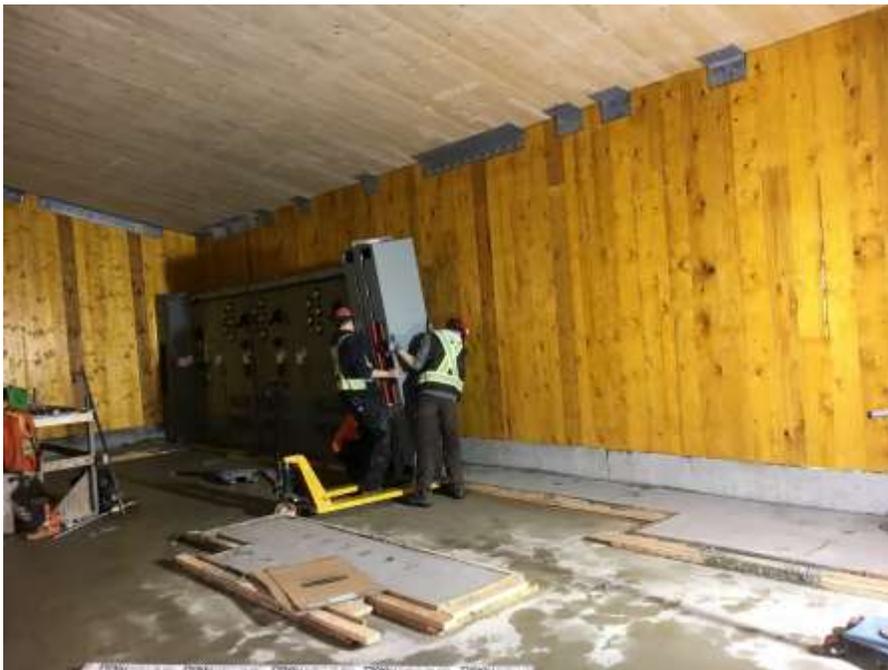


Figure 16–Macaulay Point Pump Station- Installation of motor control centre in electrical room.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; landscaping; completion of watermain lining; ongoing electrical lighting installation; completion of final tie in to the harbour crossing pipe in the transition chamber; and completion of final assembly of transition chamber.

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

- cycle track paving and landscaping is ongoing;
- road restoration is ongoing;
- electrical lighting installation ongoing; and
- watermain lining is in progress.

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

- cycle track paving and landscaping is ongoing;
- road restoration is ongoing;
- final tie-in to the Harbour Crossing pipe in the transition chamber is complete;
- electrical lighting installation ongoing; and
- watermain lining is complete.

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

- ongoing cycle track paving and landscaping;
- ongoing road restoration;
- Montreal Street bump out curbing ongoing;
- completed final assembly of transition chamber; and
- electrical lighting installation ongoing.

Photographs of construction progress over the month of December on the Clover Forcemain are shown in Figures 17-20.



Figure 17–Clover Forcemain- Road restoration between Government St and Douglas St.



Figure 18–Clover Forcemain- Cycle track paving near Paddon Ave.



Figure 19–Clover Forcemain– Lamp standard installation near Paddon Ave.



Figure 20–Clover Forcemain- Preparation for sidewalk and curb construction near Montreal St.

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 including installation of approximately 2000m of pipes; installation of valve chambers; and road restoration.

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

- Installation of approximately 730m of pipes at the following locations:
 - segment #1: Dominion Road at Belton Ave and Arm Street and Selkirk Ave towards Craigflower Road;
 - segment #2: Grange Road north to Interurban Road and Grange Road south to Burnside Road;
 - segment #3: Interurban Road south to Pump Station 2; and from Charlton Road to Courtland Ave;
 - segment #3: Interurban Road north to Goward Road; and
 - segment #4: Interurban Trail final restoration from Wallace Drive to Prospect Lake Road.

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

- Installation of approximately 730m of pipes at the following locations:
 - segment #1: Arm and Craigflower Streets;
 - segment #2: Grange Road south of Burnside Road and Interurban Road north from Grange Road to Chesterfield Road; and
 - segment #3: Interurban Road south from Courtland Ave to Prillaman Ave and Charlton Road to North Road.

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

- Installation of approximately 615m of pipes at the following locations:
 - segment #1 Dominion and Craigflower Streets;
 - segment #2 Interurban Road from Chesterfield Road to Knibbs PI;
 - segment #3 Interurban Road south from North Road to Dunsterville Ave; and
 - segment #4 Tillicum Road from Selkirk Ave to Gosper Cres.

Photographs of construction progress over the month of December on the Residual Solids Pipes are shown in Figures 21-24.



Figure 21—Residual Solids Pipes- Compacting asphalt on Interurban Road.



Figure 22—Residual Solids Pipes- Compacting gravel on Vincent Ave.



Figure 23--Residual Solids Pipes-- Ductile iron pipe installation on Interurban Rd during night work.



Figure 24--Residual Solids Pipes- Temporary paving on Tillicum Road at Selkirk Ave.

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities at all three pump stations and bridge crossings including: erection of scaffolding at Tillicum and Admirals bridges; continued rock breaking at Pump Station 1; continued concrete work including footings and retaining walls for Pump Station 2, kiosk pad at Pump Station 3, and wet well slab for Pump Station 1; installation of watermain at Hartland and water system improvements were completed on Willis Point Road; and commencement of valve chamber spool installation at Pump Station 3.

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

- Pump Station #1 rock hammering rock for the wet well and Saanich watermain relocation commenced;
- Pump Station #2 valve chamber was delivered to site and the wet well was grouted;
- Pump Station #3 wet well barrel was replaced and line valve meter and pigging chamber were cored;
- Tillicum bridge scaffolding was erected and pipe hanger layout was completed; and
- Hartland watermain installation continued and reached the gas plant and drilling and blasting commenced at the reservoir site.

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

- Admirals Bridge scaffolding erected;
- Hartland watermain installation and backfilling from the north end to the reservoir;
- Marigold Valve Chamber was excavated down to subgrade;
- installation of the RTF chamber at Willis Point Road.
- pipe installed up to the HRMG tie in;
- Pump Station #1 watermain installed and, tie in completed;
- rock breaking for the wet well is ongoing and nearly completed;
- Pump Station #2 footings and retaining walls were formed and poured;
- Pump Station #3 poured pad for the kiosk at;
- completion of the valve chamber; and
- completed installation of watermain at Hartland.

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

- Pump Station #1 wet well slab was formed and poured and the wet well formwork erection commenced;
- Pump Station #2 pig receiver and line valve were installed and partially backfilled. The south east retaining wall was formed and poured and the north east wall was backfilled.
- Pump Station #3 valve chamber spools were partially installed;
- Marigold Rd, the Low Point Drain Valve was installed and pipe placed and buried up to the bend;
- Marigold Pump Station chamber was prepared for spool install;
- Leachate Connection Chamber piping on Willis Point Rd was partially installed; and
- Hartland water system improvements water main installation was completed, and the booster station delivered and commissioned.

Photographs of construction progress over the month of December on the Residual Solids Pump Stations are shown in Figures 25-27.

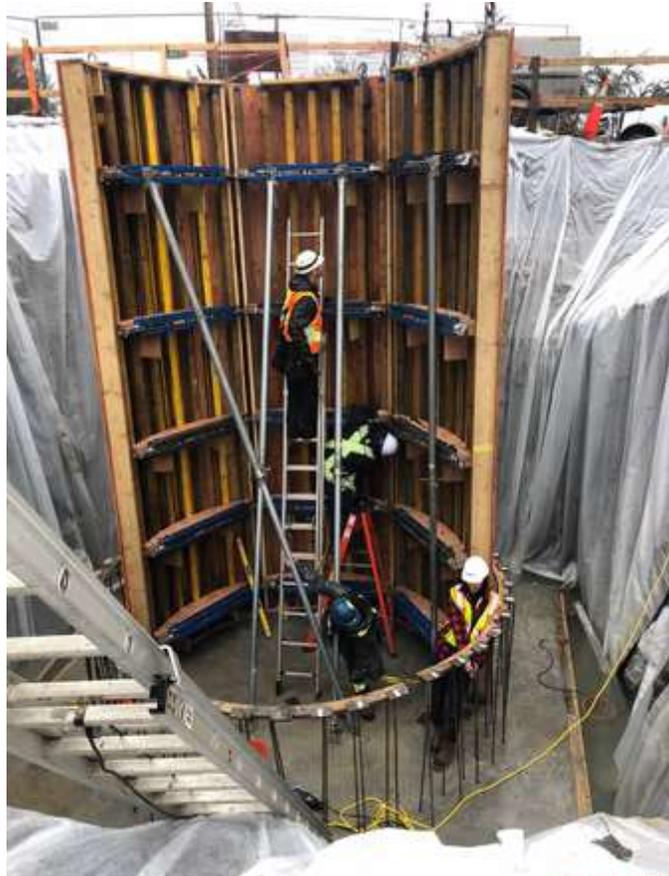


Figure 25–Residual Solids Pump Stations – Pump Station 1 – installation of formwork for the wet well.



Figure 26 –Residual Solids Pump Stations – Commence pipe installation at Interurban Road.



Figure 27–Residual Solids Pump Stations – Pump Station 2 – installation of drain tile at retaining wall.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities with a focus on excavation and structural secant pile construction works. Ongoing activities also include maintaining the dewatering system; completing bypass pumping for tie-in works during construction; commenced installation of permanent yard piping and manholes; and decommissioned existing overflow system infrastructure within tank footprint.

Key construction activities in progress or completed by NAC Constructors Ltd in October were as follows:

- ongoing drilling of secant piles around the perimeter of the tank;
- continue concrete pour operations for reinforced and plain secant piles;
- commence installation of temporary bypass system;
- commence installation of permanent yard piping and manholes;
- decommission existing overflow system infrastructure within tank footprint; and
- excavation of remainder of tank footprint to facilitate additional secant pile construction.

Key construction activities in progress or completed by NAC Constructors Ltd in November were as follows:

- ongoing drilling of secant piles around the perimeter of the tank;
- continue concrete pour operations for reinforced and plain secant piles;
- complete installation of temporary bypass system;
- commence installation of permanent yard piping and manholes;
- decommission existing overflow system infrastructure within tank footprint; and
- excavation of remainder of tank footprint to facilitate additional secant pile construction.

Key construction activities in progress or completed by NAC Constructors Ltd in December were as follows:

- ongoing drilling of secant piles around the perimeter of the tank;
- continue concrete pour operations for reinforced and plain secant piles;
- completed installation of temporary bypass system including temporary bypass pumping;
- completed installation of permanent manholes S5, S6, S3 and associated piping; and
- completed installation of flowmeter for monitoring flows during construction.

Photographs of construction progress over the month of December at the Arbutus Attenuation Tank are shown in Figures 28-29.



Figure 28–Arbutus Attenuation Tank- Second drill mobilised to site.



Figure 29– Arbutus Attenuation Tank –Concrete pour for piles and continued drilling.

2.9.3.6 Trent Forcemain

The Project Team, with Stantec (as the design consultant for the Trent Forcemain) progressed work through the procurement phase, including: responding to tender inquiries and issuing addenda; receiving tenders and selecting the tenderer in accordance with the Invitation to Tender; and initiating contract award.

Appendix A– Residuals Treatment Facility (Hartland): Blasting Notice (October 1, 2019)



October 1, 2019

Residuals Treatment Facility (Hartland): Blasting Notice

As part of construction for the Residuals Treatment Facility, the Wastewater Treatment Project is replacing the Hartland Reservoir to increase the storage volume and improve pumping capacity. Controlled blasting and excavation is required and is anticipated to take place over five days in early October.

What to Expect

- Up to four blasts per day.
- Noise and vibrations are expected during this work.
- No traffic impacts are anticipated.

Blasting Procedure

- All blasts will be covered with blasting mats.
- Blasting signs and personnel will be posted at access points on the construction site boundary to prevent entry into the blast area.
- 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
- Each blast is monitored for vibration with a seismic device.
- If you have any questions or concerns about blasting or the Project, please contact the Project Team at wastewater@crd.bc.ca or 1.844.815.6132.

Work Hours

- Blasting will occur between 7:00 a.m. to 7:00 p.m.

About the Wastewater Treatment Project

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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix B– Traffic Advisory: Interurban, Marigold and Grange Roads (October 9, 2019)

October 09, 2019

Traffic Advisory: Interurban, Marigold and Grange Roads

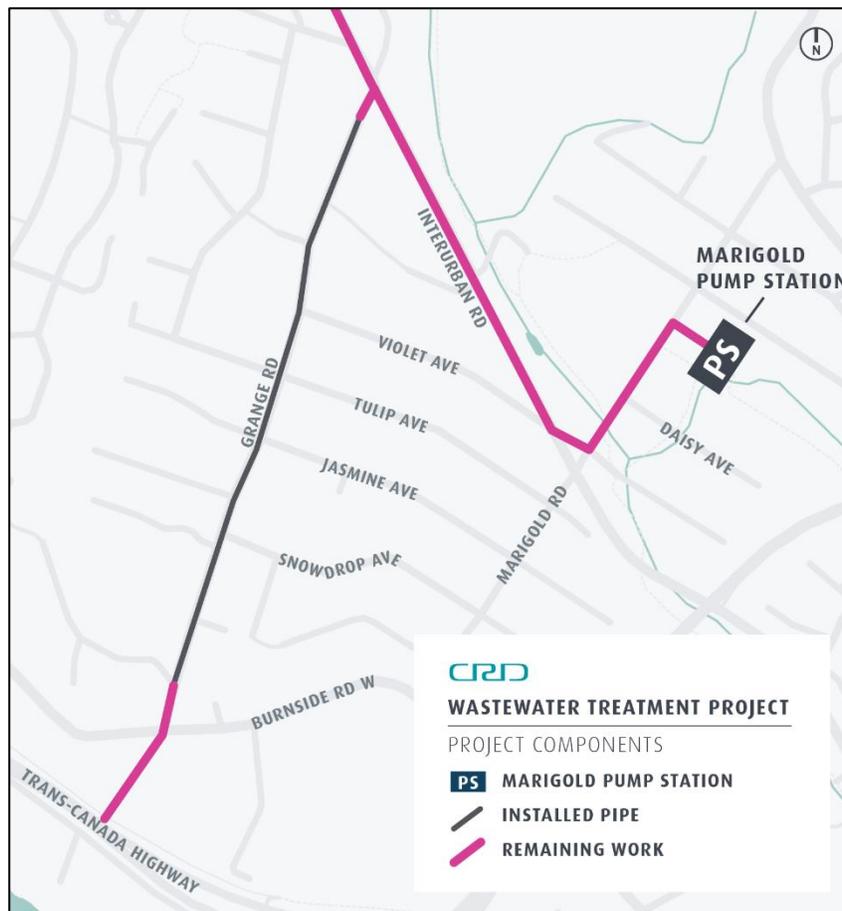
As part of the Wastewater Treatment Project, construction on Interurban, Marigold, and Grange roads will impact traffic as pipes are installed for the Residual Solids Conveyance Line. This work requires single lane alternating traffic and is anticipated to be complete in January 2020. Please expect traffic delays, especially during the morning and afternoon commutes. We appreciate your patience as this work is being completed.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required from 7:00 a.m. to 7:00 p.m.

Traffic Impacts

- There will be single lane alternating traffic in the work zones controlled by flaggers.



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 C– Residual Solids Conveyance Line: Tillicum Bridge Lane Closure (October 10, 2019)



October 10, 2019

Residual Solids Conveyance Line: Tillicum Bridge Lane Closure

As part of the Wastewater Treatment Project, a pipe will be installed under the Tillicum Bridge (see map on reverse). This work is anticipated to start on October 15 and take approximately 6-8 weeks to complete. The remaining pipe installation on Tillicum Road between Selkirk and Vincent avenues is scheduled to take place later in the fall.

What to Expect

- Scaffolding will be erected on the side of the bridge and a pipe will be installed under the bridge.
- Noise associated with this work includes construction machinery and truck back-up beepers.

Traffic Impacts

- Southbound traffic will be reduced to one lane between 9:00 a.m. and 3:00 p.m.
- Northbound traffic will retain two lanes.
- West sidewalk will be closed with a detour and signage in place.
- Pedestrian access will be maintained on the east side of Tillicum Bridge.
- The work zone will be controlled by flaggers.

Work Hours

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

Background

Construction of the Residual Solids Conveyance Line is progressing well with over 70% of the pipes installed. There are multiple crews working along the 19km alignment. Construction of the conveyance line is anticipated to be complete in spring 2020. A regularly-updated progress map can be found at wastewaterproject.ca.

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

Tillicum Bridge Crossing



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– Clover Point Pump Station: Overnight Work (October 22, 2019)

October 22, 2019

Clover Point Pump Station: Overnight Work

Construction of the Clover Point Pump Station requires some overnight work to connect portions of the expanded pump station to the existing pump station. This work is scheduled to begin today and take approximately three weeks to complete.

What to Expect

- Noise associated with construction will be ongoing overnight.
 - For a portion of this work, diesel-powered pumping units located on the Dallas Road Waterfront Trail close to the existing pump station will be in operation. The pumps are equipped with acoustic enclosures to reduce noise.
 - Construction equipment will be in operation at the pump station site below the embankment.
- Flood lights will be used to safely illuminate the work area.
- Increased short-term odour may occur during this work.

Work Hours

- Construction is required overnight for this phase of work.
- Some of this work is weather dependent which may affect the duration of construction.
- Once this work is complete, normal work hours will resume Monday to Friday from 7:00 a.m. to 7:00 p.m. and Saturday from 10:00 a.m. to 7:00 p.m.

Traffic Impacts

- There will be no traffic impacts.
- The closure of the Dallas Road Waterfront Trail between the Clover Point Pump Station and the crosswalk at Memorial Crescent remains in effect until January 2020. The next stage of work will include installing a pipe along the pathway.

Construction at Clover Point is anticipated to be complete by mid 2020.

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



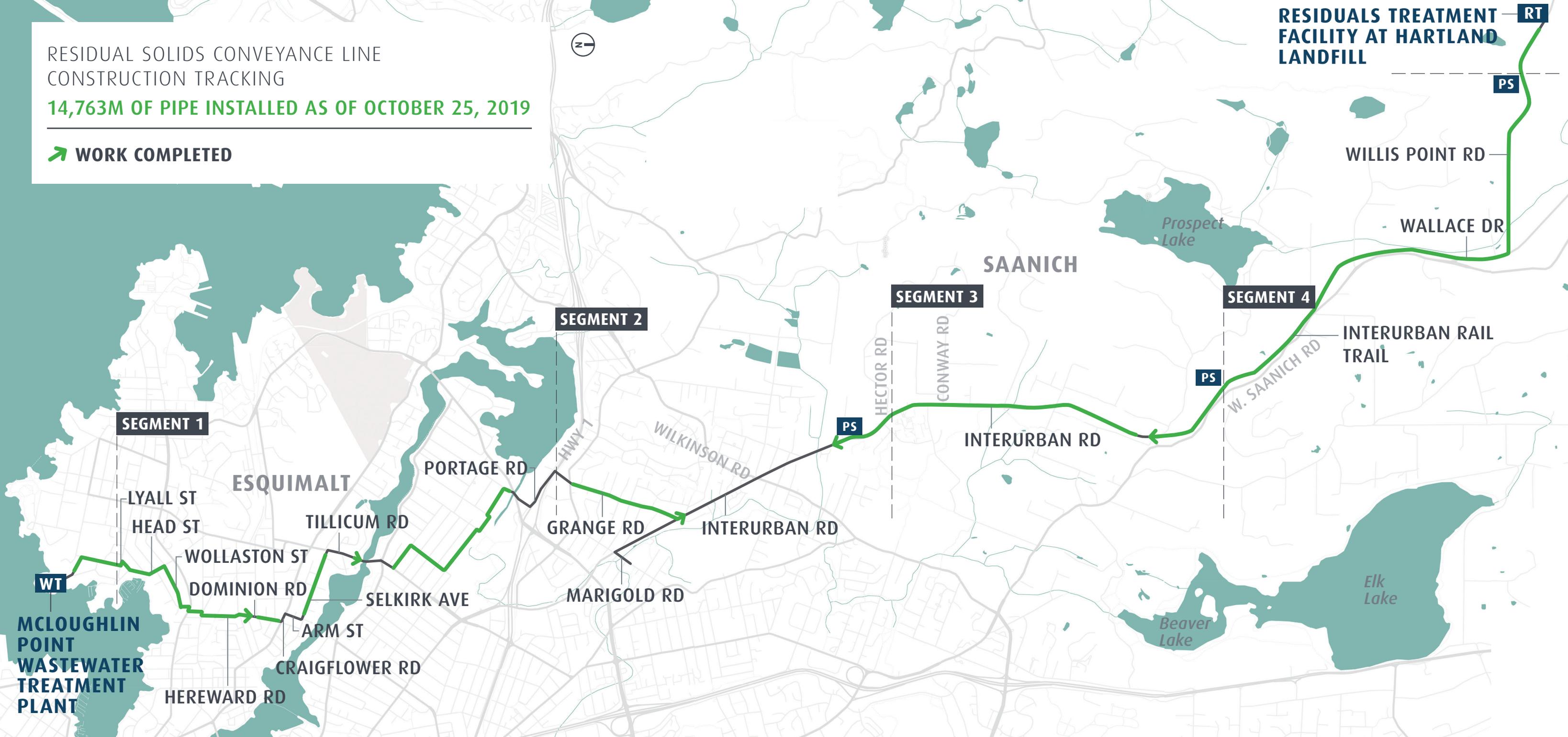
Website
wastewaterproject.ca

Appendix E– Residual Solids Conveyance Line Progress Map

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

14,763M OF PIPE INSTALLED AS OF OCTOBER 25, 2019

➔ WORK COMPLETED



Appendix F– Residual Solids Conveyance Line: Admirals Bridge Work (November 15, 2019)

November 15, 2019

Residual Solids Conveyance Line: Admirals Bridge Work

As part of the Wastewater Treatment Project, a pipe will be installed under Admirals Bridge. This work is anticipated to start on November 18 and take approximately 6-8 weeks to complete.

What to Expect

- Scaffolding will be erected on the side of the bridge and a pipe will be installed under the bridge.
- Noise associated with this work includes construction machinery, drilling and hammering, and truck back-up beepers.

Traffic Impacts

- Two-way traffic will be maintained for the majority of the work. However, occasional single lane alternating traffic may be required.
- The northbound-turn lane from Admirals Road onto Esson Road will be used as a through lane for eastbound traffic.
- Eastbound bike lane will be closed and cyclists will be asked to take the lane.
- South sidewalk will be closed with a detour and signage in place.
- The crosswalk west of the bridge will remain open and pedestrian access will be maintained on the north side of Admirals Bridge.

Work Hours

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



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 G– Arbutus Attenuation Tank: Overnight Bypass Pumping (November 19, 2019)



November 19, 2019

Arbutus Attenuation Tank: Overnight Bypass Pumping

Construction of the Arbutus Attenuation Tank requires temporary bypass pumping overnight. This work is scheduled to begin Tuesday, November 19 and is anticipated to be complete by the end of the week.

What to Expect

- A temporary bypass pumping system has been installed next to the site.
- Noise associated with construction will be ongoing overnight. Diesel-powered pumping units will be in operation and are equipped with acoustic enclosures to reduce noise.
- Flood lights will be used to safely illuminate the work area.
- Temporary closure of trail sections in Haro Woods.

Work Hours

- Construction is required overnight.
- Once this work is complete, normal work hours will resume Monday to Saturday from 7:00 a.m. to 7:00 p.m.

Background

The Arbutus Attenuation Tank will be an underground concrete tank that will temporarily store wastewater flows during high volume storm events to reduce the number of sewage outflows. The Tank is located on CRD-owned land in Haro Woods that was already partially cleared and previously disturbed during the construction of existing sewers. Once construction is complete, the site will be planted with vegetation appropriate for the local woodland setting.

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 H– Traffic Advisory: 24-Hour Single Lane Traffic on Interurban Road (November 19, 2019)



Making a difference...together

Traffic Advisory

For Immediate Release

November 19, 2019

24-Hour Single Lane Traffic on Interurban Road

Saanich, BC- This week, single lane alternating traffic will be required 24 hours a day on Interurban Road between Charlton and North roads due to construction for the Wastewater Treatment Project. This work will take approximately one week to complete.

Multiple crews continue to work on Interurban during the day, currently near the intersections of Quayle, Grange and Marigold.

Please expect delays, especially during the morning and afternoon commute. We appreciate your patience as the work is being completed.

For more information about the Wastewater Treatment Project, please visit wastewaterproject.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc). For updates on alerts, please visit www.crd.bc.ca/alerts.

-30-

For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

Tel: 250.360.3229

Cell: 250.216.5492

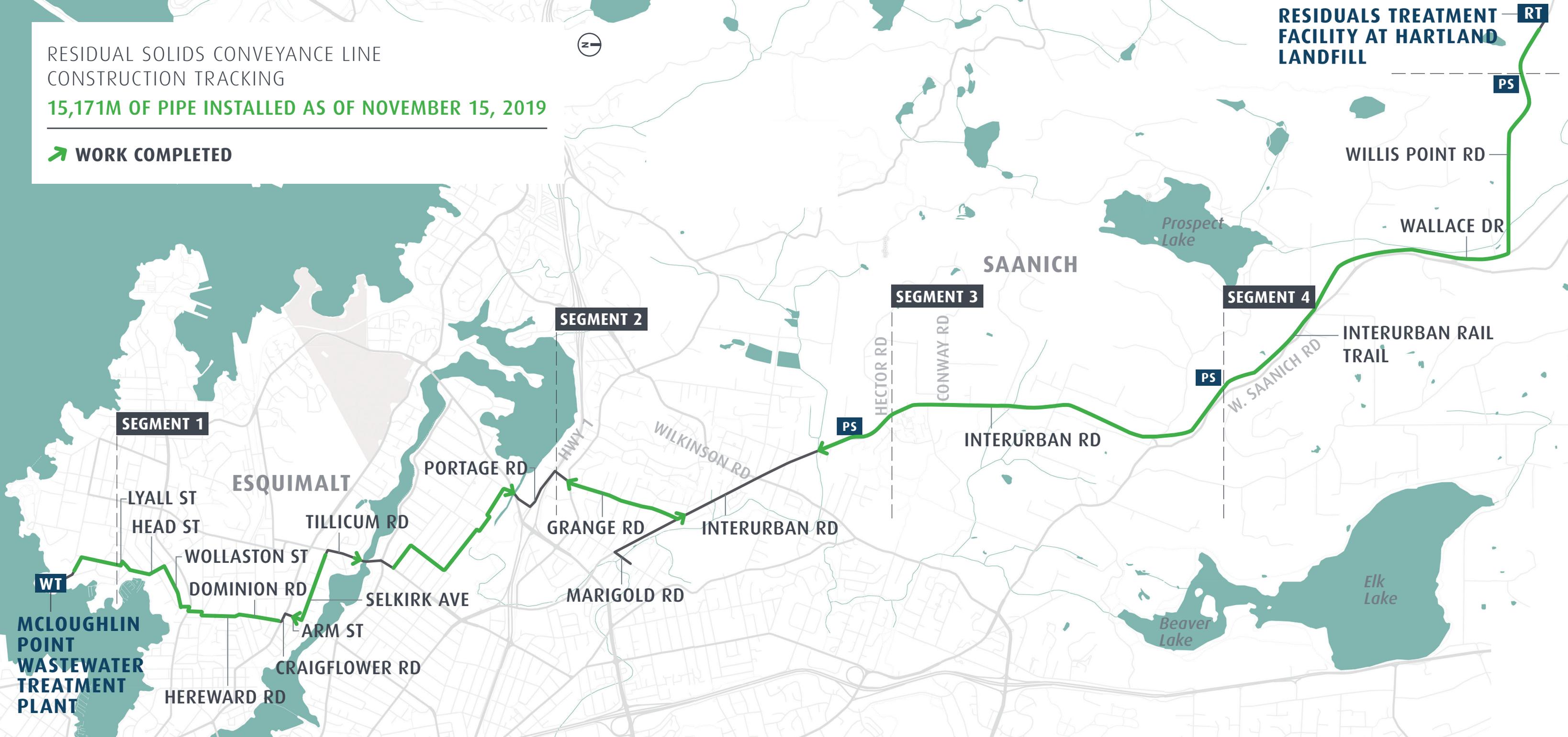


Appendix I– Residual Solids Conveyance Line Map (November 15, 2019)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

15,171M OF PIPE INSTALLED AS OF NOVEMBER 15, 2019

➔ WORK COMPLETED



Appendix J– Overnight Work: Interurban and Wilkinson Intersection (December 5, 2019)

December 5, 2019

Overnight Work: Interurban and Wilkinson Intersection

Construction of the Residual Solids Conveyance Line on Interurban Road is approaching the five-way intersection at Wilkinson Road. Construction from North Road through the five-way intersection will be done at night from 7:00 p.m. to 7:00 a.m. to limit traffic impacts.

North Road to Dunsterville Avenue

From December 9 - 20, Interurban Road will be closed to traffic overnight between North Road and Dunsterville Avenue to accommodate pipe installation. Pedestrian and cyclist access will be maintained and a detour will be in place for traffic. Interurban Road will reopen during the day.

Wilkinson Intersection

Pipe installation through the five-way intersection will take place in January for approximately three weeks with single lane alternating traffic in place overnight. All lanes will be open during the day.

No work is scheduled for this section of Interurban from December 21 to January 1 and all lanes of traffic will be open.

What to Expect

- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored prior to 7:00 a.m.
- Final restoration will take place early in 2020 after the section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Construction lights will be used to illuminate the work zone for safety and traffic control.
- Pipes and equipment will be temporarily stored in the area while this work is completed.

Traffic Impacts

- Interurban Road will be open during the day allowing for regular traffic flow.
- Expect traffic impacts overnight from 7:00 p.m. to 7:00 a.m.
- During night work in the five-way intersection, traffic lights will be turned off and flaggers will direct traffic through the intersection.

Work Hours

- Monday to Friday from 7:00 p.m. to 7:00 a.m.
- Occasional daytime work may be required from 9:00 a.m. to 3:00 p.m.

Background

Construction of the Residual Solids Conveyance Line is progressing well with over 75% of the pipes installed. There are multiple crews working along the 19km alignment. Construction of the conveyance line is anticipated to be complete in spring 2020. A regularly-updated progress map can be found at wastewaterproject.ca.

Thank you for your patience as this work is completed.

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 K– Residual Solids Conveyance Line: Tillicum Road (December 9, 2019)



December 9, 2019

Residual Solids Conveyance Line: Tillicum Road

As part of the Wastewater Treatment Project, pipe installation on Tillicum Road will start December 9 and take approximately 8 to 10 weeks to complete. There will be two crews working on Tillicum Road, with one crew starting at Selkirk Avenue, and a second crew starting on Vincent Avenue. This work will connect the pipe that is being installed under Tillicum Bridge to the rest of the Residual Solids Conveyance Line.

What to Expect

- The pipe will be installed in segments.
- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Final restoration will take place after the section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Pipes and equipment will be temporarily stored in the area while this work is completed.

Traffic Impacts

- North and southbound traffic will be reduced to one lane in each direction during this work.
- To minimize traffic impacts, there will be no lane closures during the morning and afternoon commute (7:30-9:00 a.m. and 3:00-5:00 p.m.).

Work Hours

- Regular work hours are Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Overnight work will be required at the Gorge Road intersection from 7:00 p.m. to 7:00 a.m.
- Occasional Saturday work may be required.
- No work is scheduled from December 21 to January 1.

Background

Construction of the Residual Solids Conveyance Line is progressing well with over 80% of the pipes installed. There are multiple crews working along the 19km alignment. Construction of the conveyance line is anticipated to be complete in spring 2020. A regularly-updated progress map can be found at wastewaterproject.ca.

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

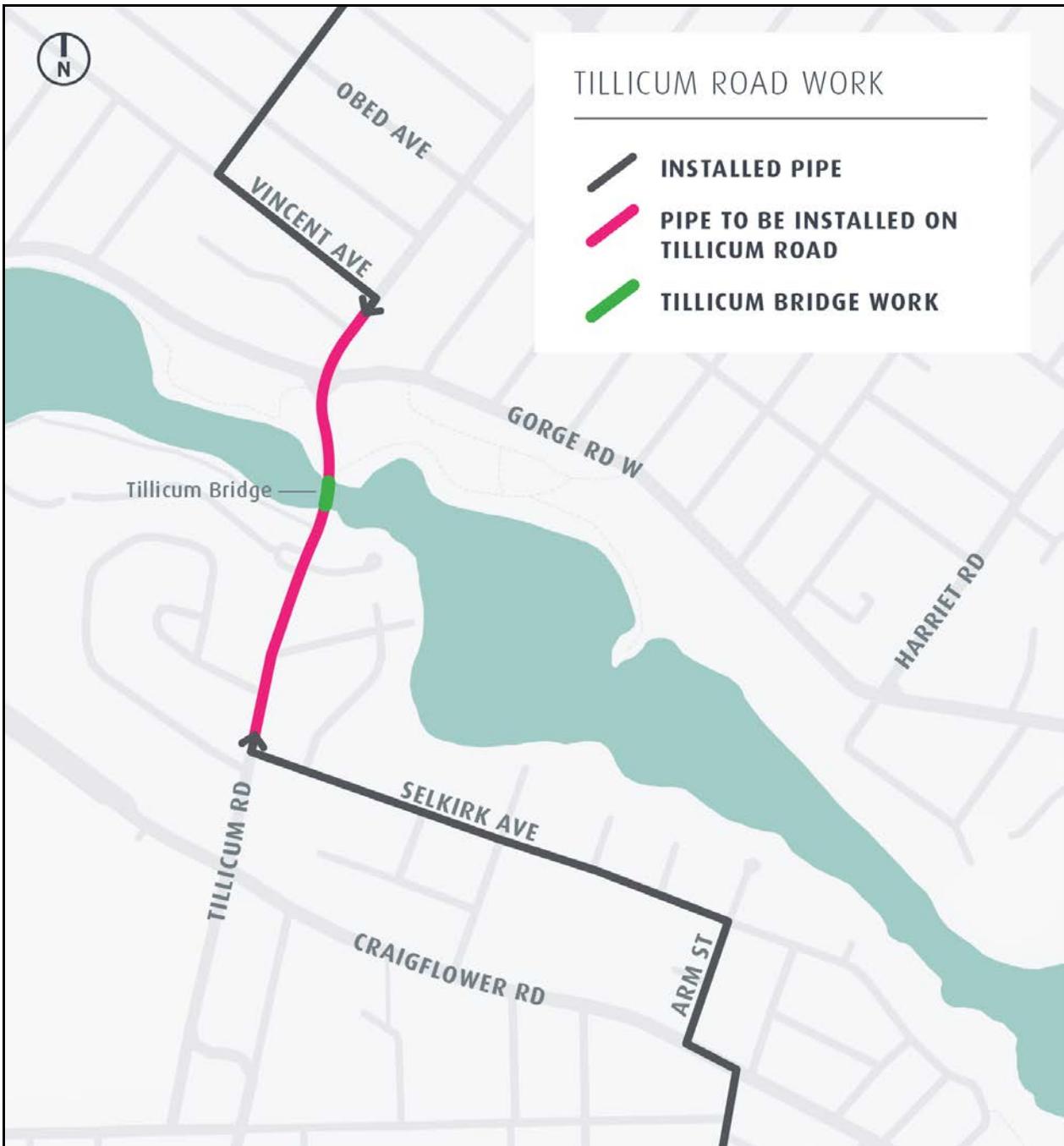


Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Tillicum Road



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 L– Project Update #8 (December 2019)

Wastewater Treatment Project

The Wastewater Treatment Project is on schedule to be complete by the end of 2020.

2019 has been the peak year of construction with over 550 people working across 23 active construction sites. Construction on the Residual Solids Pump Stations and the Arbutus Attenuation Tank began in the summer.

Key milestones were reached on the Project in 2019 including installation of the 1.9km outfall at the McLoughlin Point Wastewater Treatment Plant in July and completion of pipe installation for the Clover Forcemain in August.

2020 will be another busy year for the Project with completion of construction and transitioning to commissioning to begin treating the core area's wastewater by the end of the year.

Construction Updates

MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT

Construction of the McLoughlin Point Wastewater Treatment Plant in Esquimalt is progressing well. The new ocean outfall was completed in July. Over 95% of concrete has been placed and all concrete is anticipated to be complete by March 2020. Major equipment is being installed on site such as chemical tanks, the primary clarifiers, and secondary filters. Mechanical and electrical work are currently the main activities on site.



The outfall pipe being installed in July is 2.25m in diameter and 1.92km long.

CLOVER POINT PUMP STATION

A new roof has been installed over the expanded Clover Point Pump Station and all the structural concrete is complete. The majority of the work is now inside and is focused on equipment installation. All the large pumps have been installed. In November, work began for pipe installation to connect the Clover Forcemain to the pump station. As well, construction is underway on the public washroom that is being built as part of the public amenities that are being added to the area.



View of the upper pump room in the Clover Point Pump Station.

MACAULAY POINT PUMP STATION AND FORCEMAIN

With the majority of concrete placed at the Macaulay Point Pump Station, the above-ground structure is currently being constructed. The pumps have been installed and equipment continues to arrive on site each week. The Macaulay Forcemain is nearing completion with over 90% of pipe installed.



The above-ground timber structure is being constructed at Macaulay Point Pump Station.

CLOVER FORCEMAIN

The Clover Forcemain installation was completed in August 2019. Construction since then has focused on cycle path construction and restoration work, and will continue through the spring. The cycle path has been paved up to Douglas Street and will be open in the summer once the entire stretch from Dock Street to Clover Point is complete. Construction will continue from Douglas Street to Ogden Point and includes paving the road, reinstalling curbs, constructing the cycle path and landscaping. Landscaping is underway from Clover Point to Douglas Street with new trees and vegetation planted near Cook Street.

ARBUTUS ATTENUATION TANK

Construction began in Haro Woods for the Arbutus Attenuation Tank, a 5,000m³ underground concrete tank that will store wastewater during high storm events. Concrete piles are currently being installed around the perimeter of the tank. Once construction is complete, the site will be planted with vegetation appropriate for the woodland setting.



Concrete caisson piles are being installed at the site of the Arbutus Attenuation Tank.

RESIDUALS TREATMENT FACILITY

Significant progress has been made at the Residuals Treatment Facility. All major equipment has been installed including the heat exchangers, dewatering and dryer equipment. Two of the digesters are complete with work progressing on the remaining tanks. Concrete work is nearing completion and construction of the operations building is underway.



Aerial view of construction at the Residuals Treatment Facility.

TRENT FORCEMAIN

The Trent Forcemain is the final component of the Wastewater Treatment Project to be procured and construction is anticipated to begin in early 2020 and take approximately 10 months to complete. The Trent Forcemain will be a 1.9km extension of an existing pipe in the City of Victoria from the intersection of Chandler Ave and St Charles Street to the Clover Point Pump Station. The Trent Forcemain will increase the capacity of the eastern part of the wastewater system.



Map of the Trent Forcemain.

RESIDUAL SOLIDS PUMP STATIONS

Three small pump stations are being built along the Residual Solids Conveyance Line to pump residual solids to the Residuals Treatment Facility. All three are currently under construction with completion anticipated in spring 2020.



Scaffolding on the Tillicum Bridge to install the RSCL pipe.

RESIDUAL SOLIDS CONVEYANCE LINE

Construction of the Residual Solids Conveyance Line is over 80% complete. The majority of the remaining work is on Interurban Road which currently has four crews working on it. Please expect single lane alternating traffic while this work is completed. The upcoming work at the five-way intersection at Wilkinson Road will be done at night starting in January to limit traffic impacts. Pipe installation is anticipated to be complete in the spring.

CONSTRUCTION SUMMARY



23

active construction sites



560

construction workers



20,047m

pipes laid



41,191m³

concrete poured

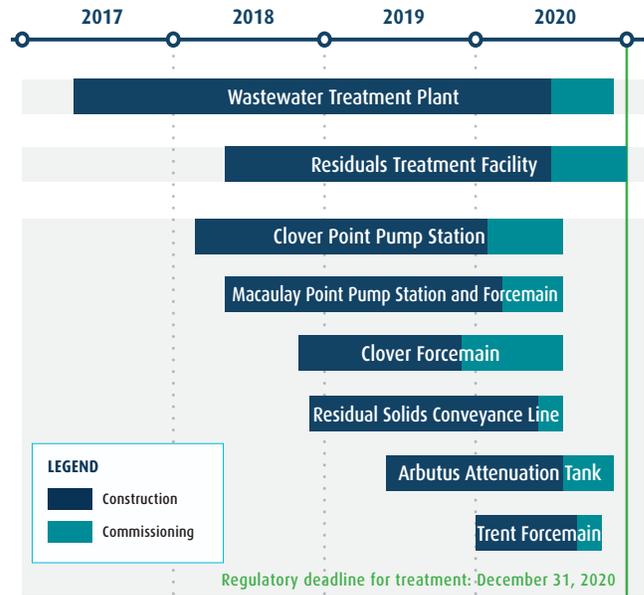
Looking Ahead to 2020

By the end of next year, the CRD will be treating the core area’s wastewater to a tertiary level. Construction activities will continue in 2020 with the majority of work to be completed by mid-2020. While the main sites will be undergoing the start-up process, known as commissioning, there will still be construction on the Arbutus Attenuation Tank and the Trent Forcemain throughout 2020. These components are being built to add capacity to the system to reduce wet weather overflows. As part of restoration, any area impacted by construction will be returned to as good, or better, condition than when construction started. Restoration work will take place throughout 2020 and into 2021.

WHAT IS COMMISSIONING?

Once construction is complete, the different parts of the system will be connected together. Commissioning is the process of testing the different parts of the system and connecting them so they are able to operate together.

Wastewater Treatment Project Schedule* Construction + Commissioning



*Schedule subject to updates as Project planning progresses.

Traffic Impacts

With peak construction for the Project in three municipalities, traffic has been impacted in many areas. Pipe installation often requires single lane alternating traffic controlled by flaggers, signs and cones. We work to limit traffic impacts where possible, but please expect delays.

Safety of not only the workers on site, but also the public, is the top priority for the Project. With road work throughout the region, some simple steps can keep everyone safe.



Slow down and drive with care near a construction zone.



Pay attention to flaggers. Make eye contact and follow their directions.



Follow construction signs.

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

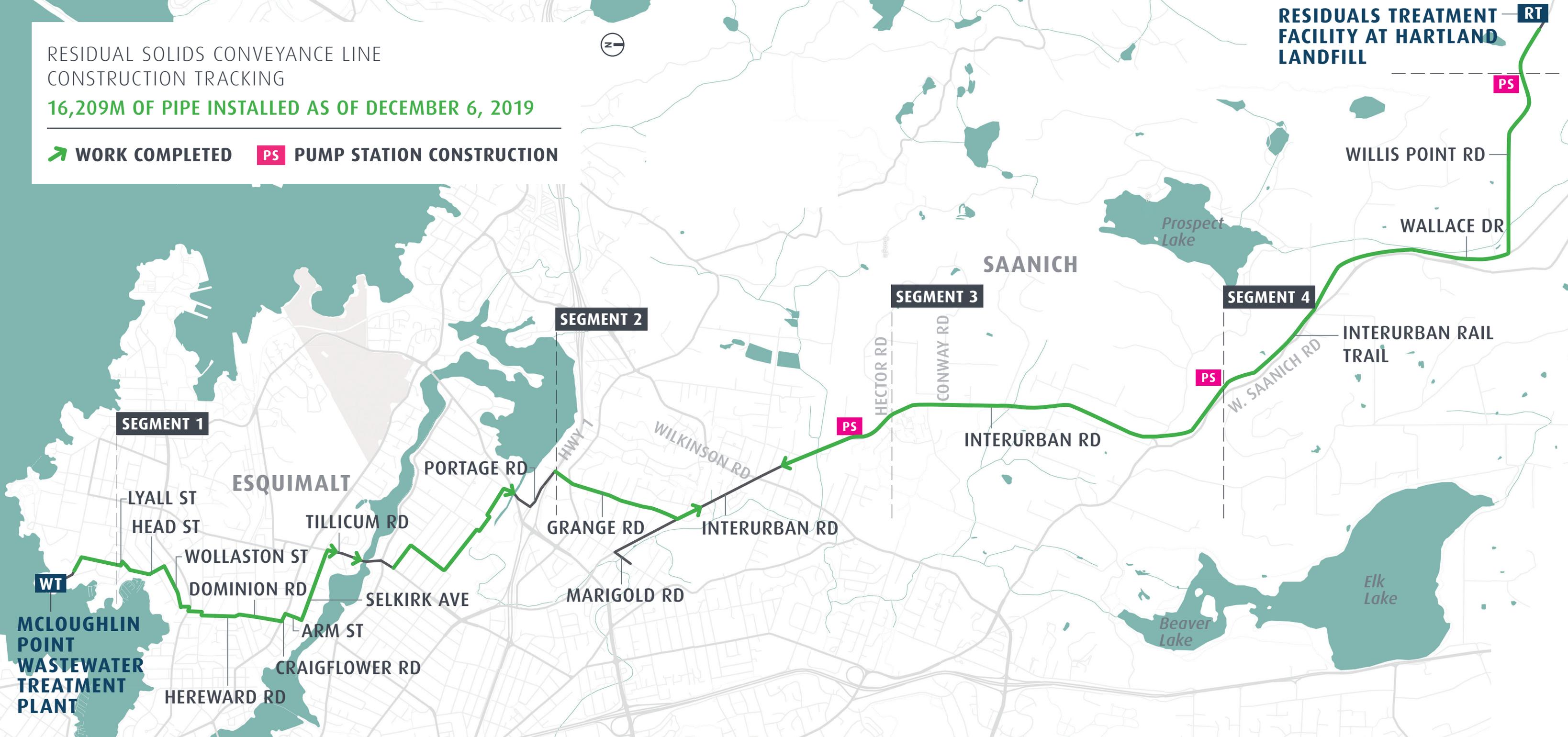
24-7 Project Information Line: 1.844.815.6132

Appendix M– Residual Solids Conveyance Line Map (December 6, 2019)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

16,209M OF PIPE INSTALLED AS OF DECEMBER 6, 2019

 WORK COMPLETED  PUMP STATION CONSTRUCTION



Appendix N– Monthly Cost Report (December)

MONTHLY COST REPORT
as at December 31, 2019

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to November 30, 2019	Expended over reporting period (December 2019)	Expended to December 31, 2019	Expended to December 31, 2019 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at December 31, 2019	Total Commitment at December 31, 2019	Unexpended Commitment at December 31, 2019	Uncommitted Allocated Budget at December 31, 2019	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	331.4	328.1	262.0	5.6	267.6	82%	60.5	319.9	52.3	8.2	60.5	328.1	-	0%
Construction	306.7	319.6	261.3	5.6	266.9	84%	52.7	319.2	52.3	0.4	52.7	319.6	-	0%
Contingency	14.9	1.6	-	-	-	0%	1.6	-	-	1.6	1.6	1.6	-	0%
Financing	9.8	6.9	0.7	0.0	0.7	10%	6.2	0.7	-	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	159.4	138.8	8.8	0.5	9.3	7%	129.6	137.8	128.6	1.0	129.6	138.8	-	0%
Construction	145.4	137.8	8.7	0.5	9.2	7%	128.6	137.8	128.6	0.0	128.6	137.8	-	0%
Contingency	12.3	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	1.7	0.8	0.0	0.0	0.0	4%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	158.1	216.9	129.6	4.7	134.4	62%	82.4	195.5	61.0	21.4	82.4	216.9	-	0%
Macaulay Point Pump Station	25.4	30.7	20.0	1.2	21.2	69%	9.5	30.7	9.5	-	9.5	30.7	-	0%
Macaulay Forcemain	5.6	7.4	6.0	0.3	6.3	85%	1.1	7.4	1.1	-	1.1	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	-	12.4	100%	0.0	12.4	0.0	0.0	12.4	12.4	-	0%
Clover Point Pump Station	23.7	27.5	23.6	0.4	24.0	87%	3.5	27.5	3.5	-	3.5	27.5	-	0%
Currie Pump Station^	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	0.1	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	9.1	0.6	9.7	40%	14.8	23.1	13.3	1.5	14.8	24.6	-	0%
Clover Forcemain	14.6	32.5	26.2	0.6	26.8	83%	5.7	32.2	5.4	0.3	5.7	32.5	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	0.2	0.2	-	0%
Trent Forcemain	9.5	11.3	0.2	-	0.2	2%	11.1	8.0	7.8	3.3	11.1	11.3	-	0%
Residual Solids Conveyance Line	19.1	35.8	26.3	0.9	27.2	76%	8.5	35.6	8.4	0.1	8.5	35.8	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	19.5	4.9	0.6	5.5	28%	13.9	17.4	11.9	2.0	13.9	19.5	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.5	0.3	-	0.3	60%	0.2	0.5	0.2	0.1	0.2	0.5	-	0%
Contingency	16.8	10.4	-	-	-	0%	10.4	-	-	10.4	10.4	10.4	-	0%
Financing	5.8	4.1	0.3	0.1	0.4	9%	3.7	0.4	-	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	75.9	77.9	49.5	1.1	50.6	65%	27.3	67.2	16.6	10.7	27.3	77.9	-	0%
Professional Services	29.2	41.9	28.9	0.3	29.2	70%	12.7	35.6	6.4	6.3	12.7	41.9	-	0%
Project Board, Project Team & CRD Allocations	34.7	27.9	16.3	0.8	17.1	61%	10.9	26.5	9.5	1.4	10.9	27.9	-	0%
PMO Support	4.8	3.5	2.0	0.0	2.1	58%	1.5	2.8	0.7	0.8	1.5	3.5	-	0%
PMO start-up costs	2.3	2.3	2.3	-	2.3	100%	-	2.3	-	-	-	2.3	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	12.9	4.3	2.0	-	2.0	47%	2.3	2.0	0.0	2.3	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1	3.4	0.1	3.4	42%	4.7	6.8	3.4	1.3	4.7	8.1	-	0%
Program Reserves	19.2	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Core Area Wastewater Treatment Project	765.0	775.0	455.3	12.0	467.3	60%	307.6	729.3	261.9	45.7	307.6	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 O- Quarterly Cost Report

QUARTERLY COST REPORT
as at December 31, 2019

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to Sept 30, 2019	Expended over reporting period (Q4 2019 Sept - Dec)	Expended to Dec 31, 2019	Expended to December 31, 2019 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at December 31, 2019	Total Commitment at December 31, 2019	Unexpended Commitment at December 31, 2019	Uncommitted Allocated Budget at December 31, 2019	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant	331.4	328.1	242.7	24.9	267.6	82%	60.5	319.9	52.3	8.2	60.5	328.1	-	0%
Construction	306.7	319.6	242.1	24.8	266.9	84%	52.7	319.2	52.3	0.4	52.7	319.6	-	0%
Contingency	14.9	1.6	-	-	-	0%	1.6	-	-	1.6	1.6	1.6	-	0%
Financing	9.8	6.9	0.6	0.1	0.7	10%	6.2	0.7	-	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	159.4	138.8	8.4	0.9	9.3	7%	129.6	137.8	128.6	1.0	129.6	138.8	-	0%
Construction	145.4	137.8	8.4	0.8	9.2	7%	128.6	137.8	128.6	0.0	128.6	137.8	-	0%
Contingency	12.3	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	1.7	0.8	-	0.0	0.0	4%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	158.1	216.9	109.7	24.8	134.4	62%	82.4	195.5	61.0	21.4	82.4	216.9	-	0%
Macaulay Point Pump Station	25.4	30.7	16.9	4.3	21.2	69%	9.5	30.7	9.5	-	9.5	30.7	-	0%
Macaulay Forcemain	5.6	7.4	4.5	1.8	6.3	85%	1.1	7.4	1.1	-	1.1	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	0.0	12.4	100%	0.0	12.4	0.0	0.0	0.0	12.4	-	0%
Clover Point Pump Station	23.7	27.5	21.0	3.0	24.0	87%	3.5	27.5	3.5	-	3.5	27.5	-	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	6.2	3.5	9.7	40%	14.8	23.1	13.3	1.5	14.8	24.6	-	0%
Clover Forcemain	14.6	32.5	23.7	3.1	26.8	83%	5.7	32.2	5.4	0.3	5.7	32.5	-	0%
Currie Forcemain^	3.3	0.2	0.2	0.0	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.3	0.2	-	0.2	2%	11.1	8.0	7.8	3.3	11.1	11.3	-	0%
Residual Solids Conveyance Line	19.1	35.8	20.9	6.3	27.2	76%	8.5	35.6	8.4	0.1	8.5	35.8	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	19.5	2.9	2.6	5.5	28%	13.9	17.4	11.9	2.0	13.9	19.5	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.5	0.3	0.0	0.3	60%	0.2	0.5	0.2	0.1	0.2	0.5	-	0%
Contingency	16.8	10.4	-	-	-	0%	10.4	-	-	10.4	10.4	10.4	-	0%
Financing	5.8	4.1	0.3	0.1	0.4	9%	3.7	0.4	-	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	75.9	77.9	46.4	4.2	50.6	65%	27.3	67.2	16.6	10.7	27.3	77.9	-	0%
Professional Services	29.2	41.9	27.0	2.2	29.2	70%	12.7	35.6	6.4	6.3	12.7	41.9	-	0%
Project Board, Project Team & CRD Allocations	34.7	27.9	15.2	1.9	17.1	61%	10.9	26.5	9.5	1.4	10.9	27.9	-	0%
PMO Support	4.8	3.5	1.9	0.2	2.1	58%	1.5	2.8	0.7	0.8	1.5	3.5	-	0%
PMO start-up costs	2.3	2.3	2.3	(0.0)	2.3	100%	-	2.3	-	-	-	2.3	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	12.9	4.3	2.0	0.0	2.0	47%	2.3	2.0	0.0	2.3	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1	3.3	0.1	3.4	42%	4.7	6.8	3.4	1.3	4.7	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	412.6	54.9	467.3	60%	307.6	729.3	261.9	45.7	307.6	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



**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF THURSDAY, MARCH 5, 2020**

SUBJECT **Wastewater Treatment Project January 2020 Monthly Report**

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project January 2020 Monthly 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 Monthly report for the period of January 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 January 2020 Monthly 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 January 2020 Monthly Report

ES:er



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Monthly Report

Reporting Period: January 2020

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1 Executive Summary

1.1 Introduction

This Monthly report covers the reporting period of January 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.

Overall the Wastewater Treatment Project progressed as planned with no changes to the construction/commissioning start and completion dates.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction including: installation of tube settlers in Densadeg 1 and 2; installation of clarifier mechanism in densadeg 1; completion of plant drain tank piping and installation; completion of Moving Bed Bio Reactor (MBBR) #2 concrete; Biological Aerated Filter (BAF) scouring air distribution systems complete in all but 3 cells; progressing penthouse building envelopes; progression of BAF tie-in walls and channels in tertiary area; continuing upper disk filter walls; roofing membrane installed on level one of the Operations and Maintenance (O&M) building; completed raw influent line from Peters street to the wye, including testing; and external major electrical equipment commissioning commenced.

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: erection of Water Storage Tank completed; drywall installation and finishing complete in Residuals Handling Building and Dryer Building; structural steel frame completed for Water Pump House; exterior of Dryer Building weathertight with cladding, glazing and flashings installed; installation of process mechanical piping between residuals solids tanks and Equalization Building; installation of exterior insulated metal cladding panels, flashing and gutters on Equalization Building and Water Pump House; and installation of mixing pumps in Digester Equipment Building; cored walls for installation of mechanical/process piping between digesters, Digested Solids Storage Tank (DSST) and Digester Equipment Building.

The Conveyance System is being delivered through eight construction contracts: two design-build contracts and five design-bid-build contracts.

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 activities over the reporting period including: installation of process pipe knife gate and check valves; completed installation checks of transformer, switch gear, neutral grounding resistor and motor control centres (MCC); and installation of flow, level and gas detection instrumentation.

- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of bridge crane in the bin room; ongoing backfill around the exterior wall; installation of cross laminated timber roof and parapets; and installation of heating ventilation air conditioning (HVAC) and drain pipe in the screen room.

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

- Clover Forcemain: Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; electrical lighting installation; installation of the Clover Point storm catch basin ongoing and progression of the Camas curb extension.
- 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 for the Residual Solids Pipes) continued construction activities including: installation of valve chambers; road restoration; and installation of approximately 1154 m of pipes.
 - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities at all three pump stations including: forming and pouring of wet well walls at Pump Station 1; excavation and installation of flow meter manhole at Pump Station 2; installation of underground conduits in Pump Station 3; formation and pouring of concrete slab at the Marigold Pump Station.
- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) has continued construction activities with a focus on civil excavation and structural secant pile construction works. Ongoing activities also include maintaining the dewatering system; mobilisation of a second drill rig to site to assist in secant pile production rate; and steel splicing works for installation of deep piles.
- Trent Forcemain: The Project Team executed the construction contract with the tenderer selected in accordance with the Invitation to Tender: Jacob Bros. Construction Inc. The contractor started submitting construction management plans for the Project Team’s review.

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 no reportable safety incidents occurred and the total incident frequency decreased from 1.5 at the end of the last reporting period to 1.4. The Project Team continues to work with, and ensure that all of the prime contract partners maintain safety as their number one priority.

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.

Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete to Project at \$775M, or \$10M over the Project’s control budget. The CRD Board has approved an increase in the Project’s budget by \$10M to \$775M.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents occurred over the period. Site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					One environmental incident occurred over the period. A hose on an excavator working on the RSCL broke and a small amount of hydraulic fluid was released to the trench being excavated. Crews cleaned up the leak immediately and there was no adverse impact on the environment.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues.
Cost	Deliver the Project within the Control Budget (\$765 million).					Based on the value of the contracts awarded to-date and a refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project's Control Budget. This is 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 CRD Board have approved an increase in the Project's budget by \$10M, to \$775M.

* 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.

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 and Arbutus Attenuation Tank.

Over the reporting period 17 safety incidents occurred in total: comprising: 4 First-aid; 8 Report Only; and 5 Near Miss incidents, as summarized in Table 2.

Table 2: Safety Incidents over the Reporting Period

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 6, 2020	Residual Solids Pipes	Report Only	Excavator struck an overhead utility line while working during the night on Interurban Road.	Shaw was called and reinstalled the service.	Tool-box talk discussion to have a spotter when working in close proximity to overhead utilities.
January 15, 2020	RTF	Report Only	Malfunction of a Diesel Heater created a loud noise while a worker was in the immediate vicinity.	The Heater immediately shut down, and unit was removed from service.	Unit was removed from the site to be inspected Worker sent to medical aid for an assessment as an extra precaution.
January 16, 2020	McLoughlin Pt WWTP	First Aid	Worker struck hand while walking past rebar. Protective gloves were being worn.	Worker reported to First Aid. Minor injury addressed and returned to work.	Worker reminded to be more aware of surroundings that have potential hazards
January 17, 2020	McLoughlin Pt WWTP	First Aid	Worker slipped on a patch of ice, rolling ankle.	Worker reported to First Aid to report incident and have ankle assessed.	Workers ankle was iced and wrapped and worker was placed on modified duty Workers reminded that weather conditions are poor and to use extreme caution when walking on slippery surfaces
January 17, 2020	Residual Solids Pipes	Near Miss	A driver ignored signal persons direction and drove in between delineators that were set up as a control zone around the worksite.	The vehicle stopped in close proximity to the construction trench. Signal person directed the vehicle back to the travel portion of the road.	Extra delineators and barriers were placed around the open trench Additional lighting was installed to better illuminate the work area
January 17, 2020	McLoughlin Pt WWTP	Report Only	Worker injured hand while moving construction material.	Workers thumb was assessed at First Aid with no treatment provided and returned to work.	Tool-box talk on the use of proper techniques for lifting or passing of materials

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 19, 2020	RTF	Report Only	A Telehandler operator struck a light standard while trying to back up.	Operator did not have a valid ticket to operate mobile equipment.	Employee was restricted from using mobile equipment. Tool-box talk with crew to review the site policy on equipment use and certifications required to operate equipment.
January 21, 2020	McLoughlin Pt WWTP	Near Miss	Workers were attempting to lower a pump base into place. Before lowering a test lift was performed and then the procedure began. Approximately 4 feet from the floor the base split and fell.	A reviewed of the lifting procedures and rigging indicated all was in order.	Tool-box talk to remind crews the importance of staying out of lifting areas.
January 22, 2020	Residual Solids Pipes	Report Only	Road plate shifted causing the pin securing it to pop up.	Road plate pins caused damage to vehicle tires.	Contractor immediately dispatched a crew to fix the road plate and re-secure the Contractor covered the cost of the drivers tires.
January 22, 2020	Residual Solids Pipes	Report Only	A vehicle ignored a TCP's stop sign almost hitting an oncoming vehicle.	Heavy rain and possible visual impairment from a light tower may have contributed to the incident.	Light tower was repositioned and a Safety meeting was held with TCP personnel to review procedures for traffic control.
January 23, 2020	Residual Solids Pipes	Near Miss	While pressure testing a length of pipe a cap dislodged.	There was nobody in the vicinity and no injuries. A restraining collar which held the cap had to be repaired.	The restraining collar was correctly used so a secondary brace will be added for any further testing in the event there is another failure.
January 23, 2020	Residual Solids Pipes	Near Miss	A dump truck pulled forward while box was raised almost striking a utility line.	The driver stopped in time and backed the truck up and lowered the dump box.	Tool-box talk held to discuss the use of spotters when working near any overhead utility lines. Dump box on truck to be fully lowered before moving vehicle.
January 23, 2020	McLoughlin Pt WWTP	Report Only	Worker tripped on an uneven surface and landed on their left knee.	Worker reported to First Aid but no follow up required. Worker returned to their duties.	Tool-box talk held to discuss awareness of hazards in the area.
January 24, 2020	McLoughlin Pt WWTP	Report Only	A worker received an electrical shock when they grabbed the connection between two power cords.	Worker reported to First Aid but no follow up required. Worker returned to their duties.	Tool-box discussion on electrical hazards when working in wet conditions.
January 27, 2020	McLoughlin Pt WWTP	First Aid	A worker pinched their finger while moving a beam.	Worker taken to the clinic for an assessment and returned to work.	Tool-box talk about being aware of hands in the "bite" when moving materials.
January 27, 2020	Residual Solids Pipes	Near Miss	Steel plates used across a trench did not have sufficient overhang required to secure the plates.	Due to the heavy rain and traffic movement the soil beneath the plate sluffed into the excavation.	A crew working next to the site was dispatched to the location in order to remove the road plates and backfilling the excavation.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
January 27, 2020	McLoughlin Pt WWTP	First Aid	A worker sustained a hand injury while trying to force close a cam lock fitting.	The worker reported to first aid. Injury was addressed and the worker returned to their duties.	Safety discussion with worker to review the actions that lead to the injury and reemphasized using the correct tool for the job.

Key safety activities conducted during January included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- updated Office and First Aid Hazard Assessment for 2020;
- attended chartering session for Trent Forcemain;
- sent out safety notices for cold stress conditions;
- conduct quality safety assurance audit on Residuals Solids Pump Stations Prime Contractor;
- conducted New Worker Office Orientations for WTP staff;
- monthly incident Investigation reviews;
- reviewed site specific safety plans and high risk tasks such as Confined Space and Silica work;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- host Prime Contractor Safety Coordination Meeting focusing on resuming work in 2020 and expectations and goals for Primes; and
- review Prime Contractor document submissions for Trent Forcemain.

Table 3: WTP Safety Information

	Reporting Period (January 2020)	Project Totals
Person Hours		
PMO	3 638	131 126
Project Contractor	94 070	1 449 541
Total Person Hours	97 708	1 580 667
PMO	31	
Project Contractors (& Project Consultants) working on Project Sites	522	
Total Number of Employees	553	
Near Miss Reports	5	41
High Potential Near Miss Reports	0	5
Report Only	8	124
First Aid	4	38
Medical Aid	0	5
Medical Aid (Modified Duty)	0	2
Lost Time	0	4
Total Recordable Incidents	0	11
		Project Frequency (from January 1, 2017)
First Aid Frequency		4.8
Medical Aid Frequency		0.9
Lost time Frequency		0.5
Total Recordable Incident Frequency		1.4

2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating to both the planning and permitting of upcoming work and 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 January included:

- In response to heavy rain events, McElhanney Consulting Services (as the qualified environmental professional for Knappett, Don Mann and NAC Constructors Ltd. – being the Construction Contractor for the Residual Solids Pump Stations, the Residual Solids Pipes, and the Arbutus Attenuation Tank, respectively) completed environmental monitoring and inspections at numerous sites over the course of the reporting period. Generally improvements to environmental controls that were implemented in response to heavy December rains were effective, however McElhanney's inspections confirmed the importance of checking those controls often.

Over the reporting period there was one environmental incident:

- On January 28th, a minor environmental incident occurred when a hydraulic line on an excavator working on the Residual Solids Pipes broke, leaking approximately one litre of hydraulic fluid into the trench that was being excavated. Don Mann (the Construction Contractor for the Residual Solids Pipes) staff deployed sorbent pads into the trench to absorb fluid that had spilled into the trench. The sorbent pads were disposed of at an appropriately licenced facility. No adverse environmental effects resulted from the leak.

2.2.2 Regulatory Management

During the reporting period, the Project Team continued to monitor the advancement of construction-related regulatory approvals and supported or led the advancement of permit applications.

Key permitting activities for January included:

- Stantec (as the archaeological consultant for the Trent Forcemain) added the Trent Forcemain scope to their *Heritage Conservation Act* Site Inspection Permit.
- The CRD submitted the technical memo prepared by Lorax Environmental Services (Lorax, the CRD's dispersion modelling consultant) that addressed a request for additional information from the BC Ministry of Environment and Climate Change Strategy (ENV).

The status of 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. There were no updates made to the table from that presented in the Project's Q4 2019 Quarterly Report.

Table 4- Key Permits Status

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Permitting</i>
<i>McLoughlin Point WWTP</i>			
Municipal Wastewater Regulation ("MWR") Registration	Q1 2020	Submitted September 2019	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On Track	HRP
<i>McLoughlin Point Outfall</i>			
Transport Canada Lease	Following completion of construction	On Track	HRP
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	Submitted May 2019	HRMG

2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point and Macaulay Point.

Millennia Research (as the Project's archaeological advisor) continued archaeological monitoring of excavations along the RSCL and Clover Forcemain routes with members of local First Nations.

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.

Construction Communications

One information bulletin was issued to stakeholders in the reporting period:

- Final Contract Awarded for the Wastewater Treatment Project (January 9, 2020) (Appendix A)

Project Website

Over the reporting period, the Project website, wastewaterproject.ca, was updated with information about the Project. One information bulletin was posted and the photo gallery section was updated with additional photos. Two alerts were added, and resolved once complete, to indicate overnight work along the intersections at Tillicum/Gorge and Interurban/Wilkinson roads. These alerts were also posted on the CRD's Twitter account. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix B) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about overnight construction along the RSCL route.

Community Meetings

Over the reporting period the Project Team held meetings with the following community groups and representatives, and municipality representatives:

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

Public Inquiries

Table 5 – Project Inquiries- January 2020

Inquiry Source	Contacts for January
Information phone line inquiries	21
Email inquiries responded to	12

Key themes of the public inquiries were as follows:

- Questions regarding the timeline for final restoration along RSCL; and
- Interest in becoming a supplier or employee of the Project.

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

Overall the Project's scheduled activities progressed as planned during the period. All major and key interface milestones were on target to be completed as per the schedule. Progress over the reporting period is summarized in section 2.9.

Figure 1 shows the high-level Project schedule. This schedule has not changed from that shown in the Project's Q4 2019 Quarterly Report, and remains subject to optimization as the Project progresses.

The Project remains on-schedule to meet the provincial and federal regulations for treatment for the Core Area's wastewater by December 31, 2020.

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 30 days (February) are outlined below by function.

Safety

- complete Quality Safety Assurance Audit on Residuals Solids Pump Stations Contractor;
- attend CRD corporate occupational health and safety coordination committee meeting;
- attend weekly and bi-weekly prime contractor progress meetings;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- office/site inspections with contractors and CRD corporate at all active sites;
- review of any site specific safety plans or high risk tasks;
- send out any new Safety Notices or Incident Notifications to Prime Contractor;
- annual safety training with Colliers for Office Safety;
- review Trent Forcemain document submissions;
- WTP Safety Manager and/or Construction 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

- CRD, Stantec and HRP to meet with ENV to discuss ENV review of the Environmental Impact Studies that form the basis of the MWR Registration application.
- CRD and HRMG to meet with ENV for a tour of the RTF site and a presentation on the process for producing Class A biosolids.

First Nations

- continue advancing Indigenous art and signage development and procurement.

Stakeholder Engagement

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

Cost Management and Forecast

- prepare cost reports;
- monitor schedule;
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund); and
- prepare for CRD 2019 Financial Statement Audit.

Construction

McLoughlin Point

- complete and test raw influent line and plant bypass piping;
- complete external major electrical commissioning;
- substantially complete Densadeg piping systems;
- install primary odour control tanks;
- install pipe racks and cable tray racks;
- building envelope construction on fine screen and chemical pump room;
- continue Densadeg installation;
- commence plate settler tank cover installation;
- completion of moving bed bio reactor (MBBR) #2 concrete work;

- progress monoflor installation in BAF tanks 7, 12 and 9;
- continue BAF equipment installation;
- install pipe rack #3;
- continue cable tray and cable pulls in BAF gallery, main electrical room and blower room;
- penthouse insulation and drywall activities substantially complete;
- continue cladding installation on all penthouse structures;
- progress south BAF structural tie-in work;
- continue disk filter channel walls;
- continue lower level equipment layout and set activities;
- cinder block work substantially complete throughout building;
- glazing installation complete on level 1 and substantially complete level 2;
- HVAC and plumbing continue throughout the facility, begin closing walls and get into finishing activity;
- begin interior steel stud complete on main level, substantially complete on Level 2;
- target commencement of roofing membrane; and
- continue fire stopping where possible.

Clover Point Pump Station

- commence new public plaza;
- install interior finishes to washroom;
- install stone façade to exterior retaining walls; and
- commence operational testing of odour control, air handling unit, storm pumps and relocated existing screens.

Macaulay Point Pump Station

- paint mechanical room and washroom;
- install plumbing fixtures and washroom tiles;
- install HVAC, unit heaters and mechanical louvers and dampers;
- install jib crane in pump room;
- commence installation of diesel generator exhaust and diesel fuel tank;
- pull cable for permanent power feed and terminate to transformer;
- terminate cable in odour control, bin room, electrical room, pump room, and generator room; and
- commence installation of site paving and sidewalks.

Residuals Treatment Facility

- complete hydro testing and commence pneumatic testing and tank insulation at Digester 1;
- commence hydro testing at Digester 2;
- continue tank erection for Digester 3;
- continue mechanical and electrical installations and complete building envelope work at the Digester Building;
- complete piping and pump installation in the Digested Sludge Storage Tank;
- continue steel stud and cladding construction and commence roofing and building systems at Operations Building;
- continue electrical cabling and install stairs, rails and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, HVAC, sprinklers, and drywall at the Residuals Handling Building;

- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- complete installation of water pump and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue road/cycle track including paving Dock Street to Government Street and Douglas Street west to Douglas Street east;
- continue installing lamp standards on Dallas Road and cycle track; and
- perform road restoration Government Street to Douglas Street.

Residual Solids Pipes

- continue final pavement restoration along Interurban Road;
- commence pipe installation at Portage Road and Esson Road; and
- install pipes on Tillicum Road from Gorge Road to Tillicum Bridge.

Residual Solids Pump Stations

- commence pipe installation on Marigold Road;
- continue pipe installation on Interurban from Violet Avenue to Grange Road; and
- continue installation of supports and piping on Tillicum Bridge and Admirals Bridge.

Arbutus Attenuation Tank (AAT)

- complete drilling operation for secant piles;
- complete installation of plain and reinforced secant piles;
- commence installation of ring beam (formwork, rebar, pour concrete);
- commence installation of cross and diagonal strut beams; and
- commence excavation within tank footprint to base slab elevation.

Trent Forcemain

- contractor to mobilize to site;
- conduct pre-condition survey;
- continue to review contractor's construction management plans; and
- contractor to start with pot holing and relocation activities.

2.6.2 60 day look ahead

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

Safety

- attend CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- attend weekly and bi-weekly prime contractor progress meetings;
- office/site inspections with contractors and CRD corporate at all active sites;
- prime contractor project safety meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- incident reporting review with prime contractors at active work locations; and
- conduct Quality Safety Assurance Audits on Arbutus Attenuation Tank Prime Contractor.

Environment and Regulatory Management

- CRD, Stantec and HRP to meet again with ENV to discuss the Environmental Impact Studies that form the basis of the MWR Registration application.

First Nations

- CRD to continue meeting with the First Nation Liaisons.

Stakeholder Engagement

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

Cost Management and Forecast

- prepare cost reports;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- demobilise the north tower crane;
- continue construction of remaining tsunami wall sections;
- install roofing, stairs, glazing and HVAC in primary odour control;
- install forced air ducting and dampers throughout;
- install cable and instrumentation and complete terminations to the MCC in secondary odour control;
- install SUEZ walkways and equipment and tank covers in Densadeg 2 & 3;
- install HVAC, plumbing and sprinklers in screen room, and north and south pump rooms;
- continue with process mechanical and process electrical installations throughout;
- install gravel and Biolite in BAF tanks;
- continue construction of concrete walls, curbs and roof top slab in Tertiary treatment area;
- continue with O&M building envelope and installation of electrical and mechanical; and
- continue with installation of fire stopping, insulation, and drywall boarding.

Clover Point Pump Station

- install existing screens in West and East inlet channels;
- demolish existing pumps and check valves;
- form and pour new pipe supports;
- cut openings to sanitary wet well and grit separators;
- relocate existing slide gates;
- install backwash system;
- remove existing generator;
- install new diesel generator;
- install shower masonry in public washroom;
- install HVAC, insulation, roofing membrane and plumbing fixtures in public washroom; and
- install doors and hardware in new pump station.

Macauley Point Pump Station

- install incoming watermain;
- install primary electrical duct bank and pull cable;
- complete back fill of structure;
- install stairs and walkways in pump room;
- form, rebar and pour diversion chamber base slab and walls;
- continue installation of stained wood cladding;
- install doors and frames;
- install HVAC and plumbing fixtures; and
- reinstate asphalt roads and curbs on Anson and Bewdley streets.

Residuals Treatment Facility

- complete pneumatic testing and continue tank insulation at Digester 1;
- complete hydro testing and pneumatic testing and commence tank insulation at Digester 2;
- complete tank erection and commence hydro testing at Digester 3;
- continue mechanical and electrical installations at the Digester Building;
- commence hydro testing at the Digested Sludge Storage Tank;
- commence hydro testing at the Water Storage Tank;
- complete steel stud, cladding and roofing and continue building systems at Operations Building;
- continue electrical cabling and install pumps and headers and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, and building systems at the Residuals Handling Building;
- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- continue process mechanical and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue with Dallas Road reconstruction from St Lawrence Street to Montreal Street;
- continue road/cycle track construction from Dock Street to Olympia Avenue; and
- continue installation of road and cycle track lighting.

Residual Solids Pipes

- continue road restoration and final paving as required;
- continue with pipe installation of Portage Road;
- commence installation of pipe in the MOTI highway crossing; and
- continue with the installation of valve chambers and valves and drains.

Residual Solids Pump Stations

- complete pipe installation on Interurban Road between Grange Road and Marigold Road;
- install leachate connection chamber electrical and test;
- complete pipe installation at Marigold Road crossing at Violet Ave;
- Complete pipe tie at the north side of the Colquitz Creek;
- install odour control unit, HVAC, instrumentation and fencing at pump station 3;
- install concrete equipment pads, odour control unit, kiosk, generator, surge tank and fencing at pump station 2;
- install process mechanical, underground electrical, yard piping, submersible sewage pump at pump station 1;
- back fill Marigold control valve chamber and grade site; and
- install kiosk and complete site electrical at Marigold control valve chamber.

Arbutus Attenuation Tank (AAT)

- complete installation of cross and diagonal strut beams;
- continue installation of ring beam (formwork, rebar, pour concrete, testing);
- complete excavation within tank footprint to base slab elevation;
- commence subgrade prep and mud-mat installation;
- prep for and initiate excavation for valve chamber; and
- preparation for rock anchor installation.

Trent Forcemain

- commence sanitary sewer;
- watermain and storm sewer relocations on Memorial Crescent; and
- commence sanitary sewer and watermain relocations on Fairfield Road.

2.7 Cost Management and Forecast

The monthly cost report for January is shown in Appendix C. The cost report summarizes 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, and these pressures steadily increased as each conveyance contract was awarded. The Project Team forecasts that the Project can be completed at a total cost of \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the Project Board sought and received the CRD Board's approval to increase the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

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 \$0.59 million. The significant commitments made in the reporting period were the approval of provisional items in 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 construction activities and project management office-related costs.

2.7.3 Contingency and Program Reserves

Contingency draws totalling \$0.28 million were made over the reporting period, as summarised in Table 6. The draws to-date and remaining contingency and program reserve balances are 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
Contingency and Program Reserve Draws to December 31, 2019		\$ (62,610,777)
Contingency and Program Reserve addition (May 2019)		\$ 10,000,000
Contingency and Program Reserve balance as at December 31, 2019		\$ 16,707,274
BC Hydro credits applied to Seaterra costs	Jan-20	\$ 4,000
Telemetry upgrades to SCADA	Jan-20	\$ (6,420)
Remediation of Contaminated Soils on DND Lands	Jan-20	\$ (230,923)
Remediation of WWTP Site	Jan-20	\$ (45,740)
WWTP Total Draw		\$ (279,083)
BC Hydro credits applied to Seaterra costs	Jan-20	\$ 1,208
RTF Total Increase		\$ 1,208
BC Hydro credits applied to Seaterra costs	Jan-20	\$ 1,331
Conveyance Total Increase		\$ 1,331
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve credits in the reporting period		\$ 6,540
Contingency and Program Reserve draws in the reporting period		\$ (283,083)
Contingency and Program Reserve balance as at January 31, 2020		\$ 16,430,732

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.

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, funding from the P3 Canada Fund and the majority of the funding from the Government of British Columbia cannot be claimed until relevant Project components are substantially complete, which is scheduled to occur in 2020.

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	\$5.9M	\$98.0M
Government of Canada (Green Infrastructure Fund)	\$50M	-	\$35.9M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$62.0M
Federation of Canadian Municipalities	\$346K	-	-
TOTAL	\$459.3M	\$5.9M	\$195.9M

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.

There were no changes to the active risks summary from that presented in the Project's Q4 2019 Quarterly Report.

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).	M	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 is using 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

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
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Upstream works delays.	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	L	No change
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project's schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. The MWR Registration application was submitted to the Ministry of Environment in September 2019. The Project Team, MOE and relevant contractors will continue to meet regularly to track progress and discuss issues.	M	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.	M	No change
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.	M	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
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.	M	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
McLoughlin Point Wastewater Treatment Plant				
Unexpected contaminated soil conditions during excavation.	Site has more contaminated soils than initial assessment.	CRD and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) are working collaboratively to minimize the costs associated with remediating the McLoughlin Point site while ensuring that contaminated materials are removed and disposed of in accordance with all applicable legislation.	L	No Change
Conveyance				

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 is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction including: installation of tube settlers in Densadeg 1 and 2; installation of clarifier mechanism in densadeg 1; completion of plant drain tank piping and installation; completion of Moving Bed Bio Reactor (MBBR) #2 concrete; Biological Aerated Filter (BAF) scouring air distribution systems complete in all but 3 cells; progressing penthouse building envelopes; progression of BAF tie-in walls and channels in tertiary area; continuing upper disk filter walls; roofing membrane installed on level one of the Operations and Maintenance (O&M) building; completed raw influent line from Peters street to the wye, including testing; and external major electrical equipment commissioning commenced.

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

- Primary treatment area:
 - completion of primary area roof parapets and curbs;
 - completion of miscellaneous equipment pads;
 - ongoing masonry in chemical pump room;
 - fine screen and chemical room steel stud underway;
 - installed tube settlers in Densadeg1 (DD1);
 - commenced installation of tube settler in Densadeg2 (DD2);
 - installed reactors for DD1 and DD2;
 - commenced installation of clarifier mechanism on DD1;
 - sludge lines underway for all Densadegs and plate settlers;
 - completion of tank piping and equipment installation; and
 - completion of storage and plant drain tank piping and equipment installation.

- Secondary treatment area:
 - completed MBBR #2 concrete;
 - progressed MBBR #1 concrete work;
 - progression of south biological aerated filter (BAF) / Tertiary tie-in slab complete, upper channels;
 - installation of 16 inch pipe is nearing completion;
 - completion of BAF scouring air distribution systems in all cells except 12, 9 and 7;
 - electricians continue to progress where possible in the BAF gallery;
 - all blowers set on final housekeeping pads;
 - ongoing installation of Cable tray and supports in all three penthouse structures;
 - progression of penthouse building envelopes;
 - progress on pipe rack 10 and 11; and
 - setup for BAF nozzle and lateral air testing.

- Tertiary treatment area:
 - progression of BAF tie-in walls and channels;
 - upper disk filter walls continue;
 - installation of level one pumps and mechanical piping nearing completion;
 - continued progress of level two pump pads; and
 - initial HVAC and electrical work is in progress.

- O&M building:
 - progressed cinder block wall;
 - continued progress of HVAC and plumbing throughout the building;
 - progressing electrical work throughout the building;
 - ongoing glazing installation on the first and second levels;
 - roofing membrane installation is complete on the level one roof; and
 - steel stud well underway on level 2.

- Off-Site Utilities:
 - completed raw influent line from Peters street to the wye, including test;
 - installed water line to the main plant site from Peters street;
 - installation of pig receiving piping;
 - continued raw influent piping; and
 - commenced commissioning of external major electrical equipment.

Photographs of construction progress over the month of January at McLoughlin Point are shown in Figures 2-6.



Figure 2– McLoughlin Point Wastewater Treatment Plant- Delivery of primary odour control tanks.



Figure 3- McLoughlin Point Wastewater Treatment Plant- Installing aluminium cladding.



Figure 4- McLoughlin Point Wastewater Treatment Plant- Pumps and piping in the pump room.



Figure 5- McLoughlin Point Wastewater Treatment Plant- Setting of Densadeg reactor tank.



Figure 6- McLoughlin Point Wastewater Treatment Plant- Installing scraper cone in Densadeg 3 clarifier.

2.9.2 Residuals Treatment Facility

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: erection of Water Storage Tank completed; drywall installation and finishing complete in Residuals Handling Building and Dryer Building; structural steel frame completed for Water Pump House; exterior of Dryer Building weathertight with cladding, glazing and flashings installed; installation of process mechanical piping between residuals solids tanks and Equalization Building; installation of exterior insulated metal cladding panels, flashing and gutters on Equalization Building and Water Pump House; and installation of mixing pumps in Digester Equipment Building; cored walls for installation of mechanical/process piping between digesters, Digested Solids Storage Tank (DSST) and Digester Equipment Building.

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

- completed erection of Water Storage Tank;
- erected structural steel frame work of the Operations Building;
- installed interior steel stud walls and supporting members installed for installation of exterior insulated metal cladding panels;
- completed installation and finishing of drywall in Residuals Handling Building and Dryer Building;
- electrical equipment and controls installed in Residuals Handling electrical room, cables and wiring being pulled throughout building;
- structural steel frame completed for Water Pump House;
- ongoing installation of mechanical/process piping in Digester Equipment Building;
- Digester #1 sealed up and filled for hydrostatic testing;
- Installation of mechanical/process piping in Dryer Building;
- exterior of Dryer Building weathertight, cladding, glazing and flashings installed;
- completed product storage silo on south side of Dryer Building;
- placed concrete for housekeeping pads in Odour Control Building and Residuals Handling Building boiler room;
- installed exterior insulated metal cladding panels, flashing and gutters on Equalization Building and Water Pump House;
- formed up and placed concrete for Propane Storage Tank foundation slab;
- installed motor control centre/ electrical controls in Dryer Building electrical room;
- installed interior process piping and mixing nozzles in DSST;
- commenced erection of Digester #3 bolted steel tank;
- installed process mechanical piping between Residuals Solids Tanks and Equalization Building;
- installed mixing pumps in Digester Equipment Building, cored walls for installation of mechanical/process piping between digesters, DSST and Digester Equipment Building; and
- slope stabilization work ongoing on south slope/upper Hartland access road.

Photographs of construction progress over the month of January at the Residuals Treatment Facility are shown in Figures 7-10.



Figure 7– Residuals Treatment Facility- Residuals Handling building electrical room motor control centres.



Figure 8– Residuals Treatment Facility- Digester 3 construction in progress.



Figure 9– Residuals Treatment Facility- Digested Sludge Storage Tank process pipe and mix nozzles.



Figure 10– Residuals Treatment Facility - Dryer Building 5th floor mechanical.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of process pipe knife gate and check valves; ongoing forcemain work; completed installation checks of transformer, switch gear, neutral grounding resistor and motor control centers (MCC); and installation of flow, level and gas detection instrumentation.

Key construction activities in progress or completed by Kenaidan in January include:

- installation of process pipe knife gate and check valves;
- ongoing installation of cable tray and cable;
- ongoing cable loop checks;
- completion of transformer, switch gear, Neutral Grounding Resistor and MCC installation checks;
- ongoing south retaining wall structure work;
- ongoing high density polyethylene forcemain work;
- continued existing inlet channel and bypass pumping work;
- installation of HVAC ducting in pump and screening rooms; and
- installation of flow, level and gas detection instrumentation is being installed.

Photographs of construction progress over the month of January at Clover Point are shown in Figures 11-14.



Figure 11–Clover Point Pump Station- Over the upper and lower pump rooms.



Figure 12–Clover Point Pump Station- Inside the electrical room.



Figure 13–Clover Point Pump Station- Forcemain blind flange is installed and pigging station pipe bedding is being placed.



Figure 14- Clover Pump Station - South retaining wall concrete pour.

2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of bridge crane in the bin room; ongoing backfill around the exterior wall; installation of cross laminated timber roof and parapets; and installation of HVAC and drain pipe in the screen room.

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

- installation of cable trays in the screen room and genset room;
- installation of bridge crane in the bin room;
- ongoing backfill around exterior wall;
- installation of screen room and Vortex grating;
- installation of Cross Laminated Timber roof and parapets;
- barrier wall and pump room hatch curb have been poured;
- slide gate installation has commenced in the screen room; and
- installation of HVAC and drain pipe in the screen room.

Photographs of construction progress over the month of January at Macaulay Point are shown in Figures 15-16.



Figure 15–Macaulay Point Pump Station- CLT framing for architectural siding.



Figure 16–Macaulay Point Pump Station- Backfilling in the North West quadrant.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; electrical lighting installation; installation of the Clover Point storm catch basin ongoing and progression of the Camas curb extension.

Key construction activities in progress or completed by Windley in January were as follows:

- ongoing cycle track/road restoration between Government and Lewis Streets;
- progressed electrical lighting installation from Montreal Street to Lewis Street;
- progressed installation of Montreal Street bump out curbing and sidewalk;
- ongoing installation of Clover Point storm catch basin; and
- progressed Camas curb extension.

Photographs of construction progress over the month of January on the Clover Forcemain are shown in Figures 17-20.



Figure 17–Clover Forcemain- Curb completed near South Turner Street.



Figure 18–Clover Forcemain- Road restoration work near Holland Park.



Figure 19–Clover Forcemain– Cycle track base preparation at Holland Park.



Figure 20–Clover Forcemain- Curb bump out and new sidewalk at Montreal Street.

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, including: installation of valve chambers; road restoration; and installation of approximately 1154 m of pipes at the following locations:

- segment #1 Tillicum Road from Gosper Crescent to Tillicum Bridge and Vincent Ave to Tillicum Bridge; and
- segment #2 Interurban Road from Meadowview Place to Wilkinson Road and Roy Road to Wilkinson Road.

Photographs of construction progress over the month of January on the Residual Solids Pipes are shown in Figures 21-24.



Figure 21–Residual Solids Pipes- Patching a pot hole on Tillicum Road.



Figure 22–Residual Solids Pipes- Compaction of asphalt on Interurban Road.



Figure 23–Residual Solids Pipes – Pipe Tie in at Interurban Road just south of Wilkinson Road.



Figure 24–Residual Solids Pipes - Compaction being completed on prep work for temporary paving on Interurban Road.

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities at all three pump stations including: forming and pouring of wet well walls at Pump Station 1; installation of underground conduits in Pump Station 3; formation and pouring of concrete slab at the Marigold Pump Station.

Key construction activities in progress or completed by Knappett in January includes:

- Pump Station 1: wet well walls were formed and poured; and the formwork was removed after adequate cure time;
- Pump Station 2: excavation and installation of flow meter manhole; and commenced leak testing of the wet well;
- Pump Station 3: the underground conduits were installed. Work on the spools throughout the chambers continued;
- 118 m pipe installed on Interurban Road;
- Marigold Pump Station concrete slab was formed and poured; and
- Hartland Reservoir site was prepped for the underground spools and work started on formwork for the slab.

Photographs of construction progress over the month of January on the Residual Solids Pump Stations are shown in Figures 25-27.



Figure 25–Residual Solids Pump Stations– Hartland Water System Improvements – Installation of formwork for the reservoir slab.



Figure 26 –Residual Solids Pump Stations - Pump Station 1- Wet well concrete pour in progress.



Figure 27–Residual Solids Pump Stations – Installing formwork and reinforcing steel for Marigold pump station valve chamber.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities with a focus on civil excavation and structural secant pile construction works. Ongoing activities also include maintaining the dewatering system; mobilisation of a second drill rig to site to assist in secant pile production rate; and steel splicing works for installation of deep piles.

Key construction activities in progress or completed by NAC Constructors Ltd. in January include:

- continued drilling operation and installation of plain and reinforced secant piles;
- mobilization of second drill rig to site to assist in secant pile production rate;
- steel splicing works for installation of deep piles (>17m depth); and
- ongoing site dewatering work.

Photographs of construction progress over the month of January at the Arbutus Attenuation Tank are shown in Figures 28-29.



Figure 28—Arbutus Attenuation Tank- Concrete pour for Secant Pile.



Figure 29– Arbutus Attenuation Tank –Ongoing piling w/ two drill rigs.

2.9.3.6 Trent Forcemain

Trent Forcemain: The Project Team executed the construction contract with the tenderer selected in accordance with the Invitation to Tender: Jacob Bros. Construction Inc. The contractor started submitting construction management plans for the Project Team’s review.

Appendix A– Final Contract Awarded for the Wastewater Treatment Project (January 9, 2020)



Information Bulletin

For Immediate Release

January 9, 2020

Final Contract Awarded for the Wastewater Treatment Project

Victoria, BC– The Capital Regional District (CRD) has awarded a \$6.8-million contract to Jacob Bros Construction to construct the Trent Forcemain. This is the final major construction contract for the Wastewater Treatment Project.

Jacob Bros was selected by the CRD through a competitive selection process. Jacob Bros is a multi-discipline general contractor that focuses on heavy civil and building construction. They are based in Surrey, B.C. with a satellite office in Victoria.

Construction for the Trent Forcemain is anticipated to begin early in 2020 and take approximately 10 months to complete. This 1.9km pipe will be installed as part of the Wastewater Treatment Project's conveyance system. It will run from the intersection of Chandler Avenue and St Charles Street connecting to the Clover Point Pump Station. This addition to the eastern branch of the CRD's core area conveyance system will increase the capacity of the system and reduce wet weather overflows.

The Wastewater Treatment Project remains on schedule to treat wastewater from the core area by December 31, 2020 with a budget of \$775 million.

The Wastewater Treatment Project is being funded by the Government of Canada, the Government of British Columbia and the CRD.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations. The Project will be built so we comply with federal regulations by the end of 2020, and consists of the McLoughlin Point Wastewater Treatment Plant, the Residuals Treatment Facility at Hartland Landfill, and the conveyance system that will carry wastewater from across the core area to the McLoughlin Point Wastewater Treatment Plant, and residual solids to the Residuals Treatment Facility. For more information, visit www.wastewaterproject.ca.

For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

Tel: 250.360.3229

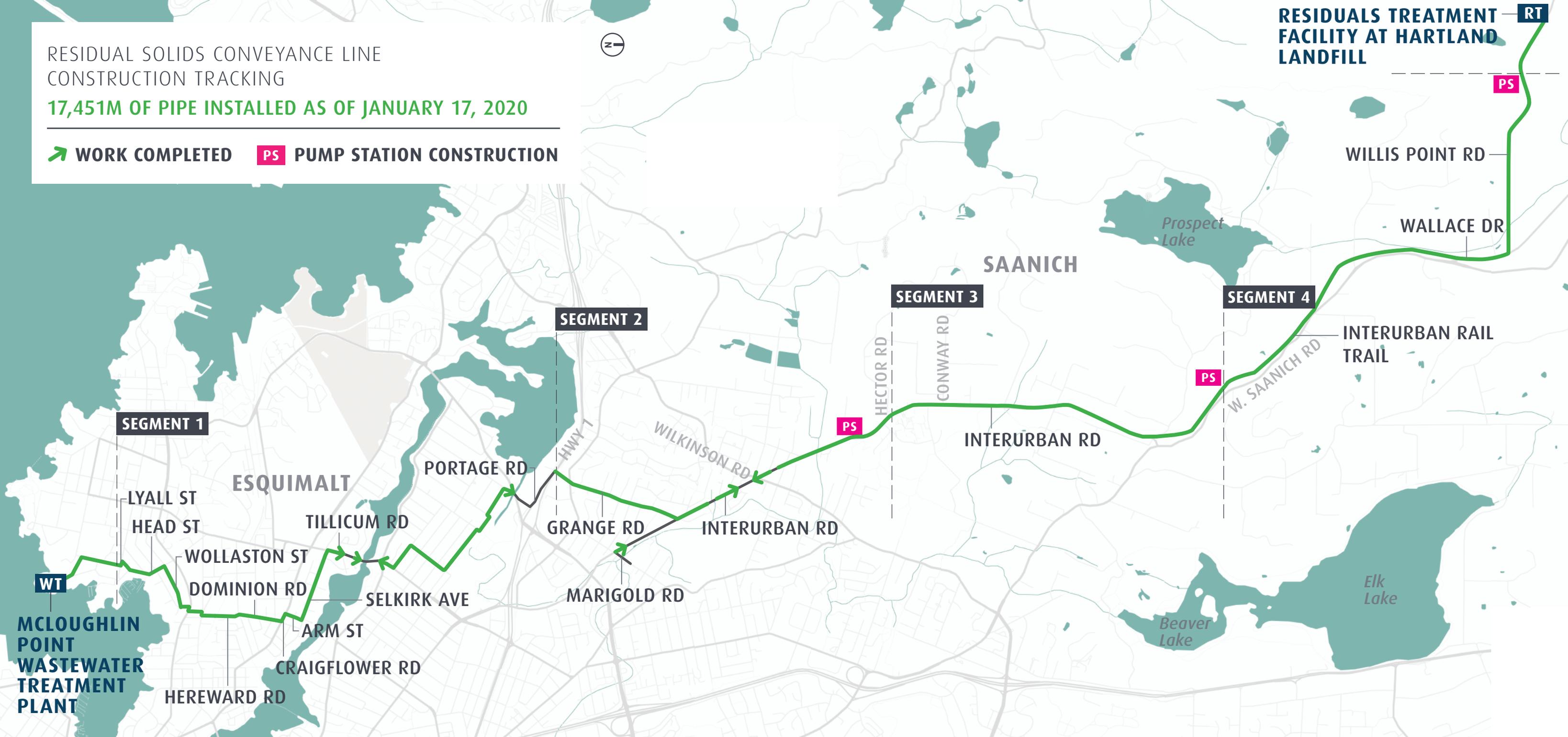
Cell: 250.216.5492

Appendix B– Residual Solids Conveyance Line Map (January 17, 2020)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

17,451M OF PIPE INSTALLED AS OF JANUARY 17, 2020

 WORK COMPLETED  PUMP STATION CONSTRUCTION



Appendix C– Monthly Cost Report (January)

MONTHLY COST REPORT
as at January 31, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to December 31, 2019	Expended over reporting period (January 2020)	Expended to January 31, 2020	Expended to January 31, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at January 31, 2020	Total Commitment at January 31, 2020	Unexpended Commitment at January 31, 2020	Uncommitted Allocated Budget at January 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	328.1	267.6	4.8	272.4	83%	55.7	320.0	47.6	8.1	55.7	328.1	-	0%
Construction	306.7	319.9	266.9	4.9	271.8	85%	48.1	319.4	47.6	0.5	48.1	319.9	-	0%
Contingency	14.9	1.3	-	-	-	0%	1.3	-	-	1.3	1.3	1.3	-	0%
Financing	9.8	6.9	0.7	(0.1)	0.7	9%	6.2	0.7	-	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	159.4	139.7	9.3	0.6	9.8	7%	129.9	138.7	128.9	1.0	129.9	139.7	-	0%
Construction	145.4	138.7	9.2	0.6	9.8	7%	128.9	138.7	128.9	0.0	128.9	138.7	-	0%
Contingency	12.3	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	1.7	0.8	0.0	-	0.0	4%	0.8	0.0	-	0.8	0.8	0.8	-	0%
Conveyance System	158.1	216.0	134.4	5.6	140.0	65%	75.9	194.2	54.1	21.8	75.9	216.0	-	0%
Macaulay Point Pump Station	25.4	30.8	21.2	1.6	22.8	74%	8.0	30.7	7.9	0.1	8.0	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.3	0.1	6.4	86%	1.1	7.4	1.1	-	1.1	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	0.0	12.4	100%	0.0	12.4	0.0	0.0	0.0	12.4	-	0%
Clover Point Pump Station	23.7	27.4	24.0	-	24.0	88%	3.4	27.2	3.2	0.2	3.4	27.4	-	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	9.7	0.5	10.2	42%	14.3	23.1	12.8	1.5	14.3	24.6	-	0%
Clover Forcemain	14.6	32.5	26.8	0.2	27.0	83%	5.4	32.2	5.1	0.3	5.4	32.5	-	0%
Currie Forcemain^	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.3	0.2	-	0.2	2%	11.1	7.9	7.6	3.4	11.1	11.3	-	0%
Residual Solids Conveyance Line	19.1	35.8	27.2	2.1	29.4	82%	6.4	35.7	6.4	0.1	6.4	35.8	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.6	5.5	1.1	6.7	36%	11.9	16.5	9.9	2.0	11.9	18.6	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.5	0.3	-	0.3	60%	0.2	0.5	0.2	0.1	0.2	0.5	-	0%
Contingency	16.8	10.4	-	-	-	0%	10.4	-	-	10.4	10.4	10.4	-	0%
Financing	5.8	4.1	0.4	(0.1)	0.3	8%	3.7	0.3	-	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	75.9	77.9	50.6	0.5	51.1	66%	26.8	67.8	16.7	10.1	26.8	77.9	-	0%
Professional Services	29.2	41.9	29.2	0.0	29.3	70%	12.7	35.9	6.7	6.0	12.7	41.9	-	0%
Project Board, Project Team & CRD Allocations	34.7	27.9	17.1	0.4	17.5	63%	10.4	27.1	9.6	0.8	10.4	27.9	-	0%
PMO Support	4.8	3.5	2.1	0.0	2.1	60%	1.4	2.6	0.5	0.9	1.4	3.5	-	0%
PMO start-up costs	2.3	2.2	2.3	(0.1)	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	12.9	4.3	2.0	-	2.0	47%	2.3	2.0	0.0	2.3	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1	3.4	0.1	3.5	43%	4.6	6.8	3.4	1.3	4.6	8.1	-	0%
Program Reserves	19.2	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Core Area Wastewater Treatment Project	765.0	775.0	467.3	11.6	478.9	62%	296.0	729.6	250.7	45.3	296.0	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

**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF MONDAY, APRIL 6, 2020**

SUBJECT **Wastewater Treatment Project February 2020 Monthly Report**

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project February 2020 Monthly 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 Monthly report for the period of February 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 February 2020 Monthly 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 February 2020 Monthly Report

ES:er



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

CRD Wastewater Treatment Project
Monthly Report

Reporting Period: February 2020

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1 Executive Summary

1.1 Introduction

This Monthly report covers the reporting period of February 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.

Overall the Wastewater Treatment Project progressed as planned with no changes to the construction/commissioning start and completion dates.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction including: installation of Densadeg rake mechanisms in all Densadegs; placement of primary odour control tanks; exterior work on the fine screen building; Moving Bed Bio Reactor (MBBR) 2 process equipment installed; electrical work progressed in the Biological Aerated Filter (BAF) gallery; completion of MBBR #1 concrete work; continued progress on lower level tertiary process piping; Operations and Maintenance (O&M) building stud build out nearing completion and drywall has commenced; progression of heating ventilation air conditioning (HVAC), plumbing and fire suppression work is nearly complete on levels 1 and 2; and level 2 roof parapets have been installed and commenced preparations for roofing package installation.

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: closing up Digester 2 in preparation for hydro testing; installing pipe and supports for Digested Solids Storage Tank (DSST); installed boilers and polymer pumps, and completed drywall and painting in the Residuals Handling Building; completed electrical cable tray installation, and load out structure is in progress in the Residuals Drying Facility; progression of mechanical and electrical work in the Water Pump House and Operations Building; and metal stud wall complete with drywall commencing in the Operations Building.

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

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 activities over the reporting period including: testing and backfilling of the forcemain; progressing piping of domestic water service, and fire suppression service; installation of exterior retaining walls and pigging chamber waterline fused and bolted.

- Macaulay Point Pump Station: Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: completion and passing of the pressure test for the forcemain; ongoing backfill around the exterior wall; Cross Laminated Timber roof and parapet have been installed; installation of the HVAC and drain pipes in the screen room; and bridge cranes have been commissioned in the bin and pump rooms.

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

- Clover Forcemain: Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; electrical lighting installation; and landscaping restoration.
- 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 for the Residual Solids Pipes) continued construction activities including: installation of valve chambers; road restoration; and installation of approximately 384 m of pipes.
 - Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including: completion of pipe installation along Interurban road; completion of the RTF chamber at Willis Point Road; Pump Station 2 wet well passed leak testing and was damp proofed and partially backfilled; and the Hartland Reservoir slab was poured, formed and the reservoir was fully erected.
- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including civil excavation and structural secant pile construction works; maintaining the dewatering system; on-site steel welding for lateral strut reinforcement; and preparatory works for ring beam construction.
- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed planning and permitting activities, including submitting construction management plans for the Project Team’s review.

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 no recordable safety incidents occurred and the total incident frequency decreased from 1.4 at the end of the last reporting period to 1.3. The Project Team continues to work with and ensure that all of the prime contract partners maintain safety as their number one priority.

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.

Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete to 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.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents occurred over the period. Site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					One environmental incident occurred over the period: there was a small release of hydraulic fluid from one of the drill rigs at the Arbutus Attenuation Tank site. The leak was contained in a ditch within the tank excavation, crews cleaned up the leak immediately and no adverse environmental effects resulted from the leak.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues.
Cost	Deliver the Project within the Control Budget (\$765 million).					Based on the value of the contracts awarded to-date and a refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project's Control Budget. This is 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 CRD Board have approved an increase in the Project's budget by \$10M, to \$775M.

* 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.

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 and Arbutus Attenuation Tank.

Over the reporting period 13 safety incidents occurred in total: comprising: 4 First-aid; 6 Report Only; and 3 Near Miss incidents, as summarized in Table 2.

Table 2: Safety Incidents over the Reporting Period

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
February 4, 2020	Macaulay Point Pump Station	Near Miss	A water leak at a valve during a pressure test sprayed a worker in the trench.	Leak was isolated and no one was injured in the incident.	The valve assembly was repaired.
February 4, 2020	McLoughlin Pt WWTP	First Aid	A worker sustained a hand injury when they lost their balance while using an impact gun.	Worker sustained a small ½” cut on left index finger and reported to First Aid to have the wound treated and bandaged.	Tool-box talk reviewing the proper use of small hand was held.
February 5, 2020	Residual Solids Pipes	First Aid	A worker sustained a hand injury while cutting a hose.	First Aid referred worker to medical aid to have the cut assessed but no further treatment was required other than a bandage.	Tool-Box talk in regards to the safe use of pocket knives and the wearing of appropriate gloves when cutting.
February 5, 2020	RTF	Report Only	A propane heater malfunctioned damaging the exhaust stack on the unit.	No one was injured.	Unit was removed from service and sent in to the rental provider for an inspection and repair
February 10, 2020	Residual Solids Pump Stations	First Aid	A worker while mixing concrete had the product splash up under their protective glasses.	Worker used an emergency eye wash on site and was taken to Victoria General Hospital for further assessment. No further treatment was required and the individual returned to work.	The need for additional PPE was reviewed and Goggles will now be worn whenever mixing concrete to prevent a reoccurrence.
February 12, 2020	McLoughlin Pt WWTP	Report Only	While backing up a truck (without a spotter) the driver struck the corner of a grout mixer.	Minor damage to the mixer was reported but no injuries to the driver.	Tool-box talk was held to reinforce the requirement of having a spotter whenever a vehicle is backing up or moving in a congested area.
February 13, 2020	McLoughlin Pt WWTP	Report Only	When lowering a piece of equipment a workers arm became wedged between the equipment and a steel beam.	Worker sustained small bruise to right foreman. Worker was wearing long sleeves, rain jacket and gloves at the time of the incident.	Tool-box talk to remind workers of good communication when moving equipment and to be aware of your surroundings and potentials for injuries to limbs.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
February 14, 2020	RTF	Report Only	While moving an aerial platform the operator struck a HVAC duct.	Minor damage to the duct was reported but no injuries to the operator or the aerial platform.	Tool-Box talk with Sub-Contractors in regards to having a spotter while moving equipment inside any building due to congestion
February 20, 2020	McLoughlin Pt WWTP	Near Miss	A Traffic Control Person (TCP) was struck by a vehicles mirror after the driver ignored a stop directions.	Proper signage, personnel, and closures were in place at time of occurrence. No injuries reported.	The company that owned the vehicle was notified of the Safety Incident with the TCP Tool-Box talk with TCP to review proper positioning to limit potential for contact from vehicles that ignore signage or direction.
February 24, 2020	McLoughlin Pt WWTP	Report Only	A worker while carrying construction materials lost their footing and felt pain in back.	Worker reported the incident to First Aid and returned to work.	Tool-box talk and daily safety newsletter issued to remind workers about appropriate lifting and carrying techniques and to be aware of their surroundings on site with uneven areas or slippery conditions while carrying any material
February 24, 2020	Residual Solids Pump Stations	Report Only	While lifting a road plate a worker was in close proximity to the activity.	When the road plate was lowered it skimmed the workers boot. Worker was not injured in the incident	Tool-Box talk to remind workers to stay back a safe distance when road plates are being moved
February 27, 2020	McLoughlin Pt WWTP	First Aid	A worker injured their hand while releasing the leg of a trailer.	Worker received a small laceration and reported to First Aid to have it cleaned and bandaged.	Worker reminded to complete a Field Level Risk Assessment prior to starting any task to identify any hazards that may be present.
February 28, 2020	McLoughlin Pt WWTP	Near Miss	While cutting drywall a worker dropped their knife and it landed next to another worker below.	The knife was self-retracting, however the slider was sticky so the blade was out when the knife fell.	Knife was removed from service and the job site Tool-box talk was held to remind crews to inspect their tools prior to use and remove any defective equipment Control the area with barricade tape to keep other workers out of area if tools or other equipment cannot be 100% controlled

Key safety activities conducted during February included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor: HRMG;
- conduct Quality Safety Assurance Audit on Arbutus Attenuation Tank Prime Contractor;
- attended site Safety Meeting at the CRD Hartland site with the CRD and Prime Contractors;
- monthly incident investigation reviews;

- reviewed site specific safety plans and high risk tasks;
- issued a safety notice regarding lifting equipment;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites; and
- reviewing Prime Contractor document submissions for Trent Forcemain.

Table 3: WTP Safety Information

	Reporting Period (February 2020)	Project Totals
Person Hours		
PMO	3 057	134 184
Project Contractor	105 537	1 555 079
Total Person Hours	108 594	1 689 262
PMO	31	
Project Contractors (& Project Consultants) working on Project Sites	587	
Total Number of Employees	618	
Near Miss Reports	3	44
High Potential Near Miss Reports	0	5
Report Only	6	130
First Aid	4	42
Medical Aid	0	5
Medical Aid (Modified Duty)	0	2
Lost Time	0	4
Total Recordable Incidents	0	11
		Project Frequency (from January 1, 2017)
First Aid Frequency		4.9
Medical Aid Frequency		0.8
Lost time Frequency		0.4
Total Recordable Incident Frequency		1.3

2.2 Environment and Regulatory Management

Environmental and regulatory activities continued over the reporting period relating to both the planning and permitting of upcoming work and 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, and responding to BC Ministry of Environment and Climate Change Strategy (ENV) questions on two Environmental Impact Studies (EIS) submitted as part of the MWR Registration application.

Key environmental management activities completed in February included:

- Stantec and the CRD prepared a technical memo addressing a request from ENV for additional information on the EIS that evaluated how the Project would reduce overflows within the core area wastewater system.
- HRP, Stantec and the CRD prepared a technical memo addressing a request from ENV for additional information on the EIS that evaluated how discharges from the McLoughlin Point WWTP would affect the marine environment.

Over the reporting period there was one minor environmental incident:

- On February 13th there was a release of approximately 1 litre from one of the drill rigs at the Arbutus Attenuation Tank site. The leak was contained in a ditch within the tank excavation and absorbent pads were deployed to soak up the hydraulic fluid. The absorbent pads were disposed of at an appropriately licenced facility. No adverse environmental effects resulted from the leak.

2.2.2 Regulatory Management

During the reporting period, the Project Team continued to monitor the advancement of construction-related regulatory approvals and supported or led the advancement of permit applications.

Key permitting activities for February included:

- The CRD, HRP and Stantec met with ENV to discuss the results of their review of the two EISs that were prepared as part of the MWR Registration application.

The status of 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. There were no updates made to the table from that presented in the Project's January 2020 Monthly Report.

Table 4- Key Permits Status

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Permitting</i>
<i>McLoughlin Point WWTP</i>			
Municipal Wastewater Regulation ("MWR") Registration	Q1 2020	Submitted September 2019	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>McLoughlin Point Outfall</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	Submitted May 2019	HRMG

2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees' liaisons continued, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point and Macaulay Point.

Millennia Research (as the Project's archaeological advisor) continued archaeological monitoring of excavations along the RSCL and Clover Forcemain routes with members of local First Nations. Stantec, as the archaeological adviser for the Trent Forcemain portion of the Project, began preparing for pre-construction archaeological digs in areas of high archaeological potential.

On February 5th, the Chair of the Project Board, along with members of the Project Team and the CRD's First Nations Relations department were hosted by W̱SÁNEĆ Nations at a Burning ceremony at SNIDØEŁ (Tod Inlet). The Burning ceremony was in the custom of the W̱SÁNEĆ Peoples and was held in relation to ground disturbing work undertaken and ongoing in the construction of Project components.

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.

Construction Communications

Three construction notices were issued to stakeholders in the reporting period:

- Trent Forcemain Construction (February 5, 2020) (Appendix A);
- Residual Solids Conveyance Line: Esson and Portage Roads (February 14, 2020) (Appendix B); and
- Macaulay Point Pump Station: Bypass Pumping (February 21, 2020) (Appendix C)

The Project Team hand delivered the three construction notices in the community: the Trent Forcemain construction notice was hand-delivered to 196 residences in the Fairfield area; the Residual Solids Conveyance Line construction notice was hand-delivered to 58 residences in the nearby neighbourhood; and the Macaulay Point Pump Station construction notice was hand-delivered to 15 residences near the construction site. The Trent Forcemain construction notice was also circulated to 399 stakeholders via email. As well, a letter regarding construction updates for paving Peters Street was delivered to 16 residences in Esquimalt (Appendix D).

Project Website

Over the reporting period, the Project website, wastewaterproject.ca, was updated with information about the Project: three construction notices were posted; one information sheet was updated ('About the Wastewater Treatment Process', see Appendix E); the photo gallery section was updated with additional photos; and a map showing the progress of construction along the Residual Solids Conveyance Line (Appendix F) was updated.

The CRD's Twitter account was used to provide Project information to the public, including notifications about overnight construction along the RSCL route, pipe installation and upcoming construction of the Trent Forcemain.

Community Meetings

Over the reporting period the Project Team held meetings with the following community groups and representatives, and municipality representatives:

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

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- February 2020

Inquiry Source	Contacts for February
Information phone line inquiries	27
Email inquiries responded to	16

Key themes of the public inquiries were as follows:

- Interest in timelines for work on the Trent Forcemain;
- Questions regarding timelines for final restoration along the RSCL; and
- Identification of areas in need of restoration or repair.

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

Overall the Project's scheduled activities progressed as planned during the period. All major and key interface milestones were on target to be completed as per the schedule. Progress over the reporting period is summarized in section 2.9.

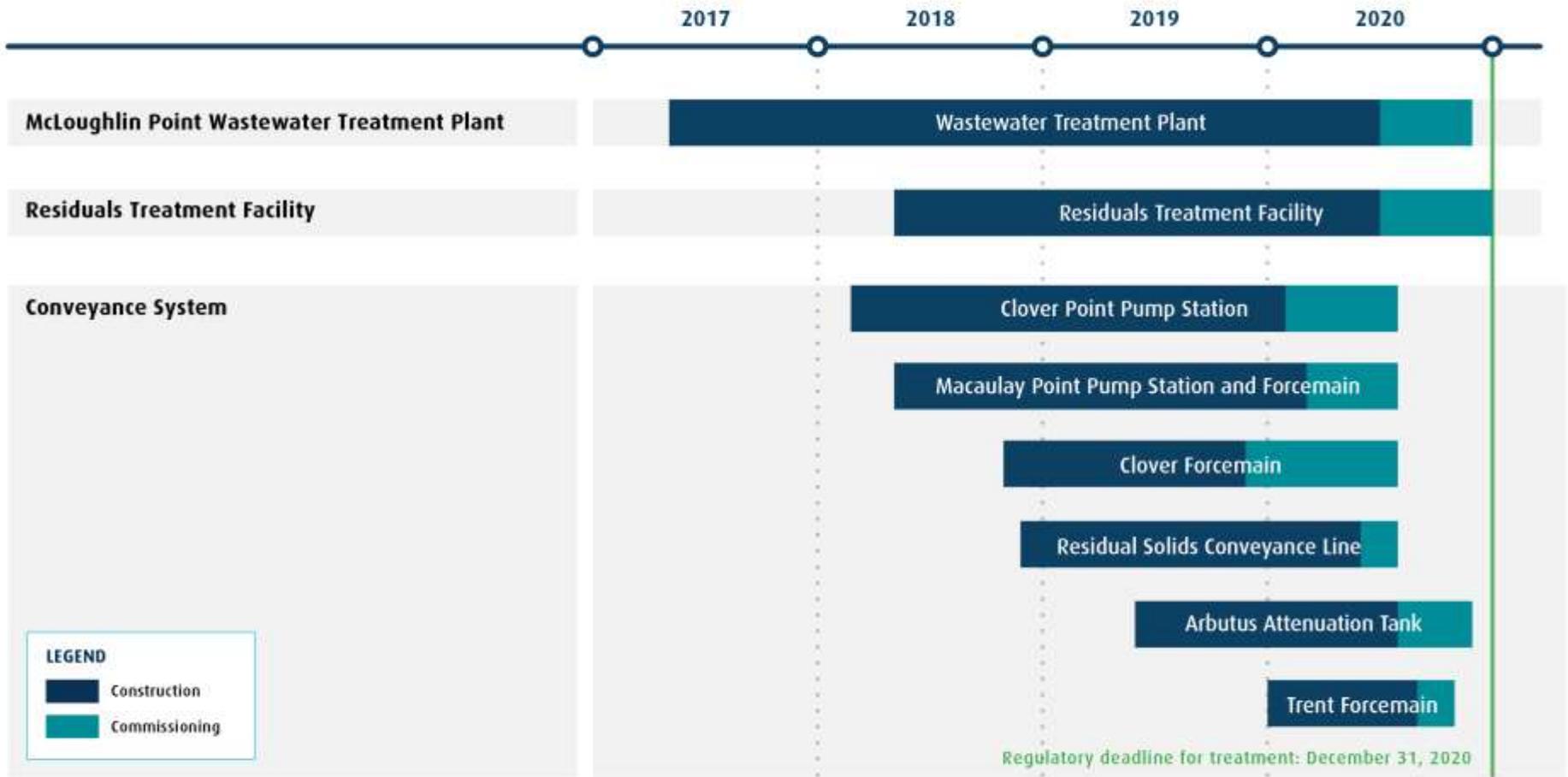
Figure 1 shows the high-level Project schedule. This schedule has not changed from that shown in the Project's January 2020 Monthly Report, and remains subject to optimization as the Project progresses.

The Project remains on-schedule to meet the provincial and federal regulations for treatment for the Core Area's wastewater by December 31, 2020.

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 30 days (March) are outlined below by function.

Safety

- attend CRD corporate occupational health and safety coordination committee meeting;
- attend weekly and bi-weekly prime contractor progress meetings;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- review of any site specific safety plans or high risk tasks;
- send out any new Safety Notices or Incident Notifications to Prime Contractor;
- annual safety orientation with HRP at the McLoughlin Waste Water Treatment project site;
- review new Trent Forcemain document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites;
- incident reporting review with prime contractors at active work locations; and
- complete and conduct close out of Quality Safety Assurance Audit on Arbutus Attenuation Tank Prime Contractor.

Environment and Regulatory Management

- CRD to submit technical memos addressing ENV's questions about the EIS's submitted as part of the MWR Registration application.

First Nations

- Stantec to complete pre-construction archaeological digs along Trent Forcemain alignment with members of Songhees and Esquimalt Nations.

Stakeholder Engagement

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

Cost Management and Forecast

- CRD financial statement audit (inclusive of Wastewater Treatment Project);
- CRD budget approval (inclusive of Wastewater Treatment Project);
- prepare cost reports;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- continue construction of remaining tsunami wall sections;
- install roofing, stairs, glazing and HVAC in primary odour control;
- install forced air ducting and dampers throughout;
- install cable and instrumentation and complete terminations to the Motor Control Centres in secondary odour control;
- install walkways and equipment and tank covers in Densadegs 2 & 3;

- install Heating Ventilation and Air Conditioning (HVAC), plumbing and sprinklers in screen room, and north and south pump rooms;
- continue with process mechanical and process electrical installations throughout;
- continue construction of concrete walls, curbs and roof top slab in Tertiary treatment area;
- continue with Operations & Maintenance (O&M) building envelope and installation of electrical and mechanical; and
- continue with installation of fire stopping, insulation, and drywall boarding.

Clover Point Pump Station

- install existing screens in West and East inlet channels;
- demolish existing pumps and check valves;
- form and pour new pipe supports;
- cut openings to sanitary wet well and grit separators;
- relocate existing slide gates;
- install backwash system;
- remove existing generator;
- install new diesel generator;
- install shower masonry in public washroom;
- install HVAC, insulation, roofing membrane and plumbing fixtures in public washroom; and
- install doors and hardware in new pump station.

Macaulay Point Pump Station

- install incoming watermain;
- install primary electrical duct bank and pull cable;
- complete back fill of structure;
- install stairs and walkways in pump room;
- form, rebar and pour diversion chamber base slab and walls;
- continue installation of stained wood cladding;
- install doors and frames;
- install HVAC and plumbing fixtures; and
- reinstate asphalt roads and curbs on Anson Street and Bewdley Avenue.

Residuals Treatment Facility

- complete pneumatic testing and resolve quality deficiencies at Digester 1;
- complete tank erection at Digester 2;
- continue tank erection at Digester 3;
- continue mechanical and electrical installations at the Digester Building;
- prepare for hydro testing at the Digested Sludge Storage Tank;
- prepare for hydro testing at the Water Storage Tank;
- commence hydro testing at Residuals Solids Tanks 1 and 2;
- commence hydro testing at Effluent Storage Tank;
- complete steel stud, cladding and roofing and continue building systems at Operations Building;
- continue electrical cabling and install pumps and headers and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process equipment and piping, and building systems at the Residuals Handling Building;

- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- continue process mechanical and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue with Dallas Road reconstruction from St Lawrence Street to Montreal Street;
- continue road/cycle track construction from Dock Street to Olympia Avenue; and
- continue installation of road and cycle track lighting.

Residual Solids Pipes

- continue road restoration and final paving as required;
- continue with pipe installation of Portage Road;
- commence installation of pipe in the MOTI highway crossing; and
- continue with the installation of valve chambers and valves and drains.

Residual Solids Pump Stations

- complete pipe installation on Interurban Road between Grange Road and Marigold Road;
- install leachate connection chamber electrical and test;
- complete pipe installation at Marigold Road crossing at Violet Ave;
- install odour control unit, HVAC, instrumentation and fencing at pump station 3;
- install concrete equipment pads, odour control unit, kiosk, generator, surge tank and fencing at pump station 2;
- install process mechanical, underground electrical, yard piping, submersible sewage pump at pump station 1;
- back fill Marigold control valve chamber and grade site; and
- install kiosk and complete site electrical at Marigold control valve chamber.

Arbutus Attenuation Tank (AAT)

- complete installation of secant piles (reinforced and plain concrete);
- commence excavation and prepping secant piles for ring beam installation;
- continue installation of steel saddles for cross and diagonal strut beams;
- commence installation of cross and diagonal strut beams; and
- commence installation of ring beam (formwork, rebar, pour concrete, testing), start on western third and progress eastward.

Trent Forcemain

- undertake utility pre-locates along forcemain route;
- watermain, storm, and sanitary sewer relocates on Fairfield Road Memorial Crescent;
- pre-construction archaeological test pits; and
- soils sampling program for the delineation of potentially contaminated soils along the forcemain route.

2.6.2 60 day look ahead

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

Safety

- attend CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- attend weekly and bi-weekly prime contractor progress meetings;
- prime contractor project safety meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction 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

- CRD anticipates receiving the MWR Registration for the McLoughlin Point WWTP and the Operational Certificate for the Residuals Treatment Facility.

First Nations

- CRD to continue meeting with the First Nation Liaisons.

Stakeholder Engagement

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

Cost Management and Forecast

- prepare cost reports;
- monitor schedule; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- continue construction of tsunami walls;
- install stairs, roofing and glazing at odour control;
- continue with electrical, instrumentation and controls throughout;
- install Densadeg 2 and 3 tank covers;
- install polymer system piping, chlorinated water piping and, ferric chloride system piping in Densadeg 2 and 3;
- install natural gas and HVAC in heat recovery room;
- install exhaust fans and unit heaters in tertiary treatment/outfall chamber;
- install elevator in O&M building; and
- install drywall, firestop and painting throughout O&M building

Clover Point Pump Station

- demolish existing pumps and check valves;
- install grit separators;
- install masonry block walls for fuel storage rooms;
- demolish existing Motor Control Center(MCC) and obsolete electrical equipment;
- remove existing generator and install new generator;
- commence installation of split stone face on exterior retaining wall;
- install HVAC, plumbing fixtures and masonry block walls in public washroom; and
- install doors, frames, and hardware to new and existing pump station.

Macaulay Point Pump Station

- backfill and reinstate twin 900mm forcemain;
- grout equipment and structural steel bases;
- form, rebar and pour diversion chamber;
- install stairs and walkways in pump room;
- install wet well maintenance platform;
- install doors and frames and glazing in aluminium doors;
- install plumbing fixtures;
- continue site paving and sidewalks; and
- commence functional start-up of equipment.

Residuals Treatment Facility

- start hydro testing and pneumatic testing at Digester 2;
- complete tank erection and internal piping at Digester 3;
- continue mechanical and electrical installations at the Digester Building;
- commence hydro testing at the Digested Sludge Storage Tank;
- commence hydro testing at the Water Storage Tank;
- commence finishes at Operations Building;
- continue electrical cabling and install pumps and headers and receiving hopper at Other Municipal Solids Receiving Facility;
- continue electrical cabling, process piping, polymer equipment, and building systems at the Residuals Handling Building;
- continue building systems, equipment and electrical installation and process piping at the Dryer Building;
- continue mechanical and electrical work at Equalization Building;
- continue process mechanical and electrical at the Water Pump House; and
- continue equipment installation at Odour Control Area.

Clover Forcemain

- continue road/cycle track;
- complete road restoration Government Road to Douglas Street to Douglas Street; and
- complete additional surface works between Lewis Street to Government Street.

Residual Solids Pipes

- complete MOTI crossing pipe and watermain;
- complete installation of pipe on Portage Road;
- complete installation of line, valves, low point drains and air valves; and
- complete final road restoration.

Residual Solids Pump Stations

- Marigold valve chamber final surface restoration;
- install pipe under Tillicum bridge;
- install pump station 3 instrumentation and controls;
- install fencing and final grading at pump station 3;
- complete pump station 2 odour control and surge tank installation;
- install HVAC and site fencing at pump station 2;
- pump station 2 submersible sewage pump installation;
- install kiosk and generator at pump station 1; and
- complete tie-in of pipe at pump station 3, Willis Point, Pump Station 2, Grange Road, Pump Station 1, and Marigold.

Arbutus Attenuation Tank (AAT)

- complete excavation and prepping secant piles for ring beam installation;
- complete installation of steel saddles for cross and diagonal strut beams;
- complete installation of cross and diagonal strut beams;
- continue installation of ring beam (formwork, rebar, pour concrete, testing), start on western third and progress eastward;
- commence excavation within tank footprint to base slab elevation;
- commence subgrade prep and mud-mat installation;
- prep for and initiate excavation for valve chamber; and
- preparation for rock anchor installation.

Trent Forcemain

- install sanitary sewer and watermain at Fairfield Road;
- install storm sewer at Bushby Street;
- install sanitary sewer at St. Charles Street; and
- install sanitary sewer at Brooke Street.

2.7 Cost Management and Forecast

The monthly cost report for February is shown in Appendix G. The cost report summarizes 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, and these pressures steadily increased as each conveyance contract was awarded. The Project Team forecasts that the Project can be completed at a total cost of \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the Project Board sought and received the CRD Board's approval to increase the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

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 \$1.2 million. The significant commitments made in the reporting period comprised the approval of provisional items in construction contracts and contract change orders, and an increased commitment to the Project's archaeological advisor (Millenia Research), required as a result of a greater level of archaeological effort being required than was originally anticipated.

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 construction activities and project management office-related costs.

2.7.3 Contingency and Program Reserves

Two contingency draws totalling \$306,440 were made over the reporting period, to deal with contamination at the McLoughlin Point outfall and on DND lands adjacent to the McLoughlin Point site. The draws to-date and remaining contingency and program reserve balances are 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 January 31, 2020		\$ (52,887,319)
Contingency and Program Reserve balance as at January 31, 2020		\$ 16,430,732
Supervening Event: Regulated Site Condition at Outfall	Feb-20	\$ (283,234)
Remediation of Contaminated Soils on DND Lands	Feb-20	\$ (23,206)
WWTP Total Draw		\$ (306,440)
RTF Total Draw		\$ -
Return of funds from Craigflower Pumpstation close out	Feb-20	\$ 16,005
Conveyance Total Increase		\$ 16,005
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve credits in the reporting period		\$ 16,005
Contingency and Program Reserve draws in the reporting period		\$ (306,440)
Contingency and Program Reserve balance as at February 29, 2020		\$ 16,140,297

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.

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, funding from the P3 Canada Fund and the majority of the funding from the Government of British Columbia cannot be claimed until relevant Project components are substantially complete, which is scheduled to occur in 2020.

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	-	\$98.0M
Government of Canada (Green Infrastructure Fund)	\$50M	\$4.9M	\$40.7M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$62.0M
Federation of Canadian Municipalities	\$346K	-	-
TOTAL	\$459.3M	\$4.9M	\$200.7M

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.

There were no changes to the active risks summary from that presented in the Project's January 2020 Monthly Report.

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).	M	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

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
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Upstream works delays.	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	L	No change
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project's schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. The MWR Registration application was submitted to the Ministry of Environment in September 2019. The Project Team, MOE and relevant contractors have continued to meet regularly to track progress and discuss issues.	M	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.	M	No change
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.	M	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
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.	M	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
McLoughlin Point Wastewater Treatment Plant				
Unexpected contaminated soil conditions during excavation.	Site has more contaminated soils than initial assessment.	CRD and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) are working collaboratively to minimize the costs associated with remediating the McLoughlin Point site while ensuring that contaminated materials are removed and disposed of in accordance with all applicable legislation.	L	No Change

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 is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing construction including: installation of Densadeg rake mechanisms in all Densadegs; placement of primary odour control tanks; exterior work on the fine screen building; Moving Bed Bio Reactor (MBBR) #2 process equipment installed; electrical work progressed in the Biological Aerated Filter (BAF) gallery; completion of MBBR #1 concrete work; continued progress on lower level tertiary process piping; Operations and Maintenance (O&M) building stud build out nearing completion and drywall has commenced; progression of heating ventilation air conditioning (HVAC), plumbing and fire suppression work is nearly complete on levels 1 and 2; and level 2 roof parapets have been installed and commenced preparations for roofing package installation.

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

- Primary treatment area:
 - sprinkler, HVAC and process piping systems in progress in north pump room;
 - commenced suction and discharge lines for all three Densadegs;
 - tube settlers set in place for all Densadegs;
 - Densadeg rake mechanism installation underway in all Densadegs;
 - Densadeg launder channel installation commenced in Densadeg 1;
 - reactors for all Densadegs set in place and installation ongoing;
 - primary odour control tanks set in place;
 - coring complete for pipe racks 4, 5, and 6;
 - installation of plate settler tank covers has commenced;
 - Fine screen building has been sheathed and membrane installed;
 - Fine screen building cinder block masonry underway; and
 - Fine screen building roofing underway.

- Secondary treatment area:
 - MBBR #2 process equipment installed;
 - MBBR #1 concrete work complete;
 - south BAF / Tertiary tie-in slab complete, upper channels nearing completion;
 - BAF nozzles and laterals are installed and tested in Cells 10, 8, 6, 4, and 2;
 - BAF gravel is installed in cells 8 and 6;
 - BAF nozzle and lateral installation in cells 1, 3 and 5 are nearing completion;
 - electrical cable tray and cable pulling has commenced between exterior electrical gear and main electrical room;
 - cable tray installation on pipe rack 10 and 11 ongoing;
 - electrical work progressed in the BAF gallery;
 - blower room drywall and paint complete;
 - heat recovery room drywall nearing completion; and
 - penthouse building envelopes continue progressing.

- Tertiary treatment area:
 - continued upper disk filter walls;
 - lower level 1 pumps and mechanical piping install nearing completion;
 - level 2 process piping continues; and
 - level 2 masonry ongoing.

- O&M building:
 - lower level interior stud build-out nearing completion;
 - lower level drywall installation has commenced;
 - HVAC, plumbing and fire suppression trades are nearing completion on level 1;
 - electrical trade is beginning to close out rooms to allow for drywall installation on level 1;
 - level 2 HVAC, plumbing and fire suppression are also progressing;
 - steel stud install on level 2 ongoing;
 - spray foam insulation completed; and
 - level 2 roof parapets were installed and preparing for roofing package installation.

Photographs of construction progress over the month of February at McLoughlin Point WWTP are shown in Figures 2-6.



Figure 2– McLoughlin Point Wastewater Treatment Plant - installing Lamella Settler 1 roof cover and beams.



Figure 3- McLoughlin Point Wastewater Treatment Plant- Insulating parapet on Operations and Maintenance roof.

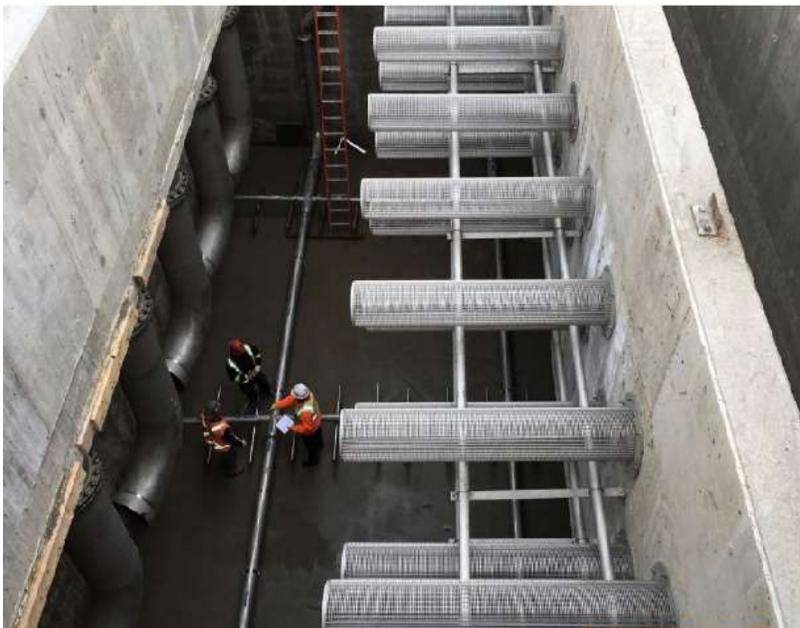


Figure 4- McLoughlin Point Wastewater Treatment Plant- inspecting Moving Bed Bio Reactor #2 aeration.



Figure 5- McLoughlin Point Wastewater Treatment Plant- Biologic Aerated Filter cell 8 stage 2 gravel installed.

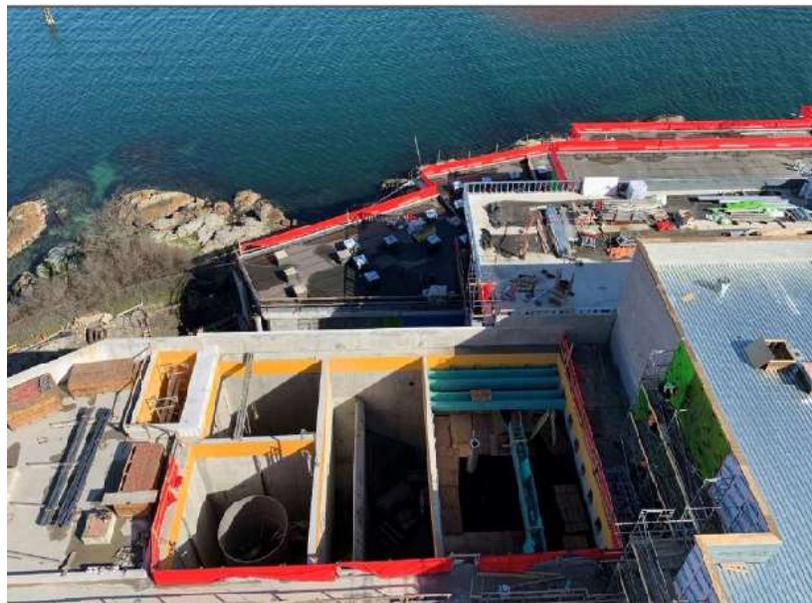


Figure 6- McLoughlin Point Wastewater Treatment Plant- View to the East from tower crane B.

2.9.2 Residuals Treatment Facility

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: closing up Digester 2 in preparation for hydro testing; installing pipe and supports for Digested Solids Storage Tank (DSST); installed boilers and polymer pumps, and completed drywall and painting in the Residuals Handling Building; completed electrical cable tray installation, and load out structure is in progress in the Residuals Drying Facility; progression of mechanical and electrical work in the Water Pump House and Operations Building; and metal stud wall complete with drywall commencing in the Operations Building.

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

- Digester Area
 - Digester 2 closed up in preparation for hydro testing;
 - continued erection of Digester 3 tank;
 - installed pipe and pipe supports for Digested Solids Storage Tank (DSST); and
 - progressed mechanical and electrical in Digester Building.
- Residuals Handling Building
 - completed drywall and painting;
 - installed boilers and polymer pumps;
 - epoxy flooring installed in chemical room; and
 - electrical work continued in the electrical room.
- Residuals Drying Facility
 - mechanical installation is in progress;
 - electrical cable tray installation was completed with cabling being pulled and terminated;
 - metal stud and drywall is in progress; and
 - load out structure is in progress.
- Residuals Storage & Odour Control and Equalization Building
 - completed metal stud and drywall.
- Water Pump house
 - pump skids installed and building closed up;
 - mechanical and electrical work is in progress; and
 - trickling tower installed on odour control pad.
- Operations Building
 - Metal stud walls completed with drywall commencing; and
 - Mechanical and electrical is in progress.

Photographs of construction progress over the month of February at the Residuals Treatment Facility are shown in Figures 7-10.



Figure 7– Residuals Treatment Facility- Operations Building installation of stand offs for exterior cladding.



Figure 8– Residuals Treatment Facility- chain link fence enclosure installed around main transformer.



Figure 9– Residuals Treatment Facility- Installation of mechanical equipment at propane storage tank.



Figure 10– Residuals Treatment Facility – Form work and rebar installed for waste gas burner slab.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: testing and backfilling of the forcemain; progressing piping of domestic water service, and fire suppression service; installation of exterior retaining walls and pigging chamber waterline fused and bolted.

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

- forcemain bolted, tested and backfilling in progress;
- Upper pump room pipe supports poured;
- pigging chamber water line fused and bolted;
- air intake structure slab poured;
- domestic water service piping in progress;
- fire suppression system piping ongoing;
- installing exterior retaining walls; and
- installing gravity inlet sewer stub out.

Photographs of construction progress over the month of February at Clover Point are shown in Figures 11-13.



Figure 11–Clover Point Pump Station- Roofing membrane installed on public washroom.



Figure 12–Clover Point Pump Station- Gas detection panel terminations



Figure 13- Clover Pump Station – Electrical room.

2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: completion and passing of the pressure test for the forcemain; ongoing backfill around the exterior wall; Cross laminated Timber roof and parapet have been installed; installation of the HVAC and drain pipes in the screen room; and bridge cranes have been commissioned in the bin and pump rooms.

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

- pressure test on the Forcemain has completed and passed;
- bypass pumping for coupling installation has been completed;
- cable tray has been installed in the screen room and genset room;
- bridge cranes have been commissioned in the bin room and pump room;
- backfill around exterior wall is ongoing;
- screen room and vortex grating has been installed;
- Cross Laminated Timber roof and parapet have been installed;
- barrier wall and pump room hatch curb have been poured;
- slide gate installation has started in the screen room; and
- HVAC and drain pipes have been installed in the screen room.

Photographs of construction progress over the month of February at Macaulay Point are shown in Figures 14-15.



Figure 14–Macaulay Point Pump Station- Installing insulation on exterior of Cross Laminated Timber structure.



Figure 15-Macaulay Point Pump Station- Cross Laminated Timber electrical room progression.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: ongoing cycle track paving; road restoration; electrical lighting installation and landscaping restoration.

Key construction activities in progress or completed by Windley in February included:

- cycle track/road restoration Lewis Street to Government Street;
- electrical lighting installation Montreal Street to Lewis Street;
- Clover Point storm catch basin installation;
- Camas Curb Extension; and
- landscape restoration.

Photographs of construction progress over the month of February on the Clover Forcemain are shown in Figures 16-19.



Figure 16–Clover Forcemain- Cycle track base prep between Lewis and Douglas Streets.



Figure 17–Clover Forcemain- Curb and gutter restoration between Dock and Oswego streets.



Figure 18–Clover Forcemain– Road restoration between Niagara and Dock streets.



Figure 19–Clover Forcemain- Landscaping near corner of Cook Street and Dallas Road.

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, including: installation of valve chambers; road restoration; and installation of approximately 384m of pipes at the following locations:

- segment #1 Tillicum Road from Gorge Rd to Tillicum Bridge; installation of line valves, low point drain valves and air valves on Head Street and Tillicum Road;
- segment #2 Interurban Road from Roy Road to North Road: temporary asphalt restoration on Interurban Road south of Wilkinson to North Road;
- segment #3, installation of an air valve on Interurban Trail and a low point drain valve on Interurban Road at Viaduct Ave West, temporary asphalt restoration on Interurban Road at Goward Road; and
- segment #4, final surface restoration on Interurban Trail from Prospect Lake Road to Wallace Drive and Willis Point Road.

Photographs of construction progress over the month of February on the Residual Solids Pipes are shown in Figures 20-23.



Figure 20– Residual Solids Pipes-Installation of line and drain valves on Tillicum Road north of the Tillicum Bridge.



Figure 21–Residual Solids Pipes- installation of pipe on Interurban Road.



Figure 22–Residual Solids Pipes – Pipe installation on Portage Road.



Figure 23–Residual Solids Pipes - Excavation of sidewalk for pipe installation.

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including: completion of pipe installation along Interurban road; completion of the RTF Chamber at Willis Point Road; Pump Station 2 wet well passed leak testing and was damp proofed and partially backfilled; and Hartland reservoir slab was poured, formed and the reservoir was fully erected.

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

- Pump Station 1 wet well was patched. The valve chamber slab was then prepped and poured once the wet well damp proofing had been backfilled;
- Pump Station 2 wet well passed the leak test and was then damp proofed and partially backfilled. The valve chamber, flow meter and line valve manholes were installed;
- Pump Station 3 genset and electrical kiosk were installed, the odour control pad was prepped and Spools were grouted in place in various chambers;
- completion of the RTF Chamber at Willis Point Road;
- completion of pipe installation along Interurban Road;
- Marigold Pump Station walls and roof slab were formed and poured; and
- Hartland Reservoir slab was formed, poured and then the reservoir was fully erected.

Photographs of construction progress over the month of February on the Residual Solids Pump Stations are shown in Figures 24-25.



Figure 24–Residual Solids Pump Stations– Hartland Water System Improvements – Reservoir installation progress.



Figure 25 –Residual Solids Pump Stations - Marigold valve chamber finishing concrete of suspended slab pour.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) continued construction activities including: civil excavation and structural secant pile construction works; maintaining the dewatering system; on-site steel welding for lateral strut reinforcement; and preparatory works for ring beam construction.

Key construction activities in progress or completed by NAC Constructors Ltd. in February include:

- Site welding / fabrication including installation of saddles on the secant piles and welding steel plate reinforcement for lateral and cross struts;
- Construction of secant piles, focusing on the eastern section of site; and
- Preparatory work for ring beam installation including securing formwork, reinforcement, localized excavation around secant piles for grade adjustments.

Photographs of construction progress over the month of February at the Arbutus Attenuation Tank are shown in Figure 26.



Figure 26–Arbutus Attenuation Tank- Secant Pile Installation – 2 drill rigs & 1 crane.

2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed planning and permitting activities over the reporting period, including submitting construction management plans for the Project Team's review.

Appendix A– Trent Forcemain Construction (February 5, 2020)

February 5, 2020

Trent Forcemain Construction

The Wastewater Treatment Project includes construction of the Trent Forcemain, 1.9km of pipes that will be installed from the intersection of Chandler Avenue and St Charles Street to the Clover Point Pump Station (see map on reverse). This addition will increase the capacity of the wastewater system and reduce wet weather overflows.

The contractor for this component of the Project, Jacob Bros Construction Inc., will begin work the week of February 10 and construction is anticipated to take approximately 10 months to complete.

What to Expect

- A site office and laydown area will be established on Memorial Crescent.
- Existing utilities (storm, sewer, water, gas) will be relocated in preparation for forcemain installation.
- The pipe will be installed in segments.
- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Final restoration will take place once the pipe has been installed and tested.
- Pipes and equipment will be temporarily stored in the area while this work is completed.
- Noise associated with this work includes excavation machinery and truck back-up beepers.

Work Hours

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

Traffic Impacts

- There will be single lane alternating traffic during work hours in the construction zone.
- The northbound lane on Memorial Crescent from Dallas Road to Bushby Street will be closed during construction. Traffic will be diverted to the southbound lane to accommodate two-way traffic (see map on reverse).
- Parking along Memorial Crescent between Bushby Street and Dallas Road will be unavailable for the duration of construction of the Trent Forcemain.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Parking will be temporarily impacted in the construction zone.

Access

- Vehicle access to residences may be temporarily restricted. Notification will be provided in advance and access to residential driveways will be restored at the end of each work day.
- Emergency services will have access at all times.
- Garbage and recycling services will be picked up as usual.

Thank you for your patience as this work is completed.

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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca

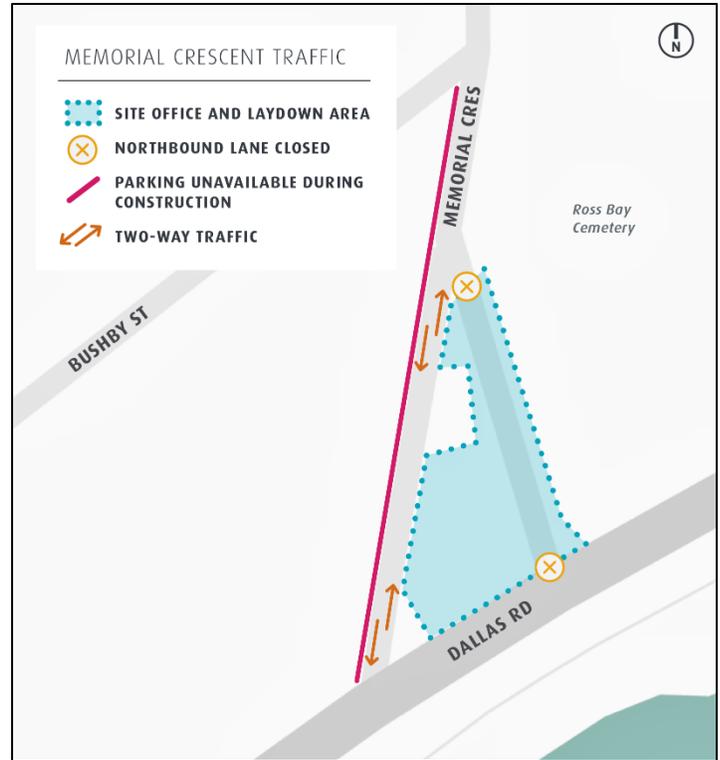


Website
wastewaterproject.ca

Trent Forcemain Route



Memorial Crescent



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 B– Residual Solids Conveyance Line: Esson and Portage Roads (February 14, 2020)



February 14, 2020

Residual Solids Conveyance Line: Esson and Portage Roads

As part of the Wastewater Treatment Project, construction of the Residual Solids Conveyance Line along Esson and Portage roads is anticipated to start the week of February 18 and continue to the end of April. Two crews will be installing pipes: one crew starting at Admirals Road and a second crew starting at the intersection of Portage and Grange roads.

What to Expect

- The pipe will be installed in segments.
- A trench will be excavated, the pipe will be installed, and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Final restoration will take place after the section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- A staging area at the intersection of Portage and Grange roads will be set up to feed pipes into the pre-installed casings under the Trans-Canada Highway.
- Noise associated with this work includes excavation machinery and truck back-up beepers.
- Pipes and equipment will be temporarily stored in the area while this work is completed.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required from 7:00 a.m. to 7:00 p.m.

Traffic Impacts

- There will be single lane alternating traffic during work hours.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Parking will be temporarily impacted as construction moves along the route.

Access

- Vehicle access to residences will be temporarily restricted when work is underway and will be reinstated at the end of each work day. Residents will be notified of temporary closures in advance.

Thank you for your patience as this work is completed.

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 C– Macaulay Point Pump Station: Bypass Pumping (February 21, 2020)



February 21, 2020

Macaulay Point Pump Station: Bypass Pumping

Construction of the Macaulay Point Pump Station requires temporary sewer bypass pumping on Monday, February 24, 2020 to replace a section of the existing sewer pipe to accommodate construction for the new pump station. Once started, this work must be completed and may run past regular working hours.

What to Expect

- Diesel powered generators will be running to provide sewer bypass pumping.
- A small section of the existing sewer pipe will be replaced.
- Bypass pumps will be removed once work is complete.
- Construction equipment will be in operation, including lights and truck back-up beepers.
- Noise associated with construction may occur overnight.

Work Hours

- The work will take place during the day but may take up to 24 hours, proceeding overnight past regular working hours.

Traffic Impacts

- No traffic impacts are expected.

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 D- Peter Street Paving update (February 13, 2020)



**Wastewater
Treatment Project**

February 13, 2020

Dear Resident,

We are writing to notify you that final paving along Peters Street is expected to take place next week, weather permitting.

Peters Street will be closed to vehicles 24 hours/day from Tuesday, February 18 to Friday, February 21 to prepare and pave the road. All vehicles on Peters Street must be relocated by 7 a.m. Tuesday morning. Parking will be available on Gault and Lyall streets.

There will be pedestrian access to all residences and emergency services will have access at all times. Garbage will be picked up as usual.

We appreciate your patience while 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 or if there is anything we can do to assist.

Thank you,

Wastewater Treatment Project Team

Appendix E– About the Wastewater Treatment Process

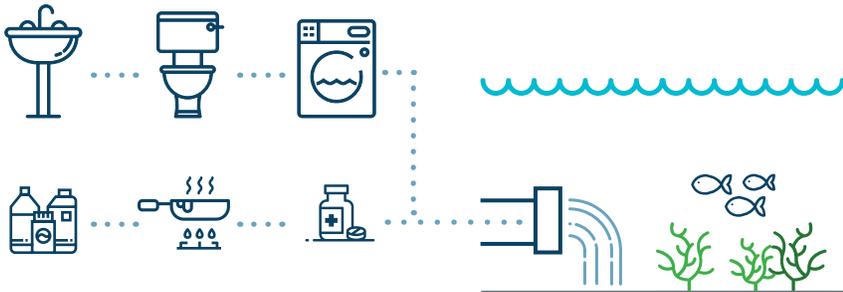


Wastewater Treatment Project

Treated for a cleaner future

What is wastewater?

- Wastewater is used water from human activities such as washing dishes, doing laundry, and flushing the toilet.
- Some pollutants in wastewater include industrial and commercial waste, detergents, cooking fats, and prescription drugs.



Why we treat wastewater

- To reduce contaminants prior to releasing the effluent into the environment, helping to protect and maintain healthy waterways.
- If pollutants in wastewater are not removed, they flow directly into the ocean. This can threaten fisheries, wildlife habitat, recreation, quality of life, and public health.

About the system

- Wastewater flows from residences and businesses into a sewer pipe that connects to larger pipes under our streets, which ultimately connect to either the Clover Point Pump Station or the Macaulay Point Pump Station.
- At present, wastewater is screened at these pump stations and then discharged into the Strait of Juan de Fuca without treatment.
- The Wastewater Treatment Project will connect these two pump stations to the McLoughlin Point Wastewater Treatment Plant so that wastewater can be treated to a tertiary level prior to discharge.

Did you know?

In the Core Area:

- There are **seven municipalities** (Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford, and Colwood) and the Esquimalt and Songhees Nations.
- There are over **175 pump stations** and **110km** of existing sanitary sewer pipes.
- The McLoughlin Point Wastewater Treatment Plant will treat up to **108,000,000 litres** of wastewater per day, providing capacity to accommodate future population growth.
- Every person produces an average of **185-200 litres** of wastewater per day.
- Wastewater flows are greater on rainy days.

Treatment Process

1 CONVEYANCE SYSTEM

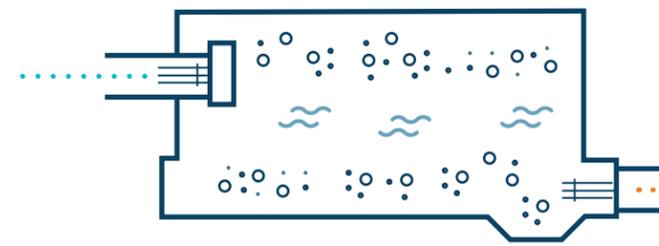
Collects wastewater from across the core area and conveys it to the Clover Point and Macaulay Point pump stations.

Screening

Wastewater is screened (6mm) to remove stones, paper, cloth, plastics and other debris.

Grit Removal

A vortex system uses centrifugal force to keep the organic material suspended while grit settles and is removed.



Pumping

Wastewater will be pumped to the new treatment plant.

The grit and screenings are compacted and trucked to an approved landfill.

Storm Outfalls

Currently, untreated wastewater is discharged out of the Clover Point and Macaulay Point outfalls. Once the Project is built, these outfalls will only be used to discharge storm flows associated with heavy-rain events. To reduce the need to discharge storm flows, a buried underground concrete tank (the Arbutus Attenuation Tank) will be built in Saanich to temporarily store flows during high volume storm events. In addition, core area municipalities have committed to an inflow and infiltration program that will reduce the volume of storm flows that need to be discharged.



2 M'CLOUGHLIN POINT WASTEWATER TREATMENT PLANT

PRIMARY TREATMENT

Is the physical separation of solids from wastewater.

Removing Solids

Heavier solids settle to the bottom and lighter 'scum' floats to the top.

SECONDARY TREATMENT

Is a biological process that removes dissolved and suspended organic compounds in the wastewater.

Fine Screening

Primary effluent will be finely screened (2mm) to remove smaller debris.

Biological Reactors

Wastewater flows through tanks where microorganisms grow. The microorganisms consume organic compounds in the wastewater and reproduce to form cells that result in residual biological solids. Solids are removed and sent to the Residuals Treatment Facility for further treatment. Treated secondary effluent is sent to tertiary treatment.

TERTIARY TREATMENT

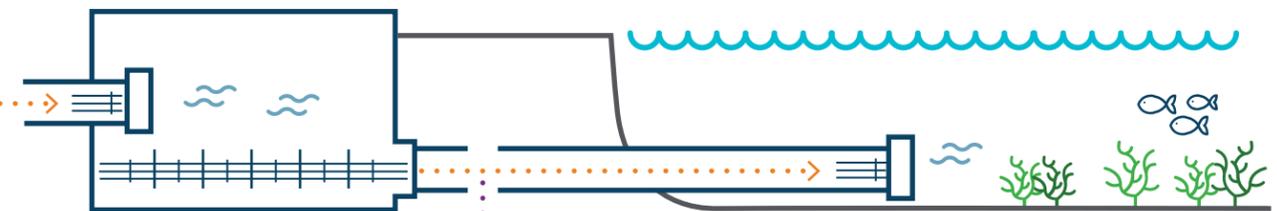
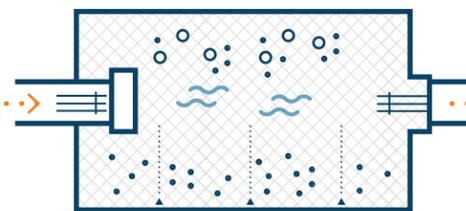
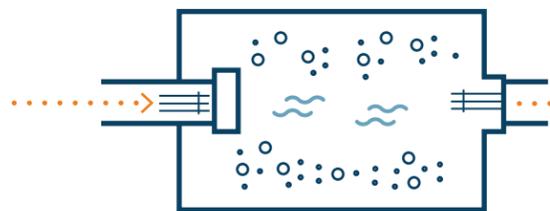
Is one of the highest levels of treatment, reducing contaminants that remain after the secondary treatment process.

Disc Filter

Wastewater will pass through a fabric disc filter (5-micron), reducing many pharmaceuticals, hormones, microplastics and other contaminants.

OUTFALL

The tertiary-treated effluent will flow through the outfall and discharge into the ocean approximately 2km from shore and 60m deep.



As wastewater moves through the treatment process, residual solids are removed. These solids will be pumped to the Residuals Treatment Facility for further treatment.

3 RESIDUALS TREATMENT FACILITY

Digestion

The residual solids undergo anaerobic digestion in which microorganisms will break down biodegradable material in the absence of oxygen and produce biogas.

Biogas

Biogas produced during the digestion process will be collected and reused within the facility as fuel for the dryer.

Drying

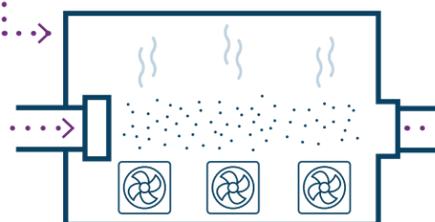
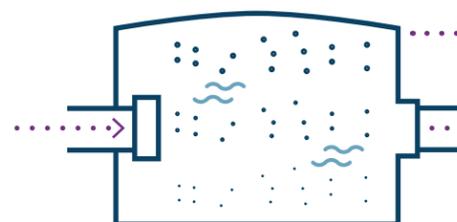
The residual solids are dewatered and then heated at a very high temperature (220°C).

Biosolids

Dried Class A biosolids will be produced that will contain almost no detectable levels of pathogens. These are the highest standard of biosolids and are suitable for beneficial use. The biosolids will be dark, dry granular pellets.

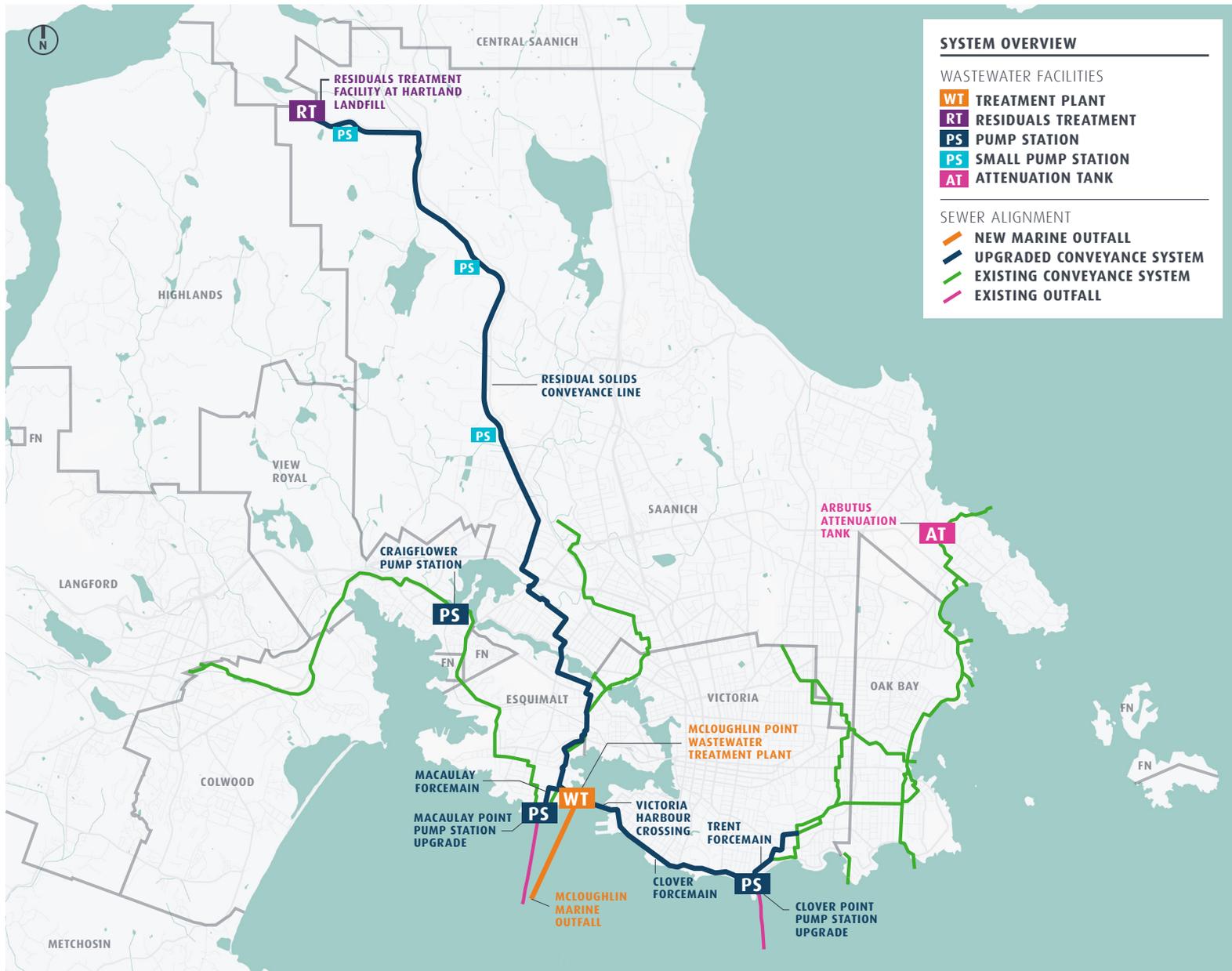
Residual Solids Conveyance Line

Will consist of two pipes and three small pump stations to transport all residual solids to the Residuals Treatment Facility. Liquid removed from the residual solids during the treatment process will be returned to the McLoughlin Point Wastewater Treatment Plant through the conveyance system.



Wastewater Treatment Project Components

The Wastewater Treatment Project is being built to meet the provincial and federal regulations for treatment by December 31, 2020.



For more information



Website
wastewaterproject.ca



Email
wastewater@crd.bc.ca



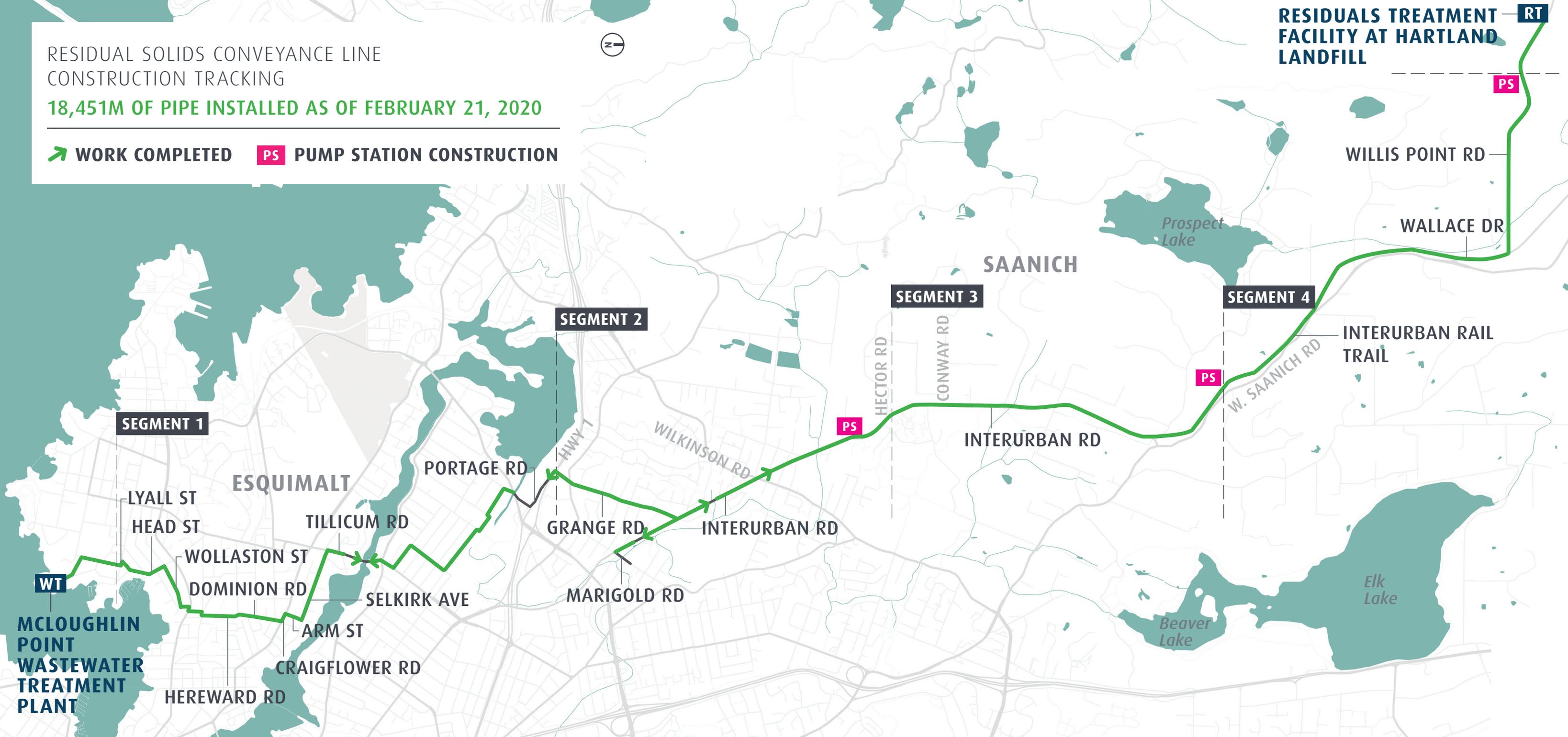
24-7 Project information line
1.844.815.6132

Appendix F– Residual Solids Conveyance Line (February 21, 2020)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

18,451M OF PIPE INSTALLED AS OF FEBRUARY 21, 2020

 WORK COMPLETED  PUMP STATION CONSTRUCTION



Appendix G– Monthly Cost Report (February)

MONTHLY COST REPORT
as at February 29, 2020

Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to January 31, 2020	Expended over reporting period (February 2020)	Expended to February 29, 2020	Expended to February 29, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at February 29, 2020	Total Commitment at February 29, 2020	Unexpended Commitment at February 29, 2020	Uncommitted Allocated Budget at February 29, 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	328.1	272.4	5.1	277.5	85%	50.6	320.3	42.8	7.8	50.6	328.1	-	0%
Construction	306.7	320.2	271.8	5.1	276.9	86%	43.3	319.7	42.8	0.5	43.3	320.2	-	0%
Contingency	14.9	1.0	-	-	-	0%	1.0	-	-	1.0	1.0	1.0	-	0%
Financing	9.8	6.9	0.7	-	0.7	9%	6.2	0.7	-	6.2	6.2	6.9	-	0%
Residuals Treatment Facility	159.4	139.7	9.8	0.5	10.3	7%	129.4	138.7	128.4	1.0	129.4	139.7	-	0%
Construction	145.4	138.7	9.8	0.5	10.3	7%	128.4	138.7	128.4	0.0	128.4	138.7	-	0%
Contingency	12.3	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	1.7	0.8	0.0	-	0.0	4%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	158.1	216.0	140.0	4.9	144.9	67%	71.1	194.5	49.6	21.4	71.1	216.0	-	0%
Macaulay Point Pump Station	25.4	30.8	22.8	1.2	23.9	78%	6.8	30.8	6.8	0.0	6.8	30.8	-	0%
Macaulay Forcemain	5.6	7.4	6.4	0.1	6.5	87%	1.0	7.4	1.0	-	1.0	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	0.0	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.4	24.0	0.3	24.3	89%	3.1	27.2	3.0	0.2	3.1	27.4	-	0%
Currie Pump Station ^A	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	10.2	0.7	10.9	44%	13.6	23.1	12.1	1.5	13.6	24.6	-	0%
Clover Forcemain	14.6	32.5	27.0	0.4	27.5	85%	5.0	32.2	4.7	0.3	5.0	32.5	-	0%
Currie Forcemain ^A	3.3	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
Trent Forcemain	9.5	11.3	0.2	-	0.2	2%	11.1	7.9	7.6	3.4	11.1	11.3	-	0%
Residual Solids Conveyance Line	19.1	35.8	29.4	1.2	30.5	85%	5.2	35.8	5.2	0.0	5.2	35.8	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.6	6.7	1.1	7.7	42%	10.9	16.7	9.0	1.8	10.9	18.6	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.5	0.3	-	0.3	60%	0.2	0.5	0.2	0.1	0.2	0.5	-	0%
Contingency	16.8	10.4	-	-	-	0%	10.4	-	-	10.4	10.4	10.4	-	0%
Financing	5.8	4.1	0.3	-	0.3	8%	3.7	0.3	-	3.7	3.7	4.1	-	0%
Project Management Office ("PMO")	75.9	77.9	51.1	1.1	52.2	67%	25.7	68.4	16.2	9.5	25.7	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	17.3	12.5	0.3	12.8	74%	4.5	17.3	4.5	-	4.5	17.3	-	0%
Conveyance Design	5.0	9.7	7.0	0.0	7.0	72%	2.7	8.0	1.1	1.6	2.7	9.7	-	0%
Advisors & Professional Support	7.0	15.0	9.8	0.0	9.8	65%	5.2	11.1	1.3	3.8	5.2	15.0	-	0%
Project Team & Project Board	31.3	24.5	15.2	0.7	15.9	65%	8.6	23.7	7.8	0.8	8.6	24.5	-	0%
CRD Allocations	3.4	3.4	2.3	0.1	2.4	69%	1.1	3.4	1.1	-	1.1	3.4	-	0%
Office, Supplies & Expenses	3.9	2.5	1.6	0.0	1.6	64%	0.9	2.0	0.5	0.4	0.9	2.5	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	0.0	0.6	54%	0.5	0.6	-	0.5	0.5	1.1	-	0%
Contingency	4.8	2.3	-	-	-	0%	2.3	-	-	2.3	2.3	2.3	-	0%
BC Hydro	12.9	4.3	2.0	-	2.0	47%	2.3	2.0	0.0	2.3	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1	3.5	0.2	3.7	45%	4.5	6.8	3.2	1.3	4.5	8.1	-	0%
Program Reserves	19.2	0.9	-	-	-	0%	0.9	-	-	0.9	0.9	0.9	-	0%
Core Area Wastewater Treatment Project	765.0	775.0	478.9	11.7	490.6	63%	284.4	730.9	240.3	44.1	284.4	775.0	-	0%

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

** Cost report presents approved expenditures

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



Making a difference...together

REPORT TO CAPITAL REGIONAL DISTRICT BOARD MEETING OF WEDNESDAY, APRIL 22, 2020

SUBJECT **Metchosin Regional Context Statement Consideration**

ISSUE SUMMARY

To review the District of Metchosin regional context statement (RCS) in relation to the Capital Regional District's (CRD) Regional Growth Strategy (RGS) Bylaw (Bylaw No. 4017).

BACKGROUND

On March 14, 2018 the CRD Board adopted the RGS, Bylaw No. 4017.

A RCS, adopted within a municipality's Official Community Plan (OCP), relates OCP provisions to the RGS. As per section 446 of the *Local Government Act* (the *Act*), an OCP in a municipality to which an RGS applies must include an accepted RCS. The *Act* requires that all municipal regional context statements be submitted to the Board within two years of RGS adoption. The *Act* also stipulates that upon receipt of a proposed RCS, the CRD Board must respond by resolution within 120 days to the municipal council to indicate whether or not it accepts the RCS. The Board is deemed to have accepted the RCS if it does not respond within the 120 day period.

On April 11, 2018, the CRD Board approved a framework to guide the evaluation of regional context statements.

On March 13, 2020, the District of Metchosin submitted a RCS for Board acceptance (see Appendix A). The RCS was prepared to reflect the content of the 2012 Metchosin OCP in relation to the 2018 RGS. The CRD Board has until July 11, 2020, to review and respond to the Metchosin RCS.

To date, Colwood, Esquimalt, Oak Bay, North Saanich, View Royal, Highlands, Sidney, Saanich, Victoria, Sooke, Langford and Central Saanich's RCSs have been accepted. This is the final RCS to be received. All municipalities have submitted a revised RCS within two years of adoption of the RGS, by the deadline of March 14, 2020.

Regional and Strategic Planning staff have evaluated the Metchosin RCS in accordance with the Board-approved "Regional Context Statement Framework". See Appendix B for a summary of the evaluation.

ALTERNATIVES

Alternative 1

That the District of Metchosin regional context statement be considered in relation to the 2018 Regional Growth Strategy (Bylaw No. 4017) and be accepted in accordance with the requirements of section 448 of the *Local Government Act*.

Alternative 2

That the District of Metchosin regional context statement be considered in relation to the 2018 Regional Growth Strategy (Bylaw No. 4017) and not be accepted in accordance with the requirements of section 448 of the *Local Government Act*.

Alternative 3

That the Metchosin Regional Context Statement report be referred back to staff for additional information based on CRD Board direction.

IMPLICATIONS

Intergovernmental Implications

Board acceptance of the RCS is a key RGS implementation tool as the context statement relates the RGS to a municipality's OCP. The OCP provides policies that guide decisions related to land use, infrastructure, mobility, housing, parks and other content under the authority of a local government.

Regional Growth Strategy Implications

Metchosin's proposed RCS fully captures all relevant OCP content and clearly identifies how the OCP relates to the RGS vision, population projections and objectives for growth management, environment and infrastructure, housing and community, transportation, economic development, food systems and climate action as outlined in Appendix B. The RCS demonstrates a strong relationship to the RGS that will work toward achieving the RGS vision and objectives.

The referral period for Board acceptance of a RCS is 120 days (July 11, 2020).

Alignment with Existing Plans & Strategies

The purpose of a RCS is to foster alignment between the RGS and municipal OCPs. Practically speaking, it can take time to achieve alignment, especially in cases where RGS content changes. While Provincial legislation requires that RCS's be updated within two years of a new RGS, it also acknowledges that, in some cases, there will not be perfect alignment within those two years. Section 447 of the *Local Government Act* provides an opportunity for an OCP that is not consistent with the RGS to indicate how the municipality intends to ensure consistency over time. Metchosin has submitted a proposed RCS to fulfill its statutory obligation that the context statement be received by the CRD Board within two years of RGS adoption.

CONCLUSION

Provincial legislation requires that a municipal OCP contain an accepted RCS. Board acceptance of the RCS is a key tool for RGS implementation. Staff have reviewed Metchosin's proposed RCS in accordance with the Board-approved evaluation framework. Metchosin's RCS demonstrates a strong relationship to the RGS and will work toward achieving RGS vision and objectives.

RECOMMENDATION

That the District of Metchosin regional context statement be considered in relation to the 2018 Regional Growth Strategy (Bylaw No. 4017) and be accepted in accordance with the requirements of section 448 of the *Local Government Act*.

Submitted by:	Emily Sinclair, MCIP, RPP, Senior Manager, Regional & Strategic Planning
Concurrence:	Kevin Lorette, P. Eng., MBA, General Manager, Planning & Protective Services
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ATTACHMENT(S)

- Appendix A: Metchosin's Regional Context Statement Referral
- Appendix B: Regional Context Statement Evaluation



DISTRICT OF METCHOSIN

File No. 6410-10

March 13, 2020

Emilie Gorman
Deputy Corporate Officer
Capital Regional District
625 Fisgard Street, PO Box 1000
Victoria, BC V8W 2S6

VIA EMAIL: egorman@crd.bc.ca

RE: Referral of *Metchosin Official Community Plan Amendment Bylaw, No. 659* to update Metchosin's Regional Context Statement

Please see the attached *Metchosin Official Community Plan Amendment Bylaw, No. 659* at first reading. The purpose of this letter is to refer Bylaw No. 659 to the Capital Regional District (CRD) for acceptance by the Board.

Please contact me should you require anything further.

Sincerely,

Tammie Van Swieten,
Deputy Corporate Officer

PART 14 - REGIONAL CONTEXT STATEMENT

VISION

The District of Metchosin’s OCP supports and is consistent with the vision expressed in the RGS, in part by enshrining several of the same objectives, including:

- Protecting the integrity of rural communities
- Protecting, conserving and managing ecosystem health
- Fostering a resilient food and agriculture system.

The District’s OCP also supports the other objectives through measures appropriate to its size as a small rural community of approximately 5,000 people. The District’s OCP demonstrates Metchosin’s commitment to regional sustainability, including the actions and decisions the District continues to take to limit growth and retain Metchosin’s role and character as a rural municipality.

The OCP notes that the District’s first OCP (in 1986) emphasized the maintenance of an agricultural economy, the upgrading of regional parks and open spaces and the provision of residential development on moderate to large sized parcels. These objectives remain unchanged today and the OCP is well aligned with the regional growth strategy.

Growth Projections

The OCP contains policies that support the growth projections contained in Table 1. It is anticipated that much of the growth referenced in the population estimates will be directed to neighbouring West Shore communities of Colwood, Langford and Sooke, consistent with the target to accommodate at least 95% of the region’s new dwelling units within the Urban Containment Policy Area. The most recent 2016 Census shows a declining population in Metchosin. Between 1996 and 2016 the District’s population (as per the federal Census) decreased by 1 person. The decline comes at the same time that neighbouring municipalities of Sooke, Colwood and Langford grew by 49%, 22% and 102% respectively.

The stable population is due to a combination of the District’s location outside the Urban Containment Policy Area, as well as Metchosin’s commitment to consistent OCP and Land Use policies that limit growth. The District’s current OCP land use designations have the ability to accommodate some growth over time, but this will continue to be limited through the District’s land use and servicing policies which have been effective tools to curtail growth. The District’s OCP therefore has policies in place to enable limited growth referenced in the RGS while ensuring that any growth that does occur is consistent with the values and policies within the OCP.

Section 1.5 of the OCP notes that in 2010, the last OCP update, Metchosin was still not expected to reach the population growth projections contained in the District’s first (1986) OCP within a 20 year timeline. The OCP continues to be an effective tool in championing the rural lifestyle, agricultural economy and low growth policies, as evidenced by the limited growth in Metchosin over its 35 years as a municipality.

14.1.0 MANAGING AND BALANCING GROWTH

14.1.1 *Keep Urban Settlement Compact*

This section of the RGS is not applicable, as the District does not have, nor does it intend to

RGS Designations	OCP Designations
Rural/Residential Policy Lands	Uplands, Rural, Rural Residential, Commercial Recreational, Industrial, Community Institutional, Major Institutional, Village
Renewable Resource Lands	Agriculture, Major Institutional, Uplands
Capital Green Lands	Park and Public Space

have any urban settlement. The District's land uses are included in Map 3 of the OCP, and are compatible with the RGS Map 3a designations.

14.1.2 Protect Integrity of Rural Communities

The policies of Metchosin's OCP collectively act to achieve this objective. The importance of maintaining Metchosin's rural integrity, which includes its agricultural land base, while protecting the natural environment, is emphasized throughout the OCP. The following policies combine to protect the integrity of Metchosin as a rural community:

- Provide a range of lifestyles based on a rural agricultural community (6.2.7, 3.2.3)
- Scale, intensity, and form of residential uses which maintains the rural character (6.2.1)
- Permitting farming in almost all land designations, including rural residential lands (6.7.2)
- Providing for buffers between agricultural and residential land uses to minimize conflicts between agricultural and residential uses (6.4.2)
- Lot area minimums of 2 and 4 hectares in the majority of the District, and policy limiting expansion of smaller 0.8 ha lots to limit growth (6.5)
- Scale and form of development that minimizes demand for extensive community services (6.2.6)
- Discourage commercial land uses in conflict with rural and agricultural character of the community and would impose undue servicing burdens on the taxpayer (7.2.4)
- Sensitive Environment policies and designations supersede all other land use policies with the exception of land within the ALR (2.3.1)

The District complements its land use designations with strong policies identifying that there is no sewer in Metchosin (planned or existing) (12.12), and a requirement for all development to have long-term suitable septic disposal sites, consistent with its location outside the Regional Urban Containment Policy Area boundary. By minimizing development and prohibiting sewer these policies support the RGS target of ensuring 95% of new dwelling units are located within the regional urban containment policy area.

14.2 ENVIRONMENT AND INFRASTRUCTURE

14.2.1 Protect, Conserve and Manage Ecosystem Health

A key aspect of preserving the rural character of the community is retaining, protecting and conserving our natural environment. Metchosin continues to work on preserving greenspaces and protecting sensitive environments through a variety of approaches, including partnerships with First Nations, the federal government, other local governments and non-profit conservation organizations. The OCP, particularly in Part 2, includes a number of environmental policies and guidelines to protect environmental features, including sensitive vegetation and wildlife habitat, steep slopes, riparian and marine areas, areas subject to erosion, forested areas, rare and endangered plants and ecosystems, and tree cover. Mechanisms such as Development Permit Areas (2.14, 2.16) and Development Approval Information Areas (2.17), amenity zoning and conservation covenants continue to be utilized as tools to protect these unique and sensitive features.

The OCP supports additional protection of lands, and requires sound environmental practices, including:

- an amenity policy (6.8) that provides opportunities to preserve significant recreational and environmentally sensitive assets which may not otherwise be acquired
- Sensitive Environment policies and designations supersede all other land use policies with the exception of land within the ALR (2.3.1)

- Regard for proper functioning condition of riparian wetland areas, and protection of sensitive environments when considering development (2.3.2)

The District is blessed with several regionally significant parks, as identified in the Regional Growth Strategy – Witty’s Lagoon, Albert Head Lagoon, Devonian Park, Matheson Lake Park and Sooke Hills Wilderness Regional Park – as well as smaller municipal parks that are designated within the capital green lands designation. The OCP designates and protects these areas as Park and Public Open Space. The CRD has already acquired significant lands within the District to complete the Sea-to-Sea Green/Blue Belt through Metchosin. The District will continue to investigate and evaluate opportunities to protect or acquire adjacent lands.

The regional Galloping Goose trail also runs through the District, connecting Metchosin to neighbouring Sooke and Langford. The regional growth strategy targets of completing the regional trail network are not applicable for the District.

The principles of the District’s Rainwater management bylaw are also referenced in the OCP, and the two work in tandem to maintain natural drainage, address surface water and healthy groundwater resources and protect the proper functioning condition of our riparian areas. (12.13). Together the two bylaws help the District continue to reduce contaminants to fresh and marine water bodies, consistent with the RGS target.

14.2.2 Manage Regional Infrastructure Services Sustainably

Water quality and quantity have long been concerns of Metchosin; the District was serviced with piped water well before incorporation. Parts of Metchosin rely upon vulnerable aquifers and low water sources that are often marginally adequate for fire suppression needs, especially within the context of a “high” to “extreme” interface fire hazard regime. Improved flows and access to water sources for fire suppression are therefore essential to protect life and property. Piped water service is also needed to improve the arability of Metchosin’s agricultural land base, which is important for the local and regional economy.

Section 12.11 of the OCP therefore supports the expansion of a community water system to existing residents, a policy that has been in place since 1996, and is intended to be available to service both the existing population, and the limited growth contemplated by and consistent with the OCP. The population anticipated by the OCP, and the associated land use policies, have remained consistent and in effect since 1996. That these densities remain unchanged after more than 20 years is evidence of the District’s commitment to maintaining the rural character and integrity of Metchosin. District bylaws do not require the extension of community water; however, the District remains committed to community water as an option to ensure appropriate levels of water quality and quantity for residents.

The OCP promotes responsible extension of water services, including the development of a water strategy to determine the quantity and quality of water sources (12.11), and assess the impact that current development is having on existing water sources. Confirmation of the availability of sufficient water is a requirement of any subdivision approval. Where any extensions of the regional system are requested, benefitting users are required to bear the full cost of the water extension. This requirement has limited the extension of water, and over the past 10 years, few new areas of the District have been serviced. Limited new connections have been made as properties subdivide. In total, only 47 water meters have been added in the District in the past 10 years; similar growth patterns would therefore be likely to add less than 100 new connections to the system over the next 20 years. The CRD operates the

Juan de Fuca water distribution system, and reviews and approves all extension requests, and prepares the associated long-term capital plans for expansion. The District participates on the Juan de Fuca Water Distribution Commission that oversees the water distribution service. The District works with the CRD to contribute to long-term plans for the water infrastructure, taking into account conservation of land, water and energy resources, and the impacts of climate change and natural hazards, consistent with the RGS targets.

The OCP also confirms that there is no community sewage disposal or treatment plants in the District, and includes a policy that only permits residential development where soil conditions are suitable for long-term operation of septic disposal systems (6.3.3). All residential designations identified in the OCP include a reference to the permitted use of a single-family dwelling **with an individual septic disposal field**. Section 12.12 of the OCP acknowledges that Metchosin is not serviced by a community sewage disposal system and that all sewage waste generated with the District is to be disposed of by private septic disposal systems. Section 12.12.2 further states that no building permit is to be issued unless the proposed sewage disposal system has been approved (*note that the Health Authority is responsible for ensuring sewage systems are certified to meet the Sewerage System Regulation*). These policies emphasize that the District does not support the extension of sewers or any regional treatment of sewerage in the municipality. Furthermore, Metchosin does not support the connection of any of its lands to sewers located outside the municipal boundary. This is consistent with the RGS policy that limits urban sewers to the Urban Containment Policy Area.

Given that the District has no sewer infrastructure, and does not deliver water service, the District does not have any utility or infrastructure long-term capital plans, so the RGS target relating to long-term capital plans for major infrastructure are not applicable to the District.

14.3. HOUSING AND COMMUNITY

14.3.1 Create Safe and Complete Communities

The RGS notes that the characteristics of a complete community are highly dependent on context and that outside the Urban Containment Policy Area, the criteria and targets set out for complete communities does not apply to the Rural/Rural Residential Policy Area. Given the rural nature of the District, the District's OCP helps to encourage complete communities through supporting active transportation modes to connect to the District's Village Centre, as well as to the neighbouring communities of Sooke, Langford and Colwood where a greater array of commercial and work opportunities exist. The District's OCP supports a range of home-based businesses to allow opportunities to work at home, and provide local services to the community while minimizing the need to commute or travel. Home businesses help contribute to the target of a jobs/population ration of 0.36 in the West Shore, as referenced in the RGS.

The District's OCP is consistent with the RGS with regards to identifying hazards and ensuring uses are safe, and has development permit areas established in areas with steep slopes (Section 2.16) and flooding (Section 2.14).

14.3.2 Improve Housing Affordability

Section 6.3.6 of the OCP encourages affordable housing options through secondary suites, detached suites, as well as the ability to have manufactured homes as principal dwellings, supplement income through home businesses, and locate community care facilities in all residential designations. Together these options provide opportunities to address the increased cost of housing in the District, but also

encourage housing that enables aging in place for seniors in the community. The District continues to encourage suites and the conversion of existing accessory buildings to residential units to increase the supply of affordable housing in the District.

The District will be working on a housing needs assessment as part of a cooperative effort with other municipalities to identify the current and anticipated future issues concerning market and non-market housing affordability for no, low and middle income and special needs households. The assessment will identify the number of people in core housing need or homeless, and involve the community in a strategy to address how those numbers can be reduced, and any issues identified by the needs assessment.

14.4. TRANSPORTATION

14.4.1 Improve Multi-Modal Connectivity and Mobility

While growth or major trip-generating uses are not planned for the District, the District's OCP supports transit and active transportation. Ongoing discussions are held with adjacent municipalities to link networks for active transportation, not only within the community, but to the transportation hubs in Langford and Colwood. The District's OCP is supportive of public transit (10.2.2), while acknowledging that transit service cannot be provided at high levels of convenience without the support of urban population levels that the District will not attain.

The OCP includes policies that support multi-modal connectivity locally and regionally, and contributes to the aspirational target of having a regional transportation system that sees 42% of all trips made by walking, cycling and transit:

- Support public transportation (10.2.2)
- Protect the Galloping Goose regional trail for public recreational use (10.2.6)
- Seeks to acquire a network of pedestrian, equestrian and cycling trails and to encourage pedestrian, equestrian and cycling uses throughout the transportation network. (10.2.7)
- Continue to review transit services with transit authorities to determine whether changes could be made to better serve the community and whether any additional services can be provided to Metchosin as development continues in Colwood and Langford. (10.3.5)
- Provision of walking facilities and paved passenger standing areas on all transit routes should be a long-term objective. (10.3.6)
- Provide trail corridors for pedestrians, cyclists and equestrians as alternative means of transportation to various facilities and points of interest through subdivision and other development applications (10.3.7)
- Continue to provide for safe movement of pedestrians, cyclists and equestrians along all major and collector roads. Wherever possible, this will be encouraged by providing a wider shoulder on existing and proposed roads. (10.3.8)

14.5 ECONOMIC DEVELOPMENT

14.5.1 Realize the Region's Economic Potential

The District continues to work collaboratively on regional economic development considerations with its neighbouring First Nation, Scia'new. Aside from existing institutions, such as William Head Penitentiary,

Pearson College and Albert Head (DND lands), the District's OCP promotes local-serving commercial uses within its Village Centre, consistent with the RGS. Home businesses are supported in the OCP that are compatible with the District's rural character (Section 7.2.2). Maintaining and supporting the District's local servicing businesses contributes toward the target of a jobs/population ratio of 0.36 in the West Shore, as referenced in the RGS.

14.6 FOOD SYSTEMS

14.6.1 Foster a Resilient Food and Agriculture System

Metchosin's OCP actively promotes the District's agricultural economy, and policies throughout the OCP encourage and support food production and agriculture. Farming is encouraged in virtually every zone, including residential zones, to foster resilience and food production. The OCP also outlines some opportunities for increasing the viability of local agricultural enterprises, including small and large scale organic farming and niche farming.

Policies that help contribute to the RGS targets of increasing the amount of land in crop production for food by 5,000 ha include:

- Permitting farming in almost all land designations, including rural residential lands (6.7.2)
- Providing for buffers between agricultural and residential land uses to minimize conflicts between agricultural and residential uses (6.4.2)
- Acknowledging the District's regional role in providing much of the productive agricultural land within the Capital Regional District yielding food for the local market. (1.1)
- Supporting the sharing and marketing of local food through a weekly farmer's market held at Municipal Hall (12.2) which is overseen by the Metchosin Producers' Association.
- The District will consider an agricultural strategy for Metchosin including an inventory of the existing agricultural activities in the District, and strategies and targets to increase the amount of land in crop production for food during the District's next OCP update, in order to align with the RGS targets over time.

14.7 CLIMATE ACTION

14.7.1 Significantly Reduce Community-Based Greenhouse Gas Emissions

The District continues to work on reducing CO₂ emissions and atmospheric pollution, and the OCP includes policies to prioritize this work including:

- reduce CO₂ emissions and other atmospheric pollution due to transportation (10.2.10) including providing for safe movement of pedestrians, cyclists and equestrians along all major and collector roads (10.2.8) as well as providing infrastructure for electric vehicle charging within the Village Centre;
- The OCP notes the objectives of conserving water and energy, and reducing greenhouse gas emissions in its Village Centre through a development permit area (7.4) that requires new development to address water and energy conservation, and greenhouse gas reductions through site and building design;
- The District's OCP (2.13) also references the contributions the District's forested lands make in storing carbon;
- The District has a target in the OCP (2.13.1) to reduce greenhouse gas emissions by 33% over 2007 emission levels by 2020, consistent with the RGS target for 2020, and helping to work toward the 2038 target of a 61% reduction.

- Continued protection of greenspaces through various means to help mitigate climate change.

14.8 IMPLEMENTATION

The District of Metchosis is committed to forming partnerships with the Capital Regional District, its member municipalities and other jurisdictions to achieve the mutual objectives of the RGS. The District acknowledges the importance of working collaboratively with these jurisdictions, and is committed to achieving common goals and resolving disagreements within a cooperative framework.

RGS OBJECTIVES	APPLICABLE	OCP SECTIONS	OCP CONTENT
1.0 Managing and Balancing Growth			
1.1 Keep Urban Settlement Compact	n/a	MAP 3	Land Use Map
1.2 Protect the Integrity of Rural Communities	Yes	6.2.7, 3.2.3 12.12	Range of lifestyles based on rural agricultural community Avoid sewers that will lead to urban areas
		Section 2	Minimize impacts to natural environment
		6.2.1, 6.2.6	Scale and form of uses that minimize demand for services
		7.2.4	Discourage land uses in conflict with rural/agricultural character
		6.5	Minimum lot sizes of 2 and 4 ha, limited expansion of 0.8 ha lots
2.0 Environment and Infrastructure			
2.1 Protect, Conserve and Manage Ecosystem Health	Yes	Map 3 Section 2 12.13	Identify regionally significant parks Restore, protect and enhance healthy ecosystems Management of surface water, drainage, groundwater
2.2 Manage Regional Infrastructure Services Sustainably	Yes	6.8 12.11 12.12, 12.9.2, 10.2.4, 6.3.3 12.12	Amenity policy to protect significant sensitive areas and recreational lands Water policy and community water system expansion No community sewer, and support for dwellings on septic as permitted uses Solid waste
3.0 Housing and Community			
3.1 Create Safe and Complete Communities	Part	2.14, 2.16	Shoreland Slopes and Bliston Floodplain Development Permit Areas
3.2 Improve Housing Affordability	Yes	6.3.6	Affordable housing through detached and secondary suites, residential care facilities Housing needs analysis
4.0 Transportation			
4.1 Improve Multi-Modal Connectivity and Mobility	Yes	10.2.2, 10.3.5, 10.3.6 10.2.6 10.2.7, 10.3.7, 10.3.8	Support for transit Protect the Galloping Goose for public recreational use Acquire a network of pedestrian, equestrian and cycling trails, and support movement along all major and collector roads
5.0 Economic Development			
5.1 Realize the Region's Economic Potential	Yes	7.2.2	Support home businesses compatible with District's rural character
6.0 Food Systems			
6.1 Foster a Resilient Food and Agriculture System	Yes	6.7.2 6.4.2 1.1	Permit farming in most land use designation Provide buffers between agricultural and residential land uses to minimize conflicts Acknowledge the District's role in providing agricultural land for the region, and food for the local market
7.0 Climate Action			
7.1 Significantly Reduce Community-Based Greenhouse Gas Emissions	Yes	10.3.8, 2.13 7.4 10.2.8, 10.2.10	Protect forested areas that help mitigate emissions, and store carbon Village Centre Development permit area to reduce greenhouse gases Reduce emissions due to transportation

Table 1. Regional Context Statement Evaluation Framework

LGA	RCS Content	Relationship to Legislative Requirement For CRD Board consideration		
		All relevant content is included	Clearly articulates relevant content	Plan to be consistent over time
429(2)(a)	Identify how the OCP relates to the RGS vision on p. 1 of the RGS.	The RCS articulates alignment to the vision and topic areas from the RGS.	Identifies how the objectives and policies are implemented.	N/A
429(2)(b)	Identify how the OCP relates to the projections provided in Table 1 of the RGS.	RCS identifies a specific alignment between the projections and RGS projections.	The RCS identifies the relationship between the projections in the OCP and RGS.	N/A
Managing and Balancing Growth (Objectives 1.1 & 1.2)				
429(2)(c) and (d); 429(3)	Identify how the OCP relates to the RGS.	RCS reflects all relevant OCP content.	The District is entirely outside the Urban Containment Policy Area, and has maintained a rural landscape with minimal growth. Metchosin's strong land use policies are complemented by servicing policies that limit growth. By limiting growth Metchosin supports other municipalities that wish to grow. Metchosin's lands are within the Renewable Resource Lands Policy Area and the Rural/Rural Residential Policy Area.	N/A

Relationship to Legislative Requirement
For CRD Board consideration

LGA **RCS Content**

All relevant content is included

Clearly articulates relevant content

Plan to be consistent over time

Environment and Infrastructure (Objective 2.1 & 2.2)



RCS reflects all relevant policy areas, and OCP policies.



The RCS identifies policies that emphasize preservation and protection of healthy ecosystems in alignment with the Capital Green Lands Policy Area identified on RGS Map 3a.

N/A

The RCS identifies policies that put the cost of water extensions on the user. Confirmation of sufficient water capacity is a requirement of subdivision approval. The OCP does not support a community sewage system, in accordance with RGS policy that limits sewage system services to lands within the Urban Containment Boundary.

Housing and Community (Objectives 3.1 & 3.2)



OCP policies meet the criteria for maintaining a complete community.



Metchosin supports complete communities in a rural context through policies which encourage active transportation modes that connect to its village centre and neighbouring communities. Home based businesses are also supported.

N/A

Policies support a range of housing types including secondary suites, detached suites, ability to have manufactured home as primary residence, and ability to locate care facilities in residential zones.

Relationship to Legislative Requirement

For CRD Board consideration

LGA

RCS Content

All relevant content is included

Clearly articulates relevant content

Plan to be consistent over time

Transportation (Objective 4.1)



Content reflects the Regional Transportation Plan and multi modal transportation network.



Policies to increase growth or major trip-generating uses are not planned. The OCP supports transit and active transportation modes, appropriate for a rural context.

N/A

Metchosin communicates with adjacent municipalities to link transportation networks for active transportation inside and outside the District. Policies focus on providing for a connected trail network and for safe movement of active modes along major and collector roads.

Economic Development (Objective 5.1)



The RCS references OCP policies and summarizes the relationship between the OCP policies and RGS policies.



The OCP supports ALR lands in the Renewable Resource Lands Policy Area. Metchosin will work collaboratively with its neighbouring First Nation, Scia'new. Institutions such as William Head Penitentiary, Pearson College and Albert Head DND lands are also provided policy support. Local-serving commercial uses are supported in the Village Centre.

N/A

Relationship to Legislative Requirement
For CRD Board consideration

LGA **RCS Content**

All relevant content is included

Clearly articulates relevant content

Plan to be consistent over time

Food and Agricultural Systems (Objective 6.1)



Content reflects RGS policies.



Policies actively promote the District's agricultural economy, policies throughout the OCP encourage and support food production and agriculture. Farming is encouraged in virtually every zone, including residential zones, to foster resilience and food production. The OCP also outlines some opportunities for increasing the viability of local agricultural enterprises, including small and large scale organic farming and niche farming.

N/A

Climate Action (Objective 7.1)



Content reflects RGS policy relationships.



Policies support reducing greenhouse gas emissions via efficient building/site design, active transportation, energy reduction and preserving open spaces.

N/A





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REPORT TO CAPITAL REGIONAL DISTRICT BOARD MEETING OF WEDNESDAY, APRIL 22, 2020

SUBJECT **CRD Investment Portfolio Holdings and Annual Performance Update**

ISSUE SUMMARY

Provide an update on Capital Regional District (CRD) investment holdings and performance for the period ended December 31, 2019.

BACKGROUND

The CRD invests operating, capital, and reserve funds in accordance with the *Local Government Act*, Community Charter, and Board approved Investment Policy. The Investment Policy applies to the investment activities for all funds maintained by the CRD, as well as the Capital Regional Hospital District. The types and terms of investments purchased are evaluated conservatively on four fundamental objectives: safety of principal, liquidity, responsible investing, and return on investment in alignment with the policy.

The policy also provides the minimum ratings of investment vehicles which can be purchased. Currently, investments in chartered banks or savings institutions must be rated R-1 (low) or higher for short-term investment and A- for long-term. Both ratings indicate a superior credit rating on all investments.

Investments are continuously monitored to ensure the appropriate strategy through known economic and financial conditions. The CRD invests net working capital, operating reserves and capital reserves in a mix of vehicles including high-interest savings accounts (HISA), fixed term guaranteed investment certificates (GIC's) and Municipal Finance Authority (MFA) investment funds. The placement or divestiture of investments are timed with the forecasted need.

Market Rate Analysis – Applies to the CRD, CRHD, CRHC

As part of overall portfolio management, staff regularly monitor market trends and key metrics such as the Bank of Canada overnight interest rate, the Government of Canada bond rates and other market commentary issued by banks and investment brokers. Additionally, the MFA provides regular market commentary on developments in offerings and based on outlook reports provided by Phillips, Hager & North Investment Management (PH&N).

In 2019, the Bank of Canada (BoC) held its key overnight rate steady at 1.75% maintaining stability in the prime rate and the rate offered on cash on deposit with the Royal Bank of Canada (RBC). Both the short term high-interest savings accounts and short term GIC's were offering competitive returns when compared to long-term GIC's. The table below presents key indicator rates at December 31 for both 2019 and 2018:

Table 1: Indicative Market Rates 2019 and 2018

Rate	2019	2018
Bank Of Canada – Overnight Rate	1.75%	1.25% - 1.75%
HISA	2.46%	1.96% - 2.46%
RBC – Bank Rate	2.30%	1.70% - 2.30%
Fixed GIC – 180 day /1 Year (sample)	1.68% / 2.30%	1.57% / 2.68%

Investment Marketplace – Applies to the CRD, CRHD and CRHC

Throughout 2019, HISA rates were highly competitive compared to fixed term GIC products. In many cases, HISA returns were higher than maturities up to terms as long as four (4) years.

Late in 2019, market place offerings were extended by MFA introducing a Fossil Fuel-Free Bond Fund (FFF) and a Pooled Mortgage Fund. Both offerings are responses to demand from local government and both offer the same liquidity and pooled structure as the existing MFA investment offerings.

The FFF Bond Fund invests in securities similar to the existing bond fund except that the FFF option excludes those holdings directly related to non-renewable energy extraction, processing, and transportation. This additional screening is estimated to exclude approximately 4% of the population of investible securities compared to the existing bond fund. The MFA expects to launch this product in late spring 2020.

The Pooled Mortgage Fund invests in existing PH&N pooled fund products, providing investment exposure to commercial investment grade mortgages. This new mortgage pooled fund was opened for investment in late 2019.

ALTERNATIVES

Alternative 1

That the CRD Investment Portfolio Holdings and Annual Performance Update be received for information.

IMPLICATIONS

Financial Implications

Overall, the CRD portfolio of investments reflects the four fundamental objectives of safety of principal, liquidity, responsible investing, and return on investment. Investments have been made in keeping with requirements under the Investment Policy Statement. Investment performance was in line with expectations for the year ended December 31, 2019, as described in the following sections of this report.

Portfolio Holdings

At December 31, 2019, the CRD held \$248.7 million invested in short-term and long-term investments, as outlined in Table 2 below.

Table 2: Investment Holdings – as at Dec 31, 2019

Investments	Balance (\$millions)	% Share
Investments Short-Term (less than 2 years)		
National Bank GIC	\$10.0	4.0%
Canada Western Bank GIC	12.0	2.4%
Coast Capital Savings GIC	13.5	1.2%
VanCity Credit Union GIC	18.0	7.2%
MFABC CIBC High Interest Savings Account	51.1	20.5%
Scotia Bank High Interest Savings Account	63.0	25.3%
National Bank High Interest Savings Account	23.2	9.3%
Total Short-Term	190.8	76.7%
Investments Long-Term (more than 2 years)		
MFA Bond Fund	41.4	16.6%
Coast Capital Savings GIC	10.5	4.2%
Canada Western Bank GIC	6.0	2.4%
Total Long-Term	57.9	23.3%
Total Investments	\$248.7	100%

As noted in Table 2 above, the CRD investment portfolio at December 31, 2019, was distributed between short-term and long-term investments by 77% and 23%, respectively. Investments with maturities less than two years are classified as short-term. While the MFA Bond Fund is a liquid investment, investments placed in the fund are recommended for longer term holdings only.

Table 3: Cash and Reserves Invested – as at Dec 31, 2019

Investments	Balance (\$millions)	% Share
Capital Reserves	\$82.7	33.3%
Operating Reserves	47.8	19.2%
Working Capital	118.1	45.5%
Total Investments:	\$248.7	100%

Performance

While the BoC rate remained steady throughout 2019, liquidity requirements remained a key driver in the investment strategy with major capital projects underway such as the Core Area Wastewater Treatment Project, construction of the South Island Communications Centre, and works on the E&N Rail Trail Phases 3 & 4.

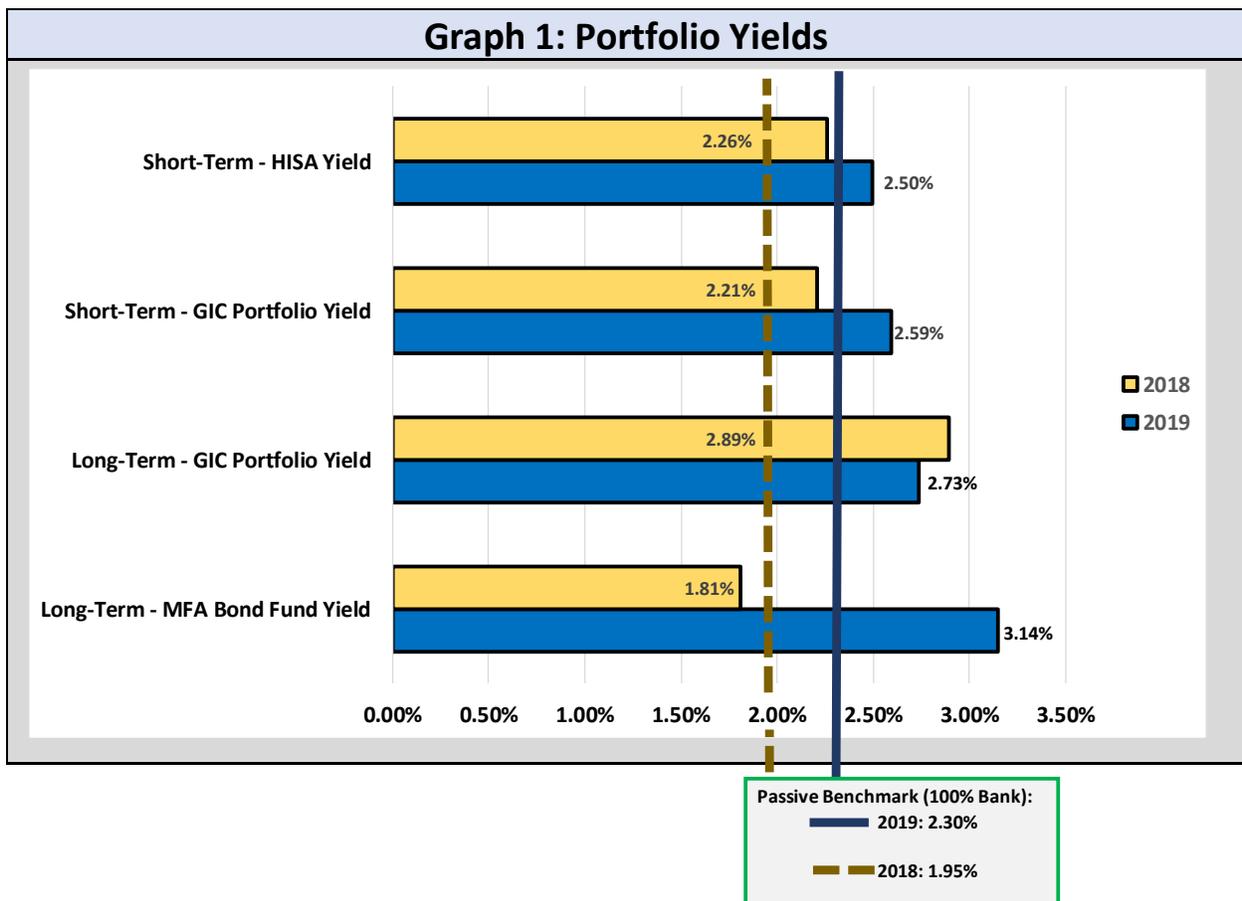
The magnitude of cash outflows increased in 2019, with average monthly cash outflows of \$13.6 million. Also in 2019, certainty around cash flow timing varied, as is the case with large capital

expenditure projects. Although investment policy guidelines do not change, a more active investment strategy is required to achieve optimum performance of the net working capital portion of the investment portfolio. Matching the timing of investments with rate increases while meeting liquidity requirements requires a more dynamic investment management strategy.

Historically, the investment strategy has been to evaluate cash flow timing and place investments into terms maturing along that timeline. This is called an investment ladder. The ladder approach, however, does not always result in the optimum rate of investments. With liquidity as a top priority, rates are evaluated only secondarily and only within each term to maturity.

An active investment strategy considers the rate environment as well as maturity, driving the turnover of investments to take advantage of the prevailing rate environment. This approach increases investment activity but helps to reduce liquidity risk and interest rate risk.

To take advantage of rate premiums being paid on short-term investments, cash was placed in facilities yielding optimum interest while still meeting liquidity targets. Graph 1 below provides a detailed report on portfolio yields for 2019:



During 2019, short-term GIC investments returned 2.59%, long-term GICs returned 2.73%, with the HISA returns yielding 2.50%. The MFA Bond Fund returned 3.14%, driven by higher bond prices resulting from investor demand in the market.

The passive benchmark, included in graph 1, assumes funds are deposited at the beginning of the year with one hundred percent allocated to the RBC bank account. The benchmark calculation assumes no funds movement throughout the year. This passive benchmark represents the theoretical return experienced from a deposit and hold strategy with no active management strategy and no flows of funds in or out of the accounts during the year.

Table 4 below shows the three-year trend on investment interest income (excludes bank account interest). Interest income is distributed annually on a pro-rata basis to reserve accounts and monies held in trust, if applicable.

Table 4: Investment Income 3-Year Trend (\$ Millions)

	2017	2018	2019
Interest Income	\$ 2.3	\$ 3.9	\$ 5.4
Change in Unrealized Gain/(Loss)	(0.703)	(0.280)	0.224
Effective Rate (IRR)	1.53%	2.09%	2.67%

The total effective rate of return on investments, during 2019, was 2.67%. The return margin against the benchmark of a passive investment strategy was 0.37%.

Total interest income for 2019 was \$5.4 million, excluding unrealized gains on the MFA Bond Fund. The overall increase in investment income is due to higher average monthly cash on hand, utilization of the high-interest savings accounts, positive MFA Bond fund performance due to falling general market rates, and an active investment management strategy. The change in investment income by investment vehicle is shown below, in Table 5.

Table 5: Investment Income – Year over Year (\$ Millions)

Type	2019	2018	Diff
GIC and HISA Portfolio Interest	\$ 4.4	\$ 2.4	\$ 2.0
MFA Pooled Fund Interest (gross)	\$ 1.0	\$ 1.5	(\$ 0.5)
Total	\$ 5.4	\$ 3.9	\$ 1.5

The primary driver behind the increase in interest income was returns on GICs and HISA investments. Total income on these investment vehicles was \$4.4 million, an increase of \$2.0 million over 2018. An increase in cash contributed to the overall investment income increase by approximately \$1.11 million, while the rate increases achieved contributed an additional \$0.62 million, with the remaining \$0.22 million attributable to an active investment management strategy.

While the MFA Bond Fund posted a performance of 3.14% in 2019, the MFA total income was lower than previous years due to the disposition of the MFA Intermediate Bond Fund in early January 2019.

CONCLUSION

Overall, the Capital Regional District portfolio of investments reflects the four fundamental objectives of safety of principal, liquidity, responsible investing and return on investment. Investments have been made in keeping with requirements under the Investment Policy Statement and investment performance was in line with expectations for the year ended December 31, 2019.

RECOMMENDATION

That the Capital Regional District Investment Portfolio Holdings and Annual Performance Update be received for information.

Submitted by:	Rianna Lachance, BCom, CPA, CA, Senior Manager, Financial Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ATTACHMENT(S)

Appendix A: CRD & CRHD Investment Policy



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CAPITAL REGIONAL DISTRICT

LEGISLATIVE POLICY

Section	Finance	
Subsection	Policies	
Title	INVESTMENT POLICY	

1. Purpose

The purpose of the investment policy of the Capital Regional District (CRD) is to provide the framework for investment portfolio management. It is the policy of the CRD to invest CRD funds in a manner that will provide the optimal blend of investment security and return while meeting the short and long term cash flow demands and comply with the statutory requirement of the *Local Government Act*.

2. Scope

The investment policy applies to all cash operating funds, capital funds and reserve funds.

3. Objectives

The investment of funds must reflect a conservative management philosophy based on four fundamental objectives, in the following order of priority:

3.1 Safety of Principal

Investments shall be made to ensure preservation of capital within the portfolio. Preservation of capital is accomplished through placement of funds with creditworthy institutions and through portfolio diversification. Diversification is required to minimize potential losses on individual securities and to maximize the yield from a blend of financial products.

3.2 Liquidity

The investment portfolio shall remain sufficiently liquid to meet all reasonably anticipated operating requirements.

3.3 Responsible Investing

Where possible, socially responsible investing (SRI) and green investing criteria will be applied to the selection of investments. The CRD investment program will consider SRI products that adhere to statutory requirements and meet the objectives laid out in this policy. Organizations that adopt a socially responsible investment platform are preferred. Where SRI and green investments are within 5% of maximum available yields, SRI or green facilities will be exercised.

3.4 Return on Investment

The investment portfolio shall be designed with the objective of maximizing returns subject to the risk constraints and liquidity requirements of the CRD.

4. Standard of Care

4.1 Prudence

Investments shall be made with judgement and care, under circumstances then prevailing, which persons of prudence, discretion, and intelligence exercise in the management of their own affairs. Investments will not be made for speculation. Foremost will be consideration for the safety of capital. Staff must be aware of reasonably foreseeable risks, trends and fluctuations in the market, and be able to recognize unreasonable risks whilst ensuring the liquidity of the investment portfolio.

4.2 Ethics and Conflict of Interest

Staff responsible for investing shall refrain from personal business activity that could conflict with proper execution of the investment program, or which could impair the ability to make impartial investment decisions.

4.3 Delegation of Authority

Authority to manage the CRD investment program is granted to the Chief Financial Officer and is derived from Section 237 of the *Local Government Act* as follows:

Section 237: One of the officer positions established under section 234 must be assigned the responsibility of financial administration, which includes the following powers, duties and functions investing funds, until required, in investments referred to in section 183 of the *Community Charter* (investment of municipal funds).

5. Credit Risk Monitoring

In addition to in-house monitoring, the CRD make use of the credit analysis available through its financial institutions, brokers, and credit rating institutions. This includes, but is not limited to the Dominion Bond Rating Service (DBRS), Standard & Poor's (S&P), and Moody's. It must be recognized that the use of any credit analysis is an assessment and not a guarantee for safety of principal.

6. Authorized and Suitable Investments

Money held by the Capital Regional District may be invested or reinvested according to section 183 of the Community Charter subject to the following conditions:

6.1 Investments in securities of a chartered bank or savings institution or any province must:

- i) Have a DBRS rating of R-1 (low) or higher for Short term debt and a rating of A- for Long term debt or Bonds or comparable ratings of another rating organization, indicating equal or superior credit quality (see Appendix 1 of the policy).

6.2 Investments in credit union deposits must carry adequate insurance protection through that credit union's respective insurance corporation.

6.3 Investments shall be held in the name of the CRD by approved institutions.

6.4 Investments in any one security issue shall not exceed 10% of that security issue.

6.5 Investments with any one financial institution shall not exceed 20% of the District's maximum annual investment portfolio. Due to market fluctuations, maximum percentages may be exceeded at a point in time. Securities need not be liquidated to rebalance the portfolio; however, consideration should be given to this matter when future purchases are made to ensure that appropriate diversification is maintained.

6.6 The percentage limits specified in items 6.4 and 6.5 do not apply to investments made in securities of Canada or provincially backed deposits.

6.7 All investments are to follow the constraints laid out per this Investment Policy. If an investment opportunity exists that lies outside of the constraints governing this policy, the Chief Financial Officer can make a recommendation to the Finance Committee to act on the opportunity. Any such investments must comply as an eligible investment defined in the Local Government Act. A maximum investment allocation not exceeding 20% of the total portfolio will be permitted.

7. Investment Parameters

7.1 Diversification

The CRD will diversify its cash reserve investments by security type and institution, taking into consideration the impact on return on investment.

7.2 Maturity

To the extent possible the CRD shall attempt to match its investments with anticipated cash flow requirements. However, because of inherent difficulties in accurately forecasting cash flow requirements, a portion of the portfolio shall be continuously invested in readily available funds to meet ongoing obligations. Long term investments may be acquired if the maturity is related to a specific program, and is made to coincide as nearly as practicable with the expected use of the funds attached to that program.

8. Competitive Bids

The CRD shall solicit competitive verbal quotations for the purchase and sale of securities when it is prudent to do so. This policy recognizes that, from time to time, offerings of value may require immediate action. Under such circumstances competitive bids may not be sought provided that value can be substantiated by market data information services.

9. Authorized Investment Dealers and Financial Institutions

A list of approved investment dealers and financial institutions authorized to provide investment services will be maintained by the CRD. All qualified bidders for investment transactions will be members in good standing of the Investment Industry Regulatory Organization of Canada (IIROC), Mutual Fund Dealers Association (MFDA) or the B.C. Securities Commission.

10. Safekeeping and Custody

All security transactions entered into by the CRD shall be conducted on a delivery versus payment basis. The Chief Financial Officer must be satisfied that physical possession of the security is in possession or held by a custodial service.

11. Policy Review

This policy shall be reviewed periodically by the Chief Financial Officer to ensure congruence with changing activities of the CRD, market conditions, technology, evolving regulatory standards and private industry best practices. In addition, to insure periodic Finance Committee review, this policy will be reconsidered each time the CRD tenders its banking services.

12. Reporting

The Chief Financial Officer must report to the Finance Committee annually. The report must identify investment holdings and any deviations from policy.

Approval Date:	September 22, 2013	Approved By:	Board
1. Amendment Date:	May 10, 2017	Approved By:	Board
2. Amendment Date:		Approved By:	
3. Amendment Date:		Approved By:	
Next Review Date:		Reviewed By:	
Supersedes:	Investment Policy approved by Finance & Administration Committee, Nov 28, 2001		

Appendix 1
Credit Quality Ratings

	<i>Moody's</i>		<i>Standard & Poor's</i>		<i>DBRS</i>		<i>Grade</i>
Highest Quality	Aaa	P-1	AAA	A-1+	AAA	R-1 (high)	Investment Grade
	Aa1	P-1	AA	A-1	AA (high)	R-1 (high)	
High Quality	Aa2	P-1	AA	A-1	AA	R-1 (middle)	
	Aa3	P-1	AA	A-1	AA (low)	R-1 (middle)	
Upper Medium Grade	A1	P-1	A	A-2	A (high)	R-1 (low)	
	A2	P-1	A	A-2	A	R-1 (low)	
	A3	P-1	A	A-2	A (low)	R-1 (low)	
Medium Grade	Baa1	P-2	BBB	A-3	BBB (high)	R-2 (high)	
	Baa2	P-2	BBB	A-3	BBB	R-2 (middle)	
	Baa3	P-3	BBB	A-3	BBB (low)	R-2 (low)	
Speculative	Ba1	NP	BB	B	BB (high)	R-3	Speculative Grade
	Ba2	NP	BB	B	BB	R-4	
	Ba3	NP	BB	B	BB (low)	R-4	
Highly Speculative	B1	NP	B	B	B (high)	R-4	
	B2	NP	B	B	B	R-5	
	B3	NP	B	B	B (low)	R-5	
Substantial Risk	Caa1	NP	CCC	C	CCC	R-5	
	Caa2	NP	CCC	C	CCC	R-5	
	Caa3	NP	CCC	C	CCC	R-5	
Extremely Speculative	Ca	NP	CC	C	CC	R-5	
Possibly in Default	C	NP	R	R	C	R-5	
Default			D	D	D	D	



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**REPORT TO CAPITAL REGIONAL DISTRICT BOARD
MEETING OF WEDNESDAY, APRIL 22, 2020**

SUBJECT MFABC SEAPARC Equipment Financing Program Borrowing Resolution

ISSUE SUMMARY

A borrowing resolution from the Board is required to authorize the borrowing of funds for the SEAPARC service under the Municipal Finance Authority (MFABC) Equipment Financing program.

BACKGROUND

The Capital Regional District (CRD) Board approved the 2019–2023 Financial Plan amendment (Bylaw No. 4332) on November 13, 2019, which included an amendment to the SEAPARC capital plan for the purchase of fitness equipment for the SEAPARC fitness gym (\$227,000) to be funded from debt. The equipment was purchased for a total cost of \$218,035.64. In order to fund the purchase Staff are recommending borrowing through the Equipment Financing Program. Authorization to borrow through this program requires a borrowing resolution be approved by the Board.

The annual debt payment for this borrowing is budgeted for 2020, and can be paid despite the recent temporary closure of SEAPARC. SEAPARC operations are funded largely by tax requisition (66% of total revenue), permitting the funding of this borrowing despite the impact of the closure. Reductions in revenue from fees and charges are expected to be offset by decrease in expenses during the closure.

ALTERNATIVES

Alternative 1

That the following borrowing resolution be approved:

1. That the Board of the Capital Regional District authorizes up to \$227,000 be borrowed, under Section 403 of the *Local Government Act*, from the MFABC Equipment Financing Program, for the purchase of fitness equipment for the SEAPARC fitness gym.
2. That the loan be repaid within five (5) years, with no rights of renewal.

Alternative 2

That the resolution be deferred pending further analysis by CRD staff.

IMPLICATIONS

Financial Implications

The MFABC has an Equipment Financing program which replaced the former Leasing program. Loans under this program are available to both regional districts and municipalities under section 175 of the *Community Charter*. These loans are direct obligations of the entity requesting the funding.

Through this loan agreement, the Regional District retains ownership of the asset and is charged a low variable interest rate based on the Canadian Dealer Offered Rate with fixed payment schedules. There are no fees to set up or discharge agreements, no taxes on payments, and no penalties or fees for paying out early or making extra principal payments. The loan agreement will be for a term no longer than five (5) years to match the expected service life of the equipment. The current rate for the Equipment Financing Program is 1.732% (April 2020).

CONCLUSION

The 2019-2023 Financial Plan (Bylaw No. 4332) amendment, which included the purchase and financing of the SEAPARC fitness equipment, was approved at the November 13, 2019 Board meeting. The amendment identified the SEAPARC fitness equipment as funded by a borrowing under the MFABC Equipment Financing Program. The fitness equipment has been purchased for a total of \$218,035.64 excluding GST. In order to fulfill the requirements of the MFABC Equipment Financing Program, a borrowing resolution is required to be approved by the Board.

RECOMMENDATION

That the following borrowing resolution be approved:

1. That the Board of the Capital Regional District authorizes up to \$227,000 be borrowed, under Section 403 of the *Local Government Act*, from the MFABC Equipment Financing Program, for the purpose of purchasing fitness equipment for the SEAPARC fitness gym.
2. That the loan be repaid within five (5) years, with no rights of renewal.

Submitted by:	Rianna Lachance, BCom, CPA, CA, Senior Manager, Financial Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer
Concurrence:	Kristen Morley, J.D., General Manager, Corporate Services & Corporate Officer
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Borrowing Resolution for Equipment Financing Program with the Municipal Finance Authority

Borrowing Resolution for Equipment Financing Program with the Municipal Finance Authority

That the Board of the CAPITAL REGIONAL DISTRICT authorizes up to \$227,000 be borrowed, under Section 403 of the *Local Government Act*, from the Municipal Finance Authority, for the purpose of purchasing fitness equipment for the SEAPARC recreation facility; and

That the loan be repaid within five (5) years, with no rights of renewal.

I hereby certify the above to be a true copy of a resolution which was passed by the Board of the CAPITAL REGIONAL DISTRICT on the ____ day of _____, 2020.

Corporate Officer



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**REPORT TO CAPITAL REGIONAL DISTRICT BOARD
MEETING OF WEDNESDAY, APRIL 22, 2020**

SUBJECT **Bylaw No. 4355: Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 1, 2020**

ISSUE SUMMARY

Approval of a Temporary Borrowing Bylaw authorizing short-term borrowing for Magic Lake Estates Wastewater System Project.

BACKGROUND

At its July 10, 2019 meeting, the Capital Regional District (CRD) Board gave three readings to Loan Authorization Bylaw No. 4320 for the funding to plan, design, acquire, and construct the upgrades and capital renewal for the Magic Lake Estates Wastewater System.

In a referendum on November 23, 2019, the service area ratepayers voted in favour of borrowing up to \$6 million to fund the project. The CRD Board adopted Loan Authorization Bylaw No. 4320 on December 11, 2019, enabling the service to borrow to fund the project.

During construction, interim financing for capital expenditures is required. A temporary borrowing bylaw allows borrowing before the long-term debt is issued by Municipal Finance Authority (MFA). The proposed temporary borrowing bylaw is an authorization to borrow short-term in accordance with its companion, Loan Authorization Bylaw No. 4320.

ALTERNATIVES

Alternative 1

1. That Bylaw 4355, cited as “Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 1, 2020”, be introduced and read a first, second, and third time, and;
2. That Bylaw 4355 be adopted.

Alternative 2

That Bylaw 4355 be referred back to staff for additional information.

IMPLICATIONS

Financial Implications

The proposed temporary borrowing bylaw will give CRD access to interim financing according to the terms specified in Loan Authorization Bylaw No. 4320.

Temporary borrowing money will not exceed the difference between the total amount authorized by the loan authorization bylaw and the amount already borrowed in relation to that bylaw. Upon completion of construction, the temporary borrowing will be converted to long-term borrowing as stated in the loan authorization bylaw.

CONCLUSION

Temporary borrowing authority, through the approval of the Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 4355, is required to access interim financing to fund the Magic Lake Estates Wastewater System project. All temporary borrowings will be converted to long-term debt up to the maximum stated in the approved Loan Authorization Bylaw No. 4320.

RECOMMENDATION

1. That Bylaw 4355, cited as “Temporary Borrowing (Magic Lake Estates Wastewater System) Bylaw No. 1, 2020”, be introduced and read a first, second, and third time, and;
2. That Bylaw 4355 be adopted.

Submitted by:	Rianna Lachance, BCom, CPA, CA, Senior Manager, Financial Services
Concurrence:	Nelson Chan, MBA, CPA, CMA, Chief Financial Officer
Concurrence:	Kristen Morley, J.D., General Manager, Corporate Services & Corporate Officer
Concurrence:	Robert Lapham, MCIP, RPP, Chief Administrative Officer

ATTACHMENT(S)

Appendix A: Bylaw 4355

