

**REPORT TO CORE AREA WASTEWATER TREATMENT PROJECT BOARD
MEETING OF THURSDAY, JULY 30, 2020**

SUBJECT Wastewater Treatment Project Q2 2020 Quarterly Report

ISSUE

To provide the Core Area Wastewater Treatment Project Board with the Wastewater Treatment Project Q2 2020 Quarterly Report 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 April-June 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 Q2 2020 Quarterly Report', be received for information and forwarded to the Core Area Liquid Waste Management Committee and CRD Board for information.



Elizabeth Scott, Deputy Project Director
Wastewater Treatment Project



Dave Clancy, Project Director
Wastewater Treatment Project
Concurrence

Attachments: 1

Appendix A: Wastewater Treatment Project Q2 2020 Quarterly Report

ES:er



Wastewater Treatment Project

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CRD Wastewater Treatment Project

Q2 2020 Quarterly Report

Reporting Period: April-June 2020

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1 Executive Summary

1.1 Introduction

This Quarterly Report covers the reporting period of April to June 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.

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

While construction is ongoing, the public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. However, based on current progress the Wastewater Treatment Project remains on schedule to meet the regulatory deadline for treatment by the end of 2020.

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build contractor for the McLoughlin Point WWTP) progressing: Densadeg 1, 2 and 3 installation and hand over for commissioning; installation of the chemical distribution system; building envelopes in the Primary treatment area; moving bed bio reactor (MBBR) process equipment installation and covers; Biological Aerated Filter (BAF) equipment and tank covers in the Secondary treatment area; installation of disk filter walls; level 1 and 2 pumps, process piping and mechanical piping installation in the Tertiary treatment area; interior drywall, flooring and millwork, plumbing, glazing, and heating ventilation and air conditioning (HVAC) on level 1 and 2; and installation of the green roof in the Operations and Maintenance (O&M) building. In addition the blind was removed from the outfall and fiberglass reinforced plastic (FRP) baffles installed; and the main water service was installed and backfill progressed across the site.

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: external pipe connections to Digester 1, and the Digested Solids Storage Tank (DSST); pneumatic testing of Digesters 2 and 3; electrical cable installation and terminations in the Other Municipal Solids Receiving Facility; electrical work, FRP grating and ducting installation and commencement of commissioning of systems in the Residuals Handling building; mechanical, electrical and insulation installations completed and commencement of commissioning of systems in the Residuals Drying Facility; hydro testing of water storage and effluent tanks; chemical piping installation; installation of FRP ducting in the Residuals Storage and Odour Control area; and fire alarm verification commenced 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: installation of new sanitary screens in the existing inlet sanitary channel; demolition of existing pump room and HVAC and electrical equipment on existing mezzanine floor; new pump station in operation under interim operating phase; forcemain successfully testing and backfilled; works at the new public plaza and washroom; installed fuel storage tank and exhaust fan for diesel generator; grit separation equipment installation; installation of seismic upgrades, fuelling system and diesel generator; and installation of landscape retaining walls and concrete seating.
- **Macaulay Point Pump Station:** Kenaidan Contracting Limited (“Kenaidan” as the Design-Build Contractor) progressed construction activities over the reporting period including: installation of wood siding panels, recycle water system and genset fuel tanks; installation of FRP platform, ducting and stairs; commencing commissioning of the programmable logic control and motor control centres; completed installation and pressure testing of the process piping in the pump room; completed commissioning of reclaimed water system, sewage pumps, odour control system and flow control valve; and completed HVAC functional test.

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: cycle track and road restoration; commencing construction on the seawall balustrade replacement; poured new concrete wall; removal of existing wall; and commenced grading and cement pours for new sidewalk.
- **Residual Solids Conveyance Line (“RSCL”):** the RSCL is being delivered through two construction contracts, with work progressing as follows:
 - **Residual Solids Pipes:** Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor) continued construction activities over the reporting period, including: installation of valve chambers; completing pipe installation and pressure testing section from the north side of Tillicum Bridge to the south side of Admirals Bridge; completed air valve chamber on Grange Road; clean up and demobilization; and final surface restorations.
 - **Residual Solids Pump Stations:** Knappett Projects Inc. (“Knappett” as the Construction Contractor) continued construction activities including: pipe spools and electrical work at all three pump stations; installation of odour control units at all three pump stations; odour control unit underground vent and drain piping, commenced south pipe tie in and general backfill of the site at Pump Station 1; odour control slab was poured; installation of the surge tank and commencement

of commissioning activities at Pump Station 2; pressure testing and finishing items continued within the wet well and valve chamber; generator tested and commissioning activities carried out at Pump Station 3; and the Marigold crossing was completed with spool installation continuing and vent piping and trenching completed. Additionally, at Tillicum Bridge, the pipe spools were installed and the pipe was completed and pressure tested; and the pipe hangers and spools were installed at Admirals Bridge.

- Arbutus Attenuation Tank (“AAT”): NAC Constructors Ltd. (as the Construction Contractor) continued construction activities including: completed installation of secant piles, commenced formwork and rebar installation in preparation for concrete pours for sections of the ring beam; installed ducting from BC Hydro Pole to BC Hydro meter base; completed bulk excavation of the tank; and placed granular subbase spanning the full tank area.
- Trent Forcemain: Jacob Bros. Construction Inc. (as the Construction Contractor) progressed construction activities including: completion of storm sewer relocation on Bushby Street and Fairfield Road; completion of seawall investigation works; and completion of Fairfield Road watermain relocation; completed forcemain installation on Stannard Avenue; concrete flow through chamber stripped and backfilled; completed Eberts Street gravity main; and continued Fairfield Road forcemain installation.

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 six recordable safety incidents occurred and the total recordable incident frequency increased from 1.2 at the end of the first quarter of 2020 to 1.6. Over the reporting period the Project Team noted a trend in the number of safety incidents involving hand injuries. In April the Project Team sent a safety notice to all Contractors regarding hand injuries in the workplace, and in May sent a further e-mail noting the high incident of hand injuries, in order to draw contractors’ attention to the trend, with the aim of increasing vigilance and correcting the trend. The Project Team continues to work with and ensure that all of the prime contractor partners maintain safety as their number one priority. The Project Team is also actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. The BC Government has designated construction as an essential service, and issued guidelines for construction sites to minimize the risks of COVID-19 transmission or illness. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. These measures follow the direction set by the BC Government, including emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas. The Project Team will continue to monitor contractors’ compliance with the direction of the government as the situation evolves.

The schedule KPI for the Project overall and the Project components remains green. The COVID-19 public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. However, construction is ongoing at all of the Project's sites, in accordance with provincial guidelines, and based on current progress the Wastewater Treatment Project remains on schedule to meet the regulatory deadline for treatment by the end of 2020.

The cost KPI for the Project overall and the conveyance system remained red over the reporting period, and are expected to remain red for the duration of the Project, primarily as a result of inflation in the Vancouver Island construction market. Other factors that have contributed to budget pressures include: design development to incorporate stakeholder input; geotechnical considerations including removal and disposal of contaminated material; and schedule constraints associated with the requirement to provide wastewater treatment by the regulatory deadline of December 31, 2020.

























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 forecast the cost to complete the Project at \$775M, or \$10M over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M.

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





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

It is too early to determine the cost impact to the Project, but if construction continues at the current pace the Project Team remain confident that the Project cost will be within the Project's \$775M budget.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					<p>Six recordable incidents occurred over the period. Site inspections are ongoing.</p> <p>The Project Team is actively monitoring the status of the COVID-19 public health emergency and is taking additional precautions to protect our staff, contractors, and the public. All Project contractors have implemented additional precautions to ensure the health and safety of their workers. The Project Team will continue to monitor and follow the direction of the government during this evolving situation.</p>
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					Three minor environmental incidents occurred over the reporting period. Two were unplanned discharges from the Clover Point short outfall which triggered the CRD's Overflow Response Procedure. One was a small (<1 litre) release of gasoline that was cleaned up immediately.
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.					The COVID-19 public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. The Wastewater Treatment Project has made significant progress and currently remains on schedule to meet the regulatory deadline for treatment by the end of 2020.
Cost	Deliver the Project within the Control Budget (\$765 million).					<p>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.</p> <p>Many contractors have advised that there are cost impacts from the COVID-19 public health emergency. It is too early to determine the cost impact to the Project, but if construction continues at the current pace the Project Team remain confident that the Project cost will be within the Project's \$775M budget, as a result of offsetting savings in financing costs.</p>

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

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

2 Wastewater Treatment Project Progress

2.1 Safety

Safety information for the reporting period and cumulative for the Project from January 1, 2017 is summarized in Table 3.

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

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

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

Over the reporting period (April- June 2020) 42 safety incidents occurred, comprising: five medical aid recordable, one near-miss, twelve first-aid, one lost time recordable, and twenty-three 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
April 3, 2020	Residual Solids Pump Stations	First Aid	A worker stepped backwards and fell approximately 6 feet into an excavation. Worker stopped their fall causing them to injure their wrist.	Employee was assessed and treated on scene and put on Modified Duty. No further medical attention was required.	Tool-box talk reminding workers to be aware of their surroundings and their proximity to the work area was held.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 6, 2020	McLoughlin Pt WWTP	First Aid	Worker was removing wire wheel from grinder when a wire poked through palm of their welding glove.	Worker notified Supervisor and reported to First Aid. No further medical treatment was required.	Tool-box talk held to remind workers to check their grinder for any possible hazards and that puncture resistant gloves must be worn when using a grinder.
April 7, 2020	Residual Solids Pump Stations	First Aid	A worker while chipping concrete had concrete dust enter their eye. Worker was wearing eye protection at the time.	Workers eye was flushed and they returned to work.	Toolbox talk reviewing the appropriate eye and face protection to be used for tasks that generate a significant amount of dust was held.
April 7, 2020	McLoughlin Pt WWTP	First Aid	Worker's wrench slipped pinching their hand between two surfaces.	Worker reported to First Aid to have the injury attended to. No further medical aid was needed.	Tool-box talk with workers was held to discuss the proper use of wrenches while loosening or tightening and keeping hands safe from being pinched in the event of slippage.
April 7, 2020	McLoughlin Pt WWTP	First Aid	Worker sustained a foot injury while stacking plywood. Worker was wearing appropriate footwear.	Worker was assessed by First Aid with no treatment provided and returned to work	Worker reminded to use proper lifting techniques and obtain assistance with awkward tasks.
April 11, 2020	Residual Solids Pipes	Report Only	Inspector observed an excavator operator hoisting a worker out of an excavation greater than 3 meters.	Meeting between Senior members of the Project Team and the contractor was held to review the incident and enforce that unsafe practices will not be tolerated.	Tool-box talk with the crew to reinforce safe work practices was held. Seriousness of the issue was clearly presented to the crew by the Contractors senior management.
April 13, 2020	Residual Solids Pump Stations	Report Only	The contractor discovered that some of their equipment at the Willis Point road lay down had been vandalized.	Incident reported to Police	Contractor reviewed their security at the laydown area and removed some of their equipment from the site.
April 15, 2020	McLoughlin Pt WWTP	Report Only	Workers while lifting felt some discomfort in their back. Worker continued to work but later reported it to their Supervisor	Worker was taken to First Aid and reported the incident and returned to work.	Tool-box talk on proper lifting techniques was held.
April 16, 2020	Clover Point Pump Station	Medical Aid Recordable	Worker was assisting with lowering a section of pipe and sustained a hand injury.	Worker was sent for a Medical Assessment. Worker fractured a knuckle and was put on modified duty.	Tool-Box talk on awareness of your surroundings and fully understanding the task at hand and properly assessing the risks prior to undertaking the task was held.
April 17, 2020	McLoughlin Pt WWTP	Medical Aid Recordable	Worker adjusting forks on the telehandler sustained a serious hand injury.	Worker was sent to Medical Aid and received 16 stitches and placed on Modified duty	Tool-Box talk on awareness of your surroundings and fully understanding the task at hand and properly assessing the risks prior to undertaking the task was held.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 20, 2020	RTF	Report Only	A pressure test of digester 2 caused some of the bolts holding the roof sheets to pull through the panels.	Test was immediately stopped and tank depressurized. No workers were in the area during the pressure test.	Control zone was appropriate for the test. Issue with Digester 2 is under review.
April 22, 2020	McLoughlin Pt WWTP	Report Only	Worker's hand slipped while installing mechanical flange resulting in them over extending their elbow.	Worker reported incident to First Aid and returned to work.	Tool-box talk with crew on proper body positioning and securing the grip on a wrench to prevent slippage.
April 22, 2020	McLoughlin Pt WWTP	Report Only	Worker while lifting strained their back.	Worker reported incident to First Aid and returned to work.	Tool-box talk reviewing proper lifting methods and the use of mechanical lifting devices when moving heavy or awkward equipment was held.
April 23, 2020	Residual Solids Pump Stations	Report Only	An altercation between a TCP and a driver occurred at the intersection of Violet and Interurban.	Police were called to investigate the incident. No injuries were reported.	TCP asked to record license numbers of problematic drivers and to report them to their supervisor for follow up.
April 24, 2020	Residual Solids Pipes	Medical Aid Recordable	A worker sustained a hand injury from a hand grinder. The worker was wearing gloves at the time of the incident.	Worker was sent for a Medical Assessment and received 3 stitches	A tool-box talk reviewing the Safe Work Practice for the use of small hand tools was held. Also included in the talk was a review of the use of the correct gloves for the task.
April 28, 2020	Arbutus Attenuation Tank	Report Only	A worker while stepping down from a platform flexed their knee.	Worker reported to First Aid Attendant for assessment and returned to work.	Workers reminded in Tool-Box talk to be aware of their surroundings and to have platforms or other type of set-ups in place to aid in getting on and off platforms.
April 29, 2020	McLoughlin Pt WWTP	First Aid	Worker slipped engaging his safety harness causing them to strike their back on the edge of a plate settlers.	Worker reported to First Aid Attendant for assessment and returned to work.	Tool-box talk to ensure workers are aware of proper placement of their safety equipment and to always be aware of their surroundings.
April 30, 2020	McLoughlin Pt WWTP	First Aid	While guiding a pipe into position a worker overextended their wrist.	Workers wrist was assessed by First Aid and worker put on Modified Duties for the rest of the day	Tool-Box talk on proper assessments of work areas and proper lifting techniques was held.
May 1, 2020	Residual Solids Pump Stations	Lost Time Recordable	A worker sustained a hand injury when they lost their balance and crushed their finger between the handle of a cabinet and the steel cabinet.	Worker was sent to First Aid for assessment. An X-rays confirmed a fracture of the finger.	Tool-box talk held with crews to bring attention to the increase of hand injuries. They also reviewed the need for Hazard Assessments before starting work and in this case a working platform was recommended and installed.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 5, 2020	Residual Solids Pump Stations	First Aid	Worker sustained a minor hand injury while trimming a piece of wood.	Worker reported to first aid where the laceration was cleaned and bandaged. No further follow up was required.	Tool-box talk to remind workers to wear the appropriate rated gloves for task was conducted.
May 6, 2020	McLoughlin Pt WWTP	First Aid	A Worker sustained a minor hand injury when they grabbed the end of a piece of pipe. Worker was wearing gloves at time of incident.	Worker reported to first aid where the laceration was cleaned and bandaged. No further follow up was required.	Tool-box talk to remind workers to wear the appropriate rated gloves for task was conducted.
May 11, 2020	Residual Solids Pipes	Medical Aid Recordable	A worker sustained a hand injury by striking their finger with a sledge hammer.	Worker reported to First Aid and was sent for x-rays. X-ray confirmed that the finger was fractured.	Tool-box talk with workers to remind them to focus on task and understand the hazards with the work being undertaken was conducted.
May 12, 2020	Residual Solids Pump Stations	Report Only	Worker was pulling a cable and experienced shoulder pain.	Worker reported to First Aid where they were evaluated with no follow up required.	Worker reminded to use good ergonomic practices and to perform stretching prior to any awkward task.
May 13, 2020	Residual Solids Pipes	Report Only	A worker over torqued a steel bolt on a pipe coupler causing it to break.	The pipe was under pressure and released water into the work area. No one was hurt in incident.	Tool-box talk reminding workers to be aware of the task at hand. Along with the proper use of small hand tools.
May 19, 2020	Clover Point Pump Station	Report Only	A member of the public disregarded notices indicating that Clover Point is a construction worksite and opened the construction gate.	A worker still on site inform the driver this was a construction site and they were trespassing. The driver accelerated around the worker and in doing so struck the workers hand with their mirror. The worker reported to First Aid and no further follow up was required.	The incident was reported to Police. A tool box talk reviewing the process of deescalating situations with members of the public was conducted.
May 20, 2020	Trent Forcemain	Report Only	A gas line was damaged by material sloughing into the excavation.	All equipment was immediately shut down and the area evacuated. Fortis was called and repaired the gas line.	A tool-box talk reviewing means and methods in securing the slope in an excavation was conducted.
May 21, 2020	Trent Forcemain	Report Only	While excavating a phone line was damaged interrupting the service to a nearby residence.	Locates were arranged prior to digging. Phone cable was not highlighted.	Phone Company attended site and repaired the service.
May 26, 2020	Residual Solids Pump Stations	Report Only	An inspector while descending using precast ladder rungs in a manhole fell approximately 1m.	One of the ladder rungs dislodged causing him to fall backwards striking his lower back against a pipe support. He reported to a medical facility to be evaluated with no treatment provided.	Safety Notice was issued to all Prime Contractors in regards to incident. All contractors were instructed to inspect ladder rungs in pre-cast manholes. No other issues were reported from any of the sites.
May 29, 2020	Arbutus Attenuation Tank	Report Only	A worker rolled their ankle on an uneven surface.	Worker reported incident to First Aid Attendant on site with no further treatment provided	Tool-box talk to discuss ensuring awareness of the work area and identification of hazards was conducted.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 29, 2020	Residual Solids Pump Stations	Report Only	Worker was using a torque wrench on the bolts of a flange when the wrench slipped striking the worker in the face.	Worker received 2 chipped front teeth. Worker was assessed by First Aid Attendant and instructed to see a dentist to evaluate damaged teeth.	Tool-box talk to discuss proper body positioning when using handheld tools was conducted.
June 3, 2020	Trent Forcemain	Report Only	An excavator struck a gas utility.	Work was stopped, area evacuated and Fortis BC informed and came out to repair the line.	Tool-box talk to review the utilities checklist was held with the crew.
June 4, 2020	Residual Solids Pump Stations	First Aid	A worker while working on a panel had it topple onto them.	Worker reported to first aid. They sustained some minor scrapes but was not seriously injured. No follow up first aid was required.	Tool-box talk to remind workers to know the task at hand and get help when performing awkward tasks.
June 15, 2020	Residual Solids Pump Stations	Medical Aid Recordable	A worker lost a front tooth when struck in the face by a lifting hook that fell from a shelf.	Worker was treated at a dentist office and returned to full duties the following day.	Tool-box talk was held with workers to remind them that a hazard assessment must be performed prior to the work to identify all hazards.
June 15, 2020	McLoughlin Pt WWTP	First Aid	A worker while terminating wire felt material enter their eye. Glasses were being worn at the time.	Worker reported to first aid and had it flushed out. No further first aid treatment was required.	Workers reminded to ensure face shield and glasses are clean prior to tilting or removing.
June 16, 2020	McLoughlin Pt WWTP	First Aid	Worker put on safety glasses in the morning and felt something in their left eye.	Glasses were in workers vest pocket overnight and possibly had dust or debris on them.	Reminder in Daily News Letter for workers to clean their glasses before use.
June 18, 2020	McLoughlin Pt WWTP	Report Only	Office worker noticed a small fire coming from an ashtray in the designated smoking area.	Garbage had been put in the ashtray which caught on fire. Fire was extinguished immediately, no injuries sustained.	Reminder in company Daily News Letter to refrain from using the ashtrays for garbage.
June 18, 2020	McLoughlin Pt WWTP	Report Only	While grinding a worker felt material in their eye. Safety glasses and face shield was being used at the time.	Worker reported to first aid and had it flushed out. No further first aid treatment was required.	Workers reminded to ensure face shield and glasses are clean prior to tilting or removing.
June 18, 2020	McLoughlin Pt WWTP	Near Miss	A ladder used to access a scaffold shifted while a worker was descending.	No injuries were sustained by the worker.	Site inspection of all scaffolding was performed to ensure ladders were secured.
June 24, 2020	Residuals Treatment Facility	Report Only	Aerial Work Platform struck and damaged exterior building panels.	No injuries sustained however minor property damage occurred.	Tool-box talk to discuss the use of spotters when backing or moving equipment in restricted areas.
June 24, 2020	Residuals Treatment Facility	Report Only	Telehandler Operator struck light standard with outrigger.	Outrigger had been left down while they were backing up to reposition the equipment.	Tool-box talk to discuss the use of spotters when backing or moving equipment in restricted areas was held.
June 26, 2020	Residual Solids Pump Stations	Report Only	An employee while reversing their truck struck a parked vehicle.	No injuries to any workers however damage to parked vehicle occurred.	Tool-box talk regarding use of a spotter when backing vehicles or equipment with limited visibility was held.
June 28, 2020	Residuals Treatment Facility	Report Only	Worker while lifting sustained a back injury.	Worker continued with their duties but pain worsened and reported to First Aid. Worker was put on Modified Duty.	Tool-box talk in regards to good ergonomic practices and proper lifting and bending techniques was held.

Key safety activities conducted during April included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett, Jacob Bros and NAC;
- weekly project update meetings with prime contractor: HRMG;
- monthly incident investigation reviews;
- hosted prime contractor safety coordination meeting with Project Contractors' safety representatives;
- reviewed site specific safety plans and high risk tasks;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites with a focus on reviewing compliance with the BC Government's guidelines for construction sites to minimise the risks of COVID-19 transmission or illness;
- developed COVID-19 Project Sites Special Requirements Checklist for CRD staff, Compliance Inspectors and Guests;
- developed COVID 19 Prime Contractor Safety Challenge; and
- sent out safety notices: hand injuries in the workplace and wind warning.

Key safety activities conducted during May included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett, Jacob Bros and NAC;
- weekly project update meeting with prime contractor: HRMG;
- monthly Incident Investigation reviews;
- hosted Prime Contractor Safety Coordination Meeting with Project safety representatives;
- reviewed site specific safety plans and high risk tasks;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites;
- compliance checks of COVID-19 Safe Work Plans of our Prime Contractors; and
- safety email sent out to inform Prime Contractors of high incidents "hand injuries" on the Project.

Key safety activities conducted during June included:

- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett, Jacob Bros and NAC;
- weekly project update meetings with prime contractor: HRMG;
- monthly Incident Investigation reviews;
- reviewed site specific safety plans and high risk tasks;
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites; and
- prepare CAWTP office for Return to Work of employees working from home due to COVID-19.

Table 3: WTP Safety Information

	Reporting Period (Q2 2020)	Project Totals
Person Hours		
PMO	10,704	148,732
Project Contractor	299,843	1,972,599
Total Person Hours	310,547	2,121,331
PMO	30	
Project Contractors (& Project Consultants) working on Project Sites	580	
Total Number of Employees	610	
Near Miss Reports	1	46
High Potential Near Miss Reports	0	6
Report Only	23	165
First Aid	12	58
Medical Aid	5	10
Medical Aid (Modified Duty)	0	2
Lost Time	1	5
Total Recordable Incidents	6	17
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.4
Medical Aid Frequency		1.1
Lost time Frequency		0.5
Total Recordable Incident Frequency		1.6

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 planning for upcoming riparian work.

Key environmental management activities completed in April included:

- Kenaidan completed work at Clover Point Pump Station that required screened wastewater to be discharged out of the short outfall. As discharges from the short outfall may pose a health risk to people entering the waters along the affected shorelines (being those between Radcliffe Lane and Dock St including Gonzales Bay, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria and Harling Point, McNeill Bay and McMicking Point in Oak Bay), the CRD implemented its Overflow Response Procedure during the work. This involved posting public health advisory signs and closing nearby beaches to swimming and then completing water quality sampling prior to opening them up again. The work was completed

successfully and beaches were reopened following two rounds of sampling that showed water quality to be below the recreational limit.

Key environmental management activities completed in May included:

- The CRD, District of Saanich and Knappett met at the Colquitz River crossing site to discuss plans for riparian restoration and tree replacement; and
- The CRD, Parsons, Don Mann and their environmental consultant McElhanney met at the site of a culvert replacement on the Interurban Trail. The purpose of the visit was to discuss upcoming in-stream work to facilitate fish passage through the culvert.

Key environmental management activities completed in June included:

- Don Mann and their environmental consultant McElhanney completed in-stream work at the site of a culvert replacement on Interurban Trail. The in-stream work involved removing barriers to fish passage at the outlet of the culvert.

Over the reporting period, there were three minor environmental incidents:

- Overnight on May 6th, there was an unplanned discharge at Clover Point Pump Station when flows were diverted to the short outfall channel as a result of an electrical fault. The CRD's overflow response procedure was implemented: the CRD posted public health advisory signs and closed nearby beaches to swimming for approximately 36 hours.
- Overnight on May 29th, there was an unplanned discharge at Clover Point Pump Station when flows were diverted to the short outfall channel as a result of loss of power to the screens. The CRD's overflow response procedure was implemented: the CRD posted public health advisory signs and closed nearby beaches to swimming for approximately 5.5 days.
- On June 15th, Jacob Brothers experienced a minor spill of gasoline from a jerry can. The amount of the spill was less than one litre and was therefore not reportable. The spill was cleaned up with absorbent pads which were then disposed of at an appropriate facility. There was no environmental impact from the spill.

2.2.2 Regulatory Management

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

Key permitting activities for April included:

- On April 15th, the CRD placed an Environmental Protection Notice in two newspapers (the Times Colonist and Saanich News) providing a notice of intent regarding the issuance of an Operational Certificate for the Residuals Treatment Facility. In accordance with the Public Notification Regulation, the Environmental Protection Notice stated where on the CRD's website a copy of the draft Operational Certificate was posted, and how comments on the draft could be provided;
- The CRD and HRMG met with the BC Ministry of Environment and Climate Change Strategy (ENV) to review the draft Operational Certificate for the Residuals Treatment Facility;
- The CRD and HRP provided additional material to ENV in support of the MWR Registration;

- Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station) applied to ENV for a Bypass Authorization to allow discharge from the short outfall at Macaulay Point Pump Station for a limited period during tie-in activities; HRP and their sub-consultants submitted an application for a Certificate of Compliance for the McLoughlin Point WWTP site. The Certificate of Compliance is a Provincial legal instrument that demonstrates that a contaminated site has been remediated to regulated standards; and
- Stantec (as the Trent Forcemain archaeological consultant) submitted an application to the Provincial Archaeology Branch to alter two recently discovered archaeological sites along Dallas Road and the adjacent seawall. The archaeological sites were discovered during pre-construction investigations.

Key permitting activities for May included:

- ENV issued an Operational Certificate to the CRD that authorizes air emissions from the Residuals Treatment Facility; and
- The CRD met with ENV to review and provide feedback on the draft MWR Registration letter.

Key permitting activities for June included:

- ENV issued the MWR Registration to the CRD, authorizing discharges from the McLoughlin Point WWTP outfall; and
- The CRD met with Environment and Climate Change Canada to discuss the federal process for registering the McLoughlin Point WWTP.

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 two changes made from the table presented in the Project's Q1 2020 Quarterly Report: receipt of the MWR Registration and Operational Certificate.

Table 4- Key Permits Status

<i>Permit/Licence</i>	<i>Anticipated Date</i>	<i>Status</i>	<i>Party Responsible for Obtaining Permitting</i>
McLoughlin Point WWTP			
Municipal Wastewater Regulation ("MWR") Registration	Q2 2020	Received	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	Received	HRMG

2.3 First Nations

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

Key Activities in April included:

- the CRD shared information with the Songhees, Esquimalt and WLC liaisons about the Macaulay Point Pump Station Bypass Authorization and Trent Forcemain Site Alteration Permit applications (see Section 2.2) that will be referred by the Province to their respective Nations.

Key activities in May included:

- the CRD and the Esquimalt and Songhees liaisons continued to develop content for interpretive signs for installation at Clover Point, Macaulay Point and McLoughlin Point.

Key activities in June included:

- the CRD and WLC liaison discussed the potential to organise an opportunity for archaeological artifacts recovered during construction to be reviewed with community members.

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.

April Overview

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

- Overnight Work: Fairfield Watermain Shut-off (April 3, 2020) (Appendix A);
- Trent Forcemain: Bushby and Eberts Streets (April 14, 2020) (Appendix B);
- Clover Point Pump Station Overnight Work (April 15, 2020) (Appendix C); and
- Temporary Overnight Work: Marigold Road (April 17, 2020) (Appendix D).

Construction notices were hand delivered in the community: the Overnight Work notice in Fairfield (distributed to 56 residences); Trent Forcemain notice (117 residences in the Fairfield area); Clover Point notice (57 residences near the Pump Station); and the Marigold Road construction notice (44 residences). In addition, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway or water impacts, were notified by hand-delivery of notices. The Residual Solids Conveyance Line: Gorge Bridge construction notice (Appendix E) was reposted with updated construction dates.

Three public service announcements were distributed to local media and posted online as an alert.

- Core Area Wastewater Discharge Notice (April 14, 2020) (Appendix F);
- Update: Core Area Wastewater Discharge Notice (April 17, 2020) (Appendix G); and
- Beaches Reopen Following Core Area Wastewater Discharge (April 24, 2020) (Appendix H).

Over the month of April, the Project website, wastewaterproject.ca, was updated with information about the Project. Four construction notices were posted and 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.

The CRD's Twitter account was used to provide Project information to the public, including notifications about the temporary pedestrian lane on the Gorge Bridge, closures on Interurban Road on the long weekend, and screened wastewater being discharged out of the short outfall at the Clover Point Pump Station.

Two alerts were added, and resolved once complete, to indicate the Interurban Road closure and the wastewater discharge at Clover Point.

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; and
- Township of Esquimalt Liaison Committee.

May Overview

One construction notice was issued to stakeholders in the reporting period:

- Trent Forcemain: Water Service Shutdown Notice Update (May 11, 2020) (Appendix J)

The Trent Forcemain notice was hand delivered to 190 residences in the Fairfield area. As well, as part of ongoing construction communications, residents affected by localized, temporary disruptions, such as driveway or water impacts, were notified by hand delivery of notices. Two public service announcements were distributed to local media and posted online as an alert.

- Core Area Wastewater Discharge Notice (May 7, 2020) (Appendix K); and
- Core Area Wastewater Discharge Notice (May 30, 2020) (Appendix L).

Over the month of May, the Project website, wastewaterproject.ca, was updated with information about the Project. One construction notice and two public service announcements were posted. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix M) was updated.

The CRD's Twitter account was used to provide Project information to the public, including updates about wastewater discharge at the Clover Point Pump Station.

Two alerts were posted regarding the wastewater discharge at Clover Point following the CRD's response protocol.

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;
- PISCES (Portage Inlet Sanctuary Colquitz Estuary Society); and
- Township of Esquimalt Liaison Committee.

June Overview

One construction notice was issued to stakeholders in the reporting period:

- Trent Forcemain: Fairfield Road Closure (June 12, 2020) (Appendix N)

The notice was hand delivered to 75 residences along the closure and detour route.

Project Update #9 (Appendix O) was distributed in June. The update provided an overview of construction progress, work completed, activities underway, and what to expect for the rest of the year. 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.

One public service announcement was distributed to local media and posted online as an alert:

- Core Area Wastewater Discharge Notice at Macaulay Point (June 22, 2020) (Appendix P)

Over the month of June, the Project website, wastewaterproject.ca, was updated with information about the Project. One construction notice and Project Update #9 were posted. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix Q) was updated.

The CRD's Twitter account was used to provide Project information to the public, including: updates about wastewater discharges at the Macaulay Point Pump Station; traffic advisories for the work on the Trent Forcemain; a notification that Project Update #9 was available; and to share a story that CHEK News aired about the Project. The CRD's Facebook account was also used to notify that Project Update #9 was available.

One alert was added and resolved for the wastewater discharge at Macaulay Point following the CRD's response protocol.

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

- City of Victoria Technical Working Group;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority; 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- Q2 2020

Inquiry Source	Contacts for Q2 2020
Information phone line inquiries	79
Email inquiries responded to	32

Key themes of the public inquiries were as follows:

- questions regarding overnight work for the Trent Forcemain;
- interest in finding out when the Project and restoration will be complete;
- questions regarding the wastewater discharge at the Clover Point Pump Station;
- interest in work on Grange Road;
- questions regarding water shut-off for the Trent Forcemain;
- questions regarding when specific construction pieces will take place; and
- interest in landscaping for various parts 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.

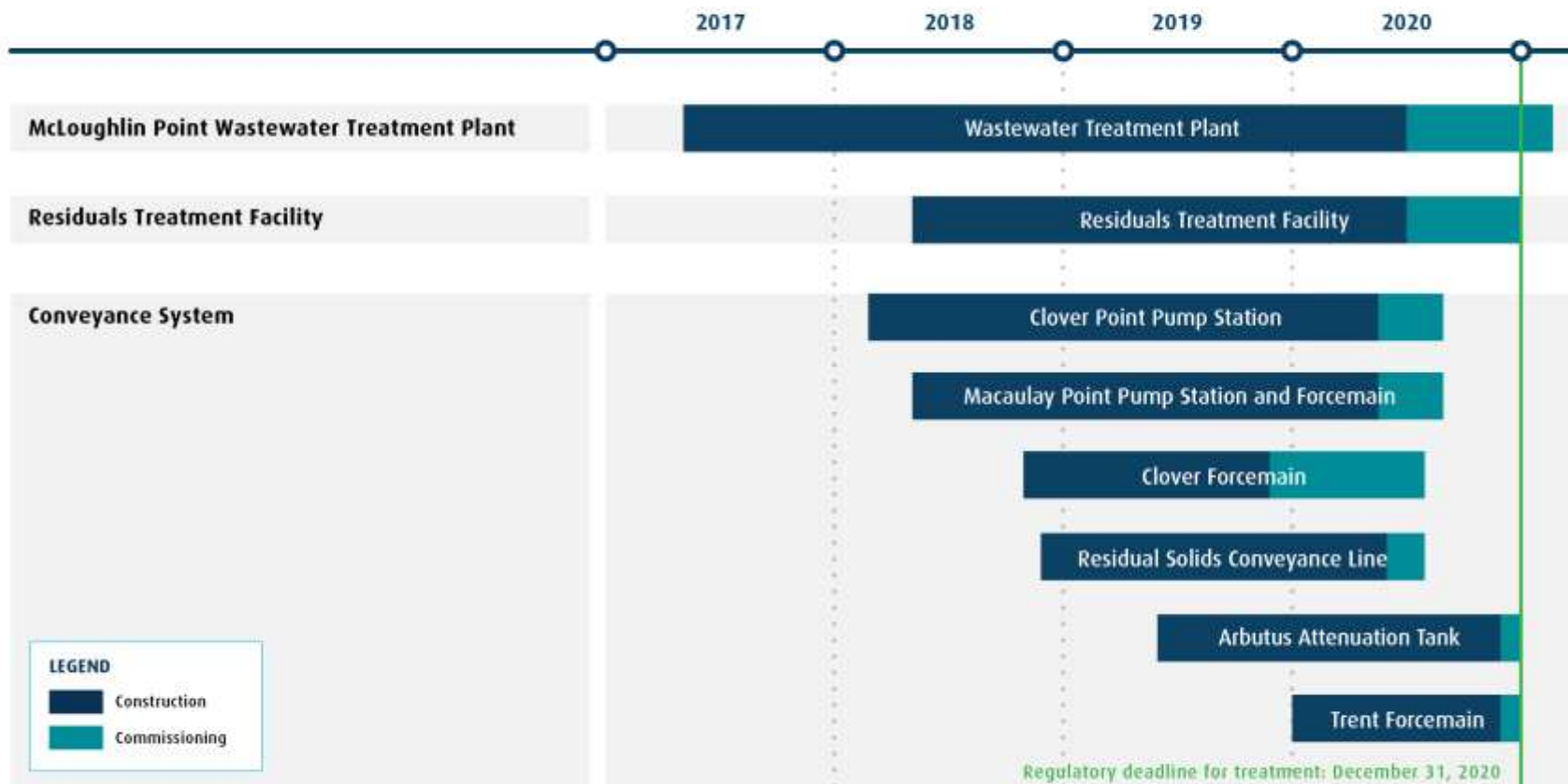
2.6 Schedule

Progress over the reporting period is summarized in Section 2.9.

Figure 1 shows the high-level Project schedule. This schedule has changed from that shown in the Q1 2020 Quarterly Report with updates made to reflect construction progress.

Over the reporting period the COVID-19 public health emergency continued to have impacts on the Project. Specifically, the COVID-19 public health emergency is impacting construction progress and may delay some interim project milestones, such as the transition to commissioning. However, construction is ongoing at all of the Project's sites, in accordance with provincial guidelines, and based on current progress the Wastewater Treatment 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 (July) are outlined below by function.

Safety

- COVID-19 Safety Orientation for office employees returning to work;
- CRD corporate occupational health and safety coordination committee meeting;
- site safety tour with Corporate CRD OHS Manager;
- weekly and bi-weekly prime contractor progress meetings;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- send out any new Safety Notices or Incident Notifications to Prime Contractor;
- 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
- issue safety notices for trending observations or similar incidents occurring on project sites.

Environment and Regulatory Management

- CRD to register the McLoughlin Point WWTP under the federal Wastewater Systems Effluent Regulation;
- CRD Source Control department to issue a Waste Discharge Authorization to HRMG, allowing discharge of effluent to the return pipe; and
- CRD to submit application for Final Classification of the McLoughlin Point WWTP from the Environmental Operators Certification Program.

First Nations

- The CRD and First Nation liaisons to continue planning an opportunity for archaeological artifacts recovered during construction to be reviewed with the community members.

Stakeholder Engagement

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

Cost Management and Forecast

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

Construction

McLoughlin Point

- primary treatment and outfall ready for wastewater;
- complete backfill of tsunami and planter walls;
- construct road structure;
- commence landscaping;
- continue building envelope throughout;

- continue process mechanical and electrical throughout;
- install cabinetry and millwork in Operations & Maintenance (O&M) building;
- complete fire sprinkler system in O&M building;
- complete accessory installation in offices, control room and restrooms;
- complete system walk downs; and
- continue functional and wet testing.

Clover Point Pump Station

- complete construction of existing pumping station upgrades;
- continue landscaping;
- complete construction public washroom;
- install coating for floor, walls and ceilings in screen/degritter room, wet well access room and odour control screen room;
- complete electrical works;
- commence functional and operational testing of equipment; and
- install split stone to exterior retaining walls.

Macaulay Point Pump Station

- install slide gate;
- install fire stopping and smoke seals;
- install stainless steel door hardware;
- apply paint and sealants throughout;
- install washroom accessories and partitions; and
- install green roof system.

Residuals Treatment Facility

- continue functional start-up, wet testing and initial system verification;
- complete insulation at Digester #2;
- continue insulation at Digester #3;
- hydrotest Digested Solids Storage Tank;
- complete blower equipment installation at the Digester Building;
- installation of receiving bin at Other Municipal Solids Receiving Facility;
- continue testing and commissioning activities at the Residuals Handling Building;
- pour concrete deck at loadout assembly and commence testing and commissioning activities at the Dryer Building;
- complete Biogas Conditioning System;
- complete instrumentation work at Equalization Building;
- commence testing of fire pump at the Water Pump House;
- conduct testing of Odour Control System; and
- continue site grading and retention ponds.

Clover Forcemain

- form and pour new seawall;
- install new seawall railings;
- install new modified curbs;
- install new sidewalks;
- install new bollards; and
- complete Dallas Road surface works.

Residual Solids Pump Stations

- continue construction in pump stations, including completion of equipment installation, electrical and site works;
- conduct interim commissioning with water in pump stations;
- complete construction and start of commissioning in Marigold control valve chamber;
- complete Residual Solids Forcemain and Centrate Return Line tie-in, test and commissioning; and
- complete installation of Admiral Bridge pipe and pressure testing.

Arbutus Attenuation Tank (AAT)

- complete installation of rock anchors;
- form, rebar and install floor drains and piping in slab;
- commence installation of sumps and commence installation of fiberglass reinforced plastic (FRP) one sided walls;
- complete installation of temporary power for site in coordination with BC Hydro; and
- complete installation of water service for site in coordination with District of Saanich.

Trent Forcemain

- complete installation of forcemain in Fairfield Rd;
- install new forcemain in Memorial Crescent;
- install new sanitary sewer main in Bushby Street;
- install new forcemain in Brooke Street; and
- supply and install blowdown assembly with manhole frame & cover in Fairfield Road, Stannard Ave and Memorial Crescent.

2.6.2 60 day look ahead

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

Safety

- CRD corporate occupational health and safety coordination committee meeting;
- host Prime Contractor Safety Coordination Meeting with Project safety representatives;
- weekly and bi-weekly prime contractor progress meetings;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- issue safety notices for trending observations or similar incidents occurring on project sites;
- WTP Safety Manager 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.

First Nations

- CRD to continue meeting with First Nation liaisons.

Stakeholder Engagement

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

Cost Management and Forecast

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

Construction

McLoughlin Point

- construct site road structures;
- complete landscaping including green roof;
- install plumbing fixtures;
- install electrical finishes, fire sprinkler finishes and ceiling tiles O&M Level 1; and
- continue with functional, wet testing and commissioning.

Clover Point Pump Station

- form, pour and strip north retaining wall and buttresses;
- paint generator and fuel storage walls;
- install split stone to exterior retaining walls;
- form, pour and strip landscape retaining walls at public plaza lookout level;
- install doors and hardware to existing pump station; and
- touch-up and final painting.

Macaulay Point Pump Station

- install outdoor site furnishings;
- commence demolition of existing structure;
- install manhole and slide gate for 1350mm pipe replacement; and
- install green roof system.

Residuals Treatment Facility

- continue functional start-up, wet testing and initial system verification;
- commence process commissioning with residual solids;
- install membrane roof on Digested Solids Storage Tank;
- complete Digester Building construction;
- installation of weather cover at Other Municipal Solids Receiving Facility;
- continue testing and commissioning activities at the Residuals Handling Building;
- complete truck load-out assembly and continue testing and commissioning activities at the Dryer Building;
- complete Equalization Building construction;
- complete Water Pump House;
- complete testing of Odour Control System; and
- continue site grading, roads, and retention ponds.

Clover Forcemain

- complete road and cycle track from Lewis St to Dock St;
- complete installation of new railings along seawall; and
- commence paving of Dallas Road from Lewis St to Dock St.

Residual Solids Pipes

- Peers Creek Culvert and supporting utility replacement.

Residual Solids Pump Stations

- Pump Station 3, final grading; fence installation and landscaping; and
- Pump Station 2, final grading, fence installation and landscaping.

Arbutus Attenuation Tank (AAT)

- install valve chamber piping;
- install fibreglass reinforced plastic (FRP) slab and wall panels; and
- install floor drains and piping.

Trent Forcemain

- install sanitary sewer at Memorial Cres from Dallas Road to Thurlow Road; and
- restoration and paving at Memorial Cres.

2.7 Cost Management and Forecast

The monthly cost report for June and the quarterly cost report for the reporting period (April – June 2020) are shown in Appendices R and S. 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, 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 forecast the cost to complete the Project at \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the CRD Board approved an increase in the Project's budget by \$10M to \$775M, and on August 14, 2019, the associated amendment to the 2019-2023 Financial Plan was approved.

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

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

It is too early to determine the cost impact to the Project, but if construction continues at the current pace the Project Team remain confident that the Project cost will be within the Project's \$775M budget.

2.7.1 Commitments

Commitments were made over the reporting period in furtherance of delivering the Project. The net commitments made during the reporting period resulted in an increase in committed costs of \$3.1 million. The significant commitments made in the reporting period comprised the approval of provisional items in construction contracts and contract change orders.

2.7.2 Expenses and Invoicing

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

2.7.3 Contingency and Program Reserves

Contingency draws totalling \$1.2M were made over the reporting period, as summarised in Table 6. The draws to-date, 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 March 31, 2020		\$ (53,307,121)
Contingency and Program Reserve balance as at March 31, 2020		\$ 16,010,930
Phone System for McLoughlin Point WWTP	Apr-20	\$ (92,000)
Radio Telemetry for McLoughlin Point WWTP	Apr-20	\$ (277,954)
Preparation of the application for a Certificate of Compliance for McLoughlin Point	May-20	\$ (217,924)
Procurement and installation of equipment to allow for the continuous monitoring of odor control treatment System emissions via SCADA	May-20	\$ (64,968)
WWTP Total Draw		\$ (652,846)
RTF Total Draw		\$ -
Saanich Infrastructure Improvement: Peers Creek Culvert Replacement	Jun-20	\$ (520,000)
Conveyance Total Draw		\$ (520,000)
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve draws in the reporting period (April 1 - June 30, 2020)		\$ (1,172,846)
Contingency and Program Reserve balance as at June 30, 2020		\$ 14,838,084

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 remainder of the funding from the Government of British Columbia cannot be claimed until relevant Project components are substantially complete.

Table 7- Project Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120M	\$2.5M	\$103.3M
Government of Canada (Green Infrastructure Fund)	\$50M	\$3.6M	\$44.3 M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	\$186.0M
Federation of Canadian Municipalities	\$0.3M	-	-
TOTAL	\$459.3M	\$6.1M	\$333.6M

2.8 Key Risks and issues

The Project Team actively identified and managed Project risks over the reporting period. Table 8 summarizes the highest-level risks that were actively managed over the reporting period, as well as the mitigation steps identified and/or undertaken over the reporting period.

The following changes were made to the active risks summary over the reporting period:

- the risk of encountering unexpected contaminated soil conditions during excavation at the McLoughlin Point WWTP was closed because the excavation is complete and the application for a Certificate of Compliance has been submitted to the Province;
- The assessed risk level for a misalignment between First Nations' interests and the implementation of the Project was reduced (from medium to low) as a result of the regular, ongoing and productive liaison meetings;
- The assessed risk level for a misalignment between Project objectives/scope and stakeholder expectations was reduced (from medium to low) as a result of the Project's significant and ongoing communication and engagement activities;
- The risk that Municipal Wastewater Regulation (MWR) Registration was not achieved or was delayed was closed, as the MWR Registration was received over the reporting period;
- The assessed risk level for a change in law was increased (from medium to high) due to the potential for impacts from COVID-19;
- The assessed risk level for labour availability and/or cost escalation was reduced (from medium to low) as construction work has progressed to the point that the project is past the point of peak labour demand.

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

Table 8- Project Active Risks Summary

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	Trend in risk level from previous reporting period
Project				
Misalignment between First Nations' interests and the implementation of the Project.	The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with First Nations interfacing with, or interested in, the Project.	First Nations engagement activities remained ongoing over the reporting period (see section 2.3 for further details).	L	Reduced (from medium to low) as a result of the regular, ongoing and productive liaison meetings.
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	Reduced (from medium to low) as a result of the Project's significant and ongoing communication and engagement activities.
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 to the commissioning of the conveyance projects delays commissioning of the WWTP and the RTF.	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 but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
Upstream works delays.	Delay to the commissioning of either the WWTP or the RTF impacts the commissioning of the other plant.	Contracts with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) and HRMG (as the Design-Build-Finance-Operate Maintain contractor for the RTF) include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery are included in both HRP and HRMG contracts.	L	No change but this risk may be impacted by the COVID-19 public health emergency (assessment is currently underway)
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.	C	Risk closed as MWR Registration was received over the reporting period.
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

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

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

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

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

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

- Primary treatment area:
 - progressed Densadeg 1, 2 and 3 installation;
 - continued installation of primary odour control fiberglass reinforced plastic (FRP) pipe and equipment;
 - installation of plate settler 1 tank covers complete, and continued plate settler 2 installation;
 - installed north pump room equipment with progression of electrical work;
 - completed fine screen building roofing, cladding and drywall, protecting panelling is ongoing;
 - completed fine screen building stairwell steel; and
 - secondary odour control FRP piping installation is progressing.
- Secondary treatment area:
 - Moving Bed Bio Reactor (MBBR) #2 and #1 process equipment re-installation complete;
 - Biological Aerated Filter (BAF) nozzles and laterals are installed in all cells except 12 & 9;
 - BAF gravel and biolite is installed in all cells except 12 & 9;
 - main exterior electrical gear installation complete;
 - glanding and terminations well underway in the main electrical room;
 - progressing electrical work in the blower building;
 - completed heat recovery room drywall;
 - penthouse building envelopes nearing completion;
 - installed translucent panels in 2 buildings; and
 - BAF cell 12 scouring air header installation is in progress.
- Tertiary treatment area:
 - continued upper disk filter walls, including outfall shaft roof slab;
 - lower level 1 pumps and mechanical piping install nearing completion; and
 - cinder block masonry nearing complete.
- O&M building:
 - completed lower level interior stud build-out and drywall;
 - level 1 heating ventilation and air conditioning (HVAC), plumbing and fire suppression trades are complete;
 - electrical trade is beginning to close out rooms to allow for drywall installation on level 1;
 - level 2 HVAC, plumbing and fire suppression are nearing completion;
 - steel stud install on level 2 nearing completion, drywall mudding & taping well underway;
 - level 1 and 2 roof complete with the exception of the North canopy;
 - continued construction of north end tsunami and planter wall;

- glazing installation complete on level 1 and level 2;
 - steel stairwells installed; and
 - elevator installed.
- Site Works:
 - Pig receiving station foundations constructed; and
 - Demobilized north tower crane.

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

- Primary treatment area:
 - Densadeg 1, 2 and 3 are going through final walk downs prior to hand over to commissioning;
 - primary odour control fiberglass reinforced plastic (FRP) pipe and equipment nearing completion;
 - plate settler 1 & 2 are progressing through final walk downs prior to hand over to commissioning;
 - chemical distribution systems installation ongoing, PVC piping is progressing; and
 - roofing and envelopes are nearing completion across the primary area.
- Secondary treatment area:
 - moving bed bio reactor (MBBR) 1 & 2 are mechanically complete, covers are complete;
 - Biological Aerated Filter (BAF) cell 12 is complete;
 - electrical teams have transitioned to field terminations by system from the work in the main electrical room;
 - all motor control centres are now powered;
 - communication network is ongoing;
 - electrical work in the blower building is nearing completion;
 - heat recovery room is progressing;
 - penthouse building envelopes are nearing completion; and
 - BAF tank covers are progressing.
- Tertiary treatment area:
 - continued upper disk filter walls, including outfall shaft roof slab, concrete is complete;
 - installation of secondary effluent FRP baffles ongoing;
 - lower level 1 pumps and mechanical piping installation is nearing completion;
 - level 2 process pipe continued with installation of UV system and pumps; and
 - cinder block masonry is ongoing.
- O&M building:
 - lower level interior flooring and millwork in progress;
 - lower level drywall is complete;
 - lower level painting and suspended ceiling is progressing;
 - door installation is in progress;
 - level 2 heating ventilation and air conditioning (HVAC) plumbing and fire suppression are all nearing completion;
 - steel stud installation on level 2 is nearing completion and drywall, paint, drop ceilings, flooring and millwork are underway;

- roofing is complete, cladding on all levels is nearing completion, green roof installation is in progress; and
- glazing installation complete on level 1 and nearing completion on level 2.
- Site Works:
 - removed outfall blind and installed FRP baffles;
 - pig receiving station piping complete;
 - installation of main plant water service is ongoing; and
 - storm line no.2 installed and backfill progressed across site.

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

- Primary treatment area:
 - Densadeg 1, 2 and 3 ready for commissioning;
 - primary odour control system in final walk down period;
 - plate settler 1 & 2 ready for commissioning;
 - chemical distribution systems preparing for walk down period; and
 - roofing and building envelopes are nearing completion across the primary area.
- Secondary treatment area:
 - MBBR installation entering walk down period;
 - BAF cell 9 close-out in progress;
 - tower crane has been dismantled;
 - blower system piping is nearing completion;
 - Suez is on site progressing through their pre-commissioning tasks;
 - heat recovery room is progressing;
 - penthouse building envelopes nearing completion; and
 - BAF tank covers installation is nearing completion.
- Tertiary treatment area:
 - concrete is complete;
 - completed installation of secondary effluent FRP baffles;
 - completed installation of lower level 1 pumps and mechanical piping, electrical nearing completion;
 - progressed level 2 process pipe; and
 - completed installation of disk filter system piping and masonry.
- O&M building:
 - lower level interior flooring and millwork continues;
 - lower level plumbing and HVAC in final finishing stages;
 - lower level painting and suspended ceiling is progressing;
 - door installation continues;
 - level 2 HVAC, plumbing and fire suppression are all nearing completion;
 - steel stud install on level 2 effectively complete, drywall, paint, drop ceilings, flooring and millwork continue;
 - roofing complete, cladding on all levels nearing completion, green roof install continues; and
 - glazing installation complete on level 1 and nearing completion on level 2.

Photographs of construction progress over the month of June at McLoughlin Point WWTP are shown in Figures 2-5.



Figure 2– McLoughlin Point Wastewater Treatment Plant – Operations and Maintenance building level 2, flooring installation and glazing installed



Figure 3– McLoughlin Point Wastewater Treatment Plant- Dirty Backwash Room, primary odour control carbon filter preparing to load media.



Figure 4– McLoughlin Point Wastewater Treatment Plant- Roof of north pump room, parapet flashing preparation.



Figure 5– McLoughlin Point Wastewater Treatment Plant- Operations & Maintenance building level 1, south entrance façade insulation.

2.9.2 Residuals Treatment Facility

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

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

- Digester Area:
 - Digester 1 external pipe connections;
 - Investigation and rectification plan under development as a result of digester 1 and 2 not passing the pneumatic test;
 - Digester 3 Pipe install and concrete supports;
 - Digested Solids Storage Tank instrumentation install; and
 - Digester Building mechanical and electrical is in progress.
- Other Municipal Solids Receiving Facility:
 - electrical cable install and terminations is in progress.
- Residuals Handling Building:
 - electrical work continued in all areas;
 - fiberglass reinforced plastic (FRP) grating installation is in progress;
 - commenced installation of FRP ducting;
 - windows installed; and
 - louvres installed.
- Residuals Drying Facility:
 - mechanical installation is in progress;
 - electrical terminations continued;
 - insulation install is in progress; and
 - generator room louvres completed.
- Residuals Storage & Odour Control:
 - mechanical and electrical work is in progress;
 - hydro test completed in effluent tank; and
 - chemical piping install commenced.
- Operations Building:
 - drywall completed;
 - ceiling tile and flooring completed;
 - painting in progress;
 - millwork in progress;
 - windows completed; and
 - door installation in progress.

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

- Digester Area:
 - Digester 1 external pipe connections;
 - Digester 2 Pneumatic test;
 - Digester 3 Close up and make ready for hydro test;

- Digested Solids Storage Tank external pipe connections; and
 - Digester Building mechanical and electrical is in progress.
- Other Municipal Solids Receiving Facility:
 - Electrical cable terminations are in progress.
- Residuals Handling Building:
 - electrical work continued in all areas;
 - FRP grating install is in progress;
 - FRP ducting install ongoing; and
 - overhead crane commissioning completed.
- Residuals Drying Facility:
 - mechanical installation is in progress;
 - electrical terminations continued;
 - insulation install is in progress; and
 - generator run and load test completed.
- Residuals Storage & Odour Control:
 - mechanical and electrical work is in progress;
 - FRP duct install is progressing;
 - hydro test of water storage tank was completed; and
 - chemical piping install commenced.
- Operations Building:
 - completed all architectural finishes; and
 - electrical and mechanical deficiency's being closed out.

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

- Digester Area
 - Digester 2 insulation install;
 - Digester 3 Pneumatic test completed;
 - DSST external pipe connections; and
 - Digester Building commissioning systems.
- Other Municipal Solids Receiving Facility
 - Heat tracing of piping.
- Residuals Handling Building
 - completed FRP grating installation;
 - completed FRP ducting; and
 - commissioning of various systems.
- Residuals Drying Facility
 - progressing installation of external stairs;
 - completed electrical terminations;
 - completed installation of insulation on ductwork;
 - completed commissioning generator transfer switch; and
 - commenced commissioning of various systems.

- Residuals Storage & Odour Control
 - completed mechanical and electrical work.
 - progressing installation of FRP duct;
 - commenced chemical piping installation; and
 - commenced commissioning of various systems.
- Operations Building
 - Fire alarm verification commenced.

Photographs of construction progress over the month of June at the Residuals Treatment Facility are shown in Figures 6-8.



Figure 6– Residuals Treatment Facility- Product silo load out hopper.



Figure 7– Residuals Treatment Facility- air ducting from Residuals Solids Tanks.



Figure 8– Residuals Treatment Facility – Fit-out of laboratory in Operations Building.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

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

Key activities in progress or completed by Kenaidan in April included:

- completed relocation of existing screens to new inlet storm channel;
- installation of new sanitary screens in the existing inlet sanitary channel;
- new exhaust plenum poured and stripped;
- completed existing pump room demolition;
- demolition of HVAC and electrical equipment on existing mezzanine floor ongoing;
- resumed work on gender neutral public washroom;
- 1500mm stub out completed;
- installed caisson for north retaining wall;
- completed commissioning of Storm Overflow components of the new facility;
- new pump station in operation under interim operating phase;
- forcemain successfully tested and backfilled; and
- moved bypass pumps back to complete diversion chamber tie in.

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

- progressed civil works (saw cut/demolition);
- completed pipe supports;
- progressed drag struts;
- completed bypass pumping for 1500mm tie-in at new inlet channel;
- installed fuel storage tank and exhaust fan for diesel generator;
- progressed work on fuelling system;
- progressed civil/concrete works at existing inlet sanitary channels;
- progressed de-gritter cone/head cell works;
- progressed demolition/concrete works at new inlet channel; and
- progressed works at the new public plaza and washroom.

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

- installation of seismic upgrades (cross braces, shotcrete, drag struts);
- installation of the fuelling system and diesel generator;
- progressed concrete and mechanical works in existing sanitary channel;
- continued grit separation equipment installation;
- continued works in the new wastewater channel;
- progressed electrical and mechanical works in the gender-neutral washroom at public plaza; and
- installation of landscape retaining walls and concrete seating.

Photographs of construction progress over the month of June at Clover Point are shown in Figures 9-11.



Figure 9–Clover Point Pump Station- New masonry walls in the generator room.



Figure 10–Clover Point Pump Station- Reclaim water system installed in the screening room.



Figure 11- Clover Point Pump Station – Public washroom roof formwork installation.

2.9.3.2 Macaulay Point Pump Station and Forcemain

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

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

- installed unit heaters;
- HVAC fans installation is nearing completion;
- completed wet well concrete pour;
- commenced wood siding panel installation;
- install recycle water system;
- genset fuel tanks have been installed;
- stainless steel pipe to the pigging chamber has been delivered; and
- cable pulling and termination for the pumps is complete.

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

- completed fiberglass reinforced plastic (FRP) platform in the wet well;
- ongoing installation of FRP platform and stairs in the pump room;
- completed installation of FRP ducting in the wet well;
- completed installation of wood siding on North side of the building;
- ongoing process piping installation in the pump room is ongoing;
- inlet fire damper in the genset room is installed;
- installation of louver on the west side of the building;
- ongoing installation of penthouse louver;
- ongoing commissioning of programmable logic control and motor control centres;
- pigging chamber outfall pipe has been received and fused;
- exposed Pigging chamber wall and cut pipe penetration opening; and
- ongoing installation of Weholite pipe to the drop structure.

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

- completed pigging chamber tie-in;
- commenced turning vanes installation in wet well;
- ongoing FRP platform and stair installation in the pump room;
- commenced wood siding installation on East side of building;
- completed process piping installation in the pump room;
- completed interior door installation;
- completed odour control system testing and commissioning;
- completed commissioning of flow control valve;
- completed process pipe pressure testing;
- commenced screen system commissioning;
- completed HVAC functional test;
- completed reclaimed water system commissioning;
- commenced grit removal system commissioning; and
- completed sewage pumps commissioning.

Photographs of construction progress over the month of June at Macaulay Point Pump Station are shown in Figures 12-13.



Figure 12–Macaulay Point Pump Station- Grading and prep for concrete curbs.

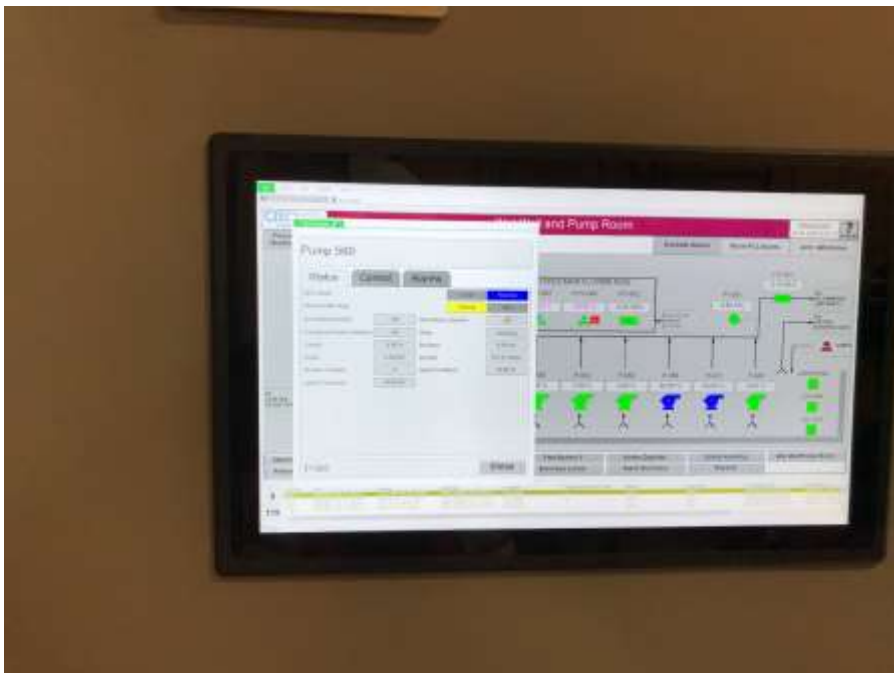


Figure 13–Macaulay Point Pump Station- Pump test runs.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities over the reporting period.

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

- commence seawall balustrade replacement construction;
- cycle track/road restoration between Government Street and Lewis Street;
- landscape restoration; and
- top lift paving Douglas Street to Lewis Street.

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

- continued seawall balustrade replacement construction;
- commenced pouring new concrete wall; and
- commenced new sidewalk grading.

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

- continued balustrade wall replacement construction;
- completed removal of existing wall;
- completed new concrete; and
- commenced new sidewalk pours.

Photographs of construction progress over the month of June on the Clover Forcemain are shown in Figures 14-15.



Figure 14–Clover Forcemain- New aluminium railing installed looking east from Oswego Street.



Figure 15–Clover Forcemain- New aluminium railing looking west from Oswego 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 and commissioning activities over the reporting period.

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

- Segment #1
 - installation of the 250 mm main completed including valve Chamber installations;
 - final Paving in all areas of Segment 1;
 - line painting at various locations; and
 - successfully pressure tested pipe from south side of Tillicum bridge to Peters Street.
- Segment #2:
 - installation of the Air Valve chamber at Grange Road;
 - final asphalt reinstatement Grange Road at the Galloping Goose to Wilkinson Road and Interurban Road; and
 - commence Line Valve installation at the Galloping Goose Trail.
- Segment #3:
 - installation of the line valve and low point drain valve commenced at Interurban Rd north of Quayle Road;
 - curb/sidewalk replacement and final paving was completed at several locations, including boulevard restoration;
 - final surface restoration was completed on the remaining sections of the Interurban Trail within the Segment; and
 - final trail reinstatement.
- Segment #4
 - line painting was completed at the various road crossings within the segment;
 - extruded asphalt curbs were replaced within the Prospect Lake Rd/West Saanich Rd intersection;
 - final trail reinstatement was completed on the remaining section north of Pump Station 3; and
 - final Interurban Trail reinstatement from Goward Road north to Pump Station 3.

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

- Segment #1:
 - completed pipe installation and a pressure test was conducted from the north side of Tillicum Bridge to south side of Admirals Bridge (Pass).
- Segment #2:
 - completed air valve chamber on Grange Road; and
 - pipe leak was detected and repaired.

- Segment #3:
 - cleaned up and demobilized after base-paving around the low point drains at Interurban Road north of Quayle Road;
 - completed the installation of the relocated line valve on Interurban Road; and
 - final restoration (line painting, etc.) and deficiency repairs were completed along the Interurban Road and trail.
- Segment #4
 - final deficiencies were addressed, including sign and bollard reinstallation, soil and seed placement, etc.

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

- Segments #1 & 2: work is complete;
- Segment #3: final surface restoration was completed: paving deficiencies, line painting, stamped asphalt, etc.; and
- Segment #4: stamped asphalt restoration was completed at the Prospect Lake Rd intersection.

Photographs of construction progress over the month of June on the Residual Solids Pipes are shown in Figures 16-17.



Figure 16– Residual Solids Pipes- Grouting low point drain valve at Portage Road.



Figure 17-Residual Solids Pipes - Pre-paving meeting at Portage Road.

Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including:

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

- Pump Station 1
 - pipe spools and electrical installations were both advanced;
 - genset was landed on the concrete pad and the lamp standard was installed; and
 - most of the chamber cores were grouted in.
- Pump Station 2
 - pigging chamber, flow meter and line valve were installed and backfilled;
 - pipe spool pieces were installed throughout all the chambers and are ongoing;
 - electrical work was advanced on the kiosk and the valve chamber; and
 - lamp standard was installed.
- Pump Station 3
 - Odour Control Unit underground piping was completed;
 - pipe spool piece installation was completed;
 - electrical works in the valve chamber was also completed; and
 - lamp standard was erected.
- Marigold Crossing:
 - Marigold Road crossing was completed and pipe was installed to the line valve on Violet Street.
- Tillicum Bridge:
 - pipe spool installation began after all the hangers were installed and epoxied in place with levelling shims.

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

- Pump Station 1
 - installed odour control unit underground vent and drain piping;
 - commenced the south pipe tie in;
 - electrical crews worked on the kiosk, installed conduit, and finished items in the wet well; and
 - general backfill took place across the site.
- Pump Station 2
 - BC Hydro line was installed;
 - pressure testing continued along with associated tie ins; and
 - The odour control slab was poured.
- Pump Station 3
 - surge tank line valve was installed and the line was trenched; and
 - pressure testing and finishing items continued within the wet well and valve chamber.
- Marigold Crossing:
 - Marigold crossing was completed, with asphalt paving left to complete.

- Tillicum Bridge:
 - Installation of pipe spools, associated deflection spools, and flexible couplings; and
 - Pipe completed and passed pressure testing.
- Admirals Bridge:
 - Commenced pipe hanger installation.

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

- Pump Station 1
 - commenced installation of odour control unit (OCU);
 - completed the connection to the silt trap lead;
 - BC Hydro duct bank crossing was completed and the pipe was installed.
- Pump Station 2
 - commenced installation of OCU;
 - completed installation of the surge tank on the concrete pedestals; and
 - commissioning activities were carried out.
- Pump Station 3
 - commenced installation of OCU equipment;
 - commissioning work was carried out; and
 - completed generator testing.
- Marigold Crossing
 - spool installation continued in the chamber; and
 - vent piping and trenching was completed from the manholes to the pump station.
- Admirals Bridge
 - Hangers and spools were installed.
- Return Chamber
 - 50mm threadolet was installed and the lid placed; and
 - RTF valve chamber lid was placed.

Photographs of construction progress over the month of June on the Residual Solids Pump Stations are shown in Figures 18-19.



Figure 18–Residual Solids Pump Stations– Admirals Bridge–Installing pipe under Admirals Bridge



Figure 19 –Residual Solids Pump Stations – Pump Station #1.

2.9.3.5 Arbutus Attenuation Tank

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

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

- completed installation of 232 secant piles;
- completed installation of diagonal and lateral struts atop the secant piles; and
- commenced formwork installation, rebar installation, and concrete pour for 3 of 4 sections for the ring beam.

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

- completed concrete pour #4 for the tie beam;
- installed ducting from BC Hydro pole to BC Hydro meter base;
- concrete equipment pad for BC Hydro meter base formed and poured; and
- commenced bulk excavation.

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

- completed bulk excavation of the tank;
- installed BC Hydro meter base wiring, and panel's set-up for hydro hook up;
- placed granular A subbase spanning the full tank area; and
- commenced the installation of rock anchors.

A photograph of construction progress during the month of June at the Arbutus Attenuation Tank is shown in Figure 20.



Figure 20–Arbutus Attenuation Tank- Inside the tank excavation looking north.

2.9.3.6 Trent Forcemain

Jacob Bros. Construction Inc. (as the Construction Contractor for the Trent Forcemain) progressed construction activities including:

Key construction activities in progress or completed by Jacob Bros. in April include:

- completed Fairfield Road Storm Main relocation work;
- completed Fairfield Road Sanitary Main relocation work;
- new line valve installed at Fairfield Road and Stannard Ave;
- completed seawall investigation works;
- completed Memorial Crescent watermain relocation works; and
- completed Fairfield Road watermain relocation works.

Key construction activities in progress or completed by Jacob Bros. in May include

- concrete flow through chamber stripped and backfilled;
- completed storm sewer relocation on Bushby Street;
- completed Memorial Cres and Fairfield Road watermain tie-in works; and
- commenced forcemain installation on Stannard Ave.

Key construction activities in progress or completed by Jacob Bros. in June include:

- completed Eberts Street gravity main;
- relocated conflicting Storm service on Eberts Street below proposed gravity main alignment;
- completed Stannard Avenue forcemain installation;
- installed bend and thrust block between Stannard Avenue and Fairfield Road during two-day road closure (June 15th – 17th);
- continued Fairfield Road forcemain installation; and
- installed blowdown assembly at Fairfield road.

A photograph of construction progress during the month of June at the Trent Forcemain is shown in Figure 21.



Figure 21- Trent Forcemain – Stannard Avenue – Realignment of sanitary service at Fairfield Road.

Appendix A– Overnight Work: Fairfield Watermain Shut-off (April 3, 2020)



April 3, 2020

Overnight Work: Fairfield Watermain Shut-off

On Monday, April 6, as part of construction for the Trent Forcemain there will be a temporary water service interruption on Fairfield Road between Memorial Crescent and Lillian Road. This includes water service disruption to your property.

The temporary water service interruption will be conducted at night to minimize the impact to residents. This work is necessary to facilitate construction of City of Victoria watermain and sanitary sewer on Memorial Crescent.

If you require the use of water during these hours, we ask that you prepare prior to the shut-off time of 9:00 p.m. on Monday, April 6. Service will be reinstated at 5:00 a.m. on Tuesday, April 7.

What to Expect

- Water supply will be shut-off from approximately 9:00 p.m. to 5:00 a.m.
- A trench will be excavated, a new pipe will be installed underneath the existing watermain, the trench will be backfilled, and the surface will be temporarily restored.
- Construction lights will be used to illuminate the work zone for safety and traffic control.
- 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

- There will be single lane alternating traffic.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

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.

Construction is ongoing at all of the Wastewater Treatment Project's sites in accordance with the guidelines established by the Provincial Health Officer.

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– Trent Forcemain: Bushby and Eberts Streets (April 14, 2020)



April 14, 2020

Trent Forcemain: Bushby and Eberts Streets

As part of the Wastewater Treatment Project, a concrete chamber will be constructed which requires a lane closure within the intersection of Bushby and Eberts Streets. This work is anticipated to begin by the end of this week and take approximately four weeks to complete.

What to Expect

- Barriers and fencing will be installed around the site.
- The area will be excavated, the concrete chamber installed, and the site restored.
- Rock encountered during excavation 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.
- Garbage and recycling services will be picked up as usual.

Traffic Impacts

- One lane within the intersection of Bushby and Eberts streets will be closed
- Traffic control areas will be delineated by cones and signs.
- Parking will be temporarily impacted around the intersection of Eberts and Bushby streets to facilitate traffic flow around the closure.
- BC Transit routes will be modified to accommodate the closure.

Access

- Local traffic access will be maintained on Eberts and Bushby streets.
- Vehicle access to residences will not be impacted.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required from 10:00 a.m. to 7:00 p.m.

Thank you for your patience while 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
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Appendix C– Clover Point Pump Station Overnight Work (April 15, 2020)



April 15, 2020

Clover Point Pump Station: Overnight Work

Construction of the upgrades to the Clover Point Pump Station requires bypass pumping to the short outfall for approximately four days. This work will begin today and includes diesel-powered pumps running overnight. This work is required to allow the upgraded Clover Point Pump Station to pump wastewater to the new treatment plant at McLoughlin Point.

What to Expect

- The majority of work will take place inside the pump station.
- Noise and lights associated with construction equipment.
- Diesel-powered pumping units will be in operation and are equipped with acoustic enclosures to reduce noise.
- Wastewater will be screened and discharged out of the short outfall during this work and residents are advised to avoid entering the water along the shoreline on Dallas Road between St Charles Street and Dock Street, including at Ross Bay, Clover Point, Holland Point and Ogden Point.
- Public health advisory signs will be posted until sample results are below the health guidelines.

Work Hours

- The diesel-powered pumping units will be running continuously until this work is complete with crews onsite for the duration of this work.

Traffic Impacts

- There will be no traffic impacts.
- The Dallas Road Waterfront Trail between the Clover Point Pump Station and the crosswalk at Memorial Crescent remains closed.

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

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 D– Temporary Overnight Work: Marigold Road (April 17, 2020)



April 17, 2020

Temporary Overnight Work: Marigold Road

As part of the Wastewater Treatment Project, construction of the Residual Solids Conveyance Line will be crossing Marigold Road at Violet Avenue during the week of April 20th. Part of this work will require the closure of Marigold Road between Interurban Road and Daisy Avenue. This closure will be done at night from 7:00 p.m. to 7:00 a.m. to limit traffic impacts. The overnight work is expected to take place Wednesday night and be completed within one night, but it is weather dependent so the timing may change.

What to Expect

- A trench will be excavated, the new pipe will be installed, the trench will be backfilled, and the surface will be temporarily restored.
- Final restoration will take place after the section has been tested and completed.
- 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.
- During night work, construction lights will be used to illuminate the work zone for safety and traffic control.

Traffic Impacts

- Marigold Road will be open to single lane alternating traffic from 7:00 a.m. to 7:00 p.m.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Marigold Road will be closed from 7:00 p.m. Wednesday to 7:00 a.m. Thursday.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Overnight work on Wednesday from 7:00 p.m. to 7:00 a.m. Thursday

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
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wastewater@crd.bc.ca



Website
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Appendix E– Residual Solids Conveyance Line: Gorge Bridge Construction Update



UPDATE

April 23, 2020

Residual Solids Conveyance Line: Gorge Bridge Construction

As part of the Wastewater Treatment Project, a pipe is being installed under the Gorge Bridge on Tillicum Road. This work is anticipated to be complete mid-May.

What to Expect

- Scaffolding has been 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 has been reduced to one lane to provide a pedestrian walkway that supports social distancing.
- Northbound traffic will retain two lanes.
- Pedestrian access will be maintained on the east side of Gorge Bridge.

Work Hours

- Monday to Friday from 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 Nations by the end of 2020.

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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix F– Core Area Wastewater Discharge Notice (April 14, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

April 14, 2020

Core Area Wastewater Discharge Notice

Victoria, BC- Construction for the Wastewater Treatment Project at the Clover Point Pump Station requires screened wastewater to be discharged out of the short outfall at Clover Point beginning the evening of April 14, 2020 for approximately four days. The shorelines that will be affected are:

- Dallas Road between St Charles St and Dock St including Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria.

As a result of the discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk to people entering the water.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

The CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at www.crd.bc.ca.

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For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

Tel: 250.360.3229

Cell: 250.216.5492

Appendix G– Update: Core Area Wastewater Discharge Notice (April 17, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

April 17, 2020

UPDATE: Core Area Wastewater Discharge Notice

Victoria, BC- Construction for the Wastewater Treatment Project at the Clover Point Pump Station requires screened wastewater to be discharged out of the short outfall at Clover Point. The shorelines affected are:

- Between Radcliffe Lane and Dock St including Gonzales Bay ***NEW***, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria
- Harling Point, McNeill Bay and McMicking Point in Oak Bay ***NEW***

As a result of the discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk to people entering the water.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

For questions or more information on this advisory, please call 1.844.815.6132.

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For media inquiries, please contact:

Andy Orr, Senior Manager

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Cell: 250.216.5492

Appendix H– Beaches Reopen Following Core Area Wastewater Discharge (April 24, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

April 24, 2020

Beaches Reopen Following Core Area Wastewater Discharge

Victoria, BC- Following the successful completion of construction activities at Clover Point Pump Station that required screened wastewater to be discharged out of the short outfall, all of the affected beaches have been reopened. Testing of samples was completed this week and results indicate enterococci levels are below the 70CFU/100mL recreational level.

In consultation with Island Health, public health advisory signs have been removed from all of the affected shorelines:

- Between Radcliffe Lane and Dock St including Gonzales Bay, Ross Bay, Clover Point, Holland Point and Ogden Point in Victoria and Harling Point, McNeill Bay and McMicking Point in Oak Bay

Thank you for your patience while this work was completed.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

The CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at www.crd.bc.ca.

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For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

Tel: 250.360.3229

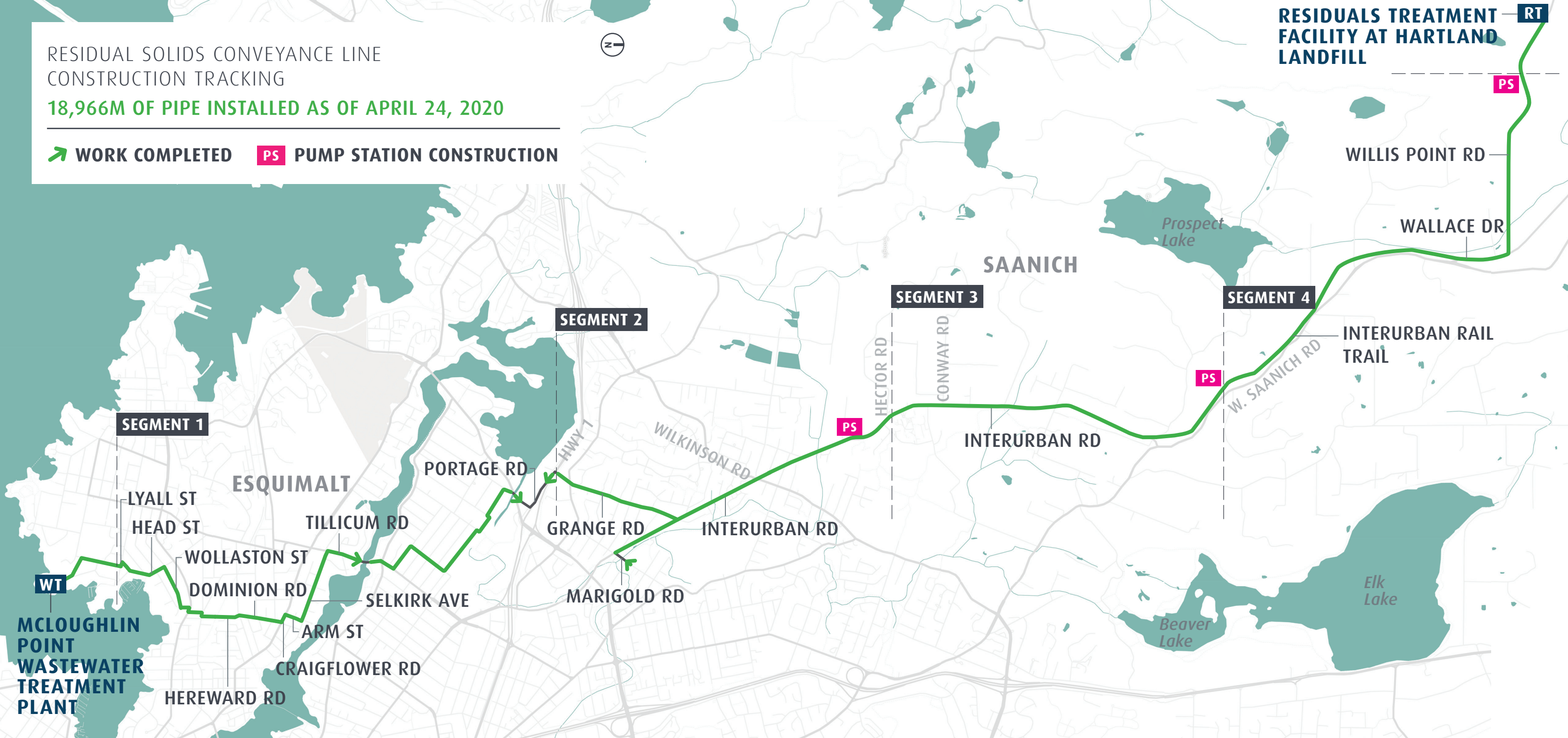
Cell: 250.216.5492

Appendix I– Residual Solids Conveyance Line Map (April 24, 2020)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

18,966M OF PIPE INSTALLED AS OF APRIL 24, 2020

➔ WORK COMPLETED **PS** PUMP STATION CONSTRUCTION



Appendix J– Trent Forcemain: Water Service Shutdown Notice Update (May 11, 2020)



UPDATE

May 11, 2020

Trent Forcemain: Water Service Shutdown Notice

As part of construction for the Trent Forcemain, a water main is being relocated along Fairfield Road and Memorial Crescent. Connecting the new water main to the existing system requires a temporary interruption of water service between the hours of 10:00 a.m. and 2:00 p.m. on the following dates:

- Wednesday, May 13
- Thursday, May 14

If you require the use of water during these hours, we ask that you prepare prior to the shut-off time of 10:00 a.m. each day.

What to Expect

- Water service will be temporarily shut off each day from approximately 10:00 a.m. to 2:00 p.m.
- The actual duration of the shut-off will depend on the conditions encountered.
- The water may be discoloured after the water service is restored. While the water is safe for consumption, we encourage you to run the tap on cold in the tub or shower until the water runs clear.

Traffic Impacts

- Fairfield Road will have single lane alternating traffic on Wednesday, May 13.
- Memorial Crescent will have single lane alternating traffic on Thursday, May 14.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Work Hours

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

If you have any further questions about the water disruption, please contact the Project Team at our 24/7 phone line 1-844-815-6132.

Thank you for your patience as this work is completed. We apologize for any inconvenience this may cause.

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 K– Core Area Wastewater Discharge Notice (May 7, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

May 7 2020

Core Area Wastewater Discharge Notice

Victoria, BC- Construction at the Clover Point Pump Station resulted in an unplanned wastewater discharge out the short outfall the morning of May 7, 2020. The areas affected are in the vicinity of Clover Point Park, between Cook Street and Hollywood Place. This pump station is currently undergoing upgrades related to the Wastewater Treatment Project.

As a result of this discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk.

As a precaution and in consultation with Island Health, beaches within the affected areas will be posted with public health advisory signs for one day. Due to the small amount of discharge, the advisory signs are anticipated to be removed tomorrow afternoon.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

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For media inquiries, please contact:

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CRD Corporate Communications

Office 250.360.3229

Cell 250.216.5492

Appendix L– Core Area Wastewater Discharge Notice (May 30, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

May 30 2020

Core Area Wastewater Discharge Notice

Victoria, BC- Construction at the Clover Point Pump Station resulted in an unplanned wastewater discharge out the short outfall the night of May 29, 2020. The areas affected are in the vicinity of Clover Point Park, between Cook Street and Hollywood Place. This pump station is currently undergoing upgrades related to the Wastewater Treatment Project.

As a result of this discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

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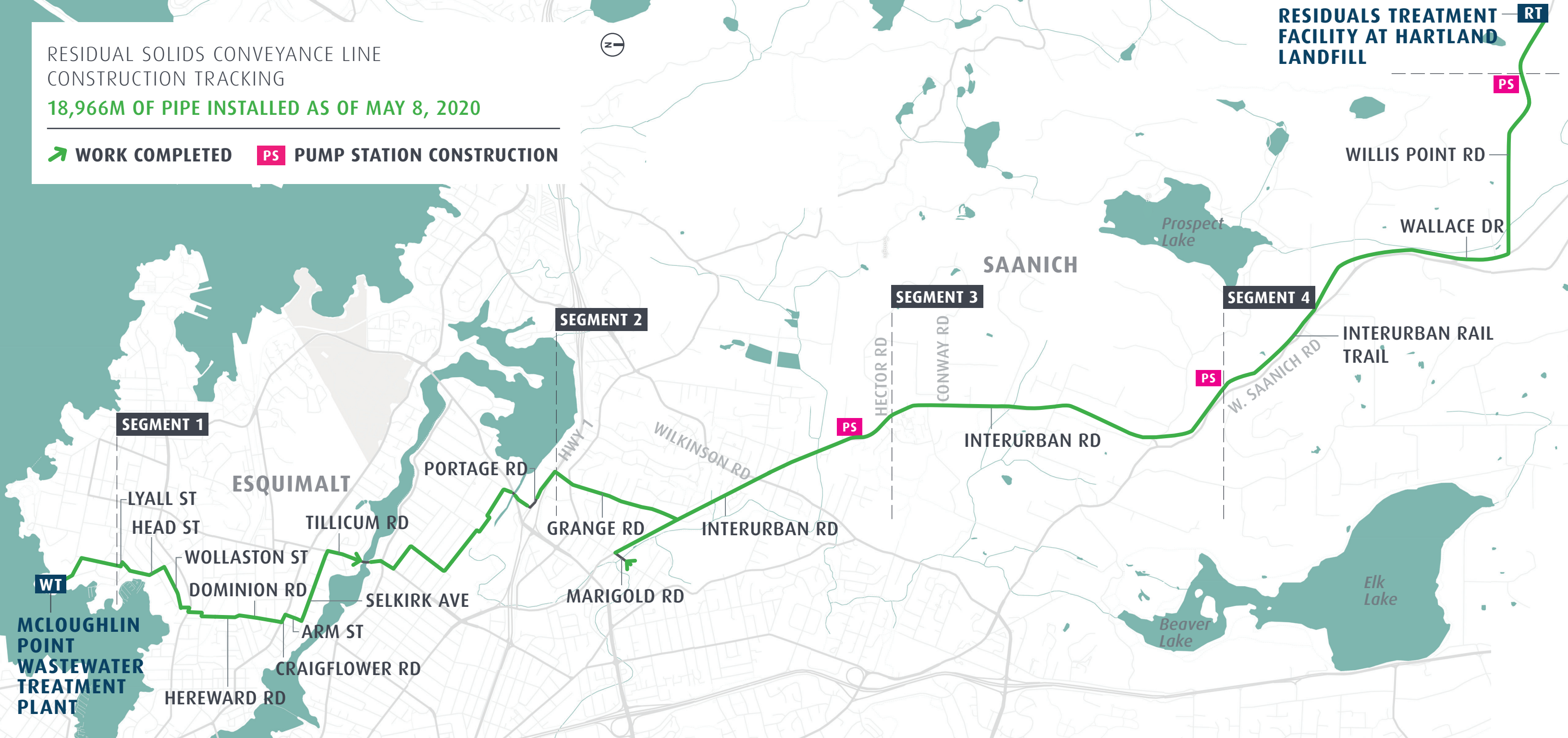
For media inquiries, please contact:

Andy Orr, CRD, Senior Manager, Corporate Communications
Office 250.360.3229 Cell 250.216.5492

Appendix M– Residual Solids Conveyance Line Map (May 8, 2020)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING
18,966M OF PIPE INSTALLED AS OF MAY 8, 2020

➔ WORK COMPLETED PS PUMP STATION CONSTRUCTION



Appendix N– Trent Forcemain: Fairfield Road Closure (June 12, 2020)



June 12, 2020

Trent Forcemain: Fairfield Road Closure

As part of the Wastewater Treatment Project, construction of the Trent Forcemain will be crossing Fairfield Road at Stannard Avenue. This work will require the closure of Fairfield Road between the Fairfield Shopping Centre and Arnold Avenue. The closure is expected to take place during work hours starting on Monday, June 15 and be complete within approximately three days. A detour will be in place (see map on reverse).

What to Expect

- A trench will be excavated, the new pipe will be installed, the trench will be backfilled, and the surface will be temporarily restored.
- Final restoration will take place after the section has been tested and completed.
- 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

- A signed detour will be in place during work hours.
- On-street parking along Memorial Crescent and St Charles Street will be removed to allow for detour traffic.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Access

- Vehicle access to residences will not be impacted.
- Emergency services will have access at all times.
- Garbage and recycling services will be picked up as usual.

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.

Thank you for your patience while 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



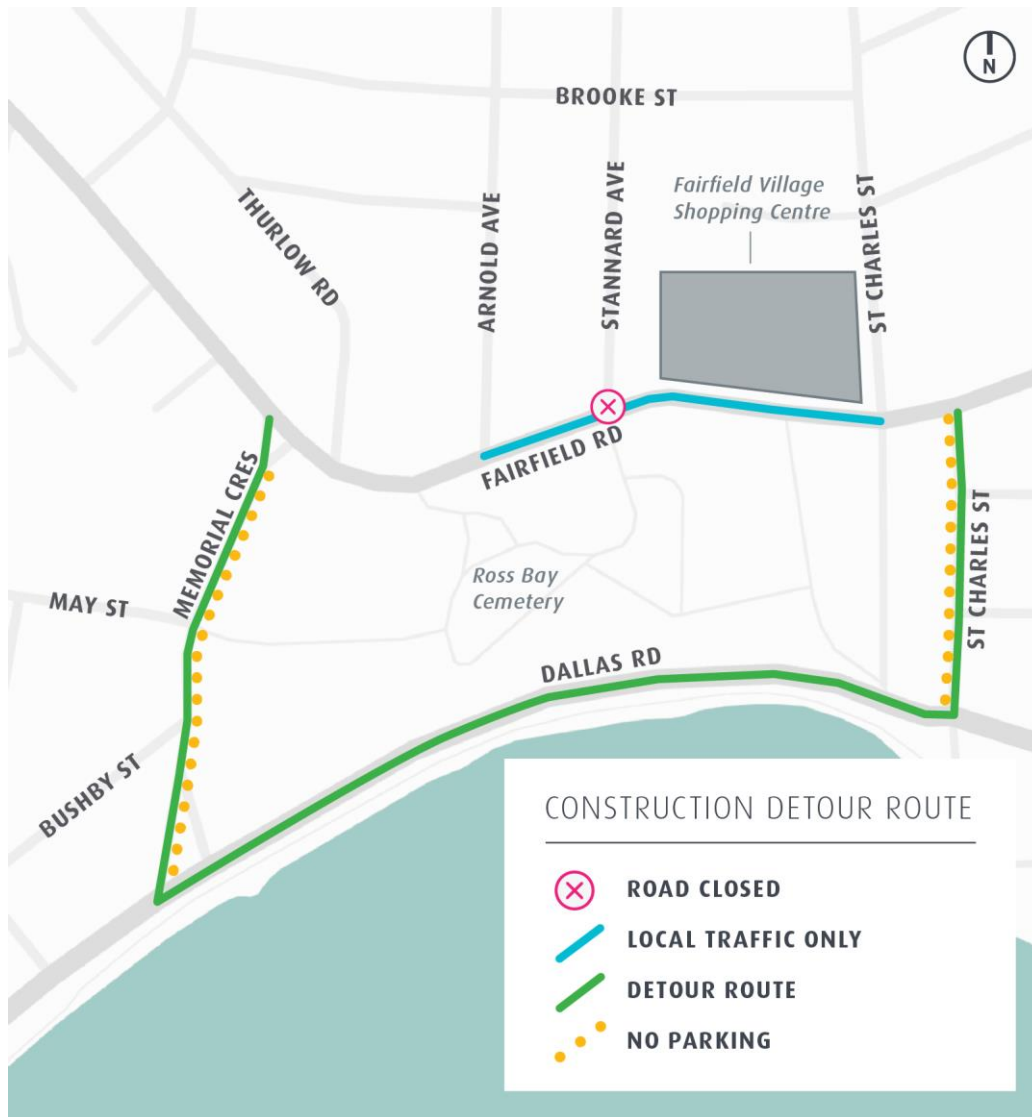
Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca



Detour Route



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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Appendix O– Project Update #9 (June 2020)

Wastewater Treatment Project

The Wastewater Treatment Project is in its final year of construction and all the pieces are starting to come together. We are in the final push and the majority of the construction will conclude over the summer. The Project will then enter the next phase which is commissioning the new infrastructure. The Project still has many active construction sites throughout Victoria, Esquimalt and Saanich and we want to thank residents for their patience while we complete this work. The Project remains on schedule to meet the regulatory deadline of December 31, 2020. Construction progress is highlighted for each section of the Project with photos.

Construction Updates

MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT

The view of McLoughlin Point changed this spring with the demobilization of both of the tower cranes on site. The majority of construction on site will be complete this summer. The exterior finishing of the building is nearing completion and the inside of the operations and maintenance building is being painted. The multi-level green roof is being installed and the areas around the plant are being backfilled. Wastewater will begin flowing through the plant later this summer as testing of the system commences.



Aerial view of McLoughlin Point Wastewater Treatment Plant.

RESIDUALS TREATMENT FACILITY

Construction on the Residuals Treatment Facility located at the Hartland Landfill has made excellent progress with all major equipment now installed. All the buildings have been built on site and the exterior work is complete. Work is focused on finishing the interior of the buildings.



Construction progress at the Residuals Treatment Facility.

CLOVER POINT PUMP STATION

In April, the Clover Point Pump Station achieved a significant milestone with relocating and installing new screens. This was an important step to begin modifying the existing pump station and to allow the upgraded pump station to pump wastewater to the new McLoughlin Point Wastewater Treatment Plant.



New pumps at the Clover Point Pump Station.

MACAULAY POINT PUMP STATION

At Macaulay Point, the building has been erected and siding is being installed. All major equipment has been installed and mechanical and electrical work continues on site. The tower crane has also been demobilized at Macaulay Point. The Macaulay Forcemain work is complete with all the pipe installed and tested and the roads surrounding the area have been paved and reopened.



Siding being installed on the new Macaulay Point Pump Station.

CLOVER FORCEMAIN

Construction on Dallas Road has been focusing on restoration work since the forcemain installation was finished last summer. All the restoration work has been completed on Dallas Road except for the final section between Dock Street and Lewis Street. A new balustrade along the seawall is being installed for the City of Victoria which is anticipated to be complete in the fall.



New crosswalk at Government Street on the newly paved Dallas Road.

ARBUTUS ATTENUATION TANK

In Saanich, the Arbutus Attenuation Tank is being built on CRD property in Haro Woods. All the secant piles have been installed around the perimeter of the tank footprint. These are reinforced concrete piles that are required to minimize the footprint of the excavation. Now that this stage is complete, excavation is taking place for the 5,000m³ attenuation tank.



Excavation at the Arbutus Attenuation Tank.

RESIDUAL SOLIDS CONVEYANCE LINE

Over 99% of the Residual Solids Conveyance Line is installed. Work has been focusing on installing valves and chambers, completing tie-ins, and paving. Construction at the three small pump stations along the Residual Solids Conveyance Line is progressing well. Pipes have been installed on the Gorge Bridge and the last section of pipe is being installed on the Admirals Bridge.



Pipe installation on Portage Road in Saanich.



The pipe has been installed under the Gorge Bridge on Tillicum Road.

TRENT FORCEMAIN

In January, Jacob Bros Construction started work on the Project's final construction contract, to build the Trent Forcemain, 1.9km of pipe being installed in the Fairfield neighbourhood of Victoria. Construction has started with relocating an existing water main and chamber. Forcemain installation started in May.



A section of pipe being installed for the Trent Forcemain.

COVID-19

Construction has been designated an essential service and the Project is continuing with all contractors implementing additional precautions to ensure the health and safety of their workers and the public. These measures include emphasizing the importance of maintaining social distance, increasing handwashing stations, reducing in-person meetings and increasing cleaning of common areas.



All contractors have implemented additional safety protocols on their sites.

CONSTRUCTION SUMMARY



14

active construction sites



600

construction workers



23,412m

pipes laid

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

24-7 Project Information Line: 1.844.815.6132

Appendix P– Core Area Wastewater Discharge Notice at Macaulay Point (June 22, 2020)



Making a difference...together

Public Service Announcement

For Immediate Release

June 22 2020

Core Area Wastewater Discharge Notice

Esquimalt, BC- Construction of the Macaulay Point Pump Station requires screened wastewater to be discharged out the short outfall overnight on June 22, 2020. The shorelines that will be affected are:

- Between Fraser Street and Victoria View Road including Saxe Point, Macaulay Point and McLoughlin Point in Esquimalt; and
- Along Dallas Road between Dock Street and Government Street in Victoria.

As a result of this discharge, residents are advised to avoid entering the waters along the affected shorelines, as the wastewater may pose a health risk.

As a precaution and in consultation with Island Health and the local municipalities, beaches within the affected areas will be posted with public health advisory signs until sample results indicate enterococci levels are below the 70CFU/100mL recreational limit.

A new Macaulay Point Pump Station is being built as part of the Wastewater Treatment Project and will pump wastewater from the western core area municipalities and the Esquimalt and Songhees Nations to the new McLoughlin Point Wastewater Treatment Plant for tertiary treatment.

For updates, please visit www.crd.bc.ca and follow us on Twitter [@crd_bc](https://twitter.com/crd_bc)

The CRD delivers regional, sub-regional and local services to 13 municipalities and three electoral areas on southern Vancouver Island and the Gulf Islands. Governed by a 24-member Board of Directors, the CRD works collaboratively with First Nations and all levels of government to enable sustainable growth, foster community well-being, and develop cost-effective infrastructure while continuing to provide core services to residents throughout the region. Visit us online at www.crd.bc.ca.

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For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

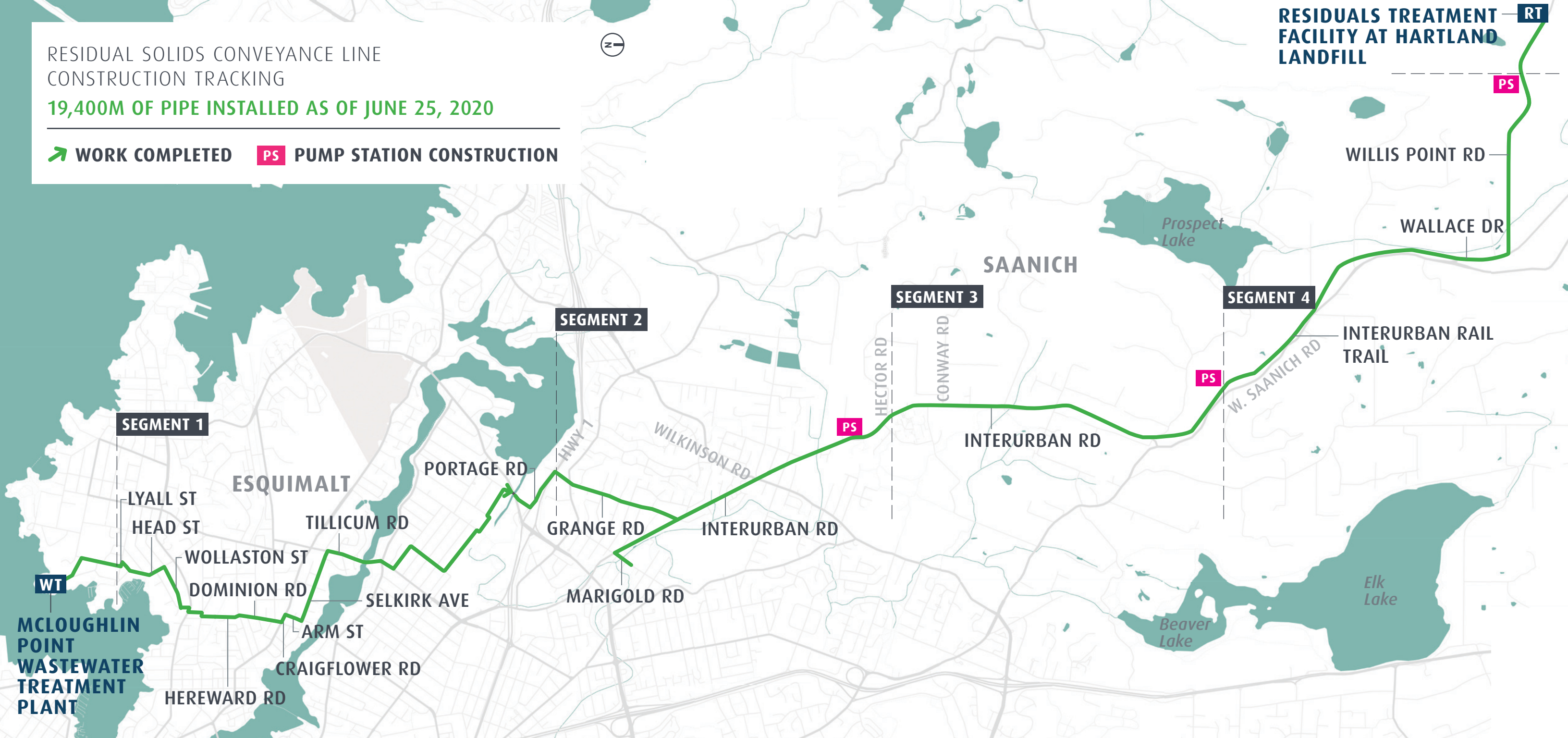
Tel: 250.360.3229

Appendix Q– Residual Solids Conveyance Line Map (June 25, 2020)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TRACKING

19,400M OF PIPE INSTALLED AS OF JUNE 25, 2020

➔ WORK COMPLETED PS PUMP STATION CONSTRUCTION



Appendix R– Monthly Cost Report (June)

MONTHLY COST REPORT as at June 30, 2020														
Description	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to May 31, 2020	Expended over reporting period (June 2020)	Expended to June 30, 2020	Expended to June 30, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at June 30, 2020	Total Commitment at June 30, 2020	Unexpended Commitment at June 30, 2020	Uncommitted Allocated Budget at June 30, 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	293.8	5.0	298.8	91%	29.3	321.2	22.4	6.9	29.3	328.1	-	0%
Construction	306.7	321.0	293.3	5.0	298.2	93%	22.7	320.5	22.3	0.5	22.7	321.0	-	0%
Contingency	14.9	0.2	-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	9.8	6.9	0.6	-	0.5	7%	6.4	0.7	0.1	6.2	6.4	6.9	-	0%
Residuals Treatment Facility	159.4	140.0	10.9	0.4	11.3	8%	128.7	139.0	127.7	1.0	128.7	140.0	-	0%
Construction	145.4	138.9	10.9	0.4	11.3	8%	127.7	138.9	127.7	0.0	127.7	138.9	-	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	2%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	158.0	215.7	160.9	5.4	166.3	77%	49.4	195.4	29.1	20.3	49.4	215.7	-	0%
Macaulay Point Pump Station	25.4	30.8	26.9	0.8	27.7	90%	3.1	30.8	3.1	0.0	3.1	30.8	-	0%
Macaulay Forcemain	5.6	7.4	7.4	0.1	7.4	100%	-	7.4	-	-	-	7.4	-	0%
Craigflower Pump Station	12.5	12.4	12.4	-	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.3	24.7	-	24.7	91%	2.6	27.2	2.5	0.1	2.6	27.3	-	0%
Currie Pump Station^	2.8	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6	12.2	1.2	13.5	55%	11.1	23.1	9.7	1.4	11.1	24.6	-	0%
Clover Forcemain	14.6	32.5	29.2	0.8	30.0	92%	2.5	31.9	1.9	0.6	2.5	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	1.7	0.9	2.6	23%	8.7	8.1	5.5	3.2	8.7	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.6	33.8	0.4	34.3	94%	2.3	36.5	2.2	0.1	2.3	36.6	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.1	11.7	1.2	13.0	71%	5.2	16.9	4.0	1.2	5.2	18.1	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.4	0.3	0.0	0.3	76%	0.1	0.4	0.0	0.1	0.1	0.4	-	0%
Contingency	16.8	9.9	-	-	-	0%	9.9	-	-	9.9	9.9	9.9	-	0%
Financing	5.8	4.1	0.2	-	0.2	5%	3.9	0.3	0.1	3.7	3.9	4.1	-	0%
Project Management Office ("PMO")	75.8	77.9	55.8	1.0	56.8	73%	21.1	69.7	12.9	8.2	21.1	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	17.5	14.1	0.4	14.5	83%	3.0	17.5	3.0	-	3.0	17.5	-	0%
Conveyance Design	5.0	9.5	7.6	0.1	7.6	80%	1.9	8.5	0.9	1.0	1.9	9.5	-	0%
Advisors & Professional Support	7.0	15.0	10.2	0.1	10.3	69%	4.7	11.5	1.2	3.5	4.7	15.0	-	0%
Project Board	2.0	1.3	0.9	0.0	0.9	73%	0.3	0.9	-	0.3	0.3	1.3	-	0%
Project Board Expenses	0.3	0.1	0.1	-	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.1	15.9	0.3	16.3	70%	6.9	22.9	6.7	0.2	6.9	23.1	-	0%
Project Team Expenses	1.2	0.5	0.3	0.0	0.3	62%	0.2	0.3	-	0.2	0.2	0.5	-	0%
CRD Financial Services	1.5	1.4	0.9	0.0	0.9	66%	0.5	1.4	0.5	-	0.5	1.4	-	0%
CRD Human Resources	0.3	0.3	0.2	0.0	0.2	88%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Corporate Communications	0.2	0.2	0.2	-	0.2	86%	0.0	0.2	0.0	-	0.0	0.2	-	0%
CRD Real Estate	0.3	0.3	0.2	-	0.2	88%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Information Technology	0.4	0.4	0.3	0.0	0.3	68%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0	0.0	-	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6	0.5	0.0	0.5	82%	0.1	0.6	0.1	-	0.1	0.6	-	0%
CRD Legislative Services	0.1	0.1	0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2	0.2	-	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1	0.1	-	0.1	71%	0.0	0.1	0.0	-	0.0	0.1	-	0%
Office Lease	1.5	1.3	0.8	0.0	0.9	67%	0.4	1.2	0.4	0.1	0.4	1.3	-	0%
Office Supplies, Communications & Vehicles	1.2	0.7	0.5	0.0	0.5	79%	0.1	0.5	0.0	0.1	0.1	0.7	-	0%
Computer Hardware, Software & Training	1.0	1.1	0.6	-	0.6	60%	0.4	0.6	-	0.4	0.4	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	48%	2.3	2.1	0.0	2.2	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1	3.9	0.1	4.0	49%	4.1	6.8	2.8	1.3	4.1	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	527.3	11.9	539.2	70%	235.7	734.1	194.9	40.8	235.7	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 S– Quarterly Cost Report

QUARTERLY COST REPORT as at June 30, 2020															
Description	BUDGET		COST EXPENDED						COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to March 31, 2020	Expended over reporting period (Q2 2020 Apr-Jun)	Expended to June 30, 2020	Expended to June 30, 2020 as a % of Allocated Budget	Remaining (Unexpended) Allocated Budget at June 30, 2020	Total Commitment at June 30, 2020	Unexpended Commitment at June 30, 2020	Uncommitted Allocated Budget at June 30, 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	-	282.5	16.3	298.8	91%	29.3	321.2	22.4	6.9	29.3	328.1	-	0%
Construction	306.7	321.0		281.8	16.4	298.2	93%	22.7	320.5	22.3	0.5	22.7	321.0	-	0%
Contingency	14.9	0.2		-	-	-	0%	0.2	-	-	0.2	0.2	0.2	-	0%
Financing	9.8	6.9		0.7	(0.1)	0.5	7%	6.4	0.7	0.1	6.2	6.4	6.9	-	0%
Residuals Treatment Facility	159.4	140.0		10.6	0.7	11.3	8%	128.7	139.0	127.7	1.0	128.7	140.0	-	0%
Construction	145.4	138.9		10.6	0.7	11.3	8%	127.7	138.9	127.7	0.0	127.7	138.9	-	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	2%	0.8	0.0	0.0	0.8	0.8	0.8	-	0%
Conveyance System	158.1	215.7		152.3	14.0	166.3	77%	49.4	195.4	29.1	20.3	49.4	215.7	-	0%
Macaulay Point Pump Station	25.4	30.8		25.3	2.3	27.7	90%	3.1	30.8	3.1	0.0	3.1	30.8	-	0%
Macaulay Forcemain	5.6	7.4		6.6	0.9	7.4	100%	-	7.4	-	-	-	7.4	-	0%
Craigflower Pump Station	12.5	12.4		12.4	-	12.4	100%	-	12.4	-	-	-	12.4	-	0%
Clover Point Pump Station	23.7	27.3		24.6	0.1	24.7	91%	2.6	27.2	2.5	0.1	2.6	27.3	-	0%
Currie Pump Station^	2.8	0.1		0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
Arbutus Attenuation Tank	14.2	24.6		11.5	2.0	13.5	55%	11.1	23.1	9.7	1.4	11.1	24.6	-	0%
Clover Forcemain	14.6	32.5		28.0	1.9	30.0	92%	2.5	31.9	1.9	0.6	2.5	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		0.7	1.9	2.6	23%	8.7	8.1	5.5	3.2	8.7	11.3	-	0%
Residual Solids Conveyance Line	19.1	36.6		31.7	2.5	34.3	94%	2.3	36.5	2.2	0.1	2.3	36.6	-	0%
Residual Solids Pump Stations & Bridge Crossings	4.6	18.1		10.5	2.4	13.0	71%	5.2	16.9	4.0	1.2	5.2	18.1	-	0%
Residual Solids Conveyance Line – Highway Crossing	-	0.4		0.3	0.0	0.3	76%	0.1	0.4	0.0	0.1	0.1	0.4	-	0%
Contingency	16.8	9.9		-	-	-	0%	9.9	-	-	9.9	9.9	9.9	-	0%
Financing	5.8	4.1		0.3	(0.1)	0.2	5%	3.9	0.3	0.1	3.7	3.9	4.1	-	0%
Project Management Office ("PMO")	75.8	77.9		53.8	3.0	56.8	73%	21.1	69.7	12.9	8.2	21.1	77.9	-	0%
Project costs Aug 2016-Dec 2016	2.2	2.2		2.2	0.0	2.2	100%	-	2.2	-	-	-	2.2	-	0%
Owner's Engineering	17.2	17.5		13.4	1.1	14.5	83%	3.0	17.5	3.0	0.0	3.0	17.5	-	0%
Conveyance Design	5.0	9.5		7.4	0.2	7.6	80%	1.9	8.5	0.9	1.0	1.9	9.5	-	0%
Advisors & Professional Support	7.0	15.0		10.0	0.3	10.3	69%	4.7	11.5	1.2	3.5	4.7	15.0	-	0%
Project Board	2.0	1.3		1.0	(0.1)	0.9	73%	0.3	0.9	-	0.3	0.3	1.3	-	0%
Project Board Expenses	0.3	0.1		0.1	(0.0)	0.1	64%	0.0	0.1	-	0.0	0.0	0.1	-	0%
Project Team	29.1	23.1		15.3	0.9	16.3	70%	6.9	22.9	6.7	0.2	6.9	23.1	-	0%
Project Team Expenses	1.2	0.5		0.3	0.0	0.3	62%	0.2	0.3	-	0.2	0.2	0.5	-	0%
CRD Financial Services	1.5	1.4		0.8	0.1	0.9	66%	0.5	1.4	0.5	-	0.5	1.4	-	0%
CRD Human Resources	0.3	0.3		0.2	0.0	0.2	88%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Corporate Communications	0.2	0.2		0.2	(0.0)	0.2	86%	0.0	0.2	0.0	-	0.0	0.2	-	0%
CRD Real Estate	0.3	0.3		0.2	0.0	0.2	88%	0.0	0.3	0.0	-	0.0	0.3	-	0%
CRD Information Technology	0.4	0.4		0.2	0.1	0.3	68%	0.1	0.4	0.1	-	0.1	0.4	-	0%
CRD Insurance	0.1	0.0		-	0.0	0.0	100%	-	0.0	-	-	-	0.0	-	0%
CRD Operations	0.6	0.6		0.4	0.1	0.5	82%	0.1	0.6	0.1	-	0.1	0.6	-	0%
CRD Legislative Services	0.1	0.1		0.1	-	0.1	100%	-	0.1	-	-	-	0.1	-	0%
CRD Corporate Safety	0.2	0.2		0.1	0.1	0.2	100%	-	0.2	-	-	-	0.2	-	0%
CRD Executive Services	-	0.1		-	0.1	0.1	71%	0.0	0.1	0.0	-	0.0	0.1	-	0%
Office Lease	1.5	1.3		0.8	0.1	0.9	67%	0.4	1.2	0.4	0.1	0.4	1.3	-	0%
Office Supplies, Communications & Vehicles	1.2	0.7		0.5	0.0	0.5	79%	0.1	0.5	0.0	0.1	0.1	0.7	-	0%
Computer Hardware, Software & Training	1.0	1.1		0.6	0.0	0.6	60%	0.4	0.6	-	0.4	0.4	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	0.0	2.0	48%	2.3	2.1	0.0	2.2	2.3	4.3	-	0%
Third Party Commitments	8.1	8.1		3.7	0.3	4.0	49%	4.1	6.8	2.8	1.3	4.1	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		505.0	34.3	539.2	70%	235.7	734.1	194.9	40.8	235.7	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