



Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: April-June (Q2) 2019

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1 Executive Summary

1.1 Introduction

This quarterly report covers the reporting period of April through June 2019 and outlines the progress made on the Wastewater Treatment Project over this time.

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

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

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing: engineering of the WWTP and construction at McLoughlin Point, including: continuing concrete pours for the process building, tertiary building and Operations & Maintenance building; starting structural steel for the top level of the process building; starting by-pass piping installation on Victoria View Road; continuing assembly of the outfall pipe in Nanoose Bay; and continuing off-site utility work on Peters Street and Patricia Way.

The RTF Project Component continued with HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing: engineering (including development of the overall Final (100%) Design Submission), permitting (including submitting the application for an Operational Certificate to the Ministry of Environment and Climate Change Strategy), vendor selection and construction, including: reinforced concrete foundations for the residual solids tanks and dryer building, erecting the glass lined bolted steel panels for Digester No. 1, and installation of the gravity belt thickeners and centrifuges in the Residuals Handling Building.

The Conveyance System is anticipated to be delivered through eight construction contracts: two design-build contracts and six 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: design including providing supplemental information for the overall final (100%) design submission; and construction including: reinforced concrete for the upper section of exterior walls along the west caisson wall, the suspended slab for the odour control and screening rooms, and the transformer walls and roof; installed steel pipe supports in the pump room, and installed drain and water piping.
- Macaulay Point Pump Station and Forcemain: Kenaidan Contracting Ltd. (“Kenaidan” as the Design-Build Contractor) progressed: design including submitting responses to the outstanding comments on the final (100%) design submission; and construction activities including reinforced concrete for the exterior walls, inlet channels and the interior walls for the vortex degritter; and commenced installation of the forcemain along Anson Street.

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: installation of approximately 1,390m of forcemain (from Pilot Street to South Turner Street and from Cook Street to Douglas Street) and relocation of utilities including the water main at the intersection of Douglas Street and Dallas Road.
- Residual Solids Conveyance Line (“RSCL”): The RSCL is being delivered through three construction contracts, with work progressing as follows:
 - RSCL 100 Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor for the Residual Solids Pipes) continued construction activities including: utility pre-locates and potholing, soil assessment survey and installation of approximately 4,830 m of RSCL pipeline.
 - RSCL 200 Residual Solids Pump Stations: Knappett Project Inc. (“Knappett” as the Construction Contractor for Residual Solids Pump Stations) commenced preconstruction activities including preparation and submission of work plans, shop drawings and permit applications as well as initial site preparations including clearing and grubbing at pump station 2 and 3, installing construction fencing at pump stations 1, 2 and 3, and rock blasting at pump station 3 and installation of approximately 270m of RSCL pipeline (from the RTF site south toward pump station 3).
 - RSCL 300 Saanich Infrastructure Improvements: the Project Team has arranged for Parsons (as the “Design Consultant” for the RSCL) to complete a conceptual design for the infrastructure improvements, which include sidewalks along the east side of Grange Road and the west side of Esson Road and a traffic circle at the intersection of Vincent and Bodega Streets.
- Arbutus Attenuation Tank (“AAT”): North American Constructors Ltd. (“NAC” as the Construction Contractor for the Arbutus Attenuation Tank) commenced pre-construction activities, including preparation of work plans and initial mobilisation.
- Trent Forcemain: detailed design commenced, and surveys and geotechnical investigations were undertaken to inform the final design and alignment.

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 (“KPIs”) 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 overall and the conveyance system remains yellow. Over the quarterly reporting period 45 safety incidents occurred and the total recordable incident frequency increased from that at the end of the first quarter of 2019, to 1.5. The Project Team continues to work with, and ensure that all of the prime contract partners maintain safety as their number one priority.

The cost KPI for the Project overall and the conveyance system remained red over the reporting period, and both are expected to remain red for the duration of the Project, primarily as a result of inflation in the Vancouver Island construction market. Based on the value of the contracts awarded to-date and the refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project’s control budget. Over the reporting period the CRD Board approved increasing the Project’s budget by \$10M to \$775M.

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					Three recordable incidents occurred over the period. Site inspections are ongoing and recommendations from the independent review of safety management have been implemented.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.					Five minor environmental incidents occurred over the period: four incidents were low-volume hydraulic fluid leaks, (fluid was contained and none entered the sewer system or environment) and the fifth incident involved the unplanned release of sediment laden water through an outfall off Dallas road.
Regulatory Requirements	Deliver the Project such that the Core Area complies with provincial and federal wastewater regulations.					No regulatory issues.
Stakeholders	Continue to build and maintain positive relationships with First Nations, local governments, communities, and other stakeholders.					Engagement activities were ongoing over the reporting period. Significant efforts were made to provide accurate and timely information to stakeholders.
Schedule	Deliver the Project by December 31, 2020.					No schedule issues.
Cost	Deliver the Project within the Control Budget (\$765 million).					Based on the value of the contracts awarded to-date and a refreshed cost estimate for the scope remaining to be procured, the Project Team has forecast the cost to complete the Project at \$775M, or \$10M over the Project's Control Budget. This is primarily as a result of inflation in the Vancouver Island construction market. Over the reporting period the CRD Board approved increasing the Project's budget by \$10M, to \$775M.

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

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

2 Wastewater Treatment Project Progress

2.1 Safety

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

Site safety tours and weekly safety inspections were carried out by Project Management Office (“PMO”) construction and safety personnel over the reporting period at all active worksites: Macaulay Point Pump Station, Clover Point Pump Station, McLoughlin Point WWTP, RTF, Clover Forcemain and RSCL sites.

Over the reporting period 45 incidents occurred in total: eighteen in April, seventeen in May, and ten in June, comprising: eight near-miss, two medical aid, one high potential near miss, twenty-three report only, ten first aid, and three recordable incidents, one of which resulted in lost time. The incidents are summarized in Table 2.

Table 2- Safety Incidents over the Reporting Period

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 2, 2019	RSCL	Report Only	Road plates set up on the corner of Wilson Street and Hereward Road was knocked out of alignment.	Supervisor notified and road plate repositioned.	Toolbox talk discussion was held, all plates will be inspected prior to leaving the site at the end of the day.
April 3, 2019	RSCL	Report Only	Minor damage to a residents fence caused by backhoe.	Homeowner was notified and damaged section of fence was repaired.	Tool-box talk was held to ensure that any work in close proximity to any homes, fencing or structures have a spotter available to the operator.
April 4, 2019	RSCL	Near Miss	Excavator bucket came in close proximity to a worker in the trench.	No injuries occurred.	Toolbox talk to remind employees to have eye or verbal contact with operator/spotter before using equipment.
April 5, 2019	RSCL	Lost Time Recordable	Workers foot was caught under the rubber track of a small excavator.	First Aid assessment was performed on the workers foot. X-ray showed a small hairline fracture. Worker returned to his duties after 3 days.	Tool-box talk was held in regards to the incident and the procedure to follow when moving near mobile equipment or having to communicate with operators in the cab of their equipment.
April 5, 2019	McLoughlin Point WWTP	First Aid	Foreign object in workers eye.	Minor First Aid treatment was provided to remove object.	While worker was wearing safety eyewear for their task a Tool-box talk discussed proper body positioning when cutting if the conditions are windy.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
April 9, 2019	RSCL	Near Miss	Excavator bucket came in close proximity to a worker in the trench.	No injuries occurred.	Tool-box talk with the crew reviewing working in close proximity to machinery and awareness to surroundings provided.
April 10, 2019	RSCL	Report Only	Utility strike not clearly located on locate drawings	Line was repaired within 20 minutes.	Waterline was noted on utility locates diagram for future reference.
April 10, 2019	McLoughlin Point WWTP	Report Only	A worker stuck their leg on a piece of wood.	No first aid treatment was rendered.	Tool-box talk was held in regards to situational awareness and knowing what is in close proximity to you at all times.
April 10, 2019	RSCL	Report Only	Jackhammer came in contact with a workers steel toe cap.	No first aid was required.	Tool-box talk was held with crew on having good control of tools and equipment and to pay attention to movement of machines if having to stand in close proximity.
April 10, 2019	RSCL	Report Only	Worker struck their hand on a pipe that was in close proximity.	No first aid was required.	Worker was reminder of proper body positioning when working in a restricted area.
April 15, 2019	RTF	Report Only	Pipe damaged while conducting backfilling activities	No injuries occurred.	Discussion with the worker was held regarding paying more attention to task at hand.
April 16, 2019	McLoughlin Point WWTP	First Aid	Worker hit left thumb with hammer receiving a small laceration.	Worker was wearing gloves at the time of incident.	Tool-box talk held with crew in regards to incident and to discuss good hand positioning when using small tools.
April 16, 2019	RSCL	Report Only	Workers knee was stuck by material which fell into the excavation from above.	The worker did not report incident until next day.	Tool-box talk was held in regards to inspecting work areas and keeping area above excavations free from debris and reporting incidents in a timely manner.
April 19, 2019	McLoughlin Point WWTP	Report Only	Worker tripped while walking on uneven surface.	No First Aid was rendered.	Workers reminded to take extra precaution in areas that pose a slip/trip hazard.
April 22, 2019	McLoughlin Point WWTP	First Aid	Worker was stripping forms and pinched their finger.	Workers finger showed signs of bruising and minor swelling.	Tool-box talk reminder in regards to pinch points and to keep hands and body parts out of the "bite".
April 23, 2019	RSCL	Report Only	Excavator struck overhead communication lines while moving road plates.	Lines were repaired.	A Tool-box talk was held to remind operators to have a spotter at all times when working near overhead lines.
April 26, 2019	RSCL	Report Only	A water service was struck that was not identified on the utility locates plan.	City of Victoria responded and repaired the service.	Water service line was added to the Utility locates plan for future reference.
April 26, 2019	McLoughlin Point WWTP	Near Miss-High Potential For Harm	Gas line on Peters street was struck. Fortis was notified of the emergency and residents were evacuated from the area.	Job was suspended pending an investigation.	WorkSafeBC was notified as required for a Serious Incident. Sub-Contractor was issued an order for striking the gas line.



Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
					Protocol was not followed as the company's policy states that no work is to be done near a gas line without a spotter present. Operator was suspended following the investigation.
May 6, 2019	RCSL	Near Miss	Cyclist entered an excavator swing zone, excavator operator saw the cyclist and turned the bucket the other way; at the same time, the cyclist stopped some feet from the bucket when they saw the excavator was moving towards them	No contact occurred	An onsite meeting was held with Traffic Control Personnel for better communication if anyone has to enter an active area. Tool-box talk also held with crew
May 6, 2019	RTF	Near Miss	During a quality check it was noticed upon a visual inspection that a bolted tank jig for lifting the roof rafter appeared to be bent and the center column not aligned. Workers were under the load at the time of discovery.	Work was immediately stopped to assess situation and an engineer established the stability of the jig	New engineered jig was designed to eliminate any bending
May 7, 2019	McLoughlin Point WWTP	First Aid	While tying rebar a worker scraped their knuckles on adjacent rebar.	Worker had the scrape cleaned and bandaged at First Aid	Tool-box talk in regards to the use of gloves for this type of task
May 8, 2019	McLoughlin Point WWTP	Report Only	Water leak while performing a piping pressure test.	No one was in the area when the leak occurred	Water was drained, leak was located, and fitting tightened to prevent any further leaks.
May 13, 2019	McLoughlin Point WWTP	Medical Aid Recordable	Worker pinched their finger between rebar and dunnage while putting dunnage under a bundle of rebar, resulting in a small flap of skin being removed from the tip of their finger.	Worker received medical attention requiring a few stitches on the top of finger	Tool-box talk to review pinch points and keeping out of the "bite" while loads are being lowered.
May 16, 2019	McLoughlin Point WWTP	First Aid	Worker drilling concrete pillar in BAF Gallery was removing PPE when some dust went in their eye.	Worker reported to First Aid after eye was flushed and a visible speck of dust removed from the eye.	Tool-box talk with crew in regards to windy conditions and removing PPE in active work area

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 16, 2019	McLoughlin Point WWTP	First Aid	Worker on concrete corbel wall erecting scaffolding was carrying a shore post when worker tripped on their lanyard while tied off. Worker did not let go of the shore post, and finger was pinched between the post plate and concrete	Worker had a small laceration which was cleaned and bandaged before returning to work.	Tool-box talk was held in regards to proper tie off point above shoulder height if possible to prevent tripping hazards from low hanging fall protection.
May 21, 2019	RCSL	First Aid	Worker was helping move metal fusion machine when the metal clamp which is part of the machine closed on workers finger pinching it	First Aid assessed finger and it did not appear to be a serious injury. Worker returned to his duties with no further issue	Tool box talk with crew in regards to pinch points on the fusion machine and keeping hands out of the bite
May 24, 2019	RTF	Near Miss	Telehandler operator while in the process of placing a load caused the back tires of the unit to lift off the ground.	No injuries were sustained and no property damage. Outriggers were not down at the time	Worker was required to perform a competency test with the telehandler to ensure knowledge when lifting loads. Worker placed on probation and is required to have a Supervisor as a spotter if lifting or moving loads until cleared for unaccompanied duties
May 24, 2019	RCSL	Medical Aid Recordable	Worker was cutting some ductile iron piping when they felt a particulate enter under their safety glasses and adhere to their eye	Eyes were rinsed out but did not remove particulate. Referred to medical aid where the particulate was removed	Tool-box talk to review of proper body positioning when using cut-off saw to reduce or eliminate any particulates from blowing towards worker
May 24, 2019	RCSL	Report Only	Worker entered into a newly completed manhole to remove some forms without proper Confined Space protocol being followed as per section 9 of the WorkSafeBC Regulations	Safety bulletin sent out to all Supervision in regards to DME Confined Space rules	Confined Spaces to be discussed at Tool-Box talks. Review of DME handbook to ensure confined space rules are understood and followed
May 24, 2019	Macaulay Point Pump Station	Report Only	Sub-Contractor was moving a road plate and clipped the side of the Stantec Inspections trailer causing a minor scrape to the bottom of the skirt on trailer	Minor scrape to the bottom of the skirt on trailer	Tool-box talk in regards to using a spotter when moving any equipment in restricted areas



Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
May 27, 2019	Macaulay Point Pump Station	Near Miss	Concrete truck delivering concrete to site was backing up without the use of a spotter to assist trucks down the road. The back passenger side wheels of the vehicle went off the road path causing the back end of the vehicle to teeter on the edge of the excavation while the truck was full of concrete. This caused instability in the load.	The excavation area was evacuated and the truck was secured with an excavator until a tow truck arrived to safely guide the truck back onto solid ground	Concrete lock blocks were spaced along the South side of the site road to prevent any similar incident from occurring Signage posted at gate entrance to ensure spotters are used when backing down the roadway
May 30, 2019	RTF	Report Only	Telehandler operator was standing outside of their machine when they noticed the window of the door had popped off the clip holding it open.	Operator went to re-clip it into place and as they were doing so the window shattered. No injury occurred when the window shattered	Workers reminded to wear all appropriate PPE if trying to fix any equipment
May 30, 2019	RTF	Report Only	Worker was standing on rebar at the edge of the digested sludge storage tank using a rake to remove foot holes in the concrete when they slipped and tweaked their back.	Worker immediately reported incident to First Aid Attendant. No treatment was rendered as the worker only wanted to report the incident.	Tool-box talk to remind workers of good awareness to their surroundings and proper footing when performing task
May 30, 2019	Residual Solids Pump stations and Bridge Crossing	Report Only	A load of pipe was offloaded by a crane truck without a tagline attached to it	The load end furthest from the crane swung partially out into a traffic lane. No cars were present and no one was injured.	Tool-box talk in regards to ensuring that all loads are to have taglines and to keep load within control zone area.
May 31, 2019	Residual Solids Pump stations and Bridge Crossing	Report Only	A backhoe operator was observed driving quickly and erratically.	Worker was approached by an Inspector for another Prime Contractor working in the same area to discuss the excessive speed while driving in a shared work area. Operator responded with aggressive language and an aggressive demeanor	Operator was removed from site All workers have been notified that care and attention must be exercised when operating equipment and that aggressive behavior will not be tolerated.



Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
June 5, 2018	Macaulay Point Pump Station	Near Miss	Worker was cutting rebar with a gas chop saw, sparks ignited the grass/bushes.	Crew Foreman was able to extinguish the fire.	Burn permit to be completed prior to any hot work. Discussed fire at Tool-box talk with all crews.
June 12, 2019	Residual Solids Pump stations and Bridge Crossing	Report Only	Second vehicle struck while exiting automatic gate at Hartland.	There was minimal damage to the vehicle.	Tool-box talk to discuss incident. One vehicle at a time to exit the gate in the event of unexpected closure.
June 13, 2019	McLoughlin Point WWTP	First Aid	While removing a whaler it slipped and struck worker on top of the right foot.	Workers foot was assessed, elevated and iced.	Tool-box talk with crews to ensure good handling practices are used when moving materials.
June 18, 2019	McLoughlin Point WWTP	Report Only	Worker tripped and fell while walking down the main WWTP road.	Worker reported incident to First Aid and no treatment was rendered.	Tool-box talk was held reminding the workers of uneven surface conditions.
June 18, 2019	McLoughlin Point WWTP	Report Only	Worker felt a pain in their wrist while lifting 10 foot section of pipe with partner.	Worker reported sore wrist but no treatment was rendered.	Tool-box talk on good ergonomic and lifting practices.
June 19, 2019	Residuals Solids Pump Stations & Bridge Crossing	Report Only	An excavator while loading a truck made contact with a communication line, utility strike.	The communication line binding wire was tagged and it was broken.	Line was repaired. Tool-box with crew in regards to have a spotter when loading trucks in close proximity to utility lines.
June 20, 2019	McLoughlin Point WWTP	Near Miss	While tightening rigging to lift a panel, one end of the panel swayed with workers were tied off to the upper and lower section.	Workers on the lower section were at a height of about 8 feet and the upper worker was approximately 28 feet when this near miss occurred.	Tool-box talk held to discuss incident with crew Job Hazard Analysis was updated to include temporary storage and handling of gang panels and workers to sign off on new assessment
June 25, 2019	Residuals Solids Pump Stations & Bridge Crossing	Report Only	A cyclist on Interurban road hit a utility locate pothole repair that had depressed from vehicle traffic and fell.	Cyclist was shaken up but not injured.	Prime Contractor was dispatched to inspect all potholes in their work areas and to fill in any depressions. Potholing has been added to the Prime Contractor Inspection Checklist.
June 27, 2019	Clover Forcemain	First Aid	Worker punctured hand with wire.	First Aid Attendant arrived to assess and provide assistance.	Worker was not wearing gloves at the time of incident which are required for task. Tool-box talk was held to review the use of proper safety equipment with the crew.
June 28, 2019	Clover Point Pump Station	First Aid	Worker installing an formwork injured hand.	Worker was assessed and wound cleaned and dressed.	Tool-box talk to review of proper use of tools and equipment.

Key safety activities conducted during April included:

- CRD prime contractor safety quality assurance audit of RSCL 100(Residual Solids pipes) Contractor.
- Post audit close out meeting with Allman Safety Consulting corp, (the independent safety management firm engaged by the Project Board to conduct a safety review)
- training records review of Sub-Contractor and CRD WTP Compliance personnel;
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann and HRP;
- weekly project update meetings with prime contractors: HRMG;
- Incident Investigations review;
- safety notice issued to Prime Contractors in regards to recent increase in incidents
- host prime contractor monthly safety meeting with CRD;
- reviewed site specific safety plans and high risk tasks; and
- WTP Safety Manager and/or Construction Manager conducted regular site inspections at all active Project work sites.

Key safety activities conducted during May included:

- CRD prime contractor safety quality assurance audit of HRP;
- closed out Don Mann safety quality assurance audit;
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP and Knappett;
- weekly project update meetings with prime contractors: HRMG;
- Incident Investigations review;
- CRD WTP Incident log updated;
- submitted monthly safety report to CRD Corporate;
- reviewed site specific safety plans and high risk tasks;
- CRD Prime Contractor orientation for Arbutus Attenuation Tank ; and
- WTP Safety Manager and/or Construction Manager conducted regular site inspections at all active Project work sites.

Key safety activities conducted during June included:

- CRD prime contractor safety quality assurance audit of Clover Forcemain Prime Contractor;
- Hosted Prime Contractor Project Safety Meeting;
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC
- weekly project update meetings with prime contractors: HRMG;
- Incident Investigations review;
- Attended HRP Safety Advisory Group meeting;
- reviewed site specific safety plans and high risk tasks; and
- WTP Safety Manager and/or Construction Manager conducted regular site inspections at all active Project work sites.

Table 3 – WTP Safety Information

	Reporting Period (April-June 2019)	Project Total to-Date (from January 1, 2017)
Person Hours		
PMO	10 872	106 384
Project Contractor	231 350	790 807
Total Person Hours	242 222	897 191
Total Number Of Employees		
PMO	32	
Project Contractors (and Project Consultants) working on Project sites	528	
Total Number Of Employees	560	
Recordable Incidents		
Near Miss Reports	8	26
High Potential Near Miss Reports	1	4
Report Only	23	56
First Aid	10	26
Medical Aid	2	2
Medical Aid (Modified Duty)	0	2
Lost Time	1	3
Total Recordable Incidents	3	7
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.7
Medical Aid Frequency		0.9
Lost Time Frequency		0.7
Total Recordable Incident Frequency		1.5

2.2 Environment and Regulatory Management

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

2.2.1 Environment

Environmental work progressed as planned over the reporting period.

Key environmental management activities completed in April included:

- the CRD, City of Victoria, KWL (the Design Consultant for the Clover Forcemain) and Windley (the construction contractors for the Clover Forcemain) met on site to discuss the management

of invasive species and salvage of native vegetation (camas bulbs) along the forcemain alignment. The City shared their local knowledge and identified areas for special treatment.

Key environmental management activities completed in May included:

- McElhanney Consulting Services (as the qualified environmental professional for Knappett, the Construction Contractor for Residual Solids Pump Stations) completed pre-clearing bird nest searches at the Knappett sites that require clearing. The purpose of the searches was to determine the presence or absence of active bird nests in proximity to the work sites. The searches located a number of active nests, and McElhanney prepared nest management plans to allow work to continue where it would not impact nesting birds; and
- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) finalized their air dispersion modelling and Technical Assessment Report in support of an application for an Operational Certificate for the RTF (see further information in Section 2.2.2).

Key environmental management activities completed in June included:

- The CRD, Stantec and HRP (Design-Build Contractor for the McLoughlin Point WWTP) continued to advance the development of two Environmental Impact Studies in support of the MWR Registration. The studies relate to the effects of discharges from the McLoughlin Point outfall and other CRD owned outfalls on the receiving environment.

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

- On May 10, Don Mann (as the Construction Contractor for the Residual Solids Pipes) had a hydraulic fluid leak from a rock drill. The volume released was less than 10 litres, and was therefore not reportable to authorities. The spill was contained to the pavement, and spill pads were used to prevent hydraulic fluid from entering the sewer system. The spill pads were disposed of at an appropriate facility. No hydraulic fluid entered the sewer system or environment.
- On May 28, Windley Contracting (the Construction Contractor for the Clover Forcemain) had hydraulic fluid leak from a backhoe. The volume released was approximately 10 litres, and was therefore not reportable to authorities. The hydraulic fluid was contained to the pavement on Dallas Road and was immediately removed from site for disposal at an approved facility. No hydraulic fluid entered the sewer system or environment.
- Also on May 28, HRP (the Design-Build Contractor for the McLoughlin Point WWTP) had a hydraulic fluid leak from a cement truck. The volume released was less than 20 litres, and was reported to the Department of National Defence (DND) as the leak was on their property. The hydraulic fluid was contained to the pavement, and DND staff along with an HRP sub-contractor cleaned up the hydraulic fluid and disposed of it at an appropriate facility. No hydraulic fluid entered the sewer system or environment.
- On June 13, HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) had a hydraulic fluid leak from a backhoe. The volume released was approximately 1 litre, and was therefore not reportable to authorities. The spill was contained to a small area of ground which was cleaned up by removing the contaminated gravel and disposing of it at an appropriate facility. There was no residual effect on the environment.
- On June 17, during routine outfall monitoring, the CRD observed increased flows and turbidity from an outfall that drains the Dallas Road area near Holland Point Park. Following discussions with TerraWest (Environmental Monitor for Windley Contracting, the Construction Contractor for the Clover Forcemain) it was determined that the increased flows and turbidity were related to trench dewatering by Windley. The construction crews had not implemented their sediment control measures during dewatering that morning. Crews were reminded to implement the measures in their Environmental Protection Plan (EPP) prior to dewatering and Windley is investigating why the measures in the EPP were not implemented. Although there was a

temporary exceedance of the regulated turbidity threshold, because the discharge occurred during low tide, sediment laden water percolated through sand rather than entering the ocean.

2.2.2 Regulatory Management

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

Key permitting activities for April included:

- the CRD received a tree cutting permit amendment from the District of Saanich to remove five trees at the Arbutus Attenuation Tank site; and
- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) received the remaining phased Building Permits for the RTF from the District of Saanich.

Key permitting activities for May included:

- HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) submitted an application for an Operational Certificate for the RTF to the BC Ministry of Environment and Climate Change Strategy (ENV). The Operational Certificate is the Province's mechanism to regulate discharges. In the case of the RTF, there are two forms of discharge:
 - i. to the air: the air discharges are limited by the facility's capture and use of biogas, and its environmental controls; and
 - ii. the Class A Biosolids that will be produced by the facility: these are intended to be transported off-site for beneficial use, as outlined in the CRD's Biosolids Beneficial Use Strategy.

The CRD is supporting the application by making agency referrals (e.g. to the Vancouver Island Health Authority), completing public notification requirements and providing documentation related to First Nations engagement.

Key permitting activities for June included:

- McElhanney Consulting Services (as the qualified environmental professional for Don Mann Excavating, the Construction Contractor for Residual Solids Pipes) applied for fish salvage permits to allow for the relocation of fish from streams that require in-stream work.

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.

Updates to Table 4 from the Project's Q1 2019 Quarterly Report are as follows:

- ECI/Trent Twinning: removed Notice from the Director to Construct under Section 40 of the MWR as over the reporting period ENV confirmed that a Notice is not required;
- Arbutus Attenuation Tank: removed District of Saanich Building Permit as it was received during the last reporting period; and
- Residuals Treatment Facility: removed District of Saanich Phased Building Permits, as the final permits were received in the last reporting period.

Table 4 - Key Permits Status

Permit / Licence	Anticipated Date	Status	Party Responsible for Obtaining Permit
<i>McLoughlin Point WWTP</i>			
Municipal Wastewater Regulation ("MWR") Registration	Q4 2019	On track	CRD
<i>McLoughlin Point Harbour Crossing</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>McLoughlin Point Outfall</i>			
Transport Canada Lease	Following completion of construction	On track	HRP
<i>Residuals Treatment Facility</i>			
Operational Certificate	Prior to start of RTF operations	On track	HRMG

2.3 First Nations

First Nations communication and engagement was ongoing over the reporting period. Meetings with the Esquimalt and Songhees Liaisons continued, with a focus on the development of interpretive signage for installation at several locations and the procurement of Indigenous art for installation at Clover Point, Macaulay Point and McLoughlin Point. Additionally, the CRD met with employment counselors from the Esquimalt and Songhees Nations to discuss future employment and contracting opportunities at the McLoughlin Point WWTP.

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

Millennia also provided archaeological monitoring training to members of the W̱SÁNEĆ Nations. The training was in anticipation of upcoming archaeological work associated with the Residual Solids Pipes and Residual Solids Pump Stations.

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 reporting period was to keep residents and stakeholders informed of Project plans, progress and construction information, and to receive and respond to questions and concerns raised by the community. A variety of 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

Two Information Bulletins and one Construction Update were issued to stakeholders in the reporting period:

- Dallas Road Construction Update (April 2019) (Appendix A);
- Wastewater Treatment Project Board Requests Additional Funding (April 12, 2019) (Appendix B); and
- Residual Solids Pump Stations Contract Awarded (April 26, 2019) (Appendix C).

The Dallas Road Construction Update provided a summary of progress along Dallas Road and information about pipe installation and construction impacts. It was mailed via Canada Post to more than 3,000 residents that live close to the pipe route in Fairfield and James Bay, posted to the Project website, and distributed to stakeholders.

Over the month of April, the Project website, wastewaterproject.ca, was updated with information about the Project. Two Information Bulletins, and one Construction Update were posted and the photo gallery section was updated with the addition of photos. Maps showing the progress of construction along the Clover Forcemain and the Residual Solids Conveyance Line were updated weekly. The CRD's Twitter account was used to provide Project updates on construction activities.

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;
- Department of National Defence;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority;
- James Bay Neighbourhood Association;
- Times Colonist 10km Run representatives; and
- Township of Esquimalt Liaison Committee.

May Overview

One information bulletin and three construction notices and updates were issued to stakeholders in the reporting period:

- Arbutus Attenuation Tank Contractor Selected (May 10, 2019) (Appendix D);
- Residual Solids Conveyance Line: Pipe Installation Update (May 15, 2019) (Appendix E);
- Macaulay Forcemain Installation Update (May 24, 2019) (Appendix F); and
- Trent Forcemain: Geotechnical Work (May 27, 2019) (Appendix G).

The Trent Forcemain: Geotechnical Work construction notice was circulated to residents in close proximity to the anticipated alignment: 160 were hand-delivered to residents and businesses in Fairfield. It was also sent by email to more than 400 residents and stakeholders.

The following information sheet was updated and posted to the website:

- McLoughlin Point Wastewater Treatment Plant (Appendix H).

Throughout the month of May, the Project website, wastewaterproject.ca, was updated with information about the Project. One information bulletin, three construction notices and updates, and an information sheet was posted. The photo gallery section was updated with the addition of seven new photos. Maps showing the progress of construction along the Clover Forcemain and the Residual Solids Conveyance Line were updated weekly. The CRD's Twitter account was used to provide Project updates on construction activities.

Community Meetings

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

- Applied Science Technologists & Technicians of British Columbia;
- BC Water and Waste Association Conference, Technical Tour;
- City of Victoria Technical Working Group;
- Dallas Road Time Trial;
- District of Saanich Technical Working Group; and
- Township of Esquimalt Liaison Committee;

The Project Team worked with the James Bay Neighbourhood Association Gardening Advocate to donate three of the planters at Ogden Point and relocated them into the James Bay community for long-term use. As well, the Project Team attended the CRD's open houses regarding the beneficial use of Biosolids produced at the Residuals Treatment Facility, to answer any questions regarding the Residuals Treatment Facility.

June Overview

In the month of June, four construction notices were issued to stakeholders:

- Grange Road Update (June 2019) (Appendix I);
- Clover Point Pump Station: Temporary Pathway Closure (June 11, 2019) (Appendix J);
- Residual Solids Conveyance Line: Interurban Trail Closure (June 17, 2019) (Appendix K); and
- Residual Solids Pump Station (Hartland): Blasting Notice (June 18, 2019) (Appendix L).

The Grange Road update was hand delivered to 331 residences located on Grange Road and side streets, and was emailed to residents and stakeholders who signed up for Project updates. Signage noting the federal and provincial government funding for the Project was posted at the Arbutus Attenuation Tank site.

Throughout the month of June, 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. Maps showing the progress of construction along the Clover Forcemain (Appendix M) and the Residual Solids Conveyance Line (Appendix N) were updated weekly. The CRD's Twitter account was also used to provide Project updates on construction activities.

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.

In addition, the Project Team provided a tour of the McLoughlin Point Wastewater Treatment Plant to University of Victoria civil engineering students.

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 2019

Inquiry Source	Contacts for Q2
Information phone line inquiries	99
Email inquiries responded to	54

Key themes of the public inquiries were as follows:

- Questions regarding timing of construction for the RSCL including information on final restoration, questions about the work and noise impacts;
- Concerns about traffic lining up on Interurban, delays on Interurban and blocking the intersection at Quayle Road, as a result of construction on the RSCL;
- Questions regarding impacts of Clover Forcemain construction including water shut-off;
- Questions about parking along Dallas Road;
- Questions about restoration/repaving timing for RSCL and Clover Forcemain; and
- Inquiries about hiring for the Wastewater Treatment Plant.

2.5 Resolutions from Other Governments

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

2.6 Schedule

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

Figure 1 shows the high level Project schedule. The schedule remains subject to optimization the project and planning progresses, and has been revised in the following ways from that included in the Project's Q1 2019 Quarterly Report:

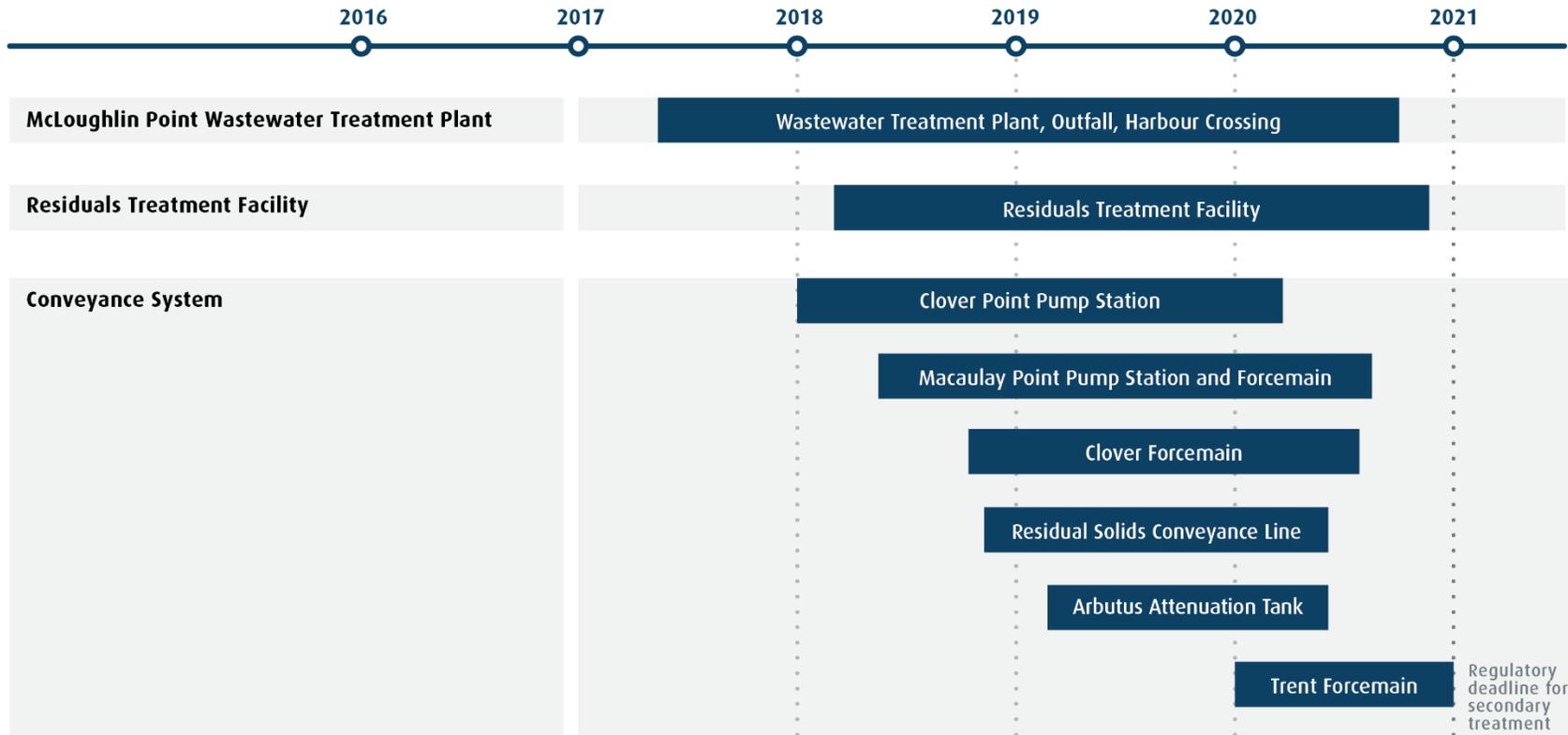
- Based on an updated model of the core area's wastewater system, the Project Board approved a refinement of the Project's scope: three planned components of the conveyance system were removed from the scope of the Project (and therefore from the Project schedule) as they would not provide a benefit to the CRD's residents and businesses, and are not required to meet the Project's goals; and

- Construction of the Trent Forcemain is now scheduled to start in 2020 and is anticipated to take 12 months to complete. Construction of the Trent Forcemain was rescheduled in order to allow the updated model of the core area's wastewater system to be completed before commencing detailed design of the Trent Forcemain.

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

Wastewater Treatment Project Schedule*

Construction + Commissioning



*Schedule subject to updates as Project planning progresses.

Figure 1 - High-Level Project Schedule¹

¹ The schedule remains subject to optimization.

2.6.1 30 day look ahead

Key activities and milestones for the next 30 days (July) are outlined below by function.

Safety

- CRD prime contractor safety quality assurance close out audit with the McLoughlin Point Wastewater Treatment Facility Prime Contractors;
- CRD Prime Contractor safety quality assurance audit close out with the Clover Forcemain Prime Contractor;
- CRD prime contractor safety quality assurance audit on Residuals Treatment Facility;
- attend CRD corporate occupational health and safety coordination committee meeting;
- attend weekly and bi-weekly prime contractor progress meetings;
- office/site inspections with contractors and CRD corporate at all active sites;
- prime contractor project safety meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

Environment and Regulatory Management

- ENV staff to accompany the receiving environment monitoring team during sampling at the Clover and Macaulay outfalls, and to participate in a tour of the McLoughlin Point WWTP.

First Nations

- ongoing meetings with the Esquimalt and Songhees Liaisons; and
- procurement of Indigenous art for placement at Clover Point and McLoughlin Point.

Stakeholder Engagement

- distribution of Project Update #7;
- 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

- continue installation of remaining planter and tsunami wall sections;
- continue construction of concrete walls, columns and suspended slabs in primary, secondary and tertiary areas;
- commence installation of exhaust fans in secondary treatment;

- install monoflor – biological aerated filter (BAF) Tank1;
- install scouring air system and baffle assembly and Monoflor nozzles – BAF Tank 1;
- install weir plates and tranquilizer assemblies;
- install pipe rack in BAF gallery;
- install tanks in tertiary pump room;
- install structural steel decking in electrical room;
- construct exterior masonry walls at operations and maintenance (O&M) building;
- install steel stud framing in O&M Building;
- commence installation of thermo spray insulation in O&M building;
- continue installation of Patricia Way works - Macaulay forcemain, RSCL pipe, water main and gas line; and
- installation of marine outfall.

Clover Point Pump Station

- Install odour control walls and curbs;
- Install precast roof;
- Continue installation of pipe hangers;
- Saw cut opening into existing pump station;
- Commence sandblasting and coating of sanitary and storm wet wells;
- Install bridge crane and monorail support beam and rails;
- Install large bore piping in pump room;
- Install transformer; and
- commence installation of electrical equipment including cable tray and cabling.

Macaulay Point Pump Station

- install bridge crane in pump room;
- install equipment and housekeeping pads;
- continue forming, rebar and pouring walls and suspended slabs;
- form and pour vortex degritter;
- Receive pumps and odour control unit; and
- continue installation of sanitary forcemain.

Residuals Treatment Facility

- complete erection of digester #1 bolted steel glass lined tank;
- continue erection of digester #2 bolted steel glass lined tank;
- construct footings and foundation walls for scale house foundation;
- continue with steel erection of residuals drying facility building;
- pour slab Digested Solids Storage Tank;
- complete digester building slab on grade; and
- commence erection of the digested sludge storage tank.

Clover Forcemain

- continue forcemain installation from Olympia Avenue to Government Street;
- continue installation of forcemain at the intersection of Dallas Road and Douglas Street
- continue clearing and grubbing of cycle track; and
- commence installation of Ogden Point transition chamber.

Residual Solids Pipes (RSCL 100)

- commence installation of RSCL on Head Street (between Wollaston and Peters Streets);
- continue installation of RSCL along Interurban Trail (2 crews);
- continue installation of RSCL along Grange Road (from Burnside to Interurban Roads);
- continue installation of RSCL along Interurban Road (from Quayle Road towards Goward Road) and
- continue with restoration of asphalt pavement and concrete curb, gutters and sidewalks.

Residual Solids Pump Stations (RSCL 200)

- continue installation of RSCL on Willis Point Road (from RTF site to pump station 3);
- form, rebar and pour wet well base slab and install precast wet well for pump station 3;
- back fill and road pull out construction at the RTF control chamber;
- site grubbing at pump station 2; and
- utility relocates archaeological soil removal at pump station 1.

Arbutus Attenuation Tank (AAT)

- prep for secant pile installation including rough site excavation to 22.5m;
- setup dewatering system including wells and monitoring;
- civil prep for removal of underground utilities and bypass pumping; and
- mobilize secant pile contractor.

Engineering

Residual Solids Conveyance Line (RSCL)

- RSCL300 Saanich Infrastructure Improvements: initiate detailed design work.

Clover Point Pump Station (CPPS)

- Progress Issue for Construction (IFC) submission.

Macaulay Point Pump Station and Forcemain (MPPS)

- Finalise Issue for Construction (IFC) submission.

Arbutus Attenuation Tank (AAT)

- Address District of Saanich review comments for Arbutus Road frontage improvements.

Procurement

- No procurement activities expected over the next 30 days.

2.6.2 60 day look ahead

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

Safety

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

Environment and Regulatory Management

- CRD to submit an application to ENV for MWR Registration of the Project

First Nations

- Ongoing meetings with the Esquimalt and Songhees Liaisons; and
- Procurement of Indigenous art for placement at Clover Point and McLoughlin Point.

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

- complete installation of remaining planter and tsunami wall sections;
- install pig receiving chamber;
- continue concrete walls and suspended slabs in all areas;
- install supports for walkways and equipment;
- continue installation of building mechanical exhaust fans and unit heaters;
- install storage tanks in tertiary pump room;
- install electrical room roofing and cladding;
- install electrical room heating, ventilation, and air conditioning (HVAC);
- construct generator, switchgear and transformer foundations;
- install generator
- construct O&M exterior concrete masonry walls
- install O&M interior steel stud framing;
- commence installation of drywall and suspended ceilings; and

- install anchor protection on marine outfall.

Clover Point Pump Station

- commence installation of 1200 mm forcemain;
- install south exterior retaining walls;
- install concrete pipe supports in pump room;
- install catwalks and stairs in pump room
- install platform, grating and ladder for wet wells;
- install wet well epoxy liner;
- place storm and sewage pumps;
- install process piping to wet well suction spools;
- install motor control center (MCC), automatic transfer switches (ATS), and switchgear;
- pull electrical cabling; and
- pull instrumentation and controls cabling.

Macaulay Point Pump Station

- continue forming, rebar and pouring walls and suspended slabs;
- continue installation of sanitary forcemain;
- install pre-cast roof;
- install metal platforms, walkways and stairs; and
- install process piping.

Residuals Treatment Facility

- form and pour concrete slab for water storage tank;
- form and pour concrete slab for the odour control;
- install stairs, handrails and guardrails in the Other Municipal Solids Receiving Building;
- install bridge cranes in the Residuals Handling Building;
- commence installation of cladding, doors and roof at the Residuals Handling Building;
- install stairs and railing in the Residuals Drying Facility;
- place all level 2 dryer equipment in the Residuals Drying Facility; and
- commence installation of all level 3 dryer equipment in the Residuals Drying Facility.

Clover Forcemain

- continue installation of forcemain between Douglas Street and Government Street;
- construct cycle track from Clover Point working west; and
- continue concrete curb and gutter, sidewalks and asphalt road restoration.

Residual Solids Conveyance Line (RSCL)

- commence installation of RSCL on Head Street (between Wollaston and Peters Streets);
- continue installation of RSCL along Interurban Trail (2 crews);
- continue installation of RSCL along Grange Road (from Burnside to Interurban Roads);
- continue installation of RSCL along Interurban Road towards Goward Road; and
- continue with restoration of asphalt pavement and concrete curb, gutters and sidewalks.

Residual Solids Pump Stations and Bridge Crossings (RSCL200)

- continue installation of RSCL on Willis Point Road (from RTF site to pump station 3);
- install scaffolding at Tillicum bridge crossing;
- install pipe at Colquitz Creek crossing;

- continue substructure construction at pump station #2; and
- construct pump station #2 access road.

Arbutus Attenuation Tank (AAT)

- commence drilling of secant pile walls.

Engineering

McLoughlin Point WWTP

- submit staff training plan.

Residual Solids Conveyance Line (RSCL)

- RSCL300 Saanich Infrastructure Improvements: continue detailed design work.

Clover Point Pump Station (CPPS)

- Finalise Issue for Construction (IFC) submission.

Procurement

- Trent Forcemain: prepare draft Issued for Tender procurement package.

2.7 Cost Management and Forecast

The monthly cost report for June and the quarterly cost report are shown in Appendices O and P, respectively. The cost report summarizes Project expenditures and commitments by the three Project Components and the major cost centres common to the Project Components.

The Project Team has been reporting budget pressures through its monthly reports to the Project Board (and CRD Board) since September 2017, and these pressures steadily increased as each conveyance contract was awarded. The Project Team forecasts that the Project can be completed at a total cost of \$775M, or \$10M (1.3%) over the Project's control budget. In May 2019 the Project Board sought and received the CRD Board's approval to increase the Project's budget by \$10M to \$775M. Appendix O includes the approved \$10M increase to the current 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 \$21.8M. The significant commitments made in the reporting period were:

- the award of the Arbutus Attenuation Tank contract; and
- contract change orders and the approval of provisional items in contracts.

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 of \$3.1 million were made over the reporting period, as itemized in Table 6.

Over the reporting period the CRD Board approved an increase to the budget for the Wastewater Treatment Project from \$765M (as set out in original business case for the Project), to \$775M. The \$10 million has been allocated to the conveyance contingency.

The draws to-date and remaining contingency and program reserve balance are summarized in Table 6.

Table 6 - Contingency and Program Reserve Draw-Down Table

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	\$ Amount
Contingency and Program Reserve (in Control Budget)		\$ 69,318,051
Contingency and Program Reserve Draws to March 31, 2019		\$(52,841,307)
Contingency and Program Reserve balance as at March 31, 2019		\$ 16,476,744
Revision to the design of Macaulay Forcemain	Apr-19	\$ (83,692)
McLoughlin Point Site Remediation: excavation and disposal of contaminated soil (chlorides)	Apr-19	\$ (22,870)
McLoughlin Point Site Remediation: excavation and disposal of contaminated soil (chlorides)	Jun-19	\$ (26,213)
McLoughlin Point Site Remediation: excavation and disposal of contaminated soil (hydrocarbon)	Jun-19	\$ (25,942)
WWTP Total Draw		\$ (158,717)
Modifications at Ring Road Connector within Hartland Landfill	Jun-19	(57,549)
RTF Water System Improvement	Jun-19	(2,800,000)
RTF Total Draw		\$ (2,857,549)
Clover Point Pump Station & Macaulay Point Pump Station - CCTV, Networking and Telecommunication Equipment	Jun-19	\$ (116,919)
Conveyance Total Draw		\$ (116,919)
PMO Total Draw		\$ -
BC Hydro Total Draw		\$ -
WTP Program Reserve Draw		\$ -
Contingency and Program Reserve draws in the reporting period		\$ (3,133,185)
Board approved addition to contingency in the reporting period	May-19	\$ 10,000,000
Net Contingency and Program Reserve additions/(draws) in the reporting period		\$ 6,866,815
Net Contingency and Program Reserve draws to June 30, 2019		\$(45,974,491)
Contingency and Program Reserve balance as at June 30, 2019		\$ 23,343,560

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 project; 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 a contribution of up to \$346,900 towards the delineation of 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 the 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 Government of British Columbia cannot be claimed until the relevant Project components are substantially complete, which is scheduled to occur in 2020.

Table 7 – Grant Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	\$120M	\$18.4M	\$61.3M
Government of Canada (Green Infrastructure Fund)	\$50M	\$ 3.9M	\$22.0M
Government of Canada (P3 Canada Fund)	\$41M	-	-
Government of British Columbia	\$248M	-	-
Federation of Canadian Municipalities	\$346K	-	-
TOTAL	\$459.3M	\$22.3M	\$83.3M

2.8 Key Risks and Issues

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

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

There were no changes to the active risks summary during the reporting period.

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

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 (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Project				
Misalignment between First Nations' interests and the implementation of the Project.	The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with First Nations interfacing with, or interested in, the Project.	First Nations engagement activities remained ongoing over the reporting period (see section 2.3 for further details).	M	No change
Divergent interests between multiple parties and governance bodies whose co-operation is required to successfully deliver the Project.	The assessed risk level reflects the Project Team's priority of establishing strong and effective relationships with municipal, provincial and federal government departments.	The Project Team continued engagement with municipal, provincial and federal government departments throughout the reporting period.	L	No change
Misalignment between Project objectives/scope and stakeholder expectations.	The assessed risk level reflects the Project Team's priority of establishing strong and effective community stakeholder engagement.	Community engagement activities were ongoing over the reporting period (see section 2.4 for further details).	L	No change
Lack of integration between Project Components.	Planning challenges and system integration between the McLoughlin point WWTP, RTF and Conveyance System components of the Project results in schedule delays and/or additional Project costs.	Physical and schedule interfaces are clearly delineated in all construction contracts along with the requirement for commissioning and control plans. The Project Team is using a single Owner's engineer (Stantec) to develop the indicative design for all critical project components with significant interfaces.	L	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
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
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Upstream works delays.	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	L	No change
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project’s schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. A work plan and schedule have been developed and the Project Team, MOE and relevant contractors will continue to meet regularly to track progress and discuss issues.	M	No change

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
Public directly contacting contractors at sites.	Direct contact between the public and contractors could expose both parties to worksite hazards and potential injuries.	Communications and engagement plan and coverage of communications in contractor orientations.	M	No change
Change in law.	A change in law impacts the scope, cost or schedule of the Project.	Keep apprised of proposed modifications to relevant regulations so as to do the following as appropriate: submit comments on proposed modifications; and/or consider including anticipated modifications in contracts.	M	No change
Labour - availability and/or cost escalation.	There is insufficient labour available to construct the Project, and/or there is significant labour cost.	The Project Team will, through the use of competitive selection processes for all construction contracts, ensure that all Project contractors have appropriate experience and therefore understand labour risk.	M	No change
Disagreement on contractual obligations of the construction contractors.	There is a disagreement between the Project Team and a contractor regarding the performance of their contractual obligations.	The Project Team takes a proactive management approach to the resolution of any changes, claims and disputes that arise, working expeditiously to achieve resolution with the goal of minimizing any impacts to budget and schedule while ensuring adherence to the terms of the construction contracts.	M	No change



Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
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.	H	No change
Conveyance				
Unexpected geotechnical conditions results in higher procurement and/or construction costs.	Geotechnical conditions result in redesign and/or higher construction cost than budgeted.	Ensure adequate investigations to manage the risk of unexpected geotechnical conditions: comprehensive geotechnical investigations have been undertaken for the Clover Forcemain, Macaulay Point Pump Station and Forcemain, and RSCL. This geotechnical information has been provided to procurement participants. Geotechnical investigations have been undertaken for the Trent Forcemain as part of the detailed design process.	L	No Change

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level (based on likelihood and potential impact)	Trend in risk level from previous reporting period
<p>Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted.</p>	<p>Cost of conveyance contracts higher than estimated and budgeted.</p>	<p>There is only one conveyance contract remaining to be procured (the Trent Forcemain). It will be competitively-procured, as has been done for all of the construction contracts. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money, and in order to identify any opportunities where savings could be realized to partially-offset escalation.</p>	<p>M</p>	<p>No Change</p>
<p>Engineering design development results in increases to the estimated construction cost.</p>	<p>Conveyance contract amounts higher than budget due to design development (through indicative and detailed design phases).</p>	<p>There is only one conveyance contract remaining to be procured (the Trent Forcemain), for which the Project Team recently refreshed the cost estimate. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money.</p>	<p>M</p>	<p>No change</p>

2.9 Status (Engineering, Procurement and Construction)

2.9.1 McLoughlin Point Wastewater Treatment Plant (McLoughlin Point WWTP)

The WWTP Project Component is continuing with Harbour Resource Partners (“HRP” as the Design-Build Contractor for the McLoughlin Point WWTP) progressing: engineering of the WWTP and construction at McLoughlin Point, including: continuing concrete pours for the process building, tertiary building and Operations & Maintenance building; starting structural steel for the top level of the process building; starting by-pass piping installation on Victoria View Road; continuing assembly of the outfall pipe in Nanoose Bay; and continuing off-site utility work on Peters Street and Patricia Way.

Engineering

HRP progressed the planning for commissioning during the reporting period.

Construction

McLoughlin Point WWTP

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

April:

- slab and wall work commenced in the primary treatment area;
- scaffolding erected for electrical room suspended slab;
- continued surface runoff/groundwater treatment and discharge;
- south slabs poured in the operations and maintenance building and second storey suspended slab work commenced;
- Micro Tunnel Boring Machine work completed;
- segment 1 of the Peter Street utility work completed;
- upper channel BAF slab and wall work commenced;
- hydrostatic testing of the dirty backwash completed and testing of BAF tanks commenced;
- commenced installation of the BAF gallery piping; and
- continued assembly of the marine outfall pipe in Nanoose Bay.

May:

- completed mining of marine outfall;
- commenced upper BAF channel slabs;
- continued surface runoff/groundwater treatment and discharge;
- commenced upper BAF walls;
- lammella slabs poured;
- commenced Densadeg wall pours;
- densadeg infill slab poured;
- commenced installation marine outfall gravel mattress;
- commenced segment 3 of Peter Street utility work;
- installed scaffolding for heat recovery suspended slab;
- continued Operations and Maintenance (O&M) footings, columns and walls; and

June:

- continued assembly of the marine outfall pipe in Nanoose Bay;

- utility work along Patricia Street ongoing;
- phase 3 piling is complete;
- plant bypass line installation in progress;
- wall formwork and concrete placement in tertiary area continued;
- completed tertiary/outfall slab;
- concrete activity in the BAF continues;
- electrical room suspended slab poured;
- heat recovery room suspended slab work ongoing;
- upper level BAF boxes in progress;
- commenced coating of dirty back wash tank;.
- primary treatment area slabs and walls continue; and
- O&M foundation, wall, suspended slab and column work ongoing;
- excavation / installation of primary treatment sludge lines continued;

Photographs of construction progress at McLoughlin Point are shown in Figures 2 – 5.



Figure 2 – McLoughlin Point Wastewater Treatment Plant – Forming columns in Operations & Maintenance breeze way.



Figure 3 - Mcloughlin Point Wastewater Treatment Plant – Back filling BC Hydro duct bank Patricia Way



Figure 4 – Mcloughlin Point Wastewater Treatment Plant – decking of Biological Aerated Filter heat recovery room suspended slab.



Figure 5 –Mcloughlin Point Wastewater Treatment Plant – installing pipe supports for backwash water header.

2.9.2 Residuals Treatment Facility (RTF)

The RTF Project Component continued with HRMG (as the Design-Build-Finance-Operate-Maintain Contractor for the RTF) progressing design and construction activities over the reporting period including: working on overall 100% design submission, permitting, vendor selection, submitting application for an Operational Certificate to the Ministry of Environment of Climate Change Strategy; and installing leveling ring for digester 1, commencing with assembly of digesters 1 and 2, installing process and sanitary piping for digester equipment building, erecting form work and installation of reinforcing steel for dryer building slab, concrete slab placement in the residual solids tanks, setting the gravity belt thickeners and centrifuges in the residuals handling building; poured foundation slab for the residuals drying facility and commenced erection of the Residuals Drying Facility building.

Engineering

HRMG progressed planning and design activities during the reporting period including:

- development of the final (100%) design submission, including the final design workshop;
- submitted IFC drawings for Early Works Package #5 (Equalization Building Foundation);
- submitted IFC drawings Early Works Package #8 (Dryer Foundation);
- monthly progress meetings with independent certifier;
- received building permits (6) from District of Saanich;
- working with CRD Source Control to obtain Waste Discharge Authorisation; and
- submitted application for the Operational Certificate to Ministry of Environment and Climate Change Strategy.

Construction

Key construction activities in progress or completed by HRMG during the reporting period were as follows:

April:

- placed concrete in digester #2 thickening slab and floor slab;
- installed leveling ring for digester #2 bolted steel tank;
- set up of hydraulic jacks for digester #1 tank erection;
- installed first row of bolted steel tank panels for digester #1;
- continued with backfill and concrete slabs in the Other Municipal Solid Receiving Facility;
- commenced assembly of digester #1 roof structure; and
- continued with forms, reinforcing steel and concrete placement in the residual solids tanks #1 and 2.

May:

- erected formwork and installed rebar services for residuals handling building;
- installed rock anchors in south shear wall;
- installed process and sanitary piping for digester equipment building;
- erection of formwork and installation of reinforcing steel for dryer building slab;
- constructed temporary laydown area; and
- concrete slab placement in the residual solids tanks #1 and 2.

June:

- continued with digester 1 erection;
- commenced digester 2 erection;
- installed of pipe supports and process piping in the Other Municipal Solids Receiving Facility;
- set the gravity belt thickeners and centrifuges in the Residuals Handling Building;
- continue steel erection of the Residuals Handling building;
- pour foundation slab for the Residuals Drying Facility;
- commenced steel erection of the Residuals Drying Facility building; and
- completed site preparation of the Residuals Effluent Storage Tank, Water Storage Tank, and Equalization Building.



Figure 6– Residuals Treatment Facility – Digester 1 final lift in progress.



Figure 7 - Residuals Treatment Facility – inside digester 1.



Figure 8– Residuals Treatment Facility – Dry building foundation wet curing and steel erection of Residuals Handling Building.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

Kenaidan (as the Design-Build Contractor for the Clover Point Pump Station) progressed design and construction activities over the reporting period, as follows:

Engineering

Kenaidan progressed design activities during the reporting period, including ongoing development of the overall design including the Issued for Construction (IFC) Submittal, submission of the final Hazard and Operability report; and submission of the 90% design for the pigging chamber.

Construction

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

April:

- completed transformer room suspended slab;
- progressed work on the suspended slab for the odour control and screening rooms;
- progressed work on reinforcement and formwork of the upper section of exterior walls along the west caisson wall; and
- continued with finishing of concrete walls.

May:

- completed suspended slab for the odour control and screening rooms;
- completed transformer walls and roof;
- installed steel pipe supports in the pump room; and
- continued with concrete finishing and crack injection of wet well and transformer room walls.

June:

- continued forming and pouring of concrete walls and suspended slabs;
- poured pads for the odour control unit and transformer;
- installed drain piping; and
- installed water entry piping.



Figure 9–Clover Point Pump Station – installation of water entry piping in the pump room



Figure 10–Clover Point Pump Station – site overview looking north.



Figure 11 –Clover Point Pump Station – forming walls and column



Figure 12 – Clover Point Pump Station – received ladders and structural steel

2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan (as the Design-Build Contractor for the Macaulay Point Pump Station and Forcemain) progressed design, engineering and construction activities over the reporting period, as follows:

Engineering

Kenaidan progressed design activities during the reporting period, including ongoing development of the overall design including the Issued for Construction (IFC) Submittal, and submission of the final Hazard and Operability report.

Construction

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

April:

- completed the first lift of all exterior walls;
- formwork, reinforcing steel and concrete for the interior walls is ongoing;
- formwork, reinforcing steel installation and concrete is complete for the topping slab in the inlet channel; and
- initial delivery of high density polyethylene(HDPE) pipe delivered to site for Macaulay forcemain.

May

- continued progress on the second lift of exterior walls;
- completed the inlet channel concrete and vortex degrieter topping slab;
- formwork, reinforcing steel installation and concrete is ongoing for interior walls;
- commenced formwork and reinforcing steel installation for the vertical walls in the vortex degrieter;
- commenced excavation including drilling and blasting along the Macaulay forcemain alignment; and
- commenced fusion welding of the high density polyethylene sanitary forcemain pipe.

June:

- final design resolution meeting was held to address all outstanding comments prior to proceeding to IFC;
- installed 180 m of forcemain pipe at Anson Street;
- continue forming and pouring interior and exterior concrete walls;
- install formwork and reinforcing steel for vortex degrieter;
- installed precast concrete slabs over the wet well; and
- continue with site dewatering



Figure 13–Macaulay Point pump station & forcemain – completing an in ditch fusion weld at Anson Street..



Figure 14–Macaulay Point pump station & forcemain – Forcemain bedding compaction in progress.



Figure 15—Macaulay Point pump station & forcemain – placing precast concrete slabs over the wet well.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. (“Windley” as the Construction Contractor) continued construction activities including: installation of approximately 1390m of forcemain (from Pilot Street to South Turner Street and from Cook Street to Douglas Street) and relocation of utilities including the water main at the intersection of Douglas Street and Dallas Road.

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

April:

- installed 219 metres of forcemain between Pilot Street and San Jose Ave;
- installed 209 metres of forcemain between Cook Street and Camas Circle (through Beacon Hill Park);
- utility relocations ongoing; and
- restored pavement, curb and gutter and sidewalks from Ogden Point to Dock Street.

May

- installed 304 metres of forcemain between San Jose Ave and Lewis Street;
- installed 230 metres of forcemain between Camas Circle and Douglas Street;
- utility relocations; and
- commenced construction of the cycle track from Clover Point working West.

June:

- installed 280 metres of forcemain between Menzies Street and South Turner Street;
- installed 142 metres of forcemain between Douglas Street East to Douglas Street West;
- utility relocations ongoing; and
- continued construction of the cycle path to Cook Street.



Figure 16 — Clover Forcemain: - cycle track base preparation Dallas Road at Cambridge Street.



Figure 17 – Clover Forcemain: Installing forcemain Dallas Road at South Turner Street.



Figure 18 – Clover Forcemain: Water main relocation Dallas Road at Paddon Ave.

2.9.3.4 Residuals Solids Conveyance Line (RSCL)

The RSCL is being delivered through three construction contracts, with work progressing as follows:

RSCL 100 Residual Solids Pipes: Don Mann Excavating Ltd. (“Don Mann” as the Construction Contractor for the Residual Solids Pipes) continued construction activities including: submitting construction work plans and shop drawings, submitting permit applications, continuing to perform utility pre-locates and potholing, soil assessment survey and installation of the RSCL pipeline.

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

April

- Installed approximately 1,790 meters of pipes at the following locations:
 - Segment #1: Dunsmuir Rd., Esquimalt Road, Dominion Road and Hereward Road.
 - Segment #1: Vincent Avenue, Bodega Road and Ker Avenue;
 - Segment #3: Interurban Road (between Hughes and Kynaston Roads); and
 - Segment #4: Willis Point Road.

May

- Installed approximately 2,160 meters of pipes at the following locations:
 - Segment #1: Hereward Road, Dominion Road and Selkirk Avenue.
 - Segment #3: Interurban Road (between Kynaston and Glen Mountain Roads); and
 - Segment #4: Willis Point Road and Wallace Drive.

June

- Installed approximately 880 meters of pipes at the following locations:
 - Segment #1: Dominion Road (between Belton Ave and Powderly Ave);
 - Segment #2: Grange Road (between Burnside and Interurban Roads);
 - Segment #3: Interurban Road (between Glen Mountain and Quayle Roads);
 - Segment #3: Interurban Trail (between Interurban and Observatory Roads); and
 - Segment #4: Wallace Drive (between Willis Point Road and Interurban Trail).



Figure 19 – Residual Solids Conveyance Line: Compaction of surface lift of backfill gravel.



Figure 20 – Residual Solids Conveyance Line: Bedding and backfilling pipe at Interurban Road.



Figure 21 – Residual Solids Conveyance Line - Hoe ramming bedrock around water service at Grange Road.

RSCL 200 Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for Residual Solids Pump Stations) commenced preconstruction and construction activities.

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

April

- Commenced preconstruction activities including preparation and submission of work plans and shop drawings and permit applications.

May

- Clearing and grubbing of pump station 2 site;
- Install fencing at pump station 2 and 3 sites;
- Survey the alignment of the RSF and CRL along Willis Point Road; and
- Saw cut the asphalt along the alignment of the RSF and the CRL along Willis Point Road.

June

- Excavate and install 270 m of RSF and CRL at Willis Point Road;
- Drill and blast rock at pumps station #3; and
- Remove trees and grub pump station #2 site.



Figure 22 – Residual Solids Conveyance Line: lifting fused Residual Solids Forcemain and Residual Solids Return Line pipes into trench at Willis Point Road



Figure 23 – Residual Solids Conveyance Line: Blast mats in place prior to blast #1 at pump station #3

RSCL 300 Saanich Infrastructure Improvements:

The Project Team has arranged for Parsons (as the “Design Consultant” for the RSCL) to complete a conceptual design for the infrastructure improvements, which include sidewalks along the east side of Grange Road and the west side of Esson Road and a traffic circle at the intersection of Vincent and Bodega Streets.

2.9.3.5 Arbutus Attenuation Tank

Following a competitive procurement process the Project Team executed a construction contract for the Arbutus Attenuation Tank “AAT” with NAC Constructors Ltd. (“NAC”). NAC (as the Construction Contractor for the Arbutus Attenuation Tank) commenced pre-construction and construction activities, including preparation of work plans and mobilization during the reporting period.

Construction

Key activities in progress or completed by NAC were as follows.

April

- Contract executed

May

- Preparing work plans and permits for project site

June

- Mobilisation to site
- Installation of construction fencing and silt fencing
- Complete site survey and pre-construction site assessment
- Laydown area preparation

Engineering

Updates to the Arbutus Road Frontage Improvements are ongoing based on feedback received from the District of Saanich. A review and coordination meeting was held with KWL, CRD, and the District of Saanich. KWL is finalizing the design drawings and specifications.



Figure 24 – Arbutus Attenuation Tank: Construction fencing installed at site perimeter



Figure 25 – Arbutus Attenuation Tank: Log Storage for future landscaping works

2.9.3.6 Trent Forcemain

Trent Forcemain: detailed design commenced, and surveys and geotechnical investigations were undertaken to inform the final design and alignment.



Appendix A- Dallas Road Construction Update (April 2019)

Dallas Road Construction

The Wastewater Treatment Project is making significant progress on Dallas Road. With over 50% (1.6km) of the Clover Forcemain installed, construction is progressing well at each end of the pipe. All construction activities for the Clover Forcemain are anticipated to be complete by summer 2020. Once complete, the Clover Forcemain will convey wastewater from the Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment.



CONSTRUCTION IMPACTS



Work Hours

Monday to Friday 7 a.m. to 7 p.m.
Saturday 10 a.m. to 7 p.m.



Road Closures

In section 4 between Government and Douglas streets for approximately 8 weeks, Dallas Road will be closed 24 hours a day from Monday morning to Friday afternoon for pipe installation with local traffic only. A detour will be in place and the road will reopen on the weekends. This work is currently anticipated to start late spring/early summer.



Restoration

Following pipe installation, the road will be paved. Clover Point Park has been re-seeded.



Traffic

Single lane alternating traffic is required at each work zone due to the excavation. Please follow directions from the traffic control personnel.



Parking

"No parking zones" are required for construction to be completed. We recognize parking can be limited in the area.

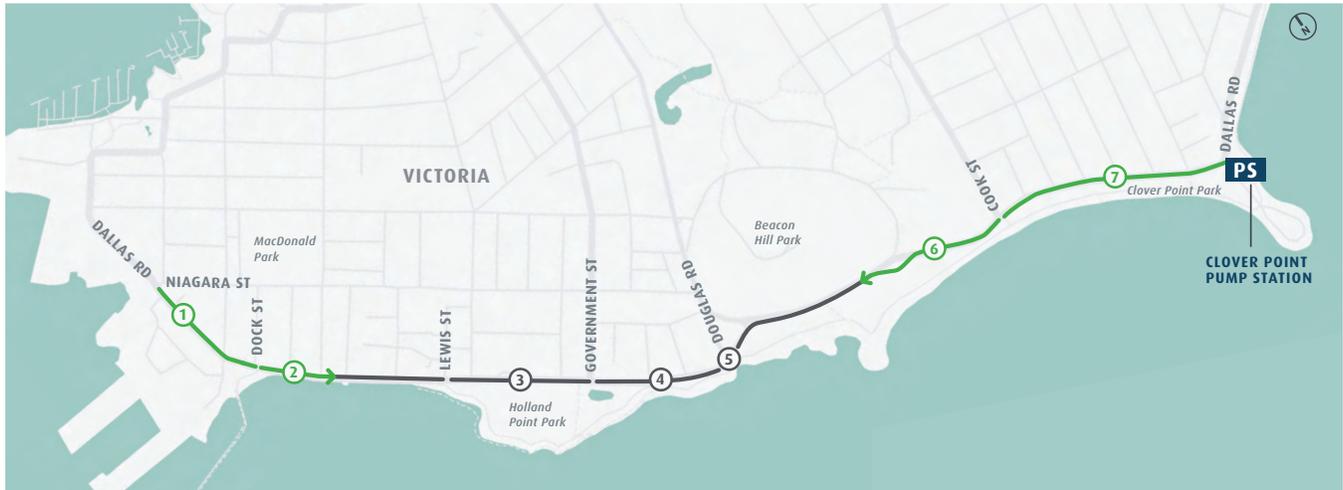


Cycle Path

Construction of the cycle path is anticipated to begin in summer 2019.

Thank you for your patience as this work is completed.

CONSTRUCTION PROGRESS



➔ WORK COMPLETED

- ① **NIAGARA TO DOCK**
Complete
- ② **DOCK TO LEWIS**
Started April 1, 2019

- ③ **LEWIS TO GOVERNMENT**
Late spring 2019

- ④ **GOVERNMENT TO DOUGLAS**
Late spring/Early summer 2019

- ⑤ **DOUGLAS STREET INTERSECTION**
Late spring 2019

- ⑥ **DOUGLAS TO COOK**
Started March 1, 2019

- ⑦ **COOK TO CLOVER**
Complete

THE PROGRESS MAP IS UPDATED WEEKLY ON THE PROJECT WEBSITE.

PIPE INSTALLATION

The weekly schedule for pipe installation typically follows this sequence: Monday and Tuesday – Excavation, Wednesday – Pipe Installation, Thursday and Friday – Backfilling.

UTILITY RELOCATION

Utility relocation work at the Douglas Street intersection will take place in April. This work must be completed prior to forcemain installation. At times, Dallas Road will be closed to accommodate the work. Detours will be in place.

Please visit our dedicated **Dallas Road Construction** page under **Current Construction Activities**.

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- Wastewater Treatment Project Board Requests Additional Funding (April 12, 2019)



Information Bulletin

For Immediate Release

April 12, 2019

Wastewater Treatment Project Board Requests Additional Funding

Victoria, BC – The Wastewater Treatment Project has made significant progress with the majority of the Project under construction. To complete the Project by the regulatory deadline of December 31, 2020, the Project Board is seeking approval from the Capital Regional District (CRD) Board for an additional \$10 million of funding.

Cost pressures, primarily due to escalation in material costs and the Vancouver Island construction market, were first identified in September 2017 and have been reported in the monthly reports. These pressures have steadily increased as each conveyance contract has been awarded.

The Project Team has undertaken value engineering and reviewed the scope of each component before procuring contracts. Consulting engineering firm Kerr Wood Leidal (KWL) developed an updated model of the core area's wastewater system to conduct an assessment of the remaining Project components. Based on extensive flow monitoring data and future wastewater flow estimates, KWL determined that only one of the remaining components (the extension of the Trent Forcemain) has any benefit and is required to meet federal and provincial regulations. Three components (upgrades to the Currie Pump Station, twinning of the Currie Forcemain, and twinning of the East Coast Interceptor) will not provide any benefit now, or in the future. Based on KWL's work, the Project Board has refined the Project's scope to remove the three components that would provide no benefit to CRD residents.

"With more data collected, we were able to refine the Project scope to match future demand in the CRD," said Project Board Chair Don Fairbairn. "With a significant reduction in water use thanks to conservation efforts of residents and the increase in low-flow appliances, three of the remaining components will not provide any benefit and would result in unnecessary expenditures and construction impacts if built."

Ernst and Young independently reviewed the forecast costs to complete the Project and the schedule, and agree with the Project Team's forecast that the Wastewater Treatment Project can be built for \$775 million and be completed on time. The key factors driving budget pressures are escalation in the cost of labour and materials, design changes from stakeholder input, and the constrained timeline.

The Wastewater Treatment Project continues to work towards safely delivering the Project to meet its goals, including minimizing life cycle costs to residents and businesses, providing value for money, and meeting federal and provincial regulations for wastewater treatment by December 31, 2020.

About the Wastewater Treatment Project

The Wastewater Treatment Project will provide tertiary treatment for wastewater from the core area municipalities of Victoria, Esquimalt, Saanich, Oak Bay, View Royal, Langford and Colwood, and the Esquimalt and Songhees Nations. The Project will be built so we comply with federal regulations by the end of 2020, and consists of the McLoughlin Point Wastewater Treatment Plant, the Residuals Treatment Facility at Hartland Landfill, and the conveyance system that will carry wastewater from across the core area to the McLoughlin Point Wastewater Treatment Plant, and residual solids to the Residuals Treatment Facility. The Wastewater Treatment Project is being funded by the Government of Canada, the Government of British Columbia and the CRD.

For more information, please visit: wastewaterproject.ca

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For media inquiries, please contact:

Andy Orr, Senior Manager

CRD Corporate Communications

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Cell: 250.216.5492





Backgrounder

Refinement of Project Scope

The majority of the Wastewater Treatment Project is now under construction with only four components of the conveyance system remaining to be procured. The need for these components was identified in 2004, and they were designed to convey excess wet weather flows to Clover Point, where they could be discharged out of the long outfall, rather than through a number of shorter outfalls in Oak Bay.

These components are:

- Upgrades to the Currie Pump Station
- Twinning of the Currie Forcemain
- Twinning of the East Coast Interceptor
- Extension of the Trent Forcemain

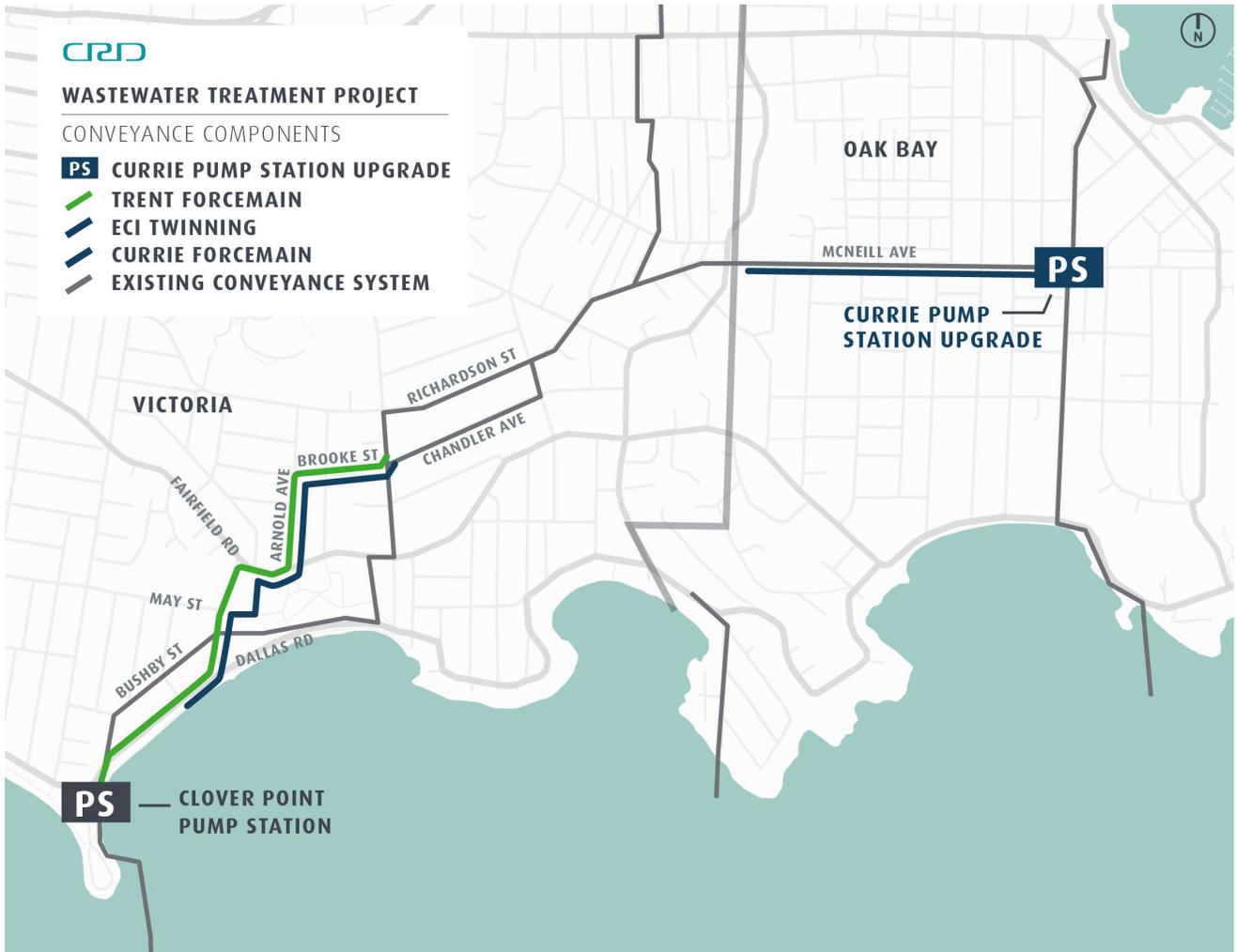
Over the last 15 years there have been significant changes to factors influencing the need for these components including the availability of considerably more flow data that indicates a substantial reduction in water use per person. The CRD engaged KWL in January 2019 to build an updated model of the core area's wastewater system to enable informed decisions to be made regarding capital investments required to meet future demands.

The results show that there is no benefit to building three of the remaining components and that they are not required to meet federal and provincial regulations. This is primarily due to three factors:

- The average dry weather flow has fallen significantly (flows measured in 2018 are 63% of what they were in 2003);
- The contribution from non-residential sources (industrial, commercial and institutional) has not been as great as previously forecasted; and
- Water use per person has decreased as the population has increased due to replacement of old water fixtures and appliances driven by public education, changes in building code and incentive programs through the CRD's water conservation efforts.

Maintenance and upgrade work performed on sewer systems has also played a role as these improvements reduce the amount of rainwater entering the system (inflow and infiltration).

When the system reaches capacity (projected to be beyond 2045), the Arbutus Attenuation Tank can be expanded. The tank temporarily stores excess water flows so that they can be treated at McLoughlin Point Wastewater Treatment Plant rather than being discharged untreated out of the Clover Point outfall.





Appendix C- Residual Solids Pump Stations Contract Awarded (April 26, 2019)



Information Bulletin

For Immediate Release

April 26, 2019

Residual Solids Pump Stations Contract Awarded

Victoria, BC– The Capital Regional District (CRD) has awarded a \$15.9-million contract to Knappett Projects Inc. to construct three pump stations and bridge crossings along the Residual Solids Conveyance Line for the Wastewater Treatment Project. Knappett is a Victoria-based general contractor with over 35 years of experience working on institutional, commercial, civil and industrial projects.

Construction of the pump stations is anticipated to begin in May 2019 and take approximately 14 months to complete. Pump stations are used to move wastewater from a lower elevation to a higher elevation. They are being built within the road right-of-way and will be located at:

- Interurban Road (Courtland Ave and Interurban Road)
- West Saanich Road (near West Saanich Road and Observatory Road)
- 280 Willis Point Road

The pump stations will be equipped with state-of-the-art odour control systems that contain and suppress odour so there will be no discernible smell in the community. Operating noise will be minimal and comply with District of Saanich standard practice. Landscaping features include a variety of trees, shrubs and ground coverings that will be planted and maintained.

The Residual Solids Conveyance Line consists of two pipes and three small pump stations and will convey the residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill where they will be treated and processed into Class A biosolids. The second pipe will return the liquid removed during the treatment process to the Marigold Pump Station, from where it will be returned to the McLoughlin Point Wastewater Treatment Plant through the existing conveyance system. Installation of the pipes began in February 2019 and will take approximately 18 months to complete.

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

For more information on the Residual Solids Conveyance Line, please visit:

<https://www.crd.bc.ca/project/capital-projects/residual-solids-conveyance-line>

About the Wastewater Treatment Project

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

-30-

For media inquiries, please contact:

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Appendix D– Arbutus Attenuation Tank Contractor Selected (May 10, 2019)



Information Bulletin

For Immediate Release

May 10, 2019

Arbutus Attenuation Tank Contract Awarded

Victoria, BC– The Capital Regional District (CRD) has awarded a \$17.7-million contract to NAC Constructors Ltd (NAC) to construct the Arbutus Attenuation Tank. As part of the Wastewater Treatment Project, the Arbutus Attenuation Tank is a 5,000m³ underground concrete tank that will be located within CRD-owned land in Haro Woods.

During high volume storm events, the Arbutus Attenuation Tank will temporarily store wastewater flows to reduce the number of sewer overflows. Once the high storm flow has passed, the tank will empty back into the sewer system and will be conveyed to the McLoughlin Point Wastewater Treatment Plant for tertiary treatment.

NAC is an employee-owned Canadian firm established in 1993. As a general contractor, NAC has successfully completed projects all across Canada ranging from large-scale municipal and civil projects, to heavy industrial projects.

Construction of the tank is anticipated to begin June 2019 and take 16 months to complete. Site clearing took place in early March before the bird nesting window. During construction, the site and the laydown area will be fenced. Once construction is complete the site will be planted with vegetation appropriate for the local woodland setting.

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

For more information on the Arbutus Attenuation Tank, please visit <https://www.crd.bc.ca/project/capital-projects/arbutus-attenuation-tank>.

About the Wastewater Treatment Project

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

Facility at Hartland Landfill, and the conveyance system that will carry wastewater from across the core area to the McLoughlin Point Wastewater Treatment Plant, and residual solids to the Residuals Treatment Facility. For more information, visit www.wastewaterproject.ca.

-30-

For media inquiries, please contact:

Zoe Gray, Manager

CRD Corporate Communications

Tel: 250.360.3225

Cell: 250.507.7657



Appendix E– Residual Solids Conveyance Line: Pipe Installation (May 15, 2019)

UPDATE

May 15, 2019

Residual Solids Conveyance Line: Pipe Installation

Construction of the Residual Solids Conveyance Line is making good progress with over 30% of the pipes installed. The contractor, Don Mann Excavating, has multiple crews working along the 19km alignment. The updated progress map and work locations are shown on the next page; please visit wastewaterproject.ca for weekly updates.

What to Expect

- The pipe will be installed in segments.
- A trench will be excavated, the pipes will be installed and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Final restoration will take place after each section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers, and will not exceed the municipal noise bylaws.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required and hours will fall within each municipality's bylaws.
- Night work may be done at busy intersections to limit impacts to traffic.

Traffic Impacts

- There will be single lane alternating traffic in the work zones controlled by flaggers.
- Two-way traffic will be maintained at busy intersections during rush hour.
- There will be temporary parking impacts when work is being completed. Parking signs will be posted in advance.

Access

- Access to residents and businesses will be temporarily impacted when work is underway and will be reinstated at the end of each work day. Residents will be notified of temporary closures in advance.

Construction of the Residual Solids Conveyance Line is anticipated to be complete in spring 2020.

Thank you for your patience as this work is completed.

(Continued on next page)

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



24/7 Phone Line
1.844.815.6132

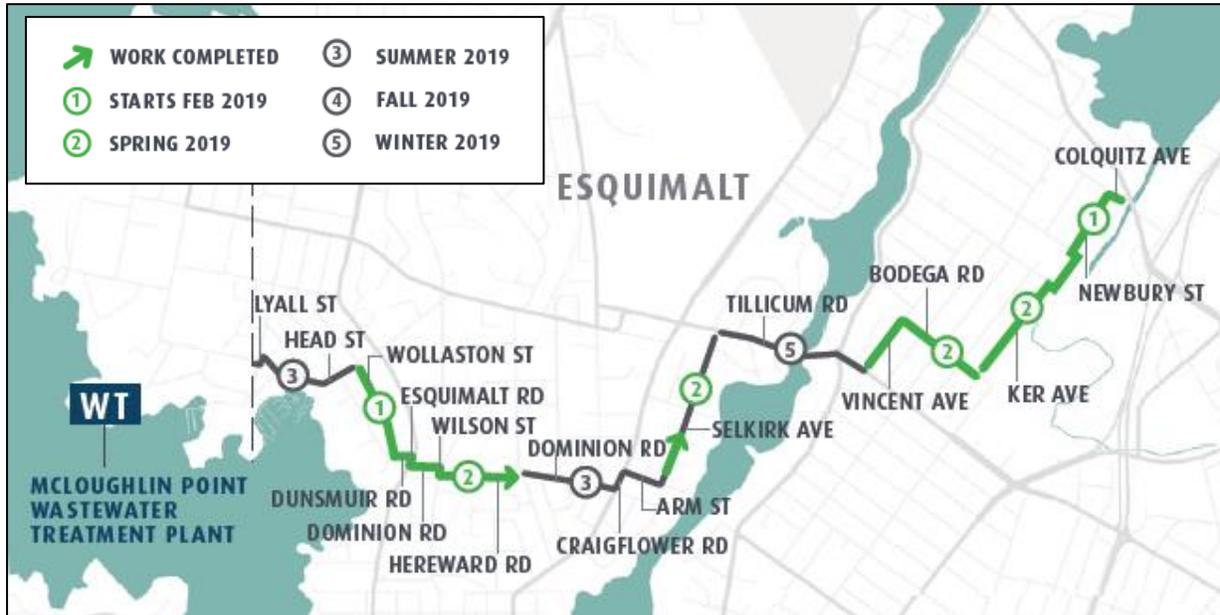


Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca

Construction Progress Map



Progress as of May 10, 2019

Construction schedule is subject to change. Please check our website for weekly updates to progress map.

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– Macaulay Forcemain Installation Update (May 24, 2019)

UPDATE

May 24, 2019

Macaulay Forcemain Installation

Construction is underway for the Macaulay Forcemain, the pipe that will convey wastewater from the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. The work began at the pump station and is progressing towards the treatment plant. This work will take approximately 9 months to complete.

What to Expect

- The forcemain will be installed in segments on the following roads: View Point Road, Vaughan Street, Anson Street, Bewdley Avenue, Peters Street, Patricia Way and Victoria View Road (see map on reverse).
- For each segment: a trench will be excavated, the pipe will be lowered into the trench, the trench will be backfilled, and the surface restored.
- When rock is encountered in the trench, rock hammering or blasting will be required.
- Any blasting will be monitored and as a precaution, pre- and post-blast surveys will be conducted when blasting is required. Notification will be provided to residences directly.
- Noise and vibrations are expected during this work.

Blasting Procedure

- All blasts will be covered with blasting mats.
- Blasting signs and personnel will be posted at access points on the construction site boundary to prevent entry into the blast area.
- Warning signals will be used as follows:
 - 12 short whistles at one second intervals followed by a two minute pause
 - Blast will be detonated
 - One long whistle signals all is clear
- Each blast is monitored for vibration with a seismic device.

Traffic Impacts/Vehicle Access

- There will be localized single-lane traffic during forcemain construction.
 - Both lanes will be closed for short periods for each blast.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.
- Vehicle access to residences may be temporarily restricted due to the presence of equipment. Residents will be notified in advance.
- Access to residential driveways will be maintained at the end of each work day.
- Emergency services will have access at all times.
- Garbage and recycling services will be picked up as usual.

Water and Sewer Service Impacts

- Water and sewer service may be interrupted for short periods for some residents along the route. 48 hour notice will be provided prior to any interruption of service.

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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



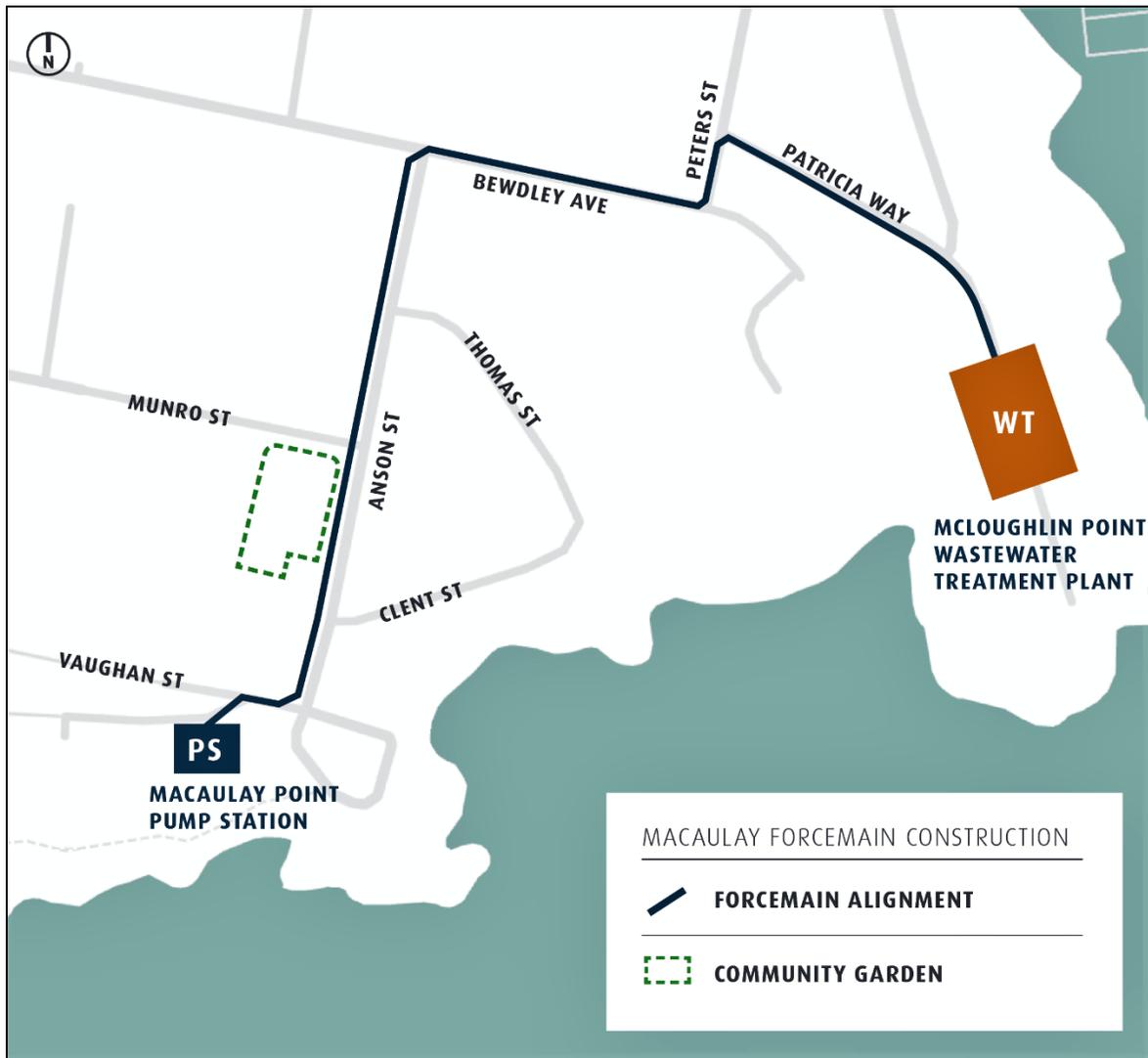
Website
wastewaterproject.ca

Work Hours

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

Thank you for your patience as this work is completed.

Macaulay Forcemain Alignment



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 G– Trent Forcemain: Geotechnical Work (May 27, 2019)



May 27, 2019

Trent Forcemain: Geotechnical Work

The Wastewater Treatment Project includes construction of the Trent Forcemain, a 1.3km extension of an existing pipe from the intersection of Chandler Ave and St Charles Street to the Clover Point Pump Station. This addition to the eastern branch of the CRD's core area conveyance system will increase capacity of the system and help reduce wet weather overflows.

Surveys and geotechnical investigations will be conducted to inform the final design and alignment of the Trent Forcemain. This work is anticipated to begin the week of May 27 and take 4-6 weeks to complete, depending on the weather.

What to Expect

- A truck mounted drilling rig will be used to create boreholes at approximately 100m spacing along the preliminary design alignment:
 - Dallas Road Waterfront Trail;
 - Eberts Street;
 - Memorial Crescent;
 - Fairfield Road;
 - Stannard Avenue;
 - Brooke Street; and
 - St Charles Street.
- There will be some noise associated with the drilling work.
- Each borehole will be filled once the required soil sample has been collected.

Work Hours

- Monday to Friday from 7:00 a.m. to 5:00 p.m.

Traffic Impacts

- Traffic control will be provided for the drilling investigation.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Construction of the Trent Forcemain is anticipated to begin in early 2020 and take approximately one year to complete.

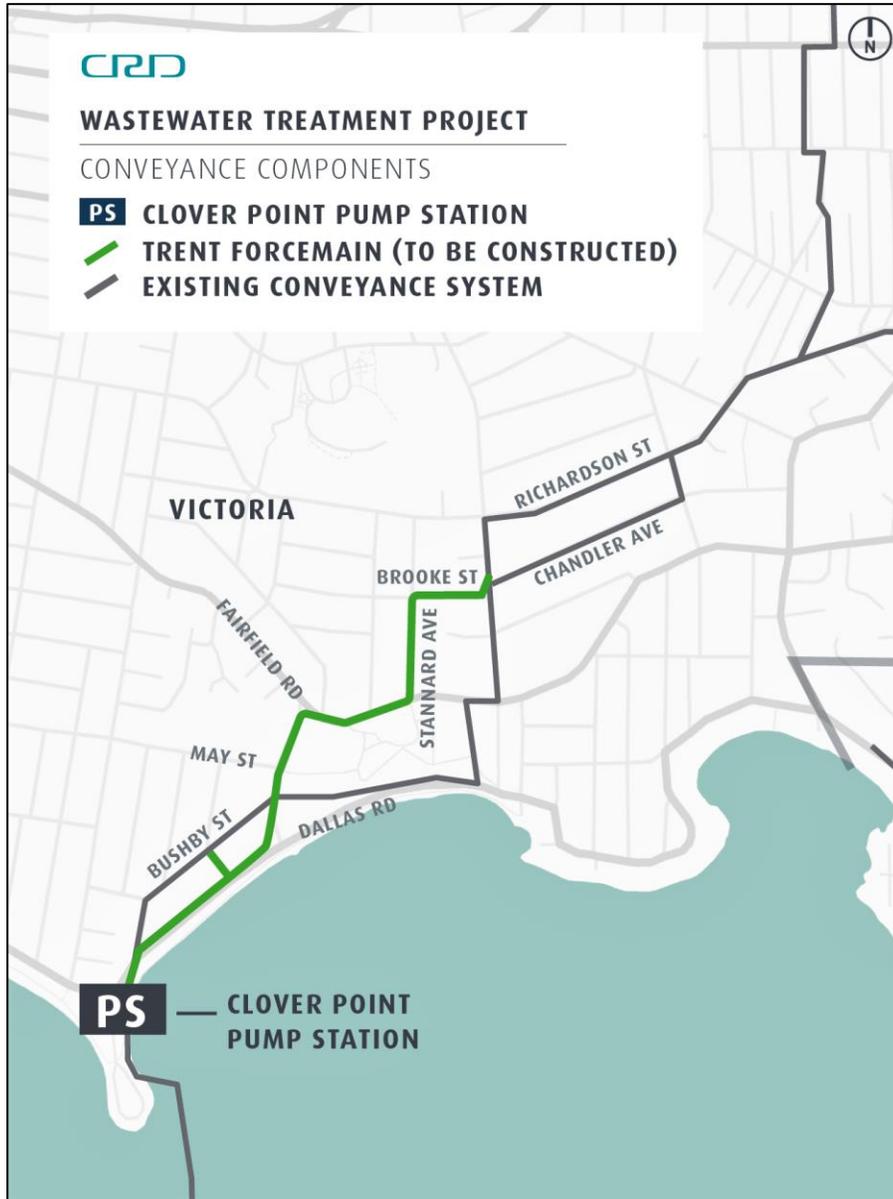
About the Wastewater Treatment Project

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

Map on reverse

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

Preliminary design alignment for the Trent Forcemain



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



Appendix H – McLoughlin Point Wastewater Treatment Plant – Information Sheet (May 2019)

McLoughlin Point Wastewater Treatment Plant

Located at McLoughlin Point in Esquimalt, the McLoughlin Point Wastewater Treatment Plant will provide tertiary treatment to the core area's wastewater.

OPERATION

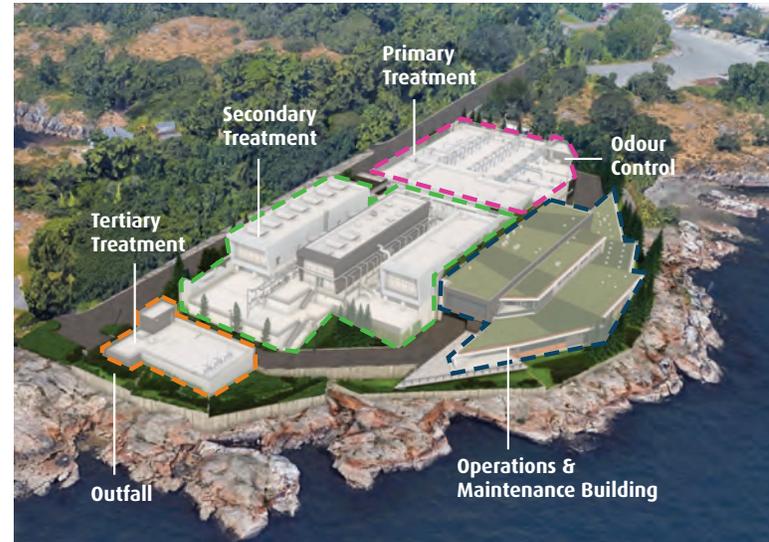
The plant will treat up to 108 megalitres of wastewater per day, providing capacity to accommodate future population growth. Wastewater will go through primary, secondary and tertiary treatment and then be discharged into the ocean through a new outfall approximately 2km from shore and 60m deep. **Primary treatment** is the physical separation of solids from wastewater. **Secondary treatment** is a biological process that removes dissolved and suspended organic compounds in the wastewater. **Tertiary treatment** is a physical process that reduces solids that remain after the secondary treatment process. The plant is being built to post-disaster standards so it will remain operational following a major earthquake. The system is controlled and monitored 24/7.

DESIGN

Situated at the entrance of Victoria harbour, the design of the treatment plant respects the setting and incorporates the highest standards of design, materials and aesthetics. The design includes a multi-level green roof, mature landscaping, observation deck, and education space. The plant is also designed to increase capacity to accommodate future population growth.

NOISE

In accordance with the Township of Esquimalt's Zoning Bylaw, operational noise from the McLoughlin Point Wastewater Treatment Plant will not exceed 60 decibels (dBA) outside of the plant's property line (which is similar to an air conditioner).



ODOUR

The McLoughlin Point Wastewater Treatment Plant has been designed so there will be no detectable odour by residents. It will include the following:

- State-of-the-art odour control;
- 24-hour odour control monitoring system;
- Detailed procedures for responding to odour issues, in the unlikely event that one occurs; and,
- A CRD phone line to report any odour issues 24 hours a day.





Wastewater Treatment Project

Treated for a cleaner future

CONSTRUCTION

The contractor selected to build the treatment plant, Harbour Resource Partners, began construction in June 2017.

Activities completed to date include site preparation, blasting and excavation, and installation of the cross-harbour undersea pipe from Ogden Point to McLoughlin Point. Remaining construction works include: pouring concrete foundations; exterior building construction, and mechanical and electrical work inside the building.

Work hours are Monday to Sunday from 7:00 a.m. to 7:00 p.m.

TRUCK TRAFFIC ROUTE

A Traffic Management Plan was developed by the Township of Esquimalt, Harbour Resource Partners, and the Project Team to ensure that all traffic follows designated traffic routes. The plan includes an alternate summer route that will be used in July and August when schools are not in session. The Traffic Management Plan was approved by the Township of Esquimalt and was developed using the following guiding principles:

- Public safety for motorists, cyclists and pedestrians;
- Impacts on local community;
- Bylaw compliance; and,
- Incorporation of community feedback.

ANTICIPATED CONSTRUCTION ACTIVITIES

Pouring Concrete

Spring 2018 – Fall 2019

Building Construction

Spring 2019 – Spring 2020

Plant Commissioning

Spring 2020 – Fall 2020

**Construction schedules subject to updates based on construction operations.*



ABOUT THE PROJECT

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

For More Information

Website: wastewaterproject.ca

Email: wastewater@crd.bc.ca

24-7 Project Information Line: 1.844.815.6132



Appendix I- Grange Road Update (June 2019)

Grange Road Update

ALIGNMENT

The Residual Solids Conveyance Line is being installed as part of the Wastewater Treatment Project and will be installed in the southbound lane of Grange Road. An arborist has confirmed that no trees will require removal prior to construction and no trees are expected to be significantly impacted by construction activities. To facilitate equipment access, some trees may require pruning.

UPCOMING WORK

Pipe installation for the Residual Solids Conveyance Line began in February and over 30% has been completed. Work on Grange Road is anticipated to begin June 2019.

Start

June 2019

Traffic Impacts

- Single lane alternating traffic
- Road Closures may be required for non-local traffic
- Traffic control areas will be delineated by cones and signs and controlled by flaggers

Work Hours

Monday to Friday, 7 a.m. to 7 p.m.

Timeline

Approx.
12 weeks

Work may take place on Saturday
from 7 a.m. to 7 p.m.

WHAT TO EXPECT

- The pipe will be installed in segments.
- A trench will be excavated, the pipes will be installed and the trench will be backfilled. The surface will be temporarily restored at the end of each work day.
- Final restoration will take place after each section has been pressure tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers, and will not exceed the municipal noise bylaws.
- Vehicle access to residences may be temporarily restricted during work hours due to the presence of equipment or an open trench. Impacted residents will be notified in advance.

A map of the alignment showing the latest progress is available on the Project website: wastewaterproject.ca.

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 J- Clover Point Pump Station: Temporary Pathway Closure (June 11, 2019)



June 11, 2019

Clover Point Pump Station: Temporary Pathway Closure

As part of upgrading the Clover Point Pump Station for the Wastewater Treatment Project, the contractor, Kenaidan Contracting Ltd., will be installing a pipe along a portion of the waterfront pathway between the pump station and the crosswalk near Ross Bay Cemetery.

Starting June 11, the waterfront pathway will be temporarily closed for up to five days while geotechnical work is completed. Access to the beach and the bottom steps of the concrete pathway will be open and pedestrians can access Clover Point Park by following a detour along Dallas Road. Through-access along the waterfront pathway will be temporarily closed during this work.

What to Expect

- Cutting and removing a portion of the sidewalk to expose and investigate the existing sewer pipe.
- The pathway will be closed to allow access for machines and equipment.
- The exposed area will be backfilled and temporarily restored, and will be permanently restored upon completion of construction in 2020.

Work Hours

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

Background

The Clover Point Pump Station is being upgraded and expanded as part of the Wastewater Treatment Project. The current pump station pumps sewage directly into the ocean. The expanded pump station will pump wastewater to McLoughlin Point Wastewater Treatment Plant where it will undergo tertiary treatment, and the pump station will also provide bypass pumping through the existing outfall during storm events.

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.



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



Appendix K- Residual Solids Conveyance Line: Interurban Trail Closure (June 17, 2019)



June 17, 2019

Residual Solids Conveyance Line: Interurban Trail Closure

Sections of the Interurban Rail Trail will be temporarily closed to allow for pipe installation of the Residual Solids Conveyance Line. It is anticipated that full access to the trail will be restored by September 2019.

What to Expect

- The contractor will close Interurban Rail Trail between access points.
- Alternate routes will be clearly marked detouring cyclists and pedestrians onto West Saanich Road.
- The pipe will be installed in segments.
- A trench will be excavated, the pipes will be installed and the trench will be backfilled.
- Final restoration will take place after each section has been tested and completed.
- Rock encountered in the trench will be removed by blasting or mechanical means.
- Noise associated with this work includes excavation machinery and truck back-up beepers, and will not exceed the municipal noise bylaws.

Access

- Access to residents will be temporarily impacted when work is underway. Residents will be notified in advance.

Work Hours

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

Construction of the Residual Solids Conveyance Line is anticipated to be complete in spring 2020. For more information about construction, please visit Current Construction Activities on our website wastewaterproject.ca.

About the Wastewater Treatment Project

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



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca



Appendix L- Residual Solids Pump Station (Hartland): Blasting Notice (June 18, 2019)



June 18, 2019

Residual Solids Pump Station (Hartland): Blasting Notice

The Residual Solids Conveyance Line is part of the Wastewater Treatment Project connecting the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill. It includes two pipes and three small pump stations which are used to move the residual solids from a lower elevation to a higher elevation.

Site preparation for the pump station located at 280 Willis Point Road is underway. As part of this work the contractor is conducting some controlled blasting and excavation which should be complete in approximately 3 weeks.

What to Expect

- No traffic impacts are anticipated.
- Noise and vibrations are expected during this work.
- The energy of the blasts are controlled and monitored.

Blasting Procedure

- All blasts will be covered with blasting mats.
- Blasting signs and personnel will be posted at access points on the construction site boundary to prevent entry into the blast area.
- Warning signals will be used as follows:
 - 12 short whistles at one second intervals followed by a two minute pause
 - Blast will be detonated
 - One long whistle signals all is clear
- Each blast is monitored for vibration with a seismic device.
- If you have any questions or concerns about blasting or the Project, please contact the Project Team at wastewater@crd.bc.ca or 1.844.815.6132.

Work Hours

- 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 First Nations by the end of 2020.



24/7 Phone Line
1.844.815.6132



Email
wastewater@crd.bc.ca



Website
wastewaterproject.ca



Appendix M- Clover Forcemain Progress Update (June 14, 2019)

CLOVER FORCEMAIN CONSTRUCTION TIMING AND TRACKING

2,516M OF PIPE INSTALLED AS OF JUNE 14, 2019

➔ WORK COMPLETED

- | | |
|--|--|
| ➊ NIAGARA TO DOCK
Complete | ➋ DOUGLAS STREET INTERSECTION
Late spring 2019 |
| ➌ DOCK TO LEWIS
Complete | ➍ DOUGLAS TO COOK
Started March 1, 2019 |
| ➎ LEWIS TO GOVERNMENT
Started May 27, 2019 | ➏ COOK TO CLOVER
Complete |
| ➐ GOVERNMENT TO DOUGLAS
Late spring/Early summer 2019 | ➑ CYCLE PATH CONSTRUCTION
Summer 2019 – Summer 2020 |

VICTORIA

DALLAS RD

NIAGARA ST

MacDonald
Park

DOCK ST

LEWIS ST

Holland
Point Park

GOVERNMENT ST

DOUGLAS RD

Beacon
Hill Park

COOK ST

DALLAS RD

PS

Clover Point Park

CLOVER POINT
PUMP STATION





Appendix N- Residual Solids Conveyance Line Progress Update (June 21, 2019)

RESIDUAL SOLIDS CONVEYANCE LINE
CONSTRUCTION TIMING AND TRACKING
7,042M OF PIPE INSTALLED AS OF JUNE 21, 2019

 WORK COMPLETED

RESIDUALS TREATMENT
FACILITY AT HARTLAND
LANDFILL **RT**



WT
MCLAUGHLIN
POINT
WASTEWATER
TREATMENT
PLANT

ESQUIMALT

SAANICH

SEGMENT 1

SEGMENT 2

SEGMENT 3

SEGMENT 4

LYALL ST
HEAD ST

WOLLASTON ST
ESQUIMALT RD
WILSON ST
DOMINION RD

TILLICUM RD

BODEGA RD

COLQUITZ AVE

VINCENT AVE
KER AVE

NEWBURY ST

GRANGE RD

INTERURBAN RD

HECTOR RD

CONWAY RD

INTERURBAN RD

PS

SEGMENT 4

W. SAANICH RD

INTERURBAN RAIL
TRAIL

WALLACE DR

PS

WILLIS POINT RD

Beaver
Lake

Elk
Lake

Prospect
Lake





Appendix O – June Monthly Cost Report

ASSET MANAGEMENT COST REPORT
as at June 30, 2019

Project Component	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to May 31, 2019	Expended over reporting period (June 2019)	Expended to June 30, 2019	Expended to June 30, 2019 as a % of Budget	Remaining (Unexpended) Budget at June 30, 2019	Total Commitment at June 30, 2019	Unexpended Commitment at June 30, 2019	Uncommitted Budget at June 30, 2019	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Budget
McLoughlin Point Wastewater Treatment Plant ^A	378.0	364.6	216.7	11.4	228.1	63%	136.4	343.4	115.3	21.2	136.4	364.6	-	0%
Residuals Treatment Facility ^A	195.0	155.9	17.6	0.4	18.0	12%	137.9	151.0	133.0	4.9	137.9	155.9	-	0%
Conveyance System ^A	192.0	254.5	96.6	6.1	102.7	40%	151.8	210.6	107.9	43.8	151.8	254.5	-	0%
Total Costs	765.0	775.0	330.9	17.9	348.8	46%	426.1	705.0	356.2	69.9	426.1	775.0	-	0%

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



Appendix P- Quarterly Cost Report

WTP QUARTERLY COST REPORT
as at June 30, 2019

Project Component	COST EXPENDED								COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to March 31, 2018	Expended over reporting period (Q2 2019 Apr - Jun)	Expended to June 30, 2019	Expended to June 30, 2019 as a % of Budget	Remaining (Unexpended) Budget at June 30, 2019	Total Commitment at June 30, 2019	Unexpended Commitment at June 30, 2019	Uncommitted Budget at June 30, 2019	Forecast to Complete	Forecast at Completion	Variance at Completion \$	Variance at Completion as a % of Budget	
McLoughlin Point Wastewater Treatment Plant ¹	316.6	319.1	181.0	28.2	209.2	66%	109.9	312.3	103.1	6.8	109.9	319.1	-	0%	
Residuals Treatment Facility ¹	147.1	136.7	8.3	0.0	8.3	6%	128.4	135.9	127.6	0.8	128.4	136.7	-	0%	
Conveyance System ¹	141.2	209.2	61.6	22.5	84.1	40%	125.1	182.6	98.5	26.6	125.1	209.2	-	0%	
Project Management Office															
Project Management Office ("PMO")	71.1	75.6	38.6	3.6	42.2	56%	33.4	65.9	23.7	9.7	33.4	75.6	-	0%	
Common Costs															
BC Hydro	11.6	2.9	1.6	0.3	1.9	65%	1.0	1.9	0.0	0.9	1.0	2.9	-	0%	
Third Party Commitments	8.1	8.1	2.9	0.2	3.1	38%	4.9	6.4	3.3	1.7	4.9	8.1	-	0%	
Program Reserve and contingencies	69.3	23.4	-	-	-	0%	23.4	-	-	23.4	23.4	23.4	-	0%	
Total Costs	765.0	775.0	294.0	54.8	348.8	45%	426.1	705.0	356.2	69.9	426.1	775.0	-	0%	

¹ - Excluding PMO, Common Costs and

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

** Cost report presents approved expenditures