Wastewater Treatment Project

Treated for a cleaner future

CRD Wastewater Treatment Project

Quarterly Report

Reporting Period: July-September 2019

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1 Executive Summary

1.1 Introduction

This Quarterly report covers the reporting period of July through September 2019 and outlines the progress made on the Wastewater Treatment Project over this time.

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

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

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners ("HRP" as the Design-Build Contractor for the McLoughlin Point WWTP) progressing engineering and construction at McLoughlin Point, including: installation of electrical panels and cabling in BAF gallery; Biological Aerated Filters (BAF) topping pours; forcemain pipe in Patricia Way; completion of placement of the marine outfall and commencement of the anchor protection and rock reefs; electrical HVAC and piping installation in the Process building and the Operations and Maintenance building; and completion of the Biological Aerated Filter (BAF) influent and effluent channels; permanent placement of generators.

The RTF Project Component is continuing with Hartland Resource Management Group ("HRMG" as the Design-Build-Finance-Operate Maintain contractor for the RTF) completing the Issued for Construction (IFC) drawings; meeting with the independent certifier; and progressing construction activities including: completed construction of the Digested Solids Storage Tank; continued equipment installation, erection of structural and exterior steel at the Residuals Handling Building; slabs poured and curing for the water storage tank, water pump house, and foundation work for the Residuals Effluent Storage Tank and Equalization Building; and commenced tank erection Residuals Solids Tanks 1 & 2.

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 and construction activities over the reporting period including: continued to assess outstanding design comments before submitting the final Issued for Construction (IFC) package; shop drawing reviews in advance of equipment deliveries; process piping and electrical installations; and installation of the roofing membrane; sanitary pump installation in the lower pump room; large diameter process piping installation from the new to existing pump rooms; and completion of public washroom underground utilities and foundation.
- Macaulay Point Pump Station and Forcemain: Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressed design and construction activities over the

reporting period including: forming and pouring of exterior walls and interior slabs; vortex slab and walls poured; generator suspended slab formwork completed; all pump pedestals have been formed and poured; interior and exterior concrete walls continued with the final exterior wall completed installation of approximately 470m during the period for a total of 650m of forcemain installed to September 30, 2019.

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 completion of installation of the forcemain; completion of watermain connections; and ongoing road restoration, landscaping, cycle track base and paving.

- 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 installation of approximately 5.2 km of pipes.

    - RSCL 200 Residual Solids Pump Stations: Knappett Projects Inc. ("Knappett" as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including installation of approximately 2.7km of pipes and progressed construction activities at all three pump stations

- Arbutus Attenuation Tank ("AAT"): NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) has continued construction activities including: utility locates and confirmation of existing site services, dewatering wells drilled and testing, commenced and continued drilling, reinforcing and concreting secant piles, coordination and planning for decommissioning of existing overflow system located within the tank footprint; and design and procurement of temporary bypass and overflow routing system.
- Trent Forcemain: Stantec (as the design consultant for the Trent Forcemain) progressed the design by implementing CRD and City of Victoria comments; developing the Issued for Tender documents; issuing the designs for tender and reviewing and responding to tender inquiries and issuing addenda.

1.2 Dashboard

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

There were no changes made to the KPI's over the reporting period. The safety KPI for the Project and the conveyance system remains yellow. Over the reporting period 1 reportable safety incident occurred and the total recordable incident frequency decreased from 1.5 at the end of the last reporting period (June 2019) to 1.3. The Project Team continues to work with, and ensure that all of the prime contract partners maintain safety as their number one priority.

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

Table 1- Executive Summary Dashboard

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.	🟡	🟢	🟢	🟡	One recordable incident occurred over the period. Site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction.	🟢	🟢	🟢	🟢	Four environmental incidents occurred over the period: three were low-volume fluid leaks, (fluid was contained and none entered the environment). The fourth was associated with sediment releases during installation of the RSCL under the Colquitz Creek. The releases led to short-term increases in turbidity downstream of the work site, however water quality remained within BC Water Quality Guidelines.
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. The CRD Board have approved an increase in the Project's budget by $10M, to $775M.

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

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

2 Wastewater Treatment Project Progress

2.1 Safety

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

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

Over the reporting period (July to September) 53 safety incidents occurred in total: nineteen in July, eighteen in August and sixteen in September, comprising seven near-miss, one high potential near miss, five first-aid, and thirty-nine report-only, one of which was recordable. 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
July 2, 2019	Clover Point PS	First Aid	Worker using a hand blower with a damaged safety guard and sustained hand injury	Worker's finger was bandaged and returned to work	Hand blower was immediately removed from service. Tool-box meeting to discuss proper inspection of tools and equipment prior to use
July 3, 2019	McLoughlin Pt WWTP	Report Only	Operator jarred their back while operating a boom forklift on uneven ground	Report-only as no First Aid treatment was provided.	Tool-box discussion: importance of awareness of surroundings when moving equipment on uneven ground
July 8, 2019	McLoughlin Pt WWTP	First Aid	Worker pinched finger between impact hammer handle and scissor lift rail	Workers finger was bandaged and returned to work.	Tool-box talk on safe work practice when using power tools and attention to task at hand
July 8, 2019	McLoughlin Pt WWTP	Report Only	Worker stepped on a boat and felt aggravation in their ankle.	Ankle was assessed, iced and worker returned to work	Worker reminded to be aware when accessing or egressing a boat
July 9, 2019	Clover Point PS	Medical Aid Recordable	A 4th year apprentice was drilling through wood when the drill bit caught and swung the tool bending two fingers backwards	Worker required Medical Aid. An X-Ray showed a break of the ring finger. Surgery was required to stabilize the bone. Worker returned on a Modified Work Program.	CRD Safety Notice issued to all Prime Contractor regarding the incident and an increase in hand injuries on project sites. Tool-box talk re: proper control and use of power tools Worker mentoring was also performed
July 15, 2019	RSCL200	Near Miss	Excavator operator accidently knocked a rock which entered the trench striking formwork approximately 6 feet away from one of the workers.	Excavator operator was reminded not to work while any workers are beneath them	Tool-box with crew re: working in close proximity to heavy equipment.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
July 15, 2019	RSCL100	Report Only	An operator was observed placing gravel into a trench contacting a worker.	There were no injuries as a result of this contact.	Excavator operator was reminded not to work while any workers are beneath them Employees to follow the instructions of the toolbox talk of no workers working below excavator
July 16, 2019	RSCL100	Report Only	A Traffic Control Person (TCP) was observed riding inside the cab of a backhoe seated next to the driver with the door closed.	Passengers are not permitted to ride in heavy equipment as per WorkSafeBC Regulations.	Tool-box talk to bring awareness to crew in regards to transportation of passengers
July 17, 2019	RSCL 200	Report Only	A member of the public disobeyed Traffic Control Person and attempted to enter a closed lane in oncoming traffic at excessive speed.	TCP along with Sub Contractor deescalated situation by talking to the member of the public	Tool-Box talk reviewed protocol in dealing with aggressive/dangerous members of the public.
July 19, 2019	RTF	Report Only	Telehandler struck a pipe stub, high visibility marking had worn off making pipe difficult to see.	Pipe stub was repaired Pipe was marked for better visibility	Tool-box talk in regards to using spotter when backing equipment and the proper marking of utilities
July 22, 2019	McLoughlin Pt WWTP	Report Only	Worker sustained a hand injury while trying to remove a wooden brace from a concrete slab.	Injured finger was bandaged and they returned to work.	Tool-box talk on correct hand positioning while using tools
July 23, 2019	AAT	Report Only	Excavator was clearing and grubbing the site and inadvertently struck an existing asbestos manhole.	Manhole had been flagged but operator missed the marking.	Scope of work reviewed with Sub-Contractor to ensure warning signs and directions are followed Area was secured with asbestos warning tape Asbestos material was bagged for disposal Material taken to approved disposal facility
July 24, 2019	RSCL100	Report Only	Worker in a trench on a hot day felt dizzy and sick while climbing out of the trench at the end of the day	First Aid Attendant provided icepacks and water to cool worker and sat worker in the shade. Possible Heat Stress	Tool-box talk with crew re: working in the heat and the signs and symptoms of heat stress
July 24, 2019	McLoughlin Pt WWTP	Report Only	Worker was leaving lunch trailer, top step detached from fasteners when worker stepped on it	Worker slipped, but did not fall	Stair was fixed immediately, all other stairs on staircase checked and refastened Inspection of all other stairs and handrail on site was performed
July 25, 2019	RSCL100	Report Only	Operator driving a water truck struck a hydro pole while reversing	Hydro lines contacted tree branches, creating a fire hazard. Fire Department and Hydro were called as a precaution.	Tool-box talk held and emphasis placed on using a spotter when backing

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
July 25, 2019	RSCL100	First Aid	A Traffic Control Person tripped over asphalt lip of a trench cut and fell forward	Worker felt pain in ribs and knee was bruised; injuries were assessed by the First Aid Attendant, no first aid was rendered. Worker went to Medical Aid for a further assessment but no further treatment was required	Tool-box talk held to remind workers to access the work area and always be mindful of uneven ground conditions.
July 25, 2019	RSCL100	Report Only	Resident reversed their car into a stationary excavator.	There was minor damage to the car but no injuries.	Tool-box talk held to remind the crew to park in an area as visible as possible.
July 25, 2019	McLoughlin Pt WWTP	Report Only	A tug fouled on a log while avoiding a crab trap. This resulted in damage to the tug's stabilizing system.	The towline placed extra stress on a control valve causing an air leak	Air valve was replaced Extra caution to be used on the water when towing loads for hidden obstacles that may be encountered
July 29, 2019	RSCL100	Report Only	Water service on Grange Road was struck by an excavator causing a water leak.	Saanich water services called to repair	Locates were in place, water service was not marked
August 2, 2019	McLoughlin Pt WWTP	Near Miss	Kevlar sling failed during one of the test lifts conducted prior to lifting/lowering pipe section into the trench with an excavator on Peter Street.	The sling was new and within the load rating for the lift. Rigging re-configured to remove interaction between Kevlar slings and any bucket edges.	Additional test lifts performed prior to final lift/lower. Review of proper rigging with Kevlar slings was undertaken with the crew.
August 6, 2019	McLoughlin Pt WWTP	Near Miss	Worker dropped nail puller from pouch when coming down a ladder.	The tool dropped approximately 25 feet into lower BAF gallery and approximately 4 feet from the worker below.	Tool-box discussion re: the importance of the proper securing of tools when carrying them up/down ladders.
August 11, 2019	McLoughlin Pt WWTP	Report Only	Worker felt pain in left arm but did not report pain until the following day.	No First Aid treatment rendered.	Tool-box talk on reporting injuries the day of incident.
August 12, 2019	McLoughlin Pt WWTP	First Aid	Worker received a hand injury while cutting a piece of Deck	Leather gloves were cut which caused a small laceration to right index finger. First Aid was rendered and bandage was applied.	Tool-box talk to discuss assessing hazards in close proximity when working around sharp edges.
August 13, 2019	McLoughlin Pt WWTP	Report Only	Worker struck hand while installing rebar.	Hand became swollen. Worker was wearing gloves at time of incident.	Workers reminded to be aware of where their hands are in proximity to fixed objects or pinch points.
August 13, 2019	RSCL 200	Report Only	An excavator came into contact with a communications line.	There was no observable damage to the lines and no repair was required.	Tool-box talk with crew in regards to working in close proximity to Utility lines and the need to have a spotter.
August 14, 2019	RSCL 100	Report Only	Crew hit a communication line that was not shown on the utility locates plan.	Communications line and conduit repaired by Utility Company.	Communication line location was added to the utility locates plan.
August 14, 2019	Macaulay Point Pump Station	Report Only	A laborer from a temporary labor company became aggressive with the site superintendent.	The worker was removed from site and proceeded to damage the sub-contractors property. Police were called to prevent any further incident or property damage by individual.	Labor company was notified and worker permanently removed from the project site and from their employment.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
August 15, 2019	McLoughlin Pt WWTP	Report Only	A subcontracted worker fell forward approximately 3 feet off of a small concrete wall into a handrail.	Worker struck the back of their head on the concrete wall edge resulting in laceration that needed medical attention.	Worker was requested to perform a Drug and Alcohol test. No results were provided by the sub-contractor. The worker did not return to the Mcloughlin site. Tool-box talk to bring awareness to the incident and to ensure workers remain aware of their surroundings was held.
August 19, 2019	RSCL100	Report Only	While installing the RSCL two workers were exposed to a small amount of material which sloughed into the excavation which was less than one meter deep.	No one was injured and the workers were able to safely remove the material. A Geotechnical report had been completed prior to work commencing. There was no requirement for a shoring cage to be used.	Sloughed material was removed from excavation A secondary Geotechnical Assessment performed and work was approved to continue.
August 19, 2019	McLoughlin Pt WWTP	Report Only	Top of excavator boom made contact with overhead cable line while moving.	The boom caught the low hanging line. Line was immediately repaired.	Tool-box talk discussing the need for spotters when moving equipment.
August 21, 2019	RSCL200	Report Only	An equipment operator was stung by a wasp and had an allergic reaction to the sting.	Ambulance was called to check on the operators well being.	Tool-box talk to discuss what to do in the event of an allergic reaction.
August 21, 2019	McLoughlin Pt WWTP	Report Only	Worker dropped a bolt from approximately 20 feet up a wall panel to a catwalk below.	The bolt fell to a lower elevation making contact with another worker's arm on the way down. No injuries were sustained.	Verbal warning issued to worker for not controlling overhead hazard Control zone established on catwalk in the event anything was to fall Tool-Box talk to discuss the hazards of objects falling from overhead.
August 21, 2019	RTF	Report Only	A waterline was being filled to prepare for a line test when water began flowing out of the end cap on a valve.	Cap was re-secured correctly to prevent a release of water during test.	Tool-Box talk outlining importance of following test procedures was held.
August 22, 2019	RSCL100	Report Only	Gas line was struck during excavating.	Inaccurate Utility Locates Plan had been provided to the Contractor by the locate company. Fire Department and Police attended to secure the area. Fortis immediately called to fix damaged gas line	Fortis performed a secondary Utility Locates for Prime Contractor to ensure the correct location of other lines had been established
August 26, 2019	RSCL 200	Near Miss	Traffic Control Person did not have proper control of the traffic in the area of the worksite. A near miss occurred when a vehicle travelling east on Willis Point Road changed lanes to avoid an excavation and moved into the oncoming traffic lane.	The Traffic Control Person was wearing a hoodie that blocked their peripheral vision, and was holding their sign incorrectly confusing traffic.	The incident was reported to Prime Contractor Situation was discussed with the Traffic Control Supervisor and the employee. A senior Traffic Control Person was assigned to manage the area.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
August 26, 2019	McLoughlin Pt WWTP	Report Only	Worker felt pain in knee after climbing formwork and reported to First Aid.	Knee was assessed with no treatment provided, the worker returned to work.	Tool-box talk with crew in regards to micro-stretching before climbing or performing awkward tasks
August 27, 2019	RSCL 100	Report Only	Backhoe reversed onto uneven ground near a trench. The right rear wheel slid into the trench causing the backhoe to tip.	Worker was wearing their seatbelt and was able to exit the cab. Worker received a medical assessment, no further treatment was required.	Backing procedure updated to emphasize the hazards of operating equipment near an open excavation. Tool-box talk with crews on the importance of wearing seatbelts.
Sept 3, 2019	McLoughlin Pt WWTP	Report Only	Worker stripping false work used a hammer to pry boards.	The hammer slipped and the handle made contact with workers top lip. No medical aid was required.	Tool-box talk held with crew to review the safe use of hand tools.
Sept 4, 2019	McLoughlin Pt WWTP	Report Only	While handling structural steel for pipe supports a workers finger was pinched.	No injury to the workers finger occurred. No first aid was required.	Tool-box talk on body part awareness and to “stay out of the bite”.
Sept 10, 2019	McLoughlin Pt WWTP	Report Only	Worker hit their head on a concrete beam.	Worker was wearing their hard hat, no injuries sustained.	Tool-box talk to discuss overhead hazards and to be aware of any new conditions in work areas.
Sept 11, 2019	McLoughlin Pt WWTP	Report Only	Small piece of rebar fell from an elevated striking a workers hard hat.	The worker was not injured however work was stopped and a larger control zone was established to prevent reoccurrence.	Tool-box talk in regards to overhead work and workers below with proper control zones and communication amongst crews.
Sept 13, 2019	RTF	Near Miss	While backfilling a trench the front wheel of a backhoe went over the edge with the machine coming to rest on the under-carriage.	The Supervisor assumed control of the backhoe and backed it out onto level ground. The operator had received mobile equipment training but was new to the task.	Further training was provided to operator and a competency test conducted.
Sept 16, 2019	McLoughlin Pt WWTP	Report Only	Scissor lift handrail made contact with a permanent ladder.	Damage to the ladder occurred. No workers were in or around the ladder.	Worker completed a Drug and Alcohol Test Tool-box talk to ensure that any movement of equipment in small spaces has a spotter.
Sept 18, 2019	McLoughlin Pt WWTP	Report Only	Worker on rebar wall slipped and fell approximately 6 inches	Worker was wearing a harness and tied off correctly and was not injured. Worker reported incident as required	Fall protection equipment was inspected. Tool-box talk to discuss the benefit of the proper use of fall protection.
Sept 20, 2019	McLoughlin Pt WWTP	Report Only	Scaffold clamp fell while worker was lowering materials through an opening.	No workers were injured but there were workers standing in the area.	Tool-box talk about proper method of raising/lowering equipment/materials.
Sept 20, 2019	Macaulay Point PS	Report Only	A City of Victoria watermain was damaged when blasting.	City was called and line was repaired.	Incident reported since watermain repair required.
Sept 20, 2019	RTF	Near Miss	A section of pipe while being lifted by a chain hoist had an uncontrolled drop due to poor rigging and control of the hoist.	A worker immediately grabbed the chain preventing the pipe from causing any damage. The supervisor stopped work and immediately removed the chain hoist from service.	Manufacturer of the chain hoist undertook an inspection of the equipment and a review of the rigging arrangements. A tool box talk to review the recommendations from the manufacturer was held.

Date	Work Site	Incident Type	Description	Outcome	Corrective Action Taken
Sept 21, 2019	RTF	Near Miss	A conveyer being installed on the fourth floor of the dryer with a chain hoist had an uncontrolled drop.	The lift was stopped and the chain hoist was removed from service.	Manufacturer of the chain hoist undertook an inspection of all the chain hoists on the site prior to any of them being placed back in service.
Sept 24, 2019	McLoughlin Pt WWTP	Report Only	A vehicle was parked adjacent to the edge of a ditch.	The edge of the ditch sluffed causing the vehicles front to settle.	Truck was pulled out of soft spot with a Tow Truck Cones were placed to delineate edge of ditch.
Sept 24, 2019	RSCL 200	Report Only	Loss of communication between two traffic control operators caused traffic to be released into the work zone bypass while it was occupied by contractor personnel/equipment.	The lead driver came to a stop once they realized they couldn't proceed. TCP personnel cleared the zone once it was safe to do so.	Tool-box talk on ensuring radio batteries are charged before starting shift and the use of non-audible signaling was held.
Sept 27, 2019	RTF	Report Only	While installing a column on the dryer building one of the slings was damaged when it came in contact with a sharp edge.	The load was secured and did not move so no injuries or damage occurred	All columns will be checked prior to lifting for any sharp areas to avoid damage to rigging.
Sept 30, 2019	Clover Forcemain	First Aid	A traffic control person slipped on a curb landing on their side.	Worker was assessed by First Aid, no treatment required and returned to their regular duties.	Tool-box talk to discuss awareness of their work area and tripping.
Sept 30, 2019	McLoughlin Pt WWTP	High Potential For Harm	While working at the north end of the BAF an excavator contacted the 600v/200amp cable that provides power to the tower crane, damaging the cable and causing the breaker to trip.	No workers were injured in this incident. Job area immediately shutdown Electrical source inspected. WorkSafeBC notified of the utility strike Workers sent for Drug and Alcohol Testing.	Root Cause analysis undertaken. Prior to work recommencing a tool-box talk was completed reviewing the Excavation Permit requirements and hand digging distance required near electrical utilities.

Key safety activities conducted during July included:

- CRD prime contractor safety quality assurance audit with HRMG at the Residuals Treatment Facility;
- safety quality assurance audit with Windley on the Clover Forcemain;
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP, Knappett and NAC;
- weekly project update meetings with prime contractor HRMG;
- incident investigations review;
- sent out a “Hand Safety” and a “Safety Recall” notice;
- reviewed site specific safety plans and high risk tasks; and
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Key safety activities conducted during August included:

- closed out quality assurance audit with Windley on the Clover Forcemain
- hosted CRD WWTP Prime Contractors Safety Meeting
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP and Knappett and NAC
- weekly project update meetings with prime contractors: HRMG;
- incident investigations review;

- sent out a “Safety Recall” Notice;
- reviewed site specific safety plans and high risk tasks; and
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Key safety activities conducted during September included:

- closed out quality assurance audit with HRMG on the Residuals Treatment Facility
- bi-weekly project update meetings with prime contractors: Kenaidan, Windley, Don Mann, HRP and Knappett and NAC;
- weekly project update meetings with prime contractors: HRMG;
- incident investigations review;
- attend CRD corporate occupational health and safety coordination committee meeting;
- sent out a “Personal Protective Equipment Non-Compliance” Notice to all Prime Contractors
- reviewed site specific safety plans and high risk tasks;
- daily site safety audits during work at Colquitz; and
- WTP Safety Manager and/or Construction Manager conducting regular site inspections at all active Project work sites.

Table 3: WTP Safety Information

	Reporting Period (July-September 2019)	Project Totals
Person Hours		
PMO	10 970	117 354
Project Contractor	279 259	1 070 069
Total Person Hours	290 229	1 187 423
PMO	32	
Project Contractors (& Project Consultants) working on Project Sites	529	
Total Number of Employees	561	
Near Miss Reports	7	33
High Potential Near Miss Reports	1	5
Report Only	39	95
First Aid	5	31
Medical Aid	1	3
Medical Aid (Modified Duty)	0	2
Lost Time	0	3
Total Recordable Incidents	1	8
		Project Frequency (from January 1, 2017)
First Aid Frequency		5.2
Medical Aid Frequency		0.8
Lost time Frequency		0.5
Total Recordable Incident Rate		1.3

2.2 Environment and Regulatory Management

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

2.2.1 Environment

Environmental work progressed as planned over the reporting period.

Key environmental management activities completed in July included:

- McElhanney Consulting Services (as the qualified environmental professional for Don Mann, the Construction Contractor for Residual Solids Pipes) completed reporting on potentially contaminated soils along the RSCL alignment; and

- Lorax Environmental Services (the CRD's dispersion modelling consultant) completed modelling of the predicted effluent plumes from the outfalls at McLoughlin, Clover and Macaulay points. The modelling built on previous work and is being used by HRP (the Design-Build Contractor for the McLoughlin Point WWTP) and Stantec in the Outfall Environmental Impact Study and Overflow Environmental Impact Study that will form the bulk of the MWR Registration.

Key environmental management activities completed in August included:

- Stantec completed an Overflow Environmental Impact Study (EIS) for submission as part of the Project's application for registration under the Municipal Wastewater Regulation. The Overflow EIS evaluates the environmental impact of overflows from the CRD's conveyance system following completion of the WTP. Through the construction and operation of the Project components the CRD will reduce the number of overflow locations and the frequency of overflow events. When overflows do occur they are not expected to result in significant effects; and
- McElhanney Consulting Services (as the qualified environmental professional for Knappett, the Construction Contractor for Residual Solids Pump Stations) completed fish salvage from the Colquitz Creek prior to construction of the crossing.

Key environmental management activity completed in September included:

- HRP (the Design-Build Contractor for the McLoughlin Point WWTP) completed an Outfall EIS evaluating the environmental effects of discharges from the McLoughlin Point WWTP outfall. The Outfall EIS is part of the Project's application for registration under the Municipal Wastewater Regulation, and evaluates the environmental impact of effluent discharges from the WWTP outfall during operations. As expected, the Outfall EIS shows a significant improvement in the receiving environment from current practice.
- Review of new work plan for RSCL crossings of Colquitz Creek.

Over the reporting period there were 4 environmental incidents.

- On July 17, Don Mann (as the Construction Contractor for the Residual Solids Pipes) had an unsecured jerry can of diesel fuel tip over in the back of a pick-up truck, with some of the fuel leaking out the tail gate. The volume released was less than 5 litres, and was therefore not reportable to authorities. The spill was contained to the gravel surface of Interurban Trail, and spill pads were used to absorb the fuel. The spill pads

were disposed of at an appropriate facility. No fuel entered the environment.

- Also on July 17, Windley Contracting (the Construction Contractor for the Clover Forcemain) had hydraulic fluid leak from a dump truck. The volume released was approximately 10 litres, and was therefore not reportable to authorities. The hydraulic fluid was contained to the gravel on the cycle track and was immediately contained and removed from site for disposal at an approved facility. No hydraulic fluid entered the sewer system or environment.

- On July 23, Don Mann had a hydraulic leak from an excavator. The volume released was less than 5 litres, and was therefore not reportable to authorities. The spill was contained to the gravel surface of Interurban Trail, and spill pads and were used to absorb the hydraulic fluid. The spill pads were disposed of at an appropriate facility. No hydraulic fluid entered the environment.

- In August Knappett (the Construction Contractor for Residual Solids Pump Stations), was preparing to install the RSCL under the Colquitz Creek and experienced challenges with dewatering and isolation of the work area, leading to sediment releases that resulted in short-term increases in turbidity. The sediment releases were reported to federal and provincial authorities and instream work was temporarily-suspended while the construction plan was revised. The water quality remained within BC Water Quality Guidelines, and due to the short duration of the turbidity increases, it is unlikely that there were any adverse effects on fish or fish habitat. In September once the new plan was implemented, work resumed and a different isolation methodology was employed, allowing the RSCL to be installed successfully. Prior to placement of spawning gravel and completion of backfilling, a large rain event resulted in the isolated work area being inundated. In response, Knappett removed the isolation dams, as they were no longer required to finish the work. The inundation and dam removal also led to sediment releases that created short-term turbidity increases, but again, water quality remained within BC Water Quality Guidelines, and due to the short duration of the turbidity increases, it is unlikely that there were any adverse effects on fish or fish habitat The in-stream work is now complete, and restoration and stream enhancement have taken place. This included placement of spawning gravel, removal of invasive plant species and planting of native riparian vegetation.

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 July included:

- McElhanney Consulting Services (as the qualified environmental professional for Knappett, the Construction Contractor for Residual Solids Pump Stations) applied for fish salvage permits to allow for the salvage of fish from the Colquitz Creek prior to construction of the crossing.

Key permitting activities for August included:

- Kenaidan (the Design-Build Contractor of the Macaulay pump station) submitted an Environmental Effects Determination (EED) Amendment to the Department of National

Defence for tree removals and construction of a temporary road to facilitate Macaulay forcemain construction. The EED Amendment demonstrated that following application of mitigation measures, the proposed work would not have significant environmental impacts).

Key permitting activities for September included:

- The CRD submitted the MWR Registration application to the BC Ministry of Environment and Climate Change Strategy (ENV). The MWR Registration will allow the CRD to discharge treated effluent from the new McLoughlin Point WWTP to the waters of the Strait of Juan de Fuca.

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 made to the table since the Q2 2019 Quarterly Report include the submission of the Municipal Wastewater Regulation (MWR) registration that was submitted in September 2019.

Table 4- Key Permits Status

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

2.3 First Nations

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

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.

In June the CRD shared a Technical Assessment Report that was prepared by Hartland Resource Management Group (the Design-Build-Finance-Operate-Maintain Contractor for the RTF) with each of the Esquimalt, Malahat, Pauquachin, Songhees, Tsartlip, Tseycum and Tsawout Nations, and offered to meet to review: the report findings, any other aspects of the construction and operation of the RTF, or the plan for the beneficial use of the biosolids that will be produced. In July the W̱SÁNEĆ Leadership Council accepted the CRD's offer and asked that the CRD present to the W̱SÁNEĆ Technical Advisory Committee, and a meeting has been scheduled for October.

Additionally, in July, the W̱SÁNEĆ Leadership Council requested a meeting with the CRD to discuss cultural monitoring during construction of the RSCL, and on August 13th the Tsartlip Nation demonstrated at the Hartland Landfill to highlight W̱SÁNEĆ Nations concerns regarding cultural monitoring during construction of the RSCL. A meeting with the W̱SÁNEĆ Leadership Council to discuss cultural monitoring during construction of the RSCL took place on September 30th.

2.4 Stakeholder Engagement

The Project maintained its ongoing two-way Communications and Engagement Plan to provide Project information to stakeholders, communities and the public and to respond to public inquiries. The key focus of the communications and engagement activities over the period was to keep residents and stakeholders informed of Project plans, progress and construction information, and to receive and respond to questions and concerns raised by the community. A variety of communications tools and engagement activities were utilized to support the implementation of the plan, including stakeholder meetings, Project website updates and notifications of construction through notices and a public inquiry program, among other methods.

July Overview

Three construction notices and updates were issued to stakeholders in July:

- Residual Solids Conveyance Line: Esquimalt Update (July 4, 2019) (Appendix A);
- Clover Forcemain: Dallas Road Temporary Closure (July 9, 2019) (Appendix B); and
- Trent Forcemain: Utility Locating (July 31, 2019) (Appendix C).

The Project Team hand delivered these construction notices in the community: Residual Solids Conveyance Line (250 residences in Esquimalt); Clover Forcemain (172 residences and multiple apartment buildings in James Bay); and Trent Forcemain (168 residences and businesses in the Fairfield community). A letter regarding parking in James Bay was also delivered to 126 local residents in advance of construction work in their neighbourhood.

In addition, one information sheet was posted to the Project's website:

- Esquimalt Summer Truck Route (Appendix D)

As well, Project Update #7 was distributed (Appendix E) in the month of July. This update summarised Project progress and included a description of public amenities to be completed along Dallas Road. The update was posted to the Project website, CRD Twitter account, and distributed by email to more than 730 residents and stakeholders who have signed up to receive Project updates.

Over the month of July, the Project website, wastewaterproject.ca, was updated with information about the Project. Three construction notices and updates, one information sheet and Project Update #7 were posted. The photo gallery section was updated with additional photos. Maps showing the progress of construction along the Clover Forcemain (Appendix F) and the Residual Solids Conveyance Line (Appendix G) were updated regularly.
The CRD's Twitter and Facebook accounts were 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 Staff;
- District of Saanich Technical Working Group;
- Greater Victoria Harbour Authority;
- James Bay Neighbourhood Association;
- Tourism Victoria;
- Township of Esquimalt Liaison Committee; and
- Township of Esquimalt Staff.

August Overview

Three construction notices were issued to stakeholders in August:

- Residual Solids Conveyance Line: Interurban Road Pump Station (August 9, 2019) (Appendix H);
- Macaulay Forcemain Installation: Bewdley Avenue Update (August 12, 2019) (Appendix I); and
- Residual Solids Conveyance Line: Marigold Road (August 16, 2019) (Appendix J).

The Project Team hand delivered the three construction notices to residents in close proximity to the work for these segments of the Project. A letter regarding a temporary truck traffic route change was also delivered to 52 residences in Esquimalt near the Macaulay Point and McLoughlin Point construction sites.

Over the month of August, the Project website, wastewaterproject.ca, was updated with information about the Project. Three construction notices were posted. The photo gallery section was updated with additional photos. Maps showing the progress of construction along the Clover Forcemain (Appendix K) and the Residual Solids Conveyance Line (Appendix L) were updated regularly, noting the Clover Forcemain installation was completed mid-August.

The CRD's Twitter account was used to provide Project updates on construction activities.

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

- City of Victoria staff;
- City of Victoria Technical Working Group; and
- Greater Victoria Harbour Authority.

September Overview

Two construction notices were issued to stakeholders in the September:

- Clover Point Pump Station: Temporary Closures (September 6, 2019) (Appendix M); and
- Residual Solids Conveyance Line: Temporary Overnight Work (September 9, 2019) (Appendix N).

As well, an update on construction on Dallas Road (September 5, 2019) (Appendix O) was distributed to more than 400 recipients and stakeholders who have signed up to receive Project updates. This email highlighted the completion of pipe installation of the Clover Forcemain and included a map (Appendix P) featuring the public amenities along the route.

The Project Team hand delivered the Clover Point Pump Station: Temporary Closures notice to 144 residents in close proximity to the construction site. In addition, the Team hand delivered notices regarding construction at the Colquitz Creek on Marigold Road to 30 nearby residences.

Over the month of September, the Project website, wastewaterproject.ca, was updated with information about the Project. Two construction notices were posted. The photo gallery section was updated with additional photos. A map showing the progress of construction along the Residual Solids Conveyance Line (Appendix Q) was updated weekly and a map of amenities along Dallas Road was added.

The CRD's Twitter account was used to provide Project information to the public, including alerts about anticipated traffic delays, upcoming pathway closures, links to the amenities map and a video highlighting the recent outfall pipe installation at McLoughlin Point.

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

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

Public Inquiries

Table 5 – Project Inquiries- August 2019

Inquiry Source	Contacts for Q3
Information phone line inquiries	88
Email inquiries responded to	50

Key themes of the public inquiries were as follows:

- Increased traffic on side streets due to Project construction;
- Questions about truck traffic and the Traffic Management Plan in Esquimalt;
- Questions about final restoration and paving;
- Inquiries about parking options in James Bay;
- Concerns about noise from traffic travelling over the temporary road surface (steel plates and gravel) on Grange Road;
- Questions about timeline for restoration along the RSCL and Clover Forcemain; and
- Questions about Willis Point Road traffic wait times.
- Concerns regarding traffic impacts;
- Interest in the restoration and public realm improvements along Dallas Road; and
- Questions regarding the timing of construction

2.5 Resolutions from Other Governments

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

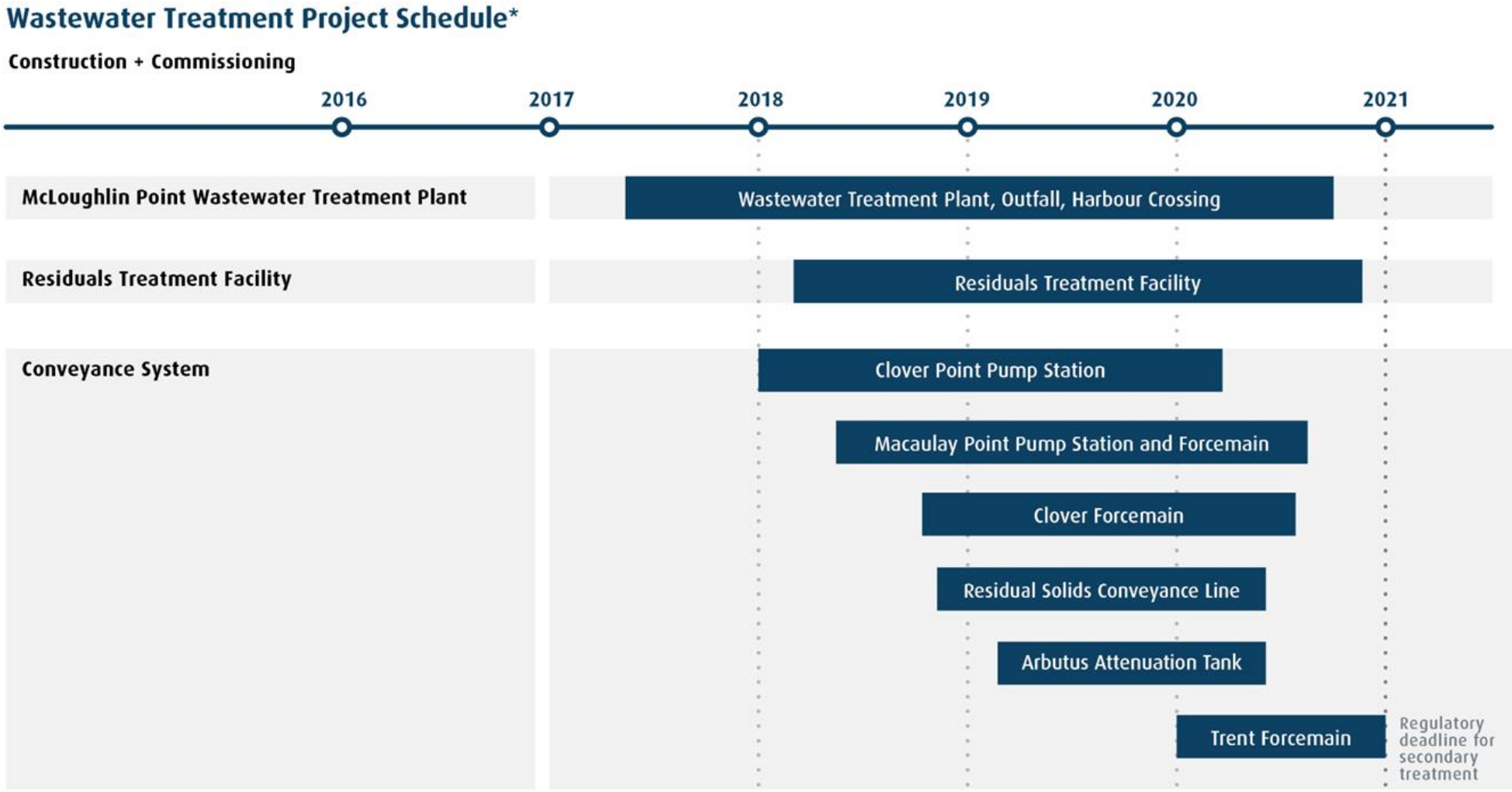
2.6 Schedule

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

Figure 1 shows the high-level Project schedule. This schedule remains the same as that shown in the Q2 2019 Quarterly Report, however the schedule remains subject to optimization as the Project progresses.

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

Figure 1- High-Level Project Schedule



*Schedule subject to updates as Project planning progresses.

2.6.1 30 day look ahead

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

Safety

- preparing for Great Shake-out annual event;
- TCP Traffic Plan inspections during site tours;
- 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 continue engaging with ENV to discuss the MWR Registration application and the RTF Operational Certificate application and determine if ENV requires any additional information or clarifications.

First Nations

- CRD and HRMG to meet with the W̱SÁNEĆ Technical Advisory Committee to discuss the Technical Assessment Report and construction and operation of the RTF and the CRD's plan for the beneficial use of the biosolids to be produced.

Stakeholder Engagement

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

Cost Management and Forecast

- prepare cost reports;
- monitor schedule;
- prepare Q3 financial close reporting;
- prepare for interim audit; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- install raw sewage influent piping;
- install pig receiver upstream piping and harbour crossing connection;
- install planter wall #1 and #2 and tsunami wall #5;
- install odour control walls, roof slab and stairs;
- hydro test Densadeg 2 and 3;
- install supports for Suez walkways and equipment;
- install influent slide gates;

- continue with secondary area walls and slabs;
- install unit heaters and air handling units in secondary treatment;
- install miscellaneous metals and structural steel decking in blower room;
- install cable trays in heat recovery room;
- continue construction of tertiary walls and slabs;
- install motor control centres, uninterrupted power supply and programmable logic controllers in electrical room;
- install doors and glazing in electrical room;
- continue with Operations and Maintenance(O&M) building walls, columns and slabs;
- install O&M exterior doors, steel stud framing, exterior sheathing and masonry block walls;
- install insulation, drywall, suspended ceilings, and flooring in O&M building north; and
- install anchor protection and rock reefs for the outfall.

Clover Point Pump Station

- continue installation of 1200mm forcemain;
- install pig launching chamber;
- commence installation of 1500mm gravity inlet sewer;
- install building envelope and exterior finishes to washroom;
- install exterior north retaining wall;
- install concrete pipe supports in pump room;
- install doors in new pump station;
- install knife gates valves and check valves in pump room;
- place storm pumps;
- install air handling unit;
- install backwash and surge piping;
- install discharge piping to header; and
- install electrical and controls for storm pumps.

Macaulay Point Pump Station

- backfill structure to elevation -1.0m;
- continue construction of walls and slabs;
- install double T precast roof;
- install miscellaneous metal stairs, grating and walkways;
- install exterior cross laminated timber (CLT) walls and partitions;
- install discharge header;
- install slide gates in influent channels;
- install monorail and cranes in pump room, bin room and odour control room; and
- install forcemain to Peter Street including the tie in and connection.

Residuals Treatment Facility

- piping installation in Digesters 1 and 2;
- commence foundation construction of Operations Building;
- piping installation at Other Municipal Solids Receiving Facility;
- cladding installation and building systems installations at the Residuals Handling Building;
- erect pre-engineered building structural steel at the Dryer Building;
- continue equipment installation at Dryer Building;
- commence foundation of Digester 3;

- continue erection of Residuals Solids Tanks 1 and 2;
- continue erection of Residual Effluent Holding Tank; and
- commence erection of Water Storage Tank.

Clover Forcemain

- Dallas Road reconstruction between Ogden Point to Douglas Street;
- cycle track construction in Areas 3 and 4;
- complete installation of transition chamber at harbour crossing; and
- complete City of Victoria watermain lining.

Residual Solids Conveyance Line (RSCL)

- install line valves and low point drain valves;
- complete installation of RSCL from Arm Street to Selkirk Avenue;
- continue installation of RSCL on Interurban Road (from Grange Road working north to Roy Road); and
- continue installation of RSCL on Interurban Road (from Hector Road working south to Alan Road).

Residual Solids Pump Stations and Bridge Crossings (RSCL 200)

- complete installation of RSCL at pump station #2 and pump station #3;
- pump station #3 final backfill, site grading and road construction;
- pump station #3 electrical installation;
- construct pump station #2 retaining wall;
- install pump station #2 underground electrical;
- install process mechanical and water service at pump station #2;
- continue with substructure construction at pump station #1;
- Marigold Control Valve Chamber complete cast in place foundation;
- Marigold control valve Chamber install suspended slab; and
- commence installation of support and piping under the Tillicum Bridge.

Arbutus Attenuation Tank (AAT)

- commence installation of permanent sanitary piping and manholes to facilitate bypass pumping and overflow routing;
- installation of temporary piping and overflow chamber and metering system to manage flows during construction;
- continue ongoing drilling operation for secant piles; and
- continue ongoing concrete pour operations for reinforced and plain secant piles.

Procurement

Trent Forcemain

- review and respond to tender inquiries, and issue addenda; and
- receive tender submissions and commence tender evaluation.

2.6.2 60 day look ahead

Key activities and milestones for the next 60 days (November) 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;
- prime contractor project safety meeting with Project safety representatives;
- office/site inspections with contractors and CRD corporate at all active sites;
- prime contractor project safety meeting with Project safety representatives;
- review of any site specific safety plans or high risk tasks;
- review prime contractor document submissions;
- WTP Safety Manager and/or Construction Manager will conduct regular site inspections at all active Project work sites; and
- incident reporting review with prime contractors at active work locations.

Environment and Regulatory Management

- CRD, Stantec, HRP and Lorax to meet with ENV to present results of McLoughlin Point WWTP outfall dispersion modelling and discuss ENV review of Outfall EIS and Overflow EIS.

First Nations

- ongoing engaging with First Nations
-

Stakeholder Engagement

- ongoing construction communications with stakeholders;
- development of content for Project Update #8; and
- ongoing community liaison meetings.

Cost Management and Forecast

- prepare cost reports;
- monitor schedule;
- interim audit, auditors on site; and
- submit funding claims to Infrastructure Canada (under the Building Canada Fund and Green Infrastructure Fund).

Construction

McLoughlin Point

- install perimeter water line for hydrants;
- install pig receiver piping and harbour crossing connection;
- install raw sewage influent piping;
- complete construction of tsunami wall 5;
- construct odour control envelope wall and roof slab;
- install stairs in odour control;
- install carbon filters 1&2 and carbon filter tank 1;
- continue construction of walls and slabs in the primary area envelope;
- install supports for Suez walkways;
- install process mechanical equipment in Densadeg 1 and 2;
- continue MBBR channel walls and slabs;

- install ducting, exhaust fans and air handling units in secondary treatment;
- continue installation of electrical cable trays, and power and control cables;
- install switchgear, harmonic filters, Programmable Logic Control and transformers in Blower room;
- install process mechanical in Heat Recovery Room;
- continue Tertiary Area walls and slabs;
- install process mechanical equipment in Pump Rooms level 1 and 2;
- install process electrical equipment in the electrical room;
- install Operations &Maintenance(O&M) building elevator;
- install O&M building green roofing;
- install O&M building envelope and interior finishes; and
- complete marine outfall.

Clover Point Pump Station

- install 1200mm sanitary forcemain;
- commence installation of Pig launching chamber;
- install 1500mm gravity sewer;
- install pipe supports in pump room;
- install doors and hardware on new pump station;
- continue installation of process mechanical equipment in pump room;
- install discharge, backwash and surge piping;
- install HVAC equipment and ducting; and
- commence functional testing of storm and sewage pumps.

Macaulay Point Pump Station

- install transformer and fuel tank pad;
- commence construction of Cross Laminated Timber (CLT) walls and roof;
- install sanitary pumps and piping;
- install vortex grit removal equipment;
- install odour control unit and associated ducting and fans;
- install cranes in Odour Control, Bin and Pump rooms;
- install cable trays in pump, generator and electrical rooms;
- install tie-in of Macaulay forcemain at Peter Street; and
- continue restoration of Anson and Bewdley Streets.

Residuals Treatment Facility

- continue piping installation in Digesters 1 and 2;
- continue construction of Operations Building;
- piping installation at Other Municipal Solids Receiving Facility;
- roofing installation and building systems installations at the Residuals Handling Building;
- complete pre-engineered building structural steel at the Dryer Building;
- continue equipment installation at Dryer Building;
- commence erection of Digester 3;
- complete erection of Residuals Solids Tanks 1 and 2;
- complete erection of Residual Effluent Holding Tank; and
- continue erection of Water Storage Tank.

Clover Forcemain

- road reconstruction Ogden Point to Niagara St;
- road reconstruction Douglas St to Camas Circle;
- road/cycle track construction Paddon Ave to Olympia Ave;
- road/cycle track construction Olympia Ave to Douglas St;
- road/cycle track construction Montreal St to Cock St;
- road/cycle track construction Douglas St west to Douglas St east; and
- road/cycle track construction Government St to Paddon Ave.

Residual Solids Conveyance Line

- continue RSCL installation at Craigflower Rd to Arm St to Selkirk Ave to Tillicum Rd;
- continue RSCL installation at Tillicum Rd to Tillicum bridge;
- continue RSCL installation at Grange Rd from Highway 1 to Burnside Rd;
- continue installation of RSCL installation at Interurban Rd from Grange Rd to Wilkinson Rd;
- continue installation of RSCL installation at – Hector Rd to Wilkinson Rd;
- continue installation of line, drain and air valves; and
- continue restoration of roads and trails as required.

Residual Solids Pump Stations and Bridge Crossings (RSCL 200)

- installation of RSCL on Marigold Street from Colquitz Creek to Marigold Pump Station and from Colquitz Creek to Grange Road;
- install CRL on Interurban Rd from Grange Rd to Marigold Rd;
- Commence installation of RTF control valve chamber;
- Continue installation of Tillicum bridge supports and piping;
- Install pump station #4 process mechanical and electrical;
- Install pump station #3 substructure, retaining wall and water service; and
- Continue with the RTF watermain installation.

Arbutus Attenuation Tank (AAT)

- continue ongoing drilling operation for secant piles;
- continue ongoing concrete pour operations for reinforced and plain secant piles;
- decommission existing overflow system infrastructure within tank footprint; and
- excavate remainder of tank footprint to facilitate additional secant pile construction operations.

Procurement

Trent Forcemain

- commence tender evaluation

2.7 Cost Management and Forecast

The quarterly cost report for September is attached as Appendix R. 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, and over the reporting period (on August 14, 2019) the associated amendment to the 2019-2023 Financial Plan was approved. Appendix S 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 $5.2 million. The significant commitments made in the reporting period were the approval of provisional items in contracts and contract change orders.

2.7.2 Expenses and Invoicing

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

2.7.3 Contingency and Program Reserves

Contingency draws of $863k were made over the reporting period, as itemized in Table 6. The draws to-date and remaining contingency and program reserve balances are summarized in Table 6.

Table 6- Contingency and Program Reserve Draw-Down Table

WTP Contingency and Program Reserve Draws and Reallocations	Draw Date	$ Amount
Contingency and Program Reserve (in Control Budget)		**$ 69,318,051**
Contingency and Program Reserve Draws to June 30, 2019		$ (55,974,491)
Contingency and Program Reserve addition (May 2019)		$ 10,000,000
Contingency and Program Reserve balance as at June 30, 2019		**$ 23,343,560**
McLoughlin WWTP - Cable and Wire Tagging Standard	Jul-19	$ (19,844)
Security and IT Equipment	Sep-19	$ (47,141)
McLoughlin Point Site Remediation: excavation and disposal of contaminated soil (chlorides)	Sep-19	$ (96,393)
Personal Protective Equipment (PPE) free pathway	Sep-19	$ (8,940)
WWTP Total Draw		$ (172,318)
RTF Total Draw		$ -
Macaulay Pump Station - Supply of Mount Transformer with DNP3 Communications	Jul-19	$ (220,154)
Macaulay Pump Station - Replacement of Inlet Piping	Jul-19	$ (391,153)
Macaulay Pump Station - Cable and Wire Tagging Standard	Jul-19	$ (46,471)
Clover Pump Station - Cable and Wire Tagging Standard	Jul-19	$ (33,842)
Conveyance Total Draw		$ (691,620)
PMO Total Draw		$ -
BC Hydro Total Draw		$ -
WTP Program Reserve Draw		$ -
Contingency and Program Reserve draws in the reporting period		$ (863,938)
Contingency and Program Reserve balance as at Sept 30, 2019		**$ 22,479,622**

2.7.4 Project Funding

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

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

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

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

The status of funding claims is summarised in Table 7. Note that the timing for the provision of Government of British Columbia and Government of Canada's funding differs by funding source. The Project Team will submit claims to the funding partners in accordance with the relevant funding agreements. In accordance with the funding agreements, funding from the P3 Canada Fund and the majority of the funding from the Government of British Columbia cannot be claimed until relevant Project components are substantially complete, which is scheduled to occur in 2020.

Table 7- Project Funding Status

Funding Source	Maximum Contribution	Funding Received in the Reporting Period	Funding Received to Date
Government of Canada (Building Canada Fund)	$120M	$5.6M	$66.9M
Government of Canada (Green Infrastructure Fund)	$50M	$3.5M	$25.5M
Government of Canada (P3 Canada Fund)	$41M	-	-
Government of British Columbia	$248M	-	-
Federation of Canadian Municipalities	$346K	-	-
TOTAL	**$459.3M**	**$9.1M**	**$92.4M**

2.8 Key Risks and issues

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

There were no changes to the active risks summary from that presented in the Project's Q2 Quarterly Report

Table 8- Project Active Risks Summary

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

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	Trend in risk level from previous reporting period
Downstream works delays.	Delay from conveyance projects delay delivery of wastewater to WWTP.	Schedule has sufficient time allowance to ensure conveyance elements complete prior to requirement. Contractor agreements will include terms that require the contractor to recover schedule delays and/or allow for CRD acceleration.	M	No change
Upstream works delays.	Delay of the delivery of residual solids to the RTF.	Contract with HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) includes terms that require the contractor to recover schedule delays and/or allow for CRD acceleration. Liquidated damages for late delivery in HRP contract.	L	No change
Municipal Wastewater Regulation (MWR) Registration is not achieved or is delayed.	A delay to achieving MWR Registration of the wastewater treatment system would mean that the CRD could not discharge treated effluent, and therefore would not be able to commission the WWTP or RTF.	The Project Team (with HRP and Stantec representatives) have been meeting regularly with Ministry of Environment representatives since September 2017 to review the MWR Registration application requirements and the Project's schedule, in order to mitigate the risk of an incomplete application and/or schedule delays in the registration. 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
Public directly contacting contractors at sites.	Direct contact between the public and contractors could expose both parties to worksite hazards and potential injuries.	Communications and engagement plan and coverage of communications in contractor orientations.	M	No change
Change in law.	A change in law impacts the scope, cost or schedule of the Project.	Keep apprised of proposed modifications to relevant regulations so as to do the following as appropriate: submit comments on proposed modifications; and/or consider including anticipated modifications in contracts.	M	No change

Risk Event	Description of Risk Event	Risk mitigation activities undertaken or planned in the reporting period	Assessed risk level	Trend in risk level from previous reporting period
Labour - availability and/or cost escalation.	There is insufficient labour available to construct the Project, and/or there is significant labour cost.	The Project Team will, through the use of competitive selection processes for all construction contracts, ensure that all Project contractors have appropriate experience and therefore understand labour risk.	M	No change
Disagreement on contractual obligations of the construction contractors.	There is a disagreement between the Project Team and a contractor regarding the performance of their contractual obligations.	The Project Team takes a proactive management approach to the resolution of any changes, claims and disputes that arise, working expeditiously to achieve resolution with the goal of minimizing any impacts to budget and schedule while ensuring adherence to the terms of the construction contracts.	M	No change
McLoughlin Point Wastewater Treatment Plant				
Unexpected contaminated soil conditions during excavation.	Site has more contaminated soils than initial assessment.	CRD and HRP (as the Design-Build Contractor for the McLoughlin Point WWTP) are working collaboratively to minimize the costs associated with remediating the McLoughlin Point site while ensuring that contaminated materials are removed and disposed of in accordance with all applicable legislation.	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	Trend in risk level from previous reporting period
Due to high cost escalation (inflation) Conveyance works contracts' amount higher than budgeted.	Cost of conveyance contracts higher than estimated and budgeted.	There is only one conveyance contract remaining to be procured (the Trent Forcemain). It will be competitively-procured, as has been done for all of the construction contracts. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money, and in order to identify any opportunities where savings could be realized to partially-offset escalation.	M	No Change
Engineering design development results in increases to the estimated construction cost.	Conveyance contract amounts higher than budget due to design development (through indicative and detailed design phases).	There is only one conveyance contract remaining to be procured (the Trent Forcemain), for which the Project Team recently refreshed the cost estimate. The Project Team will continue to undertake value engineering through the detailed design stage with the aim of minimizing costs to CRD's residents and businesses (life cycle costs) and providing value for money.	M	No change

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

2.9 Status (Engineering, Procurement and Construction)

2.9.1 Wastewater Treatment Plant (McLoughlin Point WWTP)

The McLoughlin Point WWTP Project Component is continuing with Harbour Resource Partners ("HRP" as the Design-Build Contractor for the McLoughlin Point WWTP) progressing engineering and construction at McLoughlin Point, including: installation of electrical panels and cabling in BAF gallery; Biological Aerated Filters (BAF) topping pours; forcemain pipe in Patricia Way; completion of placement of the marine outfall and commencement of the anchor protection and rock reefs; electrical HVAC and piping installation in the Process building and the Operations and Maintenance building; and completion of the Biological Aerated Filter (BAF) influent and effluent channels; permanent placement of generators.

Engineering

HRP held monthly progress meetings with the Independent Certifier during the reporting period.

Construction

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

July:

- marine outfall pipe floated into position and submerged;
- heat recovery room slab pour;
- electrical room structural steel erection;
- Biological Aerated Filters (BAF) topping pours commenced;
- BAF Influent and Effluent Channels completed;
- recommenced concrete work in Tertiary;
- Operations and Maintenance building (O&M) 2nd story slab poured;
- electrical installation of panels and cabling in BAF gallery;
- fine screen slab poured;
- primary walls continued all slabs completed;
- bypass piping installed; and
- installation of forcemain pipe in Patricia Way is ongoing.

August:

- commenced marine outfall anchor protection and rock reefs;
- commenced structural steel erection in heat recovery room;
- commenced steel stud framing in electrical room;
- installed exterior sheathing on electrical room;
- installed masonry block walls in Operations & Maintenance building;
- Peter Street reopened to traffic;
- blower room slab poured;
- west entry slab poured;
- work commenced on fine screen channel walls;
- 30" BAF backwash water piping installed;
- benching in Densadeg 1 commenced;
- commence BAF cell toppings; and
- continued installation of forcemain pipe in Patricia Way.

September:

- continued marine outfall anchor protection and rock reefs;
- continued underground utility work along Patricia St and Victoria View Rd;
- installation of plant bypass line continued;
- continued construction of tertiary outfall perimeter walls;
- clean water tank construction ongoing;
- BAF concrete walls, weirs, slabs and monofloors are ongoing;
- primary treatment walls, west Densadeg, Lamella slab and dirty backwash tank coating ongoing;
- HVAC, plumbing and electrical continued in the O&M Building;
- cable tray and cable pulling ongoing in BAF gallery and O&M building;
- process mechanical piping, supports and housekeeping pad continued in Primary, Secondary and Tertiary treatment; and
- generators were set on permanent foundations.

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

Figure 2− McLoughlin Point Wastewater Treatment Plant- Installing 24 inch Biological Aerated Filter influent piping.

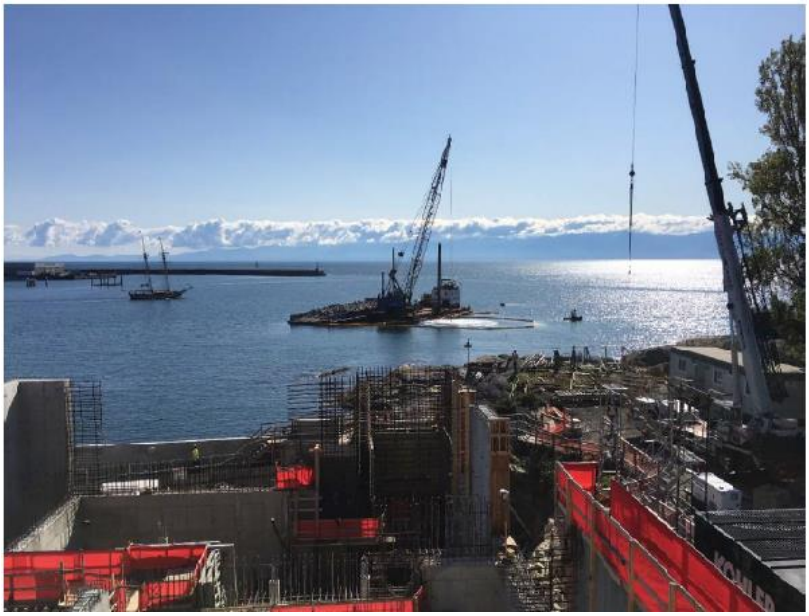


Figure 3− McLoughlin Point Wastewater Treatment Plant- Placement of Rip Rap on anchor protection zone.

Figure 4− McLoughlin Point Wastewater Treatment Plant- Heat exchangers in Heat Recovery Room.

Figure 5− McLoughlin Point Wastewater Treatment Plant- Ongoing placement of concrete block at Operations and Maintenance building.

Figure 6− McLoughlin Point Wastewater Treatment Plant- Primary influent drop pipes from Biological Aerated Filter influent channel completed.

2.9.2 Residuals Treatment Facility

The RTF Project Component is continuing with Hartland Resource Management Group ("HRMG" as the Design-Build-Finance-Operate Maintain contractor for the RTF) completing the Issued for Construction (IFC) drawings; meeting with the independent certifier; and progressing construction activities including: completed construction of the Digested Solids Storage Tank; continued equipment installation, erection of structural and exterior steel at the Residuals Handling Building; slabs poured and curing for the water storage tank, water pump house, and foundation work for the Residuals Effluent Storage Tank and Equalization Building; and commenced tank erection Residuals Solids Tanks 1 & 2.

Engineering

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

- completion of the final (100%) design submission;
- monthly progress meeting with independent certifier; and
- submitted amended building permit architectural drawings to the District of Saanich.

August:

- submission of the Issued for Construction (IFC) drawings;
- monthly progress meeting with independent certifier; and
- working on resolution of outstanding minor design items.

September:

- monthly progress meeting with independent certifier; and
- working on resolution of few remaining design items.

Construction

Key construction activities in progress or completed by HRMG during the reporting period included:

July:

- completion of Digester 1 erection;
- continued erection of Digester 2;
- continued erection of Digested Solids Storage Tank;
- completed formwork for the Digester Building base slab;
- continued installation of process mechanical piping in Other Municipal Solids Receiving Facility;
- completed structural steel erection at the Residuals Handling Building;
- commenced equipment installation at the Residuals Handling Building;
- continued equipment steel erection and equipment installation at the Residuals Drying Facility;
- poured concrete foundations for Residuals Effluent Storage Tank and Equalization Building;
- continued reinforcing steel installation for the foundation slab of the Water Storage Tank;
- continued base preparation for the Water Storage Tank; and
- commenced base preparation for the Odour Control Facility.

August

- commenced Digester 1 piping;
- completed erection of Digester 2 and Digested Solids Storage Tank;
- completed the Digester Building foundation;
- continued installation of process mechanical piping in Other Municipal Solids Receiving Facility;
- commenced masonry block walls at the Residuals Handling Building;
- continued equipment installation at the Residuals Handling Building;
- completed steel erection at the Residuals Drying Facility;
- poured concrete foundations for Residuals Effluent Storage Tank and Equalization Building;
- continued reinforcing steel installation for the foundation slab of the Water Storage Tank;
- base slab was poured for the Water Storage Tank; and
- Water Pump House base slab was poured.

September

- completed internal piping for Digester 1;
- pipe installation ongoing for Digester 2;
- completed tank erection Digested Solids Storage Tank;
- placed heat exchangers in Digester Building;
- commenced exterior cladding, continued masonry walls, and commenced electrical cable tray installation for the Residuals Handling Building;
- continued equipment installation, commenced exterior structural steel erection for the Dryer Building;
- curing concrete bases for Residuals Effluent Tank Water Storage Tank, and Water Pump House;
- commenced tank erection Residuals Solids Tank 1 & 2;
- foundation complete of Equalization Building; and
- forming foundation of Odour Control Facility.

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

Figure 7− Residuals Treatment Facility- Installing concrete block walls in Residuals Handling Building.

Figure 8− Residuals Treatment Facility- Installation of structural steel for Dryer Building exterior frame ongoing.

Figure 9− Residuals Treatment Facility- 3rd row of bolted steel tank panels being installed on Residual Solids Tank 1.

Figure 10− Residuals Treatment Facility- Installation of interior piping inside Digester 2 ongoing.

2.9.3 Conveyance System

2.9.3.1 Clover Point Pump Station

Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressed design and construction activities over the reporting period including: continued to assess outstanding design comments before submitting the final Issued for Construction (IFC) package; shop drawing reviews in advance of equipment deliveries; process piping and electrical installations; and installation of the roofing membrane; sanitary pump installation in the lower pump room; large diameter process piping installation from the new to existing pump rooms; and completion of public washroom underground utilities and foundation.

More specifically, construction activities in progress or completed by Kenaidan over the reporting period were as follows:

July:

- received and placed variable frequency drives, automatic transition switches, motor control centres, and switchgear;
- received and placed the odour control unit on the equipment pad;
- electrical feeder cable conduit installed to the transformer;
- installation of pipe supports and platforms is ongoing;
- concrete finishing, crack injection and sandblasting of the wet wells and channel is ongoing;
- precast roof beams installed and the roof slab was poured;
- bridge crane was received and installed; and
- large bore process piping installation is ongoing in the pump room.

August:

- pump, odour control, and screening rooms electrical installation ongoing;
- commenced interconnecting cable installation for the motor control centres;
- installed lighting and control panels in the transformer and electrical rooms;
- installation of the storm and sanitary process piping and headers ongoing;
- commenced wet well sand blasting and waterproof coating;
- roof membrane installation is ongoing; and
- miscellaneous metal installation is ongoing throughout the pump station.

September:

- sanitary pumps installed in the lower pump room;
- suction spools were placed in the wet wells;
- large diameter process piping installed from the new to existing pump rooms;
- cable tray and cable installation continued;
- roofing membrane installed;
- new public washroom underground utilities and foundation is complete; and
- stairways and platforms were installed in the pump room.

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

Figure 11−Clover Point Pump Station- Setting storm suction spools.

Figure 12−Clover Point Pump Station- Installing pump room pipe supports.

Figure 13−Clover Point Pump Station- Lower pump room concrete pipe supports.

Figure 14- Clover Pump Station - Installed Electrical Room Monorail.

2.9.3.2 Macaulay Point Pump Station and Forcemain

Kenaidan Contracting Limited ("Kenaidan" as the Design-Build Contractor) progressed design and construction activities over the reporting period including: forming and pouring of exterior walls and interior slabs; vortex slab and walls poured; generator suspended slab formwork completed; all pump pedestals have been formed and poured; interior and exterior concrete walls continued with the final exterior wall completed installation of approximately 470m during the period for a total of 650m of forcemain installed to September 30, 2019

Engineering:

- continued assessment of outstanding design comments before submitting the final IFC package; and
- shop drawing reviews in advance of equipment deliveries.

Construction:

Key construction activities in progress or completed by Kenaidan over the reporting period were as follows:

July:

- forming and pouring of exterior walls and interior slabs is ongoing;
- construction of pump room housekeeping pads is ongoing;
- the second lift of concrete for the Vortex Degritter was poured;
- washroom plumbing installed and tested; and
- forcemain progressed 165m on Anson Street from Munro Street to Bewdley Ave, providing for a total installed length to the end of July of 345m.

August:

- slide gates delivered to site;
- vortex slab and walls poured;
- generator suspended slab formwork completed;
- screen room slab poured; and
- forcemain progressed 155m on Bewdley Ave from Anson Street to Peter St. providing for a total installed length to the end of August of 500m.

September

- forcemain progress 150m on Bewdley Ave from Anson S to Peter St. providing for a total installed length to the end of September of 650m;
- Suspended slab for genset room complete;
- all pump pedestals have been formed and poured; and
- interior and exterior concrete walls continued with the final exterior wall completed.

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

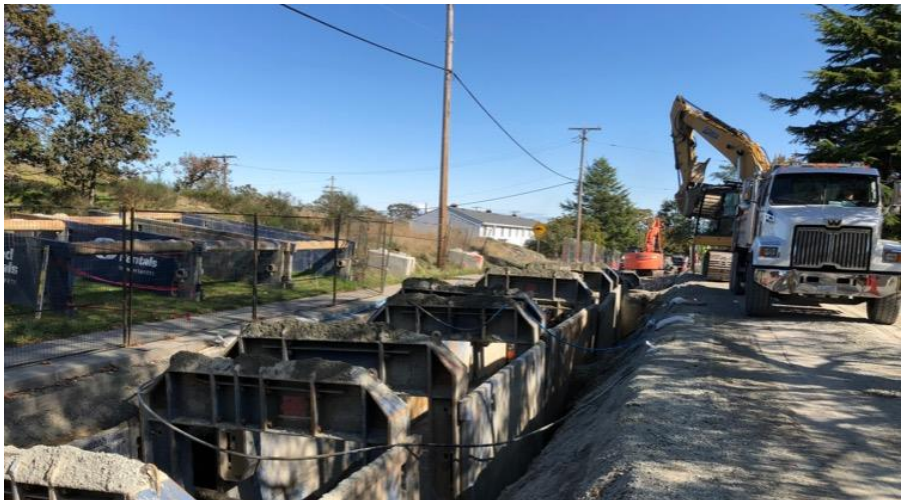


Figure 15−Macaulay Point Pump Station- Macaulay forcemain progressing east on Bewdley St to Peter St.

Figure 16−Macaulay Point Pump Station- Installing formwork for genset room wall.

2.9.3.3 Clover Forcemain (CFM)

Windley Contracting Ltd. ("Windley" as the Construction Contractor) continued construction activities including completion of installation of the forcemain; completion of watermain connections; and ongoing road restoration, landscaping, cycle track base and paving.

Key construction activities in progress or completed by Windley over the reporting period were as follows:

July

- advanced the forcemain 380m from South Turner Street to Olympia Ave;
- installed transition chamber at Ogden Point;
- completed final water main connection at Dallas Road and Paddon Avenue including residential service transfers;
- constructed cycle track base from Clover Point; and
- installed air relief chambers #2 and #3.

August

- advanced the forcemain 160m from Olympia Avenue to Douglas Street and completed the forcemain installation on August 15, 2019;
- filled and tested the Ogden Point section of the forcemain;
- completed final watermain connection at Dallas Road and Paddon Avenue including residential service transfers;
- cycle track preparation from Clover Point west; and
- completed all sanitary and storm sewer relocations.

September

- 42" transition flange coating complete;
- cycle track paving and landscaping is ongoing;
- road restoration is ongoing;
- clearing of area 3 cycle track is complete;
- electrical lighting installation ongoing; and
- watermain lining in progress.

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

Figure 17−Clover Forcemain-Ogden Point - Road restoration in progress.

Figure 18−Clover Forcemain- Flange coating complete on under harbour pipe.

Figure 19−Clover Forcemain−Cycle track paved and landscaping in progress.

Figure 20−Clover Forcemain-Victoria Drain performing sanitary and drain CCTV inspections

2.9.3.4 Residual Solids Conveyance Line

The RSCL is being delivered through three construction contracts:

- RSCL 100 Residual Solids Pipes;
- RSCL 200 Residual Solids Pump Stations; and
- RSCL 300 Saanich Infrastructure Improvements.

RSCL 100 Residual Solids Pipes: Don Mann Excavating Ltd. ("Don Mann" as the Construction Contractor for the Residual Solids Pipes) continued construction activities including:

July:
Installation of approx. 2.7 km of pipes at the following locations:

- Segment #1: Wollaston St. to Head St; and Head St. to Dunsmuir Rd;
- Segment #2: Grange Road from Lavender Ave to Violet Ave;
- Segment #3: Interurban Trail from Goward Road working North; and Quayle Road working North towards Goward Road; and
- Segment #4: Interurban trail from Wallace Drive to Hartland Ave.

August:
Installation of approx. 1.7 km of pipes at the following locations:

- Segment #1: Head St to Gore Street;
- Segment #2: Grange Road from Violet Ave to Gardenia Court;
- Segment #3: Interurban Road from Quayle Road to Goward Road;
- Segment #3: Interurban Trail from Goward Road working north; and
- Segment #4: Interurban Trail from Hartland Ave to Prospect Lake Drive.

September:
Installation of approx. 800m of pipes at the following locations:

- Segment #1: Gore Street to Peter Street;
- Segment #2: Grange Road from Gardenia Court to Interurban Road;
- Segment #3: Interurban Road south to Alan Road;
- Segment #3: Interurban Road from Quayle Road to Goward Road; and
- Segment #4: Interurban Trail restoration from the Red Barn Market to Prospect Lake Road.

Photographs of construction progress over the month of September on the Residual Solids Conveyance Line are shown in Figures 21-24.

Figure 21−Residual Solids Conveyance Line- Trench excavation and pipe installation at Gore Street.

Figure 22−Residual Solids Conveyance Line- Pressure testing of pipe underway on Interurban Trail south of the Red Barn Market.

Figure 23−Residual Solids Conveyance Line- Layout of pipe alignment on Interurban Road.

Figure 24−Residual Solids Conveyance Line- Lower course paving on Interurban Road.

RSCL 200 Residual Solids Pump Stations: Knappett Projects Inc. (“Knappett” as the Construction Contractor for the Residual Solids Pump Stations) continued construction activities including installation of approximately 2.7km of pipes and progressed construction activities at all three pump stations.

Key construction activities in progress or completed by Knappett over the reporting period were as follows:

July:

- wet well barrels were received at pump station #2 and #3;
- wet well barrel placed on concrete pad foundation and anchored and grouted; and
- crusher was mobilized to Hartland landfill site and crushed the blast rock from pump
- station #3.

August:

- continued installation of RSCL along Willis Point Road;
- installed pre-cast concrete wet well barrels at pump station #3;
- commenced construction of access road for pump station #3; and
- mobilised crews to Colquitz Creek and commenced RSCL crossing.

September:

- Colquitz Creek crossing was completed inclusive of spawning gravel placement and site restoration;
- Pump station #1 soils stripped from work site;
- Pump station #2 wet well slab and barrels were placed;
- Pump station #2 valve chamber slab was formed and poured;
- Pump station #3 lock block retaining wall was installed;
- Line valve and flow meter chambers at pump station #3 were placed; and
- installation 211m of RSCL pipes on Willis Point Road continued.

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

Figure 25−Residual Solids Pump Stations and Bridge Crossings – Excavation of trench to install Hartland water system improvements water main.

Figure 26 −Residual Solids Pump Stations and Bridge Crossings- Fusing of pipes on Willis Point Road.

Figure 27−Residual Solids Pump Stations and Bridge Crossings – Crane truck offload 1500mm wet well barrel at pump station 3.

2.9.3.5 Arbutus Attenuation Tank

NAC Constructors Ltd. (as the Construction Contractor for the Arbutus Attenuation Tank) has continued construction activities including: utility locates and confirmation of existing site services, dewatering wells drilled and testing, commenced and continued drilling, reinforcing and concreting secant piles, coordination and planning for decommissioning of existing overflow system located within the tank footprint; and design and procurement of temporary bypass and overflow routing system.

July

- removed trees in the site trailer compound area;
- set up site trailer compound;
- commenced excavation in tank area to prepare a working pad for the secant piling equipment;
- performed utility locates and confirmation of existing site services;
- mobilized secant drilling contractor to site;
- dewatering system mobilized to site and set up; and
- dewatering wells drilled and dewatering test conducted.

August

- excavated a portion of the tank area in order to facilitate construction and installation of secant piles;
- drawdown testing has been completed using four installed wells, these will then be used for the dewatering system;
- commenced drilling for secant pile installation;
- commenced installation of reinforcement for secant piles; and
- commenced concreting for plain and reinforced concrete piles.

September

- ongoing operation for drilling, reinforcing, and concreting secant piles;
- design and procurement of temporary bypass and overflow routing system; and
- coordination and planning for decommissioning of existing overflow system located within tank footprint.

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

Figure 28−Arbutus Attenuation Tank- Installation of Reinforcement for Secant Pile.

Figure 29− Arbutus Attenuation Tank –Video Inspection of Secant Pile.

2.9.3.6 Trent Forcemain

Stantec (as the design consultant for the Trent Forcemain) progressed the design process as follows:

July:

- submission of the 70% Design Report and Drawings;
- 70% Design Workshop with representatives of CRD's Integrated Water Services Department;
- 70% Design Workshop with City of Victoria (Underground, Transportation and Parks Departments);
- completion of a Geotechnical Report; and
- submission of draft Supplementary Specifications.

August:

- implemented CRD and City of Victoria review comments;
- continued developing the Issued for Tender documents; and
- updating geotechnical, arborist and environmental reports.

September:

- issued designs for tender; and
- review and respond to tender inquiries, and issue addenda.

Appendix A- Construction Notice – Residual Solids Conveyance Line: Esquimalt Update (July 4, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

July 4, 2019

UPDATE

Residual Solids Conveyance Line: Esquimalt

Construction of the Residual Solids Conveyance Line has resumed in Esquimalt on the following streets during July and August: Head, Gore, Lyall, and the final section of Wollaston. This work is happening while the summer truck route is in effect (see map on reverse). There is also pipe installation on Anson Street and Bewdley Avenue for the Macaulay Forcemain.

Construction is progressing well with over 40% of the pipes installed. There are multiple crews working along the 19km alignment with pipes also currently being installed in Saanich on Grange Road, Interurban Road, and the Interurban Rail Trail. A regularly updated progress map can be found at wastewaterproject.ca.

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.
- Pipes and equipment will be temporarily stored in the area while this work is completed.

Work Hours

- Monday to Friday from 7:00 a.m. to 7:00 p.m.
- Occasional Saturday work may be required and hours will fall within municipality bylaws.

Traffic Impacts

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

Thank you for your patience as this work is completed.

(See maps on reverse)

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

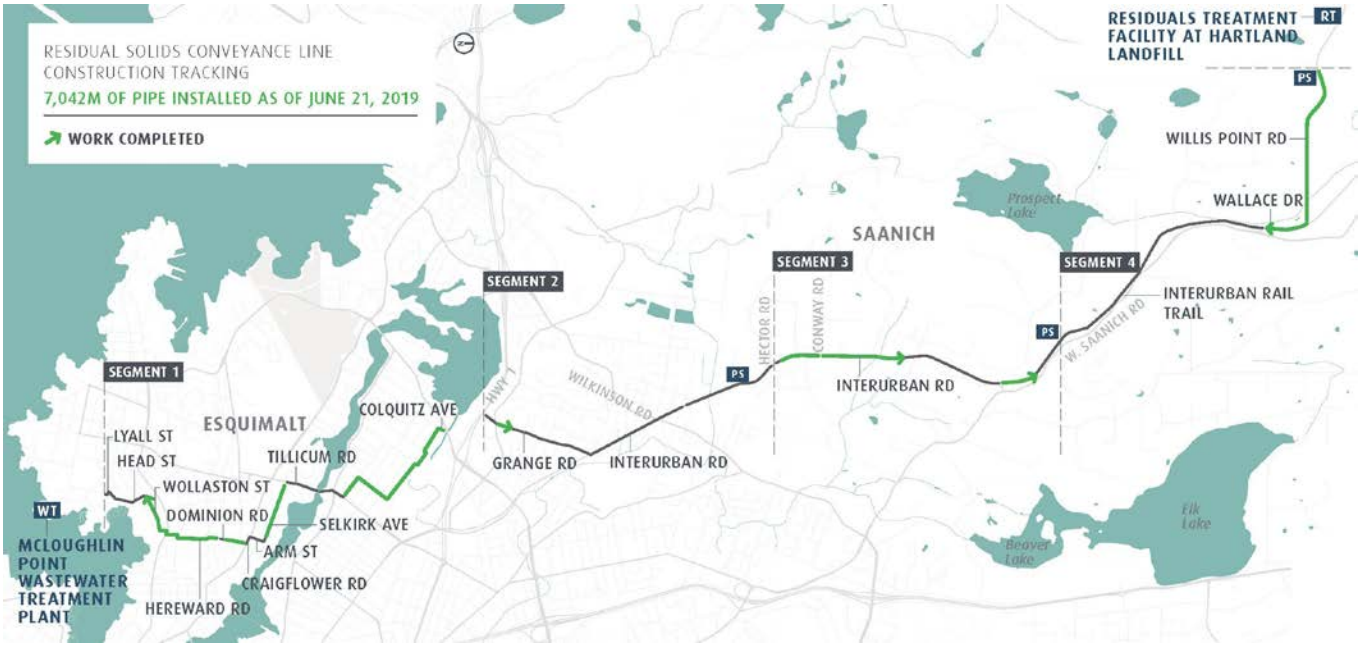
Wastewater Treatment Project

Treated for a cleaner future

Construction Notice

Summer Truck Route

RSCL Construction 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 B- Construction Notice - Clover Forcemain: Dallas Road Temporary Closure (July 9, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

July 9, 2019

Clover Forcemain: Dallas Road Temporary Closure

Dallas Road will be closed 24 hours/day from Monday to Friday for pipe installation during July and August in the narrow section between Government and Douglas streets. Due to the alignment of the pipe in the centre of the road, excavation, installation, and backfilling will require a full road closure. A detour along Government and Niagara streets will be in effect. Dallas Road will be open on the weekends.

Vehicle access to properties will be restricted during work hours and traffic control personnel will assist residents with access to their property outside work hours.

The Clover Forcemain is over 80% complete and this is the last section for pipe installation. Construction of the cycle path will begin this summer. All construction activities for the Clover Forcemain including road restoration and construction of public amenities are anticipated to be complete by summer 2020.

What to Expect

- "No parking" zones will be required to accommodate construction and detour traffic. These zones will be limited as much as possible.
- Emergency service vehicles will be given access at all times.
- Pedestrian access will be maintained on the north side of Dallas Road.

Work Hours

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

About the Clover Forcemain

The Wastewater Treatment Project includes construction of a pipe which will transport wastewater from the upgraded Clover Point Pump Station to the McLoughlin Point Wastewater Treatment Plant. This pipe, the Clover Forcemain, will run along Dallas Road from Clover Point to Ogden Point, where it will connect to the cross-harbour undersea pipe.

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix C- Construction Notice – Trent Forcemain: Utility Locating (July 31, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

July 31, 2019

Trent Forcemain: Utility Locating

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 the capacity of the system and reduce wet weather overflows.

What to Expect
Existing utilities will be located along the proposed alignment to inform the final design and alignment of the Trent Forcemain. This work involves using a mini excavator and hydrovac truck to expose the buried utility (sewer, storm drain, water, gas, etc.) and measure the depth of the pipe. The exposed area will then be backfilled and patched with asphalt. This work is anticipated to begin August 1 and take place during the first two weeks of August.

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

Traffic Impacts
- Expect single lane alternating traffic.
- 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

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

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

Preliminary design alignment and work locations for the Trent Forcemain

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix D- Information Sheet: Esquimalt Summer Truck Route

Wastewater Treatment Project
Treated for a cleaner future

Esquimalt Summer Truck Route

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix E- Project Update #7

Wastewater Treatment Project

All major components of the Wastewater Treatment Project are under construction and significant progress has been made. With over 550 people working on 22 active construction sites, the Project remains on schedule to be complete by the end of 2020 to meet the federal and provincial regulations for wastewater treatment.

Construction Updates

MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT

The site at McLoughlin Point remains busy with concrete work with about 70% of concrete placed for the structure. Progress is also being made on piping and structural steel. Drilling for the outfall was completed this spring with a micro-tunnel boring machine. The outfall pipe was assembled in Nanoose Bay and will be towed by barge in July and then submerged into the water and put in place. Utility and pipe installation in the roads near McLoughlin Point are also underway.

CLOVER POINT PUMP STATION

The Clover Point Pump Station is being upgraded and expanded. Concrete pouring continues as the foundation for the expansion to the pump station is built up. Equipment for the new section of the pump station is beginning to arrive on site.

RESIDUALS TREATMENT FACILITY

The Residuals Treatment Facility will treat the residual solids from the McLoughlin Point Wastewater Treatment Plant and turn them into Class A biosolids. The site has transformed from an empty gravel lot to a hub of activity. The digesters are beginning to take shape as the roof is raised and the walls built. Foundations are being poured and structural steel erected for the other buildings on site.

ARBUTUS ATTENUATION TANK

Located on CRD land in Haro Woods in Saanich, the Arbutus Attenuation Tank is a 5,000m^3 underground tank that will store wastewater flows during storm events. The site was cleared in March and site preparation is currently underway to be followed by excavation. Once construction is complete, the site will be planted with vegetation appropriate for the local woodland setting.

Construction progress at the McLoughlin Point Wastewater Treatment Plant

RESIDUAL SOLIDS CONVEYANCE LINE (RSCL) & PUMP STATIONS

Three small pump stations are being built as part of the Residual Solids Conveyance Line to convey the residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility for treatment. They are located in the road right-of-way at Interurban and Courtland Ave near Camosun College, next to the Interurban Rail Trail near West Saanich Road and Observatory Road, and on Hartland Landfill property on Willis Point Road. Construction began on the RSCL in February and is expected to be complete by next spring.

MACAULAY POINT PUMP STATION & FORCEMAIN

The Macaulay Point Pump Station continues to take shape as concrete pouring continues on site. Concrete is anticipated to be complete by the end of the summer and will be followed by construction of the wood structure above ground. Forcemain installation began in June and is progressing down Anson Street. The pipe is 1350mm in diameter and will convey wastewater from the Macaulay Point Pump Station to the McLoughlin Point Wastewater Treatment Plant for treatment.

Progress at the Residuals Treatment Facility

Installation of the Macaulay Forcemain on Anson Street

CONSTRUCTION SUMMARY

22
active construction sites

550
construction workers

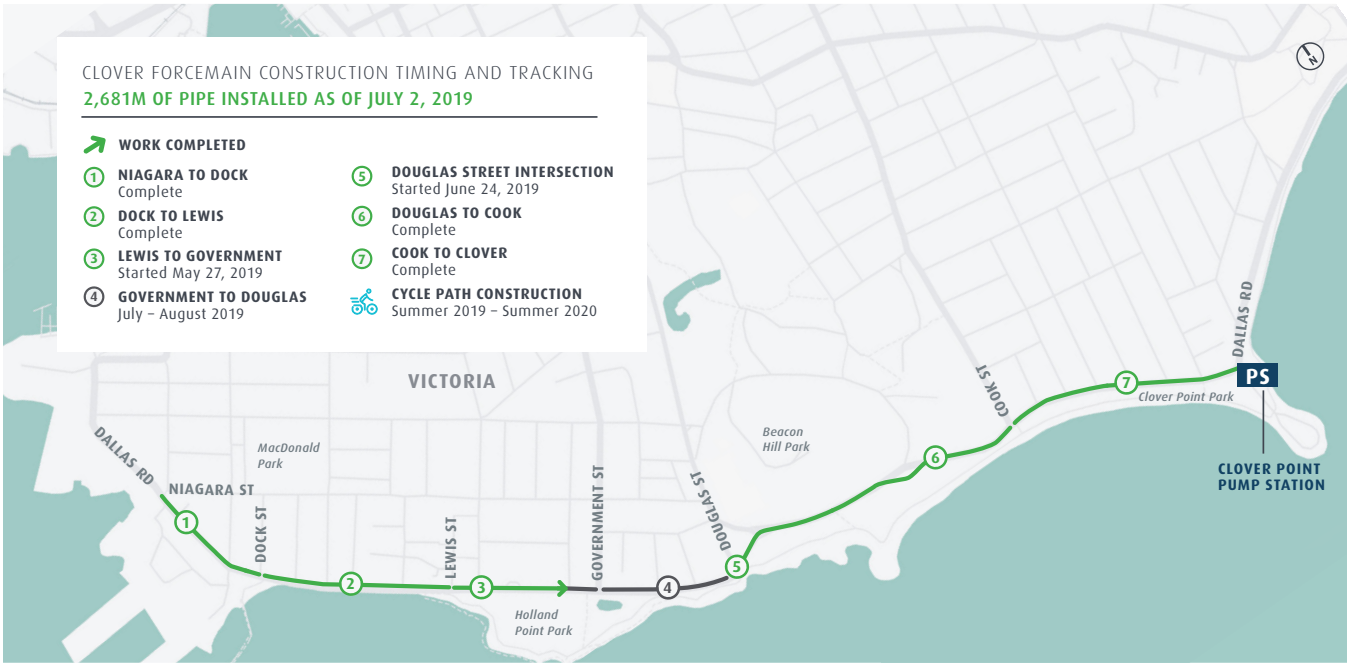
10,773m
pipes laid

30,248m³
concrete poured

Progress Maps

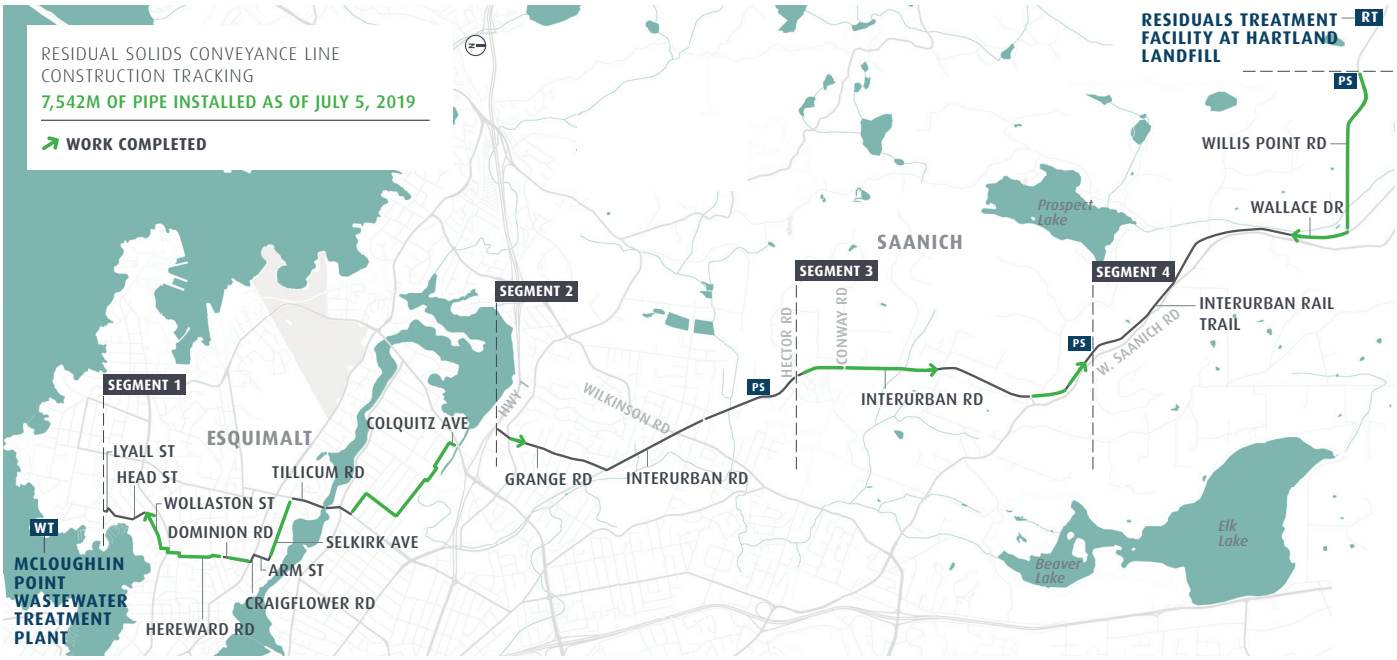
CLOVER FORCEMAIN

On Dallas Road, installation of the Clover Forcemain is progressing ahead of schedule with over 80% of the pipes installed.



RESIDUAL SOLIDS CONVEYANCE LINE

Multiple crews are working on the Residual Solids Conveyance Line with over 40% of the pipes installed.



Wastewater Treatment Project
Treated for a cleaner future

Project Update #7
July 2019

Dallas Road Amenities

As part of construction of the Clover Forcemain and Clover Point Pump Station, there are a number of public amenities that will be constructed. This includes a two-way protected cycle path from Dock Street to Clover Point. Construction of the cycle path is anticipated to begin over the summer and be complete by summer 2020.

OTHER AMENITIES INCLUDE:

- A new crosswalk at Boyd Street, Government Street and Linden Avenue
- Public benches
- Wayfinding signage
- Bike racks

AT CLOVER POINT, NEW AMENITIES INCLUDE:

- Public washroom
- Bike repair station
- Bike racks
- Two viewing plazas with benches, drinking fountain and litter receptacle

Artist rendering of the cycle path to be constructed

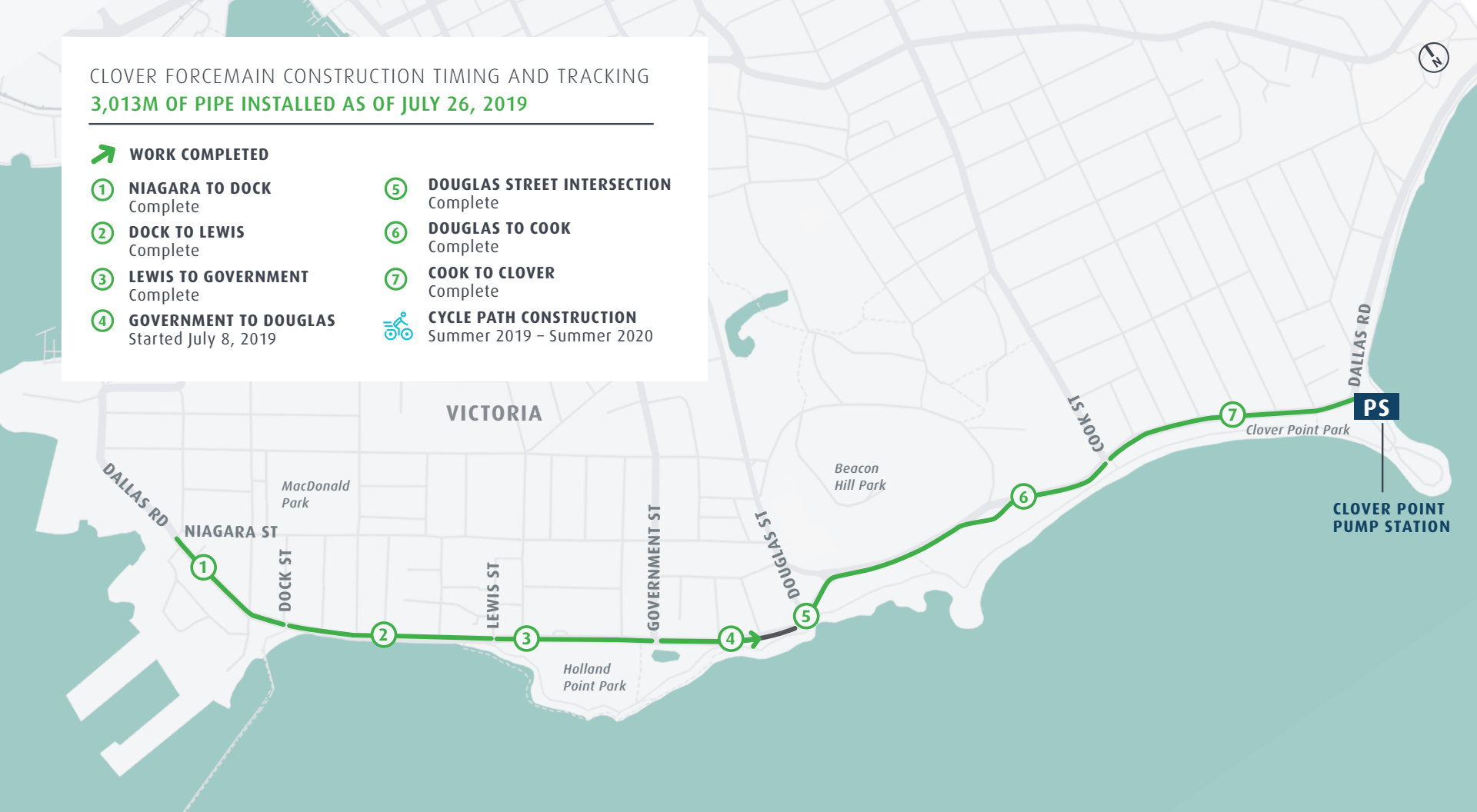
Summer Traffic Route: Esquimalt

As part of the Traffic Management Plan approved by the Township of Esquimalt, there is an alternate summer route for truck traffic. This is in effect from the first week of July to the last week of August.

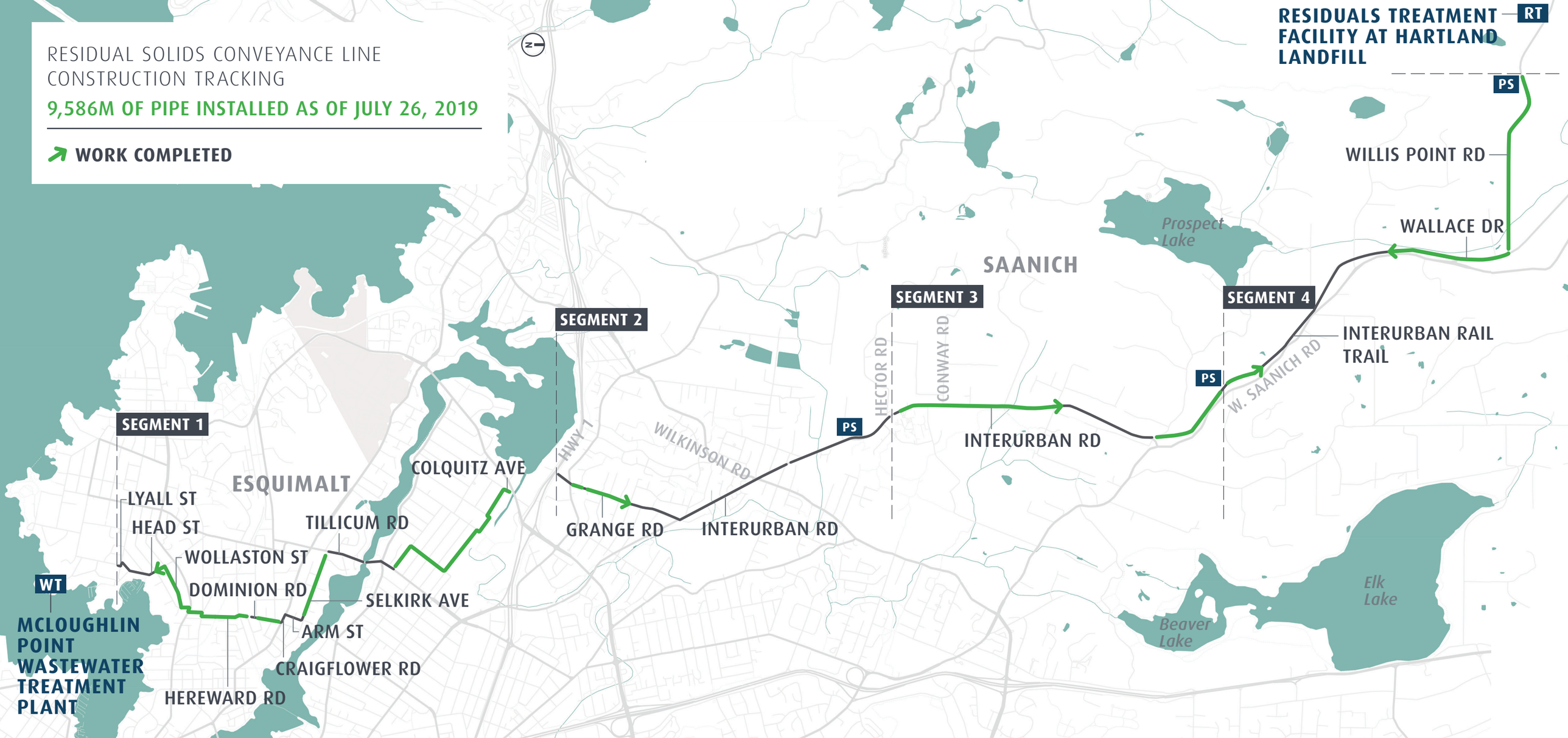
For More Information

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

Appendix F- Clover Forcemain Progress Map (July 26, 2019)


CLOVER FORCEMAIN CONSTRUCTION TIMING AND TRACKING
3,013M OF PIPE INSTALLED AS OF JULY 26, 2019
WORK COMPLETED
1 NIAGARA TO DOCK
Complete
2 DOCK TO LEWIS
Complete
3 LEWIS TO GOVERNMENT
Complete
4 GOVERNMENT TO DOUGLAS
Started July 8, 2019
5 DOUGLAS STREET INTERSECTION
Complete
6 DOUGLAS TO COOK
Complete
7 COOK TO CLOVER
Complete
CYCLE PATH CONSTRUCTION
Summer 2019 – Summer 2020
VICTORIA
DALLAS RD
NIAGARA ST
DOCK ST
LEWIS ST
GOVERNMENT ST
DOUGLAS ST
COOK ST
DALLAS RD
MacDonald Park
Beacon Hill Park
Holland Point Park
Clover Point Park
PS
CLOVER POINT PUMP STATION
N

Appendix G- Residual Solids Conveyance Line Progress Map (July 26, 2019)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
9,586M OF PIPE INSTALLED AS OF JULY 26, 2019
WORK COMPLETED
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
INTERURBAN RAIL TRAIL
W. SAANICH RD
CONWAY RD
HECTOR RD
INTERURBAN RD
WILKINSON RD
HWY 1
GRANGE RD
INTERURBAN RD
COLQUITZ AVE
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Elk Lake
Beaver Lake

Appendix H- Construction Notice- Residual Solids Conveyance Line: Interurban Road Pump Station (Aug 9, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

August 9, 2019

Residual Solids Conveyance Line: Interurban Road Pump Station

Three small pump stations are being built along the route of the Residual Solids Conveyance Line for the Wastewater Treatment Project. These pump stations will move residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill for treatment. The contractor, Knappett Projects Inc., is beginning to mobilize and prepare for construction of the pump station located at Interurban Road and Courtland Avenue. This work is anticipated to be complete by spring 2020.

Pump Station Locations

- Interurban Road and Courtland Avenue
- Interurban Rail Trail near West Saanich Road and Observatory Road
- Willis Point Road within the footprint of the Hartland Landfill

What to Expect

- Locating existing utilities within the work area.
- Relocating the existing water main around the pump station site.
- Archaeological work by Millennia Research.
- Installing construction fencing and screening around the perimeter of the work area.
- Establishing a temporary laydown area.
- Site clearing and excavation.
- Rock encountered will be removed by blasting or mechanical means.
- Construction of below and above ground components.
- Site restoration and landscaping
- Noise associated with this work includes excavation, rock removal machinery and truck back-up beepers.

Traffic Impacts

- There will be single lane alternating traffic during work hours on Interurban Road near Courtland Avenue for water main relocation.
- During pump station construction there will be occasional single lane alternating traffic when required.
- Traffic control areas will be delineated by cones and signs and controlled by flaggers.

Work Hours

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

Background

Construction of the Residual Solids Conveyance Line is progressing well with over 50% of the pipes installed (see map on reverse). There are multiple crews working along the 19km alignment. Construction of the conveyance line is anticipated to be complete in spring 2020. A regularly updated progress map can be found at wastewaterproject.ca.

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

24/7 Phone Line
1.844.815.6132

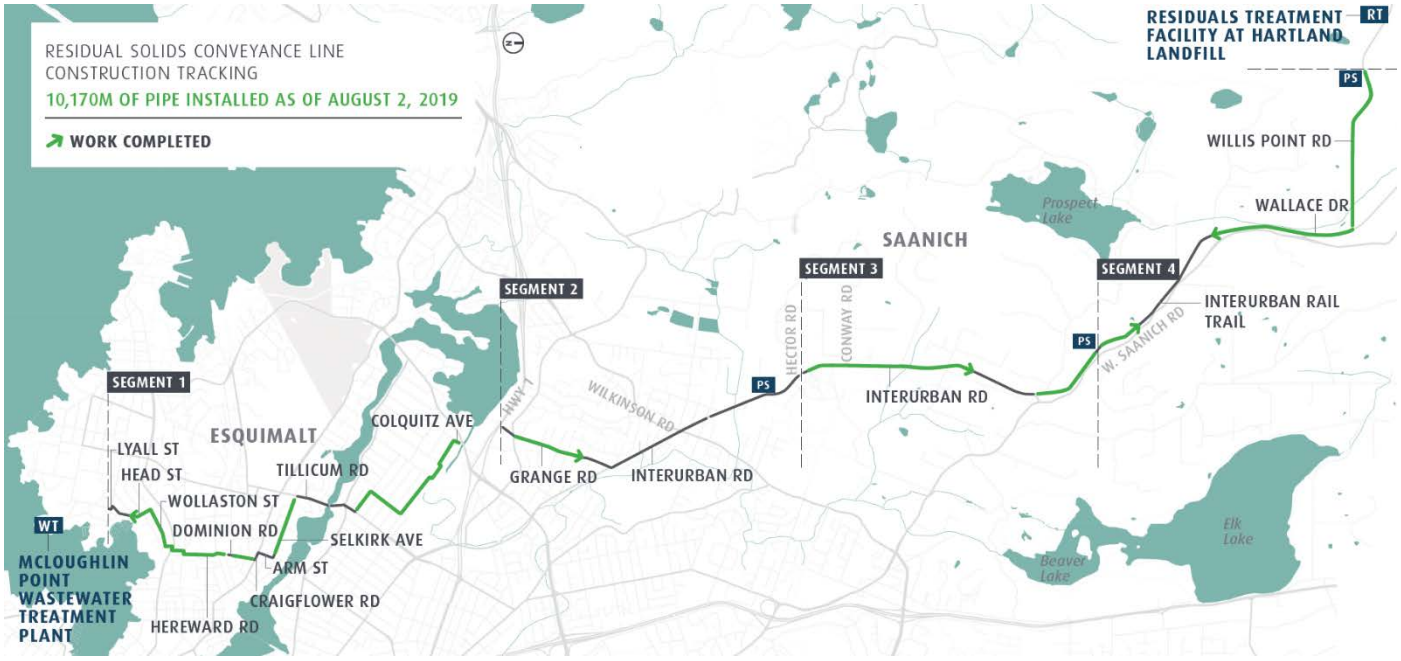
Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

Artist rendering of the pump station to be located at Interurban Road and Courtland Avenue.



Progress map of 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 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 I- Construction Notice- Macaulay Forcemain Installation: Bewdley Avenue Update (August 12, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

UPDATE

August 12, 2019

Macaulay Forcemain Installation: Bewdley Avenue

Construction of the Macaulay Forcemain is anticipated to progress onto Bewdley Avenue the week of August 19. Due to the alignment of the pipe near the centre of the road, the contractor, Kenaidan Contracting Ltd., will build a temporary road on the south side to provide driveway access for local residents only. Bewdley Avenue will be closed to all other traffic with a detour in place.

What to Expect

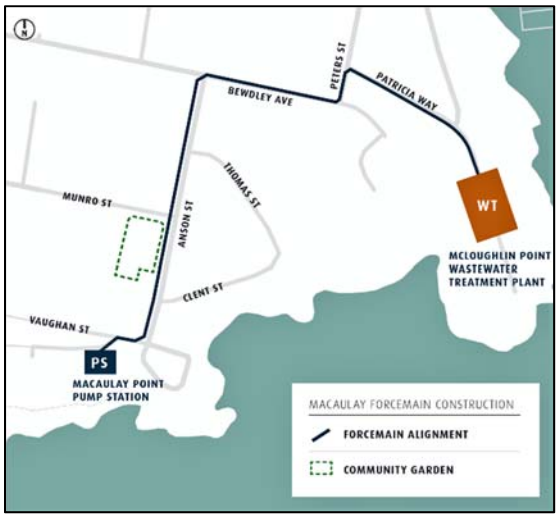
- Beginning August 14, gravel will be placed on the edge of properties next to the curb on the south side (odd-numbered addresses) to create a temporary road for residents to access their driveways.
- Steel plates will be used to provide access to homes on the north side (even-numbered addresses) when there is an open trench.
- Extra parking spaces will be available on Anson Street while this work is underway.
- Tree trimming and removal of one tree will be required to facilitate the temporary road.
- Light standards will be temporarily relocated.
- The area will be restored once the work is completed.

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



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- Construction Notice- Residual Solids Conveyance Line: Marigold Road (August 16, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

August 16, 2019

Residual Solids Conveyance Line: Marigold Road

As part of the Wastewater Treatment Project, Knappett Projects Inc. will be installing a pipe along Interurban Road from the intersection at Grange Road, across the Colquitz River, to the Marigold Pump Station. This work is anticipated to start the week of August 19th and is expected to take approximately one month to complete. There will also be construction activities at the Marigold Pump Station to connect the new pipe to the facility.

What to Expect

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

Work Hours

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

Traffic Impacts

- There will be single lane alternating traffic in the work zones controlled by flaggers.
- Contractor will schedule work to try to minimize any traffic impact along the work site.
- There will be periodic closures of the Colquitz River Trail with a detour in place.

Access

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

Thank you for your patience as this work is completed.

Background

Construction of the Residual Solids Conveyance Line includes two pipes and three small pump stations. The first pipe will convey residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill for treatment. The second pipe will return the liquid removed from the residual solids during the treatment process to the Marigold Pump Station, from where it will be returned to the McLoughlin Point Wastewater Treatment Plant through the existing conveyance system.

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

24/7 Phone Line
1.844.815.6132

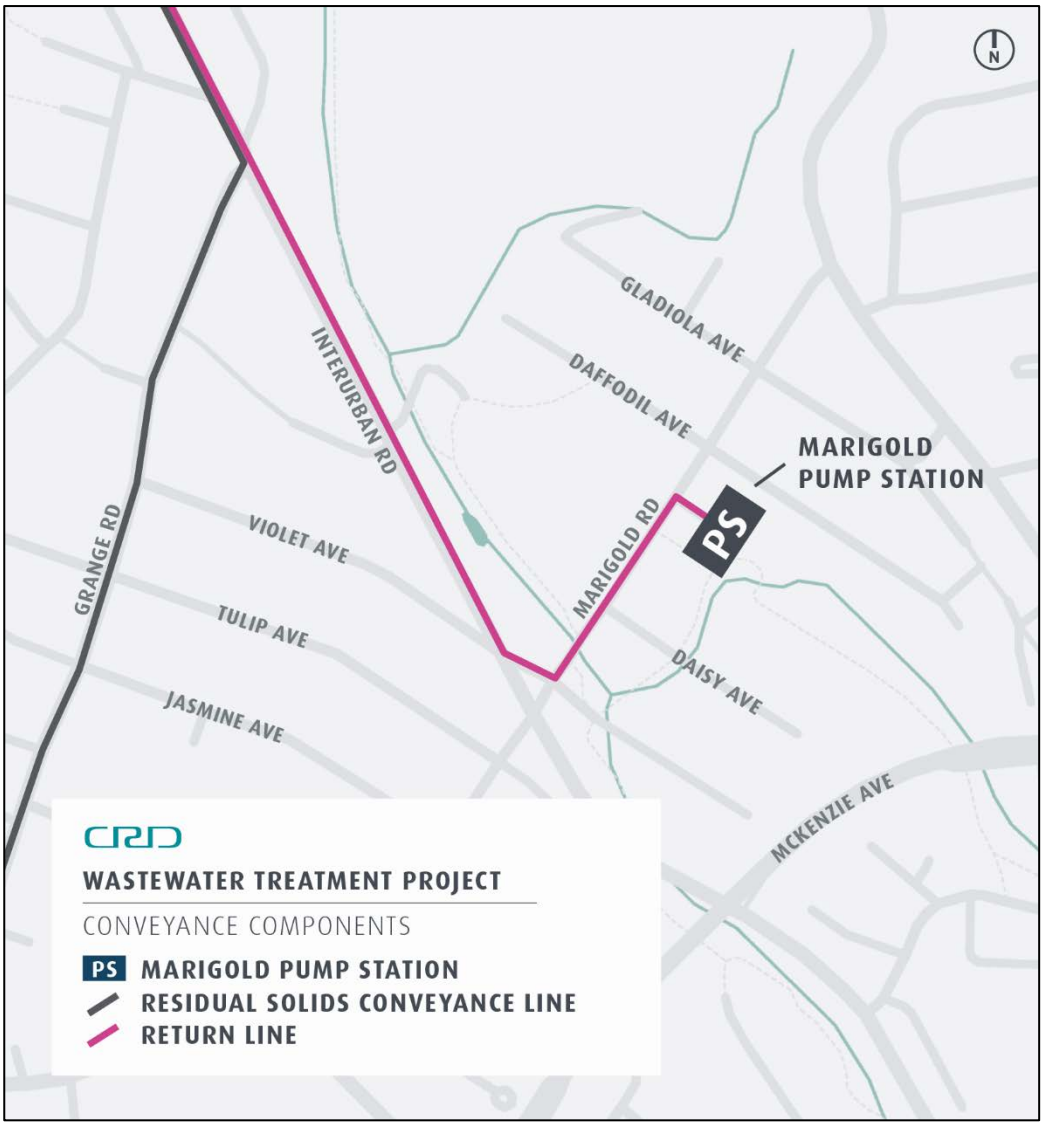
Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

RSCL Route



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

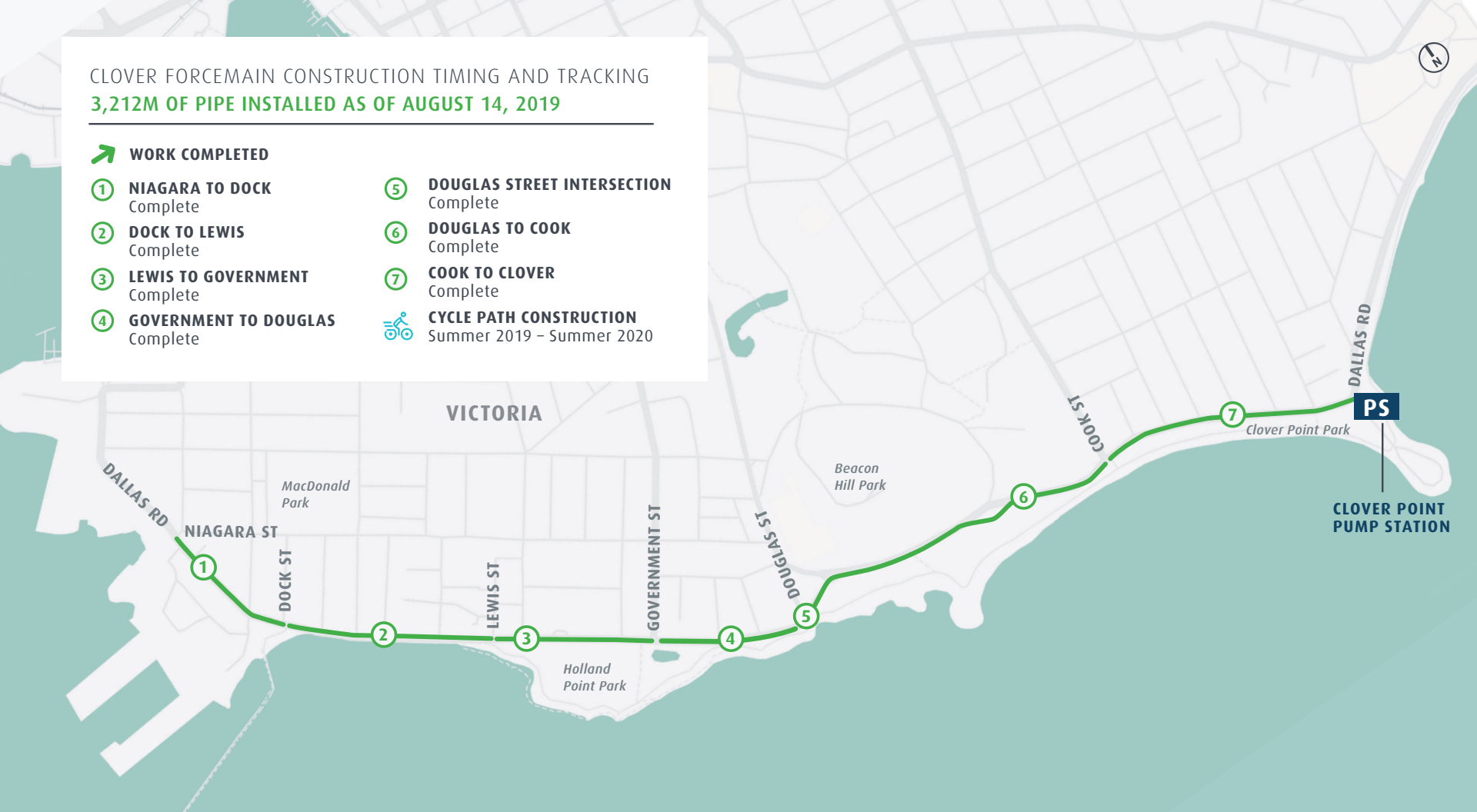
Any questions about the work, please contact the Project Team.

24/7 Phone Line
1.844.815.6132

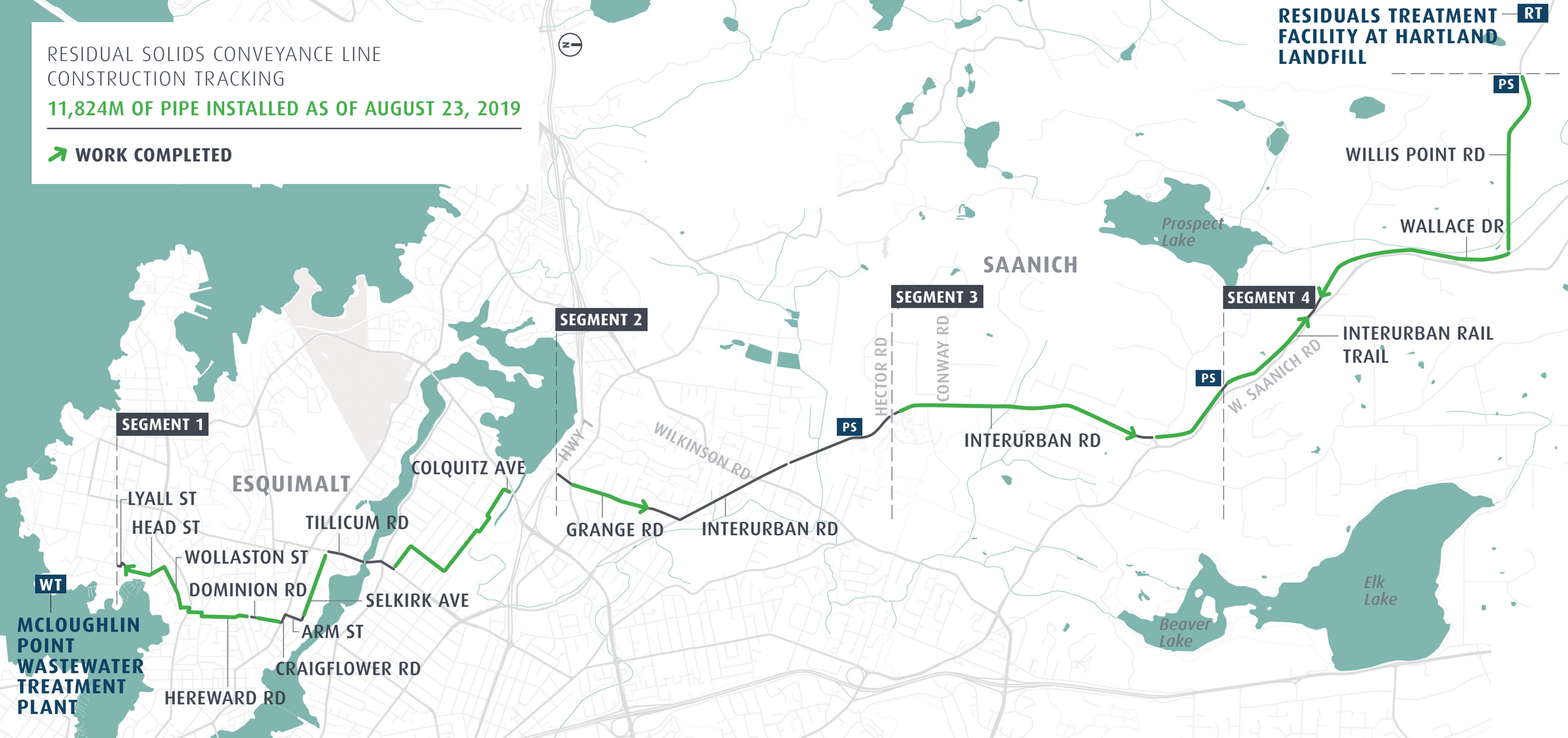
Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix K- Clover Forcemain Progress Map (August 14, 2019)


CLOVER FORCEMAIN CONSTRUCTION TIMING AND TRACKING
3,212M OF PIPE INSTALLED AS OF AUGUST 14, 2019
WORK COMPLETED
1 NIAGARA TO DOCK
Complete
2 DOCK TO LEWIS
Complete
3 LEWIS TO GOVERNMENT
Complete
4 GOVERNMENT TO DOUGLAS
Complete
5 DOUGLAS STREET INTERSECTION
Complete
6 DOUGLAS TO COOK
Complete
7 COOK TO CLOVER
Complete
CYCLE PATH CONSTRUCTION
Summer 2019 – Summer 2020
VICTORIA
DALLAS RD
NIAGARA ST
DOCK ST
LEWIS ST
GOVERNMENT ST
DOUGLAS ST
COOK ST
DALLAS RD
MacDonald Park
Beacon Hill Park
Holland Point Park
Clover Point Park
PS
CLOVER POINT PUMP STATION
N

Appendix L- Residual Solids Conveyance Line Progress Map (August 23, 2019)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
11,824M OF PIPE INSTALLED AS OF AUGUST 23, 2019
WORK COMPLETED
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
INTERURBAN RAIL TRAIL
W. SAANICH RD
CONWAY RD
HECTOR RD
INTERURBAN RD
WILKINSON RD
HWY 1
GRANGE RD
INTERURBAN RD
COLQUITZ AVE
ESQUIMALT
LYALL ST
HEAD ST
TILLICUM RD
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Elk Lake
Beaver Lake

Appendix M- Clover Point Pump Station: Temporary Closures (September 6, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

September 6, 2019

Clover Point Pump Station: Temporary Closures

Construction of the Clover Point Pump Station will require temporary closures of the Dallas Road Waterfront Pathway and Clover Point Road this fall.

A 1.5m diameter pipe will be installed along a portion of the waterfront pathway between the Clover Point Pump Station and the crosswalk at Memorial Crescent. This work will require a closure of this section of the pathway and is anticipated to take place from September 2019 – January 2020. The next section of this pipe, known as the Trent Forcemain, is anticipated to be installed in 2020 and may require further closures of the pathway.

Clover Point Road will also be closed for approximately four weeks this fall to vehicle traffic and parking to facilitate the connection of the Clover Forcemain to the Clover Point Pump Station.

What to Expect

- The pathway will be closed to allow safe access for machines and equipment.
- Fencing will be set up around the perimeter of the construction area along the pathway.
- The pathway will be cut and removed to allow for excavation and installation of the pipe. The trench will be backfilled and the walkway restored.
- Pedestrians can access Clover Point Park by following a detour along Dallas Road.
- Beach access will remain available at Memorial Crescent.

Work Hours

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

Traffic Impacts

- Clover Point Road will be closed to vehicle traffic and parking to facilitate construction activities. Fencing and signage will be posted.
- Dallas Road will remain open to vehicle and pedestrian traffic.

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

About the Wastewater Treatment Project

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

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

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

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 N- Residual Solids Conveyance Line: Temporary Overnight Work (September 9, 2019)

Wastewater Treatment Project
Treated for a cleaner future

Construction Notice

UPDATE

September 9, 2019

Residual Solids Conveyance Line: Temporary Overnight Work

As part of construction for the Residual Solids Conveyance Line a pipe will be installed across the Colquitz River. The contractor, Knappett Projects Inc., will isolate and dewater a section of the Colquitz River to allow this work to take place. This will require a pump to run continuously until completion. This work will start tomorrow and is anticipated to take up to four days. Overnight noise is to be expected during this time.

After the dewatering is complete a trench will be dug, the pipe will be installed, and the trench will be backfilled. At this point the Colquitz River will be restored to its original condition. All construction work is regularly monitored by a Qualified Environmental Professional with appropriate environmental protections in place.

We appreciate your patience while this work is completed.

Background
Construction of the Residual Solids Conveyance Line includes two pipes and three small pump stations. The first pipe will convey residual solids from the McLoughlin Point Wastewater Treatment Plant to the Residuals Treatment Facility at Hartland Landfill for treatment. The second pipe will return the liquid removed from the residual solids during the treatment process to the Marigold Pump Station, from where it will be returned to the McLoughlin Point Wastewater Treatment Plant through the existing conveyance system.

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 O- Dallas Road Update (September 5, 2019)

Wastewater Treatment Project

Treated for a cleaner future

September 2019

Dallas Road Construction Update

The Wastewater Treatment Project has reached another key milestone ahead of schedule with the completion of the pipe installation along Dallas Road. The last piece of pipe connecting Clover Point to Ogden Point was installed in mid-August. The Dallas Road work is now transitioning to construction of the cycle path and restoration work. This includes completing some utility relocations.

As part of construction of the Clover Forcemain and Clover Point Pump Station, there are a number of public amenities that will be installed. This map highlights where they will be located.

Construction on Dallas Road is anticipated to be complete in spring 2020. The construction at the Clover Point Pump Station remains on schedule to be complete mid-2020.

For more information about the Wastewater Treatment Project, please visit our website wastewaterproject.ca.

24/7 Phone Line
1.844.815.6132

Email
wastewater@crd.bc.ca

Website
wastewaterproject.ca

Appendix P- Dallas Road Amenities Map

VICTORIA

Coast Guard

MacDonald Park

Beacon Hill Park

Beacon Hill Park Story Pole

Terry Fox Monument

Holland Point Park

Ogden Point

Helijet

GVHA

Clover Point Park

PS

NIAGARA ST

DALLAS RD

COOK ST

LINDEN AVE

MOSS ST

MONTREAL ST

DOCK ST

OSWEGO ST

BOYD ST

LEWIS ST

MENZIES ST

S TURNER ST

GOVERNMENT ST

PADDON AVE

DOUGLAS ST

EXISTING INFRASTRUCTURE

- CROSSWALK
- BUS STOP
- WASHROOM

PROJECT COMPONENTS

- CLOVER FORCEMAIN
- VICTORIA HARBOUR CROSSING
- PS CLOVER POINT PUMP STATION

INFRASTRUCTURE IMPROVEMENTS

- NEW CROSSWALK
- WASHROOM
- BENCHES
- BIKE RACKS
- CYCLE PATH
- TREE REPLANTING AREA
- SPLIT-RAIL FENCE

Appendix Q- Residual Solids Conveyance Line Progress Map (September 27, 2019)


RESIDUAL SOLIDS CONVEYANCE LINE CONSTRUCTION TRACKING
13,611M OF PIPE INSTALLED AS OF SEPTEMBER 27, 2019
WORK COMPLETED
RESIDUALS TREATMENT FACILITY AT HARTLAND LANDFILL
RT
PS
WILLIS POINT RD
WALLACE DR
Prospect Lake
SAANICH
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
INTERURBAN RAIL TRAIL
W. SAANICH RD
CONWAY RD
HECTOR RD
INTERURBAN RD
WILKINSON RD
HWY 1
PORTAGE RD
GRANGE RD
MARIGOLD RD
ESQUIMALT
TILLICUM RD
LYALL ST
HEAD ST
WOLLASTON ST
DOMINION RD
SELKIRK AVE
ARM ST
CRAIGFLOWER RD
HEREWARD RD
WT
MCLOUGHLIN POINT WASTEWATER TREATMENT PLANT
Elk Lake
Beaver Lake

Appendix R- Monthly Cost Report (September)

ASSET MANAGEMENT COST REPORT
as at Sept. 30, 2019

Project Component	BUDGET		COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
	Control Budget	Allocated Budget	Expended to August 31, 2019	Expended over reporting period (September 2019)	Expended to Sept. 30, 2019	Expended to Sept. 30, 2019 as a % of Budget	Remaining (Unexpended) Budget at Sept. 30, 2019	Total Committment at Sept. 30, 2019	Unexpended Commitment at Sept. 30, 2019	Uncommitted Budget at Sept. 30, 2019	Forecast to Complete	Forecast at Completion	Variance at Completion $	Variance at Completion as a % of Allocated Budget
McLoughlin Point Wastewater Treatment Plant [A]	378.0	364.5	253.0	9.7	262.8	72%	101.7	343.6	80.8	20.9	101.7	364.5	-	0%
Residuals Treatment Facility [A]	195.0	157.8	18.7	0.1	18.8	12%	139.0	152.9	134.1	4.9	139.0	157.8	-	0%
Conveyance System [A]	192.0	252.7	126.5	4.5	131.0	52%	121.7	213.6	82.6	39.1	121.7	252.7	-	0%
Total Costs	**765.0**	**775.0**	**398.2**	**14.3**	**412.6**	**53%**	**362.4**	**710.1**	**297.5**	**64.9**	**362.4**	**775.0**	**-**	**0%**

A - Including PMO and Common Costs

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

** Cost report presents approved expenditures

Appendix S- Quarterly Cost Report

WTP QUARTERLY COST REPORT
as at Sept. 30, 2019

Project Component	Control Budget	Allocated Budget	COST EXPENDED					COMMITMENTS			FORECAST		VARIANCE	
			Expended to June 30, 2018	Expended over reporting period (Q3 2019 July - Sept)	Expended to Sept. 30, 2019	Expended to Sept. 30, 2019 as a % of Budget	Remaining (Unexpended) Budget at Sept. 30, 2019	Total Committment at Sept. 30, 2019	Unexpended Commitment at Sept. 30, 2019	Uncommitted Budget at Sept. 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	319.2	209.2	33.5	242.7	76%	76.5	312.5	69.8	6.8	76.5	319.2	-	0%
Residuals Treatment Facility [1]	147.1	138.4	8.3	0.1	8.4	6%	130.0	137.6	129.2	0.8	130.0	138.4	-	0%
Conveyance System [1]	141.2	208.2	84.1	25.6	109.7	53%	98.5	185.1	75.4	23.1	98.5	208.2	-	0%
Project Management Office														
Project Management Office ("PMO")	71.1	75.6	42.2	4.3	46.5	61%	29.1	66.4	19.9	9.2	29.1	75.6	-	0%
Common Costs														
BC Hydro	11.6	3.0	1.9	0.1	2.0	68%	1.0	2.0	0.0	0.9	0.9	3.0	-	0%
Third Party Commitments	8.1	8.1	3.1	0.2	3.3	40%	4.9	6.5	3.2	1.6	4.9	8.1	-	0%
Program Reserve and contingencies	69.3	22.5	-	-	-	0%	22.5	-	-	22.5	22.5	22.5	-	0%
Total Costs	**765.0**	**775.0**	**348.8**	**63.8**	**412.6**	**53%**	**362.4**	**710.1**	**297.5**	**64.9**	**362.4**	**775.0**	**-**	**0%**

1 - Excluding PMO, Common Costs and

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

** Cost report presents approved expenditures