Wastewater Treatment Project
January 2019 Progress Summary

Purpose of Project

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

The Wastewater Treatment Project is being built to meet the provincial and federal regulations for treatment by December 31, 2020. The Project consists of three main elements:

- McLoughlin Point Wastewater Treatment Plant: located at McLoughlin Point in Esquimalt, the treatment plant will provide tertiary treatment to the core area's wastewater.
- Residuals Treatment Facility: residual solids from the wastewater treatment plant will be piped to a Residuals Treatment Facility at Hartland Landfill, where they will be turned into what are known as Class A biosolids. These biosolids are a high quality by-product treated such that it is safe for further use.
- Conveyance System: the conveyance system refers to the 'pumps and pipes' of the Wastewater Treatment Project. This system will carry wastewater from across the core area to the treatment plant, and residual solids to the Residuals Treatment Facility at Hartland Landfill.

The Project will cost $765 million and the federal and provincial governments are assisting the Capital Regional District (CRD) in funding this project.

Progress against Goals and Key Performance Indicators

In order to meet federal and provincial regulations, on May 25, 2016 the CRD Board established the Wastewater Treatment Project Board to define and administer the Wastewater Treatment Project (the Project). The CRD Board defined goals for the Project in the Project Board's Terms of Reference (attached as Schedule "A" to the CRD Core Area Wastewater Treatment Board Bylaw No. 1, 2016, and included in Table 2 below).

On September 14, 2016 the CRD Board approved the Project Board's recommendation for the configuration and scope of the Project, and in the summer of 2017 construction started on the largest component of the Project – the McLoughlin Point Wastewater Treatment Plant. Construction is now underway on the largest components of the Project and the Project is on-schedule to meet the regulatory requirements.

To aid in decision-making during the implementation of the Project, the Project Board approved six key performance indicators. Progress against these key performance indicators is monitored and reported to the Project Board, the Core Area Liquid Waste Management Committee and the CRD Board every month, and the status as at the end of September 2018 is shown in Table 1. Good progress has been made against the achievement of all six key performance indicators: the Project Team are on-track to safely deliver the Project such that it meets the provincial and federal regulations for treatment by December 31, 2020.

The Project has experienced cost pressures on multiple conveyance procurements as a result of escalation in the Vancouver Island construction market. The Project Team has procured (and secured pricing) for all components of the Project that are key to meeting provincial and federal regulations for tertiary treatment of the core area's wastewater, other than the Residual Solids Pump Stations which are under active procurement and are anticipated to be awarded within the next quarter. The Project has contingency in-place to manage risks such as escalation, but to offset the escalation the Project Team continues to look for cost saving measures. In order to address the cost pressures on the conveyance component of the Project the Project Team continues with its value engineering efforts and is reviewing the scope of work for the remainder of the contracts.

Table 2 outlines how the completed Project will meet the goals defined by the CRD Board, as well as the progress made to-date on delivering those goals.

Table 1: Project Key Performance Indicators and Status (October 2018 Monthly Report)

Key Performance Indicators		Project Overall	WWTP	RTF	Conveyance System	Comments
Safety	Deliver the Project safely with zero fatalities and a total recordable incident frequency (TRIF) of no more than 1*.					No recordable incidents; site inspections are ongoing.
Environment	Protect the environment by meeting all legislated environmental requirements and optimizing opportunities for resource recovery and greenhouse gas reduction					No environmental issues.
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 in 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).					Project expenditures within Control Budget but cost pressures experienced on multiple Conveyance procurements as a result of inflation in the Vancouver Island construction market. Corrective action has been identified and is being implemented, but further action is anticipated to be required to maintain the Control Budget.

* 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

Table 2: Progress against Project Goals

Goal	How the Project Plans to Achieve Goal	Progress against Goal at January 2019
Meet or exceed federal regulations for secondary treatment by December 31, 2020	The Project will exceed federal regulations by providing tertiary treatment.	• Construction is underway on all schedule-critical components of the Project. • Project is on-schedule to provide tertiary treatment to the core area by December 31, 2020.
Minimize costs to residents and businesses (life cycle costs) and provide value for money	The configuration of the Project was selected from a shortlist of options using a triple bottom line approach that rated the options based on timing, economic, social and environmental considerations. The capital cost of the Project is less expensive than previous plans and less expensive than the other shortlisted options.	• Funding agreements have been executed with the federal and provincial governments, providing funding for 60% of the Project's budget. • Lifecycle cost (i.e. capital, operating and maintenance costs) considerations drive design development. • Procurement processes are used for all construction contracts to ensure competitive pricing is received. • Project is on-track to provide tertiary treatment to the core area for the control budget ($765 million).

Optimize opportunities for resource recovery and greenhouse gas reduction	The configuration of the Project was selected from a shortlist of options using a triple bottom line approach that rated the options based on timing, economic, social and environmental considerations. The environmental consideration was based on the carbon footprint and resource recovery potential of the options.	• Contracts have been executed and construction is underway on facilities with the following features:
		  ○ Wastewater Treatment Plant:
		  ▪ operations and maintenance building will be LEED (Leadership in Energy and Environmental Design) Gold certified, targeting energy and water consumption reductions over building code requirements;
		  ▪ heat recovery from the wastewater stream will be utilised for internal heating; and
		  ▪ green roof over 80% of the operations and maintenance building will contribute to reducing the heat island effect and providing habitat;
		  ○ Residuals Treatment Facility:
		  ▪ processing of residual solids into a class A biosolid that is suitable for beneficial use; and
		  ▪ biogas produced during the treatment process will be captured and utilized as an energy source.
		  ○ The design of the pump stations incorporates LEED principles and sustainable design elements.

Goal	How the Project Plans to Achieve Goal	Progress against Goal at January 2019

Add value to the surrounding community and enhance livability of neighbourhoods	The Project scope includes:
	• neighbourhood amenities; and
	• the improvement of the appearance of CRD sewage collection and treatment facilities, mitigating their impact on the host communities.
		• Agreements have been executed with the Township of Esquimalt providing funds to be used for capital projects in waterfront parks, recreation facilities, and a public safety facility.
		• Construction is underway on the McLoughlin Point Wastewater Treatment Plant with extensive landscaping, a multi-level greenroof, an education and interpretive centre and an observation deck.
		• Construction is underway on a new Macaulay Point Pump Station that reflects its location on the waterfront, greatly improving the visual impact of the building and creating a park amenity for the community to enjoy.
		• Construction is underway on public realm improvements associated with the Clover Point Pump Station and Forcemain, including a public plaza, intersection improvements, washroom and cycle track.
		• Support agreements have been signed with the Songhees and Esquimalt Nations, providing a number of benefits, including the provision of funding to assist in the upgrading and development of the Westbay Marine Village Marina and R.V. Park.
		• Land exchange has been made between the District of Saanich and the CRD securing the long-term preservation of the vast majority of Haro Woods as a nature park and adding 2.8 ha of land to Saanich's park inventory.
		• Blanket easement has been granted to the District of Saanich allowing for recreational use of the site of the Arbutus Attenuation Tank.
		• Commitments have been made to:
		  ○ improve the level of water service to properties in the area of the Residuals Treatment Facility, in the District of Saanich;
		  ○ provide infrastructure improvements in the District of Saanich along the alignment of the Residual Solids Conveyance Line, including improvements to provide traffic calming measures and pedestrian connectivity; and
		  ○ provide infrastructure improvements in the District of Saanich at the site of the Arbutus Attenuation Tank, including a new bike lane, sidewalk, and storm water management improvements.