

DATE: May 24, 2018

FILE: 5360-20/CV

TO: Chair and Directors
Comox Valley Regional District
(Comox Strathcona Waste Management) Board

Supported by Russell Dyson
Chief Administrative Officer

FROM: Russell Dyson
Chief Administrative Officer

R. Dyson

RE: Project Status Report - May 2018 – Comox Valley Waste Management Centre New Engineered Landfill - Cell 1 Construction and Leachate Treatment Facility

Purpose

To provide a project status report for the Comox Valley Waste Management Centre (CVWMC) new engineered landfill - cell 1 construction (Cell 1) and the leachate treatment facility design and construction.

Recommendation from the Chief Administrative Officer:

This report is for information purposes only.

Executive Summary

The expansion of the CVWMC was a large and complex project required to provide additional air-space volume to the Comox Strathcona solid waste (CSWM) service. The project was included in the 2012 Comox Strathcona solid waste management plan and designed to meet or exceed all of the current provincial requirements for landfill design, construction, and operation. The project was made up of two main components – Cell 1 design and construction and the leachate treatment facility design and construction.

Construction of the first cell was completed in 2017 with placement of select waste beginning in late August 2017. The old landfill is estimated to reach final capacity in late 2018 at which time all waste at the CVWMC will be direct to Cell 1.

Below is a table from the CVWMC masterplan with the estimated airspace of the current and future cells.

Table 1 - Cell Capacity and Life Estimates

Cell Identification Number	Available Airspace (m ³)	Estimated Cell Life (Years)		Year Capacity Reached	
		Scenario #1*	Scenario #2**	Scenario #1*	Scenario #2**
Cell 1	470,945 m ³	6.0 years	7.5 years	2022	2024
Cell 2	1,046,472 m ³	8.5 years	12.0 years	2031	2036
Cell 3	1,040,890 m ³	8.0 years	11.5 years	2039	2048

*Scenario #1 – Cell life and capacity based on constant status quo disposal rate

**Scenario #2 – Cell life and capacity based on 2012 CS-SWMP 70% diversion rate being achieved by 2022

The leachate treatment facility began treating leachate in January 2018, successfully completed the 28 day performance testing in February, and was issued substantial completion on March 15, 2018. Remaining deficiency items will be completed in the upcoming months. The leachate treatment facility will use collected landfill gas in a boiler for pre-heating the leachate prior to treatment. This will significantly reduce operational costs, and have a positive impact to the environment by offsetting fuel usage.

Project Costs

The Cell 1 project costs consisted of detailed engineering design, construction works, construction management, construction quality assurance and overall project management. The total Cell 1 project cost were completed at \$7,181,851 which was a reduction from initial report in 2016 of \$7,514,000.

The leachate treatment facility project costs consist of detailed engineering design, construction, commissioning, construction management, and construction quality assurance. The total leachate treatment project cost is estimated to be completed at \$8,324,697, which is a reduction from the initial report in 2016 of \$8,545,000.

A summary of project costs up to May 10, 2018 is provided in Appendix A, and project photos can be seen in Appendix B.

Prepared by:	Concurrence:	Concurrence:	Concurrence:
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_____	_____	_____	_____
Cole Makinson, EIT	Gabriel Bau Baiges, P.Eng.	Andrew McGifford, CPA, CGA	Marc Rutten, P.Eng.
Engineering Analyst	Manager of CSWM Projects	Senior Manager of CSWM Services	General Manager of Engineering Services

Attachments: Appendix A – “CVWMC Cell 1 and Leachate Treatment Cost Summary”
 Appendix B – “Project Photos”

Appendix A
Date: May 10, 2018

Key Task Description	Project Status	Actual Costs to Date (A)	Estimate to Complete (B)	Estimate at Completion (A+B)
Wacor - Contract for New Engineered Landfill Cell 1 Construction				
General Construction and Civil Works	Substantial completion June 20th	\$ 5,056,502	\$ -	\$ 5,056,502
Provisionals (equalization pond, force main)	CO executed with Wacor	\$ 559,020	\$ -	\$ 559,020
Change orders		\$ 334,549	\$ -	\$ 334,549
Sub Total		\$ 5,950,071	\$ -	\$ 5,950,071
Tetra Tech EBA - Contract for Construction Management and Construction Quality Assurance				
Project Management	In progress	\$ 23,750	\$ -	\$ 23,750
Contract Management	Complete	\$ 110,755	\$ -	\$ 110,755
CQA	Complete	\$ 269,225	\$ -	\$ 269,225
Reporting	In progress	\$ 28,607	\$ -	\$ 28,607
Contingency for Provisional Items	Complete	\$ 250,387	\$ -	\$ 250,387
Other Engineering Services (weather delays, additional scope)	Complete	\$ 6,481	\$ -	\$ 6,481
Sub Total		\$ 689,204	\$ -	\$ 689,204
Other				
Other Consulting Services (design, tender preparation and review)	Complete	\$ 263,514	\$ -	\$ 263,514
Transition/Fill Plan	Complete	\$ 86,531	\$ -	\$ 86,531
Other Fees	Surveying, Well Drilling, Legal, Borehole Decom.	\$ 91,583	\$ -	\$ 91,583
Berm Construction	In Progress	\$ 100,948	\$ -	\$ 100,948
Sub Total		\$ 542,576	\$ -	\$ 542,576
Total		\$ 7,181,851	\$ -	\$ 7,181,851

Key Task Description	Project Status	Actual Costs to Date (A)	Estimate to Complete (B)	Estimate at Completion (A+B)
Maple Reinders - Contract for Design-Build of Leachate Treatment Facility				
General Design and Construction Works	In progress	\$ 7,333,260	\$ 111,340	\$ 7,444,600
Change Orders	In progress	\$ 76,423	\$ 220,456	\$ 296,879
Sub Total		\$ 7,409,683	\$ 331,796	\$ 7,741,479
Consulting Services				
Engineering Services (RFP assistance, consulting/advisory services)	In progress	\$ 435,181	\$ 7,462	\$ 442,642
Sub Total		\$ 435,181	\$ 7,462	\$ 442,642
Other				
BC Hydro, Startup Chemicals, Etc	In progress	\$ 140,576	\$ -	\$ 140,576
Sub Total		\$ 140,576	\$ -	\$ 140,576
Total		\$ 7,985,439	\$ 339,257	\$ 8,324,697

Total (Leachate and Cell 1)		\$ 15,167,290	\$ 339,257	\$ 15,506,548
Authorized Borrowing for the New Engineered Landfill Cell 1 and Leachate Treatment Facility, Loan Authorization (Bylaw No. 351, 2014). Debt expenses not included.				\$ 21,550,000
Remaining Unallocated Debt				\$ 6,043,452

Cell 1



Leachate Equalization Pond



Leachate Treatment Facility



Leachate Treatment Facility

