Comox Valley REGIONAL DISTRICT

Staff report

DATE: April 4, 2018

FILE: 5610-04

TO: Chair and Directors
Comox Valley Water Committee

Supported by Russell Dyson
Chief Administrative Officer

R. Dyson

FROM: Russell Dyson
Chief Administrative Officer

RE: **UV Disinfection Project Close Out**

Purpose
To provide a summary of the recently completed ultraviolet light (UV) disinfection project.

Recommendation from the Chief Administrative Officer:
For information purposes only.

Executive Summary
As an interim measure to reduce the number of Boil Water Notices (BWNs) for the Comox Valley Water System (CVWS), Island Health recommended the installation of temporary UV disinfection equipment at the existing chlorination station. Installation of the UV disinfection equipment is now complete and the project will provide the following benefits to the CVWS:

- Addition of a secondary form of disinfection to treat incoming source water;
- Reduced number of BWNs for the CVWS with an increased turbidity threshold of 3NTU as approved by Island Health.

The installation of UV disinfection equipment is expected to reduce the number of BWNs by approximately 80 per cent. The project was approved in November 2017 and completed in February 2018. The project included engineering, civil works, electrical and commissioning required for the installation and use of two new UV reactors at the existing chlorination station. Attached as Appendix A are a series of photos of the newly installed UV reactors.

The project was budgeted at $988,000 and came in under budget at $788,000. The cost of the UV reactors is a recoverable cost as the reactors have been selected to be able to be used at the new water treatment facility once constructed. Table No.1 below summarizes the costs for the installation of UV equipment.

Table No.1: Temporary UV Costs

Component	**Cost**
UV Reactors (recoverable cost)	$387,000
Instruments	$67,000
Electrical	$32,000
Civil Works	$179,000
Engineering	$87,000
Construction Inspections	$21,000
Start Up and Commissioning	$15,000
Total Project Costs	**$788,000**
Unrecoverable Costs	**$401,000**

Installation of the UV disinfection equipment will provide an interim solution to reduce BWNs related to turbidity. Construction of the water treatment facility is expected to be complete by 2021. Once the water treatment facility is operational, BWNs related to turbidity will be eliminated.

Prepared by:	Concurrence:	Concurrence:
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Stakeholder Distribution (Upon Agenda Publication)

Island Health	✔

Attachments: Appendix A – "UV Disinfection Project Photos"

Figure 1- UV Reactor in Place

Figure 2- Side View of UV Reactor