



WATER FACILITY INSPECTION REPORT

Health Protection

Premises Name Lund Waterworks District		Tel: (604) 414-0230 Fax:	
Premises Address Lund Waterworks District Lund, BC		Inspection Date May 13, 2025	Time Spent 4 hours
Operator (Person in Charge) Courtney Robertson 414-0230 or 483-1410			
Inspection Type Routine			

Observed Violations
<p>501 - Failure to disinfect surface water. Observation: Failure to provide 3 log reduction for protozoa. Corrective Action(s):</p> <p>503 - Failure or inadequate treatment for chemical/physical parameters. Observation: Existing treatment works do not adequately control for disinfection by-products. Corrective Action(s):</p>

Section Details

<p>Comments Routine Drinking Water System Inspection Report Prepared by: Jack Davidson, Drinking Water Officer (DWO) For: Lund Waterworks District (LWD) Operator: Courtney Robertson Receiver: Frances Ladret</p> <p>System Overview LWD draws from a licensed surface water intake on Thulin Lake (License #C044819, 1935). Water levels are controlled by two dams – an earthen dam between Lund and Thulin Lake and a concrete dam at the head of Thulin. The intake extends approximately 200 metres into the deepest part of Thulin Lake and supplies the main pump station roughly 175 metres away. At the pump station, water is disinfected with hypochlorite and pumped into the distribution system. The system includes three reservoirs and two booster stations serving approximately 109 connections.</p> <ul style="list-style-type: none"> • Reservoir 1: Thulin Lake (82 000 L – two tanks) • Reservoir 2: Boar’s Nest Road (23 335 L – one tank) • Reservoir 3: Alannah Road (23 335 L – three tanks) <p>The operator is competent and attentive; however, the system has aging infrastructure, frequent leaks, and significant water loss. Two large salvaged steel tanks are beyond repair, and a third recently ruptured and was replaced. Elevated natural organic carbon in the source water contributes to disinfection by-product (DBP) formation. Trihalomethanes (THMs) consistently exceed Health Canada’s maximum allowable concentration (MAC). The system does not meet BC’s 43210 surface-water treatment objective and remains under a Water Quality Advisory (WQA) issued in 2024.</p> <p>Inspection Comments</p> <ul style="list-style-type: none"> • Met on-site with the operator and receiver ahead of the 2025 AGM to review system status and grant progress. • Inspected the concrete dam and intake; operator outlined plans for removal of the earthen dam. • Capital upgrades remain on hold pending final qRD, provincial, and engineering decisions and approval by LWD water users.
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- Bacteriological sampling, chlorine residuals, chemical monitoring, and maintenance records are in good order.
- DBP monitoring is occurring; permit conditions will be updated to formalize requirements.
- The 2024 annual report and updated emergency response plan have been submitted to VCH.

Summary Re: qRD Conversion and Grant Funding

In February 2018, the LWD board voted to dissolve the improvement district and convert to a qathet Regional District (qRD) service. In February 2022, the Province appointed a receiver to assume trustee responsibilities, secure funding, and prepare the system for transfer.

In April 2022, the qRD adopted its Water and Wastewater Utility Acquisition Policy, confirming it will not assume ownership until the system meets current provincial standards.

In February 2022, the qRD, on behalf of LWD, applied to the Investing in Canada Infrastructure Program (ICIP). On March 22, 2024, LWD was awarded up to \$11,017,378 (73.33 percent of eligible costs). The upgrade scope includes supply, pump stations, treatment, storage, and distribution.

Accessing the grant requires voter approval for the local share of \$4,007,002 and conversion to a qRD service by project completion. A preliminary annual cost estimate was presented at the 2025 AGM. As of September 2025, final costs and tax impacts cannot be confirmed until the qRD resolves outstanding conversion and scope issues. These decisions will ultimately be determined by a vote of LWD water users.

Additional funding is being pursued:

- DRIF application for preliminary dam engineering.
- Strategic Priorities Fund submission (Canada Community-Building Fund) for up to 100 percent funding to a maximum of \$7 million.

Summary Re: DBP Monitoring

Disinfection by-products form when chlorine reacts with natural organic matter. The primary DBPs of concern are trihalomethanes (THMs) and haloacetic acids (HAAs). Elevated Total Organic Carbon (TOC) increases DBP formation potential, particularly in warm surface-water systems with longer water age.

Health risks from THMs and HAAs are low compared with risks from consuming non-disinfected water. THMs form quickly and are the baseline monitoring parameter; HAAs form more slowly and can indicate DBP formation under conditions of extended chlorine contact. Including HAAs and TOC provides a more complete assessment of DBP risk and helps guide operational adjustments.

Updated Permit Condition – DBP Monitoring

The operator must collect and submit samples for Total Trihalomethanes (TTHM), Haloacetic Acids (HAA5), and Total Organic Carbon (TOC) (raw and treated) in accordance with the Guidelines for Canadian Drinking Water Quality (2022) and the Provincial Drinking Water Officers’ Guide (2025).

Frequency:

- Minimum quarterly (spring, summer, fall, winter).
- Biannual sampling (spring and late summer/fall) is acceptable if budget constraints exist.

Locations:

- Distribution: one location representing maximum water age (system extremity or reservoir outlet).
- Raw water: one location representative of untreated source entering disinfection.

Parameters:

- Distribution: TTHM, HAA5.
- Raw and treated: TOC.
- Record pH and temperature at the time of sampling, if practical

Action Taken

- Information Exchanged

Hazard Rating For Your Facility: High Moderate Low

DWO

DWO Printed Name

Jack Davidson