Lund Water System Upgrade & Conversion Plan Open House

WELCOME

Please sign-in

Lund Waterworks District

www.lundwaterworksdistrict.ca

System Background

What Are Improvement Districts?

BC's system of local governance includes IDs incorporated by Letters Patent to operate and administer specific services, commonly water, in a specific geographic area. IDs were initially created in 1920s to manage irrigation systems but the majority now manage domestic water systems. The last ID was incorporated in1995.

IDs are granted authorities under the Local Government Act and operate under a board of elected trustees according to federal and provincial laws including the Drinking Water Protection Act & Regulation, Water Sustainability Act and Taxation (Rural Area) Act, by passing resolutions and by-laws. ID's Letters Patent establish the boundaries, number of trustees, voter eligibility criteria, and various meeting requirements.

The Lund Waterworks District was established by Letters Patent in 1973 with the authority to provide water for the properties within the boundaries of the district.

LWD Operations

Regular system operations and maintenance are managed by two part-time contractors.

Courtney Robertson, Certified Water System Operator and Emergency Dam Contact
Kelly Rankin, Administrator – acting Corporate Officer and collector for parcel taxes, Principal Dam Contact

Governance falls to the Receiver Frances Ladret who acts in place of a Board of Trustees, and serves as the spokesperson for the improvement district.

Current Water System

- 141 serviceable properties with 108 active connections

Key water system components:

- Surface water source: Thulin Lake and Lund Lake under licence #C044819, 1935
- Lund Lake dam, Thulin Lake Dam and 250 mm diameter intake pipe
- Main pump station and chlorination building at 9730 Emil Road
- Booster stations: Finn Bay / Alannah Rd. Booster Station & Larson Rd. Booster Station
- Distribution system: over 27 km of various size water mains and 100 mm sub-marine line,
- 16 fire hydrants
- 3 reservoir sites totalling 175 m^3
- 82 m^3 Primary at 9730 Emil Road, 70 m^3 Alannah Road and 23.0 m^3 Boar's Nest Road
- Water metering for all non-residential properties.

Why Conversion?

What is a Conversion?

A conversion is the transfer of an improvement district's (ID) services to a local government, typically a regional district (RD). This process culminates in a provincial Order in Council (OIC) that revokes the ID's letters patent, transfers all assets and liabilities, and establishes a corresponding RD service area. While the decision-maker for the service changes, the service itself and the broader governance framework generally remain the same.

LWD issues are common to many rural water systems, including:

- Aging infrastructure Insufficient resources to finance major repairs or improvements
- Not meeting regulatory requirements
- Difficulty maintaining volunteer Trustees
- Liability concerns regarding supply & quality
- No access to senior government grants

Advantages of qRD Service

- Access to Municipal Finance Authority lower borrowing rates
- Access to Municipal Insurance Association lower insurance rates
- Access to senior government grants to cover upgrade costs – current & future
- Support from broader range of knowledgeable staff resources

How RD Services Operate

- Each service has its own Service Area established by bylaw
- Each service has an independent budget
- Revenues paid for the service - taxes or fees - stay with the service
    - except some costs are shared – Administration
- All assets & liabilities remain with the service

Conversion Process

Steps in the Conversion Process?

1. **Establish Need – Identify Issues**
2. **Initial Alignment and Support**
3. **Technical and Financial Analysis**
4. **Funding Strategy**
5. **Engagement and Consultation**
6. **Demonstrating Support**
7. **Local Government Approvals**
8. **Provincial Approval**

Lund Waterworks District Specifics

The Lund Waterworks District (LWD) is currently advancing through the mid-to-late stages of the conversion process, with several key steps completed or underway:

1. **Need for Conversion Identified:** ✔

2. **Technical Analysis completed through McElhaney and MSR Solutions:** ✔

3. **Funding Secured (in part):** ✔

qRD has secured approximately $11.7M in ICIP funding (73.33% of costs up to $15M). Community must cover remaining 26.67% of the eligible costs plus 100% of costs not eligible for ICIP grant. qRD is pursuing additional funding.

Outstanding Items

Service agreement with Tla'amin Nation: In progress

For Treaty Lands accessing the Lund water service. The agreement is anticipated to align with the servicing and cost-recovery approach presented to the broader community.

Community approval and cost acceptance: To be Determined
The key outstanding step is confirming community support to proceed with conversion and assume the remaining costs through borrowing. This will be tested through a formal petition process led by qRD.

System Assessments Reports

The Lund Water System (LWS) has been the subject of many reviews, some dating back to 1981! Below are those most relevant to the qRD 2026 Upgrade Plan.

2018 Seaveyors LWD Reservoir Maintenance Inspection:

Examined two tanks at Reservoir Site #1 (DL 1612) and one tank at Site #2 (Boar's Nest Road). Interior of all tanks reported in "poor condition." Recommended replacement "as soon as possible."

McElhanney/NAC LWS Assessment:

Recommendations to bring system up to "modern" engineering & construction standards. Compared treatment technologies; considered optional treatment plant sites; increased storage capacity to improve fire flow duration; recommended several distribution system upgrades. Cost Estimate $27M - $29M.

2022 NAC Revised Scope:

Phased approach to overall upgrade. Focused on key needs including treatment, storage, fire suppression, priority distribution system works. Estimated project value revised to approximately $11M - $15M. Phased scope aligned with ICIP-EQ eligibility criteria and Ministry supported application development.

2023 MSR Solutions LWD Engineering Consultant Cost Review

Identified core and discretionary spending (Needs versus Wants) to reduce costs and identify non-essential works. Refined previous estimates; identified equipment suited to small systems; maintained 3 reservoir sites, upgraded;* deferred some watermain upgrades. Identified dams as an issue and amended project scope to include Thulin & Lund lakes dam remediation works. Cost Estimate $11.9M.

**Note: Reservoir plans have been revised to meet Building Code post disaster standards.*

2024 MSR Solutions LWS Upgrade Costs Estimates:

Review of costs to account for inflation and rapidly increasing construction costs. Included estimates for works not included or deferred in previous estimates. Presented 3 scenarios @ $13M, $15.6M, $17.7M.

2024 MSR Lund Lake and Thulin Lake Dam Safety Review

Modified DSR prepared in response to provincial Dam Safety Officer elevation of Thulin Lake dam 'Dam Failure Consequence Classification' to high; direction for LWD to implement immediate mitigation measures and prepare long term plans to rectify all safety hazards. MSR Review proposed to decommission Lund L. dam and reconstruct Thulin L. dam. Estimated (2024) Cost $2.2M+.

System Deficiencies

As identified in system condition assessments and reports

Deficiencies - General

- Aging, deteriorating infrastructure overall
- Many instances of regulatory non-compliance
- Some works not within Right of Ways or public road allowances
- Potential inability to withstand seismic event
- Non-standard construction methods & materials
- Inadequate monitoring & alarm equipment

Deficiencies - Treatment

- Treated water presents health risks
- Does not meet VCH 4-3-2-1-0 Objective
- Exceeds Canadian Drinking Water Guidelines for
    - Trihalomethane (THM) levels 2-3 times Maximum Allowable Concentrations
    - Haloacetic Acids (HAA) levels 3-4 times Maximum Allowable Concentrations
- Does not provide dual disinfection processes as required by VCH
- Subject to Water Quality Advisory until treatment upgraded to Provincial standards.

Deficiencies - Reservoirs

- Available potable water storage insufficient:
  Current: 107m^3 Required: 520m^3
- Installations not to Building Code Disaster Standards

Site #1 DL 1612

- 2018 Inspection Report - Condition Rating Poor: replace ‘ASAP’
- Maintenance under Worksafe regulations is not possible

Site #2 Alannah Road

- Presently available for fire flow only
- Incorrectly plumbed for domestic water use

System Deficiencies

Deficiencies – Distribution System

Pumphouse & Booster Stations

Main pumphouse

- Allows access for rain & rodents
- Unsafe chlorine storage
- No backup generator during power outages
  - ➢ no ability to treat; no fire suppression

Finn Bay / Alannah Rd. Booster Station

- Inadequate delivery and pressure to Grouse Ridge Road

Larson Rd. Booster Station

- No backup power
- Inadequate pressure for residences and fire flow

Water Mains & Accessories

- Many undersized for optimum service delivery and fire suppression
- Dead end lines presently lead to poor water quality & increased maintenance
- Corroded valves & fittings on submarine line resulting in frequent leaks & costly repairs
- Sevilla Is. lines undersized & incompatible with meter installations
- Lacking isolation valves throughout

Deficiencies – Dams Thulin & Lund Lakes

- Regulatory non-compliance
- Do not meet current seismic standards
- Provincial Consequence Classification – **High** re dam failure impacts

Thulin Lake dam -

- Undersized spillway and freeboard unable to handle greater intensity rain events due to climate change
- Potential flood risk → a threat to people, property and critical infrastructure

Capital Upgrades Required - Total System

Project 1 – Capital Upgrades 2026

Rationale: *Improve water quality to eliminate health risks. Ensure regulatory compliance. Improve system performance. Increase user satisfaction.*

Proposed Works

New treatment system;
New/upgraded reservoirs → increase storage;
Distribution system improvements & additions

Start date: Following property owners' approval of project & qRD bylaws adoption.
Construction period: Engineering design to final completion 3+ years.

Estimated Cost, excluding engineering & contingency: $10.3M

Project 2 – Dam Improvements

Rationale: *Improve climate resilience. Comply with BC Dam Safety Regulation. Reduce Provincial Consequence Classification rating of 'High'. Reduce likelihood and severity of flood-related disasters: avoid potential response costs, disruptions to people & businesses & damage to critical infrastructure.*

Proposed Works

Decommission Lund Lake dam:

- eliminate ongoing O&M and reporting cost
- eliminate environmental and safety risks

Replace Thulin Lake dam:

- design to current seismic standards & future climate conditions
  - significantly reduce overtopping and failure risk
  - wider spillway to allow controlled runoff

Start date: Preliminary Design: Jun-Dec 2026 –DRIF application under review
Capital works start date pending funding availability –DRIF application under review

Construction period: ~ 2.5 years. Some steps seasonally dependent.

Estimated Cost, excluding engineering & contingency: Preliminary Design: $314,000
Capital Works (Decommission & Reconstruct): ~$2.3M

DRIF *- Provincial Disaster Resilience and Innovation Funding program*

Project 3 – Future Distribution System Upgrades

Non-Urgent, Deferred due to cost considerations

Rationale: Increase pipe size to improve fire flow; facilitate NVFD shuttle system operation.

Proposed Works:

Upgrade 100 mm section to 150 mm PVC mains along North Finn Bay Road.
New pipe to eliminate pipe on private property ROW - Hwy 101-Emil Rd intersection & Quarry Pl.
Replace 100 mm pipe with 150 mm PVC along Murray/ Larson/Sorenson Rds.

Estimated Cost, excluding engineering & contingency: $1.9M

This Open House presentation focuses on Project 1 – Capital Upgrades 2026

Project 1 – Capital Upgrades 2026

Cost Assumptions & Considerations

2026 Estimated Project Costs

- Based on MSR Solutions 2023 Report & 2024 Cost Review
  - qRD Updated 2026
- Assume 2027 Construction
- Class C Construction Estimate – full list of project requirements
- 25% Contingency
  - to account for unknowns: material price volatility, site conditions, design changes, overruns on estimated costs

Actual Costs based on tendered prices

Borrowing

- Net of ICIP $11M grant revenue received
- Assumes Municipal Finance Authority rate of 5.5% over 30 years
- Actual rate will reflect MFA rate at time of borrowing
- Only amount required to cover costs will be borrowed

??? Potential Cost Reductions ???

- Additional grant revenue may reduce borrowing requirements
  - qRD continues to pursue all grant opportunities
- Possible acquisition of used stainless steel tanks from mill site for water storage may reduce reservoirs costs
- Actual borrowing rates lower than projected

All have potential to reduce taxation

Project 1 – Capital Upgrades 2026

Details on works to planned to address identified deficiencies

Estimated costs do not include engineering & contingency

1. Construct Direct Nano-filtration (dNF) membrane water treatment system

Selected as most appropriate among 4 treatment technologies evaluated.

- Treated water meets Provincial 4,3,2,1,0 Objectives & CDWG
- Meets VCH dual disinfection requirement:
  - eliminates THMs and HAAs
- Automatic flushing → less chemical handling by operator
- Pre-assembled plant & building easily installed
- Installed to BC Building Code Post Disaster Standards
- Suitable for small systems and existing ROW size
- Capacity to meet current maximum day demand with ~20% excess
- Easily expanded to meet longer term needs
- **W**ater **Q**uality **A**dvisory eliminated

Estimated cost: $2.3M

2. Reservoirs Upgrades & Capacity Increase

Increase total storage to 520 m^3 to meet current requirements. Will maintain Fire Underwriters Survey (FUS) insurance grading for reduced rates. All installations to meet post disaster standards.

#1 DL 1612: New 75,000g steel tank - 340 m^3

#2 Alannah: Add 5,100g poly tank (from Boar's Nest) to existing - 93 m^3 ttl.

- connect tanks to distribution system
- redo internal piping to meet Design Guidelines

#3 Boars Nest: Replace existing with two 10,000g poly tanks (90 m^3)

Estimated Cost: $2.1M

Project 1 – Capital Upgrades 2026

3. Pumphouse / Booster Station Improvements

New Water Treatment Plant (WTP) eliminates existing decrepit pumphouse.

Larson Rd.: New pump & electrical upgrade

- improve pressure for fire flow & residences

Alannah Rd.: Enlarge feeder line

Estimated Cost: $168K

4. Distribution System Improvements - Water Mains

Replace Finn Bay sub marine line
Upgrade Sevilla Is. lines to 50mm, insulated
New 1,150m line on Finn Bay Road → looped system
New ~ 650m line on Hwy 101

Estimated Cost: $4.1M

5. Hydrants & Accessories Upgrades

New hydrants to replace old, or add to new mains
Valves: Replace corroded; add to new mains

- Install isolation valves in strategic locations throughout
- Blow-offs at distribution piping dead ends

Estimated Cost: $533K

6. Water Meter Installation

Goal: Reduce consumption and comply with Water Licence allocation
All developed lots to be metered
~ 80 new to supplement existing
Improves leak detection capability
Provides accurate and fair billing
Properties using more water to pay higher user fees
Specific billing system to be determined. Tiered system with base rate is likely.
Enhances future grant possibilities.

Estimated Cost: $256K

Project 1 - Capital Upgrades 2026

Estimated Cost Summary

Eligible and Ineligible Costs

Eligible* Costs

Construction Costs	
Setup	932,000
Mob/Demob, Insurance, Bonding	
Water Treatment System	2,318,000
Reservoir / Fire Storage	2,082,000
Distribution System- water mains	4,043,000
Other Works	
Hydrants & associated items; pump stns, metering; misc.	952,000
Subtotal Construction Cost	**10,327,000**
Non-Construction Costs	
Engineering / Project Mgmt./ Approvals	1,686,000
Contingency 25%	2,582,000
Total Estimated Eligible Costs	**14,595,000**
Ineligible* Costs	**702,000**
TOTAL ESTIMATED PROJECT COSTS, net gst	**15,297,000**

* **Eligible Costs** qualify for ICIP grant funds
Ineligible Costs - 100% local funding

Assumptions: Class C Cost Estimates and 2027 Construction
Source: MSR Solutions Scope & Cost Update Report, 2025 Update; qRD 2026 Update

Project 1 - Scope and Cost Estimates

qRD Updated Jan-2026

Project 1 - 2026 Upgrade - Details

ELIGIBLE COSTS			
	Construction		
	TASK	**COST**	**DESCRIPTION / RATIONALE**
	General		
0.1	Mob/Demob	652,273	
0.2	Insurance/Bonding	279,990	
1.0	***Treatment & Storage Reservoirs***		
1.1	Water Treatment System	2,317,695	Direct nano-filtration. Incl. supply/install, effluent disposal
1.2	Reservoir/Storage Capacity		Expanded to meet maximum daily demand and fire flow requirements
1.2.1	Reservoir No 1 - within LWD easement DL 1612	1,750,000	75,000g glass-walled bolted steel-to Building Code post disaster standards
1.2.2	Reservoir No 2 - Alannah Rd	100,000	Upgrade to 4x poly tanks; piping
1.2.3	Reservoir No 3 - Boar's Nest Rd	119,255	Replace existing with 3x 10,000g poly tanks
1.2.4	Demolition	113,033	Remove debris & asbestos at reservoir sites
2.0	***Pumphouse / Booster Stations***		
2.1	Main pumphouse	0	Replaced by new treatment plant
2.2	Alannah Road	44,143	Pumps, generator
2.3	Larson Rd	118,218	Add 60 l/s fire pump; electrical upgrade
3.0	***Distribution System***		
3.1	Finn Bay Rd-Alannah Rd extension	1,558,611	New 1,150m line to create loop. Incl. appurtenances, etc.
3.2	Hwy 101 @ Larson Rd south	702,049	New ~600m line to replace 25mm line through private properties
3.3	Lund Harbour to Finn Bay sub marine crossing	1,554,463	Replace existing line; install corrosion resistant fittings.
3.4	Sevilla Island	228,000	Replace main-stub and distribution piping. Legalize ROWs
4.0	**Other**		
4.1	Hydrants	106,811	Replace 15-20
4.2	Valves, standpipes & blow offs	426,207	Accessories to new lines, pumps, etc.
4.3	Metering - est. 80 units	256,139	Reduce consumption; improve leak detection
	Subtotal Construction Cost	**10,326,887**	
5.0	**Non-construction Costs**		
5.1	Engineering - Design/Construction	1,291,000	12.5% of Construction Costs - Reduced from 2025 @ 15%
5.2	Regulatory Approval	310,000	Estimated at 3% of Subtotal Construction Cost
5.3	Commissioning/Training	85,034	
5.4	Contingency	2,582,000	Revised to 25% based on Class C Estimates
	Subtotal Non-construction Costs	**4,268,034**	
	TOTAL ELIGIBLE PROJECT COSTS	**14,594,921**	Qualify for 73.33% ICIP grant
INELIGIBLE PROJECT COSTS - ***no ICIP grant funds***			
6.0	**100% Local Costs**		
6.1	Legal Survey & Legal Fees	113,033	
6.2	Land acquisition for SRW	283,101	
6.3	RD Proj Mgmt/Admin	258,200	Revised to 2.5% for 2026 Update
6.4	MFA Borrowing Costs	48,000	Estimate based on amount borrowed.
	TOTAL INELIGIBLE PROJECT COSTS	**702,134**	
TOTAL PROJECT COSTS		**15,297,055**	

Lund Water System 2026 Upgrade Plan
Project Financing

Revenue Sources

Project may be financed through grants; borrowing; or reserves, if available.

Investing in Canada Infrastructure Program (ICIP) Grant Revenue		
based on	**Original Grant Approval**	
	Total Estimated Eligible* Project Costs	15,024,380
	Grant Approved: 73.33% of Total Eligible Costs	11,017,378
	2026	
	Total Estimated Eligible* Project Costs	14,594,921
	Maximum Grant available: 73.33% of reduced Costs	10,702,456

Revenue

	2026 Costs	**Original**
ICIP Grant for Eligible Costs	**10,702,456**	**11,017,378**
% of maximum approved grant used	97%	100%
Borrowing - Local Cost		
Eligible Costs - 27% not covered by ICIP grant	3,892,465	4,007,002
Ineligible** Costs - 100% local	702,134	702,134
Total Borrowing	**4,594.599**	**4,709,136**
TOTAL REVENUE Grant + Borrowing	**15,297,055**	**15,726,514**

- **Eligible Costs**: construction, engineering, contingency, etc.

** **Ineligible Costs**: surveys, legal, land acquisitions, mgmt. fees, borrowing fees.

Borrowing

30 Year Term @ assumed 5.5% Interest Rate

Through Municipal Finance Authority - offers preferential rates to local government

ANNUAL DEBT PAYMENT **$ 340,977** **$ 349,477**

Recovered through taxation.

qRD will seek property owners' approval to borrow up to the **Original** = $4,709,136

Will utilize the full grant, if necessary. E.g., to cover estimated cost overruns.

Only the amount needed to cover actual expenses will be borrowed.

Taxation

qRD is reviewing two taxation methods to recover annual debt payment costs

Flat Parcel Tax - all taxable parcels pay the same

Property Value Tax - tax based on assessed property (PVT)

Tax Examples

Based on BC Assessment 2026 Completed Assessment Roll Values.

Borrowing required for

- 2026 Estimated Project Costs
- Utilizing Maximum ICIP Grant

Flat Parcel Tax

2026 Estimated Project Cost	**2,750**
Maximum ICIP Grant	**2,818**

Based on 124 Parcels

PVT – Residential

	per $100k	Average	Lowest	Highest
2026 Estimated Project Cost	328	2,587	68	7,961
Maximum ICIP Grant	337	2,652	69	8,160

Residential Class Property Values	788,007	20,600	2,424,700

PVT - Business

	per $100k	Average	Lowest	Highest
2026 Estimated Project Cost	804	3,492	245	12,903
Maximum ICIP Grant	824	3,579	251	13,225

Business Class Property Values	434,122	30,400	1,604,000

Tla'amin Nation will pay an annual amount equivalent to taxes on behalf of their properties that are receiving Lund water.

Formula to calculate Property Value Tax: Tax Rate X Assessed Value/100,000

Who Pays The taxes

All taxable properties within the proposed qRD service area that are capable of receiving water from the upgraded Lund system will be taxed, whether or not they are connected.

Other Annual Costs

Capital Asset Replacement Reserve Contribution

- For renewal or replacement of system infrastructure
- Reduces reliance on future debt financing
- Estimated Total Annual Cost $100,000 - $122,000
- Allocation: combination of Parcel Tax and User Fee

Estimated Annual cost per connected parcel $900 - $1,150

User Fees

- For system administration, operations & maintenance
- Based on metered usage with base rate

Estimated Annual User Fee $1,200 +

"What did you take away from the meeting?"
ROY DELGADO FOR READER'S DIGEST

Proposed Treatment System

Selected as most appropriate for Lund from Four Treatment Technologies evaluated

Treatment Process

Nanofiltration systems are based on the use of membrane elements. Water is driven through semi-permeable membranes contained inside the element. Salts and other larger molecules are left behind in a concentrated brine stream while a stream of purified water is produced. An iron/manganese pre-filter is required before treatment and wastewater is to be discharged through an onsite treatment process or to the wastewater treatment plant.

System Features

- Specifically suitable for raw water with high colour and organics
- Built-in automatic chemical enhanced flushing system and remote control options for efficient operations
- Meets post-disaster building requirements for BC Building Code
- Compact pre-assembled plants reduce on-site construction and utility costs
- Can increase capacity to accommodate future expansion at minor additional costs

The plan is to make safe and pure water using nanotechnology with a dNF membranes system like the one pictured here.

Project 1 - Capital Upgrades 2026

Approval Process

Owners of properties within the proposed qRD service area will have the opportunity to indicate their support for the system conversion and borrowing through the **Petition for Service** process.

Petition process may begin after the service area establishment and loan authorization bylaws receive 3 readings by qRD board & provincial approval.

Petition must include

- Description of service and proposed service area boundaries
- Purpose of proposed borrowing
- Maximum amount of proposed borrowing & maximum term
- Associated cost recovery – taxation method; other sources

Petitions will be sent to owners of each parcel within proposed service area.

- Only owner(s) **in favour** of the proposed service and loan must sign.
- Parcels with **multiple owners** are considered as 1 owner. Majority must sign.
- **Corporations** are owners: authorized representative or company director must sign.

Petition Sufficiency

To be valid, a petition requires signatures from owners representing at least 50% of parcels liable to pay for the service, and at least 50% of the net taxable value of land and improvements in the proposed area.

What if No?

A failed petition does not eliminate the need for infrastructure upgrades.
LWD will continue to own, operate and maintain the water system.

- No access to grants
- Higher borrowing rate
- Higher insurance costs
- Higher cost to residents
- Uncertain upgrade schedule
- WQA remains until quality upgraded
- Possible difficulty retaining Trustees
- Exposure to liability
- Greater VCH expectation of regulatory compliance

What About Groundwater?

Developing a groundwater supply for Lund has become a prevalent topic of conversation based on assumptions that it would offer a more reliable source, better water quality, cheaper capital and operating costs, and better climate resilience.

We are not pursuing this option at present due to **uncertainty**, **timing**, and **costs**.

- Our information that the area has abundant, high-quality groundwater is anecdotal.
- We do not have access to technical reports that may or may not substantiate this claim.
- Claims that groundwater automatically avoids a treatment plant are not entirely correct. Chlorination will likely be required; a second level of disinfection may not.
- Investigating groundwater as a source for a community system is a long and costly process.
- Detailed feasibility studies must be completed before construction can start.
  - typically a 2 to 3 year process
  - potentially significant costs with no guarantee of success
- Lund requires 100-150 USg per minute for domestic and fire protection purposes.
  - likely requires more than one well
- LWD/qRD have endeavoured, without success, to find funding for investigative work.
- Pursuing this option could jeopardize the approved $11 million ICIP grant due to timing constraints and change of the approved grant scope of work.
- Tla'amin is not in a position to develop groundwater at the present time. Future opportunities to work together with the qRD can be considered.
- Some limited analysis currently underway will inform future consideration of this option.

The plan is to defer further consideration of groundwater in favour of upgrading the existing system now to provide clean water using the funds available.

Lund Water System Upgrade - Timeline to Date

2008:

VCH directs LWD to improve water quality & upgrade system

2010:

Provincial grant application for LWD upgrade. $6M. Denied

2018:

February:

LWD notifies qRD of intent to convert

November:

McElhanney - LWD Water System Condition Assessment, 2018

2019:

January:

ICIP-Rural & Northern Communities grant application. $17M

December:

Lund owners approve petition to establish RD service & borrow $500k

2020:

March:

Rural & Northern Communities Grant denied.

December:

LWD Board dissolves

2022:

January:

qRD Board ratifies ICIP grant application. Project $24M

February:

Province appoints LWD Receiver

July:

McElhanney LWS Assessment: Project $27- 29M

ICIP application for reduced scope upgrade (Project 1). Project $15M

2023:

January:

LWD establishes Lund resident Project Advisory Committee

May:

MSR Solutions upgrade report: reduced scale; revised scope. Project $13M

October

New Receiver appointed

2024:

March:

ICIP Grant awarded - up to $11M for maximum project cost $15M

July:

Dam Safety Officer directs LWD to remediate Thulin L. dam safety risks. Increases Failure Probability Rating to large; Risk Level to 1 – Alert.

November

MSR Solutions - Lund L. & Thulin L. Dams Safety Review (abridged)

September:

DRIF application for capital works on LWD dams

2025:

DRIF application for Thulin L. Preliminary Design submitted.

Strategic Priorities Fund application

2026:

July/August:

Petition for Service to owners - tentative

All grant applications submitted by qRD on behalf of LWD

Definitions:

ICIP: *Investing in Canada Infrastructure*

DRIF: Disaster Resilience & Innovation Funding