

District of Barriere  
**REPORT TO COUNCIL**  
**Memorandum**

<b>Date: June 8, 2026</b>	<b>File: 530.20/Rpts</b>
<b>To: Council</b>	<b>From: Chief Administrative Officer</b>
<b>Re: Leonie Dam Decommissioning Study – Final Update</b>	

**Purpose**

To provide Council a final update for the Leonie Dam Decommissioning Study project.

**Background**

Council initiated the Leonie Dam Decommissioning Study in 2023 when Staff was directed to apply to the Community Emergency Preparedness Fund (CEPF).

Since the funding approval by UBCM (received in July 2023), a full Decommissioning Study has been completed by Interior Dams, with True Consulting acting as the Districts engineer.

Staff and True Consulting further undertook a holistic review of the findings in 2025. Updates were presented to Council on a continuous basis which resulted in Council determining that the option to “Keep the Dam” was the most desirable solution at this time.

Feedback from the public was also sought out through the Open House in January 2026, through dedicated engagement with Simpcw First Nation, and by mailing potentially affected property owners. No additional comments were received from the affected property owners. Simpcw has provided a letter of support toward the next step in maintaining the Leonie Dam.

The attached memorandum from True Consulting is summarized on a high level in bullet form below:

- The Decommissioning Study project confirmed that the District remains the owner and licence holder of the Leonie Lake Dam and is responsible for its operation, safety, and regulatory compliance.
- The study also confirmed that the Dam is classified as a High Consequence Dam and is currently non-compliant with dam safety requirements.
- Although full decommissioning was initially considered, the assessment found that decommissioning and rehabilitation have similar order-of-magnitude costs.
- Based on technical findings, water security considerations, and engagement feedback, the preferred approach is to retain the Dam at this time and proceed with a Dam Safety Review (DRS) to define rehabilitation needs, costs, and future management options.
- The Province is requiring the District to maintain the water storage at approximately 50% capacity until a DSR is completed.

This now substantially completes this Decommissioning Study project.

### Next Steps

- TRUE Consulting will be finalizing the grant reporting on our behalf in the coming weeks.
  - TRUE Consulting will review grant opportunities to fund the next step (Dam Safety Review) as they become available.
  - Staff will include the “Leonie Dam – Dam Safety Review” as a project on the next Strategic Planning Workshop for Council.
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### Attachments

1. Memorandum from True Consulting – June 4, 2026

Prepared by:

D. Drexler, Chief Administrative Officer

# Memorandum

**To:** District of Barriere  
**Attn:** Daniel Drexler, CAO  
**Date:** June 4, 2026

**From:** TRUE Consulting  
**File No:** 346-492

**RE: Summary Report Leonie Dam Decommissioning Study**

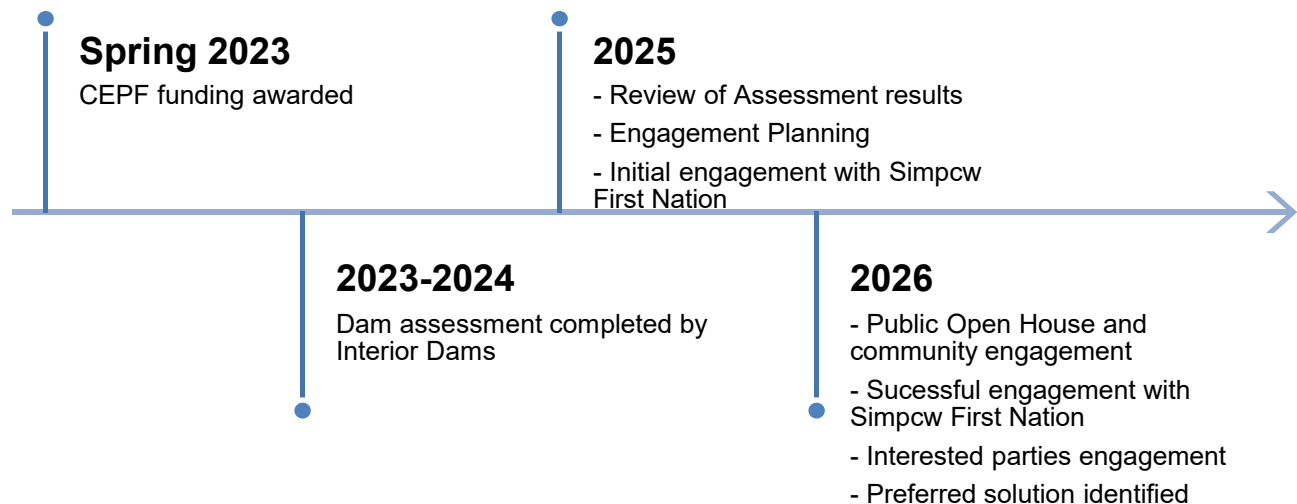
## 1. Introduction

This memorandum provides a summary of the Leonie Lake Dam Assessment Project, funded through the Community Emergency Preparedness Fund (CEPF) in 2023.

The purpose of the project is:

- Assess the current condition of the Leonie Lake Dam
- Review applicable legal and regulatory requirements
- Evaluate future management options for the dam
- Engage with First Nations and interested parties
- Identify a preferred path forward for the District of Barriere

The project timeline is summarized below.



**FIGURE 1-1. TIMELINE OF THE PROJECT**

## 2. Background

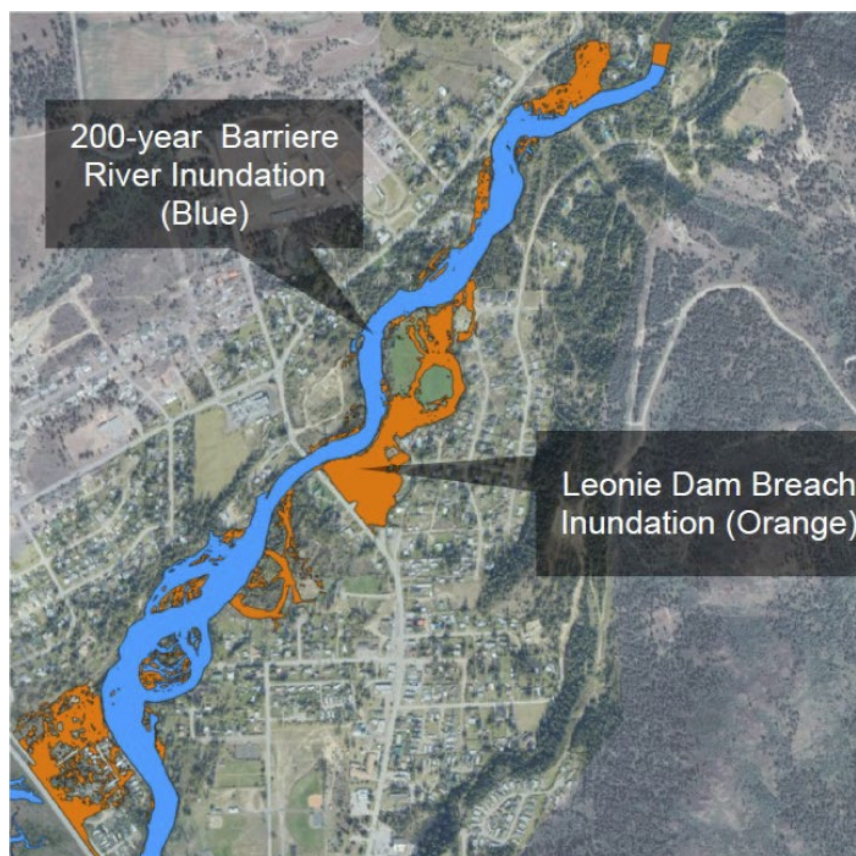
The Leonie Lake Dam is classified as a High Consequence Dam under the BC Dam Safety Regulation. A failure of the dam could result in loss of life, significant damage to infrastructure, and impacts to environmental and cultural values.



**FIGURE 2-1. LEONIE DAM DRONE PHOTO (INTERIOR DAMS, 2024)**

A 2023 dam breach assessment concluded that a hypothetical failure of the dam could result in:

- Peak flows in the Barriere River approximately 22% greater than the 1-in-500-year flood event
- Washout of multiple road crossings along Leonie Creek that provide access to residences
- Significant erosion and debris flow hazards within the Leonie Creek watershed
- Flooding impacts extending into the District of Barriere
- Damages consistent with a High Consequence dam classification



**FIGURE 2-2. LEONIE LAKE DAM BREACH FLOW RELATIVE TO THE 1-IN-200-YEAR FLOW FOR THE BARRIERE RIVER (TRUE, 2023)**

Although the Leonie Lake Dam has not supplied drinking water to the District since the late 1990's, the District remains responsible for:

- Dam operation
- Maintenance
- Public safety
- Regulatory compliance

## 3. Dam Assessment Findings

### 3.1 Water Use Licences

The assessment confirmed that Water Licence C050375 is the only active storage licence directly associated with the Leonie Lake Dam and reservoir.

The licence remains active and is registered to the District of Barriere. As a result, the District is both the registered dam owner and the sole licence holder responsible for operation, maintenance, and regulatory compliance of the Leonie Lake Dam.

## 3.2 Current Condition Review

A review of inspection records, surveillance reports, dam safety documentation, and site conditions identified several deficiencies and information gaps that affect the long-term viability of the dam.

The assessment identified:

Low-level outlet works	Near end of service life
Slide gate system	Near end of service life
Access structures	Deteriorated
Freeboard	May not meet current standards
Vegetation	Excessive growth present
Hydrologic assessment	Outdated
Geotechnical assessment	Not completed to current standards
Seismic assessment	Not completed to current standards
Dam Safety Review	Outstanding since 2022

**FIGURE 3-1: SUMMARY OF FINDING IN CURRENT CONDITION OF THE DAM**

The review concluded that the dam is currently non-compliant with regulatory requirements and requires additional investigation to determine the extent of rehabilitation needed to meet current dam safety standards.

## 3.3 Management Options Assessment

Three options were evaluated as part of the study:

**Option 1** - Full decommissioning of the dam and restoration of the stream channel

**Option 2** - Retain and rehabilitate the dam to meet current standards

### Option 3 - Partial decommissioning through reduction of reservoir storage

The assessment determined that partial decommissioning was not a practical long-term solution because the remaining structure would continue to require ownership, operation, maintenance, regulatory compliance, and future capital investment.

As a result, the assessment focused on comparing full decommissioning and retaining the dam.

## 3.3 Cost Comparison

**TABLE 3-1: CLASS D - COST COMPARISON**

OPTION	ESTIMATED COST (GST EXCLUSIVE)
Full Decommissioning	\$1.50 million
Retain and Rehabilitate Dam	\$1.0 million to \$1.7 million*

\*Final rehabilitation costs are dependent on the findings of a Dam Safety Review.

The assessment concluded that both options are technically feasible; however, the final rehabilitation scope and associated costs cannot be confirmed until completion of a comprehensive Dam Safety Review.

## 3.4 Key Findings

- Leonie Lake Dam is classified as a High Consequence Dam.
- The District of Barriere is the sole licence holder and dam owner.
- The dam is currently non-compliant with dam safety requirements.
- Significant information gaps remain regarding geotechnical and seismic performance.
- Rehabilitation and decommissioning have similar order-of-magnitude capital costs.
- Community engagement identified continued interest in retaining water storage capacity within the watershed.

## 4. Preferred Solution

At the outset of the project, full decommissioning was considered the most likely outcome due to the District no longer relying on Leonie Lake as a municipal water supply source.

However, the technical assessment, increasing awareness of future drought and water security risks, and feedback received through engagement activities highlighted the ongoing value of maintaining water storage within the watershed.

As a result, the preferred solution is to retain the dam at this time while pursuing the studies and upgrades necessary to address dam safety and regulatory requirements.

Key considerations supporting this approach include:

- Preserving future water storage opportunities
- Maintaining water availability for potential agricultural and irrigation uses
- Increasing resilience to future drought and climate change impacts
- Maintaining flexibility while partnership and ownership opportunities are explored.

The District will continue exploring opportunities for a partial or full ownership transfer or partnership arrangement with interested parties. If no transfer opportunities are identified, the District recognizes the ongoing operational and capital costs associated with retaining the dam and will incorporate these requirements into future planning and budgeting activities.

## 5. Engagement

### 5.1 First Nations Engagement

Meaningful engagement with Simpcw First Nation was a key component of the project. The District initiated engagement in December 2025 by providing the Leonie Lake Dam Assessment Report to Simpcw First Nation for review.

Subsequent engagement activities included:

- Joint participation in the public open house on January 27, 2026
- Ongoing project discussions with Simpcw representatives
- A dedicated meeting on April 20, 2026 to discuss project findings, future management options, and potential partnership opportunities

Discussions focused on:

- Findings of the Dam assessment
- Future management of the dam
- Potential ownership and partnership opportunities.

Simpcw First Nation is currently evaluating the feasibility of a potential ownership arrangement; however, no decision has been made at this time.

As an outcome of the engagement process, Simpcw First Nation provided a letter of support for the proposed next phase of work and expressed interest in continuing discussions regarding future collaboration.

### 5.2 Community and Interested Parties Engagement

Community engagement was completed through a public open house held on January 27, 2026.

The event provided information regarding:

- Project objectives
- Assessment findings
- Potential future management options
- Opportunities for public input

Feedback received during the engagement process highlighted the importance of maintaining water storage capacity within the watershed, particularly for agricultural and irrigation purposes.

In May 2026, the District contacted identified interested parties, including:

- Property owners located downstream of the dam along Leonie Creek; and
- Water licence holders within the watershed.

Notification letters were distributed to inform interested parties of the District's preferred approach to retain the dam and to provide an update on dam operations. The correspondence also communicated the Province's request to keep the outlet valve open in order to maintain the reservoir at approximately 50% of its maximum storage capacity. Following freshet, the outlet valve can be adjusted as required to maintain this target storage level. The final operation of the dam will be reassessed after a Dam Safety Review (DSR).

The letters provided recipients with an opportunity to submit comments, questions, or concerns regarding the project and the proposed path forward.

No comments or responses were received during the two-week response period.

## 6. Next Steps

The District has selected to retain the Leonie Lake Dam and pursue the investigations required to establish a long-term rehabilitation strategy and partnership options.

The next phase of work will include:

1. Completion of a comprehensive Dam Safety Review (DSR)
2. Identification of dam deficiencies and rehabilitation requirements
3. Development of detailed engineering design
4. Refinement of construction cost estimates
5. Implementation of rehabilitation upgrades


The Dam Safety Review will be the critical first step in addressing existing information gaps and determining the scope of work required to bring the dam into compliance with current dam safety requirements.

The District will also continue discussions with Simpcw First Nation and other interested parties regarding potential partnership opportunities and future ownership arrangements for the dam.

Regards,

Prepared by:

Reviewed by:



Jessica Lozano, EIT



Dave Underwood, P. Eng.

JL/du/mm