

District of Barriere

Flood Mitigation Plan



March 9th, 2026

Project: 346-601

Floodplain Mapping Update (Previous project)

Objectives:

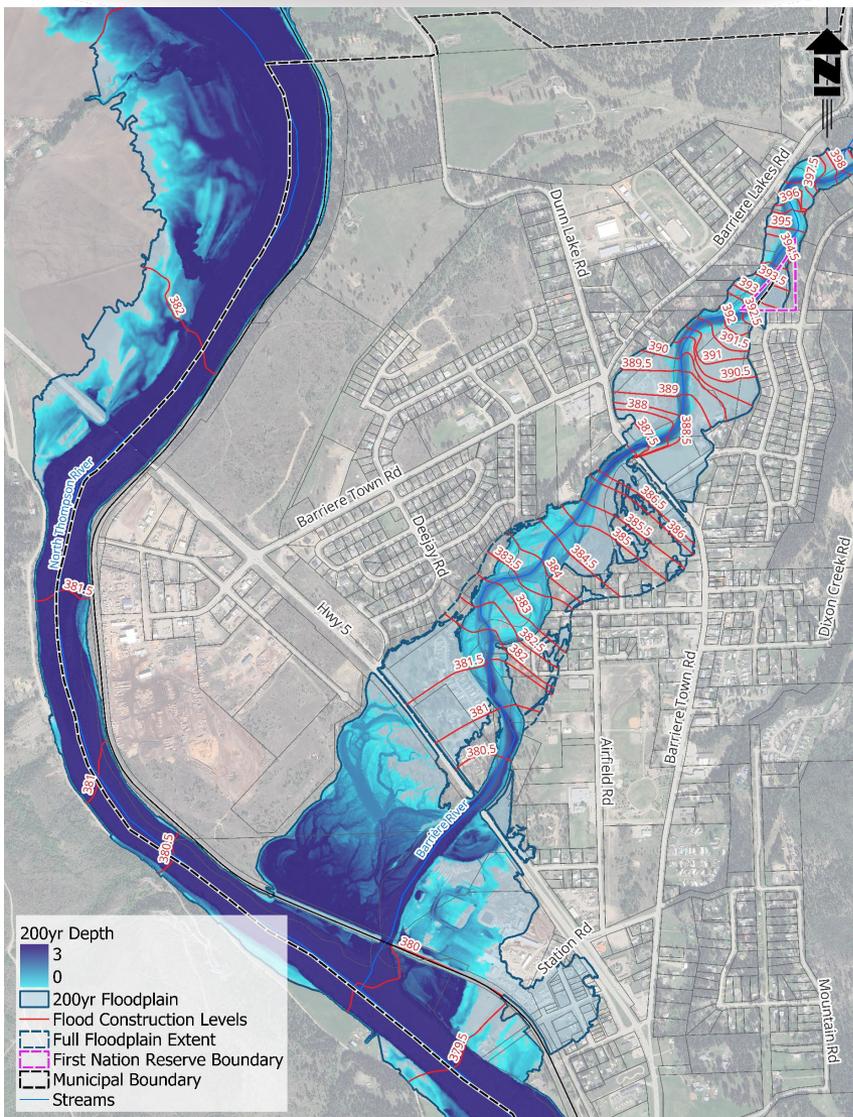
- Update previous floodplain mapping (1982)
- Establish Flood Construction Levels (FCLs) within the mapped 200yr floodplain

Deliverables:

- HEC-RAS 2D Hydraulic Model
- Inundation Extent Maps
- Flood Construction Levels

Related Initiatives

- Include FCLs in the OCP refresh (On going)
- Flood Mitigation Plan (This project)
- Floodplain Bylaw (Next Steps)



Flood Construction Levels (FCLs)

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FCLs are used to keep living spaces and areas used for the storage of goods damageable by floodwaters, above flood levels.

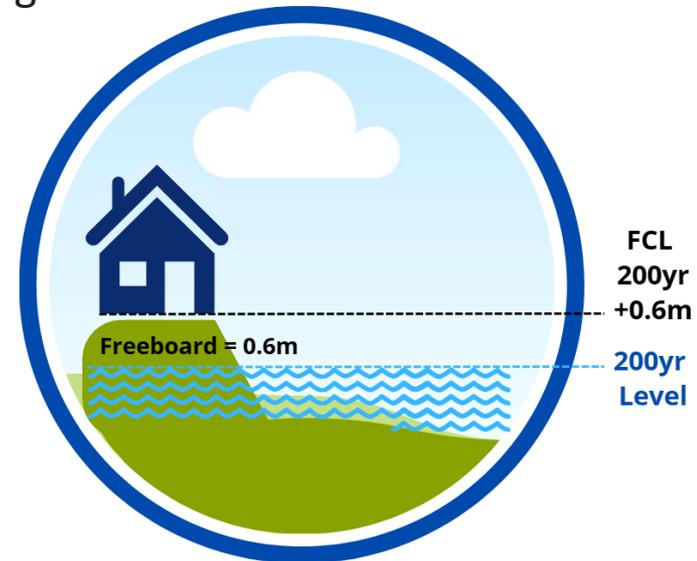
FCL = 200-year + Freeboard (typically 0.6 m)

Freeboard

Vertical distance to account for uncertainty in:

- Hydrological and hydraulic components
- Potential for debris floods, debris flows and debris jams
- Ice jams, etc. (APEGBC Professional Practice Guidelines, 2017)

To be included in the OCP refresh (On going)



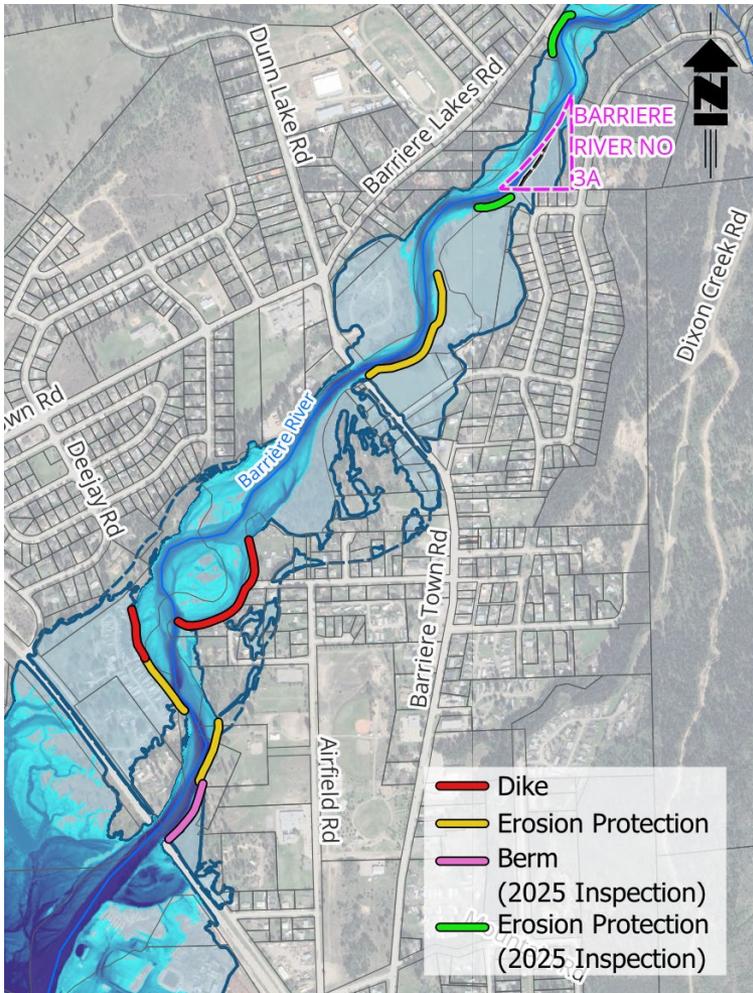
Flood Mitigation Plan

Step 1. Flood Protection Works 2025 Inspection Report

Condition assessment of the dikes, erosion protection, and riverbanks

Conclusions.

- Low overall risk
- Deteriorated log erosion protection
- Minimum riverbank setback (near Gilbert Smith Mill's backyard)



Flood Mitigation Plan

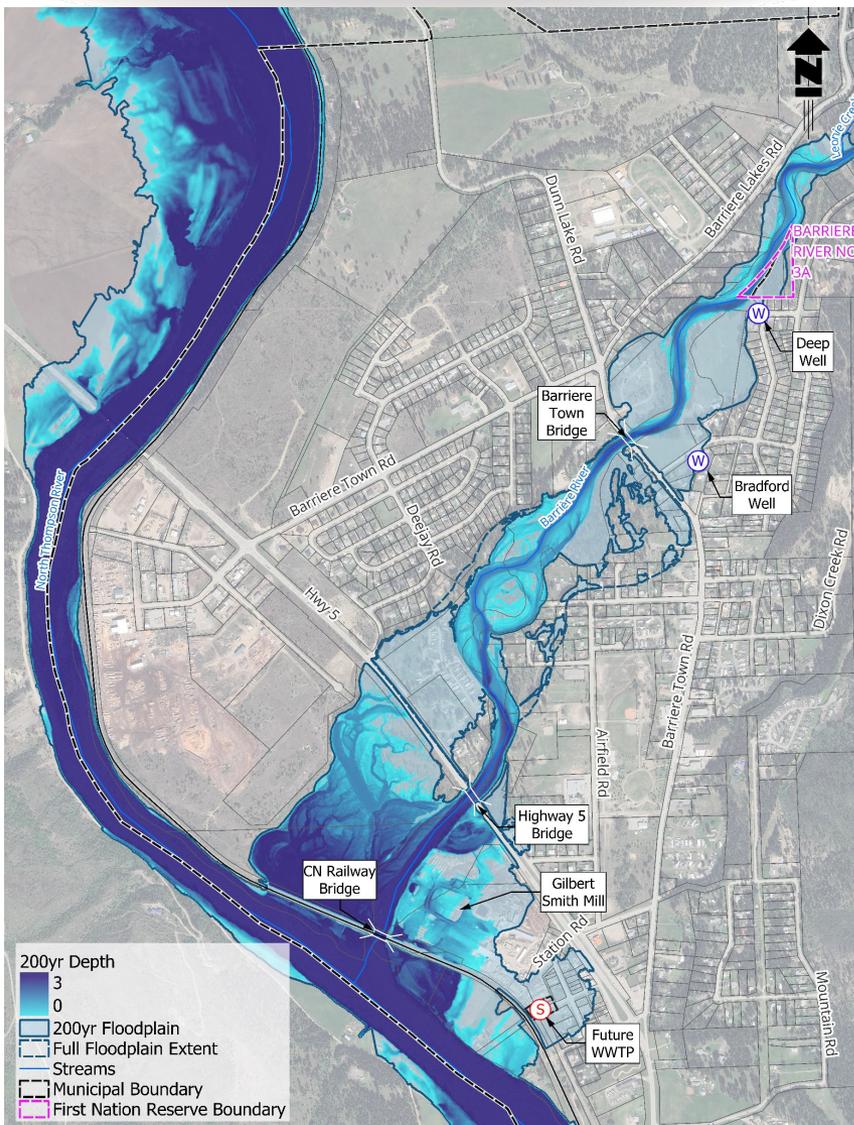
Step 2. Flood Risk Assessment

Infrastructure within the Floodplain

- Bradford Park Water Wells – **Flood-resilient**
- New Wastewater Treatment Plant (WWTP) - **Flood-resilient**
- Barriere Town Road Bridge
- Highway 5 Bridge (Barriere River)
- CN Railway Bridge
- Gilbert Smith Mill

Flood Risk Assessment key findings

- **Minimal infrastructure within the floodplain**
- **Low risk compared with other BC's communities**

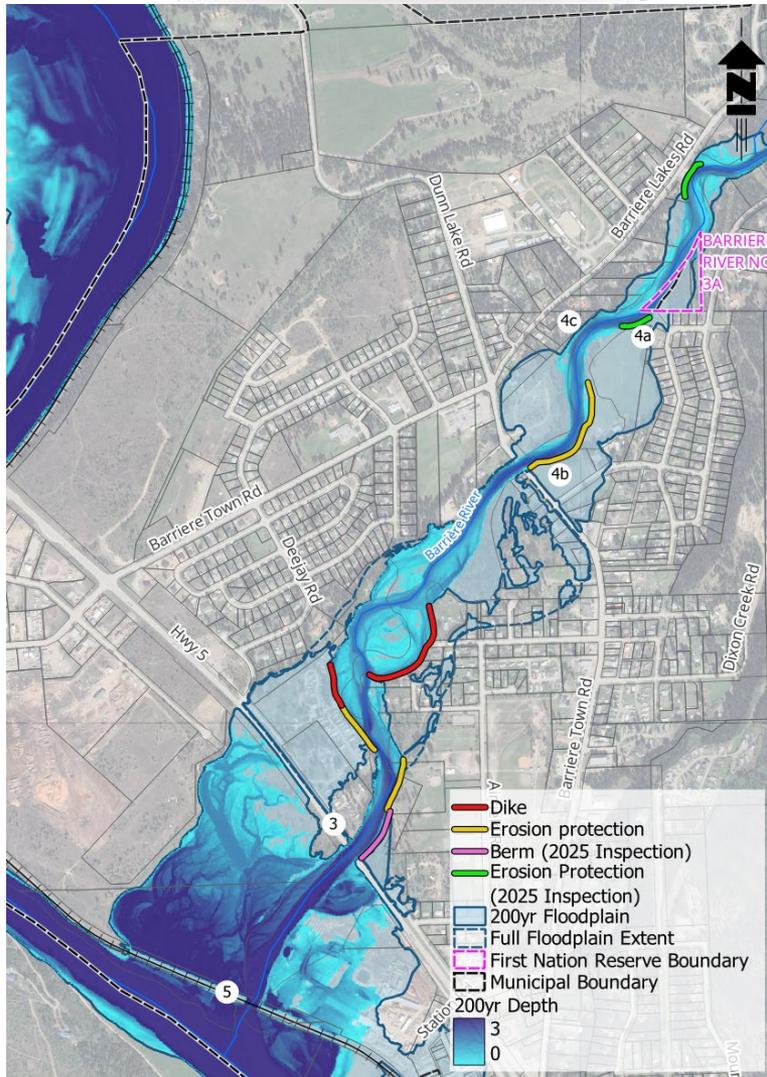


Flood Mitigation Plan

Step 3. Mitigation Projects

High-Priority Projects (Not high-risk) = Easy to implement – Significant benefit

- Floodplain Land Use Regulation (Floodplain bylaw)
- Flood Protection Asset Management – In-house annual inspections, templates provided as part of the Flood Mitigation Plan



PROJECT NO.	PROJECT TITLE	PRIORITY	TYPE	COST ESTIMATE
P1	Floodplain Land Use Regulation*	High	Non-Structural	\$ 125,000
P2	Flood Protection Assets Management Plan*	High	Non-Structural	Locally implemented
P3	Highway 5 Bridge Abutment Erosion Protection	Medium	Structural	TBD by MoTT
P4	Barriere River and Louis Creek Riverbank Restoration Program	Medium	Structural	\$ 145,000
P5	CN Railway Flood Resilience Initiative	Medium	Structural	TBD by CN Railway
P6	Landslide Risk Assessment*	Medium	Non-Structural	\$ 92,000
P7	Flood Response Plan*	Low	Non-Structural	\$ 112,000
P8	Flood Education Program*	Low	Non-Structural	\$ 88,000
Total				\$ 562,000

* Community Wide Projects are not shown on map

Next Steps

1. First Nations Engagement

Sharing Floodplain Mapping results and Mitigation Plan conclusions in a First Nations–focused session (*Potential alignment with the Leonie Dam Decommissioning Project*)

2. Flood Mitigation Plan Adoption

Official adoption of the FMP by Council

3. Floodplain Bylaw

The District may require a Floodplain Bylaw to inform and adopt the proposed FCLs within the District boundaries. Development of the bylaw would include public engagement on several key topics, including discussion of potential approaches to FCL exemptions, such as:

- Renovations
- Building additions, below a defined percentage of existing floor area
- Farm buildings, garages, on-loading and off-loading facilities
- Qualified Professional site-specific analysis, etc.



Example of FCLs effectiveness (Source: NBC)



Thanks

Questions? / Comments