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Sumas River Watershed Flood Mitigation Plan

URGENT WORKS

Public Information Meeting
June 20 and 22, 2023



For more information visit:
www.letstalkabbotsford.ca/abbotsfordfloodresponse

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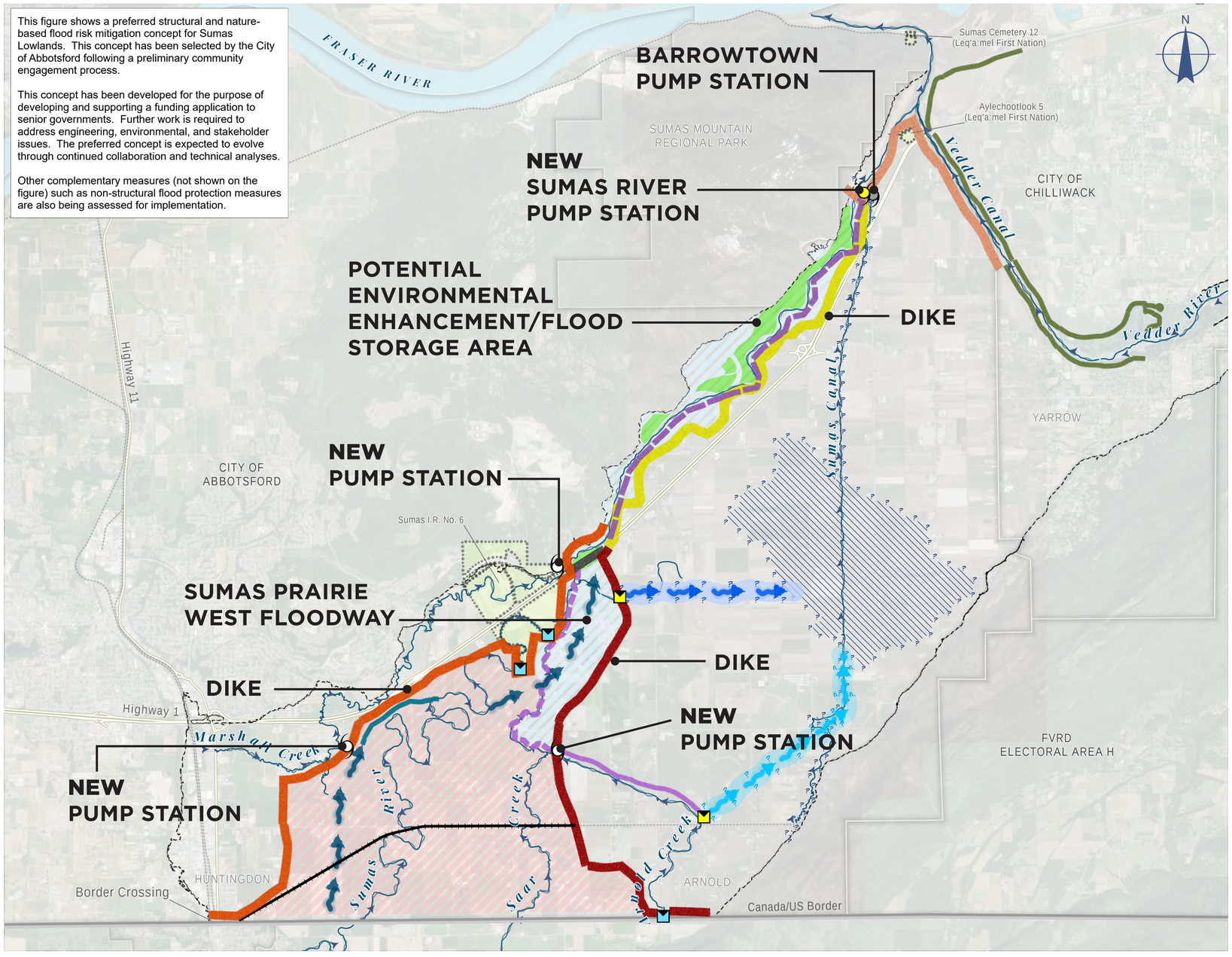
Long-term Flood Mitigation Preferred Option

PREFERRED OPTION

This figure shows a preferred structural and nature-based flood risk mitigation concept for Sumas Lowlands. This concept has been selected by the City of Abbotsford following a preliminary community engagement process.

This concept has been developed for the purpose of developing and supporting a funding application to senior governments. Further work is required to address engineering, environmental, and stakeholder issues. The preferred concept is expected to evolve through continued collaboration and technical analyses.

Other complementary measures (not shown on the figure) such as non-structural flood protection measures are also being assessed for implementation.



- Municipal Boundary
- First Nations Lands
- Existing Dike (City of Chilliwack)
- Watercourse
- Canada/US Border
- Existing Dike (City of Abbotsford - Sumas Lowlands Area)
- Railway
- 14 m Contour (Sumas Lowlands)

Proposed Flood Protection Works

- Potential Environmental Enhancement/Flood Storage Area
- Unprotected Floodplain
- Create Designated Floodway Area
- Create Lake Bottom Designated Flood Storage Area
- Add New Fish-Friendly Sumas River Pump Station (at Barrowtown Dam)
- Provide Flood Resilience and Fish Passage at Existing Barrowtown Pump Station (Sumas Canal)
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- Add New Fish Friendly Drainage Pump Station with Floodbox
- Add New Controlled Flood Overflow Structure
- Add New Creek Flow Control Structure
- Remove Existing Dike
- Modify Existing Dike to Improve Riparian Habitat and Create Interpretive Trail
- Upgrade Vedder Dike (Including Barrowtown Dam and Floodboxes)
- Retreat Sumas Mountain Reach Dike
- Add New East Floodway Dike
- Add New West Floodway Dike
- Raise Highway Through Floodway with New Bridge and Added Flood Conveyance (also South Parallel Road)
- Increase Flood Conveyance Through Railway
- Flood Overflow Route
- Construct Marshall Sump Floodway
- Designate Flood Overflow and/or Irrigation Flow Route
- Designate Flood Overflow Route to Restore Arnold Creek Overflow to Lake Bottom

$ COST (ESTIMATIONS)

• Nooksack/Sumas Prairie Mitigation	$2.5B
• Clayburn Village Enhancements	$32M
• New Water Source Resiliency	$84M*
• Matsqui Dike Resiliency	$388M
TOTAL ESTIMATED COST:	**$3.004B**

*In 2022, the BC Government provided a $62M grant to support this work.

ⓘ **NOTE:** all noted borders and locations are approximations and may be adjusted based on future modelling and as plans finalize.

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Sumas River Flood Mitigation Collaborative Framework

Signed on April 28, 2023

Support design of mitigation projects in the Sumas River watershed.

Support timely delivery of watershed recovery programs that benefit people and the farming community and protect infrastructure.

> Multi-government flood mitigation framework makes Abbotsford region more resilient

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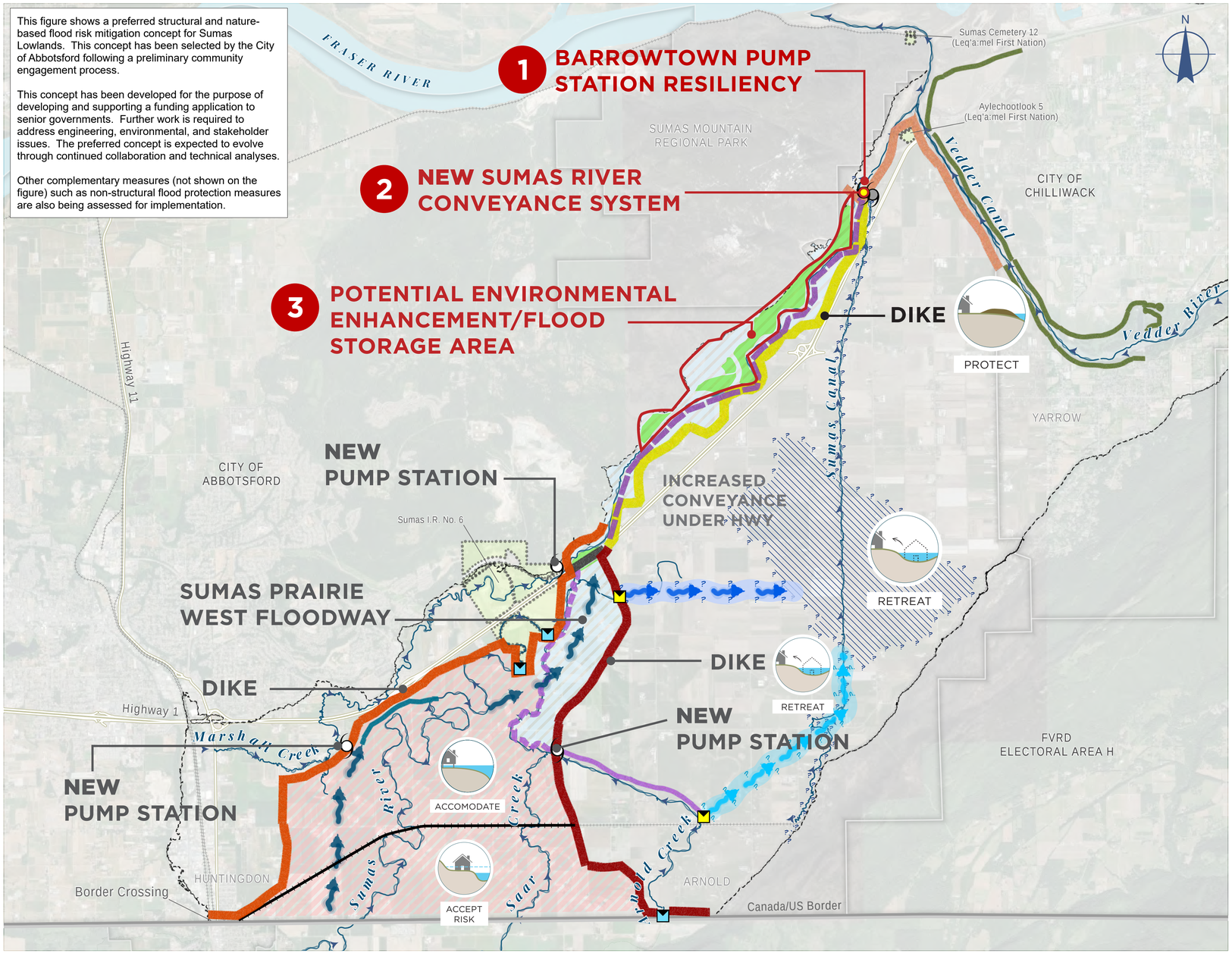
Preferred Option - Urgent Works

URGENT WORKS

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NOTE:

Urgent Works shown in red texts

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1

Barrowtown Pump Station Resiliency

Includes:

- Install headwall
- Trashrack upgrades
- Raise electrical equipment
- Variable Frequency Drives (VFD) upgrades for pumps
- Include fish friendly improvements ie. replace tide flex valves
- Replace sandbags on North Parallel Road

$ ESTIMATED BUDGET: **~$66M**

For more information visit:
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2

Sumas River Conveyance System

- Estimated capacity: 225 m^3/s (similar to floodboxes)
- Exact conveyance system location and size to be determined during design

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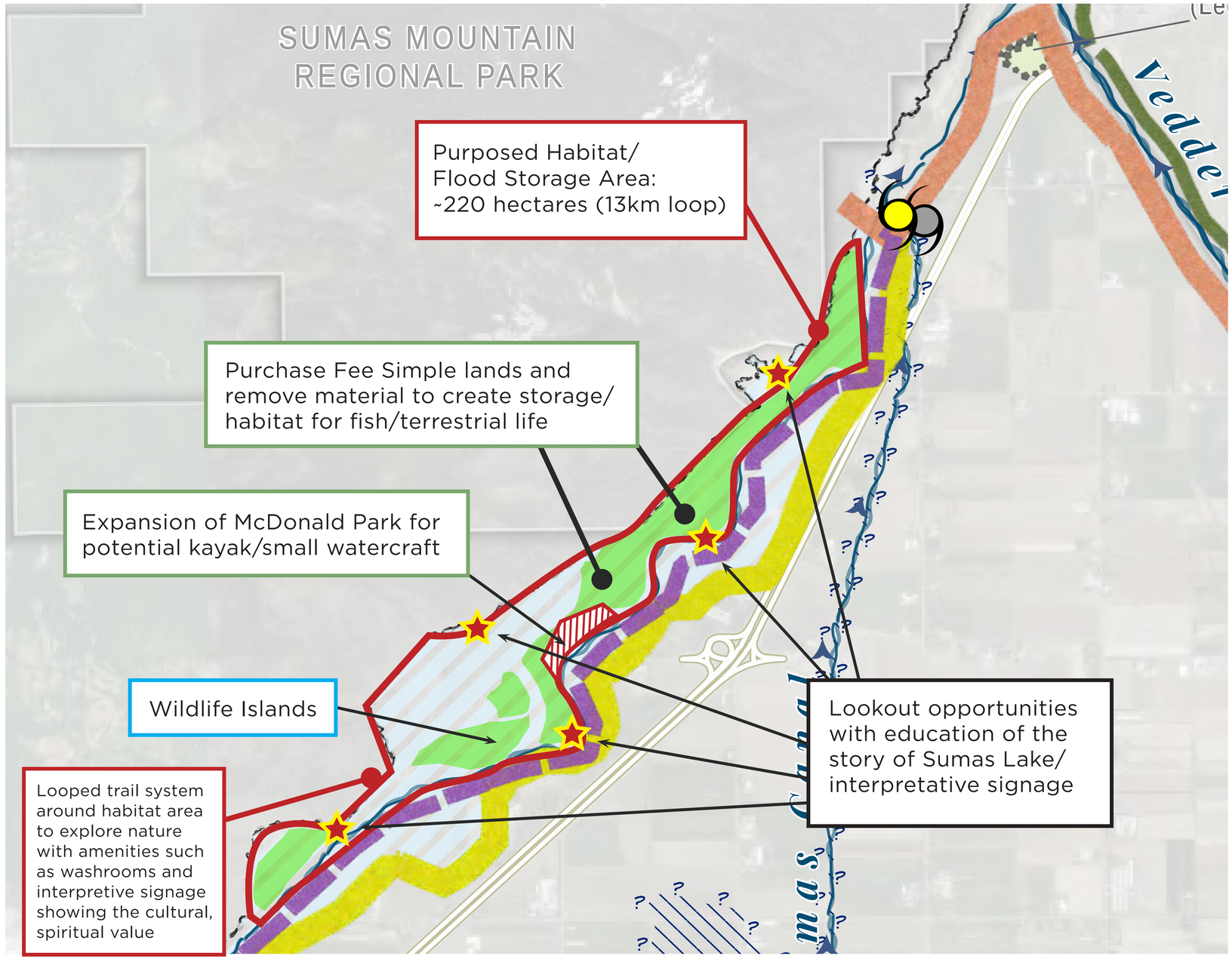
$ ESTIMATED BUDGET: **~$870M**

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③ Habitat Enhancement/Flood Storage



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3

Habitat Enhancement/Flood Storage

Provides opportunities to:

- Enhance habitat (Aquatic/ Terrestrial)
- Improve water quality
- Include Spiritual and Cultural Values
- Recreation and Indigenous education of the historic Sumas Lake

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$ ESTIMATED BUDGET: **~$120 M**







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Funding Program

$ URGENT WORKS ESTIMATE:	**~$1.056 B**

$ FUNDING SOURCES:

• Federal Disaster Mitigation and Adaptation Fund (DMAF) Application (Up to 40%):	**~$422 M**
• Other funding sources (TBD):	**~$634 M**

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Timeline

2023 Q2

Prepare DMAF Application deadline (Up to 40% funding)

BY JULY 19, 2023

Federal Government Evaluation

8 TO 12 MONTHS

SEEK OTHER SOURCES OF FUNDING (60%)

2024 Q1/Q2

Design and construction of the 3 elements:

1. Barrowtown Pump Station Resiliency
2. Sumas River Conveyance System (Pump Station)
3. Habitat Enhancement/Flood Storage Area

CONVEYANCE SYSTEM TAKES 6 TO 7 YEARS

MOTI HIGHWAY IMPROVEMENT WORKS (BY PROVINCE)

Elements generally include:

- Setback dikes
- Land acquisition of floodway/designated flood storage
- Environmental Enhancements
- Miscellaneous conveyance system on creeks
- Review floodplain land use policies

CONTINUOUS COLLABORATION WITH PROVINCE, FIRST NATIONS, CHILLIWACK, AND TRANSBOUNDARY GROUP

(Estimated completed works will take 7 to 10 years from the time funding is obtained)

2030 - 2031

$

URGENT WORKS $1.1B*

$

REMAINING LONG-TERM WORKS $1.4B*

ⓘ **NOTE:** *2022 dollars to be adjusted for inflation and market conditions for future years.

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