

Long-term Flood Mitigation Options

PREFERRED OPTION

Hybrid concept combining key elements of Options 2, 3 and 4.

Summary

Based on the key priorities identified through our public engagement sessions and additional technical analysis, this new Preferred Option is a hybrid of some of the key infrastructure enhancements and flood-mitigation concepts originally identified in Options 2, 3 and 4. Implementing this new hybrid option would enhance the City's existing flood protection system while maximizing agricultural land and food security, and minimizing the number of impacted properties. New dikes would be constructed through Sumas Prairie West, extending along the border, with Marshall Creek being separated from Nooksack overflow and Arnold area being protected. In the event of a Nooksack overflow, if this option is implemented, water is anticipated to be spread out through Sumas Prairie West, which is then moved through a narrow designated floodway to the Sumas and Fraser Rivers, via a new Sumas River Pump Station. Additional water storage and a new environmental area will be created by relocating the dike along the north side of Highway 1. In addition to a new Sumas River Pump Station, the preferred option also includes the construction of three pump stations in Sumas Prairie West, resiliency improvements to Barrowtown Pump Station and replacing temporary works with permanent works along Sumas Dike. The intent of this option is to preserve agricultural land and minimize impacts on properties by spreading out water.

This option would meet minimum flood protection guidelines in B.C. and incorporate enhancements such as dike setbacks and floodway creation and provides a high level of overall protection. The level of protection offered by this option to Sumas Prairie Lake Bottom is up to a one in 200-year event (with climate change considerations).

DIKES

- Permanently repair parts of Sumas Dike (make temporary repairs from November 2021 permanent only)
- Modify parts of existing Sumas Dike
- Reinforce and raise parts of existing Vedder Dike
- Relocate parts of Sumas Dike and setback to allow for flood overflow channel
- **New** relocated dike along north side of Hwy 1 from Atkinson Road to floodboxes
- **New** dikes through Sumas Prairie West (West of Sumas River and East of Saar Creek), extending along the border and to protect Huntingdon area and Arnold area
- **New** dike around Sumas First Nation Reserve

PUMP STATIONS

- Upgrade resiliency of Barrowtown Pump Station
- **New** Sumas River pump station
- **New** pump stations in Sumas Prairie West, at Marshall Creek (two locations) and Saar Creek

UNPROTECTED FLOODPLAIN

- Sumas Prairie West (private mitigation only)

SUPPORTING INFRASTRUCTURE

- Hwy 1 to be raised from east of Sumas First Nation Reserve to Atkinson Road (by Province)

DESIGNATED FLOODWAYS/CONTROLLED OVERFLOW

- Create Lake Bottom designated temporary storage area
- Create smaller Sumas Prairie West floodway
- Create Sumas Prairie North floodway and storage area (from Atkinson Road to Barrowtown Pump Station floodboxes north of Hwy 1)
- Create controlled overflow to Lake Bottom via a flood overflow pathway
- Create controlled flows at border to Arnold Slough
- Create flood overflow route around the Angus Campbell Road area

COST (ESTIMATIONS)

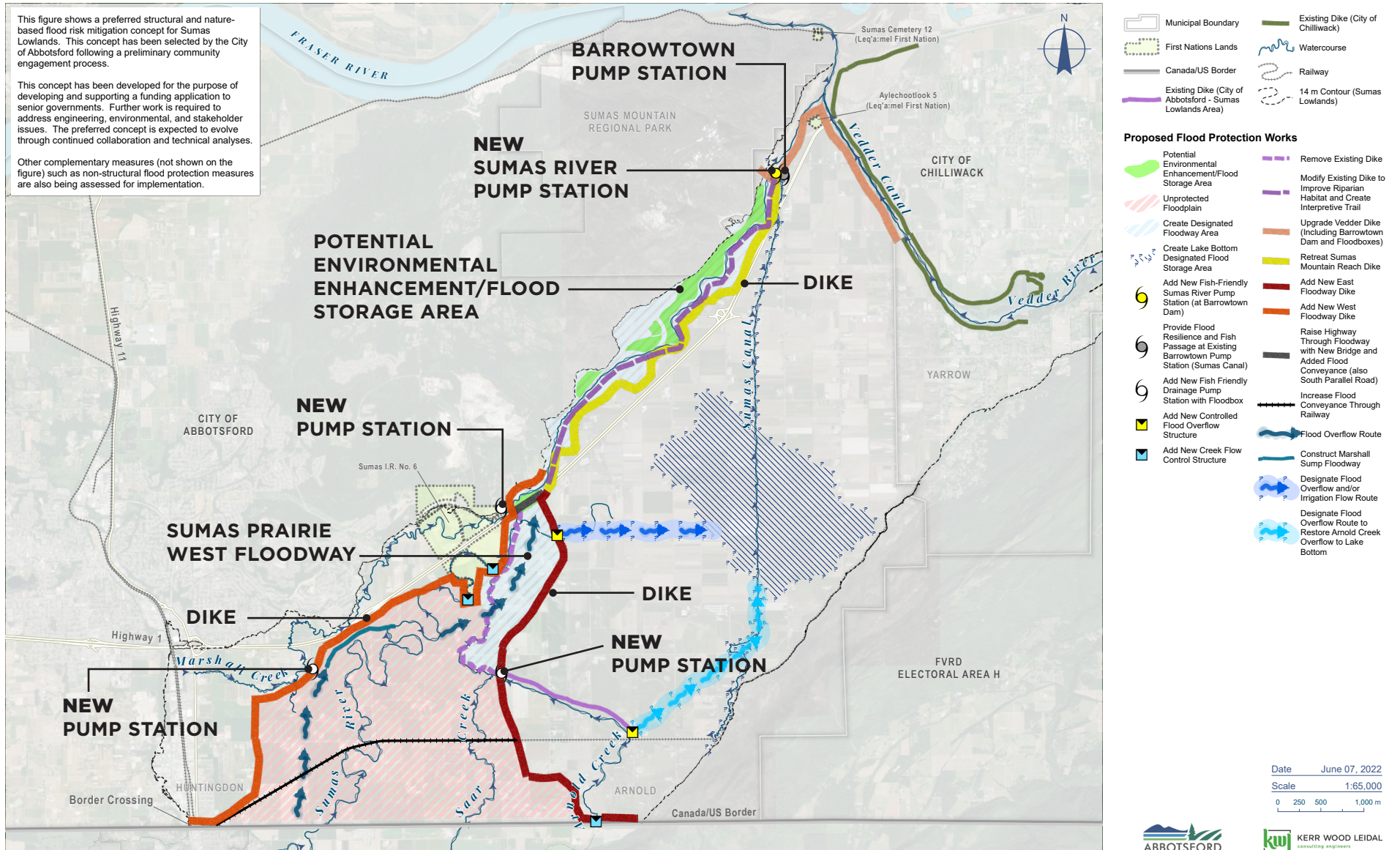
• Nooksack/Sumas Prairie Mitigation	\$2.5B
• Clayburn Village Enhancements	\$32M
• New Water Source Resiliency	\$84M*
• Matsqui Dike Resiliency	\$388M

TOTAL ESTIMATED COST: \$3.004B

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

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