

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 dykes 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 dyke 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 Dyke. 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 dyke 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).

DYKES

- Permanently repair parts of Sumas Dyke (make temporary repairs from November 2021 permanent only)
- Modify parts of existing Sumas Dyke
- Reinforce and raise parts of existing Vedder Dyke
- Relocate parts of Sumas Dyke and setback to allow for flood overflow channel
- **New** relocated dyke along north side of Hwy 1 from Atkinson Road to floodboxes
- **New** dykes 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** dyke 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)

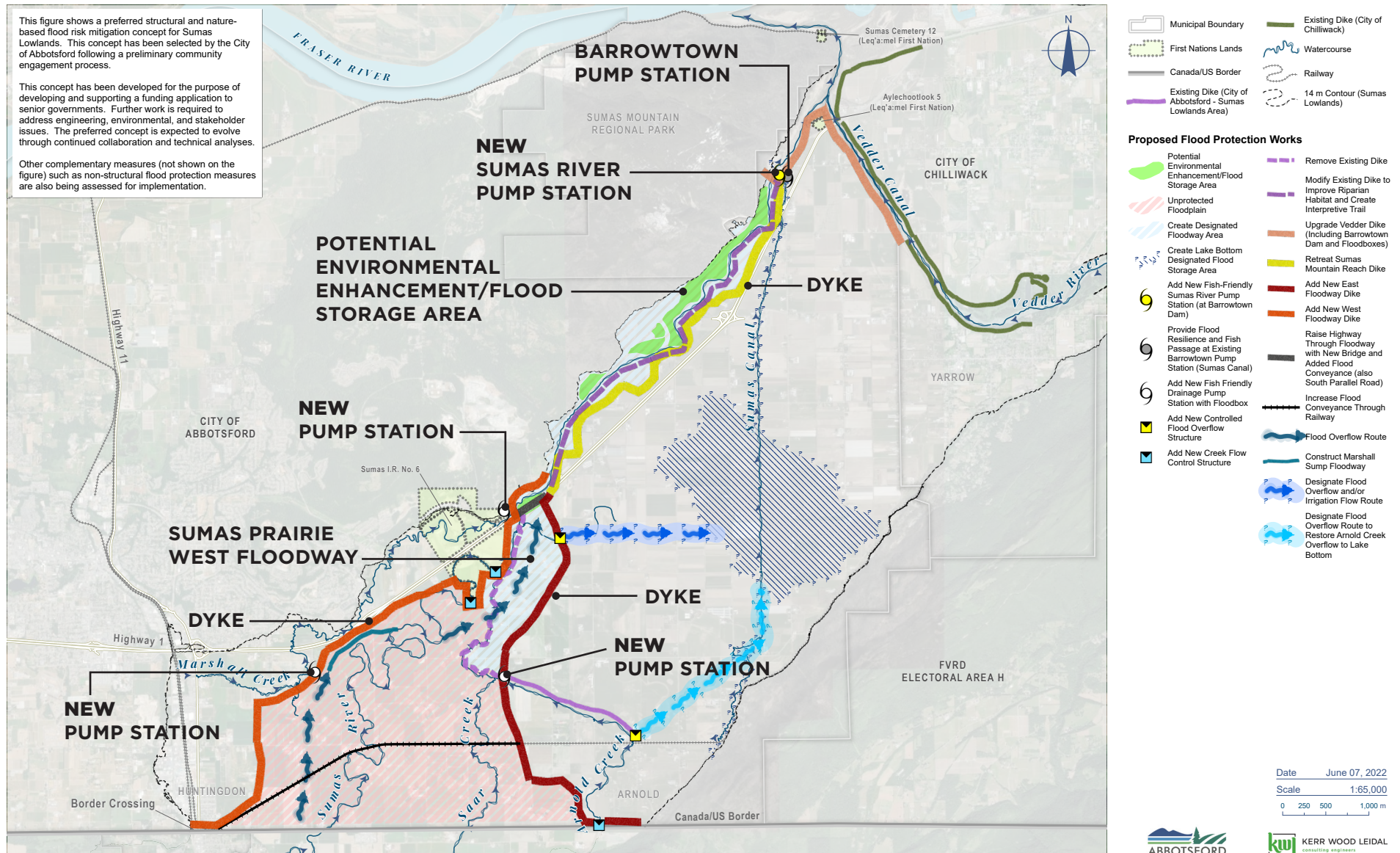
• Nooksack/Sumas Prairie Mitigation	TBD
• Clayburn Village Enhancements	\$32M
• New Water Source Resiliency	\$77M
• Matsqui Dyke Resiliency	\$388M

TOTAL ESTIMATED COST:

TBD

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