



Still Creek Watershed, Burnaby

Still Creek Brunette Drainage Area Overview

BURNABY COUNCIL MEETING

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Mark Wellman, P.Eng.

Senior Engineer, Liquid Waste Services

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Lead Senior Engineer, Liquid Waste Services

Burnaby Council Meeting – December 16, 2024

71536492

metrovancouver

RAIN EVENT

October 18-20, 2024



Burnaby rainfall
total: 200mm



Return period:
> 1 in 100 years

STILL CREEK HISTORY

How it got it's name

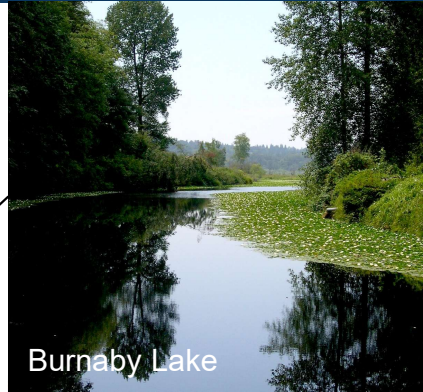
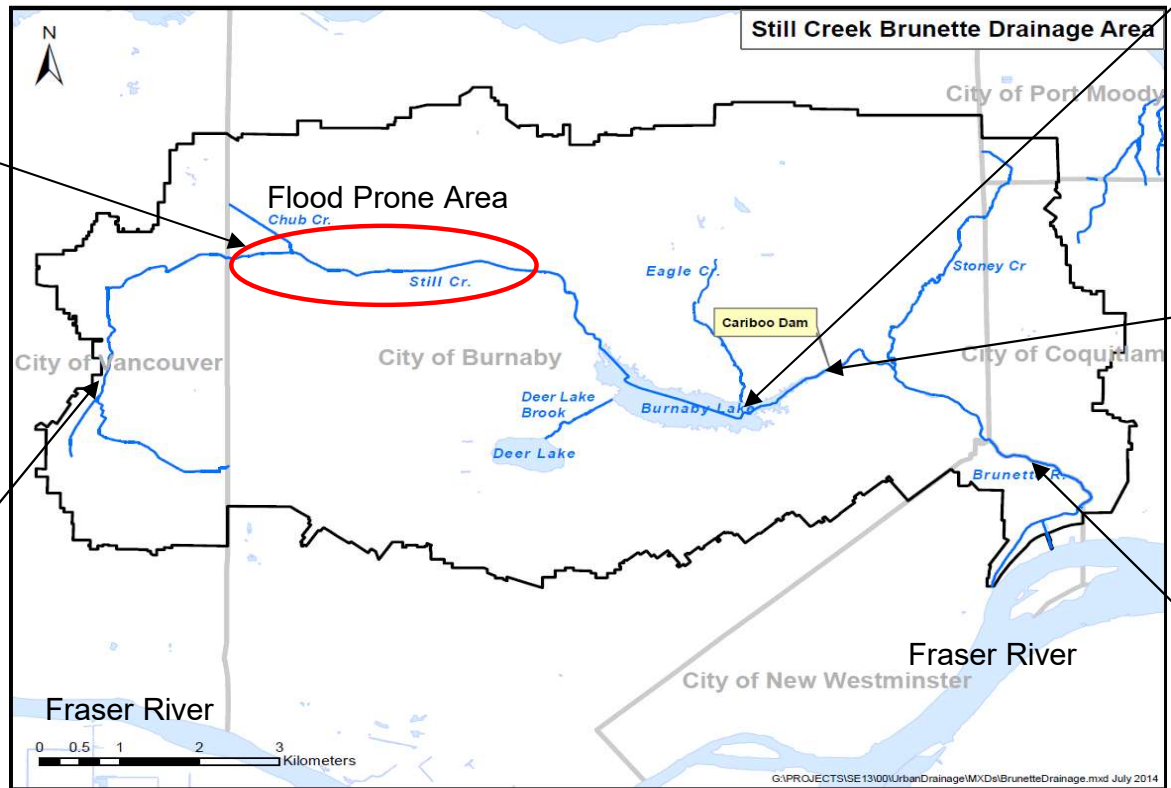
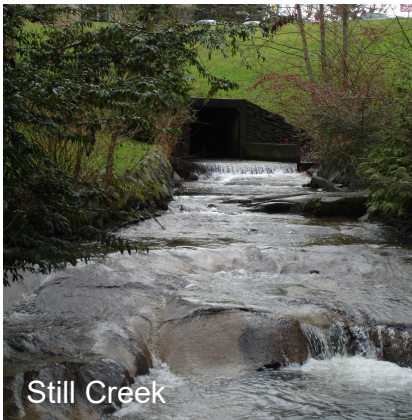


Lieutenant GS
Blake, Royal
Marines

“This river runs
into the lake but
with an almost
imperceptible
motion...”

April 25, 1859

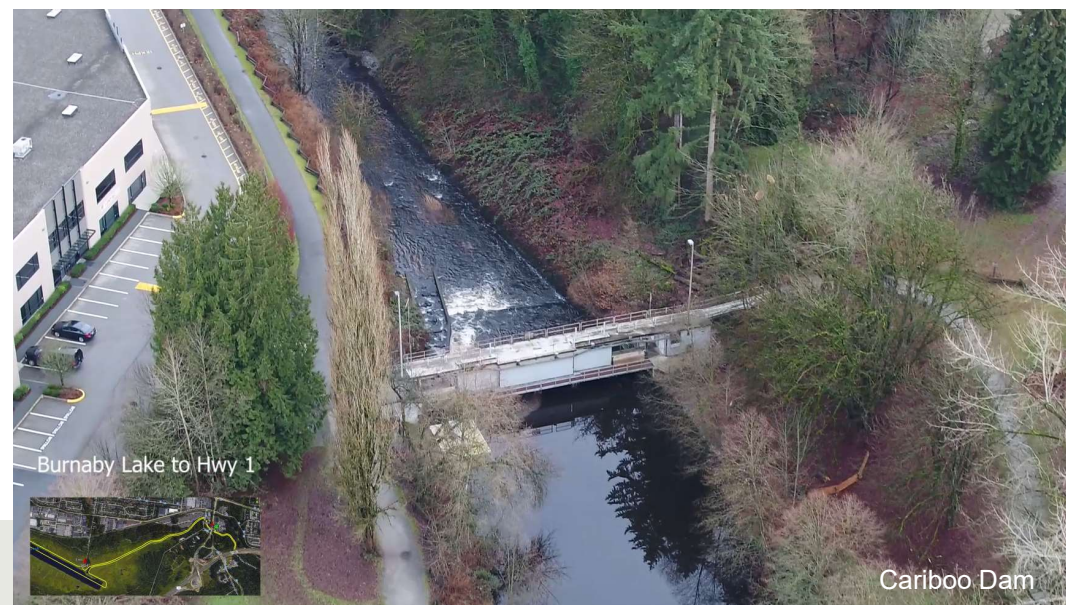
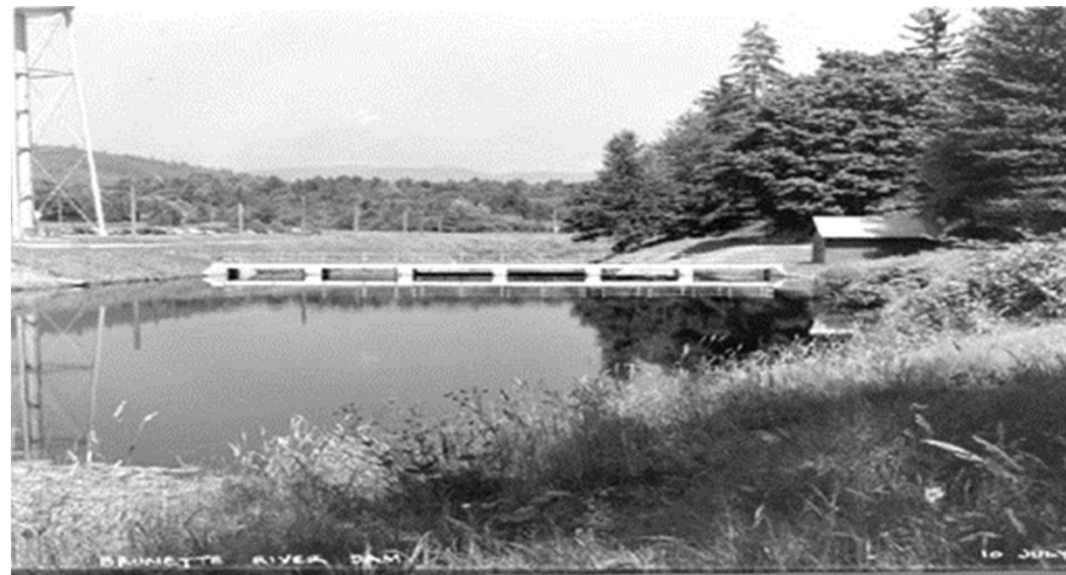
STILL CREEK BRUNETTE DRAINAGE AREA



CURRENT OPERATIONS & MAINTENANCE ACTIVITIES

- 2024 budget is \$2.1 million
- Minimize nuisance floods
- Manage sediment
- Repair channels
- Operate and maintain the Cariboo Dam





CLIMATE AND GEOGRAPHY

Why does it flood?

The Central Valley is a natural floodplain

- Limited elevation change: Gilmore to Willingdon < 1m

Geotechnically unstable

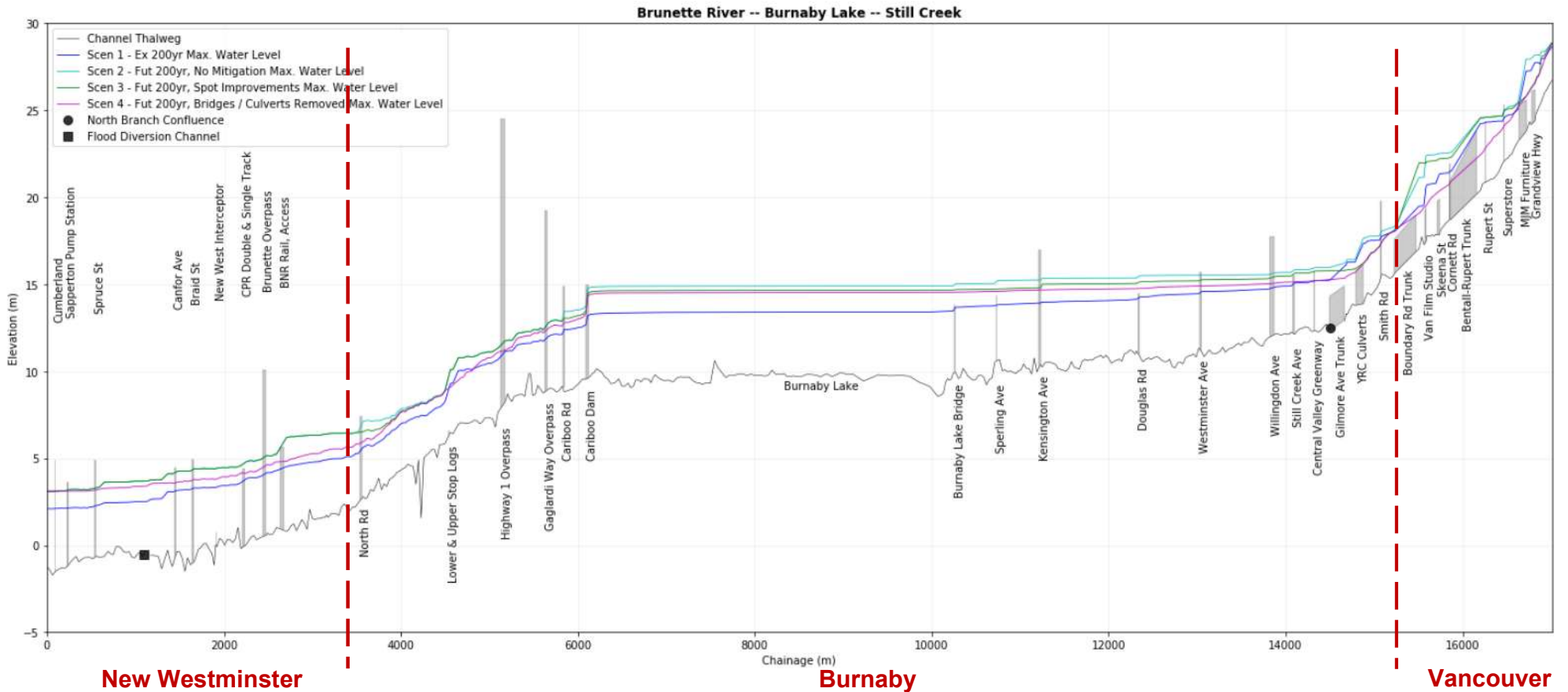
- Ongoing land subsidence
- Peat bog

Changing rainfall patterns



Gilmore Avenue adjacent to Still Creek

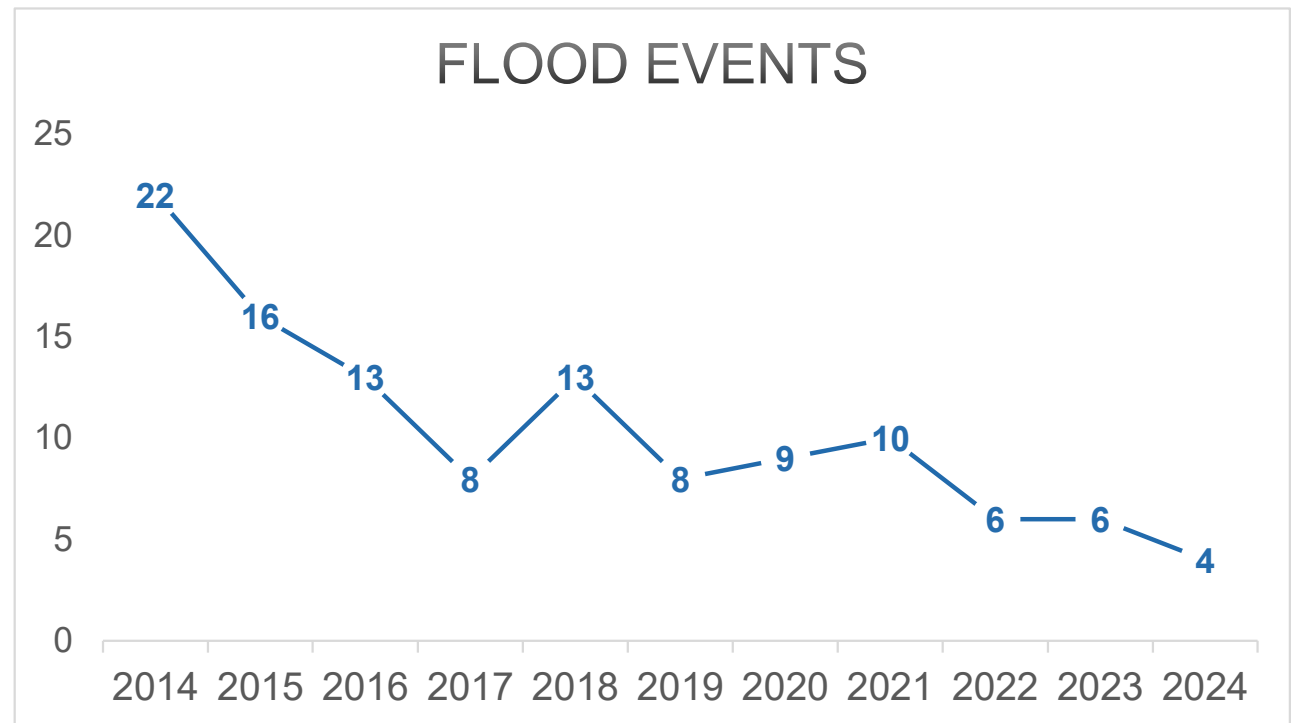
STILL CREEK BRUNETTE RIVER CROSS SECTION



STILL CREEK LEVEL

Douglas Road level sensor

Year	Flood Events
2014	22
2015	16
2016	13
2017	8
2018	13
2019	8
2020	9
2021	10
2022	6
2023	6
2024	4



COMPREHENSIVE ENGINEERING STUDY

No easy answers:

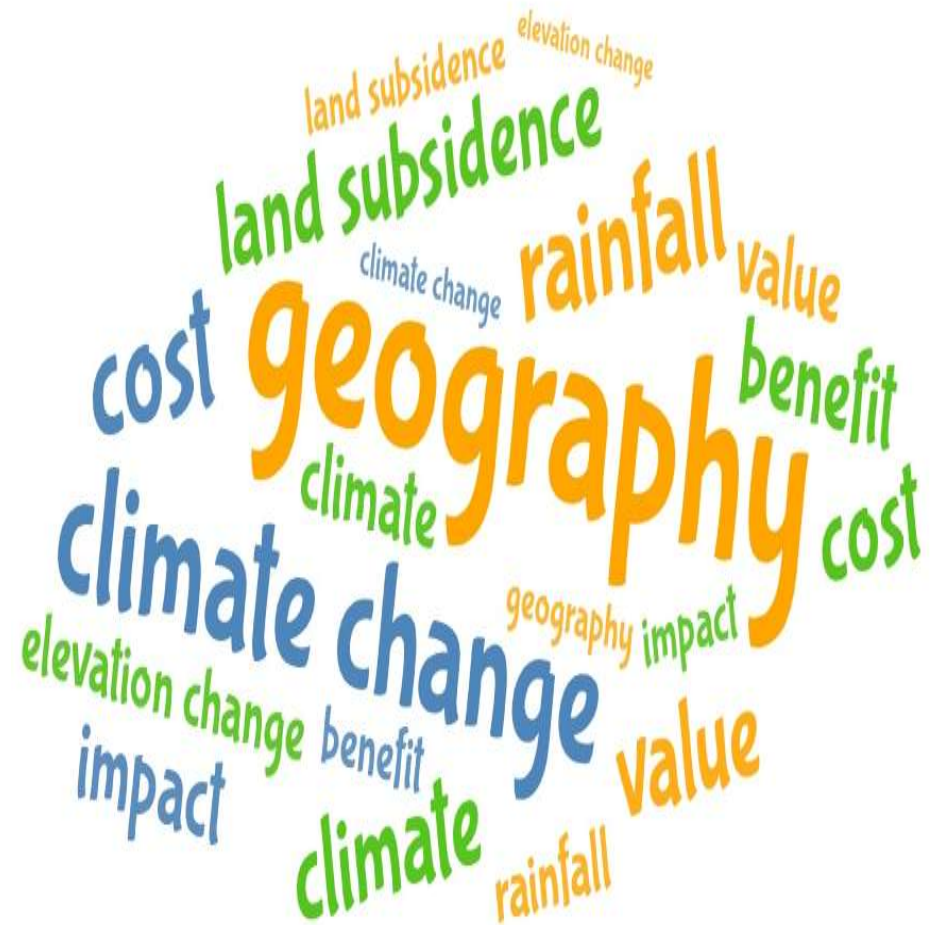
- No long-term economical engineering solutions
- Expensive tunnels



ENGINEERING STUDY

Alternatives

- City engineers chose to pursue non-structural (land-use) solutions



WATER NEEDS A PLACE TO GO

- Water naturally flows to low lying areas (roads, parking lots)
- Floodable spaces can be created to manage impacts
 - Parks and fields
 - Underground parking lot storage



VANCOUVER LAND USE

Still Creek Daylighting and Enhancement Plan

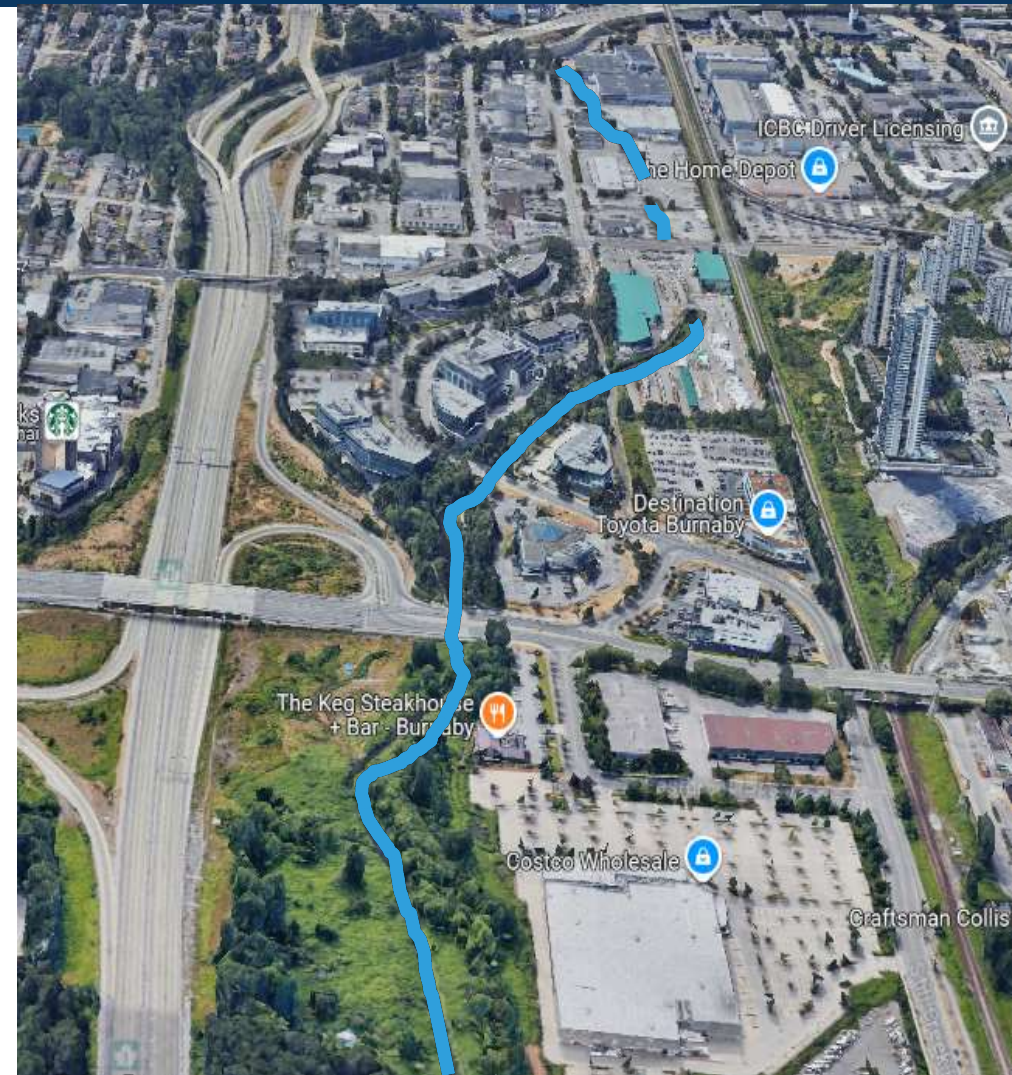


30 year plan to:

- Widen creek and riparian corridor
- Daylight the creek
- Implement flood resilience
- Improve ecological health

MOVING FORWARD

- No economical engineering solutions
- Large rainstorms will continue to cause flooding in the Still Creek floodplain
- Land-use strategies recommended for reducing flood impacts





View downstream of Still Creek Drive bridge, Burnaby

Questions

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