



Fraser Basin Council



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Flood Extent, Scenario A (2019)

Flood Extent, Scenario B (2100)

Indian Reserves and First Nations Treaty Lands

Fire Hall

Police Station

Emergency Operations Centre

Hospital

Airport

Port Facilities

BC Hydro Substation

School

Post-secondary institution

**Notes:**

- Flood extents were developed for two coastal and two riverine flood scenarios. The coastal scenarios, incorporating a 0.6 m wave allowance, are:
  - Scenario A – 1 in 500 AEP still-water ocean state with current sea level (Flood level = 3.40 m GSC).
  - Scenario B – 1 in 500 AEP still-water ocean state with 1 m sea level rise (Flood level = 4.40 m GSC).The riverine scenarios, excluding freeboard, are:
  - Scenario C – The Fraser River design flood (equivalent to the 1994 flood of record, with an approximate return period of 500 years) and current sea levels.
  - Scenario D – The 1 in 500 AEP Fraser River flood, incorporating a moderate climate change flow increase for year 2100 and a 1 m sea level rise.Note: AEP refers to the Annual Exceedance Probability. A 1 in 500 AEP, or 500-year flood, has a 0.2% chance of occurring in a given year.
- The map delineates the two coastal flood extents, Scenarios A and B.
- Topographic data obtained from a variety of sources was used to create a Digital Elevation Model (DEM) for the study area. The DEM horizontal resolution was five metres, except for the upstream portion of the Fraser River (from Mission-Abbotsford to Hope), where the resolution was ten metres. The maps depict flood levels based on ground conditions represented in this DEM.
- The flood levels are based on a generalized water surface.
- The accuracy of the floodplain boundary is limited by the resolution of the DEM and the flood level assumptions adopted for this study. The maps are for the overview level assessment of flood vulnerabilities described by NHC et al (2015). They do NOT represent floodplain mapping and should not be used as such.

**Data Sources:**

- Freshwater Atlas hydrography, Digital Roads Atlas roads, municipal boundaries and First Nations boundaries, schools, fire halls, police stations, and hospitals obtained from Data BC.
- Rail obtained from Natural Resources Canada. Light rail obtained from Translink.
- Emergency operations centres obtained from EMBC.
- Hillshade basemap from Province of BC.
- Index basemap from National Geographic and Esri.

**References:**

- NHC (2016). Lower Mainland Flood Management Strategy; Project 2: Regional Assessment of Flood Vulnerability (Final Report). Report prepared for the Fraser Basin Council.

**Disclaimer:**

This document has been prepared by Northwest Hydraulic Consultants Ltd. in accordance with generally accepted engineering and geoscience practices and is intended for the exclusive use and benefit of the Fraser Basin Council and their authorized representatives for specific application to the Lower Mainland Flood Management Strategy Project. The contents of this document are not to be relied upon or used, in whole or in part, by or for the benefit of others without specific written authorization from Northwest Hydraulic Consultants Ltd. No other warranty, expressed or implied, is made.

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Coordinate System: NAD 1983 UTM ZONE 10N

Units: METRES

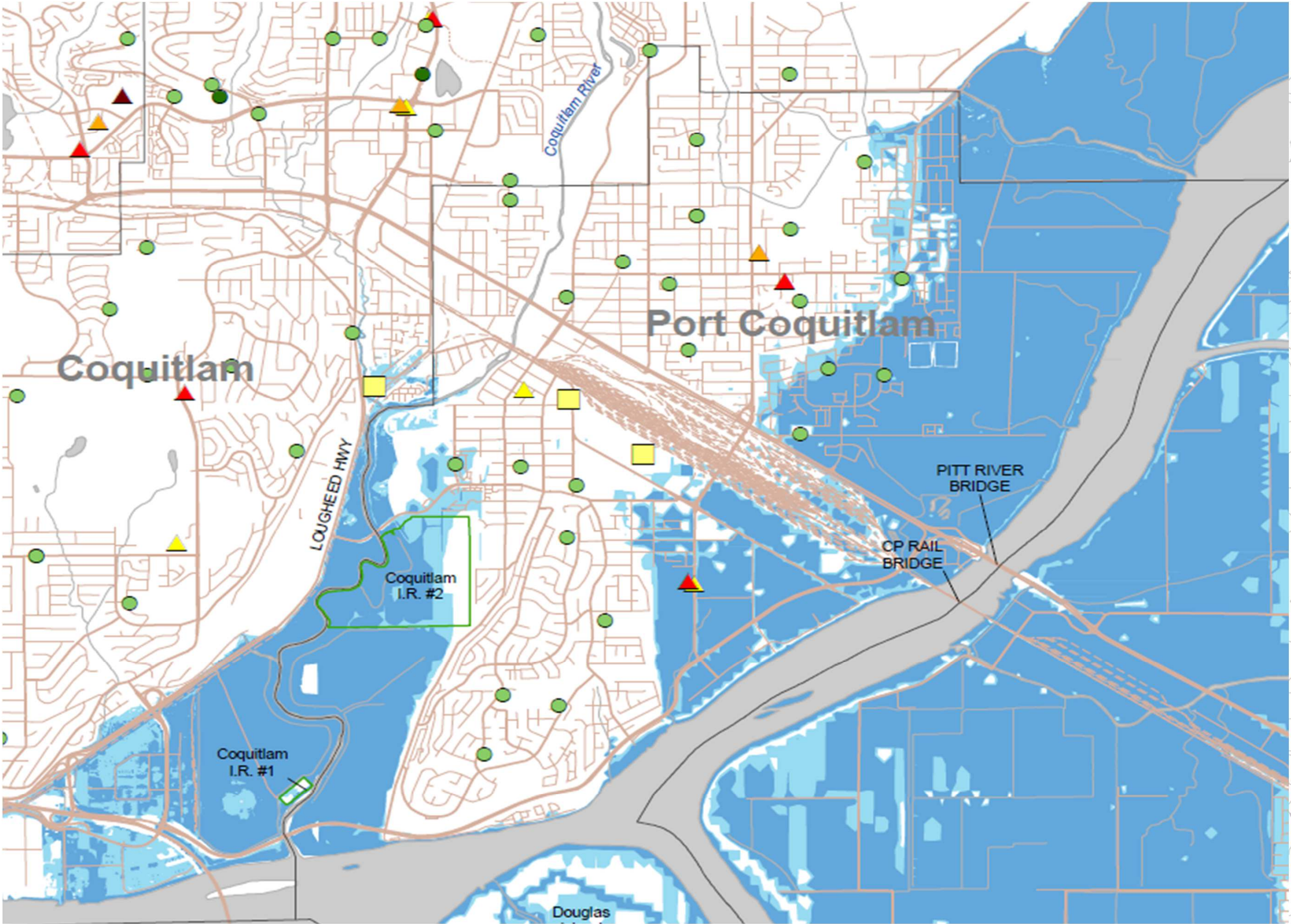
Geomorphologist	GIS	MSN	Reviewer
CXM			MCM


Job Number	Date
3000149	14-APR-2016

LOWER MAINLAND REGIONAL  
FLOOD VULNERABILITY ASSESSMENT


FLOOD EXTENTS  
SCENARIOS A & B








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Flood Extent, Scenario C (2015)

Flood Extent, Scenario D (2100)

Indian Reserves and First Nations Treaty Lands

Fire Hall

Police Station

Emergency Operations Centre

Hospital

Airport

Port Facilities

BC Hydro Substation

School

Post-secondary Institution

**Notes:**

- Flood extents were developed for two coastal and two riverine flood scenarios. The coastal scenarios, incorporating a 0.6 m wave allowance, are:
  - Scenario A – 1 in 500 AEP still-water ocean state with current sea level (Flood level = 3.40 m GSC).
  - Scenario B – 1 in 500 AEP still-water ocean state with 1 m sea level rise (Flood level = 4.40 m GSC).The riverine scenarios, excluding freeboard, are:
  - Scenario C – The Fraser River design flood (equivalent to the 1004 flood of record, with an approximate return period of 500 years) and current sea levels.
  - Scenario D – The 1 in 500 AEP Fraser River flood, incorporating a moderate climate change flow increase for year 2100 and a 1 m sea level rise.Note: AEP refers to the Annual Exceedance Probability. A 1 in 500 AEP, or 500-year flood, has a 0.2% chance of occurring in a given year.
- This map delineates the two riverine flood extents, Scenarios C and D.
- Topographic data obtained from a variety of sources was used to create a Digital Elevation Model (DEM) for the study area. The DEM horizontal resolution was five metres, except for the upstream portion of the Fraser River from Mission-Abbotsford to Hope, where the resolution was ten metres. The maps depict flood levels based on ground conditions represented in this DEM.
- The flood levels are based on a generalized water surface.
- The accuracy of the floodplain boundary is limited by the resolution of the DEM and the flood level assumptions adopted for this study. The maps are for the overview level assessment of flood vulnerabilities described by NHC et al (2015). They do NOT represent floodplain mapping and should not be used as such.

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**References:**

- NHC (2015). Lower Mainland Flood Management Strategy: Project 2: Regional Assessment of Flood Vulnerability (Final Report). Report prepared for the Fraser Basin Council.

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Geomorphologist	CXM	GIS	MSN	Reviewer	MCM
Job Number	3000149	Date	14-APR-2016		

LOWER MAINLAND REGIONAL  
FLOOD VULNERABILITY ASSESSMENT

FLOOD EXTENTS  
SCENARIOS C & D