



EXPLANATORY MEMO

FLOODPLAIN ELEVATION BYLAW, No.2768, AMENDMENT No. 1, 2023, No. 3232

PURPOSE:

The purpose of Bylaw No. 3232 is to:

Introduce amendments to the City of Langley Floodplain Elevation Bylaw, No.2768 to respond to the increased risk of flood damage due to climate change.

The Floodplain Elevation Bylaw will help to reduce exposure to risk for new development by reducing the potential for damage to structures and property due to flooding. The overall purpose of the amended Floodplain Elevation Bylaw remains the same, but is to respond to the increased risk of flood damage due to climate change.



FLOODPLAIN ELEVATION
BYLAW, 2010, No. 2768,
AMENDMENT NO. 1, 2023, No. 3232

A bylaw to reduce exposure to risk for new development by reducing the potential for damage to structures and property due to flooding.

1. Title

- (1) This bylaw shall be cited as the “Floodplain Elevation Bylaw, No. 2768, Amendment No. 1, 2023, No. 3232.”

2. Amendments

- (1) “Floodplain Elevation Bylaw, No. 2768 is hereby amended by:

- (a) Under the introductory section of the Bylaw, first paragraph, and the rest of the Bylaw
Update References to Local Government Act From:

“s. 910”

To:

“s. 524”.

- (b) Under the introductory section of the Bylaw, second paragraph:
Change:

reference to Local Government Act from “s. 910(3)”

To:

“s. 524(4)”.

- (c) Under the Definition:

Add:

“Approving Officer means the person(s) appointed to that position for the City of Langley under the Land Title Act. or that person’s designate.”

And:

“Building Official means the Manager of Building and Licensing or that person’s designate.”

- (d) Under the Definition of “Flood Construction Level”:

Replace:

“means the Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or the top of a concrete slab for habitable buildings. It also establishes the minimum crest level of a standard Dike. Where the Designated Flood Level cannot be determined or where there are overriding factors, an assessed height above the Natural Boundary of the water body or above the natural ground elevation may be used.”

With:

means the Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or the top of a concrete slab for Habitable Areas. It also establishes the minimum crest level of a standard Dike. Flood Construction Level is derived from a 200-year flood level estimate with the addition of a 0.6 m freeboard and includes climate change effect. Where the Designated Flood Level cannot be determined or where there are overriding factors, an assessed height above the Natural Boundary of the water body or above the natural ground elevation may be used.”

- (e) Under the Definition of “Habitable Area”:

Replace:

“means any room or space, within a building or within a structure which is or can be used for human occupancy, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded”

With:

“means any room or space, with headroom greater than 1.8 meters (5.9ft.) within a building or within a structure which is or can be used for human occupancy, commercial sales, or storage of goods, possessions or equipment (including furnaces) which would be subject to damage if flooded.”

- (f) In Section 2.0 – Floodplain Designation, Sub-sections 2(a) and 2(b):

Replace:

“(a) Land within the Flood Construction Level Boundary on Schedule A – “Designated Floodplain for the Nicomekl River, Murray Creek, Logan Creek, and Jeffries Brook”, attached hereto and forming part of this bylaw; and

(b) Land within the Setbacks specified in Section 3(b).”

With:

“(a) Lands within the Flood Construction Level Boundary (FCL) on Schedule A – “Designated Flood Construction Levels for the Nicomekl River, Murray Creek,

Logan Creek, and Jeffries Brook”, attached hereto and forming part of this bylaw; and

(b) Lands within the Setbacks specified in Section 3(d).”

(g) Under Section 3.0 - Floodplain Specifications:

Replace:

“3.0 FLOODPLAIN SPECIFICATIONS”

With:

“3.0 FLOOD CONSTRUCTION LEVEL SPECIFICATIONS”

(h) Under Section 3.0 - FLOOD CONSTRUCTION LEVEL SPECIFICATIONS:

Add:

“The required FCLs in this bylaw are in meters above Geodetic Survey of Canada datum (Coordinate System: NAD 1983 CSRS UTM ZONE 10N, Vertical Datum: CGVD2013) for a specific parcel within the Floodplain.”

(i) Under Section 3.0:

Replace:

The title of Sub-section 3(a): “Flood Construction Levels”

With:

“Flood Construction Levels for Nicomekl River, Murray Creek, Logan Creek, and Jeffries Brook”.

(j) Under Section 3.0:

Replace:

“the entire sub-section 3(a):

With:

“(a) Floodplain areas and Flood Construction Levels (FCLs) for the purpose of s. 524(6)(a) of the *Local Government Act* are shown in Maps A.1 to A.6 of Schedule A.

Each map shows FCL contour lines in different areas of the City of Langley. These FCL contour lines include:

- i. Moderate climate change effect per Metro Vancouver’s projection to end of the century (year 2100); and
- ii. A freeboard allowance of 0.6 m to account for local variations in the water level and uncertainty in the input data used to develop these maps.

The Flood Construction Level for a specific parcel within the Floodplain, shall be determined by interpolation between the two closest Flood Construction Levels shown on Schedule A. – “Designated Flood Construction Levels for the Nicomekl River, Murray Creek, Logan Creek and Jeffries Brook.

- (b) Flood Construction Levels for Smaller Creeks (Baldi Creek, Brydon Creek, Pleasantdale Creek, Muckle Creek and Langley Creek)

The FCLs at parcels neighbouring smaller creeks in the City of Langley shall be:

- (i) 1.5 m above the Natural Boundary of their closest smaller creek per guidelines set in the “Flood Hazard Land Use Management Guidelines, 2018, Ministry of Water, Land, and Air Protection, Province of British Columbia” publication; plus
- (ii) An additional 0.3 m to account for climate change effect.

This means FCLs at these neighbouring parcels shall be 1.8 metres above the Natural Boundary of their closest smaller creek.

All parcels in the neighbouring areas with their lot elevations lower than these smaller creeks FCLs shall meet the requirements set in this section of the Bylaw.

- (c) Flood Construction Levels any other lake, marsh, or pond

The FCLs at the neighbouring parcels shall be 1.5 metres above the Natural Boundary of their neighbouring lake, marsh, or pond, as per the guidelines set in the “Flood Hazard Land Use Management Guidelines, 2018, Ministry of Water, Land, and Air Protection, Province of British Columbia” publication.”

And Rename:

Sub-section “3(b) Setbacks” to “3(d) Setbacks”

And Replace the phrase:

“The following distances are specified as Setbacks for the purpose of s. 910(4) (b) of the *Local Government Act*, and where more than one Floodplain Setback is applicable in respect of a particular parcel of land, by this or other City Bylaws, the greater distance is specified as the Setback.”

With:

“Unless otherwise approved by the Approving Officer, the following distances are specified as Setbacks for the purpose of s. 524(2) (b) of the *Local Government Act*, and where more than one Floodplain Setback is applicable in respect of a particular parcel of land, by this or other City Bylaws, the greater distance is specified as the Setback”.

(k) In Section 4.0: ELEVATION REQUIREMENTS

Rename Section Number From

“4.0 ELEVATION REQUIREMENTS”

To:

“5.0 ELEVATION REQUIREMENTS”

And Add a New Section:

“4.0 COVENANT MEASURES

As a condition for approval of subdivision, development, or construction of building applications in flood prone lands, the property owners are required to register a restrictive covenant against the title of their property under section 219 of the Land Title Act. The covenant shall specify:

- a) Conditions that would enable the land to be safely used for the use intended; and
- b) A “Waiver of Liability” condition, which shall require flood proofing of buildings and a waiver of liability in favour of the City of Langley in the event of any damage caused by flooding or erosion.”

(l) In Section 5.0: OTHER REQUIREMENTS

Rename Section Number From

“5.0 OTHER REQUIREMENTS”

To

“6.0 GENERAL EXEMPTIONS”

(m) In Section “5.0 ELEVATION REQUIREMENTS”:

Replace:

“Pursuant to section 910(4) of the Local Government Act”

With:

“Pursuant to section 524(6) of the Local Government Act”

and Remove:

Subsection “3(c)“.

And Rename

Subsection “3(a) to “5(a)“.

And Add Subsection:

5 (b) No person shall install furnaces, ventilation equipment, electrical switchgear, electrical panels, fire protection systems or other fixed building services

susceptible to flood damage, below the flood construction level, unless such services are protected from flood damage and accessible for servicing during a flood.

- i. All elevators must have an automatic shut-off to prevent occupants from inadvertently descending into an inundated area.

And Rename

Subsection “3(b)” to “5(c)”.

- (n) In Section 6.0: APPLICATION OF FLOODPLAIN SPECIFICATIONS

Rename Section Number From

“6.0 APPLICATION OF FLOODPLAIN SPECIFICATIONS”

To

“7.0 APPLICATION OF FLOODPLAIN SPECIFICATIONS”

And Replace Section 6.0 GENERAL EXEMPTION with:

“Section 5 shall not apply to;

- (i) A renovation of an existing building or structure that does not involve an addition to a building or structure that its total cumulative size increase during the last ten years would stay less than 25% of the existing floor area;
- (ii) A light or heavy industrial equipment which is required to be floodproofed to the Designated Flood Level;
- (iii) On-loading and off-loading facilities associated with water-oriented industry and portable sawmills. In all cases however, their main electrical switchgear shall be placed above the Flood Construction Level.
- (iv) A portion of a building or structure designed or intended for residential use that is comprised of essentially non-habitable areas such as carports, garages or accessory buildings;
- (v) A non-habitable portion of a building or structure to be used as an entrance to a space not exceeding 12 square meters in floor area.
- (vi) Non-residential accessory buildings, and
- (vii) A maximum of one level of enclosed underground parking and bicycle storage areas below the flood construction level in multifamily residential or commercial buildings if an unobstructed non-mechanized means of pedestrian entrance and exit is provided to the areas above the FCL.
 - Under this circumstance, visible signs, acceptable to the Building Official, must be posted at all points of entry notifying users that the parking garage or bicycle storage area is not protected from the risk of flood water damage.

(o) In Section 7.0: NO REPRESENTATION

Rename Section Number From

“7.0 NO REPRESENTATION”

To

“8.0 NO REPRESENTATION”

(p) Under Section 7.0 – APPLICATION OF FLOODPLAIN SPECIFICATIONS

Replace:

“The Building Inspector, or any other person appointed by the Council of the City of Langley to administer this bylaw may require that any building permit applicant provide to the City at their expense a British Columbia Land Surveyor's certificate to verify compliance with the Flood Construction Levels and Floodplain Setbacks specified in Sections 3(a).”

With:

“The Building Official may require that any building permit applicant provide to the City at their expense a British Columbia Land Surveyor's certificate to verify compliance with the Flood Construction Levels and Floodplain Setbacks specified in Sections 3.0”

3. Severability

If any portion of this bylaw is declared invalid by a court of competent jurisdiction, then the invalid portion must be severed and the remainder of the bylaw is deemed valid.

READ A FIRST, SECOND AND THIRD TIME this seventeenth of April, 2023.

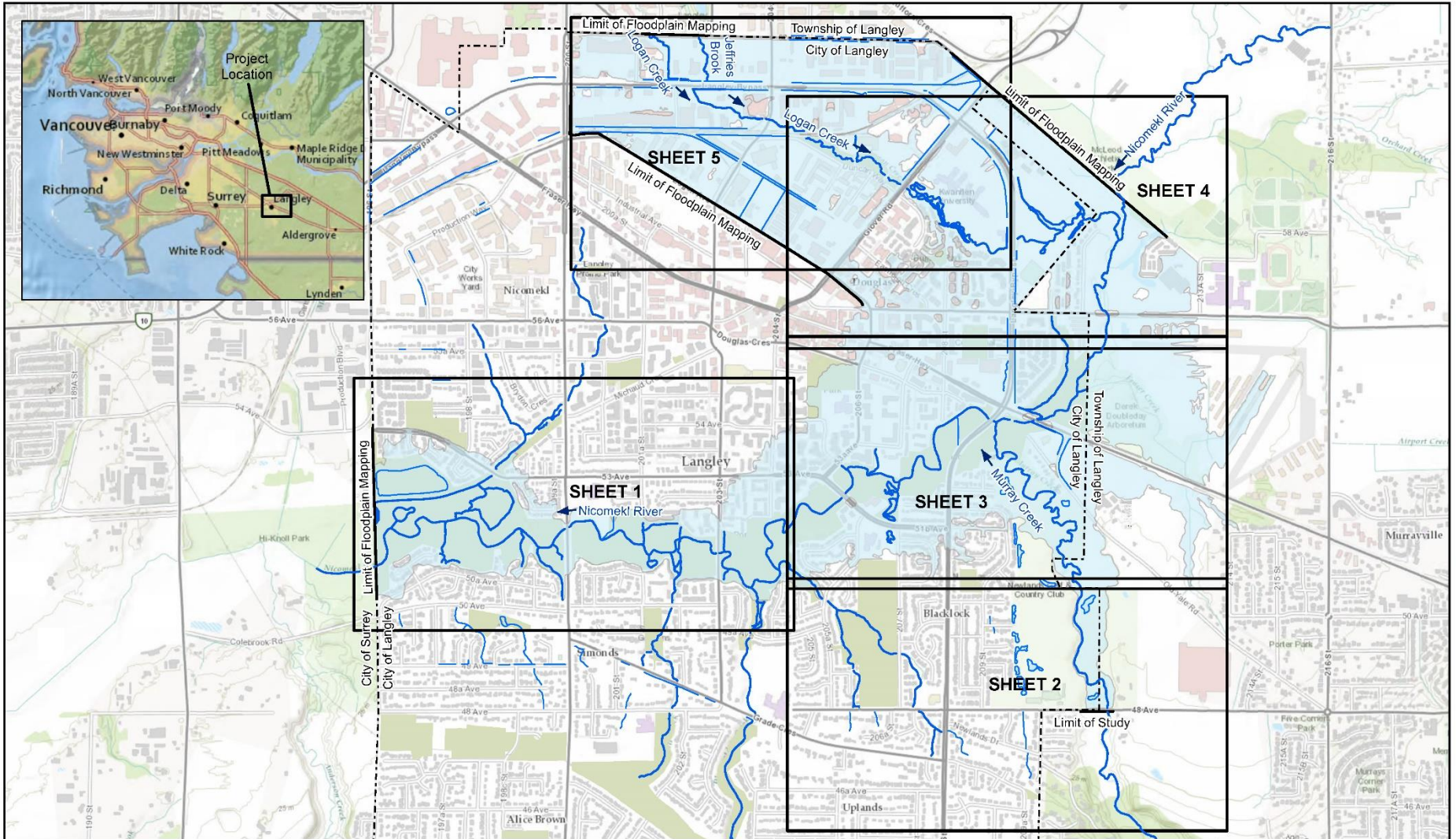
ADOPTED this day of , .

MAYOR




CORPORATE OFFICER

Schedule A

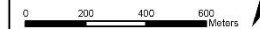
**Designated
Flood Construction Levels
for
Nicomekl River, Murray Creek, Logan
Creek, and Jeffries Brook**



Legend

-  STREAMS
-  CITY OF LANGLEY BOUNDARY
-  FLOOD CONSTRUCTION LEVEL (FCL) EXTENT AREA

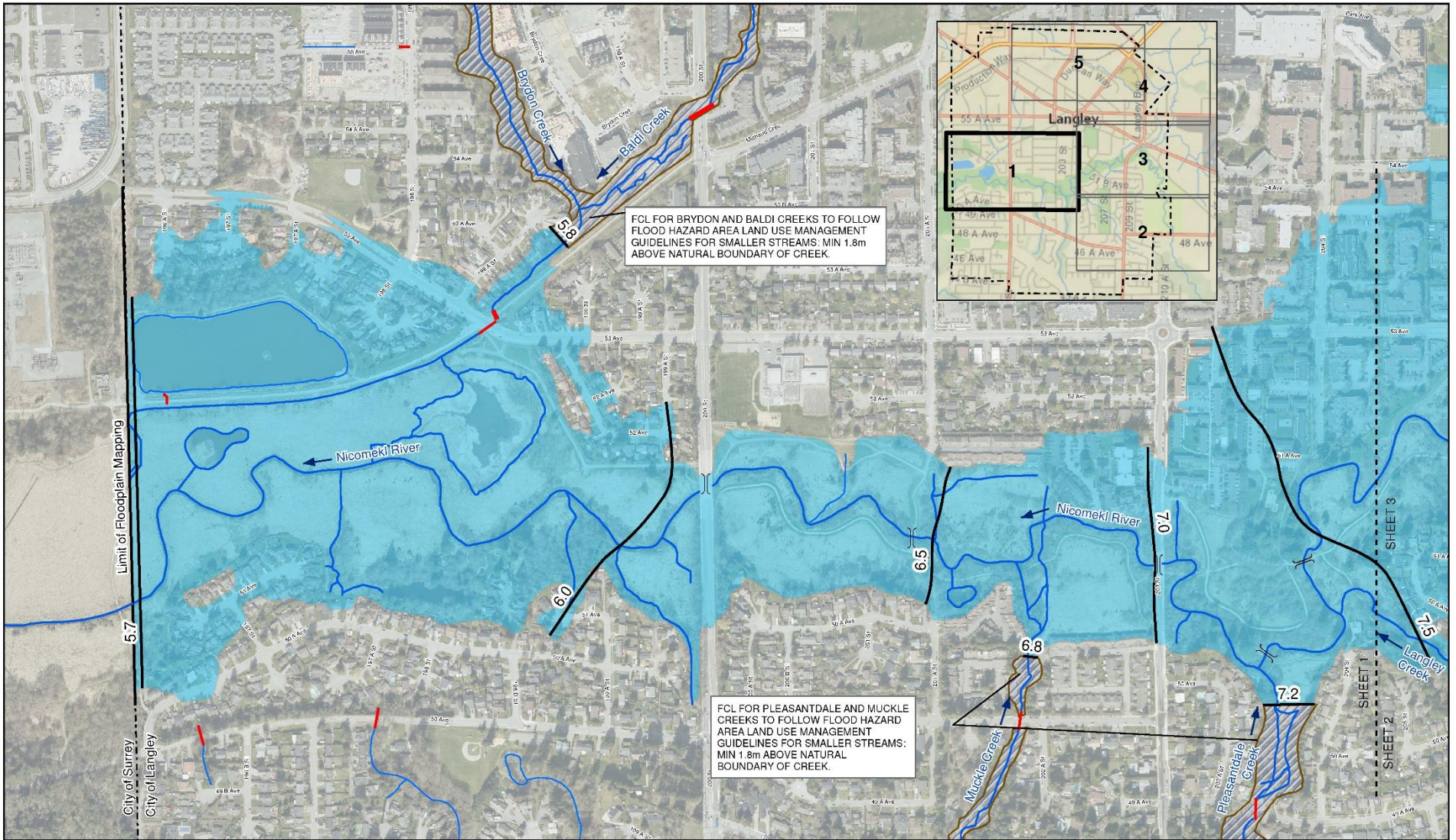
SCALE - 1:15,000



Coordinate System: NAD 1983 CSRS UTM Zone 10N
Units: Meters

**FLOODPLAIN
EXTENT MAP**

MAP A-1



FCL FOR BRYDON AND BALDI CREEKS TO FOLLOW FLOOD HAZARD AREA LAND USE MANAGEMENT GUIDELINES FOR SMALLER STREAMS: MIN 1.8m ABOVE NATURAL BOUNDARY OF CREEK.

FCL FOR PLEASANTDALE AND MUCKLE CREEKS TO FOLLOW FLOOD HAZARD AREA LAND USE MANAGEMENT GUIDELINES FOR SMALLER STREAMS: MIN 1.8m ABOVE NATURAL BOUNDARY OF CREEK.



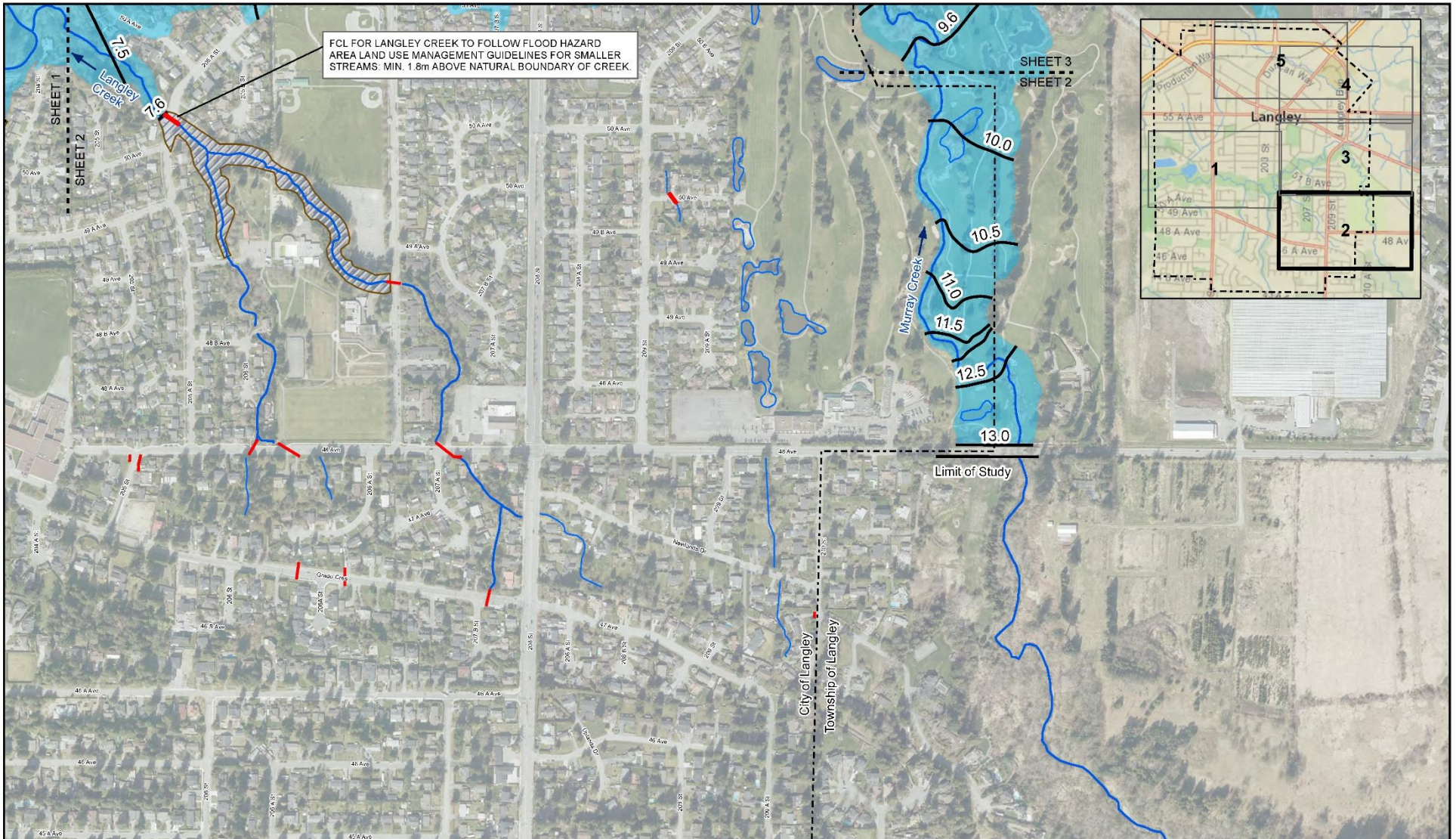
- BRIDGES
- FCL CONTOUR LINES (EL. m)
- CULVERTS
- STREAMS
- FCL EXTENT AREA
- CITY OF LANGLEY BOUNDARY

SCALE - 1:5,000

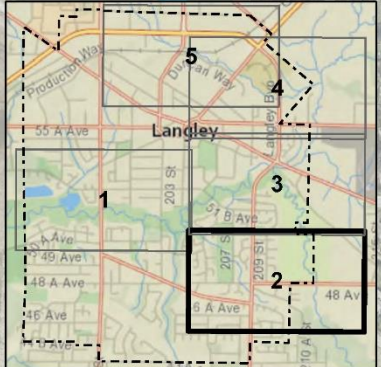
Coordinate System: NAD 1983 CSRS UTM Zone 10N;
CGVD2013 Units: Meters

FLOOD CONSTRUCTION
LEVEL (FCL) MAP
PAGE 1 OF 5

MAP A-2



FCL FOR LANGLEY CREEK TO FOLLOW FLOOD HAZARD AREA LAND USE MANAGEMENT GUIDELINES FOR SMALLER STREAMS: MIN. 1.8m ABOVE NATURAL BOUNDARY OF CREEK.



- BRIDGES
- FCL CONTOUR LINES (EL. m)
- CULVERTS
- STREAMS
- FCL EXTENT AREA
- CITY OF LANGLEY BOUNDARY

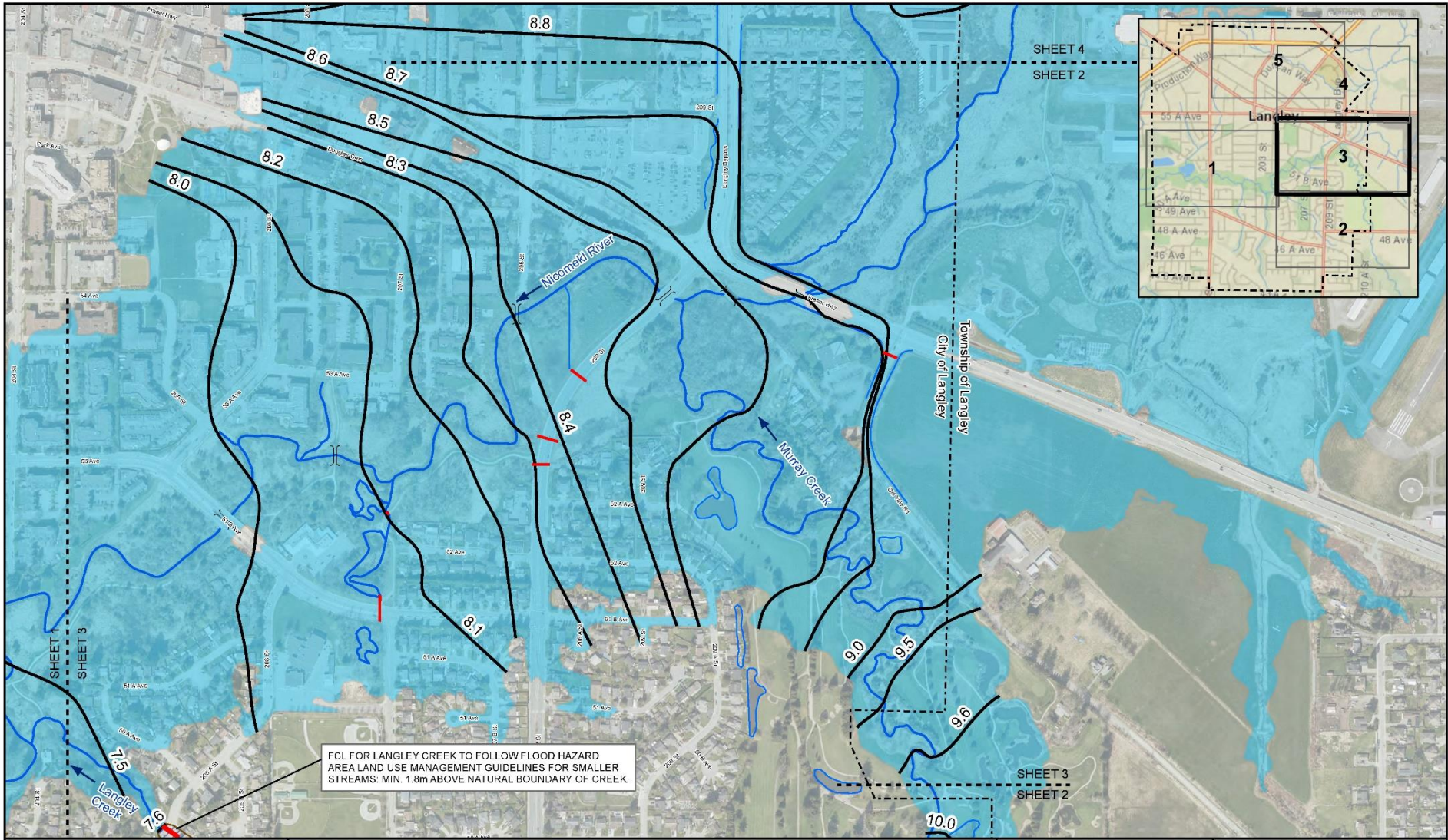
SCALE - 1:5,000

Coordinate System: NAD 1983 CSRS UTM Zone 10N;
CGVD2013 Units: Meters

FLOOD CONSTRUCTION LEVEL (FCL) MAP
PAGE 2 OF 5

MAPA-3





FCL FOR LANGLEY CREEK TO FOLLOW FLOOD HAZARD AREA LAND USE MANAGEMENT GUIDELINES FOR SMALLER STREAMS: MIN. 1.8m ABOVE NATURAL BOUNDARY OF CREEK.



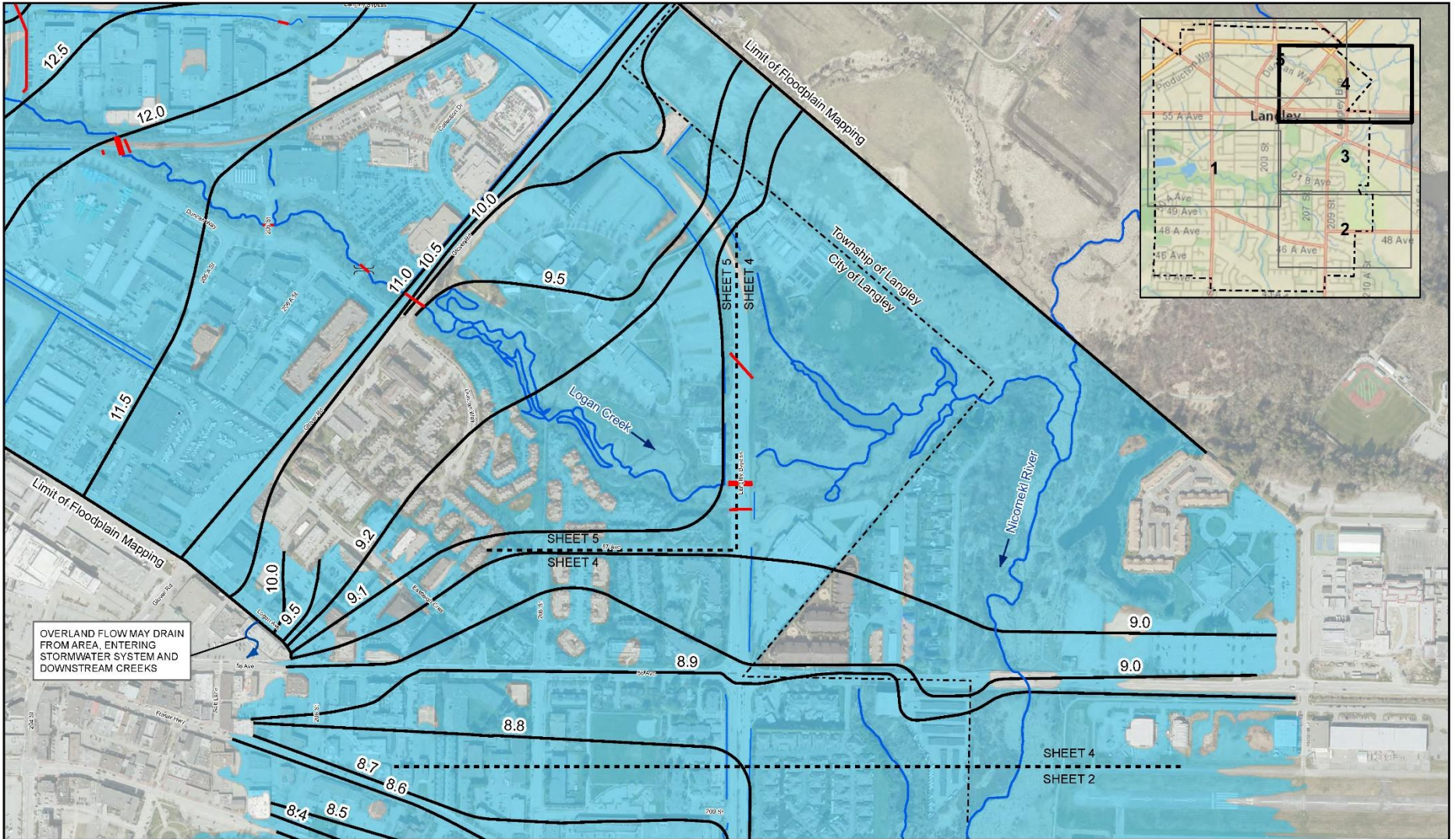
- BRIDGES
- FCL CONTOUR LINES (EL. m)
- CULVERTS
- STREAMS
- FCL EXTENT AREA
- CITY OF LANGLEY BOUNDARY

SCALE - 1:5,000

Coordinate System: NAD 1983 CSRS UTM Zone 10N
CGVD2013 Units: Meters

FLOOD CONSTRUCTION LEVEL (FCL) MAP
PAGE 3 OF 5

MAP A-4



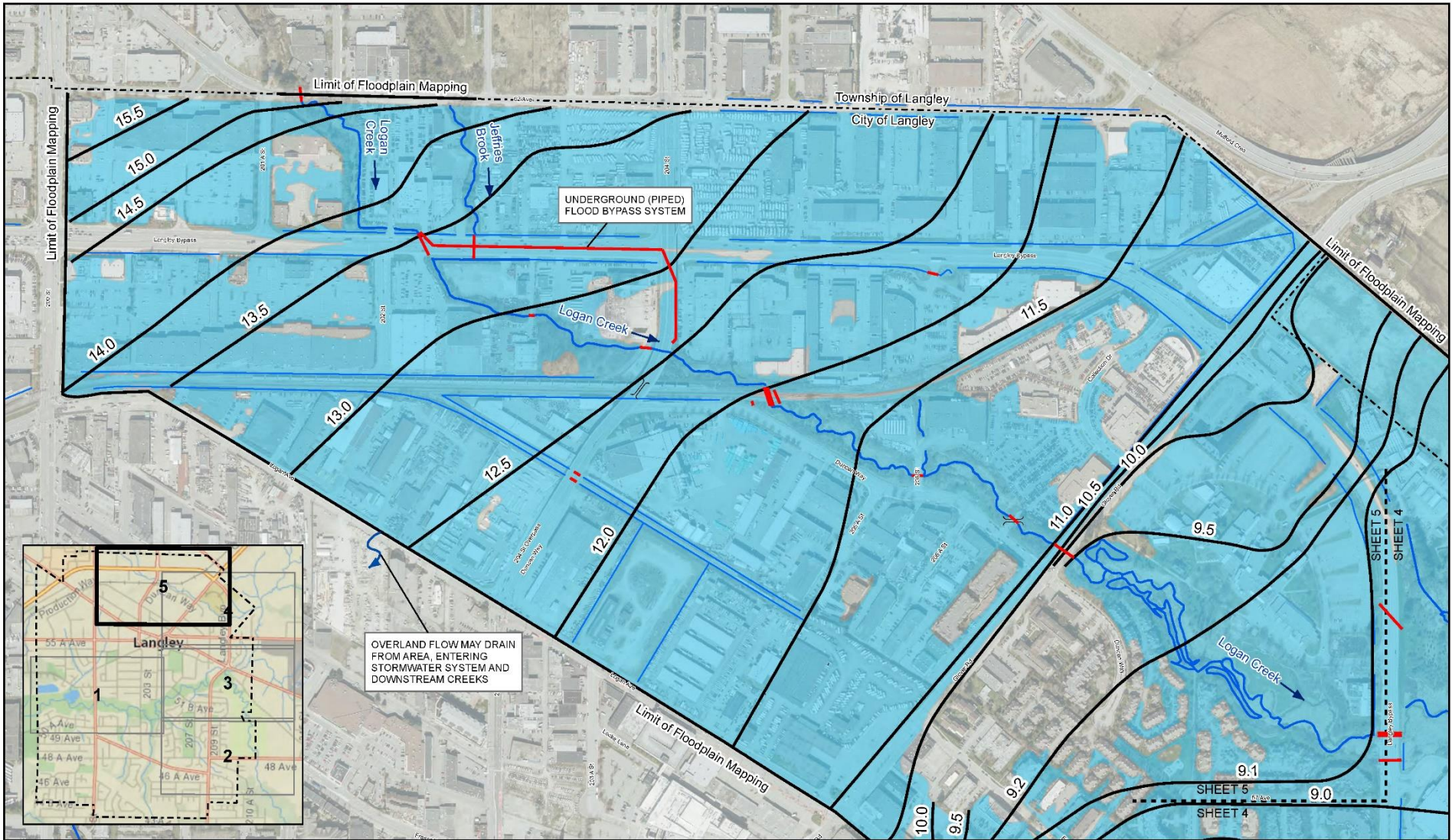
- BRIDGES
- FCL CONTOUR LINES (EL. m)
- CULVERTS
- STREAMS
- FCL EXTENT AREA
- CITY OF LANGLEY BOUNDARY

SCALE - 1:5,000

Coordinate System: NAD 1983 CSRS UTM Zone 10N
CGVD2013 Units: Meters

FLOOD CONSTRUCTION
LEVEL (FCL) MAP
PAGE 4 OF 5

MAP A-5

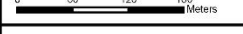


OVERLAND FLOW MAY DRAIN FROM AREA, ENTERING STORMWATER SYSTEM AND DOWNSTREAM CREEKS



-  BRIDGES
-  FCL CONTOUR LINES (EL. m)
-  CULVERTS
-  STREAMS
-  FCL EXTENT AREA
-  CITY OF LANGLEY BOUNDARY

SCALE - 1:5,000



Coordinate System: NAD 1983 CSRS UTM Zone 10N;
CGVD2013 Units: Meters

FLOOD CONSTRUCTION
LEVEL (FCL) MAP
PAGE 5 OF 5

MAP A-6