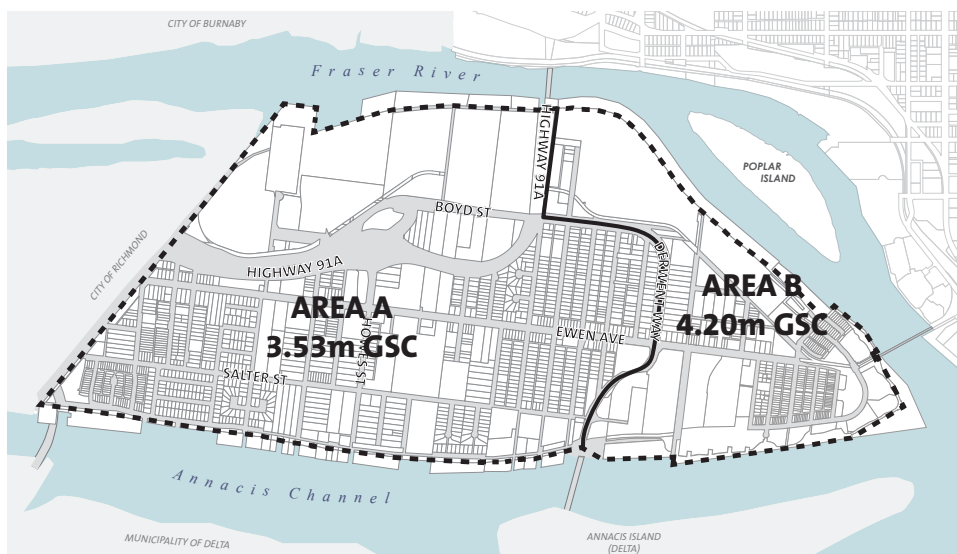


# #1 Flood Hazard

The Flood Hazard Development Permit Area is identified as Development Permit Area #1 [see Map E]. Queensborough is located at the upstream end of Lulu Island in the floodplain of the Fraser River. Development in this area of the City is protected by perimeter dykes maintained by the City, which are continuous with dykes in the City of Richmond farther downstream. However, new buildings and structures in Queensborough should be constructed at an elevation that is sufficient to minimize the potential for loss of life and property damage in the event of dyke failure, or an extreme flood event that tops the perimeter dykes. The minimum construction levels, which are based on current knowledge of flood patterns, are 3.53 metres above Geodetic Survey of Canada (GSC) datum for Area A shown on the following map (flood construction level A), generally downstream from Derwent Way on the south side of Queensborough and Wood Street on the north side, and 4.20 metres above GSC datum (flood construction level B) for Area B upstream of Derwent Way and Wood Street. Placement of imported fill to achieve these construction levels could produce local settlement problems and undesirable diversion of flood water, so a combination of fill and structural support may be required.



**Map 12. Flood Construction Levels**

DEVELOPMENT PERMIT AREAS

### EXEMPTIONS

The following are exempted from the requirement for a development permit:

- Subdivision of land (buildings constructed on subdivided lots must still comply when applicable).
- Alteration of land not involving the construction or alteration of a building or structure.
- Buildings and structures on land in an agricultural zoning district, other than residential buildings.
- Buildings and structures for park and open space recreational uses.
- Construction and alteration of buildings authorized by a heritage alteration permit, including building additions.
- Detached accessory buildings and structures such as garages, tool sheds and greenhouses that are not used for human habitation.
- Residential building additions that would increase the habitable floor area of the building by less than 25% of the floor area that existed on [insert date of first reading of OCP], unless the building has been increased in floor area since that date without a development permit and the aggregate additional floor area exceeds 25% of the floor area that existed on that date.
- Building alterations that do not increase the floor area of the building.

In addition, buildings and structures for industrial uses on parcels that are not adjacent to a dyke are exempt from the requirement for a development permit. However, owners are encouraged to construct industrial buildings used for business or the storage of goods and located in Area A at or above flood construction level A, and industrial buildings used for such purposes and located in Area B at or above flood construction level B.

## DESIGN GUIDELINES

## FLOOD CONSTRUCTION LEVEL

- |  |             |
|--|-------------|
| Buildings and structures for residential and institutional uses in Area A should be constructed so that the lower surface of the floor system of the lowest storey containing habitable space is at or above flood construction level A.   | <b>FH.1</b> |
| Buildings and structures for residential and institutional uses in Area B should be constructed so that the lower surface of the floor system of the lowest storey containing habitable space is at or above flood construction level B.   | <b>FH.2</b> |
| Buildings and structures for industrial uses on parcels adjacent to dykes in Area A should be constructed so that the lower surface of the floor system of the lowest storey used for business or the storage of goods that could be damaged by flood is at or above flood construction level A. | <b>FH.3</b> |
| Buildings and structures for industrial uses on parcels adjacent to dykes in Area B should be constructed so that the lower surface of the floor system of the lowest storey used for business or the storage of goods that could be damaged by flood is at or above flood construction level B. | <b>FH.4</b> |
| If natural grade of a residential parcel is below the desired flood construction level, imported fill should not be used to raise the grade above 1.5 metres above GSC datum or 150 millimeters above the centre of the road abutting the property, whichever is higher.                         | <b>FH.5</b> |
| In the case of floors comprised of concrete slabs, the upper surface of the concrete slab should be at or above the applicable flood construction level.   | <b>FH.6</b> |

### NON-HABITABLE SPACE

**FH.7** The following building areas are not considered habitable space for the purpose of these Guidelines:

- Underground parking garages, provided that signs are posted and maintained at points of entry indicating that the parking area is subject to flooding of the Fraser River.
- Attached and enclosed garage not exceeding 42 square metres (452.08 square feet) in floor area per dwelling unit. For the purpose of this calculation a secondary suite is not considered a unit.
- Manoeuvring aisles used to access compliant off-street parking spaces.
- Attached carports.
- Enclosed entrance foyers up to 11 square metres (118.40 square feet) in floor area per dwelling unit in the building.
- Elevator shafts, provided that operation of the elevators below the applicable flood construction level is not possible during flood events.
- Enclosed building areas with floor to ceiling heights of less than 1.52 metres (5 feet) measured to the underside of the floor system above.
- Porches.
- Undercrofts enclosed only by wood lattice or similar screening.

**NON-HABITABLE SPACE CONTINUED**

No area below the required elevation shall be used for the installation of fixed equipment susceptible to damage by floodwaters, with the exception of furnaces and hot water heaters. **FH.8**

Garbage and recycling carts may be permitted in the non-habitable space below the required elevation. **FH.9**

Bicycle parking may be permitted in the non-habitable space below the required elevation. **FH.10**

Site alteration and building construction should be planned and executed so as to minimize abrupt transitions from the elevations of adjacent sites and buildings and the diversion of flood waters to adjacent sites. **FH.11**