



**FLOODPLAIN MANAGEMENT BYLAW, 2005
(CONSOLIDATED)**

The following is a consolidated version of Bylaw No. 2782, which was adopted June 27, 2005 and includes the following amendment bylaws:

BYLAW No.	BYLAW NAME	ADOPTED	PURPOSE
SRD 273	Floodplain Management Bylaw, 2005 Amendment No. 1	June 22, 2017	To regulate the placement of fill within areas designated as floodplain with the exception of the Salmon and White Rivers in Electoral Area A

Unless certified on the last page, this bylaw should not be relied upon for legal purposes. There may be pending updates or revisions to this bylaw. Please contact the Corporate Services Department for the Strathcona Regional District for the most current version.

REGIONAL DISTRICT OF COMOX-STRATHCONA

BYLAW NO. 2782

A bylaw to regulate the siting and construction of buildings and structures in floodplains and near watercourses in the Regional District of Comox-Strathcona with the exception of Electoral Area 'K' and portions of 'G' as noted in the Bylaw.

PART A TITLE

1. This Bylaw may be cited for all purposes as Bylaw No. 2782 being the **"Floodplain Management Bylaw, 2005"**.

PART B APPLICATION

1. This bylaw shall be applicable to all electoral areas within the Regional District of Comox-Strathcona with the exception of:
 - a) Electoral Area 'K'; and
 - b) Any portion of Electoral Area 'G' not affected by Bylaw No. 1155, being the "Electoral Area 'G' Zoning Bylaw, 1990".
2. The following schedules are attached to and form an integral part of this bylaw.
 - a) Schedule "A" - Floodplain Management Regulations;
 - b) Schedule "B" - Floodplain Mapping for the Courtenay, Puntledge and Tsolum Rivers;
 - c) Schedule "C" - Floodplain Mapping for the Oyster River; and
 - d) Schedule "D" - Floodplain Mapping for the Salmon and White Rivers.

PART C ENACTMENT AND REPEAL

1. Bylaw No. 1836 being the "Floodplain Management Bylaw, 1997" and all amendments thereto, is hereby repealed.
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Schedule “A”

Bylaw No. 2782

Floodplain Management Bylaw, 2005

PART 100

ADMINISTRATION

101 Other Legislation

- 1) Nothing contained in this Bylaw shall relieve any person from the responsibility to ascertain whether their proposed development complies with all other applicable enactments.

102 General Prohibitions

- 1) No building or structure shall be constructed, reconstructed, altered, moved or extended by the owner, occupier or other person so that it contravenes the requirements of this Bylaw.

103 Enforcement

- 1) A Bylaw Enforcement Officer may administer this Bylaw and may enter at all reasonable times on any property to which this Bylaw applies to inspect and determine whether the regulations, prohibitions and requirements of this bylaw are being met.
- 2) A Bylaw Enforcement Officer who observes a contravention of this Bylaw may issue applicable notices and orders to any owner, occupier or other person who appears to have committed or allowed the contravention.

104 Obstruction

No person shall prevent or obstruct a Bylaw Enforcement Officer from performing his or her duties under this Bylaw.

105 Offence and Penalty

- 1) A person who contravenes a regulation or requirement of this Bylaw, commits an offence, is punishable on summary conviction and is liable to a fine not exceeding the maximum prescribed by law and not less than Five Hundred Dollars (\$500), plus the costs of prosecution.
- 2) Each day during which a violation is continued shall be deemed to constitute a new and separate offence.

106 Severability

If any section, subsection, sentence, clause or phrase of this Bylaw is for any reason held to be invalid by the decision of any Court of competent jurisdiction, the invalid portion shall be severed and the decision that it is invalid shall not affect the validity of the remainder.

107 No Representation

By the enactment, administration or enforcement of this Bylaw, the Regional District of Comox-Strathcona does not represent to any person that any building or structure, including a mobile home, located, constructed or used in accordance with the regulations of this Bylaw or in accordance with any advice, information, direction or guidance provided by the Regional District in the course of the administration of this Bylaw will not be damaged by flooding.

PART 200

INTERPRETATION

201 Definitions

In this bylaw, the words in the left hand column have the meaning set out in the right hand column opposite them, as follows:

<i>ALLUVIAL FAN</i>	the alluvial deposit of a stream where it issues from a steep mountain valley or gorge upon a plain or at the junction of a tributary stream with the main stream.
<i>BUILDING</i>	a structure used or intended for supporting or sheltering any use, or occupancy.
<i>BYLAW ENFORCEMENT OFFICER</i>	persons employed or appointed as such from time to time by the Regional Board.
<i>DESIGNATED FLOOD</i>	a flood which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where inadequate stream flow data is available. Where the flow of a large watercourse is controlled by a major dam, the designated flood shall be set on a site specific basis.
<i>DESIGNATED FLOOD LEVEL</i>	the observed or calculated elevation for the designated flood, which is used in the calculation of the flood construction level. (See Diagram 1)
<i>DWELLING UNIT</i>	a self-contained unit consisting of one or more rooms designed, occupied, or intended for occupancy, as a separate household with sleeping and sanitary facilities and not more than one set of kitchen and cooking facilities, but specifically excluding recreational vehicles.
<i>FARM BUILDING</i>	a building or part thereof which is associated with and located on land devoted to the practice of farming, and used essentially for the housing of equipment or livestock, or the production, storage, processing, marketing and selling of agricultural and horticultural produce or feeds.
<i>FINISHED GRADE</i>	means the elevation of the ground following site preparation and in cases where the placement of fill is permitted the elevation of the ground following any placement of fill.

SRD 273

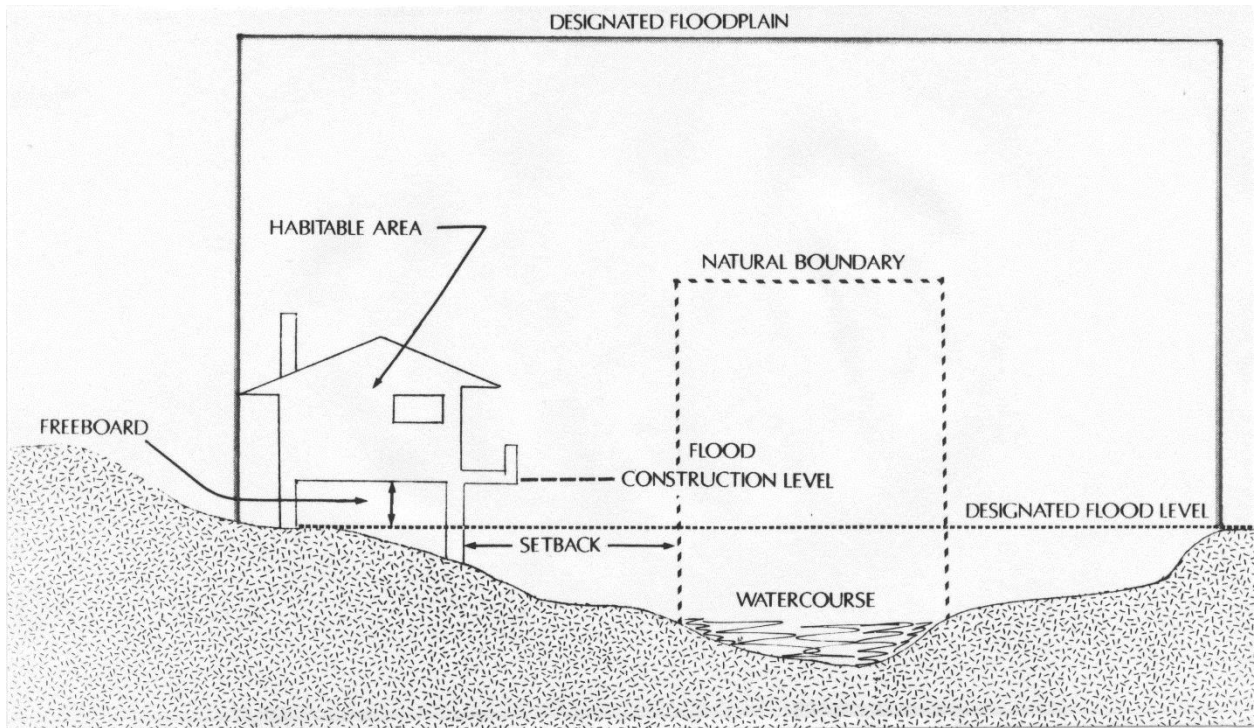
<i>FLOOD CONSTRUCTION LEVEL or FLOOD LEVEL</i>	The Designated Flood Level plus the allowance for freeboard and is used to establish the elevation of the underside of a wooden floor system or top of concrete slab for habitable buildings. In the case of a manufactured home, the ground level or top of concrete or asphalt pad on which it is located shall be equal to or higher than the above described elevation. 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. (See Diagram 1)
<i>FLOODPLAIN</i>	A lowland area, whether diked, floodproofed, or not which, by reasons of land elevation, is susceptible to flooding from an adjoining watercourse, ocean, lake or other body of water and for administration purposes is taken to be that area submerged by the Designated Flood plus freeboard. (See Diagram 1)
<i>FLOODPLAIN SETBACK</i>	the required minimum distance from the natural boundary of a watercourse, lake, or other body of water to any landfill or structural support required to elevate a floor system or pad above the flood construction level, so as to maintain a floodway and allow for potential land erosion.
<i>FREEBOARD</i>	a vertical distance added to a designated flood level, used to establish a flood construction level. (See Diagram 1)
<i>GEODETTIC SURVEY OF CANADA (G.S.C.) DATUM</i>	a vertical distance above Canadian Geodetic Datum (mean sea level as determined by the Canadian Hydrographic Service).
<i>HABITABLE AREA</i>	any room or space within a building or structure that 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. (See Diagram 1)
<i>HIGH WATER MARK</i>	See NATURAL BOUNDARY.
<i>LANDFILL</i>	sand, gravel, earth, rock or any combination thereof placed or deposited by man to raise the level of the ground, but does not include building or construction debris.
<i>MOBILE HOME PAD</i>	See "PAD".

NATURAL BOUNDARY	the visible high watermark of any lake, river, stream, or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soils itself, as defined in Section 1 of the <i>Land Act</i> . For coastal areas, the natural boundary includes the natural limit of permanent terrestrial vegetation. In addition, the natural boundary includes the best estimate of the edge of dormant or old side channels and marsh areas. (See Diagram 1)
NATURAL GROUND ELEVATION	the undisturbed ground elevation prior to site preparation.
PAD	a paved surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a mobile home or unit, or a concrete pad for supporting a habitable area.
PROFESSIONAL ENGINEER	a person who is registered or licensed under the provisions of the <i>Engineers and Geoscientists Act</i> , RSBC 1996, chapter 116.
PROVINCIAL FLOODPLAIN MAPPING	means the floodplain mapping provided by the Province of BC which designates areas as floodplain for the Oyster River, Salmon River and White Rivers.
REGIONAL BOARD	the elected body of the Regional District.
REGIONAL DISTRICT	the Regional District of Comox-Strathcona.
SETBACK	the required minimum horizontal distance measured from the respective lot line or other feature as may be identified to any building or structure or part thereof. (See Diagram 1)
SHORELINE PROTECTION DEVICE	breakwaters, seawalls, bulkheads, riprap, deposition of materials such as stone and concrete rubble, bluff stabilization projects, and similar measures employed to protect property from the sea and watercourses.
STANDARD DIKE	a dike built to a minimum crest elevation equal to the flood construction level and meeting standards of design and construction approved by the Inspector of Dikes and maintained by a diking authority under the Dike Maintenance Act or successor legislation.

SRD 273

STRUCTURE	anything that is constructed or erected, and includes decks, swimming pools, mobile home space, and major improvements accessory to the principal use of land, but specifically excludes retaining walls under 2.0 metres (6.6 feet) in height as well as landscaping, paving improvements, signs and fences.
TOP OF BANK	the point at which the upward ground level becomes less than one (1.0) vertical to four (4.0) horizontal, and refers to the crest of the bank or bluff where the slope clearly changes into the natural upland bench; or as otherwise designated from time to time by the authority having jurisdiction.
TSUNAMI	a sea wave generated by tectonic or volcanic activity.
WATERCOURSE	any natural or man-made depression with well-defined banks and a bed 0.6 metres (2.0 feet) or more below the surrounding land serving to give direction to a current of water at least six months of the year and having a drainage area of 2 square kilometres (0.8 square miles) or more upstream of the point of consideration. (See Diagram 1)
WETLAND	land seasonally or permanently covered by water and dominated by water-tolerant vegetation. Wetlands include swamps, marshes, bogs and fens but not lands periodically flooded for agricultural purposes.

Diagram 1



Note: This diagram is provided for illustrative purposes for the terms shown herein and defined in Part 200 of this bylaw.

PART 300

FLOODPLAIN REGULATIONS

301 Floodplain Designation

- 1) The following land is designated as floodplain:
 - a) Lands shown as floodplain on the following:
 - i) Schedule "B" - Floodplain Mapping for the Courtenay, Puntledge and Tsolum Rivers;
 - ii) Schedule "C" - Floodplain Mapping for the Oyster River; and
 - iii) Schedule "D" - Floodplain Mapping for the Salmon and White Rivers.
 - b) Land lower than the flood construction levels specified in Section 302;
 - c) Land within the floodplain setbacks specified in Section 303.

302 Flood Construction Levels

- 1) Where Floodplain Mapping is available, the flood construction level for a specific property shall be determined by interpolation from the flood construction levels shown on the following:
 - a) Schedule "B" - Floodplain Mapping for the Courtenay, Puntledge and Tsolum Rivers;
 - b) Schedule "C" - Floodplain Mapping for the Oyster River; and
 - c) Schedule "D" - Floodplain Mapping for the Salmon and White Rivers.
- 2) Where Floodplain Mapping is NOT available, the following elevations are specified as flood construction levels:
 - a) 137.5 metres (451.1 feet) G.S.C. datum surrounding Comox Lake;
 - b) 181.0 metres (593.8 feet) G.S.C. datum surrounding Campbell Lake;
 - c) 224.6 metres (736.9 feet) G.S.C. datum surrounding Upper Campbell and Buttle Lakes;
 - d) 3.0 metres (9.8 feet) above the natural boundary of Cowie and Mohun Creeks and the Browns, Courtenay, Cruickshank, Gold, Heber, Oyster, Puntledge, Quinsam, Salmon, Trent, Tsable, Tsolum and White Rivers, and any other watercourse where the designated flood, as determined by a suitably qualified professional engineer, is greater than 80 cubic metres per second;
 - e) 3.0 metres (9.8 feet) above the natural boundary of any lake over 15 kilometres at its greatest horizontal distance;
 - f) 1.5 metres (4.9 feet) above the natural boundary of any other watercourse;
 - g) 1.5 metres (4.9 feet) above the natural boundary of the sea, any lake, wetland, or pond.

- 3) On mainland coastal inlets and alluvial fans the flood construction level will be determined by a site specific assessment by a suitably qualified professional engineer pursuant to the provisions of Section 695 of the *Local Government Act* and Section 56 of the *Community Charter*.
- 4) Where more than one flood construction level is applicable, the higher elevation shall be the flood construction level.

303 Floodplain Setbacks

- 1) The following distances are specified as floodplain setbacks:
 - a) 60.0 metres (196.9 feet) from the natural boundary of Oyster River;
 - b) 30.0 metres (98.4 feet) from the natural boundary of Cowie and Mohun Creeks, and the Browns, Courtenay, Cruickshank, Gold, Heber, Puntledge, Quinsam, Salmon, Trent, Tsable, Tsolum and White Rivers, and any other watercourse where the designated flood, as determined by a suitably qualified professional engineer, is greater than 80 cubic metres per second;
 - c) 15.0 metres (49.2 feet) from the natural boundary of any other watercourse;
 - d) 15.0 metres (49.2 feet) from the natural boundary of the sea, any lake, wetland, or pond;
 - e) 7.5 metres (24.6 feet) from any dike right-of-way, or structure for flood protection or seepage control.
- 2) On mainland coastal inlets and alluvial fans the floodplain setback will be determined by a site specific assessment by a suitably qualified professional engineer pursuant to the provisions of Section 695 of the *Local Government Act*, and by provincial and federal agencies having jurisdiction for protection of fish and wildlife habitat.
- 3) Where more than one floodplain setback is applicable, the greater of them shall be the floodplain setback.

304 Floodplain Construction Requirements

- 1) **Siting and Flood Construction Setback Requirements**
 - a) the placement of fill is not permitted within any required floodplain setback for any purpose. This includes, but is not limited to, elevating grade or increasing flood construction levels.
 - b) a building or structure must be sited accordingly to the floodplain setbacks specified in Section 303.
 - c) to determine the required floodplain setback where there is uncertainty associated with whether a watercourse has a designated flood greater than 80 cubic metres per second, the Regional District may require the landowner to obtain and pay for a report from a professional engineer or geoscientist experienced in geotechnical engineering to establish the rate of flow.

2) Elevation and Flood Construction Level Requirements

- a) The use of compacted fill to increase elevation and flood construction levels, or for any purpose, is not permitted within any required floodplain setback.
- b) the underside of any floor system, or top of any pad surrounding any space or room, including a mobile home, that is used for dwelling purposes, business, or the storage of goods that are susceptible to damage by floodwaters must meet or exceed the specified flood construction levels in Section 302.
- c) the use of compacted landfill is not permitted to support a floor system or pad within any floodplain setbacks specified in Section 303, as per Section 524.6(b) of the *Local Government Act*. The use of structural support to elevate the underside of the floor system or the top of the pad above the flood construction levels specified in Section 302 is permitted. The structural support shall be protected against scour and erosion from flood flows, wave action, ice and other debris. The structural support must be authorized by and installed under the direction of a professional geotechnical engineer.
- d) with the exception of the Salmon and White Rivers, the use of compacted fill within any floodplain, being the mapped area that may extend beyond the required floodplain setback specified in Section 303 or an area lower than the flood construction levels specified in setback, provided the placement of fill is limited to a maximum depth of 1.0metre (3.3 feet). All fill must be clean, engineered fill to be verified by a qualified soli scientist or geotechnical engineer. The property owner will be required obtain a British Columbia Land Surveyor's certificate to confirm the difference between natural ground elevation and finished grade to be 1.0 metre (3.3 feet) or less. The compacted landfill shall be protected against scour and erosion from flood flows, wave action, ice and other debris. The compacted landfill must be pre-approved by and compacted under the direction of a professional geotechnical engineer.
- e) a Building Official or Bylaw Enforcement Officer may require that a British Columbia Land Surveyor's certificate be obtained to verify compliance with the flood construction levels of Section 302 and floodplain setbacks of Section 303. The cost of verification shall be assumed by the landowner.

PART 400

EXEMPTIONS

401 General Exemptions

- 1) The following types of development are exempt from the flood construction levels specified in Section 302 of Schedule "A" of this Bylaw:
 - a) A renovation of an existing building or structure that does not involve an addition thereto;
 - b) An addition to a building or structure, at the original non-conforming floor elevation, that would increase the size of the building or structure by less than 25% of the ground floor area (excluding decks, carports or garages) existing at the date of adoption of this Bylaw, provided that the degree of non-conformity regarding the setback is not increased (i.e. no closer to the water than existing);
 - c) That portion of a building or structure to be used as a carport, garage or entrance foyer, porches, domestic greenhouses and storage buildings not used for the storage of goods damageable by floodwaters;
 - d) Farm buildings, other than dwelling units and closed-sided livestock housing;
 - e) Hot water tanks and furnaces behind standard dikes;
 - f) Closed-sided livestock housing behind standard dikes;
 - g) On-loading and off-loading facilities associated with water-oriented industry or portable sawmills;
 - h) Recreation shelters, stands, campsite washhouses and other outdoor facilities susceptible to only marginal damage by floodwaters.

402 Conditional Exemptions

(1) Flood Construction Levels

The following types of development are exempt from the flood construction levels specified in Section 302 of Schedule "A" of this Bylaw, subject to the following conditions:

i) Farm Dwelling Units:

Farm dwelling units on parcels of 8.1 hectares (20.0 acres), or greater, within the Agricultural Land Reserve shall be located with the underside of a wooden floor system or the top of the pad of any habitable area (or in the case of a manufactured home, the top of pad or the ground surface on which it is located) no lower than 1.0 metres (3.3 feet) above the natural ground elevation taken at any point on the perimeter of the building, or no lower than the flood construction levels specified in Section 302 of Schedule "A" of this Bylaw, whichever is the lesser.

ii) Closed-sided Livestock Housing:

Closed-sided livestock housing not behind standard dikes shall be located with the underside of a wooden floor system or the top of the pad (or in the case of manufactured housing, the top of pad or the ground surface on which it is located) no lower than 1.0 metres (3.3 feet) above the natural ground elevation taken at any

point on the perimeter of the building, or no lower than the flood construction levels specified in Section 302 of Schedule "A" of this Bylaw, whichever is the lesser.

iii) Industrial Uses:

Industrial uses, other than main electrical switchgear, shall be located with the underside of a floor system or the top of the pad (or in the case of a mobile structure, the top of pad or the ground surface in which it is located) no lower than the flood construction levels specified in Section 302 of this bylaw, minus freeboard. Main electrical switchgear shall be no lower than the flood construction level.

(2) Floodplain Setbacks

Subject to the conditions noted below, the following types of development are exempt from the floodplain setbacks specified in Section 303 of this Bylaw:

i) Developments Adjacent to the Sea:

Buildings or structures used for dwelling purposes, business, or the storage of goods which are susceptible to damage by floodwater, including the landfill or structural support for these buildings and structures, shall be permitted a setback of 7.5 metres (24.6 feet) from the natural boundary of the sea where the water frontage is protected from erosion by a natural bedrock formation.

403 Site Specific Exemptions

- 1) An application by a property owner to the Regional District for a site specific exemption of Floodplain Specifications shall be completed in the form provided by the Regional District and submitted in accordance with the instructions on the application. This provision is not a substitute for any requirements under Section 56 of the *Community Charter*.
- 2) As a condition of a site specific exemption, the property owner will be required at his/her own expense to commission a Professional Engineer's Report that addresses exemption precedents in the surrounding area and provides a report containing a description of the proposed development, and recommendations for conditions addressing floodproofing, as applicable.
- 3) As a condition of a site specific exemption the property owner will be required at his/her expense to prepare and register a restrictive covenant under Section 219 of the *Land Title Act* in favour of the Regional District
 - a) specifying conditions that would enable the land to be safely used for the use intended according to the terms of the Profession Engineer's report which will form part of the restrictive covenant;
 - b) acknowledging that no Disaster Financial Assistance Funding is available for the building or its contents; and
 - c) releasing and indemnifying the Regional District from liability in the event any damage is caused by flooding or erosion.

SCHEDULE "B"
***FLOODPLAIN MAPPING FOR THE COURTENAY,
PUNTLEDGE AND TSOLUM RIVERS***

SCHEDULE "C"
***FLOODPLAIN MAPPING FOR
THE OYSTER RIVER***

SCHEDULE "D"
***FLOODPLAIN MAPPING FOR THE
SALMON AND WHITE RIVERS***

Copies of Schedules "B", "C", and "D",
are available for view and purchase at
the Community Planning Services
Department of the Regional District.

