

---

**TO:** Committee of the Whole **MEETING:** October 2, 2018

**FROM:** Jamai Schile Senior Planner **FILE:** 5285

**SUBJECT:** Proposed Amendments to the Floodplain Bylaw, Bylaw 500 and Board Policy B1.5 to Modernize Flood Mitigation Requirements

---

## RECOMMENDATIONS

1. That the Board introduce and give first and second reading to “Regional District of Nanaimo Floodplain Management Amendment Bylaw No. 1469.02, 2018”.
2. That the Board introduce and give first and second reading to “Regional District of Nanaimo Land Use and Subdivision Amendment Bylaw No. 500.417, 2018”.
3. That the Board approve revisions to “Regional District of Nanaimo Board Policy No. B1.5 *Development Variance Permit, Development Permit with Variance & Floodplain Exemption Application Evaluation*”.
4. That the public hearing for “Regional District of Nanaimo Land Use and Subdivision Amendment Bylaw No. 500.417, 2018” be waived and notice of the Board’s intent to consider third reading be given in accordance with Section 467 of the *Local Government Act*.
5. That the District of Lantzville and Gabriola Island Local Trust Area be notified of “Regional District of Nanaimo Floodplain Management Amendment Bylaw No. 1469.02, 2018”.

## SUMMARY

With the adoption of amendments to the Province of BC’s Flood Hazard Area Land Use Management Guidelines (Provincial Guidelines) to incorporate sea level rise (SLR) into planning and future development, the Regional District of Nanaimo (RDN) has a number of bylaws and a policy that require amendments to be consistent with the changes in provincial direction. The bylaws and a Board policy affected are the current “Regional District of Nanaimo Floodplain Management Bylaw No.1469, 2006”, (Floodplain Bylaw); “Regional District of Nanaimo Land Use and Subdivision Bylaw No. 500, 1987” (Bylaw 500); and, “Regional District of Nanaimo Board Policy No B1.5 Development Variance Permit, Development Permit with Variance & Floodplain Exemption Application Evaluation”, (Policy B 1.5). The proposed bylaw amendments incorporate the principles for allowing for 1.0 metre SLR by the year 2100. If adopted, the amendments will provide clarity and remove inconsistencies between RDN bylaws and existing professional practices.

## BACKGROUND

Section 524 of the *Local Government Act* provides provisions that enable local governments to manage development in relation to lands prone to flooding. In doing so, the local government must give consideration to the Provincial Flood Hazard Area Land Use Management Guidelines<sup>1</sup> (the Provincial Guidelines). The guidelines are intended to minimize injury and property damage resulting from flooding and are linked to the Provincial Compensation and Disaster Financial Assistance Regulation. Together, the Provincial Regulation and Guidelines, are used to determine if property has been adequately protected and whether a local government is eligible for financial assistance following a flood event.

In accordance with Section 524, the RDN adopted the Floodplain Bylaw in 2006. This bylaw applies to all areas in which the RDN provides building inspection services, being the Electoral Areas, including Gabriola Island (Area B) and the District of Lantzville. The bylaw is designed to prevent injury or loss of human life, and to minimize property damage resulting from a flood event. This is achieved by prohibiting a building or structure (including manufactured home) from being constructed, reconstructed, moved, extended, or located below the Flood Construction Level (FCL)<sup>2</sup>. In the current bylaw, the FCL applies to and is based on:

- historic provincial maps for the Nanaimo River, the Little Qualicum River and the Englishman River floodplains,
- where unmapped the FCL is defined as three metres above the natural boundary of the Englishman River, Little Qualicum River, Millstone River, Nanaimo River, and French Creek, where the land is within 200 metres of the watercourse, or
- the evaluation of the natural boundary plus 1.5 metres for any other watercourse within 100 metres of that watercourse.

Where the bylaw applies, a flood hazard assessment report is prepared by a professional engineer to determine the FCL and to certify that the property can be safely used for the intended use, and if protection from a 1:200 year flood event can be achieved.

In 2011, the BC Ministry of the Environment released the results of the Ausenco Sandwell study<sup>3</sup>, which introduced a new approach for the management of lands that are exposed to coastal flood hazards arising from their exposure to the sea and to the expected sea level rise effects on the shoreline. For coastal and adjacent riverine areas, the FCL is no longer simplified as the natural boundary plus 1.5 metres.

---

<sup>1</sup> [Ministry of Forests, lands, Natural Resource Operations and Rural Development, Flood Hazard Area Land Use Management Guidelines, amended January 1, 2018](#)

<sup>2</sup> Flood Construction Level means the Designated Flood Level plus allowance for Freeboard and is used to establish the elevation of the underside of a wooden floor system or top of a concrete slab for any Habitable Area (including a Manufactured Home pad).

<sup>3</sup> [BC Ministry of Environment, Climate Change Adaptation Guidelines for Sea Dikes and Coastal Flood Hazard Land Use Guidelines for Management of Coastal Flood Hazard Land Use, January 27, 2011](#)

Instead the FCL for coastal areas is based on the sum of the following coastal influences,

- the higher high water level tide elevation;
- an allowance for future SLR, tied to a particular time horizon, such as Year 2100;
- the estimated storm surge associated with the selected design storm;
- the estimated wave effect associated with the design storm; and
- freeboard.

Resulting from this research, the Province adopted several amendments to the Provincial Guidelines that came into effect on January 1, 2018. The amendments require local governments to incorporate a SLR allowance of 1.0 meter to the year 2100 (relative to the year 2000, regional uplift and subsidence). The content of the amendment also provides new definitions and methodologies for determining FCL and setbacks from the sea that local governments are required to consider when implementing a flood mitigation bylaw.

Even before the amendments were adopted, the professional practice for considering SLR as part of a site-specific flood hazard assessment report was already in place. Starting in 2012, the Engineers and Geoscientists of BC (EGBC) provided direction to their members to include SLR considerations in the flood hazard assessment process, which is set out in the EGBC Professional Practice Guidelines – Legislated Flood Assessment in a Changing Climate BC<sup>4</sup>. This has also become the RDN's practice for reviewing development applications while waiting for the Province to adopt amendments to the Provincial Guidelines.

### ***Modernizing the RDN's Flood Mitigation Regulations and Policies***

Acknowledging the important role that regional districts can play in preparing for climate change and sea level rise, the RDN has launched the [SLR Adaptation Program](#). This multi-year program is composed of four phases: initiation/pre-planning; research; engagement and implementation. Each phase consists of core activities and key deliverables with the goal of developing an SLR Adaptation Strategy that is to be implemented across various RDN departments and projects.

The program is currently in the research phase with a focus on developing coastal floodplain maps. With funding support from the Community Emergency Preparedness Fund, Phase 1 is in progress and will result in mapping information for the coastal areas north of the District of Lantzville. Phase 2, is not yet started; it includes the southern communities (excluding the City of Nanaimo) and will begin as funding becomes available. As the coastal mapping information becomes available, it is anticipated that the Floodplain Bylaw will require further amendment to designate a coastal floodplain and where land is so designated, to specify FCLs and setbacks from the sea as required by the Province.

In the interim, a review of the RDN's bylaws and policies have identified several areas where updates are needed to avoid conflict between regulations, provide certainty for property owners

---

<sup>4</sup> [Professional Practice Guidelines – Legislated Flood Assessment in a Changing Climate BC, Engineers and Geoscientists of BC \(2018\)](#). The guidelines were amended July 2018 to clarify and update information and to align with the amended Provincial Guidelines (2018).

and future developers, and to move towards full compliance with the updated Provincial Guidelines.

Of the Provincial Guideline amendments, the following are applicable to the RDN:

- Standards for calculating Flood Construction Level (FCL)
- Standards for determining setbacks from the sea
- Standards for subdivision

The remainder of this report provides a summary of the proposed interim amendments for the Floodplain Bylaw, Bylaw 500 and Board Policy B1.5, as well as considers implications of the proposed changes.

### ***Flood Construction Level***

The Provincial Guidelines recommend that coastal areas allow for 1.0 metre SLR to the year 2100 and 2.0 metres to the year 2200. A year 2100 FCL should be the minimum elevation from the underside of a wooden floor system or top of a concrete slab for habitable buildings. As an interim measure, until the results of the Coastal Floodplain Mapping Project are available, the principles for ensuring the standards for FCL can be incorporated into the Floodplain Bylaw by requiring that coastal FCLs be calculated based on the sum of coastal FCL influences. This recommended approach is consistent with the Provincial Guidelines and existing professional practice.

### ***Setbacks from the Sea***

Both the Floodplain Bylaw and Bylaw 500 contain provisions for setbacks from the sea that vary from 8.0 metres to 15.0 metres depending on shoreline topography. This variation in setbacks has resulted in a conflict between bylaws and uncertainty for property owners and future developers. To eliminate this issue, it is recommended that Bylaw 500 be amended to refer to the Floodplain Bylaw for setbacks from the sea. This will harmonize the regulations and would mean that any future amendment to setbacks to the sea would be addressed solely through amending the Floodplain Bylaw.

The Floodplain Bylaw also contains provisions for an 8.0 metre setback where the sea frontage is protected from erosion by natural bedrock or works designed by a professional engineer (s.13.d). This provision has historically resulted in coastal armoring of the shoreline for the purpose of reducing the setback. Given the need to protect coastal ecosystems that contribute to SLR mitigation, a blanket provision of this nature is no longer supported in the Provincial Guidelines nor in the RDN's coastal development permit areas. For these reasons, it is recommended that this provision be removed from the Floodplain Bylaw.

If supported, this change may have implications for some coastal property owners with smaller lots. If this arises, the Floodplain Bylaw and Board Policy B1.5 retain the ability for the Board to consider proposed exemptions as part of a site specific exemption process. Through an application, property owners are required to provide a professional engineer's assessment that demonstrates how future coastal influences have been considered, and includes a liability disclaimer. If approved, a restricted covenant would be registered on the property title as per the existing RDN practice.

### ***General FCL Exemptions and Site Specific Exemptions***

The Floodplain Bylaw provides some provision for building activities within a floodplain that feature restricting building areas subject to flooding to garages, crawl spaces or other non-habitable uses. The only exception is for a “farm dwelling unit on a parcel 8 hectares or greater within the Agricultural Land Reserve”. Weighing the impacts on agriculture against the potential damages to people and property associated with flood prone areas, it is recommended that this exemption be removed from the Floodplain Bylaw.

The remaining recommended amendments to the Floodplain Bylaw and Board Policy B1.5 are considered housekeeping amendments relating to the process for preparing and reviewing an application for a site specific exemption. The intent of the proposed amendments is to clarify language regarding when a request for an exemption is justifiable and to avoid duplication.

### ***Subdivision Design***

The Provincial Guidelines acknowledge that subdivision may be approved within a designated floodplain where the ground is lower than the year 2100 FCL under certain conditions. To help inform the approvals process, it is recommended that Bylaw 500, Part 4: Subdivision Regulation be updated to include regulations that require year 2100 SLR to be considered in the subdivision design of lands containing shoreline, as follows:

- a. all new lots must have a viable building site above the year 2100 FCL, and
- b. for those lands within a designated floodplain the setbacks from the sea shall be as prescribed by the Floodplain Bylaw.

### ***Intergovernmental Implications***

Pursuant to Section 52 of the *Transportation Act*, where a zoning amendment bylaw proposes a change in land use the bylaw must be submitted to the Minister of Transportation and Infrastructure (MOTI) following third reading for approval. In this instance, MOTI’s approval is not required as the zoning bylaw amendment is not proposing to change land use. Further to this, the RDN provides building inspection services to the District of Lantzville and Gabriola Island Local Trust Area (Area B) making these areas subject to the Floodplain Bylaw and any sequential changes to the bylaw.

Given this information and a desire to share information with areas that may hold an interest in the proposed changes, it is recommended that the bylaws are referred to MOTI, the District of Lantzville and the Islands Trust prior to adoption.

### ***Stakeholder and Public Involvement Implications***

#### **Stakeholder’s Involvement**

In June 2018, RDN staff held a collaborative session where Current and Long Range Planning staff, Building Inspection staff and local professional engineers, gathered together to learn about the SLR Adaptation Program and to discuss the changes to the Provincial Guidelines. After discussing the changes, it was generally agreed that the proposed bylaw amendments would

provide clarity and remove inconsistencies between the RDN's bylaws and professional practice.

In addition, RDN staff also heard that the professional engineers were required to review historic flood hazard assessment reports when undertaking a new flood hazard assessment. To ensure that this information is readily available, the RDN has established an online report library that is publicly accessible through the RDN's GIS Map. The library contains historic reports used for issuing a development or building permit. Over time, new flood hazard assessment reports and geotechnical reports will be added to the library to encourage all technical professionals to consider important background information when preparing reports for the RDN.

### Public Involvement

Early and ongoing engagement is a key part of the SLR Adaptation Program's success. It is anticipated that broad public consultation will be undertaken once the coastal mapping information is available, and prior to, the before mentioned future amendments to the Floodplain Bylaw. This element of the Program will be supported through the development of the SLR Adaptation Engagement Plan grounded in the guiding principles of the RDN Public Consultation/Communication Framework that: "Anyone likely to be affected by a decision ...have opportunities for input into that decision".

Given this information, it is important to note that the subject of this report contains two different types of bylaws that vary in the requirements for bylaw approval, as outlined below:

#### Land Use Bylaw – Bylaw No. 500.417

Pursuant to Section 464(2) of the *Local Government Act*, in the event that a Board should grant first and second reading to a zoning bylaw amendment, a public hearing is required to be held or waived prior to the Board's consideration of third reading. The Board may waive the holding of a Public Hearing if an Official Community Plan (OCP) is in effect for the area subject to the zoning bylaw, and the bylaw is consistent with the OCP.

Having assessed that the proposed general zoning amendments are consistent with the OCPs for Electoral Areas A, C, E, F, G and H, it is recommended that the Board waive the public hearing for the zoning bylaw amendment and direct staff to proceed with the notification requirements outlined in Section 467 of the *Local Government Act*.

#### Building Bylaw – Bylaw No. 1469.02

Under the *Local Government Act* and "Regional District of Nanaimo Procedure Bylaw No.1754, 2017", a bylaw other than a bylaw for zoning, OCP and/or Regional Growth Strategy does not require a public hearing and may receive three readings at one meeting. Given these provisions and the relationship between the bylaws, it is recommended that the Board only give first and second reading to Bylaw No. 1469.02 at this time to ensure the bylaw approvals processes are synchronized. If so approved, the implementation of the bylaws would than coincide.

## ALTERNATIVES

1. Consider first and second readings of the bylaws, proceed with the public hearing waiver notification requirements, approve Board policy as amended and proceed with referrals.
2. Consider first and second reading of the bylaws, proceed with the public hearing, approve the Board policy as amended and proceed with referrals.
3. Provide staff with alternative direction.

## FINANCIAL IMPLICATIONS

Proceeding with the recommendations has no implications related to the Board 2018-2022 Financial Plan. Should the Board proceed, it should be noted that as this work is included within the Sea Level Rise Adaptation Program work plan, no additional staff resources are required.

## STRATEGIC PLAN IMPLICATIONS

Amending the “Regional District of Nanaimo Floodplain Management Bylaw No.1469, 2006” and “Regional District of Nanaimo Land Use and Subdivision Bylaw No. 500, 1987, aligns with the 2016-2020 Board Strategic Plan priorities of: Service and Organizational Excellence by updating regulations to “...ensure the RDN’s processes are as easy to work with as possible”.



---

Jamai Schile  
[jschile@rdn.bc.ca](mailto:jschile@rdn.bc.ca)  
September 18, 2018

### Reviewed by:

- P. Thompson, Manager, Long Range Planning
- J. Holm, Manger, Current Planning
- G. Garbutt, A/Chief Administrative Officer

### Attachments

1. Draft “Regional District of Nanaimo Floodplain Management Amendment Bylaw No, 1469.02, 2018”
2. Draft “Regional District of Nanaimo Land Use and Subdivision Amendment Bylaw No. 500.417, 2018”
3. Untracked Copy: Amended “Regional District of Nanaimo Board Policy No. B1.5 Development Variance Permit, Development Permit with Variance & Floodplain Exemption Application Evaluation”
4. Tracked Copy: Amended “Regional District of Nanaimo Board Policy No B1.5 Development Variance Permit, Development Permit with Variance & Floodplain Exemption Application Evaluation”