



File No.: GL – 2021 Groundwater  
Sustainability  
Implementation

DATE OF MEETING: May 2, 2022

TO: Galiano Island Local Trust Committee

FROM: Narissa Chadwick  
Southern Team

COPY: Robert Kojima, Regional Planning Manager  
Brad Smith, Island Planner  
William Shulba, Senior Freshwater Specialist

SUBJECT: Groundwater Sustainability Implementation – Draft LUB and OCP Amendments

## RECOMMENDATION

1. That the Galiano Island Local Trust Committee endorse the general amendments and Development Permit Area guidelines contained Bylaw No. 283 cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022”.
2. That the Galiano Island Local Trust Committee endorse Bylaw No. 284 cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022”.
3. That the Galiano Island Local Trust Committee request staff send Bylaw No. 283 cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” and Bylaw No. 284 cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022” out to relevant agencies and First Nations for early referral once preferred DPA boundary option is confirmed.
4. That the Galiano Island Local Trust Committee request staff update the Development Approvals Information Bylaw in order to be consistent with Bylaw 283.

## REPORT SUMMARY

The purpose of this report is to present to the LTC, for review and endorsement, draft bylaws supporting the implementation of groundwater sustainability measures and encourage early referral to relevant agencies.

## BACKGROUND

At the February 1, 2021 meeting the LTC endorsed a project charter for the implementation phase (Phase 3) of the Groundwater Sustainability Science Program. Staff have been working on bylaw amendments based on review and analysis of groundwater availability studies and groundwater recharge mapping.

At the March 7, 2022 LTC meeting the following resolutions were passed:

*That the Galiano Island Local Trust Committee request staff to prepare a draft bylaw to amend the “Galiano Island Official Community Plan Bylaw No. 108, 1995” to include Critical Aquifer Recharge Development Permit Area guidelines, map updates and minor updates to relevant sections as identified in the March 7, 2022 staff report.*

*That the Galiano Island Local Trust Committee request staff to prepare a draft bylaw to amend the Land Use Bylaw to include updates to definitions, addition of cistern requirements for all new builds and updates to subdivision regulations related to potable water.*

*That the Galiano Island Local Trust Committee request staff to identify options for changes to zoning regulations informed by GW Solutions (2021) groundwater availability assessment data.*

Reports and mapping related to the research phases of the project can be found here:

<https://islandstrust.bc.ca/island-planning/galiano/projects/>.

## ANALYSIS

Bylaw amendments are comprised of:

### 1. Amendments to the Land-Use Bylaw (Attachment 1)

- New definitions
- Cistern Requirements for all new builds (18,000 litres). Increase in cistern size for secondary suites to 18,000 litres. Captured and stored water is not required to be potable or connected to the dwelling except in the Water Management Areas as per existing regulation 13.24.
- References to “rainwater” with respect to cisterns has been changed to “freshwater” to support the capture and retention of groundwater as well as rainwater.
- Updates to regulations related to proof of water for subdivision based on model bylaw for the Southern Gulf Islands. These regulations have been extensively reviewed by provincial staff through a multi-year project of the Salt Spring Islands LTC.

### 2. General Amendments to OCP (Attachment 2)

- Minor changes to OCP language
- Updates to relevant policies and objectives facilitate consistency with revised language, the new Groundwater Recharge Protection DPA, and other proposed changes to the OCP and the LUB.
- Replacement of Schedule D – Water Resources with Schedule D – Groundwater Regions.
- Replacement of Schedule G – DPA Area 2: Elevated Groundwater Catchment with DPA 4: Groundwater Recharge Protection.

### 3. A Groundwater Recharge Protection DPA (Attachment 2)

- New DPA guidelines which would amend the DPA guidelines for Galiano’s Elevated Groundwater Catchment DPA. Amendments include: reference to 2021 mapping of recharge areas, additional

exemptions including clustering development and changes consistent with introduction of cistern requirements for new builds.

- The map of DPA boundaries will be included in Schedule G of Draft Bylaw 283.
- Proposed options for DPA boundaries and methodology are being developed by the Senior Freshwater Specialist.

\*As indicated at the previous LTC meeting, looking at site specific zoning option for South Galiano and Cain Peninsula to address critical groundwater vulnerability in that area while part of this project will be a separate piece and will require additional process and separate bylaw amendments.

### **Consultation**

Once the Galiano LTC has endorsed the draft LUB and OCP bylaws with the proposed DPA boundaries, staff are recommending that they be sent out for early referral to relevant agencies and First Nations. This will provide opportunity for early input and opportunity for revision prior to First Reading.

### **Agencies**

The draft bylaws will be sent to a number of agencies. The list is as follows:

Capital Regional District  
Ministry of Land, Water and Resource Stewardship  
Ministry of Forests  
Ministry of Environment and Climate Change Strategy  
Engineers and Geoscientists of BC – Sustainability Advisory Group

### **First Nations**

Cowichan Tribes	Snuneymuxw First Nation
Halalt First Nation	Stz'uminus First Nation
Lake Cowichan First Nation	Tsartlip First Nation
Lyackson First Nation	Tsawout First Nation
Malahat First Nation	Tsawwassen First Nation
Pauquachin First Nation	Tseycum First Nation
Penelakut Tribe	WSANEC Leadership Council
Semiahmoo First Nation	

### **Rationale for Recommendation**

LTC endorsement of Bylaws 283 and 284 will enable staff to engage in early consultation with relevant agencies. Early consultation will enable input and update to draft bylaws prior to first reading facilitating a more efficient bylaw approval process. Changes to the DAI bylaw will be required in order to facilitate the implementation of the new development permit area guidelines.

**ALTERNATIVES**

**1. Request further information**

The LTC may request further information be brought to further LTC meeting prior to making a decision. This will impact the timing of the project possibly inhibiting the ability for the bylaws to be read for the third time prior to the end of term.

That the Galiano Island Local Trust Committee request that staff provide further information on.....

**2. Make specific revisions to amendments**

The LTC may ask staff to make specific revisions to the draft bylaws prior to sending the draft bylaws out for early referral.

*That the Galiano Island Local Trust Committee request staff to make the following changes...*

**3. Request staff organize a special meeting to discuss DPA boundaries**

The LTC may ask staff to schedule a special meeting to discuss DPA boundaries and/or other aspects of this project.

*That the Galiano Island Local Trust Committee request staff to schedule a special meeting on ....*

**NEXT STEPS**

If the staff recommendation are endorsed the next steps are as follows:

- Staff will send draft bylaws out for early referral;
- Bylaws will come back to the LTC for first reading;
- LTC gives first reading;
- Bylaw referral comments to be received prior to Public Hearing;
- Community Information Meeting and Public Hearing held;
- LTC gives second and third reading;
- Proposed bylaw referred to Executive Committee and the Minister of Municipal Affairs & Housing for approval; and
- LTC gives final reading and adopts bylaw.

Submitted By:	Narissa Chadwick, Island Planner	April 13, 2022
Concurrence:	Robert Kojima, Regional Planning Manager	April 21, 2022

**ATTACHMENTS**

1. Draft Bylaw no. 283
2. Draft Bylaw no. 284

# DRAFT

## GALIANO ISLAND LOCAL TRUST COMMITTEE BYLAW NO. 283

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### A BYLAW TO AMEND GALIANO ISLAND OFFICIAL COMMUNITY PLAN BYLAW NO. 108, 1995

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The Galiano Island Local Trust Committee in open meeting assembled enacts as follows:

#### 1. CITATION

This Bylaw may be cited for all purposes as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022”.

#### 2. SCHEDULES

Galiano Island Official Community Plan No. 108, 1995 is amended as shown on Schedule 1, attached to and forming part of this bylaw.

#### 3. SEVERABILITY

If any provision of this Bylaw is for any reason held to be invalid by a decision of any Court of competent jurisdiction, the invalid provision must be severed from the Bylaw and the decision that such provision is invalid must not affect the validity of the remaining provisions of the Bylaw.

READ A FIRST TIME THIS	_____	DAY OF	_____	20__
PUBLIC HEARING HELD THIS	_____	DAY OF	_____	20__
READ A SECOND TIME THIS	_____	DAY OF	_____	20__
READ A THIRD TIME THIS	_____	DAY OF	_____	20__
APPROVED BY THE EXECUTIVE COMMITTEE OF THE ISLANDS TRUST THIS	_____	DAY OF	_____	20__
APPROVED BY THE MINISTER MUNICIPAL AFFAIRS THIS	_____	DAY OF	_____	20__
ADOPTED THIS	_____	DAY OF	_____	20__

\_\_\_\_\_  
CHAIR

\_\_\_\_\_  
SECRETARY

**GALIANO ISLAND LOCAL TRUST COMMITTEE  
BYLAW NO. 283**

**SCHEDULE 1**

The Galiano Island Official Community Plan No. 108, 1995, is amended as follows:

1. Table of Contents Section V is amended by deleting “4. Development Permit Area 4 – Elevated Groundwater Catchment Areas” and replacing it with “4. Development Permit Area 4 – Groundwater Recharge Protection”.
2. Section II Land Use, Residential Policy “o)” is amended by deleting “Community, Sport and Cultural Development” and replacing it with “Municipal Affairs”.
3. Section II Land Use, Subsection 5.4 Light Industry, Light Industry Advocacy Policy “m)” is amended by inserting “recharge and” after “groundwater” and before “catchment areas”.
4. Section III Services, Subsection 2 Water Supply, Water Supply Objectives is amended by deleting Objectives 1-4 in entirety and replacing with:
  - “1) to ensure an adequate supply of potable freshwater to all users now and into the future,
  - 2) to ensure that groundwater use, and alteration to the land does not pollute or otherwise increase the vulnerability of groundwater regions,
  - 3) to protect critical groundwater recharge areas by evaluating land use decision based on available groundwater vulnerability data and applying the precautionary principle to land use decisions, and
  - 4) to consider and address climate change impacts on freshwater supply and quality.”
5. Section III Services, Subsection 2 Water Supply, Water Supply Policies is amended by deleting policy “a)” in its entirety and replacing it with:
  - “a) Areas identified to be key areas for water supply , fresh water catchment, storage and recharge shall be preserved and protected.

Land identified through groundwater recharge mapping to have significant recharge potential shall be designated as a development permit area for the protection of the watershed.”

6. Section III Water Supply, Water Supply Policy “b) vi)” is amended by deleting “elevated groundwater catchment” and replacing it with “groundwater recharge protection”.
7. Section III Water Supply, Water Supply Policies is amended by removing policy “c)” in its entirety and replacing it with “c) Regulations may require new developments to provide cisterns.”
8. Section IV Conservation and Environment is amended by deleting all instances of “Fresh Water” and replacing them with “Freshwater”.
9. Section IV Conservation and Environment, Freshwater Advocacy Policies is amended by deleting “and the Provincial Ministry of Environment, Ministry of Transportation and Infrastructure, and Ministry of Forests, Lands and Natural Resource Operations” and replacing it with “and relevant Provincial Ministries”.
10. Section V Development Permit Areas is amended by deleting subsection “4. Development Permit Area 4-Elevated Groundwater Protection” in its entirety and replacing it with:

**“4. Development Permit Area 4 – Groundwater Recharge Protection**

**4.1 Description of Area**

Development Permit Area 4 includes critical groundwater recharge areas identified on Schedule G. Critical groundwater recharge areas contain hydrogeological conditions that facilitate aquifer recharge and/or transmit contaminants to an underlying aquifer. Factors considered in the identification of critical aquifer recharge areas include topography, remote sensing, satellite multispectral analysis depth to water table, presence of highly permeable soils, land-cover analysis, structural geology, presence of flat terrain, and the presence of more permeable surficial geology.

**4.2 Authority**

The Groundwater Recharge Protection Development Permit Area is designated a development permit area pursuant to Section 488(1)(a) of the *Local Government Act* for the protection of the natural environment, its ecosystems and biological diversity and Section 488(1)(i) of the *Local Government Act* for the establishment of objectives to promote water conservation.

**4.3 Special Conditions and Objectives that Justify the Designation**

It is the Object of the Islands Trust to “Preserve and protect the Trust Area and its unique amenities and environment of the Trust Area for the benefit of the residents of the Trust Area, and of British Columbia generally, in cooperation with municipalities, regional districts, improvement districts, other persons and organizations and the government of British Columbia.”

It is Provincial legislation in Section 473(1)(d) of the Local Government Act that an official community plan must include statements and map designations for the area covered by the Plan respecting restrictions on the use of land that is environmentally sensitive to development.

The Islands Trust Council has committed to identifying, protecting and, where possible, restoring or rehabilitating groundwater recharge areas in the Trust Area.

It is policy of the Islands Trust Council that Local Trust Committees address measures that ensure:

- neither the density nor intensity of land use is increased in areas which are known to have a problem with the quality or quantity of the supply of freshwater, and
- the quality and quantity of drinking water sources for current and future Trust Area residents is preserved and protected, and
- the overall health of watersheds and ground water in the Islands Trust Area is protected.

Mapping of recharge and water balance completed in 2021 for Galiano Island identifies that the island has a number of areas of critical concern with respect to groundwater vulnerability.

The Objectives of the development permit area are:

- to protect and sustain access to a reliable and safe supply of drinking water for groundwater wells
- to protect and sustain the quality and supply of surface and groundwater necessary to the provision of ecological services
- to mitigate the impacts of development and climate change on groundwater supplies

#### **4.4 Development Approval Information**

The Groundwater Recharge Protection DPA is also designated an area for which development approval information (DAI) may be required according to Section 485(1) of the *Local Government Act*. The designation of these areas for this purpose is based on the special conditions or objectives supporting the designation of the DPA. Development approval information means information on the anticipated impact of the proposed activity or development on the community or the natural environment.

#### **4.5 Applicability**

A development permit is required for the subdivision of land, construction of, addition to or alteration of a building or other structure, or land alteration, including the cutting of trees, unless exempted below.

#### **4.6 Development Permit Exemptions**

The following activities are exempt from any requirement for a development permit:

- a) Development for which Islands Trust has been provided with a written statement from a registered professional hydrogeologist with relevant experience certifying that the proposed would have no impact on critical groundwater recharge.



- b) Repair, maintenance, alteration, additions to, or reconstruction of existing lawful buildings, structures or utilities, including those that are lawfully non-conforming (a building permit may still be required).
- c) Dwellings, cottages, accessory buildings and structures, and associated land alteration that are clustered within a residential home plate not exceeding an area of 1000m<sup>2</sup>, and one access driveway and overhead utility lines and poles outside of the residential home plate
- d) Land that is subject to a conservation covenant under section 219(4) of the *Land Title Act* in relation to natural, environmental, wildlife or plant life value relating to the land, granted to the Local Trust Committee or a covenantee designated under section 219(3)(c) of the *Land Title Act* .
- e) Repair and maintenance of existing roads, driveways, paths and trails, provided there is no expansion of the width or length of the road, driveway, path or trail, and no creation of additional impervious surfacing, including paving asphaltting or similar surfacing.
- f) Removal of invasive species.
- g) Cutting and removal of up to 5 trees per hectare (with a trunk diameter greater than 20 centimetres measured 1.5 metres above the ground) within a 12-month period on any one lot.
- h) Removal of trees that have been examined by an arborist and certified to pose an immediate threat to life or property.
- i) Farm operations as defined in the *Farm Practices Protection (Right to Farm) Act* and farm uses as defined in Section 2(2), (3), (4) and (5) of the *Agricultural Land Reserve Use, Subdivision, and Procedure Regulation*.
- j) Forest management activities, as defined in the *Private Managed Forest Land Regulation*, on land classified as managed forest land under the *Private Managed Forest Land Act*.
- k) The construction of an accessory building or structure with a lot coverage of less than 100m<sup>2</sup>.
- l) Construction of trails or fences that does not alter contours of the land.
- m) Emergency actions required to prevent, control or reduce an immediate threat to human life, the natural environment or public or private property including:
  - i. Forest fire, flood and erosion protection works;
  - ii. Protection, repair or replacement of public facilities;
  - iii. Clearing of an obstruction from a bridge, culvert, dock wharf or stream; or
  - iv. Bridge repairs.
- n) Works undertaken by a local government or a body established by a local government.
- o) Works authorized under a provincial statute.

#### 4.7 Guidelines

The *Local Government Act* prohibits construction of buildings and structures and the alteration of land and subdivision in Development Permit Area 4 unless the owner first obtains a development permit. Development permits will be issued in accordance with the following guidelines.

1. In general, development should minimize negative impacts on the quality and quantity of subsurface water supplies.
2. Where a qualified professional hydrogeologist or engineer has made recommendations for mitigation measures, the permit conditions may include a requirement for security in the form of an irrevocable letter of credit, to ensure the protection of groundwater supply quality or quantity consistent with the measures and recommendations described in the report.
3. Where the qualified professional hydrogeologist or engineer's report describes an area as suitable for development with special mitigating measures, the development permit should only allow the development to occur in compliance with the measures described in the report. Monitoring and regular reporting by a hydrogeologist or other professional at the applicant's expense may be required during construction and development phases, as specified in a development permit.
4. Where an application involves the subdivision of land, layout of the subdivision should be, to the greatest extent possible, designed to:
  - a) replicate the function of a naturally vegetated watershed;
  - b) maintain the hydraulic regime of surface and groundwater pre-development flow rates;
  - c) minimize interference with groundwater recharge;
  - d) not introduce or remove material where it would cause erosion of or the filling in of natural watercourses or wetlands.
5. Where freshwater collection and storage cisterns are required as a condition of the construction of a building, impervious surfaces should be minimized.
6. Where freshwater collection cisterns are required as a condition of construction of a building, the LTC may require that all new dwelling units include:
  - i. External equipment for collecting and distributing rainwater from the dwelling unit roof;
  - ii. A pumping system;
  - iii. An overflow handling system.
7. The use of impervious paved driveways shall be discouraged.
8. Where tree removal is not exempt from the requirement for a permit:
  - a. Removal of trees from steep slopes should only be allowed where necessary and where replacement vegetation / erosion control measures are established. Plans delineating extent of vegetation / tree removal and location of proposed construction, excavation and / or blasting, may be required.

- b. All development should be undertaken and completed in such a manner as to prevent the release of sediment to any watercourse. An erosion and sediment control plan, including actions to be taken prior to land clearing and site preparation and the proposed timing of development activities to reduce the risk of erosion, may be required as part of the development permit application.
  - c. Existing, native trees should be retained wherever possible and trees to be retained near development should be clearly marked prior to development, and temporary fencing installed at the drip line to protect them during clearing, grading and other development activities.
  - d. If the area has been previously cleared of trees, or is cleared during the process of development, replanting requirements may be specified in the development permit. Areas of undisturbed bedrock exposed to the surface or natural sparsely vegetated areas should not require planting.
  - e. Tree species used in replanting, restoration or enhancement should be selected to suit the soil, light and groundwater conditions of the site, should preferably be native to the area, and should be selected for erosion control and/or wildlife habitat values as needed. Suitably adapted, non-invasive, non-native trees may also be considered acceptable.
  - f. All replanting should be maintained by the property owner for a minimum of 2 years from the date of completion of the planting to ensure survival. This may require removal of invasive, non-native weeds (e.g., Himalayan blackberry, Scotch broom, English ivy) and irrigation. Unhealthy, dying or dead trees should be replaced at the owner's expense in the next regular planting season. Permits may include, as a condition, the provision of security to guarantee the performance of terms of the permit.
9. Roads, driveways, trails and pathways should follow the contours of the land and appropriately manage drainage. The construction of roads and utility corridors and other activities involving the disturbance of the soil, must be conducted in such a manner that the productivity of the local groundwater recharge area is not impaired through soil compaction, altered surface drainage patterns, siltation, erosion, or salt water intrusion.
  10. Parking areas should be located and constructed so as to minimize erosion and water pollution by controlling storm runoff. Structural measures such as catch basins, oil separators, bio-filtration trenches or swales, unpaved or permeable all-weather surfaces should be considered for this purpose.
  11. Permits may include minor variances to subdivision or building and structure siting or size regulations to meet the objectives of the development permit area."
11. Section VI Development Approval Information, Subsection 2. Special Conditions "ii" is amended by deleting "elevated groundwater catchments" and replacing it with "groundwater recharge".
  12. Schedule "D – Water Resources" is removed and replaced with Schedule "D – Groundwater Regions" as shown on Plan No.1 attached and forming part of this bylaw.

13. Schedule "G – Development Permit Area 4: Elevated Groundwater Catchment" is removed and replaced with Schedule "G – Development Permit Area 4: Groundwater Recharge Protection" as shown on Plan No.2 attached and forming part of this bylaw.

**GALIANO ISLAND LOCAL TRUST COMMITTEE  
BYLAW NO. 283  
Plan No.1**

**Schedule D – Groundwater Regions**

**GALIANO ISLAND LOCAL TRUST COMMITTEE  
BYLAW NO. 283  
Plan No.2**

**Schedule G – Development Permit Area 4: Groundwater Recharge Protection**