



File No.: Groundwater
Implementation

DATE OF MEETING: September 27, 2022
TO: Galiano Island Local Trust Committee
FROM: Narissa Chadwick, Island Planner
Southern Team
COPY: Robert Kojima, Regional Planning Manager
William Shulba, Senior Freshwater Specialist
Brad Smith, Island Planner
SUBJECT: Groundwater Implementation OCP and LUB Amendments

RECOMMENDATION

1. That the Galiano Island Local Trust Committee endorse Bylaw No.283 cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” with Schedule G including the Groundwater Recharge Protection Development Permit Area boundaries based on 5 hectares of lot coverage excluding areas designated as park or conservation.
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 Bylaw No.283 cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” and the Galiano Island Local Trust Committee Bylaw No. 284 cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022” be brought forward for first reading at the next regular LTC meeting.
4. That the Galiano Island Local Trust Committee request staff prepare draft bylaws that would amend the Development Approval Information Bylaw No. 148 and Delegation Bylaw No. 286 for consistency with Bylaw 283.

REPORT SUMMARY

This report identifies options for Groundwater Protection DPA boundaries and presents Bylaw 283 (OCP amendments including Groundwater Protection DPA) and Bylaw 284 (LUB amendments including cistern requirements and updates to regulations related to proof of water for subdivision) for LTC endorsement.

BACKGROUND

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

2022-033 07-Mar-2022 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.

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2022-032 07-Mar-2022 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.

Draft Bylaws were presented to the Galiano LTC at the May 2, 2022 regular meeting. Discussion of proposed bylaws was deferred to the June 6th meeting.

At the June 6th meeting the Galiano LTC was presented with [a methodology report](#) written by Senior Freshwater Specialist William Shulba identifying how the data gathered on aquifer recharge could be used to inform lot based development permit area boundaries. The LTC endorsed the methodology and requested that maps of the Groundwater Recharge Protection Development Permit Area boundaries based on 2, 5 and 10 hectares be developed for discussion at the Community Information Meeting. These maps are included in Attachment 3.

A Community Information Meeting was held on July 26, 2022 to share the research, methodology and options for Groundwater Recharge Protection Development Permit Area boundaries. The meeting included an open house, presentation and discussion. About 20 community members attended the event in total. There was no clear consensus from the public on a preferred option for DPA boundaries. Community members were invited to provide feedback after the meeting. No additional feedback on DPA options was received after the meeting. The recording of the presentation can be found [here](#).

ANALYSIS

As identified in the [May 2, 2022 Staff report](#), 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.

*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.

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 4: 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 professional reliance, changes consistent with introduction of cistern requirements for new builds, and changing the name of the DPA.
- Proposed options for DPA boundaries and methodology are contained in the memo written by the Senior Freshwater Specialist which is attached to the [June 2, 2022 staff report](#).
- The attached Draft Bylaw does not include the Schedule maps. These will be completed once the DPA boundary option is determined.

DPA Boundary Options

As identified in the [June 2, 2022 memo](#) the purpose of the groundwater recharge protection development permit area is to protect the ability of aquifers to provide sustainable water resources to the ecosystems and communities of Galiano Island. Islands Trust staff have proposed development permit area boundaries based on:

- Identifying Critical Aquifer Recharge Areas from raw groundwater recharge potential raster data from the Islands Trust Groundwater Recharge Mapping project totalling 2400 hectares.
- Identifying the area of Critical Aquifer Recharge Area for all parcels on Galiano Island.
- Identifying DPA boundary options based on the amount of Critical Aquifer Recharge Area coverage per parcel (See maps in Attachment 3).

Attachment 3 provides scenarios for 3 options related to the amount of critical recharge area covering a lot (2 hectares or more, 5 hectares or more and 10 hectares or more). The maps identify all areas that are covered by the identified amount of critical recharge area.

The parks and protected areas are included on the maps for reference (identified in red). Staff recommends that these areas not be included in the DPA boundaries for the following reasons:

- Provincial and Federal parks are not subject to local government regulation
- Land for conservation with a covenant is exempt from DPA (see guidelines)
- Local government parks are exempt from the DPA (see guidelines)

The chart below identifies the amount of area that would be expected to be protected under each DPA boundary option. The “Aquifer Recharge Area Protected” includes the area that would be covered by DPA boundaries as well as parks and protected areas that fall into the identified category but will not be covered by the DPA. Staff will work with other relevant agencies to ensure that they are aware of and consider the protection of groundwater recharge with any actions in parks and protected areas that impact the land.

Critical Aquifer Recharge Area per Parcel Option	Total Critical Aquifer Recharge Area Protected** (Hectares)	Percentage of Total Critical Aquifer Recharge Area Protected ** (%)
2-hectare	2095	87%
5-hectare	1832	76%
10-hectare	1591	66%

Staff are recommending the 5-hectare of coverage options. This options will protect up to 76% of Total Critical Aquifer Recharge Area on the Island. The Senior Freshwater Specialist indicates that 76% coverage is significant enough to support groundwater sustainability. Choosing the 2 hectare option, while increasing protection by 11% will almost double the number of lots effected leading to a substantial increase in challenges administering the bylaw, including inquiries, bylaw enforcement and applications, without a concomitant increase in either resources or protection.

Policy/Regulatory

Islands Trust Policy Statement:

The proposed draft bylaws are in compliance with the Islands Trust Policy Statement. Relevant policies directives include those related to ecosystem preservation and protection, stewardship of resources and sustainable communities. The Islands Trust Policy Statement Directives Checklist will be presented to the LTC when the bylaws come forward for first reading.

Official Community Plan:

As indicated above, Bylaw 283 includes some updates to language and updates to relevant policies and objectives to facilitate consistency the new Groundwater Recharge Protection DPA, and other proposed changes to the OCP and the LUB. OCP amendments will also include replacement of Schedule D – Water Resources, with Schedule D – Groundwater Regions and replacement of Schedule G – DPA Area 2: Elevated Groundwater Catchment, with DPA 4: Groundwater Recharge Protection.

Land Use Bylaw:

Proposed amendments to the Land Use Bylaw are in compliance with OCP policies.

Issues and Opportunities

The development permit area, which is likely to lead to the retention of trees and forest coverage that may otherwise be removed, has the potential to increase support for the ecological integrity of the island. The health of the ecosystem is critical to the sustainability of groundwater resources.

Consultation

Once the Galiano LTC the draft LUB and OCP bylaws have gone through first reading they will be sent out to relevant agencies and First Nations for referral.

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
Halalt First Nation
Lake Cowichan First Nation
Lyackson First Nation

Malahat First Nation
Pauquachin First Nation
Penelakut Tribe
Semiahmoo First Nation
Snuneymuxw First Nation
Stz'uminus First Nation

Tsartlip First Nation
Tsawout First Nation
Tsawwassen First Nation
Tseycum First Nation
WSANEC Leadership Council

Rationale for Recommendation

The draft bylaws are designed to support the sustainability of freshwater into the future. The staff recommended DPA boundary based on 5 hectares of critical aquifer recharge area coverage (excluding parks and protected areas that are exempt from the DPA) will provide a substantial amount of protection without burdening small lot property owners with a process that may have limited impact (a number of smaller lots may be in areas that are already disturbed). In addition, including smaller lots will require additional staff time for application processing.

ALTERNATIVES

1. Identify DPA boundaries that are alternative to staff recommendations

The LTC may decide not to support staff recommendation support the DPA boundary which includes lots covered by 5hectares or more of critical aquifer recharge area. Maps of all options are provided in Attachment 3.

That the Galiano Island Local Trust Committee endorse Bylaw No.283 cited as "Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022" with Schedule G including the Groundwater Recharge Protection Development Permit Area boundaries based on X hectares of lot coverage excluding areas designated as park or conservation.

2. The LTC make changes to the proposed bylaws before first reading

The LTC can make changes to the Bylaws before first reading.

That the Galiano Island Local Trust Committee Draft Bylaw No.283 cited as "Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022" be amended

That the Galiano Island Local Trust Committee Bylaw No.284 cited as "Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022" be amended

3. Request further information prior to first reading

The LTC may request further information before moving to first reading. The LTC needs to specify what they would like further information on.

That the Galiano Island Local Trust Committee request further information related to.....

4. The LTC could request that staff introduce the Bylaws for first reading as soon as they are ready. In this case, once the schedule maps have been finalized, the LTC could read the bylaw for the first time through resolution without meeting.

That the Galiano Island Local Trust Committee Bylaw No.283 cited as “Galiano Island Official Community Plan Bylaw No. 108, 1995, Amendment No. 1, 2022” and the Galiano Island Local Trust Committee Bylaw No. 284 cited as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022” be considered for first reading by Resolution Without Meeting as soon as the Schedule maps are for Bylaw No. 283 are completed.

NEXT STEPS

- Bylaws will be presented to the LTC with updated schedule maps;
- 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 bylaws referred to Executive Committee and the OCP Bylaw is referred Minister of Municipal Affairs for approval; and
- LTC gives final reading and adopts bylaw.

Submitted By:	Narissa Chadwick	September 16, 2022
Concurrence:	Robert Kojima	September 16, 2022

ATTACHMENTS

1. Bylaw 283 (OCP)
2. Bylaw 284 (LUB)
3. DPA Boundary Option Maps

DRAFT

GALIANO ISLAND LOCAL TRUST COMMITTEE BYLAW NO. 283

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

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 1000m², 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 100m².
- 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.”
12. Section VI Development Approval Information, Subsection 2. Special Conditions “ii” is amended by deleting “elevated groundwater catchments” and replacing it with “groundwater recharge”.
13. 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.

14. 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

DRAFT

GALIANO ISLAND LOCAL TRUST COMMITTEE BYLAW NO. 284

A BYLAW TO AMEND GALIANO ISLAND LAND USE BYLAW, NO. 127, 1999

The Galiano Island Local Trust Committee, being the Local Trust Committee having jurisdiction in respect of the Galiano Island Local Trust Area under the *Islands Trust Act*, enacts as follows:

1. Citation

This bylaw may be cited for all purposes as “Galiano Island Land Use Bylaw No. 127, 1999, Amendment No. 1, 2022”.

2. Galiano Island Local Trust Committee Bylaw No. 127, cited as “Galiano Island Land Use Bylaw No. 127, 1999,” is amended as follows:

2.1 Section 2 General Regulations, Subsection 2.28– Secondary Suites is amended by removing 2.28.6 in entirety and replacing it with “ 2.28.6 A building permit for a property outside a water service area shall not be issued for a secondary suite unless a freshwater catchment and storage system having a capacity of at least 18,000 litres is installed on the property.”

2.2 Section 2 General Regulations is amended by inserting “Cistern Requirements” as a new heading under Section 2.28.

2.3 Section 2 General Regulations is amended by inserting, under the heading “Cistern Requirements” the following:

“2.29 A building permit for a property outside a water service area shall not be issued for a new building to be used as a dwelling, including a cottage, unless a cistern (or combination of cisterns) for the storage of freshwater having a capacity of at least 18,000 litre is installed on the property.

2.30 The floor area occupied by any cistern located in a building and the housing provided for such cistern is excluded from the calculation of the floor area of the building and the lot coverage of the lot on which it is located. “

2.4 Section 13 Subdivision and Development Regulations 13.23 is amended by removing “16,000” and replacing it with “18,000”.

2.5 Section 13 Subdivision and Development Regulations is amended by deleting 13.24 through 13.29 in entirety and replacing with the following and by making such consequential numbering alterations to effect this change.

13.24 Each lot in a proposed subdivision must be supplied with sufficient potable water to supply the uses permitted on the *lot* by this Bylaw according to the standards set out in Table 1.

TABLE 1 POTABLE WATER SUPPLY STANDARDS FOR SUBDIVISION	
USE	VOLUME (litres per day)
<i>Per lot (including one dwelling unit)</i>	2000
<i>Each additional dwelling unit</i>	2000

Information Note: If more than one dwelling unit is connected to the same source of water, the water system may be subject to the Drinking Water Protection Act, the Water Utility Act or other regulations pertaining to water supply systems.

Information Note: Water obtained from a stream, or non-domestic groundwater use requires a licence under the Water Sustainability Act.

13.25 Where potable water is to be supplied by a community water system, the community water system must provide written confirmation that it is able to supply potable water for the uses specified in Table 1 to each lot.

13.26 Where potable water is to be supplied from a stream, the applicant for subdivision must provide proof of authorization (water licence) indicating the total volume of water granted to the licence holder confirming that it is able to supply *potable* water for the volume specified in Table 1 to each *lot*.

13.27 Where a lot proposed to be subdivided contains a non-domestic use that requires a licence under the *Water Sustainability Act*, the applicant must provide proof of authorization (water licence) indicating the total volume of water granted to the licence holder confirming that it is able to supply water for the non-domestic use, as well as potable water for the volume specified in Table 1 to each lot.

13.28 In the absence of a water licence, where potable water is to be supplied by a drilled well, a pumping test shall be carried out on each well in a proposed subdivision by:

- a. pumping groundwater, at a constant rate, for a minimum period of 12 hours; and
- b. withdrawing the total daily required volume specified in Table 1 over a maximum period of 24 hours; and
- c. monitoring groundwater levels continuously during the pumping test and during the recovery period.

13.29 Where potable water is to be supplied by a drilled well in accordance with Subsection 13.28, a sounding tube or wellhead port must be installed to enable the insertion of water level monitoring equipment.

13.30 Drilled wells used for the purposes of subdivision application must not be located within 50 metres of the natural boundary of the sea.

- 13.31 Where potable water is to be supplied by a drilled well in accordance with Subsection 13.28, the applicant for subdivision must provide written certification under seal of a hydrogeologist that:
- a. Each well has been constructed in accordance with the *Groundwater Protection Regulation*;
 - b. Each well has been constructed in accordance with Subsections 13.28 and 13.29;
 - c. Each well has sufficient available groundwater to provide the daily required volume of potable water for each lot in accordance with Table 1; and
 - d. Includes recommendations for mitigation measures, if applicable, to ensure long-term sustainable yield of the drilled well.
- 13.32 If the daily required volume of potable water cannot be supplied in accordance with Subsections 13.24 or if the certification referred to in Article 13.31(c) cannot be made, the applicant must grant a covenant under the *Land Title Act* to the Galiano Island Local Trust Committee that restricts the development of the subdivision to the uses for which there is a sufficient volume of water.
- 13.33 Where the potable water supply is provided through a drilled well or water licence, a hydrogeologist must also provide:
- a. Results of a water quality analysis, completed by an accredited laboratory;
 - b. A plan of the proposed subdivision indicating the location where each water sample was taken;
 - c. A statement that the water samples upon which the water quality analysis was performed were unadulterated samples taken from the locations indicated on the plan.
 - d. Confirmation, based on the accredited laboratory water quality analysis, that the proposed water supply source is potable, or can be made potable, with a treatment system; and
 - e. Confirmation, based on the accredited laboratory water quality analysis of chloride concentrations, that the drilled well is not likely to be affected by the intrusion of saline groundwater or sea water in accordance with the Province of British Columbia guidance documents;
- 13.34 If the water to be supplied is not potable, but can be made potable with a treatment system, the applicant must grant a covenant under the *Land Title Act* to the Galiano Island Local Trust Committee that requires on-going treatment of the water to potable water standards.
- 13.35 For the purposes of subdivision, drilled wells impacted by seawater intrusion or whose operation is likely to cause seawater intrusion are not permitted sources of potable water.
- 13.36 For the purposes of subdivision, alternative potable water supplies including, but not limited to, shallow dug wells, rainwater catchment and desalination are not permitted sources of potable water.
- 13.37 The requirements of Section 13.24 -13.36 shall not apply where the proposed subdivision is a boundary adjustment that does not result in an increase in the number of lots or permitted dwelling units, provided that all lots in the subdivision

are currently serviced by existing wells, community water system connection or water licence.”

- 2.5 Section 17 Interpretation, Subsection 17.1 Definitions, is amended by adding the following in alphabetical order:

““aquifer” means a geological formation; or a group of geological formations, or a part of one or more geological formations that is groundwater bearing and capable of storing, transmitting and yielding groundwater.

“groundwater” means water naturally occurring below the surface of the ground.

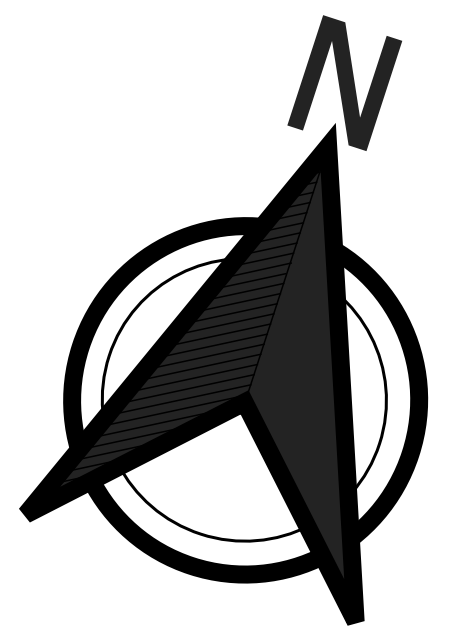
“Hydrogeologist” means an engineer or geoscientist with competency in the field of hydrogeology, regulated under the Professional Governance Act, Engineers and Geoscientists Regulation.

“potable” means water that is safe to drink, fit for domestic purposes and meets the Health Canada Guidelines for Canadian Drinking Water Quality or any guidance documents or legislation which may be enacted in substitution.”

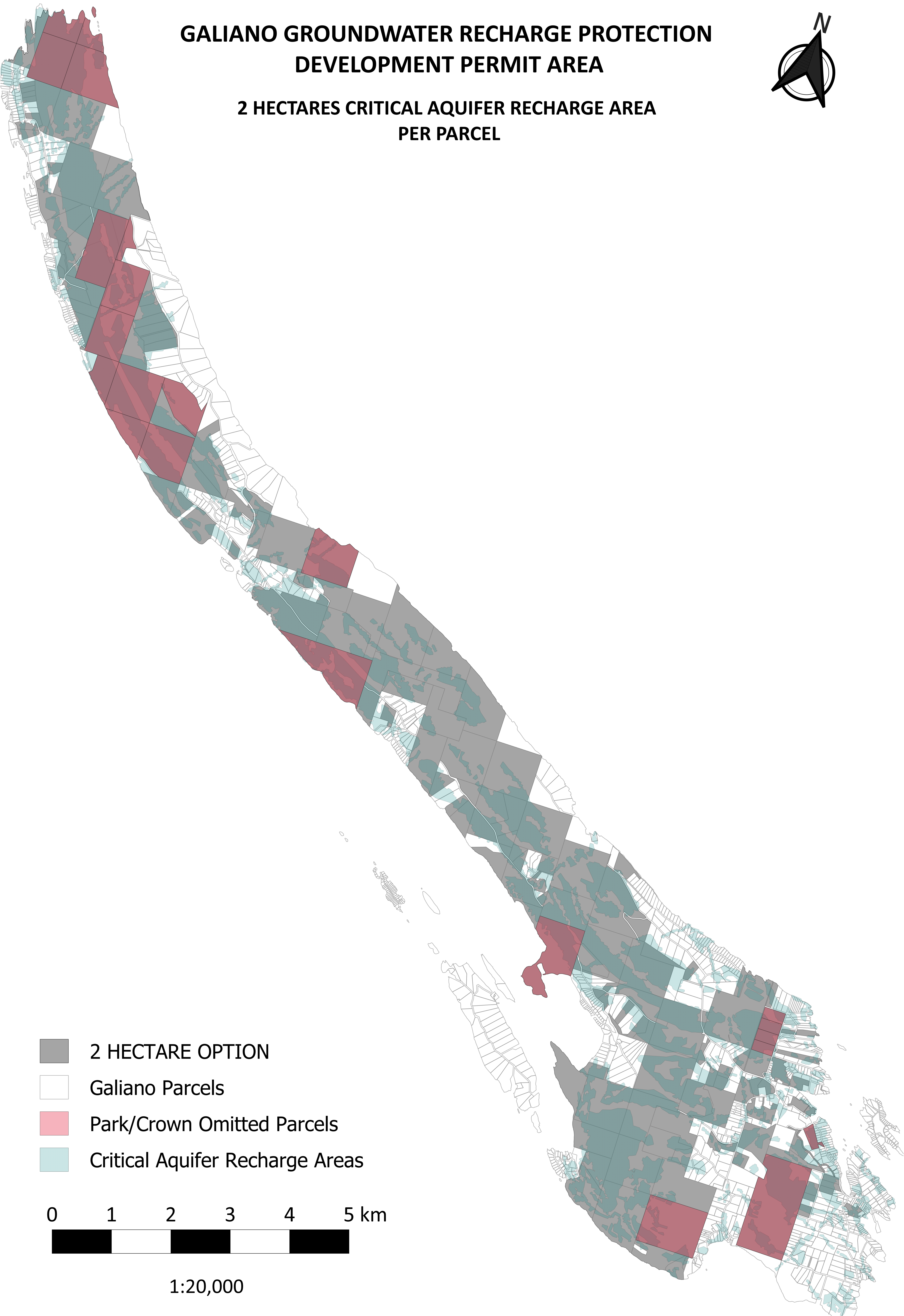
“pumping test” means a flow test to determine the long-term sustainable yield of a well, conducted under supervision of a hydrogeologist, and that is consistent with the British Columbia Guide to Conducting Pumping Tests, Guidance for Technical Assessments in Support of an Application for Groundwater Use in British Columbia, other guidance documents which may be issued, applicable legislation, and consists of pumping groundwater from a well typically for 12 to 72 hours depending on aquifer characteristics.

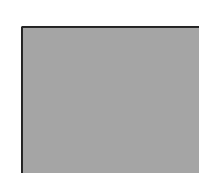

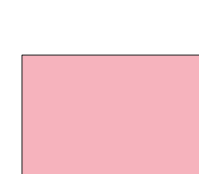

- 2.6 Section 17 Interpretation, Subsection 17.1 Definitions, is amended by removing the definition of “community water system” in its entirety and replacing it with
““community water system” means a system of waterworks that serves more than one lot and is owned, operated and maintained by an improvement district, a regional district, a water utility, a society, or a water supplier.”

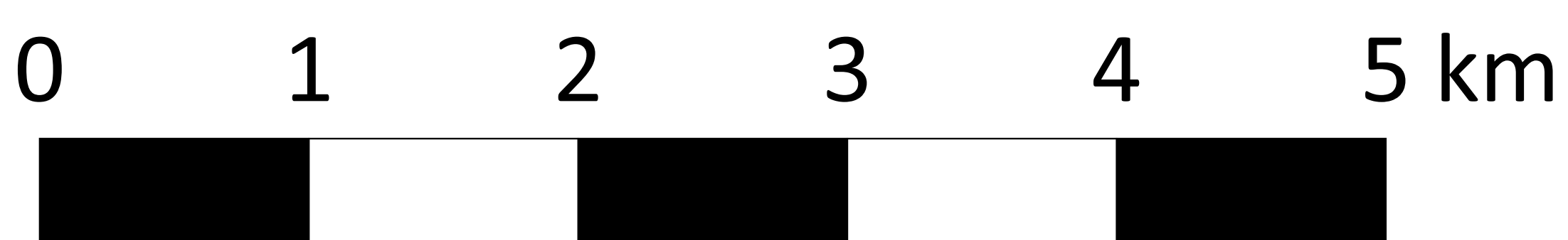
GALIANO GROUNDWATER RECHARGE PROTECTION DEVELOPMENT PERMIT AREA



2 HECTARES CRITICAL AQUIFER RECHARGE AREA PER PARCEL

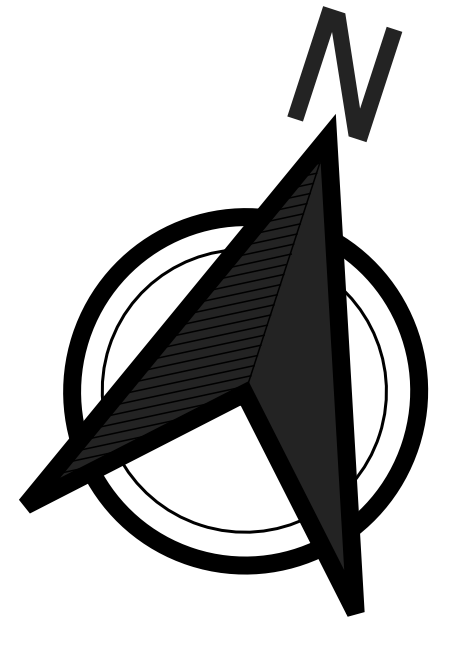


-  2 HECTARE OPTION
-  Galiano Parcels
-  Park/Crown Omitted Parcels
-  Critical Aquifer Recharge Areas

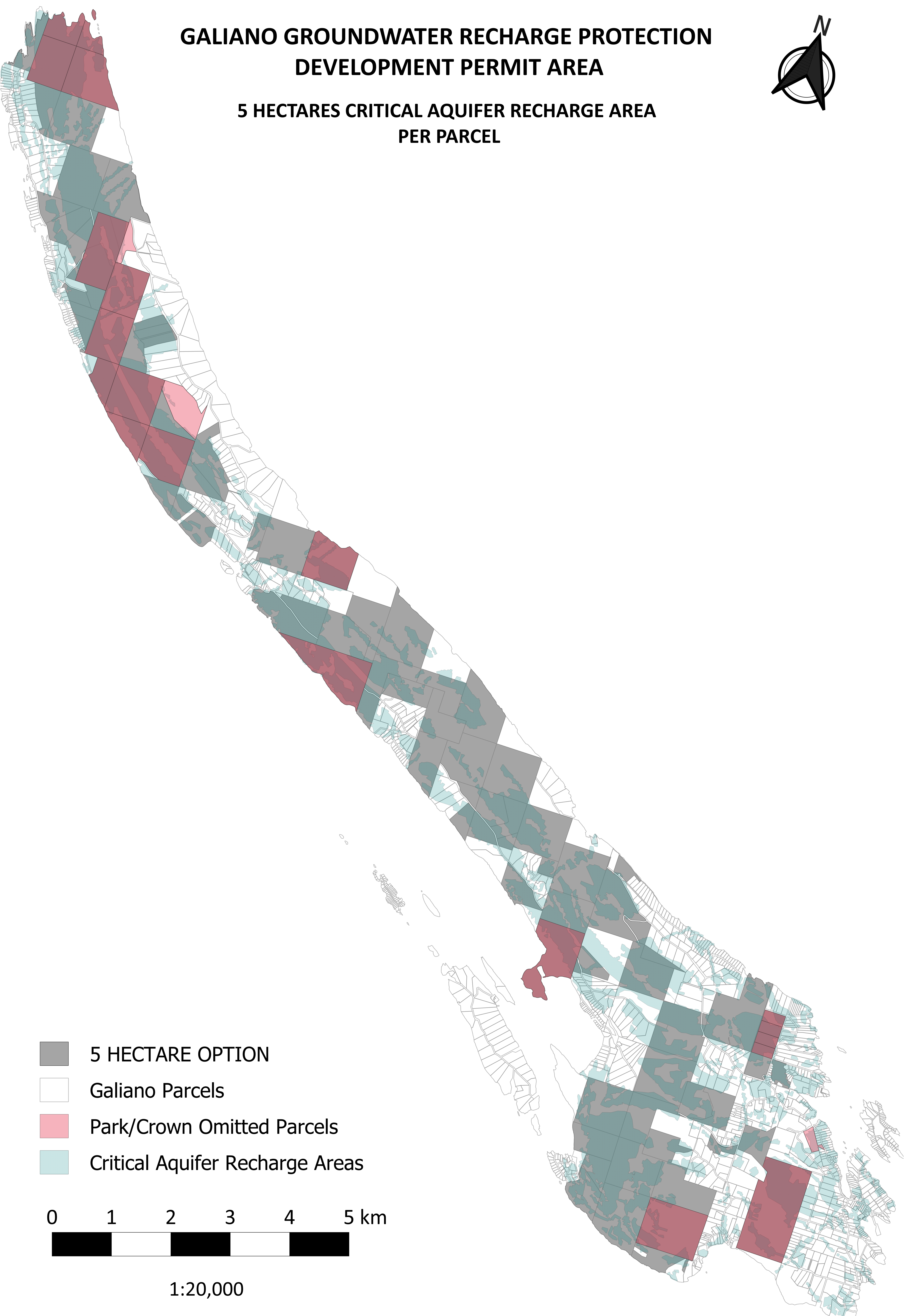


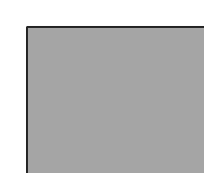

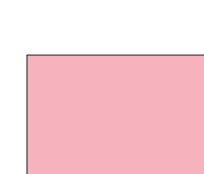

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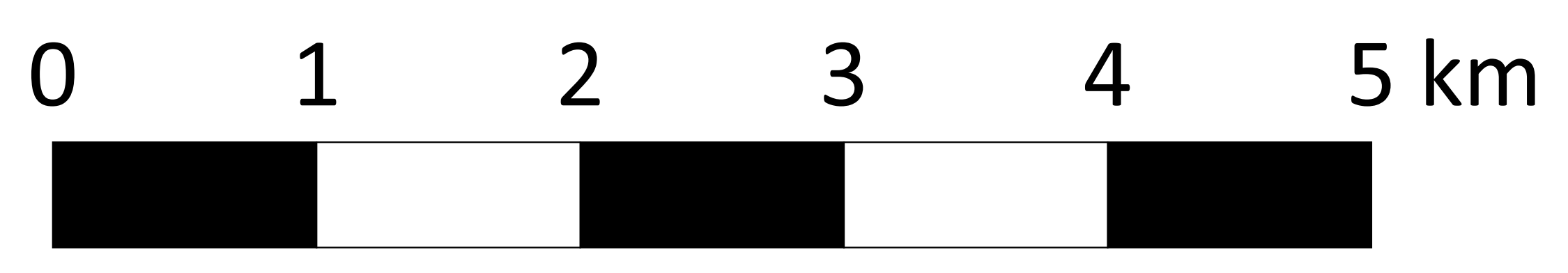
GALIANO GROUNDWATER RECHARGE PROTECTION DEVELOPMENT PERMIT AREA



5 HECTARES CRITICAL AQUIFER RECHARGE AREA
PER PARCEL

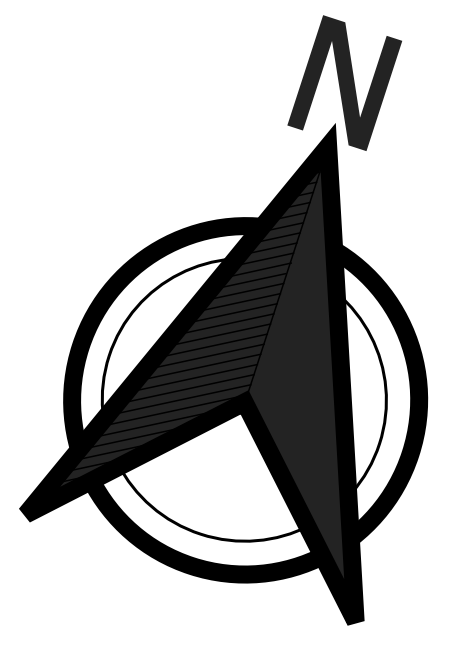


-  5 HECTARE OPTION
-  Galiano Parcels
-  Park/Crown Omitted Parcels
-  Critical Aquifer Recharge Areas

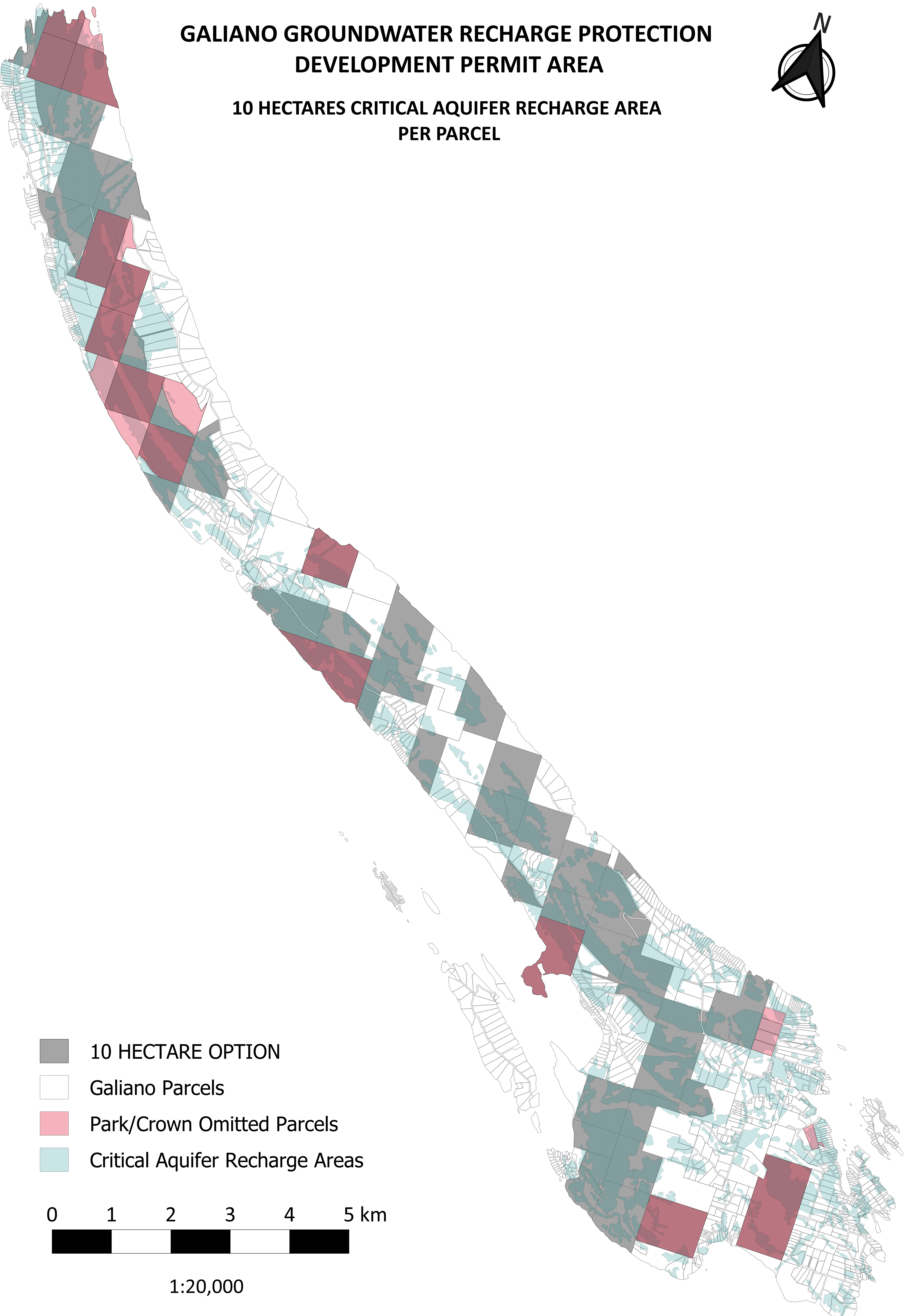


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GALIANO GROUNDWATER RECHARGE PROTECTION DEVELOPMENT PERMIT AREA



10 HECTARES CRITICAL AQUIFER RECHARGE AREA
PER PARCEL



- 10 HECTARE OPTION
- Galiano Parcels
- Park/Crown Omitted Parcels
- Critical Aquifer Recharge Areas

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