SUSTAINABLE FORESTRY COVENANT

Section 219 (*Land Title Act)* Covenant and Section 218 (*Land Title Act)* Statutory Right of Way

This Agreement, dated for reference _____, is

AMONG:

HERB H.P. HOWE and MARION J. HOWE, residing at DL85, Galiano Island, B.C. V0N 1P0.

(the "**Owners**")

AND:

_____
_____
_____
_____

(the "**_____**")

AND:

_____
_____
_____
_____

(the "**_____**")

(collectively, the "parties")

WHEREAS:

A. The Owners are the registered owners in fee simple of the Land, whose boundaries are shown in the plan of subdivision attached as Schedule A.

B. The Owners are committed to restoration of the forest cover and biodiversity of the Land which were degraded by past industrial plantation forestry;

C. The Owners wish and have agreed to grant, and the Local Trust Committee, the Galiano Conservancy Association and the TLC wish to accept, a covenant and rent charge under section 219 of the *Land Title Act* (British Columbia) and a statutory right of way under section 218 of the *Land Title Act* (British Columbia) for the use and management of the Land as set out in this Agreement;

D. The Galiano Island Official Community Plan contemplates the construction and use of an accessory residential dwelling on the Land only if the Owners promise to manage the Land in accordance with Sustainable Forestry practices;

E. The Owners have applied to the Local Trust Committee to rezone a portion of the Land to the Forest 3 (F3) zone, and the Owners have agreed to grant this covenant as required to obtain rezoning approval in order to enable the subdivision of District Lot 85 to create Lot 1;

F. A statutory right of way pursuant to section 218 of the *Land Title Act* (British Columbia) in favour of the Covenant Holders is necessary for the operation and maintenance of the Covenant Holders' undertaking;

G. Each of the Covenant Holders is authorized to accept covenants under section 219 and statutory right of ways under section 218 of the *Land Title Act* (British Columbia);

In consideration of the payment of two dollars now paid by the Covenant Holders to the Owner, the receipt and sufficiency of which is hereby acknowledged by the Owners, and in consideration of the promises exchanged below, the parties covenant and agree as follows, in accordance with sections 218 and 219 of the *Land Title Act* (British Columbia):

1. <u>Definitions</u>

   In this Agreement

   (a) “Accessory Residential Site” means that portion of the Land used for a low impact accessory dwelling and accessory buildings and structures and gardens and identified as such in the Baseline Report;

(b) “Allowable Annual Cut” means the volume of timber, measured in cubic metres, that may be harvested annually from the productive forested area of the property. This may be determined, at the discretion of the Owner, as either:

(i) a calculated volume based on multiplying the total area, in hectares, of forest within the property by an average of 5 cubic metres per hectare per year, provided that the total volume harvested remains consistent with the structural stage composition, canopy opening limits, and ecological conditions outlined in Schedule C (Natural Conditions). Individual harvest volumes may vary by hectare, depending on site-specific stand conditions, so long as the cumulative harvest remains within these ecological limits. For reference, this average is approximately equivalent to 4 to 7 medium-sized coniferous trees per hectare per year, recognizing that actual tree volumes will vary by species, individual tree size, and stand structure; or

(ii) a volume specified in a Forest Management Plan prepared in accordance with Section 5 of this Agreement, provided it remains consistent with maintaining or restoring ecological integrity within the natural range of variability for the site, as described in Schedule C (Natural Conditions).

(c) “Amenities” includes any natural, scientific, environmental, wildlife, plant life, biodiversity values and aesthetic values identified in the Baseline Report;

(d) "Baseline Report" means the description of the Land and Amenities in the form of text and mapping as of the date of this Agreement, a copy of which is attached as Schedule B;

(e) “business day” means means any day other than Saturday, Sunday or British Columbia statutory holidays;

(f) “Covenant Holders” means the _____ and the _____, collectively, and “Covenant Holder” means any one of them individually, as the context may require;

(g) “Cut Control Period” means the period between January 1, 2025, and December 31, 2034, or each subsequent period of ten years;

(h) “dbh” means diameter at breast height which is 1.3 m above ground level;

(i) “Forest Management Plan” means the management plan for the Land prepared in accordance with Section 5;

(j) “Forest Management Unit” means the area of the Land excluding the Accessory Residential Site and the access easement and road areas identified in the Baseline Report;

(k) “Harvesting Guidelines” means the document attached as Schedule D (Harvesting Guidelines), which describes recommended sustainable forestry practices consistent with the Natural Conditions of the Land;

(l) “Harvesting” means the felling and removal of trees;

(m) “Immature Forest” means a forest area that is about 40 years old or older. This typically represents a forest that has developed beyond the dense, even-aged young stage, beginning to show variation in tree sizes, some natural thinning, and increased light to the forest floor, but that has not yet achieved the structural diversity, larger tree sizes, or ecological characteristics of a mature forest as described in Schedule C (Natural Conditions).

(n) “Land” means Lot 1, District Lot 85, Galiano Island, Cowichan Land District;

(o) “Mature Forest” means a forest area that has reached the structural, age, and basal area conditions for Mature Forest as defined for the applicable site series in Schedule C (Natural Conditions). Typically, this includes stands approximately 80 to 250 years old, with a well-developed canopy of larger, healthy trees, increasing variation in tree size and spacing, presence of snags and coarse woody debris, and the early development of structural complexity that supports a diversity of plant and animal species.

(p) “Natural Disturbance” means the impact of a naturally occurring event that causes significant mortality or damage to a stand of trees, including fire, wind, ice, snow, drought or attack by insects or disease;

(q) “OCP” means *Galiano Island Official Community Plan Bylaw No. 108 1995*;

(r) “Old Forest” means a forest area that has reached the structural, age, and basal area conditions for Old Forest as defined for the applicable site series in Schedule C (Natural Conditions). Typically, this includes stands older than 250 years, characterized by large, old trees, multi-layered canopies, abundant large snags and coarse woody debris, varied tree spacing and age classes, and high ecological complexity that provides critical habitat for a wide range of species and contributes to long-term ecosystem stability and resilience.

(s) “Opening” means a patch of forest larger than 0.1 hectares where the number of healthy, well-distributed trees has fallen below natural levels due to Harvesting, thinning (Spacing), or natural events like windthrow, disease, or fire. Openings should generally be kept small, in line with the natural patterns described in Schedule C Natural Conditions, typically less than 0.3 hectares in size, to maintain healthy forest structure and wildlife habitat. Any two or more areas meeting this definition that are each larger than 0.3 hectares and are less than 30 metres apart at their closest point will be treated as a single, larger Opening;

(t) “Registered Professional Forester” means a person certified and in good standing as a registered professional forester with the Forest Professionals British Columbia, or any successor in function;

(u) “Restocked Forest” means an area where tree regeneration has occurred at densities consistent with the natural stand structure for the applicable site series, as set out in Schedule C (Natural Conditions);

(v) “Spacing” means the felling or girdling of trees undertaken to increase the distance between the remaining live trees;

(w) “Successfully Regenerated Forest” means an area in which there are healthy, ecologically appropriate trees per hectare, reasonably well distributed, consistent with Schedule C (Natural Conditions). These trees must demonstrate healthy growth and sufficient height relative to surrounding competing vegetation to indicate successful establishment and resilience within the natural conditions of the site.

(x) “Sustainable Forestry” means managing the forest in a way that can continue over the long term, while maintaining, or restoring where needed, the forest’s natural diversity of plants, animals, and ecosystems, its ability to grow healthy trees, and its overall ecological health, all within the natural patterns and conditions that would typically occur in this area.

(y) “Understocked Land” means an area of forest within the Forest Management Unit where the number, size, and spatial distribution of healthy, ecologically appropriate trees have fallen below the minimum levels expected for that site series under its natural structural conditions, as described in Schedule C (Natural Conditions). In ecosystems that naturally support sparse or open-canopy conditions, such as Garry oak woodlands, rocky outcrops, or wetland complexes, areas shall not be considered Understocked solely based on low tree density.

(z) “Young Forest” means a forest area that is less than 40 years old. This typically represents a dense, even-aged stand dominated by relatively small trees, with limited variation in tree size or canopy structure, reduced light to the forest floor, and minimal development of large snags, coarse woody debris, or shade-tolerant understory species. In restoration planning, areas classified as Young Forest are generally managed to progressively transition toward more structurally diverse Immature, Mature, or Old Forest conditions as described in Schedule C (Natural Conditions).

2. Intent and Purpose of this Agreement

The parties agree that the intent and purposes of this Agreement are:

(a) to ensure management of the Forest Management Unit in accordance with Sustainable Forestry practices;

(b) to prohibit any subdivision of the Land that would result in any parcel of less than 20 hectares in area, including boundary adjustments that would reduce the Land to less than 20 hectares, unless otherwise agreed in writing by the Covenant Holders.

(c) to provide a measure by which the parties may monitor and assess change and alterations to the Land and compliance with the covenants in this Agreement; and

(d) to be perpetual, reflecting the public interest in the protection, preservation, and conservation of the biodiversity of the Land and the Amenities for ecological and environmental reasons.

(e) to guide the restoration and management of the Land over time toward the

natural structural stages, species composition, and ecological conditions described in Schedule C (Natural Conditions), recognizing that the current state of the Land, as documented in the Baseline Report, is predominantly a young to immature, even-aged Douglas-fir forest with limited structural and species diversity.

3. Amendment and Discharge

Neither the s. 219 covenant (including rent charge) nor the s. 218 statutory right of way granted by this Agreement may be amended or discharged except by an instrument in writing executed by each of the parties. It is the intent of the Local Trust Committee before consenting to any modification or discharge of this Agreement, to hold a public hearing on Galiano Island after giving notice of the hearing in the manner described in s. 466 of the *Local Government Act*.

4. Baseline Report

(a) The parties agree that the Baseline Report will serve as an objective information baseline for monitoring compliance with the terms of this Agreement.

(b) The Owners represent that the Baseline Report accurately describes the Land and the Amenities as of the date of the report, and that it identifies existing roads, service or utility corridors, and easements located on the Land.

5. Forest Management Plan

(a) The Owners may carry out selective timber harvesting, including the removal of dead, diseased, or suppressed trees to improve overall forest health and structure, provided such activities do not reduce the stand's estimated basal area below the target basal area outlined in the Natural Conditions and Baseline Report, and do not create canopy openings larger than 0.3 hectares.

(b) Prior to undertaking any harvesting activity that would exceed the thresholds set out in (5a), or would materially alter the natural ecological character of the forest, the Owners shall prepare a Forest Management Plan. This Plan shall outline forest management goals and objectives, proposed harvesting methods, ecological restoration strategies, and mitigation measures. A copy of the Plan shall be provided to the Covenant Holders for their records and reference.

(c) The Forest Management Plan shall include:

(i) a calculation by a mutually agreed upon Registered Professional Forester, or by a person with experience in Sustainable Forestry practices whose qualifications are acceptable to the Covenant Holder, of the Allowable Annual Cut; and

(d) a map of the roads and landings required for timber extraction and timber

storage prior to extraction.

(e) The Allowable Annual Cut in the Forest Management Plan shall be determined to actively support the progressive restoration and long-term maintenance of the Structural Stage composition within each ecosystem type on the Land, as outlined in Schedule C (Natural Conditions), with the objective of improving structural diversity, species composition, and ecological function over time.

(f) Harvesting shall be selective, maintaining structural diversity and ensuring individual canopy openings do not exceed 0.3 hectares, unless for ecological restoration or hazard removal.

(g) The Forest Management Plan shall include practical monitoring provisions agreed upon by the Owners and Covenant Holders. Monitoring methods and frequency shall be appropriate to the scale of operations and ecological sensitivity, and costs shared or mutually agreed upon in advance.

(h) The Forest Management Plan shall be prepared in a manner consistent with sustainable forestry practices appropriate to the ecological conditions of the Land, and with any forestry guidelines mutually agreed upon in writing by the Owners and Covenant Holders. Where applicable, consideration may be given to existing or locally recognized sustainable forestry guidelines, provided such guidelines are made available in full to the Owners prior to plan preparation or revision. No plan shall be subject to requirements from guidelines that have not been formally agreed to by both the Owners and Covenant Holders in writing.

(i) The Forest Management Plan and all revisions shall be submitted to the Covenant Holders by the Owners within 30 days of completion.

(j) The Forest Management Plan shall recognize that a portion of the Land, not to exceed 2 hectares, is identified in the Baseline Report as the Accessory Residential Site, while reserving the balance of the land except for roads and access easement areas as the Forest Management Unit.

(k) The Forest Management Plan shall identify all existing and proposed roads necessary to practice Sustainable Forestry and to access the Accessory Residential Site.

(l) The Forest Management Plan will seek to restore and enhance the natural biodiversity qualities of the Land, and shall provide for the permanent retention of a substantial population of healthy larger trees intended to develop into old-growth veterans over time. Unless otherwise agreed in writing by the Owners and Covenant Holders, a minimum of 10 trees per hectare shall be reserved from harvest, with a preference for retaining these trees in groups or groves rather than in isolation.

(m) Snags with current or potential ecological function, including wildlife trees, standing dead or partially dead trees providing nesting, roosting, or foraging habitat, or those with characteristics likely to develop such features, shall be retained with due attention to safety considerations. Non-functional snags may be removed where necessary for safety.

(n) The forest floor shall be enriched by maintaining well-distributed coarse woody debris, including logs greater than 15 cm in diameter and 3 m in length, to support biodiversity and nutrient cycling.

6. Restrictions

The Owners shall not, except with the prior written agreement of the Covenant Holders, acting reasonably and in good faith, cause or allow:

(a) Any timber harvesting that would:

(i) create canopy openings larger than 0.3 hectares, or

(ii) (ii) materially compromise the ability of the forest to achieve the structural and ecological conditions described in the Natural Conditions,

(iii) (iii) unless: such harvesting is undertaken in accordance with a Forest Management Plan prepared by a qualified professional and provided to the Covenant Holders for their records and reference.

(b) Harvesting shall remain consistent with the Allowable Annual Cut and opening sizes set in the Forest Management Plan. Temporary adjustments for operational or ecological reasons shall be documented and reported in the annual summary.

(c) other than for roads identified in the Forest Management Plan, cut patches of areas greater than 0.3 hectare created or located less than 30 metres from adjacent cut patches, during a Cut Control Period;

(d) the subdivision of the Land, including a boundary adjustment, that would result in any parcel of less than 20 hectares;

(e) the Land or any part of the Land to be leased or licensed unless the tenant or licensee is expressly required by the terms of the lease or license, and has agreed in writing, to comply with the provisions of this Agreement;

(f) any activity on the land that requires a development permit under section 489 of the Local Government Act shall be conducted only in accordance with the requirements of that Act and any applicable permits or authorizations obtained by the Owners.

(i) Activities that are exempt from development permit requirements under provincial or local legislation shall not require additional approval under this Covenant, provided that such activities do not result in a material adverse impact on the ecological values protected by this Covenant;

(g) the Accessory Residential Site to be greater than 2 hectares;

(h) any accessory residential buildings or uses, or accessory buildings associated with accessory residential uses, except within the boundaries of the Accessory Residential Site;

(i) wetlands identified in the Baseline Report to be drained or intentionally altered, except that the Owners may, with the prior written approval of the Covenant Holders, make alterations to improve water retention provided the function of the wetland will be maintained;

(j) except for roads and landings identified in the Forest Management Plan, motorized vehicle routes to be established or used on the Land; and

(k) fences to be constructed or maintained on the Land, except within the Accessory Residential Site or on other parts of the Land as necessary for reforestation or the maintenance or restoration of native plant species and to prevent damage by browsing animals to young trees or other plants.

7. Owner Reserved Rights

(a) The Owners retain the right to:

(i) undertake ecological restoration or hazard mitigation work, including removing hazardous trees, restoring degraded ecosystems, controlling erosion, or replanting native species, without prior approval, provided such work is conducted in a manner consistent with this Covenant's ecological objectives;

(ii) construct, maintain, and repair fences as reasonably required for the protection of gardens, animals, young trees, restoration sites, or personal safety, provided they do not interfere with wildlife movement or ecological connectivity outside the Accessory Residential Site;

(iii) identify, control, or eradicate invasive plant species in accordance with best practices recommended by the Invasive Species Council of British Columbia for the Coastal Region or a similar recognized authority, without requiring prior written approval;

(iv) keep domestic animals with related management activities, including manure composting and bedding disposal, within the Accessory Residential Site, provided these do not cause material harm to ecological features outside that area;

(v) maintain or restore vegetated clearings and open spaces outside the Accessory Residential Site, including for landscape management, ecological edge maintenance, soil stabilization, or other low-impact land uses, provided such activities do not materially degrade forest regeneration goals or cause significant canopy openings.

8. <u>Forest Stewardship Obligations</u>

(a) The Owners covenant and agree that the land within the Forest Management Unit shall be used and maintained in accordance with the requirements set out in this section.

(b) The Owners must take reasonable measures, appropriate to the site conditions, to ensure that any areas within the forested portion of the property that become Understocked Land, whether through Harvesting, thinning

(Spacing), or Natural Disturbance, begin to recover toward Restocked Forest, Successfully Regenerated Forest, or Young/Immature Forest within 5 years where ecologically appropriate. Areas should typically show clear signs of natural or assisted regeneration within this timeframe, with the goal of achieving natural stocking levels within 15 years, unless otherwise justified by site limitations or ecological restoration objectives consistent with the natural conditions of the Land.

(c) The Owners must ensure that any area within the Forest Management Unit that is converted to roads and logging trails is kept to the minimum necessary for the safe and efficient implementation of Sustainable Forestry practices.

(d) The Owners must ensure that any new roads and logging trails constructed within the Forest Management Unit are designed and maintained to preserve natural surface drainage patterns, and that any section of new road cut into the slope of the land in a way that intercepts and channelizes subsurface water includes structures to dissipate that water and allow its re-absorption into the soil, spaced not more than 50 metres apart along the road. These requirements do not apply to existing or legacy roads and trails present at the time of this Agreement, except where significant reconstruction or upgrading is undertaken.

(e) The Owners must ensure that new roads and logging trails, including stream crossings, culverts, ditches and other drainage structures, are constructed and maintained according to good management practices and so as to avoid transportation of sediment to a stream, lake, wetland or the ocean in amounts that could have a significant adverse environmental impact.

(f) The Owners must ensure that any area within the Forest Management Unit that is cleared to accommodate service of electricity, telephone and other utilities to the permitted buildings within the Accessory Residential Site is kept to the minimum necessary.

(g) The Owners must take all reasonable measures to prevent the establishment or spread of invasive plant species identified as priority species by the Invasive Species Council of British Columbia for the Coastal region within the Forest Management Unit.

(h) In the event of a Natural Disturbance, the Owners may, without amending the Forest Management Plan, provide written notice to the Covenant Holders describing the nature, extent, and location of the disturbance and the proposed management actions, including the removal of diseased trees and standing dead timber, excluding retained habitat snags. The notice must outline the rationale for any removals, the approximate number and size of trees to be removed, and a description of how natural recovery will be supported following the disturbance, recognizing that full ecological recovery may require considerable time and effort.

(i) The Owners covenant and agree that the long-term stewardship of the Forest Management Unit shall be guided by the objective of progressively restoring the forest's structure, species composition, and ecological diversity toward the conditions described in Schedule C (Natural Conditions), recognizing that

the current condition of the Forest Management Unit, as documented in the Baseline Report, is predominantly a young to immature, even-aged Douglas-fir forest with limited diversity. Management activities, including harvesting, thinning, and regeneration, should be planned and implemented in a manner that promotes structural and species diversity consistent with the natural disturbance patterns and ecological characteristics of the applicable site series.

(j) If the total volume of timber harvested in any given year within a Cut Control Period is less than the Allowable Annual Cut established for that year, the unused volume may be carried forward and added to the Allowable Annual Cut available for harvest in subsequent years of that same Cut Control Period, provided that such carry-forward does not result in exceeding the total cumulative Allowable Annual Cut for the entire Cut Control Period without prior written agreement of the Covenant Holders.

(k) At the end of each Cut Control Period, any unused Allowable Annual Cut remaining for that period may be carried forward into the next Cut Control Period and added to the new period's Allowable Annual Cut, provided that the cumulative volume of timber proposed for harvest remains consistent with the long-term restoration and ecological management objectives outlined in Schedule C (Natural Conditions) and the Harvesting Guidelines in Schedule D. The carried-forward volume shall be documented in the Forest Management Plan or annual report at the commencement of the new Cut Control Period.

9. Reporting and Monitoring

(a) If no harvesting, thinning, or other significant forest management activity has taken place on the property during the preceding calendar year (January 1 to December 31), no reporting is required.

(b) The Owners will provide the Covenant Holders with a brief written summary, by May 1 of each year, if any harvesting, thinning, or other significant forest management activity has taken place on the property during the preceding calendar year (January 1 to December 31) that has resulted in:

- the removal of an average of more than 1 live tree per hectare across the Forest Management Unit, counting only live trees greater than 20 cm (8 inches) DBH, excluding windthrown (naturally fallen) trees or standing dead trees not serving as wildlife habitat; or
- the creation of a canopy opening greater than 0.1 hectares.

The annual summary must include the information set out in subsections (i) through (viii) below.

(i) a reasonable estimate of the total quantity of timber that has been Harvested for the year, expressed in either approximate cubic metres, number of trees, or such other unit of measure as is practical for the Owners based on the nature and scale of their harvesting activities;

(ii) a reasonable estimate of the total quantity of timber that has been Harvested in all previous years of the current Cut Control Period, expressed in either approximate cubic metres, number of trees, or such other unit of measure as is practical for the Owners based on the nature and scale of their harvesting activities;

(iii) provide a statement confirming whether the volume of timber removed remained within the Allowable Annual Cut for that year, along with a brief description of how that allowable volume was determined (for example, based on the standard property area-based calculation method described in this Agreement);

(iv) whether any portion of the Forest Management Unit was affected by Natural Disturbance;

(v) approximate size and location of any areas larger than 0.3 hectares became Understocked Land or were affected by Harvesting, Spacing, or Natural Disturbance in the preceding calendar year, a simple hand-drawn sketch map or general description is encouraged but not mandatory unless requested by the Covenant Holders for significant changes;

(vi) where practical, provide a brief observation of the forest regeneration status or recovery progress in any areas of Understocked Land or Openings larger than 0.3 hectares reported in a previous year's annual summary, where no significant change has occurred or no assessment was carried out, this may be noted in the report;

(vii) whether any new roads, logging trails or utility corridors were constructed or deactivated within the Forest Management Unit, accompanied by a sketch map showing the approximate location of new roads or logging trails in the Forest Management Unit and identifying changes that occurred during the previous year;

(viii) whether any invasive plant species identified as priority species by the Invasive Species Council of British Columbia for the Coastal region became established or spread within the Forest Management Unit, and if so, the approximate locations and extent of such plants, along with any measures taken to manage, control, or eradicate them.

(c) The Covenant Holders may conduct one scheduled site visit every three years, with a minimum of 30 days' written notice to the Owners, for the purpose of general monitoring and alignment with this Covenant's ecological objectives. Such notice will include the names of the individuals who will be attending on behalf of the Covenant Holders. The Owners may request to accompany the visit.

(d) Visit scope shall correspond to activity scale and ecological sensitivity. Such visits shall not include formal monitoring activities described in Section 8(d) unless separately triggered by reasonable cause or Owner request.

(e) All other site visits for monitoring purposes may only occur if:

(i) there is reasonable cause to believe a material breach of this Covenant has occurred; or

(ii) the Owners have submitted a written request for consultation.

(f) In cases where monitoring occurs under subsection (e), the costs of monitoring, to a maximum of $400 per three-year period, indexed annually to the Consumer Price Index (CPI) unless otherwise agreed in writing, shall constitute a rent charge issuing out of the Land as set out in section 11 and shall be payable on receipt by the Owners of an invoice from a Covenant Holder.

(g) Where multiple Covenant Holders monitor activities, monitoring costs shall be shared equitably or as agreed.

(h) If the Owners provide an annual report demonstrating consistency with the Forest Management Plan and no significant issues are identified, the Covenant Holders may rely on that report for compliance confirmation, without additional monitoring.

(i) The amount in subsection (c) shall be increased on January 1 in each year by the percentage increase in the Consumer Price Index, as published by Statistic Canada, between the previous January 1 and that December 31, and adding the amount so determined to the amount as it stands on that December 31. If Statistics Canada, or its successor in function, ceases to publish a Consumer Price Index or comparable indicator as determined by the Covenant Holders in their sole discretion, the parties agree that the factor to be used in determining the annual increase shall be 1.5%.

10. Statutory Right of Way

The Owners hereby grant to each Covenant Holder the non-exclusive full, free and uninterrupted right, liberty, easement and statutory right of way pursuant to section 218 of the *Land Title Act* for each Covenant Holder, its officers, employees, contractors and any other authorized representatives to do the following:

(a) enter onto the Land to inspect the Forest Management Unit upon giving reasonable notice for the purpose of monitoring the Owners' compliance with this Agreement, unless a Covenant Holder, in its sole discretion, determines that an emergency or other circumstance makes inspection at a reasonable time impracticable, in which case a Covenant Holder may enter and inspect at any time;

(b) as part of inspection under subsection (a), to take soil, water, tree cores, or other samples, photographs and video and sound recordings as may be necessary to monitor compliance with the terms of this Agreement;

(c) to enter onto the Land to place temporary markings on the Land, provided they shall subsequently be removed by that Covenant Holder; and

(d) to enter the Land for the purposes of carrying out remedial measures in accordance with section 10(e).

11. Enforcement Remedies of the Covenant Holders

(a) If a Covenant Holder reasonably believes that the Owners have or may have neglected or refused to perform any of the obligations set out in this Agreement or may be in breach of any provision of this Agreement, that Covenant Holder may serve on the Owners and the other Covenant Holders a notice setting out particulars of the breach.

(i) The Owners shall be provided with any monitoring report used to support enforcement and shall have 30 days to respond in writing prior to any enforcement action being undertaken under this section.

(b) As a limitation on subsection (a), the Owners' obligations set out in section 7 may not be enforced under this Agreement if the activity comprising the breach is a violation of an applicable enactment that is being enforced in accordance with that enactment

(c) Following notice of a breach, the Covenant Holders may request an objective assessment from a mutually agreed upon Registered Professional Forester or similarly qualified person, with scope and qualifications appropriate to the issue. Costs shall be borne by the Owners where a material breach is confirmed.

(d) On receiving a notice under subsection (a), the Owners must

(i) immediately cease any activity giving rise to the breach; and

(ii) within 90 days, or from the conclusion of the dispute resolution provision under Section 12 if it is invoked, provide the report, if requested, and remedy any breach identified, or make other arrangements satisfactory to the Covenant Holders.

(e) If the Owners fail to remedy a breach within one year of receiving notice of the breach, the Covenant Holders may undertake any measures as may reasonably be required to remedy the breach. Remedial measures shall only be required where a material and adverse ecological impact is demonstrated by the Covenant Holders.

(f) Remedial measures undertaken by the Covenant Holders shall be scoped in consultation with the Owners prior to implementation, except in emergencies. The Owners shall pay the costs incurred to remedy the breach, and such costs, until paid, shall constitute a debt recoverable by all remedies available to a creditor in respect of a debtor.

(g) This section does not affect the right of a Covenant Holder to pursue any other legal or equitable remedy in relation to a breach or an anticipated breach of this Agreement.

(h) Where a Covenant Holder gives a notice under subsection (a), a Covenant Holder receiving the notice may within 30 business days from receipt give notice to the Covenant Holder giving notice that it wishes to jointly enforce the breach. References in this section to the Covenant Holders includes only those Covenant Holders enforcing a breach in each particular instance.

12. Rent Charge and its Enforcement

(a) The Owners grant to the Covenant Holders in fee simple, as an integral part of this covenant under s. 219 of the *Land Title Act* and at common law, an annual and perpetual rent charge issuing out of the Land that is the sum of the following amounts:

(i) the Covenant Holders' costs of monitoring the Agreement under section 5(c);

(ii) The Covenant Holders' costs of monitoring the Owners' compliance with this Agreement under section 8; and

(iii) an amount equal to $160 per acre of the land covered per calendar year, indexed annually to the Consumer Price Index (CPI) and payable on December 31st of each year, with the first payment due on December 31, 2025, except that the obligation to pay this amount is suspended and deferred so long as the Owners are not in breach of this Agreement, or are working in compliance with section 10(d).

(iv) The total amount payable shall be capped at a maximum of $15,000 per calendar year.

(the "Rent Charge").

(b) The amount in subsection (a) shall be increased:

(i) If the Owners breach section 6(a) or 6(b), the Covenant Holders may require the Owners to prepare and implement a remediation plan, to restore ecological conditions reasonably consistent with surrounding areas, and to compensate for any fair market value of timber Harvested in excess of the Annual Allowable Cut where such excess can be demonstrated to have materially impacted the ecological values protected by this Covenant.

(ii) If the Owners breach section 6(f), the Covenant Holders may request that the Owners undertake reasonable remediation measures to restore the affected area's ecological condition, in consultation with the Covenant Holders; and

(iii) If the Covenant Holders, or any one of them, undertake remedial measures under section 10(e), the Owners shall be responsible for the fair and reasonable costs of those remedial measures, provided that the necessity and scope of such measures are determined in consultation with the Owners, and any such costs shall be limited to the minimum required to reasonably restore the affected area to a condition consistent with the objectives of this Covenant.

(iv) Remedial measures shall only be required where a material and adverse ecological impact is demonstrated by the Covenant Holders. Remedial measures shall be scoped in consultation with the Owners prior to implementation, except in emergencies.

(v) In the event of a disagreement over the necessity, scope, or cost of

remedial measures, the matter shall be referred to a mutually agreed Registered Professional Forester (or qualified independent ecologist) for determination, whose decision shall be final and binding.

(vi) If the Owners harvest timber in excess of the Allowable Annual Cut or outside of an approved Forest Management Plan in a manner that materially impacts the ecological values protected by this Covenant, the Rent Charge may be increased by an amount equal to 110% of the fair market value of the timber removed in breach, as determined at the time of removal by reference to local market rates, unless otherwise agreed in writing between the Owners and the Covenant Holders.

(c) The Covenant Holders agree to postpone and subordinate the Rent Charge to any first mortgage, provided that:

(i) the mortgage principal does not exceed 75% of either: (a) the most recent BC Assessment value of the Land, or (b) a market appraisal prepared by a qualified appraiser (AACI, RI, or other professional agreed upon by the parties);

(ii) the Owner submits a written request including valuation documentation;

(iii) the request is processed within 20 business days unless exceptional circumstances apply; and

(iv) the Covenant Holders further agree to provide a letter of intent to postpone the Rent Charge on request, subject to the above conditions, to facilitate Owner financing applications.

(d) The Covenant Holders may exercise any and all remedies available at law or in equity for enforcement of the Rent Charge, and without limiting the foregoing may sue in debt and levy distress against the Land.

(e) If any of the Covenant Holders wishes to enforce the Rent Charge, it shall provide notice to that effect to the other parties. This notice may be given at any time after notice is given under section 10(a).

(f) A Covenant Holder receiving notice under subsection (e) may within 30 business days from receipt give notice to the party giving notice that it wishes to enforce the Rent Charge jointly, and if it does not do so it is deemed to have elected not to enforce the Rent Charge.

(g) If the Rent Charge is enforced jointly:

(i) reasonable expenses incurred as a result of the enforcement of the Rent Charge shall be shared equally among the Covenant Holders enforcing the Rent Charge; and

(ii) the net proceeds obtained as a result of the enforcement of the Rent Charge shall be shared equally among the Covenant Holders enforcing the Rent Charge, except that a Covenant Holder who has incurred expenses under section 8(b) or 10(e) shall be reimbursed for those costs,

unless otherwise agreed in writing among the Covenant

Holders.

(h) If a Covenant Holder receiving notice under subsection (f) does not elect in writing to enforce the Rent Charge jointly, that Covenant Holder shall have no entitlement to the Rent Charge and shall have no obligation to assume expenses incurred in such enforcement unless otherwise agreed in writing among the Covenant Holders.

(i) A Covenant Holder who elects not to enforce the Rent Charge jointly shall notwithstanding such election execute all documents which may be necessary for the enforcement and collection of the Rent Charge.

13. Dispute Resolution

(a) In this section "dispute" means any disagreement as to the meaning of this Agreement, any disagreement as to an action taken or proposed to be taken by a party under this Agreement, including an action taken in that party's sole and unfettered discretion, or a breach or anticipated breach of this Agreement.

(b) In the event of a dispute, a party to this Agreement may give notice to the other parties setting out the subject matter of the dispute and scheduling a meeting of all parties to be held within 10 business days of receipt of the notice at a location on Galiano Island specified in the notice.

(c) If notice is given under this section, the parties must cease all activities related to the subject matter of the dispute and must attend the scheduled meeting.

(d) If dispute resolution under Section 12 is invoked, all enforcement actions, penalties, or remediation measures shall be stayed until the conclusion of the process, except in cases of immediate ecological risk or safety hazard.

(e) The parties must, acting reasonably and in good faith, attempt to resolve the dispute in a timely manner.

(f) If the parties cannot resolve the matter within 20 business days of the date all parties have received notice of the dispute, any party may require the appointment within 10 business days of a mutually acceptable person to mediate the dispute, the costs of the mediator being borne equally by all parties. The parties must act reasonably and in good faith and cooperate with the mediator and with each other in an attempt to resolve the matter within 30 business days after the mediator is appointed.

(g) This section does not affect the right of any party to seek and pursue other remedies, legal or equitable.

14. Notice

(a) Any notice, request for approval or consent under this Agreement may be given by any of the following means:

(i) delivered in person; or

(ii) sent by email to the parties at their respective email addresses set out in subsection (c), followed by a copy sent by ordinary mail; or

(iii) sent by Xpresspost requiring signature on delivery, addressed to the parties at their respective addresses set out in subsection (c).

(b) A notice:

(ii) delivered in person is deemed received on delivery;

(iii) sent by email is deemed received on the next business day after it is sent;

(iv) sent by Xpresspost is deemed received on the second business day after it is mailed.

(c) The addresses of the parties for notice are as follows:

The Owners:

_____
_____

Email: _____

provided that if the ownership of the Land has changed, to the registered owner in fee simple as indicated on title to the Land at the time of notice.

The Covenant Holders:

_____
_____
_____
_____

_____
_____
_____
_____

(d) Each party must give written notice to the others of any change in its address from that set out in subsection (c) as soon as reasonably practicable following such change of address.

15. No Effect on Laws or Powers This Agreement does not:

(a) affect or limit the discretion, rights, duties or powers of the Local Trust Committee under any enactment or at common law, including in relation to the use or subdivision of the Land;

(b) impose on the Covenant Holders any duty of care or other legal duty of any kind to the Owners or to anyone else;

(c) oblige the Covenant Holders to enforce this Agreement, which is a matter

within the sole discretion of each of the Covenant Holders;

(d) affect or limit any enactment relating to the use of the Land; or

(e) relieve the Owners from complying with any enactment, including in relation to the use of the Land.

16. No Liability in Tort

This Agreement creates only contractual obligations. No tort obligations or liabilities of any kind exist among the parties in connection with the performance of or any default under or in respect of this Agreement. The intent of this section is to exclude tort liability of any kind and to limit the parties to their rights and remedies under the law of contract.

17. Entire Agreement

This is the entire Agreement among the parties and none of the Covenant Holders has made any representations, warranties, guarantees, promises, covenants or agreements to or with the Owners other than those expressed in writing in this Agreement, nor have the Owners made any representations, warranties, guarantees, promises, covenants or agreements to or with the Covenant Holders other than those expressed in writing in this Agreement.

18. Interpretation

(a) This Agreement is comprised of the recitation of the parties, the recitals to this Agreement, the express terms of the Agreement, and the Schedules to the Agreement.

(b) In this Agreement:

(i) wherever the singular or masculine is used it shall be construed as meaning the plural or the feminine or the body corporate or politic where the context so requires;

(ii) every reference to a party is deemed to include heirs, executors, administrators, successors, assigns, officers and employees of such parties wherever the context so requires or allows;

(iii) reference to any enactment (as that term is defined in the *Interpretation Act* (British Columbia)) is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;

(iv) reference to a particular numbered section, or to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered section or Schedule of this Agreement, except where otherwise provided;

(v) where a word or expression is defined in this Agreement, other grammatical forms of the same word or expression have corresponding meanings; and

(vi) the underlined headings are inserted for reference and convenience only and must not be used to construe or interpret the Agreement.

19. Waiver

An alleged waiver of any breach of this Agreement is effective only if it is an express written waiver signed by each of the Covenant Holders and is only effective to the extent of that express waiver and does not operate as a waiver of any other breach.

20. Runs with the Land

The statutory right of way and covenants in this Agreement shall charge the Land pursuant to s.218 and s.219 of the *Land Title Act*, respectively, and the burden of all the covenants in this Agreement shall run with the Land and bind the successors in title to the Land and charge the Land and every part into which the Land may be divided or subdivided.

21. Joint and several

Where the Owners in this Agreement is comprised of more than one person, the obligations of those Owners are joint and several.

22. Enurement

This Agreement shall enure to the benefit of and be binding upon the parties and their respective successors, heirs, executors and administrators.

23. Owner's Reserved Rights

Unless expressly restricted or prohibited by this Agreement, the customary rights of the Owners to use, occupy and maintain the Land as owners of the land are fully reserved to the Owners and, without limiting the generality of the foregoing, the following rights are expressly reserved to the Owners:

(a) to clear land and maintain cleared land within the Accessory Residential Site;

(b) to construct and maintain such septic field or other domestic sewage treatment and disposal facilities within the Accessory Residential Site as may be required for the permitted buildings;

(c) to construct, maintain and restore service of electricity, telephone and other utilities to the permitted buildings within the Accessory Residential Site;

(d) to maintain, restore or replace buildings and other improvements, the location of which are indicated in the Baseline Report or permitted within the Accessory Residential Site;

(e) to maintain, restore or replace the driveway identified in the Baseline Report or permitted within the Accessory Residential Site;

(f) to allow public access to the Land at the Owner's discretion;

(g) to install, maintain, restore or replace any signs that may be permitted on the Land;

(h) to develop any road or highway that may be required as a condition of subdivision approval; and

(i) to apply for a change in tax classification.

24. Payment and Interest on Monies Owing

Any monies owed by the Owners to the Covenant Holders pursuant to this Agreement:

(a) shall be paid by the Owners to the party or parties to which it is owed; and

(b) shall bear interest at 3% per annum over the prime rate of interest charged by the banker of the Islands Trust for short term unsecured commercial loans.

25. Registration

The Owners agree to do everything necessary, at the Owners' expense, to ensure that this Agreement is registered against title to the Land with priority over all financial charges, liens and encumbrances registered or pending registration in the Land Title Office at the time of application for registration of this Agreement. The Owners agree that no new dwellings or other buildings shall be erected on any part of the Land prior to registration of this Covenant in the Land Title Office.

26. Assignment of Covenant

The Covenant Holders may assign the benefit of this Covenant to another person authorized to hold covenants under s. 219 of the *Land Title Act* and statutory rights of way under s. 218 of the *Land Title Act*.

27. Indemnity

The Owners hereby indemnify and save harmless the Covenant Holders and their elected and appointed officials, officers, employees, contractors, and designated representatives from and against all loss, damage, cost, actions, suits, debts, expenses and harm of any kind whatsoever which the Covenant Holders may at any time suffer or incur arising out of or related to this Agreement or any breach of it.

28. Independent Advice

The Owners acknowledge and agree:

(a) that they have had an opportunity to seek and obtain, to their satisfaction, independent advice from an accountant or other tax expert with respect to the income tax and other tax implications of this Agreement and acknowledge that they do not rely and have not relied on any Covenant Holder for advice in this regard and that the Covenant Holders have given no representation or warranty in that regard; and

(b) that they have been advised by the Covenant Holders to seek independent legal advice as to the meaning and effect of this Agreement, and the Owners further acknowledge and agree that no legal advisor of either of the Covenant Holders has advised the Owners on the meaning or effect of this Agreement

or in connection with this Agreement.

29. Severance

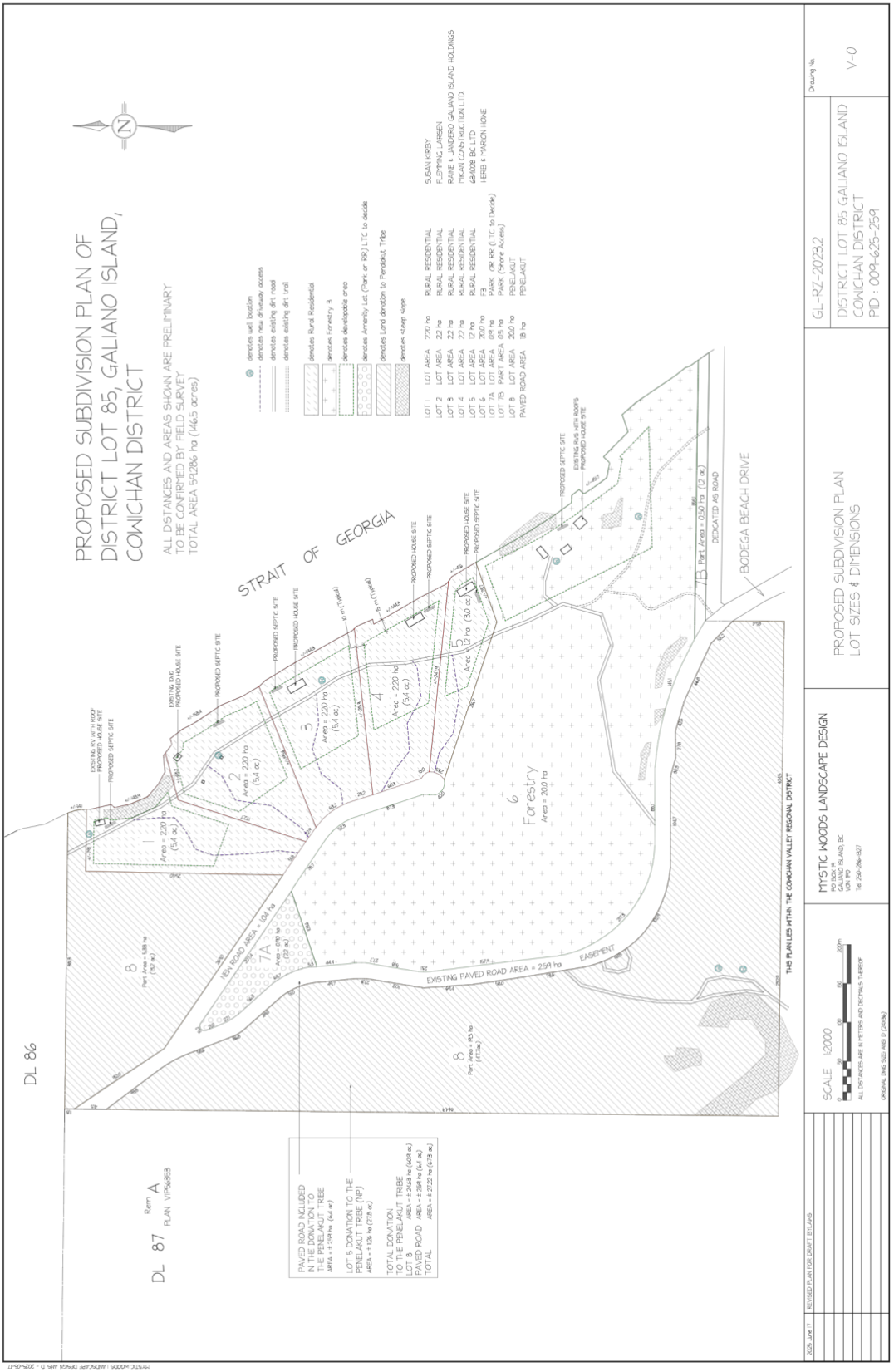
If any part of this Agreement is held by a court to be invalid, illegal or unenforceable, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement is to remain in force unaffected by that holding or by the severance of that part as if the part was never part of this Agreement.

30. Further Acts

The Owners must do everything reasonably necessary to give effect to the intent of this Agreement, including execution of further instruments.

As evidence of their agreement to be bound by the above terms the parties each have executed and delivered this Agreement under seal by executing Part 1 of the *Land Title Act* Form C to which this Agreement is attached and which forms part of this Agreement.

SCHEDULE A : SUBDIVISION PLAN



SCHEDULE B : BASELINE REPORT

District Lot 85 Ecological Overview Report

Prepared by Keefer Ecological Services Ltd.

2025-05-28

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1. Summary

1.1. Scope and Objectives

Keefer Ecological Services Ltd. (KES) was contracted to undertake an ecological inventory of District Lot 85 to describe the current condition of the property's terrestrial ecosystems, which may be relied upon as necessary in future land management. This report has been prepared as an *Ecological Overview Report* in accordance with the Islands Trust regulatory requirements for Galiano Island, as outlined in the Galiano Island Official Community Plan Bylaw No. 108 and the Development Approval Information Bylaw No. 148, 2012. It includes all required report components consistent with other Ecological Overview Reports reviewed and accepted by the Islands Trust, including terrestrial ecosystem mapping, identification of sensitive ecosystems, assessment of potential development impacts, and mitigation recommendations. In addition, this report provides an analysis of the area and distribution of ecological communities as they relate to the proposed site plan, meeting the expectations for ecological overview reporting within designated Development Permit Areas (DPAs).

1.2. Contributors

Table 1. Project contributors.

Name	Title	Organization
Mike Keefer, MSc, PAg (#1972)	Senior ecologist	Keefer Ecological Services Ltd.
Andrew Simon, MSc	Biodiversity Specialist & GIS Analyst	Keefer Ecological Services Ltd.
Emma Cooke, BSc	Junior GIS Analyst	Keefer Ecological Services Ltd.
Mikayla Davis, BSc, RPBio (#4430)	Biologist	Keefer Ecological Services Ltd.

2. Parcel Location and Identification

District Lot 85 (PID: 009-625-259) is located on the northeast coast of Galiano Island, British Columbia (BC), off Bodega Beach Drive, at approximately 48.988798°, -123.554665° (Fig. 1).

3. Indigenous Land Acknowledgment

District Lot 85 lies in the traditional territories of Penelakut, Hw'litsum, and Tsawwassen First Nations, and other Hul'qumi'num-speaking peoples.

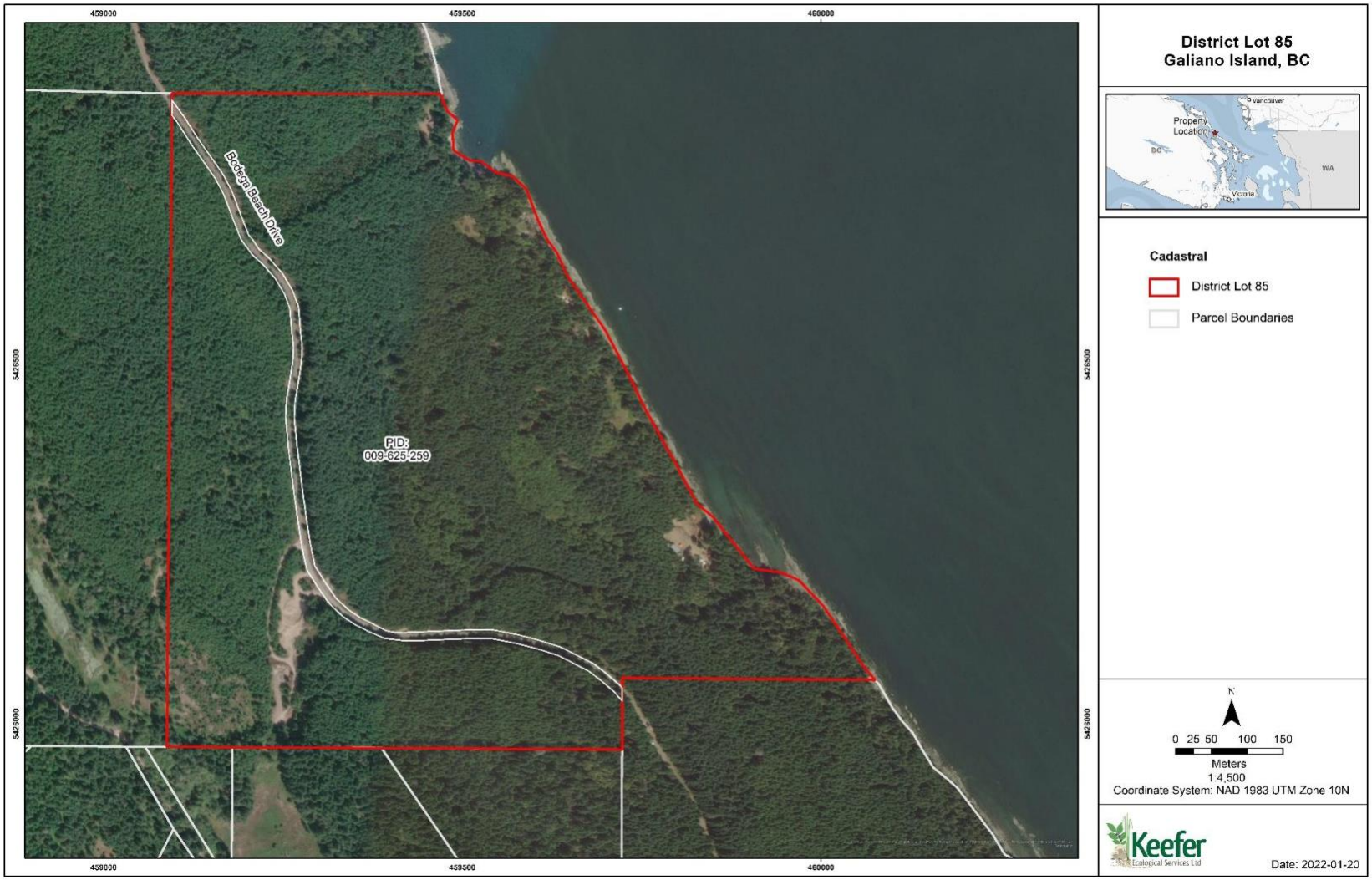

Figure 1. Distict Lot 85.

4. Acknowledgment

The owner hereby acknowledges and agrees that the following is an accurate description of the property, as of the reference date of this agreement.

5. Encumbrances

As of 2021, there were seven registered titles on DL 85, each representing one of the owners, with one owner having two registered titles. All registered titles have the same Legal Notations and Charges, Liens and Interests on them, as follows:

- Easement EE21559 over District Lot 88 except part in Plan 27287, Galiano Island, Cowichan District
- Bylaw Contravention Notice, Municipal Act, Section 700, See EM84025
- Easement FB158458 over part of Lot A, Plan VIP56353 except part in Plan VIP61539, included in Plan VIP84749
- Easements appurtenant to District Lots 70, 71, 77, 78, 79, 80, 86, 92, 93, 94 and 95 are also registered on title.

6. General Description

District Lot 85 is located on the northeast coast of Galiano Island, British Columbia, Canada. The property comprises approximately 60 ha of mostly forested land, including 1 km of shoreline along the Georgia Strait, and lies adjacent to Ecological Reserve 128, which abuts the property's southern boundary. District Lot 85 was subject to extensive clear-cut logging by MacMillon Bloedel in the early 1980s, and most of the property was subsequently restocked with Douglas-fir. This historical impact is clearly visible in early Landsat satellite imagery (Fig. 2). Because of these logging practices, most of the forested ecosystems of DL85 are now in an immature seral stage, with Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*) establishing a canopy, and species such as grand fir (*Abies grandis*), western redcedar (*Thuja plicata*), and western hemlock (*Tsuga heterophylla*) regenerating in the understory. The most recent logging event is a clear-cut at the southwestern extent of the property, which dates to 2003.

The most notable anthropogenic impact on DL85 is an extensive gravel pit (~1.4 ha in size), which is currently operational. There are also several cleared rural areas that lie toward the property's shoreline, with numerous small structures such as sheds and outhouses. Other anthropogenic impacts include Bodega Beach Drive, and a network of skidder trails, all of which have significantly impacted the soils and potentially the underlying water table.

District Lot 85 lies within the Coastal Douglas-fir moist maritime (CDFmm) Biogeoclimatic Zone: an ecoregion with a semi-Mediterranean climate that supports the highest density of species at risk in the province of British Columbia (BC CDC, 2021a). In this densely populated region, habitat loss and fragmentation continue to pose the greatest threats to ecological communities. Cumulative anthropogenic impacts associated with these threats include human-induced changes to predator-prey dynamics, which have resulted in increasing browsing pressures by deer and, in turn, diminished native plant abundances, as well as other higher level trophic effects (*e.g.*, Martin et al., 2011). Other impacts include long-term declines in wildlife populations resulting from fragmentation of surrounding matrix habitat (Shackelford et al., 2018); the dispersal of exotic plant and animal species (Marx et al., 2016; Shackelford et al., 2018); and numerous stressors associated with climate change (Austin et al., 2008; Klassen et al., 2015; Salathé et al., 2008; Spies et al., 2010).

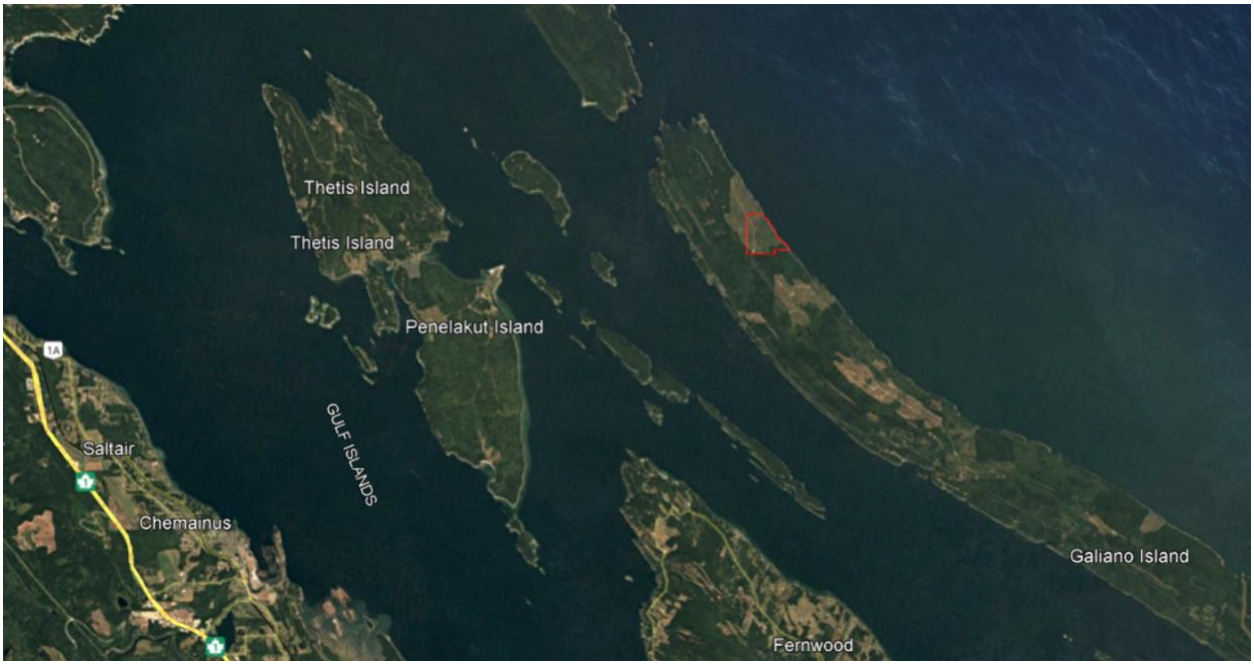

Figure 2. Landsat imagery dating to December 1985 shows a recent clear-cut spanning DL85 (outlined in red) as well as DL86 to the north and DL87 to the west. This logging event dates to 1981/'82. Source: Google Earth.

7. Property Access

District Lot 85 can be accessed from the end of Bodega Beach Drive, approximately 30 km from the ferry terminal at Sturdies Bay, Galiano Island, BC.

8. Significance of the Land and the Amenities

Although heavily impacted by a history of clear-cut logging, the forested ecosystems of District Lot 85 remain relatively intact ecologically, with most of the property comprising maturing seral stages of ecological communities that are of critical conservation concern within British Columbia (BC CDC 2021a). Over the course of the last century, Coastal Douglas-fir (CDF) forests have been dramatically diminished,

fragmented by logging and land conversion for agriculture and urbanization. Approximately 90% of the CDF has been logged as of the 1990s, leaving <1% of its forested ecosystems in a mature or old growth state (Austin et al., 2008). The ecological value of DL85 thus largely lies in the potential of its young forests to become restored as healthy mature forests representing rare ecosystem types that are otherwise dwindling in British Columbia (see Section 10.3).

The history of industrial forestry practices on DL85 is complex, with forests dating to several different logging events. The greater extent of the property's forested ecosystems date to an extensive clear-cut logging event that occurred in 1981/'82, though a small patch to the southeast extent of the land dates to a more distant event in 1966. The most recent logging event is a clear cut to the southwestern extent of the property, which dates to 2003. A small extent of DL85's forests have been retained in a mature state (dating to earlier logging events, est. 1927, and another older event), setting a benchmark for how the property's young forests might mature if conserved. The ecological value of these forests will continue to increase with age as stand structure become more complex, giving rise to an increasing number of microhabitats for species. The property also holds value as a carbon sink, and as matrix habitat providing connectivity with adjacent forested communities, including a buffer around the mature conifer forests that extend across Ecological Reserve 128 and Crown Land to the south.

Lands known to be culturally significant to Indigenous peoples are located nearby at Dionisio Point, known as *Quelus* in Hul'qumi'num, as well as to the northwest, within the 29.1 ha Penelakut First Nation reserve. The cultural importance of DL85 is currently unattested and lies beyond the scope of this report.

9. Methods

9.1. Terrestrial Ecosystem Mapping

Terrestrial ecosystem mapping (TEM) stratifies a landscape into map polygons based on ecological variables such as climate, vegetation, physiography, surficial material, bedrock geology, and soil (Resource Inventory Committee, 1998). Based on the Biogeoclimatic Ecosystem Classification (BEC) system, which was first developed to classify and manage forested ecosystems of British Columbia, the TEM methodology is currently applied to map both forested and non-forested communities, supporting ecosystem-based land management practices in a diverse range of landscapes throughout BC.

Ecological inventory and mapping of DL85 first entailed the interpretation of satellite imagery, LiDAR, and existing geospatial data to divide the landscape into recognizably distinct areas, which were circumscribed as polygons in a geographic information system (GIS). Field work was then conducted by trained ecologists with expertise in terrestrial ecosystem mapping and the ecology and biodiversity of the CDF Zone, to validate and classify the ecological communities represented on the landscape. Preliminary terrestrial ecosystem mapping was then refined based on field data using spatial analysis tools in QGIS and ArcGIS, to improve the delineation of polygons and ascribe attributes to each community.

Terrestrial ecosystem mapping of DL85 was developed according to RISC standards (Resource Inventory Committee, 1998), meeting the requirements of survey intensity level 1—a level appropriate for an area of the scale of the property. Ecosystem attribution included sites series, structural stage, and site modifiers. Polygons were classified with up to three ecosystem components or deciles, representing each community present as a fraction of total percent land cover. Components with less than 5% cover were not noted. Site series and map code descriptions used for the attribution of ecosystems are described in Section 10.1 of this report.

Field work was conducted on November 3rd, 4th, and 8th,2021. Due to the timing/seasonality of this survey, as well as a limited budget, comprehensive species inventory was beyond the scope of this contract. Ecological communities were broadly classified and characterized primarily in terms of forest composition and structure. The resulting TEM for DL85 provides a summary of the condition and extent of the ecological communities represented on the land, which may serve as the basis for ecosystem-based land management, and to inform sampling designs for future inventories. Site classifications are also analysed in relation to the proposed site plan, to estimate the spatial extent of ecological communities falling within each region of the proposed development.

Figure 3. Terrestrial Ecosystem Map of DL85. Base map: LiDAR-derived Digital Surface Model.

10. Description and Mapping of Natural State

10.1. Ecological Classifications

The terrestrial ecosystem mapping developed for DL85 circumscribes four recognizable ecological communities and several additional land cover types, including forested ecosystems at different stages of ecological succession and non-forested anthropogenic communities (Fig. 3). Forested ecosystems fall within several biogeoclimatic units (CDFmm/01, CDFmm/02, CDFmm/04m CDFmm/14) which are described in the following section. Unforested ecosystems (CDFmm/00) have been classified using a set of more generic map codes, including roads, skidder trails, gravel pits, and rural areas (RP, CX, GP, RR). These forested and non-forested communities are tabulated (Table 2) and described below, in descending rank order of area covered.

Table 2. Ecological communities and land cover types mapped at District Lot 85.

Ecological community	Biogeoclimatic Unit	Map Codes	Polygons	Area (ha)	% Total Area
Young conifer forest	Douglas-fir / dull Oregon grape (CDFmm/01)		04-1–12	43.2	72
Anthropogenic	CDFmm/00 CDFmm/01 (clear cut)	CX, GP, RP	08-1, 09-1–6, 10-1–2	6.8	11
Young mixed forest	grand fir / dull Oregon-grape CDFmm/04		06-1–6	2.7	4
Young deciduous forest	red alder / slough sedge [black cottonwood] CDFmm/14		07-1–2	2.3	4
Mature woodlands	Douglas-fir - arbutus CDFmm/02		02-1	1.7	3
Mature mixed forest	grand fir / dull Oregon-grape CDFmm/04		03-1–2	1.2	2
Mature conifer forest	Douglas-fir / dull Oregon grape CDFmm/01		01-1–2	1.0	2
Young woodlands	Douglas-fir - arbutus CDFmm/02		05-1	1.0	2

Figure 4. Young conifer forests are the most extensive ecological community represented on DL85.

Young conifer forest – Douglas-fir / dull Oregon grape

CDFmm / 01 – *Pseudotsuga menziesii / Mahonia nervosa*

Young conifer forests (Polygons 04-1–12), comprising 43.2 ha, represent about 72% of DL85 by area. About 39.7 ha of these forests date to forestry activities ca. 1981/'82 when the property was clear-cut logged by MacMillan Bloedel. The remainder (3.5 ha) dates to a harvest event that occurred ca. 1966. The leading age class of trees in these stands is thus ~40 and ~55 years old respectively as of the date of this ecological overview report. Conifer forests in the CDFmm/01 site series form the dominant forest matrix of the CDF biogeoclimatic zone, occurring at middle- to upper-slope positions, on all aspects, and are characterized by a moderately dry (submesic to mesic) soil moisture regime and a poor to medium soil nutrient regime (BC CDC, 2021c). The youngest age class represented on DL85 comprises densely stocked forests at an early stage of self-thinning, whereas the older young conifer forests are somewhat more open, at a more advanced stage of self-thinning. Both age classes might benefit from mechanical thinning as a treatment measure. Over the course of ecological succession, these young forests will age to become mature conifer forests such as those represented in Polygons 01-1 and 01-2, described below.

Douglas-fir forms the canopy of these young conifer forests (Fig. 4), with a scattered occurrence of arbutus (*Arbutus menziesii*), bigleaf maple (*Acer macrophyllum*), bitter cherry (*Prunus emarginata*), red alder (*Alnus rubra*), western hemlock, and western redcedar. The understory is poor, with sparse

patches of salal (*Gaultheria shallon*), oceanspray (*Holodiscus discolor*), evergreen huckleberry (*Vaccinium ovatum*), red huckleberry (*Vaccinium parviflorum*), dull Oregon grape (*Berberis nervosa*), sword fern (*Polystichum munitum*), and trace occurrences of species such as Scouler's willow (*Salix scouleriana*) and hairy honeysuckle (*Lonicera hispidula*). On all sites, the moderately well-developed moss layer is dominated by Oregon beaked-moss (*Eurhynchium oreganum*), with sparse occurrences of electrified cats-tail moss (*Rhytidiadelphus triquetrus*), and step moss (*Hylocomium splendens*). Despite differences in soil moisture regime, trees in young conifer forests were comparable in size to those in the moister young mixed forest community (CDFmm/04) documented in this report, perhaps because these mixed forests lie toward the foreshore of the property where edaphic factors are relatively poor despite moister conditions. Western redcedar appeared healthy throughout the young conifer forests of DL85, with robust regeneration of western redcedar noted in some areas (*e.g.*, Polygon 04-11).

At the drier end of the spectrum, toward the shoreline, DL85's young conifer forest ecosystems mostly transition to open woodland environments classified in the CDFmm/02 site series, with arbutus (*Arbutus menziesii*) and shore pine (*Pinus contorta* ssp. *contorta*) becoming more prevalent. Downslope, in lowland areas of the landscape, they transition to mixed forests classified in the CDFmm/04 site series, and deciduous forests in the CDFmm/14 site series, with an increasing occurrence of bigleaf maple, bitter cherry, black cottonwood (*Populus trichocarpa*), red alder, and western redcedar.

Figure 5. An active gravel pit and associated access roads covers an area of approximately 1.4 ha (Polygon 10-2).

Anthropogenic

CDFmm / 00 – CX, GP, RP, RR | CDFmm/01

Anthropogenic communities cover approximately 6.8 ha (~11%) of DL85. These non-forested areas include skidder trails (CX), rural areas (RR), and permanent road surface (RP). Six sites that have been cleared for rural residential purposes, including numerous small out-structures, have been mapped as rural areas (Polygons 09-1–6). The most heavily impacted area is an extensive (1.4 ha) gravel pit (GP) with several excavation points and a network of access roads throughout Polygon 10-2 (Fig. 5). Bodega Beach Drive was mapped as the only permanent road on DL85. Other roads are limited to skidder trails, which are less frequently used. About 15 feet wide, these old skidder trails often become congested by regenerating trees, though the skidder trail that leads to the rural areas toward the foreshore of the property is more well established and has been ditched and culverted to control drainage. A recent clear cut is also mapped on DL85 (Polygon 08-1), which dates to a logging event in 2003. This clear cut has been mapped as an early seral stage of conifer forest in the CDFmm/01 site series.

Areas mapped as anthropogenic are largely dominated by exotic species. Without ongoing management, these species may present a threat to surrounding natural ecosystems as a source of exotic seed dispersal. Scotch broom (*Cytisus scoparius*) is an invasive species of particular concern, especially where it is established in rural communities proximate to the shoreline (Polygons 09-2 and 09-5). Other exotic species of note on DL85 include tansy ragwort (*Jacobaea vulgaris*), and Canada thistle

(*Cirsium arvensis*), which were found throughout the rural areas and alongside roads and skidder trails. Scotch broom was particularly prevalent in Polygons 09-2, 09-3, 09-5, and in the gravel pit (Polygon 10-2). Native vegetation found throughout these rural areas included several water-loving species, such as slough sedge (*Carex obnupta*) and small-flowered bulrush (*Scirpus microcarpus*), indicative of the relatively moist character of the site as well as the heavily compacted water-table which has induced seasonal flooding in certain sites.

Figure 6. Young mixed forests (Polygon 06-3) stand at the margins of the cleared area in Polygon 09-5.

Young mixed forest – Grand fir / dull Oregon grape

CDFmm/04 – *Abies grandis* / *Mahonia nervosa*

Young mixed forests classified as CDFmm/04 encompass about 2.7 ha (~4%) of DL85. Most of these forests have regenerated from the clear-cut logging event that occurred in 1981/'82, dating their leading trees to ~40 years old (Polygons 06-1–6). However, a patch of mixed forests found at the southeastern edge of the property is older, dating to a logging event in 1966 (Polygons 03-1, 03-2). While this ecological community is generally found in mid-slope positions, on DL85 it is surprisingly well represented toward the foreshore of the property (Fig. 6). Here it is established along a moisture-receiving lower slope with relatively deep soils supporting dense stands of bigleaf maple and western redcedar, which contrasts with the shallow-soiled dry woodland environments that are common along Galiano Island's coast (e.g., Polygon 02-1). Soils are well-drained, with a medium texture, and are moderately dry, with a rich to very rich nutrient regime (BC CDC 2021d). While these communities have

naturally emerged from soils enriched by water flowing from the greater watershed, their hydrological regime has been altered to some extent due to the road and skidder trails that cross the property.

These mixed forests are largely dominated by Douglas-fir, with patches of bitter cherry, red alder, western redcedar, and the occasional occurrence of arbutus and bigleaf maple. The understory is less sparse as compared with the young zonal forests described above, exhibiting a greater percent cover of salal, oceanspray, and sword fern, with patches of vanilla leaf (*Achlys triphylla*), Pacific soft rush (*Juncus effusus* ssp. *pacificus*), and fragrant bedstraw (*Galium triflorum*), indicative of the relatively rich soil moisture and nutrient regime. Mosses such as badge moss (*Plagiomnium insigne*) and palm tree moss (*Leucolepis acanthoneuron*) are common and are also good indicators of this riparian forest community.

Figure 7. A young deciduous forest (Polygon 07-2) featuring broad-leaved trees such as black cottonwood, red alder, and bigleaf maple, with scattered western redcedars interspersed.

Young deciduous forest – Red alder / slough sedge [black cottonwood]

CDFmm/14 – *Alnus rubra* / *Juncus effusus* [*Populus trichocarpa*]

Young deciduous forests (Polygons 07-1–2) classified as CDFmm/14 encompass about 2.3 ha (~4%) of DL85. These forests have regenerated from the same clear-cut logging event in 1981/'82, dating the leading trees to ~40 years old. Deciduous trees such as black cottonwood, red alder, and bigleaf maple form the canopy (Fig. 7), with red elderberry (*Sambucus racemosa*) slough sedge and small-flowered

bulrush occurring in the understory. Deciduous stands occur relatively infrequently across Galiano Island and thus represent an important natural community of DL85.

Figure 8. Facing the Strait of Georgia, the shoreline of DL85 includes a thin strip of mature woodland.

Mature woodlands – Douglas-fir - Arbutus

CDFmm/02 – *Pseudotsuga menziesii / Arbutus menziesii*

About 1.7 ha (~3%) of DL86 comprise mature coastal woodlands classified in the CDFmm/02 site series (Fig. 8). This community occurs in a narrow 10–20 m wide band along the coastline (Polygons 02-1–3), supported by shallow soils which form a thin veneer over the sandstone bedrock. Owing to its slope position and gradient, the soil moisture regime of this community is very dry (xeric) to dry (subxeric), and the soil nutrient regime medium to very poor (BC CDC 2021b). In the overstory, dominant vegetation includes arbutus, shore pine, and Douglas-fir, with a sporadic occurrence of western redcedar, Scouler's willow, red alder, and bigleaf maple. The understory includes evergreen huckleberry, salal, wild rose (*Rosa nootkana*), baldhip rose (*Rosa gymnocarpa*), and trailing blackberry (*Rubus ursinus*), with wetter sections marked by the periodic occurrence of species such as stinging nettle (*Urtica dioica*). Along with mature conifer forests, mature mixed forests, and young deciduous forests mapped on the property, these mature woodlands rank among the most ecologically significant features on DL85.

Figure 9. A stand of mature mixed forest lies nearby the shoreline (Polygon 03-2).

Mature mixed forest – Grand fir / dull Oregon grape

CDFmm/04 – *Abies grandis* / *Mahonia nervosa*

Mature mixed forests classified as CDFmm/04 encompass about 1.2 ha (~2%) of DL86 (Fig. 9). These mixed stands (Polygons 03-1, 03-2) have a composition like the young mixed forests described above, though they are older, with more complex stand structure, dating to a logging event in 1966. Alongside the mature conifer forests, mature woodlands, and young deciduous forests mapped on the property, these stands are an ecologically valuable component of DL15's coastal landscape.

Figure 10. A tract of young woodland composed of arbutus and shore pine runs perpendicular to the shoreline in Polygon 05-1, contrasting with the surrounding young conifer forests.

Young woodlands - Douglas-fir - arbutus

CDFmm / 02 – *Pseudotsuga menziesii / Arbutus menziesii*

A narrow tract of young woodland (Polygon 05-1), classified in the CDFmm/02 site series, comprises about 1 ha (~2%) of DL85. This young woodland is composed primarily of arbutus and shore pine (Fig. 10) which, from an aerial view, contrasts strongly with the surrounding young conifer forests. A forestry map of DL85 produced by MacMillan Bloedel Ltd. (Fig. 11) situates this community at the interface between two cut blocks dating to 1981 and 1982. Possibly this site was used as a staging area for logging activities during that time, resulting in more significant impacts on soils and, in turn, delayed ecological succession. It is also possible that edaphic factors (thinner soils) have favoured the establishment of these species here, resulting in the contrasting ecological succession pattern seen in this community.

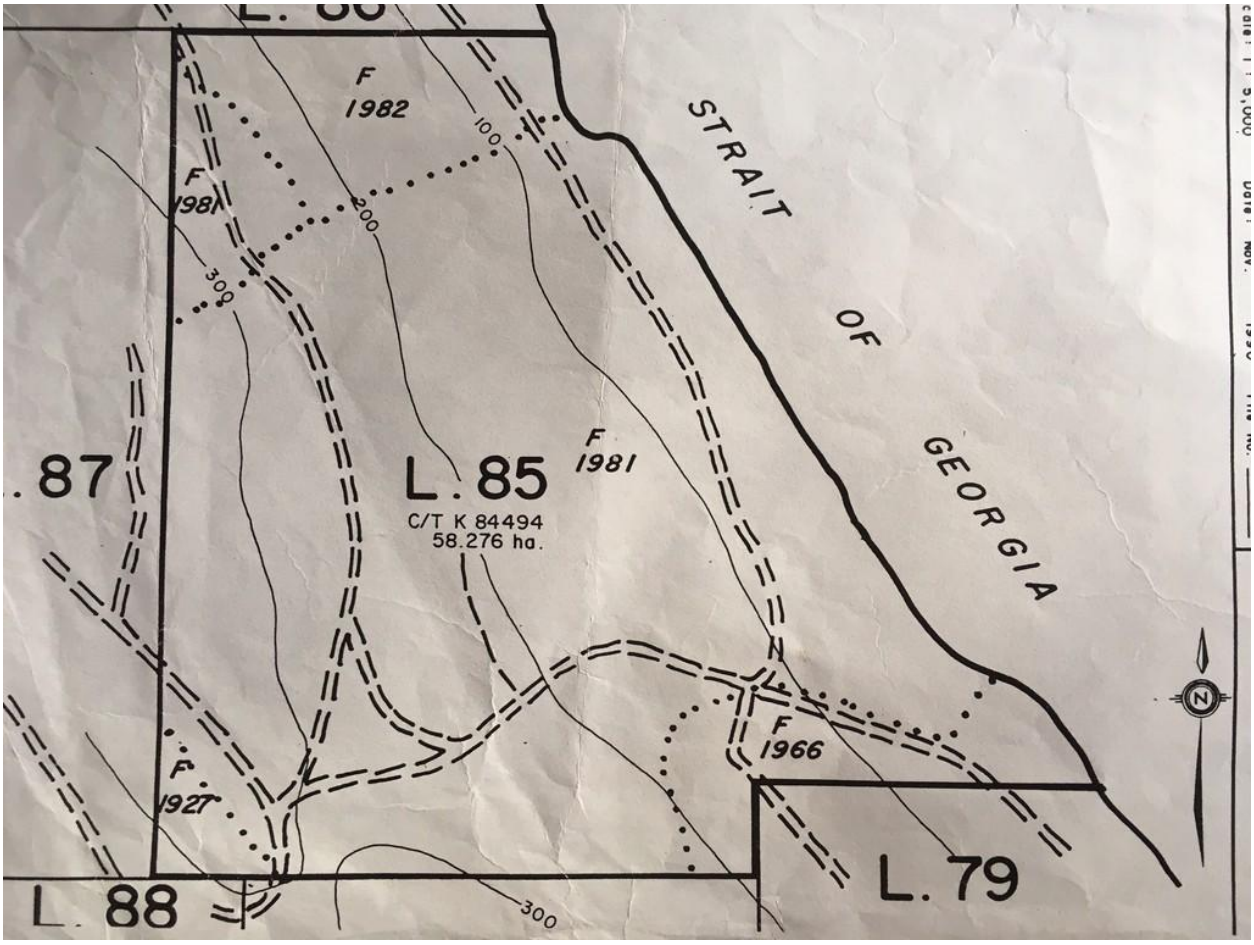

Figure 11. Forestry Map of DL15 produced by MacMillan Bloedel Ltd..

Figure 12. Mature conifer forests form a small band at the southern extent of DL85, coextensive with the large tract of mature conifer forests that surround Galiano Island's unique bog community in Ecological Reserve 128 (foreground).

Mature conifer forest – Douglas-fir / dull Oregon grape

CDFmm / 01 – *Pseudotsuga menziesii / Mahonia nervosa*

About 1 ha (~2%) of DL86 is classified as mature conifer forests in the CDFmm/01 site series (previously described). On DL85, these forests are represented in two successional stages: one stand dating to around 1927 (Polygon 01-1) and another older stand that has not been dated (Polygon 01-2). These stands are marginal in occurrence, lying toward the southern extent of the property. Douglas-fir dominates the canopy, with a robust understory of salal and evergreen huckleberry. Along with the mature woodlands, mature mixed forests, and young deciduous forest mapped on the property, these mature conifer forests represent the most significant ecological communities on the land and set a benchmark for how the seral conifer forests may mature if conserved.

10.2. Anthropogenic features

Numerous small structures were mapped on DL85, which, along with the gravel pit, rural areas, roads, and skidder trails established on the property, comprise the anthropogenic impacts on the land (Fig. 13). As described in Section 10.1, these anthropogenic areas are dominated by exotic species and should be managed to minimize the expansion/dispersal of invasives into surrounding intact natural areas.

10.3. Significant Natural Features

The significant natural features of DL85, mapped in Figure 14, include mature conifer forest, mixed forest, and woodlands, as well as young deciduous forests (Polygons 07-1, 07-2) which are marginal in occurrence on Galiano Island. The two deciduous stands mapped on DL85 emerge from moist depressions in the landscape and should be retained to help prevent wildfire and to conserve the natural integrity and habitat diversity of the landscape. Mature conifer forest (Polygons 01-1, 01-2), woodland (Polygon 02-1), and mixed forest communities (Polygons 03-1, 03-2) exist as a relic of mature second-growth forests previously established on the property. These mature communities represent a benchmark for how the property's young forest and woodland communities might develop in the future. Mature conifer forests at the southern extent of the property also form a natural buffer contiguous with an extensive tract of mature conifer forest protected in the adjacent Ecological Reserve 128 (Fig. 12). These natural features, alongside the ecological communities of conservation concern documented in Section 10.4, represent the key ecological values of the landscape and should be central to future conservation and management of the property.

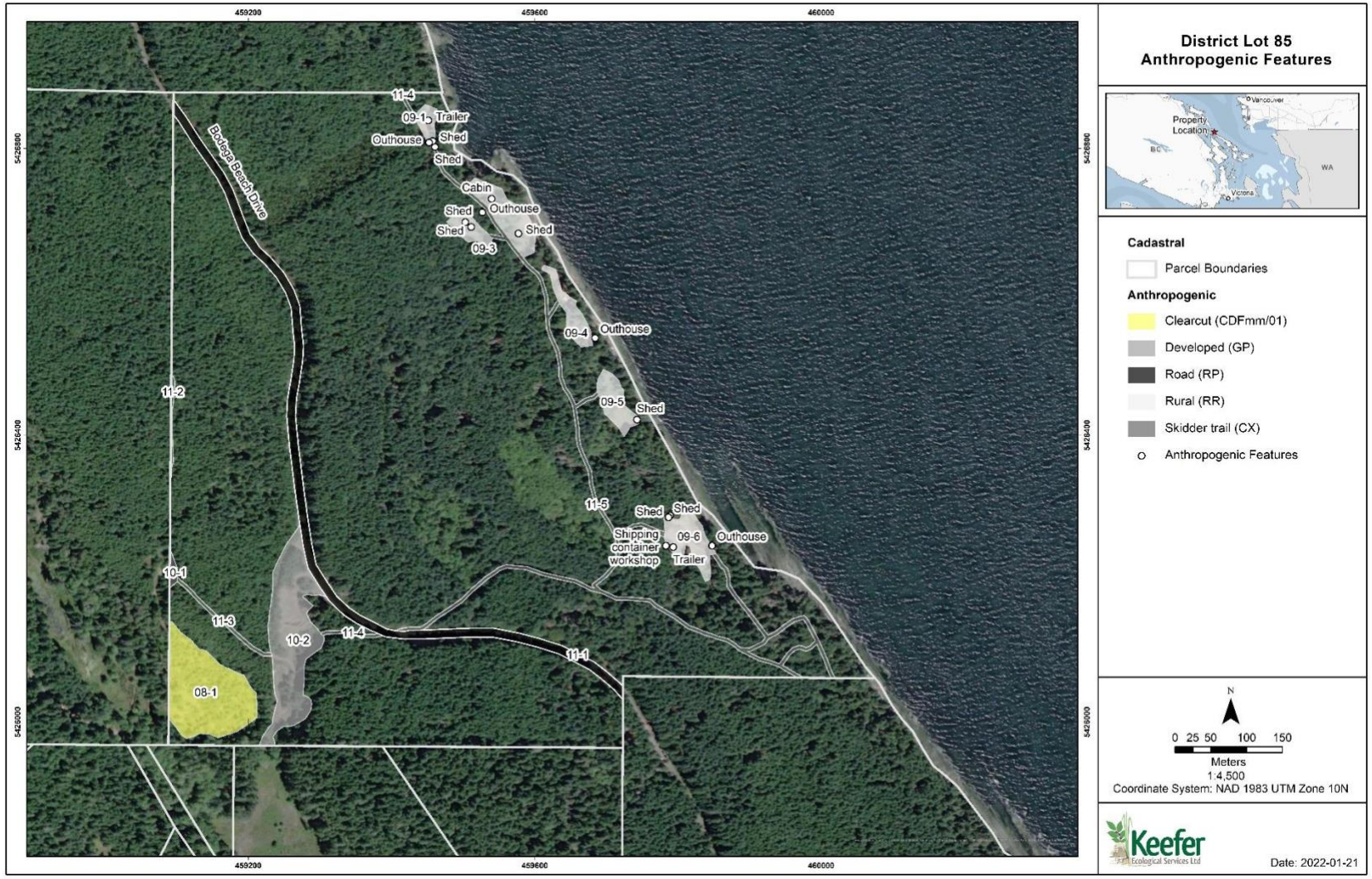

Figure 13. Anthropogenic features mapped on DL85.

Figure 14. Significant natural features mapped on DL85.

10.4. Ranked Ecological Communities

Four ecological communities mapped on DL85 are listed by the BC Conservation Data Centre as at-risk ecosystems (BC CDC, 2021), all of which are red-listed communities considered threatened in British Columbia (Table 3). While these communities are ranked as at-risk in BC regardless of their successional stage, those retained in a mature state are of greater ecological importance and should be prioritized for conservation. A description of these ecological communities, and a summary of their proportional representation across the landscape of DL85, is presented in Section 10.1. Figure 15 identifies the polygons representing each of these communities. Note, however, that these communities are mapped as deciles or components of each polygon, following the TEM methodology described in Section 9.1. Thus, there is one instance where a ranked community coincides with another ranked community within the same polygon (CDFmm/01 and CDFmm/04 are both represented in Polygon 04-4). In this case, the polygon is symbolized according to the dominant community.

Table 3. BC Conservation Data Centre Ranked Ecological Communities.

Ranking	Biogeoclimatic Unit	Ecological community
S1 (2018)	CDFmm /01	Douglas-fir / dull Oregon grape
S2 (2004)	CDFmm /02	Douglas-fir / shore pine - arbutus
S1 (2009)	CDFmm /04	western redcedar / Douglas-fir - Oregon beaked-moss
S1 (2006)	CDFmm/14	red alder / slough sedge [black cottonwood]

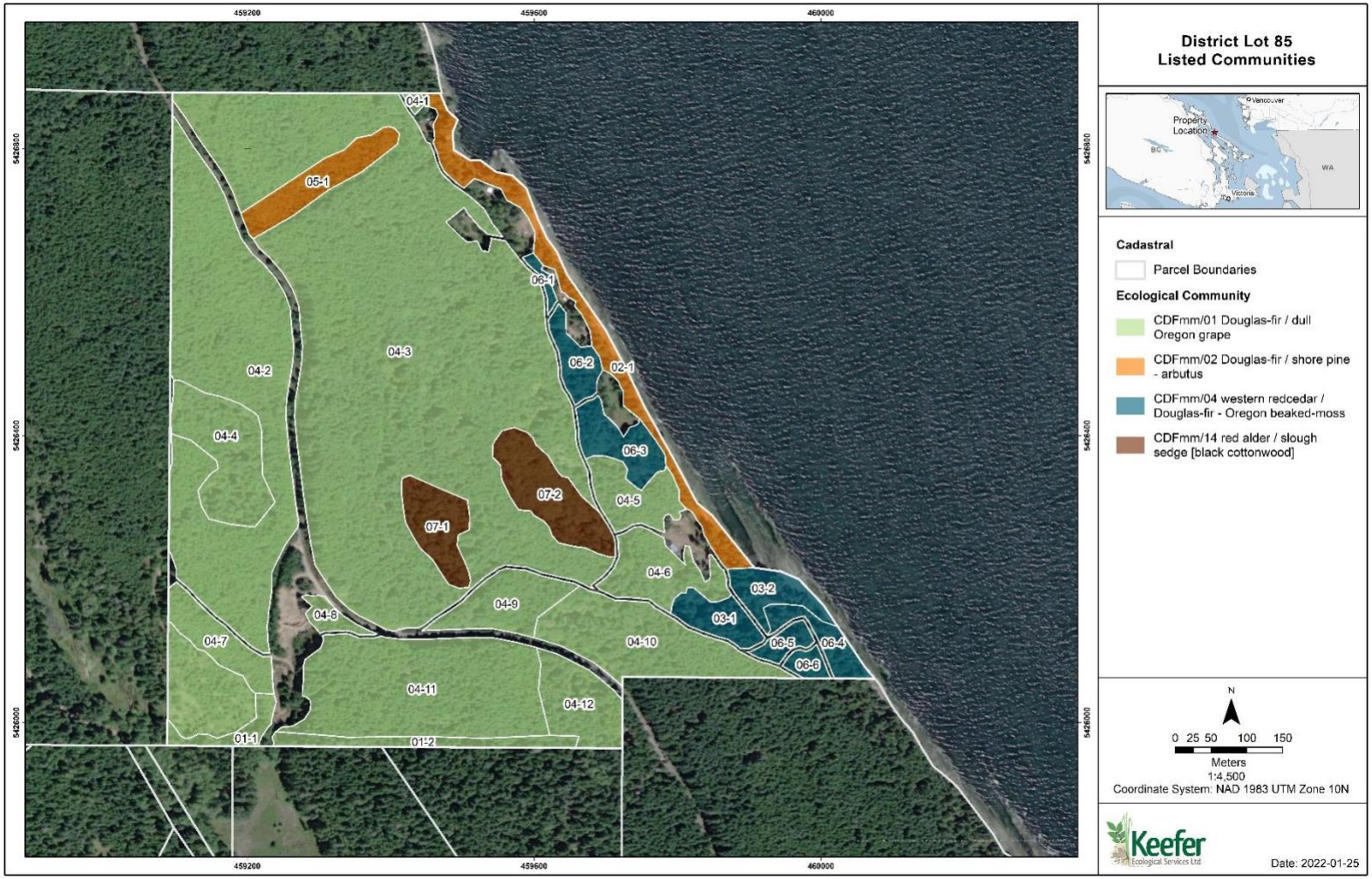

Figure 15. Distribution of ecological communities of conservation concern at DL85.

11. Threats to condition and natural state

Climate change

Climate change has ongoing implications for the ecology of the Coastal Douglas-fir BEC Zone, causing increasing forest fire risk and drought stress (Klassen et al., 2015), the signs of which are particularly evident in the decline of western redcedar in the region (Seebacher, 2007). These signs of stress, however, were not conspicuous throughout the forest communities of DL85, perhaps owing to the relatively moist character of the forests established on the property. The western redcedar observed during this survey appeared healthy, and a fair amount of regeneration was also observed in the understory of some communities (e.g., Polygon 04-11). Nevertheless, the forested ecosystems of DL85 remain subject to climatic stressors, including the increasingly severe seasonal drought and winter precipitation predicted under future climate scenarios (Klassen et al., 2015; Salathé et al., 2008; Spies et al., 2010), which may alter the ecological succession of these communities. Ongoing monitoring of the forested ecosystems of DL85, with western redcedar serving as a potential indicator, is recommended.

Cumulative effects

District Lot 85 is surrounded by a matrix of protected and rural land that has been subject to a history of industrial forestry and rural development and continues to be affected by several anthropogenic factors, including climate change. The activities associated with roads, utility corridors, and nearby subdivision development contribute to numerous stressors having cumulative impacts on the surrounding ecology, which may result in diminishing wildlife habitat, intensified grazing by ungulates such as black-tailed deer, and increasing invasion by alien species (Martin et al., 2011; Shackelford et al., 2019; Shackelford et al., 2018).

Direct anthropogenic threats associated with development

Invasive species

On DL85, several invasive species, including Scotch broom, tansy ragwort, bull thistle, and Himalayan blackberry, were noted during this baseline inventory. Each species requires a particular management regime to ensure they are effectively controlled. Any further modification of the lands, including construction, maintenance, and the everyday use of trails and other infrastructure, may increase the abundance of invasive species on DL85. Management plans should account for potential increases in these activities in the future, to ensure the integrity of the property's ecosystems.

12. Representation of ecological communities in relation to site plan

A conceptual lot layout for DL85 is being developed by McElhanney Consulting Services Ltd. for the proposed rezoning of DL85 (Fig. 16). This site plan delineates five rural residential lots (10 ha) and a resource lot (2.8 ha) as developable portions of the property, as well as a covenanted F3 forestry lot (20

ha). Additionally, the proponents propose to set aside land for an amenity lot (0.9 ha), parkland (22.3 ha), and road dedication (3.6 ha), to be considered as public amenities in exchange for the rezoning of the property. Table 4 summarizes the proportional representation of DL85's ecological communities in relation to the proposed covenanted, developable, and transfer portions of the land, organized in descending rank order of area covered.

Table 4. Intersection of ecological communities and site plan.

Ecological Communities	Area	Covenant	Developable		Transfer		
		Forestry	Rural	Resource	Amenity	Parkland	Road
Young conifer forest	43.2 ha	34%	14%	3%	2%	42%	5%
Anthropogenic	6.8 ha	14%	22%	20%		22%	22%
Young mixed forest	2.7 ha	32%	50%			18%	
Young deciduous forest	2.3 ha	94%	6%				
Mature woodland	1.7 ha	22%	76%			2%	
Mature mixed forest	1.2 ha	100%					
Mature conifer forest	1 ha			10%		90%	
Young woodland	1 ha		2%		8%	78%	12%

13. Development Permit Areas

There are three Development Permit Areas (DPAs) mapped on DL85, including: DPA 2, Shoreline; DPA 3, Tree Cutting and Removal; and DPA 7, Steep Slope / Moderate Hazard. The developable area proposed in the Site Plan intersects with each of these three DPAs.

Within these designations, land alteration, construction and subdivision are restricted until a development permit is obtained.

Consideration for each of these DPAs with respect to the proposed site plan lies beyond the scope of this Ecological Overview Report.

Figure 16. Conceptual lot layout of DL85 intersected with map of ecological communities

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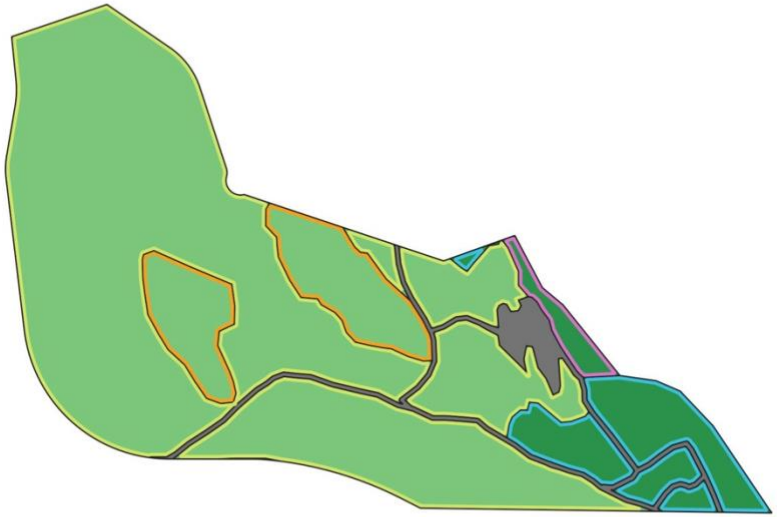
SCHEDULE C : NATURAL CONDITIONS

Ecosystem Type	CDFmm01 – Douglas-fir / Dull Oregon-grape	CDFmm02 – Douglas-fir / Arbutus	CDFmm04 – Western Redcedar / Three-leaved Foamflower	CDFmm14 – Red Alder / Slough Sedge [Black Cottonwood]
Natural Disturbance Regime	● Infrequent, mixed-severity fires every 200–500 years. ● Small-scale disturbances such as windthrow and root rot.	● Low-intensity surface fires every 50–150 years. ● Drought stress and shallow soils increase small-scale mortality.	● Very infrequent high-severity disturbances every 500–700 years. ● Small-scale disturbances include windthrow, mortality from root diseases.	● Infrequent stand-replacing events; localized windthrow common in saturated soils. ● Seasonal flooding and fluctuating water tables are primary disturbance drivers.
Canopy Gap Characteristics	● **Gap Size:** Typically 0.01 to 0.2 ha, from individual tree mortality. ● **Gap Frequency:** 1–2 small gaps per hectare.	● **Gap Size:** 0.05–0.3 ha typical, up to 1 ha during more severe events. ● **Gap Frequency:** 2–3 gaps per hectare.	● **Gap Size:** 0.05–0.3 ha typically; rarely up to 1 ha. ● **Gap Frequency:** ~0.5–1 gap per hectare.	● **Gap Size:** Typically 0.02–0.15 ha from windthrow or individual tree mortality. ● **Gap Frequency:** ~1–2 gaps per hectare in mature stands.
Structural Stages & Basal Area Young = 0 – 40 years Immature = 40 – 80 years Mature = 80 – 250 years Old = 250+ years	● Mosaic of structural stages with late-seral dominance: ○ Young/Immature forest (10–40%) ▪ 25 – 35 m^2/ha ○ Mature forest (30–40%) ▪ 40 – 50 m^2/ha ○ Old forest (30–40%) ▪ 50 – 60+ m^2/ha	● Predominantly mature to old structural stages: ○ Young/Immature (20–30%) ▪ 20 – 30 m^2/ha ○ Mature (30–50%) ▪ 35 – 45 m^2/ha ○ Old (20–40%) ▪ 45 – 55+ m^2/ha	● Dominated by mature and old forest conditions: ○ Young/Immature (naturally rare) ▪ 30 – 40 m^2/ha ○ Mature (30–50%) ▪ 45 – 55 m^2/ha ○ Old (40–60%) ▪ 55 – 65+ m^2/ha	● Even-aged young to immature stands dominant: ○ Young/Immature (70–90%) ▪ 20 – 35 m^2/ha ○ Mature (10–20%) ▪ 30 – 40 m^2/ha ○ Old (rare) ▪ 35 – 45 m^2/ha
Primary and Secondary Vegetation	● **Overstory:** Douglas-fir (*Pseudotsuga menziesii*), occasional western redcedar *(Thuja plicata*), and grand fir (*Abies grandis*). ● **Understory:** Dull Oregon-grape (*Berberis nervosa*), salal (*Gaultheria shallon*), sword fern (*Polystichum munitum*), Oregon beaked moss (*Eurhynchium oreganum*).	● **Overstory:** Douglas-fir, arbutus (*Arbutus menziesii*), occasional Garry oak (*Quercus garryana*). ● **Understory:** Oceanspray (*Holodiscus discolor*), snowberry (*Symphoricarpos albus*), hairy honeysuckle (*Lonicera hispidula*), fescues (*Festuca spp.).*	● **Overstory:** Western redcedar, bigleaf maple (*Acer macrophyllum*), western hemlock (*Tsuga heterophylla*). ● **Understory:** Three-leaved foamflower (*Tiarella trifoliata*), salmonberry (*Rubus spectabilis*), red huckleberry (*Vaccinium parvifolium*), liverworts, and moisture-dependent mosses.	● **Overstory:** Red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa*), bigleaf maple (*Acer macrophyllum*). ● **Understory:** Red-osier dogwood (*Cornus sericea*), salmonberry (*Rubus spectabilis*), common snowberry (*Symphoricarpos albus*), Pacific crab apple (*Malus fusca),* Slough sedge (*Carex obnupta*), small-flowered bulrush (*Scirpus microcarpus*), rushes (*Juncus spp.).*
Trees per Hectare	● Estimated 300–500 trees/ha in natural mature stands,	● ~200–400 trees/ha in open, fire-maintained stands.	● Dense stands in early stages (~500–700 trees/ha); older	● Dense young stands: ~700–1,000 trees/ha.

	decreasing with age and gap creation.		stands lower density (~200–400 trees/ha).	● Thins naturally to ~300–500 trees/ha by mature stages.
Species Diversity	● Moderate to high in herbaceous and shrub layers.	● High understory diversity due to open canopy and frequent fire.	● Very high herbaceous and bryophyte diversity due to mesic conditions.	● High shrub and herbaceous diversity; wet soils support specialized sedges, rushes, and moisture-dependent herbs.
Key Restoration Recommendations	● Avoid large openings; encourage small gaps. ● Retain coarse woody debris and snags. ● Allow for structural complexity and regeneration in patches.	● Use prescribed fire to replicate natural disturbance. ● Maintain open canopies to support arbutus and fire-adapted species. ● Encourage natural regeneration.	● Limit intervention: allow natural succession. ● Avoid canopy openings; preserve closed canopy. ● Enhance riparian connectivity and shade.	● Maintain hydrology and natural flood regime. ● Avoid soil compaction and drainage alterations. ● Retain deciduous canopy and coarse woody debris. ● Control invasive reed canarygrass and Himalayan blackberry.
Canopy Opening Recommendation	● 1–2 small gaps (~0.01–0.2 ha) per hectare.	● 2–3 small gaps (~0.05–0.3 ha) per hectare.	● ~0.5–1 small gap (~0.05–0.3 ha) per hectare.	● 1–2 small gaps (~0.02–0.15 ha) per hectare.

Structural Stage Distribution for DL 85

Current Distribution



Example Ideal Distribution

Old (+250 years) Mature (80-250 years) Young/Immature (0-80 years) Canopy Opening N/A

CDFmm01 CDFmm02 CDFmm04 CDFmm14

SCHEDULE D : HARVESTING GUIDELINES

Ecosystem Type	CDFmm01 – Douglas-fir / Dull Oregon-grape	CDFmm02 – Douglas-fir / Arbutus	CDFmm04 – Western Redcedar / Three-leaved Foamflower	CDFmm14 – Red Alder / Slough Sedge [Black Cottonwood]
Canopy Gap and Tree Retention				
Preferred Gap Size (ha)	0.01–0.2	0.05–0.3	0.05–0.3	0.02–0.15
# of Gaps per Hectare	1–2	2–3	0.5–1	1–2
Primary Tree Retention	Retain all Douglas-fir ≥ 60 cm DBH; 3–5 snags/ha	Retain all Arbutus and Douglas-fir ≥ 50 cm DBH; 3–5 snags/ha	Retain all Western redcedar ≥ 50 cm DBH; 5 snags/ha	Retain all red alder ≥ 40 cm DBH, black cottonwood ≥ 50 cm DBH; ≥ 3 wildlife snags/ha.
Notes	Avoid large openings; retain structural diversity	Prescribed fire encouraged for regeneration	Avoid canopy openings in mesic sites	Maintain canopy over wet soils to shade understory and reduce invasive spread; avoid large-scale canopy removal to protect hydrology.
Understory and Ground Cover Retention				
Priority Understory Species	Dull Oregon-grape, Salal, Sword fern	Oceanspray, Hairy honeysuckle, Snowberry, Fescues	Three-leaved foamflower, Salmonberry, Red huckleberry, liverworts, moss mats	Slough sedge, small-flowered bulrush, red-osier dogwood, salmonberry, Pacific crab apple.
Min. Patch Size	25-50 m²	20–50 m²	50-100 m²	50–100 m²
Where to Retain	Moist, shady spots near CWD	Around arbutus clusters and rocky openings	Along streams, moist depressions, riparian edges	Moist depressions, seasonally flooded flats, and along stream margins.
Coarse Woody Debris (CWD) and Deadwood Retention				
CWD Requirement	6–10 logs/ha	8–12 logs/ha	10–15 logs/ha	8–12 logs/ha
Type	≥30 cm diameter, ≥5 m length	≥20 cm diameter, ≥3 m length	≥25 cm diameter, ≥5 m length	≥ 25 cm diameter, ≥ 5 m length
Notes	Retain windthrown and naturally decaying logs	Essential for moisture retention and regeneration	Avoid removal; important for moss and liverwort habitat	Retain large hardwood logs and root wads; essential for nutrient cycling and amphibian habitat in wet sites.
Special Considerations				

Additional Notes	Avoid logging during nesting season (April–July). Retain mature Douglas-fir near gaps for wind firmness.	Use small, irregular gaps. Prescribed fire beneficial every 50–100 years where safe	No broadcast burning or large clearings. Preserve riparian corridors and connectivity.	Avoid soil disturbance and drainage changes; do not harvest during peak bird nesting (April–July); monitor and control reed canarygrass and Himalayan blackberry.