

Your electronic signature is a representation that you are a subscriber as defined by the Land Title Act, RSBC 1996 c.250, and that you have applied your electronic signature in accordance with Section 168.3, and a true copy, or a copy of that true copy, is in your possession.

1. APPLICATION: (Name, address, phone number of applicant, applicant's solicitor or agent)

Deduct LTSA Fees? Yes

2. PARCEL IDENTIFIER AND LEGAL DESCRIPTION OF LAND:  
[PID] [LEGAL DESCRIPTION]

STC? YES

3. NATURE OF INTEREST	CHARGE NO.	ADDITIONAL INFORMATION
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4. TERMS: Part 2 of this instrument consists of (select one only)  
(a) Filed Standard Charge Terms D.F. No. (b) Express Charge Terms Annexed as Part 2  
A selection of (a) includes any additional or modified terms referred to in Item 7 or in a schedule annexed to this instrument.

5. TRANSFEROR(S):

6. TRANSFEREE(S): (including postal address(es) and postal code(s))

7. ADDITIONAL OR MODIFIED TERMS:

8. EXECUTION(S): This instrument creates, assigns, modifies, enlarges, discharges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Officer Signature(s)

Execution Date

Transferor(s) Signature(s)

Y	M	D

OFFICER CERTIFICATION:  
Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the Evidence Act, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the Land Title Act as they pertain to the execution of this instrument.

**EXECUTIONS CONTINUED****Execution Date**

Transferor / Borrower / Party Signature(s)

Y	M	D
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Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

LAND TITLE ACT  
FORM E

SCHEDULE	PAGE	OF	PAGES
NATURE OF INTEREST	CHARGE NO.	ADDITIONAL INFORMATION	

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**TERMS OF INSTRUMENT – PART 2  
SECTION 219 DEVELOPMENT COVENANT**

THIS AGREEMENT dated for reference \_\_\_\_\_, 2018 is

BETWEEN:

**GREENLANE HOMES INC.**, Inc. No. BC1085102  
9031 Briar Road  
Burnaby BC V3N 4V5

(the "Owner")

AND:

**TOWN OF GIBSONS**, a municipal corporation having an address at  
474 South Fletcher Road  
Box 340  
Gibsons BC V0N 1V0

(the "Town")

GIVEN THAT:

- A. The Owner is the registered owner in fee simple of those parcels of land which are legally described as:  
  
Block 7, District Lot 842, Plan 6755  
  
(the "Lands");
- B. The Owner wishes to develop the Lands into a mixed-use area primarily consisting of residential and tourist accommodation uses with a small area commercial of commercial use to support the development of a compact, pedestrian-oriented community (the "Development");
- C. The Owner wishes to complete the Development in three phases;
- D. The Owner has completed, to the satisfaction of the Town, a Wildland Fire Interface Protection Plan that identifies forest fire protection measures that are to be incorporated into the Development (the "Wildland Fire Protection Plan") enclosed as Schedule D;



- E. The Town has developed Form and Character Development Permit Area guidelines for the Lands, in accordance with the *Gospel Rock Neighbourhood Plan*;
- F. The Town wishes to ensure that the entire Development is completed in accordance with the requirements of the Gospel Rock Neighbourhood Plan and in the public interest;
- G. In connection with the proposed rezoning of the Lands pursuant to *Gospel Rock Village Amendment Bylaw No. 1065-43, 2018* which will rezone the Lands to Comprehensive Development Area Zone 4 ("CDA-4"), the Owner wishes to grant to the Town a covenant under section 219 of the *Land Title Act* regarding the use, development and subdivision of the Lands;

THIS AGREEMENT IS EVIDENCE THAT in consideration of the payment of \$1.00 from the Town to the Owner and other good and valuable consideration (the receipt and sufficiency of which the Owner acknowledges), the Owner covenants and agrees with the City under section 219 of the *Land Title Act* as follows:

## **1.0 DEFINITIONS**

### **1.1 In this Agreement,**

- 1.1.1 "Bylaw 1175" means the Town's *Subdivision and Development Servicing and Stormwater Management Bylaw No. 1175, 2012*;
- 1.1.2 "Phase" or "Phases" means the three phases of development in general, while "Phase 1" means the first phase of the Development, "Phase 2" means the second phase of the Development, and "Phase 3" means the final phase of the Development;
- 1.1.3 "Servicing" means the same as "Works and Services" as defined in Bylaw 1175; and
- 1.1.4 "Sub Area 4" means the proposed lots located at the north-east corner of the Lands and indicated on Schedule B – Zoning Map as sub-area 4.

## **2.0 GENERAL DEVELOPMENT CONDITIONS**

- 2.1 The Development shall be completed substantially in compliance with the boundaries and order of development indicated on Schedule A – Phasing Plan.
- 2.2 Unless otherwise indicated, all obligations included in this Agreement and pertaining to a particular Phase shall be completed prior to subdivision approval for that Phase. In the event subdivision is not undertaken or is not required, all

obligations included in the Agreement and pertaining to a particular Phase shall be completed prior to building permit issuance for that Phase.

- 2.3 Unless otherwise indicated, all servicing and stormwater improvements or obligations shall be completed in accordance with the requirements of Bylaw 1175.
- 2.4 All trunk services shall be constructed to serve the ultimate buildout of the Gospel Rock neighbourhood.
- 2.5 The sanitary collection system shall be connected directly to the Town's wastewater treatment plant.
- 2.6 In accordance with Bylaw 1175, a Servicing Agreement shall be required for each Phase of the Development.
- 2.7 Ten percent (10%) of residential units constructed in each phase of the Development, unless otherwise agreed between the parties, shall be purpose-built -market rate-rental housing units (the "Affordable Housing Units").
- 2.8 The assortment of unit types, including bachelor, 1-, 2-, and 3-bedroom units, constructed as Affordable Housing Units shall be based on market conditions and be to the satisfaction of the Director of Planning.
- 2.9 If Affordable Housing Units are located within an apartment building or other multi-family development, they must not be stratified unless the Owner provides assurances to the Town, to the satisfaction of the Director of Planning, that the Affordable Housing Units will, in perpetuity, be rented as long-term residences.
- 2.10 The Town may require the Owner to register a covenant in the Land Title Office that prohibits strata subdivision of Affordable Housing Units.
- 2.11 Affordable Housing Units must not be used for short term rental uses.
- 2.12 For all development on the Lands, including Sub Area 4, the Owner shall, prior to subdivision or if no subdivision is required prior to building permit issuance, register at the Land Title Office a restrictive covenant which establishes any building specifications that are required by the Wildland Fire Protection Plan, and to the satisfaction of the Town.

### **3.0 SHAW-INGLIS ROAD EXTENSION**

- 3.1 Chaster Road shall be the primary access route into the Development until the Shaw-Inglis Road Extension (the "Road Extension") is constructed.

- 3.2 A maximum of 250 residential units using Chaster Road as access to and from Pratt Road, inclusive of any residential units that are constructed or under construction at the time of this Agreement, may be constructed within the Gospel Rock Neighbourhood Plan area, as defined by the Town's Official Community Plan, Bylaw 985 prior to the Road Extension being constructed.
- 3.3 If the Owner, prior to the construction of the Road Extension, seeks rezoning or subdivision of the Lands or any portion thereof, the Town may require no build covenants be registered at the Land Title Office over any portion of the Lands, if the development of that portion of the Lands would cause the number of residential units to exceed the cap established in 3.2.
- 3.4 The Owner, at the Owner's expense, shall provide the Town with a study, completed by a qualified professional, which outlines the planning, design, and development of the Road Extension (the "Road Extension Study") and includes:
  - 3.4.1 Preferred road alignments for connecting Chaster Road to Inglis Road;
  - 3.4.2 Cross-section designs acceptable to the Director of Infrastructure Services and which includes the following specifications within a twenty (20) meter wide road dedication:
    - 3.4.2.1 Six (6) metre width travelled road surface;
    - 3.4.2.2 Gravel shoulders;
    - 3.4.2.3 Three (3) metre width multiuse path constructed to a Type 2 trail standard as indicated in Bylaw 1175; and
    - 3.4.2.4 Open drainage;
  - 3.4.3 Construction costs of the Road Extension (the "Road Extension Costs");
- 3.5 The Owner shall contribute to the Road Extension Costs, at the time of subdivision, the amount that is apportioned to that portion of the Lands being subdivided as is calculated by the Town using the information provided by the Owner in 3.4.3
- 3.6 In accordance with sections 511(3) and 568(3) of the *Local Government Act*, the Owner acknowledges and agrees that they shall pay all development cost charges that become attributable to the Lands pursuant to a development cost charges bylaw that may be enacted by the Town after the date of this Agreement.
- 3.7 Prior to the approval of the Phase 1 subdivision, the Owner may, in the event that the Town has not enacted a development cost charges bylaw to account for

the Road Extension Costs, provide cash-in-lieu for the total Road Extension Costs allocated to the Lands in 3.5.

#### **4.0 PHASE 1**

##### **4.1 Early Development of Sub Area 4**

4.1.1 Sub Area 4 may be developed in advance of Phase 1 and prior to the completion of the subdivision requirements for Phase 1.

4.1.2 Road frontage upgrades, as required by Bylaw 1175, to that portion of Gower Point Road that is adjacent to Sub Area 4 shall be completed concurrently with the development of Sub Area 4, whether Sub Area 4 is developed before, after, or concurrently with Phase 1.

##### **4.2 Lifecycle Cost Analysis, Local Area Service, and Latecomer Agreement**

4.2.1 The Owner shall provide the Town, at the Owner's cost, a lifecycle cost analysis of relevant water, storm and sanitary infrastructure (the "**Lifecycle Cost Analysis**"), which shall include:

4.2.1.1 A determination of infrastructure costs related to the annual operation and maintenance, as well as end of service life replacement of proposed upgrades to the Town's infrastructure that are required to service the Development and any additional future development on adjacent parcels; and

4.2.1.2 The identification of any incremental costs that the Town and/or property owners would incur if a Local Area Service (the "**LAS**") were to be applied to new homes in the Development.

4.2.2 The Town may, subject to Council direction, support an Owner-initiated LAS if, prior to the approval of a subdivision of the Lands, the Owner provides a petition, in accordance with the requirements of section 212 of the Community *Charter*, and which has been certified as sufficient and valid by the Town's corporate officer.

4.2.3 The Town, in accordance with section 508 of the *Local Government Act*, shall require the owners of parcels who undertake future developments that will benefit from the servicing and stormwater infrastructure constructed by the Owner to enter into Latecomer Agreements.

##### **4.3 Pre-Requisites to Phase 1 Development**

4.3.1 As a condition of Phase 1 subdivision approval, the Owner shall:

- 4.3.1.1 Complete the park dedications, including Gospel Rock Waterfront, Cross Rock and Little Africa parks, as shown on Schedule A;
- 4.3.1.2 Develop a Parks and Open Space Plan for the Lands (the “**Parks Plan**”) in consultation with the Town and to the satisfaction of the Director of Infrastructure Services, which includes:
  - 4.3.1.2.1 trail locations for all trails shown on Schedule C;
  - 4.3.1.2.2 trail alignment and design specifications, including cross-section designs, for all trails shown on Schedule C;
  - 4.3.1.2.3 location and design of signage for parks shown on Schedule A and for all trails shown on Schedule C;
  - 4.3.1.2.4 park improvements, including public art; and
  - 4.3.1.2.5 location, design, and maintenance provision for a public washroom.
- 4.3.1.3 Register at the Land Title Office the required instruments, which may include no build covenants, statutory right-of-ways, or conservation covenants, to preserve the portion of the Lands indicated as “Phase 1 Greenbelt” on Schedule A, to the satisfaction of the Director of Planning; and
- 4.3.1.4 Undertake measures recommended in geotechnical reports, or otherwise recommended by qualified professionals, and to the satisfaction of the Director of Planning, to manage, secure or preserve portions of the Lands that are determined to be sensitive, hazardous or of natural heritage value.

#### **4.4 Development of Phase 1**

- 4.4.1 Phase 1 shall include a tourist accommodation building and a mix of residential units in the form of apartments, townhouses, and single-family dwellings as shown on Schedules A and B;
- 4.4.2 Phase 1 development shall include:
  - 4.4.2.1 Construction of frontage upgrades as required under Bylaw 1175 for all public roads within Phase 1 and the entire section of Chaster Road fronting the Lands;

- 4.4.2.2 Construction of the road structure, six (6) meter wide paving, gravel shoulders and a gravel multi-use path that meets the collector road standard under Bylaw 1175 on that portion of Chaster Road from the west property line of the Lands to Mahan Road; and
- 4.4.2.3 Construction of a secondary emergency access connection according to the requirements of Bylaw 1175 and in a location to the satisfaction of the Town's Approving Officer.

#### **4.5 Phase 1 Gower Point Road Upgrades**

- 4.5.1 The Owner shall, prior to completion of Phase 1 development, construct to the satisfaction of the Director of Infrastructure Services, the road surface and adjacent multi-use path on that portion of Gower Point Road running from Franklin Road to the Town-Sunshine Coast Regional District boundary, which will incorporate the following design features and standards:
  - 4.5.1.1 A road surface containing two vehicle lanes with a minimum width of three (3) metres each;
  - 4.5.1.2 Traffic calming elements, road alignment or other design features to facilitate a maximum speed of 30 kmh;
  - 4.5.1.3 design elements that will ensure the safety of southbound/westbound cyclists, heading towards Mahan Road;
  - 4.5.1.4 Open drainage is to be utilized where feasible;
  - 4.5.1.5 Curb and gutters are to be used only where they are specifically required for traffic calming, road alignment, protection from erosion, or as an element of the multi-use path; and
  - 4.5.1.6 The multi-use path will be constructed on the water-side of the road and will be designed to accommodate pedestrians as well as northbound/eastbound cyclists heading towards Franklin Road. The multi-use path will be three (3) metres wide and will be composed of, as space permits, a mix of boardwalk, asphalt shoulder and grade separated asphalt path.

#### **4.6 Phase 1 Park Development**

- 4.6.1 The Owner shall, as part of Phase 1 development:

- 4.6.1.1 Construct trails A, B, C, and H as shown on Schedule C in accordance with the Parks Plan and with Bylaw 1175, and to the satisfaction of the Director of Infrastructure Services;
- 4.6.1.2 Prepare to the satisfaction of the Director of Infrastructure Services and register at the Land Title Office, a blanket right-of-way over the entire parcel to secure public access over all trails shown on Schedule C. This blanket right-of-way may be modified, or limited to specified areas, at any time after the trails have been surveyed and constructed;
- 4.6.1.3 Construct to the satisfaction of the Director of Infrastructure Services public access, including for pedestrians and cyclists, to all parks shown on Schedule A and to trails A, B, C and H as shown on Schedule C; and
- 4.6.1.4 Prepare to the satisfaction of the Director of Infrastructure Services and register with the Land Title Office a statutory right-of-way over the area indicated as "Statutory ROW for public access to Greenway + Village Green" on Schedule C, to provide public access over the privately-owned greenspace indicated as "Greenlane" and "Village Green" on Schedule B.

## **5.0 PHASE 2**

- 5.1 Phase 2 shall include a mix of residential units in the form of apartments and townhouses as shown on Schedules A and B;
- 5.2 Phase 2 development shall include:
  - 5.2.1 Construction of trails D and E as shown on Schedule C, in accordance with the Parks Plan and to the satisfaction of the Director of Infrastructure Services;
  - 5.2.2 Construction of public access, including for pedestrians and cyclists, to trails D and E as shown on Schedule C, to the satisfaction of the Director of Infrastructure Services; and
  - 5.2.3 Installation of all field markers, plantings, and signage for all parks shown on Schedule A in accordance with the Parks Plan.

## **6.0 PHASE 3**

- 6.1 Phase 3 shall include a mix of residential units in the form of apartments and townhouses as shown on Schedules A and B.
- 6.2 Prior to the issuance of occupancy permits for Phase 3, the Owner shall provide the Town with a financial contribution of \$200,000 to be used for parks and trail improvements in accordance with the Parks Plan and not otherwise required by this covenant.
- 6.3 Phase 3 development shall include:
  - 6.3.1 Construction of trails F and G, in accordance with the Parks Plan and as show on Schedule C;
  - 6.3.2 Registration with the Land Title Office, and prepared to the satisfaction of the Director of Infrastructure Services, of all dedications or right-of-ways necessary for all trails constructed as part of the Development and shown on Schedule C; and
  - 6.3.3 Registration with the Land Title Office, and prepared to the satisfaction of the Director of Parks, of all dedications or right-of-ways necessary to provide public access to all public trails and parks show in Schedules A and C.

**7.0 Other Development Requirements** – The Owner acknowledges and agrees that this Agreement does not include all the requirements for development of the Lands or any portion of the Lands, and that prior to construction or other development work, the Owner shall obtain all necessary development permits, development variance permits, building permits, and other required approvals from the Town. The Owner acknowledges and agrees that acceptance of this Agreement by the Town is not confirmation that permits and other approvals will be granted or given by the Town.

**8.0 Other Subdivision Requirements** – The Owner acknowledges and agrees that this Agreement does not include all the requirements for subdivision of the Lands or any portion of the Lands, and that subdivision is a matter governed by the Approving Officer, who is an independent officer of the Town, based on his or her application of statutory requirements and his or her determination of the public interest. The Owner further acknowledges and agrees that although the Owner may have already supplied plans and other information to the Town pursuant to this Agreement, the acceptance of this Agreement and the plans by the Town for the purposes of this Agreement is not confirmation that those plans or information are satisfactory to the Approving Officer, or complete, or that any subdivision of the Lands or a portion of the Lands will be approved.

**9.0 Third Party Approvals** – The Owner also acknowledges and agrees that acceptance of this **Covenant** by the Town does not relieve the Owner from obtaining all necessary



approvals, permits, releases and authorizations from other land owners, charge holders, government ministries and any other person who may have an interest in the Lands or jurisdiction over the Lands.

- 10.0 Requirements for Studies and Reports** – Where this Agreement requires that the Owner provide a study, plan, report or similar thing to the Director of Infrastructure Services or other Town representative, the Owner shall be required to cause the report to be prepared by a professional engineer, or other accredited professional, appropriately qualified to prepare the report and acceptable to the applicable Town representative.
- 11.0 Design Requirements** – Where this Agreement requires that the Owner design something, in order to satisfy the design requirement, the Owner shall be required to cause detailed design drawings and specifications for the work or service to be prepared by and under seal of an appropriately qualified professional engineer acceptable to the applicable Town representative and to obtain the Town representative's approval of such drawings and specifications.
- 12.0 Section 219 Covenant and SRW Requirements** – Where the Owner is required, in order to satisfy or partially satisfy a requirement under this Agreement, to grant to the Town a covenant under section 219 of the *Land Title Act* or a statutory right of way under section 218 of that Act, the Owner shall not be considered to have granted the covenant or right of way until and unless the covenant or right of way is in a form approved in writing by the Town, has been executed by the Town, and the Owner has registered it in the Land Title Office against **title** to the pertinent parcel or parcels of the Lands in priority to all financial legal notations, liens, charges and encumbrances, along with any reference, explanatory or other survey plan required by the Town to delineate the area that is subject to the covenant or right of way.
- 13.0 Specific Relief** – Because of the public interest in ensuring that all of the matters described in this Agreement and the provisions of all applicable laws are complied with, the public interest **strongly** favours the award of a prohibitory or mandatory injunction, or an order for specific performance or other specific relief, by the Supreme Court of British Columbia at the instance of the Town, in the event of an actual or threatened breach of this Agreement.
- 14.0 Indemnity** – The Owner covenants and agrees with the Town that the Owner shall indemnify and save harmless the Town and the Town Representatives from and against any and all actions, **causes** of action, liabilities, demands, losses (including economic and consequential losses), damages, costs, expenses (including fees and disbursements of professional advisors), fines and penalties, suffered or incurred by the Town or any of the Town Representatives, arising out of or in any way due or relating to the granting or existence of this Covenant, the restrictions or obligations contained in this Covenant, the performance or non-performance by the Owner of this Covenant, or any wrongful act, omission or negligence of the Owner or a person for whom it is responsible in law.

- 15.0 Inspection** – The Town may, by its officers, employees, contractors and agents, enter upon the Lands and **within** all buildings and structures thereon at all reasonable times for the purpose of ascertaining compliance with this Agreement.
- 16.0 Discharge of Covenant** – The Town agrees that once the Owner fully and strictly complies with this **Covenant**, the Town will, upon request by the Owner and at the cost of the Owner, execute a registrable discharge of this Covenant.
- 17.0 No Effect on Powers – This Agreement does not:**
- 17.1 affect or limit the discretion, rights or powers of the Town, or the Town’s approving officer, under any enactment, or at common law, including in relation to the use, development or subdivision of the Lands;
  - 17.2 affect or limit any enactment relating to the use, development or subdivision of the Lands; or
  - 17.3 relieve the Owner from complying with any enactment, including in relation to the use, development or subdivision of the Lands.
- 18.0 Runs With Land** – This Agreement burdens and runs with, and binds the successors in title to, the Lands and each and every part into which the Lands may be subdivided or consolidated by any means (including by way of subdivision plan, reference or explanatory plan, lease plan or strata plan of any kind).
- 19.0 No Public Law Duty** – Where the Town, or the Director of Planning, Director of Infrastructure Services or other representative of the Town designated under this Agreement (a “Town Representative”), is required or permitted by this Agreement to form an opinion, exercise a discretion, express satisfaction, make a determination or give its consent, the Town or the Town Representative is under no public law duty of fairness or natural justice in that regard and the Owner agrees that the Town or Town Representative may do any of those things in the same manner as if it were a private party and not a public body.
- 20.0 Town Discretion** – Wherever in this Agreement the approval of the Town or a Town Representative is required, some act or thing is to be done to the satisfaction of the Town or a Town Representative, or the Town or Town Representative is entitled to form an opinion or is given a sole discretion:
- 20.1 the relevant provision is not deemed fulfilled or waived unless the approval, opinion or expression of satisfaction is in writing signed by the Town or the Town Representative, as the context requires; and

- 20.2 the approval, opinion or satisfaction is in the discretion of the Town or the Town Representative, as the context requires, in its or his or her sole and unfettered discretion.
- 21.0 No Obligation To Enforce** – The rights given to the Town under this Agreement are permissive only and nothing in this Agreement imposes any legal duty of any kind on the Town to any one, or obliges the Town to enforce this Agreement, to perform any act or to incur any expense in respect of this Agreement.
- 22.0 Waiver** – An alleged waiver of any breach of this Agreement is effective only if it is an express waiver in writing of the breach in respect of which the waiver is asserted. A waiver of a breach of this Agreement does not operate as a waiver of any other breach or continuing breach of this Agreement.
- 23.0 Priority** – The Owner will do or cause to be done all acts necessary to register this Agreement against title to the Lands with priority over all financial charges, liens and encumbrances registered, or pending registration, at the time of application for registration of this Agreement against the title to the Lands.
- 24.0 Time of Essence** – Time is of the essence of this Agreement.
- 25.0 Further Assurances** – The Owner will do and cause to be done all things, including by executing further documents, as may be necessary to give effect to the intent of this Agreement.
- 26.0 Severance** – If any part of this Agreement is for any reason held to be invalid by a decision of a court with the jurisdiction to do so, the invalid portion is to be considered severed from the rest of this Agreement and the decision that it is invalid will not affect the validity of the remainder of this Agreement.
- 27.0 Interpretation** – In this Agreement:
- 27.1 reference to the singular includes a reference to the plural, and vice versa, unless the context requires otherwise;
  - 27.2 article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;
  - 27.3 the term “enactment” has the meaning given to it under the *Interpretation Act* (British Columbia) on the reference date of this Agreement;
  - 27.4 reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;

- 27.5 reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;
- 27.6 reference to a particular numbered section or article, to a particular lettered Schedule, is a reference to the correspondingly numbered or lettered article, section or Schedule of this and any Schedules to this agreement form part of this Agreement;
- 27.7 reference to a “party” is a reference to a party to this Agreement and to their respective heirs, executors, administrators, successors, assigns, trustees, receivers, agents, officials, employees and invitees, where the context requires or allows; and
- 27.8 where the word “including” is followed by a list, the contents of the list are not intended to circumscribe the generality of the expression preceding the word “including”.
- 28.0 Multiple Owners** – If at any time there is more than one owner of the Lands or the parcels comprised in the Lands, all such owners shall be jointly and severally liable to the Town with respect to the obligations of the Owner under this Agreement.
- 29.0 Governing Law** – This Agreement shall be governed by and construed in accordance with the laws of the Province of British Columbia, which shall be deemed to be the proper law hereof.
- 30.0 Enurement** – This Agreement and each and every provision hereof shall enure to the benefit of and be binding upon the parties hereto and their respective heirs, executors, administrators, successors and assigns, as the case may be.
- 31.0 Entire Agreement** – This Agreement is the entire agreement between the parties regarding its subject.

As evidence of their agreement to be bound by the terms of this Agreement, the parties have executed the *Land Title Act* Form C attached to and forming part of this Agreement.

## CONSENT AND PRIORITY AGREEMENT

### WHEREAS:

- A. Greenlane Homes Ltd. (the "Owner") is the registered owner of PID: 010-827-200, Block 7 District Lot 842 Plan 6755 (the "Lands");
- B. The Owner granted 1017178 BC Ltd. (the "Prior Chargeholder") a mortgage which was registered against the titles to the Lands in the Vancouver Land Title Office under number CA5545459 (the "Prior Charge");
- C. The Owner granted to the Town of Gibsons (the "Subsequent Chargeholder") a covenant pursuant to Section 219 of the *Land Title Act* to which this Priority is attached (the "Subsequent Charge"); and
- D. Section 207 of the *Land Title Act* permits the Prior Chargeholder to grant priority over a charge to a subsequent chargeholder.

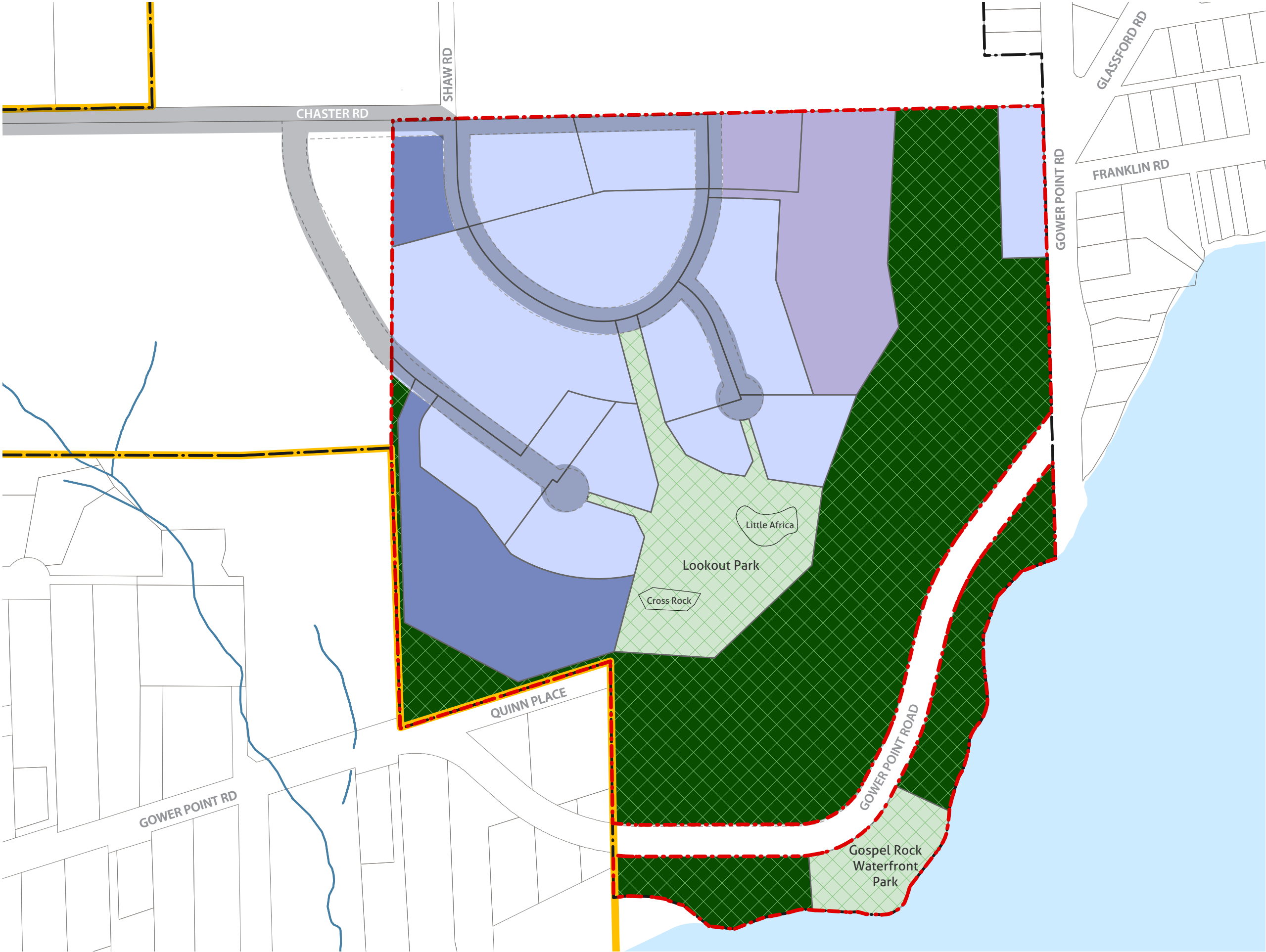
THEREFORE THIS CONSENT AND PRIORITY AGREEMENT WITNESSES THAT IN CONSIDERATION OF \$1.00 AND OTHER GOOD AND VALUABLE CONSIDERATION RECEIVED BY THE PRIOR CHARGEHOLDER FROM THE SUBSEQUENT CHARGEHOLDER (THE RECEIPT AND SUFFICIENCY OF WHICH IS HEREBY ACKNOWLEDGED):

- 1. The Prior Chargeholder hereby consents to the granting and registration of the Subsequent Charge and the Prior Chargeholder hereby agrees that the Subsequent Charge shall be binding upon its interest in and to the Lands.
- 2. The Prior Chargeholder hereby grants to the Subsequent Chargeholder priority for the Subsequent Charge over the Prior Chargeholder's right, title and interest in and to the Lands, and the Prior Chargeholder does hereby postpone the Prior Charge and all of its right, title and interest thereunder to the Subsequent Charge as if the Subsequent Charge had been executed, delivered and registered prior to the execution, delivery and registration of the Prior Charge.

As evidence of its agreement to be bound by the above terms of this Consent and Priority Agreement, the Prior Chargeholder has executed and delivered Part 1 of *Land Title Act* Form C which is attached hereto and forms part of this Agreement.

PHASING PLAN

August 2018



LEGEND

Town of Gibsons Boundary

Gospel Rock Neighbourhood Plan Boundary

Subject Parcel Boundary

Phase 1

Phase 1 | Public Park Dedication

Phase 1 | Conservation Area

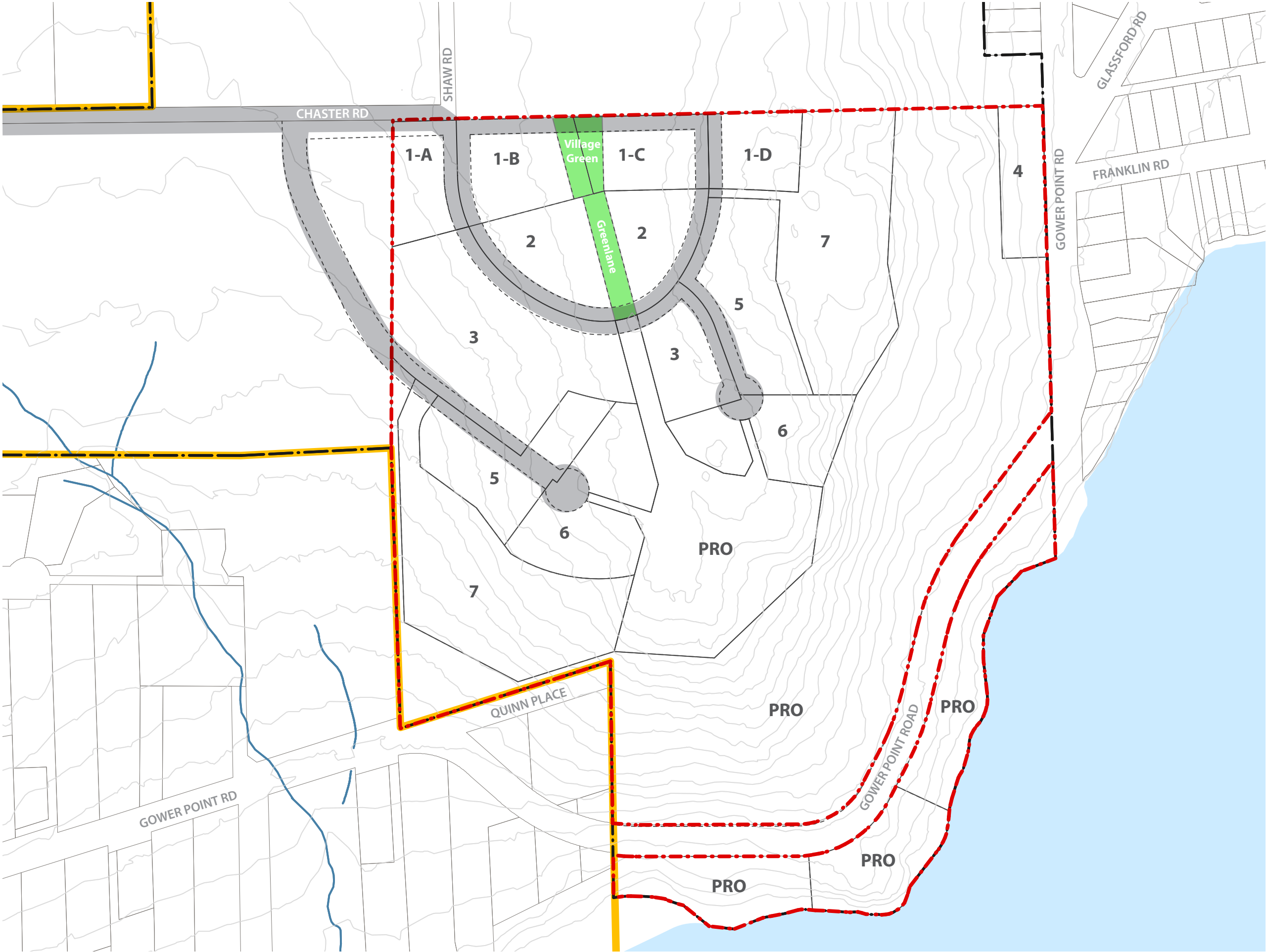
Phase 2

Phase 3

For illustrative purposes only. Future development shall substantially comply subject to site survey and detailed design

ZONING PLAN

August 2018

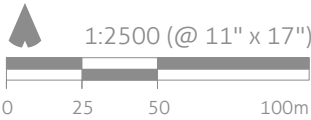


For illustrative purposes only. Future development shall substantially comply subject to site survey and detailed design

LEGEND

- Town of Gibsons Boundary
  - Gospel Rock Neighbourhood Plan Boundary
  - Subject Parcel Boundary
  - 5m contours
- CDA-4 SUBAREA ZONES
- 1-B** CDA-4 - Tourist Commercial zone
  - 1-A** CDA-4 - Mixed-Use Commercial/Residential Zone
  - 1-C** CDA-4 - Mixed-Use Commercial/Residential Zone
  - 1-D** CDA-4 - Mixed-Use Commercial/Residential Zone
  - 2** CDA-4 - Townhouses - custom RM-2 Zone
  - 7** CDA-4 - Townhouses - custom RM-2 Zone
  - 3** CDA-4 Single and Two Family Residential - custom R-5 Zone
  - 4** CDA-4 Single and Two Family Residential - custom R-5 Zone
  - 5** CDA-4 Single and Two Family Residential - custom R-3 Zone
  - 6** CDA-4 Single and Two Family Residential - custom R-2 Zone
  - CDA-4 Strata Parks and Recreation Zone
  - PRO** CDA-4 Parks, Recreation and Open Space Zone

For illustrative purposes only. Future development shall substantially comply subject to site survey and detailed design

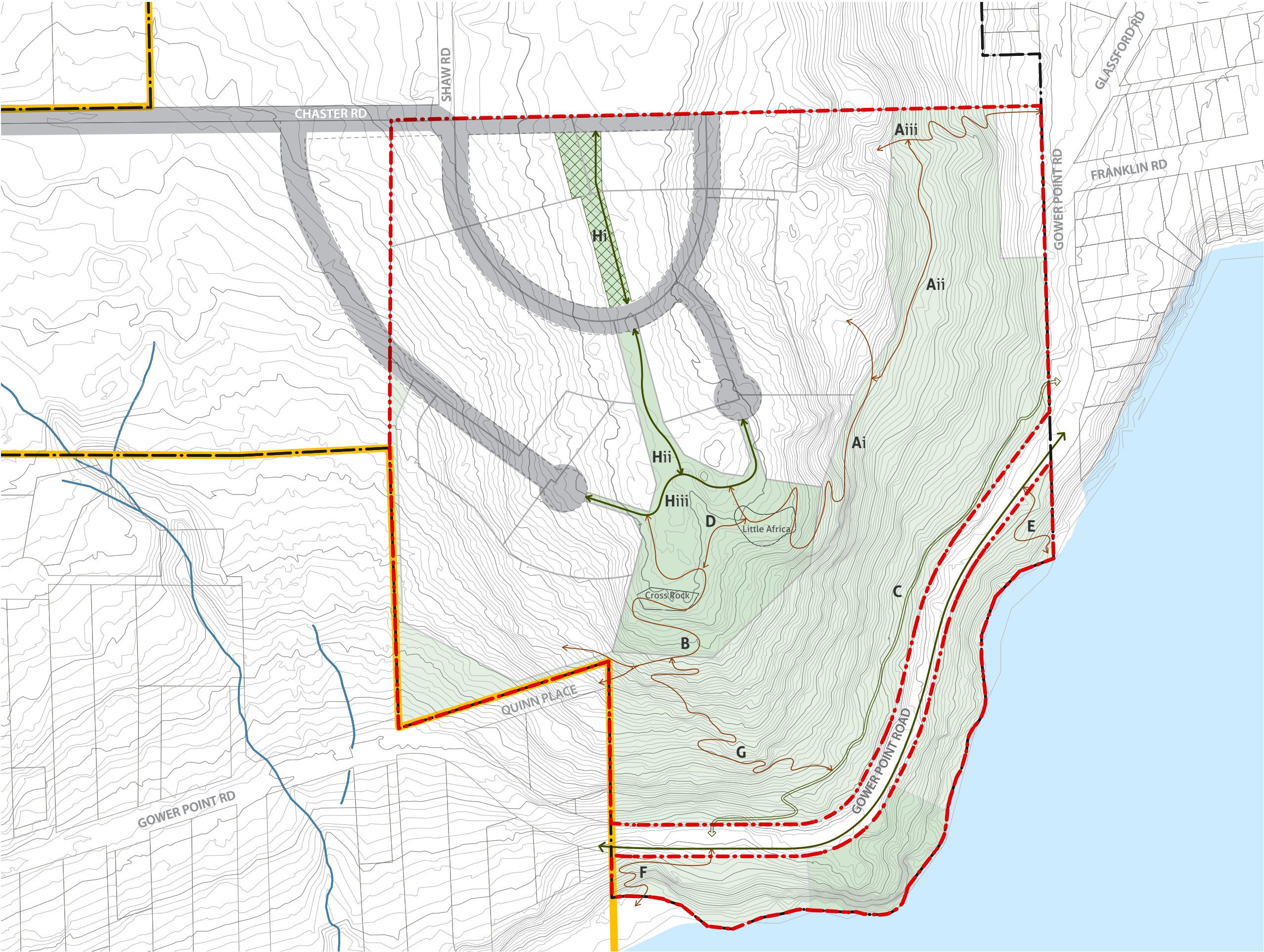




Block 7, Section 219  
Schedule C

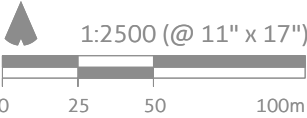
TRAIL PLAN

August 2018



LEGEND

- Town of Gibsons Boundary
- Gospel Rock Neighbourhood Plan Boundary
- Subject Parcel Boundary
- 5m contours
- Multi-use pathway
- Type 2 trail
- Type 3 trail
- Statutory ROW for public access to Greenway + Village Green



For illustrative purposes only. Future development shall substantially comply subject to site survey and detailed design



# Wildland Fire Interface Protection Plan

Gospel Rock Village  
Gibsons, BC

Aug 27, 2018



**DIAMOND HEAD**

3559 Commercial Street  
Vancouver, BC 604.733.4886



# Table of Contents

**1.0 INTRODUCTION .....1**

1.1 Site Planning Documents Reviewed .....1

**2.0 METHODOLOGY .....4**

**3.0 PROJECT OVERVIEW.....5**

**4.0 FUEL DESCRIPTIONS AND WILDFIRE THREAT ASSESSMENT .....7**

4.1 Summary of Fuel Types .....7

4.2 Summary of Wildfire Threat from surrounding forest .....8

**5.0 WILDFIRE THREAT MITIGATION RECOMMENDATIONS .....9**

5.1 Buildings setback from hazardous fuels ..... 10

5.2 Buildings and Construction..... 13

5.3 Access and Servicing..... 15

5.4 Firesmart Landscaping and Fuel Mitigation ..... 15

5.5 Ongoing Maintenance ..... 16

**6.0 FINAL REMARKS.....17**

**APPENDIX 1 WILDLAND URBAN INTERFACE PLOTS .....18**

**APPENDIX 2 DESCRIPTION OF FOREST FUEL TYPES .....21**

**APPENDIX 3 GENERIC DESCRIPTION OF COASTAL FUEL TYPES .....24**

**APPENDIX 4 RESOURCES AND LINKS .....27**

**APPENDIX 5 DESCRIPTION OF TERMINOLOGY .....28**

**APPENDIX 6 FIRE RESISTANT PLANTS FOR LANDSCAPING .....30**

**LIMITATIONS .....31**

## List of Figures

Figure 1. Showing Gospel Rock NPA on OCP Land Use Map.....	2
Figure 2. Approximate site boundaries and development area.....	3
Figure 3. Concept site plan .....	4
Figure 4. Development phasing plan for the site .....	6
Figure 5. Location of the fuel types relative to project site .....	7
Figure 6 - Wildfire Threat Mapping .....	8
Figure 7. Minimum standards for wildfire mitigation within the wildland interface.....	11
Figure 8. Ideal recommended standards for wildfire mitigation within the wildland interface .....	12
Figure 9. Plot locations .....	20

## List of Tables

Table 1. Requirements for community design and construction .....	13
Table 2. Recommendations prior and during construction for water supply and vehicle access. ....	15
Table 3. Requirements for Landscaping .....	16
Table 4. Requirements for ongoing maintenance .....	16
Table 6. Stand characteristics for fuel type C5 .....	21
Table 7. Stand characteristics for fuel type M2.....	22
Table 8. D1 general stand characteristics.....	23

## 1.0 Introduction

Diamond Head Consulting Ltd. (DHC) was retained to prepare an assessment of wildfire interface risks and mitigation measures for the following proposed development.

Civic address:	Gospel Rock Village, Gibsons B.C.
Client name:	Greenlane Homes/Modus
Date of site visit:	May 22, 2018

This project is a residential townhouse development within the Gospel Rock Neighbourhood located in Gibsons BC. Part F within the Official Community Plan: Gospel Rock Neighbourhood Plan requires all major developments to have a Wildland Fire Interface Protection Plan:

- 3.4.27. The preparation of a Wildland Fire Interface Protection Plan will be required for all major developments. The Plan shall address forest fire protection measures such as: non-combustible roofing and siding material, green spaces and landscape vegetation, perimeter protection buffers, evacuation routes and water supplies. At the time of rezoning or subdivision, restrictive covenants will establish specific requirements for building within Wildland Interface areas and will be implemented during the subdivision and/or building permit approval process

Standards to achieve these objectives are identified, and reference NFPA-1144 (Standard for Reducing Structure Ignition Hazards from Wildland Fire). In some cases, these standards can be difficult to achieve for developments, and can result in more stringent restrictions than intended. This assessment report considers both NFPA standards and Canadian FireSmart standards to assess hazard and guide recommendations for the design and construction of buildings and structures located within the boundaries of the Wildfire Development Permit Area.

### 1.1 Site Planning Documents Reviewed

Diamond Head Consulting was provided with the following documentation from the client that provides the basis for all comments and recommendations:

1. Gospel Rock Village – Park and Open Space Design – 170804
2. COMPREHENSIVE DEVELOPMENT AREA - Zone 4 - Gospel Rock Village – Phasing Plan – April 2018 – MODUS
3. Gospel Rock Village – Site Plan – Block 7 – Proj. No. 1603 – JYW Architecture Inc. - DRAFT

Any changes to these site plans should be provided to Diamond Head Consulting so that this wildfire report can be updated accordingly.

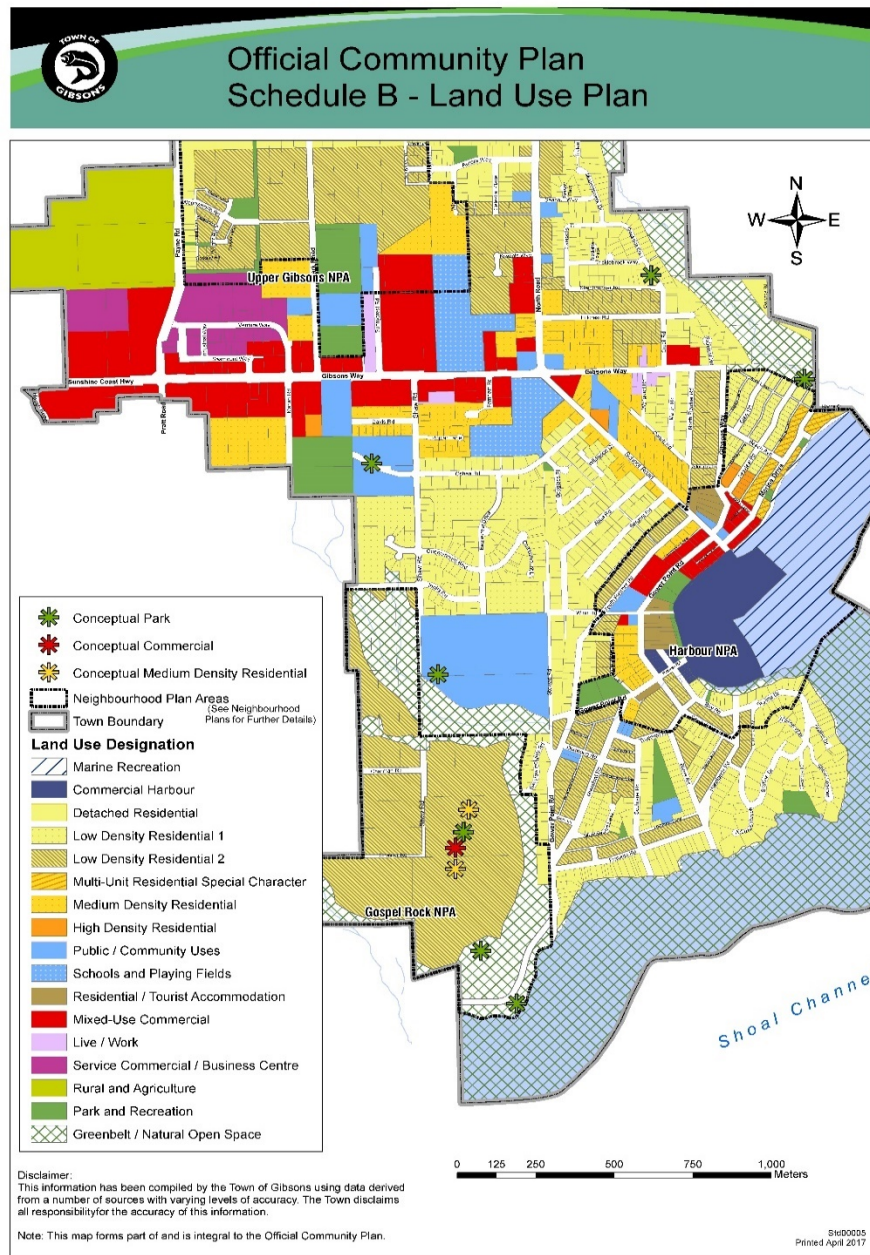


Figure 1. Showing Gospel Rock NPA on OCP Land Use Map.





Figure 2. Approximate site boundaries and development area.

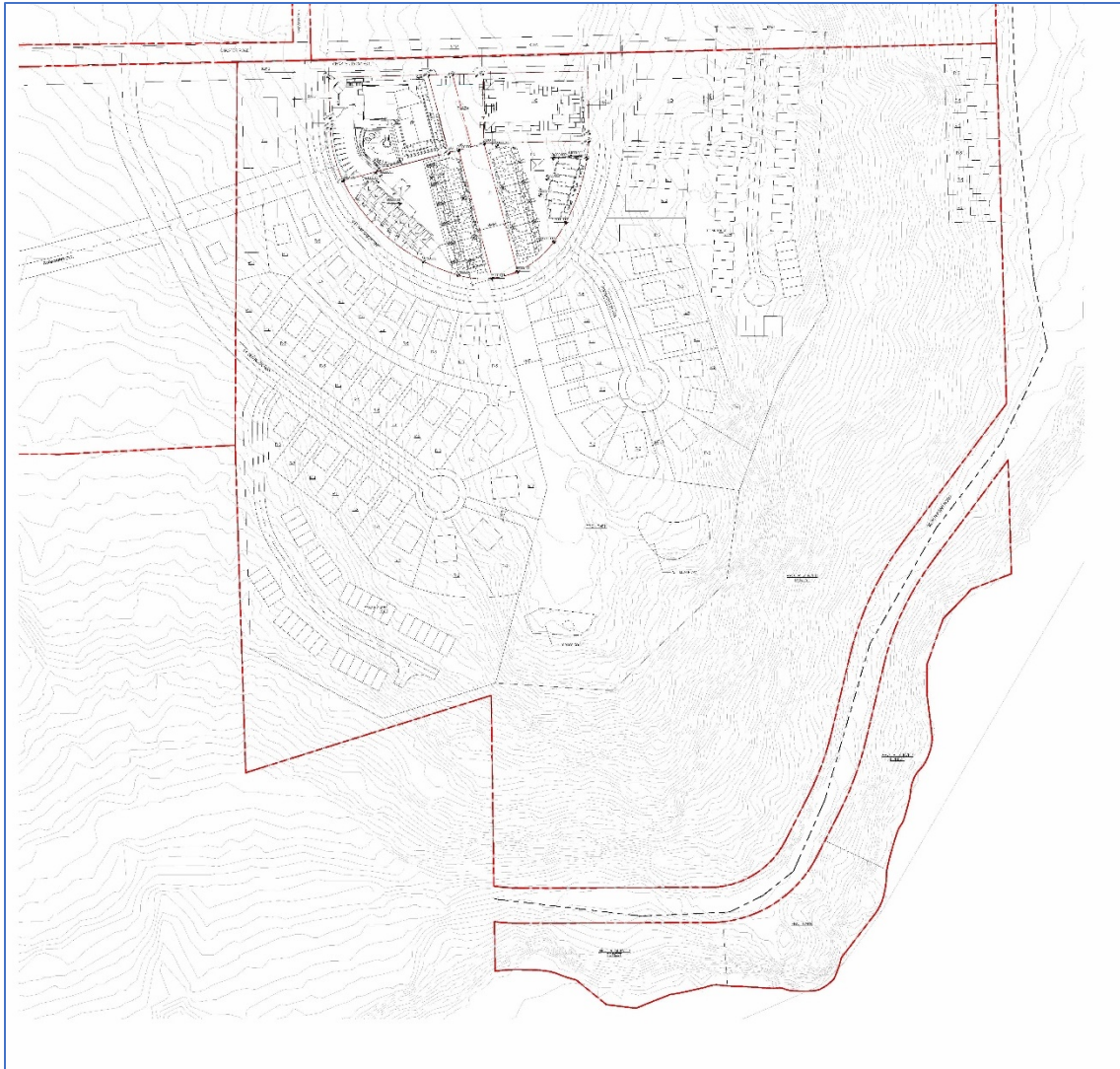


Figure 3. Concept site plan

## 2.0 Methodology

The forest stands surrounding the planned development site were classified into fuel types. There are no fuel classifications specific to the coastal region in the Canadian Fire Behaviour Prediction System; instead, the site has been classified as the fuel type that best represents the fire behavior potential of the forest types most accurately. Fuel type interpretations can be reviewed in Appendix 2.

Detailed fuel hazard assessments were completed within 500m of the lot using the provincial assessment system, “Wildfire Threat Assessment Guide and Worksheets – Ministry of Forests, Lands and Natural Resource Operations - BC Wildfire Service – Version2 -2017”

These plots are shown on Figure 6. Data collected at each fuel plot included:

- Soil and humus characteristics;
- Slope, aspect and terrain classification;
- Forest stand composition by layer (species, density, age, diameter, height, etc.);
- Vertical and horizontal stand structure;
- Quantity and distribution of ladder fuels;
- Composition and coverage of understory brush, herbs and grasses; and
- Quantity and distribution of ground fuels by size class.

A Wildfire Hazard Assessment has been completed using:

1. Current forest fuel threat in and adjacent to the proposed development using the [2017 Wildfire Threat Assessment Guide and Worksheets](#) (MFLNRO, 2017); and,
2. Future structural hazard of the proposed development using the [FireSmart Homeowners Manual](#) (Partners in Protection and Province of BC, 2016).

### 3.0 Project Overview

The parcel is Block 7 of the Gospel Rock Village in the town of Gibsons. A proposed mix of residential, commercial and park space will occupy approximately half of the 47acre block. The subject site supports a large open space that is generally flat where the development will occur. This area was cleared of trees sometime before 2004 (the oldest air photo available on Google Earth). This areas now supports widely spaced conifers, smaller deciduous trees, dense deciduous brush and invasive species.

To the south and on all sides surrounding the development area are steep slopes supporting mature Douglas-fir forest and natural open spaces created by large rocky outcroppings. This forest has been recognized as an important ecological value to the town and surrounding area. Much of the existing mature forested area within the 47acre block will be retained as a protected park including well know lookout points and natural open spaces.

The Gospel Rock Village is a phased development plan; however, this report is a preliminary overview applied to the first phase with no specific building or landscape material available for review. The preliminary nature of this report will allow the principals within to be applied to all future phases. If the recommendations and principals within this report are followed, all future phases will be considered 'Firesmart' following Firesmart BC guidelines and current industry standards.



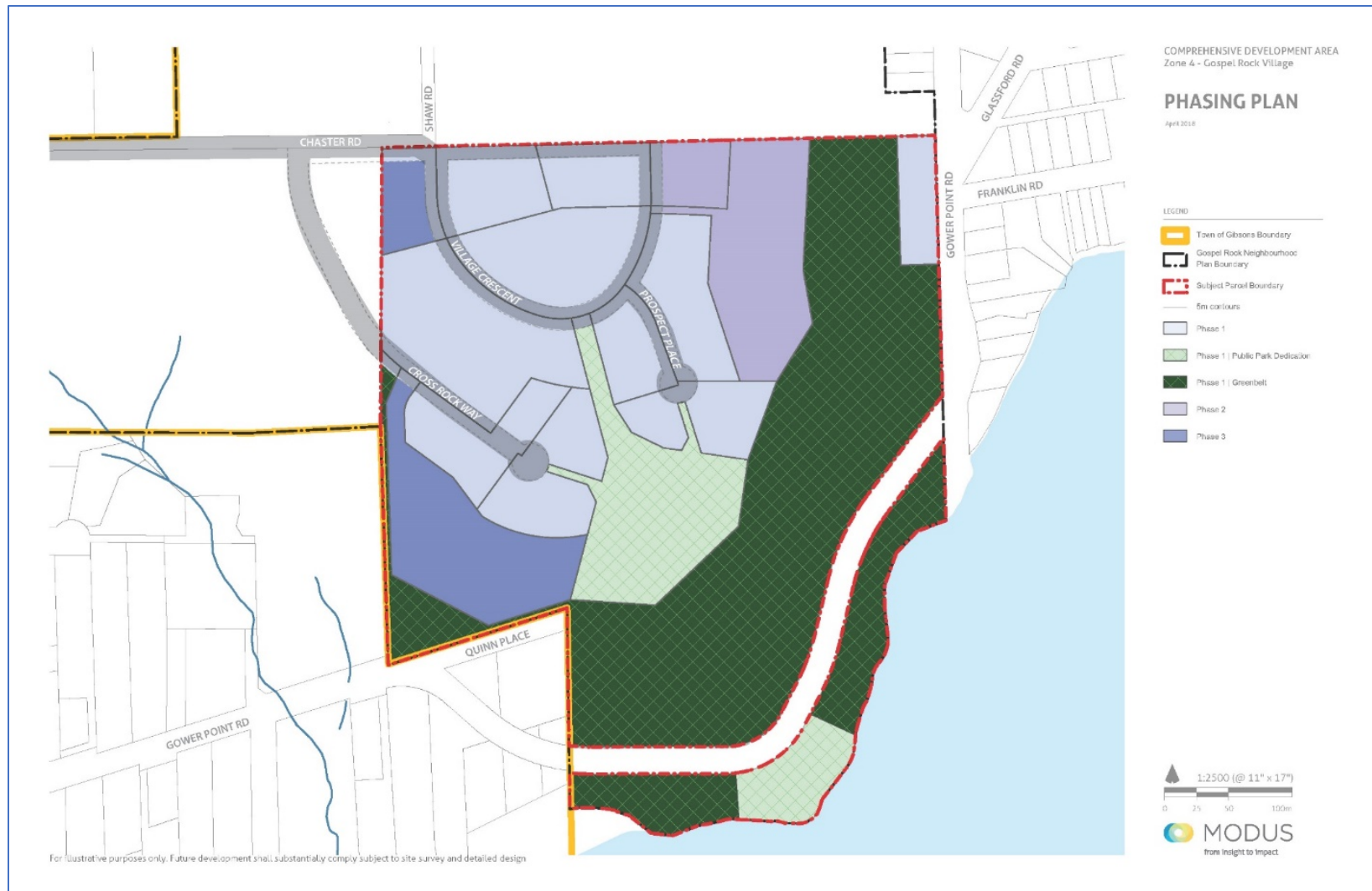


Figure 4. Development phasing plan for the site

## 4.0 Fuel Descriptions and Wildfire Threat Assessment

### 4.1 Summary of Fuel Types

Forested areas nearby the proposed development site were classified into the fuel types mapped in Figure 5. The fuels have been divided into classifications based on the sixteen national benchmark fuel types that are used by the Canadian Fire Behaviour Prediction System (Appendix 3). Three fuel types were identified. Descriptions of these forest areas are provided in Appendix 2.

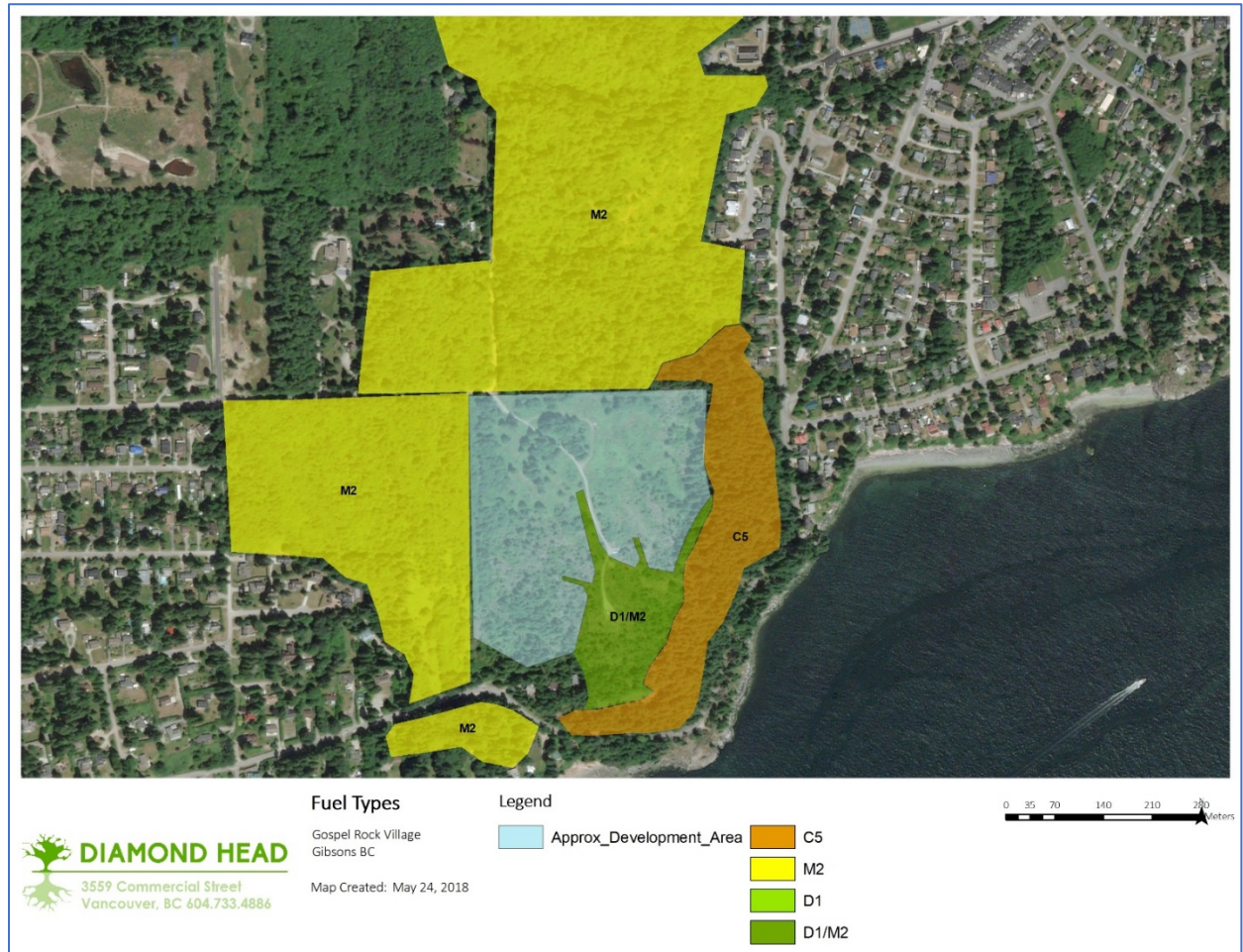


Figure 5. Location of the fuel types relative to project site



#### 4.2 Summary of Wildfire Threat from surrounding forest

Each fuel type and distinct stand was assessed for wildfire threat using the Wildfire Urban Interface worksheet. Figure 6 outlines the wildfire threat. Wildfire plot locations and Wildfire Urban Interface (WUI) ratings are summarized in Appendix 1. This assessment accounts for the fire behavior potential of these stands but does not consider plans for future structures. The subject site was assessed to have an overall moderate risk from wildfire. This is from the continuous forest surrounding the subject site.

The M2 mixes stands generally have approximately 75% conifer species; however, this is variable throughout the stands. The C5 conifer dominated stands on the slopes to the south and east of the site have a high composition of conifer trees however have lower ladder fuel loading and the crowns are broken up by rocky outcrops. In most areas the conifer species have high crown heights. A crown fire could generate in these stands however would likely require drought weather conditions combined with high winds. The risk is also increases with the steepness of the slope. The mature forested areas to the east and south of the site support sensitive and high value ecosystems and will become protected natural areas. The treatments to trees in these areas to reduce wildfire risk must be clearly justified and done in a very sensitive way. Creating a firesmart landscape and buildings is recommended as the primary defense against the wildfire risk to this development site.

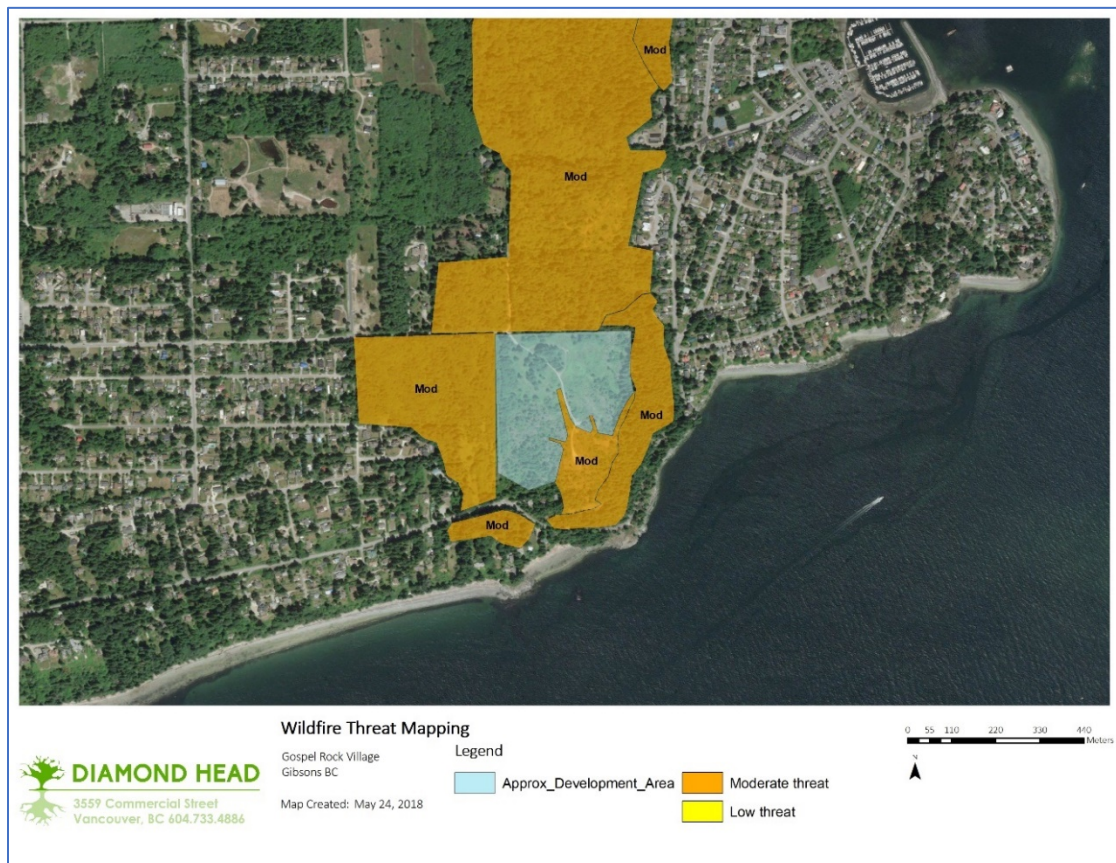


Figure 6 - Wildfire Threat Mapping



Photo 1: View of vegetation growing within the development area. Widely spaced conifers, smaller deciduous trees, dense deciduous brush and invasive species such as Himalayan blackberry and Scotch broom occupy the majority of the development site.



Photo 2: Natural rock bluff lookout and view of Howe Sound. This area will become part of the protected natural area and public park where several hiking trails will be created.

## 5.0 Wildfire Threat Mitigation Recommendations

This section provides recommendations to mitigate the risk of wildfire to the proposed development based on the current condition of hazardous fuels and wildfire threat, site planning documents, FireSmart standards within the prioritized zones defined in the FireSmart Homeowners Manual (Partners in Protection and Province of BC, 2016).

During a wildfire event, homes are ignited as a result of:

- Sparks or embers landing and accumulating on vulnerable surfaces such as roofs, verandas, eaves and openings. Embers can also land on or in nearby flammable materials such as bushes, trees or woodpiles causing a fire close to a structure.
- Extreme radiant heat from flames within 30 m of a structure that melts or ignites siding, or breaks windows.
- Direct flame from nearby flammable materials such as bushes, trees or woodpiles.

In the event that a wildfire, suppression capability is improved with good access, defensible space between the structures and the forest as well as adequate and accessible water supply. The following are recommendations to mitigate risk to the development. These are factors that provide long term mitigation against a wildfire event.

Areas to the east and south of the development will be protected parks and those north and west are on adjacent private lands. Many of these are highly sensitive ecosystems in which trees

removal is difficult to justify. Also, the plant community composition will change over time and require maintenance. Recommendations for wildfire mitigation focus on structural design and landscaping recognizing the limitations of altering these natural areas.

At the time this assessment was completed, detailed architectural structural plans and landscape plans were not available for review. It is the responsibility of the owner and their project team to understand the following restrictions and to comply with them.

### **5.1 Buildings setback from hazardous fuels**

Firesmart recommends that a 10m fuel free zone be established and maintained between structures and hazardous fuels. This is to create a barrier to keep radiant heat from a fire away from the structure and to provide a defensible space where suppression resources can fight a wildfire. There is an onsite wildland interface that will be created along the south and east sides of the development. Development will extend up to the edge of the existing slope break which is where the site has previously been cleared of mature forest. The natural forested area downslope of this interface is an environmentally sensitive area. An emphasis has been made during the planning of this project to protect the integrity of this natural area.

There will be single family detached and multifamily units built up against this interface zone. The zoning is expected to specify a 7.5m back yard setback to the property line. This is less than the recommended of a 10m fuel free zone. However, removing trees beyond the property line in the protected natural area will cause impacts to the integrity of this ecosystem. A compromise between environmental protection and wildfire risk mitigation is required in these situations. It is recommended that structures be placed as far back as possible from the forested edge.

If possible, some of the conifer trees along this interface should be selectively pruned and thinned to reduce the wildfire behavior in this zone while considering the environmental integrity of the forest. If possible, ground fuel accumulations should also be removed by hand.

Figure 7 illustrates the minimum standard that will be established between the protected natural area and the structures. In these cases when an ideal fuel free zone cannot be achieved, it is important that no other concessions be made to other wildfire mitigation measures including building construction, landscape design and irrigation.

Figure 8 illustrates the recommended standard to be achieved. This includes a 10m fuel free zone as well as a treated transition zone within the first 10-20m of the natural forest. Planning should strive to achieve this standard.



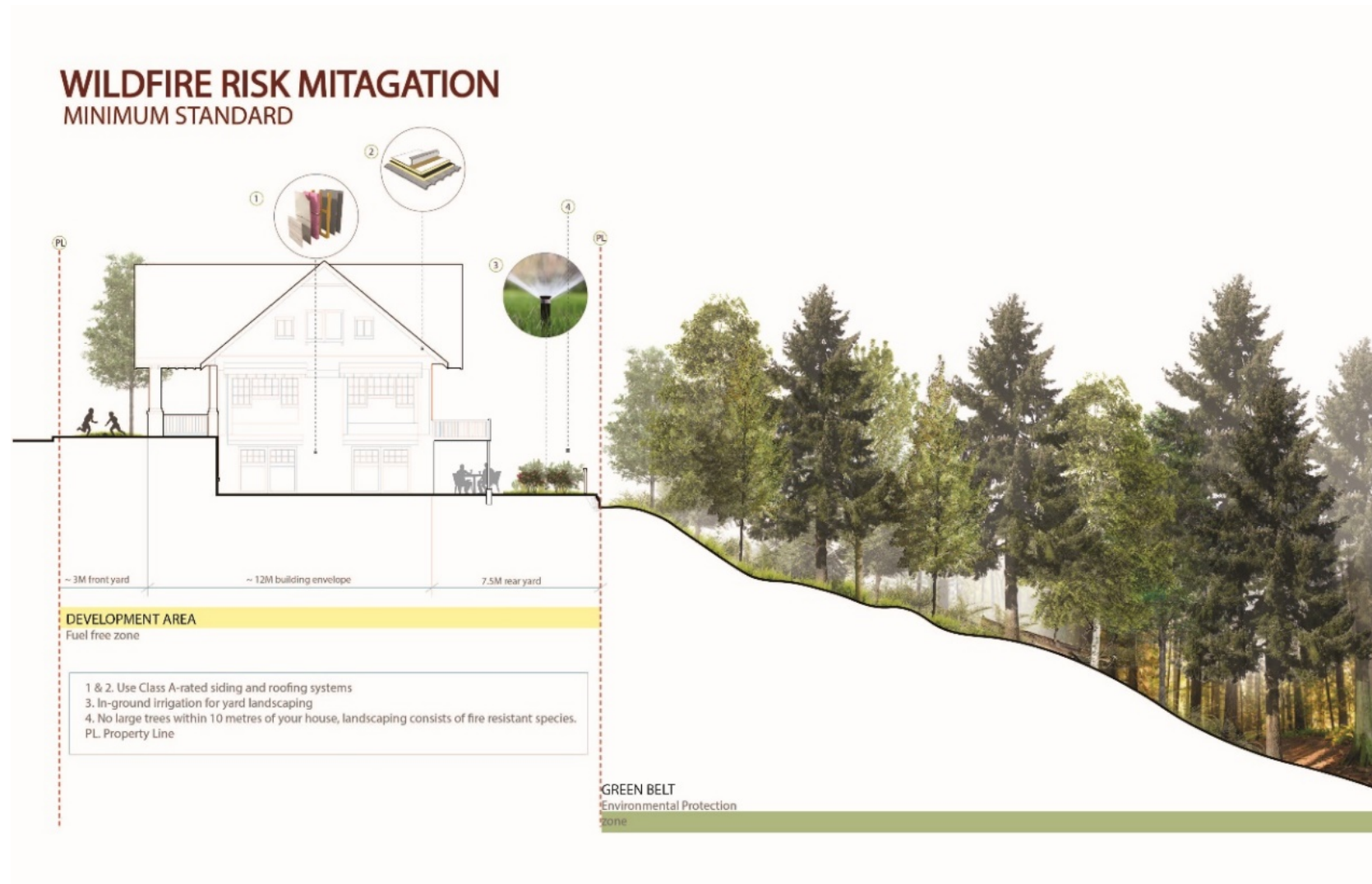


Figure 7. Minimum standards for wildfire mitigation within the wildland interface

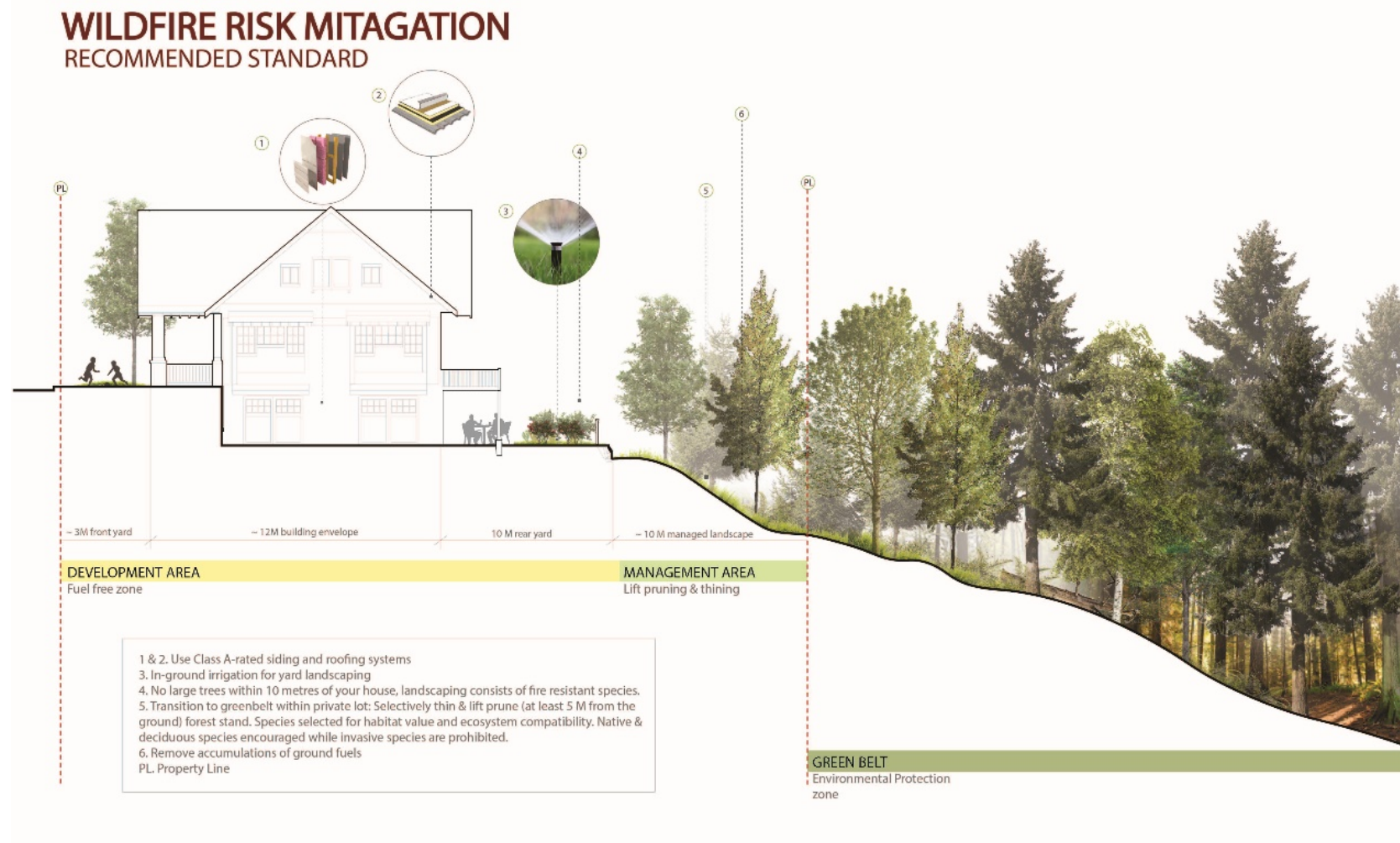


Figure 8. Ideal recommended standards for wildfire mitigation within the wildland interface

## 5.2 Buildings and Construction

Generally, during a wildfire, homes are ignited as a result of embers landing and accumulating on vulnerable surfaces such as roofs, verandas, eaves and openings. Embers can also land on or in nearby flammable materials such as bushes, trees or woodpiles and, if the resulting fire is near the home, it could create enough radiant heat to ignite the walls of the home. Small fires in the yard can also spread towards the structures, beneath porches or under homes. Therefore, the building material and construction techniques are a paramount concern for homes in the interface. Following Firesmart building guidelines should be applied to the development.

**Table 1. Requirements for community design and construction**

Feature	Requirements for building materials
<b>Roofing</b>	<ul style="list-style-type: none"> <li>Class A or B rated roofing material* should be used, and asphalt or metal roofing should be given preference.</li> <li>Any spaces between roof decking and covering should be blocked.</li> <li>Screen or enclose rain gutters to prevent accumulation of plant debris.</li> </ul>
<b>Siding</b>	<ul style="list-style-type: none"> <li>Exterior vertical walls should be clad with non-combustible materials*. Preference should be given to stucco, metal, brick and concrete cladding.</li> <li>Ensure that fire resistant materials extend from the foundation to the roof.</li> <li>Flame resistant coatings that require ongoing maintenance or reapplication are not acceptable.</li> <li>Exterior wall assemblies that have exterior wood that is untreated and rely on the interior wall for fire resistance are not acceptable.</li> </ul>
<b>Vents, openings, eaves, attics, overhanging projections, soffits</b>	<ul style="list-style-type: none"> <li>Vents should be screened using 3mm, non-combustible wire mesh, and vent assemblies should use fire shutters or baffles.</li> <li>Eaves, soffits, attics, overhanging projections and underfloor openings should be protected with non-combustible covers.</li> </ul>
<b>Exterior windows and doors</b>	<ul style="list-style-type: none"> <li>All windows should be double glazed, or of glass block. Radiant faces exposed to the forest edge should be multi-paned with one pane glazed with annealed or tempered insulating glass.</li> <li>Limit the size and number of windows that face large areas of vegetation.</li> <li>Window screens should be non-combustible.</li> <li>Exterior doors on radiant faces exposed to the forest edge should be of fire resistant materials.</li> </ul>
<b>Decks, porches, balconies</b>	<ul style="list-style-type: none"> <li>Decks, porches and balconies should be sheathed with fire-resistant or non-combustible materials.</li> <li>Slotted deck surface allows needle litter to accumulate beneath the deck. Provide access to this space to allow for removal of this debris.</li> <li>Any covers should be built of the same ignition-resistant materials as a roof.</li> </ul>
<b>Exterior sprinklers</b>	<ul style="list-style-type: none"> <li>Irrigation sprinklers should be installed on private property and in landscaped parks to keep plants healthy and fire-resistant. The switch for these should be made accessible to turn on in the case of a wildfire.</li> </ul>
<b>Fences</b>	<ul style="list-style-type: none"> <li>Where fencing is within 10 m of the building or accessory buildings, use fire-resistant or non-combustible materials.</li> </ul>



Feature	Recommendations during construction
<b>Combustible materials</b>	<ul style="list-style-type: none"> <li>During construction of houses, all waste construction materials including brush and land clearing debris; needs to be cleaned up on a regular basis, to minimize the potential risk. No combustible materials should be left at the completion of construction.</li> </ul>
<b>Hydrants</b>	<ul style="list-style-type: none"> <li>Prior to construction of any wood frame buildings, there must be fire hydrants within operating range.</li> </ul>
<b>Fire Suppression</b>	<ul style="list-style-type: none"> <li>The contractor should be familiar with the BC Wildfire Act and the current provincial standards for wildfire suppression and have the appropriate tools on-site for the duration of the project.</li> </ul>

\* **Non-combustible materials:** means that a material meets the acceptance criteria of CAN/ULC S114, (Standard Method of test for determination of non-combustibility in Building Materials)

**Fire-resistant materials:** means that a material meets the acceptance criteria of CAN/ULC-S101, (Fire Endurance Tests of Building Construction and Materials)

**Rated roofing materials:** Class A, B or C is a measure of the external spread of flame on a roof surface. Tests are conducted using CAN/ULC S107M methods of fire tests of roof coverings, or equivalent. The best rating achieved is Class A, which may be described as effective against severe fire exposure.

The following specification are very important to comply with. Roofing must be fire retardant. These have a Class A flame spread rating defined as "Class A roof coverings are not readily flammable, are effective against severe fire exposures, and do not carry or communicate (i.e., spread) fire". ANSI/UL 790, "Tests for Fire Re-sistance of Roof Covering Materials," and ASTM E 108, "Standard Test Methods for Fire Tests of Roof Coverings," are the fire-resistance capacity tests used to determine a product's or roof assembly's classification. Any products that are certificated as Class A with an "Assembly" requirement must have a project engineer or architect provide signed proof that the product has been installed as per the specifications of the manufacturer.

Exterior siding must be fire resistant. (Stucco, brick, fibre cement boards/panels and poured concrete). Untreated wood products do not meet this standard. Flame resistant coatings that require ongoing maintenance or reapplication are not acceptable. Exterior wall assemblies that have exterior wood that is untreated and rely on the interior wall for fire resistance are not acceptable. Wood products that have permanent treatments or are naturally fire resistant can be accepted as long as product specifications and certified testing is provided.

**It is critical that the structures be designed and built to these standards in order to meet the guidelines of Firesmart BC.**

Planned building materials have not been confirmed as no detailed architectural plans have been developed yet for this project. All building within the development are recommended to be constructed with fire resistant exterior materials. Wooden accents should not total more than 20% on any one wall. All buildings immediately adjacent to the forest edge should be constructed entirely of fire resistant materials.

### 5.3 Access and Servicing

Access and services affects both the fire resistance of the development and, in the event a wildfire does occur, the suppression capability and safety of first responders. Recommendations for access and servicing are provided in table 2.

**Table 2. Recommendations prior and during construction for water supply and vehicle access.**

Feature	Recommendation
<b>Access</b>	<ul style="list-style-type: none"> <li>It is anticipated the construction site will create adequate turn-around space for municipal fire engines. Two means of access are preferred with adequate passing and turn-around space. Currently the site is accessed by one narrow road (Chaster Rd) that meets Shaw Rd at the development site. Shaw Rd currently dead ends, however, there are plans to extend this road in the future which will create two means of vehicle access.</li> </ul>
<b>Water supply</b>	<ul style="list-style-type: none"> <li>Prior to construction, the proposed development will be serviced by a hydrant system</li> </ul>
<b>Utilities - Electric</b>	<ul style="list-style-type: none"> <li>All new hydro servicing within the subdivision should be underground.</li> </ul>

### 5.4 Firesmart Landscaping and Fuel Mitigation

Landscaping and maintenance for the site should follow FireSmart principals (Ministry of Forests Wildfire Management Branch, Firesmart Program). For single residential lots the entire lot is generally within 10m of the structure and will be landscaped. Within a larger scale developments it is recommended that the whole development apply Firesmart landscape guidelines. Planning and maintenance of this area should follow the requirements of priority zone 1 (<10m from structures) outlines in the Firesmart program. The goal in this zone is to remove hazardous fuels and convert vegetation to fire resistance species to produce an environment that does not support combustion. These recommendations include strategic selection of fire resistant replacement trees as well as landscaping and maintenance standards are summarised in Table 3.

No detailed landscape plans were available for review. The landscape architect should be made aware of the recommendations within this report and ensure no conifers or long ornamental grasses are planted within 10m of any building.

Table 3. Requirements for Landscaping

Feature	Recommendations
<b>Planting</b>	<ul style="list-style-type: none"> <li>Remove all highly flammable vegetation and other combustibles from around the building. This includes all conifer hedging.</li> <li>No conifer trees species should be planted within 10m of any buildings.</li> <li>Landscaping should incorporate species that are fire resistant. These types of plants tend to have moist, supple leaves with low amounts of sap or resin. They also have a tendency not to accumulate dead material. A list of fire resistant plants and trees can be found at the Firesmart Canada website<sup>1</sup>. A list of suitable species has also been provided in Appendix 6.</li> <li>Ensure that vegetation will not grow to touch or overhang buildings.</li> <li>Irrigation sprinklers should be installed in landscaping.</li> </ul>
<b>Maintenance</b>	<ul style="list-style-type: none"> <li>Annual grasses within 10 meters of buildings should be kept mowed to 10 centimeters or less and watered regularly during the summer months;</li> <li>Ground litter and downed trees should be removed regularly and prior to the fire season.</li> </ul>

### 5.5 Ongoing Maintenance

To ensure that FireSmart standards are maintained on the property, periodic re-treatment or maintenance is recommended in Table 4

Table 4. Requirements for ongoing maintenance

Owner	Recommendation
Homeowners responsibility	<ul style="list-style-type: none"> <li>Regularly remove debris from roofs, gutters and beneath overhanging projections.</li> <li>Grass and landscaping should be kept mowed to 10 cm or less and watered regularly during the summer months.</li> <li>Landscape sprinkler systems should be installed and maintained by the homeowner.</li> <li>Remove any local accumulations of woody or combustible material (e.g., no woodpile or yard waste accumulations).</li> <li>Remove any over mature, dead or dying shrubs and trees.</li> <li>Plant only fire resistant trees and shrubs. A list of fire resistant plants and trees can be found at the fire smart canada website (<a href="https://www.firesmartcanada.ca/images/uploads/resources/FireSmart-Guide-to-Lanscaping.pdf">https://www.firesmartcanada.ca/images/uploads/resources/FireSmart-Guide-to-Lanscaping.pdf</a>).</li> </ul>

## 6.0 Final Remarks

The Town of Gibsons requires that a Wildland Fire Interface Protection Plan be developed for this proposed development. Planners, engineers, and landscape architects should refer to this report and the FireSmart manual during the design phase of this development. All construction operations should be conducted according to the Wildfire Act and the regulations. Following these regulations will help reduce liability and protect the development.

This project has been planned with the protection of sensitive forested ecosystems as a priority. Considering the sensitivities of these natural areas, some concessions have been made related to tree removal within the wildland interface. Because of this the project will not meet all of the Firesmart standards, however if the other recommendations made within this report are complied with, wildfire risk to life and property will be substantially reduced.

If there are any questions or concerns as to the contents of this report, please contact us at any time.

Sincerely,

Supervisor:



Mike Coulthard, R.P.Bio., R.P.F.  
Senior Forester, Biologist  
Certified Tree Risk Assessor (46)

Project Staff:



Kristian Short, Cert. Horticulture  
ISA Certified Arborist (PN-8029 A)  
ISA Qualified Tree Risk Assessor (TRAQ)  
BC Parks Wildlife and Danger Tree  
Assessor (P2229)

## Appendix 1 Wildland Urban Interface Plots

Wildfire Threat Assessment Worksheet - Fuel Setting Scoring

Location	Plot 1	Date	22-May
Assessor	KS		
Crown species composition (species %)	Cw,Dr,Mb,Fd		

Component/subcomponent	PULLDOWNS	SCORE
Depth of organic layer	5-<10	5
Surface and ladder fuel (.1-3m in height)		
Surface fuel composition	deciduous shrubs	4
Dead and down material continuity (<7cm)	Scattered <10% coverage	4
Ladder fuel composition	Mixedwood	3
Ladder fuel horizontal continuity	Patchy 40-60% coverage	8
Stems/ha (understory)	<900	2
Stand structure and composition (dominant and co-dominant)		
Overstory composition/CBH	Mixwood 75%	7
Crown closure	41-60%	2
Fuel strata gap	3-6	7
Stems/ha (overstory)	601-900	3
Dead and dying (% of dominant and co-dominant stems)	Standing dead/partial down <20%	2
Comments:	TOTAL	47
	RATING	MODERATE

Wildfire Threat Assessment Worksheet - Priority Setting Scoring

Location	Plot 2	Date	22-May-18
Assessor	KS		
Crown species composition (species %)	Fd, Ra, Cw		

Component/subcomponent	PULLDOWNS	SCORE
Depth of organic layer	1-<5	3
Surface and ladder fuel (.1-3m in height)		
Surface fuel composition	deciduous shrubs	4
Dead and down material continuity (<7cm)	10-25% coverage	8
Ladder fuel composition	Mixedwood	3
Ladder fuel horizontal continuity	Scattered 10-30% coverage	5
Stems/ha (understory)	<900	2
Stand structure and composition (dominant and co-dominant)		
Overstory composition/CBH	Conifer with moderate CBH (6-9 m)	12
Crown closure	41-60%	2
Fuel strata gap	6-9	3
Stems/ha (overstory)	601-900	3
Dead and dying (% of dominant and co-dominant stems)	Standing dead/partial down <20%	2
Comments:	TOTAL	47
	RATING	MODERATE

## Wildfire Threat Assessment Worksheet - Priority Setting Scoring

Location	Plot 3	Date	22-May-18
Assessor	KS		
Crown species composition (species %)	Fd, Mb, Cw		

Component/subcomponent	PULLDOWNS	SCORE
Depth of organic layer	5-<10	5
Surface and ladder fuel (.1-3m in height)		
Surface fuel composition	deciduous shrubs	4
Dead and down material continuity (<7cm)	10-25% coverage	8
Ladder fuel composition	Mixedwood	3
Ladder fuel horizontal continuity	Scattered 10-30% coverage	5
Stems/ha (understory)	<900	2
Stand structure and composition (dominant and co-dominant)		
Overstory composition/CBH	Mixwood 75%	7
Crown closure	41-60%	2
Fuel strata gap	6-9	3
Stems/ha (overstory)	601-900	3
Dead and dying (% of dominant and co-dominant stems)	Standing dead/partial down <20%	2
Comments:	TOTAL	44
	RATING	MODERATE

## Wildfire Threat Assessment Worksheet - Priority Setting Scoring

Location	Plot 4	Date	22-May-18
Assessor	KS		
Crown species composition (species %)	Fd, Mb, Cw, Dr		

Component/subcomponent	PULLDOWNS	SCORE
Depth of organic layer	5-<10	5
Surface and ladder fuel (.1-3m in height)		
Surface fuel composition	deciduous shrubs	4
Dead and down material continuity (<7cm)	10-25% coverage	8
Ladder fuel composition	Mixedwood	3
Ladder fuel horizontal continuity	Scattered 10-30% coverage	5
Stems/ha (understory)	<900	2
Stand structure and composition (dominant and co-dominant)		
Overstory composition/CBH	Mixwood 50%	5
Crown closure	20-40%	1
Fuel strata gap	<3	10
Stems/ha (overstory)	<400	0
Dead and dying (% of dominant and co-dominant stems)	Standing dead/partial down <20%	2
Comments:	TOTAL	45
	RATING	MODERATE

Low	Moderate	High	Extreme
0 - 43	44 - 59	60 - 72	73 - 110



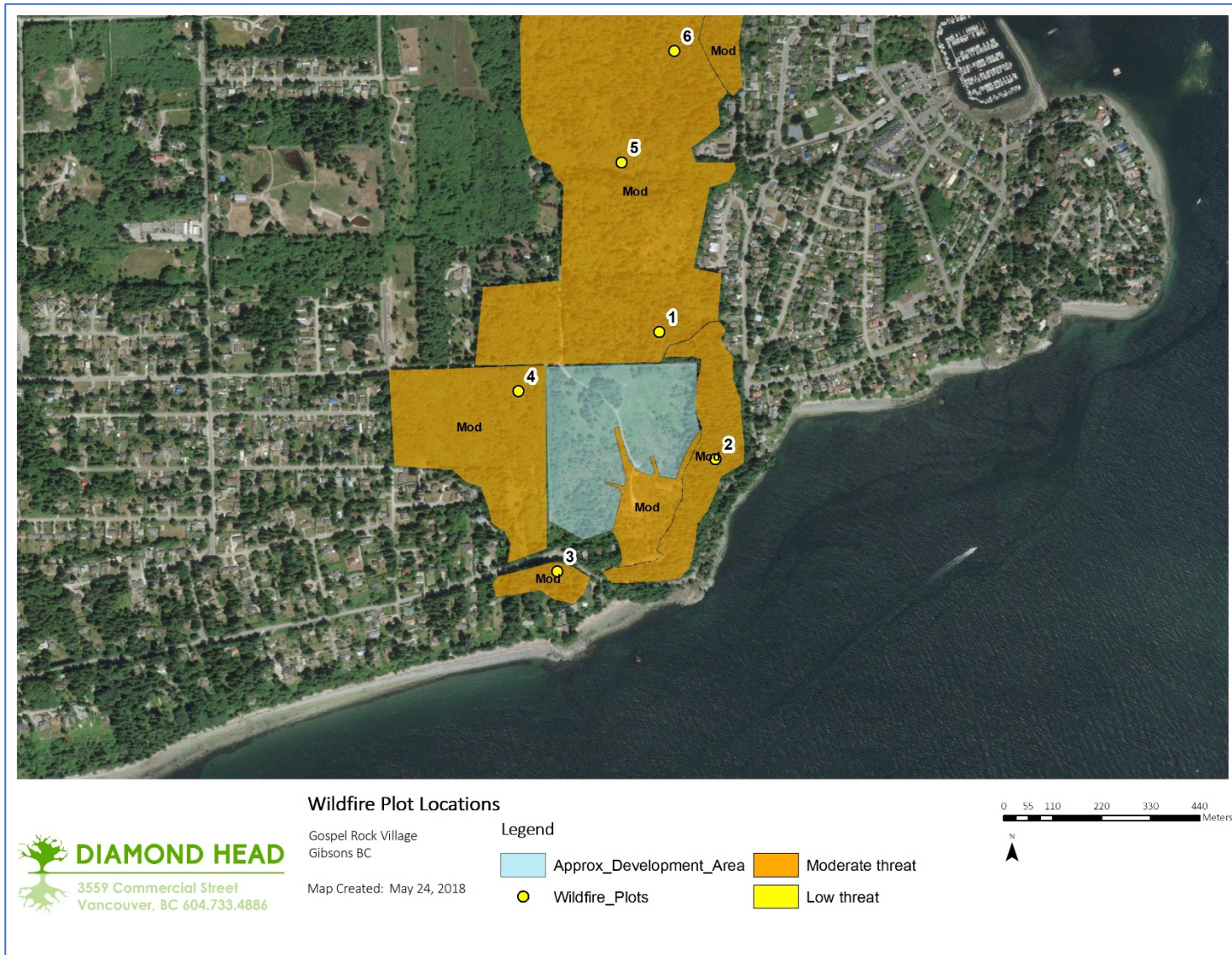


Figure 9. Plot locations

## Appendix 2 Description of Forest Fuel Types

### Fuel Type C5 – Coniferous dominated stand

The forested area to the south of the development area on a southerly aspect with steep grades has been identified as a C5 stand. The C5 fuel type consists of a mature second growth canopy of even aged, moderately stocked (500 – 800 stems per hectare) conifers. The stand is dominated by Douglas-fir (*Pseudotsuga menziesii*) with lesser amounts of Western Redcedar (*Thuja plicata*). This fuel type potentially poses a moderate wildfire threat. It takes a large amount of energy to create a crown fire in this fuel type. In order for a crown fire to generate it would likely require extreme fire weather conditions brought on by higher degrees Celsius than relative humidity (Rh) described as “crossover” in fire weather. Table 5 outlines the general stand characteristics of a C5 stand.

Table 5. Stand characteristics for fuel type C5

Characteristic	Risk Level	Description
Surface fuel continuity (% cover)	Low	20-40 % cover
Vegetation fuel composition	Low	Herbs and deciduous shrubs
Fine woody debris continuity ( $\leq 7$ cm) (% cover)	Med	10-25% coverage
Large woody debris Continuity ( $\geq 7$ cm) (% cover)	Low	<10% coverage
Live conifer canopy closure (%)	Med	41-60% crown closure
Live deciduous canopy closure (%)	High	<20% crown closure
Live and dead conifer crown height (m)	Low	3-5m
Live and dead suppressed and understory conifer (stems/ha)	Low	<500 stems/ha



Photo 3. View of conifer stand to south of development area



Photo 4. View of crown closure within conifer stand.



### Fuel Type M2 – Mixed conifer and deciduous stand

Most of the forest within 500m of the development site has been classified as mixed. These areas consist mostly of Red alder, Western redcedar and Douglas-fir. Stand density is variable ranging from 600 to more than 1,000 stems per hectare.

The fire behavior potential in these stands varies depending on the percentage content of coniferous species. Most of the stands adjacent to the site have a coniferous component of approximately 75% and pose a moderate risk to the site. There are isolated groups of conifers that pose a moderate risk. The M2 stand poses a moderate wildfire risk to the subject site, but if a surface fire did start it would be unlikely to become a crown fire. Table 6 outlines general stand characteristics.

Table 6. Stand characteristics for fuel type M2

Characteristic	Risk Level	Description
Surface fuel continuity (% cover)	Low	20-40 % cover
Vegetation fuel composition	Low	Herbs and deciduous shrubs
Fine woody debris continuity (<=7cm) (% cover)	Low	Scattered, <10% coverage
Large woody debris Continuity (>=7cm) (% cover)	Low-Med	10-25% coverage
Live conifer canopy closure (%)	Low-Med	20-40% crown closure
Live deciduous closure (%)	Med	20-40% crown closure
Live and dead conifer crown height (m)	Med	2-<3 m
Live and dead suppressed and understory conifer (stems/ha)	Very Low	0-500 stems/ha



Photo 5. View of mixed stand



Photo 6. View of crown closure within mixed stand

### Fuel Type M2/D1 – Deciduous dominated stand

There is an area to the south of the development site that has many deciduous shrubs and small trees but also has widely spaced conifers and long grass that will likely become cured in the summer months and can pose a moderate wildfire risk. This small area although dominated by deciduous species likely has a higher fire potential than most deciduous stands which is why it has been labeled as M2/D1 and given a ‘moderate’ risk of wildfire opposed to ‘low’ which deciduous generally has.

D1 fuel types typically have less than 20% coniferous component and are dominated by even aged native deciduous trees such as Red Alder (*Alnus rubra*), Bigleaf Maple (*Acer macrophyllum*), and/or Black Cottonwood (*Populus balsamifera* ssp. *Balsamifera*). D1 fuel types have a low flammability and would not support a fast spreading, high intensity wildfire. D1 stands pose a low wildfire risk and are expected to act as fuel breaks decreasing the overall wildfire threat to the site. Table 7 outlines general characteristics of D1.

**Table 7. D1 general stand characteristics**

Characteristic	Risk Level	Description
Surface fuel continuity (% cover):	Low	20-40 % cover
Vegetation fuel composition	Low	Herbs and deciduous shrubs
Fine woody debris continuity (<=7cm) (% cover)	Low	Scattered, <10% coverage
Large woody debris Continuity (>=7cm) (% cover)	Low-Med	10-25% coverage
Live conifer canopy closure (%)	Very low	< 20% crown closure
Live deciduous canopy closure (%)	Very low	>80% crown closure
Live and dead conifer crown height (m)	Very low	5m+ or <20% conifer crown closure
Live and dead suppressed and understory conifer (stems/ha)	Very Low	0-500 stems/ha



**Photo 7. View of stand classified as M2/D1.**



**Photo 8. M2/D1 stand bordered by coniferous stand.**

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## Appendix 3      Generic Description of Coastal Fuel Types

The current Canadian Forest Fire Behavior Prediction (FBP) System does not include coastal forests in their fuel type descriptions. These fuel types reflect stand conditions that were modeled to predict fire behavior potential. On the coast the fuel type that most closely represents forest stand structure and conditions has been used. The following fuel types are the most common interpretations used on the coast.

### C5 – Uniform Second Growth Conifer Stand – Moderate Risk

This fuel type is characterized by mature second growth stands dominated by Western Red Cedar (*Thuja plicata*) and Western Hemlock (*Tsuga heterophylla*). There can be small component of dominant Douglas-fir (*Pseudotsuga menziesii*) in the overstory. This fuel type is moderately dense (500-1000 stems per ha) and has a high crown base height of 10 to 15m. The understory is of moderate density, usually consisting of Western Redcedar and Western Hemlock regeneration. The ground fuel component consists of moderately dense fine fuel layer (>7cm) and a low percent cover of large woody debris (>7cm). It takes a large amount of energy to create a crown fire.

#### C5 Fuel Type



### C3 – Multistoried Second Growth Conifer Stand – High Risk

This fuel type is characterized by a uniform mature second growth conifer dominated stand. This stand consists of mature Western Red Cedar (*Thuja plicata*) and Western Hemlock (*Tsuga heterophylla*). There is also a minor component of dominant Douglas-fir (*Pseudotsuga menziesii*) in the stand. Compared to a C5 stand, a C3 stand is more densely stocked (1000-2000 stems per ha) and there is a lower crown base height (usually 4-8 m). The understory is more densely stocked with Western Redcedar and Western Hemlock. The ground fuel component consists of moderately dense fine fuel layer (>7cm) and a low percent cover of large woody debris (>7cm). A crown fire in a C3 stand takes less energy to create than a C5 stand.



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### C3 Fuel Type



### M2 - Mature Stands Consisting of a mix of Conifer and Deciduous Trees – Low to Moderate Risk

This fuel type consists of a mixed conifer and deciduous tree type. This stand is not uniform in structure and is composed of a wide variety of species. These may include and not limited to:

Western Red Cedar (*Thuja plicata*), Western Hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*), Red Alder (*Alnus rubra*), Bigleaf Maple (*Acer macrophyllum*), and Paper Birch (*Betula papyrifera*).

These stands usually consist of less than a 70% of conifer trees, reducing the wildfire risk. There is usually a low crown height (5m) and a high percentage of ladder fuels. There is a high percent cover of suppressed trees, but they are usually composed of deciduous species.

### M2 Fuel Type



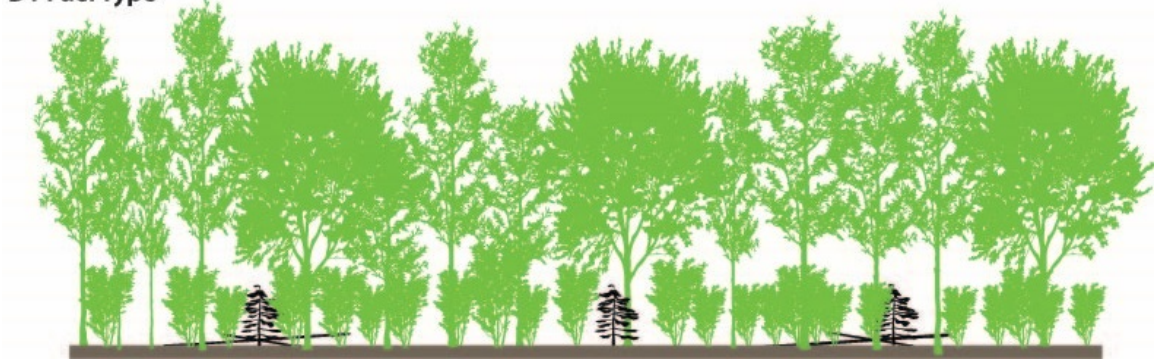
### D1 - Deciduous Dominated Stands – Low Risk

This fuel type is dominated by deciduous trees consisting mostly of Red Alder (*Alnus rubra*), Bigleaf Maple (*Acer macrophyllum*), and Paper Birch (*Betula papyrifera*). D1 stand structure is not uniform with a wide variety of tree ages. There is a well-developed shrub layer, but is mostly composed of low-flammable species. Crown fires are not expected because of the deciduous fuel type. D1 stands on the coast can be used as fuel buffers as they present a low wildfire risk.



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#### D1 Fuel Type



#### C4 - Uniform Densely Stocked Conifer Stand

This fuel type is rare within the lower mainland as it is mostly defined by densely stocked Lodgepole pine (*Pinus contorta*). This fuel type can be found more towards Squamish and Pemberton. Some small densely stocked Western Red Cedar (*Thuja plicata*), Western Hemlock (*Tsuga heterophylla*), and Sitka Spruce (*Picea sitchensis*) can be found in the Lower Mainland, but these stands are often isolated and small. Stands are densely stocked, (approximately 10,000-30,000 stems/ha) with a large quantity of fine and large woody debris. These stands are characterized as having vertical and horizontal fuel continuity. The shrub community in this stand is of very low density.

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## Appendix 4      Resources and Links

- Agee, James K. 1993. Fire Ecology of the Pacific Northwest. Island Press. Covelo, California.
- Agee, J.K. 1996. The influence of forest structure on fire behavior. Presented at the 17th Annual Forest Vegetation Management Conference, Redding CA, January 16-18, 1996.
- Agee, J.K., G. Bahro, M.A Finney, P.N. Omin, D.B. Sapsis, C.N. Skinner, J.W. van Wagtendonk, and C.P. Weatherspoon. 2000. The use of shaded fuelbreaks in landscape fire management. Forest Ecology and Management 127 (2000):55-66
- Agee, J.K. and M.H. Huff. 1986. Structure and process goals for vegetation in wilderness areas. Pages 17-25 in Lucas, R.C. compiler. Proceedings-National wilderness research conference: current research, 23-26 July 1985, Fort Collins, Colorado, USA. USDA Forest Service General Technical Report INT-212.
- Arno, S.F., 1980. Forest fire history in the northern Rockies. Journal of Forestry. 78: 460-465.
- Brown, R. 2000. Thinning, Fire and Forest Restoration: A science-based approach for national forests in the interior northwest. for Defenders of Wildlife. West Linn, Oregon.
- Graham, Russel T., Dr. Sarah McCaffrey, and Dr. Theresa B. Jain. 2004. Science Basis for Changing Forest Structure to Modify Wildfire Behavior and Severity. U.S. Department of Agriculture Forest Service. RMRS-GTR-120.
- Graham, Russel T., A. Harvey, T.B. Jain and J.R. Tonn. 1999. The Effects of Thinning and Similar Stand Treatments on Fire Behavior in Western Forests. USDA Forest Service General Technical Report PNW-GTR-463.
- Ingalsbee, Timothy. 2004. American Lands proposal for fuels reduction and restoration.
- URL: <http://www.kettlerange.org/salvagelogging/ingalsbee-restoration.html>.
- Meidinger, D. Pojar, J.1991. Ecosystems of British Columbia. BC Ministry of Forests, Research Branch. Victoria, BC.
- URL: <http://www.for.gov.bc.ca/hfd/pubs/Docs/Srs/SRseries.htm>
- Morrow, B., K. Johnston and J. Davies. 2013. Wildland Urban Interface Wildfire Threat Assessments in BC. Online <http://fness.bc.ca/wp-content/uploads/2015/09/swpi-WUI-WTA-Guide-2012-Update.pdf>
- National Fire Protection Association. 2013. NFPA 1141. Standard for Fire Protection Infrastructure for Land Developments in Suburban and Rural Areas.
- National Fire Protection Association. 2013. NFPA 1144. Standard for Reducing Structure Ignition Hazards from Wildland Fire.
- National Fire Protection Association. 2013. NFPA 1141. Standard for Fire Protection Infrastructure for Land Developments in Suburban and Rural Areas.
- Pacific Northwest Research Station. Science Update. Issue 7. June 2004. Retrieved Nov. 2004.
- URL: <http://www.fs.fed.us/pnw/pubs/science-update-7.pdf>
- Partners in Protection and Province of British Columbia. 2016. FireSmart Homeowner's Manual: FireSmart Begins at Home. Online <http://bcwildfire.ca/prevention/docs/homeowner-firesmart.pdf>

## Appendix 5      Description of Terminology

Term	Definition
Co-dominant Trees	Defines trees with crowns forming the general level of the main canopy in even-aged groups of trees, receiving full light from above and partial light from the sides.
Coarse fuels (coarse woody debris)	Combustible material over 7cm in diameter
Crown base height	The height, above ground, where the live crown of coniferous trees begins. Measured in meters (m).
Crown Closure	An assessment of the degree to which the crowns of trees are nearing general contact with one another. The percentage of the ground surface that would be considered by a downward vertical projection of foliage in the crowns of trees.
Diameter at Breast Height	The diameter of a tree measured at 1.3m above the point of germination.
Dominant Trees	Defines trees with crowns extending above the general level of the main canopy of even-aged groups of trees, receiving full light from above and comparatively little from the sides.
Fire-resistant materials	These meet the acceptance criteria of CAN/ULC-S101, (Fire Endurance Tests of Building Construction and Materials)
Fuel Break	An area of non-combustible materials that inhibits the continuous burning of fuels.
Fuel Load	The mass of combustible materials expressed as a weight of fuel per unit area.
Fuel Moisture	Percent water content of vegetation. This is an important factor in rate of spread.
Fuel Types	Classification of forested stands as described by Canadian Forest Fire Behavior Prediction (FBP) System. There are currently no fuel type classifications specific to coastal fuels.
Fine fuels (fine woody debris)	Combustible woody debris under 7cm in diameter.
Fire Behaviour	The manner in which a fire reacts to the influences of fuel, weather, and topography.
Intermediate Trees	Defines trees with crowns extending into the lower portion of the main canopy of even-aged groups of trees, but shorter in height than the co-dominants. These receive little direct light from above and none from the sides, and usually have small crowns that are crowded on the sides.

Term	Definition
Ladder Fuels	Live or dead vegetation that allows a fire to burn into the canopy (crown) of a forested stand.
Lift Pruned	The removal of ladder fuels to increase the crown base height.
Litter Layer	Surface buildup of leaves and woody material.
Live Crown Ratio	Is the percentage of the total stem length covered with living branches. It provides a rough but convenient index of the ability of a tree's crown to nourish the remaining part of the tree. Trees with less than 30 percent live crown ratio are typically weak, lack vigor, and have low diameter growth, although this depends very much on the tree's age and species.
Non-combustible materials	Means that a material meets the acceptance criteria of CAN/ULC S114, (Standard Method of test for determination of non-combustibility in Building Materials)
Open Grown	Defines trees with crowns receiving full light from all sides due to the openness of the canopy.
Rated roofing materials	Class A, B or C is a measure of the external spread of flame on a roof surface. Tests are conducted using CAN/ULC S107M methods of fire tests of roof coverings, or equivalent. The best rating achieved is Class A, which may be described as effective against severe fire exposure.
Spotting	Fire producing sparks or embers that are carried by the wind and start new fires.
Stems Per Hectare	The number or size of a population (trees) in relation to some unit of space (one hectare). It is measured as the amount of tree biomass per unit area of land.
Suppressed Trees	Defines trees with entirely below the general level of the canopy of even-aged groups of trees, receiving no direct light either from above or from the sides.
Wildfire	An unplanned, unwanted wildland fire, including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, lightning strikes, downed power lines, and all other wildland fires where the objective is to put the fire out.

## Appendix 6 Fire Resistant Plants for Landscaping

Fire resistant and drought tolerant ground covers	Fire resistant and drought tolerant perennials
<ul style="list-style-type: none"> <li>• Achillea species (when mowed, turf alternative)</li> <li>• Ajuga reptans</li> <li>• Arctostaphylos uva-ursi</li> <li>• Autennaria rosea</li> <li>• Aubrieta detoidea</li> <li>• Ceanothus prostratus</li> <li>• Cerastium tomentosum</li> <li>• Dianthus species</li> <li>• Delosperma nubigenum and the less cold hardy cooperi</li> <li>• Fragaria species (turf alternative)</li> <li>• Phlox subulata</li> <li>• Sedums</li> <li>• Sempervivums</li> <li>• Thymus praecox turf alternative)</li> <li>• Veronica species</li> </ul>	<ul style="list-style-type: none"> <li>• Achillea species</li> <li>• Armeria maritima</li> <li>• Aquilegia</li> <li>• Aurinia saxatilis</li> <li>• Coreopsis</li> <li>• Echinacea purpurea</li> <li>• Epilebium angustifolium</li> <li>• Gaillardia varieties</li> <li>• Geranium species</li> <li>• Helianthemum</li> <li>• Hemerocallis</li> <li>• Kniphofia uvaria</li> <li>• Iris - bearded</li> <li>• Lavendula</li> <li>• Lupinus</li> <li>• Penstemon</li> <li>• Oenothera species</li> <li>• Papaver orientale</li> <li>• Perovskia atriplicifolia</li> <li>• Ratibida columnifera</li> <li>• Salvia species</li> <li>• Stachys byzantina</li> </ul>
Fire resistant and drought tolerant shrubs:	Fire resistant and drought tolerant trees:
<ul style="list-style-type: none"> <li>• Amelanchier alnifolia</li> <li>• Caryopteris x clandonensis</li> <li>• Ceanothus</li> <li>• Cistus</li> <li>• Cotoneaster species</li> <li>• Euonymus alatus</li> <li>• Fremontodendron californicum</li> <li>• Fuchsia (dieback)</li> <li>• Gaultheria shallon</li> <li>• Holodiscus discolor</li> <li>• Lagerstroemia indica</li> <li>• Mahonia</li> <li>• Pachystima myrsinites</li> <li>• Philadelphus speciosus</li> <li>• Paxistima myrthifolia</li> <li>• Pyracantha species</li> <li>• Ribes species</li> <li>• Rhus species</li> <li>• Rosa species and hardy own root shrub</li> <li>• Spiraea bumalda</li> <li>• Symphoricarpos albus</li> <li>• Syringa vulgaris, spirogyasii</li> <li>• Yucca species</li> </ul>	<ul style="list-style-type: none"> <li>• Acer circinatum, glabrum, macrophyllum, plantanoides, rubrum</li> <li>• Aesculus hippocastanum</li> <li>• Alnus rubra tenuifolia</li> <li>• Betula species</li> <li>• Catalpa speciosa</li> <li>• Celtis occidentalis</li> <li>• Cercis canadensis</li> <li>• Cornus florida, stolonifera, nuttallii</li> <li>• Crataegus species</li> <li>• Fagus species</li> <li>• Fraxinus species</li> <li>• Ginkgo biloba</li> <li>• Gleditsia triacanthos</li> <li>• Gymnocladus dioica</li> <li>• Juglans</li> <li>• Liquidambar styraciflua</li> <li>• Malus species</li> <li>• Populus species</li> <li>• Prunus cherry</li> <li>• Quercus agrifolia, rubra, palustris, garryana</li> <li>• Robinia pseudoacacia</li> <li>• Salix species</li> <li>• Sorbus aucuparia</li> </ul>

Source: Master Gardeners Association of BC. <http://mgabc.org/node/1514>.

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