COVE BAY DEVELOPMENTS INC.
FREEHOLD LOT FIFTH AMENDMENT TO DISCLOSURE STATEMENT
Real Estate Development Marketing Act of British Columbia

Date of Disclosure Statement:	July 22, 2021
Date of any prior amendments:	November 23, 2021, February 18, 2022, April 19, 2022 and June 29, 2022
Date of this amendment:	December 1, 2022
Developer:	COVE BAY DEVELOPMENTS INC.
Development to be known as:	"BAYVIEW HILLS"
Address of Development:	Block A Priestland Rd Halfmoon Bay, British Columbia
Address for Service:	c/o Ostrosky Law Corporation 201-1001 Gibsons Way Gibsons, B.C. V0N 1V8
Developer Address:	710-939 Homer St Vancouver, B.C., V6B 2W6
Developer's Real Estate Agent:	Tony Browton, PREC* Re/Max City Realty 938 Gibsons Way Gibsons, B.C., V0N 1V7

The Disclosure Statement dated July 22, 2021 and FIRST amendment dated November 23, 2021 and SECOND amendment dated February 18, 2022 and THIRD amendment dated April 19, 2022 and FOURTH amendment dated June 29, 2022, are amended as follows:

1. Section 2 is deleted and replaced with the following:

2. GENERAL DESCRIPTION AND LOCATION OF THE DEVELOPMENT

2.1. General Description of the Development

The existing legal description of the land which the Development will be located is as follows:

Parcel Identifier: 015-931-901
BLOCK A (REFERENCE PLAN 1657), GROUP 1 NEW WESTMINSTER DISTRICT EXCEPT PORTIONS IN PLANS 7134, 7360, 7481 AND 7697 DISTRICT LOT 1427 (the "Lands")

The Development will be located in Halfmoon Bay, British Columbia on Priestland Road. The civic address for the Development will change and will be as determined by the Sunshine Coast Regional District (the "SCRD") and the Developer, at their sole discretion.

The Development is predicted to consist of 21 residential freehold lots. However, the Developer intends on creating an additional 9 lots on the Remainder Parcel (as defined below) some of which may be freehold lots and some of which, or all, may be bareland strata lots (together with the strata corporation and surrounding common property) (the "Future Lots").

Attached as Schedule A is a draft subdivision plan (the "Draft Subdivision Plan"). The Lots being offered for sale in this Disclosure Statement are:

Freehold Lots 1-21 (the "Lots")

Prior to substantial completion of the Development, a final surveyed subdivision plan (the "Subdivision Plan") will be filed in the Land Title Office subdividing the Lands to create the Lots, and remainder parcel (the "Remainder Parcel"). The Developer will retain the Remainder Parcel. The Developer intends on filing a second subdivision plan and/or strata plan to further subdivide the Remainder Parcel to create the Future Lots.

The Lots and their intended uses in the Development are subject to the bylaws and regulations of the SCRD.

The Lots are designed for residential single family living.

The Subdivision Plan has not been deposited for registration, but a preliminary layout review has been issued by the Ministry of Transportation and Infrastructure (the "PLR") and is attached as Schedule "B".

The estimated date for deposit of the Subdivision Plan creating the Development is between August 30, 2023 and November 30, 2023.

The Developer reserves the right to change the number, size, shape and/or location of the Lots in the Development, in its sole discretion.

The Developer reserves the right to further subdivide the Remainder Parcel to create any number of freehold lots and/or bareland strata lots, together with limited and/or common property, in its sole discretion. The Developer also reserves the right to not proceed with subdividing the Remainder Parcel.

2.2. Permitted Use

The Development is within the SCRD. A full copy of the Zoning Bylaw that sets out all of the potential permitted uses is available for viewing on the SCRD's website at https://www.scrd.ca/bylaw-zoning-

Information regarding the Zoning Bylaws can also be obtained by contacting the SCRD at 604-885-6804.

The Lots will be subject to a Statutory Building Scheme, a draft Building Scheme is attached to this Disclosure Statement as Schedule "C". The Building Scheme contains important restrictions regarding use of, and construction on, the Lots.

Purchasers should review the Building Scheme in detail. The Developer reserves the right to amend the Building Scheme at its sole discretion.

2.3. Building

Purchasers of the Lots will be responsible for construction of any dwelling unit or other improvements to be situated on a Lot and to obtain all required building permits, all at the cost of the Purchaser. Except as noted herein, the Developer will only be providing limited servicing to the Development and will not construct any improvements on the Lots.

2.4. Phasing

The Development is not a phased development under the *Strata Property Act* (BC).

2.Section 3 is deleted and replaced with the following:

3. SERVICING INFORMATION

3.1. Utilities and Services

The Development will be serviced by a water system, electricity, fire protection, telephone, cable television and road access. Road access for any number of the Lots may be facilitated by way of a series of easements over portions of the Lands. Purchasers may be required to pay a monthly or annual fee towards the maintenance, repairs and related expenses for the Development, such as shared roadways and a shared water system.

The individual Lot owners will be responsible for the costs of all utilities and the costs associated with connecting to all utilities.

The Development may be serviced by a community septic system (the "Community Septic System"). The Lot owners will be responsible for all costs associated with connecting to the Community Septic

System. The Lot owners will be responsible for paying an annual fee for use of the Community Septic System, the fee to be determined by the SCRD and Developer at their sole discretion. The Developer reserves the right to amend the location, size and specifics of the Community Septic System, as needed to obtain approval for the Development and future development of the Remainder Parcel and Block B.

The Developer reserves the right to transfer ownership, control and management of the Community Septic System to a strata corporation, numbered company controlled by the Developer and/or the SCRD.

Alternatively, the Developer may not proceed with the Community Septic System and instead proceed by registering a septic covenant against each Lot in favour of the Vancouver Coastal Health Authority (the "Septic Covenants"). The Septic Covenants will set out an approved area where the septic system to service the respective Lot can be built (the "Septic Covenant Area"). The Septic Covenant Area will be designated as a no build area. Lot owners will be responsible for all costs associated with installing and constructing their respective septic system to service their respective Lot.

If the Developer elects to register Septic Covenants against each of the Lots, the Lot owners will be responsible for all costs associated with constructing, installing, operating, connecting and maintain their septic system.

3.Subsections 4.3. and 4.4. are deleted and replaced with the following:

4.3. Existing Encumbrances and Legal Notations

Financial Encumbrance, Mortgage CA9349092, Modification of Mortgage CB151646, Mortgage CA9870254, Modification of Mortgage CB41621, Claim of Builders Lien CB334962 and Claim of Builders Lien CB344320 are registered against the Lands. The Developer will cause Mortgage CA9349092, Modification CB151646, Mortgage CA9870254, Modification CB41621, Claim of Builders Lien CB334962 and Claim of Builders Lien CB344320, to be partially discharged from the title to any particular Lot within a reasonable time after receipt of the net sale proceeds from the sale of such Lot.

There are no other encumbrances registered against title to the Lands, except Legal Notation BB1317342 in favour of the SCRD advising the Lands are subject to a permit. Legal Notation BB1317342 will remain registered against title to the Lots and/or Common Property of the Development.

4.4. Proposed Encumbrances:

The following additional encumbrances may be registered by the Developer in favour of or against title to the Lands, which will remain as legal notations or encumbrances, respectively, against title to the Lots or the Common Property after filing the Subdivision Plan in the Land Title Office (unless otherwise indicated):

I. easements, restrictive covenants, dedications and rights-of-way and other rights or restrictions in favour of utilities, communications suppliers, public authorities, municipalities or any other applicable government authority or public or private utility (including, without limitation, the SCRD, MOTI, Ministry of Environment, Vancouver Coastal Health, Telus, BC Hydro and FortisBC) with respect to provision of utilities to the Development or in connection with approval of the development, construction and occupation of the Lands, the Development and the Lots, over portions of the Common Property of the Development;

II. easements, restrictive covenants, dedications and rights-of-way and other rights or restrictions in favour of communications suppliers (including, without limitation, Telus) with respect to the installation, operation and maintenance of wireless rooftop or exterior building antennas and/or in building wireless antenna systems for the purpose of enhancing such communication supplier's network(s) and/or provision of its services to its customers, whether or not located within the Development;

III. modifications or replacements of the existing encumbrances registered against title to the Lands in connection with the approval of the development, construction and occupation of the Lands, the Development, and/or the Lots;

IV. The Developer may also accept grants of easements, restrictive covenants or other rights or charges over neighbouring lands for the benefit of the Lands, or for the benefit of a neighbouring parcel owned by the Developer or a related corporation controlled by the Developer, which agreements may contain certain cost sharing provisions with respect to the use of common utility systems and common facilities. The Developer intends on developing the property neighbouring the Development in the near future. The Developer reserves the right to grant easements, statutory right of ways, restrictive covenants and other charges over the Lands in favour of the neighbouring property owned by the Developer;

V. Geotechnical and Riparian covenants restricting the use of the Lots will be registered for the purpose of protecting development from natural hazards or protecting the natural environment, a draft of these covenants are attached as Schedule E;

VI. any Fixture Notices pursuant to section 49 of the *Personal Property Security Act* (BC) as may be required for the purchase of chattels to be included in the Strata Lots. The chattels covered by the Fixture Notices will be paid for upon installation from the construction financing funds or from sale proceeds;

VII. Agreements which set out the rights and obligations of the owner of the Freehold Lots and the owners of the Strata Lots and Strata Corporation and may include an indemnity granted by the Strata Lot owners and Strata Corporation in favour of the Freehold Lot owners;

VIII. mortgages, assignment of rents and any other security documentation required by the Developer's lenders for the financing of the Development;

IX. one or more mortgages and related security in respect of any deposit protection contract that may be entered into by the Developer (see Section 7.1);

X. modifications or replacements of the existing encumbrances registered against title to the Lands in connection with the approval of the development, construction and occupation of the Lands, the Development, and/or the Lots; and

XI. The Developer may also accept grants of easements, restrictive covenants or other rights or charges over neighbouring lands for the benefit of the Lands, which agreements may contain certain cost sharing provisions with respect to the use of common utility systems and common facilities.

4.Subsection 5.1. is deleted and replaced with the following:

5.1. Construction Dates

The estimated date for commencement of construction of the Lots is between October 30, 2021 and January 30, 2022, and the estimated completion is anticipated to be between August 30, 2023 and November 30, 2023.

The Developer reserves the right to change the estimated date ranges or commencement and/or completion of construction of the Lots. The estimated completion date range for the Lots is an estimate only and is not to be relied upon by purchasers for determining the completion date of their purchases. In particular, depending on excavation and related construction commencement or completion of construction, or both, may be advanced to an earlier date or delayed (or any combination of the foregoing).

5.Subsection 6.2. is deleted and replaced with the following:

6.2. Construction Financing

The Developer has obtained an unconditional financing commitment for financing the construction of the Development.

As of the date of this Amendment to Disclosure Statement, the Lands are charged with Mortgage CA9349092, Modification of Mortgage CB151646, Mortgage CA9870254 and Modification of Mortgage CB41621. However, at any time the Lands may be charged with the additional security described in section 4.4 above and following receipt of a satisfactory financing commitment, title to the Lots will be subject *to* the financial encumbrances described in 4.3(d) and may be subject *to* additional mortgages, assignment of rent and/or any other security relating to such construction financing commitment (collectively referred to as the "Construction Security").The Developer will cause any Construction Security to be partially discharged from the title to any particular Lot within a reasonable time after receipt of the net sale proceeds from the sale of such Lot. As additional security for the Construction Financing, a general security agreement may be registered against the Developer and/or the Registered Owner in the British Columbia Personal Property Registry.

Under section 12 of the *Real Estate Development Marketing Act* (BC), a developer must not market a subdivision lot unless the Developer has made adequate arrangements to ensure payment of the cost of utilities and other services associated with the subdivision lot. If the Developer has obtained a satisfactory financing commitment, the Developer is deemed to have made adequate arrangements for the purpose of installing utilities and services associated with the subdivision lots. In this case, no further terms and conditions are applicable to the marketing of the subdivision lots.

The Developer has obtained a satisfactory financing commitment, therefore, the Developer is deemed to have made adequate arrangements for the purpose of installing utilities and services associated with the subdivision lots and this Development.

6. Schedule "A" – Draft Subdivision Plan is deleted and replaced with the attached Schedule "A"
7. Schedule "D" – Contract of Purchase and Sale is deleted and replaced with the attached Schedule "D"
8. Schedule "E"- Draft Geotechnical and Riparian Covenants is added.

DEEMED RELIANCE:

Section 22 of the *Real Estate Development Marketing Act* provides that every purchaser who is entitled to receive this Disclosure Statement is deemed to have relied on any false or misleading statement of a material fact contained in this Disclosure Statement, if any, and any omission to state a material fact. The Developer, its directors, and any person who has signed or authorized the filing of this Disclosure Statement, are liable to compensate the purchaser for any misrepresentation, subject to any defences available under section 22 of the *Act.* The Developer, who has signed or authorized the filing of this Disclosure Statement, is liable to compensate the Purchaser for any misrepresentation, subject to any defences available under section 22 of the Act.

DECLARATION:

The foregoing statements disclose, without misrepresentation, all material facts relating to the Development referred to above, as required by the *Real Estate Development Marketing Act* of British Columbia, as of the 1st day of December 2022.

SIGNED this 1st day of December, 2022.

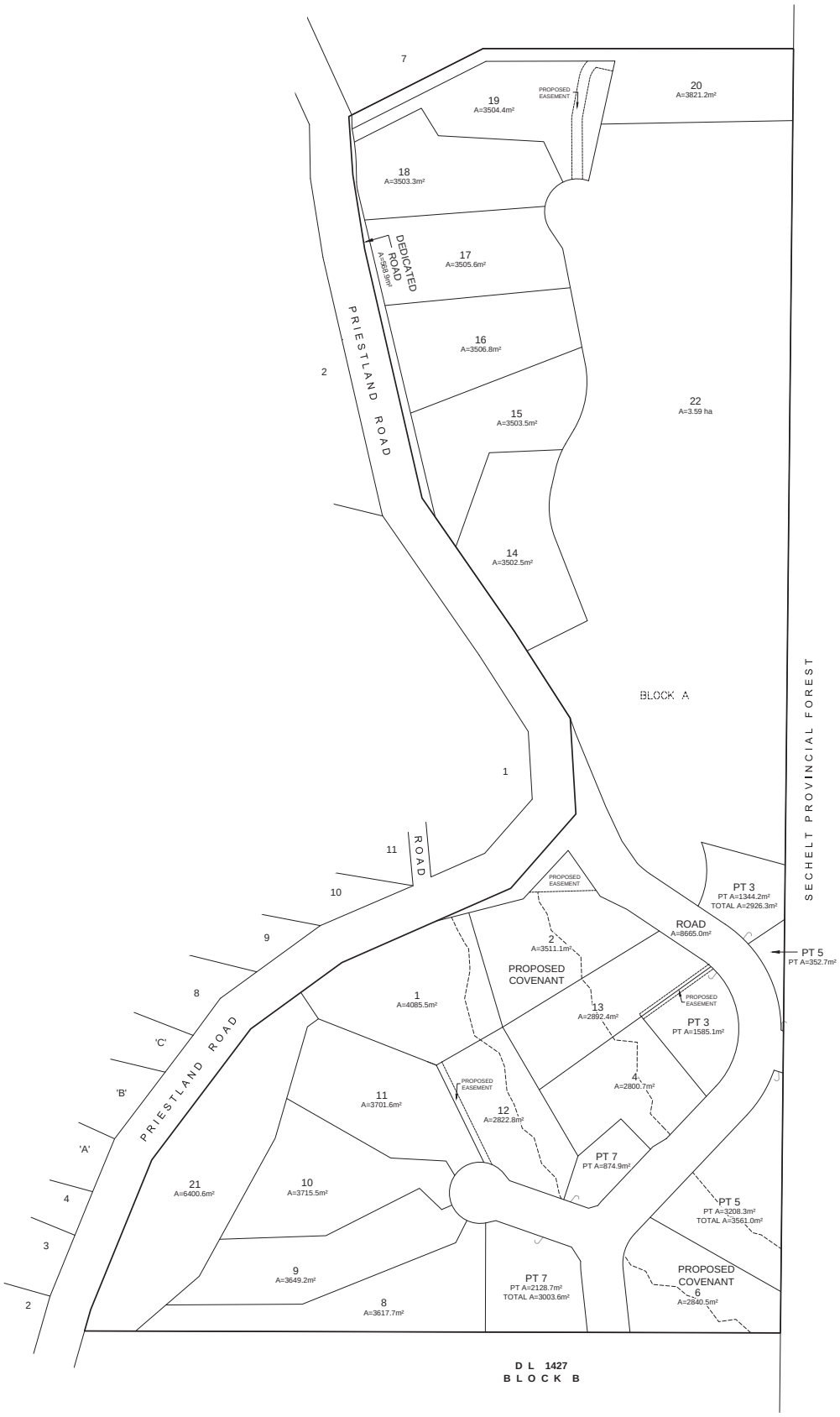
Director in his personal capacity:

Alister Toma

Cove Bay Developments Inc.
By:

Authorized signatory

SCHEDULE A- DRAFT SUBDIVSION PLAN



SKETCH OF PROPOSED SUBDIVISION PLAN OF BLOCK 'A' (REFERENCE PLAN 1657), Gp 1 NWD EXCEPT PORTIONS IN PLANS 7134, 7360, 7481 AND 7697 DL 1427

SUNSHINE COAST REGIONAL DISTRICT
HALFMOON BAY

CIVIC ADDRESS: NONE
PID: 015-931-901

SCALE 1:750

10 0 10 20 50

ALL DISTANCES ARE IN METRES AND DECIMALS THEREOF

bennett
LAND SURVEYING LTD.
BC LAND SURVEYORS
634 FARNHAM ROAD
GIBSONS, BC
V0N 1V8
TEL 604-886-2531
www.bennettsurveys.com

DATE	BY
NOVEMBER 24, 2022	ES

REVISION: 0

LEGEND:

A - DENOTES AREA
PT - DENOTES PART
C - DENOTES COMMON PROPERTY

PROPERTY:

PROPERTY DIMENSIONS SHOWN ARE DERIVED FROM FIELD SURVEY.

OFFSETS TO PROPERTY LINES ARE NOT TO BE USED TO DEFINE BOUNDARIES.

REFER TO CURRENT CERTIFICATE(S) OF TITLE FOR ADDITIONAL, EXISTING OR PENDING CHARGES.

GENERAL:

THIS PLAN SHOWS THE LOCATION OF VISIBLE FEATURES ONLY, AND DOES NOT INDICATE BURIED SERVICES THAT MAY EXIST ON OR AROUND THE SUBJECT SITE.

NOTE:

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE BB1317343.

THIS PLAN HAS BEEN PREPARED FOR PRELIMINARY PURPOSES ONLY AND IS FOR THE EXCLUSIVE USE OF OUR CLIENT.

ALL RIGHTS RESERVED. NO PERSON MAY COPY, REPRODUCE, TRANSMIT OR ALTER THIS DOCUMENT IN WHOLE OR IN PART WITHOUT THE CONSENT OF BENNETT LAND SURVEYING LTD..

BENNETT LAND SURVEYING LTD. ACCEPTS NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGES THAT MAY BE SUFFERED BY A THIRD PARTY AS A RESULT OF ANY DECISIONS MADE, OR ACTIONS TAKEN BASED ON THIS DOCUMENT.

SCHEDULE D – CONTRACT OF PURCHASE AND SALE

BAYVIEW HILLS

AGREEMENT OF PURCHASE AND SALE

FREEHOLD LOTS

VENDOR: **COVE BAY DEVELOPMENTS INC.**, a corporation formed pursuant to the laws of British Columbia and having an office located at Suite 710-939 Homer St., Vancouver, British Columbia, V7B 2W6

(the "**Vendor**")

PURCHASER:

Full Name:_____	Full Name:_____
Address:_____	Address:_____
_____	_____
Tel: _____	Tel: _____
Email: _____	Email: _____
SIN: _____	SIN: _____
This Purchaser_____[is/is not] a resident in Canada for the purposes of the *Income Tax Act* (Canada).	This Purchaser_____[is/is not] a resident in Canada for the purposes of the *Income Tax Act* (Canada).
This Purchaser_____[is/is not] a foreign entity for the purposes of the *Property Transfer Tax Act* (British Columbia)	This Purchaser_____[is/is not] a foreign entity for the purposes of the *Property Transfer Tax Act* (British Columbia)
	_____ (*initial here*)

(Such one or more parties being hereinafter referred to as the "**Purchaser**").

PROPERTY: Proposed Lot _____of Plan _____ (the "**Lot**") in the development known as "BAYVIEW HILLS" (the "**Development**"), to be constructed on the lands presently known and legally described as:

Parcel Identifier 015-931-901

BLOCK A (REFERENCE PLAN 1657), GROUP 1 NEW WESTMINSTER DISTRICT EXCEPT PORTIONS IN PLANS 7134, 7360, 7481 AND 7697 DISTRICT LOT 1427 (the "**Lands**")

PURCHASE PRICE: The Purchase Price for the Lot will be $_____. The Purchase Price excludes all taxes payable upon the purchase of the Lot, including without limitation, Goods and Services Tax ("**GST**").

A. **Offer.** The Purchaser hereby offers to purchase from the Vendor the Lot for the Purchase Price and upon the terms set forth herein subject to the encumbrances (the "**Permitted Encumbrances**") referred to in the Disclosure Statement (as hereinafter defined). The Purchaser acknowledges that they are purchasing a lot which is to be constructed or is presently under construction.

_____
(*initial here*)

B. **Receipt of Disclosure Statement and Rental Disclosure Statement**. The Purchaser acknowledges that the Vendor has delivered and the Purchaser has received a copy of the Disclosure Statement (as defined in Section 5 of Addendum A attached hereto) and the Purchaser has been given a reasonable opportunity to read the Disclosure Statement prior to entering into this Agreement and the execution by the Purchaser of this Agreement constitutes a receipt confirming that the Purchaser received the Disclosure Statement and had a reasonable opportunity to read the Disclosure Statement. The Disclosure Statement contains provisions explaining the obligations of the owner for the Lot to pay annual contributions to costs of certain expenses. Purchaser acknowledges that the information in Section 7.2 of the Disclosure Statement regarding this Agreement has been drawn to the Purchaser's attention.

_____
(*initial here*)

C. **Electronic Delivery of Disclosure Statement and Amendments**. To the extent that the Vendor provided a copy of the Initial Disclosure Statement or a copy of any or all of the amendments to Disclosure Statement to the Purchaser by electronic means, including, without limitation, by e-mail to the e-mail address set out on page 1 hereof, the Purchaser hereby consents to such delivery by electronic means. The Purchaser hereby acknowledges and agrees that the Vendor may, in its discretion, deliver a copy of any amendment to Disclosure Statement which is filed in respect of the Disclosure Statement, including, without limitation, by e-mail to the e-mail address set out on page 1 hereof, and the Purchaser hereby consents to such delivery by electronic means.

_____
(*initial here*)

D. **Deposit**. The Purchaser will pay the following deposits to TONY BROWTON, PREC, RE/MAX CITY REALTY (the "**Vendor's Realtor**") in trust **by bank draft or certified cheque in the name of "RE/MAX CITY REALTY, IN TRUST"** to be held by them in accordance with the *Real Estate Development Marketing Act* (British Columbia) ("**REDMA**"):

THE FIRST DEPOSIT (the "**First Deposit**"), equal to TEN PERCENT (10%) of the Purchase Price due upon execution of this offer by Purchaser.	$_____
THE SECOND DEPOSIT (the "**Second Deposit**"), equal to an additional FIFTEEN PERCENT (15%) of the Purchase Price, is due 30 days after the date this offer is accepted by the Vendor.	$_____

_____
(*initial here*)

The First Deposit and the Second Deposit are collectively referred to herein as the "**Deposit**".

_____
(*initial here*)

Interest on the Deposit will, in all cases, be for the benefit of the Vendor and will not be applied on account of the Purchase Price. Unless specifically otherwise provided herein, if the Purchaser defaults in the Purchaser's obligations hereunder, the Vendor may, at its option, retain the Deposit and all accrued interest thereon on account of damages without prejudice to any other remedy which the Vendor may have in respect of the Purchaser's default.

The Purchaser will pay the balance of the Purchase Price, subject to adjustments as described herein, on the Completion Date (as defined in Section 1 of Addendum A attached hereto) by way of solicitor's trust cheque or bank draft.

E. **Completion, Possession and Adjustment Dates**: Are as set out in Addendum "A" attached hereto.

G. **Acceptance**. This offer will be open for acceptance by the Vendor on presentation until withdrawn in writing by the Purchaser and upon acceptance by the Vendor signing a copy of this offer, there will be a binding agreement of sale and purchase (the "**Agreement**") in respect of the Lot for the Purchase Price, on the terms and subject to the conditions set out herein.

THE TERMS AND CONDITIONS ATTACHED HERETO AS ADDENDUM "A" ARE PART OF THIS AGREEMENT. READ THEM CAREFULLY BEFORE YOU SIGN.

THE PURCHASER HAS EXECUTED THIS AGREEMENT THIS DATE OF: _____, 20_____.

_____	_____	_____	_____
(Witness Signature)	(Witness Name)	(Purchaser Signature)	(Purchaser Name)

_____	_____	_____	_____
(Witness Signature)	(Witness Name)	(Purchaser Signature)	(Purchaser Name)

THE PURCHASER'S OFFER TO PURCHASE CONTAINED HEREIN IS ACCEPTED BY THE VENDOR THIS DATE OF: _____. 20_____.

COVE BAY DEVELOPMENTS INC. by its authorized signatory:

_____
Authorized Signatory

ADDENDUM "A"

1. **Completion Date**. The Purchaser will deliver the balance of the Purchase Price, at the Purchaser's expense, by way of a solicitor's TRUST CHEQUE or BANK DRAFT to the Vendor's Solicitors on the Completion Date (the "**Completion Date**"). The Completion Date will be that date set out in a notice given by the Vendor or the Vendor's Solicitors to the Purchaser or the Purchaser's solicitors/notary (the "**Purchaser's Solicitors**") as a date on which the Lot is or will be ready and title will be issued by the applicable Land Title Office (the "**LTO**"), provided that the Vendor or the Vendor's Solicitors will not give less than 14 days' notice thereof. Whether the Lot is ready refers to the Lot and not any other lot or common property within the Development and the Lot will be deemed to be ready on the Completion Date if: the LTO has issued a separate title for the Lot. If the Completion Date is a Saturday, Sunday, holiday or a day upon which the applicable Land Title Office is not open for business, the Completion Date will be the next business day upon which the LTO is open for business. The notice of the Completion Date delivered from the Vendor or the Vendor's Solicitors to the Purchaser or the Purchaser's Solicitors may be based on the Vendor's estimate as to when the Lot will be ready and title will be issued such that title is ready to be conveyed to the Purchaser. If the Lot is not ready or titles have not been issued by the LTO on the Completion Date so established, then the Vendor may delay the Completion Date from time to time as required, by notice of such delay to the Purchaser or the Purchaser's Solicitors. If the Completion Date has not occurred by November 30, 2024 (the "**Outside Date**"), then this Agreement will be terminated on the Outside Date, the Deposit paid by the Purchaser will be returned to the Purchaser and the parties will be released from all of their obligations.

   The Vendor confirms that it currently estimates that the Completion Dates for the Lots will occur between August 30, 2023 and November 30, 2023.

   The Purchaser acknowledges that these dates have been provided by the Vendor as a matter of convenience only, they are not meant to be legally binding upon the Vendor and that the actual Completion Dates will be established in the manner set out above. The Purchaser further acknowledges that the estimated date for completion of the Development set out in the Disclosure Statement for the Development is an estimate only and may be amended from time to time.

2. **Conveyance**. A vendor's statement of adjustments and a freehold transfer (the "**Transfer**") for the Lot and, if required by the Vendor, a certificate as to the GST registered status of the Purchaser, are to be prepared and delivered at the Purchaser's expense to the office of the Vendor's Solicitors by the Purchaser's Solicitors at least 3 business days prior to the Completion Date. The Vendor will execute and deliver or cause to be executed and delivered such statement of adjustments and Transfer to the Purchaser's Solicitors on or before the Completion Date on the condition that, forthwith upon the Purchaser's Solicitors obtaining a post-filing title search from the LTO indicating that, in the ordinary course of LTO procedure, the Purchaser will become the registered owner of the Lot (subject only to the Permitted Encumbrances and charges for which the Purchaser is responsible), the Purchaser will cause payment of the balance of the Purchase Price due on the Completion Date by way of solicitor's trust cheque or bank draft to be made by the Purchaser's Solicitors to the Vendor's Solicitors. The Transfer of the Lot will also be subject to the Vendor's financing arranged in connection with the Development or any builders' lien claims provided that the Vendor's Solicitors undertake to clear title to the Lot of all encumbrances related to such financing and such builders' liens claims within a reasonable period of time after receiving the balance of the Purchase Price due on the Completion Date. The Purchaser acknowledges that the Vendor's financing may remain as a charge against the common property of the Development and against the Vendor in the Personal Property Registry until the Vendor has completed the sale of the balance of the lots in the Development whereupon the Vendor covenants such financing will be discharged entirely.

   If the Purchaser is relying upon a new mortgage to finance the Purchase Price, the Purchaser, while still required to pay the Purchase Price on the Completion Date, may wait to pay the Purchase Price to the Vendor until after the Transfer and new mortgage documents have been lodged for registration in the LTO, but only if, before such lodging, the Purchaser has: (a) made available for tender to the Vendor that portion of the Purchase Price not secured by the new mortgage; (b) fulfilled all the new mortgagee's conditions for funding except lodging the mortgage for registration; and (c) made available to the Vendor a solicitor's or notary's undertaking to pay the Purchase Price upon the lodging of the Transfer and new mortgage documents and the advance by the mortgagee of the mortgage proceeds.

3. **Deposit**. The Deposit will be dealt with by the Vendor's Realtor as follows:

   (a) the Deposit, or any portion thereof, received under the terms of this Agreement will be held by the Vendor's Realtor in a trust account in accordance with the provisions of REDMA;

   (b) if the Purchaser completes the purchase of the Lot on the terms and conditions contained herein, then the Deposit will be applied to the Purchase Price and be paid to the Vendor, and any accrued interest thereon will be paid to the Vendor not on account of the Purchase Price;

   (c) if the Purchaser fails to pay any portion of the Deposit when required hereunder or fails to complete the purchase of the Lot, then the Vendor may elect to terminate this Agreement and, in such event, the Deposit and any accrued interest

thereon will be non-refundable and be absolutely forfeited to the Vendor; or

(d) if the Vendor fails to complete the sale of the Lot, then the portion of the Deposit paid by the Purchaser will be paid to the Purchaser (but all accrued interest thereon will be retained by the Vendor) and the Purchaser will have no further claims against the Vendor.

The payment to the Vendor of the Deposit, or any portion thereof, and any accrued interest thereon where so required, pursuant to Section 3(c) or 8 hereof will not be deemed to be all inclusive liquidated damages and will not preclude any further claims or remedies by the Vendor against the Purchaser arising pursuant thereto. The return to the Purchaser of the Deposit or portion thereof and any accrued interest thereon will be the Purchaser's sole and exclusive remedy, and the Purchaser will have no further claims against the Vendor.

4. Disclosure Statement and Amendment to Disclosure Statement.

(a) In this Agreement: (i) "**Initial Disclosure Statement**" means the initial Disclosure Statement dated July 22, 2021 filed with the Superintendent of Real Estate with respect to the Development; and (ii) "**Disclosure Statement**" means, collectively, the Initial Disclosure Statement together with and as amended by any and all amendments to Disclosure Statement filed from time to time with respect to the Initial Disclosure Statement.

5. **Rescission Rights**. Under Section 21 of the *Real Estate Development Marketing Act*, the purchaser or lessee of a development unit may rescind (cancel) the contract of purchase and sale or contract to lease by serving written notice on the developer or the developer's brokerage, within seven days after the later of the date the contract was entered into or the date the purchaser or lessee received a copy of the Disclosure Statement.

The rescission notice may be served by delivering or sending by registered mail, a signed copy of the notice to:

(a) the developer at the address shown in the Disclosure Statement received by the purchaser;

(b) the developer at the address shown in the purchaser's purchase agreement;

(c) the developer's brokerage, if any, at the address shown in the Disclosure Statement received by the purchaser; or

(d) the developer's brokerage, if any, at the address shown in the purchaser's purchase agreement.

The developer must promptly place purchasers' deposits with a brokerage, lawyer or notary public who must place the deposits in a trust account in a savings institution in British Columbia. If a purchaser rescinds their purchase agreement in accordance with the Act and regulations, the developer or the developer's trustee must promptly return the deposit to the purchaser.

6. **Possession, Risk and Adjustment**. The Purchaser will assume all taxes, rates, local improvement assessments, water rates and scavenging rates, assessments of the strata corporation of which the Lot forms a part, and all other adjustments both incoming and outgoing of whatever nature in respect of the Lot will be made as of the date the balance of the Purchase Price is due. The Lot is to be at the risk of the Vendor to and including the day preceding the Completion Date, and thereafter at the risk of the Purchaser. So long as the Purchase Price and all other amounts payable by the Purchaser to the Vendor in respect of the Lot have been paid in full, the Purchaser may have possession of the Lot on the day following the Completion Date (the "**Possession Date**"). The Purchaser is responsible for all utility charges as of the Possession Date and must ensure they notify the necessary utility companies to have the utilities transferred into the Purchaser's name on the Possession Date.

7. **Builders' Lien Holdback**. That portion, if any, of the balance of the Purchase Price required by law to be held back by the Purchaser in respect of builders' lien claims (the "**Lien Holdback**") will be paid to the Vendor's Solicitors on the Completion Date. The Lien Holdback will be held in trust for the Purchaser pursuant to the *Builders Lien Act* (British Columbia) (or successor statutes) solely in respect of lien claims registered in the LTO in connection with work done at the behest of the Vendor. The Vendor's Solicitors are authorized to invest the Lien Holdback in an interest bearing trust account to accrue interest for the benefit of the Vendor, and to pay to the Vendor (or as directed by the Vendor), on the earlier of (i) the date on which the time for filing a claim of lien under the *Builders Lien Act* expires; and (ii) the date which is 55 days after the date that the balance of the Purchase Price becomes due as aforesaid, the Lien Holdback plus interest, if any, accrued thereon, less the amount of any builders' lien claim filed against the Lot of which the Purchaser or the Purchaser's Solicitors notify the Vendor's Solicitors in writing by 1:00 p.m. on that day. The Purchaser hereby authorizes the Vendor and the Vendor's Solicitors to do all things necessary to discharge any builder's liens, including bringing court proceedings in the name of the Purchaser, provided that any such proceeding will be at the sole expense of the Vendor.

8. **Time of Essence**. Time will be of the essence hereof and unless all payments on account of the Purchase Price, (including, without limitation, any portion of the Deposit or the balance of the Purchase Price) together with adjustments thereto as provided herein and all other amounts payable hereunder are paid when due, then the Vendor may, at its option:

(a) terminate this Agreement by written notice to the Purchaser and, in such event, the portion of the Deposit paid by the Purchaser and any accrued interest thereon will be absolutely forfeited to the Vendor without prejudice to the Vendor's other remedies and the Vendor's Solicitors are hereby irrevocably authorized and directed by the Purchaser to pay the amount held by them and such interest as may have accrued thereon to the Vendor upon written demand therefore by the Vendor; or

(b) elect to extend the date for payment or the Completion Date, as applicable, to a certain date determined by the Vendor, time to remain of the essence hereof and subject to the Vendor's right in its sole discretion, to grant further extensions to a certain date each time, in which event the Purchaser will pay to the Vendor, in addition to the Purchase Price, interest on the unpaid portion of the Purchase Price and other unpaid amounts payable hereunder at the rate of 2% per month (24% per annum), calculated daily and compounded monthly not in advance (effective annual rate of 26.82%), from the date upon which such portion and amounts were due to the date upon which such portion and amounts are paid.

The Vendor may cancel this Agreement pursuant to Section 8(a) or grant one or more further extensions pursuant to Section 8(b) at any time after extending the date for payment or the Completion Date, as the case may be, pursuant to Section 8(b) if the Purchaser fails to make such payment or to complete on or before such extended date.

9. **Entire Agreement/Representations**. The Purchaser acknowledges and agrees that this Agreement constitutes the entire agreement between the parties with respect to the sale and purchase of the Lot and supersedes any prior agreements, negotiations or discussions, whether oral or written, of the Vendor and the Purchaser, and that there are no representations, warranties, conditions or collateral contracts, expressed or implied, statutory or otherwise, or applicable hereto, made by the Vendor, or its respective agents or employees, or any other person on behalf of the Vendor, other than those contained herein and in the Disclosure Statement. The Purchaser acknowledges that the sales brochures, models, websites, representative view sets, photographs, illustrations or renderings or other marketing materials provided to the Purchaser or made available for its viewing do not in any way constitute a representation or warranty. In particular, the Purchaser acknowledges and agrees that the designs, landscaping, materials, specifications, details, gates, security features, water features, and other features set out in any materials viewed by the Purchaser are subject to change without notice, at the Vendor's sole discretion.

10. **Changes to the Development and the Lot / Purchaser Acknowledgements**. The Purchaser acknowledges and agrees:

(a) that the Vendor reserves the right to reconfigure the Development by altering the location of some of the lots relative to other lots and changing the number of lots, all as determined by the Vendor in its sole discretion. The Purchaser also acknowledges and agrees that the Vendor may from time to time, in its sole discretion, or as required by any governmental authority, change, vary or modify the plans and specifications pertaining to the property, the Development or the Lot (including engineering, landscaping, grading, mechanical, site service or other plans) from the plans and specifications as they exist at the time the Purchaser has entered into this Agreement. The Purchaser acknowledges that the area of the Lot as shown on the Subdivision Plan to be filed in the LTO upon completion of the Development may vary from the figures shown on the Draft Subdivision Plan attached to the Disclosure Statement and in the marketing materials for the Development. The actual size, dimension and/or configuration of the lots, and/or future lots created may vary from what is depicted on the Draft Subdivision Plan. The areas and dimensions of the lots in the Development set out in the sales brochures or other marketing materials are provided for information purposes only and are not represented as being the actual final areas and dimensions of the lots in the Development. In the event of any discrepancy as between the area, size, dimensions, location and/or configuration of the lots, and/or other property in the Draft Subdivision Plan and the Subdivision Plan, the Subdivision Plan will prevail;

(b) the Purchase Price set forth herein for the Lot is based on the area as set out in the Draft Subdivision Plan (the "**Area**") for the Lot. In the event the actual area of the Lot is more than 5% smaller than the Area (the "**Variance**"), the Purchase Price will be decreased by the Adjustment Factor (as hereinafter defined) times the number of square feet equal to that part of the Variance which is more than 5% smaller than the Area. In this Section 10, "**Adjustment Factor**" means the price per square foot determined by dividing the Purchase Price by the Area. In the event the actual square footage of the Lot decreases by no more than 5% of the Area, there will be no adjustment to the Purchase Price. The actual area of the Lot will be conclusively determined by the Subdivision Plan registered in the LTO;

(c) the municipal address of the Development and the Lot are subject to change as determined by the Vendor or the District, at their sole discretion; and

(d) the Completion Date may be any day up to and including the Outside Date and the Purchaser releases the Vendor and its affiliates from any actions, causes of action, costs, claims, demands and liabilities arising as a result of the date on which the Completion Date occurs.

11. **Inspection**. The Lot will be jointly inspected by the Purchaser or his or her representative and a representative of the Vendor at a reasonable time designated by the Vendor by written notice or telephone call to the Purchaser prior to the Completion Date. The Purchaser may waive this inspection in writing and, if so waived, the Purchaser will be deemed to be satisfied with and to have accepted the Lot its condition on the Completion Date regardless of the fact that the Purchaser may not have viewed the Lot. The Purchaser will be deemed to have waived the inspection if the Vendor is unable to reach the Purchaser for the purposes of scheduling the inspection after reasonable attempts to do the same, and the Purchaser will be deemed to have waived the inspection if the Purchaser does not attend the inspection at the scheduled inspection time.

12. **Costs / GST and Taxes**. The Purchaser will pay all costs in connection with the sale and purchase of the Lot including GST and the other taxes required to be paid by the Purchaser in connection with the purchase and sale of the Lot, other than the costs of the Vendor incurred in clearing title to the Lot. The Purchase Price specifically does not include GST, or any other tax payable upon the purchase of the Lot, such as value-added, sales or other tax imposed on the transaction, including property transfer tax and any additional property transfer tax payable if the Purchaser is a foreign entity, a taxable trustee or both. The Purchaser will pay the required GST and other taxes payable upon the purchase of the Lot in addition to the Purchase Price on the Completion Date whether remitted to the Vendor or directly to the taxing authority, if applicable. The Vendor agrees that it will remit the GST and other taxes that are collected by the Vendor, or otherwise account for such funds, to the Canada Revenue Agency (the "**CRA**") or other applicable taxing authority in accordance with its obligations under Part IX of the *Excise Tax Act* (Canada) or other applicable law. Notwithstanding the foregoing, if the Purchaser is a corporation, trust or partnership which is registered for GST purposes and, on or before the Completion Date, the Purchaser provides the Vendor with a certificate in the customary form as to the GST registered status of the Purchaser containing the Purchaser's GST registration number, the Purchaser will not be required to pay the GST to the Vendor but will be liable for, will self-assess and will remit same directly to CRA. The Purchaser will indemnify and save harmless the Vendor from and against any and all GST, penalties, costs and/or interest which may become payable by or assessed against the Vendor as a result of any failure by the Purchaser to comply with the foregoing and such indemnity will survive and not merge upon closing of the sale of the Lot contemplated herein. The foregoing indemnity will be included in the certificate as to the GST registered status of the Purchaser.

13. **Assignment**. Without the Vendor's prior consent, any assignment of the Contract is prohibited.

An assignment under the *Real Estate Development Marketing Act* ("**REDMA**") is a transfer of some or all of the rights, obligations and benefits under a purchase agreement made in respect of a lot in a development property, whether the transfer is made by the Purchaser under the purchase agreement to another person or is a subsequent transfer.

Each proposed party to an assignment agreement (each such agreement being an "**Assignment Agreement**") must provide the Developer with the information and records required under REDMA.

Before the Vendor consents to an assignment of a purchase agreement, the Vendor will be required to collect information and records under REDMA from each proposed party to an assignment agreement, including personal information, respecting the following:

(i) the party's identity;

(ii) the party's contact and business information; and

(iii) the terms of the assignment agreement.

Information and records collected by the Vendor must be reported by the Vendor to the administrator designated under the *Property Transfer Tax Act* (British Columbia). The information and records may only be used or disclosed for tax purposes and other purposes authorized by section 20.5 of REDMA, which includes disclosure to the Canada Revenue Agency.

The Purchaser may only assign the Purchaser's interest in this Agreement only if:

(i) all Deposit payments required to be paid on or before the proposed date of assignment have been paid;

(ii) the Purchaser has obtained the prior written consent of the Vendor, which consent may be unreasonably withheld in the Vendor's sole discretion; and

(iii) the Vendor has received the information set out in 13(i), 13(ii) and 13(iii) of this Agreement.

Any request for the consent of the Vendor to the assignment of the Purchaser's interest in this Agreement must be made via the Vendor's Solicitors to the Address for Service shown on the Disclosure Statement. If the Vendor consents to the proposed assignment, the Purchaser will pay to the Vendor an administration fee (the "**Assignment Fee**") in the amount of two percent (2%) of the aggregate of the original Purchase Price and any additional consideration paid by the assignee to the Purchaser, plus GST, for an Assignment Agreement, as consideration for agreeing to the Assignment Agreement and for any associated

legal and administrative costs. In the event that the Purchaser wishes to assign its rights under this Agreement to the Purchaser's spouse, or to a member of the Purchaser's immediate family (which will be deemed to include only the parents and children of the Purchaser), or to a company which is wholly owned by the Purchaser, the Vendor may, in its sole discretion, waive all or a portion of the Assignment Fee, but only on the condition that the Purchaser first provide the Vendor's solicitors with a statutory declaration sworn by the Purchaser setting out the particulars of the relationship between the Purchaser and the assignee in sufficient detail as to be reasonably satisfactory to the Vendor's solicitors. In connection with any assignment of this Agreement, the Purchaser and its assignee may be required to execute the Vendor's standard assignment documents and to confirm that such assignment is not an "anti-avoidance transaction" within the meaning of the *Property Transfer Tax Act* (British Columbia). The Purchaser will not advertise or solicit offers from the public nor list the Lot on the Multiple Listing Service with respect to the resale of the Purchaser's interest in the Lot prior to the Closing Date, without the prior written consent of the Vendor, which consent may be refused by the Vendor in the Vendor's sole discretion.

The Purchaser acknowledges and agrees that, under REDMA, the Vendor may be required to collect and keep certain confidential information and records related to the identity of the assignee, the contact and business information of the assignee, and the assignment terms (the "**Assignment Information**") before the Vendor consents to an assignment. The Purchaser confirms it will provide, and will cause its assignee to provide, the Assignment Information to the Vendor if required.

14. **Successors & Assigns**. This Agreement will enure to the benefit of and be binding upon the parties hereto and their respective successors, permitted assigns, heirs, administrators and executors.

15. **Governing Law**. This offer and the Agreement which will result from its acceptance will be exclusively governed by and construed in accordance with the laws of the Province of British Columbia and the parties agree to attorn to the exclusive jurisdiction of the courts of the Province of British Columbia.

16. **Contractual Rights.** This offer and the Agreement which results from its acceptance create contractual rights only and do not create an interest in land and will not be registered in the LTO. The Purchaser will acquire an interest in land only upon completion of the purchase and sale contemplated herein.

17. **Personal Information**. The Purchaser and the Vendor hereby consent to the collection, use and disclosure by the Vendor and its agents, the Purchaser's real estate agent (if any), the real estate boards of which those agents and salespersons are members and, if the Strata Lot is listed on a Multiple Listing Service, the real estate board that operates that Multiple Listing Service, of personal information about the Purchaser and the Vendor:

(a) to complete the transaction contemplated by this Agreement;

(b) to facilitate the completion and management of the Development including the transfer of management of the Development to a property manager;

(c) to market, sell, provide and inform the Purchaser of products and services of the Vendor and its affiliates and partners, including information about future projects;

(d) to disclose such personal information to the Vendor's affiliates, assignees, business partners, bankers, lawyers, accountants, insurers, warranty providers, relevant government authorities or agencies (including the LTO and CRA) and other advisors and consultants in furtherance of any of the foregoing purposes;

(e) if the Lot is listed on a Multiple Listing Service, for the purpose of the compilation, retention and publication by the real estate board that operates the Multiple Listing Service and other real estate boards of any statistics including historical Multiple Listing Service data for use by persons authorized to use the Multiple Listing Service of that real estate board and other real estate boards;

(f) for enforcing codes of professional conduct and ethics for members of real estate boards;

(g) to invest the Deposit as provided for herein including providing personal information to the financial institution as required for reporting interest earned on the Deposit in accordance with applicable laws; and

(h) to comply with both the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (Canada) and regulations, rules and policies thereunder or related thereto, and other applicable laws and to comply with the *Freedom of Information and Privacy Act* (British Columbia) and regulations, rules and policies thereunder or relating thereto.

The Purchaser covenants and agrees to provide, and cause any third parties to provide, to the Vendor, the Vendor's Solicitors and the Vendor's agents, promptly upon request, any additional personal or other information not contained herein that is required in order to comply with the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (Canada) and regulations, rules and policies thereunder or relating thereto, and the Purchaser acknowledges that the foregoing consent applies to any such personal information.

18. **Vendor's Right to Terminate**. The Vendor may in its sole discretion terminate this Agreement if the Vendor has reasonable grounds to suspect that any part of the transaction contemplated by this Agreement is related to the commission or attempted commission of a "money laundering office" or a "terrorist activity financing offence", as defined in the *Proceeds of Crime (Money Laundering) and Terrorist Financing Act* (Canada) and regulations under that *Act*, as amended from time to time, in which event the portion of the Deposit that has been paid will be returned to the Purchaser (but all accrued interest thereon will be retained by the Vendor) and the Purchaser will have no further claims against the Vendor.

19. **Notices and Tender**. Any notice to be given to the Purchaser will be sufficiently given if either deposited in any postal receptacle in Canada addressed to the Purchaser at the Purchaser's address set out above, or the Purchaser's Solicitors at their offices, and sent by regular mail, postage prepaid, or if delivered by hand or if transmitted by electronic mail ("**email**") or facsimile ("**fax**") to the Purchaser's Solicitors at their office, or to the Purchaser at the email address or fax number set out above. Such notice will be deemed to have been received if so transmitted by email or fax to the Purchaser, on the date of delivery as set out on the notice, and if mailed, on the second business day (exclusive of Saturdays, Sundays and statutory holidays) after the postage stamp date of such mailing. The civic address, email address and fax number (if any) for the Purchaser will be as set out above, or such other email address or fax number the Purchaser has last notified the Vendor in writing, which updated records will be required to be provided by the Purchaser to the Vendor or its agents until the Completion Date, under the terms of this Agreement. Any documents to be tendered on the Purchaser may be tendered on the Purchaser or the Purchaser's Solicitors. Any notice to be given to the Vendor may be given to the Vendor or the Vendor's Solicitors in the same manner, and will be deemed to have been received, as provided for in the preceding provisions of this Section, *mutatis mutandis*. Any documents or money to be tendered on the Vendor will be tendered by way of solicitor's cheque or bank draft and will be delivered at the Purchaser's expense to the Vendor or the Vendor's Solicitors.

20. **Agency**. The Vendor and the Purchaser acknowledge and confirm as follows:

(a) the Vendor has an agency relationship with:

TONY BROWTON, PREC*, who is licensed in relation to RE/MAX CITY REALTY, 101-938 Gibsons Way, Gibsons, B.C., V0N 1V7

and

(b) the Purchaser has an agency relationship with:

_____ who is licensed in relation to _____.
Licensee Brokerage

If Subsection 20(b) has not been completed, the Purchaser is acknowledging no agency relationship.

The Purchaser understands and acknowledges that the Purchaser has no agency relationship with Tony Browton, PREC*.. The Purchaser further understands and acknowledges that the licensed agents of RE/MAX CITY REALTY do not represent the Purchaser as agent or in any capacity. The Purchaser acknowledges and agrees that if Subsection 20(b) has not been completed Tony Browton or a licensed broker working for Tony Browton, PREC*, or agent of RE/MAX CITY REALTY engaged by the Vendor, provided the Purchaser with, and explained the contents of, the Disclosure of Representation in Trading Services and Disclosure of Risks to Unrepresented Parties forms established by the Real Estate Council of British Columbia prior to being presented with this Agreement and prior to such licensee requesting or receiving any confidential information relating to the Purchaser or providing any trading services to the Purchaser (as defined in the *Real Estate Services Act* (British Columbia)). The Purchaser may wish to obtain independent advice in respect of this Agreement and the transactions contemplated herein.

21. **Residency of Vendor**. The Vendor represents and warrants to the Purchaser that it is not a non-resident of Canada within the meaning of the *Income Tax Act* of Canada.

22. **Currency**. All payments and monetary amounts set out herein will be in Canadian funds. If payment is made in a currency other than Canadian funds, the Vendor will have the option, at its sole and absolute discretion, to convert the payment to Canadian funds, and the Purchaser will be credited with the Canadian funds actually received upon the conversion less any banking fees and other reasonable service charges that may be levied by the Vendor, Vendor's Solicitor, or their agents. The Vendor, Vendor's Solicitor, and their agents will not be responsible for any delay in converting the payment, or for any fluctuation in exchange rates or banking fees or charges in connection thereto.

23. **No Waiver**. Failure by any party hereto to insist in any one or more instances upon the strict performance of any one of the covenants contained herein will not be construed as a waiver or relinquishment of such covenant. No waiver by any party hereto of any such covenant will be deemed to have been made unless expressed in writing and signed by the waiving party.

24. **Enforceability**. The invalidity or unenforceability of any provision of this Agreement will not affect the validity or enforceability of any other provision hereof and any such invalid or unenforceable provision will be deemed to be severable.

25. **Purchaser Comprising More Than One Party**. If the Purchaser is comprised of more than one party, then the obligations of the Purchaser hereunder will be the joint and several obligations of each party comprising the Purchaser and any notice given to one of such parties will be deemed to have been given at the same time to each other such party.

26. **Execution of Counterparts and by Electronic or Facsimile Delivery**. This Agreement may be executed by the parties in counterparts or transmitted by email or fax, or both, and if so executed and delivered, or if so transmitted electronically or by facsimile, or if so executed and transmitted, this Agreement will be for all purposes as effective as if the parties had executed and delivered to one another single original agreement.

27. **Further Assurances**. The parties hereto will do all further acts and things and execute all such further assurances as may be necessary to give full effect to the intent and meaning of this Agreement.

28. **Addendum**. The Addendum(s) attached hereto and signed by the Vendor and the Purchaser form(s) part of this Agreement.

SCHEDULE E – DRAFT GEOTECHNICAL AND RIPARIAN COVENANTS

SECTION 219 COVENANT

THIS COVENANT dated for reference _____

BETWEEN:

COVE BAY DEVELOPMENTS INC.
710-939 HOMER ST
VANCOUVER, BC
V6B 2W6

(hereinafter called the "**Grantor**")

AND:

Her Majesty the Queen in right of the Province of British Columbia
Represented by the Minister of Transportation and Infrastructure
Parliament Buildings
Victoria, BC V8V 1X5

(hereinafter called the "**Province**")

AND:

Sunshine Coast Regional District
1975 Field Rd
Sechelt, BC V0N 3A1
(hereinafter called the "**Regional District**")

WHEREAS the Grantor is the registered owner of the following lands in the Province of British Columbia, more particularly described as:

LOT 1_____, LOT 2 _____, LOT 3_____, LOT 4_____, LOT 5_____, LOT 6 _____AND LOT 12_____

(Hereinafter referred to as the "**Lands**");

WHEREAS the Grantor proposes to develop and build on the Lands;

WHEREAS the Province, and the Regional District, consider that construction on the land is subject to or is likely to be subject to rock falls and has required the Grantors to provide a report certified by a professional engineer, with experience in geotechnical engineering that the Lands may be used safely for the use intended;

AND WHEREAS the Grantor has provided the Province, and the Regional District, with the report prepared by Kontur Geotechnical Consultants ("**Kontur**") dated November 4, 2022 which is attached to this Agreement as Schedule A (the "**Report**").

NOW THEREFORE pursuant to Section 219 of the *Land Title Act* and in consideration of the sum of $1.00 now paid to the Grantor by the Province, and paid to the Grantor by the Regional District, receipt and sufficiency of which is acknowledged, the Grantor covenants and agrees as follows:

1. The Grantor shall use the Lands only in the manner determined and certified by Kontur in the Report as enabling the safe use of the land for the use intended.

2. The Grantor, on behalf of himself and his heirs, executors, administrators, successors and assigns hereby covenants with the Province, and the Regional District, as a covenant in favour of the Province, and the Regional District, pursuant to section 219 of the *Land Title Act*, it being the

intention and agreement of the Grantor that the provisions hereof be annexed to and run with and be a charge upon the Lands, that from and after the date hereof:

a. The Grantor will not develop habitable structures on the land outside the covenant area as shown outlined in black on a Reference Plan EPP_____ (the "**Reference Plan**") completed and certified by Javier Siu, British Columbia Land Surveyor, a copy of which is attached hereto as Schedule B until such a time that the Province, and Regional District, are provided with an additional report by a certified engineer, that the land upon which the Grantor intends to construct may be used safely for the use intended.

3. The Grantor shall reimburse the Province, and Regional District, for any expense that may be incurred by the Province, and Regional District, as a result of a breach of a covenant under this agreement.

4. The Grantor, Province, and Regional District, agree that the enforcement of this Agreement shall be entirely within the discretion of the Province, and Regional District, and that the execution and registration of this covenant against the title to the Lands shall not be interpreted as creating any duty on the part of the Province, or Regional District, to the Grantor or to any other person to enforce any provision of this Agreement.

5. The Grantor releases and forever discharges the Province, and Regional District, from any claim, cause of action, suit, demand, expenses, costs and legal fees which the Grantor may have against the Province, and Regional District, for any loss or damage or injury that the Grantor may sustain or suffer arising out of the issuance of a building permit under this Agreement or the use of the Lands as a result of the issuance of a building permit to construct, alter or add to a building or structure on the Lands, or as a result of any of the concerns raised by the Engineer in the Report.

6. The Grantor covenants and agrees to indemnify and save harmless the Province from any and all claims, causes of action, suits, demands, expenses, costs and legal fees that anyone might have as owner, occupier or user of the Lands, or by a person who has an interest in or comes onto the Lands, or by anyone who suffers loss of life or injury to his person or property, that arises out of the issuance of a building permit under this Agreement or the use of the Lands as a result of the issuance of a building permit, to construct, alter or add to a building or structure on the Lands, or as a result of concerns raised by the Engineer in the Report.

7. The Grantor covenants and agrees to indemnify and save harmless the Regional District from any and all claims, causes of action, suits, demands, expenses, costs and legal fees that anyone might have as owner, occupier or user of the Lands, or by a person who has an interest in or comes onto the Lands, or by anyone who suffers loss of life or injury to his person or property, that arises out of the issuance of a building permit under this Agreement or the use of the Lands as a result of the issuance of a building permit, to construct, alter or add to a building or structure on the Lands, or as a result of concerns raised by the Engineer in the Report.

8. Any opinion, decision, act or expression of satisfaction provided for in this Agreement by the Province is to be taken or made by the Minster of Transportation or his or her delegate authorized as such in writing.

9. The Grantor releases, and must indemnify and save harmless, the Province, and Regional District, and their respective elected and appointed officials and employees, from and against all liability, actions, causes of action, claims, damages, expenses, costs, debts, demands or losses suffered or incurred by the Grantor, or anyone else, arising from the granting or existence of this

Agreement, from the performance by the Grantor of this Agreement, or any default of the Grantor under or in respect of this Agreement.

10. The parties agree that this Agreement creates only contractual obligations and obligations arising out of the nature of this document as a covenant under seal. The parties agree that no tort obligations or liabilities of any kind exist between 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 and under the law pertaining to covenants under seal.

11. The rights given to the Province, and Regional District, by this Agreement are permissive only and nothing in this Agreement imposes any legal duty of any kind on the Province, or Regional District, to anyone, or obliges the Province, or Regional District, to enforce this Agreement, to perform any act or to incur any expense in respect of this Agreement.

12. Where the Province is required or permitted by this Agreement to form an opinion, exercise a discretion, express satisfaction, make a determination or give its consent, the Grantor agrees that the Province is under no public law duty of fairness or natural justice in that regard and agrees that the Province may do any of those things in the same manner as if it were a private party and not a public body.

13. This Agreement does not:

    a. affect or limit the discretion, rights or powers of the Province under any enactment (as defined in the *Interpretation Act*, R.S.B.C., on the reference date of this Agreement) or at common law, including in relation to the use or subdivision of the Lands,

    b. affect or limit any enactment relating to the use or subdivision of the Lands, or

    c. relieve the Grantor from complying with any enactment, including in relation to the use or subdivision of the Lands.

14. Every obligation and covenant of the Grantor in this Agreement constitutes both a contractual obligation and a covenant granted under s. 219 of the *Land Title Act* in the respect of the Land and this Agreement burdens the Land and runs with it and binds the successors in title to the Lands. This Agreement burdens and charges all of the Lands and any parcel into which it is subdivided by any means and any parcel into which the Land is consolidated. The Grantor is only liable for breaches of this Agreement that occur while the Grantor is the registered owner of the Lands.

15. The Grantor agrees to do everything reasonably necessary, at the Grantor's expense, to ensure that this Agreement is registered against title to the Lands with priority over all financial charges, liens and encumbrances registered, or the registration of which is pending, at the time of application for registration of this Agreement.

16. 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 of this Agreement.

17. If any part of this Agreement is held to be invalid, illegal or unenforceable by a court having the jurisdiction to do so, that part is to be considered to have been severed from the rest of this Agreement and the rest of this Agreement remains in force unaffected by that holding or by the severance of that part.

18. This Agreement is the entire agreement between the parties regarding its subject.

19. This Agreement binds the parties to it and their respective successors, heirs, executors, and administrators.

20. The Grantor must do everything reasonably necessary to given effect to the intent of this Agreement, including execution of further instructions.

SCHEDULE A

REPORT

PRELIMINARY GEOTECHNICAL ASSESSMENT
Proposed Residential Subdivision – Bayview Hills Phase 1
Block A DL 1427, Halfmoon Bay B.C.

Document Type: Version 3

Date: November 4, 2022

Project No.: **K-221130-00**

Submitted to:

Bayview Hills at Halfmoon Bay
Suite 710 – 939 Homer Street
Vancouver, B.C.
V6B 2W6

Attention: Mr. Alistar Toma
alistertoma@mac.com

Submitted by:

Kontur Geotechnical Consultants Inc.
Unit 107, 2071 Kingsway Avenue, Port Coquitlam BC
778 730 1747 | info@kontur.ca | www.kontur.ca

Per: Ziad Merdas EIT
zmerdas@kontur.ca
Per: Matthew Yip MEng PEng
myip@kontur.ca

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APPENDICES

1.0 INTRODUCTION

Kontur Geotechnical Consultants Inc. (Kontur) has completed this *Preliminary Geotechnical Assessment* for the above-referenced project. The purposes of the assessment were to characterize the site from a geotechnical point-of-view and to provide geotechnical comments and recommendations related to subdivision and site development. Preliminary recommendations for site development and foundation design are included.

This report, which summarizes the findings of the assessment, has been prepared in accordance with standard and widely accepted geotechnical engineering principles and practices for similar developments in this region. This report does not address any environmental issues related to the proposed project.

Review and use of this report should be completed in accordance with the attached *Interpretation and Use of Study and Report* document. This document is an integral part off this report and should be read in conjunction with all parts of this report.

2.0 UNDERSTANDING OF PROJECT

It is Kontur's understanding that as part of Phase 1 of the Bayview Hills Development it is planned to subdivide and develop the above-referenced property. The property comprises an area of about 27 acres and will be subdivided into nineteen (19) single-family freehold and eleven (11) single-family strata lots. The project will consist of four new roads (Priestland Road, South Priestland Road, Priestland Crescent, and Cliff Road). Cuts and fills will be necessary to construct the proposed roadways across the site. Kitchen Creek also crosses the property from the northeast to southwest and will pass beneath South Priestland Road and Cliff Road through culverts.

3.0 SOURCES OF INFORMATION

- Preliminary Civil Drawings prepared by Webster Engineering Ltd. dated May 2021;
- Report titled *'Hydrogeoloigc Assessment for Sewage Disposal'* prepared by Piteau Associates Ltd. and dated July 19th, 2012;
- Report titled *'Priestland Road Subdivision SWMP'* prepared by Kerr Wood Leidal Associates ltd. and dated March 2, 2009;
- Report titled *'Preliminary Geotechnical Assessment'* prepared by Geotactics Media Engineering (2007) Ltd. and dated March 3, 2008.
- Published surficial geology maps of the area;
- A review of Kontur's in-house geotechnical database and experience of the area; and,
- A site reconnaissance completed by Kontur.

A site reconnaissance was completed on November 12th and December 16th, 2021. The site reconnaissance was completed by a Principal Geotechnical Engineer who traversed the site by foot to visually assess the area for features of geotechnical engineering significance.

The general site layout are shown on the attached Civil Layout Drawing Plan in Appendix B of this report. Select photographs are shown in Appendix C.

4.0 SITE DESCRIPTION

4.1 General

The legal description of the site is Block AB DL 1427; and it is located near the 8600 Block of Redroofs Road, Halfmoon Bay B.C. The property covers an area of about 10.9 hectares (27 acres) and is irregular in shape. The property is bounded by Priestland Road to the west and undeveloped land to the south, and east. The north side of the property is bounded by a rurally developed single-family residential property. In general, the property is about 615m long (north to south) and about 105m wide at its narrowest location (central part of property). The north and south boundaries of the property are about 220 and 330m wide, respectively. Kitchen Creek Crosses the central part of the property from the southeast to the northwest.

In general, the property is divided into two zones from a geotechnical perspective. The first zone, being located northeast of Kitchen Creek and the second zone being located to the southwest of Kitchen Creek.

From Priestland Road, the ground surface within the first zone rises to the northeast over a series of steep bedrock bluffs and slopes. The steep slopes or bluffs are sloped near-vertical to an average inclination of about 1.2(H):1(V) (Horizontal:Vertical) and range from about 3 to 15m in height. The bluffs and slopes are generally separated by relatively flat or gently sloped benches that range from a width of about 50 to 100m in width. The ground surface within the benches is generally located between an elevation of about 40 to 60m, geodetic.

From Priestland Road, the ground surface within the second zone generally rises to the south to southeast and an average inclination of about 4(H):1(V) to 5(H):1(V), from an elevation of about 30m to 60m, geodetic. The ground surface is comprised of a series of local bedrock steps and slopes.

Kitchen Creek, located near the central part of the property, delineates the two zones described above and is situated at the base of a poorly-defined meandering stream channel or floodplain. The Kitchen Creek floodplain is about 120 to 130m wide and crosses the property from the southeast to northwest. At the time of the site visit, flowing water was observed in the stream channel and some evidence of the stream locally overtopping its current banks were noted.

The site is undeveloped and has generally been cleared of vegetation, with gravel-surfaced access roads having been constructed to access the site (and extend off of Priestland Road). A rocky fill slope is noted immediately above Priestland Road and Kitchen Creek below the location of proposed Cliff Road and appears to have been developed by end-dumping of random fill materials.

No evidence of any recent deep-seated or wide-spread sloughing, slumping, or erosion, was observed at the time of the site visit. No evidence of any recent signs of debris flow/flood were observed in the stream channels at the time of the site visit. Some evidence of localized rock falls, topples, and/or slides, was observed at the time of the site visit at the base the bedrock benches, bluffs, and steep slopes, described above and located within the subject property.

4.2 Subsurface Conditions

Interpretation of subsurface conditions at the site is based on the published surficial geology map of the area, observations of soil or bedrock outcrops within the property, and Kontur's nearby and relevant experience. A geotechnical exploration (test pits or testholes) has not been completed as part of this stage of the project by Kontur.

According to *Figure 1 – Surficial Geology Sunshine Coast Area* published by the Ministry of Mines and Petroleum Resources B.C., the site is underlain by Bedrock or bedrock covered with a thin mantle of glacio-marine sediments, usually till or marine veneer. Thicker Granular deposits (sands and gravels) may be encountered in low-lying depressions within the subject property and/or in the floodplain area of Kitchen Creek. The bedrock in the area is typically massive and granitic, with wide discontinuity sets oriented subparallel to the face of the bedrock slopes/steps and horizontal plane. Persistent discontinuities typically have a spacing of about 2 to 4m.

Static groundwater levels are anticipated to be encountered at depths greater than about 10m below existing ground surface; however, localized and/or perched groundwater conditions may be encountered throughout the site. Local and naturally occurring springs may develop along bedrock slopes/steps as surface water runoff infiltrates into the ground surface and is conveyed through discontinuities in the rock mass. It can be anticipated that local groundwater levels at the site are typically influenced by periods of prolonged or intense rainfall, rapid snowmelt, and/or influences from nearby developments.

4.3 Subsurface Variability

It is important to note that the subsurface conditions described above generalized. Extrapolation and interpretation of the subsurface conditions is formulated based on an assumed horizontal continuity of subsurface conditions across the site. Therefore, the subsurface conditions described above are generalized and variation in the stratigraphic conditions should always be expected. Site-specific geotechnical explorations should be completed during later stages of the project to where more certainty in subsurface conditions is deemed to be necessary.

5.0 COMMENTS AND RECOMMENDATIONS

5.1 General

It is Kontur's opinion that the significant geotechnical considerations associated with subdivision of this site may be related to:

- Establishing appropriate geotechnical setbacks from steep and high bedrock slopes/steps and/or implementing local stabilization measures to mitigate potential rock falls, topples, or slides;
- Stabilization or re-construction of the end-dumped fill slope below Cliff Road;
- Establishing appropriate geotechnical setbacks and Flood Construction Levels associated with Kitchen Creek;
- Excavation/blasting in bedrock to achieve the desired design grades for the proposed roadways and associated infrastructure; and/or,
- Placement of *Engineered Fill* beneath the footprint of the access roads and common areas.

Based on the observations, information, and findings presented above, the following sections outline the geotechnical comments and recommendations provided by Kontur with respect to subdivision and site development.

5.2 Seismicity

According to the 2018BCBC, the S*ite Classification* can be taken as *C- Very dense soil and soft rock.* As interpolated from the 2015 National Building Code's Seismic Hazard Calculation per the requirements of the 2018BCBC, for firm ground at this site (with coordinates 49.502N and 123.908W), for a 2% probability of exceedance in 50 years, the *Peak Ground Acceleration* may be taken as 0.36g. *Spectral Acceleration* values may be taken as:

- $S_A(0.2)$ = 0.81;
- $S_A(0.5)$ = 0.74;
- $S_A(1.0)$ = 0.43;
- $S_A(2.0)$ = 0.27;
- $S_A(5.0)$ = 0.09; and,
- $S_A(10.0)$ = 0.03.

5.3 Geotechnical Hazards

5.3.1 General

As defined by *APEGBC Guidelines for Legislated Landslide Assessments for Residential Developments in BC (May 2010 version)*, the term *'Landslide Risk'* is defined as a combination of the probability of occurrence of a landslide and the consequence of the landside (i.e. damage to property, injury or loss of life). As defined by the guideline, the term 'Landslide' refers to 'any movement of rock, debris, or earth down a slope'. The qualitative Landslide Assessment completed as part of the study presented herein is based on the site reconnaissance and desk study completed as described in this letter, sound engineering judgement, and Kontur's local and regional experience with landslide hazards, in accordance with widely accepted geotechnical practice in this region.

5.3.2 Historical Air Photograph Review

A limited review of historical aerial photographs was completed by Kontur. Aerial photographs were obtained form the UBC GIS Department and included air photographs from 1947, 1950, 1957, 1967, 1964, 1976, 1980, 1985, 1990, 1994, and 2003. Significant signs of erosion, stream avulsion, or other slope movements could not be visually detected on the photographs. Man-made alterations, such as logging operations, construction of roads, and/or development of residential subdivisions, were noted in the areas surrounding the site.

5.3.3 Identified Potential Geotechnical Hazards

As described above, the Kitchen Creek Floodplain crosses part of the proposed subdivision. Kitchen Creek is located in a poorly-defined and meandering stream channel and the sidewalls of the stream channel show signs of localized and shallow sloughing, soil creep, and/or erosion. Deep-seated or wide-spread signs of slope instability or erosion were not observed at the time of the site visit. Minor accumulations

of rock fragments and/or dislodged blocks of bedrock were noted near or at the base of steeply-inclined bedrock slopes/steps and/or knolls/ridges. Rock fragments ranged in from about 0.3 to more than 3m in size.

Therefore, it is Kontur's opinion that the proposed subdivision, namely the area that is part of the Kitchen Creek Floodplain may be subject to stream avulsion, erosion, and/or flooding. In addition, areas located near steeply-sloped or near-vertical bedrock steps/ridges/knolls, may be subject to localized rock falls, topples, or slides. It is Kontur's opinion that the subject property is not considered to be susceptible to deep-seated, wide-spread, and/or catastrophic landslides, rockfalls, rock topples, debris flows, or snow avalanche.

5.3.4 Level of 'Landslide Safety

It is noted that the Sunshine Coast Reginal District has adopted a level of 'landslide safety' that is defined as 2% in 50 years for a seismic event, 1 in 200 years for creek flooding, and 100 years for sea level rise.

Other jurisdictions in the region generally discuss *Significant Hazard* areas as having probability of occurrences more frequently than about 1:25 to 1:100 annually and *Moderate Hazard* areas as having a probability of occurrence of between about 1:100 to 1:500 annually.

This terminology or criterion is similar to that defined by many other jurisdictions in the region, such as those established by the British Columbia Ministry of Transportation and Infrastructure (BCMOTI) and a 1993 report entitled *Hazard Acceptability Thresholds for Development Approvals by Local Government* prepared by Dr. Peter W. Cave. These guidelines may differ from the requirements of the approving authority and should be compared to acceptability guidelines considered appropriate by the approving authority.

Table 1 – Relative Terms and Ranges of Probability of Occurrence

Relative Term of Probability of Occurrence	Estimated Annual Probability of Occurrence	Comments
Very Low	< 1 in 2500 Years	-
Low	1 in 2500 to 1 in 500 years	Indicates the hazard is of uncertain significance.
Moderate	1 in 500 to 1 in 100 years	Indicates the hazard within a given lifetime is not likely, but possible. Signs of previous events, such as vegetation damage may not be easily noted.
High	1 in 100 to 1 in 20 years	Indicates that the hazard can happen within the lifetime of a person or typical structure. Events are clearly identifiable from deposits and vegetation but may not appear fresh
Very High	> 1 in 20 years	Indicates the hazard is imminent and well within the lifetime of a person or typical structure. Events occurring with a return period of 1 in 20 years or less generally have clear and fresh signs of disturbance.

Following the BCMOTI guidelines for subdivision approval, the following criteria has been referenced:

- 1 in 475 years for damaging events related to landslides;
- 1 in 200 years for damaging events related to flooding;

- 1 in 300 years for damaging events related to snow avalanche; and,
- 1 in 10,000 years for life-threatening events.

It should be noted that these guidelines do not constitute conditions for geological hazard acceptability. The frequency or probability of occurrence of Landslide Hazards can be defined by the preceding table (Table 1) based on a reference provided by the Resource Inventory Committee, Government of British Columbia Slope Task Force (1996).

5.3.5 Estimated Occurrence of Potential Geotechnical Hazards

Estimates of the annual return frequencies (probability of occurrence of a landslide) is very complex. In accordance with standard geotechnical and geological engineering practices for this area and type of development, the quantification of these values is based on the qualitative observed site conditions, sound engineering judgement, and all the information available to Kontur at the time this study was completed. Quantification of the estimated probability of occurrence for potential landslide hazards that could impact the development are summarized below.

Based on the observations, interpretations, and findings made by Kontur, the following estimates of annual probability of natural geological hazard occurrences influencing the proposed development are provided (Table 2 below).

Table 2 – Estimated Probability of Occurrences

Hazard	Relative Term of Probability
Localized Stream Avulsion or Erosion	Moderate to High
Localized Rockfalls, Topples, or Slides	Moderate to High

It is Kontur's opinion that the geotechnical hazards identified above are generally limited to localized areas and can be conventionally mitigated by suitable building setbacks/elevations and/or slope stabilization practices as described in the following sections.

Provided the geotechnical comments and recommendations herein are implemented, namely that the proposed buildings meet the minimum recommended geotechnical setbacks or appropriate slope stabilization measures are implemented as outlined in this letter, it is Kontur's opinion that the level of 'landslide safety' can then be reduced and considered to be *Low* to *Very Low,* which would meet or exceed the SCRD's minimum requirements.

5.4 Building Setbacks and/or Special Measures

As identified above, appropriate geotechnical setbacks from the crest or toe of any steep slope or stream channel should be implemented, to protect proposed buildings and infrastructure against potential rock falls, topples, or slides (localized) and/or localized stream avulsion or flooding. Where these setbacks are not achieved, special measures to stabilize or protect the slope from erosion or instability may be required as directed by the Geotechnical Engineer.

No part of the foundation for any building or critical infrastructure should be placed within the above-described geotechnical setbacks unless additional measures have been implemented under the direction of a qualified Geotechnical Engineer.

All other setbacks, such as environmental setbacks or setbacks required by the SCRD, must be implemented. The geotechnical setback may be reduced at the sole discretion of the Geotechnical Engineer on a lot-by-lot basis, provided additional measures to stabilize the slope and protect the building are considered and/or implemented.

5.4.1 Subdivision Infrastructure, Strata Lot B to J and Lots 14 to 20

From a geotechnical point-of-view and due to the bedrock-controlled topography within the subject property, geotechnical setbacks from the crest and/or base of bedrock slopes steeper than about 1.5(H):1(V) and higher than about 3m should be implemented on a lot-by-lot for any new buildings and for any subdivision infrastructure, such as roads, sidewalks, and buried utility services. The setbacks should be developed based on lot-specific information and further geotechnical review of the proposed building and may range from about 3 to 6m from the crest of the slope. Setbacks from the toe of the slope should be established by projecting a 2(H):1(V) gradient line down from the crest of the slope.

Where geotechnical setbacks are not feasible, special measures should be implemented to stabilize the slopes as appropriate. Slope stabilization measures may include scaling rock slopes, pinning loose or dislodged rock fragments to the underlying rock mass (i.e. rock bolting), use of wire mesh and/or catchment areas, and/or construction of retaining walls or buttresses.

5.4.2 Lots 1 to 7, 12, and 13

From a geotechnical point-of-view, a minimum horizontal setback of at least 15m should be established from the Natural Boundary of Kitchen Creek to provide an adequate buffer zone against potential avulsion and/or erosion protection purposes. In addition, it is recommended that a minimum Flood Construction Level of at least 1.5m above the Natural Boundary of the creek, or no less than 600mm above the existing ground surface, whichever is greater, be established.

Where this horizontal setback cannot be achieved, measures to protect the building and/or lot from potential erosion, scour, and/or flooding, should be implemented, and the geotechnical setback may be reduced to no less than a horizontal distance of about 10m from the Natural Boundary. This may include construction of training berms (similar to that proposed by KWL in 2009), raising site grades to create level building pads and protecting the perimeter/stream side against potential erosion and scour (this would require the toe of the embankment to be keyed into the ground surface or pinned to the underlying bedrock surface).

A Streamside Protection and Enhancement Area (SPEA) has been established by the Environmental Consultant (and generally follows a horizontal setback of about 13.1m from the Natural Boundary but varies due to the presence of significant trees/vegetation) and is considered acceptable from a geotechnical point-of-view. It is important to note that proposed erosion protection or slope mitigation measures required to reduce the 15m Geotechnical setback noted in the previous paragraph cannot be constructed within the SPEA.

5.5 Existing Fill Slope Below Cliff Road and above Priestland Road

The end-dumped fill slope located above Priestland Road from about Station (Sta.) 0+380 to 0+500 is considered to be marginally stable under static conditions, and unstable under seismic conditions. Therefore, it is recommended that the existing fill materials be stripped and removed to expose the underlying bedrock surface and/or otherwise stabilized. Stabilization measures may include designing and constructing a buttress or retaining wall along the toe of the slope. A suitably sized catchment zone or rockslide barrier could also be considered. Upon request, Kontur can provide detailed geotechnical design input to mitigate and/or stabilize the existing fill slope.

5.6 Foundation Design Considerations

All building foundations should be designed and constructed in accordance with the 2018 British Columbia Building Code (2018BCBC). The undisturbed natural subgrade or intact bedrock encountered at the site are considered to be competent to support the loads associated with typical lightly-loaded buildings on conventional shallow foundations. Upon request, Kontur can provide detailed geotechnical comments and recommendations for new buildings on a building-by-building basis. Foundation drainage should also be provided.

5.7 Road and Pavement Structure

The minimum recommended pavement structure for new roadways is provided in the table below:

Table – Minimum Recommended Pavement Structure

Road Structure Type	Material Description
Hot-mix Asphalt Pavement	85 mm placed in two lifts (35mm top/50mm bottom)
Road Base	100 mm of 19mm minus well-graded Crushed Gravel (MMCD Granular Base)
Road Subbase	300 mm of 75mm minus Pit Run Gravel (MMCD Pit Run Gravel Sub base)
Approved Subgrade Surface	Per Geotechnical Engineer

Subgrade preparation for new road structures should be in accordance with the recommendations provided in this report. All pavement materials should meet the latest requirements of the MMCD Specifications.

5.8 Retaining Walls

Where retaining walls are required, retaining walls may consist of Gravity or Mechanically Stabilized Earth (MSE) walls. Retaining wall systems such as Stacked Rock and Concrete Lock-block are considered appropriate. Other systems, such as Sierra-scape Walls, Allan-Bock Walls, and/or reinforced concrete, could also be considered. Retaining walls exceeding a height of 1.2m should be engineered and designed in accordance with the latest version of the EGBC Guidelines for Retaining Walls.

For Stacked Rock Walls, as-built, the outer face of the wall should be sloped no steeper than 1(H):3(V), up to a height of about 2.5m. For wall heights greater than 2.5m, geogrid panels to act as tie-backs and reinforced the backfill zone are required. Typically, the length of geogrid panels should be at least 0.8H, where H is the height of the wall, and be clamped between each row of rocks and extend into the backfill zone. This length, does not consider any additional surcharge loads placed at or near the top of the wall.

For Concrete Lock-block walls, as-built, the outer face of the wall, should be sloped no steeper than 1(H):5(V). Geogrid panels to act as tie-backs and reinforce the backfill zone are required and should be determined similarly to the Stacked Rock wall described above.

For either retaining wall type, the base of the wall should be keyed-into the subgrade surface. Where bedrock is encountered and sloping away from the wall, additional measures to prevent basal sliding may be necessary. This may include pinning the lowermost row of rocks or blocks to the bedrock surface for additional shear resistance.

Where required, Kontur can provide specific retaining all designs upon request.

5.9 Permanent Slopes and Training Berms/Erosion Protection

Permanent cut and fill slopes in soil should be sloped no steeper than about 2(H):1(V) with appropriate erosion protection measures implemented. Permanent rock fill slopes that are properly designed and constructed, or geogrid reinforced, should be sloped no steeper than about 1.5(H):1(V). Fill slopes should consist of an approved granular material and be properly compacted in accordance with the Geotechnical Engineer.

Permanent bedrock cut slopes, provided there are no adversely oriented discontinuities in the cut face, may be sloped no steeper than about 1(H):4(V). A catchment zone at the toe of the bedrock cut of at least 1.5m wide and 0.75m deep should be implemented. For bedrock cut slopes greater than 4.5m in height, the catchment area should be increased to 3m in width.

For preliminary coordination and design purposes, where training berms or embankments are constructed within the geotechnical setbacks established for Kitchen Creek, the berms or embankments should be properly designed and protected against potential erosion and/or scour. Berms should have a minimum crest width of 1.5m and the side slopes of the berm or embankments should be no steeper than about 2(H):1(V). The crest of berms and embankments should be established at an appropriate elevation. The water side of the berm or embankment should be adequality protected against erosion by placing a minimum Class 10kg Rip Rap that is at least 1m thick (measured horizontally). A layer of heavy non-woven filter fabric or a natural granular filter should be placed between the rip rap and underlying fill materials. The base of berms and/or embankments should be adequately keyed into the underlying subgrade surface for shear resistance and to avoid development of a preferential slip plane or surface. The final dimensions and rip rap size/class will be dependant on the design water levels and flow velocities established for Kitchen Creek.

It should be noted that the intent of a training berm is to mitigate potential erosion and/or stream avulsion. If the training berm is designed for flood protection purposes, the training berm would fall within the definition of a Dike as defined by the Province's *Dike Maintenance Act*. In the ladder case, all requirements set out by the *Dike Maintenance Act* would need to be followed.

5.10 Site Development

5.10.1 Temporary Excavation and Groundwater Control

Most of the project site is underlain by bedrock, or bedrock covered with a thin mantle/veneer of overburden soil. Therefore, provision for specialized excavation methods such as blasting of bedrock and large cobbles/boulders, should be planned for. Specialized methods may include the use of hydraulic rock hammering/fracturing, rock splitting, and blasting techniques, to achieve design grades and/or to excavate utility service trenches.

Where blasting techniques are implemented, it is recommended that vibration monitoring during the work be completed in addition to a pre- and post-construction survey of nearby sensitive or important buildings and/or structures.

All WorkSafeBC Regulations, Guidelines, and Best Practices, for safe and stable excavations should be implemented by the Contractor. An initial review by the Geotechnical Engineer should be completed for any excavation deeper than 1.2m below the surrounding ground surface.

5.10.2 Surface and Groundwater Control

The excavated surface must be protected and kept dry during construction. Depending on the time of year construction takes place, it should be expected that some groundwater (perched) may be encountered in the building excavation. Water accumulations in the excavation are anticipated to be able to be controlled with conventional swales, shallow sumps, and pumps.

It is the responsibility of the contractor to protect and provide a dry environment for the placement and compaction fills and/or concrete. Contractors should make their own assessment and are responsible for selecting the appropriate methods to control groundwater during construction at this site.

5.10.3 Site Preparation

Areas of foundations, roadways, or other hard-scape surfaces should be stripped and cleared of all unsuitable material including loose, saturated, organic, or other deleterious material to expose a suitable subgrade surface, such as undisturbed glacio-marine soil, or intact bedrock. The excavated subgrade surface should be reviewed and approved by the Geotechnical Engineer prior to placement of any *Engineered Fill* or concrete.

5.10.4 Engineered Fills

Where *Engineered Fill* is required to achieve design grades, the material should consist of an approved granular soil such as a 75mm minus well graded pit run sand and gravel with no more than 5% fines passing the No.200 (0.075mm) sieve or approved equivalent. *Engineered Fill* should extend at least 450mm beyond the edges of the proposed foundation or at least a horizontal distance equal to the thickness of the fill, whichever is greater.

All *Engineered Fill* materials must be placed and compacted in lifts no thicker than 300mm. The material should be near its optimum moisture content and be compacted to at least 95% of the material's *Modified Proctor Maximum Dry Density* (MPMDD) value. Field Density Test reports should be forwarded to the

Geotechnical Engineer for review and approval of compacted fill zones, or the Geotechnical Engineer should observe and witness placement and compaction of the material.

For non-structural areas, backfills may be placed and compacted as described above except to no less than 85% of the material's MPMDD value. Excavated material and/or existing fill materials may be reused in non-structural areas for general site grading purposes. These materials are not suitable for use as *Engineered Fill* in structural areas.

5.10.5 Utility/Service Trenches

Trench backfills should meet MMCD requirements for Pipe Bedding and Surround Materials and be properly compacted to at least 95% of the material's Modified Proctor Maximum Dry Density value as discussed above.

6.0 ADDITIONAL STUDY AND/OR FIELD REVIEWS

As noted above, additional study may be required to establish detailed geotechnical design inputs for various components of the proposed subdivision. This may be related to development geotechnical inputs for training berms, retaining walls, rockfall catchment areas, rockfall/slide stabilization and/or buttressing measures.

To sign-off on the work, Kontur must complete the necessary field reviews during the construction stage of the project. Field reviews may be required, but are not limited to, the following stages:

- Development of detailed geotechnical design inputs;
- Review of final Civil Designs from a geotechnical perspective;
- Bulk excavation, stripping and final excavation;
- Subgrade and bearing surface review and approvals;
- Placement and compaction of fills;
- Construction of stabilization measures, embankments, or berms; and/or,
- Installation of site drainage.

Kontur requires at least 48 hours of advanced notice to visit the site when the work is ready for review.

7.0 CLOSURE

The comments and recommendations presented in this report are based on the referenced information and Kontur's understanding of the project as described herein. If site conditions or project parameters differ from those described in this report, Kontur should be notified promptly to review geotechnical aspects of the project and provide additional or modified comments and recommendations, as deemed appropriate. Contractors should make their own assessments of subsurface conditions at this site and select the construction means and methods that are most appropriate for encountered site conditions.

This report has been prepared for the exclusive use of the Bayview Hills Developments, its agents, and the Sunshine Coast Regional District and/or their designated agents or consultants. Any use of the information contained in this letter for other than its intended purpose or by any other party must first be verified in writing by Kontur. Kontur does not accept any responsibility or damages because of any

other party relying on or using the information, interpretations, opinions, comments, and/or recommendations that are contained in this report.

Kontur trusts that the information described above meets your current requirements. If you should have any concerns or questions, please do not hesitate to contact the undersigned.

Sincerely,

Kontur Geotechnical Consultants Inc.

Per:

Ziad Merdas
Geotechnical Engineer

Per:

Matthew Yip MEng PEng
Principal |Geotechnical Engineer

APPENDIX A

Interpretation and Use of Study and Report Document

INTERPRETATION AND USE OF STUDY AND REPORT DOCUMENT

1.0 STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices in this area. No other warranty, expressed or implied, is made. Engineering studies and reports do not include environmental engineering or consulting.

2.0 COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3.0 BASIS OF THE REPORT

The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4.0 USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS "APPROVED USERS". The contents of the Report remain our copyright property and we authorise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report, or any portion thereof, available to any party without our written permission. Any use which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5.0 INTERPRETATION OF THE REPORT

Nature and Exactness of Descriptions: Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations, or building envelope descriptions, utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and all persons making use of such documents or records should be aware of, and accept, this risk. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

Reliance on Provided information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the report as a result of misstatements, omissions, misrepresentations or fraudulent acts of persons providing information.

To avoid misunderstandings, KONTUR should be retained to work with the other design professionals to explain relevant engineering findings and to review their plans, drawings, and specifications relative to engineering issues pertaining to consulting services provided by KONTUR. Further, KONTUR should be retained to provide field reviews during the construction, consistent with building codes guidelines and generally accepted practices. Where applicable, the field services recommended for the project are the minimum necessary to ascertain that the Contractor's work is being carried out in general conformity with KONTUR's recommendations. Any reduction from the level of services normally recommended will result in KONTUR providing qualified opinions regarding adequacy of the work.

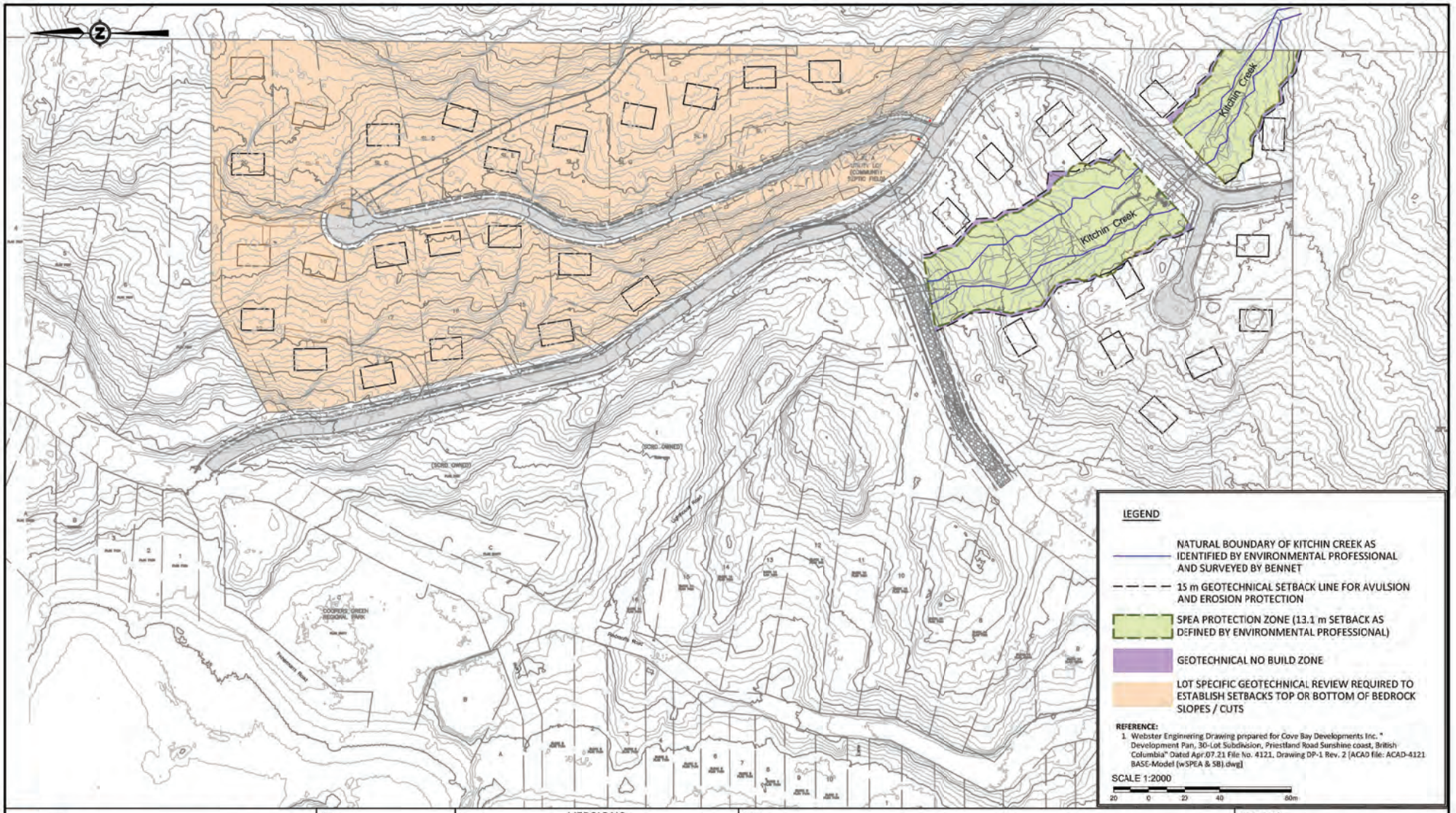
6.0 ALTERNATE REPORT FORMAT

When KONTUR submits both electronic file and hard copies of reports, drawings and other documents and deliverables (KONTUR's instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by KONTUR shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancy, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by KONTUR shall be deemed to be the overall original for the Project.

The Client agrees that both electronic file and hard copy versions of KONTUR's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except KONTUR. The Client warrants that KONTUR's instruments of professional service will be used only and exactly as submitted by KONTUR.

The Client recognizes and agrees that electronic files submitted by KONTUR have been prepared and submitted using specific software and hardware systems. KONTUR makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

APPENDIX B
Figures



November 4, 2022 1:49:53 PM

KONTUR GEOTECHNICAL CONSULTANTS inc.

Unit 107, 2071 Kingsway Avenue, Port Coquitlam, B.C. V3C 6N2
t. 1 (778) 730 1747 | toll-free. +1 (833) 3017575 | e. info@kontur.ca | www.kontur.ca

SEAL

VERSIONS

NO	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	2022-11-03
1	ISSUED FOR REVIEW	2022-11-04

TITLE: FIGURE 1: GEOTECHNICAL MARKUP OF DEVELOPMENT PLAN

PROJECT NO.: K-221130-00

CLIENT: BAYVIEW HILLS AT HALFMOON BAY - PARCEL A

PROJECT LOCATION: PRIESTLAND ROAD, HALFMOON BAY, B.C.

DATE:	SCALE:	DWG NO.:
2022-11-03	1:2000	FIGURE 1

DRAFT:	DESIGN:	CHECK:
SG	ZM	MY

APPENDIX C
Photographs

Photograph – Bedrock Cut above Priestland Road (Sta. 0+260 to 0+340)

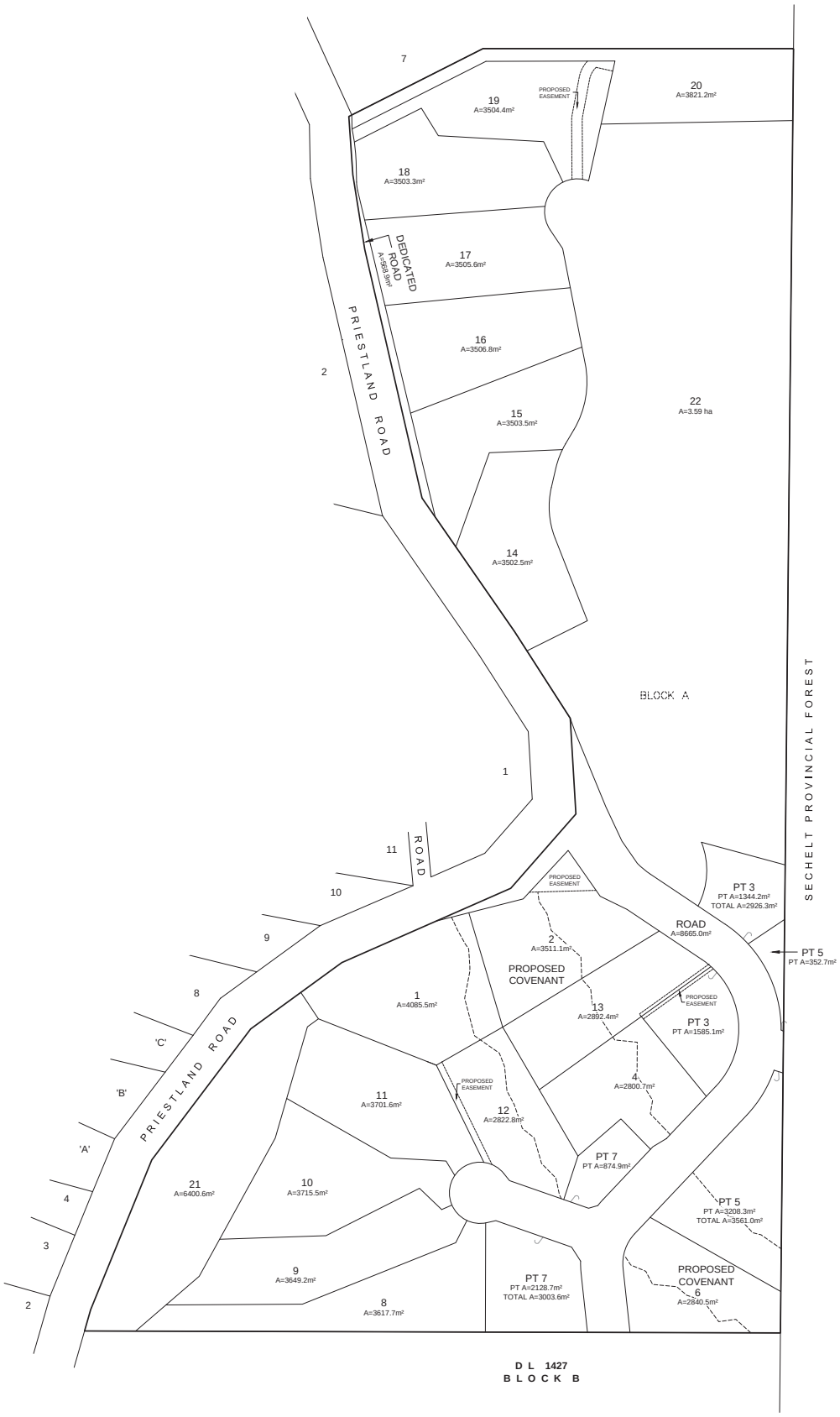
Photograph – Bedrock slopes above Cliff Road (Near Strata Lots)

Photograph – Existing end-dumped Fill Slope above Priestland Road (Sta. 0+380 to 0+500)

Photograph – Large loose rock fragments (SL E and/or F)

SCHEDULE B

PLAN EPP_____



SKETCH OF PROPOSED SUBDIVISION PLAN OF BLOCK 'A' (REFERENCE PLAN 1657), Gp 1 NWD EXCEPT PORTIONS IN PLANS 7134, 7360, 7481 AND 7697 DL 1427

SUNSHINE COAST REGIONAL DISTRICT
HALFMOON BAY

CIVIC ADDRESS: NONE
PID: 015-931-901

SCALE 1:750

10 0 10 20 50

ALL DISTANCES ARE IN METRES AND DECIMALS THEREOF

bennett
LAND SURVEYING LTD.
BC LAND SURVEYORS
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GIBSONS, BC
V0N 1V8
TEL 604-886-2531
www.bennettsurveys.com

DATE	BY
NOVEMBER 24, 2022	ES

REVISION: 0

LEGEND:

A - DENOTES AREA
PT - DENOTES PART
C - DENOTES COMMON PROPERTY

PROPERTY:

PROPERTY DIMENSIONS SHOWN ARE DERIVED FROM FIELD SURVEY.

OFFSETS TO PROPERTY LINES ARE NOT TO BE USED TO DEFINE BOUNDARIES.

REFER TO CURRENT CERTIFICATE(S) OF TITLE FOR ADDITIONAL, EXISTING OR PENDING CHARGES.

GENERAL:

THIS PLAN SHOWS THE LOCATION OF VISIBLE FEATURES ONLY, AND DOES NOT INDICATE BURIED SERVICES THAT MAY EXIST ON OR AROUND THE SUBJECT SITE.

NOTE:

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE BB1317343.

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TERMS OF INSTRUMENT – PART 2
RIPARIAN AREA COVENANT
(Section 219 *Land Title Act*)

BETWEEN:

COVE BAY DEVELOPMENTS INC.
710-939 HOMER ST
VANCOUVER, BC
V6B 2W6

(Hereinafter called the "**Transferor**")

AND:

SUNSHINE COAST REGIONAL DISTRICT
1975 Field Road
Sechelt, BC, V0N 3A1

(Hereinafter called the "**Regional District**")

WHEREAS

A. The Transferor is the registered owner in fee-simple of the following lands in the Province of British Columbia, more particularly described as:

   LOT 1_____, LOT 2_____, LOT 3_____, LOT 4_____, LOT 5_____, LOT 6_____ AND LOT 12_____

   (Hereinafter referred to as the "Lands");

B. The Transferee is the Sunshine Coast Regional District;

C. Section 219 of the Land Title Act R.S.B.C. 1996, provides that there may be registered as a charge against the title to any land a covenant in favour of the Regional District that the land is to be used in a particular manner in accordance with the covenant and is enforceable against the Transferor and his successors in the title even if the covenant is not annexed to land owned by the Regional District; and

D. The Transferor desires to indemnify and save harmless the Regional District in the event of any damages or claims arising for the reasons set out hereafter with respect to the parcels located within the Lands herein described.

NOW THEREFORE THIS COVENANT WITNESSES and in consideration of the premises and of other good and valuable consideration the receipt where is hereby acknowledged, the Transferor does hereby covenant and agree with the Regional District under Section 219 of the Land Title Act of the Province of British Columbia as follows:

1. The Transferor covenants and agrees with the Regional District that:

   a. The Lands shall be used in accordance with the terms and conditions set out in this Covenant;

   b. Within the Lands, there shall be no alteration to land or vegetation and no buildings or structures erected, no dumping of mineral or organic soil or tree, lawn or garden cuttings, within the Covenant Area delineated by Reference Plan EPP_____ (the "Covenant Area") attached to this Covenant as Schedule "A";

   c. the Measures to Protect and Maintain the Covenant Area, as set out in the memo prepared by John Sims, R.P. Bio., dated November 7, 2022, and attached to this Covenant as Schedule "B" shall be followed; and

   d. Any future land alteration or construction beyond the Covenant Area, within 11.1 metres from the stream boundary may require an additional assessment.

2. The Transferor hereby:

    a. INDEMNIFIES AND SAVES HARMLESS the Regional District from and against any liabilities caused directly or indirectly; and

    b. RELEASES AND FOREVER DISCHARGES the Regional District from and against all manner of actions, causes of action, suits and demands whatsoever at law or at equity which the Grantor may at any time have,

    By reason of any damage being caused directly or indirectly by slipping, sloughing, sliding or subsidence of land due to unpredictable or uneven settlement, settlement of building or improvements or loss of land by erosion or other means on the Lands,

    and

    Without limiting the generality of the foregoing, the Grantor covenants and agrees to reimburse the Regional District for any and all costs it may suffer, incur or be put to, including costs on a solicitor and own client basis, as a result of or in any way connected with any breach of Section 1 of this covenant, including but not limited to costs incurred in connection with the enforcement of any breach of this Covenant.

3. This Agreement runs with the Lands and enures to the benefit of and is binding on the parties hereto and their respective successors and assigns.

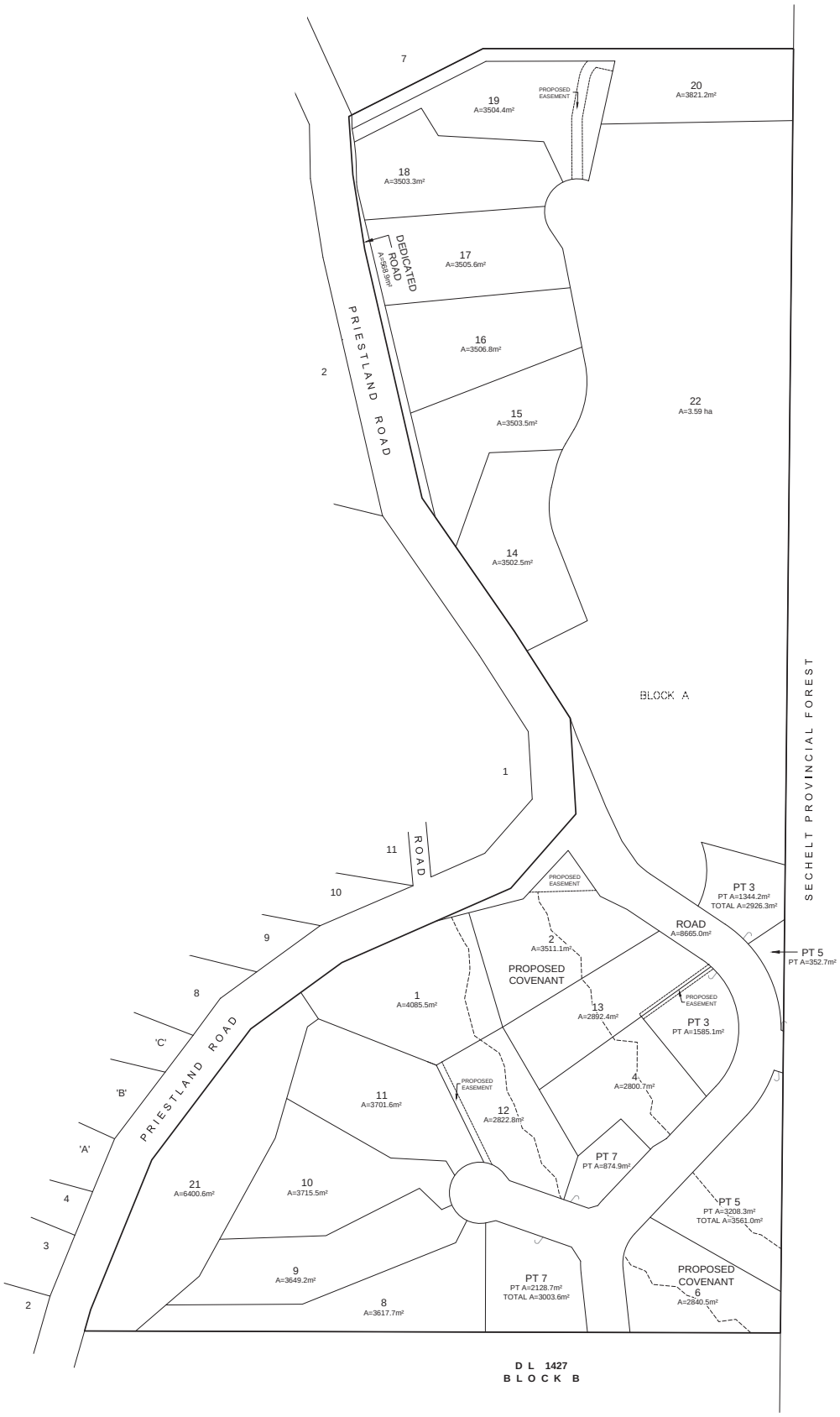
4. Wherever the singular or masculine are used in this Agreement, the same shall be deemed to include the plural, the feminine, the body politic or corporate as the context orthe parties so require; all references to each party hereto shall include the heirs, executors, administrators, successors, assigns, officers employees or agents of that party.

5. If any section, subsection, sentence, clause, or phrase, of the Agreement is for any reason held to be invalid by the decision of a Court of competent jurisdiction, the invalid portion shall be severed and thedecision that it is invalid shall not affect the validity of the remainder.

IN WITNESS WHEREOF the parties hereto hereby acknowledge that this agreement has been duly executed and delivered by the Transferor executing Form C attached hereto.

SCHEDULE A

PLAN EPP_____



SKETCH OF PROPOSED SUBDIVISION PLAN OF BLOCK 'A' (REFERENCE PLAN 1657), Gp 1 NWD EXCEPT PORTIONS IN PLANS 7134, 7360, 7481 AND 7697 DL 1427

SUNSHINE COAST REGIONAL DISTRICT
HALFMOON BAY

CIVIC ADDRESS: NONE
PID: 015-931-901

SCALE 1:750

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DATE	BY
NOVEMBER 24, 2022	ES

REVISION: 0

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SCHEDULE B

RIPARIAN ASSESSMENT

Condition & Impact Assessment and Riparian Areas Protection Regulation: Detailed Assessment Report

Address: Lot PID 0105-931-901 (Priestland Road), Sunshine Coast Regional District

Date	November 7, 2022

I. PRIMARY QEP INFORMATION

First Name	John	Middle Name	Stephen (Preferred)		
Last Name	Sims				
Designation	R.P. Bio.	Company	Sartori Environmental Inc.		
Registration #	2374	Email	steve@sartorienv.com		
Address	106 – 185 Forester St.				
City	North Vancouver	**Postal**	V7H 0A6	**Phone #:**	604 987-5588
Prov/state	BC	**Country**	Canada		

II. SECONDARY QEP INFORMATION (USE FORM 2 FOR OTHER QEPS)

First Name		**Middle Name**			
Last Name					
Designation		**Company**			
Registration #		**Email**			
Address					
City		**Postal/Zip**		**Phone #**	
Prov/state		**Country**			

III. DEVELOPER INFORMATION

First Name	Alister	**Middle Name**	
Last Name	Toma		
Company	Cove Bay Developments Inc.		
Phone #	778.984.8384	**Email**	alistertoma@mac.com
Address	Suite 710, 939 Homer Street		
City	Vancouver	**Postal/Zip**	V6B 2W6
Prov/state	British Columbia	**Country**	Canada

IV. REDEVELOPMENT INFORMATION

Development Type	Subdivision		
Area of Development (ha)	2.076	**Riparian Length (m)**	220
Lot Area (ha)	10.9	**Nature of Development**	Clearing, servicing and rough grading
Proposed Start Date[1]	Retroactive	**Proposed End Date**	2023-12-31

V. LOCATION OF PROPOSED REDEVELOPMENT

Street Address (or nearest town)	Priestland Road, Halfmoon Bay					
Local Government	Sunshine Coast Regional District			**City**	Halfmoon Bay	
Stream Name	Kitchen (or Kitchin) Creek					
Legal Description (PID)	015-931-901			**Region**	Lower Mainland	
Stream/River Type	Watercourse			**DFO Area**	16	
Watershed Code	Not available, confluences with Halfmoon Bay approximately 500m south of 900-126800					
Latitude	49° 30’ 05.6”	N	**Longitude**	123 ° 54’ 13.5”	W	
	49.501557			-123.903755		

[1] Development has occurred within the Riparian Assessment Area. This RAPR includes a Condition and Impact Assessment & RAPR detailed assessment.

CONTENTS

SECTION 1: DESCRIPTION OF FISHERIES RESOURCES VALUES AND A DESCRIPTION OF THE REDEVELOPMENT PROPOSAL

Introduction

Sartori Environmental Inc. (SEI) has been retained by the Developer of the property legally described as Block 'A' (Reference Plan 1657), Gp 1 NWD except portions in plans 7134, 7360, 7481 AND 7697 DL 1427 and having a PID of 015-931-901 (herein referred to as the "Subject Property"), to assess the environmental implications of development activities which fall within a Sunshine Coast Regional District (SCRD) Development Permit Area (DPA 4: Riparian Assessment Areas). Development within the *Riparian Assessment Area* (RAA) must meet the obligations of the provincial *Riparian Areas Protection Regulation* (RAPR). The RAA is defined in both RAPR and the Halfmoon Bay Official Community Plan Consolidated Bylaw No. 657 (Bylaw No. 657) as the area within 30 m of the stream boundary of a watercourse.

In a letter prepared by SCRD on 6 May 2022, SCRD identified unlawful development on the Subject Property within the RAA of Kitchen Creek (or Kitchin Creek), including tree cutting and upgrades to existing roads. In a follow-up letter on 13 June 2022, SCRD indicated that a Condition and Impact Assessment (C&I) Report and "Riparian Assessment" be submitted to and accepted by the Province prior to processing of the Development Permit (DP) application for subdivision.

This report intends to satisfy SCRD requirements for the C&I Assessment for the identified unlawful development and the Riparian Assessment for proposed subdivision. As part of these assessments, SEI has undertaken a Detailed Riparian Assessment as per RAPR guidelines to establish a Streamside Protection and Enhancement Area (SPEA). Except in situations of undue hardship, residential, commercial, and industrial development is generally restricted within an established SPEA. Unauthorized development that has occurred within the ultimate SPEA has been prescribed restorative prescriptions which are outlined within this report. Collectively, municipal and provincial regulatory reviews are intended to confirm that the development, as undertaken and proposed, meets the "Riparian Protection Standard", and the Qualified Environmental Professional (QEP) has followed the appropriate RAPR assessment methodology.

Assessed Site Characteristics

SEI conducted an assessment of the RAA of Kitchen Creek on the Subject Property on September 12, 2022. The Subject Property is approximately 27 acres in size and is shaped like one half of a vertically-split hourglass. The east, north and south property line are generally straight and aligned directly with north-south and east-west. The west property line undulates adjacent with the alignment of Priestland Road. To the north of the property is a residential property (8826 Redroofs Road) and to the south and east of the property is undeveloped land. West of Priestland Road is Coopers Green Park and multiple residential lots. Kitchen Creek transects through the property in a northwest direction near the properties vertical center and flows under Priestland Road into Coopers Green Park. From Coopers Green Park, Kitchen Creek empties into a lagoon (the "Lagoon") tidally connected to Halfmoon Bay.

The Subject Property has not been previously developed, although has been significantly logged with the initial road building prior to current ownership and subdivision proposal. In 2017, satellite imagery courtesy of Google Earth reveals that the entire property was forested. Satellite imagery shows between 2017 and 2019, large areas of the north half of the property and some areas of the south half were logged. In 2022, further trees were removed on site, some of which were in the RAA of Kitchen Creek as identified by SCRD. Currently, access roads exist on the property connecting to Priestland Road, one of which leads to a planned subdivision crossing of Kitchen Creek (herein referred to as "Upper Priestland Road").

Kitchen Creek is mapped on SCRD's GIS System SCRD Maps[2], but is not identified on the provincial Habitat Wizard database[3]. Habitat Wizard indicates watershed codes for identified nearby streams as 900-126800, 900-124100, and 900-12440. SCRD Maps identifies Kitchen Creek as having a total stream length of 1.4 km with a generally northwest flow direction.

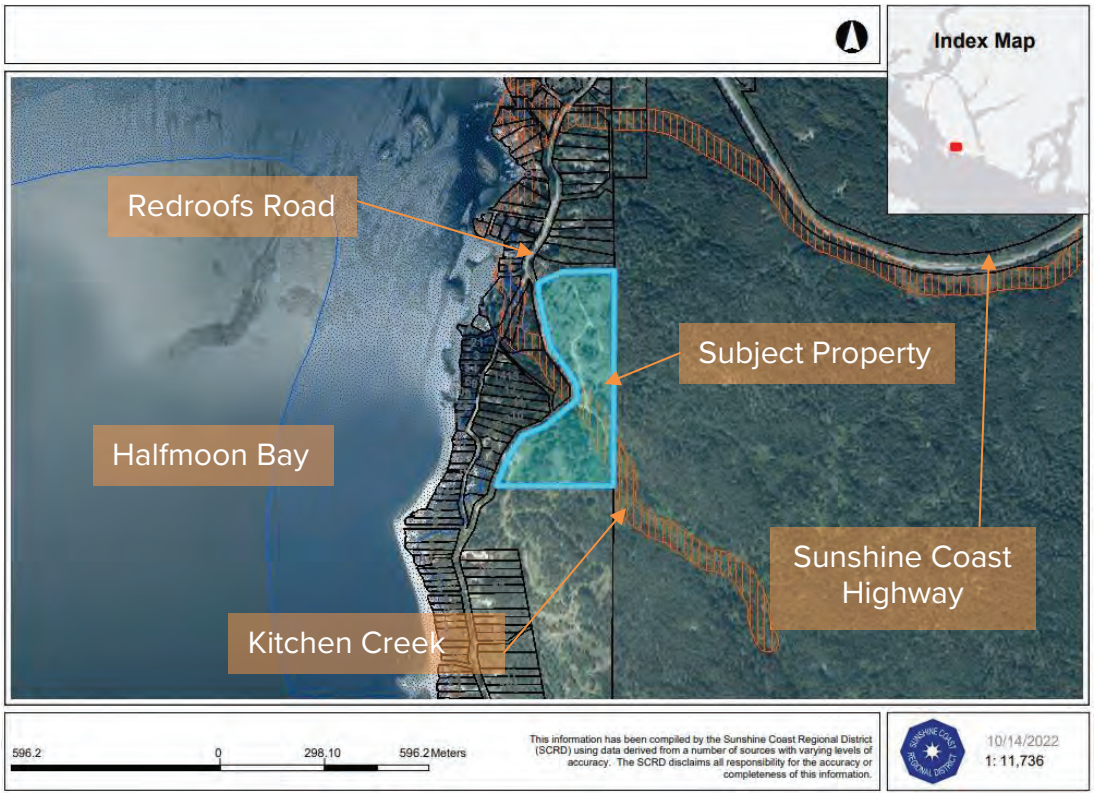

Figure 1: Subject Property courtesy of SCRD Maps (accessed 14 October, 2022).

SEI observed three culverted crossings between Halfmoon Bay and Priestland Road; it is assumed that there are no further crossings upstream of the Subject Property. The furthest downstream culvert is under Fishermans Road and empties the Lagoon directly into Halfmoon Bay. The second culvert crosses under Redroofs Road, where the Lagoon was observed on both sides of the crossing. The Lagoon was observed to contain brackish water (tidally influenced) during the SEI field assessment. Upon reviewing Habitat Wizard at the location aligned with the Lagoon, an occurrence of three-spined stickleback (*Gasterosteus aculeatus*) was identified.

SEI identified the confluence of Kitchen Creek and the Lagoon in field and observed no flows within Kitchen Creek upstream of the confluence. SEI assessed the upstream extents of the tidally influenced lagoon at the interface with the freshwater environment and determined that the potential for fish exist seasonally upstream of tidal influences and therefore Kitchen Creek, and the development on the Subject Property is subject to RAPR. Kitchen Creek is defined as a "stream" under RAPR as it is a watercourse that provides fish habitat. Approximately 200 m upstream of the confluence the lagoon, Priestland Road crosses over a culverted section of Kitchen Creek (the third existing crossing). Upstream of this crossing is where the assessed section of Kitchen Creek begins.

[2] SCRD Maps (https://maps.scrd.ca/); Accessed 12 October, 2022

[3] Habitat Wizard (http://maps.gov.bc.ca/ess/hm/habwiz/); Accessed 12 October, 2022

The section of Kitchen Creek assessed using RAPR Detailed Methodology extends from the crossing under Priestland Road at the west property line to approximately 30 m southeast of the east property line. Transects were taken every 10 m over a total of 220 m of channel. SEI considers the assessed channel to be one reach. The assessed reach is open channel, having an average bankfull width of 3.7 m, average gradient of 11%, and bed materials dominated by organic material, with gravels and cobble scattered throughout and becoming more prevalent in the lower portions of the reach. The assessed reach is characterized as cascade-pool type habitat. The upper 40 m of the assessed reach consists of one well-defined channel, which splits into one to four channels through the remainder of the reach. Most of these channels were not well defined, though some were more incised than others, dominated by gravel and cobble indicating that they convey the majority of the flows.

At the planned subdivision crossing of Kitchen Creek, the surveyed watercourse becomes uncharacteristically wide and the channels become undefined. It is apparent that this section of Kitchen Creek has been used previously as a crossing, likely during previous logging activities on the property. At this planned crossing, trees are absent, and the vegetation is dominated almost entirely by grass species at the approaches, and native shrubs adjacent to the stream channel. Immediately upstream of the existing crossing alignment, the surveyed stream boundary significantly widens and moves back in an upstream direction indicating that a backwater effect may have been created by the original crossing. Upper Priestland Road is proposed to cross over the existing disturbed area and is approved under the *Water Sustainability Act* as a Notification for an Authorized Change (Tracking Number: 100393441).

Forested areas within the RAA had well-developed low, middle and upper canopies. Shrubs within the RAA consisted mostly of native species dominated by deer fern (*Struthiopteris spicant*), sword fern (*Polystichum munitum*), salal (*Gaultheria shallon*), and salmonberry (*Rubus spectabilis*). Trees within the RAA consisted of red alder (*Alnus rubra*), big leaf maple (*Acer macrophyllum*), western red cedar (*Thuja plicata*), Douglas fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*).

In the disturbed areas of the RAA, trees that had been cleared included red alder, western red cedar, Douglas fir, and western hemlock. Disturbed areas contained mostly lower canopy vegetation including the above-mentioned native shrub species, immature western red cedars and red alders, grass species, and small patches of invasive Himalayan blackberry (*Rubus armeniacus*).

Findings

Kitchen Creek is considered a creek under RAPR and is subject to SCRD requirements for development in a Riparian Assessment Area (RAA) under Bylaw No. 657. Development activities, specifically land disturbance and tree clearing occurred within the RAA and were subject to approval by SCRD. Prior to the SEI field assessment, the stream boundary had been flagged by a different QEP (Cam Forrester, R.P.F. of Cam Forrester & Associates). SEI confirmed that the flagged and surveyed stream boundary aligns with RAPR definition, extending to the active flood plain of Kitchen Creek.

Assessment of the Streamside Protection and Enhancement Area (SPEA) under RAPR was conducted by SEI following the Detailed Assessment methodology. SEI conducted a field assessment to determine average bankfull width of the assessed reach and the resultant RAPR minimum SPEA. This minimum SPEA has been calculated as **11.1m** from stream boundary based on results shown in **Section 2: Results of Detailed Riparian Assessment. Figure 2** in **Section 3: Site Plan** depicts this SPEA in relation to the proposed subdivision plan. This SPEA was calculated by measuring the bankfull width of Kitchen Creek at 23 transects 10 m apart. Due to the large number of transects (23 instead of 11), the longest two and the shortest two measurements were dropped from the average calculation, rather than the standard singular longest and shortest under the standard detailed assessment methodology.

SEI identified in field that development activities (specifically tree clearing) has taken place within this minimum SPEA as discussed below in **Conditions and Impact of Development**. As such, restorative prescriptions are included within this report under **Riparian Restoration Plan.**

Further protections of the minimum SPEA (*i.e.,* consideration of a "SPEA Protection Zone") is proposed for subdivision. The SPEA Protection Zone has been identified and discussed in **Section 4: Measures to Protect and Maintain the SPEA**. Ultimately, the proposed SPEA "Protection Zone" includes an additional two metres of protection off set from the minimum SPEA to provide a protected area for root growth of immature trees and new trees planted near the edge of the minimum SPEA. Further tree protection has also been applied to encompass the critical root zone (CRZ) of existing trees within the SPEA, which has been assessed as six times the diameter at breast height (DBH). In addition to the SPEA Protection Zone around existing CRZs, a tree management zone (TMZ) has been applied at ten times DBH in which development can only take place under the direction and/or supervision of a certified arborist. As development is not completely restricted within the TMZ, it is not defined as part of the SPEA Protection Zone; however, it must be included under a covenant on the title of each property affected. These additional measures are shown in **Figure 2**.

Further protection considerations discussed in **Section 4: Measures to Protect and Maintain the SPEA** include:

- assessment and treatment of danger trees,
- windthrow,
- slope stability,
- prevention of encroachment,
- sediment and erosion control,
- floodplain considerations, and
- stormwater.

SEI notes that the SPEA was not applied to the section of Kitchen Creek that has been used as a historic crossing of Kitchen Creek and is proposed for Upper Priestland Road crossing. As per acceptable methods of applying minimum SPEAs, a perpendicular line from the culvert inlet and outlet inverts has been applied. The approaches to the Upper Priestland stream crossing have been designed as to not occur within the Minimum SPEA, while the changes in and about a stream associated with the culvert crossing is approved under the Water Sustainability Regulation as an Authorized Change.

Conditions and Impact of Development

Following field assessment and determination of the minimum SPEA, the 11.1 m setback from Stream Boundary was flagged. A certified arborist (Krista Braathen, ISA Certified Arborist with Heartwood Tree Consulting) quantified and tagged tree removals within the minimum SPEA, which were then located on the site plan. A "Tree Inventory and Protection Report' (Heartwood Tree Consulting; October 11, 2022) is attached as **Appendix A**. Development that has taken place within the minimum SPEA includes ground disturbance and tree clearing. Ground disturbance within the minimum SPEA appeared to be limited to activity associated with tree clearing. In the areas of tree clearing, low canopy native shrubs and immature trees remained in good condition and there were no significant areas of exposed soils observed. It is likely that regeneration of dense shrubs and deciduous trees would take place over time in these areas, with coniferous trees regenerating over a longer time period provided adequate protection.

Tree clearing within the minimum SPEA has been quantified and species and sizes are shown in Figure 2 (top right-hand corner). Trees removed within the SPEA include three red alder and five western red cedar. Tree clearing and ground disturbance that has taken place within the RAA is not anticipated to have an effect on slope stability as disturbed areas are relatively flat. Floodplain concerns are not applicable to the development that has taken place. The current condition of the RAA does not represent risk to the protection of the SPEA with respect to sediment and erosion control or stormwater management. Danger trees had not been assessed at the time of tree removal; however, a danger tree assessment has been conducted since tree removal and proposes the removal of six trees (discussed in **Section 4: Measures to Protect and Maintain the SPEA**).

Tree clearing and ground disturbance in the minimum SPEA represents encroachment. Measures are to be taken to reverse this encroachment and prevent further encroachment from taking place. Measures

are provided below in the **Riparian Restoration Plan**, which include constructing a wooden, split-rail type fence along the SPEA Protection Zone and planting replacement trees within designated restoration areas.

Tree clearing within the RAA outside of the minimum SPEA may cause windthrow concerns as the new forested edge may have lost stability from the removal of trees and may be exposed to changing intensity and direction of wind forces. Trees that have grown on the edge of a forested stand tend to be more acclimated to wind with adaptation strategies which can increase stem strength through development of 'reaction wood', allow more flexibility of branches or stems through development of 'flexure' wood, and/or change the growth strategy of roots for better stability in the face of wind. Trees in the interior of a stand that are now on the forested edge can be less adapted to high wind conditions and be at higher risk of failure. Based on a review of available Google Earth imagery, the Subject Property was initially cleared sometime between October 2017 and July 2019. During field assessments, the current forested edge was observed generally intact, with limited signs of failure due to new wind pressures (*i.e.,* any unexpected degree of fallen or failing trees).

To protect against potential further windthrow risk, focus has been placed on the protection of the critical root zones (CRZs) of existing trees along the edge of the minimum SPEA. An additional two metre buffer to accommodate CRZ protection has been applied to the minimum SPEA throughout the assessed reach, on both sides of the watercourse. Where the CRZ of key trees identified along the minimum SPEA exceeds the two-metre buffer, the SPEA Protection Zone has been increased. This will provide increased protection to existing SPEA trees. Natural succession and planting of young conifers within this buffer and along the minimum SPEA will help provide wind breaks and create a new forested edge of wind-acclimated trees.

SEI recommends (as discussed in **Section 4: Measures to Protect and Maintain the SPEA**) that a Certified Arborist or Registered Professional Forester conduct hazard tree assessments along the forested edge of the SPEA Protection zone once per year for five years after final subdivision clearing is complete.

A Preliminary Geotechnical Assessment report (Kontur Geotechnical Consultants Inc.; November 4, 2022) has been prepared and is attached as **Appendix B**. The recommendations of the report as it pertains to the protection of the minimum SPEA and SPEA Protection Zone are summarized in **Section 4: Measures to Protect and Maintain the SPEA.** Ultimately, from a geotechnical perspective, Kontur opines that the SPEA Protection Zone is acceptable to protect the integrity of the minimum SPEA.

Riparian Restoration Plan

The Riparian Restoration Plan is outlined in **Figure 3** and intends to offset the impacts of clearing works that have taken place within the minimum SPEA. The plan generally follows guidelines outlined in RAR Revegetation Guidelines for Brownfield Sites[4] (the "Revegetation Guidelines"). SEI has prescribed planting of trees specimens only as SEI assessed the SPEA as capable of mid and lower canopy self-regeneration, as long as measures to prevent encroachment of the SPEA are upheld (*e.g.,* installation of the split-rail fence). Impacted trees to be offset with restoration planting include three red alder and five western red cedar. Criteria for the replacement of the impacted trees is adapted from the Tree Replacement Criteria[5] document prepared by Ministry of Environment, Lands and Parks (1996). Following the criteria and considering "like-for-like" replacement (*i.e.,* replacement conifers for removed

[4] https://www2.gov.bc.ca/assets/gov/environment/plants-animals-and-ecosystems/fish-fish-habitat/riparian-areas-regulations/rar_reveg_guidebk_sept6_2012_final.pdf

[5] https://www.env.gov.bc.ca/wld/documents/bmp/treereplcrit.pdf

conifers and replacement deciduous for removed deciduous), the three alders require eighteen replacement trees and the five western redcedar require thirty-seven[6] replacement trees, for a total of fifty-five replacement trees. SEI visited the Subject Property to ground-truth the proposed planting polygons shown on the Riparian Restoration Plan.

Restoration planting should occur according to the below bulleted specifications:

- Tree species to be planted have been determined by following factors outlined in Section 4.0 of the Revegetation Guidelines such as plant associations, site characteristics and understanding the objectives of the restoration plan. Species must be selected from the list provided in Figure 3.
- Tree specimens should be planted in designated polygons as shown in Figure 3.
- All tree species should be of guaranteed nursery stock. The botanical name should be used when ordering stock to ensure that the desired native species is being purchased. Each specimen should be tagged with the botanical name and the tag should be left attached after planting.
- As outlined in Section 6.0 of the Revegetation Guidelines, tree stock should be a minimum of two years in age or, alternatively, 1.5 m in height when purchased. Due to the existing vegetation densities on site, trees should be planted no closer than 2 m from other trees (existing or replacement)
- Stock planted during the fall (September to October) and spring (March to April) has the greatest likelihood of surviving. Regular watering may be required until the plants are established. Additional advice on proper planting procedures should be obtained from the nursery supplying the stock, a certified arborist or a reputable landscape contractor.
- Compacted soil caused by movement of machinery should be decompacted.
- Plant survivability must be 80% after five years. Implementation monitoring by a QEP and maintenance shall occur to ensure 80% survivability after each year following planting, until five years is reached. Replanting of dead stock shall occur, as needed.
- Suitable topsoil, if required, must be certified 100% weed free.
- Retain fallen trees and/or stumps/root wads as large woody debris habitat for amphibians and small mammals, if available.
- Remove invasive species, if present, using best management practices, including those from the Invasive Species Council of BC *TIPS* and *Factsheets*.

It is strongly recommended that a reputable landscape contractor review the SPEA Protection Zone and the proposed Riparian Restoration Plan, and provide a summary work plan and cost estimate.

With respect to hazard trees, removals should be completed in conjunction with restoration. Where feasible and acceptable to the certified arborist, identified hazard trees should be cut to wildlife trees, rather than removed to stump height. Stump removal, and specifically the ground disturbance associated with stump removal, is not acceptable with the SPEA.

[6] Ten replacement trees have been proposed to offset the 102 cm DBH western redcedar.

Species List

Trees planted for the Riparian Restoration Plan must be chosen from the following list:

Common Name	Scientific Name
Deciduous Trees (choose eighteen)	
Big leaf maple	*Acer macrophylla*
Red alder	*Alnus rubra*
Coniferous Trees (Choose thirty-seven)	
Western hemlock	*Tsuga heterophylla*
Western redcedar	*Thuja plicata*
Douglas fir	*Pseudotsuga menziesii*

Routine Recruitment and Invasive Species Management Monitoring

Routine Recruitment and Invasive Species Management Monitoring of the riparian planting area is to be conducted by a Qualified Environmental Professional once after the first growing season at least two months after completed riparian planting and removal of invasive species has taken place (Year 1) and once a year for the remainder of a three-year monitoring period (for a total of three inspections). The inspections will assess health of planted stock, confirm 80% survival of the planted specimens and, if required, recommend additional planting to maintain the 80% survival rate. Invasive species will be monitored during inspections and recommendations for removal will be provided, as required. It is noted that no invasive species were observed within the SPEA, though a low number of invasive species were observed within the RAA. Invasive species management, if determined necessary, should be conducted in spring months, prior to flowering and seeding of observed invasive species. Invasive plant species observed growing in the vicinity of the riparian planting area should be removed along with their root structures. Only mechanical control is recommended for removal of invasives on the Subject Property. Recommended control for invasive species on the Subject Property taken from the *Invasive Species Council of BC Factsheet* (2019) is below.

- Mowing is not recommended after riparian planting has taken place.
- Mechanical cutting should be done when the plants begin to flower.
- Because mechanical control can stimulate strong regrowth, follow-up with hand digging to remove the entire root system is recommended
- Any regrowth observed within a year following removal must be removed with its root system.
- All plant material must be collected and disposed of at appropriate accredited facility. Care should be taken to ensure that plant parts are not distributed during transport.

Proposed Development

Proposed new development consists of the subdivision of the Subject Property. A subdivision Development Plan prepared by Webster Engineering is include as **Appendix C**. Proposed Subdivision Lots 1, 2, 3, 4, 5, 6, 7, 12 and 13 are partially encumbered by the RAA of Kitchen Creek. The proposed individual lots within the RAA of Kitchen Creek are designed to have developable areas greater that the respective allowable footprints. Proposed development includes the construction of subdivision access roads, road approaches and installation of a culvert crossing over Kitchen creek for the Upper Priestland Road crossing, and the clearing, rough grading, and servicing of proposed Subdivision Lots. SEI notes that the proposed road (Priestland Crescent) off Upper Priestland Road is currently designed outside the minimum SPEA and applied SPEA Protection Zone. Following the installation of the Upper Priestland Culvert Crossing and prior to construction of Priestland Crescent, the stream boundary will be resurveyed to ensure that the Priestland Crescent right of way remains outside of the minimum SPEA.

SECTION 2: RESULTS OF DETAILED RIPARIAN ASSESSMENT

Kitchen Creek

Refer to Section 3 of Technical Manual	**Date**	September 12, 2022
Description of Waterbodies involved (number, type)		Stream

Stream	✓
Wetland	x
Lake	x
Ditch	x
Number of reaches	1
Reach #	1

Channel Width, Slope and Channel Type

Channel Widths (m)						Total	Gradient upstream	Gradient downstream
Upstream	~~T-11~~	~~1.85~~	-	-	-	~~1.85~~	25%	25%
	T-10	3.10	-	-	-	3.10		
	T-9	4.60	-	-	-	4.60		
	T-8	2.90	-	-	-	2.90		
	T-7	5.20	-	-	-	5.20	12%	9%
	T-6	0.95	1.20	-	-	2.15	8%	4%
	T-5	0.70	1.50	-	-	2.20		
	T-4	1.40	1.65	1.00	-	4.05		
	T-3	1.30	1.90	-	-	3.20		
	~~T-2~~	~~2.10~~	-	-	-	~~2.10~~		
	~~T-1~~	~~6.45~~	~~2.90~~	-	-	~~9.35~~	4%	4%
	~~T-0~~	~~3.50~~	~~4.70~~	~~3.30~~	-	~~11.50~~		
	T-a	3.00	0.75	1.10	1.55	6.40	4%	10%
	T-b	1.65	1.60	-	-	3.25		
	T-c	0.60	1.00	0.70	0.60	2.90		
	T-d	0.10	0.40	1.20	1.70	3.40	9%	20%
	T-e	0.80	0.75	2.10	1.50	5.15	20%	9%
	T-f	2.35	3.00	-	-	5.35		
	T-g	2.90	0.70	-	-	3.60		
	T-h	1.10	3.50	-	-	4.60	9%	9%
	T-i	0.90	1.35	-	-	2.25		
	T-j	2.70	1.20	-	-	3.90	9%	20%
Downstream	T-k	1.20	0.80	-	-	2.00		
Total *(not including high/low)*						70.2	11%	12%
Channel Type		Cascade Pool						
Mean Channel Width (m) & Gradient (%)		**3.7 m**					**11%**	**12%**

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c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and

In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the *Riparian Areas Protection Regulation*.

Site Potential Vegetation Type (SPVT)

	Yes	No	
SPVT Polygons		✓	Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes
			I, Stephen Sims (name of qualified environmental professional), hereby certify that: a) I am a qualified environmental professional, as defined in the *Riparian Areas Protection* Regulation made under the *Riparian Areas Protection Act*; b) I am qualified to carry out this part of the assessment of the development proposal made by the developer Cove Bay Developments Inc.; c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Schedule to the *Riparian Areas Protection Regulation*.

Polygon No	1			Method employed if other than TR:
SPVT Type	**LC**	**SH**	**TR**	N/A
			✓	

Zone of Sensitivity (ZOS) and resultant SPEA

Stream Name	Kitchen Creek			Segment No.	1
LWD, Bank and Channel Stability ZOS (m)				7.4	
Litter fall and insect drop ZOS (m)				11.1	
Shade ZOS (m) max				11.1	South
Brief Stream or Ditch Justification	See assessment, the stream is a watercourse.				
Fish Bearing Status	Yes	✓	No		Fish presence is assumed within Kitchen Creek, downstream of the Subject Property. It is not anticipated that fish are present within Kitchen Creek within or upstream of the Subject Property.
SPEA Minimum (m)		11.1			

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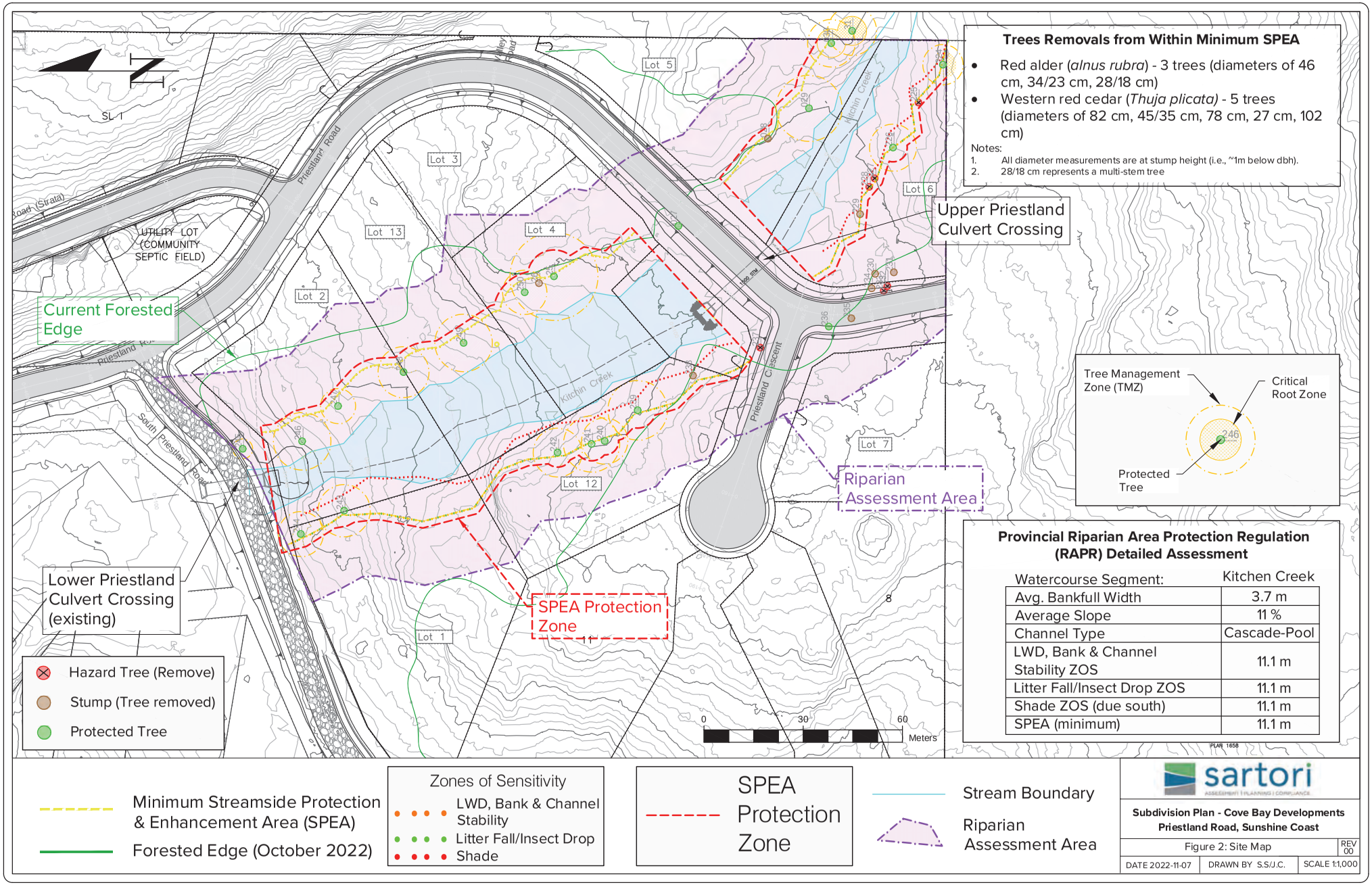
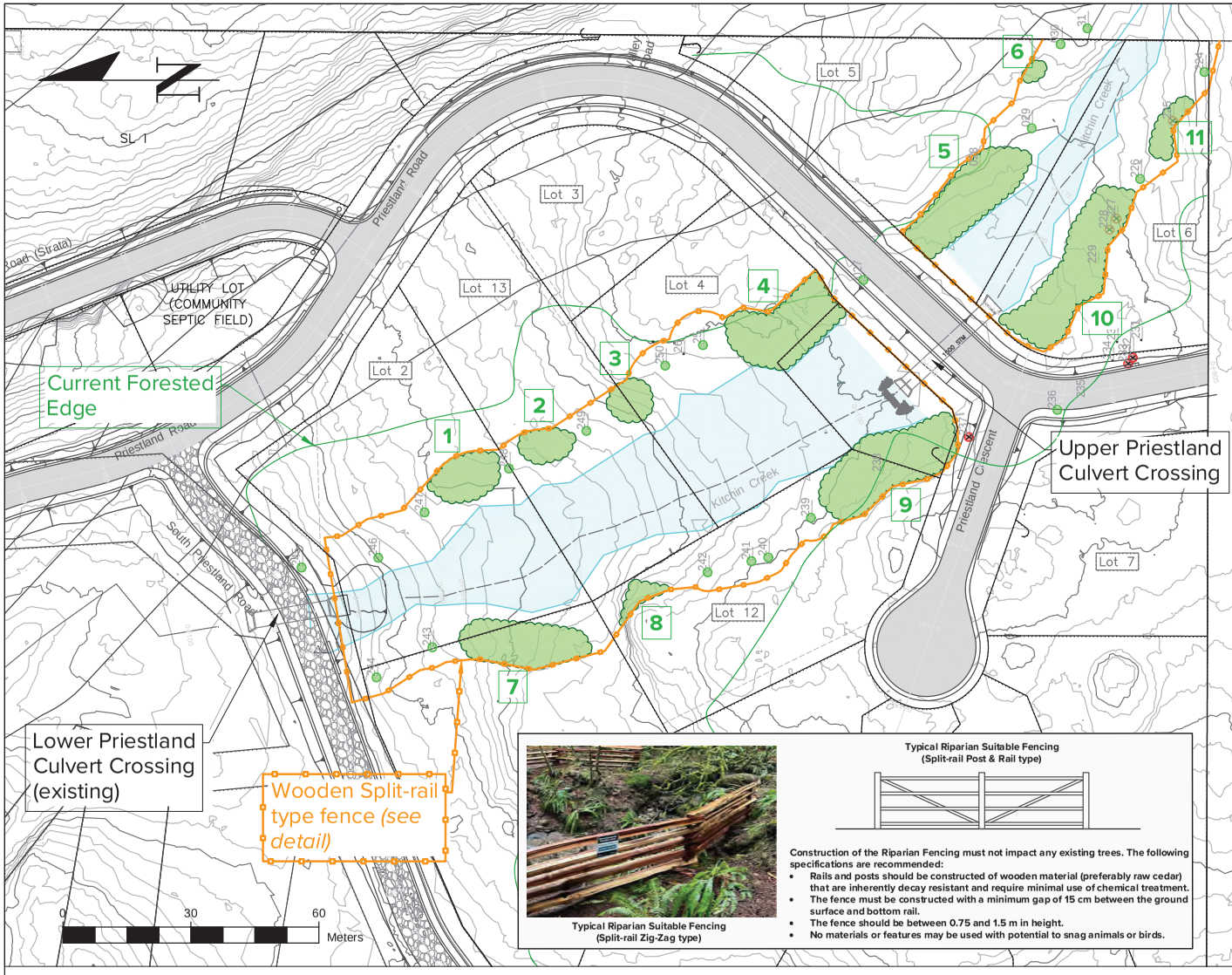
Comments

The prescribed detailed assessment methodology was adhered to as per the Ministry's *RAPR Technical Assessment Manual (2019)* with respect to establishing stream boundary, locating transects and measuring bankfull width. Due to the large number of transects used (roughly double the standard number), the two highest and two lowest width transects were dropped in the mean calculation. SEI opines that this accurately depicts the average bankfull width of the channel.


Trees Removals from Within Minimum SPEA
Red alder (alnus rubra) - 3 trees (diameters of 46 cm, 34/23 cm, 28/18 cm)
Western red cedar (Thuja plicata) - 5 trees (diameters of 82 cm, 45/35 cm, 78 cm, 27 cm, 102 cm)
Notes:
1. All diameter measurements are at stump height (i.e., ~1m below dbh).
2. 28/18 cm represents a multi-stem tree
Upper Priestland Culvert Crossing
Current Forested Edge
Lower Priestland Culvert Crossing (existing)
Riparian Assessment Area
SPEA Protection Zone
Tree Management Zone (TMZ)
Critical Root Zone
Protected Tree
Provincial Riparian Area Protection Regulation (RAPR) Detailed Assessment
Watercourse Segment: Kitchen Creek
Avg. Bankfull Width 3.7 m
Average Slope 11 %
Channel Type Cascade-Pool
LWD, Bank & Channel Stability ZOS 11.1 m
Litter Fall/Insect Drop ZOS 11.1 m
Shade ZOS (due south) 11.1 m
SPEA (minimum) 11.1 m
Hazard Tree (Remove)
Stump (Tree removed)
Protected Tree
Priestland Road
South Priestland Road
Priestland Crescent
Kitchin Creek
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6
Lot 7
Lot 12
Lot 13
UTILITY LOT (COMMUNITY SEPTIC FIELD)
0
30
60
Meters
Minimum Streamside Protection & Enhancement Area (SPEA)
Forested Edge (October 2022)
Zones of Sensitivity
LWD, Bank & Channel Stability
Litter Fall/Insect Drop
Shade
SPEA Protection Zone
Stream Boundary
Riparian Assessment Area
sartori
Subdivision Plan - Cove Bay Developments
Priestland Road, Sunshine Coast
Figure 2: Site Map
REV 00
DATE 2022-11-07
DRAWN BY S.S/J.C.
SCALE 1:1,000



Typical Riparian Suitable Fencing (Split-rail Zig-Zag type)

Typical Riparian Suitable Fencing (Split-rail Post & Rail type)

Construction of the Riparian Fencing must not impact any existing trees. The following specifications are recommended:

- Rails and posts should be constructed of wooden material (preferably raw cedar) that are inherently decay resistant and require minimal use of chemical treatment.
- The fence must be constructed with a minimum gap of 15 cm between the ground surface and bottom rail.
- The fence should be between 0.75 and 1.5 m in height.
- No materials or features may be used with potential to snag animals or birds.

The following species of trees and their prescribed total numbers for the Riparian Restoration Plan are as follows:

Trees Species to be planted

(minimum planting height of 1.5m; refer to RAPR Report for planting details)

Deciduous Trees (**Choose eighteen**)

- Big leaf maple (*Acer macrophylla)*
- Red alder (*Alnus rubra*)

Coniferous Trees (**Choose thirty-seven**)

- Western hemlock (*Tsuga heterophylla)*
- Western redcedar (*Thuja plicata)*
- Douglas fir (*Pseudotsuga menziesii*)

Planting polygons have been identified on this figure for the above listed trees to be planted within. Planting polygons were identified in field by SEI and were assessed as areas with sufficiently low tree and/or vegetation density to gain significant benefit from restoration planting.

Planting polygons have been numbered and the prescribed number of trees to be planted within their respective polygon is as follows:

- Planting Polygon 1: **3** total trees
- Planting Polygon 2: **2** total trees
- Planting Polygon 3: **2** total trees
- Planting Polygon 4: **10** total trees
- Planting Polygon 5: **6** total trees
- Planting Polygon 6: **1** total trees
- Planting Polygon 7: **5** total trees
- Planting Polygon 8: **2** total trees
- Planting Polygon 9: **11** total trees
- Planting Polygon 10: **11** total trees
- Planting Polygon 11: **2** total trees

Split-rail Riparian Fencing to be Installed

Forested Edge (October 2022)

Stream Boundary

4 Riparian Planting Polygon

Hazard Tree (Remove)

Protected Tree

sartori

Subdivision Plan - Cove Bay Developments
Priestland Road, Sunshine Coast

Figure 3: Riparian Restoration Plan | REV 00

DATE 2022-11-07 | DRAWN BY S.S/J.C. | SCALE 1:1,000

SECTION 4: MEASURES TO PROTECT AND MAINTAIN THE SPEA

Danger Trees	A danger tree assessment was conducted by a Certified Arborist (Tree Inventory and Protection Report, 11 October 2022; see **Appendix A**). Five trees within the SPEA are recommended for removal. It is recommended that hazard trees not be removed entirely to stump height, rather be retained as wildlife trees following recommendations of the certified arborist, where feasible. Where not feasible to retain a wildlife tree, stumps should be cut low to the ground with root structures remaining in place. Stump removal, and specifically the ground disturbance associated with stump removal, is not acceptable with the SPEA.

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c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and

d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the *Riparian Areas Protection Regulation*.

Windthrow	Tree clearing within the RAA outside of the minimum SPEA may cause windthrow concerns as the new forested edge may have lost stability from the removal of trees and may be exposed to changing intensity and direction of wind forces. Trees that have grown on the edge of a forested stand tend to be more acclimated to wind with adaptation strategies which can increase stem strength through development of 'reaction wood', allow more flexibility of branches or stems through development of 'flexure' wood, and/or change the growth strategy of roots for better stability in the face of wind. Trees in the interior of a stand that are now on the forested edge can be less adapted to high wind conditions and be at higher risk of failure. Based on a review of available Google Earth imagery, the Subject Property was initially cleared sometime between October 2017 and July 2019. During field assessments, the current forested edge was observed generally intact, with limited signs of failure due to new wind pressures (*i.e.,* any unexpected degree of fallen or failing trees). To protect against potential windthrow risk, focus has been placed on the protection of the critical root zones (CRZs) of existing trees along the edge of the minimum SPEA. An additional two metre buffer to accommodate CRZ protection has been applied to the minimum SPEA throughout the assessed reach, on both sides of the watercourse. Where the CRZ of key trees identified along the minimum SPEA exceeds the two-metre buffer, the SPEA Protection Zone has been increased. This will provide increased protection to existing SPEA trees. Natural succession and planting of young conifers within this buffer and along the minimum SPEA will help provide wind breaks and create a new forested edge of wind-acclimated trees. SEI recommends that a Certified Arborist or Registered Professional Forester conduct hazard tree assessments along the forested edge of the SPEA Protection zone once per year for three years after final subdivision clearing is complete.

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Slope Stability	A Preliminary Geotechnical Analysis has been prepared by Kontur Geotechnical Consultants Inc. (November 4, 2022 Version 3) to assess geotechnical setbacks from Kitchen Creek (see **Appendix B**). No evidence of any recent deep-seated or wide-spread sloughing, slumping, or erosion, was observed at the time of the site visit. Some evidence of localized rock falls, topples, and/or slides, were observed by Kontur at the time of their site visit at the base the bedrock benches, bluffs, and steep slopes, described above and located within the Subject Property. A minimum horizontal setback of 15 m from Stream Boundary of Kitchen Creek has been recommended to provide an adequate buffer zone against potential avulsion and/or erosion protection purposes. In addition, it is recommended that a minimum Flood Construction Level of at least 1.5 m above Stream Boundary, or no less than 0.6 m above the existing ground surface, whichever is greater, be established. Where this horizontal setback cannot be achieved, measures to protect the building and/or lot from potential erosion, scour, and/or flooding, should be implemented, and the geotechnical setback may be reduced to no less than a horizontal distance of about 10 m from Stream Boundary. This may include construction of training berms, raising site grades to create level building pads, and protecting the perimeter/stream side against potential erosion and scour. From a geotechnical perspective, the SPEA Protection Zone (13.1 m from Stream Boundary) is considered acceptable to protect the integrity of the SPEA. It is important to note that any proposed erosion protection or slope mitigation measures required to reduce the 15 m Geotechnical setback cannot be constructed within the SPEA.

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Protection of Trees	Additional protection of the SPEA includes a 2 m buffer of protection off set from the minimum SPEA to provide a protected area for root growth of immature trees and new trees planted near the edge of the minimum SPEA. As outlined in Tree Inventory and Protection Report (11 October 2022), further tree protection has been applied to encompass the critical root zone (CRZ) of existing trees within the SPEA, which is typically six times the diameter at breast height (DBH). In reality, the calculated CRZs are from measured stump diameters and not DBH; thus, providing additional no disturbance protections above what is typical in the application of CRZs. In addition to the SPEA Protection Zone considering existing CRZs, a tree management zone (TMZ) has been applied at ten times DBH in which development can only take place under the direction or supervision of a certified arborist. As development is not completely restricted within the TMZ, it is not defined as part of the SPEA Protection Zone.

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Encroachment	A split-rail fence is to be constructed around the SPEA Protection Zone enveloping the entire SPEA to discourage development. Further, development within the SPEA will be restricted by municipal bylaw. Areas of the SPEA that have already been encroached by tree clearing and ground disturbance will be restored as per the **Riparian Restoration Plan**. SEI notes that the proposed road (Priestland Crescent) off Upper Priestland Road is currently designed outside the minimum SPEA and applied SPEA Protection Zone. Following the installation of the Upper Priestland Culvert Crossing and prior to construction of Priestland Crescent, the stream boundary will be resurveyed to ensure that the Priestland Crescent right of way remains outside of the minimum SPEA.

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Sediment and Erosion Control	An erosion and sediment control plan should be created by a qualified professional and implemented at the construction phase to sufficiently protect Kitchen Creek from mobilized sediment during construction.

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Stormwater Management	A Storm Water Management Plan is being prepared for submission as part of the SCRD Development Permit application process. Areas for storm water management features will be situated outside the SPEA Protection Zone. Any discharge to Kitchen Creek required to facilitate stormwater management will require consideration and approval through the *Water Sustainability Act*.

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d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the *Riparian Areas Protection Regulation*

Floodplain Concerns	The Subject Property falls within SCRD's Creek Corridor DPA (DPA2A). Kontur Geotechnical Consultants Inc. have contemplated floodplain concerns in a Preliminary Geotechnical Analysis report (November 4, 2022 Version 3; See **Appendix B**). Key wordage surrounding floodplain concerns adapted from sections of the referenced report is as follows: • Kitchen Creek, located near the central part of the Subject Property is situated at the base of a poorly-defined meandering stream channel or floodplain. The Kitchen Creek floodplain is about 120 to 130 m wide and crosses the property from the southeast to northwest. At the time Kontur's site visit, flowing water was observed in the stream channel, with some evidence of the stream locally overtopping its current banks. • No evidence of any recent signs of debris flow/flood were observed in the stream channels at the time of Kontur's site visit. • It is Kontur's opinion that the proposed subdivision, namely the area that is part of the Kitchen Creek Floodplain may be subject to stream avulsion, erosion, and/or flooding. • Appropriate geotechnical setbacks from the stream channel should be implemented, to protect proposed buildings and infrastructure against localized stream avulsion or flooding. • From a geotechnical point-of-view, a minimum horizontal setback of at least 15 m should be established from the Stream Boundary of Kitchen Creek to provide an adequate buffer zone against potential avulsion

	and/or erosion protection purposes. In addition, it is recommended that a minimum Flood Construction Level of at least 1.5m above the Natural Boundary of the creek, or no less than 600 mm above the existing ground surface, whichever is greater, be established. • Where this horizontal setback cannot be achieved, measures to protect the building and/or lot from flooding should be implemented, and **the geotechnical setback may be reduced to no less than a horizontal distance of about 10 m from the Natural Boundary**. • **The SPEA Protection Zone established by SEI, generally follows a horizontal setback of about 13.1 m from the Stream Boundary (but varies due to the presence of significant trees/vegetation) and is considered acceptable from a geotechnical point-of-view.** It is important to note that any proposed erosion protection or slope mitigation measures required to reduce the 15m Geotechnical setback noted in the previous paragraph cannot be constructed within the SPEA.

I, Stephen Sims (name of qualified environmental professional) hereby certify that:

a) I am a qualified environmental professional, as defined in the *Riparian Areas Protection Regulation* made under the *Riparian Areas Protection Act*;

b) I am qualified to carry out this part of the assessment of the development proposal made by the developer Cove Bay Developments Inc.;

c) I have carried out an assessment of the development proposal and my assessment is set out in this Assessment Report; and

d) In carrying out my assessment of the development proposal, I have followed the assessment methods set out in the Minister's technical manual to the *Riparian Areas Protection Regulation*.

SECTION 5: ENVIRONMENTAL MONITORING

Routine recruitment of restorative plantings and invasive species management monitoring of the riparian restoration area should be conducted by a QEP once during the first growing season, at least two months after completed riparian planting and removal of invasive species has taken place (Year 1) and again every year for three total years. The inspections will assess riparian plant health and confirm 80% survival of the planted specimens in the Riparian Planting Plan and will recommend additional planting as necessary to maintain the 80% survival rate. Invasive species will be monitored during both inspections and recommendations for removal will be made pending observations of any invasive grow back. Invasive species management should be conducted in spring months, prior to flowering and seeding of observed invasive species. Invasive plant species observed growing in the vicinity of the riparian planting area must be removed along with their root structures. Only mechanical control is recommended for removal of invasives on the Subject Property. The QEP should also confirm that the split-rail fence is properly installed and remains installed throughout the three-year monitoring period.

SECTION 6: PHOTOS

Photo 1. Transect T-3 pictured showing organic substrate.

Photo 2. Transect T-10 pictured.

Photo 3. Transect T-c pictured showing gravel and rock substrate.

Photo 4. Transect T-g pictured showing undefined channel.

Photo 5. Disturbed RAA northeast of the future Upper Priestland Road crossing.

Photo 6. Disturbed RAA southeast of the future Upper Priestland Road crossing.

SECTION 7: PROFESSIONAL OPINION

(Qualified Environmental Professional opinion on the development proposal's riparian assessment.)

Date	2022-11-07

1. I/We Stephen Sims,

(Please list name(s) of qualified environmental professional(s) and their professional designation that are involved in assessment.)

hereby certify that:

a) I am/We are qualified environmental professional(s), as defined in the Riparian Areas Protection Regulation made under the Riparian Areas Protection Act;

b) I am/We are qualified to carry out the assessment of the proposal made by the Developer Cove Bay Developments Inc., which proposal is described in section 3 of this Assessment Report (the "development proposal";

c) I have/We have carried out an assessment of the development proposal and my/our assessment is set out in this Assessment Report; and

d) In carrying out my/our assessment of the development proposal, I have/We have followed the specifications of the Riparian Areas Protection Regulation and assessment methodology set out in the minister's manual.

AND

2. As qualified environmental professional(s), I/we hereby provide my/our professional opinion that:

~~a) *Not applicable* the site of the proposed development is subject to Undue Hardship, and~~

b) ✓ the proposed development will meet the riparian protection standard if the development proceeds as proposed in the report and complies with the measures, if any, recommended in the report.

[NOTE: "Qualified Environmental Professional" means an individual as described in section 21 of the Riparian Areas Protection Regulation

Appendix A – Tree Inventory and Protection Report (Heartwood Tree Consulting; October 11, 2022)

(9 pages)

Tree Inventory and Protection Report

Date: October 11, 2022

Report commissioned by: Alister Toma

Site Address: Priestland Road, Halfmoon Bay

Inspection conducted by: Krista Braathen, ISA Certified Arborist PN -5458A, TRAQ Certified

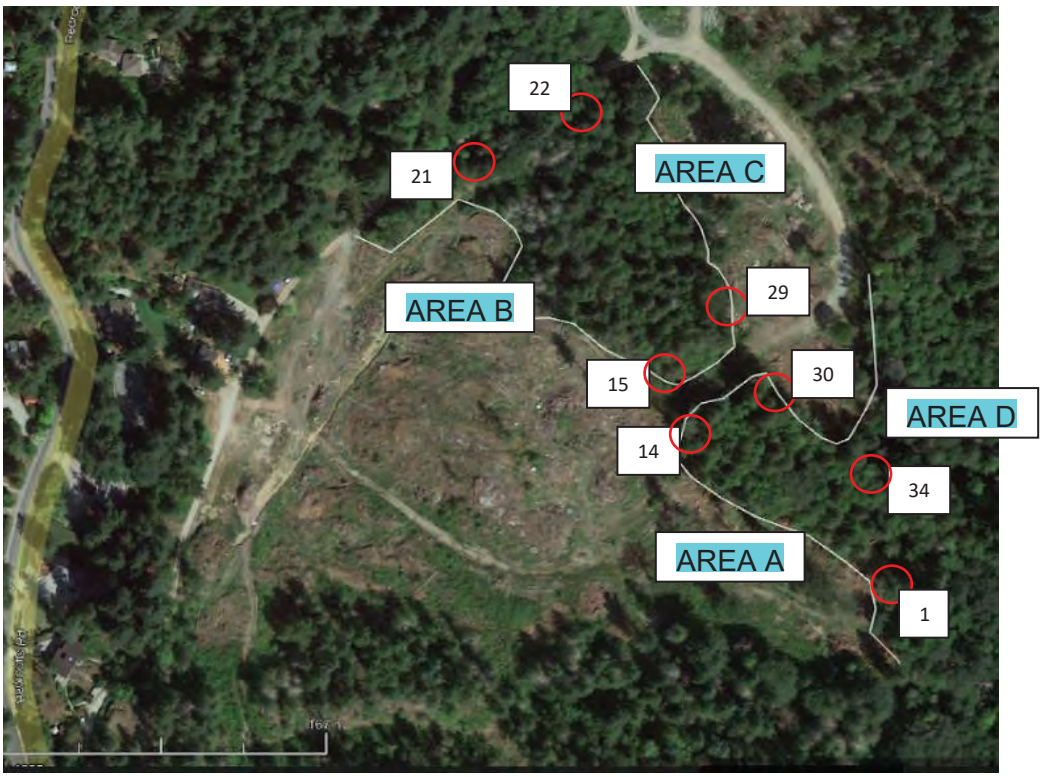
Site inspection: Friday, October 7. Weather was warm and sunny.

Purpose

Heartwood Tree Consulting was contracted by Mr. Toma to provide an inventory and protection report for trees within the SPEA.

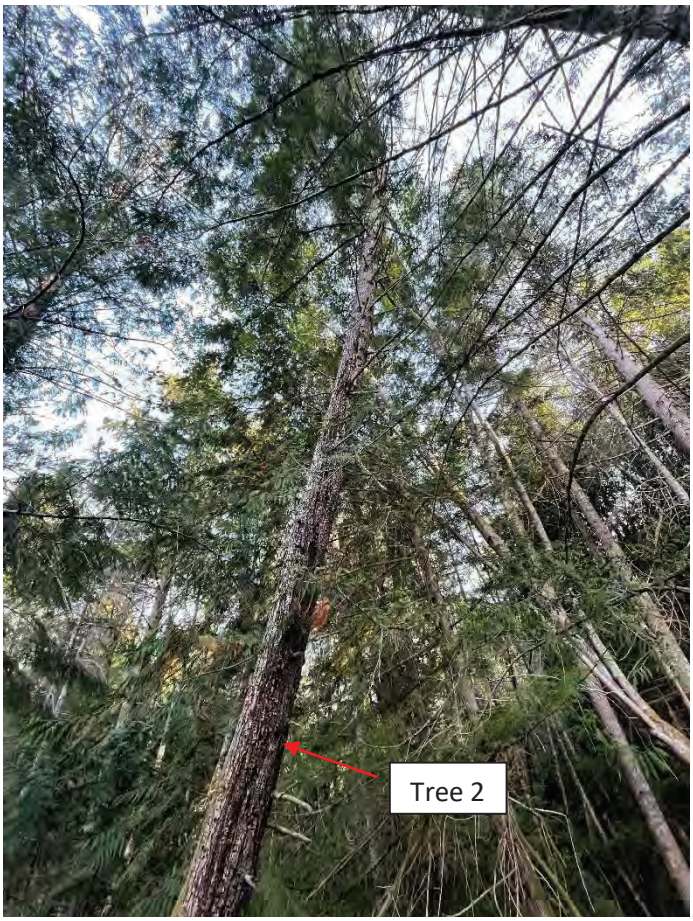
The tree hazard inspection completed for this report was a limited visual assessment (level one) which is a general visual overview of the trees. This includes basic observations from the ground to note any concerns or problems observed. Further hazard assessments and higher levels of inspection may be recommended and outlined in this report.

Figure 1 – approximate location of some trees in question



A site visit was conducted on October 7, 2022, and an assessment carried out to determine the condition and safety of the trees, to inventory removed trees and to provide protection areas for trees within the SPEA.

Photo 1 – tree 2 (tag #225) hemlock recommended for removal; excessive sap sucker damage and deadwood

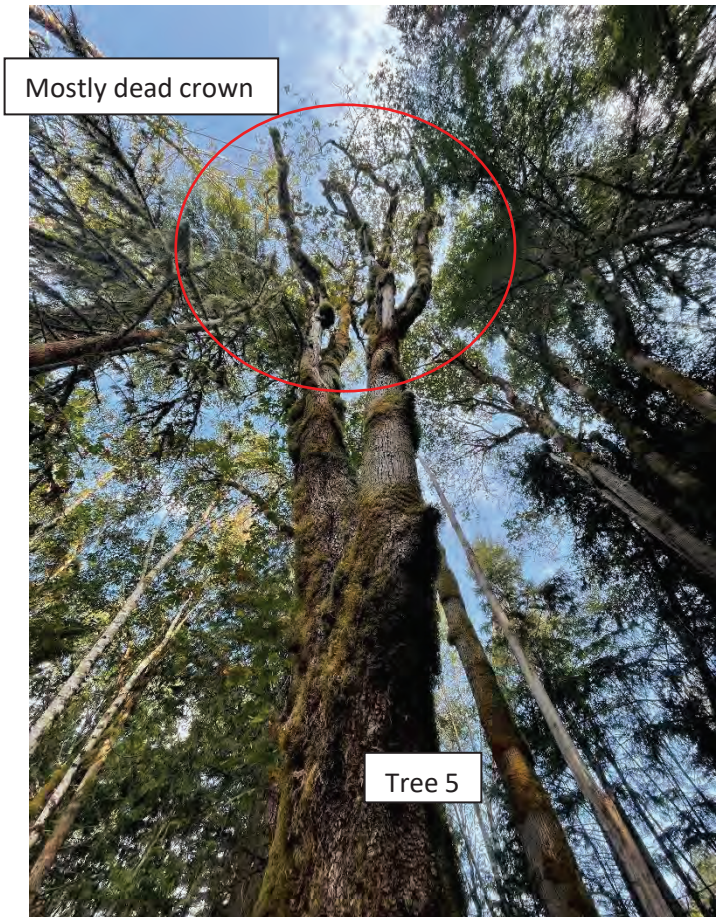


Area A

tree	species	Tag #	diameter	condition	critical root zone	tree management zone	comment
1	cedar	224	66cm	average	4m	6.6m	
2	hemlock	225	40cm	fair			removal recommended
3	hemlock	226	71cm	average	4.3m	7.1m	
4	alder	227	26cm	poor			removal recommended
5	big leaf maple	228	49cm	fair			removal recommended

6	alder	229	46cm				removed
7	cedar	230	82cm				removed
8	alder	231	34/23cm				removed
9	hemlock	232	27cm	poor			removal recommended
10	alder	233	31cm	poor			removal recommended
11	cedar	234	45/35				removed
12	cedar	235	78cm				removed
13	hemlock	236	46cm	average	2.8m	4.6m	
14	alder	237	30/24/25	poor			removal recommended

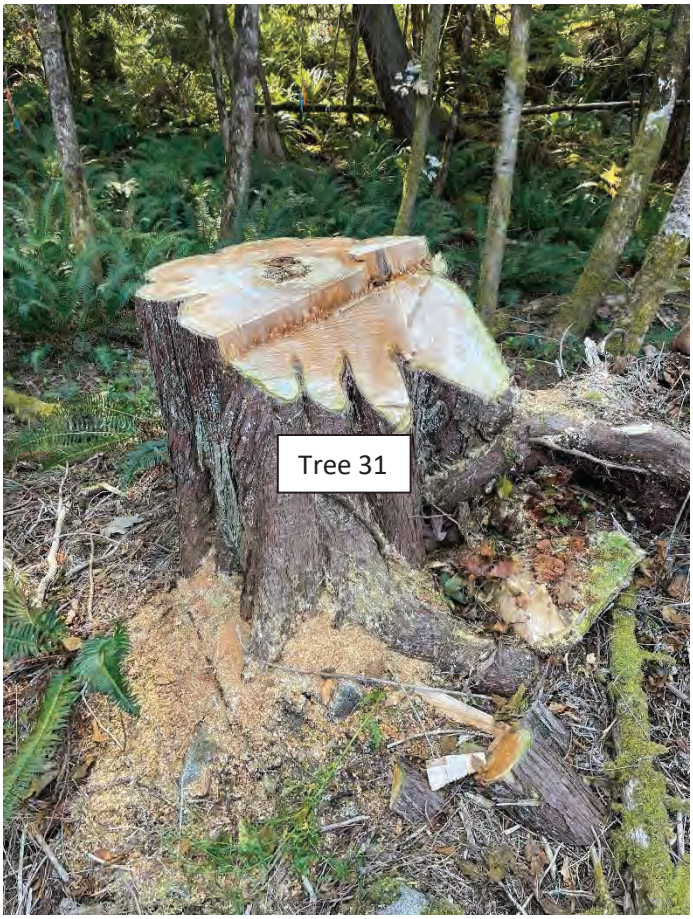
Photo 2 – tree 5 (tag #228) declining maple; majority of crown dead and weighted towards lots



Area B

tree	species	Tag #	diameter	condition	critical root zone	tree management zone	comment
15	alder	238	28/18				removed
16	big leaf maple	239	90cm	average	5.4m	9m	
17	cedar	240	70cm	average	4.2m	7m	
18	Douglas fir	241	85cm	good	5.1m	8.5m	
19	cedar	242	74cm	good	4.4m	7.4m	
20	cedar	243	79cm	average	4.7m	7.9m	
21	Douglas fir	244	68cm	good	4.1	6.8m	

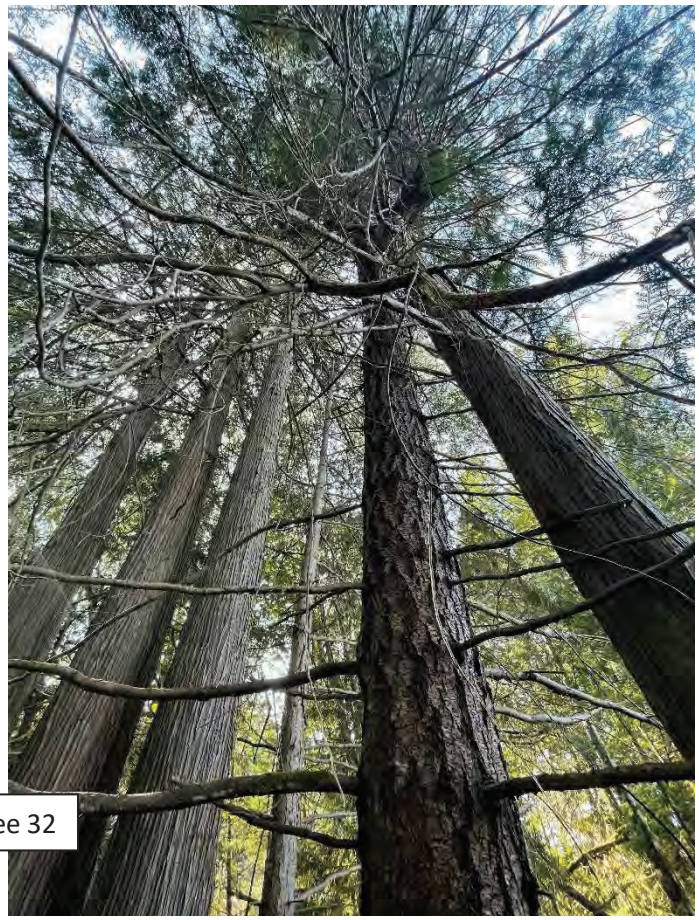
Photo 3 – tree 31 (tag #28) removed from SPEA; 102cm red cedar



Area C

tree	species	Tag #	diameter	condition	critical root zone	tree management zone	comment
22	alder	245	30cm	good	1.8m	3m	
23	cedar	246	87cm	average	5.2m	8.7m	6m to SPEA edge
24	hemlock	247	53cm	average	3.2m	5.3m	
25	alder	248	77cm	average	4.6m	7.7m	3m from SPEA edge
26	cedar	249	87cm	good	5.2m	8.7m	
27	cedar	250	67cm	average	4m	6.7m	
28	big leaf maple	25	133cm	average	8m	13.3m	
29	cedar	26	27cm				removed

Photo 4 – Tree 32 (tag #29); adjacent trees protected by tree protection area for tree 32



Tree 32

Area D

tree	species	Tag #	diameter	condition	critical root zone	Tree management zone	comment
30	cedar	27	106cm	good	6.4m	10.6m	SPEA edge
31	cedar	28	102cm				removed
32	cedar	29	98cm	good	5.9m	10m	3 cedars and 1 fir in group protected
33	cedar	30	72cm	good	4.3m	7.2m	1m to SPEA edge
34	big leaf maple	31	74cm	average	4.4m	7.4m	

Green highlighted trees are assigned protection due to their size and proximity to SPEA edge
Blue highlighted trees are considered hazardous to proposed development
Red highlighted trees have been removed

Observations

Trees within the creek corridor are a generally healthy mix of red cedar, Douglas fir, Western hemlock, red alder and big leaf maple; no sign of disease was discovered. The creek and SPEA boundaries had been recently flagged to ensure trees within the protected creek zone could be assessed.

Eight trees were confirmed to have been removed from within the SPEA. Six trees were tagged as hazardous considering the potential targets of planned development activities. Twenty trees were given protection areas as their root areas are larger that the distance to the SPEA edge.

Summary

Trees noted as removed within the SPEA were measured at grade; restitution is required.

Trees deemed hazardous are suggested to be removed before any development activity begins.

Critical root zones are areas where no work can occur and tree protection areas are part of the root zones where work can be considered if supervised by a Certified Arborist. Tree protection is expected to be installed to ensure critical root zones are protected.

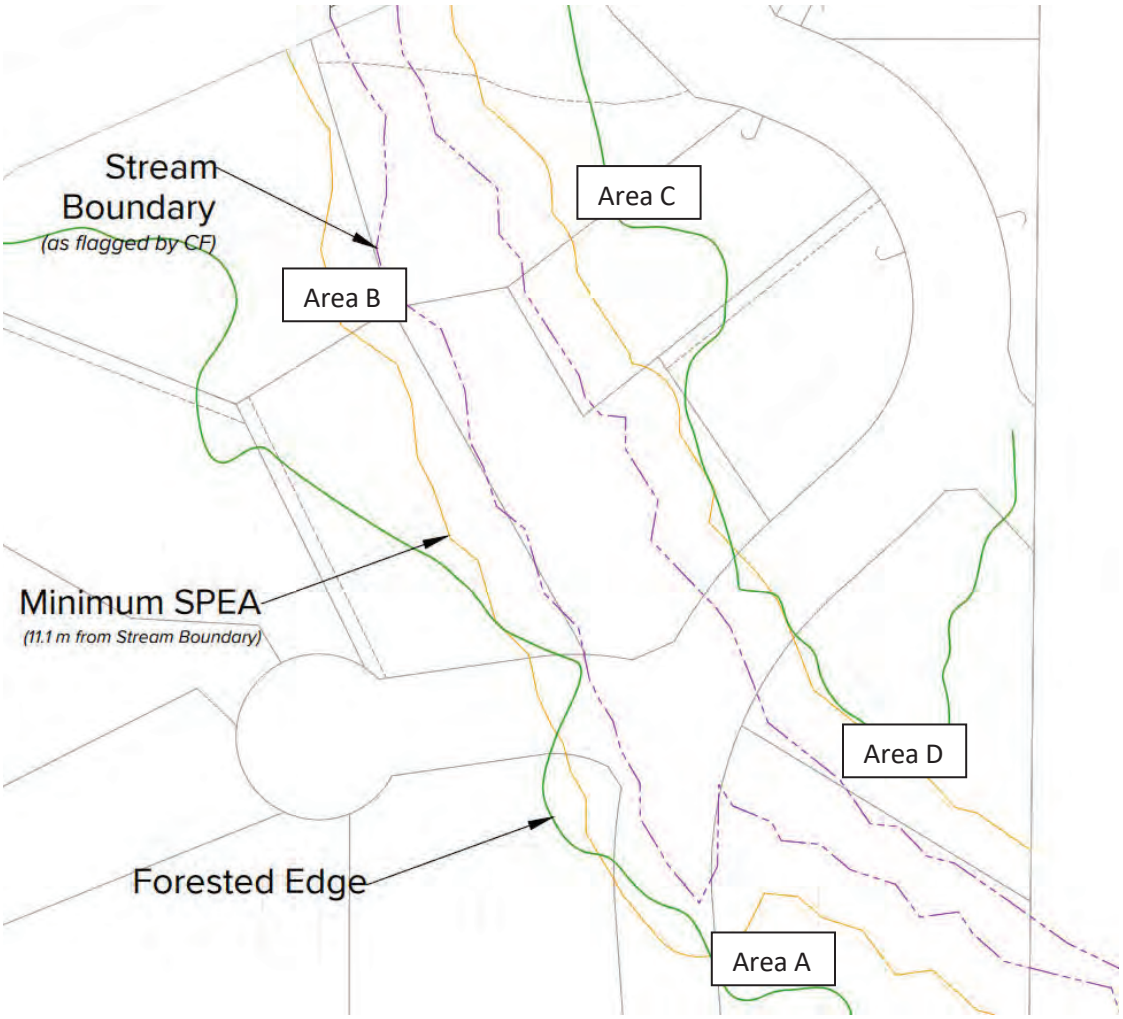
Note

Trees assigned critical root zones and management zones were determined by diameter and proximity to SPEA edge.

Further information would be required to compare assigned tree protection areas to any proposed excavation lines; if digging is planned within or adjacent to any protection areas, impact assessment recommendations can be made.

Krista Braathen
ISA Certified Arborist PN - 5458A
ISA Certified Tree Risk Assessor (TRAQ)
Heartwood Tree Consulting

Figure 2 – creek and SPEA boundaries; areas A-D



Assumptions, Limiting Conditions and General Waiver

I confirm that the trees listed on the property identified in this report have been inspected.

I have no current or prospective financial interest in the vegetation or the property which is the subject of this report and have no personal interest or bias in favour of or against any of the involved parties or their respective position(s) if any.

The analysis, opinions and conclusions stated herein are the product of my independent professional judgement and based on current scientific procedures and facts, and the foregoing report was prepared according to commercially reasonable and generally accepted arboriculture standards and practices for British Columbia.

The information included in this report covers only those trees that were examined and reflects the condition of the trees as of the time and date of inspection. This report is 'valid' for the day of inspection only, as this is natural entity and weather conditions and site factors can change.

This report and the opinions expressed herein are not intended, nor should they be construed as any type of warranty or guarantee regarding the condition of the subject trees in the future.

To the best of my knowledge and belief, all statements and information in this report are true and correct and information provided by others is assumed to be true and correct.

I am not an attorney or engineer. This report does not cover those areas of expertise and represents advice only of arboricultural nature. Without limiting the generality of the preceding sentence, it is understood that nothing contained in this report is intended as legal advice or advice or opinions regarding soil stability or zoning laws, and this report should not be relied upon to take the place of such advice.

Appendix B – Preliminary Geotechnical Assessment (Kontur Geotechnical Consultants Inc; November 4, 2022, Version 3)

(21 pages)

PRELIMINARY GEOTECHNICAL ASSESSMENT
Proposed Residential Subdivision – Bayview Hills Phase 1
Block A DL 1427, Halfmoon Bay B.C.

Document Type: Version 3

Date: November 4, 2022

Project No.: **K-221130-00**

Submitted to:

Bayview Hills at Halfmoon Bay
Suite 710 – 939 Homer Street
Vancouver, B.C.
V6B 2W6

Attention: Mr. Alistar Toma
alistertoma@mac.com

Submitted by:

Kontur Geotechnical Consultants Inc.
Unit 107, 2071 Kingsway Avenue, Port Coquitlam BC
778 730 1747 | info@kontur.ca | www.kontur.ca

Per: Ziad Merdas EIT
zmerdas@kontur.ca
Per: Matthew Yip MEng PEng
myip@kontur.ca

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

Kontur Geotechnical Consultants Inc. (Kontur) has completed this *Preliminary Geotechnical Assessment* for the above-referenced project. The purposes of the assessment were to characterize the site from a geotechnical point-of-view and to provide geotechnical comments and recommendations related to subdivision and site development. Preliminary recommendations for site development and foundation design are included.

This report, which summarizes the findings of the assessment, has been prepared in accordance with standard and widely accepted geotechnical engineering principles and practices for similar developments in this region. This report does not address any environmental issues related to the proposed project.

Review and use of this report should be completed in accordance with the attached *Interpretation and Use of Study and Report* document. This document is an integral part off this report and should be read in conjunction with all parts of this report.

2.0 UNDERSTANDING OF PROJECT

It is Kontur's understanding that as part of Phase 1 of the Bayview Hills Development it is planned to subdivide and develop the above-referenced property. The property comprises an area of about 27 acres and will be subdivided into nineteen (19) single-family freehold and eleven (11) single-family strata lots. The project will consist of four new roads (Priestland Road, South Priestland Road, Priestland Crescent, and Cliff Road). Cuts and fills will be necessary to construct the proposed roadways across the site. Kitchen Creek also crosses the property from the northeast to southwest and will pass beneath South Priestland Road and Cliff Road through culverts.

3.0 SOURCES OF INFORMATION

- Preliminary Civil Drawings prepared by Webster Engineering Ltd. dated May 2021;
- Report titled *'Hydrogeoloigc Assessment for Sewage Disposal'* prepared by Piteau Associates Ltd. and dated July 19th, 2012;
- Report titled *'Priestland Road Subdivision SWMP'* prepared by Kerr Wood Leidal Associates ltd. and dated March 2, 2009;
- Report titled *'Preliminary Geotechnical Assessment'* prepared by Geotactics Media Engineering (2007) Ltd. and dated March 3, 2008.
- Published surficial geology maps of the area;
- A review of Kontur's in-house geotechnical database and experience of the area; and,
- A site reconnaissance completed by Kontur.

A site reconnaissance was completed on November 12th and December 16th, 2021. The site reconnaissance was completed by a Principal Geotechnical Engineer who traversed the site by foot to visually assess the area for features of geotechnical engineering significance.

The general site layout are shown on the attached Civil Layout Drawing Plan in Appendix B of this report. Select photographs are shown in Appendix C.

4.0 SITE DESCRIPTION

4.1 General

The legal description of the site is Block AB DL 1427; and it is located near the 8600 Block of Redroofs Road, Halfmoon Bay B.C. The property covers an area of about 10.9 hectares (27 acres) and is irregular in shape. The property is bounded by Priestland Road to the west and undeveloped land to the south, and east. The north side of the property is bounded by a rurally developed single-family residential property. In general, the property is about 615m long (north to south) and about 105m wide at its narrowest location (central part of property). The north and south boundaries of the property are about 220 and 330m wide, respectively. Kitchen Creek Crosses the central part of the property from the southeast to the northwest.

In general, the property is divided into two zones from a geotechnical perspective. The first zone, being located northeast of Kitchen Creek and the second zone being located to the southwest of Kitchen Creek.

From Priestland Road, the ground surface within the first zone rises to the northeast over a series of steep bedrock bluffs and slopes. The steep slopes or bluffs are sloped near-vertical to an average inclination of about 1.2(H):1(V) (Horizontal:Vertical) and range from about 3 to 15m in height. The bluffs and slopes are generally separated by relatively flat or gently sloped benches that range from a width of about 50 to 100m in width. The ground surface within the benches is generally located between an elevation of about 40 to 60m, geodetic.

From Priestland Road, the ground surface within the second zone generally rises to the south to southeast and an average inclination of about 4(H):1(V) to 5(H):1(V), from an elevation of about 30m to 60m, geodetic. The ground surface is comprised of a series of local bedrock steps and slopes.

Kitchen Creek, located near the central part of the property, delineates the two zones described above and is situated at the base of a poorly-defined meandering stream channel or floodplain. The Kitchen Creek floodplain is about 120 to 130m wide and crosses the property from the southeast to northwest. At the time of the site visit, flowing water was observed in the stream channel and some evidence of the stream locally overtopping its current banks were noted.

The site is undeveloped and has generally been cleared of vegetation, with gravel-surfaced access roads having been constructed to access the site (and extend off of Priestland Road). A rocky fill slope is noted immediately above Priestland Road and Kitchen Creek below the location of proposed Cliff Road and appears to have been developed by end-dumping of random fill materials.

No evidence of any recent deep-seated or wide-spread sloughing, slumping, or erosion, was observed at the time of the site visit. No evidence of any recent signs of debris flow/flood were observed in the stream channels at the time of the site visit. Some evidence of localized rock falls, topples, and/or slides, was observed at the time of the site visit at the base the bedrock benches, bluffs, and steep slopes, described above and located within the subject property.

4.2 Subsurface Conditions

Interpretation of subsurface conditions at the site is based on the published surficial geology map of the area, observations of soil or bedrock outcrops within the property, and Kontur's nearby and relevant experience. A geotechnical exploration (test pits or testholes) has not been completed as part of this stage of the project by Kontur.

According to *Figure 1 – Surficial Geology Sunshine Coast Area* published by the Ministry of Mines and Petroleum Resources B.C., the site is underlain by Bedrock or bedrock covered with a thin mantle of glacio-marine sediments, usually till or marine veneer. Thicker Granular deposits (sands and gravels) may be encountered in low-lying depressions within the subject property and/or in the floodplain area of Kitchen Creek. The bedrock in the area is typically massive and granitic, with wide discontinuity sets oriented subparallel to the face of the bedrock slopes/steps and horizontal plane. Persistent discontinuities typically have a spacing of about 2 to 4m.

Static groundwater levels are anticipated to be encountered at depths greater than about 10m below existing ground surface; however, localized and/or perched groundwater conditions may be encountered throughout the site. Local and naturally occurring springs may develop along bedrock slopes/steps as surface water runoff infiltrates into the ground surface and is conveyed through discontinuities in the rock mass. It can be anticipated that local groundwater levels at the site are typically influenced by periods of prolonged or intense rainfall, rapid snowmelt, and/or influences from nearby developments.

4.3 Subsurface Variability

It is important to note that the subsurface conditions described above generalized. Extrapolation and interpretation of the subsurface conditions is formulated based on an assumed horizontal continuity of subsurface conditions across the site. Therefore, the subsurface conditions described above are generalized and variation in the stratigraphic conditions should always be expected. Site-specific geotechnical explorations should be completed during later stages of the project to where more certainty in subsurface conditions is deemed to be necessary.

5.0 COMMENTS AND RECOMMENDATIONS

5.1 General

It is Kontur's opinion that the significant geotechnical considerations associated with subdivision of this site may be related to:

- Establishing appropriate geotechnical setbacks from steep and high bedrock slopes/steps and/or implementing local stabilization measures to mitigate potential rock falls, topples, or slides;
- Stabilization or re-construction of the end-dumped fill slope below Cliff Road;
- Establishing appropriate geotechnical setbacks and Flood Construction Levels associated with Kitchen Creek;
- Excavation/blasting in bedrock to achieve the desired design grades for the proposed roadways and associated infrastructure; and/or,
- Placement of *Engineered Fill* beneath the footprint of the access roads and common areas.

Based on the observations, information, and findings presented above, the following sections outline the geotechnical comments and recommendations provided by Kontur with respect to subdivision and site development.

5.2 Seismicity

According to the 2018BCBC, the S*ite Classification* can be taken as *C- Very dense soil and soft rock.* As interpolated from the 2015 National Building Code's Seismic Hazard Calculation per the requirements of the 2018BCBC, for firm ground at this site (with coordinates 49.502N and 123.908W), for a 2% probability of exceedance in 50 years, the *Peak Ground Acceleration* may be taken as 0.36g. *Spectral Acceleration* values may be taken as:

- $S_A(0.2)$ = 0.81;
- $S_A(0.5)$ = 0.74;
- $S_A(1.0)$ = 0.43;
- $S_A(2.0)$ = 0.27;
- $S_A(5.0)$ = 0.09; and,
- $S_A(10.0)$ = 0.03.

5.3 Geotechnical Hazards

5.3.1 General

As defined by *APEGBC Guidelines for Legislated Landslide Assessments for Residential Developments in BC (May 2010 version)*, the term *'Landslide Risk'* is defined as a combination of the probability of occurrence of a landslide and the consequence of the landside (i.e. damage to property, injury or loss of life). As defined by the guideline, the term 'Landslide' refers to 'any movement of rock, debris, or earth down a slope'. The qualitative Landslide Assessment completed as part of the study presented herein is based on the site reconnaissance and desk study completed as described in this letter, sound engineering judgement, and Kontur's local and regional experience with landslide hazards, in accordance with widely accepted geotechnical practice in this region.

5.3.2 Historical Air Photograph Review

A limited review of historical aerial photographs was completed by Kontur. Aerial photographs were obtained form the UBC GIS Department and included air photographs from 1947, 1950, 1957, 1967, 1964, 1976, 1980, 1985, 1990, 1994, and 2003. Significant signs of erosion, stream avulsion, or other slope movements could not be visually detected on the photographs. Man-made alterations, such as logging operations, construction of roads, and/or development of residential subdivisions, were noted in the areas surrounding the site.

5.3.3 Identified Potential Geotechnical Hazards

As described above, the Kitchen Creek Floodplain crosses part of the proposed subdivision. Kitchen Creek is located in a poorly-defined and meandering stream channel and the sidewalls of the stream channel show signs of localized and shallow sloughing, soil creep, and/or erosion. Deep-seated or wide-spread signs of slope instability or erosion were not observed at the time of the site visit. Minor accumulations

of rock fragments and/or dislodged blocks of bedrock were noted near or at the base of steeply-inclined bedrock slopes/steps and/or knolls/ridges. Rock fragments ranged in from about 0.3 to more than 3m in size.

Therefore, it is Kontur's opinion that the proposed subdivision, namely the area that is part of the Kitchen Creek Floodplain may be subject to stream avulsion, erosion, and/or flooding. In addition, areas located near steeply-sloped or near-vertical bedrock steps/ridges/knolls, may be subject to localized rock falls, topples, or slides. It is Kontur's opinion that the subject property is not considered to be susceptible to deep-seated, wide-spread, and/or catastrophic landslides, rockfalls, rock topples, debris flows, or snow avalanche.

5.3.4 Level of 'Landslide Safety

It is noted that the Sunshine Coast Reginal District has adopted a level of 'landslide safety' that is defined as 2% in 50 years for a seismic event, 1 in 200 years for creek flooding, and 100 years for sea level rise.

Other jurisdictions in the region generally discuss *Significant Hazard* areas as having probability of occurrences more frequently than about 1:25 to 1:100 annually and *Moderate Hazard* areas as having a probability of occurrence of between about 1:100 to 1:500 annually.

This terminology or criterion is similar to that defined by many other jurisdictions in the region, such as those established by the British Columbia Ministry of Transportation and Infrastructure (BCMOTI) and a 1993 report entitled *Hazard Acceptability Thresholds for Development Approvals by Local Government* prepared by Dr. Peter W. Cave. These guidelines may differ from the requirements of the approving authority and should be compared to acceptability guidelines considered appropriate by the approving authority.

Table 1 – Relative Terms and Ranges of Probability of Occurrence

Relative Term of Probability of Occurrence	Estimated Annual Probability of Occurrence	Comments
Very Low	< 1 in 2500 Years	-
Low	1 in 2500 to 1 in 500 years	Indicates the hazard is of uncertain significance.
Moderate	1 in 500 to 1 in 100 years	Indicates the hazard within a given lifetime is not likely, but possible. Signs of previous events, such as vegetation damage may not be easily noted.
High	1 in 100 to 1 in 20 years	Indicates that the hazard can happen within the lifetime of a person or typical structure. Events are clearly identifiable from deposits and vegetation but may not appear fresh
Very High	> 1 in 20 years	Indicates the hazard is imminent and well within the lifetime of a person or typical structure. Events occurring with a return period of 1 in 20 years or less generally have clear and fresh signs of disturbance.

Following the BCMOTI guidelines for subdivision approval, the following criteria has been referenced:

- 1 in 475 years for damaging events related to landslides;
- 1 in 200 years for damaging events related to flooding;

- 1 in 300 years for damaging events related to snow avalanche; and,
- 1 in 10,000 years for life-threatening events.

It should be noted that these guidelines do not constitute conditions for geological hazard acceptability. The frequency or probability of occurrence of Landslide Hazards can be defined by the preceding table (Table 1) based on a reference provided by the Resource Inventory Committee, Government of British Columbia Slope Task Force (1996).

5.3.5 Estimated Occurrence of Potential Geotechnical Hazards

Estimates of the annual return frequencies (probability of occurrence of a landslide) is very complex. In accordance with standard geotechnical and geological engineering practices for this area and type of development, the quantification of these values is based on the qualitative observed site conditions, sound engineering judgement, and all the information available to Kontur at the time this study was completed. Quantification of the estimated probability of occurrence for potential landslide hazards that could impact the development are summarized below.

Based on the observations, interpretations, and findings made by Kontur, the following estimates of annual probability of natural geological hazard occurrences influencing the proposed development are provided (Table 2 below).

Table 2 – Estimated Probability of Occurrences

Hazard	Relative Term of Probability
Localized Stream Avulsion or Erosion	Moderate to High
Localized Rockfalls, Topples, or Slides	Moderate to High

It is Kontur's opinion that the geotechnical hazards identified above are generally limited to localized areas and can be conventionally mitigated by suitable building setbacks/elevations and/or slope stabilization practices as described in the following sections.

Provided the geotechnical comments and recommendations herein are implemented, namely that the proposed buildings meet the minimum recommended geotechnical setbacks or appropriate slope stabilization measures are implemented as outlined in this letter, it is Kontur's opinion that the level of 'landslide safety' can then be reduced and considered to be *Low* to *Very Low,* which would meet or exceed the SCRD's minimum requirements.

5.4 Building Setbacks and/or Special Measures

As identified above, appropriate geotechnical setbacks from the crest or toe of any steep slope or stream channel should be implemented, to protect proposed buildings and infrastructure against potential rock falls, topples, or slides (localized) and/or localized stream avulsion or flooding. Where these setbacks are not achieved, special measures to stabilize or protect the slope from erosion or instability may be required as directed by the Geotechnical Engineer.

No part of the foundation for any building or critical infrastructure should be placed within the above-described geotechnical setbacks unless additional measures have been implemented under the direction of a qualified Geotechnical Engineer.

All other setbacks, such as environmental setbacks or setbacks required by the SCRD, must be implemented. The geotechnical setback may be reduced at the sole discretion of the Geotechnical Engineer on a lot-by-lot basis, provided additional measures to stabilize the slope and protect the building are considered and/or implemented.

5.4.1 Subdivision Infrastructure, Strata Lot B to J and Lots 14 to 20

From a geotechnical point-of-view and due to the bedrock-controlled topography within the subject property, geotechnical setbacks from the crest and/or base of bedrock slopes steeper than about 1.5(H):1(V) and higher than about 3m should be implemented on a lot-by-lot for any new buildings and for any subdivision infrastructure, such as roads, sidewalks, and buried utility services. The setbacks should be developed based on lot-specific information and further geotechnical review of the proposed building and may range from about 3 to 6m from the crest of the slope. Setbacks from the toe of the slope should be established by projecting a 2(H):1(V) gradient line down from the crest of the slope.

Where geotechnical setbacks are not feasible, special measures should be implemented to stabilize the slopes as appropriate. Slope stabilization measures may include scaling rock slopes, pinning loose or dislodged rock fragments to the underlying rock mass (i.e. rock bolting), use of wire mesh and/or catchment areas, and/or construction of retaining walls or buttresses.

5.4.2 Lots 1 to 7, 12, and 13

From a geotechnical point-of-view, a minimum horizontal setback of at least 15m should be established from the Natural Boundary of Kitchen Creek to provide an adequate buffer zone against potential avulsion and/or erosion protection purposes. In addition, it is recommended that a minimum Flood Construction Level of at least 1.5m above the Natural Boundary of the creek, or no less than 600mm above the existing ground surface, whichever is greater, be established.

Where this horizontal setback cannot be achieved, measures to protect the building and/or lot from potential erosion, scour, and/or flooding, should be implemented, and the geotechnical setback may be reduced to no less than a horizontal distance of about 10m from the Natural Boundary. This may include construction of training berms (similar to that proposed by KWL in 2009), raising site grades to create level building pads and protecting the perimeter/stream side against potential erosion and scour (this would require the toe of the embankment to be keyed into the ground surface or pinned to the underlying bedrock surface).

A Streamside Protection and Enhancement Area (SPEA) has been established by the Environmental Consultant (and generally follows a horizontal setback of about 13.1m from the Natural Boundary but varies due to the presence of significant trees/vegetation) and is considered acceptable from a geotechnical point-of-view. It is important to note that proposed erosion protection or slope mitigation measures required to reduce the 15m Geotechnical setback noted in the previous paragraph cannot be constructed within the SPEA.

5.5 Existing Fill Slope Below Cliff Road and above Priestland Road

The end-dumped fill slope located above Priestland Road from about Station (Sta.) 0+380 to 0+500 is considered to be marginally stable under static conditions, and unstable under seismic conditions. Therefore, it is recommended that the existing fill materials be stripped and removed to expose the underlying bedrock surface and/or otherwise stabilized. Stabilization measures may include designing and constructing a buttress or retaining wall along the toe of the slope. A suitably sized catchment zone or rockslide barrier could also be considered. Upon request, Kontur can provide detailed geotechnical design input to mitigate and/or stabilize the existing fill slope.

5.6 Foundation Design Considerations

All building foundations should be designed and constructed in accordance with the 2018 British Columbia Building Code (2018BCBC). The undisturbed natural subgrade or intact bedrock encountered at the site are considered to be competent to support the loads associated with typical lightly-loaded buildings on conventional shallow foundations. Upon request, Kontur can provide detailed geotechnical comments and recommendations for new buildings on a building-by-building basis. Foundation drainage should also be provided.

5.7 Road and Pavement Structure

The minimum recommended pavement structure for new roadways is provided in the table below:

Table – Minimum Recommended Pavement Structure

Road Structure Type	Material Description
Hot-mix Asphalt Pavement	85 mm placed in two lifts (35mm top/50mm bottom)
Road Base	100 mm of 19mm minus well-graded Crushed Gravel (MMCD Granular Base)
Road Subbase	300 mm of 75mm minus Pit Run Gravel (MMCD Pit Run Gravel Sub base)
Approved Subgrade Surface	Per Geotechnical Engineer

Subgrade preparation for new road structures should be in accordance with the recommendations provided in this report. All pavement materials should meet the latest requirements of the MMCD Specifications.

5.8 Retaining Walls

Where retaining walls are required, retaining walls may consist of Gravity or Mechanically Stabilized Earth (MSE) walls. Retaining wall systems such as Stacked Rock and Concrete Lock-block are considered appropriate. Other systems, such as Sierra-scape Walls, Allan-Bock Walls, and/or reinforced concrete, could also be considered. Retaining walls exceeding a height of 1.2m should be engineered and designed in accordance with the latest version of the EGBC Guidelines for Retaining Walls.

For Stacked Rock Walls, as-built, the outer face of the wall should be sloped no steeper than 1(H):3(V), up to a height of about 2.5m. For wall heights greater than 2.5m, geogrid panels to act as tie-backs and reinforced the backfill zone are required. Typically, the length of geogrid panels should be at least 0.8H, where H is the height of the wall, and be clamped between each row of rocks and extend into the backfill zone. This length, does not consider any additional surcharge loads placed at or near the top of the wall.

For Concrete Lock-block walls, as-built, the outer face of the wall, should be sloped no steeper than 1(H):5(V). Geogrid panels to act as tie-backs and reinforce the backfill zone are required and should be determined similarly to the Stacked Rock wall described above.

For either retaining wall type, the base of the wall should be keyed-into the subgrade surface. Where bedrock is encountered and sloping away from the wall, additional measures to prevent basal sliding may be necessary. This may include pinning the lowermost row of rocks or blocks to the bedrock surface for additional shear resistance.

Where required, Kontur can provide specific retaining all designs upon request.

5.9 Permanent Slopes and Training Berms/Erosion Protection

Permanent cut and fill slopes in soil should be sloped no steeper than about 2(H):1(V) with appropriate erosion protection measures implemented. Permanent rock fill slopes that are properly designed and constructed, or geogrid reinforced, should be sloped no steeper than about 1.5(H):1(V). Fill slopes should consist of an approved granular material and be properly compacted in accordance with the Geotechnical Engineer.

Permanent bedrock cut slopes, provided there are no adversely oriented discontinuities in the cut face, may be sloped no steeper than about 1(H):4(V). A catchment zone at the toe of the bedrock cut of at least 1.5m wide and 0.75m deep should be implemented. For bedrock cut slopes greater than 4.5m in height, the catchment area should be increased to 3m in width.

For preliminary coordination and design purposes, where training berms or embankments are constructed within the geotechnical setbacks established for Kitchen Creek, the berms or embankments should be properly designed and protected against potential erosion and/or scour. Berms should have a minimum crest width of 1.5m and the side slopes of the berm or embankments should be no steeper than about 2(H):1(V). The crest of berms and embankments should be established at an appropriate elevation. The water side of the berm or embankment should be adequality protected against erosion by placing a minimum Class 10kg Rip Rap that is at least 1m thick (measured horizontally). A layer of heavy non-woven filter fabric or a natural granular filter should be placed between the rip rap and underlying fill materials. The base of berms and/or embankments should be adequately keyed into the underlying subgrade surface for shear resistance and to avoid development of a preferential slip plane or surface. The final dimensions and rip rap size/class will be dependant on the design water levels and flow velocities established for Kitchen Creek.

It should be noted that the intent of a training berm is to mitigate potential erosion and/or stream avulsion. If the training berm is designed for flood protection purposes, the training berm would fall within the definition of a Dike as defined by the Province's *Dike Maintenance Act*. In the ladder case, all requirements set out by the *Dike Maintenance Act* would need to be followed.

5.10 Site Development

5.10.1 Temporary Excavation and Groundwater Control

Most of the project site is underlain by bedrock, or bedrock covered with a thin mantle/veneer of overburden soil. Therefore, provision for specialized excavation methods such as blasting of bedrock and large cobbles/boulders, should be planned for. Specialized methods may include the use of hydraulic rock hammering/fracturing, rock splitting, and blasting techniques, to achieve design grades and/or to excavate utility service trenches.

Where blasting techniques are implemented, it is recommended that vibration monitoring during the work be completed in addition to a pre- and post-construction survey of nearby sensitive or important buildings and/or structures.

All WorkSafeBC Regulations, Guidelines, and Best Practices, for safe and stable excavations should be implemented by the Contractor. An initial review by the Geotechnical Engineer should be completed for any excavation deeper than 1.2m below the surrounding ground surface.

5.10.2 Surface and Groundwater Control

The excavated surface must be protected and kept dry during construction. Depending on the time of year construction takes place, it should be expected that some groundwater (perched) may be encountered in the building excavation. Water accumulations in the excavation are anticipated to be able to be controlled with conventional swales, shallow sumps, and pumps.

It is the responsibility of the contractor to protect and provide a dry environment for the placement and compaction fills and/or concrete. Contractors should make their own assessment and are responsible for selecting the appropriate methods to control groundwater during construction at this site.

5.10.3 Site Preparation

Areas of foundations, roadways, or other hard-scape surfaces should be stripped and cleared of all unsuitable material including loose, saturated, organic, or other deleterious material to expose a suitable subgrade surface, such as undisturbed glacio-marine soil, or intact bedrock. The excavated subgrade surface should be reviewed and approved by the Geotechnical Engineer prior to placement of any *Engineered Fill* or concrete.

5.10.4 Engineered Fills

Where *Engineered Fill* is required to achieve design grades, the material should consist of an approved granular soil such as a 75mm minus well graded pit run sand and gravel with no more than 5% fines passing the No.200 (0.075mm) sieve or approved equivalent. *Engineered Fill* should extend at least 450mm beyond the edges of the proposed foundation or at least a horizontal distance equal to the thickness of the fill, whichever is greater.

All *Engineered Fill* materials must be placed and compacted in lifts no thicker than 300mm. The material should be near its optimum moisture content and be compacted to at least 95% of the material's *Modified Proctor Maximum Dry Density* (MPMDD) value. Field Density Test reports should be forwarded to the

Geotechnical Engineer for review and approval of compacted fill zones, or the Geotechnical Engineer should observe and witness placement and compaction of the material.

For non-structural areas, backfills may be placed and compacted as described above except to no less than 85% of the material's MPMDD value. Excavated material and/or existing fill materials may be reused in non-structural areas for general site grading purposes. These materials are not suitable for use as *Engineered Fill* in structural areas.

5.10.5 Utility/Service Trenches

Trench backfills should meet MMCD requirements for Pipe Bedding and Surround Materials and be properly compacted to at least 95% of the material's Modified Proctor Maximum Dry Density value as discussed above.

6.0 ADDITIONAL STUDY AND/OR FIELD REVIEWS

As noted above, additional study may be required to establish detailed geotechnical design inputs for various components of the proposed subdivision. This may be related to development geotechnical inputs for training berms, retaining walls, rockfall catchment areas, rockfall/slide stabilization and/or buttressing measures.

To sign-off on the work, Kontur must complete the necessary field reviews during the construction stage of the project. Field reviews may be required, but are not limited to, the following stages:

- Development of detailed geotechnical design inputs;
- Review of final Civil Designs from a geotechnical perspective;
- Bulk excavation, stripping and final excavation;
- Subgrade and bearing surface review and approvals;
- Placement and compaction of fills;
- Construction of stabilization measures, embankments, or berms; and/or,
- Installation of site drainage.

Kontur requires at least 48 hours of advanced notice to visit the site when the work is ready for review.

7.0 CLOSURE

The comments and recommendations presented in this report are based on the referenced information and Kontur's understanding of the project as described herein. If site conditions or project parameters differ from those described in this report, Kontur should be notified promptly to review geotechnical aspects of the project and provide additional or modified comments and recommendations, as deemed appropriate. Contractors should make their own assessments of subsurface conditions at this site and select the construction means and methods that are most appropriate for encountered site conditions.

This report has been prepared for the exclusive use of the Bayview Hills Developments, its agents, and the Sunshine Coast Regional District and/or their designated agents or consultants. Any use of the information contained in this letter for other than its intended purpose or by any other party must first be verified in writing by Kontur. Kontur does not accept any responsibility or damages because of any

other party relying on or using the information, interpretations, opinions, comments, and/or recommendations that are contained in this report.

Kontur trusts that the information described above meets your current requirements. If you should have any concerns or questions, please do not hesitate to contact the undersigned.

Sincerely,

Kontur Geotechnical Consultants Inc.

Per:

Ziad Merdas
Geotechnical Engineer

Per:

Matthew Yip MEng PEng
Principal |Geotechnical Engineer

APPENDIX A

Interpretation and Use of Study and Report Document

INTERPRETATION AND USE OF STUDY AND REPORT DOCUMENT

1.0 STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices in this area. No other warranty, expressed or implied, is made. Engineering studies and reports do not include environmental engineering or consulting.

2.0 COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3.0 BASIS OF THE REPORT

The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4.0 USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS "APPROVED USERS". The contents of the Report remain our copyright property and we authorise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report, or any portion thereof, available to any party without our written permission. Any use which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5.0 INTERPRETATION OF THE REPORT

Nature and Exactness of Descriptions: Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations, or building envelope descriptions, utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and all persons making use of such documents or records should be aware of, and accept, this risk. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

Reliance on Provided information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the report as a result of misstatements, omissions, misrepresentations or fraudulent acts of persons providing information.

To avoid misunderstandings, KONTUR should be retained to work with the other design professionals to explain relevant engineering findings and to review their plans, drawings, and specifications relative to engineering issues pertaining to consulting services provided by KONTUR. Further, KONTUR should be retained to provide field reviews during the construction, consistent with building codes guidelines and generally accepted practices. Where applicable, the field services recommended for the project are the minimum necessary to ascertain that the Contractor's work is being carried out in general conformity with KONTUR's recommendations. Any reduction from the level of services normally recommended will result in KONTUR providing qualified opinions regarding adequacy of the work.

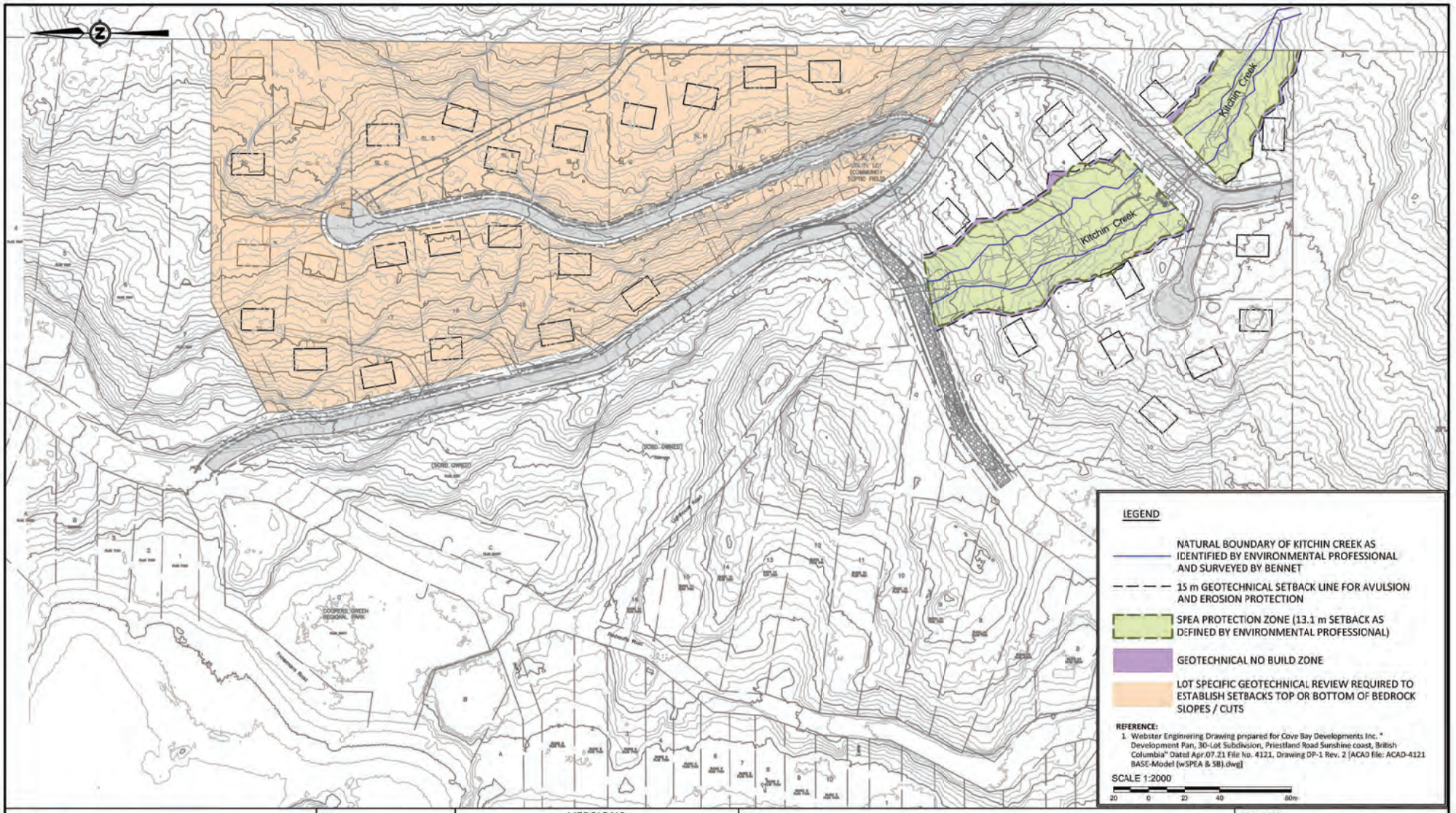
6.0 ALTERNATE REPORT FORMAT

When KONTUR submits both electronic file and hard copies of reports, drawings and other documents and deliverables (KONTUR's instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by KONTUR shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancy, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by KONTUR shall be deemed to be the overall original for the Project.

The Client agrees that both electronic file and hard copy versions of KONTUR's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except KONTUR. The Client warrants that KONTUR's instruments of professional service will be used only and exactly as submitted by KONTUR.

The Client recognizes and agrees that electronic files submitted by KONTUR have been prepared and submitted using specific software and hardware systems. KONTUR makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.

APPENDIX B
Figures



November 4, 2022 1:49:53 PM

KONTUR GEOTECHNICAL CONSULTANTS inc.
Unit 107, 2071 Kingsway Avenue, Port Coquitlam, B.C. V3C 6N2
t. 1 (778) 730 1747 | toll-free. +1 (833) 3017575 | e. info@kontur.ca | www.kontur.ca

SEAL

VERSIONS

NO	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	2022-11-03
1	ISSUED FOR REVIEW	2022-11-04

TITLE: FIGURE 1: GEOTECHNICAL MARKUP OF DEVELOPMENT PLAN

PROJECT NO.: K-221130-00

CLIENT: BAYVIEW HILLS AT HALFMOON BAY - PARCEL A

PROJECT LOCATION: PRIESTLAND ROAD, HALFMOON BAY, B.C.

DATE:	SCALE:	DWG NO.:
2022-11-03	1:2000	FIGURE 1

DRAFT:	DESIGN:	CHECK:
SG	ZM	MY

APPENDIX C
Photographs

Photograph – Bedrock Cut above Priestland Road (Sta. 0+260 to 0+340)

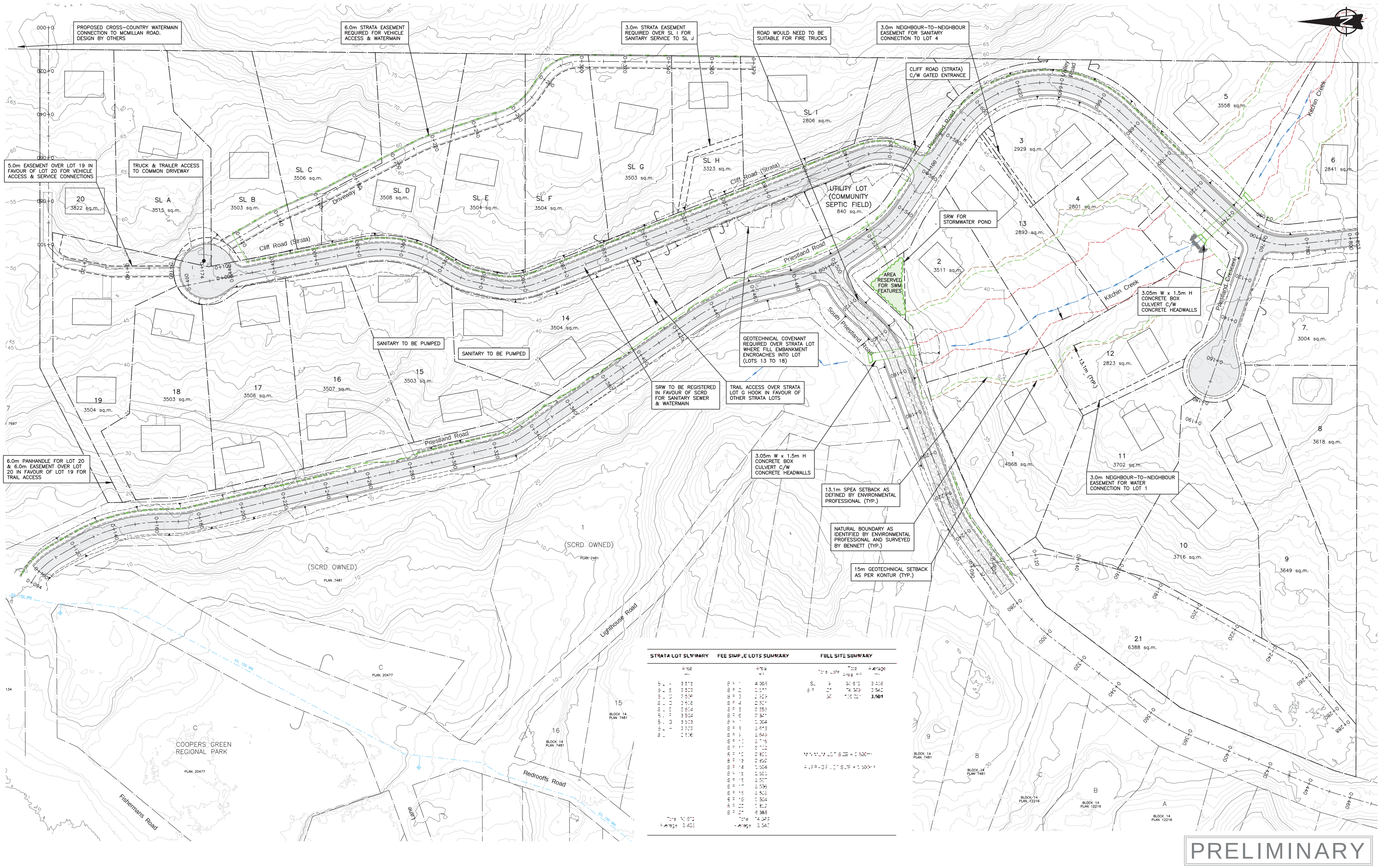
Photograph – Bedrock slopes above Cliff Road (Near Strata Lots)

Photograph – Existing end-dumped Fill Slope above Priestland Road (Sta. 0+380 to 0+500)

Photograph – Large loose rock fragments (SL E and/or F)

Appendix C – Subdivision Development Plan (Webster Engineering Ltd; November 7, 2022,)

(1 page)



no.	date	revision	chk'd
2	APR.05.22	DP SUBMISSION	JAT
1	MAY.20.21	SUBMISSION TO MOTI	JAT

client: COVE BAY DEVELOPMENTS INC.

project: 30 - LOT SUBDIVISION, PRIESTLAND ROAD
SUNSHINE COAST, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS — LAND DEVELOPMENT CONSULTANTS
EGBC PERMIT No. 1001444
212-828 HARBOURSIDE DRIVE, NORTH VANCOUVER, B.C. V7P 3R9 604-983-0458

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approved

designed by: J.A.T.
drawn by: S.T.
checked by: H.K.G.
date: APR.07.21

title: DEVELOPMENT PLAN

scales: hor: 1:750 vert: -
file no. 4121
drawing no. DP-1
rev. 2

F:\4100\4121 Priestland Road Lots\PRELIMINARY\DEVELOPMENT PLAN.dwg, 2022-11-07 2:18:24 PM, S.T., S.T.

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STATEMENT OF CONFORMANCE TO SUNSHINE COAST REGIONAL DISTRICT OFFICIAL COMMUNITY PLAN DEVELOPMENT PERMIT AREA POLICIES

DPA 4 – Riparian Areas Protection Regulation

This statement is provided in conjunction with the environmental report completed herein to demonstrate that the assessment has addressed relevant policies of the Sunshine Coast Regional District Official Community Plan Development Permit Area and Riparian Areas Protection Regulation. This statement and accompanying assessment report will be submitted by the client/applicant to the SCRD Planning Department as part of a complete Development Permit application. For details on this Development Permit Area, please refer to the Official Community Plan for the Electoral Area where the proposed development will occur, and the Riparian Areas Protection Regulation.

To the Approving Authority: Sunshine Coast Regional District

Jurisdiction: Sunshine Coast Regional District

With reference to: Local Government Act (Part 14, Division 7 - Development Permits)

For the property:

Civic address: Priestland Road, Halfmoon Bay

Legal description: DL: 1427

Parcel ID: 015-931-901

Official Community Plan: Halfmoon Bay OCP

Environmental Professional Report Checklist

This section confirms whether the geotechnical report addresses critical risks and risk mitigation measures as per the Official Community Plan. Please ensure that all items are responded to, and include the relevant sections and page numbers.

1. **Notification received from the Province that the assessment report has been accepted.**

   ☐ Yes ☑ No

   If yes, FLNRORD RAPR Assessment Number: #7979 (C&I & RAPR submitted 10 Nov 2022)

2. **Explicit direction provided to landowner to address danger trees in the SPEA.**

   ☑ Yes ☐ No ☐ Not Applicable

   Brief Summary of Analysis Completed:

   A danger tree assessment was conducted by a Certified Arborist (Tree Inventory and Protection Report, 11 October 2022). Five trees within the SPEA are recommended for removal. It is recommended that hazard trees not be removed entirely to stump height, rather be retained as wildlife trees following recommendations of the certified arborist, where feasible. Where not feasible to retain a wildlife tree, stumps should be cut low to the ground with root structures remaining in place. Stump removal, and specifically the ground disturbance associated with stump removal, is not acceptable with the SPEA. See report for further details and recommendations.

   Indicate report section and page(s): Page 13, Appendix A

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3. Explicit direction provided to landowner to address windthrow.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

Based on a review of available historic imagery, the Subject Property was initially cleared sometime between October 2017 and July 2019. During field assessments, the current forested edge was observed generally intact, with limited signs of failure due to new wind pressures (i.e., any unexpected degree of fallen or failing trees). To protect against potential windthrow risk, focus has been placed on the protection of the critical root zones (CRZs) of existing trees along the edge of the minimum SPEA. An additional two metre buffer to accommodate CRZ protection has been applied to the minimum SPEA. Where the CRZ of key trees identified along the SPEA exceeds the two-met re buffer, the SPEA Protection Zone has been increased. See report for further details and recommendations.

Indicate report section and page(s): Page 13

4. Explicit direction provided to landowner to address slope stability within and adjacent to the SPEA.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

A Preliminary Geotechnical Analysis has been prepared by Kontur Geotechnical Consultants Inc. (November 4, 2022 Version 3) to assess geotechnical setbacks from Kitchen Creek. No evidence of any recent deep-seated or wide-spread sloughing, slumping, or erosion, was observed at the time of the site visit. From a geotechnical perspective, the SPEA Protection Zone (13.1 m from Stream Boundary) is considered acceptable to protect the integrity of the SPEA. It is important to note that any proposed erosion protection or slope mitigation measures required to reduce the 15 m Geotechnical setback cannot be constructed within the SPEA. See report for further details and recommendations.

Indicate report section and page(s): Page 14, Appendix B

5. Explicit direction provided to landowner to address protection of trees during site clearing and construction.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

Additional protection of the SPEA includes a 2 m buffer of protection off set from the minimum SPEA to provide a protected area for root growth of immature trees and new trees planted near the edge of the minimum SPEA.
As outlined in Tree Inventory and Protection Report (11 October 2022), further tree protection has been applied to encompass the critical root zone (CRZ) of existing trees within the SPEA, which is typically six times the diameter at breast height (DBH). In addition to the SPEA Protection Zone considering existing CRZs, a tree management zone (TMZ) has been applied at ten times DBH in which development can only take place under the direction or supervision of an arborist. See report for further details and recommendations.

Indicate report section and page(s): Page 15, appendix B

Environmental Professional Report Checklist (Cont.)

6 Evaluation of the severity of expected encroachment and direction on the type of barrier that would be most appropriate and effective.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

A split-rail fence is to be constructed around the SPEA Protection Zone enveloping the entire SPEA to discourage development. Further, development within the SPEA will be restricted by municipal bylaw. Areas of the SPEA that have already been encroached by tree clearing and ground disturbance will be restored as per the Riparian Restoration Plan. SEI notes that the proposed road (Priestland Crescent) off Upper Priestland Road is currently designed outside the minimum SPEA and applied SPEA Protection Zone. See report for further details and recommendations.

Indicate report section and page(s): Page 15

7. Explicit direction provided to landowner to address stormwater management resulting from development, including a plan to capture storm runoff event impacting the riparian area.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

A Storm Water Management Plan is being prepared for submission as part of the SCRD Development Permit application process. Areas for storm water management features will be situated outside the SPEA Protection Zone. Any discharge to Kitchen Creek required to facilitate stormwater management will require consideration and approval through the Water Sustainability Act.

Indicate report section and page(s): Page 16

8. Consideration of the active floodplain, ensuring that the SPEA starts at the edge of this feature.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

Prior to the SEI field assessment, the stream boundary had been flagged by a different QEP (Cam Forrester, R.P.F. of Cam Forrester & Associates). SEI confirmed that the flagged and surveyed stream boundary aligns with RAPR definition, extending to the active flood plain of Kitchen Creek.

Indicate report section and page(s): Page 3

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Environmental Professional Report Checklist (Cont.)

9. Areas beyond the SPEA identified as requiring special protection or limited activity.

☑ Yes ☐ No ☐ Not Applicable

Brief Summary of Analysis Completed:

A SPEA Protection Zone has been applied to the minimum SPEA primarily for tree protection. Additional geotechnical and tree management protections are applied beyond the SPEA Protection Zone. See the Slope Stability and Tree Protection measures in Section 4 of the report.

Indicate report section and page(s): Page 14 & 15

11. Site plan to scale of the subject property clearly showing surveyed characteristics of concern including:

- Natural boundary of the stream with consideration for active floodplain characteristics
- Established SPEA per requirements of the *Riparian Areas Assessment Methods Manual*
- Trees inside and near the SPEA that require protection, are determined hazards, or that require windthrow work
- Slopes and other natural features near the SPEA that require protection or setbacks
- Other notable characteristics including pre-existing disturbances in or immediately adjacent to the SPEA
- Location of required temporary or permanent riparian protection works

Additional Comments

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Statement of Conformance

The undersigned hereby gives assurance that he/she is a Qualified Environmental Professional recognized by the Riparian Areas Protection Regulation, and certifies that the assessment report for the property to which this Statement attaches, has been completed in accordance with the relevant criteria of the SCRD Development Permit Area and Riparian Areas Protection Regulation for acceptability in Development Approval.

Name of Environmental Professional: DocuSigned by: J. Stephen Sims

Signature: _____ Date: 11/16/2022

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To be accepted, Development Permit applications must include a RAPR Report sufficiently addressing Development Permit Area requirements and a site plan addressing #11, above.

SCRD Office Use

Intake Check

Correct DPA assessed ☐ Yes ☐ No Comments: _____

Other applications or enforcement associated with this file: _____

Receiving Planner Initials: _____ SCRD File Number: _____

Notes

Review Check

Assessment Reviewed By: _____ Review Date: _____

FLNRORD RAPR Assessment Results: _____ FLNRORD RAPR Assessment Ticket No.: _____

Notes: