



December 11, 2020

Ms. Carola Alder
CityState Consulting Group Ltd.
2414 St Johns Street, Suite 200
Port Moody, BC V3H 2B1

Dear Ms. Alder:

**Re: Environmentally Sensitive Area Assessment
1034 Gatensbury Road Port Moody, BC
File No. 15995**

Keystone Environmental Ltd. (Keystone Environmental) is pleased to present this environmental overview letter report on 1034 Gatensbury Road Port Moody, BC (the Site). It is the understanding of Keystone Environmental that the proponent wishes to subdivide the Site into two lots.

The City of Port Moody's (the City) online mapping identifies an Environmentally Sensitive Area (ESA), the Chines ESA, along the west corner of the Site and the City requires clarification of the significant natural features associated with the Site to be protected as part of the proposed subdivision.

This ESA assessment has been completed to define development setbacks and possibly reduce City required development bylaw setbacks for features and identified regulated streams by using the Detailed Riparian Areas Regulation (dRAR) assessment methods. The assessment also includes a natural features overview that identifies and provides potential enhancement opportunities for the Site. The purpose of the proposed ESA assessment is to identify the significance of the Site's natural features in the landscape and define minimum provincial setbacks in order to maximize the developable Site footprint for future development.

The City of Port Moody's (the City) ViewPort online mapping application identified a tributary of Kyle Creek and the Chines ESA adjacent to the Site.

Keystone Environmental understands the City's preliminary environmental concerns include slope stability within the ESA; erosion and sediment control (ESC) at the Site during development; and defining setback requirements for Kyle Creek in accordance the *City of Port Moody Zoning Bylaw 1988, No. 1890* (the Bylaw).

A watercourse assessment was conducted to determine setback requirements under the Bylaw. This Bylaw determines setbacks for regulated watercourses in Port Moody. The results of the watercourse assessment can be used to guide development design, support applications for re-zoning or development of the Site, and determination the Streamside Protection and Enhancement Area (SPEA) for Kyle Creek in association with future redevelopment.

As part of the watercourse survey Keystone Environmental also conducted an assessment of the ESA to determine potential effects of the proposed project. The environmental overview included a background review of available online mapping information and historical occurrence records, as well as a Site visit. Results of the environmental overview and recommendations for the protection of environmental features on Site or adjacent to the Site are included in the following sections.

1. DEVELOPMENT REGULATIONS

Federal, provincial and municipal regulations control changes made during development that may affect environmental resources on the Site. Relevant regulations are as follows:

1.1 Federal Legislation

- *Migratory Birds Convention Act*: protects Migratory birds and their nests are protected under the federal *Migratory Birds Convention Act (MBCA)*. Should any vegetation clearing on the Site occur for this project during the bird breeding season (March 1 to August 31 of any year), in accordance with the *Act* an active bird nesting survey will be required prior to vegetation removal in order to identify and protect any active nests associated with the vegetation removal until a QEP confirms the nest is no longer active.
- *Fisheries Act*: Provides protection for all fish and fish habitats; prohibits harmful alteration, disruption or destruction of fish habitat.
- *Species at Risk Act*: Protects the individual and critical habitat, as defined in the recovery strategy, of species listed as Threatened, Endangered, or Extirpated under Schedule 1 of the *Act* where they occur on federal land. Protection of species at risk on private land falls primarily to local government and voluntary stewardship.

1.2 Provincial Legislation

- *Water Sustainability Act* Section (11) regulates "changes in and about a stream".
- *Riparian Areas Protection Regulation*: defines stream classifications and the sizes of protective buffers that must be maintained around streams in each class.
- *Wildlife Act*: Section (34): protects birds and their nests.
- *Weed Control Act*: Requires a land owner control noxious weeds designated under the Weed Control Regulation.

1.3 Municipal Legislation

Within the Site, watercourses are protected primarily Under the Bylaw, the Streamside Protection Area (SPEA) is established by measuring 15 metres perpendicularly from top of bank. Development within the SPEA would require an assessment under the provincial *Riparian Areas Regulation* to determine minimum setback requirements; and consultation with the City, including application for a development variance permit to delineate a reduced SPEA.

An ESC Plan must be designed and sealed by a professional engineer according to the requirements outlined in the *City of Port Moody Bylaw No. 2470 Stream and Drainage System Protection Bylaw*.

The ESA identified along the western property boundary of the Site was adopted by the City as a steep slope protection area. The area is prone to slope failure and development within the ESA will trigger requirements for geotechnical assessment as part of the permit application. Additionally, ESA management objectives include: protection of forested habitat and tree retention; avoidance of the introduction of non-native plant species; and bio-inventory surveys to identify sensitive habitats and species.

The City's Bylaw No. 2961 is a bylaw to protect, regulate, and prohibit the cutting down, removal, and damaging of trees and vegetation. It states that on private property, a person must not cut, remove, or damage any tree¹, and must not direct, cause, suffer, or permit any tree to be cut or removed, on lands which are:

- a) Located within a Streamside Protection and Enhancement Area (SPEA);
- b) Located within an Environmentally Sensitive Area (ESA);
- c) Dedicated for retention through a restrictive covenant or other legal instrument; or
- d) Subject to a Development Approval.

Or affect a tree identified as a significant tree (by the City Bylaw), except in strict accordance with the terms, restrictions, requirements, and conditions of a valid and subsisting Tree Removal Permit.

2. RESULTS

A Site visit was conducted on completed on September 25, 2020 during a >2.5 mm rain event by a Keystone Environmental Biologist. Information on the biophysical attributes of the Kyle Creek Tributary and the ESA associated with the Site were collected to identify potential constraints to development and determine setback requirements under the *City of Port Moody Zoning Bylaw 1988, No. 1890*.

¹ A woody perennial plant usually having a single trunk or stem which has a diameter of at least 10 centimetres when measured from a height of 1.4 metres above the natural grade of the land.

2.1 Watercourse Assessments

Watercourse top of bank and high water mark were flagged adjacent to the Site in preparation for a BC Legal Survey. The 15-metre setbacks from top of bank (i.e., the SPEA) for the Tributary to Kyle Creek in relation to the Site boundaries are presented on Figure 1.

Tributary to Kyle Creek

During the field visit it was observed that the Tributary to Kyle Creek flowed northwest in a steep average slope as a Step Pool morphology at approximate 9% average gradient (Appendix A, Form 1). The channel was oriented within steep slopes, which ultimately drained to fish habitat north east of the Site to Kyle Creek.

The average channel width (high water mark) measured 0.8 metres and instream substrate was mixed, dominated by gravel, cobble, sand and fines (Photographs 1 and 2). The channel originated from forest floor runoff southwest of 18070 Gatsensbury Road.

The desktop review of Kyle Creek identified no occurrence records of fish as presented in Chinese ISMP Table 3.2.

Riparian habitat of the Tributary to Kyle Creek consists of a mixed forest, dominated by bigleaf maple (*Acer macrophyllum*), red alder (*Alnus rubra*), black cottonwood (*Populus trichocarpa*), coast Douglas-fir (*Pseudotsuga menziesii* var. *menziesii*), western hemlock (*Tsuga heterophylla*), and western redcedar (*Thuja plicata*). The understory was comprised primarily by salmonberry (*Rubus spectabilis*), sword fern (*Polystichum munitum*), and lady fern (*Athyrium filix-femina*); as well as abundant non-native plant species including, Himalayan blackberry (*Rubus armeniacus*), English ivy (*Hedera helix*), and English holly (*Ilex aquifolium*) (Photographs 3 and 4).

Under the City's Bylaw a development setback for the Site would be 15 m perpendicular to the top of bank for the Tributary for Kyle Creek as defined in Figure 1. This would essentially render the Site undevelopable and a development variance permit would be required under the City's bylaws.

A detailed Riparian Areas Regulation (dRAR) field assessment was completed for the Tributary for Kyle Creek and the high water mark for the Creek was flagged from the headwaters south and east of 1030 Gatsensbury Road (i.e., Creek headwaters) to northwest of the Site as presented in Figure 1. The Riparian Assessment Areas (RAAs) for the Creek consisted of a 30 metre-wide strip from the high-water-mark (HWM). Transects were measured perpendicular to the Creek at intervals, to collect channel width measurements. A total of 11 transects were measured for the Creek. Slope measurements were collected with a clinometer at each interval where measurements were taken, and Site conditions were documented with photographs. Information collected is presented on Form 1 of Appendix A.

Based on the dRAR assessment of the Creek, a development setback of 10 m placed perpendicular to the high water mark for the Tributary of Kyle Creek in association with the Site would be required as presented in Figure 1. A Geotechnical assessment has been completed by GeoPacific (April 2, 2020) and a geotechnical setback of 1.5 m (Figure 1) will govern the setback for the building envelope on the property.

In addition, the proponent has offered to increase the 1.5 m municipal required side yard setback to 3.0 m from the west property line; this is well outside the SPEA. A covenant will be placed on the area of mature trees at the north end of the property (Figure 1). This is also an area outside the SPEA.

2.2 Environmentally Sensitive Area No. 8 Assessment

The desktop review of available online mapping and historical occurrence records within and adjacent to the ESA did not identify environmental constraints to development. The ESA habitat along the western slope of the Site boundary consisted of disturbed mature mixed wood forest located on a steep slope. Understory vegetation was dense and consisted of plants as described in the riparian area for the Tributary of Kyle Creek.

Due to its diverse structured habitat the forested area was also considered to provide abundant bird nesting opportunity for species protected under the *Migratory Birds Convention Act* and the *BC Wildlife Act*. Vegetation removal within or below the top of bank is not anticipated to be required as part of the proposed development, therefore, potential effects to the ESA are not anticipated.

While no species at risk were identified during the Site visit the Chines ISMP in Table A-1 through A-5 identify species at risk in the area. The Site is located at the top of the bank and consists of a residence and mowed grass.

The primary concern at the Site and in association with the ESA will be slope stability during any re-development. Geotechnical concerns include but are not limited to the consideration of using innovative stormwater and groundwater management systems, and a geotechnical assessment report will need to be completed by a qualified professional engineer to establish bank setbacks.

3. STATEMENT OF LIMITATIONS

Findings presented in this report are based upon (i) reviews of available documentation, (ii) observations of the project area and surrounding lands. The conclusions and recommendations documented in this report have been prepared in a manner consistent with that level of care and skill normally exercised by other members of the environmental science profession, practicing under similar circumstances in the area at the time of the performance of the work.

Report writer and Professional of Record is Libor Michalak R.P.Bio. and demonstrable experience in conducting environmental assessments. The report was reviewed by Annette Bosman B.I.T.

This report has been prepared solely for the internal use of CityState Consulting Group Ltd., pursuant to the agreement between Keystone Environmental Ltd. and CityState Consulting Group Ltd. By using this letter report, CityState Consulting Group Ltd. agrees that they will review and use the letter report in its entirety. Any use which other parties make of this letter report, or any reliance on or decisions made based on it, are the responsibility of such parties. Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this letter report.

We trust the results of this letter report and recommendations provided herein are able to assist in the preliminary planning stages for Site development. If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Yours truly,

Keystone Environmental Ltd.



Libor Michalak, R.P.Bio., QEP
Senior Biologist

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ATTACHMENTS:

- Photographs
- Figure 1: Stream Setbacks to the Tributary for Kyle Creek
- Appendix A: dRAR Form 1

PHOTOGRAPHS



Photograph 1: Tributary to Kyle Creek Instream Habitat



Photograph 2: Tributary to Kyle Creek Instream

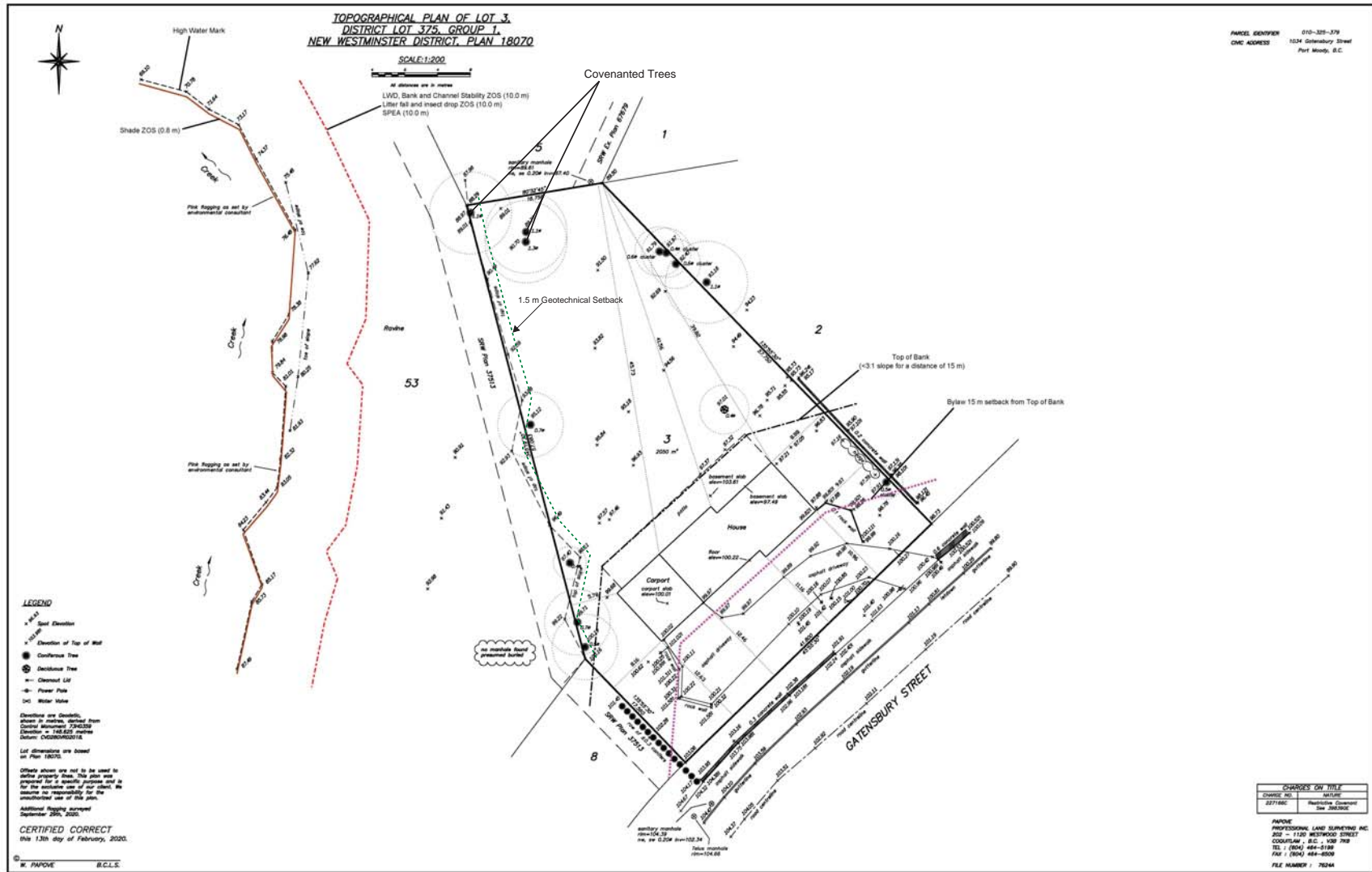


Photograph 3: Riparian Habitat of Tributary to Kyle Creek



Photograph 4: Riparian Habitat

FIGURE



APPENDIX A

DRAR FORM

1.1 Section 2. Results of Riparian Assessment (SPEA width)

Refer to Chapter 3 of Assessment Methodology

Date: 2020-09-25

Description of Water bodies involved (number, type)

1, Trib. to Kyle Creek

Stream	X
Wetland	
Lake	
Ditch	
Number of reaches	1
Reach #	

1.1.1 Channel width and slope and Channel Type (use only if water body is a stream or a ditch, and only provide widths if a ditch)

Channel Width(m)		Gradient (%)	I, <u>Libor Michalak</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i> ; b) I am qualified to carry out this part of the assessment of the development proposal made by the developer CityState Consulting Group Ltd. 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 Regulation.
starting point	0.8	8	
upstream	0.7	8	
	0.9	7	
	0.8	10	
	0.6	8	
downstream	0.7	9	
	0.8	11	
	1.0	8	
	0.9	8	
	1.1	9	
	0.9	9	
Total: minus high /low	0.5		
mean	0.8		
	R/P	C/P	
Channel Type		X	

1.1.2 Site Potential Vegetation Type (SPVT)

	Yes	No	
SPVT Polygons		X	Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes
			I, <u>Libor Michalak</u> , hereby certify that: a) I am a qualified environmental professional, as defined in the Riparian Areas Regulation made under the <i>Fish Protection Act</i> ; b) I am qualified to carry out this part of the assessment of the development proposal made by the developer CityState Consulting Group Ltd.. 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 Regulation.
Polygon No:			Method employed if other than TR
	LC	SH	
SPVT Type		X	

1.1.3 Zone of Sensitivity (ZOS) and resultant SPEA

Segment No:	1	If two sides of a stream involved, each side is a separate segment. For all water bodies multiple segments occur where there are multiple SPVT polygons					
LWD, Bank and Channel Stability ZOS (m)	10.0						
Litter fall and insect drop ZOS (m)	10.0						
Shade ZOS (m) max	2.5	South bank	Yes	X	No	X	
Ditch	Justification description for classifying as a ditch (manmade, no significant headwaters or springs, seasonal flow)						
Ditch Fish Bearing	Yes		No		If non-fish bearing insert no fish bearing status report		
SPEA maximum	10.0	(For ditch use table3-7)					

I, Libor Michalak, hereby certify that:

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- I am qualified to carry out this part of the assessment of the development proposal made by the developer CityState Consulting Group Ltd. 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 Regulation.

1.2 Comments

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