



MEMORANDUM

DATE: September 11, 2019
TO: Caroline Lamont, Skénkenam Development GP Inc
FROM: Adrien Baudouin, R.P.Bio., Cascade Environmental
RE: Preliminary RAR Assessment for the Benchlands, Pemberton, B.C.
FILE #: 263-20-02

Skénkenam Development GP Inc wishes to clarify the development potential of a property located at the Benchlands neighbourhood in Pemberton B.C. The property is bounded by Pemberton Creek on the south side of the property, and a series of watercourses (known as Watercourse #1, #2 and #3) identified in a previous IER (Cascade, 2019) bisect the property. Due to the presence of these watercourses on and around the subject property, a Riparian Areas Regulation (RAR) assessment is required in order to determine the riparian setbacks that will be used for the planning of the Benchlands neighbourhood.

Skénkenam Development GP Inc retained Cascade Environmental Resource Group Ltd. (Cascade) to conduct a riparian assessment as per the BC Riparian Areas Regulation (RAR). The intent of this memo is to provide a preliminary assessment of the riparian setback area as per the RAR, and determine associated implications provided by the regulation to assist with the development process. Upon the completion and finalization of the development plans for the subject property, the information described herein is required to be submitted electronically to the BC Ministry of Forests, Lands and Natural Resource Operations (FLNRO) RAR notification system. This memo **should not** be considered an approval from any government agency including the Village of Pemberton, FLNRO or Fisheries and Oceans Canada (DFO).

Statement of Limitations

This Document was prepared by **Cascade Environmental Resource Group Ltd.** for Skénkenam Development GP Inc.

Should this report contain an error or omission then the liability, if any, of Cascade Environmental Resource Group Ltd. should be limited to the fee received by Cascade Environmental Resource Group Ltd. for the preparation of this document. Recommendations contained in this report reflect Cascade Environmental Resource Group Ltd.'s judgment in light of information available at the time of study. The accuracy of information provided to Cascade Environmental Resource Group Ltd. is not guaranteed.

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This document should not be construed to be:

- A Phase 1 - Environmental Site Assessment;
- A Stage 1 – Preliminary Site Investigation (as per the Contaminated Sites Regulation of the Environmental Management Act);
- An Environmental Impact Assessment.

1.0 APPLICABLE LEGISLATION

In British Columbia, the Riparian Areas Regulation (RAR) of the *Fish Protection Act* is the governing legislation to determine setbacks on watercourses. The purpose of the RAR is “*to establish directives to protect riparian areas from development so that the areas can provide natural features, functions and conditions that support life processes.*” Essentially, the RAR provides a mechanism for allowing site specific determination of setback areas. It should also be noted that the Federal *Fisheries Act* may supersede the RAR and in some cases approval may be required under Section 35(2) of the Act.

2.0 ASSESSMENT METHODOLOGY

The legislation provides two separate assessment methodologies to determine the setback area (Streamside Protection and Enhancement Area – SPEA) for a property. The Simple Assessment considers whether the stream is fish bearing, the nature of stream flows and the status of streamside vegetation. A Detailed Assessment requires the evaluation of stream width, reach breaks, potential vegetation type, channel type and channel slope. For the purpose of this RAR assessment, the Detailed Assessment methodology was employed to determine resulting setbacks.



3.0 RIPARIAN AREA ASSESSMENT

3.1 Detailed Assessment

The Detailed Assessment methodology was employed to determine the setback and resulting SPEA (Streamside Protection and Enhancement Area) for Pemberton Creek and the unnamed streams known as Watercourse #1, #2 and #3 relative to the Benchlands.

Pemberton Creek

Pemberton Creek is fish bearing and the Site Potential Vegetation Type (SPVT) is tree (TR). Based on this information the following “Zones of Sensitivity” (ZOSs) can be determined for Pemberton Creek:

- *Large Woody Debris: 15 m;*
- *Litter Fall and Insect Drop: 15 m;*
- *Shade: 30.m*

The resultant **setback for Pemberton Creek relative to the subject property is 15 m** from the high water mark (Photo 1 and Photo 2). The shade ZOS does not apply as Pemberton Creek lies south of the subject site.

Watercourse #1

During the assessment of Watercourse #1, previously identified in the IER (Cascade, 2019), it was determined that Watercourse #1 is not a watercourse as defined by the RAR due to the absence of discernable channel and the lack of mineral substrate (Photo 3 and Photo 4).

Watercourse #2

It was determined that Watercourse #2 was not connected via surface flow to downstream fish bearing water (Photo 5 to Photo 10). The upper and lower sections of the watercourse are characterized by an intermittent channel with evidence of mineral substrate interspaced with sections of organic forest floor. The middle section of the watercourse has been modified and is characterized by a channelized watercourse. Therefore, the RAR does not apply to this watercourse. However, Watercourse #2 is still subject to the *Water Sustainability Act* which provides protection to watercourses from top of bank to top of bank, regardless of whether they are connected to downstream fisheries resources. Watercourse #2 merits protection as it drains water into a fish bearing stream (Pemberton Creek) via subsurface flow. Therefore, Cascade recommends maintaining a 10 m riparian setback on Watercourse #2

Watercourse #3

Watercourse #3 is a man-made ditch that flows into Watercourse #2 (Photo 11 and Photo 12). The section of the ditch in the vicinity of the round building, used for the VOP water supply, is armored and then culverted. The RAR does not apply to this watercourse as it is not connected to a fish bearing stream via surface flow. However, Watercourse #3 is still subject to the *Water Sustainability Act* which provides protection to watercourses from top of bank to top of bank. Watercourse #3 merits protection as it drains water into a fish bearing stream (Pemberton Creek) via subsurface flow. Therefore, Cascade recommends maintaining a 10 m riparian setback on Watercourse #3 where riparian vegetation is still present.

An ephemeral pond was also noted upstream at the top of Watercourse #3 (Photo 13). The pond does not appear to be connected to Watercourse #3. As it is not connected to downstream fish bearing water, the RAR does not apply to the ephemeral pond. However, the *Water Sustainability Act* still applies. The ephemeral pond is likely to provide habitat for wildlife and therefore merits protection. Cascade recommends maintaining a 10 m riparian setback around the ephemeral pond.



4.0 CONSTRAINTS TO DEVELOPMENT

Riparian Areas Regulation (SPEA setback) applies to all new development. Existing permanent structures (see attached map), roads and other development within riparian protection areas are “grand parented”. Landowners can continue to use their property as they always have even if a streamside protection and enhancement area is designated on it. The Regulation also has no effect on any repair, renovation, or reconstruction of a permanent structure on its existing foundation. Only if the existing foundation is moved or extended into a streamside protection and enhancement area (SPEA) would the Regulation apply.

The Riparian Area Regulation prohibits development within the prescribed SPEA. According to the regulation, “development” means:

- a) removal, alteration, disruption or destruction of vegetation;
- b) disturbance of soils;
- c) construction or erection of buildings and structures;
- d) creation of non-structural impervious or semi-pervious surfaces;
- e) flood protection works;
- f) construction of roads, trails, docks, wharves and bridges;
- g) provision and maintenance of sewer and water services;
- h) development of drainage systems;
- i) development of utility corridors and;
- j) subdivision as defined in section 872 of the *Local Government Act*.



5.0 ADJUSTMENTS TO SPEA WIDTHS

The Riparian Areas Regulation recognizes that site-specific constraints may exist where development cannot proceed using SPEAs determined by the Assessment Method. If the ability to develop is impaired, the proponent may request to develop within the prescribed setback. Development within the SPEA may be authorized by Fisheries and Oceans Canada (DFO) under Section 35(2) of the *Fisheries Act*.

Local governments can allow development to proceed if it is authorized by DFO. DFO may authorize adjustments where the strict application of the riparian setbacks will impose an unreasonable restraint or unnecessary hardship on the use or development of the property; or special circumstances give rise to hardship that is unique to the property in question. Where a case for an undue hardship exists and an adjustment to a SPEA is requested, DFO will assess whether an Authorization under Section 35(2) of the *Fisheries Act* is required or if a letter of advice may be issued.

6.0 SITE SPECIFIC BUILDING OPPORTUNITIES

Development can occur on this property. Municipal zoning will determine the maximum allowable size, and architecture will determine if the size is achievable. Development opportunities include the following: development conforming to municipal and zoning requirements that occurs outside of the SPEA and riparian setbacks.



7.0 RIPARIAN AREA ASSESSMENT REPORTING

Upon the completion and finalization of the development plans for the subject property, the information described herein and additional information regarding Pemberton Creek is required to be submitted electronically to the FLNRO RAR notification system. The system is used to notify local governments, BC Ministry of Environment and the Department of Fisheries and Oceans that the assessment has been completed and facilitate the development application process.

The Assessment Report is required to include a description of the fisheries resources and riparian condition, the results of the riparian assessment methods, site plan, measures to protect and maintain the setback area (detailed methodology only), environmental monitoring requirements, photos and sign-off from a qualified environmental professional (QEP). A QEP is an applied scientist or technologist, registered and in good standing in British Columbia with an appropriate professional organization.

Typical monitoring requirements will include a site visit at the start of the construction phase of the project to ensure that there are no construction impacts to the SPEA. Additional site visits will be made by the QEP (qualified environmental professional) periodically throughout construction to ensure that the measures to protect the SPEA have been implemented and maintained. A follow-up visit will also be made at the completion of construction so that the QEP can prepare a report to submit to the BC MOE RAR website database.

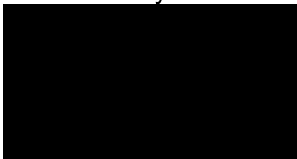
8.0 CONCLUSION

As per the Riparian Areas Regulation methodology, a 15m setback from the staked high water mark is required on the subject property along Pemberton Creek. Upon completion of final development plans for the property, a submission must be made to the BC RAR website, in order to receive applicable building or development permits from the Village of Pemberton. The electronic submission must include the information described herein and additional information to satisfy the application requirements.

Please do not hesitate to contact the Whistler office, should you have any questions regarding the information contained herein.

Sincerely,

Written by:



Adrien Baudouin, M.Sc., R.P.Bio.
Senior Biologist



Photo 1: View of Pemberton Creek. September 9, 2019.



Photo 2: View of Pemberton Creek. September 9, 2019.



Photo 3: View of Watercourse #1. September 9, 2019.



Photo 4: View of Watercourse #1. September 9, 2019.



Photo 5: View of the lower section of Watercourse #2. September 9, 2019



Photo 6: View of the lower section of Watercourse #2. September 9, 2019



Photo 7: View of the lower section of Watercourse #2. September 9, 2019



Photo 8: View of the channelized section of Watercourse #2. September 9, 2019



Photo 9: View of the upper section of Watercourse #2. September 10, 2019.



Photo 10: View of the upper section of Watercourse #2. September 10, 2019.



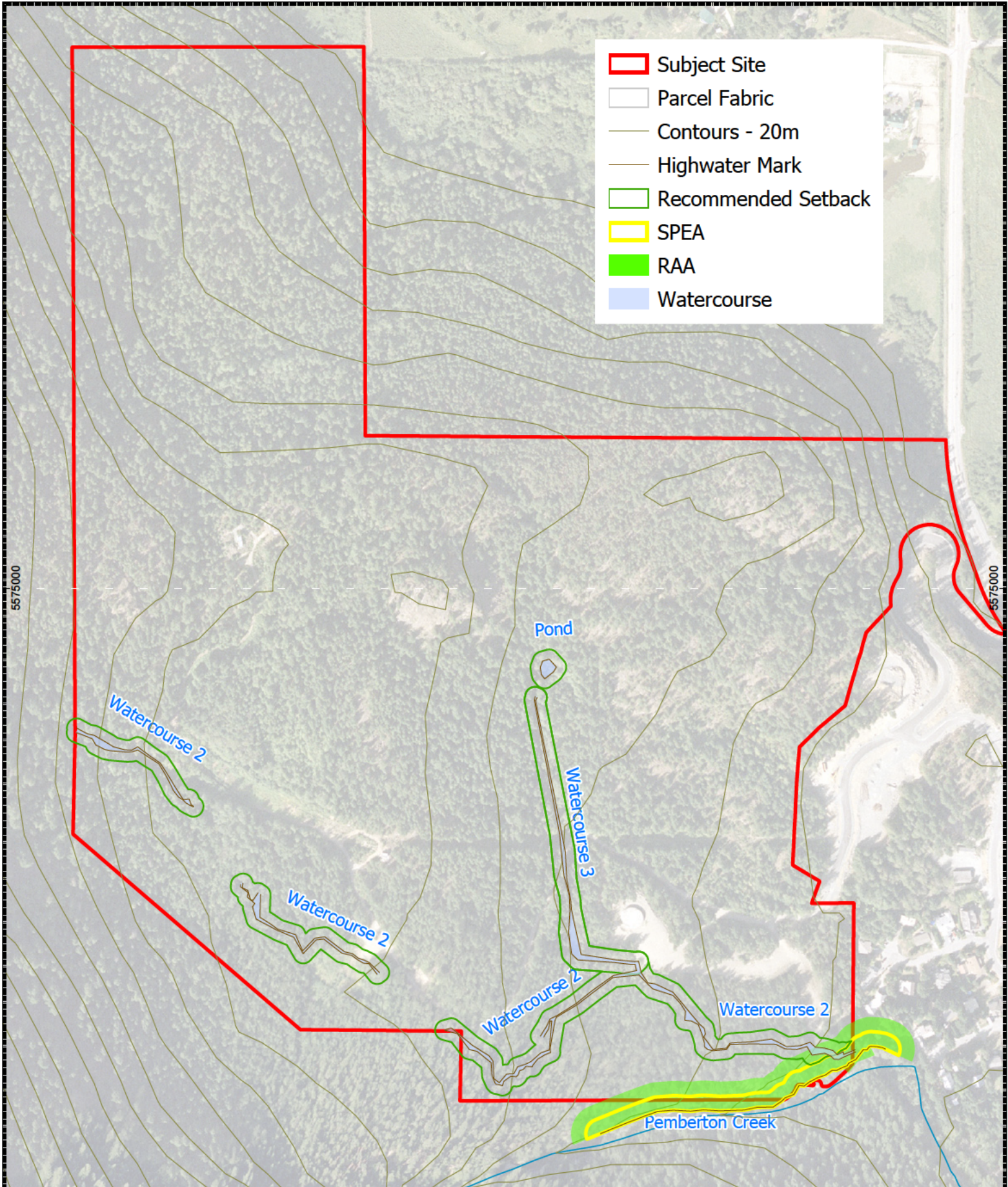
Photo 11: View of the armored section of Watercourse #3. September 10, 2019.



Photo 12: View of Watercourse #3. September 10, 2019.

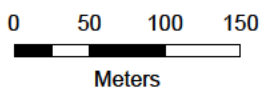
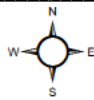


Photo 13: View of the ephemeral pond. September 10, 2019.



- Subject Site
- Parcel Fabric
- Contours - 20m
- Highwater Mark
- Recommended Setback
- SPEA
- RAA
- Watercourse

GIS Cartographer: Nicola Church
 Date: 2019-10-25 2:02 PM
 CERG File#: 263-20-01
 Projection: UTM 10N NAD83



Riparian Assessment Regulation map
 Skénenam Development GP Inc
 Pemberton Benchlands
 Pemberton, British Columbia