Attachment D

CITY OF MISSION
DEVELOPMENT PERMIT DP23-035

Issued to:

Registered Owner	Owner Address
John Parrick Ens	RR36, Mission BC V2V 6B2
Inge Jolanda Bracewell	RR 36, Mission BC V2V 6B2

(Owner as defined in the Local Government Act,
hereinafter referred to as the Permittee)

1. This Development Permit is issued subject to compliance with all of the Bylaws of the Municipality applicable thereto, except as specifically varied or supplemented by this permit.

2. This Development Permit applies to and only to those lands within the Municipality, and more particularly known and described as below, and any and all buildings, structures and development thereon:

Address	Parcel Identifier and Legal Description
9118 Cedar Street	Lot 2 Section 33 Township 17 New Westminster District Plan 76460

3. The above property has been designated **Area E – Natural Environment Development Permit Area** in the Official Community Plan. The Natural Environment Development Permit Area Guidelines are established pursuant to Section 488 (1)(b) of the *Local Government Act* and are applicable to all lands within the City of Mission.

   The said lands are zoned Multi-Unit Townhouse One Zone (MTI) and Institutional Parks, Recreation and Civic (IPRC) pursuant to "District of Mission Zoning Bylaw 5949-2020" as amended.

   "District of Mission Zoning Bylaw" as amended is hereby supplemented in respect of the said lands as follows:

   Said permit incorporates the conditions and limitations for safe development and use of the Lands and proposed buildings as contained in the following documents:

   Schedule A: Riparian Areas Protection Regulation (RAPR) Report dated January 20, 2023, prepared by Remi Masson Redcedar Environmental Consulting Inc. a copy of which is attached to this Development Permit.

   Schedule B: Environmentally Sensitive Area - Reference Plan _____

   All of the conditions contained in the Riparian Areas Protection Regulation Report must be adhered to.

4. The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this permit and any plans and specifications attached to this permit shall form a part hereof.v

5. This permit shall lapse if the Permittee does not substantially commence the construction of the first phase of a phased development permitted by this permit within two (2) years of the date of this permit.

6. The terms of this permit or any amendment to it, are binding on all persons who acquire an interest in the land affected by this permit.
7. This permit is not a building permit.

IN WITNESS WHEREOF this Development Permit is hereby issued by the Municipality signed by the Director of Development Services (or designate) the [Click here to type day of the month] day of [Click here to type month] , 2025.

_____

Rob Publow,
MANAGER OF PLANNING

Riparian Areas Protection Regulation: Assessment Report

Please refer to submission instructions and assessment report guidelines when completing this report.

Date: January 20, 2023

I. Primary QEP Information

First Name	Remi	Middle Name	
Last Name	Masson		
Designation	R.P.Bio./Danger Tree Assessor	Company: Redcedar Environmental Consulting Inc.	
Registration #	2693	Email: remi@redcedarenvironmental.com	
Address	201-45269 Keith Wilson Road		
City	Chilliwack	Postal/Zip V2R 5S1	Phone # 604.621.9811
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	Gagan	Middle Name	
Last Name	Dhaliwal		
Company			
Phone #		Email 9118.cedar@gmail.com	
Address			
City	Mission	Postal/Zip	
Prov/state	BC	Country Canada	

IV. Development Information

Development Type	Construction: High Density Multi Family Residential		
Area of Development (ha)	0.999	Riparian Length (m)	~18
Lot Area (ha)	1.0	Nature of Development	Redevelopment
Proposed Start Date	March 2023	Proposed End Date	March 2024

V. Location of Proposed Development

Street Address (or nearest town)	9118 Cedar Street						
Local Government	City of Mission			City Mission			
Stream Name	Unnamed Tributary						
Legal Description (PID)	009-330-429			Region Lower Mainland			
Stream/River Type	Stream			DFO Area South Coast			
Watershed Code	100-050984-537493						
Latitude	49°	10’	3”	Longitude	122°	18’	53”

Completion of Database Information includes the Form 2 for the Additional QEPs, if needed. Insert that form immediately after this page.

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Section 1. Description of Fisheries Resources Values and a Description of the Development proposal

(Provide as a minimum: Species present, type of fish habitat present, description of current riparian vegetation condition, connectivity to downstream habitats, nature of development, specific activities proposed, timelines)

Background

Redcedar Environmental Consulting Inc. was retained by the developer to complete a Riparian Areas Protection Regulation (RAPR) detailed assessment on the subject property located at 9118 Cedar Street, Mission, BC.

The proposed development will consist of the demolition and removal of existing structures and vegetation on the subject property and the construction of a high density 45-unit townhome development with an access road and common driveway. A site plan is attached. The entire lot will be utilized for the development. The new construction footprint will include all areas west of the Protected Natural Asset (PNA), on the west side of the Streamside Protection and Enhancement Area (SPEA) on the attached plan. There is currently no construction proposed in the PNA, and by extension, in the SPEA.

This report describes the appropriate SPEA setback widths for streams on and adjacent to the subject property.

Aquatic habitat assessment methods

This assessment is intended to describe current site conditions and does not include detailed review of development present at the time of development on the site with respect to current or previous environmental legislation and/or local development requirements.

The following fisheries resources were assessed on and adjacent to the subject watercourses as per Section 1.2.1 of the RAPR Technical Assessment Manual:

a. fish species presence;

b. description of instream fish habitat; and,

c. description of riparian condition.

Prior to the field assessment, a literature search was conducted to review the local watershed context, existing stream mapping, and general site characteristics. Redcedar Environmental Consulting Inc. referred to the Community Mapping Network's Sensitive Habitat Inventory Mapping (SHIM), the provincial Fisheries Inventory Data Queries (FIDQ), the provincial Habitat Wizard program and the local government GIS software to identify existing information relating to known streams and fish presence/absence on or near the subject property.

The field study area included the subject property, and portions of neighbouring parcels within 30 m of the subject property to identify any streams that would require a SPEA. Where access to neighbouring properties is not granted and where streams are expected to occur (i.e. based on observation and review of available mapping), these are described in the report.

Streams included any of the following:

a. a watercourse or body of water, whether or not usually containing water, and

b. any of the following that is connected by surface flow to a watercourse or body of water referred to in paragraph (a):

- a ditch, whether or not usually containing water;
- a spring, whether or not usually containing water;
- a wetland.

Per the RAPR, "fish" was considered to include "means all life stages of salmonids, game fish, and fish that are listed in Schedule 1, 2 or 3 of the *Species at Risk Act* (Canada)". All references to fish in this report, unless specified otherwise, use only the definition above. To be considered fish habitat, watercourses were assessed to determine 1) if they contained fish or 2) had a surface connection to fish bearing habitat and provided a significant contribution of base flow, food, and nutrients to fish habitat.

Watercourses were identified by physical features that could be delineated in the field. To be classified as streams as defined above, watercourses had to show evidence of regular flows sufficient to mark on the soil of the bed of the stream a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself; and have a surface connection to fish habitat.

Physically identifiable features of streams (i.e., creeks and brooks) were defined per the Fish-stream Identification Guidebook, Version 2.1 (1998). Per the Fish-stream Identification Guidebook, watercourses were assessed for the presence of a continuous channel bed, whether or not portions were obscured by bridging vegetation, with evidence of scour, rafted debris, and deposits of mineral alluvium. Scour had to be sufficient to erode at least some portion of the channel bed down to the mineral substrate. In lower energy systems where flows might not be sufficient to consistently erode surface soils, streams were identified by the presence of a continuous channel bed with evidence of regular inundation (e.g. absence of upland vegetation; presence of obligate hydrophytes).

Physical stream characteristics were made using the:

- Fish-stream Identification Guidebook; and
- Reconnaissance (1:20 000) Fish and Fish Habitat Inventory: Standards and Procedures, Version 2.0.

Streams were assessed in their current condition in accordance with the Technical Assessment Manual.

Field measurements (i.e. stream widths and gradient) were made using a Leica E7400x range finder. Property boundaries were identified using available aerial photographs, field evidence (e.g. fencing, survey pins, cleared boundaries), and/or a handheld GPS unit.

It is premature at this stage of the development process to undertake a detailed higher level tree risk assessment. Danger trees were identified following a methodology that was generally consistent with the Limited Visual Assessment method described in the Tree Risk Assessment Manual (2nd Edition), with observance to the Wildlife/Danger Tree Assessment methods. A detailed assessment of every tree on and near the subject property was not completed. The approach used in this assessment was only intended to identify trees with obvious defects and imminent or probable likelihood of failure and that had a potential to strike the proposed development. A more comprehensive risk assessment is beyond the scope of the RAPR. The risk assessment was not intended to identify all risks associated with trees and represented only conditions observed at the time of the assessment. It is also noted that not all defects are detectable and not all failures are predictable. The danger tree assessment completed for this project is only considered valid for a period of up to one year from the date of the assessment under normal weather conditions and would be voided by storms with wind speeds exceeding 65 km/hr, extreme weather events, and/or the first interceding winter, whichever comes first. The period noted above should not be considered a guarantee period for the risk assessment. Detailed follow up tree risk assessment are recommended immediately in advance of development activities.

The potential effects of climate change to onsite watercourses was considered as part of this assessment. It is also noteworthy that future local land-use conversions (e.g. logging, residential development) will likely alter watershed characteristics in a shorter timeframe than climate change. As site specific effects of climate change and land use conversion are not known at this time, recommendations have not been made to mitigate potential future changes to the hydrology and riparian habitat type on the subject property.

The subject property was assessed by Redcedar Environmental on November 21, 2022.

Site Context

The subject property is located within a first order watershed (local watershed code 100-050984-537493) of approximately 528 ha for Ammon Brook, a tributary to Silverdale Creek.

The subject property is situated in the increasingly urban compact portion of northern Mission in the Cedar Valley Area corridor. This area has seen rapid development from rural residential to urban compact zoning and development in recent years. Development has resulted in the conversion of portions of fields and forests to urban residential. Lands surrounding the site to the north and west are undergoing redevelopment. Properties to the south consist of commercial (gas station) and residential lots. Adjacent residential properties to the east are less densely developed with a forested riparian corridor extending to Ammon Brook, north of Dewdney Trunk Road.

An unclassified stream was located approximately 10 to 15 m east of the subject property. The watercourse flowed northwards into Ammon Brook, a significant fish-bearing stream in the City of Mission. The riparian area along this stream is designated by the Official Community Plan (OCP) as an Environmentally Sensitive Area (ESA) and part of a mapped Protected Natural Asset (PNA) that covers approximately 21,830 m^2 (5.4 acres) between Dewdney Trunk Road and Rosetta Avenue. Within the subject property, the ESA and PNA encompasses 972 m^2 of the northeastern corner of the lot. Other than the adjacent watercourse and riparian area to the east, there were no significant hydrologic features on the property.

The subject property is approximately 2.47 acres (~1.0 ha) and contained a single-family home, a garage/shop and a small shed. The property consisted of maintained landscaped yard with narrow areas of naturalized terrestrial shrub and forested vegetation.

Aerial imagery indicated that land use and vegetation cover on the subject property has remained relatively constant since at least 2004.

Riparian Vegetation

Riparian vegetation within the SPEA, mostly on neighbouring properties, was characterized by a prevalence of paper birch (*Betula papyrifera*), western redcedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), cherry (*Prunus* sp.), salmonberry (*Rubus spectabilis*), Himalayan blackberry (*Rubus armeniacus),* sword fern (*Poystichum munitum*), largeleaf avens (*Geum macrophyllum*), and piggyback plant (*Tolmiea menziesii*).

Vegetation on the subject property was characterized as a maintained landscaped yard with several hedgerows of coniferous trees, predominantly Douglas-firs (*Pseudotsuga menziesii*). The only vegetation within the SPEA on the subject property was Himalayan blackberry, and a small tree of common holly was located along the SPEA boundary.

Ornamental trees and shrubs were planted outside areas of lawn, and a garden was located near the center of the property. Notably, the eastern portion of the subject property contained a large stand of naturalized trees and shrubs. Hedgerows of mature conifers were also located in the center and along the northern and southern lot boundaries. Tree species on the property included Douglas-fir, red alder (*Alnus rubra*), white poplar (*Populus alba*), Norway spruce (*Picea abies*), paper birch and several other deciduous species, however Douglas-fir comprised over 83% of the composition.

Shrub vegetation on the subject property was comprised of native and invasive species. This included beaked hazelnut (*Corylus cornuta*), common holly (*Ilex aquifolium*), salmonberry, red elderberry (*Sambucus racemose*), vine maple (*Acer circinatum*), osoberry (*Oemleria cerasiformis*), Japanese knotweed (*Reynoutria japonica*), and Himalayan blackberry. Herbaceous species included sword fern (*Poystichum munitum*), buttercup (*Runnunculus repens*), English ivy (*Hedera helix*), bindweed (*Convolvulus arvensis*), and lawn grasses (*Poaceae* sp.).

Aquatic Habitat Assessment Results

WC1

There was one watercourse (WC1) near the subject property, located on adjacent properties to the east. The watercourse was a natural stream that originated immediately to the south near Rosetta Avenue, and flowed north in a meandering, shallow channel through rural residential properties to Ammon Brook, located approximately 330 m from the subject property. Chanel widths near the subject property were an average of 1.9 m and it had a wetted depth of 5 – 10 cm. Substrate consisted of fines, sands, and gravels. Habitat features included overhanging vegetation, instream vegetation, and riffles. Near the northeastern corner of the subject property, the stream received minor levels of flow from a seep and small drainpipe outlet presumed to originate from the perimeter drain of the house on the subject property.

Available mapping illustrates this stream as having an unknown fish bearing status. Per the Community Mapping Network's Sensitive Habitat Inventory Mapping (SHIM) atlas, there are known important coho salmon spawning locations downstream in Ammon Brook. Ammon Brook is known as an important salmon stream in Mission, and based on field observations, there was no reason to rule out the presence of fish in this tributary stream. Anticipated uses at that location would include rearing, spawning, and migrating.

Aquatic habitat values were rated as moderate, that is, there was some high-value rearing habitat, as indicated above, however the stream did not have deep pools, undercut banks, or significant presence of large woody debris.

Based on the above observations and experience in the area, the watercourse was considered to be a fish-bearing stream that will require a Streamside Protection and Enhancement Area (SPEA) per the Riparian Areas Protection Regulation (RAPR). A 10 m wide setback, measured from the high-water mark (stream boundary), will be required. The SPEA would cover only a small segment of the northeastern corner of the subject property.

Conclusions

Overall, habitat values were rated as moderate.

Limitations

This assessment report has been prepared specifically for the development described in this report, and in general accordance with the professional practice guidelines for legislated riparian assessments in BC. This assessment report was based on the best available information and on work undertaken per standard industry practice.

This assessment report has been prepared for the sole use of the developer named on this report, the local government, the Ministry of Forests, Lands Natural Resource Operations and Rural Development, and Fisheries and Oceans Canada. The recommendations made in this assessment are considered valid for a period of five years from the date of publication, or until additional development is proposed on the subject property; whichever is shorter.

This report should be reviewed and/or updated in the event the development is not complete within a period of five years; in the event there is a substantial change in the condition of the subject property (e.g. paving, removal of additional vegetation, change of land use) not described in this report; or in the event that the subject property is sold to another party for the purpose of development.

The proposed start and end date of the development listed in this report have been provided to provide a fair window of opportunity for the completion of the development activities. However, it should be noted that the dates provided are approximate and may be subject to change.

If the QEP(s) listed in this report is (are) not retained to undertake field reviews and environmental monitoring, it may not be possible to provide an assurance statement that the measures to protect the SPEA provided in this report were appropriately followed, or to sign and submit a conformance statement.

Use of this report by a third party, or any reliance on or decisions made based on it, are the responsibility of such third parties. Redcedar Environmental Consulting Inc. does not accept

responsibility for any damages suffered by a third party as a result of their use of or reliance on this report.

Section 2. Results of Riparian Assessment (SPEA width)

Attach or insert the Form 3 or Form 4 assessment form(s). Use enough duplicates of the form to produce a complete riparian area assessment for the proposed development

Results of Detailed Riparian Assessment

Refer to Section 3 of Technical Manual

Date: January 20, 2023

Description of Water bodies involved (number, type)	WC1
Stream	X
Wetland	
Lake	
Ditch	
Number of reaches	1
Reach #	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 (%)
starting point	1.9		3
upstream	1.8		
	1.9		
	2.4		
	2.2		
downstream	1.9		
	1.9		
	1.9		
	1.4		
	1.9		
	1.9		3
Total: minus high /low	17.5		
mean	1.9		3
	R/P	C/P	S/P
Channel Type	X		

I, Remi Masson, 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 Gagan Dhaliwal ;
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 technical manual to the Riparian Areas Protection Regulation.

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

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	5.8	South bank	Yes		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, Remi Masson , 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 Gagan Dhaliwal ;
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 technical manual to the Riparian Areas Protection Regulation.

Comments

The Shade Zone of Sensitivity does not apply in this case as the watercourse drains in a north to south direction.

The SPEA will be entirely contained within a PNA. The PNA is anticipated to provide ample buffer of the SPEA from the impacts of the development. Existing areas of human disturbance (e.g. landscaped areas/blackberry thickets) are considered to be grand-parented. Those land uses can be retained as part of future development activities, provided the nature of the disturbance does not change.

Section 3. Site Plan

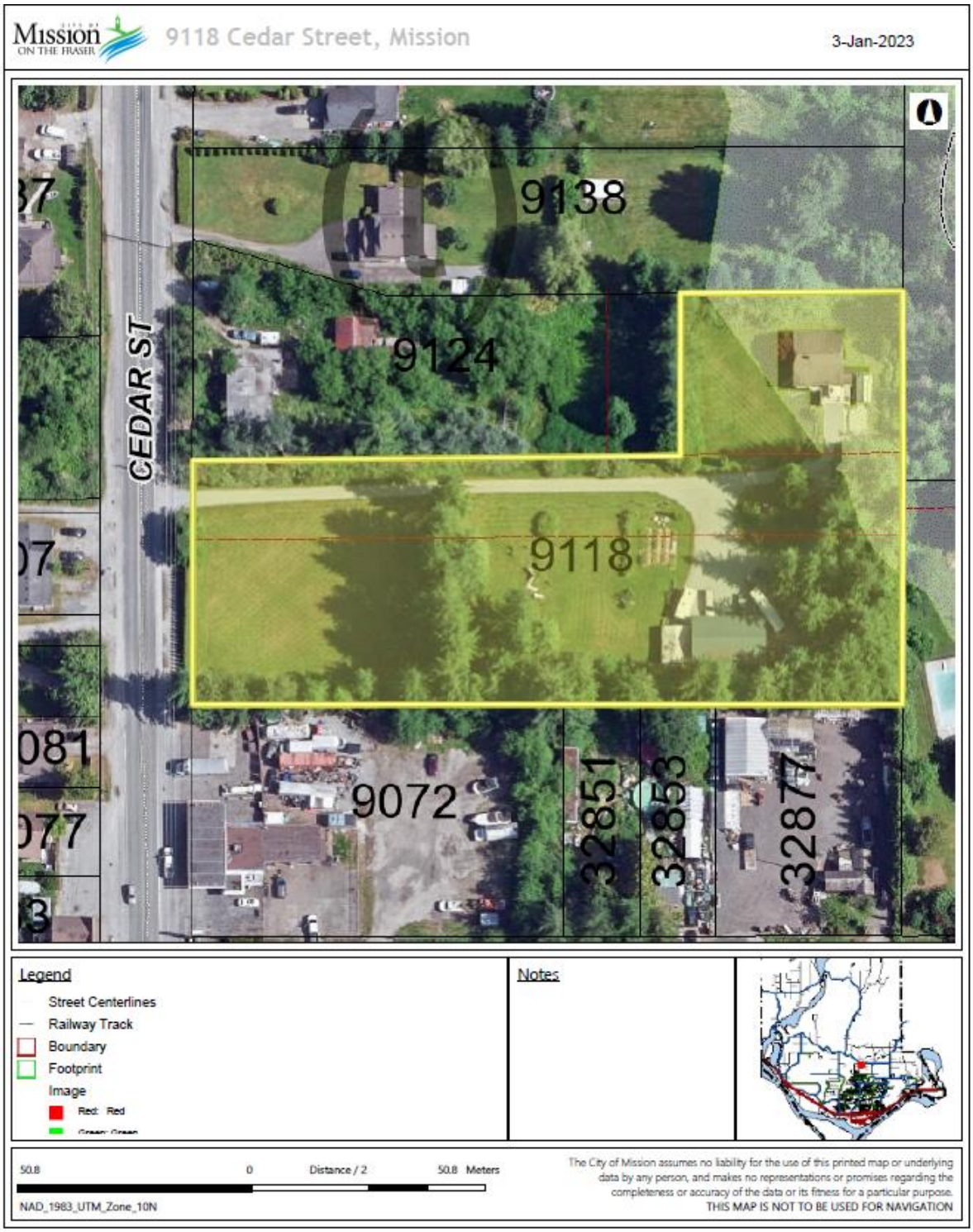


Figure 1.Site map of 9118 Cedar Street, Mission, BC (subject property). The City's PNA / Environmentally Sensitive Area (riparian buffer) is depicted by the lightly shaded area covering the northeastern corner around the existing home. Sourced from Mission WebMap, January 3, 2023.

TOPOGRAPHIC SITE PLAN OF LOT 2 SECTION 33 TOWNSHIP 17 NEW WESTMINSTER DISTRICT PLAN 76460

CIVIC ADDRESS:
9118 Cedar Street, Mission, BC
P.I.D. 009-330-429

SCALE 1 : 250
2.5 0 5 10
ALL DISTANCES ARE IN METRES

MH-ST
RIM= 140.54
N.INV= 137.40
S.INV= 138.52
S.INV= 137.16

34
PLAN 62267

1
PLAN 76460

SRW PLAN 76461

2
PLAN 76460
AREA
9983.8 Sq.m.
2.467 Acres

29
PLAN 48665

SRW PLAN 78121

1
PLAN 78120

A
PLAN 12659

D
PLAN 12659

C
PLAN 12659

1
PLAN 9610

CEDAR STREET

89°07'44" 105.763

89°09'41" 48.414

89°39'09" 154.113

179°27'30" 35.333

179°45'00" 52.984

179°46'10" 89.700

wood fence

gravel driveway

asphalt driveway

cedar hedge

edge of road

centreline

existing house

existing building

stairs

block retwall

flagged high water mark

LEGEND

- DENOTES STANDARD IRON POST FOUND
- DENOTES CATCH BASIN - TOP ENTRY
- PP DENOTES UTILITY POLE
- PPT DENOTES UTILITY POLE WITH TRANSFORMER
- WV DENOTES WATER VALVE
- DENOTES GUY WIRE
- MHS DENOTES SANITARY MANHOLE
- MHD DENOTES STORM MANHOLE
- × DENOTES GROUND ELEVATION
- (t) DENOTES TOP OF RETAINING WALL ELEVATION
- DENOTES TREE AND CANOPY EXTENT
  diameter type dripline multi-stemmed
  30 coniferous 5 MS (typical)

This Plan was prepared for architectural design and permit purposes, and is for the exclusive use of our client. The signatory accepts no responsibility or liability for any damages that may be suffered by a third party as a result of reproduction, transmission or alteration to this document without consent of the signatory.

CERTIFIED CORRECT
DATED THIS 18th DAY OF DECEMBER, 2022

_____ BCLS
Finny Philip

Lot dimensions are derived from FIELD SURVEY

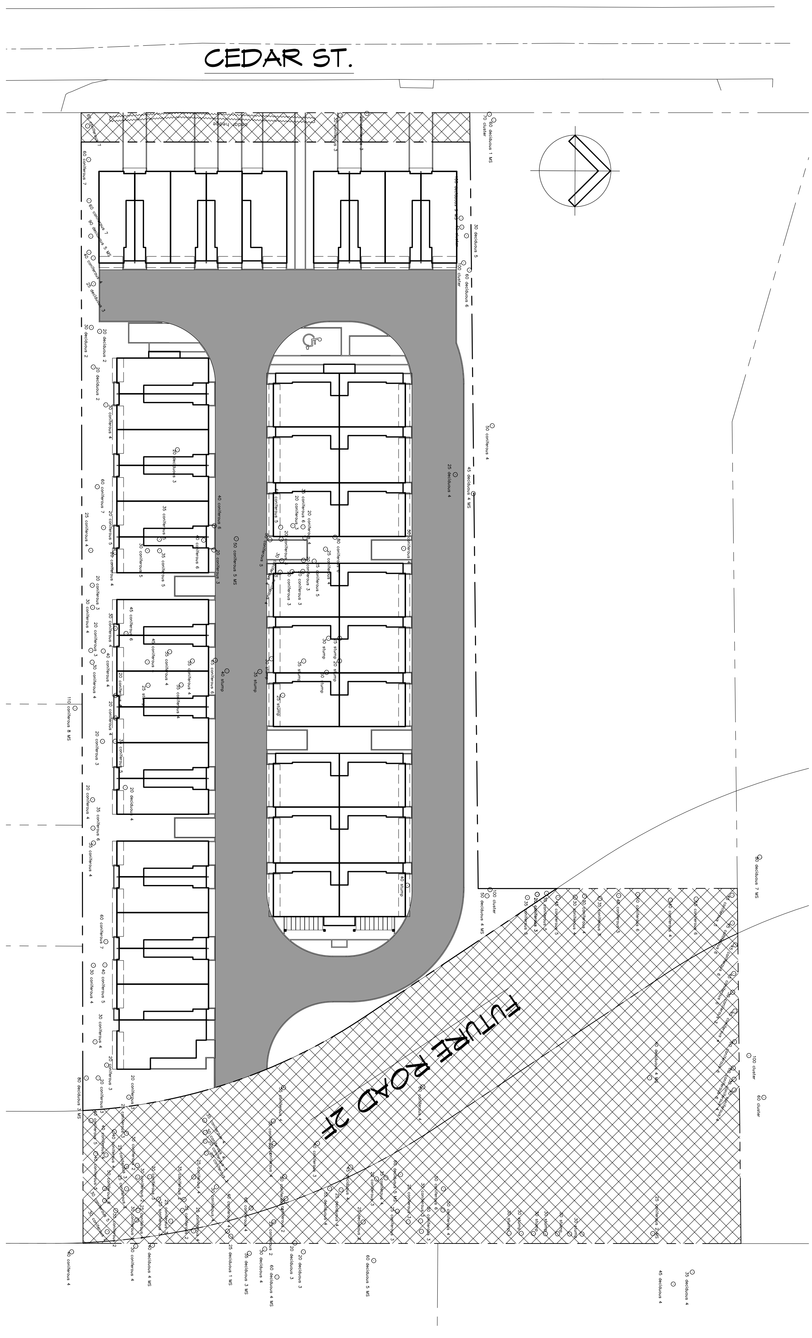
Elevations are Geodetic (CVD28 GVRD-2018 - IN METERS) Derived from RTK GNSS OBSERVATIONS.

Invert elevations and offsets of services from property lines are derived from municipal records and field survey. Contractor to verify all service locations and inverts prior to construction.

Spot elevations along curb are taken in gutter

Tree diameters are taken at 1.4m above grade and are shown in cm.

www.elevatelandsurveying.com
finny@elevatelandsurveying.com
604-385-5571
ELEVATE LAND SURVEYING
FILE: 22-2063-SITE



1
A-1.a

ARBORIST PLAN

SCALE 1/32" = 1'-0"

LEGEND:

COMMON DRIVEWAY / FIRE DEPARTMENT ACCESS ROUTE

EXISTING TREES (V/ SPECIES & SIZE

date:	December 2022
scale:	AS NOTED
drawn:	S.P.
checked:	D.H.
project no.	221212
sheet no.	A-1.a

project:

PROPOSED DEVELOPMENT
9118 CEDAR STREET
MISSION, B.C.

drawing:

ARBORIST PLAN

Architectural Seal

TRIO Architecture Inc.
info@trioarchitecture.ca
604.854.3740
Unit B 33623 Wildwood Drive
Abbotsford, BC V2S 1S2

TRIOARCHITECTURE.CA

ISSUE TABLE

No.	Date (dd/mm/yyyy)	By	Description
1	DATE	D.H.	ISSUED FOR BUILDING PERMIT

REVISIONS

No.	Date	By	Description

ALL DIMENSIONS & CONDITIONS MUST BE VERIFIED ON THE SITE

C:\Users\14033\Desktop\221212 - 9118 & 9138 Cedar & 32909 Rosetta\221212 - A-1.1 - Site Plan.dwg - plotted by Shae Peters @ December 20, 2022 9:01:39 AM

Section 4. Measures to Protect and Maintain the SPEA

This section is required for detailed assessments. Attach text or document files, as need, for each element discussed in Part 4 of the RAPR. It is suggested that documents be converted to PDF *before* inserting into the assessment report. Use your "return" button on your keyboard after each line. You must address and sign off each measure. If a specific measure is not being recommended a justification must be provided.

1. Danger Trees	Trees on the subject property were tagged and assessed as part of the scope of this project. The proposed development will be situated far enough away from the SPEA that it is unlikely to be affected by potential danger trees in the SPEA. Danger trees were not observed in the SPEA on the subject property. As such, specific measures are not required at this time. Dead trees within the SPEA function as a source of large woody debris (LWD) and are to be retained during and following the development phase unless a QEP (Certified Danger Tree Assessor) determines that the trees pose a risk to persons or property (as described in Appendix 2 of the RAPR Assessment Methods). Trees felled in the SPEA should be left as LWD in the SPEA, if advised to do so by a QEP. Recommendations for the retention of LWD within the channel must be made in consideration of the local habitat type. If danger trees are felled in the SPEA, the QEP's report is to be submitted as an addendum to this report prior to the issuance of a development permit.
I, Remi Masson, hereby certify that: e) I am a qualified environmental professional, as defined in the Riparian Areas Protection Regulation made under the *Riparian Areas Protection Act*; f) I am qualified to carry out this part of the assessment of the development proposal made by the developer Gagan Dhaliwal ; g) 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 Minister's technical manual to the Riparian Areas Protection Regulation.	
2. Windthrow	This project does not require removal of trees near the SPEA, except for one small holly tree located near the boundary. The impact of its removal will be deemed negligible, and this development will therefore not result in new wind stresses on trees in the SPEA.
I, Remi Masson, 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 Gagan Dhaliwal ; 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 Minister's technical manual to the Riparian Areas Protection Regulation.	

3. Slope Stability	This report does not constitute a landslide risk assessment or a risk assessment for the proposed development. Field indicators of slope instability were not observed within the RAA and the property was virtually flat. Specific measures are not required at this time.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

4. Protection of Trees	The proposed PNA is anticipated to provide adequate protection to trees in the SPEA which are located on the adjacent property. Trees within the SPEA (aside from danger trees as identified by a QEP) will be left in place. Trees in the SPEA are to be protected from the development. Impacts to trees within the SPEA can occur through 1) compaction or disturbance to soils; 2) disposal of concrete leachate or other pollutants; or 3) parking of vehicles beneath the drip line. Any excavation or soil disturbance within 6 m of a tree in the SPEA must be completed under the supervision of a QEP to ensure that the activities in the developable area do not affect trees in the SPEA. At no time during construction should there be any temporary or permanent storage of construction materials or substrate within the non-encroachment areas described above. It should be noted that tree felling may be subject to additional legislation, bylaws, and/or best practices not covered within this report.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

5. Encroachment	The PNA boundary must be delineated by a qualified professional (e.g., surveyor) based on the location of the stream boundaries as defined in the RAPR (and as identified by a QEP) prior to commencement of works. The PNA (and the SPEA by extension) on the subject property is to be designated as a no-encroachment area. The PNA cannot be used as a staging location or for storage of construction materials. Temporary fencing should be placed at the PNA boundary during construction to prevent encroachment. Temporary fencing may consist of snow fencing or similar material and must be removed following construction. Permanent fencing is recommended for this site once construction is complete. Fencing should be placed at the PNA boundary. A 1.8 m tall chain link fence is recommended. Signage indicating the sensitive nature of the SPEA is required. Current and future landowners must be made aware that onsite aquatic features are environmentally valuable and protected by provincial and federal legislation.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

6. Sediment and Erosion Control	Sediment or sediment-laden water must not be allowed to enter the SPEA. As the subject property is flat and largely grassed, the risk of sedimentation resulting from this project is considered to be low. A silt-fence must be adequately installed at the SPEA boundary or edge of development as required to prevent entrainment of sediment into the SPEA or into the onsite or near site aquatic features. Exposed soils at the periphery of the development area must be seeded at a rate of 50kg/ha during the growing season if soils are to remain undisturbed for more than 14 days. Use of a hydroseed or similar may be required if exposed soils cannot be adequately stabilized. All exposed soils must be seeded in April and September. Soil stockpiles must not be stored in such a way that they cannot release sediment to a stream or to the SPEA. These must be covered with poly if not being actively used. Additional erosion and sediment control measures may be required at the recommendations of a QEP.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

7. Stormwater Management	Stormwater will be directed to the municipal infrastructure. Although not anticipated to be required for this project, any new stormwater outfall would require authorization from the senior regulatory agencies.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

8. Floodplain Concerns (highly mobile channel)	Onsite watercourses were confined within clearly defined banks, and there was no evidence of recent or historic flooding. As such, there are no floodplain concerns for the subject property.

I, Remi Masson, 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 Gagan Dhaliwal ;

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 Minister's technical manual to the Riparian Areas Protection Regulation.

Section 5. Environmental Monitoring

Attach text or document files explaining the monitoring regimen Use your "return" button on your keyboard after each line. It is suggested that all document be converted to PDF *before* inserting into the PDF version of the assessment report.
Include actions required, monitoring schedule, communications plan, and requirement for a post development report.

The proponent has been informed that in the event of ground disturbing activities, a QEP who is familiar with the project, subject property, the local ecology, erosion and sediment control, and best construction management practices should be retained to provide environmental monitoring for this project. The QEP retained to provide environmental monitoring services must be provided the authority to modify and/or halt any works as necessary for the protection of fish and fish habitat, and to comply with the RAPR.

The measures to protect the SPEA described above should be communicated to the site workers as required to prevent impacts to the SPEA, the onsite watercourses, or the harmful alteration, disturbance, or destruction of fish habitat.

The QEP should provide monitoring as required to ensure that the SPEA and the fish habitat it contains is protected from the development, that the measures to protect the SPEA are respected and have been appropriately implemented and/or observed, and that works are compliant with any applicable legislation or local bylaws.

At a minimum, inspections should occur:

- Immediately prior to soil disturbing activities to ensure that the appropriate mitigation measures have been communicated to the construction team, and to ensure that they have been appropriately installed;
- At the mid-point of construction to determine if the installed mitigation measures are functioning as intended, and to determine if additional measures are required to protect the integrity of the SPEA;
- At the substantial completion of construction activities to confirm that the measures implemented were appropriate for the protection of the SPEA, and to make recommendations as required for the long-term protection of the SPEA.

Monitoring frequency can be modified at the QEP's discretion and with consultation with the local government based on observed site conditions, contractor compliance, and weather conditions.

Per Section 5 (a) of the *Riparian Areas Protection Regulation*, a project completion report is required to be completed by a QEP, and submitted to the RAPR Notification System to confirm that the conditions described in this report have been properly implemented.

Section 6. Photos

Provide a description of what the photo is depicting, and where it is in relation to the site plan.

Photograph 1. View of the northeast corner of the subject property (existing house, carport, cedar hedges and row of cut stumps) and adjacent property to the east consisting of semi-maintained riparian vegetation around the watercourse.

Photograph 2. View of the mixed native and invasive riparian vegetation on the adjacent property (facing north) located approximate 10 m from the subject property. A drain pipe from the subject property was observed close to this location.

Photograph 3. View, facing north, of the stream showing channelization and meandering with semi-maintained yard and walkway crossing.

Photograph 4. View looking east of the northeastern corner of the existing lot where the SPEA enters the subject property. The holly tree (center of frame) is located immediately outside of the SPEA boundary, with the Himalayan blackberry and composting bins (left of frame) located inside the SPEA. Riparian trees within the SPEA were located in the neighbouring property and are not to be impacted by development.

Photograph 5. View of the lawn, hedgerow of Douglas firs and Himalayan blackberry along the northern perimeter of the subject property which is contained within the designated PNA to the west of the SPEA.

Section 7. Professional Opinion

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

Date January 20, 2023

1. I/We: Remi Masson

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 Gagan Dhaliwal, 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) [n/a] the site of the proposed development is subject to undue hardship, (**if applicable, indicate N/A otherwise**) and
b) [X] 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.]

January 20, 2023

Preliminary Bioinventory & Arborist Report

File #: 22-352R

Gagan Dhaliwal
9118.cedar@gmail.com

Re: Preliminary Biological Inventory and Arborist Assessment for 9118 Cedar Street, Mission, BC

BACKGROUND

Redcedar Environmental Consulting Inc. (Redcedar Environmental) was retained by the landowner of the subject property to undertake a preliminary biological inventory and arborist assessment of the subject property (PID: 009330429) located at 9118 Cedar Street, Mission, BC. This report is required as a condition of the Natural Environment Development Permit Area permitting process with the City of Mission.

The proposed development consists of the densification of the existing lot from one single-family home to a 45-unit townhome development with an access road and common driveway. The entire lot will be utilized for the development, although the construction footprint will only include all areas west of the Protected Natural Asset (PNA), on the west side of the Streamside Protection and Enhancement Area (SPEA) on the attached plan.

Per the Cedar Valley Land Area Plan (CVLAP) the biological inventory is to include: a habitat assessment, species at risk assessment, and invasive plant assessment.

The subject property was assessed by Redcedar Environmental on November 21, 2022.

This letter is intended to summarize the wildlife habitat and vegetation communities observed onsite and to make recommendations to protect environmentally valuable resources.

HABITAT ASSESSMENT

Site Context

The subject property is located within a first order watershed with Ammon Brook to the north (local watershed code 100-050984-537493). The watershed is approximately 528 ha and land use in this watershed is predominantly rural residential. Per the Biogeoclimatic Ecosystem Classification Subzone/Variant Map for the Mission Resource District, the subject property is located within the Coastal Western Hemlock dry maritime (CWHdm) subzone.

The subject property is situated in the urban compact portion of northern Mission in the Cedar Valley corridor. This area has seen rapid development from rural residential to urban compact zoning and development in recent years. Development has resulted in the conversion of fields and forests to urban

residential. Lands surrounding the site to the north and west are undergoing redevelopment. Properties to the south consist of commercial (gas station) and residential lots. Adjacent residential properties to the east are less densely developed with a forested riparian corridor extending to Ammon Brook, north of Dewdney Trunk Road.

An unclassified stream was located approximately 10 to 15 m east of the subject property. The watercourse flowed northwards into Ammon Brook, a significant fish-bearing stream in the City of Mission. The riparian area along this stream is zoned as an Environmentally Sensitive Area (ESA) and designated by the Official Community Plan (OCP) as 'Natural Open Spaces', which encompasses 972 m^2 of the northeastern corner of subject property. Other than the adjacent watercourse and riparian area to the east, there were no significant hydrologic features on the property.

The subject property is approximately 2.47 acres (~1.0 ha) and contained a single-family home, a garage/shop and a small shed. The property consisted of maintained landscaped yard with narrow areas of naturalized terrestrial shrub and forested vegetation.

Aerial imagery indicated that land use and vegetation cover on the subject property has remained relatively constant since at least 2004.

Vegetation Communities

Vegetation on the subject property consisted of a maintained landscaped yard with several hedgerows of coniferous trees, predominantly Douglas-firs (*Pseudotsuga menziesii*). Ornamental trees and shrubs were planted outside areas of lawn, and a garden was located near the center of the property. Notably, the eastern portion of the subject property contained a large stand of naturalized trees and shrubs. Hedgerows of mature conifers were also located in the center and along the northern and southern lot boundaries. Tree species on the property included Douglas-fir, red alder (*Alnus rubra*), white poplar (*Populus alba*), Norway spruce (*Picea abies*), paper birch (*Betula papyrifera*) and several other deciduous species, however Douglas-fir comprised over 83% of the composition (Figure 1).

Shrub vegetation on the subject property was comprised of native and invasive species. This included beaked hazelnut (*Corylus cornuta*), common holly (*Ilex aquifolium*), salmonberry (*Rubus spectabilis*), red elderberry (*Sambucus racemose*), vine maple (*Acer circinatum),* osoberry (*Oemleria cerasiformis*), Japanese knotweed (*Reynoutria japonica*), and Himalayan blackberry (*Rubus armeniacus*). Herbaceous species included sword fern (*Poystichum munitum),* buttercup (*Rununculus repens*), English ivy (*Hedera helix*), bindweed (*Convolvulus arvensis*), and lawn grasses (*Poaceae sp.*).

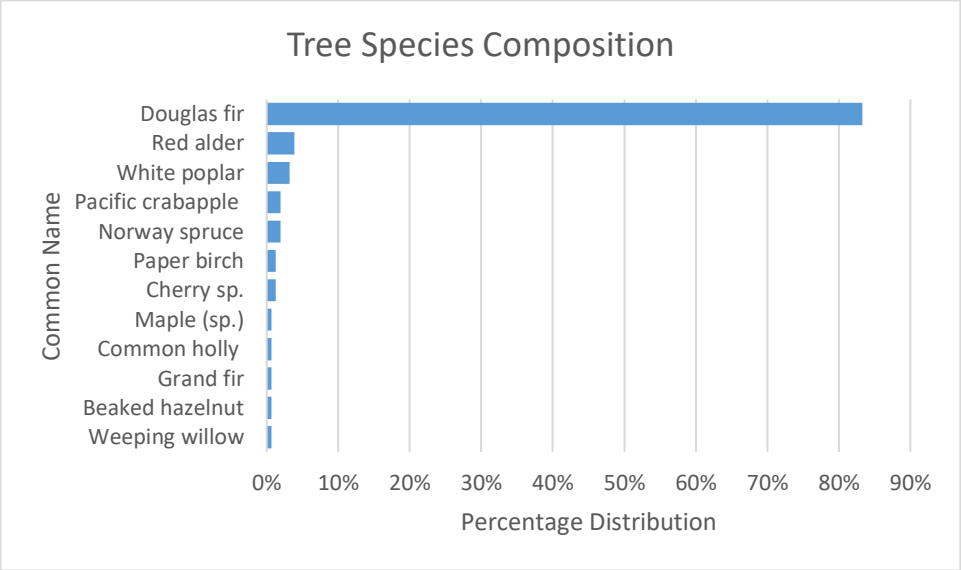


Figure 1. Percentage distribution of species for all trees in the arborist assessment.

Wildlife Habitat

The subject property consisted of lawn and a vegetation cover largely in the form of hedge grown trees with pockets of shrub vegetation bordering the lot. The lawn area provided little habitat for any wildlife species; however fruiting trees provide a source of food for songbirds, and small and large mammals, tolerant of higher levels of human disturbance. Use by sensitive species, if any, would be infrequent and for short durations only.

The larger trees and dense shrubs present throughout the property could provide nesting habitat for songbirds and raptors. Additionally, cover or refuge habitat for small mammals and amphibians could be present, though significant use is not expected.

Residential areas generally provide limited habitat for wildlife species, however residential areas may provide migratory habitat for species tolerant of human activity including larger bodied animals (e.g., racoons (*Procyon lotor*), coyotes (*Canis latrans*)), and birds.

Overall, it is expected that this property would be used by common wildlife species tolerant of high levels of human disturbance. Habitat values on the subject property are not limiting for any of the species (common and otherwise) expected to occur at this location.

Species-at-Risk

Occurrence records for one species at risk were found within 2 km of the subject property during a desktop assessment on iMapBC. The occurrence was found for dun skipper (*Euphyes vestris*). The occurrence record for dun skipper was historical in nature and the species has not been found in the area for over 100 years; as such, the likelihood of occurrence for dun skipper on the subject property was nil.

Due to a lack of suitable habitat, there is little likelihood of adjacent properties providing a source of species at risk to the subject property.

In total, six species at risk were identified as possibly occurring on the subject property (Table 2 of Attachment 2). The likelihood of occurrence of these additional species at risk are presented in Table 3 of Attachment 2.

In general, the likelihood of occurrence for species-at-risk on the subject property is considered low.

Watercourses

There was one watercourse near the subject property, located on adjacent properties to the east. The watercourse was a natural stream that originated immediately to the south near Rosetta Avenue, and flowed north in a meandering, shallow channel through rural residential properties to Ammon Brook, located approximately 330 m from the subject property. Chanel widths near the subject property were an average of 1.9 m and it had a wetted depth of 5 – 10 cm. Substrate consisted of fines, sands, and gravels. Habitat features included overhanging vegetation, instream vegetation, and riffles. Near the northeastern corner of the subject property, the stream received minor levels of flow from a seep and small drainpipe outlet presumed to originate from the perimeter drain of the house on the subject property.

Available mapping illustrates this stream as having an unknown fish bearing status. Per the Community Mapping Network's Sensitive Habitat Inventory Mapping (SHIM) atlas, there are known important coho salmon spawning locations downstream in Ammon Brook. Ammon Brook is known as an important salmon stream in Mission, and based on field observations, there was no reason to rule out the presence of fish in this tributary stream. Anticipated uses at that location would include rearing, spawning, and migrating.

Aquatic habitat values were rated as moderate, that is, there was some high-value rearing habitat, as indicated above, however the stream did not have deep pools, undercut banks, or significant presence of large woody debris.

Based on the above observations and experience in the area, the watercourse was considered by default to be a fish-bearing stream that will require a Streamside Protection and Enhancement Area (SPEA) per the Riparian Areas Protection Regulation (RAPR). The 10 m wide SPEA, measured from the high-water mark (stream boundary), covers only a small segment of the northeastern corner of the subject property. For more information on the streamside setbacks see the RAPR assessment report.

Noxious Weeds

The BC *Weed Control Act* imposes a duty on all land occupiers to control designated noxious weeds. Japanese knotweed (*Reynoutria japonica*) is designated as a noxious weed in the Lower Mainland and was the only provincially listed noxious plant observed on the subject property. It occurred along a narrow band of vegetation and trees at the southern property line, covering approximately 23 m^2.

Commonly occurring invasive vegetation was also present, including Himalayan blackberry, English ivy, and common holly. While no action is required at this time, any fill brought onto the subject property (if

any) should be free of invasive species to prevent their spread and encroachment into environmentally sensitive areas.

Anticipated Effects of Development

This residential habitat type is not limiting across the landscape and any habitat values provided by the subject property may be found elsewhere in surrounding neighborhoods. Habitat values expected to occur after development (e.g., smaller gardens) would also still provide some habitat value to the common species expected to occur at this location.

Residential development necessarily results in a transition from more natural habitats to disturbed habitat, resulting in loss of overall habitat quantity at the local scale. This type of land use conversion is typically permanent. Reduction in the availability of habitat can result in overall reduction in wildlife and plant species abundance.

In this case, existing habitat, such as it is, is of low value to sensitive wildlife species. Although there will be less potential vegetation on the property following development, the proposed increased density should reduce development pressures on more sensitive lands elsewhere. Densification of existing developed land in an urban area is considered to be sustainable development and is consistent with habitat protection goals.

Recommendations

The following recommendations apply to any future activities on the subject properties.

1) Future land clearing must be in conformance with local bylaws and policies.
2) Tree and shrub removal and structural demolition should occur between September 1st and March 1st of any given year to avoid incidental take of any birds' nests or eggs; however, tree clearing or building removal is possible at any time if birds' nests are confirmed to be absent. A qualified environmental professional (QEP) should undertake a bird nest survey ahead of any land clearing or demolition activity to reduce the likelihood that birds or their nests and eggs will be negatively affected by the works.
3) Demolition of any buildings on the subject property should occur between September 1st and March 1st to avoid harming any bats potentially roosting in the structures. If demolition is required outside of this period, a survey for the presence of bats must be completed by a qualified environmental professional.
4) Birds of prey/raptors nests are protected year-round, regardless of occupation. A raptors nest survey should be completed in advance of tree clearing or building demolition on the subject properties.
5) Invasive vegetation species noted above should be removed from the property and/or chemically treated during development works. The removal or treatment of knotweed species in particular, to prevent their spread, is a legislated requirement for the development of the property.

6) Healthy mature trees should be retained whenever possible to preserve some of the existing habitat values as well the ecological services provided by trees to urban landscapes i.e., temperature regulation, uptake of excess stormwater, erosion control, etc.

7) Future landscaping activities should consider the use of native trees and shrubs to restore or retain some of the habitat values on the site.

8) Installation of bird nest boxes and bat boxes should be considered to help conserve some of the existing wildlife habitat values on the site.

9) Trees should be retained onsite where they do not conflict with development, to preserve the ecosystem services they provide (i.e., within the PNA).

ARBORIST ASSESSMENT

Assignment and Methodology

Trees in the study area were visually assessed to determine species, diameter at breast height (DBH) and characteristic description. Tree diameters were measured at 1.5 meters height with a diameter tape. All "significant trees", i.e., those with a caliper equal to or larger than 20 cm, were assessed as part of this inventory per the City of Mission Tree Retention/Replanting Policy LAN.32.

Protection areas were calculated for all trees within range of the property. Protection levels were based on the appropriate best management practices (Fite and Smiley, 2016; Matheny and Clark, 1998). Tree hazards were assessed according to International Society of Arboriculture standards using the TRAQ (Tree Risk Assessment Qualification) Limited Visual Assessment method.

The tree risk assessment approach used in this assessment was only intended to identify trees with obvious defects and imminent or probable likelihood of failure and that had a potential to strike the proposed development. Risks to adjacent properties or roadways was not assessed. The risk assessment was not intended to identify all risks associated with trees and represented only conditions observed at the time of the assessment. It is also noted that not all defects are detectable and not all failures are predictable. The danger tree assessment completed for this project is considered valid for a period up to one year and would be nullified by extreme weather events. The validity period noted above should not be considered a guarantee period for the risk assessment. Detailed follow up tree risk assessment are recommended immediately in advance of development activities.

The tree condition ratings summarize each tree based on both positive and negative attributes using five stratified categories. These ratings indicate health and structural conditions that influence a tree's ability to withstand local site disturbance during the construction process (assuming appropriate tree protection) and benefit a future urban landscape.

- Excellent: Tree of possible specimen quality, unique species, or size with no discernible defects.
- Good: Tree has no significant structural defects or health concerns, considering its growing environment and species.

- Moderate: Tree has noted health and/or minor to moderate structural defects. This tree can be retained, but may need mitigation (e.g., pruning or bracing) and monitoring post-development. A moderate tree may be suitable for retention within a stand or group, but not suitable on its own.
- Poor: Tree is in serious decline from previous growth habit or stature, has multiple defined health or structural weaknesses. It is unlikely to acclimate to future site use change. This tree is not suitable for retention within striking distance of most targets.
- Dying/Dead: Tree is in severe decline, has severe defects or was found to be dead.

Suitability for retention was based on the following preservation rankings:

- High: Tree with good health and structural stability that has the potential for longevity at the site.
- Medium: Tree with fair health and/or structural defects that can be abated with treatment; tree will require more intense management and monitoring and may have a shorter lifespan than those in the "High" category.
- Low: Tree in poor health or with significant defects that cannot be mitigated; tree is expected to continue to decline, regardless of treatment; the species or individual may have characteristics undesirable for landscapes and is generally unsuitable for use areas (Matheny and Clark, 1998).

Tree retention suitability is based on the potential for the tree to persist following development, assuming application of best management practices and takes into consideration the future location of the development. Recommendations for removal or retention are based on the suitability for retention and proposed development location. Trees are recommended for removal where they conflict with the development and/or are unsuited for retention.

Tree replacement is offered for trees with good and medium retention suitability that cannot be retained due to the location of the proposed development. Replacement trees are offered as required per LAN.32.

The observations recorded are based on inspections performed on November 21, 2022. The weather at that time was cloudy and cold.

Results

In total there were 156 trees with a DBH of 20 centimeters or greater located on or near the property that were included in the arborist assessment. The vast majority were of a single species, Douglas fir. Most trees were generally healthy (142 trees in good condition) and were suitable for retention. There were 7 trees in moderate condition and 7 trees in poor condition. All trees located outside the PNA on the subject property are currently expected to be removed as they conflict with development plans. Trees and vegetation within the PNA on the subject property are to be protected from development impacts, and include trees #393-400 and #900-913.

One Douglas fir, #336, was assessed off-site and to the south of the subject property, as it had a significant size (110 cm DBH). It is recommended for retention and for tree protection fencing installed at 6.6 m from the stem (Figure 4). Other off-site trees included on the survey drawing (OS1 through

OS11), located to the east of the subject property, were not included in the results of the tree inventory as they are unlikely to be impacted by development or were not accessible.

Tree stem diameters ranged in size from 20 cm to 115 cm DBH, with a strong tendency towards those within the range of 20 to 30 cm (Figure 2). The full inventory of trees is found in Table 4 of Attachment 2.

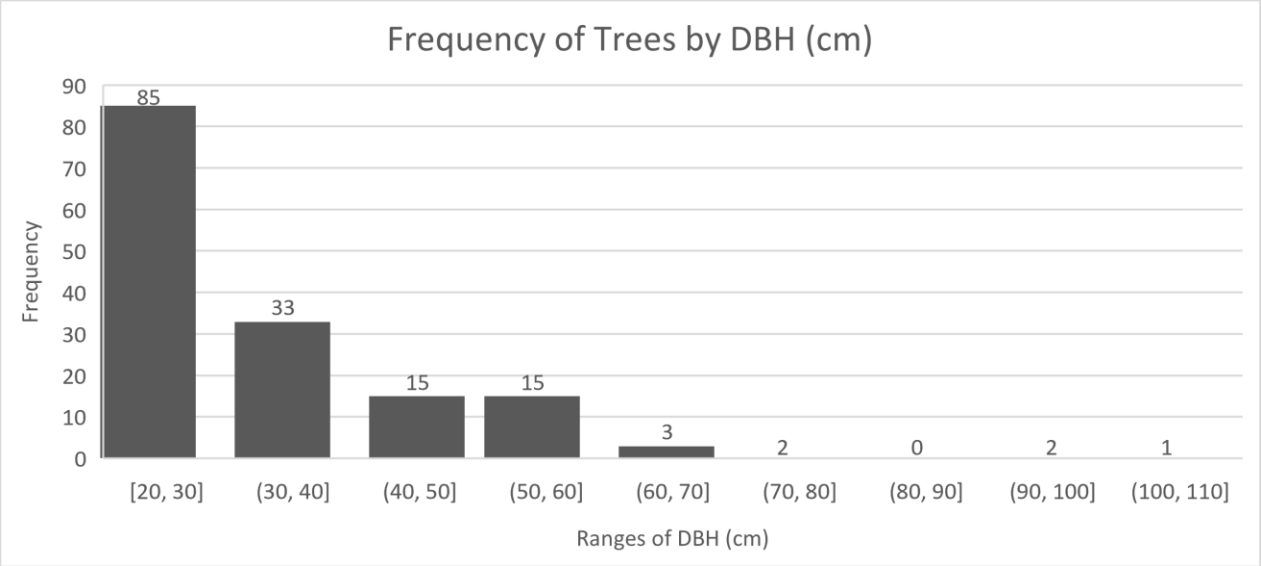


Figure 2. Summary of the frequency of trees assessed according to their range of DBH (cm).

Table 1. Summary of tree inventory results.
**Final number of new trees to plant may be adjusted based on number of subdivided lots.*

Summary Table

		Subject property	Off-site
# Trees assessed in total		155	1
# To be removed	Healthy (Good/Moderate Condition)	127	0
	Poor Condition	7	0
# To be protected		21	1
# Healthy trees located in municipal road footprint (excluded for replacement trees)		47	0
# Replacement trees required per City policy (LAN.32)		80	0
# Additional lot trees		2*	0
# Proposed new trees for planting		82	0

Recommendations

Tree Protection

Tree protection fencing for off-site tree #336 and all on-site trees located within the PNA must be installed prior to any ground disturbing activities. If used, temporary fencing must be installed as per municipal standards. All fencing installed must be maintained for the duration of construction.

Trees in the SPEA are anticipated to be protected from development as the PNA is anticipated to provide ample buffer from the impacts of the development.

The project arborist will be required to provide a comfort letter confirming tree protection has been appropriately completed before additional ground-disturbing activities may proceed.

Tree Removal

A bird nest survey is required in advance of tree removal at any time of year to confirm absence of songbird and/or raptor nests.

Tree removal is to only occur outside of the PNA boundary.

Tree removal within the SPEA is not anticipated in this development as there are no trees located within the portion of the SPEA on the subject property. Tree removal outside of the SPEA must be completed in accordance with municipal permitting requirements.

Tree Replacement

Per LAN.32, each tree to be removed requires one replacement tree, except for existing trees located within proposed municipal infrastructure (roadways) necessary to complete a development. There were 47 trees located within the footprint of the anticipated access roadway. Each retained tree outside the PNA (i.e., where retention is not required) is considered equivalent to three replanted trees. There are no trees outside of the PNA boundary expected to be retained at this time.

A total of 134 trees are anticipated to be removed from the development area. These are proposed to be replaced per LAN.32 as follows: Seven trees were assessed as having poor retention suitability, and an additional 47 trees were excluded from requiring replacements as they are located within a municipal access road allowance, resulting in 80 replacement trees required.

In addition, LAN.32 requires a minimum of two new trees to be planted on each lot created through the subdivision process, thus the final number of new lots created will determine how many additional trees are to be planted. This portion of the report may be updated with the number of additional lot trees to be planted.

Replacement trees are to be at least 5-gallon pot size. It is noted that the provincial tree replacement criteria call for trees with a minimum height of 2.0 m. While this is achievable, taller trees require greater maintenance following planting. Use of 5-gallon size trees is considered to be a reasonable compromise in this case.

Securities in the amount of $250 per tree (for planting) are required for this project, for a total of $20,500 (based on 82 trees in total).

Upon completion, the project arborist is to submit a memo to the City of Mission confirming trees have been planted. Securities may be released in accordance with the LAN.32.

Monitoring Requirements

Following are the monitoring requirements associated with this arborist assessment:

1) A Qualified Environmental Professional must confirm that there are no songbird or raptor nests in any tree slated for removal.
2) The project arborist must provide a comfort letter confirming tree protection fencing was correctly installed.
3) The project arborist must provide a memo confirming tree planting was correctly completed.

CLOSING

Habitat values on the subject property are low; as such, the proposed development is not anticipated to appreciably affect local ecological values.

Further, the demand for housing in the City of Mission is assumed to be constant. Densification at this location is likely to reduce pressures on remaining higher valued habitat in the short-term.

I trust this is the information you require at this time. Please do not hesitate to contact the undersigned if there are any questions or comments.

Redcedar Environmental Consulting Inc.

Rémi Masson, R.P.Bio. Certified Arborist®
Principal

Nathan Loewen, B.A., Dipl. Tech.

Attachments (3)

1. Figures
2. Tables
3. Selected Site Photographs

REFERENCES

Fite, K., & Smiley, E. (2016). *BMP Best Management Practices: Managing Trees During Construction 2nd ed.* International Society of Arboriculture.

Matheny, N. P., & Clark, J. R. (1998). *Trees and Development: A Technical Guide to Preservation of Trees During Land Development.* International Society of Arboriculture.

January 20, 2023

ATTACHMENT 1

Figures

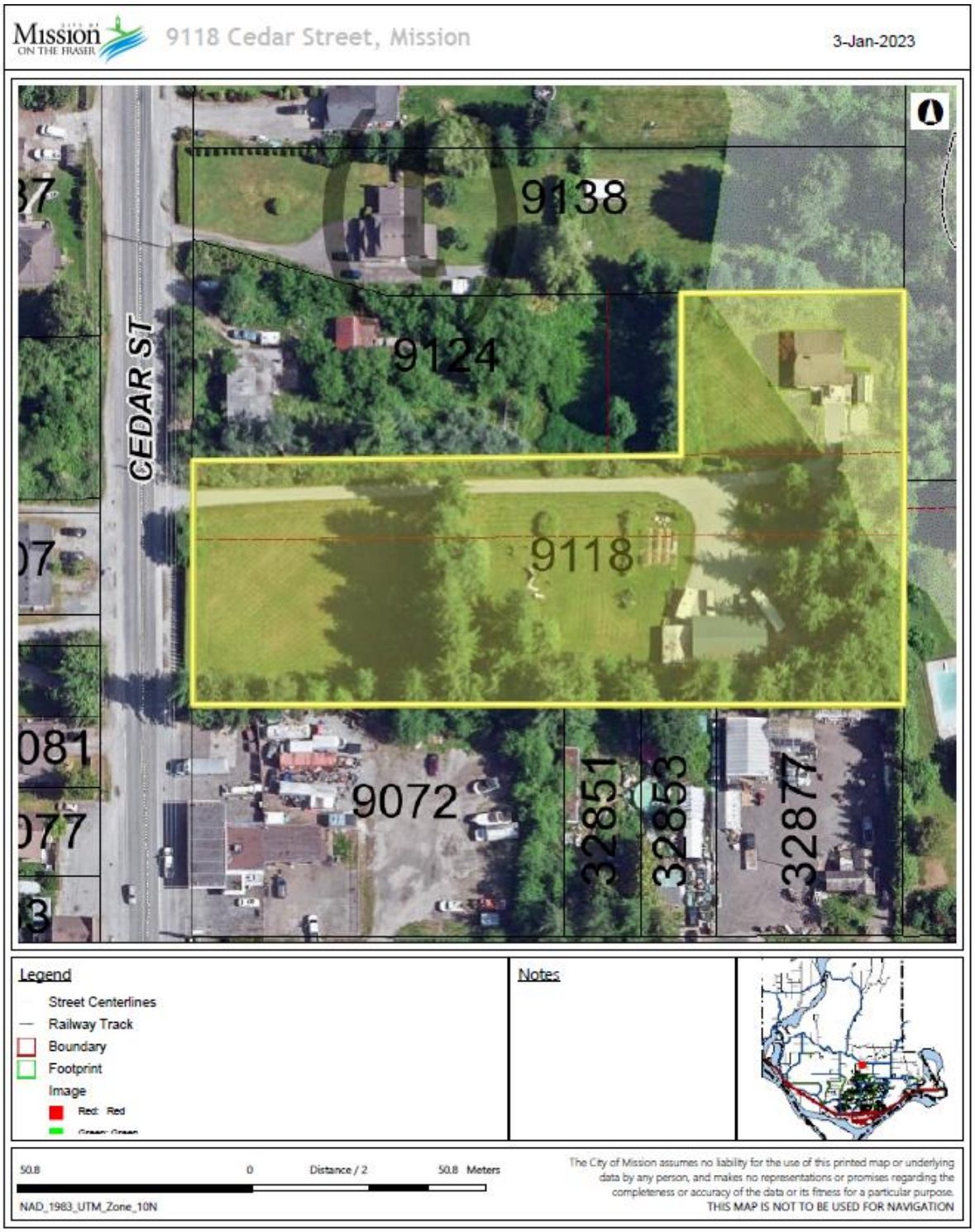


Figure 3. Site map of 9118 Cedar Street, Mission, BC (subject property). The municipal PNA buffer is indicated by the pale shaded area covering the northeastern corner around the existing home. Sourced from Mission WebMap, January 3, 2023.

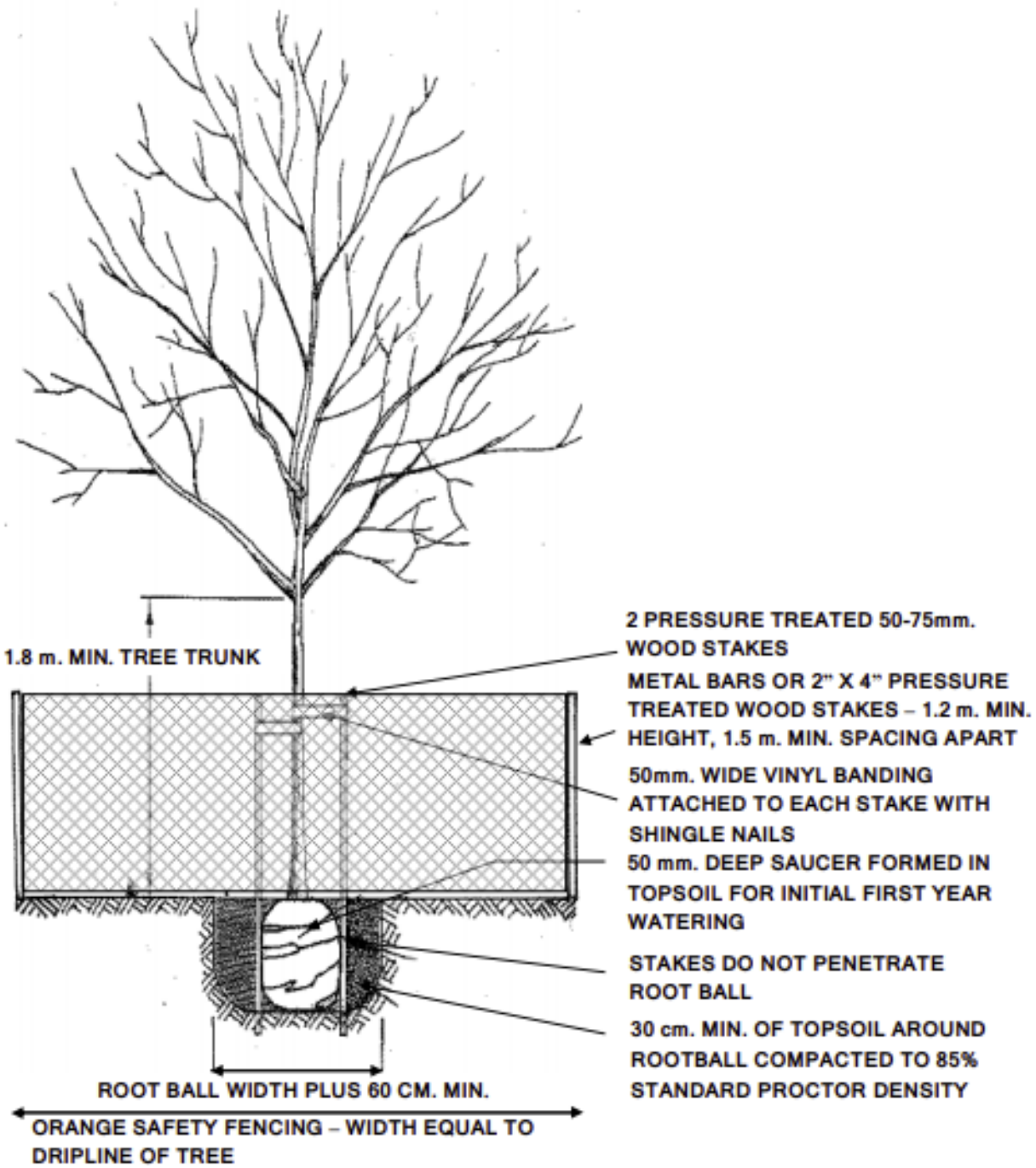


Figure 4. Tree protection fencing detail.

TOPOGRAPHIC SITE PLAN OF
LOT 2 SECTION 33 TOWNSHIP 17
NEW WESTMINSTER DISTRICT PLAN 76460

CIVIC ADDRESS:
9118 Cedar Street, Mission, BC
P.I.D. 009-330-429

SCALE 1 : 250

2.5 0 5 10
ALL DISTANCES ARE IN METRES

LEGEND

- DENOTES STANDARD IRON POST FOUND
- DENOTES CATCH BASIN – TOP ENTRY
- PP DENOTES UTILITY POLE
- PPT DENOTES UTILITY POLE WITH TRANSFORMER
- WV DENOTES WATER VALVE
- DENOTES GUY WIRE
- MHS DENOTES SANITARY MANHOLE
- MHD DENOTES STORM MANHOLE
- × DENOTES GROUND ELEVATION
- (t) DENOTES TOP OF RETAINING WALL ELEVATION
- DENOTES TREE AND CANOPY EXTENT
  diameter type dripline multi-stemmed
  30 coniferous 5 MS (typical)

Lot dimensions are derived from FIELD SURVEY.

Elevations are Geodetic (CVD28 GVRD-2018 – IN METERS) Derived from RTK GNSS OBSERVATIONS.

Invert elevations and offsets of services from property lines are derived from municipal records and field survey. Contractor to verify all service locations and inverts prior to construction.

Spot elevations along curb are taken in gutter

Tree diameters are taken at 1.4m above grade and are shown in cm.

This Plan was prepared for architectural design and permit purposes, and is for the exclusive use of our client. The signatory accepts no responsibility or liability for any damages that may be suffered by a third party as a result of reproduction, transmission or alteration to this document without consent of the signatory.

CERTIFIED CORRECT
DATED THIS 6th DAY OF OCTOBER, 2022

_____ BCLS
Finny Philip

34
PLAN 62267

1
PLAN 76460

SRW PLAN 76461

2
PLAN 76460
AREA
9983.8 Sq.m.
2.467 Acres

29
PLAN 48665

SRW PLAN 78121

1
PLAN 78120

A
PLAN 12659

D
PLAN 12659

C
PLAN 12659

1
PLAN 9610

CEDAR STREET

centreline

edge of road

gravel driveway

asphalt driveway

cedar hedge

gravel driveway

existing house

existing building

stairs

block ret wall

wood fence

wood fences

wood fence

89°07'44" 105.763

89°09'41" 48.414

179°42'30" 35.335

179°45'00" 52.984

89°39'09" 154.113

179°46'10" 139.700

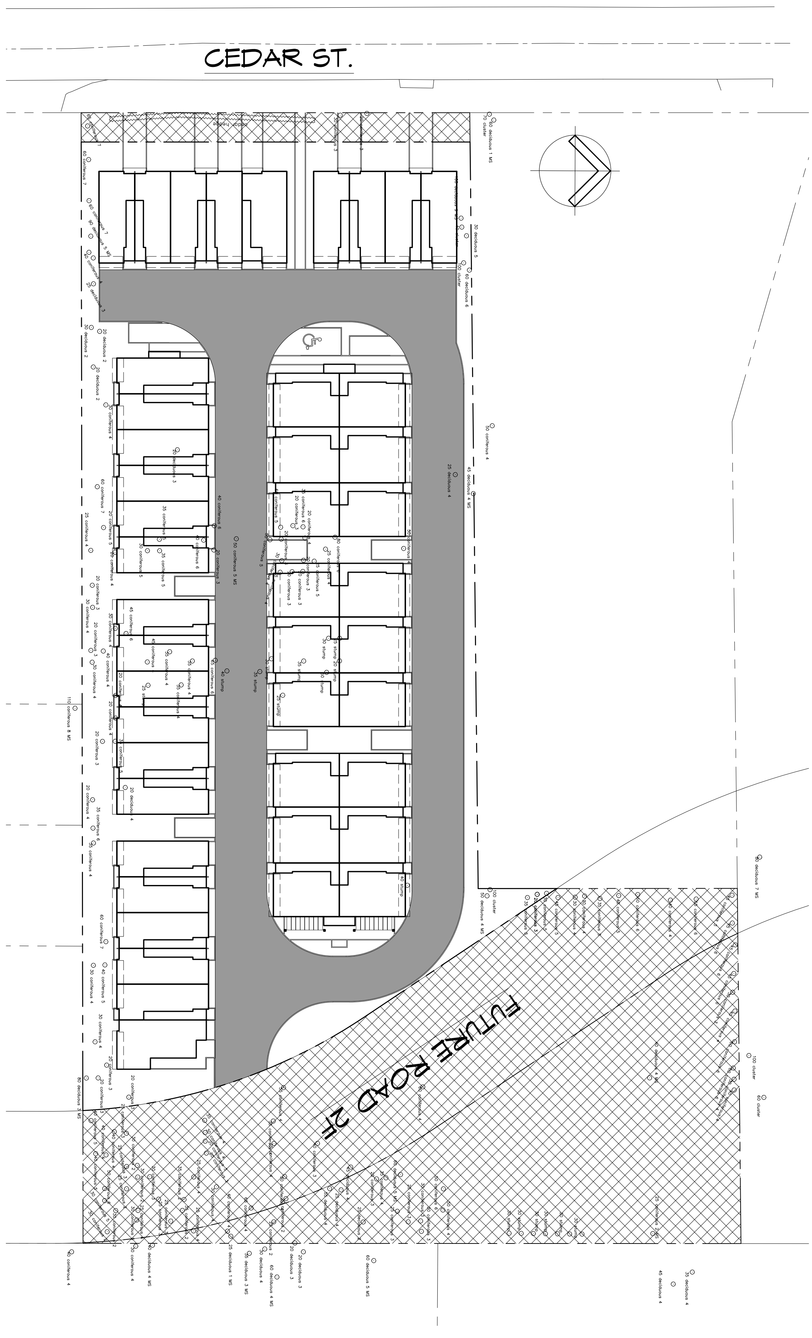
(C) ELEVATE LAND SURVEYING LTD. 2022

www.elevatelandsurveying.com

finny@elevatelandsurveying.com

604-385-5571

ELEVATE LAND SURVEYING
FILE: 22-2063-SITE



1
A-1.a

ARBORIST PLAN

SCALE 1/32" = 1'-0"

LEGEND:

COMMON DRIVEWAY / FIRE DEPARTMENT ACCESS ROUTE

EXISTING TREES (V/ SPECIES & SIZE

date:	December 2022
scale:	AS NOTED
drawn:	S.P.
checked:	D.H.
project no.	221212
sheet no.	A-1.a

project:

PROPOSED DEVELOPMENT
9118 CEDAR STREET
MISSION, B.C.

drawing:

ARBORIST PLAN

Architectural Seal

TRIO Architecture Inc.
info@trioarchitecture.ca
604.854.3740
Unit B 33623 Wildwood Drive
Abbotsford, BC V2S 1S2

TRIOARCHITECTURE.CA

ISSUE TABLE

No.	Date (dd/mm/yyyy)	By	Description
1	DATE	D.H.	ISSUED FOR BUILDING PERMIT

REVISIONS

No.	Date	By	Description

ALL DIMENSIONS & CONDITIONS MUST BE VERIFIED ON THE SITE

C:\Users\14033\Desktop\221212 - 9118 & 9138 Cedar & 32909 Rosetta\221212 - A-1.1 - Site Plan.dwg - plotted by Shae Peters @ December 20, 2022 9:01:39 AM

January 20, 2023

ATTACHMENT 2

Tables

Table 2. List of species of management concern that potentially use the subject property.

Classification	Common Name	Scientific Name	BC List	SARA
Amphibians	Northern Red-legged frog	*Rana aurora*	Blue	Special concern
	Western Toad	*Anaxyrus boreas*	Yellow	Special concern
Mammals	Little Brown Myotis	*Myotis lucifugus*	Yellow	Endangered
	Townsend's big-eared bat	*Corynorhinus townsendii*	Blue	Not listed
	Trowbridge's shrew	*Sorex trowbridgii*	Blue	Not listed
Birds	Olive-sided flycatcher	*Contopus cooperi*	Blue	Threatened

*Defined in a posted or draft recovery strategy

Table 3. Likelihood of occurrence of species of management concern found on the subject property.

Common Name	Likelihood of occurrence	Detected On Site	Notes
Little Brown Myotis	Low	No	Possible foraging habitat and roosting habitat observed on subject property.
Northern Red-legged frog	Low	No	Moderate foraging habitat observed on subject property. Isolated habitat.
Olive-sided flycatcher	Moderate	No	Possible nesting habitat on the subject property in mature trees. Poor to moderate quality foraging habitat.
Townsend's big-eared bat	Low	No	Possible foraging habitat and roosting habitat observed on subject property.
Trowbridge's shrew	Low	No	Moderate quality habitat observed on the subject property.
Western Toad	Low	No	Moderate foraging habitat observed on subject property. Isolated habitat.

*Table 4. Complete Tree Inventory Table. The complete tree inventory below contains information on tree attributes and recommendations for removal or retention. Tree ownership in this inventory table is not definitive, its determination here is based on information available from the legal site survey, GPS locations, and field assessment during site visits. Tree Protection Zones are measured from the outer edge of a tree's stem. *TPZ is the tree protection zone size required by the relevant municipal bylaw or, if not defined, the project arborist.*

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
265	Grand fir	*Abies grandis*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
282	Douglas fir	*Pseudotsuga menziesii*	50	3	Good - normal form	High	Remove	Conflicts with development.
283	Douglas fir	*Pseudotsuga menziesii*	80	4.8	Good - normal form	High	Remove	Conflicts with development.
284	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Poor - broken top	Low	Remove	Poor retention suitability.
285	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
286	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
287	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
288	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
289	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
290	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
291	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
292	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
293	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
294	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
295	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Poor - broken top	Low	Remove	Poor retention suitability.
296	Douglas fir	*Pseudotsuga menziesii*	50	3	Good - normal form	High	Remove	Conflicts with development.
297	Douglas fir	*Pseudotsuga menziesii*	50	3	Moderate - codominant stems, bracing	Medium	Remove	Conflicts with development.
298	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
299	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
300	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
301	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
302	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
303	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
304	Douglas fir	*Pseudotsuga menziesii*	65	3.9	Good - normal form	High	Remove	Conflicts with development.
305	Douglas fir	*Pseudotsuga menziesii*	55	3.3	Good - normal form	High	Remove	Conflicts with development.

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
306	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
307	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
308	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - normal form	High	Remove	Conflicts with development.
309	Douglas fir	*Pseudotsuga menziesii*	65	3.9	Good - normal form	High	Remove	Conflicts with development.
310	Norway spruce	*Picea abies*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
311	Norway spruce	*Picea abies*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
312	Paper Birch	*Betula papyrifera*	20	1.2	Poor - broken top	Low	Remove	Poor retention suitability.
313	Red Alder	*Alnus rubra*	35	2.1	Poor - dead, 2 stems	Low	Remove	Poor retention suitability.
314	Norway spruce	*Picea abies*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
315	Paper Birch	*Betula papyrifera*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
316	Red Alder	*Alnus rubra*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
317	Red Alder	*Alnus rubra*	30	1.8	Poor - dead limbs	Low	Remove	Poor retention suitability.
318	Red Alder	*Alnus rubra*	20	1.2	Poor - hazardous top, decay	Low	Remove	Poor retention suitability.
319	Red Alder	*Alnus rubra*	20	1.2	Poor - broken top	Low	Remove	Poor retention suitability.
320	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
321	Weeping Willow	*Salix babylonica*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
322	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
323	Douglas fir	Pseudotsuga menziesii	20	1.2	Good - hedge row	High	Remove	Conflicts with development.
324	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - hedge row	High	Remove	Conflicts with development.
325	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - hedge row	High	Remove	Conflicts with development.
326	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - hedge row	High	Remove	Conflicts with development.
327	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
328	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - hedge row	High	Remove	Conflicts with development.
329	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
330	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - hedge row	High	Remove	Conflicts with development.
331	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
332	Maple (sp.)	*Acer sp.*	45	2.7	Good - normal form	High	Remove	Conflicts with development.
333	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form (added to survey)	High	Remove	Conflicts with development.
334	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form (added to survey)	High	Remove	Conflicts with development.
335	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form (added to survey)	High	Remove	Conflicts with development.

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
336	Douglas fir	*Pseudotsuga menziesii*	110	6.6	Good - codominant stems (offsite)	High	Retain	Offsite.
337	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
338	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
339	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
340	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
341	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form (added to survey)	High	Remove	Conflicts with development.
342	Red Alder	*Alnus rubra*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
343	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
344	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
345	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
346	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
347	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
348	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
349	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
350	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
351	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
352	Pacific crabapple	*Malus fusca*	80	4.8	Moderate – multi-stemmed, split stem	Medium	Remove	Conflicts with development.
353	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
354	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
355	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
356	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
357	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
358	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
359	Douglas fir	*Pseudotsuga menziesii*	50	3	Good - normal form	High	Remove	Conflicts with development.
360	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
361	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
362	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
363	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
364	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
365	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
366	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
367	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
368	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
369	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
370	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
371	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
372	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
373	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
374	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
375	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
376	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
377	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
378	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
379	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
380	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
381	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
382	Douglas fir	*Pseudotsuga menziesii*	65	3.9	Moderate - forked top	Medium	Remove	Conflicts with development.
383	Pacific crabapple	*Malus fusca*	25	1.5	Moderate – multi-stemmed	Medium	Remove	Conflicts with development.
384	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form (added to survey)	High	Remove	Conflicts with development.
385	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
386	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
387	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
388	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
389	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
390	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Remove	Conflicts with development.
391	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
392	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - normal form	High	Remove	Conflicts with development.
393	Douglas fir	*Pseudotsuga menziesii*	55	3.3	Moderate - forked top	Medium	Retain	Does not conflict (within PNA).
394	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Moderate - stem damage	Medium	Retain	Does not conflict (within PNA).

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
395	Cherry sp.	*Prunus sp.*	25	1.5	Moderate - leaning	Medium	Retain	Does not conflict (within PNA).
396	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Retain	Does not conflict (within PNA).
397	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - normal form	High	Retain	Does not conflict (within PNA).
398	Pacific crabapple	*Malus fusca*	60	3.6	Good – multi-stemmed cluster	High	Retain	Does not conflict (within PNA).
399	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Retain	Does not conflict (within PNA).
400	Douglas fir	*Pseudotsuga menziesii*	25	1.5	Good - normal form	High	Retain	Does not conflict (within PNA).
900	Douglas fir	*Pseudotsuga menziesii*	50	3	Good - normal form	High	Retain	Does not conflict (within PNA).
901	Douglas fir	*Pseudotsuga menziesii*	50	3	Good - normal form	High	Retain	Does not conflict (within PNA).
902	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Retain	Does not conflict (within PNA).
903	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Retain	Does not conflict (within PNA).
905	Common Holly	*Ilex aquifolium*	25	1.5	Good - normal form	High	Retain	Does not conflict (within PNA).
906	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - hedge row	High	Retain	Does not conflict (within PNA).
907	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Retain	Does not conflict (within PNA).
908	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - hedge row	High	Retain	Does not conflict (within PNA).
909	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - hedge row	High	Retain	Does not conflict (within PNA).
910	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - hedge row	High	Retain	Does not conflict (within PNA).
911	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Retain	Does not conflict (within PNA).
912	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - hedge row	High	Retain	Does not conflict (within PNA).
913	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - hedge row	High	Retain	Does not conflict (within PNA).
914	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - hedge row	High	Remove	Conflicts with development.

ID#	Common Name	Botanical Name	DBH (cm)	TPZ (m)	Condition and Comments	Retention Suitability	Action	Rationale
915	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - hedge row	High	Remove	Conflicts with development.
916	Douglas fir	*Pseudotsuga menziesii*	55	3.3	Good - hedge row	High	Remove	Conflicts with development.
917	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - hedge row	High	Remove	Conflicts with development.
918	Douglas fir	*Pseudotsuga menziesii*	60	3.6	Good - hedge row	High	Remove	Conflicts with development.
919	Douglas fir	*Pseudotsuga menziesii*	40	2.4	Good - hedge row	High	Remove	Conflicts with development.
920	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - hedge row	High	Remove	Conflicts with development.
921	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
922	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
923	Douglas fir	*Pseudotsuga menziesii*	45	2.7	Good - hedge row	High	Remove	Conflicts with development.
924	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - hedge row	High	Remove	Conflicts with development.
925	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - hedge row	High	Remove	Conflicts with development.
926	Douglas fir	*Pseudotsuga menziesii*	35	2.1	Good - hedge row	High	Remove	Conflicts with development.
927	Beaked hazelnut	*Corylus cornuta*	100	6	Good – multi-stemmed cluster	High	Remove	Conflicts with development.
928	Cherry sp.	*Prunus sp.*	25	1.5	Good - normal form	High	Remove	Conflicts with development.
929	White poplar	*Populus alba*	45	2.7	Good - normal form	High	Remove	Conflicts with development.
930	White poplar	*Populus alba*	30	1.8	Good - normal form	High	Remove	Conflicts with development.
931	White poplar	*Populus alba*	60	3.6	Good - normal form	High	Remove	Conflicts with development.
932	White poplar	*Populus alba*	40	2.4	Good - normal form	High	Remove	Conflicts with development.
933	White poplar	*Populus alba*	100	6	Good - normal form	High	Remove	Conflicts with development.
934	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
935	Douglas fir	*Pseudotsuga menziesii*	20	1.2	Good - normal form	High	Remove	Conflicts with development.
936	Douglas fir	*Pseudotsuga menziesii*	30	1.8	Good - normal form	High	Remove	Conflicts with development.

ATTACHMENT 3

Selected Site Photographs

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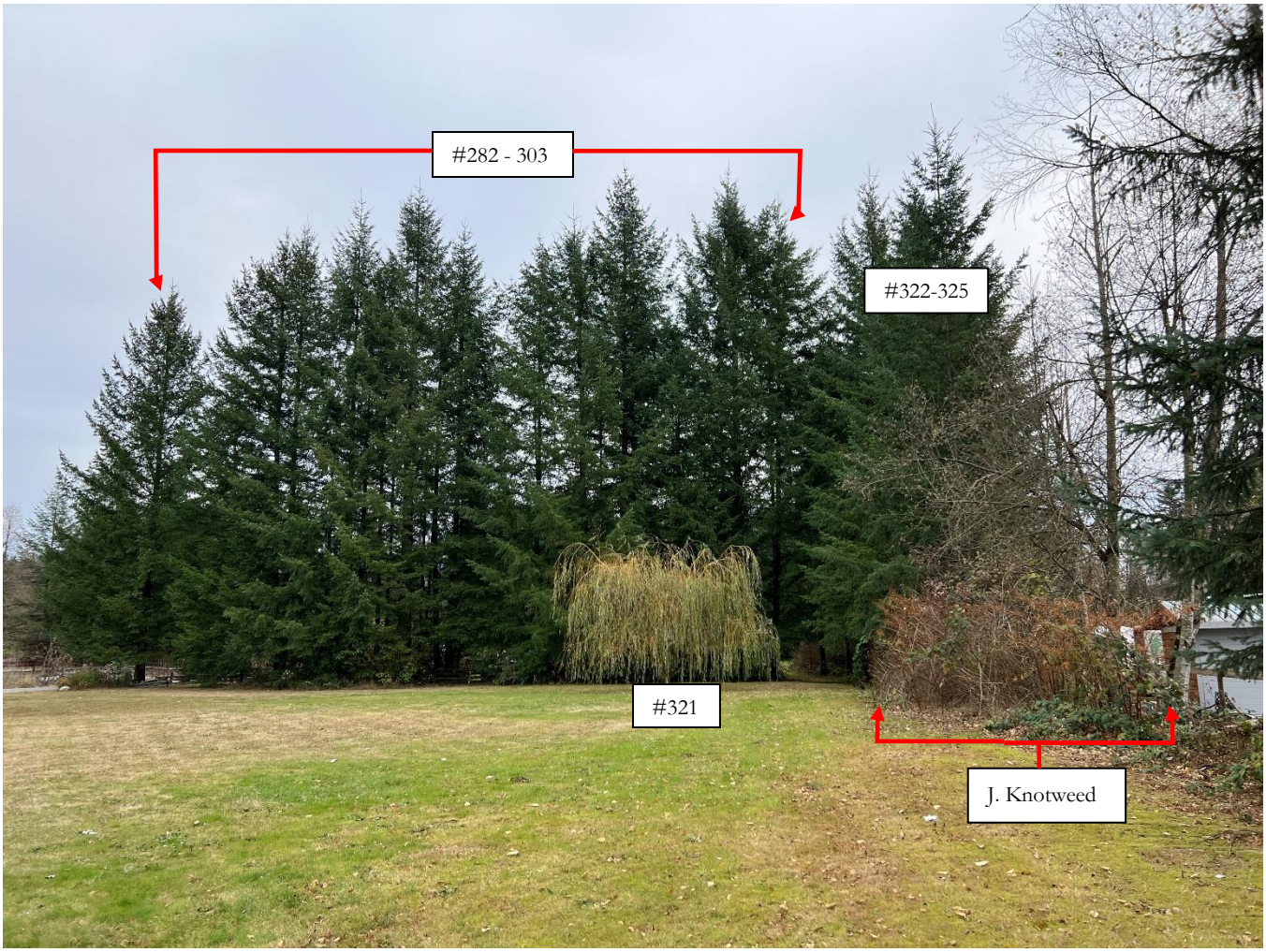
Chilliwack BC, V2R 5S1

Photograph 1. View of the front yard and driveway of the subject property, facing Cedar Street to the west. Small hedge trees, shrubs, and a large open lawn occupied this portion of the lot. A row of white poplars (trees #930 – 933) and Himalayan blackberry grew to the north of the driveway.



Photograph 2. View of the front yard and hedgerow of mature Douglas firs located in the center of the lot. Several smaller deciduous trees were located near the south property line along with a patch of invasive Japanese knotweed indicated by the reddish coloured leaves (right side of frame).

Photograph 3. View of the southwest corner of front yard with mature conifers along southern perimeter.

Photograph 4. View of Japanese knotweed (flagged with 3 pink ribbons) along the southern perimeter interspersed with Himalayan blackberry and several deciduous trees. Trees #317, 318, 319 were in a state of decay and/or poor condition.

Photograph 5. View facing south of the Douglas firs located in the central portion of the lot adjacent a garden and firewood stacks.

Photograph 6. View of the central and southeast portion of the lot consisting of maintained lawn, gardens, machinery shop, and a dense stand of conifers along the eastern perimeter. Dense thickets of native and invasive shrubs were located along the southern perimeter, providing small areas of moderate quality habitat.

Photograph 7. Tree #336, located off site to the south, is recommended for retention. A large Douglas fir (110 cm DBH) with codominant stems, it was in good condition.

Photograph 8. View from within the eastern stand of conifers, facing north. English ivy and Himalayan blackberry were prevalent throughout the understory.

Photograph 9. View of the eastern stand of conifers facing southeast. Storage containers and equipment were located along the vegetated areas.

Photograph 10. View of the eastern stand of trees located alongside the gravel driveway. The northeast portion of this stand is located within the PNA and is to be protected from development impacts.

Photograph 11. Tree #265, a grand fir in good condition, located in the center of the driveway roundabout in front of the house.

Photograph 12. View of the northeast corner of the subject property (house, carport, cedar hedges and row of cut stumps) and adjacent lot the east consisting of semi-maintained riparian vegetation around the watercourse.

Photograph 13. View of the mixed native and invasive riparian vegetation on the adjacent property, located approximate 10 m from the subject property.

Photograph 14. View of the northern portion of the yard, west of the house. Hedgerows of Douglas fir (trees # 906 – 926) and Himalayan blackberry were located along the property line. Trees #906-913 were located within the PNA and are to be protected from development impacts.