THE CORPORATION OF THE CITY OF VERNON
REPORT TO COUNCIL

SUBMITTED BY: Matt Faucher
Planner, Current Planning

COUNCIL MEETING: REG ☒ COW ☐ I/C ☐
COUNCIL MEETING DATE: August 15, 2022
REPORT DATE: August 3, 2022
FILE: 3090-20 (DVP00521)

SUBJECT: **DEVELOPMENT VARIANCE PERMIT APPLICATION FOR 9353 EASTSIDE ROAD**

PURPOSE:

To review the Development Variance Permit Application 00521 (DVP00521) to vary Section 4.16.1 of Zoning Bylaw 5000 in order to support a three lot subdivision with construction of three single detached dwellings on slopes greater than 30% at 9353 Eastside Road.

RECOMMENDATION:

THAT Council support Development Variance Permit Application 00521 (DVP00521) to vary Zoning Bylaw 5000 on LT 1 SEC 10 TWP 13 ODYD PLAN 9430 EXCEPT PLAN 11165 (9353 Eastside Road) as outlined in the report titled "Development Variance Permit Application for 9353 Eastside Road" dated August 3, 2022 and respectfully submitted by the Current Planner, as follows:

a) Section 4.16.1 to allow construction of a building, structure or swimming pool on slopes 30% or greater;

AND FURTHER, that Council's support of DVP00521 is subject to the following:

a) the site plan illustrating the general siting of the proposed single detached dwellings (Attachment 1) be attached to and form part of DVP00521;

b) development of the property be in accordance with the report titled "Geotechnical Assessment – Proposed Residential Subdivision 9353 Eastside Road, Vernon, B.C." prepared by Calibre Geotechnical dated February 9, 2021 (Attachment 2), be attached to and form part of DVP00521;

c) development of the property be in accordance with the report titled "Riparian Area Protection Regulation Assessment" prepared by Canyon Wren Consulting Inc., dated January 21, 2021 (Attachment 3), be attached to and form part of DVP00521; and

d) if any tree removal is required to develop the property that the applicant obtain a valid Tree Cutting Permit.

ALTERNATIVES & IMPLICATIONS:

THAT Council not support Development Variance Permit Application 00521 (DVP00521) to vary Zoning Bylaw 5000 on LT 1 SEC 10 TWP 13 ODYD PLAN 9430 EXCEPT PLAN 11165 (9353 Eastside Road) as outlined in the report titled "Development Variance Permit Application for 9353 Eastside Road" dated August 3, 2022 and respectfully submitted by the Current Planner, as follows:

a) Section 4.16.1 to allow construction of a building, structure or swimming pool on slopes 30% or greater.

Note: This alternative does not support the development variance permit application and would require the applicant to develop the site in compliance with Zoning Bylaw 5000.

ANALYSIS:

A. Committee Recommendations:

At its meeting of July 19, 2022, the Advisory Planning Committee passed the following resolution:

"THAT Council support Development Variance Permit Application 00521 (DVP00521) to vary Zoning Bylaw 5000 on LT 1 SEC 10 TWP 13 ODYD PLAN 9430 EXCEPT PLAN 11165 (9353 Eastside Road) as outlined in the report titled "Development Variance Permit Application for 9353 Eastside Road" dated July 15, 2022 and respectfully submitted by the Current Planner, as follows:

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c) development of the property be in accordance with the report titled "Riparian Area Protection Regulation Assessment" prepared by Canyon Wren Consulting Inc., dated January 21, 2021 (Attachment 3), be attached to and form part of DVP00521; and

d) if any tree removal is required to develop the property that the applicant obtain a valid Tree Cutting Permit."

B. Rationale:

1. The subject property is located at 9353 Eastside Road (Figures 1 and 2). The property is approximately 9,907 m^2 (2.45 ac) in size with waterfront access to Lake Okanagan.

2. The subject property is zoned R1 – Estate Lot Residential and the subject application pertains to development regulations within Section 4.16.1 of Zoning Bylaw 5000 (Attachment 4) to support a three lot subdivision proposal.

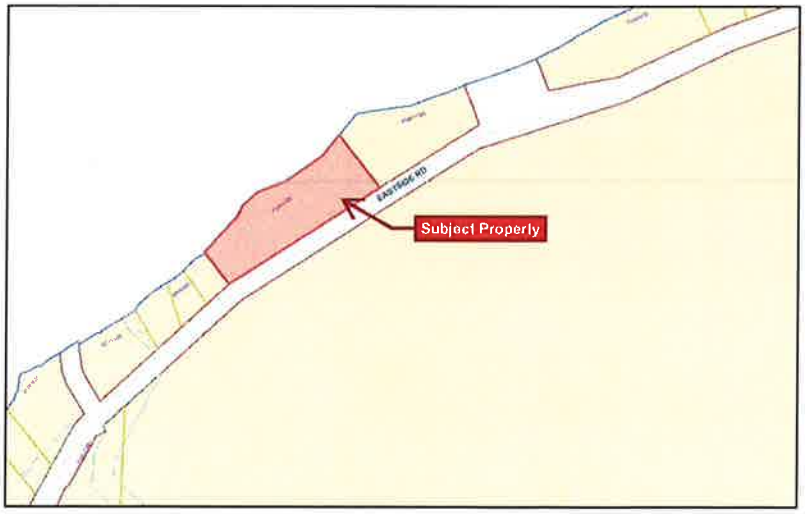


Figure 1 - Property Location Map

3. The applicant proposes to subdivide the property into three lots and construct three single detached residential dwellings. The application meets the requirement to have a minimum of 100m^2 of contiguous buildable area with slopes less than 30%, however the proposed building footprint locations do not align with these areas specifically as illustrated in Attachment 1.

Figure 2: Aerial Photo of Property

4. The application proposes to vary the following section of Zoning Bylaw 5000 in order to permit a three lot subdivision and construction of three single detached residential dwellings:

   a. Section 4.16.1 no construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

5. The subject property is subject to Sec 75(1)(c) of the *Land Title Act* requiring the applicant to dedicate a 20m wide public access from Eastside Road to Okanagan Lake. With the support of the City's Approving Officer, the applicant has successfully applied to the Province for a waiver of this requirement citing the significant slope of the site, as well as the ecological sensitivity of the shoreline along the subject property (Attachment 5).

6. Given the significant slope of the site (Figure 3), a geotechnical assessment was completed for the subject property (Attachment 2). The report has identified a surficial slide caused by water which the applicant intends to address through the development of the future properties.

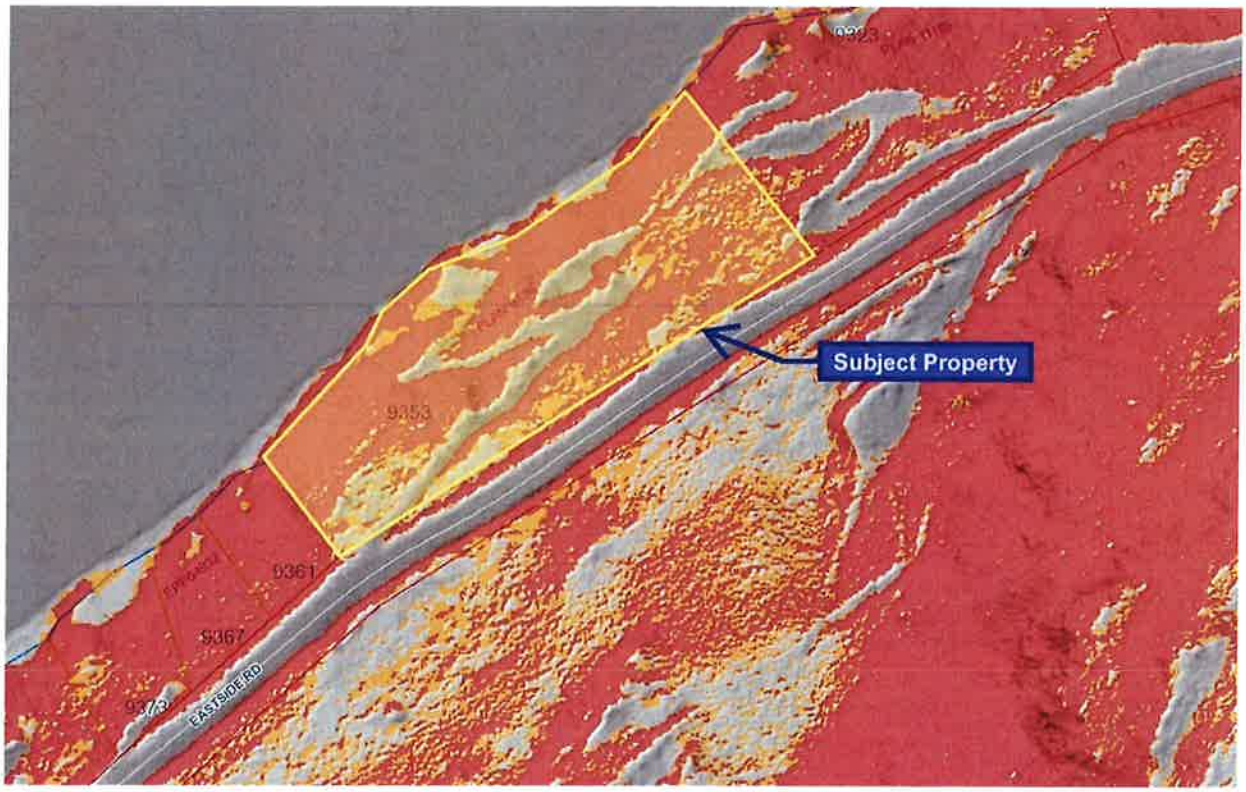


Figure 3: Hillshade **Slopes Greater Than 40%**

7. As the subject property abuts Okanagan Lake (Figure 4), a Riparian Area Protection Regulation Assessment has been submitted by the applicant (Attachment 3). Should Council approve the variance application, future development of the subject property will require an environmental development permit and approval from the Province.

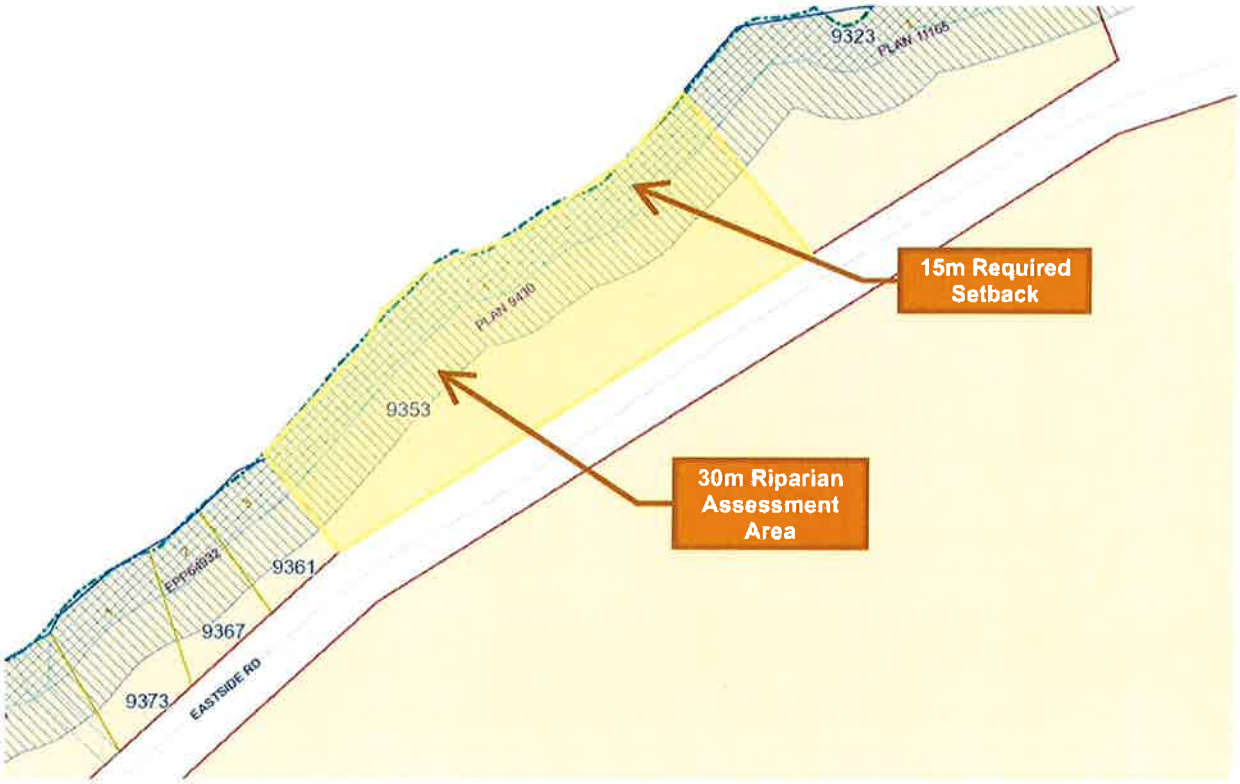


Figure 4: Riparian Assessment Area

8. Administration supports the requested variance for the following reasons:

   a) The subject property is almost entirely on slopes greater than 30%. The addition of any structure or redevelopment of the site would require construction on slopes greater than 30%.

   b) The applicant has provided the City with geotechnical and riparian assessment reports supporting development of the subject property.

   c) The proposed development is designed to work with the slope of the site (cross-section in Attachment 6) and is not anticipated to detract from the aesthetic of the shoreline when viewed from Eastside Road or Okanagan Lake. Renderings of the proposed development are illustrated in Attachment 7.

   d) There were no concerns raised in response to the agency referral package as distributed.

C. Attachments

Attachment 1 – Proposed Building Footprint Locations
Attachment 2 – Geotechnical Report, prepared by Calibre Geotechnical dated Feb 9, 2021
Attachment 3 – Riparian Area Protection Regulation Assessment, prepared by Canyon Wren Consulting dated Jan 21, 2021
Attachment 4 – Zoning Bylaw 5000 Section 4.16
Attachment 5 – Provincial Approval waiving requirements for lake access
Attachment 6 – Cross-Sections of proposed development lots

Attachment 7 – Renderings of proposed development

D. Council's Strategic Plan 2019 – 2022 Goals/Action Items:

The subject application involves the following goals/action items in Council's Strategic Plan 2019 – 2022:

- N/A

E. Relevant Policy/Bylaws/Resolutions:

1. The following provisions of Zoning Bylaw 5000 R1 – Estate Lot Residential Zone are relevant to the subject application:

   - Zoning Bylaw 5000:

     Section 4.16.1 – no construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

BUDGET/RESOURCE IMPLICATIONS:

N/A

Prepared by:

X _____
Matt Faucher
Planner, Current Planning

X _____
Kim Flick
Director, Community Infrastructure and Development

Approved for submission to Council:

_____
Will Pearce, CAO

Date: 08 August 2022

REVIEWED WITH

☐ Corporate Services	☐ Operations	☒ Current Planning
☐ Bylaw Compliance	☐ Public Works/Airport	☒ Long Range Planning & Sustainability
☐ Real Estate	☐ Facilities	☒ Building & Licensing
☐ RCMP	☐ Utilities	☒ Engineering Development Services
☒ Fire & Rescue Services	☐ Recreation Services	☐ Infrastructure Management
☐ Human Resources	☐ Parks	☒ Transportation
☐ Financial Services		☐ Economic Development & Tourism
☒ COMMITTEE: APC (July 19/22)		
☐ OTHER:		

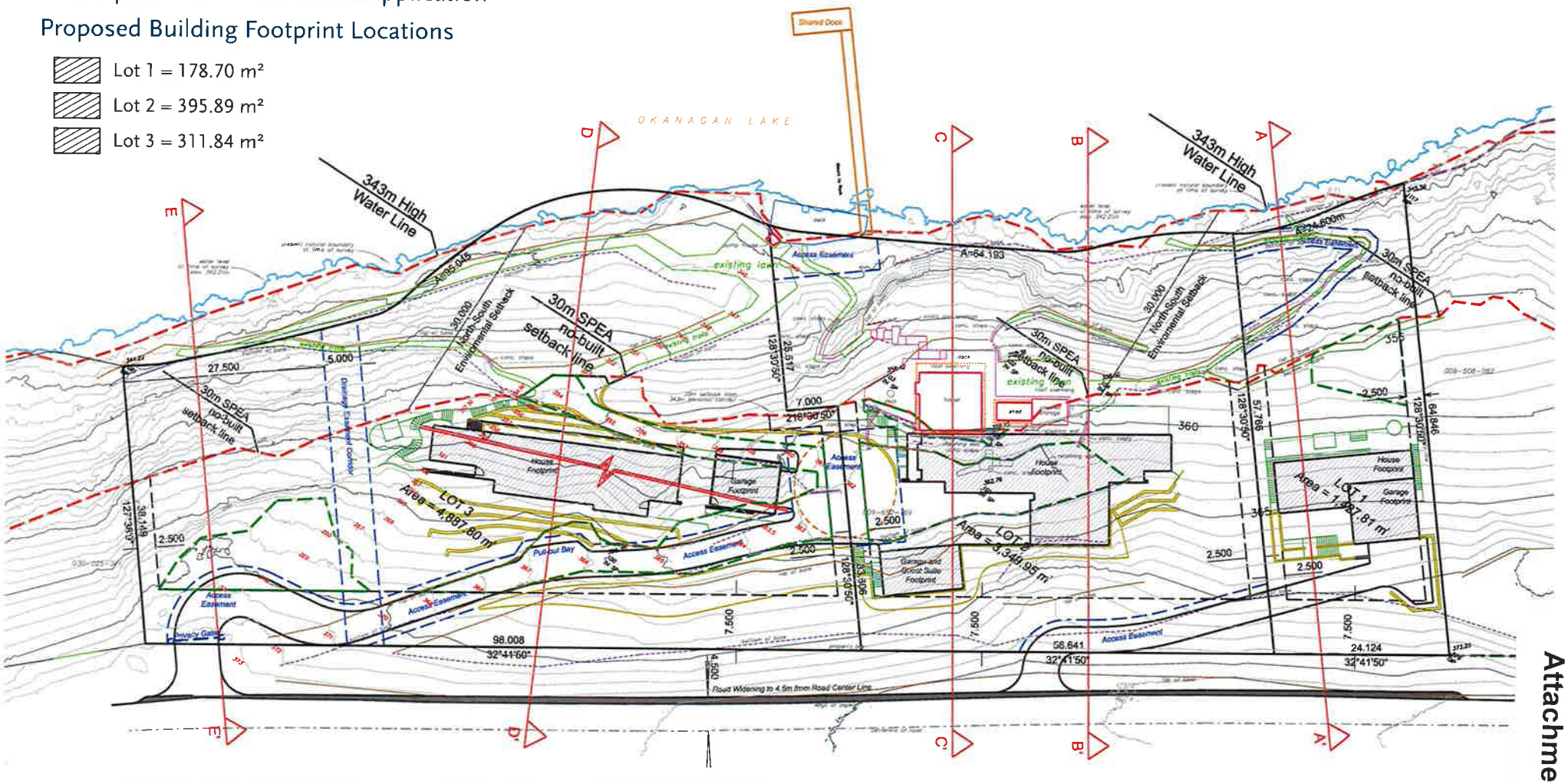
June 23rd, 2022

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Proposed Building Footprint Locations

- Lot 1 = 178.70 m²
- Lot 2 = 395.89 m²
- Lot 3 = 311.84 m²



EKISTICS

Attachment 1

February 9, 2021 Calibre File No.: J20-02823

Ekistics Holdings Inc.
1925 Main Street
Vancouver, B.C.
V5T 3C1

Attention: Paul Rosenau

Subject: **Geotechnical Assessment - Proposed Residential Subdivision**
9353 Eastside Road, Vernon, B.C.

We carried out a geotechnical assessment of the above noted property on September 23, 2020. Based on our review of the information and our experience with the area we believe, from a geotechnical point of view, that the site can be subdivided into three residential lots, and subsequently developed, without impacting slope stability.

Please find the following attached:

- Plan view showing proposed residential lots and homes
- Memo from Dr. Dwayne Tannant – rock assessment
- Plan view showing our six test pit locations
- Six photos showing the test pits

At our test pit locations, we encountered shallow dense till or bedrock in all of our test pits, which is acceptable for high foundation bearing and adequate for slope stability.

- In TP-1, we found till at 0.75 metres – refusal with excavator in till.
- In TP-2, we found till at 0.4 metres over bedrock at 1.0 metre.
- In TP-3, we found till at 1.05 metres – refusal in till.
- In TP-4, we found bedrock at 0.3 metres.
- In TP-5, we found a thin till layer over bedrock.
- In TP-6, we cut into the slope and found a 1.5 metre exposure of till over bedrock (just below existing ditch line).

Calibre geotechnical

201 – 1889 Spall Road, Kelowna, B.C. V1Y 4R2 ♦ Phone: 250-712-9538 e-mail: calibre@telus.net

There is a culvert on Eastside Road that directs water towards the slide area on the property (i.e. water had caused the surficial slide). This culvert will have to be addressed prior to the development of the site.

No other geotechnical issues noted during our assessment other than what Dr. Tannant provided in his memo.

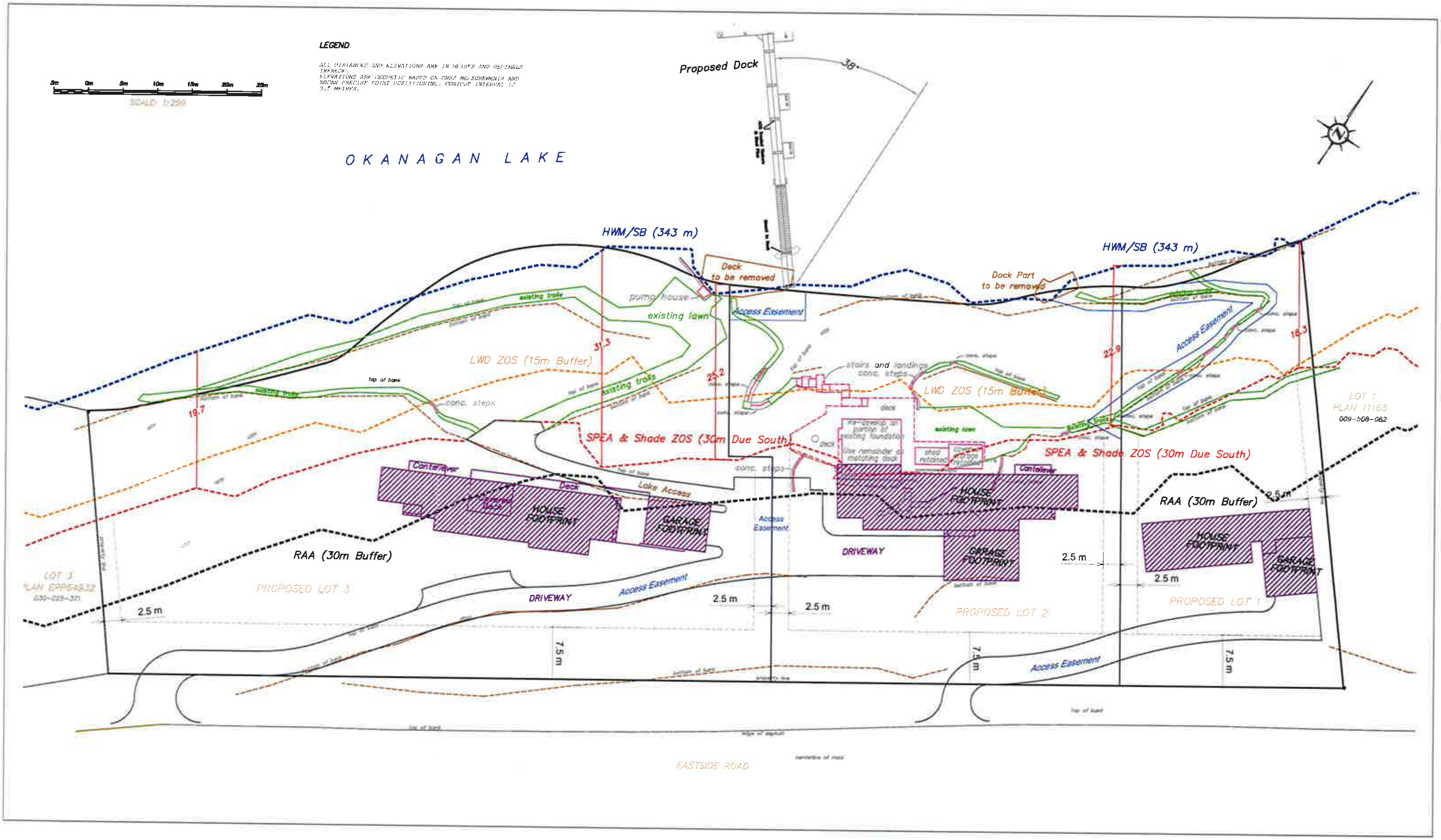
During construction we will provide the necessary geotechnical inspection services to allow for the construction of the homes with minimal to no impact on the areas surrounding the building's footprint.

We trust this letter meets your present requirements. Should you require any additional information, please contact our office.

For:
Calibre Geotechnical Engineering Ltd.

A. H. Albert Losch, P.Eng.
Geotechnical Engineer

Attachments



LEGEND
ALL DISTANCES AND ELEVATIONS ARE IN METRES AND DECIMALS THEREOF.
ELEVATIONS ARE GEODETIC BASED ON GNSS MEASUREMENTS AND NRCAN PRECISE POINT POSITIONING. CONTOUR INTERVAL IS 0.5 METRES.
5m 0m 5m 10m 15m 20m 25m
SCALE 1:250
OKANAGAN LAKE
Proposed Dock
38°
HWM/SB (343 m)
HWM/SB (343 m)
Deck to be removed
Dock Part to be removed
pump house
existing lawn
existing trails
Access Easement
LWD ZOS (15m Buffer)
LWD ZOS (15m Buffer)
stairs and landings
conc. steps
conc. steps
conc. steps
top of bank
SPEA & Shade ZOS (30m Due South)
SPEA & Shade ZOS (30m Due South)
19.7
31.3
25.2
22.9
18.3
Re-develop on portion of existing foundation
Use remainder as matching deck
shed retained
covered storage retained
existing lawn
deck
Cantelever
Cantelever
Deck
HOUSE FOOTPRINT
GARAGE FOOTPRINT
HOUSE FOOTPRINT
GARAGE FOOTPRINT
HOUSE FOOTPRINT
GARAGE FOOTPRINT
Lake Access
Access Easement
RAA (30m Buffer)
RAA (30m Buffer)
DRIVEWAY
DRIVEWAY
Access Easement
Access Easement
LOT 3 PLAN EPP64832
030-025-371
LOT 1 PLAN 11165
009-508-062
PROPOSED LOT 3
PROPOSED LOT 2
PROPOSED LOT 1
2.5 m
2.5 m
2.5 m
2.5 m
2.5 m
2.5 m
7.5 m
7.5 m
7.5 m
EASTSIDE ROAD

MEMORANDUM

To:	Albert Losch, P.Eng.
From:	Dwayne Tannant, P.Eng.
Subject:	Rock Outcrops at 9353 Eastside Road
Date:	September 5, 2020
Copy:	

On September 2, 2020, at the request of Albert Losch from Calibre Geotechnical Engineering Ltd., I inspected the rock outcrops present at 9353 Eastside Road (Figure 1). The purpose of the inspection was to conduct a preliminary assessment of potential instabilities and issues associated with planned residential development on the site. The intrusive syenite or quartz monzonite rock found in this area is estimated to be very strong[1] (unconfined compressive strength > 100 MPa) and is relatively resistant to weathering. The rock contains well developed joint sets, and the geometries of the different outcrops are controlled by these joints.

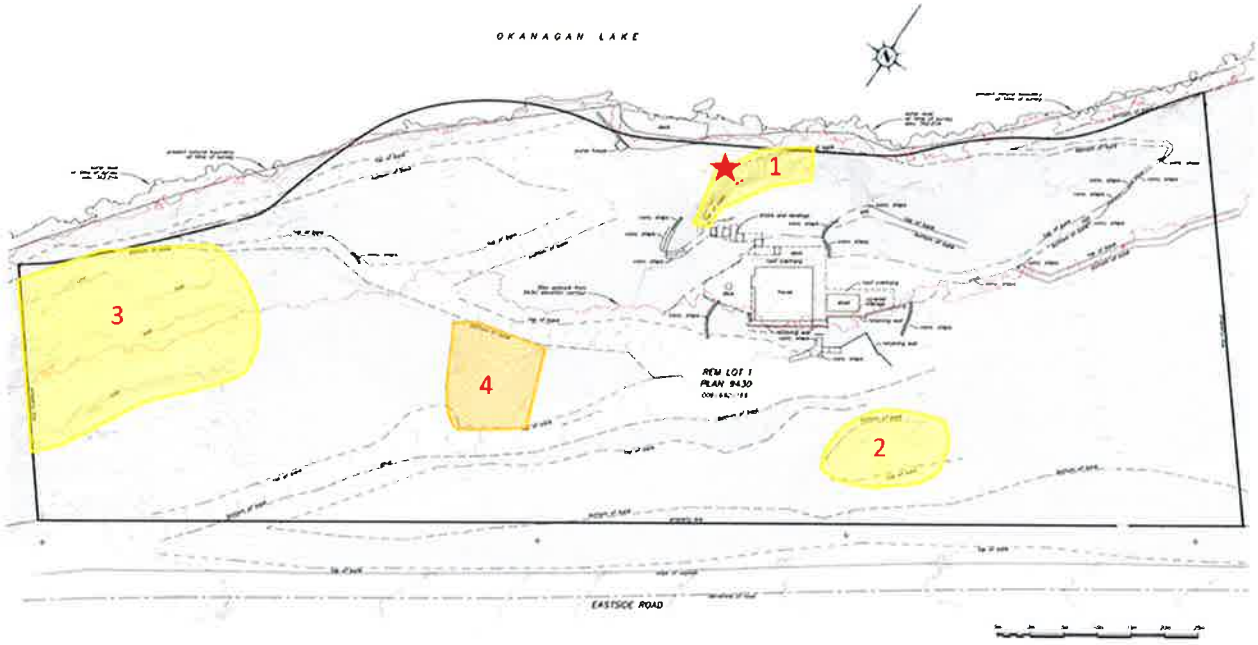


Figure 1. Topographic map extracted from a figure provided by Monashee Surveying Geomatics showing examined rock outcrops in yellow.

Three rock outcrop areas that could have implications for the planned development were examined. These are highlighted in the yellow areas in Figure 1. Other rock outcrops also occur (e.g. along the shore).

[1] International Society for Rock Mechanics. 1981. Rock characterisation, testing and monitoring - ISRM suggested methods. Oxford: Pergamon

Area 1 consists of a cliff located above the dock area and beside a walking path to the shore. A large potentially unstable block of rock (approximately 2.9 m high, 2.2 m wide and 1.3 m thick) is located on the cliff face with open joints/fractures (red star in Figure 1; yellow circle in Figure 2). This rock could slide/topple toward the shore and dock area, and it should either be removed or stabilized by rockbolts. Stabilizing the block is likely the best option as its removal may undermine portions of the cliff face. Without performing an analysis, the block would likely need about three 3 m long rockbolts to secure it in place permanently.

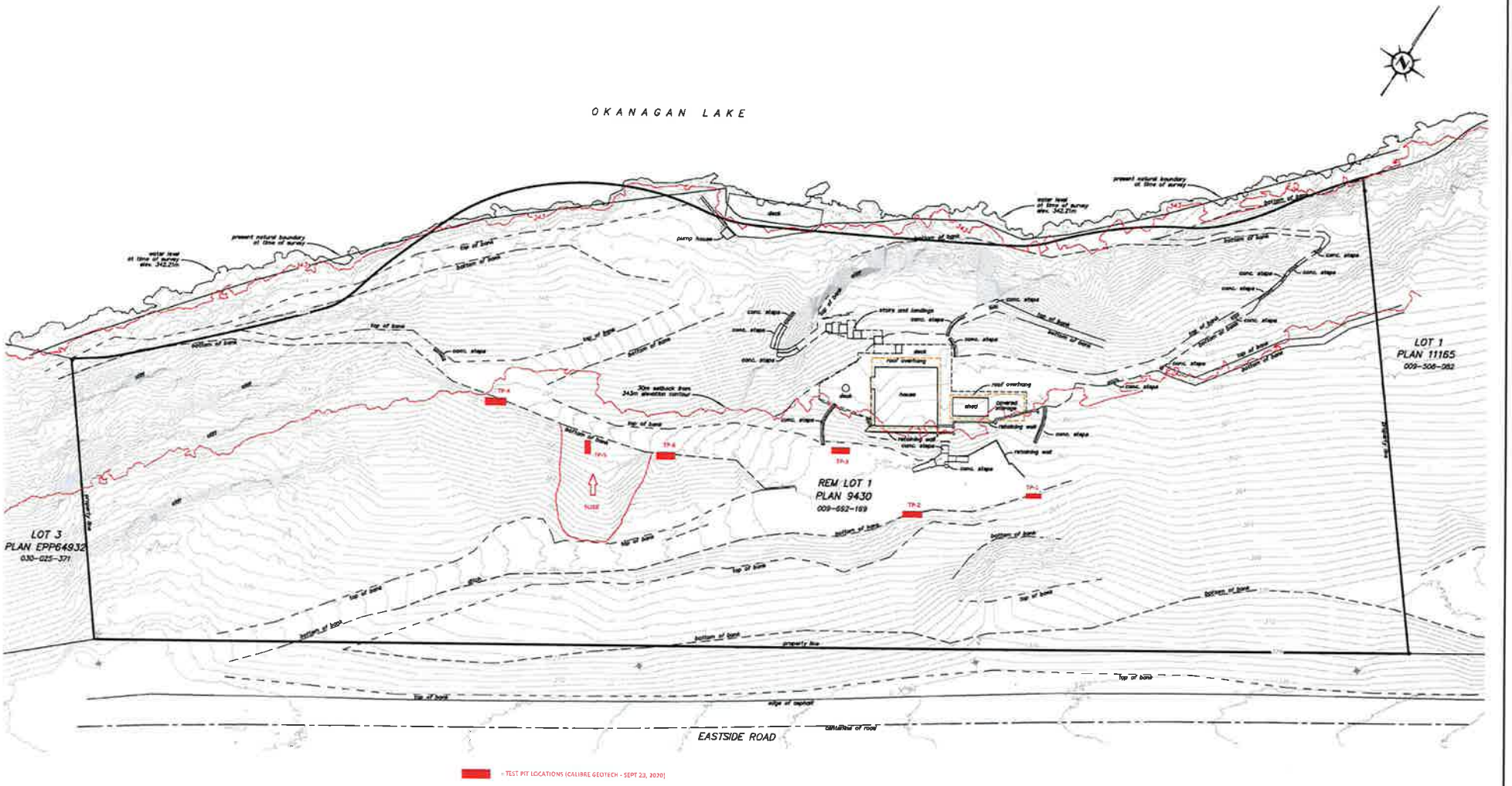
Area 2 consists of a rounded rock outcrop. There appear to be no issues with the stability of this small rock bluff. Future earthworks in this area should avoid undercutting the rock bluff unless further investigation is completed. It should be feasible to support the bluff if there is a desire to cut into the toe of the bluff.

Area 3 consists of a series of small bluffs stacked along the side of the lot. It would be feasible to have excavations for footings cut into the rock. However, the footings may require rockbolts to pin the footings into the rock while simultaneously providing local stabilization to prevent deformations on steep joints that dip toward the lakeshore.

Figure 3 shows a small landslide in the glacial soils indicated by the orange area (Area 4) in Figure 1. The landslide might have occurred when the original driveway or access trail to the lake was constructed. This landslide shows that the steep hillside in the glacial soils could experience large deformations. Careful consideration of possible concentrations of overland or groundwater flows will be needed while steep cuts into the soil are present. A site investigation to better understand where dense glacial till exists versus glaciolacustrine silt and the depth to bedrock will be needed to design safe cuts (and fills) for future development on the site.

Figure 2. Loose rock block.

Figure 3. Small landslide between the driveway and the trail to the shore.



ORTHOPHOTO AUGUST 6 2020

0m 5m 10m 15m 20m 25m

SCALE: 1:250

THE INTENDED PLOT SIZE OF THIS PLAN IS 864mm IN WIDTH BY 560mm IN HEIGHT (D SIZE) WHEN PLOTTED AT A SCALE OF 1:250

LEGEND

ALL DISTANCES AND ELEVATIONS ARE IN METRES AND DECIMALS THEREOF. ELEVATIONS ARE GEODETIC BASED ON GNSS MEASUREMENTS AND NRCAN PRECISE POINT POSITIONING. CONTOUR INTERVAL IS 0.5 METRES.

- DENOTES STANDARD IRON POST FOUND
- DENOTES GUY ANCHOR
- DENOTES UTILITY POLE

CIVIC ADDRESS:
9353 EASTSIDE ROAD, VERNON BC

LEGAL DESCRIPTION:
LOT 1 SECTION 10 TOWNSHIP 13 OSOYOOS DIVISION YALE DISTRICT PLAN KAP84430

SURVEYED BY:	DT/JH/EK	DATE: AUGUST 6 2020
DRAFTED BY:	EK	DATE: AUGUST 12 2020
CHECKED BY:	MB	DATE:

REV.	DATE	BY	REMARKS

MONASHEE SURVEYING - GEOMATICS
3110A 30th Street Vernon, B.C. V1T 8X3
Tel. (250) 542 3660 Fax (250) 542 3610

7374-TOPO.dwg

TP-1

TP-2

TP-3

TP-4

TP-5

TP-6

FORM 1
Riparian Areas Protection Regulation - Qualified Environmental Professional - Assessment Report

Riparian Area Protection Regulation Assessment

9353 EASTSIDE ROAD
VERNON, BC

Prepared for:
Paul Rosenau &
David Franklin

3306 WEST 11TH AVE
VANCOUVER, BC

Prepared by:

CANYON WREN
CONSULTING INC.

Riparian Areas Protection Regulation: Assessment Report

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

Date: Jan. 21, 2021

I. Primary QEP Information

First Name	Mark	Middle Name	D		
Last Name	Piorecky				
Designation	R.P.Bio	Company:	Canyon Wren Consulting Inc		
Registration #	1810	Email:	mark@canyonwren.ca		
Address	5859 Hartnell Rd.				
City	Vernon	Postal/Zip	V1B 3J5	Phone #	250.307.2038
Prov/state	B.C.	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	PAUL ROSENAU	Middle Name			
Last Name	DAVID FRANKLIN				
Company					
Phone #	604.671.8745	Email:	Rosenau@ekistics.ca		
Address	3306 WEST 11TH AVENUE				
City	VANCOUVER	Postal/Zip	V6R 2J8		
Prov/state	BC	Country	Canada		

IV. Development Information

Development Type	Subdivision and Family Residential		
Area of Development (ha)	0.198	Riparian Length (m)	180
Lot Area (ha)	0.997	Nature of Development	Re-development
Proposed Start Date	April 1, 2021	Proposed End Date	April 1, 2022

V. Location of Proposed Development

Street Address (or nearest town)	9353 Eastside Road							
Local Government	City of Vernon			City	Vernon			
Stream Name	Okanagan Lake							
Legal Description (PID)	009-692-169			Region	Okanagan			
Stream/River Type	Lake			DFO Area	B.C. Interior			
Watershed Code	310							
Latitude	50°	12'	20.5"	Longitude	119°	24'	26"	

Table of Contents for Assessment Report

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)

Fish and Fish Habitat

Okanagan Lake provides habitat for over 23 species of native and introduced fish. These include a variety of salmonids and coarse/non-game species. The table below provides a list of fish species present in Okanagan Lake.

Table 1. Fish species present in Okanagan Lake

Common Name	Scientific Name	Native (N) or Introduced (I)
brook trout	*Salvelinus fontinalis*	I
burbot	*Lota lota*	N
carp	*Cyprinus carpio*	I
chiselmouth	*Acrocheilus alutaceus*	N
cutthroat	*Oncorhynchus clarki lewisi*	N
kokanee	*Oncorhynchus nerka*	N
lake trout	*Salvelinus namaycush*	I
lake whitefish	*Coregonus clupeaformis*	I
largescale sucker	*Catostomus macrocheilus*	N
leopard dace	*Rhinichthys falcatus*	N
longnose dace	*Rhinichthys cataractae*	N
longnose sucker	*Catostomus catostomus*	N
mountain whitefish	*Prosopium williamsoni*	N
northern pikeminnow	*Ptychocheilus oregonesis*	N
peamouth chub	*Mylocheilus caurinus*	N
prickly sculpin	*Cottus asper*	N
pumpkinseed	*Lepomis gibbosus*	I
pygmy whitefish	*Prosopium coulteri*	N
rainbow trout	*Oncorhynchus mykiss*	N
redside shiner	*Richardsonius balteatus*	N
slimy sculpin	*Cottus cognatus*	N
smallmouth bass	*Micropterus dolomieu*	I
steelhead	*Oncorhynchus mykiss*	N
yellow perch	*Perca flavescens*	I

Ministry of Environment Habitat Wizard website, 2020

On Dec. 14th, 2020 the waters edge was approximately 5 m below the High Water Mark (HWM)/ Stream Boundary (SB), which is identified by the 343 m elevation contour (Photos 1-2). The lakebed/substrate in the littoral zone in front of the subject property was categorized as:

- HWM to 2.5 m – dominated by natural bedrock, large angular boulders, scattered round gravels;
- 2.5 to 6 m – Mix of 50% rounded gravels (<10 cm), 20% angular cobbles (10-20 cm) and

30% embedded boulders (<50 cm);

- 6 to 15 m – Mix of 60% angular cobbles (20-30 cm) and 40% boulders (<60 cm);
- Beyond 16 m – Too deep to see.

Existing fish habitat in Okanagan Lake in front of the subject property is characterized as high-value kokanee spawning habitat. This is based on the topography and lake substrate observed in the littoral zone in front of the property, as well as maps produced as part of the Okanagan Region Large Lakes Foreshore Protocol (Jan. 2018). This protocol identifies black, red, yellow and no colour zones associated with kokanee spawning importance. Shore spawning kokanee are known to occur in Okanagan Lake, and spawning habitat is generally associated with cliffs/bluffs and angular coarse substrates (which occur on the subject property, Photo 1-3). The foreshore in front of the subject property is a black colour zone, kokanee are known to spawn directly in front of the existing residence. The nearshore topography is moderately sloping to 15 m into the lake. After that it drops quickly.

Description of Current Riparian Vegetation Condition

Topographically, the upland property slopes steeply from Eastside Road to the HWM at about 26.5 degrees or 50%.

The majority of the subject property and SPEA exist in a natural state. Despite this, nearly the entire existing residence, large deck, pump house, two small outbuildings, and several paths, currently exist within the RAPR determined SPEA (Figures 1 and 2, Photos 3-9). The portion of the property that is not developed consists almost entirely of native forested vegetation, including: Douglas-fir and ponderosa pine trees, Oregon grape, upright juniper, dogwood, willow, snowberry and rose shrubs. This existing vegetation provides valuable riparian function in the form of leaf litter, insect drop, shade and potential for woody debris.

Existing alterations to the foreshore are limited to an existing deck, that will be removed, a near future dock that has been approved, a portion of the historical dock that is beached on the shore (and will be removed during new dock construction), and an existing pump-house (Figures 1 and 2, Photos 1-3). All remaining foreshore is natural.

The trees and shrubs serve to dramatically reduce erosion potential and provide important fish habitat in the form of leaf litter, insect drop, shade and potential for woody debris. The property currently provides high value riparian function.

Nature of Development and Proposed Activities

Field assessments of the subject property were conducted on July 27, August 10, and Dec. 14, 2020 by Mark Piorecky, M.Sc., R.P.Bio. The subject property currently consists of a large single parcel measuring approximately 179 m wide (street front) by 57 m deep (centre of lot), with a total area of approximately 9977 m^2. The property is bordered by developed lakeshore residential lots to the northeast and southwest, Eastside Road to the southeast and Okanagan Lake to the northwest.

It is the intent of the proponent to subdivide the existing property into three separate lots and develop 3 single family residences, as identified in Figure 3. To minimize impacts to the riparian values of the subject property, the following actions are being pursued:

1) With the exception of the foreshore deck and beached portion of the previous dock, all existing structures within the SPEA will be retained.
2) New residences for Proposed Lots 1 and 3, will be constructed entirely outside of the RAPR determined SPEA.
3) The new residence for Proposed Lot 2, will occur primarily outside of the RAPR determined SPEA. The exception to this, is 11.2 sq m of the new residence that will utilize the foundation of the existing residence within the SPEA. The remainder of the existing residence foundation will be retained and simply covered with deck surfacing to match the existing deck.
4) Residential development will result in NO impacts to existing trees and/or shrubs within the RAPR determined SPEA.

5) Access to the lake will follow existing trails and staircases. Drilled wells are being planned for and will be located outside the SPEA. If however, waterlines from the lake are required and appropriately permitted, they too will follow these existing trails (see Figures 1-3).

6) A danger tree assessment has not been conducted. In the future, if questions as to the safety of trees within the SPEA arise, a Danger Tree Assessment will be conducted by a qualified assessor, to determine the appropriate course of action. Removed trees will be replaced according to BC MOELP (1996) Tree Replacement Criteria levels and requirements outlined in Section 2.

Construction is anticipated to start **May 1, 2021** and be completed by **May 1, 2023**.

Section 2. Results of Riparian Assessment (SPEA width)

2. Results of Detailed Riparian Assessment

Refer to Section 3 of Technical Manual

Date: Jan. 26, 2021

Description of Water bodies involved (number, type): Okanagan Lake

Stream	
Wetland	
Lake	X
Ditch	
No. of reaches	
Reach #	

Site Potential Vegetation Type (SPVT)

	Yes	No	
SPVT Polygons			Tick yes only if multiple polygons, if No then fill in one set of SPVT data boxes

I, Mark Piorecky, 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 Paul Rosenau and David Franklin;

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.

Polygon No: 1 of 1

Method employed if other than TR

SPVT Type	LC	SH	TR
			X

Zone of Sensitivity (ZOS) and resultant SPEA

Segment No: 1 of 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)	15
Litter fall and insect drop ZOS (m)	15
Shade ZOS (m) max	30

South bank: Yes X No

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 30 (For ditch use table3-7)

I, Mark Piorecky, hereby certify that:

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b. I am qualified to carry out this part of the assessment of the development proposal made by the developer Paul Rosenau and David Franklin ;

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 shoreline of the subject property faces northwest, thus is significantly influenced by the shade ZOS. As a result, the RAPR determined SPEA ranges from approximately 18.3 to 31.3 m, as measured horizontally from the HWM / SB of Okanagan Lake (343 m above sea level (see Figure 3).

The Subject Property is 9970 m^2 in size, with the new proposed lots measuring approximately 1773 m^2 (Lot 1), 2985 m^2 (Lot 2) and 4940 m^2 (Lot 3). The RAPR determined SPEA covers approximately 37% (3670 m^2), of the Subject Property. Proposed new development on the subject property will occur entirely outside the RAPR Determined SPEA. The only works planned for within the SPEA are those related to re-developing a portion of the central residence on the existing foundation within Lot 2.

Future vegetation enhancement and/or replacement within the SPEA will adhere to the following:

- If future Danger Trees are identified for removal, tree replacement will occur according to specifications outlined in the BC MOELP (1996) tree replacement criteria.
- If survival of any existing shrub within the SPEA is impacted by development, it will be compensated for at a 2:1 ratio.
- Enhancement and replacement vegetation species will be chosen from the following:
  - Coniferous trees: ponderosa pine, Douglas-fir, western larch, western white pine, western red cedar.
  - Deciduous trees: aspen, birch, cascara, choke cherry, pin cherry, cottonwood, mountain ash, hawthorn or willow.
  - Shrubs: ceanothus, black twinberry, soopalallie, high/low bush cranberry, willow, dogwood, Douglas maple, snowberry, rose, saskatoon, spirea, hazelnut, huckleberry, juniper, potentilla, mock-orange, elderberry, current (ribes) or Oregon grape.

The proponents are committed to carrying out development activities in accordance with this letter to ensure that the Riparian Protection Standard, is met.

Apart from the identified development plan, activities and features that are prohibited within the SPEA, include but are not limited to the following: removal, alteration, disruption or destruction of vegetation; disturbance of soils; construction or erection of additional buildings and structures; creation of non-structural impervious or semi-impervious surfaces; flood protection works; construction of roads, trails, additional retaining walls, docks, wharves or bridges; provision and maintenance of sewer and water services; development of drainage systems and development of utility corridors.

Section 3. Site Plan

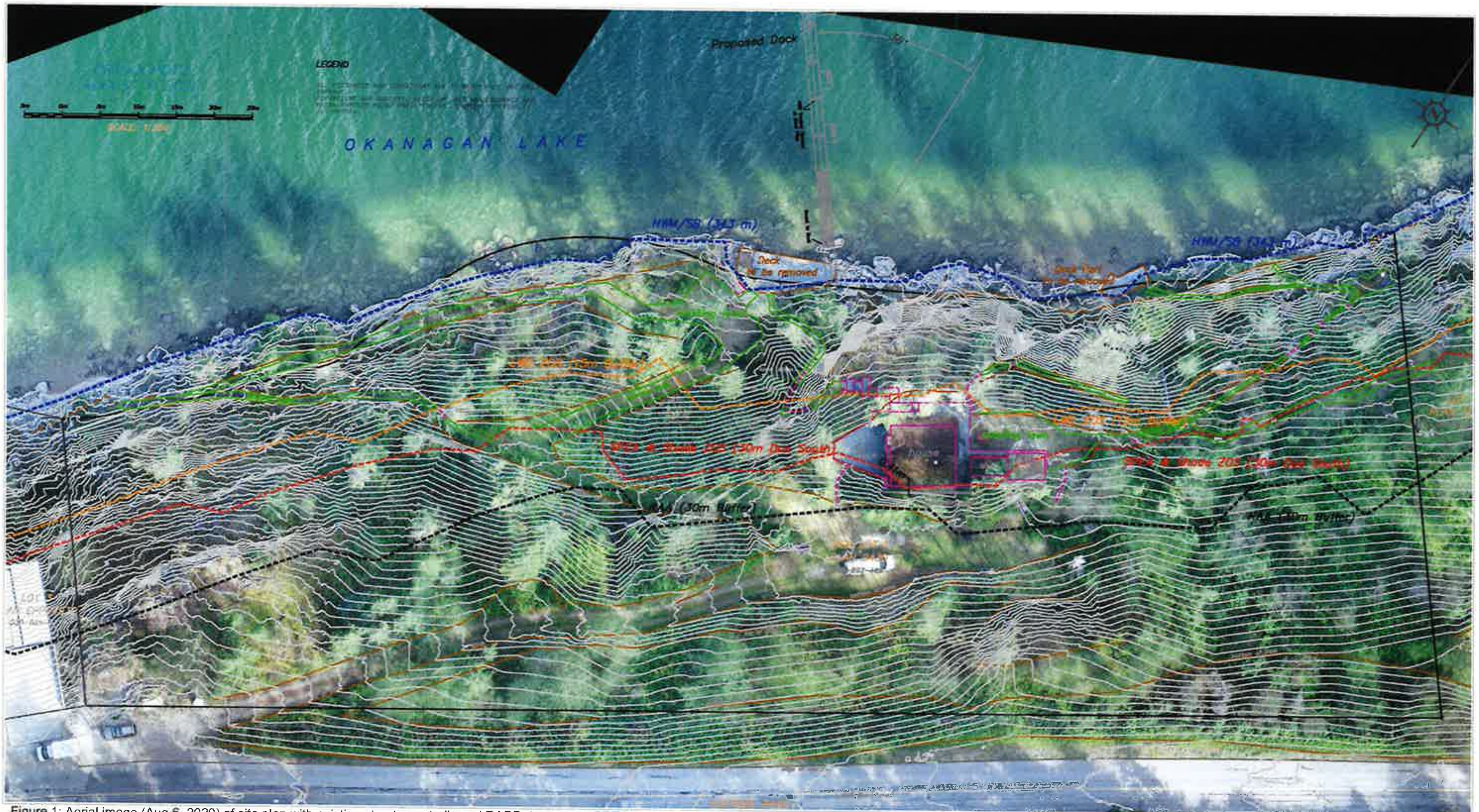

Figure 1: Aerial image (Aug 6, 2020) of site plan with existing structures, trails and RAPR determined SPEA.

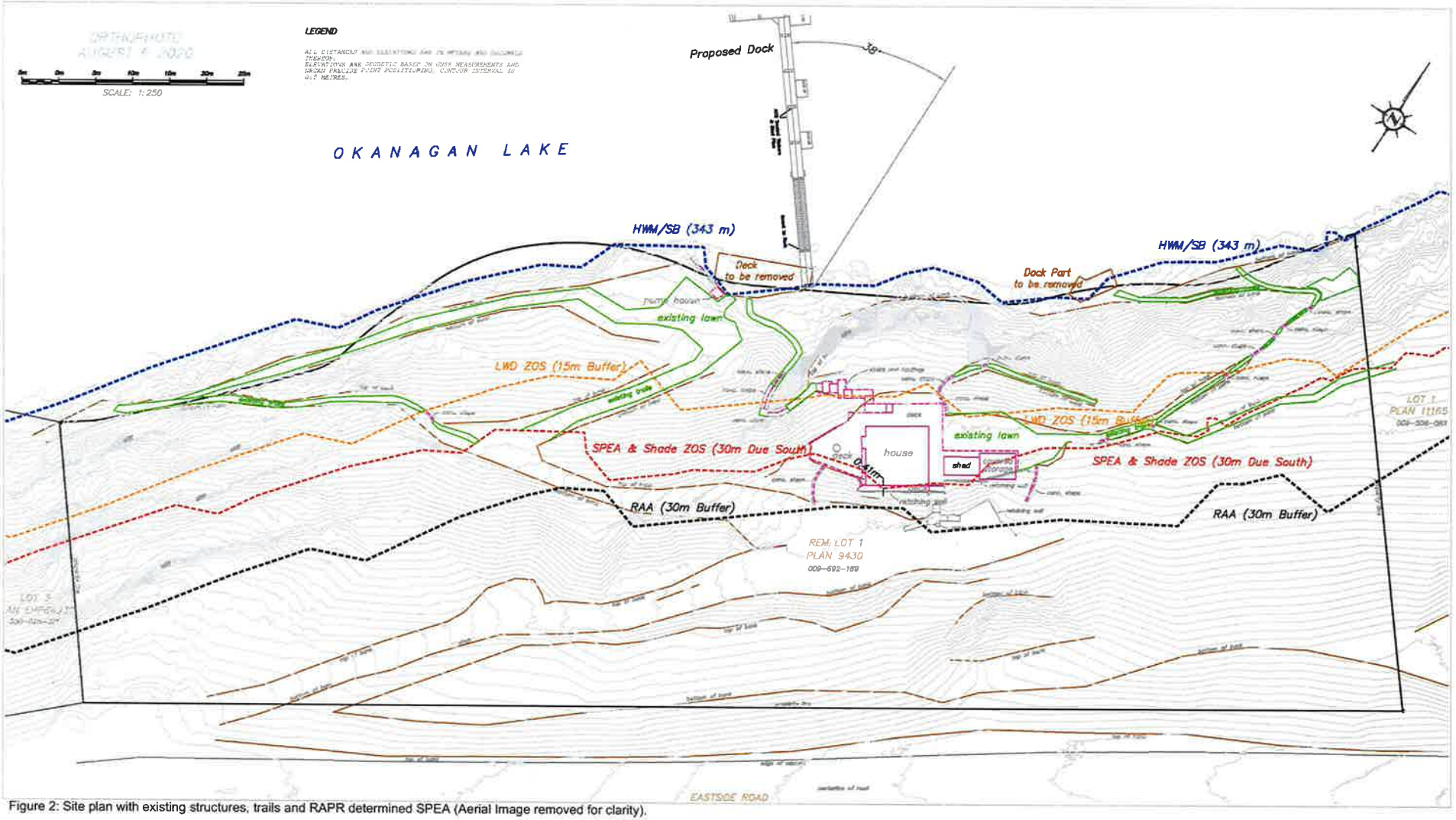

Figure 2: Site plan with existing structures, trails and RAPR determined SPEA (Aerial Image removed for clarity).

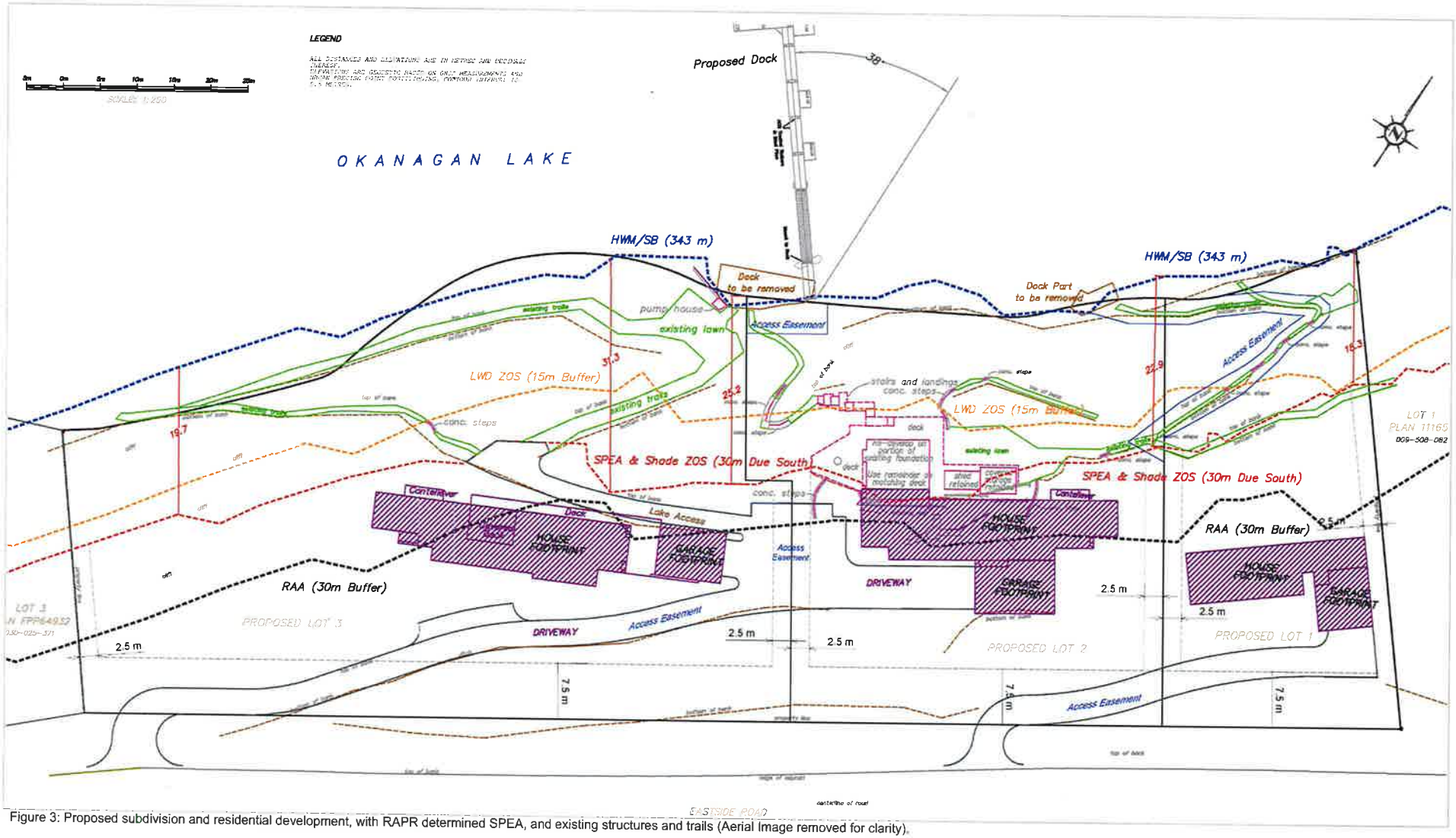

Figure 3: Proposed subdivision and residential development, with RAPR determined SPEA, and existing structures and trails (Aerial Image removed for clarity).

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	No danger trees were currently identified on the Subject Property. If trees within the SPEA are later identified as danger trees and need to be removed (i.e. as a result of natural aging, pine beetle, etc.), this will be done according to specifications outlined in the BC MOELP tree replacement criteria and those outlined in Section 2 – Comments, of this report.

I, Mark Piorecky, 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 Paul Rosenau and David Franklin ;
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.

2. Windthrow	Windthrow is not an issue for this development since the prevailing winds are from the West and as such SPEA trees will already be subject to much of this wind force and therefore wind firm.

I, Mark Piorecky , hereby certify that:

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b. I am qualified to carry out this part of the assessment of the development proposal made by the developer Paul Rosenau and David Franklin ;
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	Slope stability was assessed by Albert Losch, P.Eng., of Calibre Geotechnical Engineering Ltd., as identified in the Geotechnical Report posted with this assessment in the RARNS database. As identified in the report, "Based on our review of the information and our experience with the area we believe, from a geotechnical point of view, that the site can be subdivided into three residential lots, and subsequently developed, without impacting slope stability." Additionally, there is a culvert on Eastside Road that directs water towards a small slide area on the property, located outside of the SPEA. The location of this culvert will have to be addressed prior to the development of the site, so that surface water does not flow down the existing driveway. No other geotechnical issues were noted. During construction Calibre Geotechnical Engineering Ltd. will provide required geotechnical inspection services to ensure residential development results in no impacts to the residences and SPEA ,from slope instability.

I, Mark Piorecky hereby certify that:

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b. I am qualified to carry out this part of the assessment of the development proposal made by the developer Paul Rosenau and David Franklin ;
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	No trees will be removed within the SPEA. Similarly, foundation development outside the SPEA, will NOT require trenching or digging near SPEA trees. No trees will be removed within the SPEA, aside from future identified

	Danger Trees. Residential construction will require trenching or digging adjacent to the SPEA, while waterline installation may require minor trenching within the SPEA, along existing trails. Many of these activities are far enough from existing trees that they will not impact their root zones. However, the following precautions will be taken, in consultation with the environmental monitor (EM), to prevent damage to trees within the SPEA: a. Flagging and identification of the SPEA boundary. Prior to construction, highly visible flagging or snow fence will be placed along the SPEA boundary. This will clearly demarcate the border to the public and machinery; b. Physical barriers will be erected, based on tree size and location, to ensure that the majority of the root system remains undisturbed during construction activities; c. Best management practices require that machinery used for construction be in good repair and free of leaks. Contractors on site are required to have spill kits at the construction site (preferably on each piece of large machinery) and develop a spill reporting and clean-up procedure.

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b. I am qualified to carry out this part of the assessment of the development proposal made by the developer Paul Rosenau and David Franklin;
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	As the proposed development is on lake front, the owners will expect and require access to the waterfront. However, it is also noted that the intention of the SPEA is to provide natural, functioning undisturbed riparian habitat. As such, the owners have been made fully aware that encroachment into the SPEA is not a practice that is supported or permitted under the RAPR. Encroachment activities include: conversion of natural vegetation into lawn, dumping of yard waste, planting of non-native vegetation, and the creation of numerous access points and pathways. Several existing paths onto the SPEA already exist. These will be maintained and utilized by residence, moving forward.

I, Mark Piorecky, 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 Paul Rosenau and David Franklin;
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 and erosion control will focus on minimizing disturbance and source-control to prevent sediment or sediment laden water from entering the SPEA during construction. Proposed sediment control will follow Best Management Practices (BMPs) for: works in and around a watercourse, sediment control, and urban and rural land development (MWLP 2004, LWBC 2005). Under the direction of the EM, erosion and sediment control activities will include but not be limited to the following: a. All areas with exposed soils will be re-vegetated promptly with grass especially where surface flows have potential to reach the lake. If re-vegetation cannot occur immediately, alternative sediment control methods will be employed. These can include the use of filter cloth, tarps and/or straw mulch in combination with silt fencing, if required; b. Excavated materials will be stockpiled in areas where there is negligible potential for sediment to be transported into the SPEA;

	c. In areas where soils are to be placed near the SPEA boundary (i.e. during residential foundation excavation), silt fencing will form a final barrier to sediment transport. The silt fence should be installed according to manufacturer's instructions and be monitored periodically for tautness and effectiveness.

I, Mark Piorecky , 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 Paul Rosenau and David Franklin ;
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 from the area of impervious surfaces outside the SPEA, will not be discharged directly into the SPEA or lake. Roof and driveway run-off will be directed into the ground and distributed amongst dry wells installed outside the SPEA. To decrease the potential for surface runoff, the use of semipermeable surfaces (i.e. paving stones, gravel, porous asphalt) are encouraged for driveway features planned outside the SPEA.

I, Mark Piorecky , 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 Paul Rosenau and David Franklin ;
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)	The subject property is not located in an active floodplain, therefore flooding of the SPEA is not considered an issue.

I, Mark Piorecky , 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 Paul Rosenau and David Franklin ;
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

A Qualified Environmental Professional (QEP) will be retained as project environmental monitor by the proponent. The focus of monitoring will be the protection of the SPEA. There will be a pre-construction meeting to communicate the importance of SPEA protection, along with tree protection and the erosion and sediment control plans with site personnel. Site inspection frequency will be timed to key construction activities in areas adjacent to and/or within the SPEA (i.e. existing foundation removal) and based on weather events (e.g. after periods of intense rainfall). The QEP will ensure that sediment and erosion control measures are functioning properly and protecting the SPEA. The monitor has the authority to halt construction activities if impacts to sensitive habitats are likely to occur.

A post-development report, outlining the degree of compliance with the above measures and reviewing the success of measures implemented during construction will also be produced and submitted on the RARNS database.

Section 6. Photos

Photo 1. Foreshore, HWM / SB, SPEA vegetation, and existing deck to be removed (from proposed dock area - looking NE) – Dec. 14, 2020.

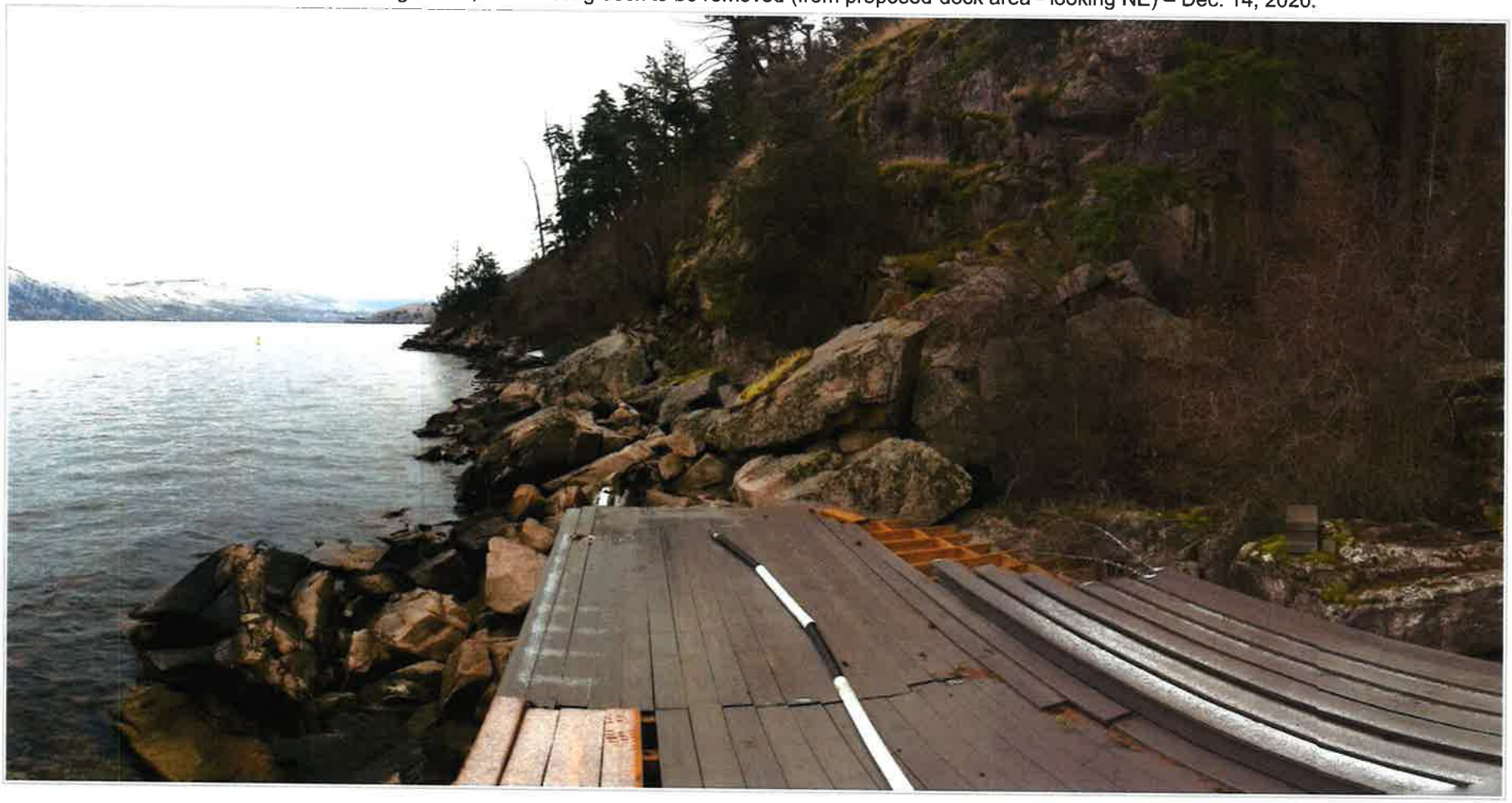


Photo 2. Close-up of HWM / SB, SPEA vegetation, pump house and deck to be removed (from proposed dock area - looking SW) – Dec. 14, 2020.

Photo 3. HWM / SB during high water levels, SPEA vegetation and existing residence (from end of proposed dock - looking SE) – Aug. 10, 2020.

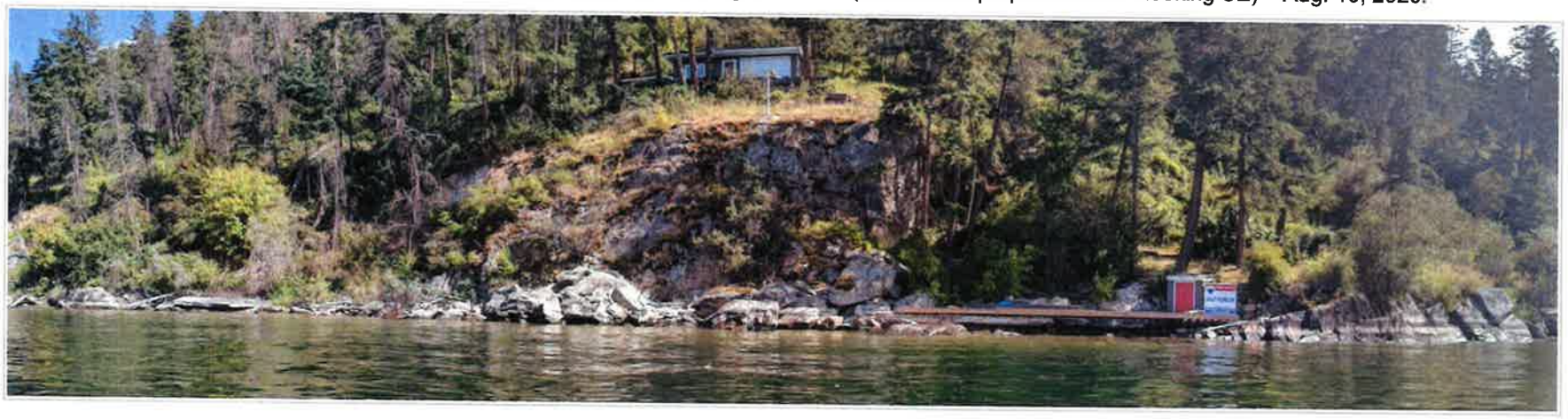


Photo 4. Existing deck and residence (from concrete steps - looking N) – Dec. 14, 2020.

Photo 5. View of lakeside deck and stairs down to water (looking N) – Dec. 14, 2020.

Photo 6. View of deck, lawn and existing sheds (from NE corner of residence - looking E) – Dec. 14, 2020.

Photo 7. View of existing lawn, sheds and residence (from end of lawn - looking SW) – Dec. 14, 2020.

Photo 8. Existing driveway (left), lake access path (right) (from parking area located behind existing residence - looking SW) – Dec. 14, 2020.

Photo 9. SPEA vegetation and first switchback in main lake access path (from near SPEA line - looking NE) – Dec. 14, 2020.

Section 7. Professional Opinion

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

Date Jan. 26, 2021

1. I/We Mark Piorecky, R.P.Bio.

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 Paul Rosenau and David Franklin , 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.]

Section 8. References

Land and Water BC (LWBC). 2005. A Users Guide to Working in and Around Water. Regulation under British Columbia's Water Act. Revised May 2005. http://www.agf.gov.bc.ca/resmgmt/publist/500series/502000-1.pdf

Ministry of Environment Habitat Wizard website. 2020. Habitat Wizard. Accessed March 13, 2020. http://www.env.gov.bc.ca/habwiz/

Ministry of Environment, Lands and Parks (MOELP). 1996. Tree Replacement Criteria. B.C. Environment, Lower Mainland Region, Surrey, B.C. Pp. 1.

Ministry of Water, Land and Air Protection (MWLAP). 2004. Standards and Best Practices for In Stream Works. WLAP BMP Series. 167 pp. http://wlapwww.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf

Okanagan Large Lakes Foreshore Protocol. 2018. BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development, Penticton, BC. Jan. 2018. 11 pp. https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/standards-guidelines/best-management-practices/okanagan/okanagan_large_lakes_foreshore_protocol.pdf

Section 9. Appendix I - Geotechnical Report

Attached Separately

4.15 Development Covenants

4.15.1 At the time of rezoning, prior to bylaw adoption, City Council may at its discretion require the property owner to register a covenant on the title of the property limiting the permitted uses and/or densities within the approved land use zones, so as to reflect the specific approved development plan.

4.16 Hillside Development Areas

4.16.1 Vernon's Official Community Plan (OCP) establishes Development Permit Areas (DPAs) for all areas within the City of Vernon. Vernon's Hillside Guidelines and Regulations Policy defines hillsides and provides Goals and Objectives for development of lands on hillsides and slopes under 30%. No construction of a building, structure or swimming pool is permitted on slopes 30% or greater.

4.16.2 No subdivision of land creating lots is permitted where less than 100m^2 of contiguous buildable area which meets all bylaw regulations herein for each lot is provided, with the exception of boundary lot adjustments.
(Bylaw 5433)

Lantenhammer, Desiree TRAN:EX

From: Lantenhammer, Desiree TRAN:EX
Sent: April 14, 2022 10:26 AM
To: 'Craig Broderick'
Cc: Liz Hanley; CSB Reception
Subject: RE: SUB00796 9353 Eastside Rd.

Good morning,

The Provincial Approving Officer supports the waiving of Sec 75(1)(c) of the Land Title Act. Please forward the appropriate documents to me and I will get them endorsed.

Regards,
Desiree

Desiree Lantenhammer, BSc
Development Services Officer
Ministry of Transportation and Infrastructure
Phone: 778-943-0151
Cell: 250-503-8963

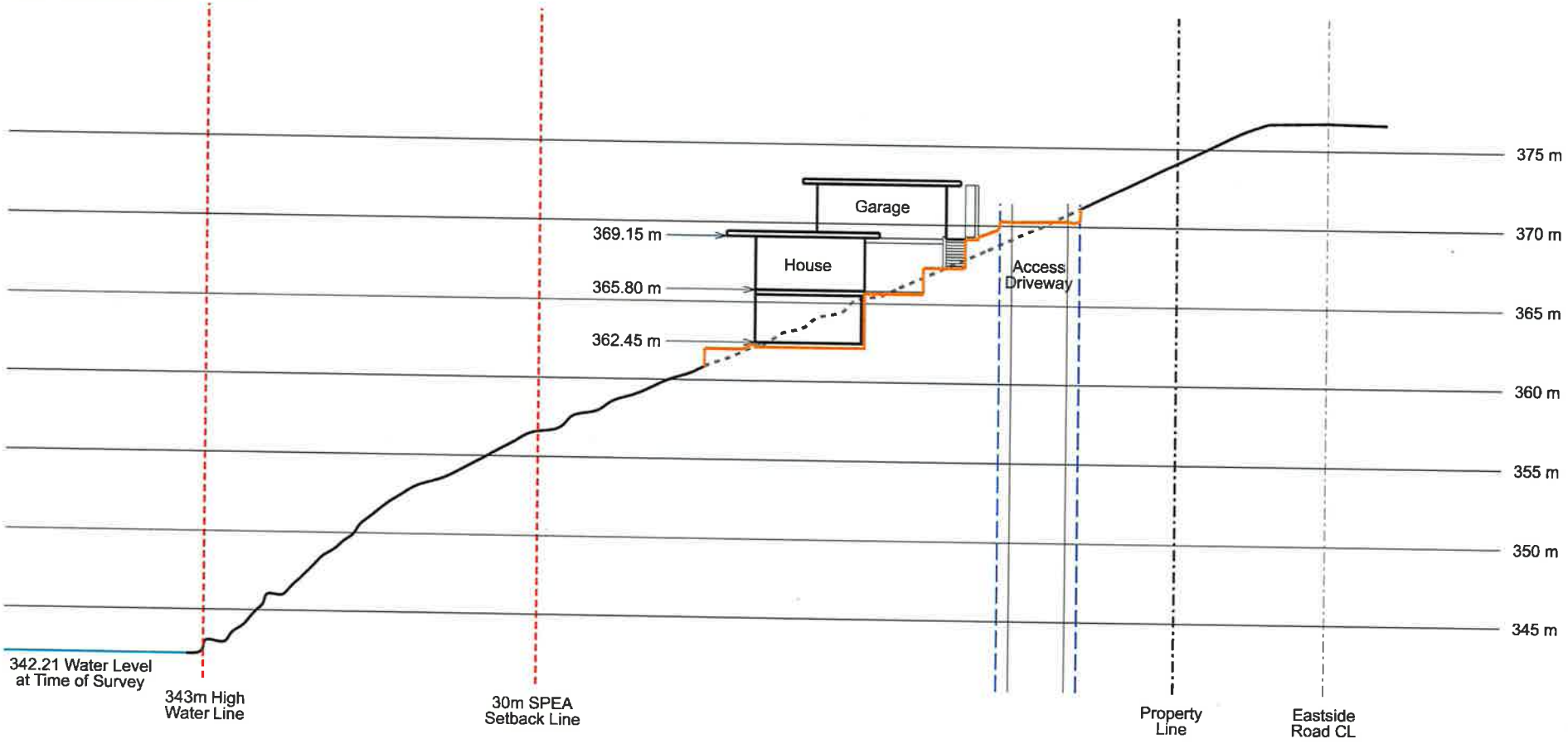
Attachment 5

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Cross Section A-A' - Lot 1

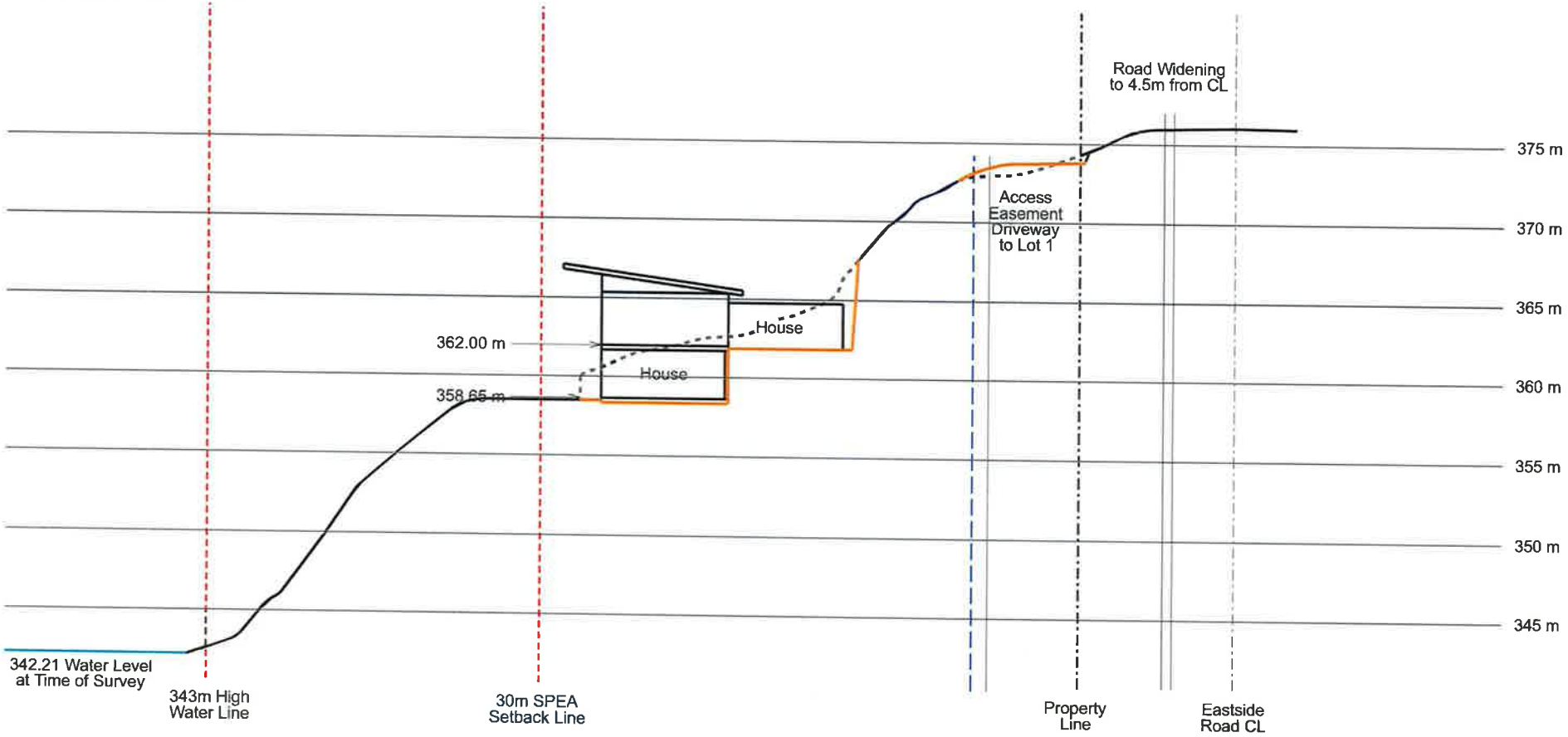


Attachment 6

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Cross Section B-B' - Lot 2



EKISTICS

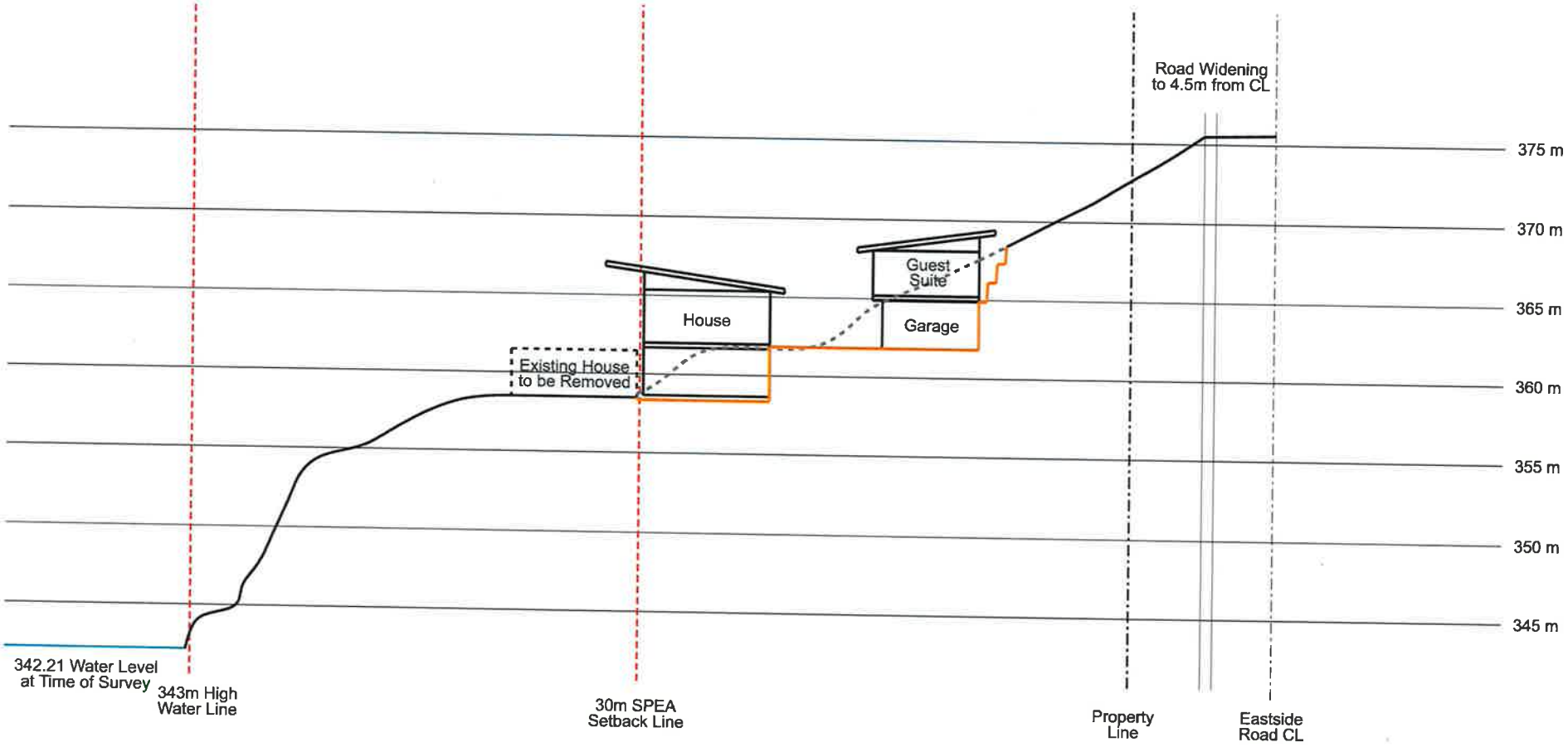
Scale 1:250

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Cross Section C-C' - Lot 2



EKISTICS

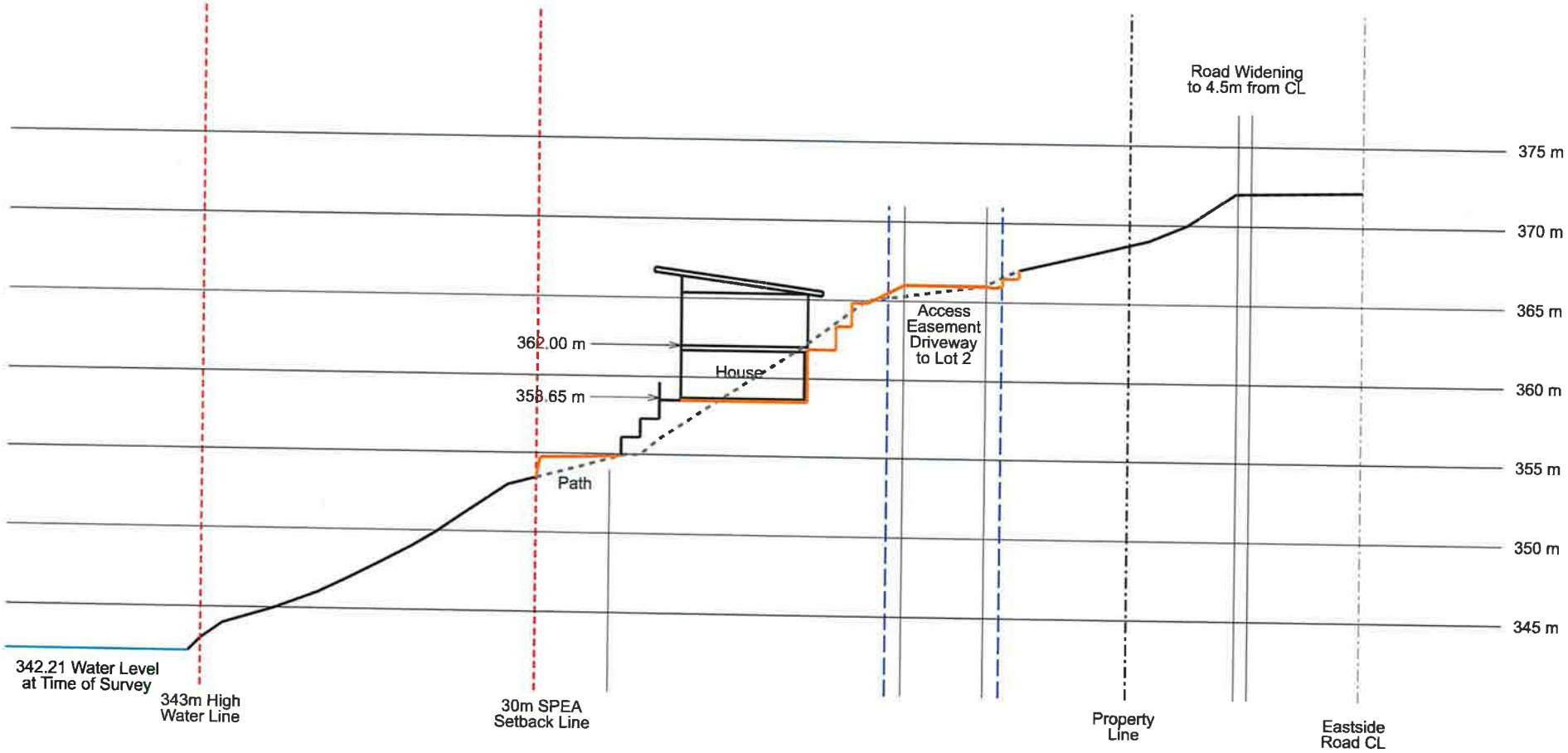
Scale 1:250

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Cross Section D-D' - Lot 3



EKISTICS

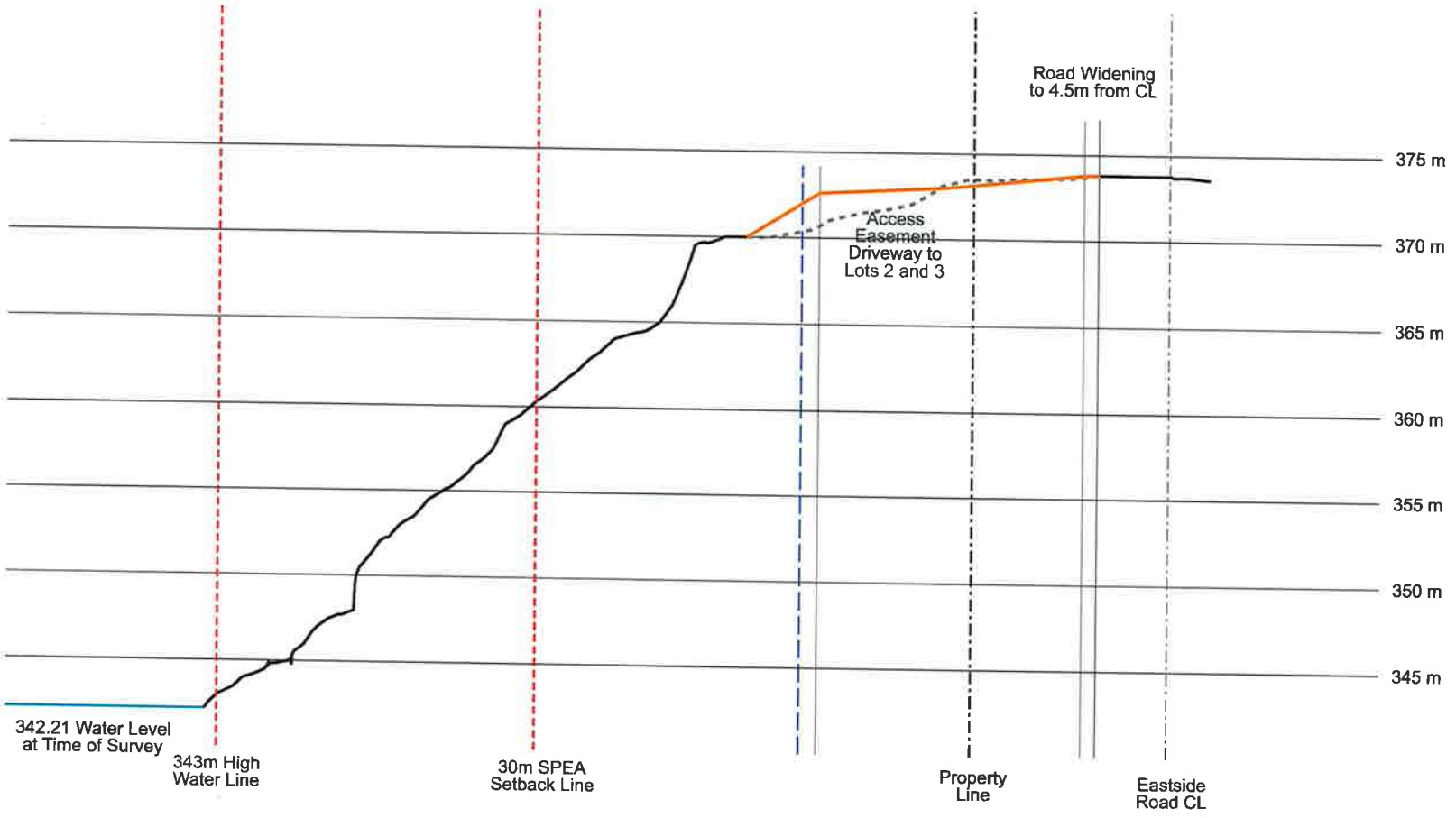
Scale 1:250

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Development Variance Permit Application

Cross Section E-E' - Lot 3



EKISTICS

Scale 1:250

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Sketchup Views - East from Lake

EKISTICS

Attachment 7

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Sketchup Views - South from Lake

EKISTICS

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Sketchup Views - North East from Lake

EKISTICS

June 23rd, 2022

9353 Eastside Road - Subdivision Application

Sketchup Views - North from Road at Entrance

EKISTICS