Board of Variance AGENDA

-BOARD OF VARIANCE-

Agenda for the Board of Variance Meeting of the Village of Pemberton to be held Thursday, November 26, 2020 at 5:00 PM via ZOOM Webinar ID: 874 8566 5846

be sited on the lot in general compliance with location and height on the Site Plan completed by MW Design Studio dated October 2nd 2020 or in a location approved by Building Permit; and

- To vary Section 7.21 9 (a) i. to relax the maximum height of a retaining wall, from 1.2 to a maximum of 3.91 metres, a relaxation of 2.71 metres

6. NEW BUSINESS

7. NEXT MEETING

8. ADJOURNMENT

BoV MINUTES

BOARD OF VARIANCE MINUTES

Minutes for the Board of Variance Meeting of the Village of Pemberton held Wednesday, October 28, 2020 at 5:00 PM via ZOOM Webinar ID: 885 4126 2453

IN ATTENDANCE:	Niki Vankerk, Chair Drew Meredith Alan LeBlanc
STAFF IN ATTENDENCE:	Joanna Rees, Planner Gwendolyn Kennedy, Building & Planning Clerk Chris Derouin, Building Official
APPLICANT/PUBLIC:	David Russell (Applicant) Stephanie Nicoll-Russell (Applicant) 6

1. CALL TO ORDER

At 5:03 p.m. the meeting was called to order.

In honour of the Lil'wat7ul, the Village of Pemberton acknowledges that we are meeting within the unceded territory of the Lil'wat Nation.

2. MINUTES

Moved/Seconded
THAT the minutes of the Board of Variance meeting held September 30, 2020 be approved as circulated.
CARRIED

3. 7665 Cerulean Drive - Lot 24 District Lot 211 Lillooet District Plan EPP88381

Planner Joanna Rees presented a summary of the application to allow for an existing retaining wall structure to facilitate the development of a single detached residential dwelling. The following variances from Sections 4.13 and 7.21 of Zoning Bylaw No. 832, 2018 are requested:

1. To vary Section 4.13(a) viii. in order to allow a retaining wall in excess of 1.2 m in height to be placed on the portion of the site in general compliance with location and height on the Site Plan completed by Doug Bush Survey Services dated October 5th 2020 or in a location approved by Building Permit, not to exceed 43 m in length; and
2. To vary Section 7.21 (a)i. to relax the maximum height of a retaining wall, from 1.2 m to a maximum of 4.32 m, a variance of 3.12 metres.

A notice regarding this application was mailed to owners of all properties within 100 metres of the subject lands. The Village received two letters in response, one in favour of and one against the variances, and these letters were forwarded to Board members and to the applicants in advance of the meeting.

Ms. Rees invited questions from Board members and provided clarification regarding the zoning bylaw reference to retaining wall height and regarding the absence of a permit for the retaining wall.

Chair Niki Vankerk offered the applicants the opportunity to speak.

The applicants, David Russell and Stephanie Nicoll-Russell, stated that they were forced to build the retaining wall to create a driveway of a reasonable slope due to the difference in elevation between Cerulean Drive and the building site. They noted that the retaining wall and proposed house would not obstruct the views of neighbours across the street from their lot. In reference to the letter written by neighbour Lee Edwards in opposition to the requested variances, the applicants explained that Ms. Edwards had initially been pleased to accept the fill from their retaining wall that had been left on her lot.

Applicant David Russell invited questions from the Board. Board members sought information on whether similar cut and fill and construction of large retaining walls would be necessary to create buildable sites on all lots on this street and in the Sunstone subdivision generally.

Chair Niki Vankerk invited members of the public to speak for or against the application.

Lee Edwards, owner of the neighbouring lot located at 7663 Cerulean Drive, east of the subject lands, spoke against the application, warning of the potential ripple effect should this variance be approved. Ms. Edwards emphasized the importance of adhering to the Hillside Design Guidelines by designing houses that do not rely on large retaining walls to create level building sites. Ms. Edwards explained that her original plan was to build into the lot, requiring a small rock retaining structure on the lower side of the lot.

Ms. Edwards invited questions from Board members. Board members asked for confirmation that Ms. Edwards had planned to construct a retaining structure on her lot.

Chair Niki Vankerk asked for further submissions from the public. Hearing none, Chair Vankerk closed the floor and referred the matter to the Board for discussion.

Board members requested clarification from Building Official Chris Derouin regarding the necessity for large retaining structures to create buildable sites on Cerulean Drive lots. Building Official Derouin explained that houses could be designed to fit the topography of each lot without the need for large retaining structures and substantial cut and fill.

The Board members discussed the merits of the application in relation to Section 542 (1) of the Local Government Act.

RESOLUTION

Moved/Seconded
THAT the application for the following variances from Zoning Bylaw 832, 2018, in accordance with the attached drawing submitted with the Board of Variance application:

1. to vary Section 4.13(a) viii. in order to allow a retaining wall in excess of 1.2 m in height to be placed on the portion of the site in general compliance with location and height on the Site Plan completed by Doug Bush Survey Services dated October 5th 2020 or in a location approved by Building Permit, not to exceed 43 m in length; and

2. to vary Section 7.21 (a)i. to relax the maximum height of a retaining wall, from 1.2 m to a maximum of 4.32 m, a variance of 3.12 metres,

does not constitute a minor variance and therefore falls outside the mandate of the Board of Variance.

CARRIED

4. NEW BUSINESS

There was no new business for consideration.

5. NEXT MEETING

Planner Joanna Rees informed the Board that there are two applications for consideration at an upcoming meeting. Ms. Rees will coordinate the meeting with the members by email.

6. ADJOURNMENT

Moved/Seconded
THAT the Board of Variance meeting be adjourned.
CARRIED

At 6:10 p.m. the meeting was adjourned.

This is a true and correct copy of a meeting of the Board of Variance of the Village of Pemberton, held October28, 2020.

_____
Chair

MEMO
BOARD OF VARIANCE

Date: **November 26, 2020**

From: **Joanna Rees, Planner**

Subject: **1348 Greenwood Drive**

Agent: **Phil Harrison**

PURPOSE

This report provides an overview of an application submitted by Phil Harrison (the "Applicant"), on behalf of Pacific Columbia Holdings LTD. the owner of the subject property located at 1348 Greenwood Drive.

The Applicant is requesting variances to the front lot line, exterior side lot line and rear lot line setbacks to facilitate the development of a single detached residential dwelling. The following variances from Section 11.1.4 of Residential 1 (R-1) of Zoning Bylaw No. 832, 2018 are requested:

- To reduce the minimum front west lot line setback from 6.0m to 3.0m, a relaxation of 3.0m
- To reduce the minimum exterior north side lot line setback from 4.6m to 3.0m, a relaxation of 1.6m; and
- To reduce the minimum rear east lot line setback from 5.0m to 3.0m, a relaxation of 2.0m

BACKGROUND

The subject lands have received an updated municipal address, they were previously referred to as 7456 Dogwood Street. The subject lands received variances to the front and rear lot line setbacks, in 2014 and 2015.

The following resolution regarding the subject lands was granted by the Board of Variance on July 14, 2014:

Moved/Second
That the Board of Variance approve the variance to reduce the west set-back to 1.5m.
Carried

The following resolution regarding the subject lands was granted by the Board of Variance on July 22, 2015:

Moved/Second
That the Board of Variance approve the variance to reduce the east set-back from 5 metre to 1.5 metres.
Carried

As per Section 542(3) of the Local Government Act, the default time frame is that construction must start within two (2) years from the date of the order, unless otherwise stated by the Board of Variance in their decision. As construction has not started within two (2) years of the date of the resolutions, the previous variances are no longer applicable.

DESCRIPTION OF PROPOSAL

The subject lands legally described as Lot 24 District Lot 211 Lillooet District Plan EPP88381, are known municipally as 1348 Greenwood Drive. The location of the subject lands is shown on Map 1 of **Appendix A**. The subject lands have a varying topography with a large rock formation along the westerly exterior lot line, as shown below in Figure 1. The dwelling has been designed to keep the rock bluff intact along Dogwood Street and to position the entrance from Greenwood Street.

Figure 1: Photo of the subject lands taken from Dogwood Street - 11.12.2020

The subject lands are designated Residential in the Official Community Plan and are zoned Residential 1 (R-1) as per Village of Pemberton Zoning Bylaw No. 832, 2018. Adjacent lands are residential.

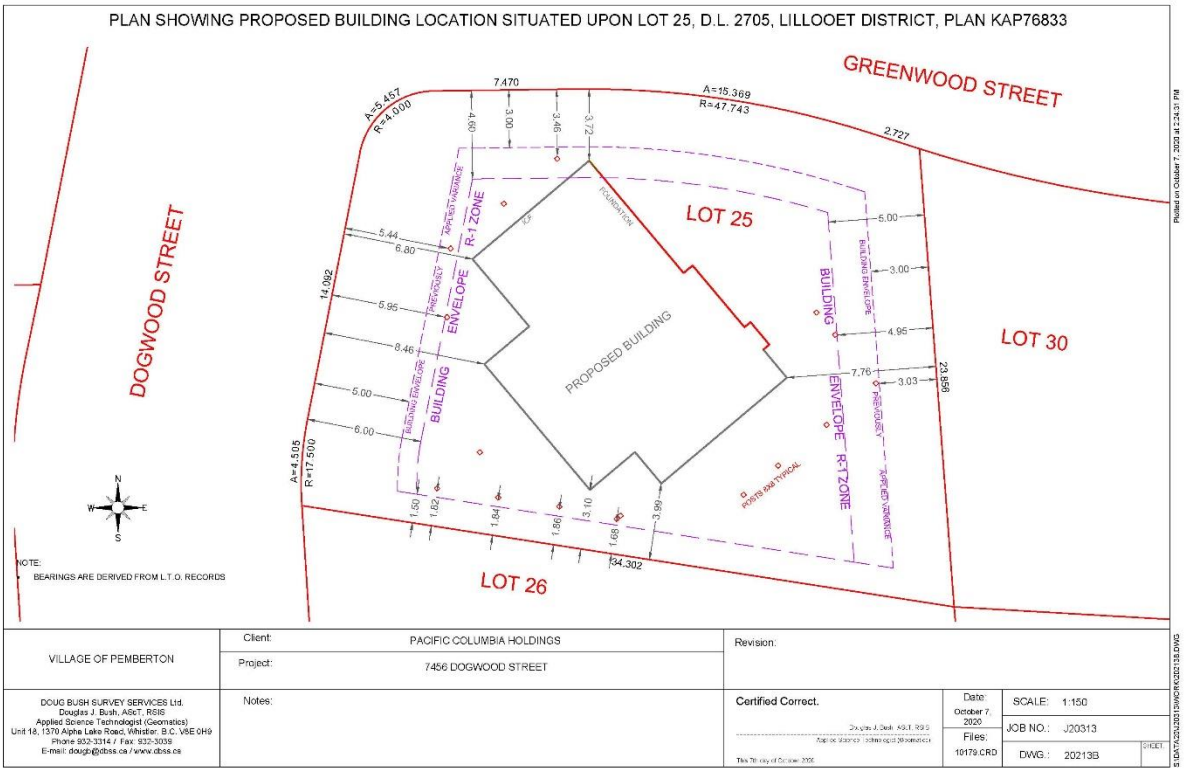


Figure 1: Site Plan Completed by Doug Bush Survey Services Ltd, October 7, 2020

A rationale for the application was submitted by the Applicants and is attached as **Appendix B**.

ZONING BYLAW NO. 832, 2018

The following setbacks apply to the subject lands as per the Residential 1, (R-1) Zone:

b) Minimum Front Setback: 6 m
c) Minimum Rear Setback: 5 m
d) Minimum Interior Side Setback: 1.5 m
e) Minimum Exterior Side Setback:4.6 m

The application is requesting variances from b), d), and e) of Section 11.1.4. of Zoning Bylaw No. 832, 2018.

THE LOCAL GOVERNMENT ACT, R.S.B.C. 2015

The following Section 542(1) of *the Local Government Act* is relevant to the decision making of the Board of Variance and the under this subsection is final:

> **542** (1)On an application under section 540, the board of variance may order that a minor variance be permitted from the requirements of the applicable bylaw, or that the applicant be exempted from section 531 (1) *[alteration or addition while non-conforming use continued]*, if the board of variance

a) has heard the applicant and any person notified under section 541,
b) finds that undue hardship would be caused to the applicant if the bylaw or section 531 (1) is complied with, and
c) is of the opinion that the variance or exemption does not do any of the following:
    i. result in inappropriate development of the site;
    ii. adversely affect the natural environment;
    iii. substantially affect the use and enjoyment of adjacent land;
    iv. vary permitted uses and densities under the applicable bylaw;
    v. defeat the intent of the bylaw;
    vi. vary the application of an applicable bylaw in relation to residential rental tenure.

COMMUNICATIONS

A notice regarding this application has been mailed to all properties within 100 metres of the subject lands, satisfying Section 541 of the *Local Government Act*. If any submissions are received, they will be shared with the Board of Variance the evening before the meeting.

VARIANCE REQUEST

To vary Section 11.1.4 of Residential 1 (R-1) of Zoning Bylaw No. 832, 2018, the following variances are being requested:

- To reduce the minimum front west lot line setback from 6.0m to 3.0m, a relaxation of 3.0m
- To reduce the minimum exterior side north lot line setback from 4.6m to 3.0m, a relaxation of 1.6m; and
- To reduce the minimum rear east lot line setback from 5.0m to 3.0m, a relaxation of 2.0m

OPTIONS

The Board of the Variance has the following options for the variance requested:

(i) Approve the variance;
(ii) Approve the variance with conditions;
(iii) Reject the variance;

NOTICE OF DECISION

The decision of the majority of the membership shall be the decision of the Board. Village Staff shall, within seven (7) days of a decision, send by mail or otherwise deliver the written decision of the Board to the applicant, all persons who made representation at the hearing, and the Village of Pemberton Building Inspector. Village Staff shall, within seven (7) days of the decision, enter that decision in the record maintained at the local government office.

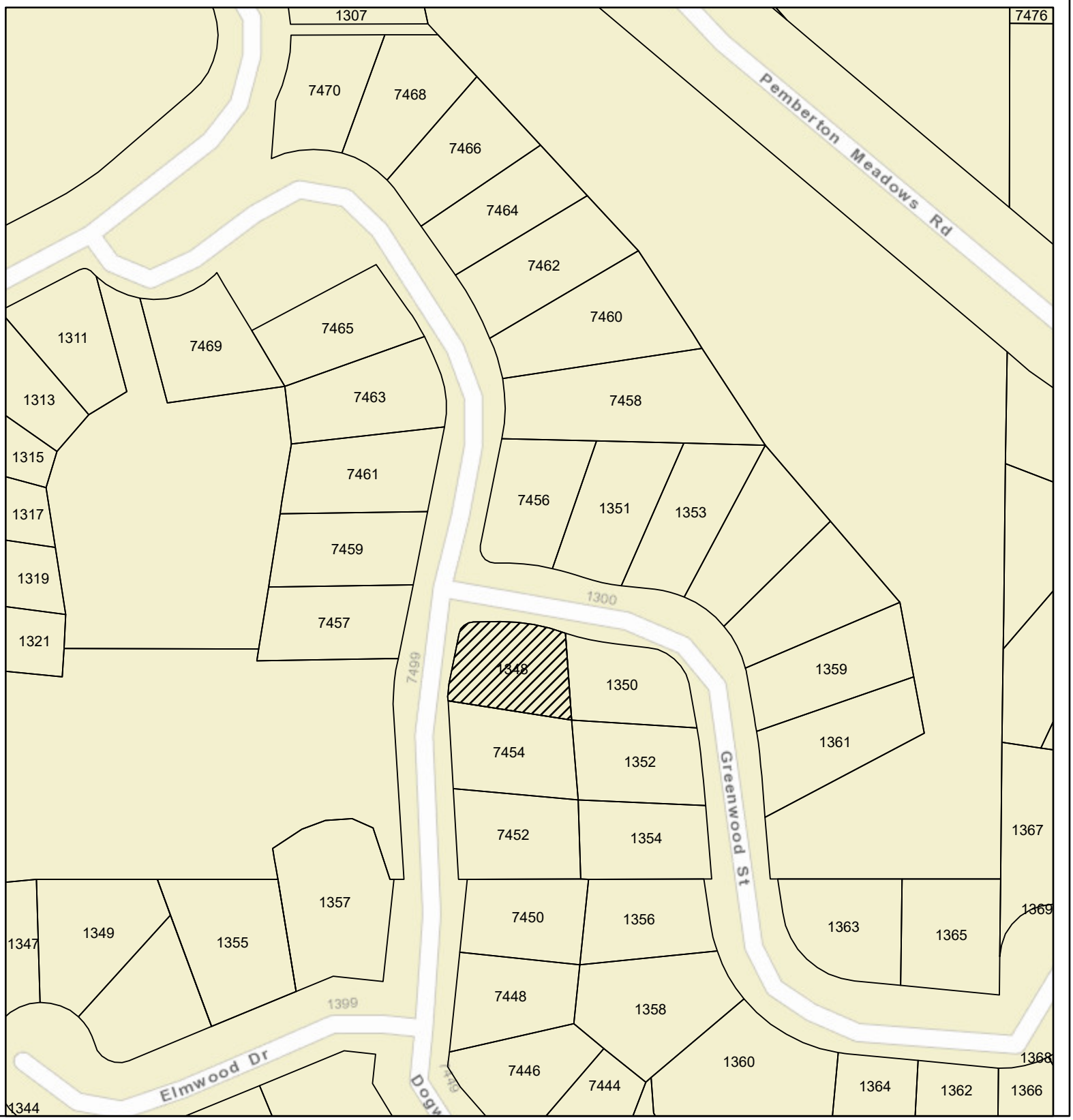
ATTACHMENTS :

Appendix A: Maps 1-2

Appendix B: Application Package

Map 1: Location Map

Appendix A



Legend

Subject Property

1348 Greenwood Street
Lot 25 DL 2705 KAP76833

0 25 50 100 150 200 Meters

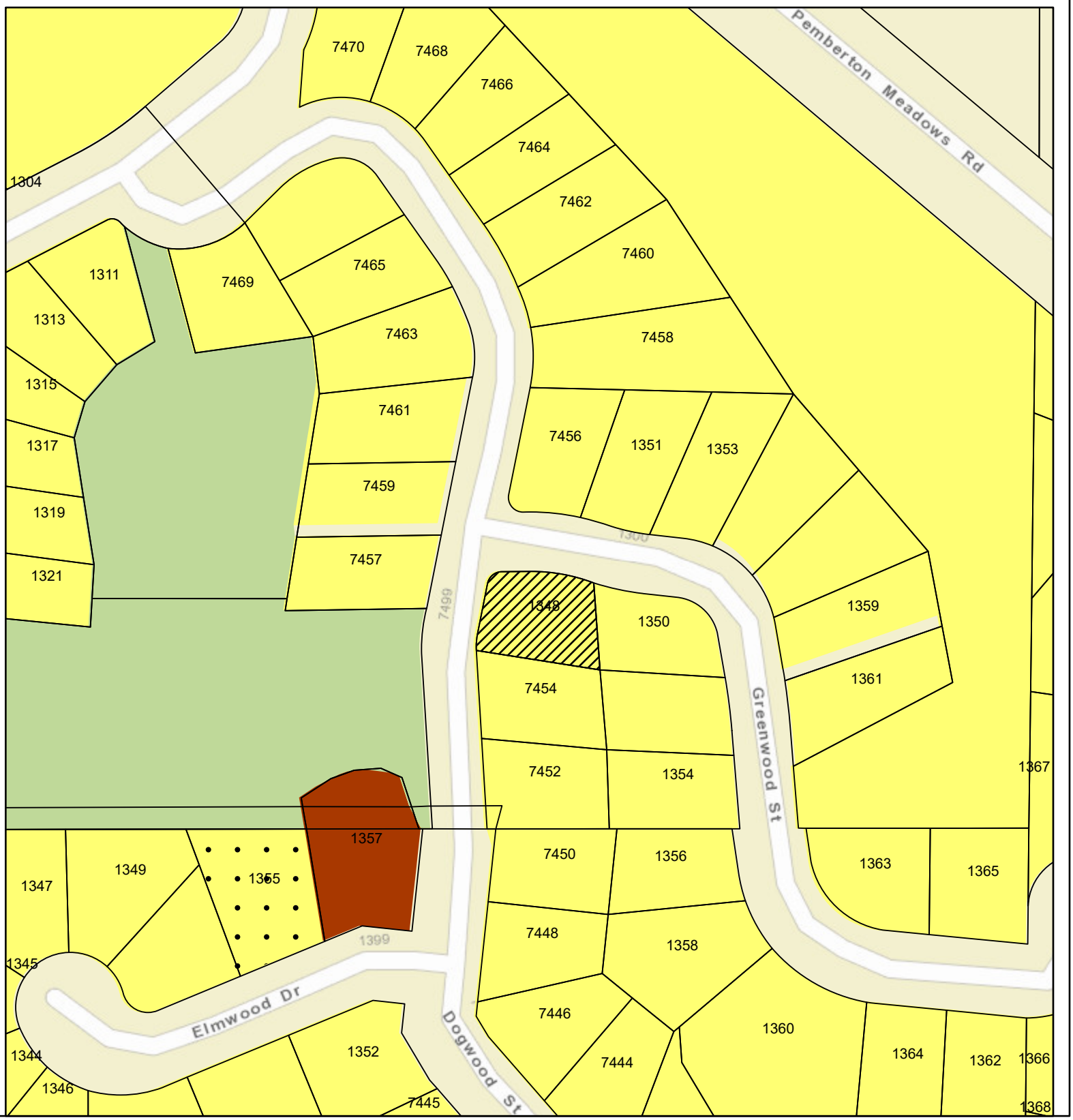
N

Village of Pemberton
Board of Variance Meeting
November 26, 2020

Date: 2020 / 11 / 18

Map 2: Zoning Map

Appendix A



Legend

- Subject Property
- PR-1
- R-3
- R-1
- RC-1

1348 Greenwood Street
Lot 25 DL 2705 KAP76833

0 25 50 100 150 Meters

N

Village of Pemberton
Board of Variance Meeting
November 26, 2020

Date: 2020 / 11 / 18

HARRISON **DESIGN**
Building Design & Consulting Services

P.O. Box 4474
Williams Lake, B.C.
V2G 2V5
Ph/Fax (250) 398 5659

Email: harrisondesign@shaw.ca

15 October, 2020

Board of Variance
c/o Village of Pemberton
P.O. Box 100
Pemberton, B.C. V0N 2L0

Re: 1348 Greenwood Street (previously listed as 7456 Dogwood Street), Pemberton B.C. – Setback variance request

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To whom it may concern,

This Variance request is a re-application for a previous request granted in July 2015, which has since expired. The previous owner being Roger & Joanne Molinaro, the developer of the site, who completed the original application for the current owners, Pacific Columbia Holdings Ltd. (JP Shason)

The purpose of this variance request is to obtain a variance of :

1. The West side setback on Dogwood Street from 6.0m to 5.0m,
2. The North side setback on Greenwood Street from 4.0m to 3.0m
3. The East side setback from 5.0m to 3.0m

Lot 25 or 1348 Greenwood Street (previously listed as 7456 Dogwood Street), is a corner lot at the junction with Dogwood Street. The site is challenging due to the fact that it is mostly an elevated Rock Bluff and access from the Dogwood side (front Lot) would be difficult due to the height of the rock and the expense of drilling and blasting required. In order to maintain the character of the site and keep the rock bluff intact on the Dogwood side we have designed the house to be accessed off Green wood street – (north side) which offers more favorable topography for Driveway and Garage access.

We have designed the house as per the previous approved setbacks. We have taken advantage of the easier access for the driveway/garage access and Main Entry access off Greenwood Street- this requires significant excavation to the existing rock bluff on that side- the intention is to create a quiet, fairly private entry area off the street.

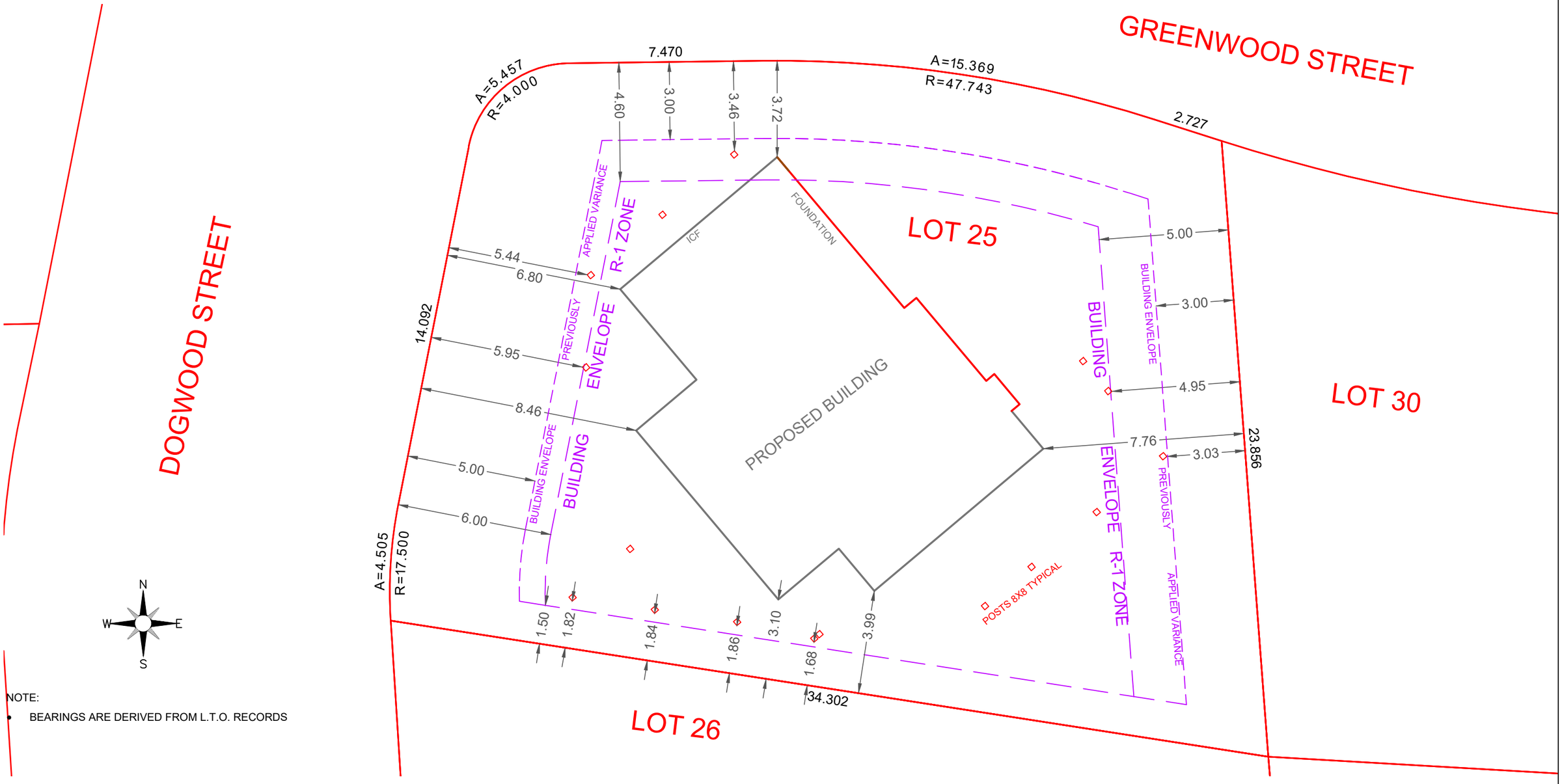
The Rock bluff on the Dogwood side will be maintained with the 2 levels of the house on top of it.
The current elevation of the top of the existing rock being approximately the level of the Main floor. The Lower level being buried into the existing rock to create the Entry & Garage Areas. We have turned the house to avoid site lines to adjacent properties and maximize the view to Mount Currie
This puts the extremities of the house closer to the Lot lines but also gives us some length to the driveway in order to make the slope of the driveway acceptable from the road. There will no impact on the road on the Dogwood side which is the busier side for traffic.

We appreciate your consideration in this matter.

Sincerely,

Phil Harrison
BA Arch
Harrison Design
Agent

PLAN SHOWING PROPOSED BUILDING LOCATION SITUATED UPON LOT 25, D.L. 2705, LILLOOET DISTRICT, PLAN KAP76833



NOTE:

- BEARINGS ARE DERIVED FROM L.T.O. RECORDS

VILLAGE OF PEMBERTON	Client: PACIFIC COLUMBIA HOLDINGS	Revision:
	Project: 7456 DOGWOOD STREET	
DOUG BUSH SURVEY SERVICES Ltd. Douglas J. Bush, AScT, RSIS Applied Science Technologist (Geomatics) Unit 18, 1370 Alpha Lake Road, Whistler, B.C. V8E 0H9 Phone 932-3314 / Fax: 932-3039 E-mail: dougb@dbss.ca / www.dbss.ca	Notes:	Certified Correct. Douglas J. Bush AScT, RSIS Applied Science Technologist (Geomatics) This 7th day of October 2020
		Date: October 7, 2020 Files: 10179.CRD
		SCALE: 1:150 JOB NO.: J20313 DWG.: 20213B SHEET:

Village of Pemberton
Board of Variance Meeting
November 26, 2020
15

Plotted on October 7, 2020 at 2:24:31 PM

S:\DATA20\J20313\WORK\20213B.DWG

ENTRY - GREENWOOD STREET VIEW

ENTRY - GREENWOOD STREET VIEW

NORTHWEST VIEW

WEST VIEW

SOUTHWEST VIEW

SOUTHEAST VIEW

EAST VIEW

EAST OVERVIEW

SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON B.C.

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

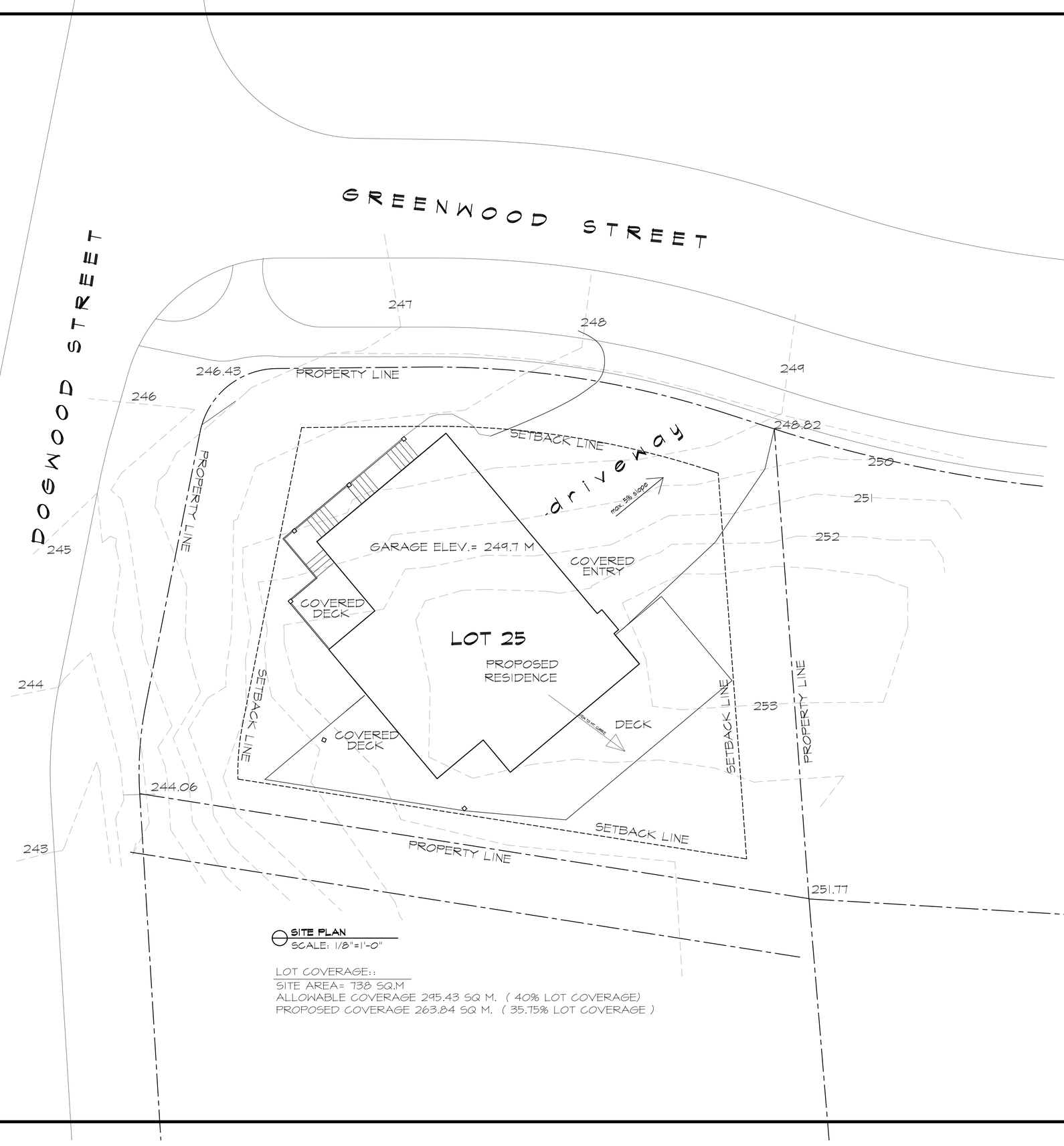
SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

EXTERIOR VIEWS

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5659
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A1



SITE PLAN
SCALE: 1/8"=1'-0"

LOT COVERAGE::
SITE AREA= 738 SQ.M
ALLOWABLE COVERAGE 295.43 SQ M. (40% LOT COVERAGE)
PROPOSED COVERAGE 263.84 SQ M. (35.75% LOT COVERAGE)

GENERAL NOTES

1. DO NOT SCALE DRAWINGS. REFER TO NOTED DIMENSIONS ONLY.
2. ALL DIMENSIONS ARE TO FACE OF STUD AND FACE OF CONCRETE U.N.O. ALL EXTERIOR DIMS. ARE TO FACE OF EXTERIOR SHEATHING
3. ALL WOOD FRAMING MEMBERS TO BE S.P.F. NO. 2 OR BETTER U.N.O.
4. ALL SUPPORT POSTS AS SHOWN ARE TO BE MIN. B.U. 4-2x6 TO MAX. OF 13'-0" HT. OVER 13'-0" SOLID TIMBER OR STEEL PROVIDE SOLID BLOCKING BETWEEN IN FLOOR JOISTS
5. ALL POSTS TO BE ANCHORED TO CONCRETE WITH METAL BRACKETS OR STEEL SADDLES
6. ALL WINDOWS AND DOORS TO HAVE 2-2x10 LINTELS U.N.O. 6'-0" SPAN OR LESS ONLY SEE ENG. DWGS FOR LARGER OPENINGS
7. BEDROOM WINDOWS TO COMPLY WITH SECTION 9.9.10 OF THE BC BUILDING CODE FOR EGRESS
8. MECHANICAL VENTILATION SHALL COMPLY WITH SECTION 9.32.3. OF BCBC 2018 (HRV SYSTEM REQUIRED)
9. CO2 ALARMS INSTALLED IN COMPLIANCE WITH SECTION 9.32.4.2 OF THE BCBC 2018
10. SMOKE & CO ALARMS TO BE INSTALLED IN COMPLIANCE WITH SECTION 9.10.19 OF THE BCBC 2018
11. ELECTRICAL WIRING AND ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH THE REQUIREMENTS OF THE ELECTRICAL SAFETY ACT AND PURSUANT REGULATIONS
12. ATTIC VENTILATION SHALL BE IN ACCORDANCE WITH SECTION 9.19.1 OF THE BCBC 2018
13. ATTIC ACCESS TO BE PROVIDED TO TRUSS VOIDS AS PER SECTION 9.19.2 OF THE BCBC 2018
14. PRE-ENGINEERED COMPONENTS:
    ENGINEERED DWGS FOR TJI FLOOR SYSTEM AND GLU. LAM BEAM COMPONENTS TO BE PROVIDED BY SUPPLIER
    ENGINEERED DWGS FOR TRUSSED ROOF SYSTEM TO BE PROVIDED BY SUPPLIER.
15. ENG. GLU LAM COMPONENTS:
    SEE ENGINEERS DWGS. FOR BEAM SIZES & CONNECTIONS
16. CONCRETE NOTES:
    SEE ENGINEER'S NOTES AND SPECS.
17. RADON MITIGATION TO BE PROVIDED BELOW SLABS & OPEN VENT PROVIDED THRU BUILDING & ROOF AS PER SECTION 9.13.4.3 OF THE BC BUILDING CODE 2018
18. WINDOWS AND DOORS TO COMPLY WITH ALL THERMAL PERFORMANCE REQUIREMENTS AS PER SECTION 9.7.4 OF THE BC BUILDINBG CODE 2018
19. ALL WORK SHALL COMPLY TO THE BC BUILDING CODE 2018 IT IS THE CONTRACTORS RESPONSIBILTY TO VERIFY ALL DIMENSIONS AND REPORT ANY DESCREPENCIES FOR ADJUSTMENT/INTERPRETATION TO THE DESIGNER

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

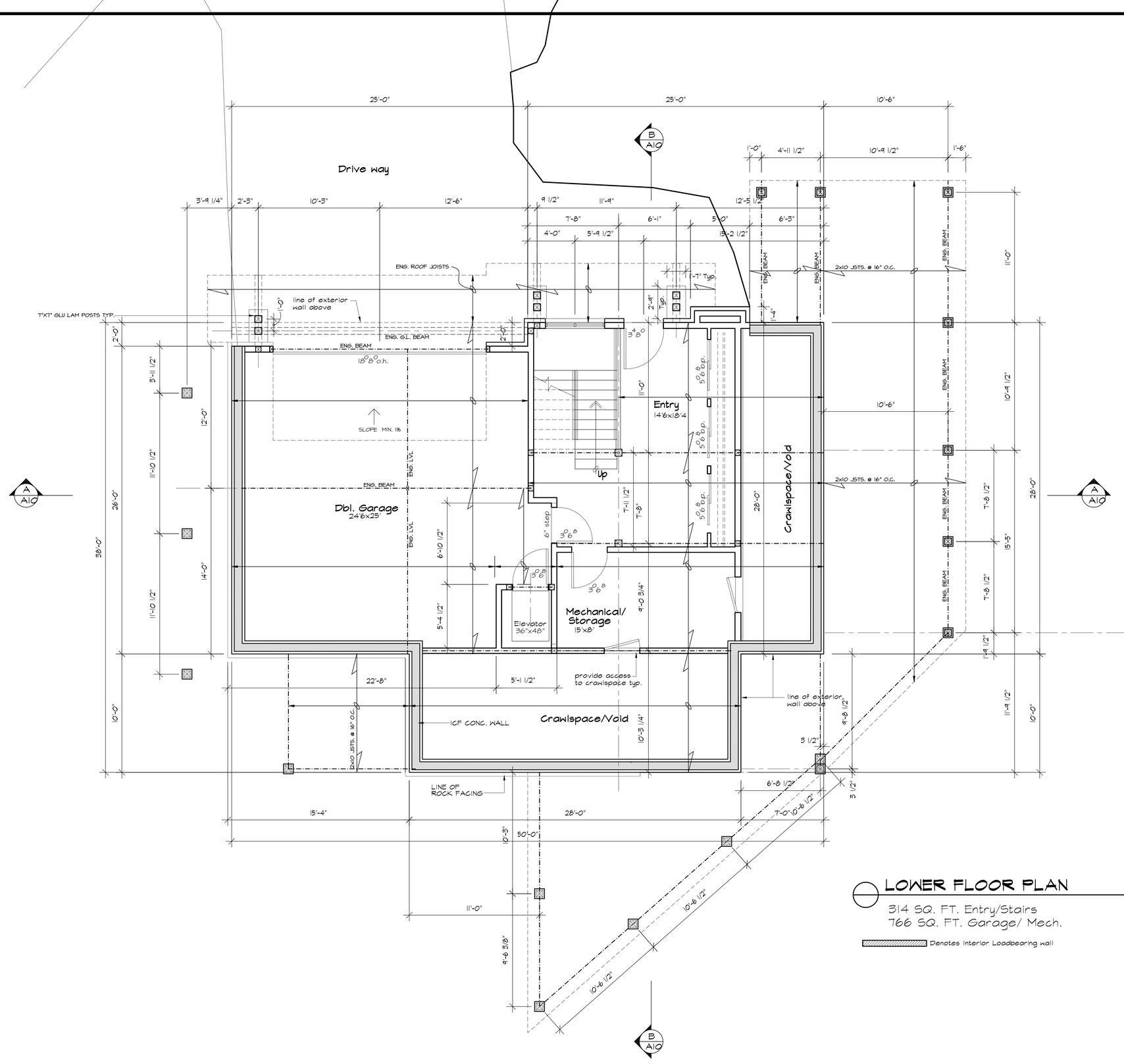
SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

PRELIMINARY SITE PLAN

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5659
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	NOTED
DATE	8 SEPT. 2020
DRAWN	PJH

A2



LOWER FLOOR PLAN

314 SQ. FT. Entry/Stairs
766 SQ. FT. Garage/ Mech.

Denotes Interior Loadbearing wall

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE BUILDER/ CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION ON THIS DRAWING PRIOR TO CONSTRUCTION. ANY DISCREPENCIES SHALL BE REPORTED TO THE OFFICE OF HARRISON DESIGN FOR CLARIFICATION. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF HARRISON DESIGN, AND CAN ONLY BE REPRODUCED WITH WRITTEN PERMISSION.

SHASON RESIDENCE
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MAIN FLOOR PLAN

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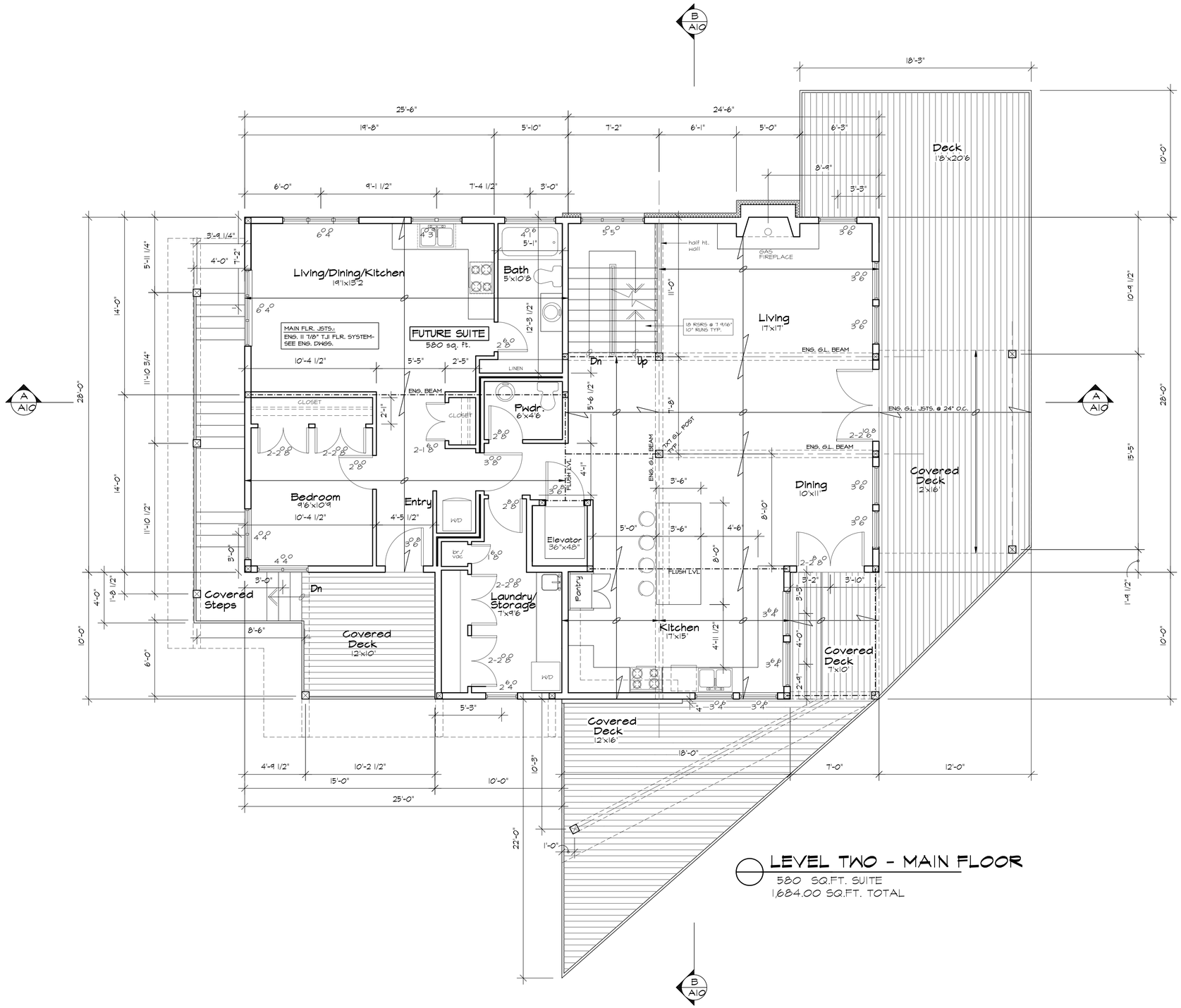
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A3



LEVEL TWO - MAIN FLOOR

580 SQ.FT. SUITE

1,684.00 SQ.FT. TOTAL

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

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SHASON RESIDENCE
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MAIN FLOOR PLAN

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PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

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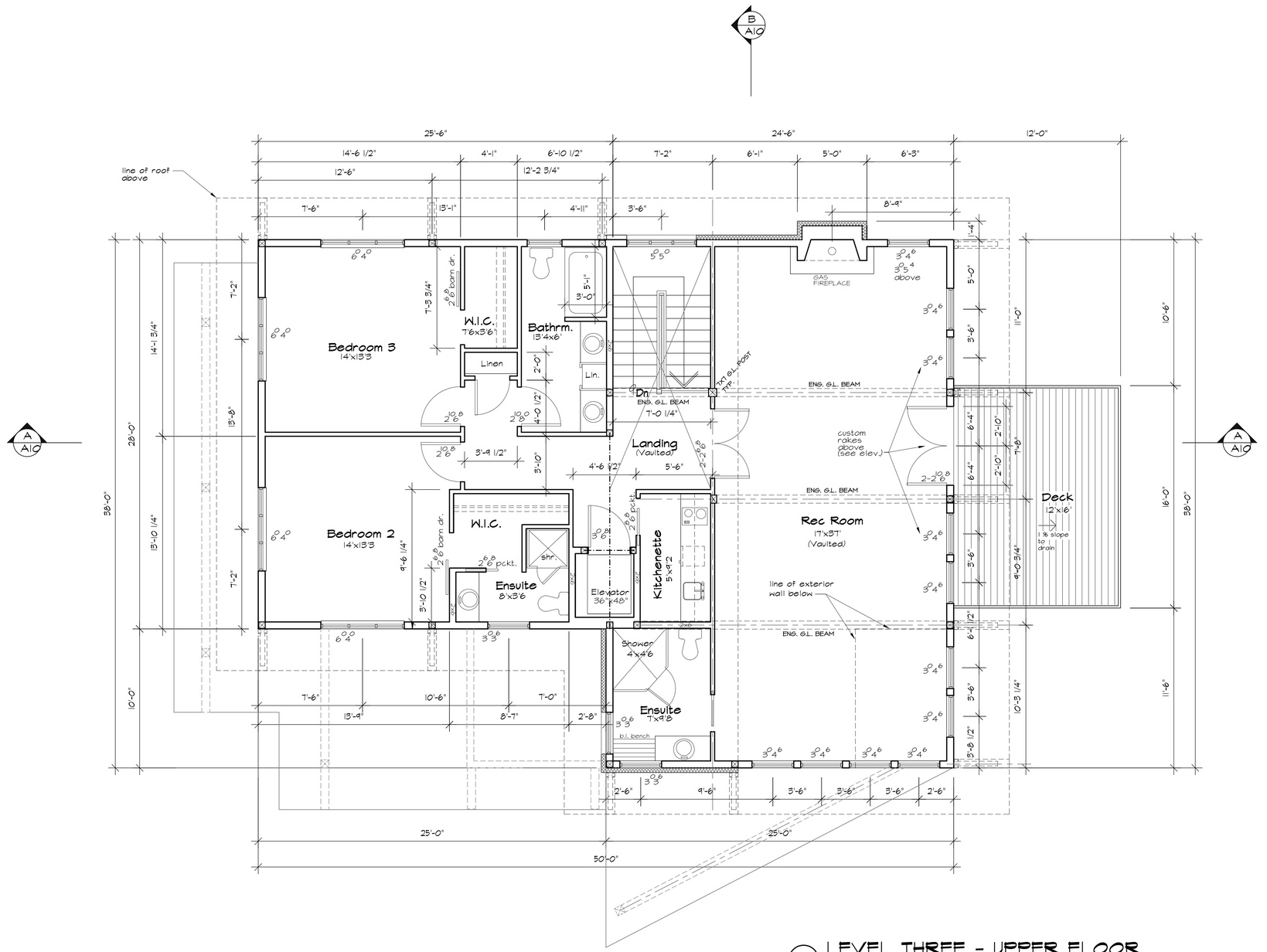

LEVEL THREE - UPPER FLOOR

1,650.00 SQ.FT.

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

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SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

UPPER FLOOR PLAN

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V2G 2V5
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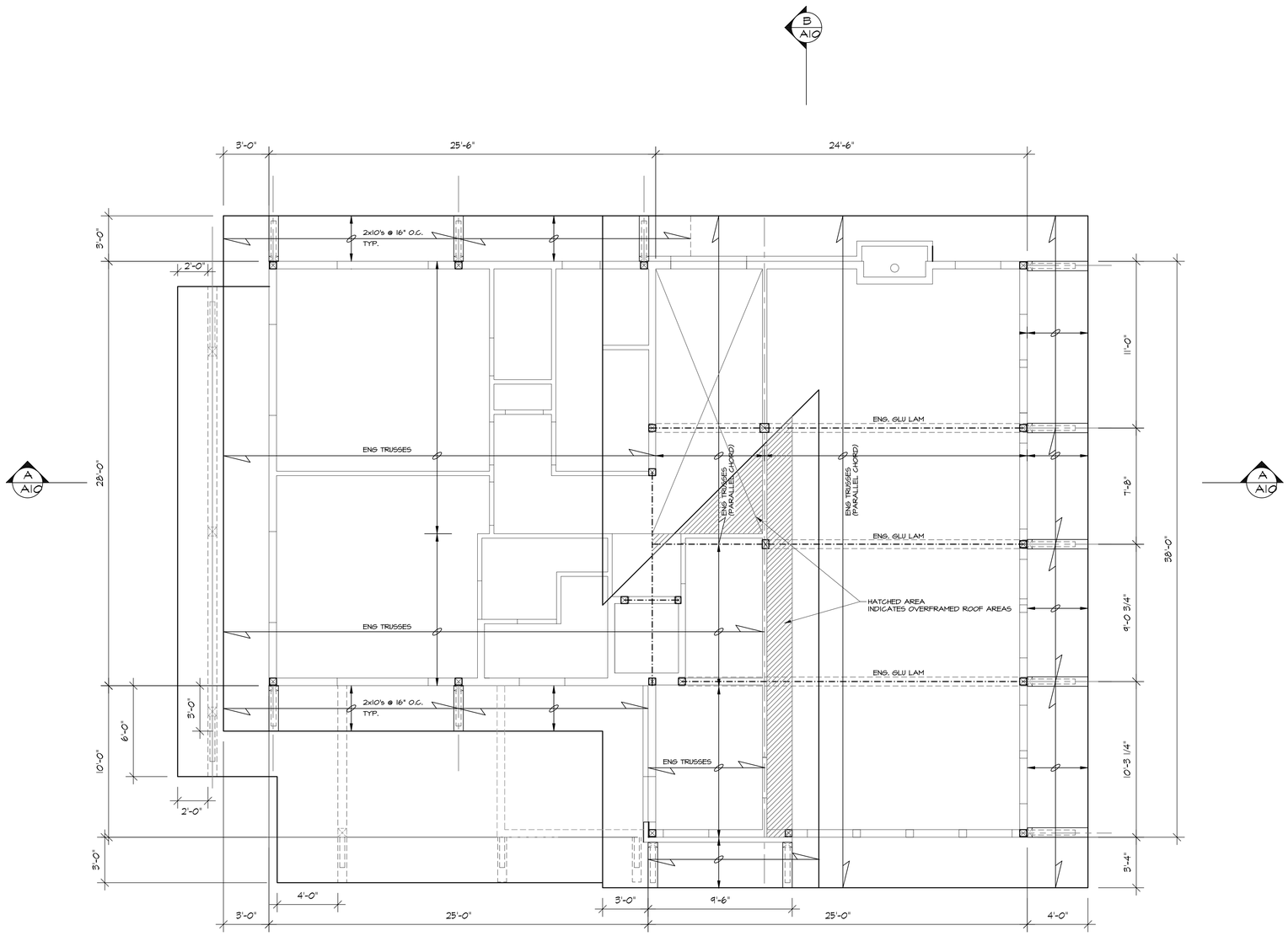
PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A5



ROOF FRAMING PLAN

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

ROOF FRAMING PLAN

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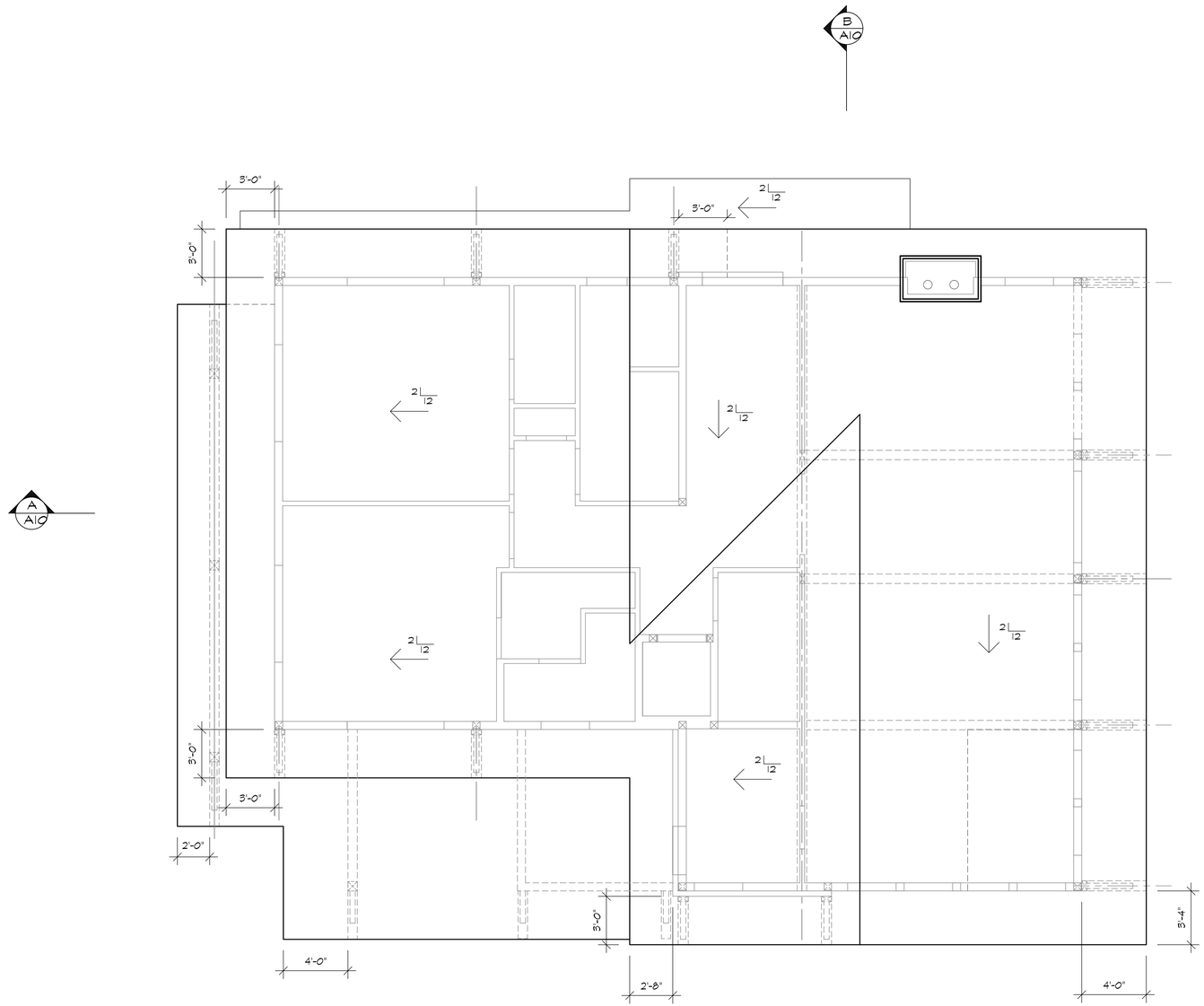
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A6



ROOF PLAN

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE BUILDER/ CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION ON THIS DRAWING PRIOR TO CONSTRUCTION. ANY DISCREPENCIES SHALL BE REPORTED TO THE OFFICE OF HARRISON DESIGN FOR CLARIFICATION. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF HARRISON DESIGN, AND CAN ONLY BE REPRODUCED WITH WRITTEN PERMISSION.

SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

ROOF PLAN

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5659
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A1

SOUTHEAST ELEVATION

NORTHEAST ELEVATION

CALCULATION OF AVERAGE BUILDING HEIGHT AS SHOWN ON ELEVATIONS:
TOTAL AVERAGE HEIGHTS= 63.091 / 7= 9.013 M
MAXIMUM ALLOWABLE HEIGHT = 10.5 M

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

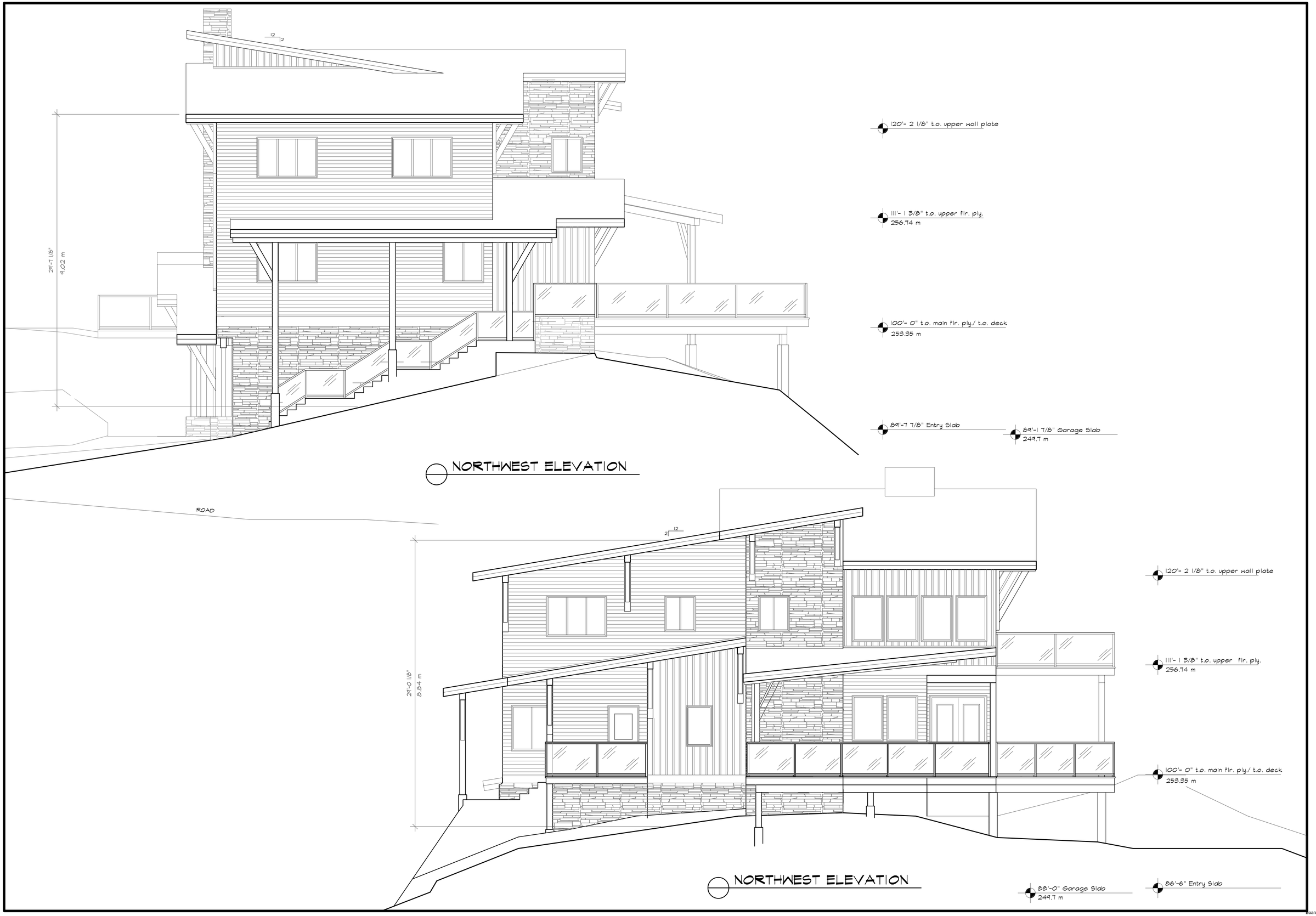
SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

ELEVATIONS

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5659
P.O.Box 4474
Williams Lake, B.C
V2G 3Y5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A8



NORTHWEST ELEVATION

NORTHWEST ELEVATION

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE BUILDER/ CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION ON THIS DRAWING PRIOR TO CONSTRUCTION. ANY DISCREPENCIES SHALL BE REPORTED TO THE OFFICE OF HARRISON DESIGN FOR CLARIFICATION. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF HARRISON DESIGN, AND CAN ONLY BE REPRODUCED WITH WRITTEN PERMISSION.

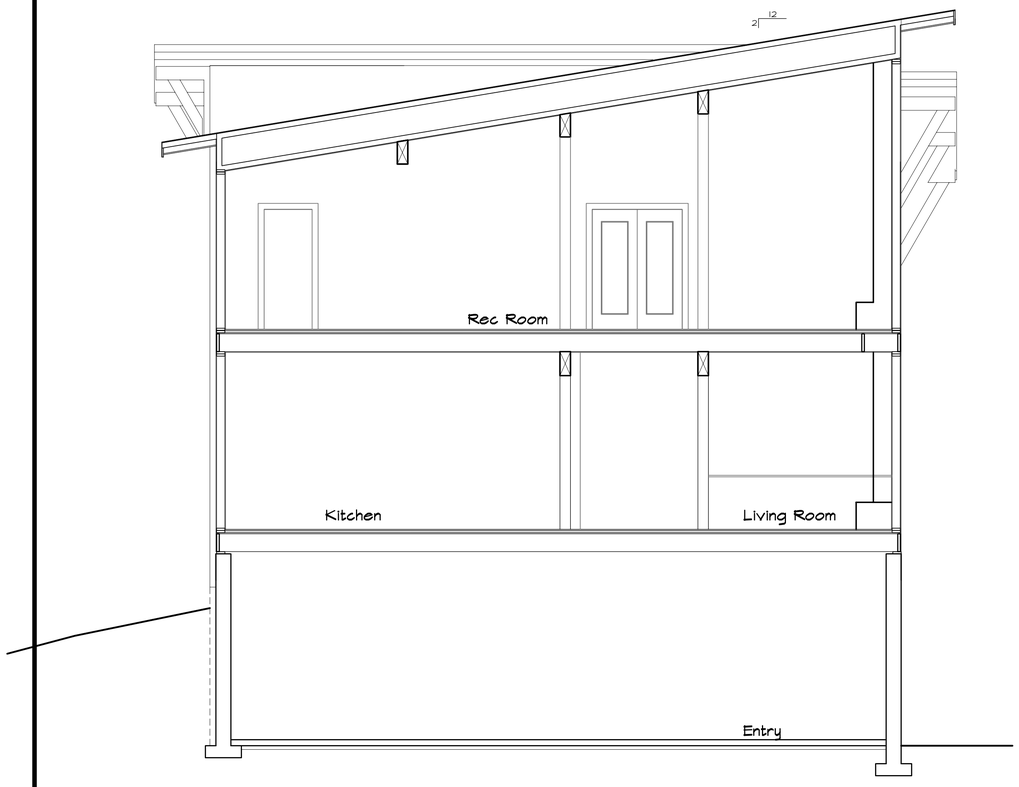
SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

ELEVATIONS

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5859
P.O.Box 4474
Williams Lake , B.C
V2G 2V5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A9



SECTION B-B

SECTION A-A

REVIEW SET
8 JUNE 2020

ENG. REVIEW SET
8 SEPT 2020

NOTED DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. THE BUILDER/ CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL INFORMATION ON THIS DRAWING PRIOR TO CONSTRUCTION. ANY DISCREPENCIES SHALL BE REPORTED TO THE OFFICE OF HARRISON DESIGN FOR CLARIFICATION. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF HARRISON DESIGN, AND CAN ONLY BE REPRODUCED WITH WRITTEN PERMISSION.

SHASON RESIDENCE
GREENWOOD STREET
PEMBERTON, B.C.

BUILDING SECTIONS

HARRISON DESIGN
CUSTOM BUILDING DESIGNS
250 398 5659
P.O.Box 4474
Williams Lake , B.C
V2G 2Y5
harrisondesign@shaw.ca
www.harrison-design.ca

PROJECT	SHASON
SCALE	1/4"=1'-0"
DATE	8 SEPT 2020
DRAWN	PJH

A10

TITLE SEARCH PRINT 2020-10-16, 09:03:08

File Reference: Requestor: Phil Harrison

Declared Value $180000

CURRENT INFORMATION ONLY - NO CANCELLED INFORMATION SHOWN

Land Title District KAMLOOPS
Land Title Office KAMLOOPS

Title Number CA4603563
From Title Number CA4380182

Application Received 2015-08-13

Application Entered 2015-08-17

Registered Owner in Fee Simple
Registered Owner/Mailing Address: PACIFIC COLUMBIA HOLDINGS LTD., INC.NO. BC0374502
328 WEST CORDOVA
VANCOUVER, BC
V6B 1E8

Taxation Authority North Shore - Squamish Valley Assessment Area

Description of Land
Parcel Identifier: 026-109-328
Legal Description:
LOT 25 DISTRICT LOT 2705 LILLOOET DISTRICT PLAN KAP76833

Legal Notations NONE

Charges, Liens and Interests
Nature: STATUTORY RIGHT OF WAY
Registration Number: X12432
Registration Date and Time: 1985-03-08 12:57
Registered Owner: CANADIAN BROADCASTING CORPORATION
Remarks: INTER ALIA
PART ON PLAN C18487
CHARGE ADDED BY WAY OF CORRECTION, SEE KW15616

Nature: UNDERSURFACE RIGHTS
Registration Number: KV141323
Registration Date and Time: 2003-11-14 14:38
Registered Owner: THE CROWN IN RIGHT OF BRITISH COLUMBIA
Remarks: INTER ALIA
SEE KV141322 SEC 50 LAND ACT

Nature:	COVENANT
Registration Number:	KV141327
Registration Date and Time:	2003-11-14 14:38
Registered Owner:	THE CROWN IN RIGHT OF BRITISH COLUMBIA
Remarks:	INTER ALIA

Nature:	STATUTORY BUILDING SCHEME
Registration Number:	KV141328
Registration Date and Time:	2003-11-14 14:38
Remarks:	INTER ALIA

Duplicate Indefeasible Title NONE OUTSTANDING

Transfers NONE

Pending Applications NONE

MEMO
BOARD OF VARIANCE

Date: **November 26, 2020**

From: **Joanna Rees, Planner**

Subject: **7671 Cerulean Drive – Retaining Wall Variance Request**

Agent: **Brian Dorgelo**

PURPOSE

This report provides an overview of an application submitted by Brian Dorgelo (the "Applicant") on behalf of Katherine Coles and Geoffrey Barnett, owners of the subject land located at 7671 Cerulean Drive.

The Applicant is requesting variances to allow for an existing retaining wall structure. The following variance from Sections 4.13 and 7.21 of Zoning Bylaw No. 832, 2018 is requested:

- To vary Section 4.13(a) viii. to vary the height of one retaining wall, from 1.2 metres as required to a maximum of 3.91 meters, a relaxation of 2.71 metres, to be sited on the lot in general compliance with location and height on the Site Plan completed by MW Design Studio dated October 2nd 2020 or in a location approved by Building Permit; and

- To vary Section 7.21 9 (a) i. to relax the maximum height of a retaining wall, from 1.2 to a maximum of 3.91 metres, a relaxation of 2.71 metres

This variance is to accommodate the existing height and location of the retaining wall. Over and above the variance, if supported, a retaining wall building permit is required for a retaining wall higher than 1.2m including sign off from a geotechnical engineer.

BACKGROUND

The following section outlines the background on the application, including any previous permits or orders that have been issued on the subject lands to date.

Building Permit No. 1932 was issued for construction of a single detached dwelling with one suite as per approved plans on June 25, 2020. Although the approved plans showed a retaining wall exceeding 1.2 metres in height, the permit was issued for the single detached dwelling only, as section 8.4 of Building Bylaw No. 867, 2019, requires a separate permit for each structure on a property.

The process for applying for and obtaining a permit for a second structure on the property is the same as the process for the principal dwelling: Forms A, B and C are submitted, along with supporting documents including a site plan and signed and sealed engineered drawings and schedules. There is no dedicated retaining wall permit application form as a retaining wall is

treated the same as any other structure on a lot, such as a detached garage or workshop, and the standard permit application forms are used. After submission of the application forms and documents, the application is reviewed by Village Planners for compliance with Zoning Bylaw No. 832, 2018. Once approved by Planners, the application is forwarded to the Village Building Official for review for compliance with Building Bylaw No. 867, 2019 and BC Building Code.

As the agent and owners of 7671 Cerulean Drive did not apply for a permit for a retaining wall, the wall did not receive review for compliance with Zoning Bylaw No. 832, 2018, Building Bylaw No. 867, 2029, and *BC Building Code*

The Village of Pemberton Building Bylaw No. 867, 2019 requires a permit for a retaining wall of 1.2 metres or higher.

The previous Village of Pemberton Zoning Bylaw No.446, 2001 required that the design and construction of a retaining structure greater than 2.4 meters in height shall be supervised by a Registered Professional and that sealed copies of the design plan and inspection reports prepared by the Registered Professional be submitted to a Building Official prior to acceptance of the works.

Sealed copies of the design plan and inspection reports regarding the retaining wall prepared by a Registered Professional were not provided to the Building Official prior to construction of the wall and acceptance of the works was not issued.

Today, retaining walls are subject to Section 4.13 and 7.21 of the Zoning Bylaw No. 832, 2018, described below. Retaining walls above 1.2 meters in height require a variance to the Zoning Bylaw to be constructed.

A Stop Work Order was issued on September 15th, 2020 due to the construction of a retaining wall in contravention of Part 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018. A few days later, the Stop Work Order was rescinded as the construction of the house is not dependent on the retaining wall for structural stability or bearing.

DESCRIPTION OF PROJECT

The subject lands legally described as Lot 27 District Lot 211 Lillooet District Plan EPP88381, are known municipally as 7671 Cerulean Drive. The location of the subject lands is shown on Map 1 of **Appendix A**. The topography of the subject lands is sloped to the South West. A pedestrian trail is located adjacent to the rear lot line. The retaining wall is built on site and the single detached dwelling is under construction.

The subject lands are designated Residential in the Official Community Plan and are zoned Residential Amenity 1, Sunstone (RSA-1) as per Village of Pemberton Zoning Bylaw No. 832, 2018. Adjacent lands are residential.

Figure 1: Photo of the retaining wall on the subject lands.

The retaining wall that was constructed on the subject lands is shown above in **Figure 1**. The siting of the retaining wall is adjacent to the rear and interior lot lines as shown below in **Figure 2**. The structure is located 4.4 metres adjacent to the public pedestrian trail adjacent to the rear lot line. The retaining wall is comprised of seven (7) tiers at a height of 0.6 metres setback horizontally at 0.1 metres to a maximum of 3.91 metres.

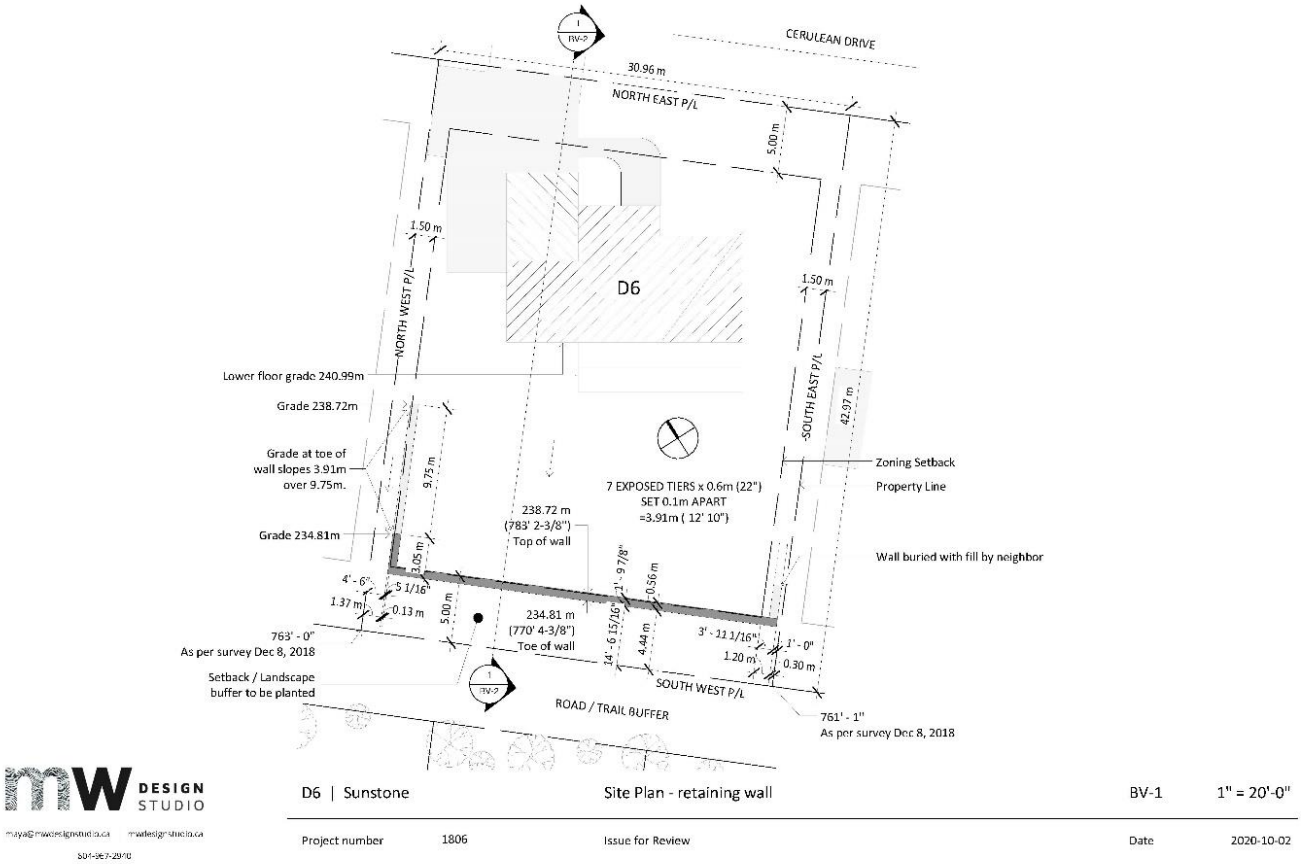


Figure 2: Site Plan Completed by MW Design Studio dated October 2, 2020

A rationale for the application was submitted by the Applicants and is attached as **Appendix B**. Upon request by Staff, they further submitted Landscape Plan BV-3 completed by MW Studio Design Studio, dated October 15th, 2020 and the Landscaping Concept Design. The Applicant has advised they are committed to landscaping the retaining wall and creating a landscaped buffer to mitigate visual impacts. The Landscape Plan BV-3 and Landscaping Concept Design is included in the application package attached as **Appendix B**.

ZONING BYLAW NO. 832, 2018

The following setbacks apply to the subject lands as per the Residential Amenity 1, Sunstone (RSA-1) Zone:

b) Minimum Front Setback: 5 m
c) Minimum Rear Setback: 5 m
d) Minimum Interior Side Setback: 1.5 m
e) Minimum Exterior Side Setback: 3 m

The existing retaining wall is within the both the interior lot lines and rear lot line setbacks. The retaining wall is 0.30 meters from the south easterly interior lot line and 1.37 meters from the north westerly interior lot line. The retaining wall is 4.44 meters from the south west rear lot line.

Projections into the required setbacks are only permitted in accordance to the following policies of Section 4.13:

4.13 Projections into Required Setback and Exceptions to Siting Requirements

a) Every part of any setback required by this Bylaw shall be open and unobstructed by any building or structure, except that, a setback may contain architectural or functional structures or a building or structure feature such as but not limited to; window sills, sunlight control projections, balconies, cornices, eaves, gutters, chimneys, pilasters, canopies, ornamental features or window bays, provided that:

viii. A retaining wall to a maximum height of 1.2 m may be sited on any portion of a lot

Retaining walls are limited in height in accordance to Section 7.21:

7.21 Retaining Walls

a) In a residential Zone, a single retaining wall shall:

i. Not exceed a Height of 1.2 m measured from the average natural grade level at its base; and

ii. Not be located within 0.6 m, measured horizontally, of any other retaining wall.

Therefore, the exisiting retaining wall requires a variance from Sections 4.13a) viii) and 7.21 a) i) of Zoning Bylaw No. 832, 2018.

THE LOCAL GOVERNMENT ACT, R.S.B.C. 2015

The following Section 542(1) of the *Local Government Act* is relevant to the decision making of the Board of Variance and the decision under this subsection is final:

542 (1) On an application under section 540, the board of variance may order that a minor variance be permitted from the requirements of the applicable bylaw, or that the applicant be exempted from section 531 (1) *[alteration or addition while non-conforming use continued]*, if the board of variance

a) has heard the applicant and any person notified under section 541,

b) finds that undue hardship would be caused to the applicant if the bylaw or section 531 (1) is complied with, and

c) is of the opinion that the variance or exemption does not do any of the following:

i. result in inappropriate development of the site;

ii. adversely affect the natural environment;

iii. substantially affect the use and enjoyment of adjacent land;

iv. vary permitted uses and densities under the applicable bylaw;

v. defeat the intent of the bylaw;

vi. vary the application of an applicable bylaw in relation to residential rental tenure.

As per Section 542(3) of the *Local Government Act*, the default time frame is that construction must start within two years from the date of the order, this time frame can be altered longer or shorter by the Board of Variance in their decision.

COMMUNICATIONS

A notice regarding this application has been mailed to all properties within 100 metres of the subject lands, satisfying Section 541 of the *Local Government Act*. If any submissions are received, they will be shared with the Board of Variance the evening before the meeting.

DETAILED PLANS AND DRAWINGS

If the Board of Variance chooses to approve this variance, their approval may refer specifically to the plans that have been included within this application. Staff recommend that if this variance is approved that the Board of Variance reference the Landscape Plan BV-3 completed by MW Studio Design Studio, dated October 15th, 2020 in their resolution to approve the variance.

OPTIONS

The Board of Variance in their consideration of the application for 7671 Cerulean Drive to vary Sections 4.13 and 7.21 of Zoning Bylaw No. 832, 2018 to vary:

The Board of the Variance has the following options for the variance requested:

(i) Approve the variance;
(ii) Approve the variance with conditions; require the variance to be approved on the condition of general compliance with BV-3 Landscape Plan completed by MW Studio Design Studio, dated October 15th, 2020.
(iii) Reject the variance; the retaining wall will be required to be modified or removed to comply with the zoning regulations, or the applicant will have the option to seek a Development Variance Permit from Village of Pemberton Council.
(iv) Deem the variance request to be outside the mandate of the Board of Variance, as the Board does not consider the request to be “minor”.

NOTICE OF DECISION

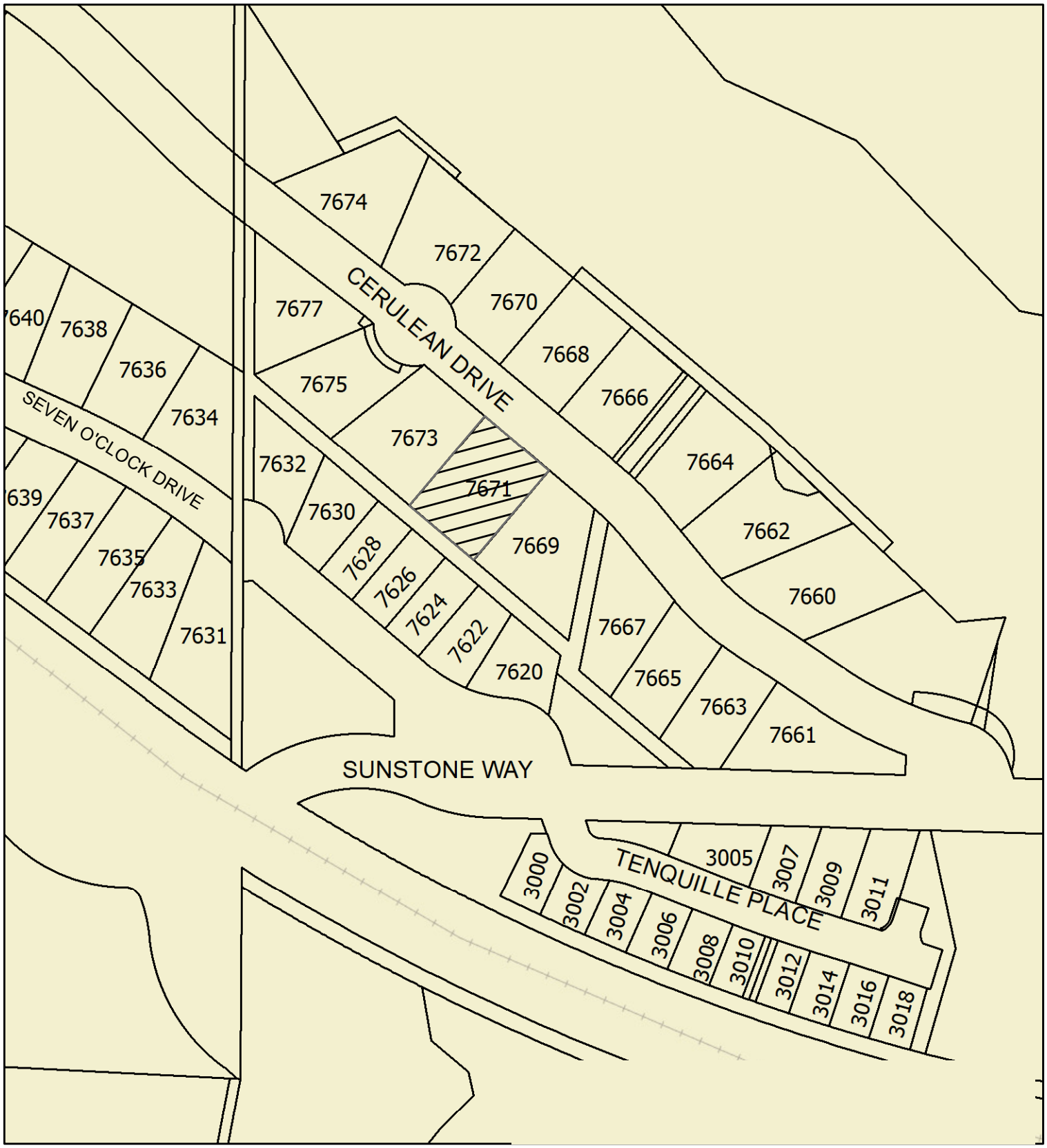
The decision of the majority of the membership shall be the decision of the Board. Village Staff shall, within seven (7) days of a decision, send by mail or otherwise deliver the written decision of the Board to the applicant, all persons who made representation at the hearing, and the Village of Pemberton Building Inspector. Village Staff shall, within seven (7) days of the decision, enter that decision in the record maintained at the local government office.

ATTACHMENTS :

Appendix A: Maps 1-2
Appendix B: Application Package

Map 1: Location Map

Appendix A



Legend

Subject Parcel

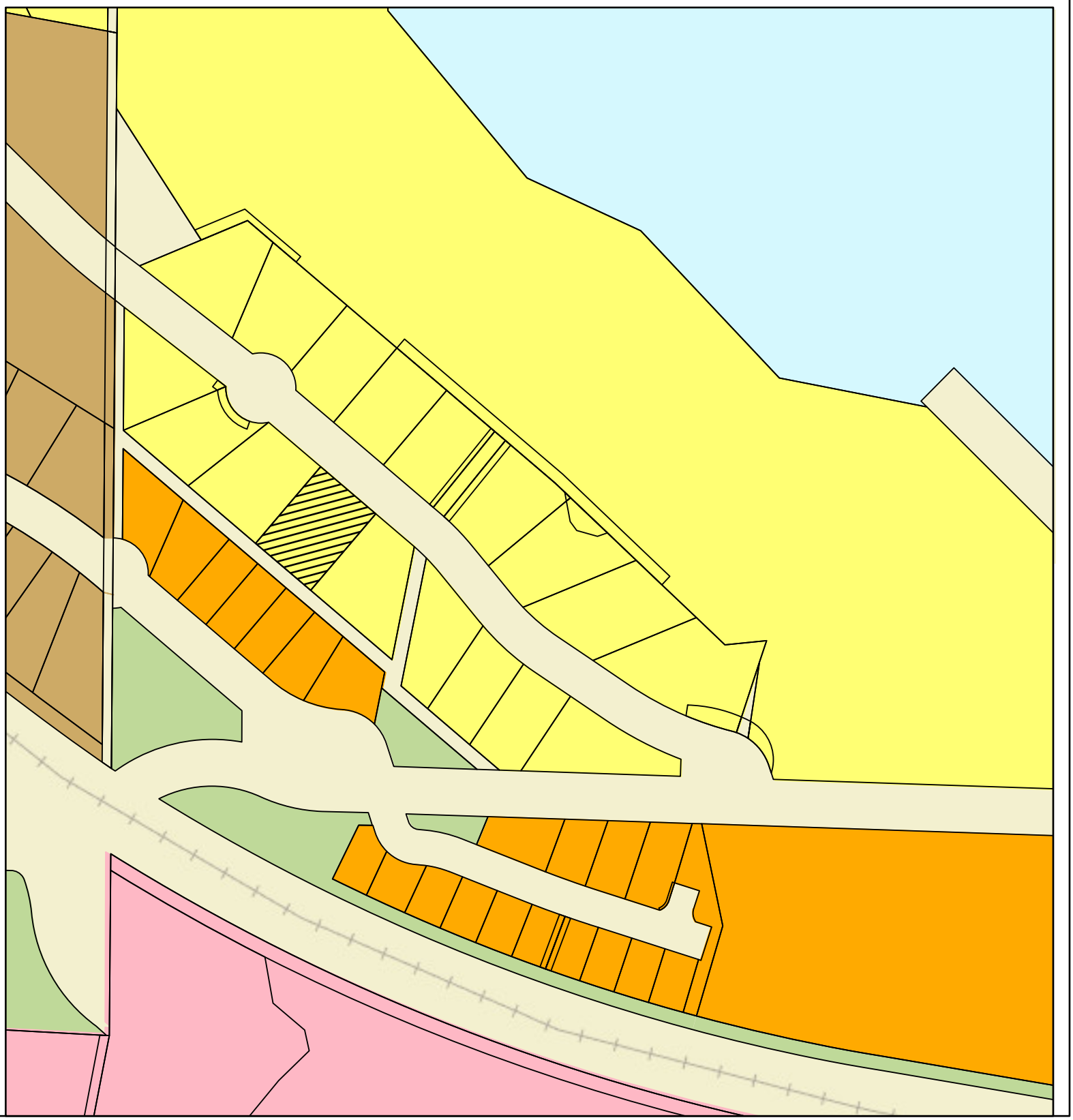
7671 Cerulean Drive
Lot 27 DL 211 LLD EPP 88381

0 25 50 75 100
Meters

N

Map 2: Zoning Map

Appendix A



Legend

- Subject Property
- PR-1
- RR-1
- RSA-1
- RSA-2
- RTA-1
- RTA-2
- E-1

7671 Cerulean Drive
Lot 27 DL 211 LLD EPP 88381

0 25 50 100 150
Meters

N

Village of Pemberton
Board of Variance Meeting
November 26, 2020

Date: 2020 / 11 / 18

October 2, 2020

Maya Wassberg, MW DESIGN STUDIO
Brian Dorgelo, DORGELO BY DESIGN

On behalf of Dr Katherine Coles & Mr Geoffrey Barnett, property owners of 7671 Cerulean Drive.

To:

Board of Variance
Village of Pemberton

Re: Lot D6 / 7671 Cerulean Drive, retaining wall

Dear Board of Variance members,

We are submitting an application to vary the height and location of a retaining wall on 7671 Cerulean Drive in the Sunstone development.

In regards to Zoning Bylaw No. 832, 2018, Section 4.13 Projection into Required Setback and Exceptions to siting Requirements Section a) viii) as well as Section 7.21 Retaining walls a) i) , we are seeking to vary the maximum height of a retaining wall that may be sited on any portion of a lot from 1.2 m to 3.91 m, and to be sited only on the portion of the lot specifically shown on BV-1 "Retaining Wall - site plan".

Context and Background

Lot D6 is a rectangularly shaped property facing South West on the downhill side of Cerulean Drive. The building envelope of Lot D6 is remarkably wide, making the depth of the approximately 14300sf lot comparably shallow. The substantial height difference of 12m between rear and front property lines results in an average of 15.6 degrees / 28% slope over the depth of the lot (43m).

D6 was marketed and sold in 2017 at a premier price point due to having the best potential of useable backyard space, it was sold as "the flattest" of the D-lots in Sunstone. The zoning bylaw in effect at this point supported retaining walls higher than 2.4m if signed off by a geotechnical engineer. Our clients purchased the lot based on this information as it met their wishes to have a wheelchair accessible entry level together with some usable backyard space.

Process

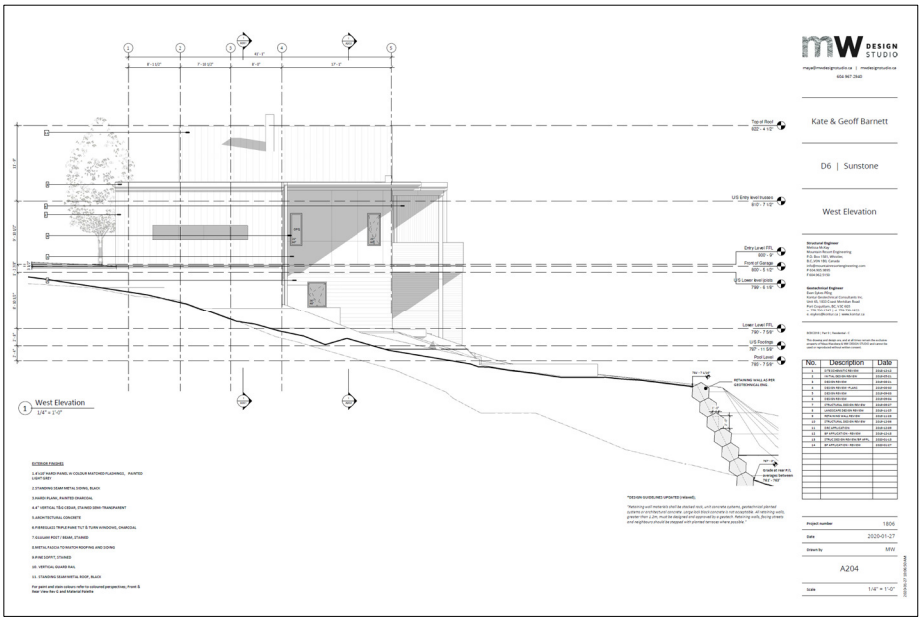
The zoning bylaw went through a series of updates in 2018 and the current bylaw in effect does not contain the same wording that relaxes the maximum height of a retaining wall if designed by a geotechnical engineer. However, it is mentioned on the pemberton.ca website, which explains that: "A Building Permit is required when you: - Construct a new building or structure, *including a retaining wall higher than 1.2 metres…*" (Note that this talks about a "building permit" and not a "retaining wall permit".) The Building Permit Application Checklist for Part 9 buildings also outlines that if a wall higher than 1.2m is proposed, you are to submit the geotechnical engineer's details. Together, it becomes clear that applying for a retaining wall higher than 1.2m can be part of a building permit application, as there is no separate permit application attached in the package that contains this checklist (unlike plumbing, excavation, sewer connection, fire protection etc).

Based on this information, as well as on conversations with VoP staff and ongoing construction of walls higher than 1.2m in the VoP jurisdiction, both the designer and builder understood that a proposed wall on lot D6 could be built higher if a permit was applied for and it was designed by a geotechnical engineered and subsequently signed off.

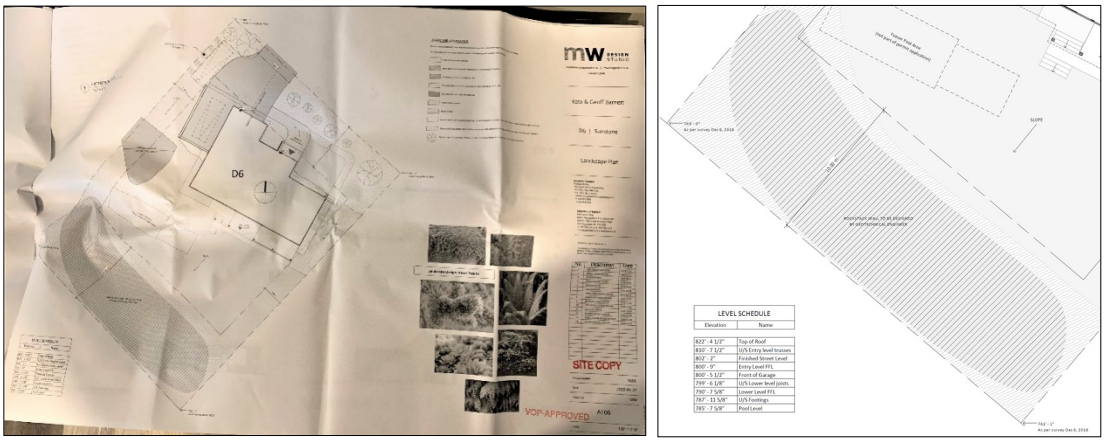
In addition, the Sunstone Development issued updated Design Guidelines in June 2019 that supported this;

~~"Retaining walls may not exceed 1.8m in height. Retaining, not directly connected to a building and greater than 1.8m must be stepped to achieve a maximum angle of 45 degree. Retained terraces must be planted to minimize wall heights~~ Large lock block concrete is not acceptable. All retaining walls, greater than 1.2m, must be designed and approved by a geotech."

The permit application was made in early 2020 and the proposed height and location of the wall were outlined on the permit drawings, in specific the height of the wall (14'7-1/6" / 4.45m) on Section A204:



and the location of the wall on a site plan on Landscape Plan A106:



The proposed height and location of the wall were outlined on the drawings in order to be part of the building permit's scope of work.

On March 11, 2020, the project designer, Maya Wassberg, called the VoP to confirm permitted location and height of a wall higher than 1.2 m and was told by building department staff, who had sought further advice from the VoP consultant Cameron Chalmers, that as long as the wall is designed and signed off by the geotechnical engineer, neither the proximity to the property line nor the height poses a problem. This information reflected what was shown on the submitted drawings. The drawings were approved and a building permit was issued on March 13, 2020 (appendix) without any issues related to the wall, or further information requested. The geotechnical engineer on board detailed the design of the wall (appendix) once the site prep of the lower part of the lot was complete and the wall was built overall 0.54m lower than the proposed wall shown on the drawings to a height of 3.91m.

Inspectors from the VoP came on site to inspect the installation of services during the construction of the wall and this inspection was passed. Subsequently, the VoP building inspector passed an inspection of the footings prior to concrete was poured, an event that was dependent on the completion of the wall. On September 9, the builder, Dorgelo by Design, received an email from the VoP building inspector requesting a separate permit to be made; "…This wall needs to have a separate permit as it is over 1.2m in height. As per Part 22 of the Village Building Bylaw we also require structural drawings, site plan showing the wall, schedules, a geo report and field reviews of the wall. Hopefully you have these already and can submit them with the permit application. …" We were surprised at the request, and immediately sent a site plan of the as built wall to the geotechnical engineer to be stamped, showing the new location further away from the property lines than the original drawing, and the wall built to a lower height, assuming the VoP wanted to confirm it had been built within the approved range. Less than a week later, on September 15, a stop work order was issued for the construction of the wall, which was complete, and we were informed that we did not have the right type of permit to construct the wall despite the new application package being ready for submission. We were told in an email from Lisa Pedrini, manager of development services, that the wall should have been "either part of a separate permit or part of the original permit's scope of work", and that a variance application had to be made as the wall was deemed to have been built without a permit.

The wall was built in good faith and with the understanding that we had a permit to construct it as it had formed part of the scope of work of the original permit application. When we were asked to submit a second permit for it, we immediately put a package together but did not have a chance to submit prior to the stop work order and request for a variance application.

Design Rationale of Retaining Wall Requirement

Our clients wished to design a wheelchair accessible entry floor which ties the project elevations closely to the street level. After a low slope down from the street to the entrance of the house, the elevation difference between the lower floor and the top of the wall still results in more than 2.2m. Hence, the wall has in no way created a flat backyard, it was rather designed to ease some of the hardship that came with keeping the entry level of the house close to the street level in order to remain functional and safe from an accessible perspective. There was a vertical difference of almost 3 m to existing grade from the lower floor which made the need for decent sized retaining walls apparent despite it being the "flattest" property on the street.

Since the top of the wall is 2.2m lower than the lower floor elevation and considerably set back from the North West and South West property lines, there should be no substantial effect on neighboring

properties. Along the South East property line, the wall has been filled in by the neighbor but the need for an even higher grade on the neighboring lot is apparent, as the grade on that side is currently "piggybacking" off the wall we have built on lot D6. Keeping the wall tiers close together allows the wall to steeply gain elevation and omits the need for making it higher as the grade can be sloped over a longer distance back to meet the house.

The wall on D6 is mainly visible from below, which means that stepping the tiered walls further apart would have created a minimal difference visually to the wall that has been constructed. The type of wall chosen is intended to be covered in creeping plants in the years to come, which will blend it further into the natural environment of a large and residential area (appendix). The area between the wall and the property line will act as a large landscape buffer with various plants, shrubs and trees that will help blend it into the hillside. There is no direct neighbor immediately below, the wall faces the 6m wide trail corridor that sits between the C and D lots.

Furthermore, it was important for the owners to create a useable backyard area that allows their children to play in a safe and supervised area. If a backyard is not available then the children are forced to play in the street that is widely seen in established neighborhoods nearby with similarly steep topography.

Currently there are quite a few retaining walls higher than 1.2m along the Sunstone/Ridge hillside and although they stand out now, it has to be anticipated that retaining walls will become a big visual part of this neighborhood as the steeper lots are still to be constructed on.

View of the Ridge / Sunstone hillside

Wall 0.3 m in from South East P/L
Wall 4.44 m back from South West P/L

Wall 1.37 m in from North West P/L
Wall 4.44 m back from South West P/L

We are applying to vary the location and height of the wall due to the following hardships;

1. First and foremost, the wall was built in good faith with the understanding that we had a permit to construct it to a height of 4.45 m. We detailed it on the permit drawings in order for it to form part of the scope of work of the original permit application, and the geotechnical engineer designed it, conducted field reviews during the construction of the wall and subsequently signed off on the construction of the wall. The interactions we had with various VoP staff as described in this application, repeatedly spoke in support of us having a permit for the construction of the wall; before, during and after the construction of the wall. We would not have knowingly put ourselves in the situation we are in now, had there been any indication of wrongdoing or miscommunication between ourselves and the VoP.
2. Had we not received what we understood to be a permit for this wall, we would have proceeded to build multiple walls at the ratio allowed to be constructed without a permit. The increase between tiers would not have substantially changed the visual appearance from below where this wall is most commonly seen, in particular after landscaping has been completed. In addition, this type of wall would have further reduced the backyard area if built to the same height which would create a steeper slope up to the house. It should be noted that a wall of this type could have been built up an additional 2.2 m higher, up to the lower floor, all without the requirement of a permit.
3. When the lot was purchased in 2017, the zoning bylaw that was in effect very clearly permitted walls over 2.4 m to be built if they were designed and signed off by a geotechnical engineer. The subsequent zoning bylaw was updated and the final version of it omitted this language. However, based on information from VoP staff, website and permit documents described in this application, a wall over 1.2 m can still be constructed if a permit is applied for and the geotechnical engineer signs off on it, items that we understood to have covered and got approval for in the original application.
4. Our clients sustainable wish for a wheelchair accessible entry level tied to the street level would have an unfair and adverse effect on the use of the backyard space if a continuous retaining wall higher than 1.2 m could not be built on this lot. The intent is not for the backyard to be accessible but for the house to be futureproofed and to accommodate safe access for elderly family members without penalising the use of the backyard space. Added to the topographic hardship is the substantial safety concern of children being forced to play in their front yard without a useable backyard space as is clearly displayed in close by and established neighborhoods with similar topography.

We welcome any comments you may have, should you have any further questions on this application.

Kind regards,

Maya Wassberg
MW DESIGN STUDIO

Brian Dorgelo
DORGELO BY DESIGN

Appendix;

1. Drawings BV-1 “Retaining Wall - site plan” and BV-2 “Retaining Wall – site section”.
2. Original drawings submitted as part of the building permit package.
3. Photos of stamped and VoP approved drawings.
4. Building permit approval letter.
5. Geotechnical engineers documents;
   -Sealed Geotechnical Assessment, dated 2019-12-18
   -Sealed Geotechnical Schedule B, dated 2019-12-18
   -Sealed Geotechnical Addendum re Slope Stability & Seismic Considerations, dated 2020-03-06
   -Sealed Retaining Wall Plan, Notes & Specification dated 2020-03-26
   -Sealed Geotechnical Schedule B, dated 2020-09-18
   -Sealed Geotechnical Memo; Field Reviews Retaining wall, dated 2020-09-22
6. Landscaping Concept Design -landscaping intent

TITLE SEARCH PRINT 2020-10-13, 12:20:03

File Reference: BoV - 7671 Requestor: Gwendolyn Kennedy

Declared Value $399000

CURRENT AND CANCELLED INFORMATION SHOWN

Land Title District	KAMLOOPS
Land Title Office	KAMLOOPS
Title Number	CA7303016
From Title Number	CA7260254
Application Received	2019-01-18
Application Entered	2019-01-23

Registered Owner in Fee Simple

Registered Owner/Mailing Address: KATHERINE ELLA COLES, FAMILY PHYSICIAN
GEOFFREY THOMAS BARNETT, GOLF SUPERINTENDENT
7696B GUTHRIE ROAD
PEMBERTON, BC
V0N 2L2
AS JOINT TENANTS

Taxation Authority

North Shore - Squamish Valley Assessment Area
Pemberton, Village of
Pemberton Valley Dyking District

Description of Land

Parcel Identifier: 030-665-493
Legal Description:
LOT 27 DISTRICT LOT 211 LILLOOET DISTRICT PLAN EPP88381

Legal Notations

HERETO IS ANNEXED RESTRICTIVE COVENANT CA1132532 OVER LOT 1 PLAN EPP1353

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE CA4415324

THIS TITLE MAY BE AFFECTED BY A PERMIT UNDER PART 26 OF THE LOCAL GOVERNMENT ACT, SEE CA4415329

HERETO IS ANNEXED EASEMENT CA6987764 OVER PART OF LOTS B EPP74427

HERETO IS ANNEXED RESTRICTIVE COVENANT LB319180 OVER LOT 1 PLAN EPP1353

TITLE SEARCH PRINT 2020-10-13, 12:20:03

File Reference: BoV - 7671 Requestor: Gwendolyn Kennedy

Declared Value $399000

Charges, Liens and Interests

Nature:	MORTGAGE
Registration Number:	CA2253671
Registration Date and Time:	2011-10-31 13:46
Registered Owner:	HSBC BANK CANADA
Remarks:	INTER ALIA
Cancelled By:	**CA7311400**
Cancelled Date:	**2019-01-24**

Nature:	ASSIGNMENT OF RENTS
Registration Number:	CA2253672
Registration Date and Time:	2011-10-31 13:46
Registered Owner:	HSBC BANK CANADA
Remarks:	INTER ALIA
Cancelled By:	**CA7311401**
Cancelled Date:	**2019-01-24**

Nature:	COVENANT
Registration Number:	CA6503577
Registration Date and Time:	2017-12-11 18:40
Registered Owner:	VILLAGE OF PEMBERTON
Remarks:	INTER ALIA

Nature:	RESTRICTIVE COVENANT
Registration Number:	CA6503578
Registration Date and Time:	2017-12-11 18:40
Remarks:	INTER ALIA APPURTENANT TO PCL A (DD W34182F PL A21) DL 211 LD

Nature:	PRIORITY AGREEMENT
Registration Number:	CA6503579
Registration Date and Time:	2017-12-11 18:40
Remarks:	INTER ALIA GRANTING CA6503577 PRIORITY OVER CA2253671 AND CA2253672
Cancelled By:	**CA7311401**
Cancelled Date:	**2019-01-24**

TITLE SEARCH PRINT 2020-10-13, 12:20:03

File Reference: BoV - 7671 Requestor: Gwendolyn Kennedy

Declared Value $399000

Nature:	PRIORITY AGREEMENT
Registration Number:	CA6503580
Registration Date and Time:	2017-12-11 18:40
Remarks:	INTER ALIA GRANTING CA6503578 PRIORITY OVER CA2253671 AND CA2253672
Cancelled By:	**CA7311401**
Cancelled Date:	**2019-01-24**

Nature:	EASEMENT
Registration Number:	CA6503589
Registration Date and Time:	2017-12-11 18:40
Remarks:	INTER ALIA APPURTENANT TO LOT 8 EPP72101

Nature:	PRIORITY AGREEMENT
Registration Number:	CA6503590
Registration Date and Time:	2017-12-11 18:40
Remarks:	INTER ALIA GRANTING CA6503589 PRIORITY OVER CA2253671 AND CA2253672
Cancelled By:	**CA7311401**
Cancelled Date:	**2019-01-24**

Nature:	STATUTORY BUILDING SCHEME
Registration Number:	CA7273860
Registration Date and Time:	2018-12-31 10:16
Remarks:	INTER ALIA

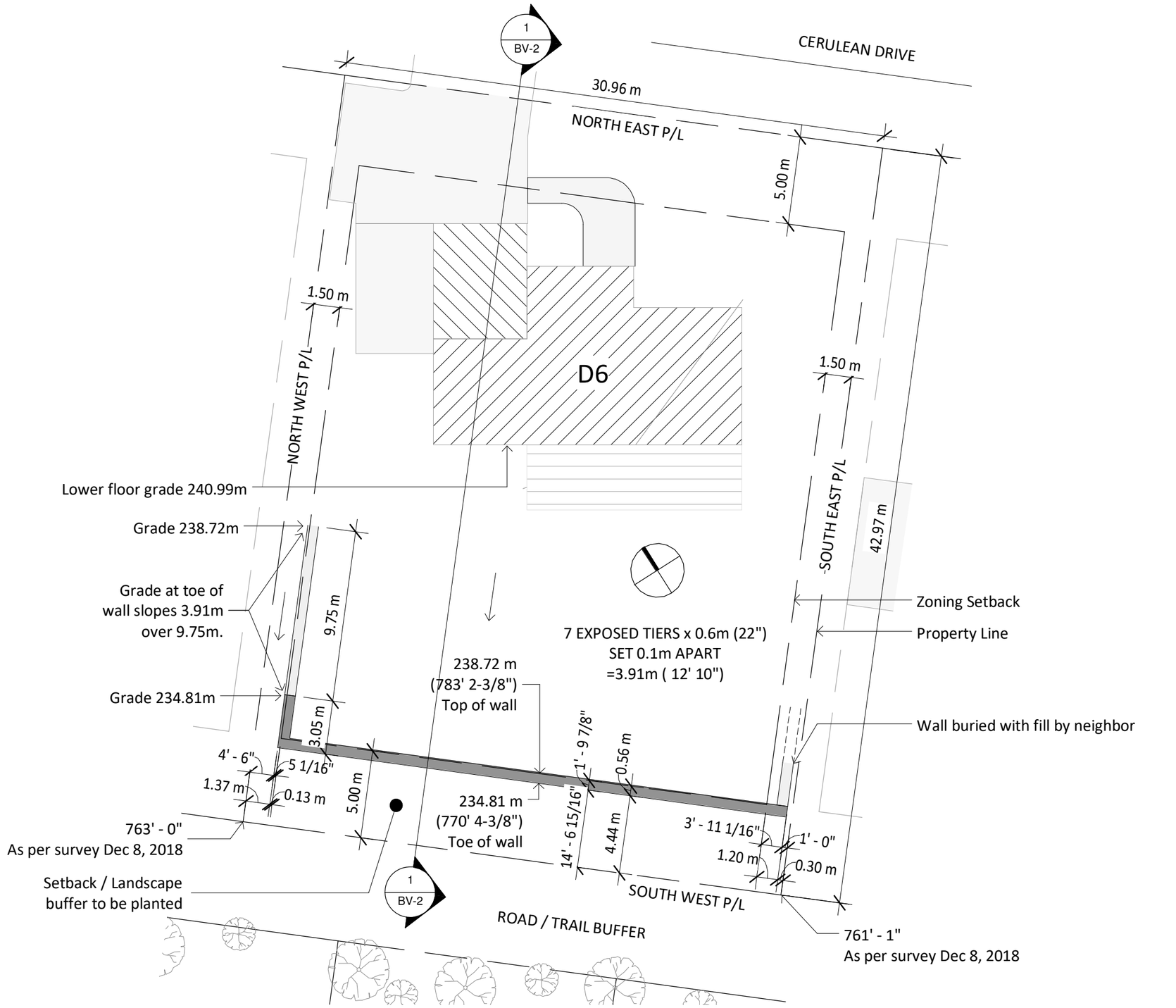
Nature:	MORTGAGE
Registration Number:	CA8321666
Registration Date and Time:	2020-07-24 15:30
Registered Owner:	CANADIAN IMPERIAL BANK OF COMMERCE

Duplicate Indefeasible Title NONE OUTSTANDING

Transfers NONE

Pending Applications NONE

Corrections NONE



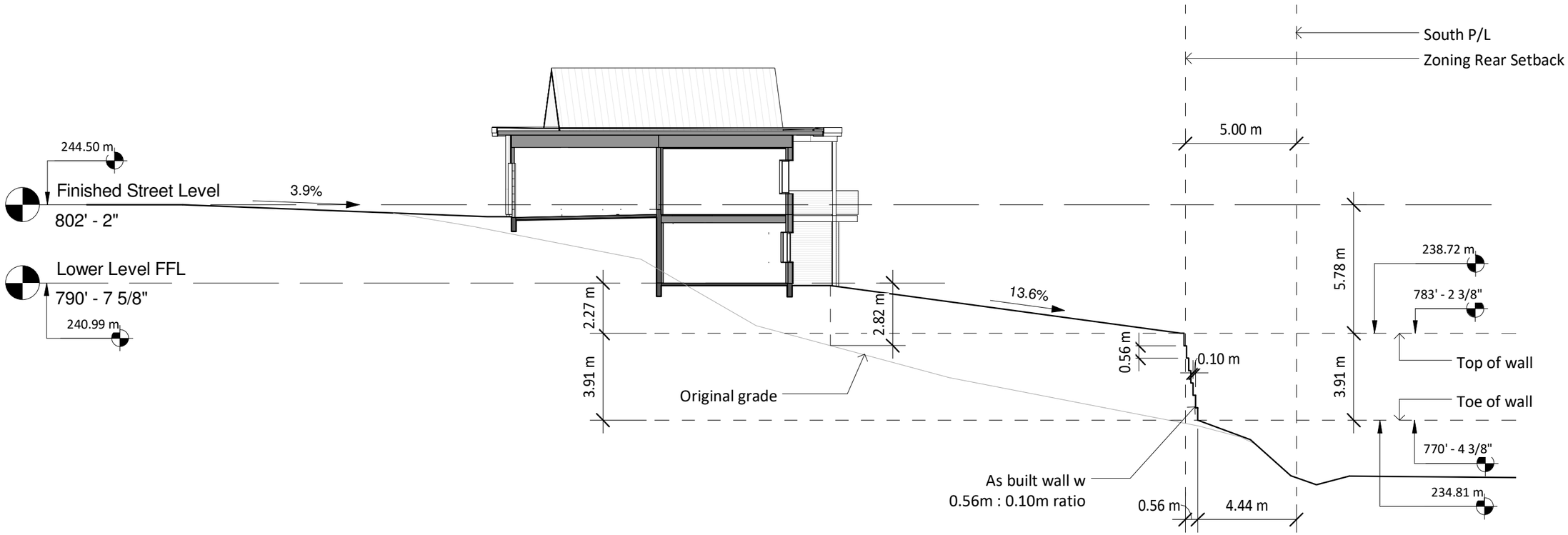
mw DESIGN STUDIO

maya@mwdesignstudio.ca | mwdesignstudio.ca

604-967-2940

D6 | Sunstone — Site Plan - retaining wall — BV-1 — 1" = 20'-0"

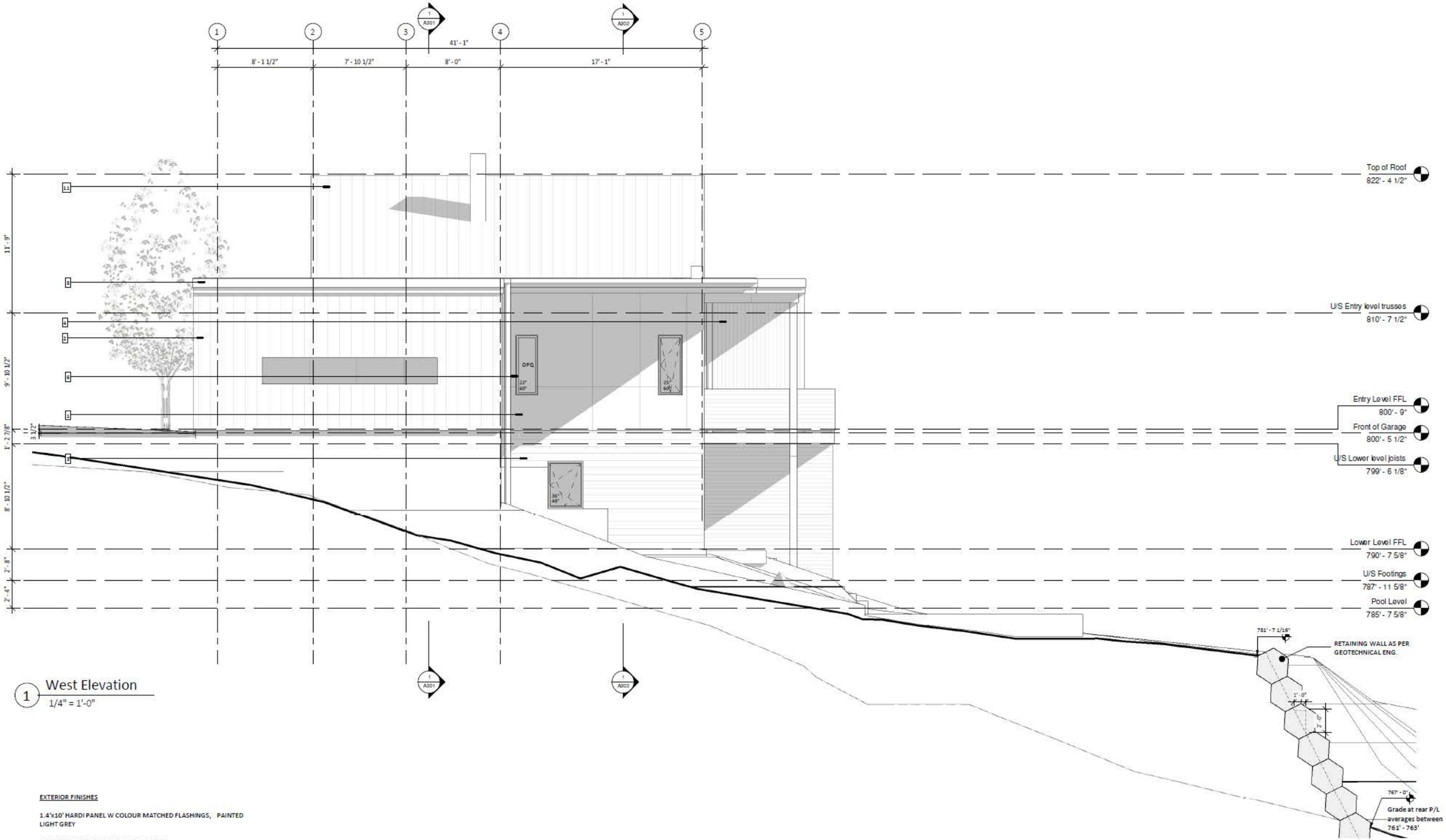
Project number 1806 — Issue for Review — Date 2020-10-02



DESIGN STUDIO
maya@mwdesignstudio.ca | mwdesignstudio.ca
604-967-2940

D6 | Sunstone — Site Section - retaining wall — BV-2 — 1/16" = 1'-0"

Project number 1806 — Issue for Review — Date 2020-10-02



1 West Elevation
1/4" = 1'-0"

EXTERIOR FINISHES

1.4'x10' HARDI PANEL W COLOUR MATCHED FLASHINGS, PAINTED LIGHT GREY

2.STANDING SEAM METAL SIDING, BLACK

3.HARDI PLANK, PAINTED CHARCOAL

4.4" VERTICAL T&G CEDAR, STAINED SEMI-TRANSPARENT

5.ARCHITECTURAL CONCRETE

6.FIBREGLASS TRIPLE PANE TILT & TURN WINDOWS, CHARCOAL

7.GLULAM POST / BEAM, STAINED

8.METAL FASCIA TO MATCH ROOFING AND SIDING

9.PINE SOFFIT, STAINED

10. VERTICAL GUARD RAIL

11. STANDING SEAM METAL ROOF, BLACK

For paint and stain colours refer to coloured perspectives; Front & Rear View Rev G and Material Palette

***DESIGN GUIDELINES UPDATED (relaxed);**

"Retaining wall materials shall be stacked rock, unit concrete systems, geotechnical planted systems or architectural concrete. Large lock block concrete is not acceptable. All retaining walls, greater than 1.2m, must be designed and approved by a geotech. Retaining walls, facing streets and neighbours should be stepped with planted terraces where possible."

DESIGN STUDIO
maya@mwdesignstudio.ca | mwdesignstudio.ca
604 967 2940

Kate & Geoff Barnett

D6 | Sunstone

West Elevation

Structural Engineer
Melissa McKay
Mountain Resort Engineering
P.O. Box 1581, Whistler,
B.C.,V0N 1B0, Canada
info@mountainresortengineering.com
P 604.905.9895
F 604.962.5150

Geotechnical Engineer
Evan Sykes PEng
Kontur Geotechnical Consultants Inc.
Unit 65, 1833 Coast Meridian Road
Port Coquitlam, BC, V3C 6G5
o. 778.730.1747 | d. 778-730-1822
e. esykes@kontur.ca | www.kontur.ca

BCBC2018 | Part 9 | Residential - C

No.	Description	Date
1	SITE SCHEMATIC REVIEW	2018-12-12
2	INITIAL DESIGN REVIEW	2019-05-21
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12	BP APPLICATION - REVIEW	2019-12-18
13	STRUC DESIGN REVIEW/BP APPL	2020-01-13
14	BP APPLICATION - REVIEW	2020-01-27

Project number	1806
Date	2020-01-27
Drawn by	MW

A204

Scale 1/4" = 1'-0"

2020-01-27 10:06:50 AM

Appendix B

1 Landscape Plan
1/8" = 1'-0"

LEVEL SCHEDULE	
Elevation	Name
822' - 4 1/2"	Top of Roof
810' - 7 1/2"	U/S Entry level trusses
802' - 2"	Finished Street Level
800' - 9"	Entry Level FFL
800' - 5 1/2"	Front of Garage
799' - 6 1/8"	U/S Lower level joists
790' - 7 5/8"	Lower Level FFL
787' - 11 5/8"	U/S Footings
785' - 7 5/8"	Pool Level

LEGEND FOR LANDSCAPING:

Porous material (basalt/river rock etc) on landscape fabric for drainage around perimeter of building.

Maintain positive drainage with min slope of finished grade around entire building.

- Area of proposed buildings
- Rock stack retaining wall -detailed by Geotechnical Engineer
- Driveway -ashfalt or concrete, TBD
- Parking surface -ashfalt, concrete or interlocking pavers, TBD
- Existing bedrock to be left exposed
- Hard surface pavers
- Grass / Lawn
- Garden beds with seasonal planting; oriental grasses, sedums, succulents -focus on native and drought resistant
- Slope stabilizing plants and rock landscaping with seasonal planting; species to be native and drought resistant
- Native tree "4ft-14ft tall; (Native coniferous trees mixed w. dogwood or sim. deciduous trees)

Landscape Design Intent Palette

mw DESIGN STUDIO

maya@mwdesignstudio.ca | mwdesignstudio.ca

604 967 2940

Kate & Geoff Barnett

D6 | Sunstone

Landscape Plan

Structural Engineer
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BCBC2018 | Part 9 | Residential - C

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Project number	1806
Date	2020-01-27
Drawn by	MW

A106

1/8" = 1'-0"

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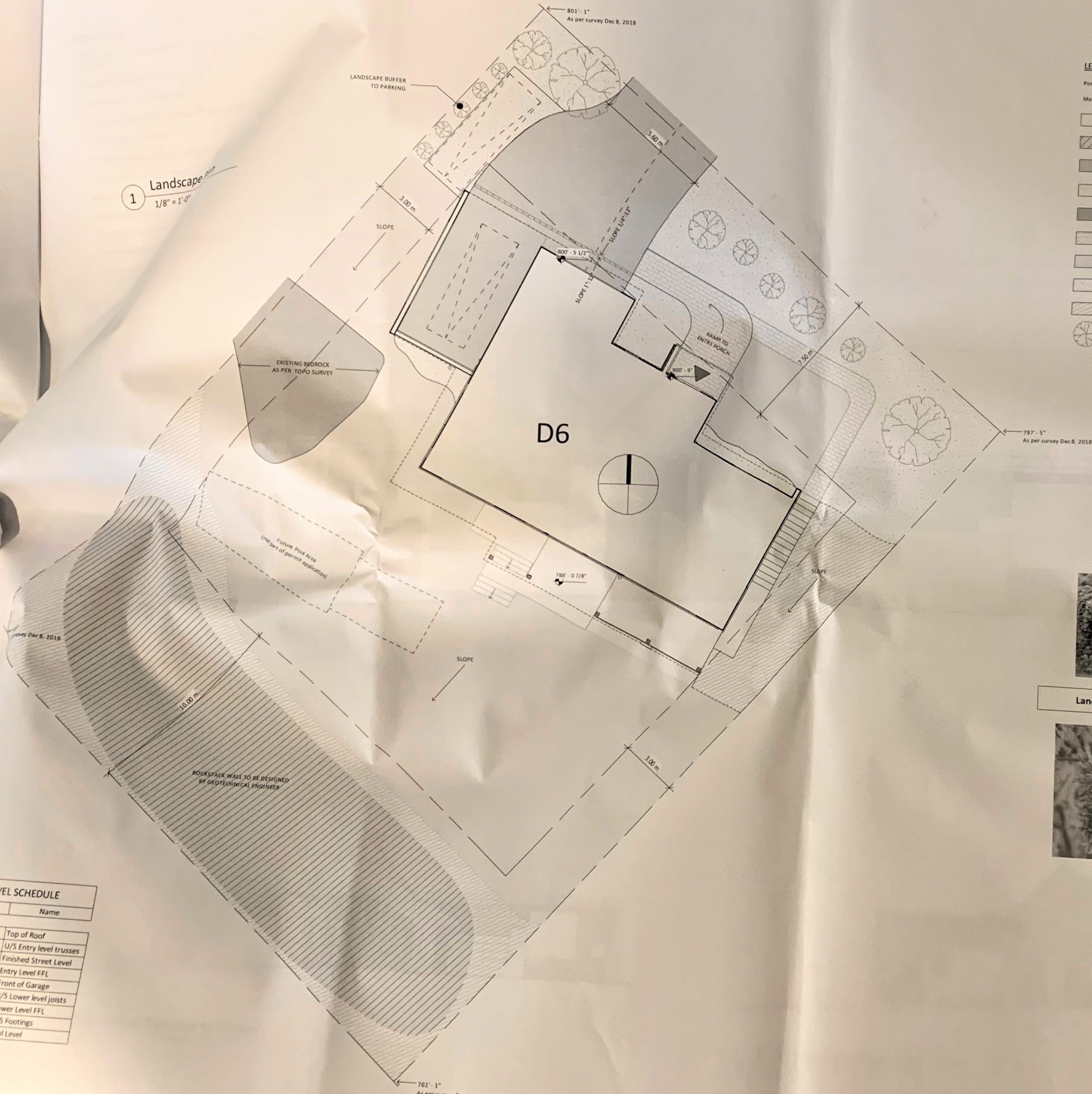

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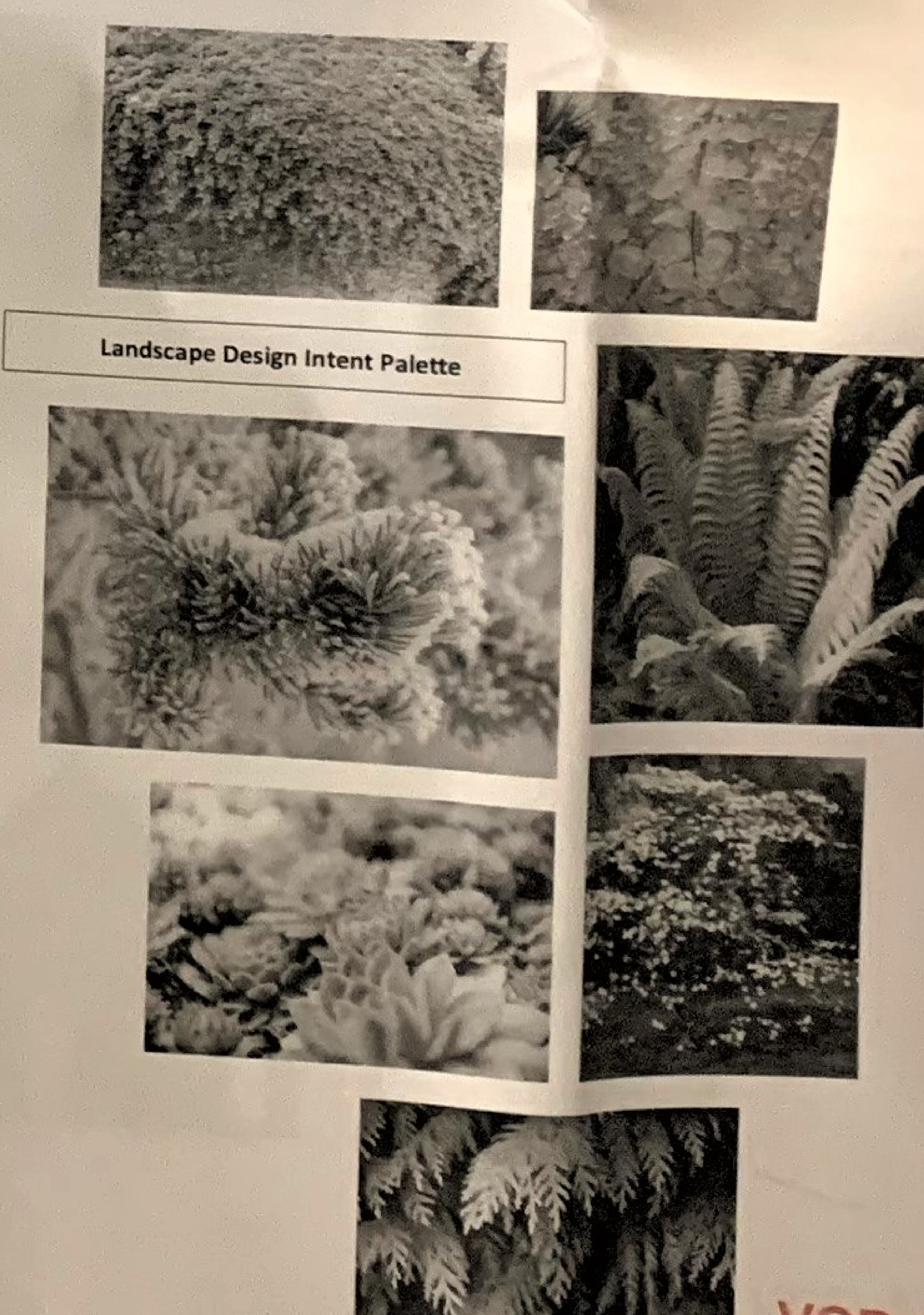
Landscape Design Intent Palette



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Kate & Geoff Barnett

D6 | Sunstone

Landscape Plan

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SITE COPY

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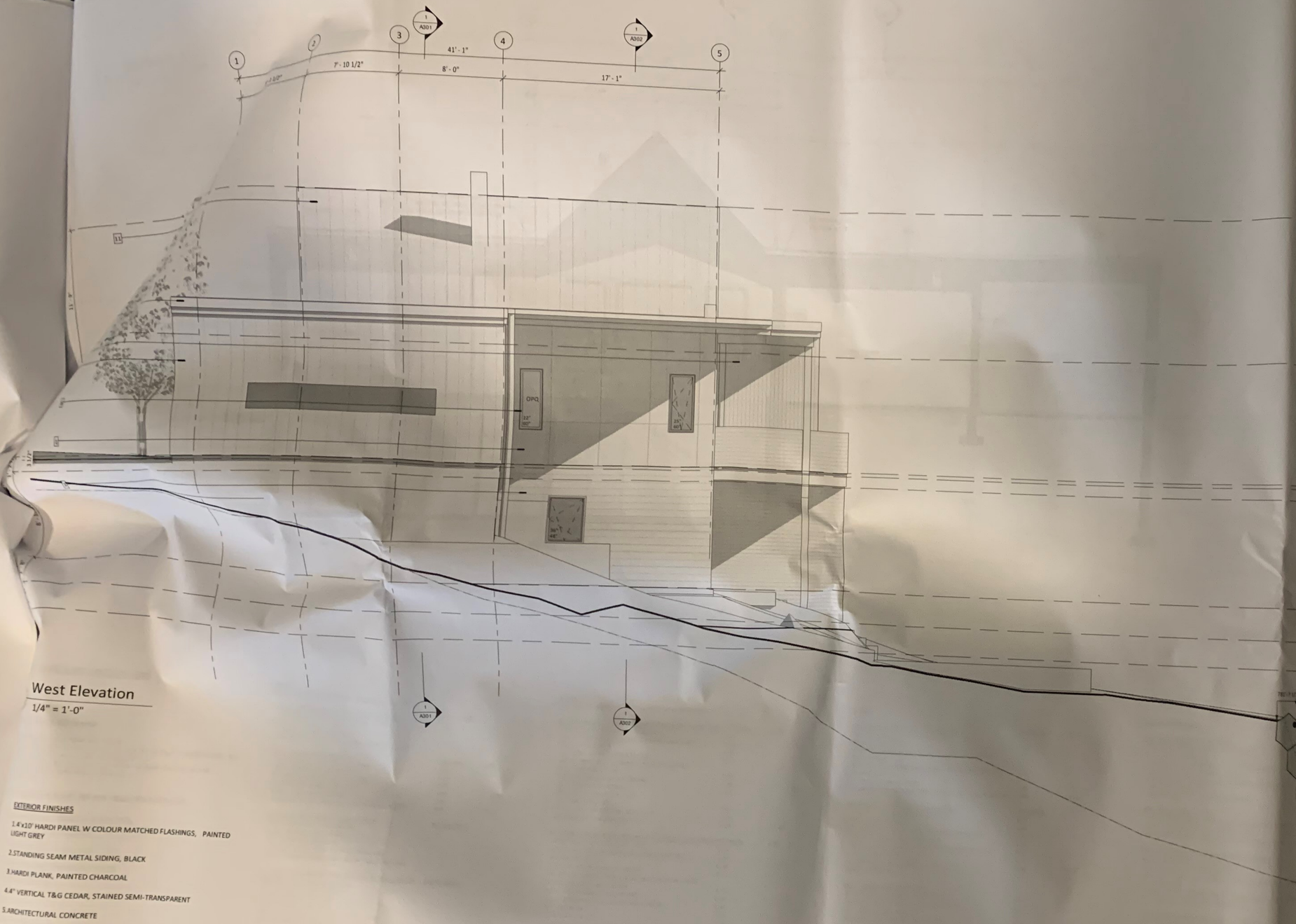
	A106
Scale	1/8" = 1'-0"

VOP-APPROVED



West Elevation

1/4" = 1'-0"

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D6 | Sunstone

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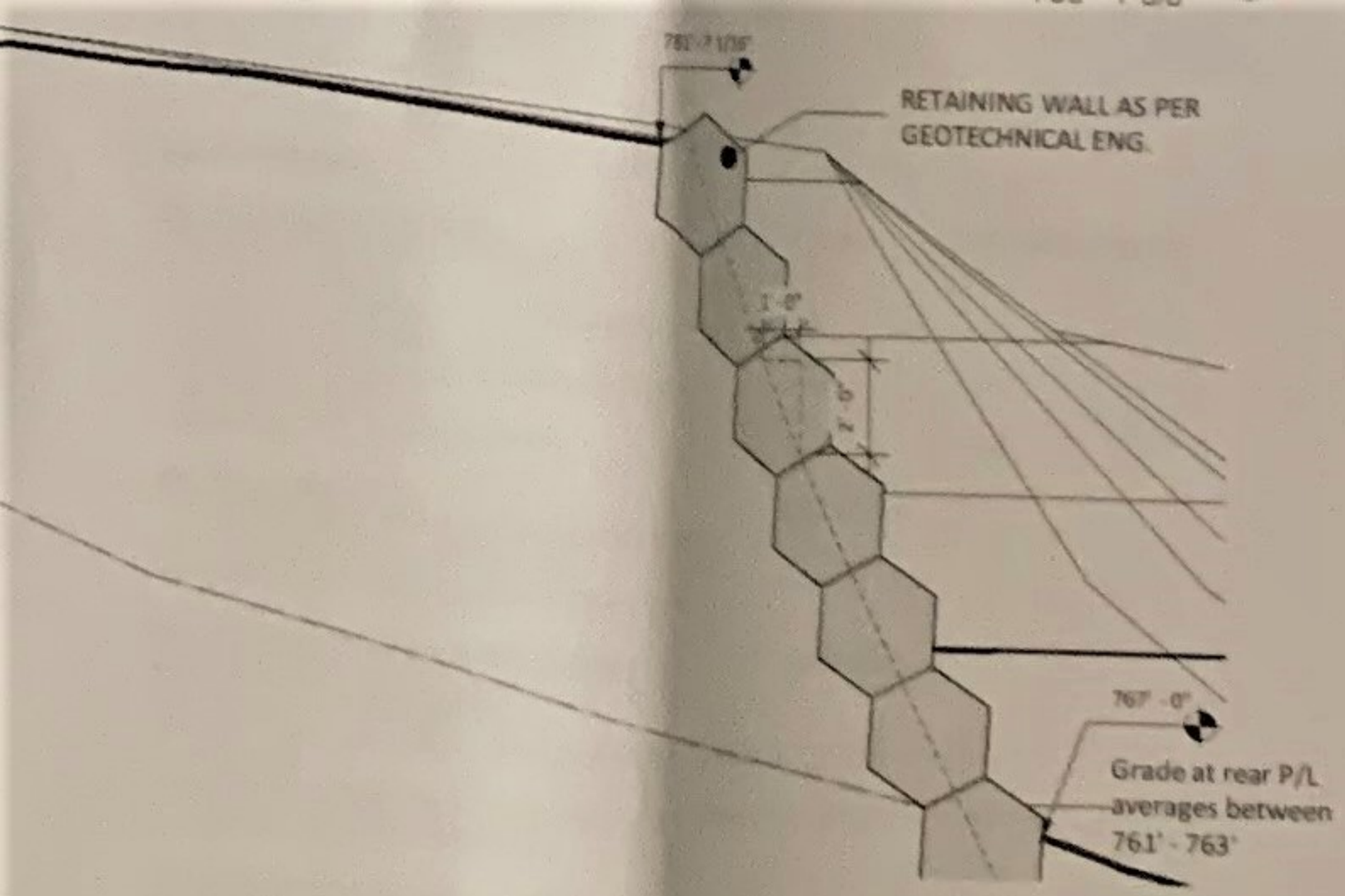
SITE COPY

Project number	1806
Date	2020-01-27
Drawn by	MW
	A204
Scale	1/4" = 1'-0"

VOP-APPROVED

2020-01-27 10:08:50 AM



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Appendix B

SITE COPY

Project number	1806
Date	2020-01-27
Drawn by	MW

VOP-APPROVED

A204

Appendix B

Box 100 | 7400 Prospect Street
Pemberton BC V0N 2L0
P: 604.894.6135 | F: 604.894.6136
Email: admin@pemberton.ca
Website: www.pemberton.ca

BUILDING PERMIT- STANDARD BUILDING

Building Permit No: **1932** Date: 13 March 2020

Civic Address: 7671 Cerulean Drive

Owner: Katherine Colesy and Geoffrey Barnett

Project Title: Colesy Barnett House

Scope of Work

To construct a new single family dwelling with one suite as per approved plans.

This Building Permit is issued pursuant to division 8 of the *Community Charter* and Bylaw No. 867, 2019 of the Village of Pemberton. This permit confirms that all letters of assurance required of this bylaw and by the Chief Building Official have been submitted to the Village of Pemberton, certifying that the proposed building or structure substantially conforms, in all material respects, to the requirements of the *BC Building Code*.

Condition of Permit:

- Owner must engage all Professional Engineers to perform, and make available after, their field reviews as per their recommendations in the reports and drawings, such as the Geotechnical Report submitted.
- Owner may not occupy any portions of the building until an Occupancy Permit has been issued.

DISCLAIMER OF WARRANTY OR RERPRESENTATION

Neither the issuance of a permit under Building Bylaw No. 867, 2019, the review and acceptance of the drawings, plans and specifications, nor inspections made by a building official, shall constitute a representation or warranty that the building or structure complies with the BC Building Code or Village bylaws or meets any standard of materials and workmanship, and no person shall rely on any of those acts as establishing compliance with the BC Building Code, Village bylaws or any standard of construction.

Avy Woo
CHIEF BUILDING OFFICIAL

[redacted]
SIGNATURE OF CHIEF BUILDING OFFICIAL

KONTUR
GEOTECHNICAL CONSULTANTS

December 18, 2019
Project No.: **K-191243-00**

Brian Dorgelo
Dorgelo by Design
[redacted]

Attention: **Brian Dorgelo, Principal**
dorgelobydesign@gmail.com

RE: **Geotechnical Assessment**
Single Family Residential
Lot D6, Sunstone Development, Pemberton, BC

Dear Mr. Brian Dorgelo,

1.0 INTRODUCTION

In accordance with your recent authorization, Kontur Geotechnical Consultants Inc. (Kontur) has completed this geotechnical assessment for the above-referenced project. The purposes of this assessment were to characterize the site from a geotechnical point-of-view and to provide comments and recommendations with respect to site development and foundation design.

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

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

2.0 SOURCES OF INFORMATION

The following sources of information were also reviewed as part of the desktop component of this study:

- Kontur's nearby experience in the area;
- Site reconnaissance by senior Kontur personnel;
- Topographic site plan provided by Highmark Land Surveying and Engineering Ltd.;
- Architectural drawings provided by MW Design Studios;
- Published surficial geology maps of the area; and,
- Relevant information obtained from the Squamish Lillooet Regional District online web-mapping application

3.0 UNDERSTANDING OF PROJECT

Based on a review of provided architectural drawings the proposed development generally consists of construction of a two storey single family residential building. The garage would be located on the second level for access from Road D. Retaining structures may be required to retain soils to create level outdoor areas behind the proposed building.

4.0 SITE DESCRIPTION

The subject property is located on the south side of Road D, about 200m west of the intersection of Road D and Road A within the Sunstone Development, Pemberton, BC. The property is generally rectangular in shape with a northwest-southeast dimension of about 31m and a southwest-northeast dimension of about 43m. The property is bounded by single family residential lots to the southwest, northwest and southeast and Road D to the northeast.

Topography within the property generally consisted of a moderately inclined 4H: 1V (Horizontal: Vertical) southwest facing slope.

Based on site reconnaissance and previous experience within the Sunstone Development subsurface conditions are generally expected to consist of compact to dense sand with some silt and gravel to silty sand with some gravel overlying bedrock. Groundwater is expected to be more than 2m below surface.

Vegetation had generally been stripped from the property during subdivision development. Widely spaced evergreen trees with straight trunks were noted in area which had not be stripped of vegetation.

5.0 COMMENTS AND RECOMMENDATIONS

5.1 General

As discussed above, subsurface soils are expected to consist of compact to dense sand with some silt and gravel to silty sand with some gravel.

The compact to dense granular soils, or structural fill placed thereon, would provide adequate bearing support for the proposed single family residential building within acceptable settlement tolerances. The global stability of the existing natural slopes was considered adequate for static and seismic conditions.

The sections below provide recommendations for site preparation, seismic considerations, foundation design, backfill, slab-on-grade and lateral earth pressures.

5.2 Site Preparation

Subgrade preparations for the proposed foundations should consist of removal of organics, topsoil and other deleterious material to expose native granular soils. Exposed granular soils should be compacted with a ride-on type vibratory roller to achieve 95% Modified Proctor Maximum Dry Density (MPMDD) in the upper 300mm. Grade restoration or increases should be achieved with the placement of structural fill consisting of 75mm minus pit run sand and gravel or 150mm minus shot rock. Structural fill should contain less than 5% fines passing the 0.075mm sieve. The structural fill should be placed on subgrade, reviewed and approved by the geotechnical engineer, in lifts with a loose thickness no greater than

300mm, compacted with several passes of a heavy ride-on type vibratory drum roller to achieve at least 95% MPMDD.

5.3 Temporary Excavations

Excavation may be required to facilitate construction of the proposed building and for installation of services. Organic and deleterious soils should be removed to expose compact to dense granular soils. Temporary excavations should be planned for inclinations no steeper than 1H: 1V (Horizontal: Vertical). If significant seepage is encountered during excavation flatter slopes inclinations may be required. Excavation guidelines provided by WorkSafeBC must be followed.

An initial review of temporary cut slopes greater than 1.2m in height should be conducted by the Geotechnical Engineer. Temporary slopes should be continually reviewed by the contractor, who will be on site on a full-time basis and will be able to observe changes in slope profile and monitor the performance of the cut slope. Kontur should be notified immediately of any significant changes in the condition of temporary cut slopes.

Temporary construction dewatering of the excavations should be carried out as required to facilitate the excavations and placement of structural fill in the dry. Based on seepage volumes encountered during geotechnical exploration, conventional ditch and pumped sump methods would likely be sufficient for construction dewatering. However, the contractor would need to select a dewatering system in response to actual seepage volumes encountered during construction.

5.3 Seismic Considerations

The British Columbia Building Code (BCBC 2018) provides guidelines and parameters for seismic design. The design earthquake corresponds to a 2% probability of exceedance min 50 years which is equivalent to a 1 in 2475-year return period. The Natural Resources Canada website provides interpolated site-specific seismic hazard values and indicates a peak horizontal firm ground acceleration of 0.17g for the subject property.

Based on the characterization of anticipated subsurface conditions within the subject property provided in this report, compact to dense granular soils, liquefaction of subsurface soil layers during the design earthquake is not considered likely. A Site Classification of Site Class D for Seismic Response Table 4.1.8.4.A is considered appropriate for the subject site.

5.4 Foundation Design

It is considered that conventional strip and pad footings placed on the native granular soils or structural fill placed thereon would provide adequate support for the proposed building. Post construction settlement is expected to be less than 25mm with differential settlement within 12mm over a 10m span.

The following foundation values should be used for design of footings:

Foundation Material	Factored Ultimate Bearing Resistance	Allowable Bearing Pressure
Structural fill placed on native granular soils	225 kPa	150 kPa

The bearing capacities provide above are subject to the following conditions:

- Footings are setback a suitable distance from finished fill or cut slopes with locations approved by the geotechnical engineer;
- Strip and pad footings have minimum widths of 450mm and 600mm, respectively;
- Footings are founded at least 600mm below adjacent finished grade for confinement and frost protection purposes;
- Site preparations have been completed as described in Section 5.2 "Site Preparation" and load bearing surfaces have been reviewed by the geotechnical engineer.

5.5 Backfill

Backfill for perimeter areas or for support of driveway, walkways or other hard landscape features should consist 75mm minus pit run sand and gravel or 150mm minus shot rock with less than 5% fines. The backfill should be placed in lifts with a maximum loose thickness of 300mm compacted to a minimum of 95% MPMDD. Placed pit run structural fill should be density tested to confirm adequate compaction with shot rock being visually confirmed by the Geotechnical Engineer.

5.6 Perimeter Drainage

A perimeter drain should be installed for areas of the building where the floor slab is less than 150mm above adjacent grade. The perimeter drain should consist of a 100mm diameter perforated PVC pipe surrounded by at least 150mm of 19mm clear crushed gravel separated from the remaining backfill with a non-woven filter fabric. The perimeter drain should be installed no deeper the adjacent footing base and at least 200mm below adjacent floor slabs. The perimeter drain should be connected to a suitable outlet. Roof drains should not discharge into the perimeter drain system.

The perimeter drain should be hydraulically connected to a 19mm clear crushed gravel chimney drain at least 450mm wide adjacent to any below grade wall.

5.7 Slab-on-Grade

Slab-on-grade should be supported on suitably prepared subgrades as described in Section 5.2 "Site Preparation". A 100mm thick layer of 19mm clear crushed gravel, compacted with a vibratory compactor should be placed beneath the concrete slabs to provide a bedding and drainage layer for potential seepage zones. The clear crushed gravel layer should have an outlet to the perimeter drains via weep holes though the foundation walls of the building. A layer of 6 mil poly vapour barrier should also be placed over the clear crushed gravel to protect it form concrete contamination and to limit dampness of the slab from capillary moisture which could damage floor coverings.

5.9 Permanent Slopes

Guidelines for permanent slope inclinations are as follows:

- Blast rock fill placed and compacted as described in Section 5.2 "Site Preparation" above should be no steeper than 1.5H: 1V.
- Compacted structural fill placed and compacted as described in Section 5.2 "Site Preparation" above should be no steeper than 2H: 1V with planted vegetation to protect against erosion.

Slope inclinations may be steepened with the use of retaining walls. Rearing walls may include, but is not limited to, rock stack, concrete lock block or Allen Block. Design for retaining walls may be provided by Kontur as landscape design advances.

5.10 Lateral Earth Pressures

Retaining and basement walls should be provided with adequate drainage to prevent the build-up of hydrostatic pressure behind the wall. A chimney drain, at least 450mm wide, comprised of clear crushed gravel placed directly against the below grade walls, hydraulically connected to a perimeter drain. The wall backfill should be compacted to at least 85% MPMDD in non-structural areas and at least 95% MPMDD in areas where pavement or other hard landscape is proposed.

Retaining and below grade walls less than 3m in height should be designed with a uniform lateral earth pressure of 20KPa, for compaction efforts adjacent to the wall and static plus seismic lateral earth pressures.

6.0 FIELD REVIEW

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

- Bulk excavation, stripping and final excavation;
- Subgrade and bearing surface review and approvals;
- Placement and compaction of fills; and/or,
- Installation of perimeter and/or site drainage.

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

7.0 CLOSURE

The comments and recommendations presented in this letter are based on the referenced information and Kontur's understanding of the project as described herein. If subsurface conditions or project parameters differ from those described in this letter, Kontur should be notified promptly to review geotechnical aspects of the project and provide additional or modified comments and recommendations, as deemed appropriate. Contractors should make their own assessments of subsurface conditions at this site and select the construction means and methods that are most appropriate for encountered site conditions. Provided the recommendations provided above are implemented the subject property is considered to be safe for the intended use, that being the construction of a single family residential

building. The term "safe" specifically refers to adequate global slope stability for static and seismic conditions and for the subgrade soils to provide adequate bearing with post construction settlement being within typically tolerable levels for the proposed building.

This letter has been prepared for the exclusive use of Dorgelo by Design and/or their designated agents or consultants. Any use of the information contained in this letter for other than its intended purpose or by any other party must first be verified in writing by Kontur. Kontur does not accept any responsibility or damages because of any other party relying on or using the information, comments, opinions, and recommendations contained in this letter.

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

Sincerely,

Kontur Geotechnical Consultants Inc.

Per: [redacted] 18, 2019

Evan Sykes, P.Eng.
Principal | Geotechnical Engineer

Reviewed by: [redacted]

J.Y. (Yoshi) Tanaka, P.Eng.
Principal | Geotechnical Engineer

Attachments: Interpretation and Use of Study and Report Document
National Building Code Seismic Hazard Calculation

KONTUR
GEOTECHNICAL CONSULTANTS

MEMORANDUM

March 6, 2020
Project No.: **K-191243-00**

To:	Brian Dorgelo Dorgelo by Design Inc.	**By Email:**	dorgelobydeisgn@gmail.com
Cc:	Avy Woo, P.Eng. Village of Pemberton		awoo@pemberton.ca
From:	Evan Sykes, P.Eng. Kontur Geotechnical Consultants Inc.		esykes@kontur.ca
Subject	**Addendum – Geotechnical Assessment Single Family Residential Lot D6, Sunstone Development, Pemberton, BC**		

Kontur Geotechnical Consultants Inc. (Kontur) is providing additional information with regrds to the geotechnical assessment report titled "*Geotechnical Assessment – Single Family Residential – Lot D6, Sunstone Development, Pemberton, BC*" dated December 18, 2019. This memorandum should be read in conjunction with the referenced report. The purpose of this memorandum is to clarify issues with regards to slope stability and seismic values provided in the report.

Slope Stability – Slope stability is addressed in Section 5.9 – Permanent Slopes and in Section 7.0 Closure. Section 5.9 recommends that permanent constructed or fill slopes be inclined at 1.5H: 1V (Horizontal: Vertical) for slopes for fill slopes with structural fill. Additionally, cut slopes in soils within the subject property should be inclined no steeper than 2H: 1V. Cut slope inclinations may be steepened if approved by the Geotechnical Engineer upon review of soils encountered during exaction. It is understood that a retaining wall up to about 6m in height is proposed for the southwest portion of the property to provide a backyard area. Kontur is available to design the proposed retaining wall once the type of wall to be constructed is finalized (i.e. Sierra Scape, Rock Stack, etc.). Permanent retaining walls are not expected along the east and west property lines as there is sufficient space to slope the fills, about 1.8m thickness, required to achieve design subgrade elevations.

Global slope stability for the subject property is considered to be adequate for static and seismic conditions slope inclinations for cut and fill slopes are constructed in compliance with Kontur's recommendations.

Seismic Considerations – Seismic considerations are addressed in Section 5.3 of the referenced geotechnical report. The seismic values for the design earthquake (1 in 2475 years) are determined by inputting the site coordinates into the Natural Resources Canada, Earthquakes Canada website for National Building Code of Canada (NBCC 2015) site specific seismic hazard values. The NBC website provides a site-specific seismic value interpolated from a 10-km-spaced grid of points. Kontur uses this methodology for determination of seismic hazard values for the subject property instead of Seismic Hazard Mapping which provides zones and ranges of values.

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

INTERPRETATION AND USE OF STUDY AND REPORT DOCUMENT

1.0 STANDARD OF CARE

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

2.0 COMPLETE REPORT

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

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

3.0 BASIS OF THE REPORT

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

4.0 USE OF THE REPORT

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

5.0 INTERPRETATION OF THE REPORT

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

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

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

6.0 ALTERNATE REPORT FORMAT

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

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

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

Sincerely,

Kontur Geotechnical Consultants Inc.

Per: [redacted]

Evan Sykes, P.Eng.
Principal Geotechnical Engineer

Reviewed by: [redacted]

J.Y. (Yoshi) Tanaka, P.Eng.
Principal Geotechnical Engine

RETAINING WALL PLAN NOTES & SPECIFICATIONS

CONTACT Information
Owner: Cam McIvor
cwmcivor@telus.net
Sunstone Ridge Development Ltd.
Engineer:Mr. Evan Sykes
Kontur Geotechnical Consultants Inc.
t. 778.730.1747 d. 778.730.1722 e. esykes@kontur.ca

Contractor: TBD

PART A - GENERAL REQUIREMENTS

1. The work shall be carried out in accordance with all applicable bylaws an regulations for this site, including WorkSafe BC Regulations and Guidelines.
2. The work described in this plan should be completed in reference to the Geotechnical Report prepared by Kontur Geotechnical Consultants Inc. (Kontur) for this project.
3. This plan shall not be used to layout the retaining wall. Layout of the proposed retaining wall is to be completed based on the appropriate survey and architectural information and drawings.
4. The Contractor is responsible for and shall:
   - 4.1. All relevant permits from governing authorities must be in place prior to start of construction.
   - 4.2. If applicable, permission from adjacent property owners must be obtained and written confirmation of such permission forwarded to Kontur at least 2 days prior to commencing work on the adjacent properties.
   - 4.3. Provide all necessary labour, materials, and equipment, to carry out the work as specified i this plan and by the Geotechnical Engineer. The retaining wall should be constructed as shown on the drawings included in this plan.
   - 4.4. Provide adequate temporary drainage control in and around the proposed retaining wall in a manner that does not detrimentally influence surroundings lands.
   - 4.5. Take all necessary steps to protect all instrumentation, equipment, and apparatuses, from damage and/or disturbance due to any causes, such as on-site operations, vandalism/theft, and/or weather.
   - 4.6. Repair or replace any instrumentation, equipment, and/or apparatuses, that are damaged or disturbed (as a result of the Contractor's operations or failure to provide adequate protection) to the satisfaction of the *Engineer*. This will be done at no additional cost to the Owner.
   - 4.7. Cooperate fully with the Engineer, Surveyor, and Owner to provide all reasonable assistance as necessary.
   - 4.8. The contractor will undertake proper survey control to ensure the proposed retaining wall is constructed according to the design drawings with respect to property lines, building lines, ground surface, and finished grades. Report any dimensional discrepancies to Kontur Geotecnical Consultants Inc.
   - 4.9. Provide an appropriate 'as-built' upon completion. This is to be completed by a Professional Land Surveyor registered in British Columbia.
   - 4.10. The Owner shall be responsible for the repair of any sidewalks, paved surface /roads, buried utility services, and any other structures/buildings, that may be influenced by the construction of the proposed retaining wall as described in this plan. It is recommended as part of the due diligence process, that a pre-construction and post-construction assessment be completed to visually document the condition of theses surfaces, structures/ and or buildings.
   - 4.11. Site to be enclosed by fencing or hoarding prior to start of excavation. Hoarding/fencing to be acceptable to municipal bylaws.
   - 4.12. The Contractor shall maintain the overall responsibility for site safety.
   - 4.13. All blasting must be completed by a certified blaster. Blasting may not occur within 10 feet of adjacent buildings. Notification of blasting must be provided to the excavation engineer 24 hours prior to blasting to allow installation of monitoring equipment. Unless otherwise indicated in the soils report, material which can be removed by excavation or ripping with a Caterpillar 345 excavator or equivalent with a single ripper tooth, with a production rate of at least 10 cubic yards per hour is not considered to require blasting for removal.

PART B - MATERIAL REQUIREMENTS

1. **ENGINEERED BACKFILL** should consist of free-draining structural fill with less than 5% (by dry weight) passing the No. 200 sieve. The material should be free of any saturuated and unsuitable materials. Samples of the proposed Engineered Backfill should be submitted to the Engineer for testing, review, and approval, well in advance of placement on-site.
2. **COMPACTION REQUIREMENTS.** Unless indicated otherwise directed by the Geotechnical Engineer in writing, fill materials shoudl be compacted to at least 95% of the materials' Modified Proctor Maximum Dry Density value as approved by the Engineer. Fill materials should be place din lifts no thicker than 300mm and be compacted near the material's optimum moisture content.
3. SierraScape Facing Unit to be supplied by Tensar Corporation.
4. **GEOGRID** panels should consist of new uniaxial and biaxial geogrids such as TENSAR UX 1500MSE / UX1600MSE / BX1120 as supplied by Nilex Inc. or approved equivalent.
5. Filter Fabric should consist of a new non-woven filter fabric such as Nilex4545 as supplied by Nilex Inc., or approved equilvalent.
6. Composite turf reinforcement mat should consist of a new VMax C350 Turf Reinforcement supplied by Nilex., or approved equilvalent.

PART C - EXECUTION OF THE WORK

1. The Contractor shall submit details of the proposed construction schedule, methods, and equipment to the *Engineer* well in advance of the anticipated start date of the work.
2. Site Preparation
   - 2.1. The Contractor shall utilize suitable construction equipment to properly perform the work.
   - 2.2. All existing buried services/structures, building foundations, concrete, debris, and/or unsuitable materials, should be stripped and removed from the site and appropriately disposed of off-site.
   - 2.3. All vegetation and other unsuitable materials within the proposed retaining wall area are to be completely stripped and removed, and properly disposed of off-site.
   - 2.4. Retaining walls should be placed on a properly stripped and prepared subgrade surface approved by the *Geotechnical Engineer*.
3. Retaining Wall Construction
   - 3.1. Backfill behind the SierraScape Retaining walls to a distance equal to the length of the geogrid and to the top of the highest geogrid shall consist of free-draining granular material.
   - 3.2. Off-site Considerations. the Contractor is responsible for street clean up to meet municipal requirements.
   - 3.3. Geogrids shall be installed at the lengths, elevations, and locations shown on the drawings herein. Changes to geogrid layout are not permissible without the express written consent of the Geotechnical Engineer. Geogrid reinforcement shall be continuous throughout their embedment length. Geogrid-to-Geogrid connection is not allowed.
   - 3.4. Geogrid shall be rolled out perpendicular to the facing units and placed over the sierrascape connection loops. The transverse bar of the geogrid (across the roll width) that bears on the connection loop must be cut in at least five locations on each roll of geogrid. Cutting is necessary to ensure that the transverse bar properly bears on the connection loop. The cuts shall be made at the non-load bearing apertures. Two cuts shall be made close to each outer edge edge of the roll. One cut shall be made towards the middle of the roll. Additional cuts may be necessary at other non-loading bearing apertures. Two roll widths of geogrid shall be attached to each facing unit. Thread the connection rod through the connection loops over the geogrid ribs.
   - 3.5. Tracked construction equipment shall not be operated directly on the geogrid reinforcement. A minimum backfill thickness of 150mm is required for operation of tracked vehicles over the geogrid reinforcement. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and/or geogrid reinforcement.
   - 3.6. A minimum of 75mm of engineered fill shall be placed between overlapping layers of geogrid reinforcement.
4. Engineering Review

In order to sign off on the work, Kontur should complete the necessary field reviews and materials testing during key construction stages of the work. Kontur should be notified at least 48 hours prior to the start of the work. While not limited to, the following key construction stages may include:

- 4.1. Review of proposed engineered backfill material
- 4.2. Review of Stripping and excavation works;
- 4.3. Review of exposed/prepared subgrade surface;
- 4.4. Review placement and compaction of fills;
- 4.5. Review of construction of retaining wall

Materials testing services will be required in order to assist with confirming the suitability and placement of engineered fills. This may include in-situ compaction, grain size analysis, and moisture density (proctor) tests.

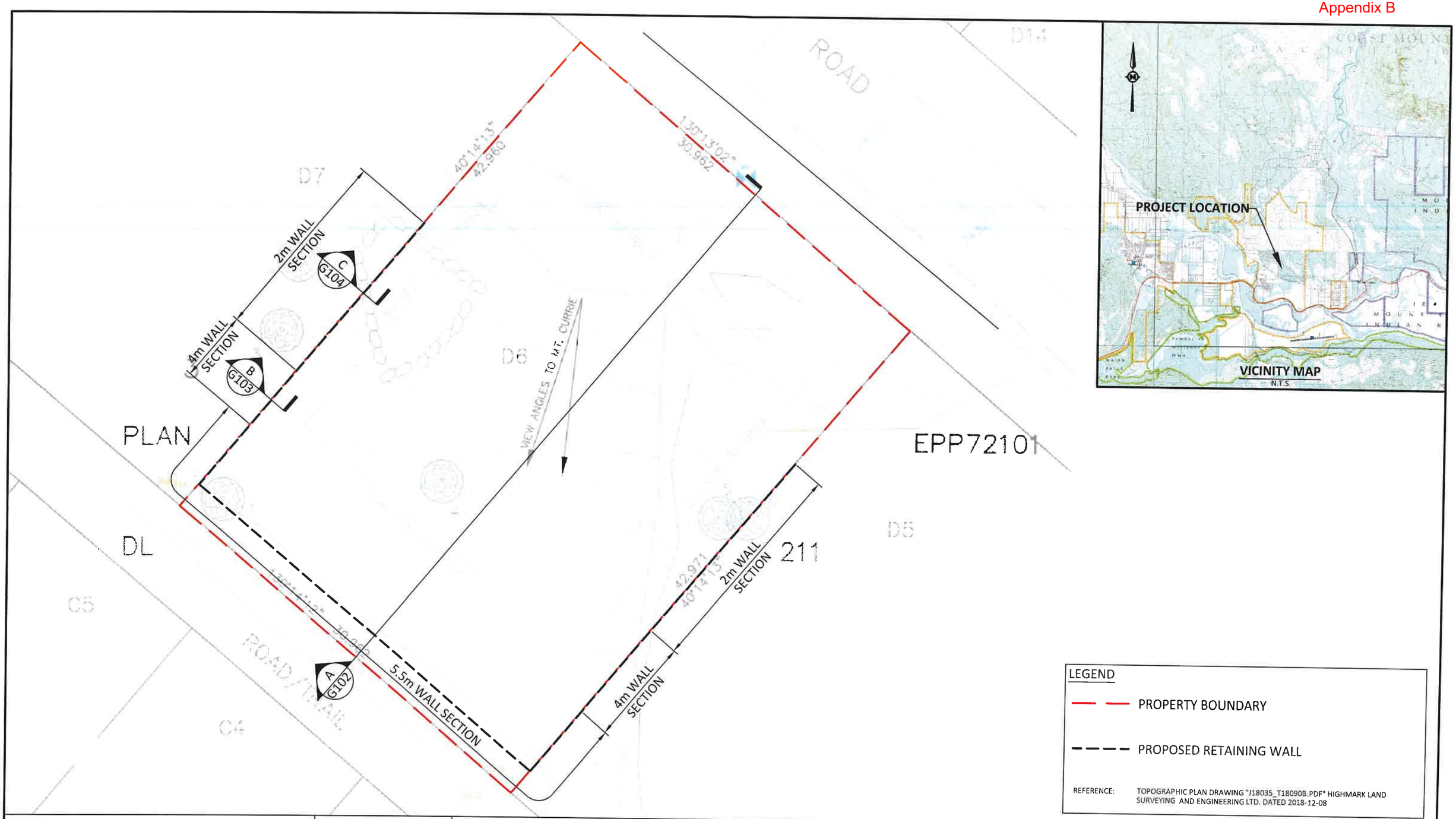
KONTUR GEOTECHNICAL CONSULTANTS inc.
Unit 65, 1833 Coast Meridian Road, Port Coquitlam, B.C. V3C 6G5
t. 1 (778) 730 1747 | toll-free. +1 (833) 301 7575 | e. info@kontur.ca | www.kontur.ca

SEAL

REVISIONS		
NO	DESCRIPTION	DATE
	ISSUED FOR REVIEW	2020-03-26

TITLE: PROPOSED MSE WIRE RETAINING WALL			PROJECT NO.: K-191243-00
CLIENT: DORGELO BY DESIGN INC.	DATE: 2020-03-26	SCALE: N.T.S.	DWG NO.: G100
PROJECT LOCATION: LOT D6, SUNSTONE DEVELOPMENT, PEMBERTON B.C.	DRAFT: JL	DESIGN: EGS	CHECK: JV

March 31, 2020 9:35:57 AM



KONTUR
GEOTECHNICAL CONSULTANTS inc.
Unit 65, 1833 Coast Meridian Road, Port Coquitlam, B.C. V3C 6G5
t. 1 (778) 730 1747 | toll-free. +1 (833) 301 7575 | e. info@kontur.ca | www.kontur.ca

SEAL

REVISIONS		
NO	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	2020-03-27

TITLE: VICINITY MAP AND GENERAL SITE PLAN			PROJECT NO.: k-191243-00
CLIENT: DORGELO BY DESIGN INC.	DATE: 2020-03-26	SCALE: 1:250	DWG NO.: G101
PROJECT LOCATION: LOT D6, SUNSTONE DEVELOPMENT, PEMBERTON B.C.	DRAFT: JL	DESIGN: JL/LYT	CHECK: EGS

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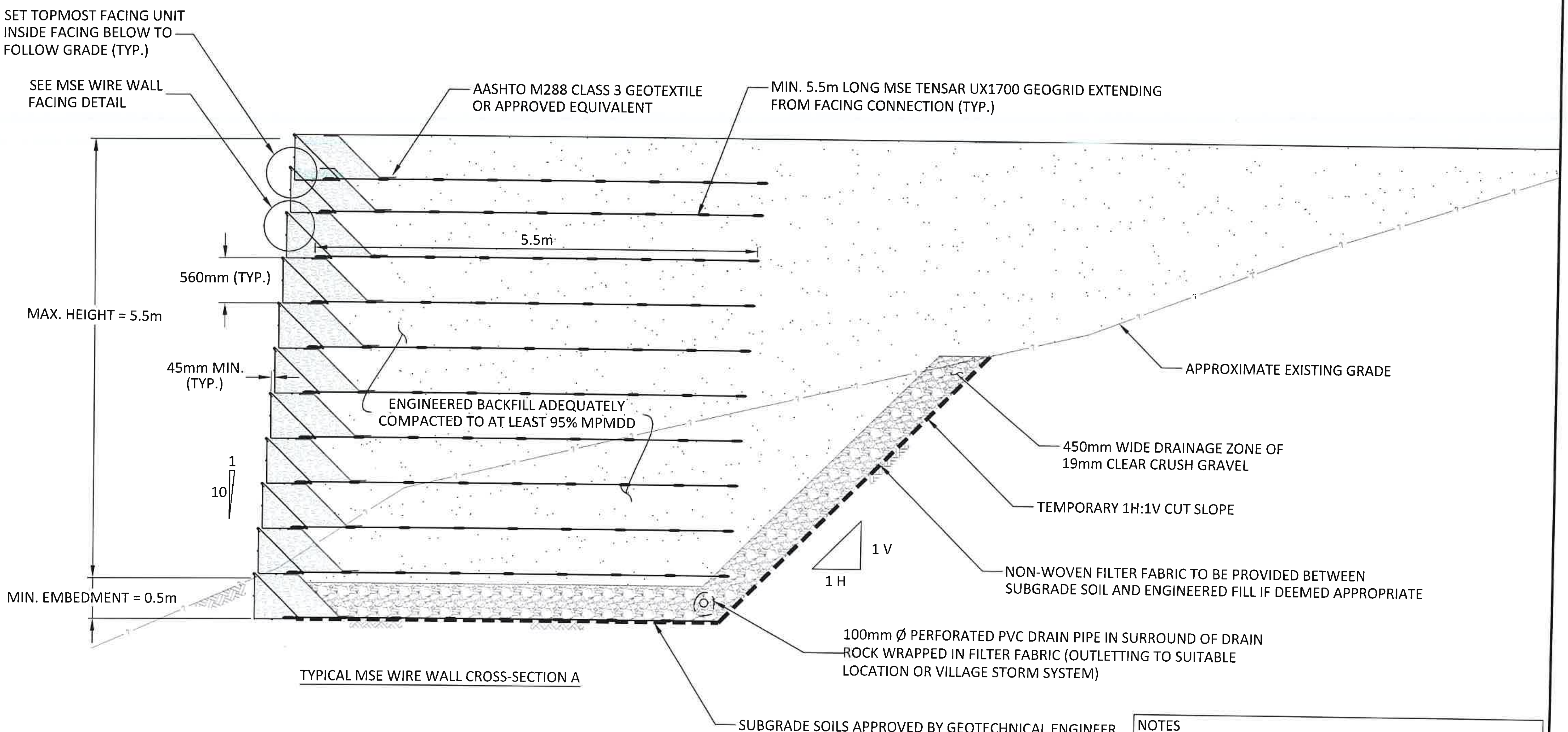


TYPICAL MSE WIRE WALL CROSS-SECTION A

NOTES

1. TEMPORARY CUT SLOPE SHOULD BE PROTECTED FROM RAINFALL AND RUNOFF WITH POLYETHYLENE SHEETING.

KONTUR GEOTECHNICAL CONSULTANTS inc.

Unit 65, 1833 Coast Meridian Road, Port Coquitlam, B.C. V3C 6G5
t. 1 (778) 730 1747 | toll-free. +1 (833) 301 7575 | e. info@kontur.ca | www.kontur.ca

March 31, 2020 9:38:28 AM

SEAL

REVISIONS

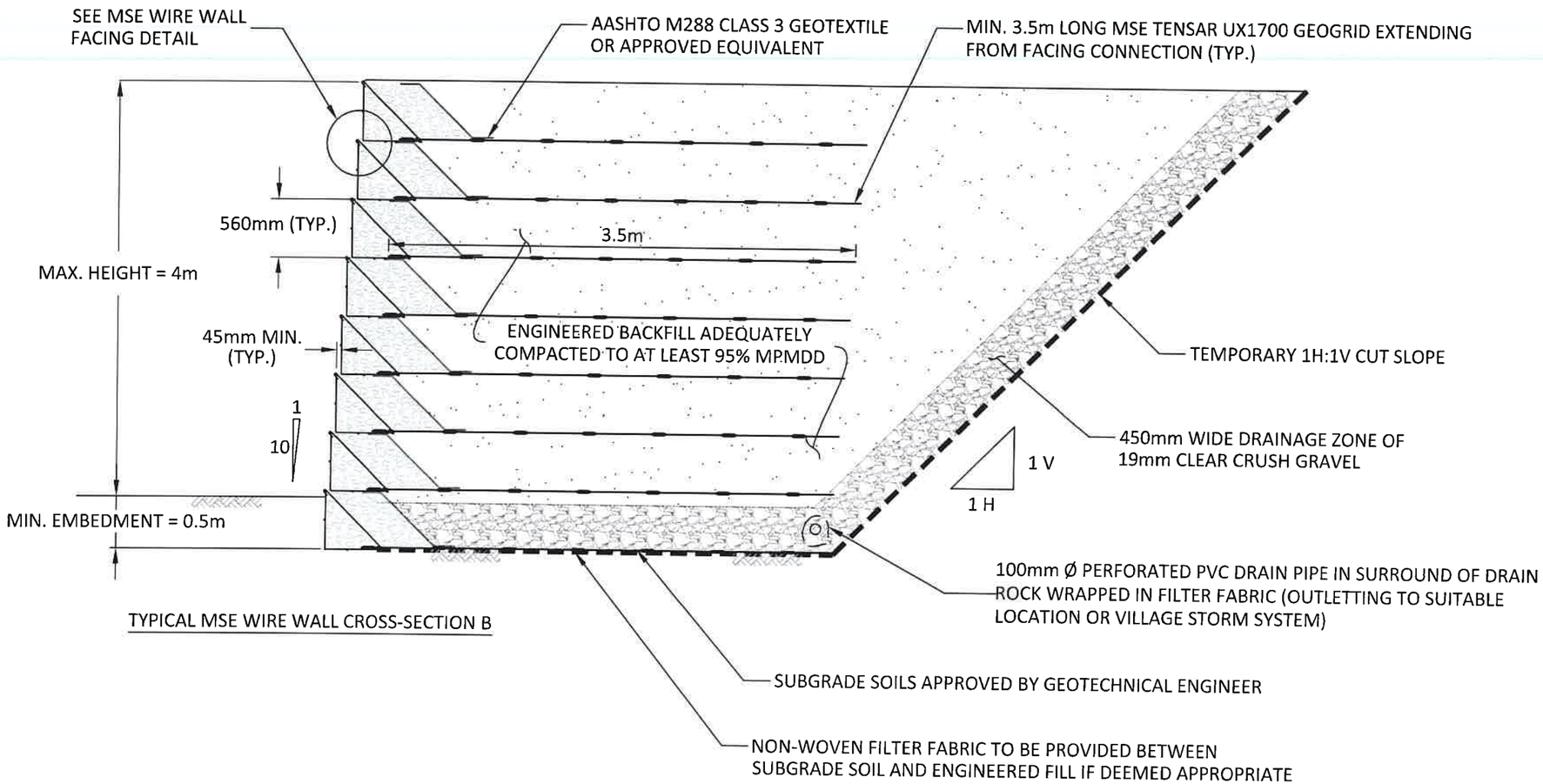
NO	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	2020-03-26

TITLE: PROPOSED MSE WIRE RETAINING WALL - MAXIMUM 5.5m HEIGHT (SECTION A)

CLIENT: DORGELO BY DESIGN INC.

PROJECT LOCATION: LOT D6, SUNSTONE DEVELOPMENT, PEMBERTON B.C.

PROJECT NO.: K-191243-00		
DATE: 2020-03-26	SCALE: N.T.S.	DWG NO.: G102
DRAFT: JL	DESIGN: JL/JYT	CHECK: EOS



TYPICAL MSE WIRE WALL CROSS-SECTION B

NOTES

1. TEMPORARY CUT SLOPE SHOULD BE PROTECTED FROM RAINFALL AND RUNOFF WITH POLYETHYLENE SHEETING.

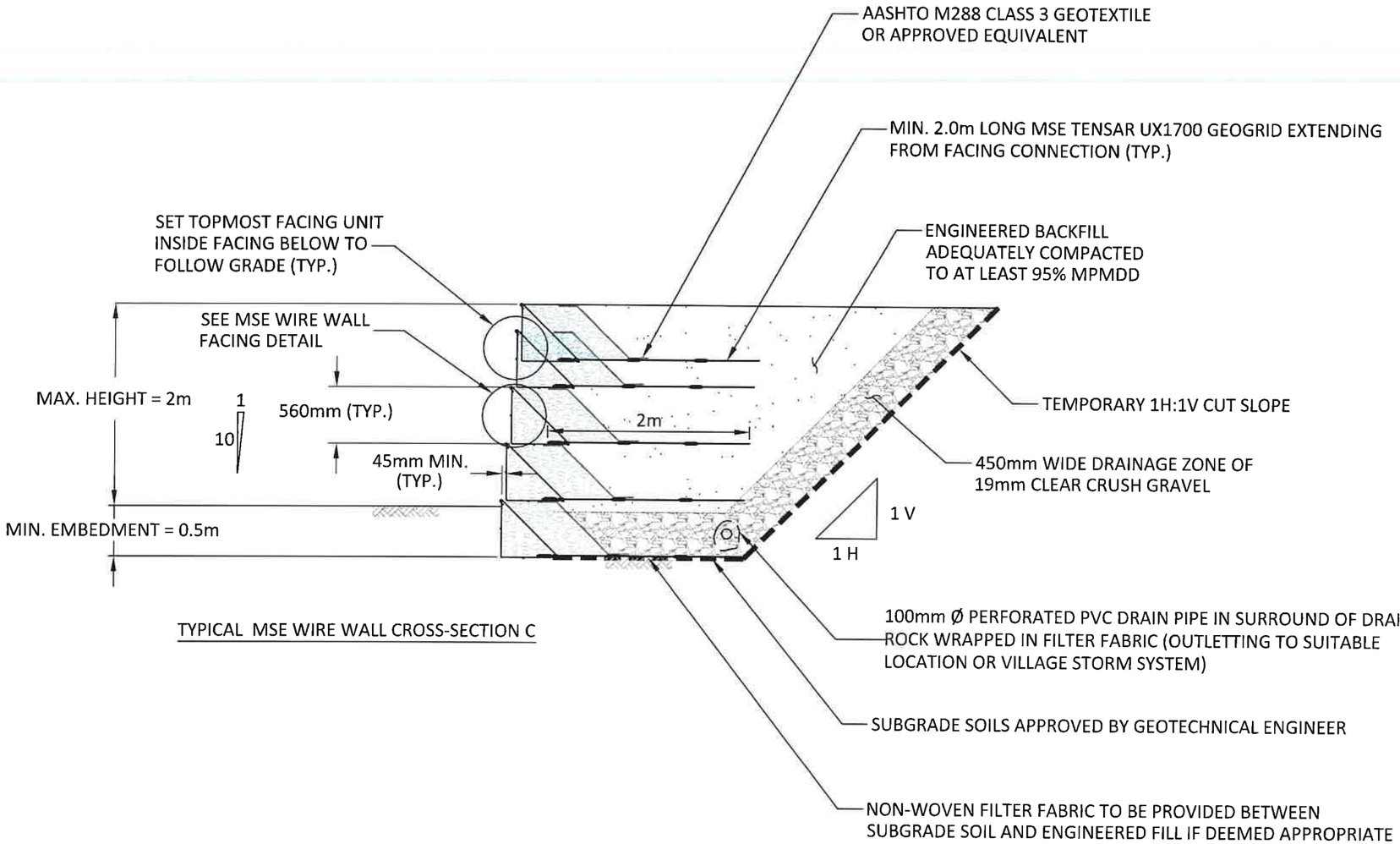
KONTUR
GEOTECHNICAL CONSULTANTS inc.
Unit 65, 1833 Coast Meridian Road, Port Coquitlam, B.C. V3C 6G5
t. 1 (778) 730 1747 | toll-free. +1 (833) 301 7575 | e. info@kontur.ca | www.kontur.ca

SEAL

REVISIONS		
NO	DESCRIPTION	DATE
0	ISSUED FOR REVIEW	2020-03-26

TITLE: PROPOSED MSE WIRE RETAINING WALL - MAXIMUM 4m HEIGHT (SECTION B)			PROJECT NO.: k-191243-00
CLIENT: DORGELO BY DESIGN INC.	DATE: 2020-03-26	SCALE: N.T.S.	DWG NO.: G103
PROJECT LOCATION: LOT D6, SUNSTONE DEVELOPMENT, PEMBERTON B.C.	DRAFT: JL	DESIGN: N. VAT	CHECK: EOR

March 31, 2020 9:38:38 AM



TYPICAL MSE WIRE WALL CROSS-SECTION C

NOTES

1. TEMPORARY CUT SLOPE SHOULD BE PROTECTED FROM RAINFALL AND RUNOFF WITH POLYETHYLENE SHEETING.

KONTUR GEOTECHNICAL CONSULTANTS inc.
Unit 65, 1833 Coast Meridian Road, Port Coquitlam, B.C. V3C 6G5
t. 1 (778) 730 1747 | toll-free. +1 (833) 301 7575 | e. info@kontur.ca | www.kontur.ca

SEAL

REVISIONS		
NO	DESCRIPTION	DATE
	ISSUED FOR REVIEW	2020-03-26

TITLE: PROPOSED MSE WIRE RETAINING WALL - MAXIMUM 2m HEIGHT (SECTION C)			PROJECT NO.: K-191243-00
CLIENT: DORGELO BY DESIGN INC.	DATE: 2020-03-26	SCALE: N.T.S.	DWG NO.: G104
PROJECT LOCATION: LOT D6, SUNSTONE DEVELOPMENT, PEMBERTON B.C.	DRAFT: JL	DESIGN: JL/VT	CHECK: EGS

March 31, 2020 9:38:44 AM

KONTUR
GEOTECHNICAL CONSULTANTS inc

MEMORANDUM

September 22, 2020
Project No.: **K-191243-00**

To: Brian Dorgelo
Dorgelo by Design

By Email: dorgelobydesign@gmail.com

Cc:

From: Evan Sykes, P.Eng.
Kontur Geotechnical Consultants Inc.

esykes@kontur.ca

Subject **Field Reviews**
Retaining Wall
Lot D6, Sunstone Development, Pemberton, BC

As requested, Kontur Geotechnical Consultants Inc. (Kontur) completed intermittent field review during construction of a Mechanically Stabilized Earth (MSE) Wall. A proprietary Atlantic Industries Ltd (AIL) wall system was used for construction of the wall. Subgrade preparations for the MSE wall generally consisted of excavation to below design subgrade elevation removing organics and loose soils to expose dense sand with trace to some silt and some gravel. The exposed sand layer was compacted with a heavy vibratory compactor to a very dense state. Design subgrade elevation was achieved with 75mm minus sand and gravel and 75mm clear gravel at the front 2m of the fill area, compacted with several passes of a heavy vibratory compactor to a very dense state. The fill created a slope with an inclination of about 2H: 1V (Horizontal: Vertical) in front of the wall.

The temporary excavation, where required to allow for space for the geogrid was excavated at an inclination of about 3H: 4V (Horizontal: Vertical).

The MSE wall was constructed with Miragrid 8XT Geogrid extending at least 5.5m behind the wall face with returns having geogrid lengths of no less than 3.5m. Wall heights at the front of the wall were about 5.5m with wall returns stepping up the slope as grade increased.

A drainage pipe consisting of 100mm perforated PVC pipe was installed near the front of the wall outletting into the ditch below. The pipe was surround by at least 150mm of 19mm clear crushed gravel wrapped in non-woven filter fabric. Backfill for the wall generally consisted of 75mm minus pit run sand and gravel placed in lifts abut 300mm thick compacted to a very dense state with several passes of a heavy vibratory compactor. A 50mm clear crushed gravel was placed in the front about 450mm of the wall to provide additional drainage.

The retaining wall was considered to have been constructed in general compliance with Kontur's drawings and recommendations.

A site plan of the rearing wall location prepared by the architect is attached.

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

Sincerely,

Kontur Geotechnical Consultants Inc.

Per:

Evan Sykes, P.Eng.
Principal Geotechnical Engineer

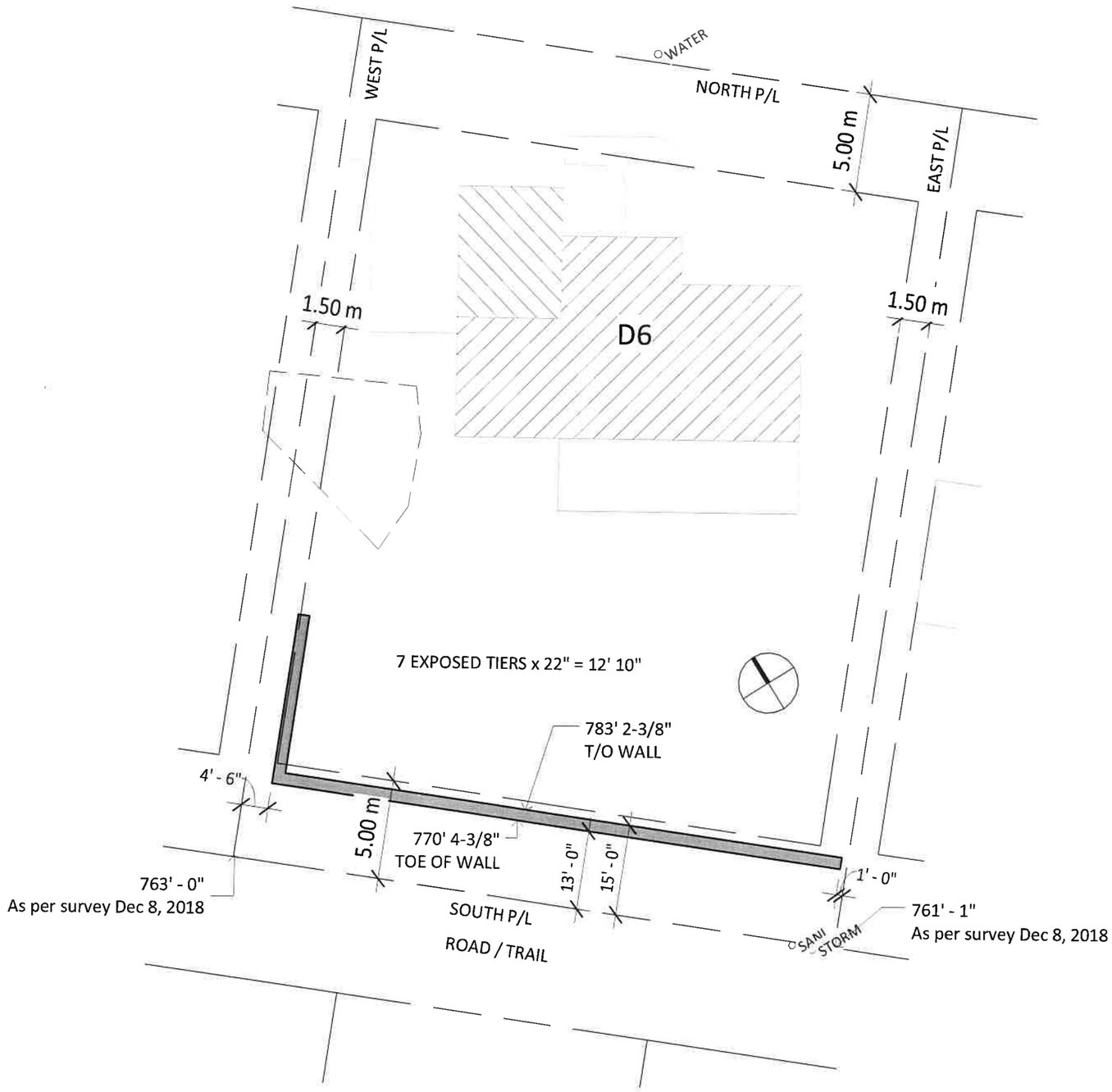
Reviewed by:

J.Y. (Yoshi) Tanaka, P.Eng.
Principal Geotechnical Engineer

Attachments: Photographs
Site Plan

Photograph 1 – Subgrade Preparation

Photograph 2 – Wall Construction



DESIGN STUDIO
maya@mwdesignstudio.ca | mwdesignstudio.ca
604-967-2940

D6 | Sunstone

Site Plan Retaining Wall

A1

1" = 20'-0"

Project number 1806

Issue for Review

Date 2020-09-09

2015 National Building Code Seismic Hazard Calculation

INFORMATION: Eastern Canada English (613) 995-5548 français (613) 995-0600 Facsimile (613) 992-8836
Western Canada English (250) 363-6500 Facsimile (250) 363-6565

Site: 50.319N 122.751W **User File Reference:** Lot D6 Sunstone Pemberton 2019-12-18 16:22 UT

Probability of exceedance per annum	0.000404	0.001	0.0021	0.01
Probability of exceedance in 50 years	2 %	5 %	10 %	40 %
Sa (0.05)	0.195	0.123	0.083	0.031
Sa (0.1)	0.289	0.184	0.124	0.046
Sa (0.2)	0.355	0.233	0.161	0.064
Sa (0.3)	0.336	0.227	0.160	0.067
Sa (0.5)	0.291	0.197	0.138	0.058
Sa (1.0)	0.196	0.130	0.089	0.036
Sa (2.0)	0.130	0.083	0.055	0.022
Sa (5.0)	0.051	0.030	0.018	0.006
Sa (10.0)	0.017	0.010	0.007	0.003
PGA (g)	0.165	0.107	0.073	0.027
PGV (m/s)	0.252	0.162	0.107	0.040

Notes: Spectral (Sa(T), where T is the period in seconds) and peak ground acceleration (PGA) values are given in units of g (9.81 m/s^2). Peak ground velocity is given in m/s. Values are for "firm ground" (NBCC2015 Site Class C, average shear wave velocity 450 m/s). NBCC2015 and CSAS6-14 values are highlighted in yellow. Three additional periods are provided - their use is discussed in the NBCC2015 Commentary. Only 2 significant figures are to be used. **These values have been interpolated from a 10-km-spaced grid of points. Depending on the gradient of the nearby points, values at this location calculated directly from the hazard program may vary. More than 95 percent of interpolated values are within 2 percent of the directly calculated values.**

References

National Building Code of Canada 2015 NRCC no. 56190; Appendix C: Table C-3, Seismic Design Data for Selected Locations in Canada

Structural Commentaries (User's Guide - NBC 2015: Part 4 of Division B)
Commentary J: Design for Seismic Effects

Geological Survey of Canada Open File 7893 Fifth Generation Seismic Hazard Model for Canada: Grid values of mean hazard to be used with the 2015 National Building Code of Canada

See the websites www.EarthquakesCanada.ca and www.nationalcodes.ca for more information

Natural Resources Canada Ressources naturelles Canada

Canada

SCHEDULE B

Forming Part of Subsection 2.2.7., Division C of the British Columbia Building Code

Building Permit Number
(for authority having jurisdiction's use)

ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW

Notes: (i) This letter must be submitted prior to the commencement of construction activities of the components identified below. A separate letter must be submitted by each *registered professional of record*.
(ii) This letter is endorsed by: Architectural Institute of BC, Association of Professional Engineers and Geoscientists of the Province of BC, Building Officials' Association of BC, and Union of BC Municipalities.
(iii) In this letter the words in italics have the same meaning as in the British Columbia Building Code.

To: The *authority having jurisdiction*

Village of Pemberton
Name of Jurisdiction (Print)

Re: Single Family Residential
Name of Project (Print)

Lot D6, Sunstone Development, Pemberton, BC
Address of Project (Print)

The undersigned hereby gives assurance that the design of the

(Initial those of the items listed below that apply to this *registered professional of record*. All the disciplines will not necessarily be employed on every project.)

	ARCHITECTURAL
	STRUCTURAL
	MECHANICAL
	PLUMBING
	FIRE SUPPRESSION SYSTEMS
	ELECTRICAL
✓	**GEOTECHNICAL — temporary**
✓	**GEOTECHNICAL — permanent**

(Professional's Seal and Signature)

December 18, 2019
Date

components of the plans and supporting documents prepared by this *registered professional of record* in support of the application for the *building* permit as outlined below substantially comply with the British Columbia Building Code and other applicable enactments respecting safety except for construction safety aspects.

The undersigned hereby undertakes to be responsible for *field reviews* of the above referenced components during construction, as indicated on the "SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS" below.

CRP's Initials

Schedule B - *Continued*

Building Permit Number
(for authority having jurisdiction only)

Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
Discipline

The undersigned also undertakes to notify the *authority having jurisdiction* in writing as soon as possible if the undersigned's contract for *field review* is terminated at any time during construction.

I certify that I am a *registered professional* as defined in the British Columbia Building Code.

Evan Sykes, P.Eng.
Registered Professional of Record's Name (Print)

Unit 65, 1833 Coast Meridian Road
Address (Print)

Port Coquitlam, BC, V3C 6G5
Address (Print) (continued)

778-773-0220
Phone Number

(Professional's Seal and Signature)

December 18, 2019
Date

(If the *Registered Professional of Record* is a member of a firm, complete the following.)

I am a member of the firm Kontur Geotechnical Consultants Inc
and I sign this letter on behalf of the firm. (Print name of firm)

Note: The above letter must be signed by a *registered professional of record,* who is a *registered professional*. The British Columbia Building Code defines a *registered professional* to mean

(a) a person who is registered or licensed to practise as an architect under the Architects Act, or
(b) a person who is registered or licensed to practise as a professional engineer under the Engineers and Geoscientists Act.

CRP's Initials

Schedule B - *Continued*

Building Permit Number
(for authority having jurisdiction's use)

Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
Discipline

SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS

(Initial applicable discipline below and cross out and initial only those items not applicable to the project.)

ARCHITECTURAL

1.1 Fire resisting assemblies
1.2 *Fire separations* and their continuity
1.3 *Closures*, including tightness and operation
1.4 Egress systems, including *access to exit* within *suites* and *floor areas*
1.5 Performance and physical safety features (guardrails, handrails, etc.)
1.6 Structural capacity of architectural components, including anchorage and seismic restraint
1.7 Sound control
1.8 Landscaping, screening and site grading
1.9 Provisions for firefighting access
1.10 *Access* requirements for *persons with disabilities*
1.11 Elevating devices
1.12 Functional testing of architecturally related fire emergency systems and devices
1.13 Development Permit and conditions therein
1.14 Interior signage, including acceptable materials, dimensions and locations
1.15 Review of all applicable shop drawings
1.16 Interior and exterior finishes
1.17 Dampproofing and/or waterproofing of walls and slabs below *grade*
1.18 Roofing and flashings
1.19 Wall cladding systems
1.20 Condensation control and cavity ventilation
1.21 Exterior glazing
1.22 Integration of building envelope components
1.23 Environmental separation requirements (Part 5)
1.24 Building envelope, Part 10 – ASHRAE, NECB or Energy Step Code requirements
1.25 Building envelope, testing, confirmation or both as per Part 10 requirements

(Professional's Seal and Signature)

December 18, 2019
Date

STRUCTURAL

2.1 Structural capacity of structural components of the *building*, including anchorage and seismic restraint
2.2 Structural aspects of *deep foundations*
2.3 Review of all applicable shop drawings
2.4 Structural aspects of unbonded post-tensioned concrete design and construction

MECHANICAL

3.1 HVAC systems and devices, including high *building* requirements where applicable
3.2 *Fire dampers* at required *fire separations*
3.3 Continuity of *fire separations* at HVAC penetrations
3.4 Functional testing of mechanically related fire emergency systems and devices
3.5 Maintenance manuals for mechanical systems
3.6 Structural capacity of mechanical components, including anchorage and seismic restraint
3.7 Review of all applicable shop drawings
3.8 Mechanical systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
3.9 Mechanical systems, testing, confirmation or both as per Part 10 requirements

CRP's Initials

BRITISH COLUMBIA BUILDING CODE 2018

Schedule B - *Continued*

Building Permit Number
(for authority having jurisdiction's use)

Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
Discipline

PLUMBING

4.1 Roof *drainage systems*
4.2 Site and foundation *drainage systems*
4.3 *Plumbing systems* and devices
4.4 Continuity of *fire separations* at plumbing penetrations
4.5 Functional testing of plumbing related fire emergency systems and devices
4.6 Maintenance manuals for *plumbing systems*
4.7 Structural capacity of plumbing components, including anchorage and seismic restraint
4.8 Review of all applicable shop drawings
4.9 Plumbing systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
4.10 Plumbing systems, testing, confirmation or both as per Part 10 requirements

FIRE SUPPRESSION SYSTEMS

5.1 Suppression system classification for type of *occupancy*
5.2 Design coverage, including concealed or special areas
5.3 Compatibility and location of electrical supervision, ancillary alarm and control devices
5.4 Evaluation of the capacity of city (municipal) water supply versus system demands and domestic demand, including pumping devices where necessary
5.5 Qualification of welder, quality of welds and material
5.6 Review of all applicable shop drawings
5.7 Acceptance testing for "Contractor's Material and Test Certificate" as per NFPA Standards
5.8 Maintenance program and manual for suppression systems
5.9 Structural capacity of sprinkler components, including anchorage and seismic restraint
5.10 For partial systems — confirm sprinklers are installed in all areas where required
5.11 Fire Department connections and hydrant locations
5.12 Fire hose standpipes
5.13 Freeze protection measures for fire suppression systems
5.14 Functional testing of fire suppression systems and devices

ELECTRICAL

6.1 Electrical systems and devices, including high building requirements where applicable
6.2 Continuity of *fire separations* at electrical penetrations
6.3 Functional testing of electrical related fire emergency systems and devices
6.4 Electrical systems and devices maintenance manuals
6.5 Structural capacity of electrical components, including anchorage and seismic restraint
6.6 Clearances from *buildings* of all electrical utility equipment
6.7 Fire protection of wiring for emergency systems
6.8 Review of all applicable shop drawings
6.9 Electrical systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
6.10 Electrical systems, testing, confirmation or both as per Part 10 requirements

GEOTECHNICAL — Temporary

7.1 *Excavation*
7.2 Shoring
7.3 Underpinning
7.4 Temporary construction dewatering

GEOTECHNICAL — Permanent

8.1 Bearing capacity of the *soil*
8.2 Geotechnical aspects of deep *foundations*
8.3 Compaction of engineered fill
8.4 Structural considerations of *soil*, including slope stability and seismic loading
8.5 Backfill
8.6 Permanent dewatering
8.7 Permanent underpinning

(Professional's Seal and Signature)

December 18, 2019
Date

CRP's Initials

SCHEDULE B

Forming Part of Subsection 2.2.7., Division C of the British Columbia Building Code

Building Permit Number
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To: The *authority having jurisdiction*

Village of Pemberton
Name of Jurisdiction (Print)

Re: Retaining Wall
Name of Project (Print)

Lot D6, Sunstone Development, Pemberton, BC
Address of Project (Print)

The undersigned hereby gives assurance that the design of the

(Initial those of the items listed below that apply to this *registered professional of record*. All the disciplines will not necessarily be employed on every project.)

(Professional's Seal and Signature)

September 18, 2020
Date

	ARCHITECTURAL
	STRUCTURAL
	MECHANICAL
	PLUMBING
	FIRE SUPPRESSION SYSTEMS
	ELECTRICAL
✓	**GEOTECHNICAL — temporary**
✓	**GEOTECHNICAL — permanent**

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CRP's Initials

Schedule B - *Continued*

Building Permit Number
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Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
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778-773-0220
Phone Number

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September 18, 2020
Date

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CRP's Initials

Schedule B - *Continued*

Building Permit Number
(for authority having jurisdiction's use)

Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
Discipline

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1.23 Environmental separation requirements (Part 5)
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1.25 Building envelope, testing, confirmation or both as per Part 10 requirements

(Professional's Seal and Signature)

September 18, 2020
Date

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CRP's Initials

Appendix B

Schedule B - *Continued*

Building Permit Number
(for authority having jurisdiction's use)

Lot D6, Sunstone Development, Pemberton, BC
Project Address

Geotechnical
Discipline

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8.7 Permanent underpinning

(Professional's Seal and Signature)

September 18, 2020
Date

CRP's Initials

Appendix B

LEGEND FOR LANDSCAPING:

Porous material (basalt/river rock etc) on landscape fabric for drainage around perimeter of building.

Maintain positive drainage with min slope of finished grade around entire building.

Legend to be read in conjunction with letter "Landscaping Concept Design – 7671 Cerulean Drive"

- Full height retaining wall -detailed by Geotechnical Engineer
- Receding retaining wall
- Grass / Lawn -area to be programmed
- Garden beds -evergreens mixed with seasonal plants, focus on native/non-invasive and drought resistant creepers
- Garden beds - vines
- Slope stabilizing ground cover and rock landscaping; species to be native/non-invasive and drought resistant.
  To include varieties of;
  -Native coniferous trees
  -Native deciduous trees

mW DESIGN STUDIO

maya@mwdesignstudio.ca | mwdesignstudio.ca

604-967-2940

D6 | Sunstone

Landscape Plan - retaining wall

BV-3

1" = 10'-0"

Project number 1806

Issue for Review

Date 2020-10-15

Landscaping Concept Design – 7671 Cerulean Drive

The face of the wall is screened by established coniferous trees (fir/cedar) that stand roughly 60-80 ft tall. They are located on the downhill side of the 6m wide trail South West of the property, in the rear setback of the properties below.

The landscape design intent is to blend in with this existing screening by planting a mix of native and deciduous trees in the landscape buffer below the wall, together with native and local ground cover. Creeping plants and ground cover will be planted in garden beds above the wall to diffuse the linearity of the top of the wall. Large growing vines, creepers and ground covers will be planted at the toe of the wall.

Landscaping will begin in summer of 2021 and is estimated to be completed in fall 2022. Plants may take additional time to reach full maturity.

Top garden beds

Evergreens mixed with seasonal plants, focus on creepers.

Plants (or similar to):

- Wooly Thyme
- Kinnikinic
- Honey suckle
- Bunchberry

Bottom landscape buffer

Vines (or similar to):

- Evergreen Clematis vine
- Virginia Creeper

Slope stabilising plants:

- Native/local/drought resistant ground cover such as varieties of bunchberry / thyme / spiraea
- Deciduous trees such as dogwood / maple / birch / alder
- Coniferous trees such as spruce / pine / cedar / fir / hemlock

Landscaping palette