

Development Permit (Including Variance) Information Package

File Number: 3060-20/20190004

Electoral Area: F

Date of Referral: February 6, 2019

Date of Application: January 24, 2019

Property Owner's Name(s): Zirnhelt Timber Frames Ltd.

Applicant's Name: Zirnhelt Timber Frames Ltd.

SECTION 1: Property Summary

Legal Description(s): Lot 1, District Lot 12, Cariboo District, Plan BCP49130

Area of Application: 1.64 ha (4.052 ac)

Location: 3031 Cariboo Hwy 97

Official Community Plan:

150 Mile House Area Official Community Plan Bylaw No. 4660, 2010

Designation:

Industrial

Development Permit Area:

Highway 97 Development Permit Area

Current Zoning:

General Industrial Special Exception M 2-2 in the Williams Lake Fringe and 150 Mile House Area Zoning Bylaw No. 3502, 1999.

Refer to: Adjacent Land Owners, Area "F" Advisory Planning Commission, Ministry of Transportation and Infrastructure, Ministry of Environment, Interior Health, FLNRORD – Range, FLNRORD – Archaeology Branch.

Proposed Development: Expansion of existing shop, construction of additional five buildings, clearing and grading portions of the property, locating 4.88 m (16 ft.) height timber storage racking along front property line. Racking will be screened with minimum 2 m (6.6 ft.) height board fencing.

Amendment of existing Development Permit No. 20130070 to account for a change in the actual location of the Wall Shop addition (4,160 sq. ft.; 386.5 sq. m.) constructed in 2017, and to allow unpainted metal roof.

The applicants have requested a relaxation in Section 5.7.2(b)(i) of the Williams Lake Fringe and 150 Mile House Area Zoning Bylaw No. 3502, 1999 as follows:

- i) That the required front yard setback be reduced from 7.6 m (24.9 ft.) to 0 m (0 ft.) to allow the construction of a shop addition and locating of timber storage racking.

Proposal/Reasons in support: Property owner would like to expand operations and utilize level area along front property line.

Existing Buildings:	Wall Shop	386.5 m ²
	Timber Shop	258.3 m ²
	Stain Shop	89.2 m ²
	Timber Shed	123.8 m ²
	Sawmill Shed	181.1 m ²
	Office	166.5 m ²

Proposed Buildings:	A- Wall Shop Expansion	631.7 m ²
	B - Timber & Framing Shop	631.7 m ²
	C - Planer Shed	66.9 m ²
	D - Shaving Shed	74.3 m ²
	E - Timber Shop Replacement	409.7 m ²

SECTION 2: Planning Report

Background:

The applicant has applied to construct several structures and additions, undertake land clearing, including levelling and filling of portions of the property, associated with the timber frame and construction business on site.

The subject property is within the Highway 97 Development Permit (DP) Area of the 150 Mile House Area Official Community Plan (OCP) Bylaw No. 4660, 2010. The Highway 97 DP Area regulates the form and character of commercial, industrial, and multi-family developments.

The applicant is also proposing an amendment to their current Development Permit No. 20130070, to change the location of an addition constructed in 2017, and to allow a reflective metal roof rather than the non-reflective roof specified in DP No. 20130070.

Further, the applicant is proposing to vary the front lot line setback, requesting a relaxation in Section 5.7.2(b)(i) of the Williams Lake Fringe and 150 Mile House Area Zoning Bylaw No. 3502, 1999, from 7.6 m (24.9 ft.) to 0 m (0 ft.). If approved, the variance would be embedded within the proposed Development Permit, as authorized under Section 490 of the *Local Government Act*.

Location and Surroundings:

The subject property is located on Hwy 97 in the 150 Mile community core, between Pigeon Road and Likely Road, directly across Hwy 97 from Marshall's General Store. The subject property sits above Hwy 97, with a steep bank leading to a relatively level site, approximately 10 m. (33 ft.) in elevation above Hwy 97. Due to the elevation, only the front portion of the site is visible from the highway when immediately adjacent. The entire site can be seen from a distance, further south on Hwy 97, and seen below from the residential areas in the surrounding hills.

To the east, the property is bordered by a small waterbody used as a reservoir, likely by a local ranching operation. To the north, the property is bordered by agricultural land, currently owned by the provincial Crown. Chemo RV, a commercial RV sales and service business is located to the south.

Application History:

The property was rezoned in 2013 (File 4600-20-20130015) to permit the current timber framing business, allowing limited sawmilling on site. A Form & Character Development Permit (File 4260-20-20130070) was approved in 2014. The Wall Shop was constructed in a different location and larger size than originally approved in Development Permit No. 20130070. The current Development Permit (Including Variance) application is also proposed to amend Development Permit No. 20130070 to legalize the present location of the Wall Shop (shown on Appendix B). Also proposed for amendment is to permit the reflective metal roofing used on the existing structures constructed in contravention of DP 20130070.

The intent of the non-reflective roofing condition was to reduce glare to these surrounding areas. However, the roof is not visible when directly adjacent to the subject property.

CRD Regulations and Policies:

Development Permit Guidelines are outlined in the 150 Mile House Area OCP. The Development Permit Area and resulting guidelines are intended to ensure that new development contributes to a positive first impression of the community by maintaining a high development standard.

3502- Williams Lake Fringe and 150 Mile House Area Zoning Bylaw, 1999

5.7 GENERAL INDUSTRIAL (M 2) ZONE

5.7.2 ZONE PROVISIONS

(b) REQUIRED YARDS (minimum):

- i) Front Yard - Setback = 7.6 metres (24.93 feet)

Rationale for Recommendations:

The proposal is generally consistent with the Highway 97 Development Permit Guidelines. The existing new structures are constructed in a post and beam timber style, utilizing natural stained wood siding, trim and numerous windows across the front of the structure. The existing, older buildings have a blue metal corrugated metal siding which is less desirable and will be replaced over time as the business grows.

The proposed new structures have a flat roof, rather than the peaked roofs approved and constructed in DP 20130070. Although flat roofs are less desirable and discouraged in the Development Permit Guidelines, the long front wall (30.5 m.; 100 ft) of the proposed building fronting Hwy 97 will be broken up with glazing, siding, and trim.

The Development Permit Guidelines outline the importance of landscaping, screening, and preservation of mature trees within the Development Permit Area. This is a challenging guideline to balance with the

present use of the lot for industrial purposes. The bulk of the existing mature trees were approved for removal in DP No. 20130070, although that clearing of the site has not yet occurred. A few trees have been identified for preservation immediately surrounding the gravesites on the property. There are a number of immature trees on the highway right of way. The Board may wish to consider requiring an amended site plan which preserves additional trees or requires increased landscaping along the property frontage.

The applicant intends to use 4.9 m (16 ft.) tall steel racking to store their timber products, located along the front property line and throughout the site. The racking is considered a storage use, with the front location subject to approval of the proposed front setback variance. Under the provisions of the General Industrial (M 2) zone, storage areas are required to be screened by tight board fence of 2 m. (6.6 ft.) height. Although this will only partially obscure the 4.9 m. racking, the fencing will help provide a clean, finished look to the property edge, and will break up the visual dominance of the total racking height. Further, the nature of the material stored on the racks, being organized timber products, will contribute on its own to a positive reflection of the Cariboo character.

Although the proposed front setback reduction to 0 m. is unusual, staff support the proposal. Considering the site-specific character of the large highway right of way and the steep bank, the top of bank forms a logical front building plane.

Further, the applicant has completed a geotechnical study which supports the proposed construction adjacent to the slope from the highway, subject to a number of design requirements. Accordingly, approval of the Development Permit (Including Variance) is subject to the geotechnical study being registered as a restrictive covenant on property title, including save harmless provisions to protect the CRD from risk.

Recommendation:

1. That the application for a Development Permit (Including Variance) pertaining to Lot 1, District Lot 12, Cariboo District, Plan BCP49130 be approved based on Appendices B and D. Further, that issuance be subject to the following conditions:
 - a. The applicant offering to enter into and entering into a covenant to ensure that the CRD is not liable for any future consequences with respect to the construction.

Further, that the cost of registration of the covenant be borne by the applicant.

2. That Development Permit No. 20130070 be amended to permit the following:
 - a. Shop addition shown in Schedules A and B of Development Permit No. 20130070 be permitted in its as-built size and location, as shown in Appendix B of Development Permit No. 20190004.
 - b. Condition 3 of Development Permit No. 20130070 be amended to permit reflective metal roofing.

SECTION 3: Referral Comments

Health Authority: - February 13, 2019

See comments attached.

Ministry of Transportation and Infrastructure: - February 25, 2019

Ministry of Transportation and Infrastructure has no objection to reducing the front yard setback from 7.6 m to 0 m to allow for the construction of a shop addition.

Regularly, the Ministry has a minimum setback of 4.5 m. However, due to the steep slope along the property, placement of utility poles on the west side of the highway and no foreseeable future highway improvements, the Ministry has no objections.

Advisory Planning Commission: March 5, 2019

Supported. See attached.

Ministry of Environment: - February 14, 2019

Given that there are no proposed developments within the 15 m riparian zone, the Ministry has no comments on this proposal.

SECTION 4: Board Action

Date of Meeting:

ATTACHMENTS

Appendix A: General Map

Appendix B: Specific Map

Appendix C: Orthographic Map

Other: Applicant's supporting documentation

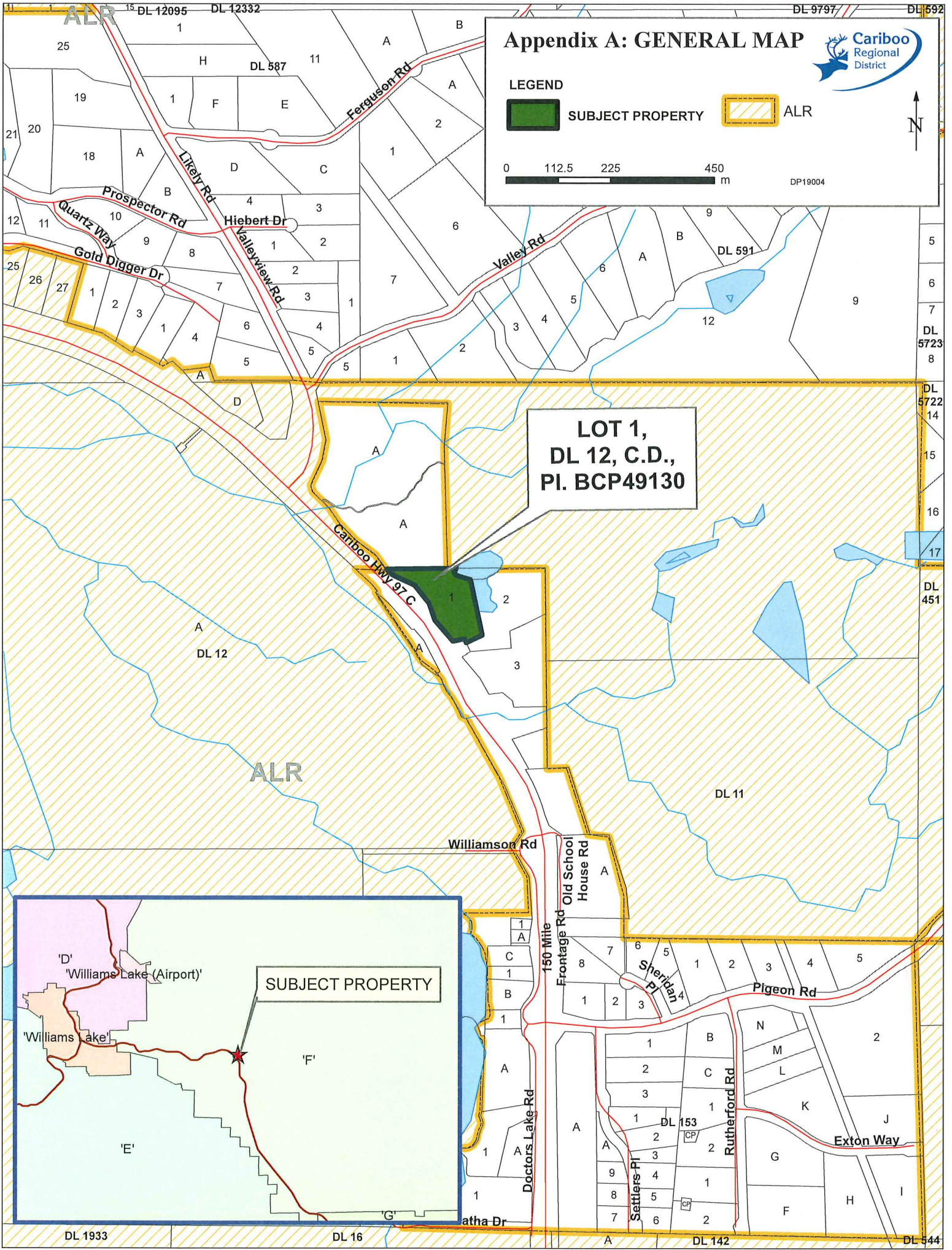
Applicant's Proposed Expansion diagrams

Interior Health Comments

APC Response Form

Email regarding Archaeological Data

Geotechnical Report prepared by Telford Geotechnical



Appendix A: GENERAL MAP



LEGEND



SUBJECT PROPERTY



ALR

0 112.5 225 450 m

DP19004

LOT 1,
DL 12, C.D.,
PI. BCP49130

SUBJECT PROPERTY

Appendix B: SPECIFIC MAP



LEGEND

- Subject Property
- Proposed Buildings
- Existing Buildings



ALL MEASUREMENTS
METRIC

DP19004



Lot A
PL BCP46617

Present Natural Boundary (PNB)
of Reservoir

RESERVOIR

15 m
RIPARIAN
ZONE

Lot 2
PL BCP49130

Lot 1,
DL 12,C.D.,
PI. BCP49130
(+/- 1.64 ha)

To reduce front yard
setback from 7.60 m
to 0.0 m to allow
the construction of a
proposed wall shop.

PROPOSED BUILDINGS:	FLOOR AREA
A- Wall Shop	631.72 m ²
B - Timber & Framing Shop	631.72 m ²
C - Planer Shed	66.89 m ²
D - Shaving Shed	74.32 m ²
E - Timber Shop Replacement	409.69m ²
EXISTING BUILDINGS:	
Wall Shop	386.46 m ²
Timber Shop	258.26 m ²
Stain Shop	89.18 m ²
Timber Shed	123.84 m ²
Sawmill Shed	181.15 m ²
Office	166.48 m ²

Lot A
PL EPP31966

Cariboo Hwy 97 C

Lot 3
PL BCP49130

Appendix C: ORTHOGRAPHIC MAP

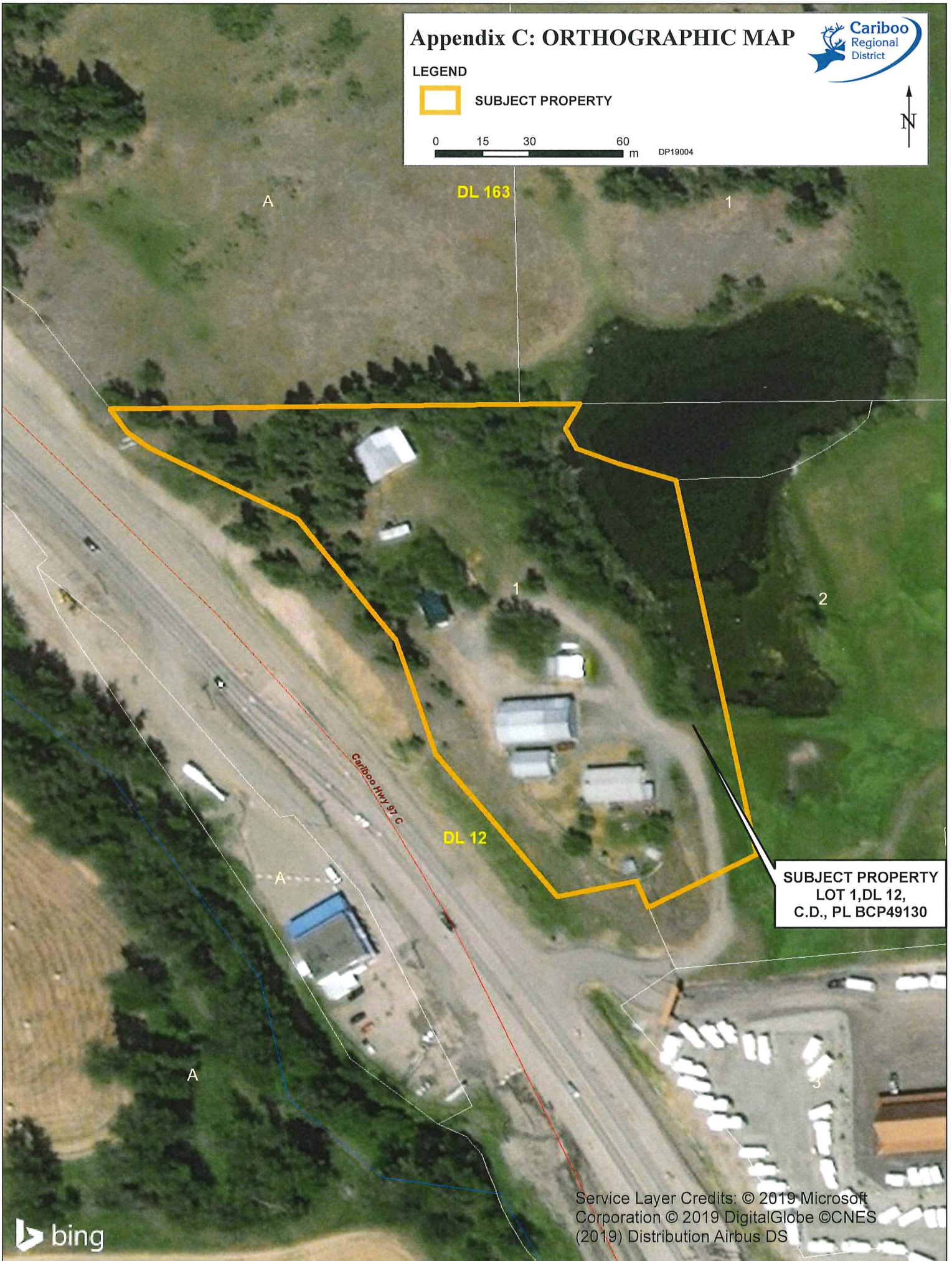


LEGEND



SUBJECT PROPERTY

0 15 30 60 m DP19004



SUBJECT PROPERTY
LOT 1, DL 12,
C.D., PL BCP49130

Service Layer Credits: © 2019 Microsoft Corporation © 2019 DigitalGlobe © CNES (2019) Distribution Airbus DS

Describe the existing use of the subject property and all buildings: Timber frame + prefabricated housing construction

Describe the proposed use of the subject property and all buildings: No change

Describe the reasons in support for the application: expansion of shop/production facility

Provide a general description of vegetation cover (i.e. treed, grassland, forage crop etc.): Some trees on the northern end.

Provide general geographical information (i.e. existing lakes, streams, physical features etc.): pond - see map.

Services Currently Existing or Readily Available to the Property (check applicable area)

* Readily Available means existing services can be easily extended to the subject property.

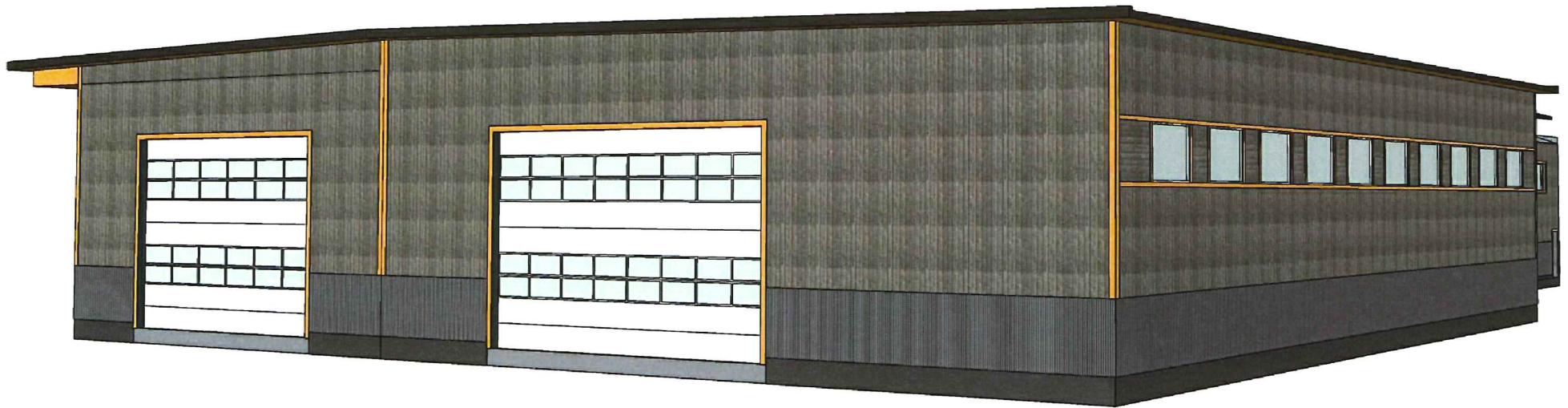
Services	Currently Existing?		Readily Available?*	
	Yes	No	Yes	No
Hydro	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Water System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Sewer System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewage Disposal System	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Well	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify) <u>gas</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PROPOSED EXPANSION

Cashola Regional District
1. 7th

JAN 30 2019

Referred To



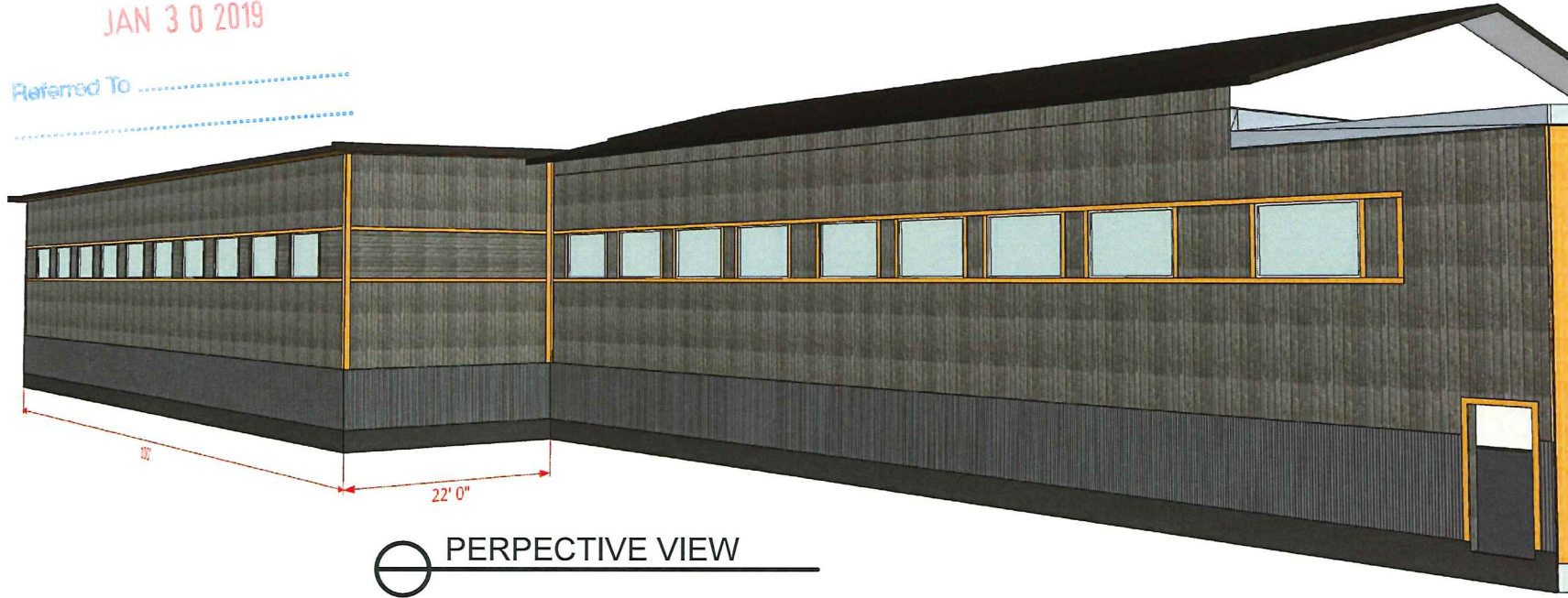
PERPECTIVE VIEW

Cariboo Regional District

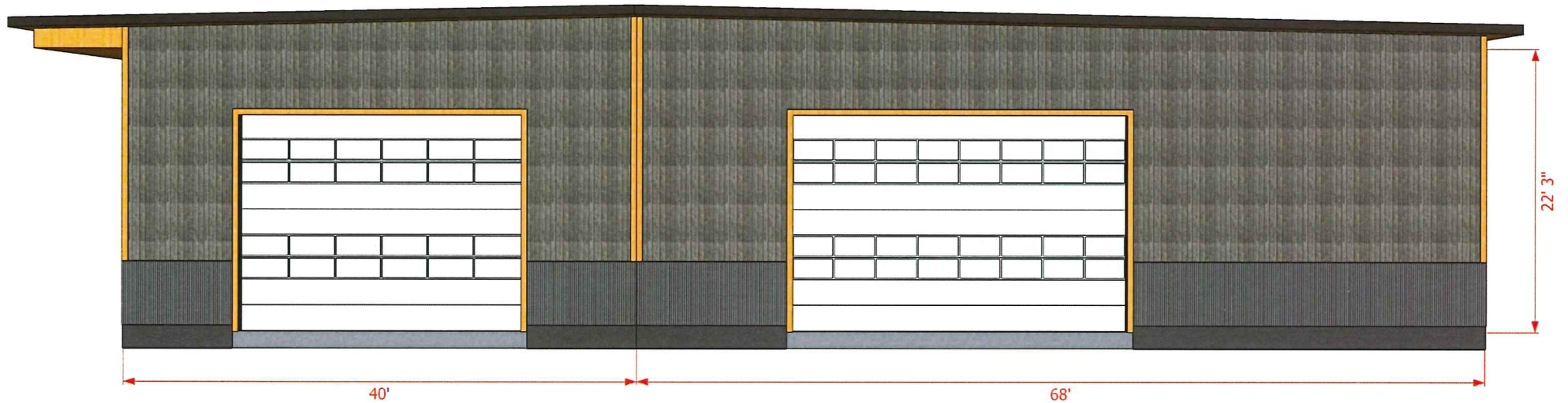
File No.

JAN 30 2019

Referred To



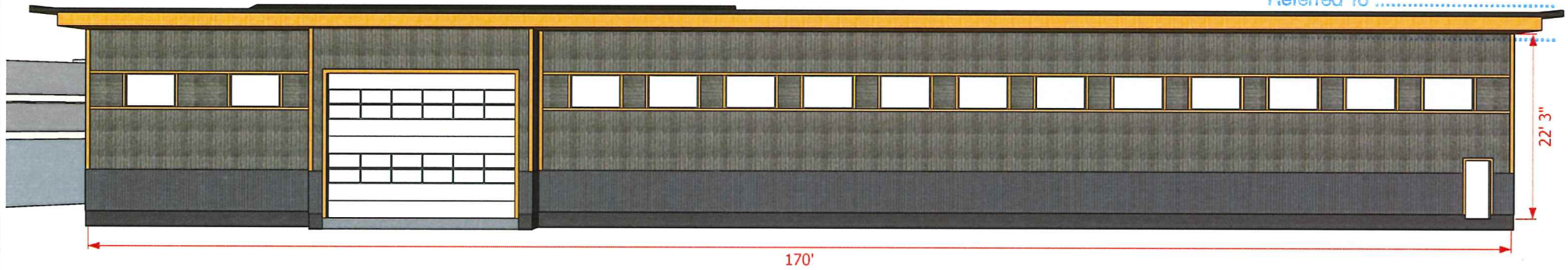
PERPECTIVE VIEW



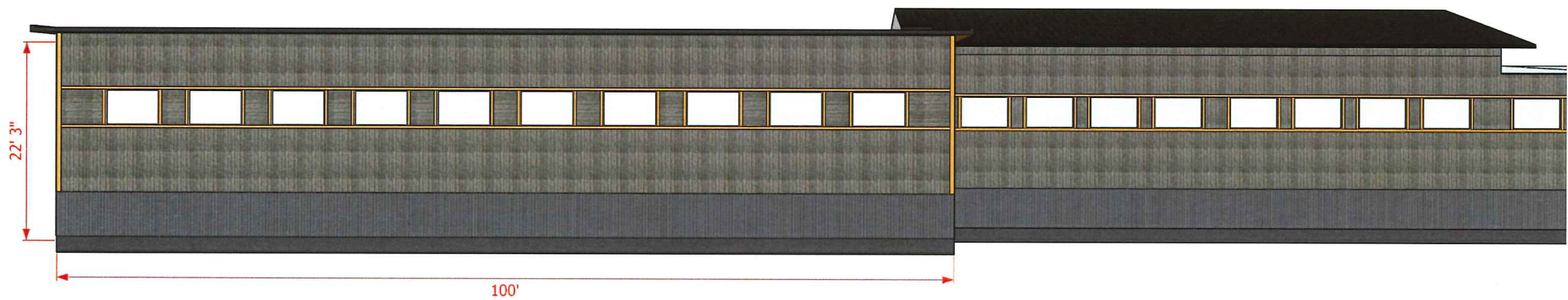
NORTH-WEST ELEVATION

JAN 30 2019

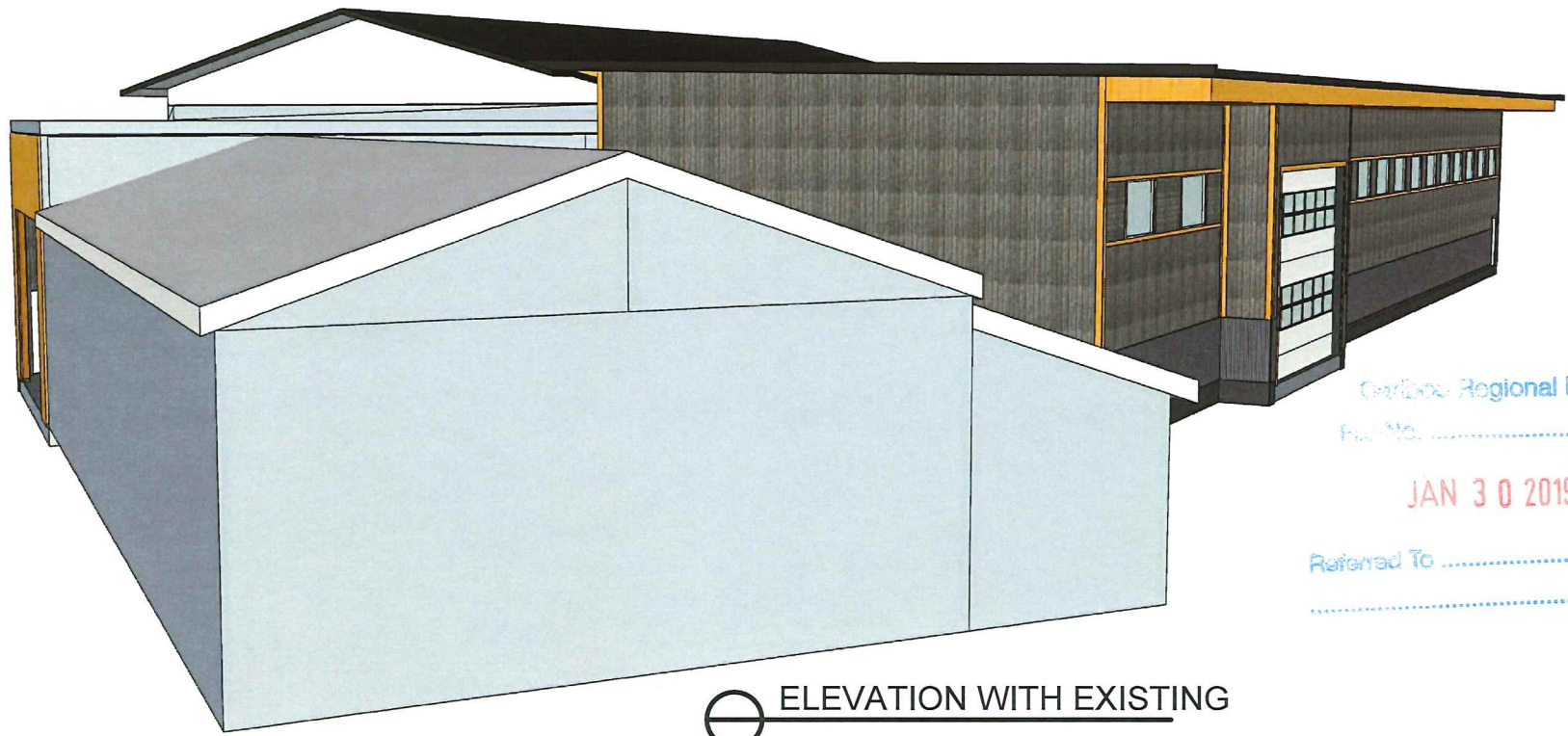
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⊖ NORTH-EAST ELEVATION



⊖ HWY SIDE (S-W) ELEVATION



City/County Regional District

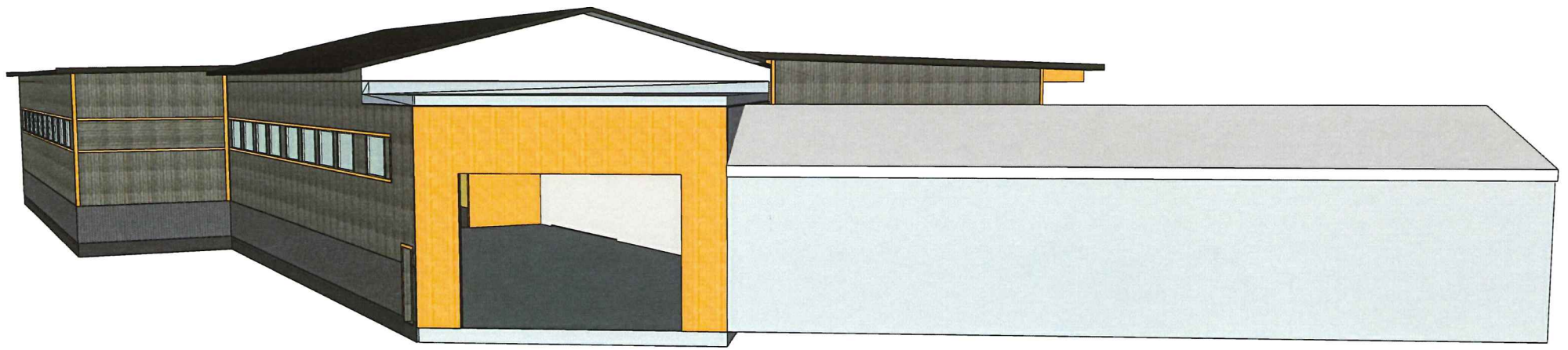
File No.

JAN 30 2019

Referred To

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⊖ ELEVATION WITH EXISTING



⊖ ELEVATION WITH EXISTING



Interior Health
Every person matters

February 13, 2019

Development Services
Cariboo Regional District
Suite D, 180 N Third Avenue
Williams Lake, BC V2G 2A4
nalexander@cariboord.ca

Dear Development Services:

RE: File #: DPI904
Our interests are unaffected

The IH Healthy Built Environment (HBE) Team has received the above captioned referral from your agency. Typically we provide comments regarding potential health impacts of a proposal. More information about our program can be found at [Healthy Built Environment](#).

An initial review has been completed and no health impacts associated with this proposal have been identified. As such, our interests are unaffected by this proposal.

However, should you have further concerns, please return the referral to hbe@interiorhealth.ca with a note explaining your new request, or you are welcome to contact me directly at 1-855-744-6328 then choose HBE option.

Sincerely,

Janelle Rimell, B.Sc, B.Tech, C.P.H.I.(C)
Healthy Communities

Interior Health Authority
Vernon Health Centre
1440 14th Avenue, Vernon, BC V1B 2T1
Office: 250-549-5758
Cell: 250-540-8380
Email: janelle.rimell@interiorhealth.ca
www.interiorhealth.ca

ADVISORY PLANNING COMMISSION RESPONSE FORM

Minutes of the meeting of the Electoral Area 'F' advisory planning commission held on MARCH 4/19 in the 150 FIRE HALL, located at 150 MILE, BC, commencing at 7:00 pm HOUSE

PRESENT: Chair GEORGE ATAMANENKO

Members BOB HOOKER
JACK DARNEY
JOHN HOFERUD
CYLER HOFFMAN

Recording Secretary GTA

Owners/Agent, or SAM ZURNHOLT
☐ Contacted but declined to attend

ABSENT: DOUG WATT

ALSO PRESENT: Electoral Area Director JOAN SORREY
 Staff support (if present)
OBSERVER TONI. HOOKER

Agenda Items

DP (Including Variance) APPLICATION – 3060-20/20190004 (LOT 1, DISTRICT LOT 12, CARIBOO DISTRICT, PLAN BCP49130)

/ : "THAT the application to vary the required front yard setback be reduced from 7.6 m (24.9 ft.) to 0 m (0 ft.) for property located at 3031 CARIBOO HWY 97 be supported/~~rejected~~ for the following reasons:

- i) CONFORMS TO THE 150 MILE HOUSE COMMERCIAL/
LIGHT INDUSTRIAL CORRIDOR UNDER THE 150 MILE HOUSE AREA
OFFICIAL COMMUNITY PLAN.
- ii)

For: UNANIMOUS Against:

CARRIED/DEFEATED

Termination

/ : That the meeting terminate.

CARRIED

Time: 7:40 pm

Cariboo Regional District

File No.

MAR 05 2019

Recording Secretary

Chair

Referred To

Nyree Alexander

From: Havan Surat
Sent: March 12, 2019 3:23 PM
To: Nyree Alexander
Cc: Shivani Sajwan
Subject: FW: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Nyree – please print this and add it to the info package for this application and also let him know the signage req.

Havan Surat, MRAIC, FIIA
Manager of Development Services
hsurat@cariboord.ca



Cariboo Regional District
Suite D, 180 North 3rd Avenue
Williams Lake, BC V2G 2A4
Phone: 250-392-3351 Ext 283
Fax: 250-392-2812



Please think about the environment before you print

From: Shivani Sajwan
Sent: March 12, 2019 2:27 PM
To: Havan Surat <hsurat@cariboord.ca>
Subject: FW: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

FYI

Shivani Sajwan, MCP, B.Arch.
Planning Officer
ssajwan@cariboord.ca



Cariboo Regional District
Suite D, 180 North 3rd Avenue
Williams Lake, BC V2G 2A4
Phone: 250-392-3351 Ext 264
Fax: 250-392-2812

Please think about the environment before you print

From: Sam Zirnhelt <info@ztframes.com>
Sent: March 12, 2019 10:57 AM
To: Nigel Whitehead <nwhitehead@cariboord.ca>
Cc: Shivani Sajwan <ssajwan@cariboord.ca>
Subject: RE: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Hello Shivani and Nigel,
I had the Geotech out today. He has no issue with the building placement. I'll have is report to you by Thursday.

What feedback have we received from MOT regarding the setback?

Thank you.

Sam Zirnhelt, RPF
Box 968 150 Mile House, BC, V0K 2G0
Office: 250-296-3499
Cell: 250-392-0103

From: Nigel Whitehead <nwhitehead@cariboord.ca>
Sent: February 15, 2019 4:20 PM
To: Sam Zirnhelt <info@ztframes.com>
Cc: Shivani Sajwan <ssajwan@cariboord.ca>
Subject: RE: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Thanks for the info Sam. I will review.

I was looking into the Chemo RV / 150 MH Barns site. It does look like a mapping error. Out of your own personal interest you may want to check out that building. I have never been in it, but if you look at the Chemo RV Statement of Significance, it discusses some of the preserved features from the original barns, including 60 ft. hand hewn beams!
<https://www.cariboord.ca/services/heritage/statements-of-significance>

My wife is pregnant and due any day and I will be taking a 6 week leave when that happens. Shivani Sajwan, Planning Officer is up to date on your application and will be handline your file once I am off. My email auto reply will let you know when that happens.

Nigel Whitehead, MCIP, RPP
Senior Planner
nwhitehead@cariboord.ca



Cariboo Regional District
Suite D, 180 North 3rd Avenue
Williams Lake, BC V2G 2A4
Phone: 250-392-3351 Ext 299
Fax: 250-392-2812



Please think about the environment before you print

From: Sam Zirnhelt <info@ztframes.com>
Sent: February 15, 2019 3:03 PM
To: Nigel Whitehead <nwhitehead@cariboord.ca>
Subject: FW: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Hello Nigel,

Just got of the phone with Diana Cooper at Arch Branch. See email section below highlighted in yellow. They are fine with us proceeding as long as we don't bother the cemeteries. Their caution about suggesting an archaeologist was if the grave sites weren't clearly marked but as they are fenced and we're staying away from them they have no issue. It also appears the broad heritage site shown over our whole property was registered by the CRD planning dept with

heritage branch on Jan 26 2017. The site is named "Chemo RV" aka "150 Mile Barn site" -- this is the neighbours lot and the mapping apparently in error picked up our lot as well. Diana will send an email to heritage branch regarding that but said to send you her email below to show that they have no concerns for our DP as long as we don't disturb the cemetery sites.

Let me know if you need anything else on this.

Working on Geotech as well.

Have a good weekend.

Sam

From: Cooper, Diana FLNR:EX <Diana.Cooper@gov.bc.ca>
Sent: January 31, 2019 4:18 PM
To: 'Sam Zirnhelt' <info@ztframes.com>
Subject: RE: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Hello Sam,

Thank you for your archaeological data request regarding the property legally described as LOT 1 DISTRICT LOT 12 CARIBOO DISTRICT PLAN BCP49130, PID 028679237. According to Provincial records there is an historic cemetery (FaRI-12) located on the property and the majority of the remainder of the property is a registered Heritage Site known as "Chemo RV" (FaRI-32).

The site record indicates that in 2007, the cemetery was initially recorded as part of an Archaeological Impact Assessment of Highway 97 between 148 Mile and Williams Lake Indian Reserve #1. The site description reads in part: "the historic cemetery measures approximately 25 x 15 m. Three plots are distinguished with wooden fencing, and approximately seven individual graves were observed within this area. Only one grave marker remains in place. It is dedicated to George Johnstone who died in 1896. The site will require further assessment if future development is anticipated for this location. A detailed site map has not been produced and ages of the unmarked graves have not been assessed". The cemetery area identified during this work is the oval red polygon that overlaps the property boundary in the north west corner.

A Preliminary Field reconnaissance of District Lot 12 conducted in 2010 identified at least two more graves, both enclosed by wooden picket fencing similar to those of the graves recorded in 2008. In addition, several cobble concentrations were identified within the boundary of the portion of the cemetery recorded in 2007. According to a member of the Williams Lake Indian Band, the concentrations could potentially represent traditional First Nation grave markers. The PFR recommended that as the origin of the features was unknown, they should be treated with the same sensitivity as those enclosed by fences and/or marked by headstones. The grave areas identified by this work fall within the circular polygon located within the property boundary.

Systematic subsurface testing of the portion of the property between the two areas with identified graves has not been undertaken. It is a possibility that additional graves exist between the two polygons.

Archaeological sites and all human burials (regardless of age) are protected under the *Heritage Conservation Act* and must not be altered or damaged without a permit from the Archaeology Branch.

Prior to any land-altering activities (e.g. addition to home, property redevelopment, extensive landscaping, service installation), an Eligible Consulting Archaeologist should be engaged to determine the steps in managing impacts to the

archaeological site(s) and whether there are other unknown or unmarked graves or other archaeological deposits on the property.

An Eligible Consulting Archaeologist is one who is able to hold a Provincial heritage permit that allows them to conduct archaeological studies. Ask an archaeologist if he or she can hold a permit, and contact the Archaeology Branch (250-953-3334) to verify an archaeologist's eligibility. Consulting archaeologists can be contacted through the BC Association of Professional Archaeologists (www.bcapa.ca) or through local directories.

Occupying an existing dwelling or building without any land alterations does not require archaeological study or permitting.

If a permit is required, proponents should be advised that the permit application and issuance process takes approximately 8-10 weeks and should plan their development schedule accordingly.

If work is planned that is **outside of the red areas** as shown in the screenshot below, the Archaeology Branch cannot require the proponent conduct an archaeological study or obtain a permit prior to development. In this instance it is a risk management decision for the proponent. However, the Archaeology Branch strongly encourages engaging an archaeologist prior to development as the sites may extend beyond the limits indicated on the attached screenshot.

If any land-altering development is planned and proponents choose not to contact an archaeologist prior to development, owners and operators should be notified that if an archaeological site is encountered during development, activities **must** be halted and the Archaeology Branch contacted at 250-953-3334 for direction. If an archaeological site is encountered during development and the appropriate permits are not in place, proponents will be in contravention of the *Heritage Conservation Act* and likely experience development delays while the appropriate permits are obtained.

With regard to the property being a designated Heritage Property (FaRI-32), the planning department at the Cariboo Regional District should be contacted for any management recommendations they may have.

If you have questions, please visit the FAQ page at <http://www.for.gov.bc.ca/archaeology/faq.htm> and the Property Owners and Developers web page at http://www.for.gov.bc.ca/archaeology/property_owners_and_developers/index.htm.

If you have further questions regarding the permitting process, please contact Nathan Friesen (Supervisor, Permitting and Assessment) at 250-953-3306 or Nathan.P.Friesen@gov.bc.ca.

Below is a screenshot showing the property (outlined in yellow) in relation to the archaeological site/cemetery (red areas). The green colouration indicates the designation of the property as a Heritage Property. Additionally, I have included a copy of the site forms for both FaRI-12 and FaRI-32, and a copy of the letter report from the archaeologists who completed the PFR of the property in 2010.

Please let me know if you have any questions regarding this information.

Kind regards,

Diana



Diana Cooper | Archaeologist/Archaeological Site Inventory Information and Data Administrator

Archaeology Branch | Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Unit 3 – 1250 Quadra Street, Victoria, BC V8W2K7 | PO Box 9816 Stn Prov Govt, Victoria BC V8W9W3
Phone: 250-953-3343 | Fax: 250-953-3340 | Website: <http://www.for.gov.bc.ca/archaeology/>

From: info@ztframes.com <info@ztframes.com> **On Behalf Of** ArchDataRequest@gov.bc.ca
Sent: January 31, 2019 1:46 PM

To: Arch Data Request FLNR:EX <ArchDataRequest@gov.bc.ca>
Subject: Data Request: Sam Zirnhelt - zirnhelt Timber Frames Ltd

Terms and Conditions Accepted	Yes
Name	Sam Zirnhelt
Email	info@ztframes.com
I am a	Private Property Owner
Affiliation	zirnhelt Timber Frames Ltd
Address	3031 Highway 97 south
City	150 mile
Province	BC
Postal Code	V0K 2G0
Phone Number	250-392-0103
Information Requested	I request information and advice about archaeological sites on the parcel(s) described below (include civic address, PID, legal description; attach maps below if available): Lot 1 DL 12 Cariboo District Plan BCP49130 PID 028-679-237
Why Site Information is Required	I am the property owner of the parcel(s) described above. I require the information because: we are applying for a Development Permit through the Caribou Regional District
Third Party Access	The following person(s) may have access to this information: I presume we will share the information with the Regional District if pertinent to the Development Permit. We understand there is a high potential arch site that is on lot 2 which we do not own but are not aware of any arch sites on lot 1, only a fenced off grave site. We want to confirm this.
Format Required	Shapefile (ESRI, NAD 83, BC Albers Projection), Map(s)
Who Prompted	My local government
File Attachment#1	Cariboo Regional District-1.pdf
File Attachment#2	
File Attachment#3	
File Attachment#4	
File Attachment#5	



Zirnhelt Timber Frames
P.O. Box 968
150 Mile House, BC
V0K 2G0

March 13, 2019
File: 733

Attention: Mr. Sam Zirnhelt

**Re: Slope Stability Analysis – Proposed Shop Expansion
3031 Highway 97 South, 150 Mile House, BC**

1.0 INTRODUCTION

Telford Geotechnical Ltd. has completed a slope stability analysis for the proposed shop expansion that is to be constructed at the address noted above. A site reconnaissance was conducted on March 12, 2019 by an engineer from our office. The site is located on the east side of Highway 97 and is relatively flat and situated approximately 15 m above the highway. The slope from the property down towards the highway resides at an angle that varies from 30 to 35 degrees. The slope is lightly vegetated and surfaced with rip rap. Bedrock outcrops are visible on the highway slope and along the top of the slope within the property. We understand that the bedrock was cut out for the highway four-laning. The proposed site plan of the shop expansion is attached to this report.

The purpose of this slope stability analysis is to establish a safe building setback for permanent structures from the top of the existing highway slope.

2.0 SLOPE STABILITY ANALYSIS

2.1 Assumed Soil Properties and Model Parameters

Based on our visual observations the site and highway slope are underlain by bedrock.

The input parameters for the slope stability model used in our analysis is shown in Table 1 below.

Table 1: Material Parameters

Geologic Unit	Unit Weight (kN/m ³)	Internal Friction Angle (Φ)	Cohesion (kPa)	Surcharge (kPa)
Bedrock	22.5	38	50	25

No signs of groundwater were noted on the site or within the highway slope, therefore we have assumed that the groundwater table is located below the toe of the slope.

2.2 Slope Stability Analysis Results

A slope stability analysis was completed using the computer program XSTABL, version 5.1 which uses the Bishop simplified limit equilibrium analysis. The slope stability assessment determines a deep seated

critical slip surface that would cause deformation and movement of the surface. A minimum factor of safety of 1.5 is required for slopes supporting residential developments under static conditions and 1.1 under seismic conditions. The surficial slope faces could be subject to erosion, sloughing and other minor surface deformations but would not significantly impact the overall global stability of the slope.

The factor of safety obtained from our static deep-seated analysis is 2.63 based on a minimum building offset of 2 m from the top of the existing slope and the critical sliding surfaces are shown on Figure 1 below.

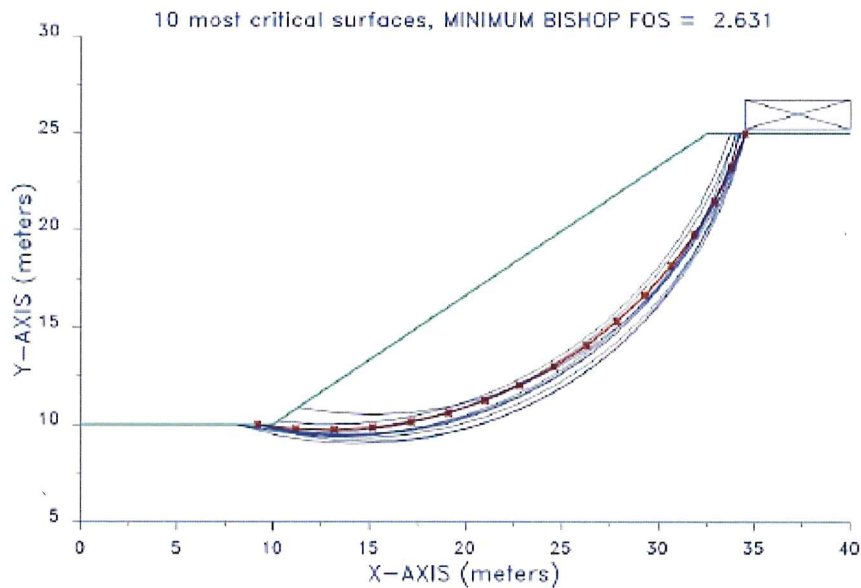


Figure 1: Slope Stability Analysis Profile

3.0 CONCLUSIONS

Based on our evaluations it is our opinion that the land may be used safely for the intended use as described in this report.

This report has been prepared exclusively for Zirnhelt Timber Frames and the Cariboo Regional District for the purpose of providing geotechnical recommendations for the placement of the proposed shop expansion as described in this report. The report remains the property of Telford Geotechnical Ltd. and unauthorized use of, or duplication of this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for this project. If you would like further details or require clarification, please do not hesitate to contact the undersigned.

For:
Telford Geotechnical Ltd.


13-03-2019



Bill Telford, M.Eng., P.Eng.
Geotechnical Engineer

A PLAN BCP46617

