

## FRASER VALLEY REGIONAL DISTRICT

### BOARD OF VARIANCE

### OPEN MEETING AGENDA

Tuesday, March 25, 2025

11:00 am

In person at FVRD Boardroom, 4th Floor, or by Zoom Conference Call  
45950 Cheam Avenue, Chilliwack, BC V2P 1N6

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Pages

1. LAND ACKNOWLEDGEMENT
2. CALL TO ORDER
3. ELECTION OF CHAIR by Secretary to Board of Variance
4. ELECTION OF VICE CHAIR by Secretary to Board of Variance
5. APPROVAL OF AGENDA, ADDENDA AND LATE ITEMS

#### MOTION FOR CONSIDERATION

**THAT** the Agenda, Addenda and Late Items for the Board of Variance Hearing of March 25, 2025, be approved;

**AND THAT** all correspondence and other information set to the Agenda be received for information.

6. COMMENTS BY SECRETARY TO BOARD OF VARIANCE AND STAFF
7. DELIBERATION BY BOARD OF VARIANCE

#### 7.1 Board of Variance Application for 32-9053 Shook Road, Area G

3 - 85

- Staff report dated March 25, 2025 by Ray Schipper, Planning Technician

- Location Map
- User Lot Map
- Site Plans
- Application
- Letter of Support
- Bylaw No. 28, 1972
- Bylaw No.1638, 2021
- OCP Bylaw No. 866
- Local Government Act, Part 14.Division 14.
- Hatzic island Discussion Paper
- Bylaw 1669, 2022

**8. PUBLIC QUESTION PERIOD FOR ITEMS RELEVANT TO THE AGENDA**

**IN PERSON PARTICIPATION**

FVRD Board Room

**ONLINE PARTICIPATION**

Email submissions can be made to [info@fvr.ca](mailto:info@fvr.ca) before 1 pm, March 24, 2025. Alternatively, you may participate in public question period live on Zoom, by phone or computer using the Zoom information provided on the FVRD website.

**9. DECISION OF BOARD OF VARIANCE**

**10. ADJOURNMENT**

**MOTION FOR CONSIDERATION**

**THAT** the Board of Variance Hearing of March 25, 2025 be adjourned.

To: Board of Variance

Date: 2025-03-25

From: Ray Schipper, Planning Technician

File No: 0388-30 2025-775.02149.032

Subject: Board of Variance application for 32-9053 Shook Road, Area G

Reviewed by: Katelyn Hipwell, Manager of Planning  
Graham Daneluz, Director of Planning & Development  
Jennifer Kinneman, Chief Administrative Officer

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## REPORT PURPOSE

On January 23, 2025, the Fraser Valley Regional District (FVRD) received a Board of Variance application to permit an extension and renovation to a legally non-conforming structure under Section 540 (c) of the *Local Government Act* for the property located at 32-9053 Shook Road, Electoral Area G.

The staff report summarizes the relevant Fraser Valley Regional District Bylaws, information, and other regulations related to the application.

Appendix A: Location Map

Appendix B: User Lot Layout

Appendix C: Site Plan

Appendix D: Application

Appendix E: Letters of Support

Appendix F: Excerpt of the *Dewdney-Alouette Regional District Bylaw No. 28, 1972* for  
Electoral Area B, C, D & E (Non-conforming Use and Rural 3 Zone)

Appendix G: Excerpt of the Land Use and Subdivision Regulation of *Fraser Valley Regional District Zoning Bylaw No. 1638, 2021* – Rural 4 (R-4)

Appendix H: Excerpt of the *Fraser Valley Regional District Official Community Plan for Electoral Area "G" Bylaw No. 0866, 2008*

Appendix I: Excerpts from the *Local Government Act* Section 528-544

Appendix J: Hatzic Island Discussion paper

Appendix K: *Fraser Valley Regional District Floodplain Management Bylaw No. 1669, 2022*

## DECISION REQUESTED OF THE BOARD OF VARIANCE

The applicant has applied to the Board of Variance under Section 540(c) of the *Local Government Act* for an exemption from Section 531(1) of the same act, to permit an extension to the existing main floor and crawl space and addition of a second storey to a legally non-conforming single-family dwelling.

Section 540 of the *Local Government Act* allows a person to apply for a Board of Variance order if the prohibition of an addition or alteration to a non-conforming structure would cause the person undue hardship. The provision on non-conformity is stated under Section 531 of the *Local Government Act*.

*Restrictions on alteration or addition to building or other structure*

**531** (1) *Subject to this section, a structural alteration or addition must not be made in or to a building or other structure while a non-conforming use is continued in all or any part of it.*

(2) *Subsection (1) does not prohibit a structural alteration or addition that is required by an enactment or is permitted by a board of variance under Section 542 (1) [authority for variance or exemption to relieve hardship].*

The applicant is seeking approval from the Board of Variance for the following changes:

- Extension of the existing main floor of non-conforming dwelling (18.39 m<sup>2</sup>/198 ft<sup>2</sup>).
- Construction of a second-storey addition above the existing roof (33.63 m<sup>2</sup>/362 ft<sup>2</sup>).
- Extension of the existing crawl space (18.39 m<sup>2</sup>/198 ft<sup>2</sup>).



Figures 1 and 2: Photos of existing structure. February 19, 2025.



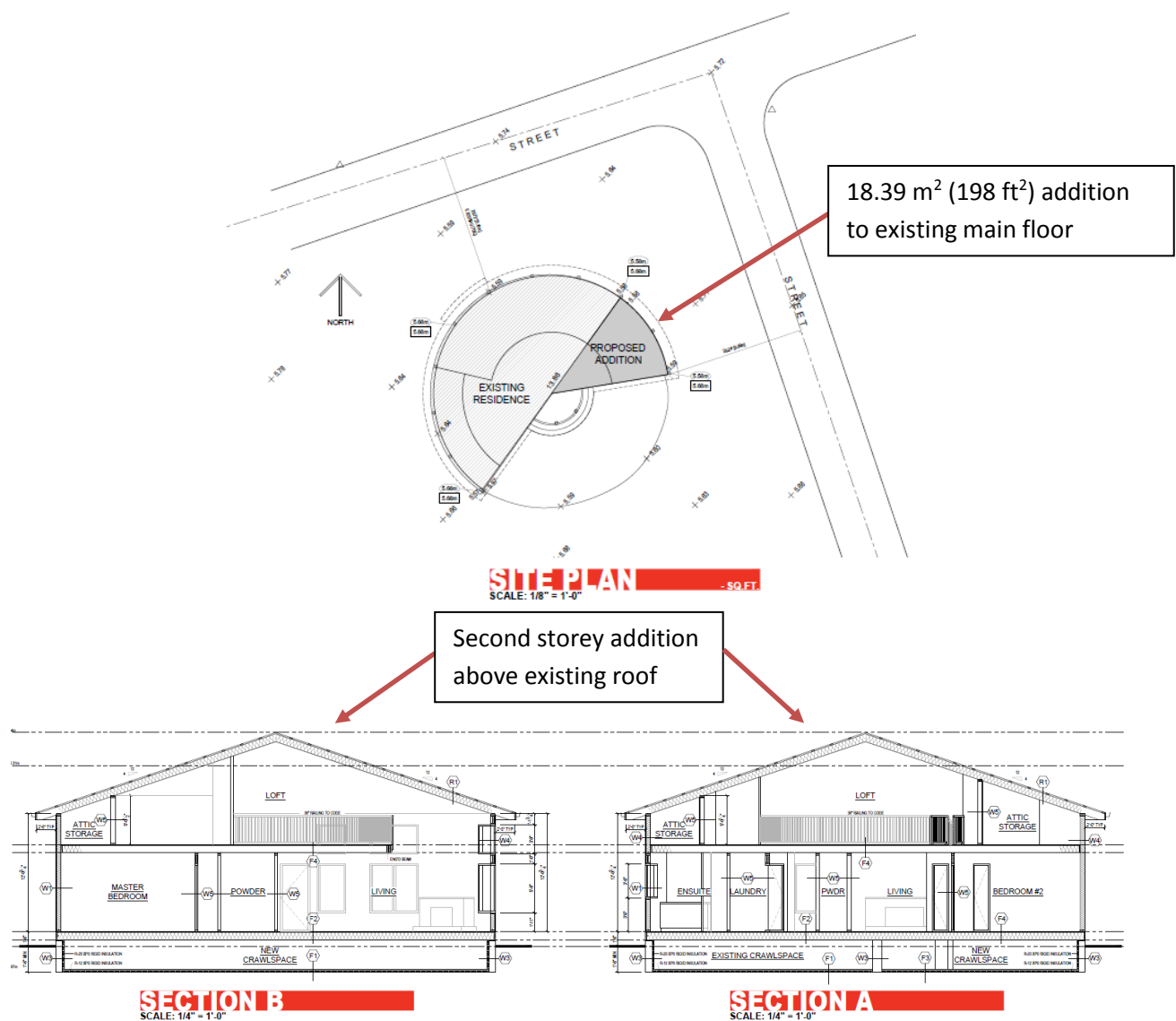


Figure 3: Excerpt from submitted site plans of proposed structural alterations.

The Board of Variance must consider if the prohibition of these structural alterations would cause the applicant hardship. If the Board of Variance finds that undue hardship would be caused to the applicant if Section 531(1) of the *Local Government Act* is complied with, the Board must state the **exact nature of the hardship for the hearing's record and may order that the applicant be exempted** from Section 531(1).

## BACKGROUND

Most development on Hatzic Island has occurred over time without a comprehensive planning framework. Land-use regulations began in the mid-sixties (1966 Official Regional Plan), with the Island being designated Lowland Rural as it was located fully within a floodplain. Agriculture and low-density

rural uses were supported with the intent to lessen any impacts should flooding occur. This Lowland Rural designation provided a subdivision policy for a minimum parcel size of 8.0 ha (20.0 acres). When the Dewdney-Alouette Regional District introduced zoning in 1972, Hatzic Island was zoned predominantly Rural III (R-3), maintaining the minimum parcel size of 8.0 ha (20.0 acres) for subdivision as set out in the Official Regional Plan. As much of the development on the Island pre-dated the 1972 land use zoning regulations and policies, several developments existing on Hatzic Island are classified as legally non-conforming.

The subject property, referred to as Sun Dorn Holdings Ltd, is one such legally non-conforming development pre-dating *Dewdney-Alouette Regional District Zoning Bylaw No. 22, 1972*. The property was not legally subdivided, so the parent parcel only permits one dwelling unit. There are currently up to forty-three (43) user lots and dwellings located on this land parcel at 9053 Shook Road. The use of the property for up to 43 dwelling units is legally non-conforming (**"grandfathered"**) pursuant to Section 528 of the *Local Government Act*.

As the dwelling on user lot #32-9053 Shook Road is a legally non-conforming use, any proposed works that are structural are not permitted unless the Board of Variance approves an alteration or addition to the non-conforming use.

The general location of the proposal is shown on the attached location map in Appendix A. The location of the specific user lot is shown on the attached user lot layout plan in Appendix B. Details of the proposed additions are shown on the attached site plan in Appendix C, and the application is found in Appendix D.

PROPERTY DETAILS	
Electoral Area	G
Address	32-9053 Shook Road
PID	010-666-842
Legal Description	Lot 16 Except: Part Subdivided by Plan 27831; Section 36, Township 17, New Westminster District Plan 2677
Folio	775.02149.032
Registered Property Owner	Sun Dorn Holdings Ltd.
Applicant	Peter and Corinne Stellingwerff
Lot Size	10 acres with 43 home sites
User Lot Size	0.129 acres (522.6 m <sup>2</sup> )
Agricultural Land Reserve	No
Floodplain	Within; 10.3m GSC Flood Construction Level (FCL) and 7.5m setback from Hatzic Lake. User lot average grade is 5.68 m.
OCP	Rural (R)
Zoning	Rural 4 (R-4)
Development Permit Area	Within Riparian Areas Development Permit Area 2-G; exempted

	because the site is greater than 30m from Hatzic Lake
<b>Setbacks</b>	The existing structure meets 6.0m front lot line setback and 1.5m interior side lot line setback

<b>Bylaw Enforcement</b>	No
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#### ADJACENT ZONING & LAND USES

Direction	Use	Zoning	OCP
North	Rural Residential	Rural 4 (R-4)	Rural
East	Rural Residential	Rural 4 (R-4)	Rural
West	Hatzic Lake	Rural 4 (R-4)	Rural
South	Rural Residential	Rural 4 (R-4)	Rural

#### NON-CONFORMANCE

The subject property, referred to as Sun Dorn, is one of several legally non-conforming developments on Hatzic Island, which pre-date zoning bylaw regulations. The property is zoned Rural 4 (R-4) which permits one dwelling unit per parcel. It is one legal lot with up to 43 dwelling units contained within its boundaries, rendering it legally non-conforming (“grandfathered”) pursuant to Section 540 of the *Local Government Act* (LGA).

Generally, the LGA sections considering non-conformity actively work towards conformance by **preventing an increase in the scale of the use and limiting the duration of the use to the ‘natural’ life of the structure**. The net effect encourages replacing the non-conforming use with one that conforms to the zoning bylaw.

In some instances, the legal framework combined with practical considerations such as ownership structure and the nature of the use, leave little expectation that conformity will ever be achieved. The result may be that a non-conforming use may be tolerated and expected to continue indefinitely but is still subject to the depressing effects of non-conforming status. In these instances, the non-conforming status may create uncertainty and stifle investment necessary for the maintenance of safe and healthy residences or neighbourhoods. It can become difficult to sell or transfer interests, achieve market value, and obtain mortgages or financing necessary for upgrades and repairs. As a result, developments may steadily degrade over time without any clear mechanism for renewal and replacement. Some of the lawfully non-conforming developments on Hatzic Island may fall into this category.

*Fraser Valley Regional District Official Community Plan Bylaw No. 0866, 2009* s.7.1: Hatzic Island (Appendix H) provides direction on improving the non-conformity situation by rezoning the lands to legitimize some of the non-conforming uses on Hatzic Island. This can be done in a meaningful way through water and sewer service infrastructure, proper site development, and improved flood mitigation measures.

## HATZIC ISLAND DISCUSSION PAPER

In 2018, a discussion paper on Hatzic Island was presented to the Regional Board, attached to this report as Appendix J. The report highlights that parts of Hatzic Island have the density found in urban areas, without the associated community water and sewer services. The concentration of aging on-site septic and water supplies may present health and environmental risks. Since the early 1970s, land use policies attempted to address these risks by zoning the Island for low-density uses. This approach prevented further subdivision but created a host of new problems associated with the “grandfathering” of pre-existing uses. One of the primary reasons for the high density on Hatzic Island is due to the continued presence of lawfully non-conforming residential and recreational development that has occurred in the mobile home parks and resorts.

New approaches are needed to address environmental and health risks and manage land use developments on Hatzic Island. The discussion paper summarizes key issues as a starting point for stakeholder dialogue about options to improve the land use situation on Hatzic Island.

## **DISCUSSION**

The Board of Variance may order that the applicant be exempted from Section 531(1) of the *Local Government Act*, if the Board:

- 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) has 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.

## NOTIFICATION AND HEARING

All neighbours within a 30-metre radius of the property have been notified via mail of this Board of Variance application. The letter was sent on March 7, 2025. Neighbours have been invited to attend the Board of Variance Hearing or make a written submission by email or mail. The applicant will also have the opportunity to be heard at the meeting.

The FVRD has received one petition for support from the Directors of Sun Dorn Resort, showing support for the structural addition. This petition can be found in Appendix E.

## HARDSHIP

The applicant has provided reasons in support of their application, which are shown in Appendix D, application form. The identified justifications are summarized below.

- The structure does not meet current energy efficiency and building code standards.
- The occupants require additional space due to lifestyle differences.
- The structure has poor aesthetics.

## DEVELOPMENT OF THE SITE

The subject user lot contains one single-family dwelling and an accessory structure (shed). The photos below show that the existing dwelling is a one-storey structure on a half-circle foundation. The interior of the main dwelling has undergone significant renovation and is currently in a state of deconstruction. All drywall has been removed, exposing the bare studs and structural elements. The stripped-down interior provides a clear view of the building's skeletal framework and suggests that the dwelling is undergoing a major remodel or is being prepared for a comprehensive renovation project.



Figures 4-6: Exterior and interior of the existing structure at 32-9053 Shook Road.

## SITING AND COVERAGE

Section 7.4.3 Development Regulations of the R-4 zone in *Zoning Bylaw No. 1638, 2021*, state the requirements for maximum lot coverage and the setbacks for all buildings and structures relative to the lot lines. While the dwelling and accessory structures must adhere to these requirements, the user lots in Sun Dorn are not delineated through a legal mechanism (e.g. surveyed user lot, strata lot lines).

The definition section in *Zoning Bylaw No. 1638, 2021* defines a Lot as “land designated as a separate and distinct parcel on a legal subdivision plan or registered in the Land Title Office,” and Lot Line is defined as “legally defined boundaries of any lot.” Since the subject property is the only legally subdivided lot, it is a reasonable interpretation that the legal lot be treated as the parcel, as opposed to the unregistered user lots which do not have any legally defined boundaries.

Based on the site plan in Appendix C, the proposed addition appears to comply with all the setback requirements. The setback requirements are summarized below:

Application	Setbacks	Complies
Addition	6m front lot line	Yes
Addition	6m rear lot line	Yes
Addition	1.5m interior lot line	Yes

The maximum lot coverage (i.e. the area of all buildings and structures expressed as a percentage of the lot area) is legally non-conforming due to the development of other user lots on the parent parcel.

## FLOODPLAIN

The subject property is on Hatzic Island, within the Fraser River Floodplain. Historically, the area has been prone to flooding, as the entire Island is below the elevation of a 1:200-year Fraser River flood. After a devastating flood in 1948, the Dewdney Dike was reconstructed, and a pump station was added to help protect Hatzic Island from flooding.

The Island still experiences flooding due to the volume of water coming off the surrounding watersheds, overwhelming the drainage capacity of the system. The update and addition to the pump station in 2013 helped improve the drainage during times of high water levels in the Fraser River. However, localized flooding can still occur as proven in the November 2021 atmospheric river event. Many parts of Hatzic Island were underwater, and the Everglades Resort at 8400 Shook Road had to be evacuated. This localized flooding causes concern due to its effects on on-site septic systems, individual sand point water wells, and the increased risk of land use contaminants entering the water supply.

In addition, Hatzic Island residents depend on the single-access road to and from the Island, with the possibility of this low-lying access road and bridge being cut off during a major flood event.

#### FLOODPLAIN MANAGEMENT BYLAW NO. 1669, 2022

*Fraser Valley Regional District Floodplain Management Bylaw No. 1669, 2022* applies to all properties on Hatzic Island. This bylaw establishes regulations to reduce risks of developing lots on the Fraser River Floodplain. These regulations include flood construction levels (FCL), floodplain setbacks, and **minimum ponding elevation, which will apply to the applicant's** proposed structural alterations, if approved by the Board of Variance.

It is crucial to note that under Section 542(2)(d) of the *Local Government Act*, the Board of Variance cannot alter provisions regulated in the floodplain management bylaw, which is attached in Appendix K.

The FCL for Hatzic Island is 10.3 m GSC, as outlined in the floodplain bylaw. Generally, no habitable area can be constructed below this level. However, two key exemptions may apply to the proposed plans. The table below summarizes the compliance of the three components of the application with the relevant floodplain bylaw regulations:

Component of Application	Floodplain Bylaw Regulation	Bylaw Section	Complies
Addition to the existing main floor of non-conforming dwelling (198 ft <sup>2</sup> / 25% of existing floor area)	Exemption for an addition to existing non-conforming building at original elevation, provided the addition does not increase ground floor area by more than 25%	8. a. ii. a.	Yes
Addition of a second storey above existing roof (362 ft <sup>2</sup> )	Exemption for a structural addition if difference between the 200 year flood construction level and ground elevation exceeds 2.5 metres. A residential use may be extended with the underside of the floor system a minimum of 2.5 metres above the surrounding ground elevation.	9. a. iii.	Yes, subject to restrictive covenant
Crawlspace extension (198 ft <sup>2</sup> ) proposed at 4.97 m GSC	No exemption – must meet Minimum Ponding Elevation of 5.2m GSC	6. c.	No

In conclusion, while two components of the application comply with or can be made to comply with the floodplain bylaw through exemptions, the proposed crawlspace extension does not meet the minimum ponding elevation requirement and therefore does not comply with the current regulations. The Board of Variance cannot authorize development that circumvents the intent of the floodplain management bylaw.

#### NATURAL ENVIRONMENT

The Board of Variance must consider the potential environmental implications of any variance request. Increased density on Hatzic Island, without the associated servicing, such as community water and sewer systems, has been shown to impact the natural environment. The Hatzic Island Discussion Paper highlighted research on drinking water quality and showed that some wells on Hatzic Island had high levels of nitrate, with the source most likely coming from septic systems. The research found a strong relationship between nitrate levels, well depths, and the proximity to development. This underscores the importance of carefully evaluating any proposed variances that could potentially exacerbate these environmental concerns.

#### PERMITTED USE AND DENSITY

Residential Use in *Zoning Bylaw No. 1638, 2021*, is permitted, with Residential Use being defined as **“the use of a dwelling unit as the permanent domicile of a person or household.”**

Section 7.4.3 of the R-4 zone regulates residential density by permitting **“one (1) dwelling unit in a single detached dwelling per lot”**. As there are up to 43 dwelling units in existence on one legal parcel at 9053 Shook Road, the property is legally non-conforming in terms of its density. Extension of the existing main floor of non-conforming dwelling and addition of a second storey above the existing roof will not increase the number of legally non-conforming uses.

#### INTENT OF THE OFFICIAL COMMUNITY PLAN AND ZONING BYLAWS

The Official Regional Plan adopted by the Lower Mainland Regional Planning Board in 1966, designated Hatzic Island as Lowland Rural (RRL-3) best suited to large rural holdings. Zoning was introduced on Hatzic Island in 1972 by the Dewdney-Alouette Regional District. *Zoning Bylaw No. 28, 1972* zoned much of Hatzic Island Rural III (R-3) with a minimum parcel size of 20 acres (8 hectares). Two bylaw adoptions followed this; *Dewdney Alouette Regional District Bylaw No. 202-1980*, and *Zoning Bylaw No. 559, 1992*. Recently, upon consolidation of *Zoning Bylaw No. 1638, 2021*, the R-3 zones are now Rural 4 (R-4) zones with the minimum parcel size and other land-use regulations remaining unchanged.

In the opinion of staff, the zoning bylaws have intended to prevent further urban density development on Hatzic Island while bringing pre-existing developments into compliance with the bylaws at the end of the useful life of the existing structures. Rezoning with servicing upgrades to meet the current environmental standards is the preferred approach to gaining compliance.



The average density of development on the Island is high for an unserviced rural area and, by commonly accepted servicing standards, is not sustainable. There is potential for on-site sewage disposal to contaminate the groundwater and water supplies in these high-density developments. Such unserviced high-density development may pose risks to the environment and human health. Development is also at risk from Fraser River and local watershed flooding due to the low elevations on the Island, and there is only one access to and from the Island.

The specific environmental, human health, and safety issues summarized above have guided community plans and zoning bylaws since the late 1960s and have given rise to designating and zoning the Island for low-density, large lot, rural-type uses. The application of these low-density land use regulations rendered the existing developments legally non-conforming, with the expectation **that the developments would eventually “fade away” over time.**

However, the multiplicity of owners and the tenure structure of developments like Sun Dorn presents a major challenge to the redevelopment of the property in accordance with the current Rural 4 (R-4) zoning. The nature of the statute and case law, the land ownership structure, and the form of development make it unlikely that conformance with the Zoning Bylaw will be achieved under the current circumstances. While each variance request individually may seem minor, the cumulative effect of such variances creates a disincentive toward compliance in the long term. It enables the continued transfer of lease lots or ownership shares without the necessary investments in community servicing and fire separation and deters the owners from making a joint rezoning application to legalize the existing use.

*Fraser Valley Regional District Official Community Plan Bylaw No. 0866, 2009* supports the rezoning of lawfully non-conforming developments in conjunction with the improvement of servicing to the area, and limiting exposure to hazards, as the best way to address this situation. The Board of Variance should consider whether approving the application would set back, or desensitize the owners from investing in the rezoning of the property and servicing upgrades.

While the proposed additions may appear to meet certain requirements of the Rural 4 zone, the Board of Variance must also consider the broader intent of the Zoning Bylaw. The bylaw aims to regulate land use and density to ensure orderly development and minimize potential impacts on infrastructure and the environment. Granting this variance to allow further additions to a non-conforming dwelling within a non-serviced development contradicts the intent of the Zoning Bylaw. Permitting this variance may set a precedent for further expansions of non-conforming structures, potentially undermining the objectives of the development regulations.

#### FURTHER FVRD APPROVALS REQUIRED

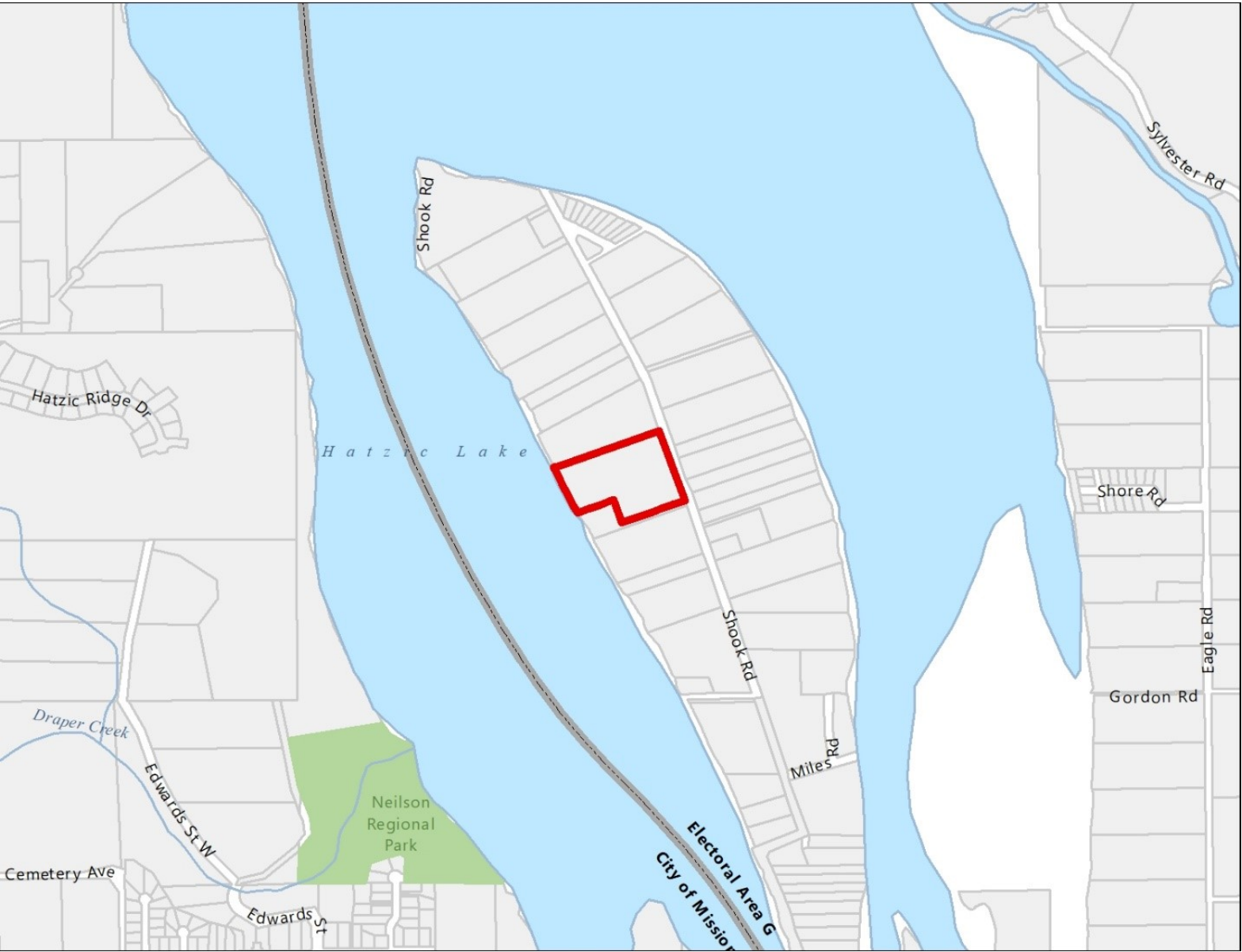
A decision by the Board of Variance to approve the proposed additions does not constitute any further approvals in relation to a specific building permit application. A referral was made to the Building Department, and as per their comments, a building permit will be required if the variance is approved. The applicant must meet all requirements of the potential building permit application process.

It is important to emphasize that the Board of Variance cannot authorize development that does not comply with the *Floodplain Management Bylaw No. 1669, 2022*. Any aspects of the proposed development that do not meet the floodplain bylaw regulations cannot be approved by the Board, regardless of their decision on other variance matters.

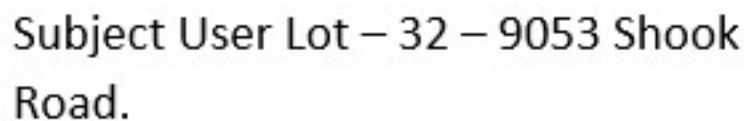
The construction is required to comply with all relevant Fraser Valley Regional District regulations and bylaws, including the *Fraser Valley Regional District Building Bylaw No. 1188, 2013*, *Zoning Bylaw No. 1638, 2021* and *Floodplain Management Bylaw No. 1669, 2022*. It must also comply with any other agency requirements, such as the *2024 BC Building Code*. The applicant is responsible for ensuring all necessary approvals and permits are obtained before proceeding with any construction or alterations.

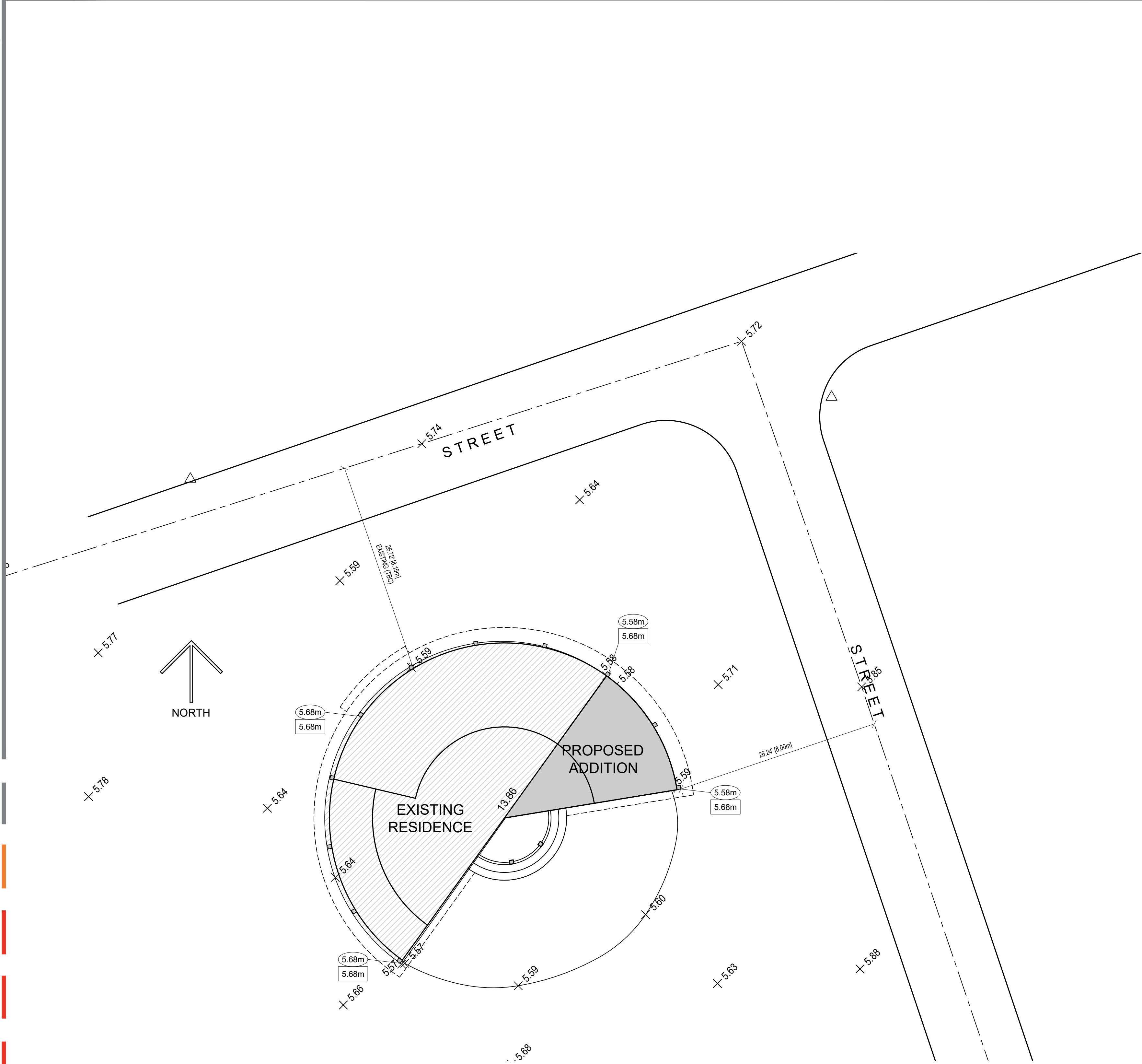
## **COST**

The \$1,650.00 Board of Variance application fee has been paid in full by the applicant.



SCALE : 1 INCH = 150 FEET

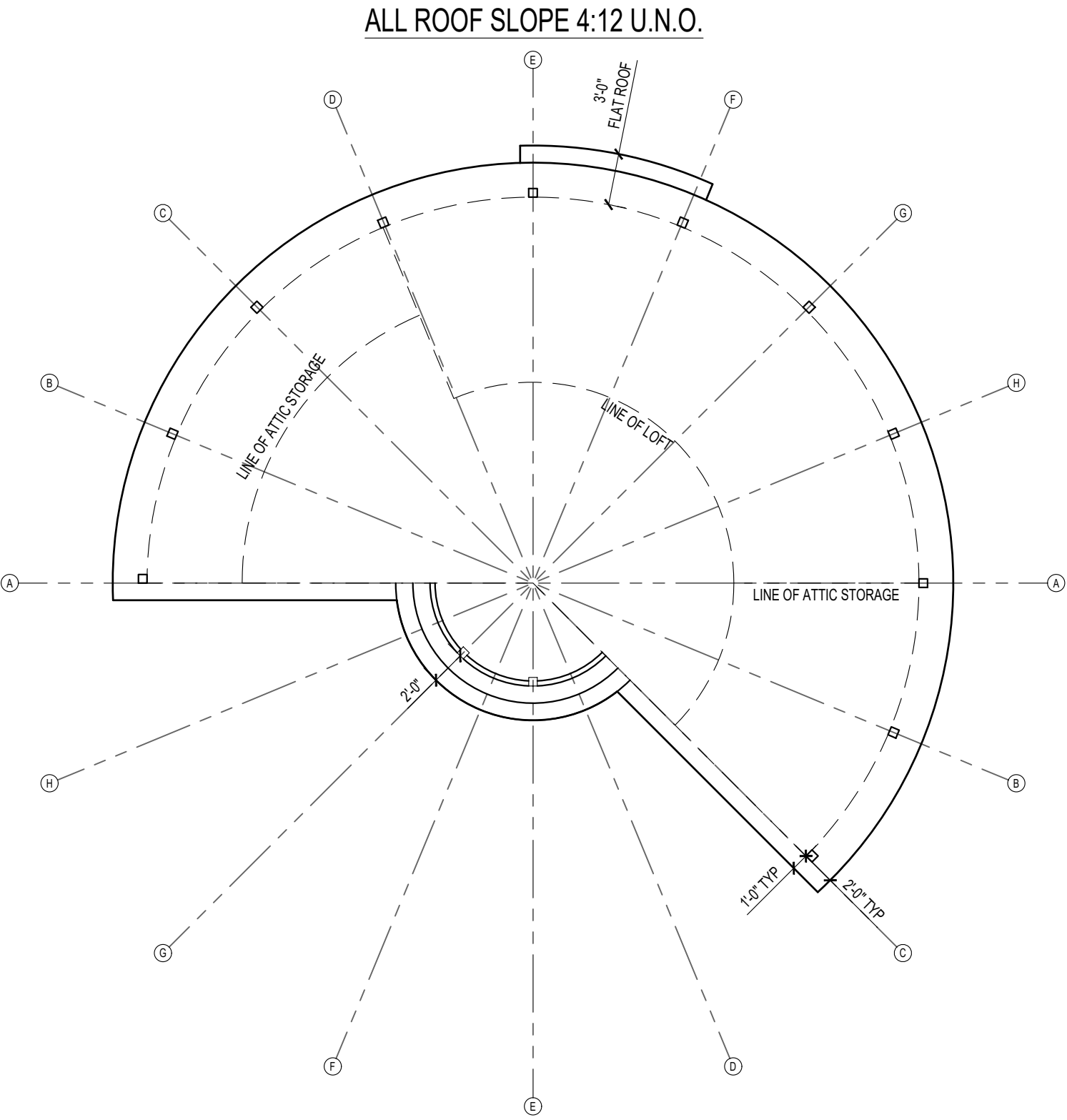




**SITE PLAN** - SQ.FT.  
SCALE: 1/8" = 1'-0"

ZONING ANALYSIS REVIEW		
LEGAL DESCRIPTION:	PLAN NWP2677	
ZONING BYLAW:	R-4	
CIVIC ADDRESS:	9053 SHOOK RD. MISSION, B.C.	
SETBACKS:	REQ'D	PROPOSED
FRONT:	6.0 m	N/A
REAR:	6.0 m	N/A
SIDE (exterior - left)	6.0 m	N/A
SIDE (interior - right)	1.5 m	N/A
FLANKING (arterial)	N/A	N/A
LOT COVERAGE:	30% MAX.	N/A
BUILDING AREA:	795 SQ.FT. (EXISTING)	286 SQ.FT. (ADDITION)
LOT AREA:	N/A	
BUILDING HEIGHTS:	11.0 m	6.66 m

PROPOSED FINISHED GRADE (M)  
EXISTING GRADE (M)



**ROOF PLAN**  
SCALE: 1/8" = 1'-0"

NOTE:  
BUILDER AND/OR OWNER IS TO VERIFY  
ALL ON SITE CONDITIONS, DIMENSIONS  
AND STRUCTURE PRIOR TO  
CONSTRUCTION. 4TH DIMENSION  
DESIGN & DRAFTING SERVICES DOES  
NOT ACCEPT ANY RESPONSIBILITY  
FOR DISCREPANCIES BETWEEN THESE  
DRAWINGS AND ON SITE CONDITIONS.

PROJECT TITLE:  
**32-9053 SHOOK RD.  
MISSION, BC**

**4TH DIMENSION DESIGN + DRAFTING**  
3-33192 1ST AVE. MISSION, BC, V2V 1G4  
P.604.557.9465 C.604.832.8811  
www.4ddrafting.com info@4ddrafting.com

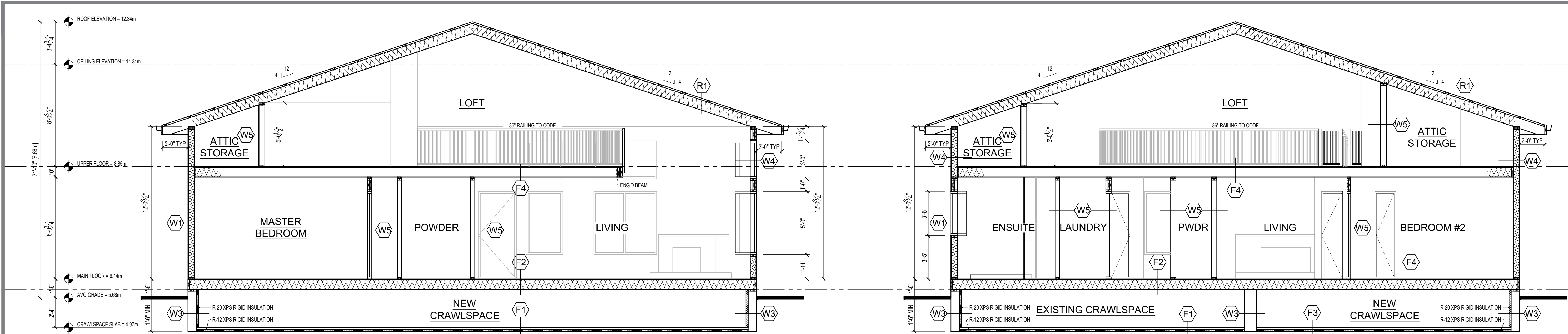
CLIENT:  
**STELLINGWERF  
RESIDENCE**

SHEET TITLE:  
**SITE PLAN  
ZONING ANALYSIS REVIEW  
ROOF PLAN**

PAGE No:  
**1**  
OF 6

DATE:  
01-28-2025  
PROJECT:  
RA-24-86  
DESIGNED/CHECKED:  
JM  
DRAWN:  
MS





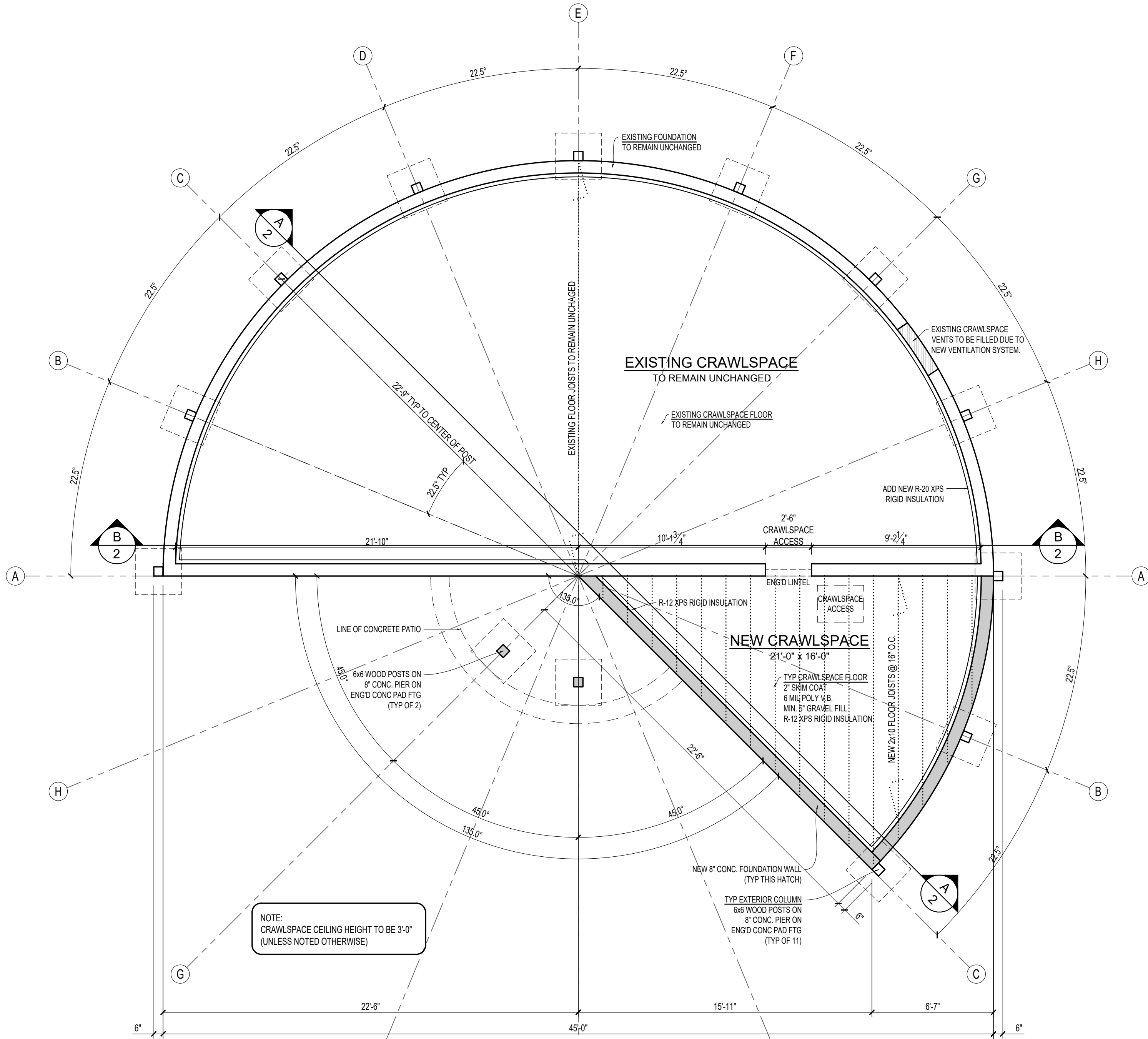
SECTION B

SCALE: 1/4" = 1'-0"

SECTION A

SCALE: 1/4" = 1'-0"

NOTE:  
BUILDER AND/OR OWNER IS TO VERIFY  
ALL ON SITE CONDITIONS, DIMENSIONS  
AND STRUCTURE PRIOR TO  
CONSTRUCTION. 4TH DIMENSION  
DESIGN & DRAFTING SERVICES DOES  
NOT ACCEPT ANY RESPONSIBILITY  
FOR DISCREPANCIES BETWEEN THESE  
DRAWINGS AND ON SITE CONDITIONS.



CRAWLSPACE PLAN

SCALE: 1/4" = 1'-0"

SPECIFICATIONS

WALL ASSEMBLIES

- (W1) EXISTING EXTERIOR WALL  
TO REMAIN UNCHANGED
- (W2) EXISTING INTERIOR WALL  
TO REMAIN UNCHANGED
- (W3) EXISTING FOUNDATION WALL  
TO REMAIN UNCHANGED
- (W4) NEW EXTERIOR WALL  
EXTERIOR FINISH (SEE ELEVATIONS)  
15LB. BUILDING PAPER  
1/2" PLYWOOD SHEATHING  
2x6 STUDS @ 16" O.C.  
R-24 BATT INSULATION  
6 MIL POLY V.B.  
1/2" PAINTED GYPROC
- (W5) NEW INTERIOR WALL  
1/2" GYPSUM BOARD - PAINTED  
2x4 STUDS @ 16" O.C.  
1/2" GYPSUM BOARD - PAINTED
- (W6) NEW FOUNDATION WALL  
DRAINAGE COMPOSITE  
(BELOW FINISHED GRADE)  
ASPHALT WATERPROOFING  
8" CONCRETE WALL c/w 15M REINF.  
@ 24" O.C. EW c/w  
R-20 XPS RIGID INSULATION

FLOOR ASSEMBLIES

- (F1) EXISTING CRAWLSPACE FLOOR  
TO REMAIN UNCHANGED
- (F2) EXISTING WOOD FLOOR  
TO REMAIN UNCHANGED
- (F3) NEW CRAWLSPACE FLOOR  
2" SKIM COAT  
6 MIL POLY V.B.  
MIN. 5" GRAVEL BASE  
R-12 XPS RIGID INSULATION
- (F4) NEW WOOD FLOOR  
5/8" T&G PLY DECKING  
(GLUED AND SCREWED)  
2x10 JOISTS @ 16" O.C.  
5/8" GYPSUM BOARD
- (F5) NEW DECK FLOOR  
APPROVED VINYL DECKING  
5/8" PLYWOOD DECKING  
2x10 DECK JOISTS @16 O.C.  
VENTED SOFFIT

ROOF ASSEMBLIES

- (R1) NEW RAFTER ROOF  
ASPHALT SHINGLE ROOFING  
15 LBS. BUILDING PAPER  
1/2" PLYWOOD SHEATHING  
2x4 STRAPPING @ 24" O.C. FOR X-VENT  
2x12 RAFTERS @ 22.5" O.C.  
R32 BATT INSULATION  
6 MIL POLY V.B.  
5/8" GYPROC

PROJECT TITLE:  
32-9053 SHOOK RD.  
MISSION, BC

CLIENT:  
STELLINGWERF  
RESIDENCE

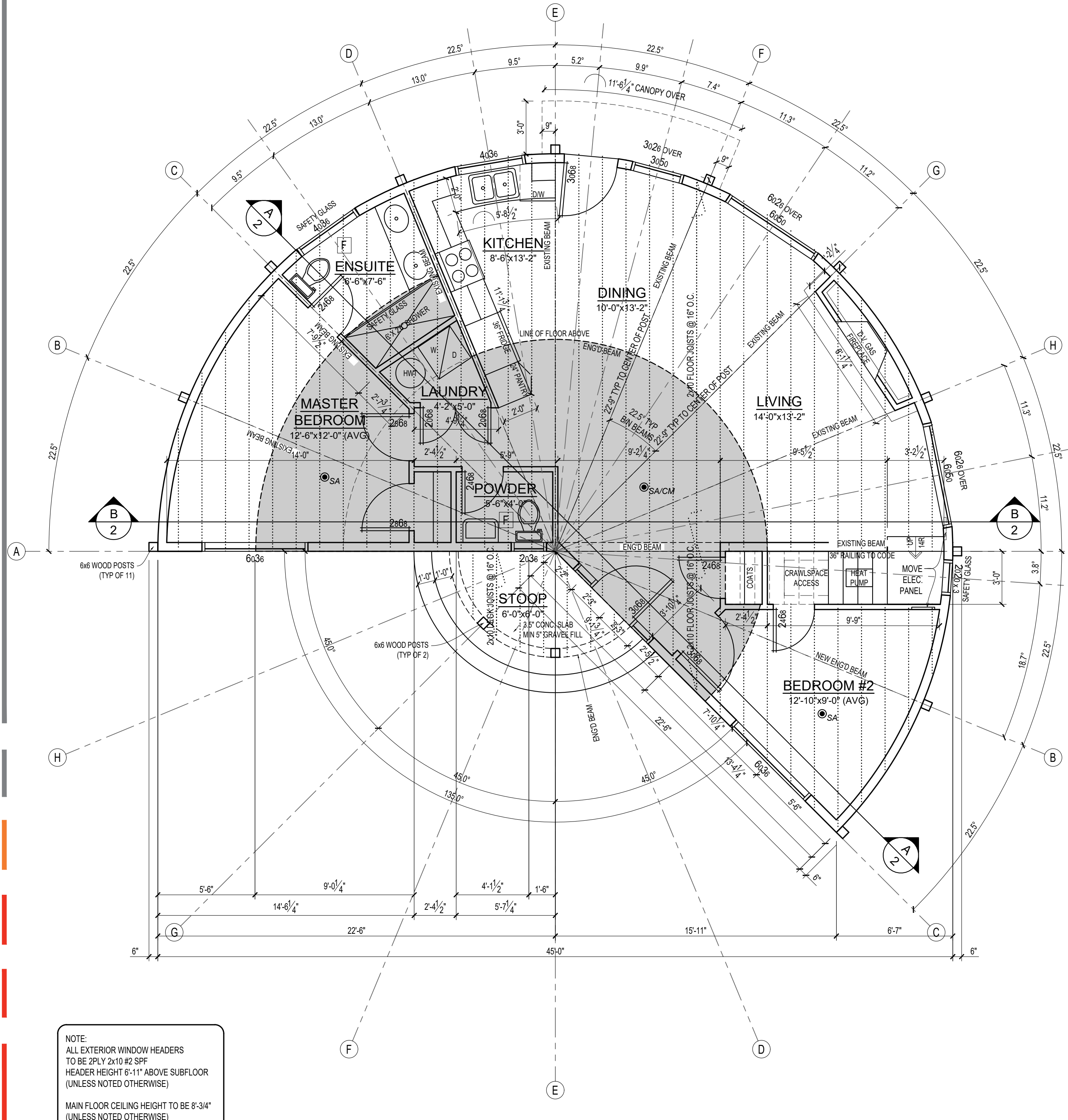
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2  
OF 6

REV.	DATE	DESCRIPTION

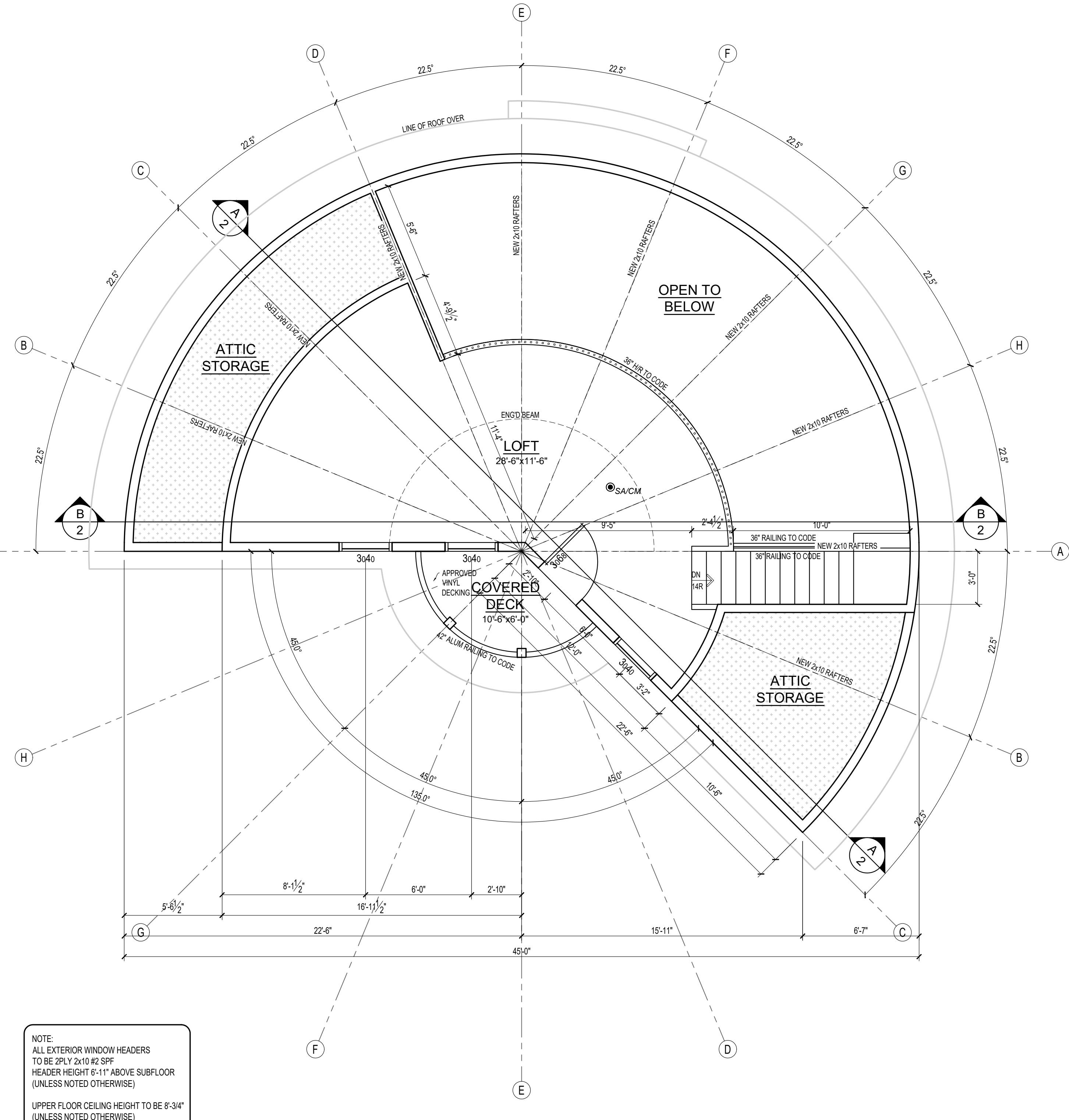
4TH DIMENSION DESIGN + DRAFTING  
3-33192 1ST AVE. MISSION, BC, V2V 1G4  
P.604.557.9465 C.604.832.8811  
www.4ddrafting.com info@4ddrafting.com

SHEET TITLE:  
CRAWLSPACE PLAN  
SECTION A  
DATE:  
01-28-2025  
PROJECT:  
RA-24-86  
DESIGNED/CHECKED:  
JM  
DRAWN:  
MS





**MAIN FLOOR PLAN** 198 SQ.FT.(ADDITION)  
SCALE: 1/4" = 1'-0" 795 SQ.FT.(EXISTING)



**UPPER FLOOR PLAN** 362 SQ.FT.(ADDITION)  
SCALE: 1/4" = 1'-0"

NOTE:  
BUILDER AND/OR OWNER IS TO VERIFY  
ALL ON SITE CONDITIONS, DIMENSIONS  
AND STRUCTURE PRIOR TO  
CONSTRUCTION. 4TH DIMENSION  
DESIGN & DRAFTING SERVICES DOES  
NOT ACCEPT ANY RESPONSIBILITY  
FOR DISCREPANCIES BETWEEN THESE  
DRAWINGS AND ON SITE CONDITIONS.

PROJECT TITLE:  
**32-9053 SHOOK RD.  
MISSION, BC**

CLIENT:  
**STELLINGWERF  
RESIDENCE**

SHEET TITLE:  
**MAIN FLOOR PLAN  
UPPER FLOOR PLAN**

DATE:  
01-28-2025  
PROJECT:  
RA-24-86  
DESIGNED/CHECKED:  
JM  
DRAWN:  
MS

3  
OF 6

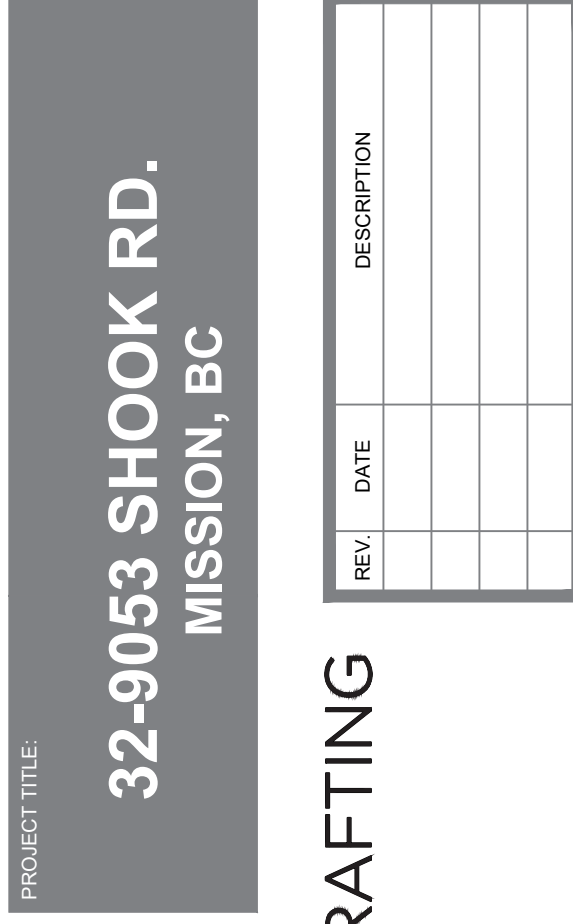
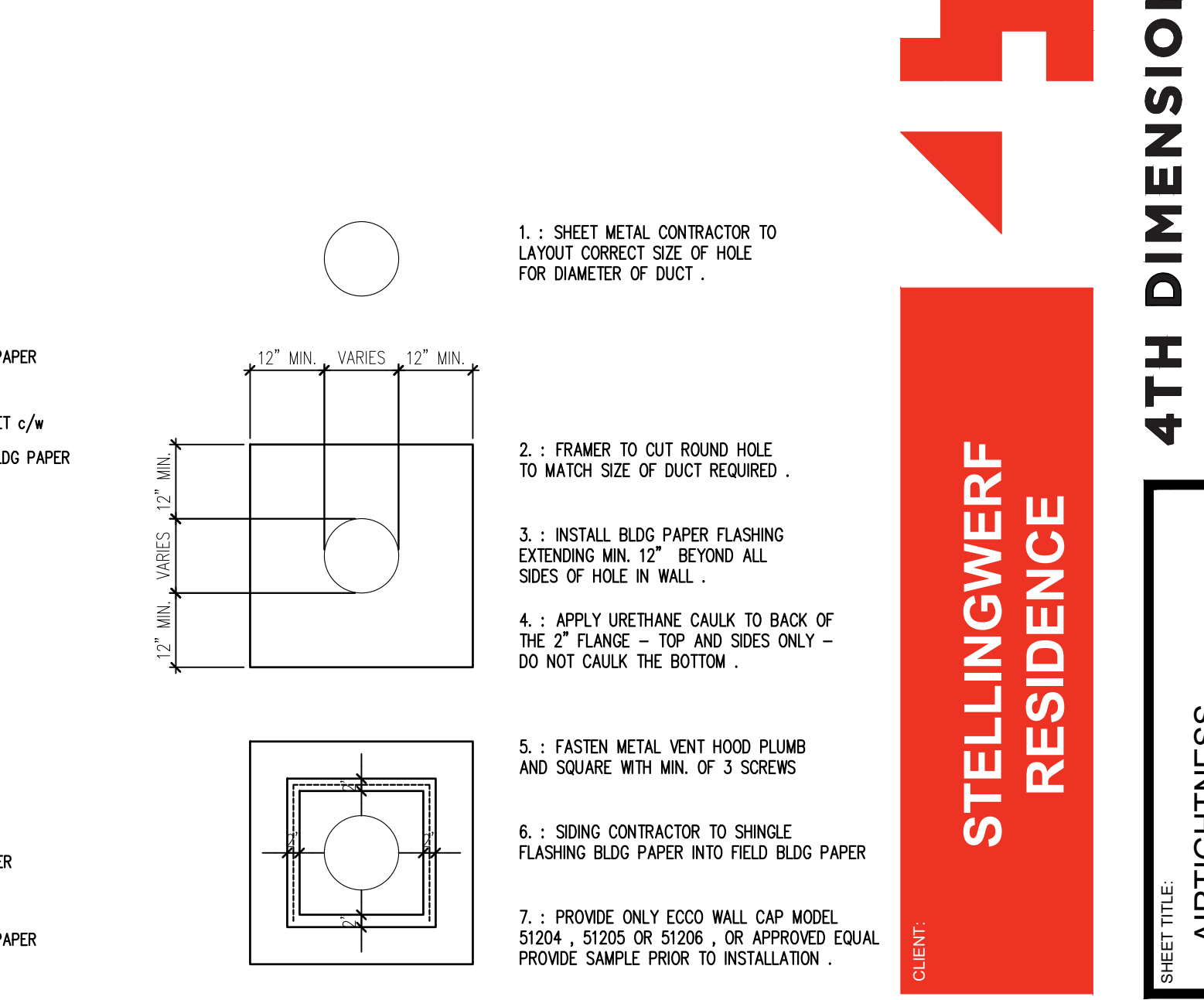
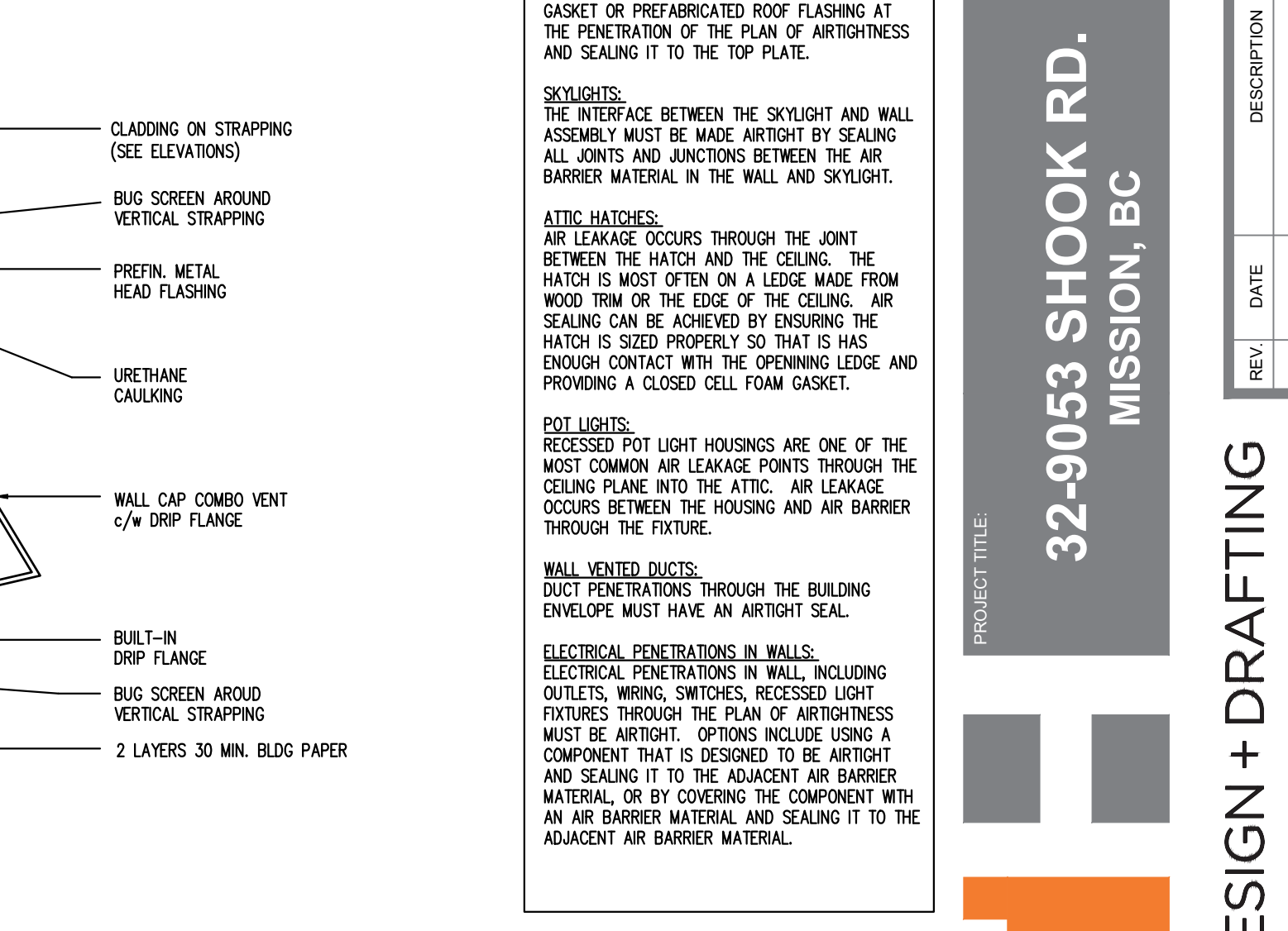
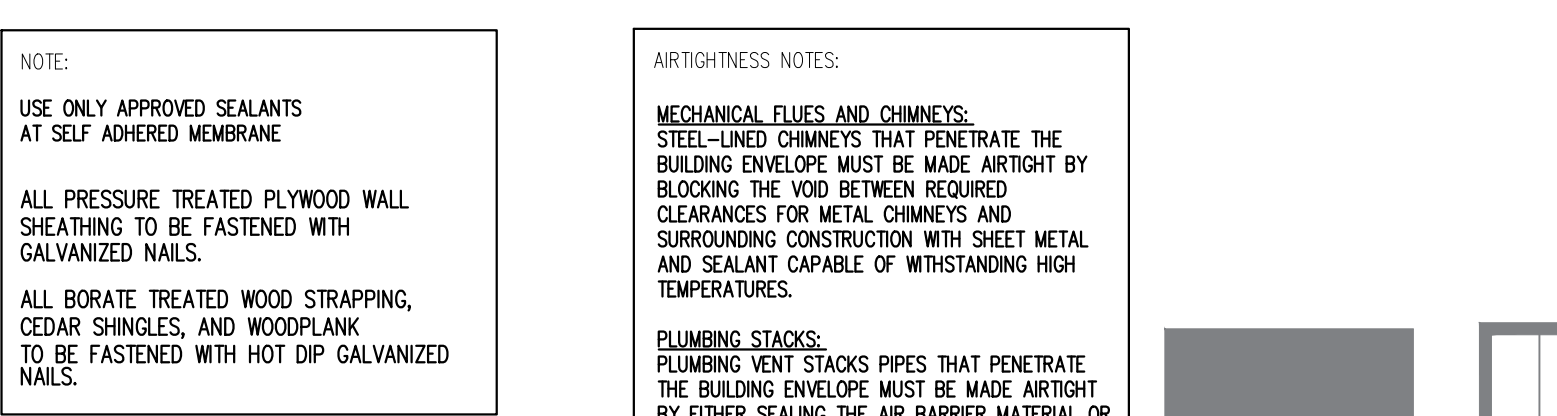
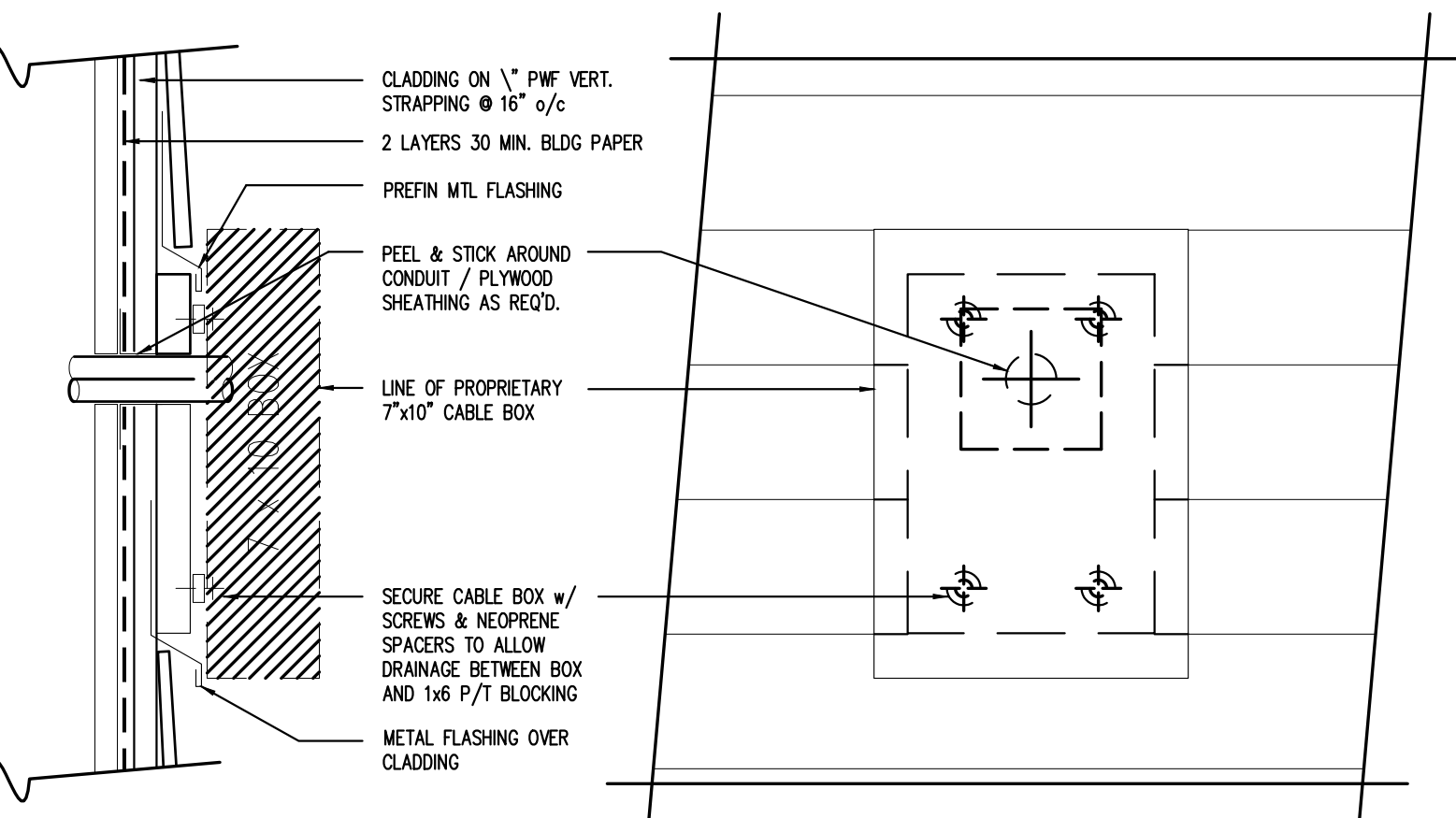
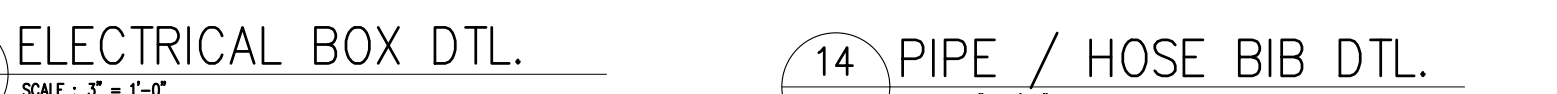
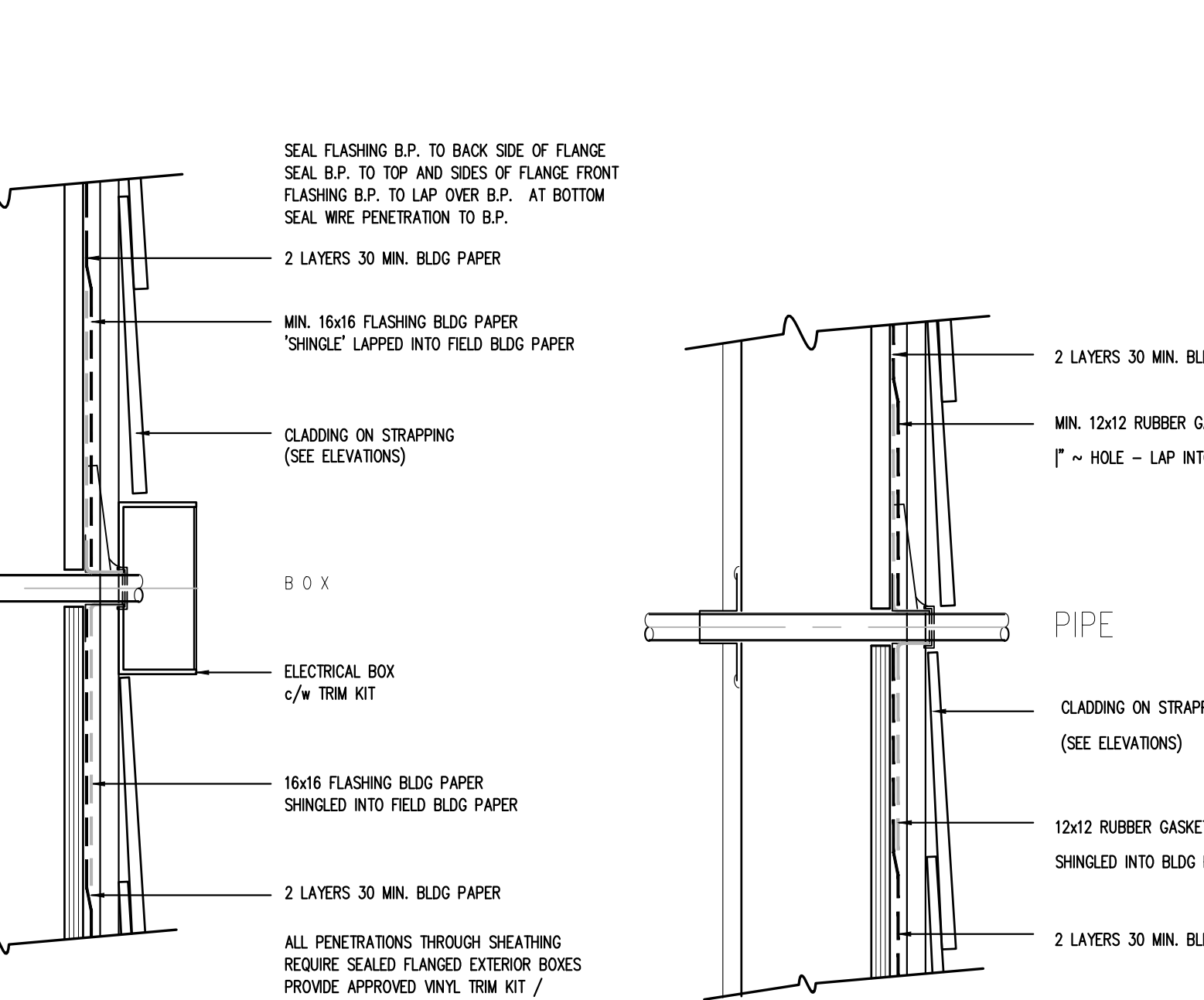
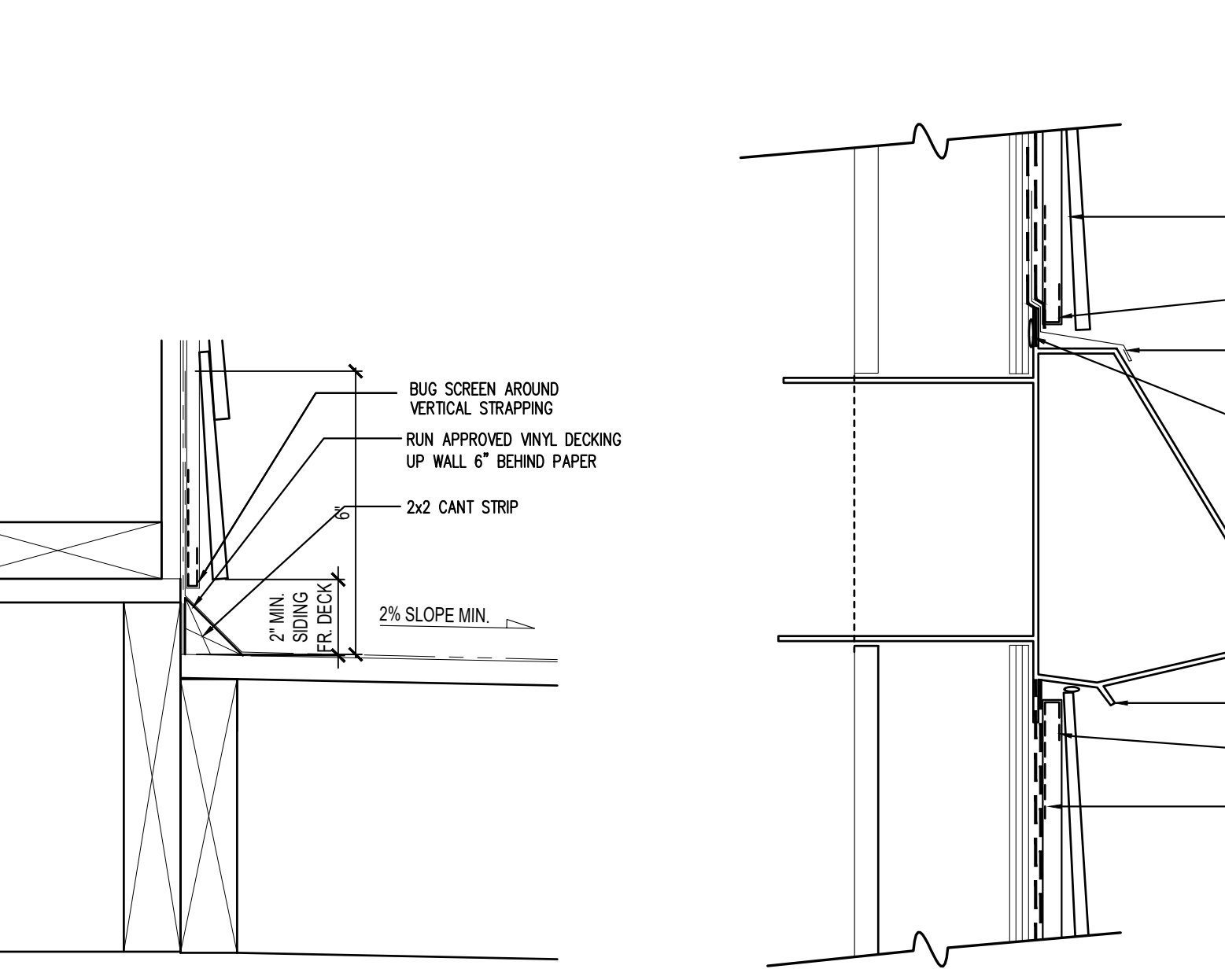
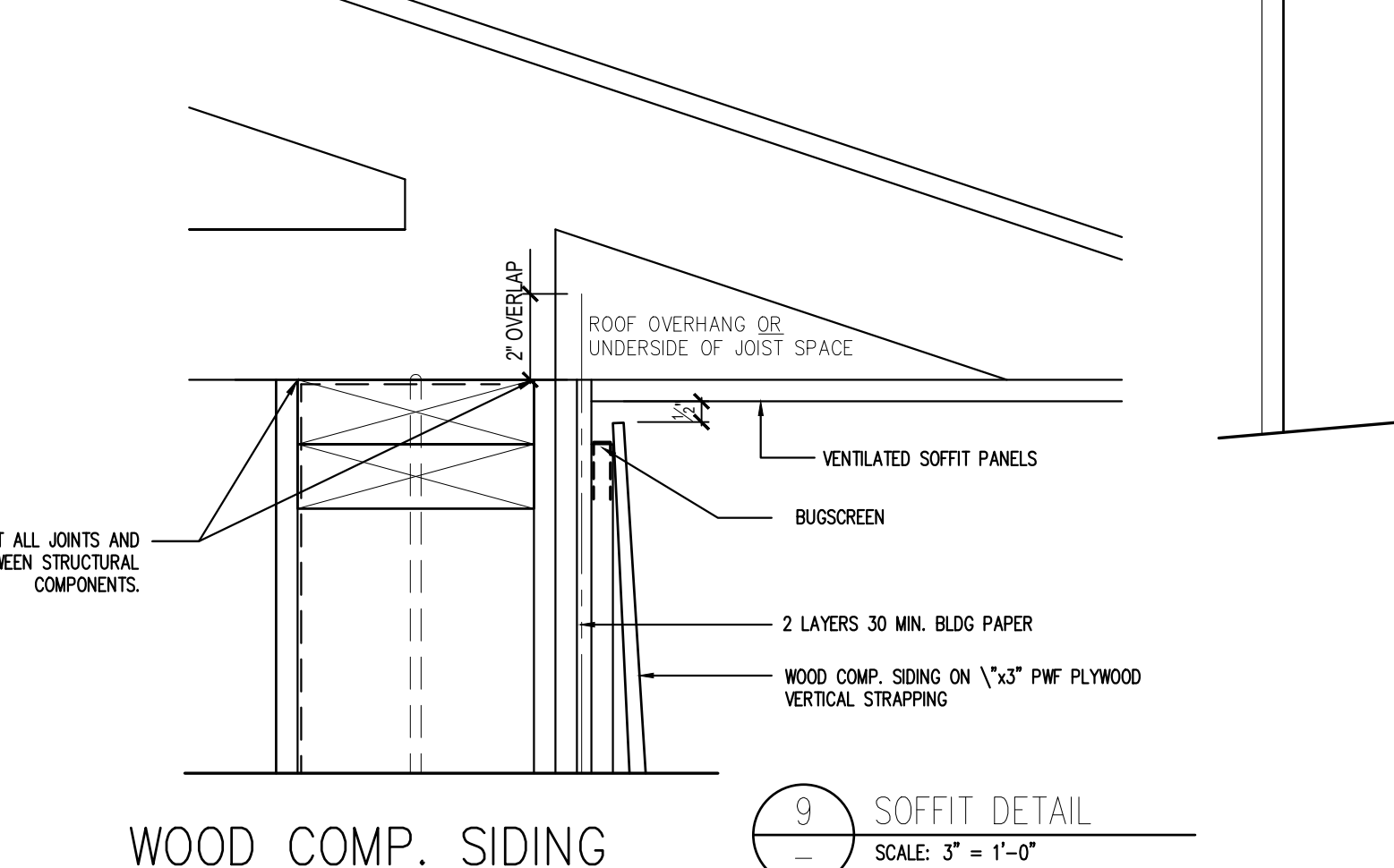
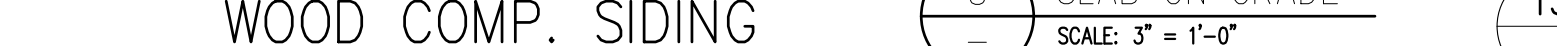
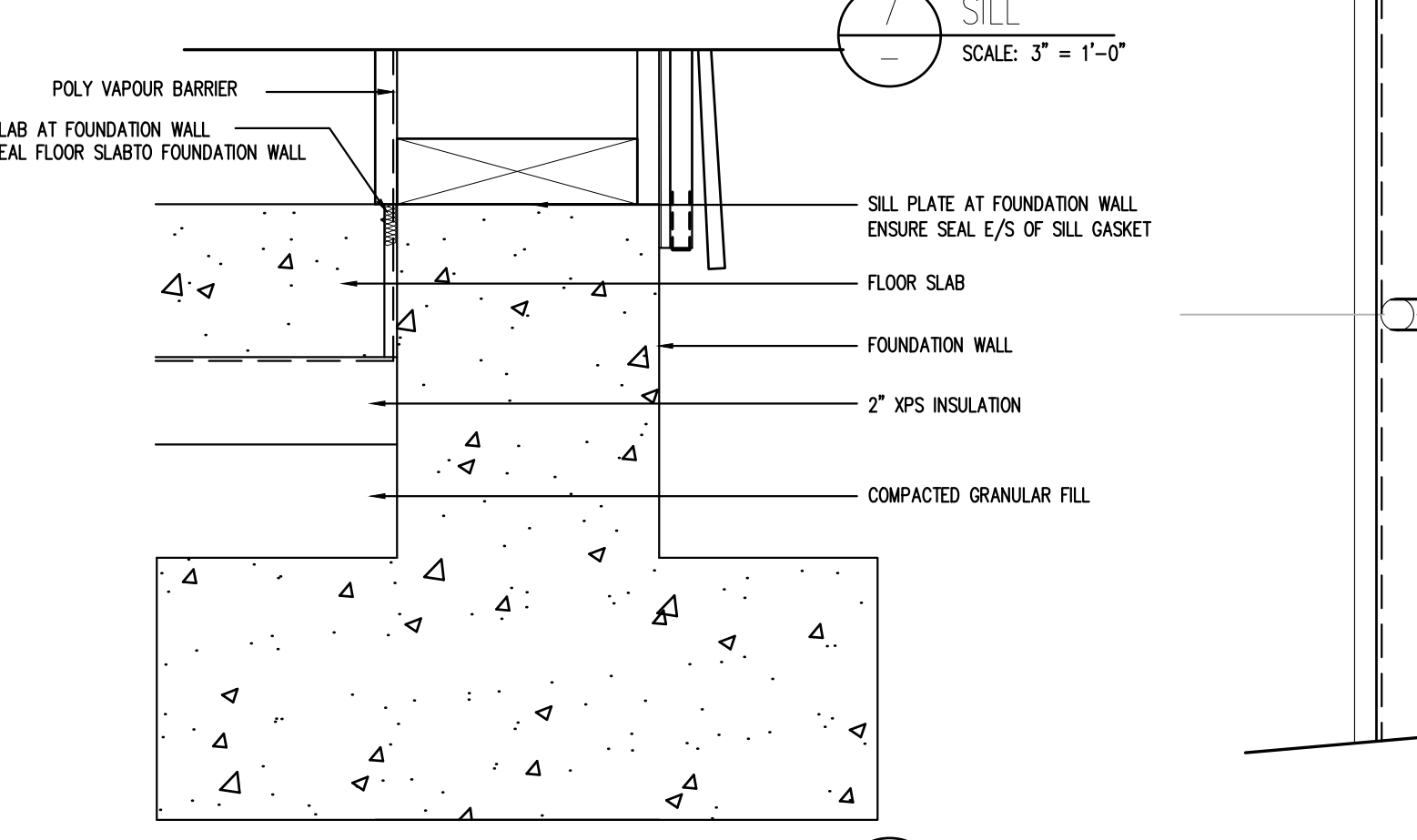
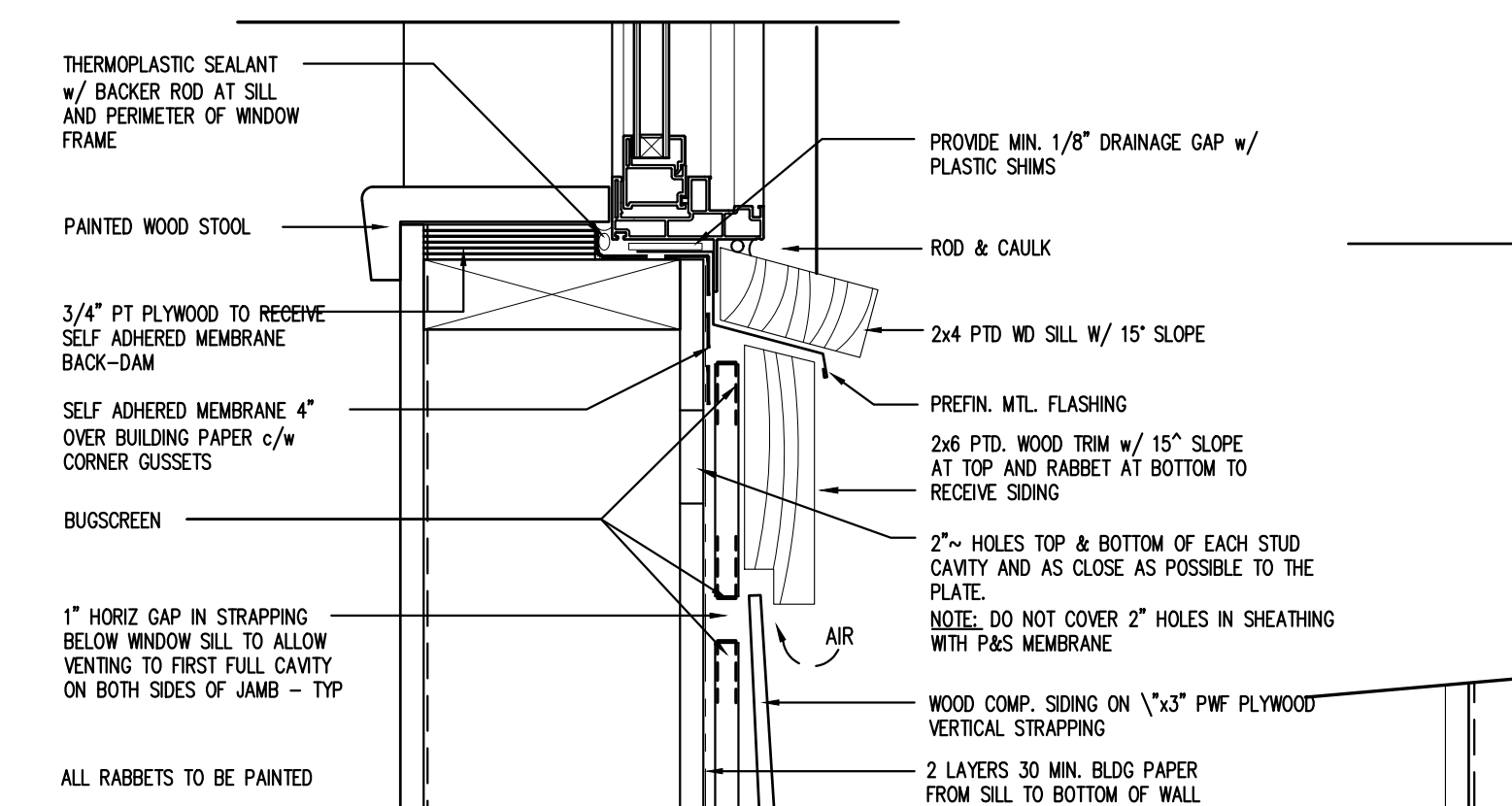
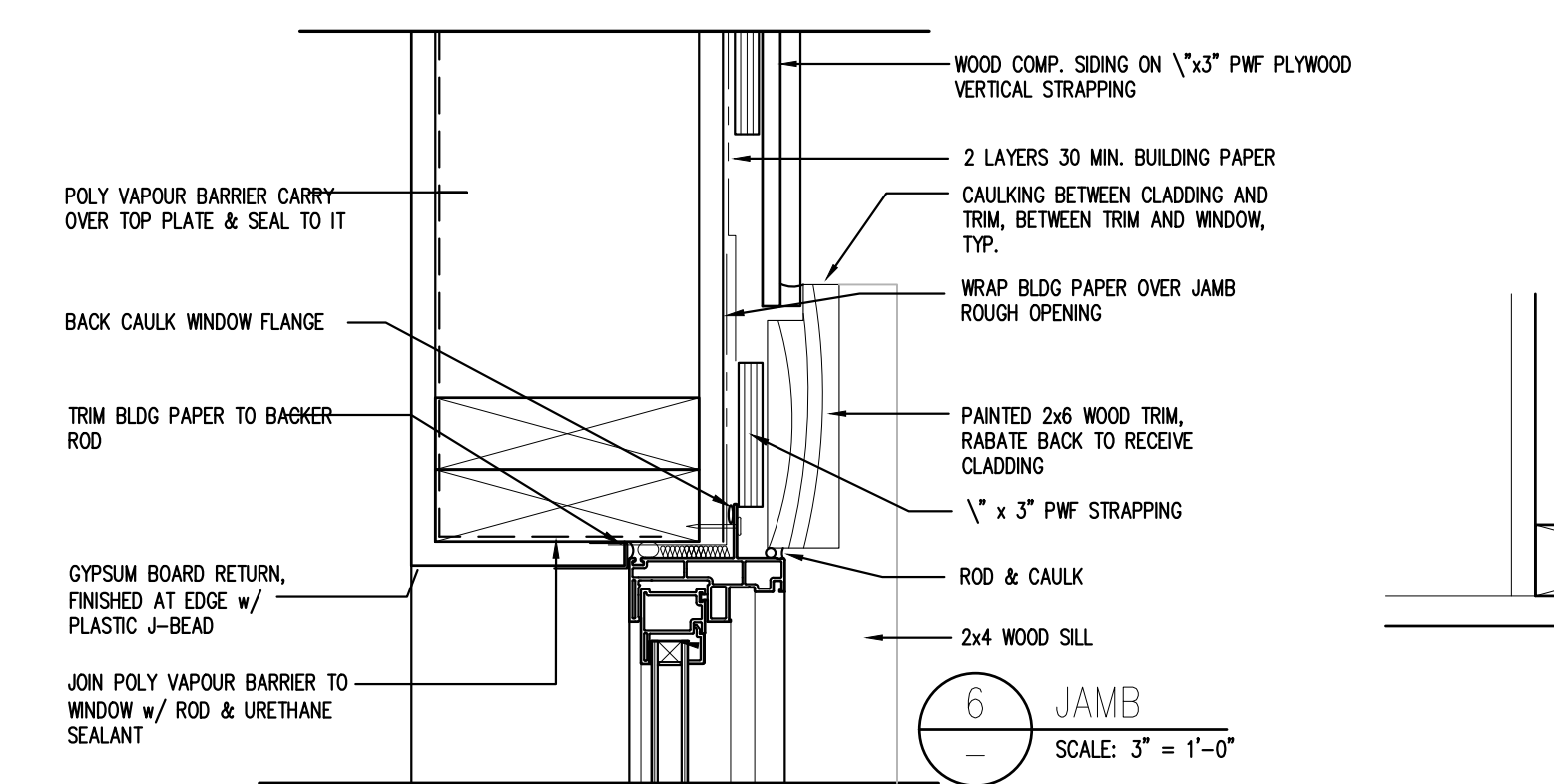
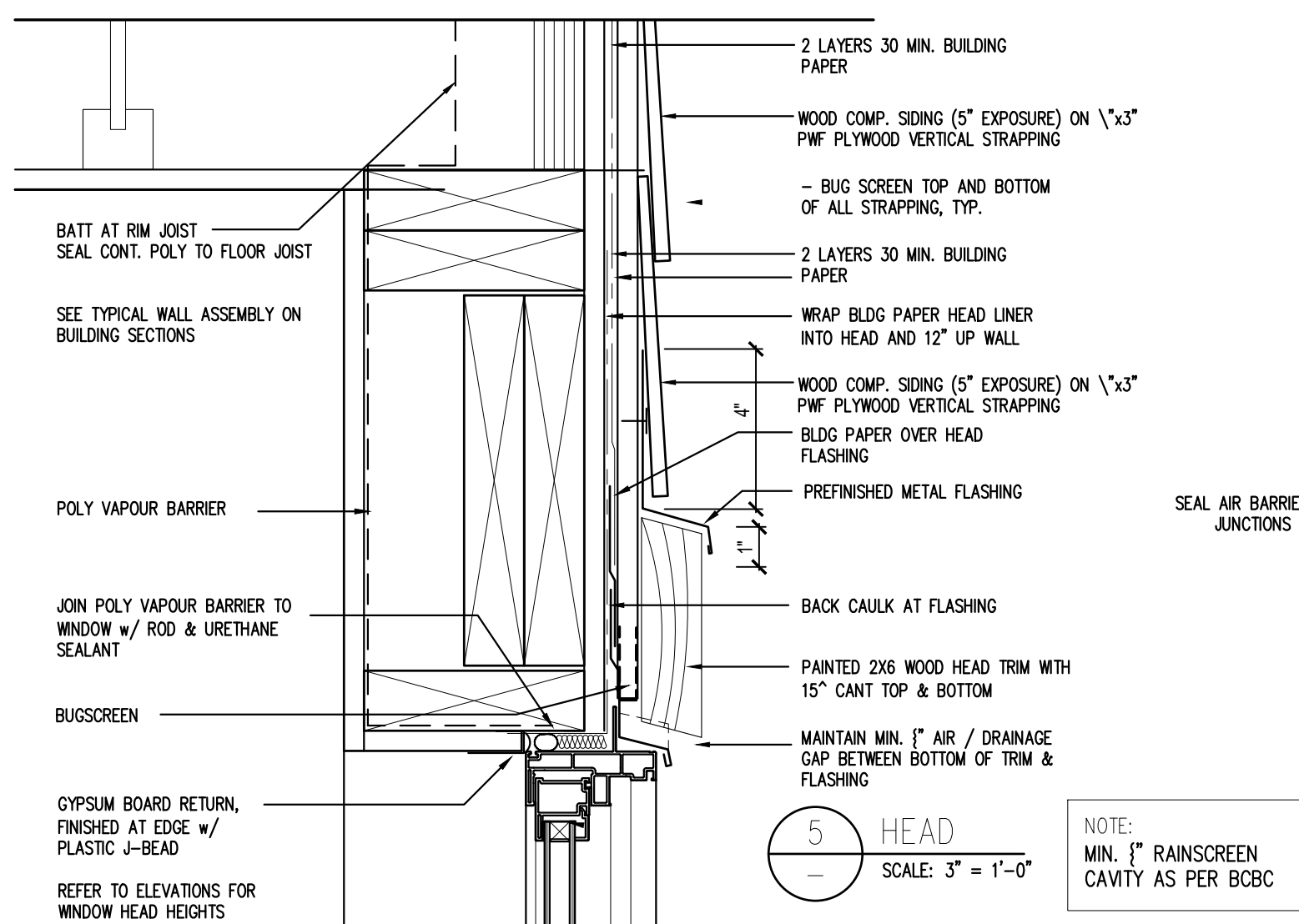
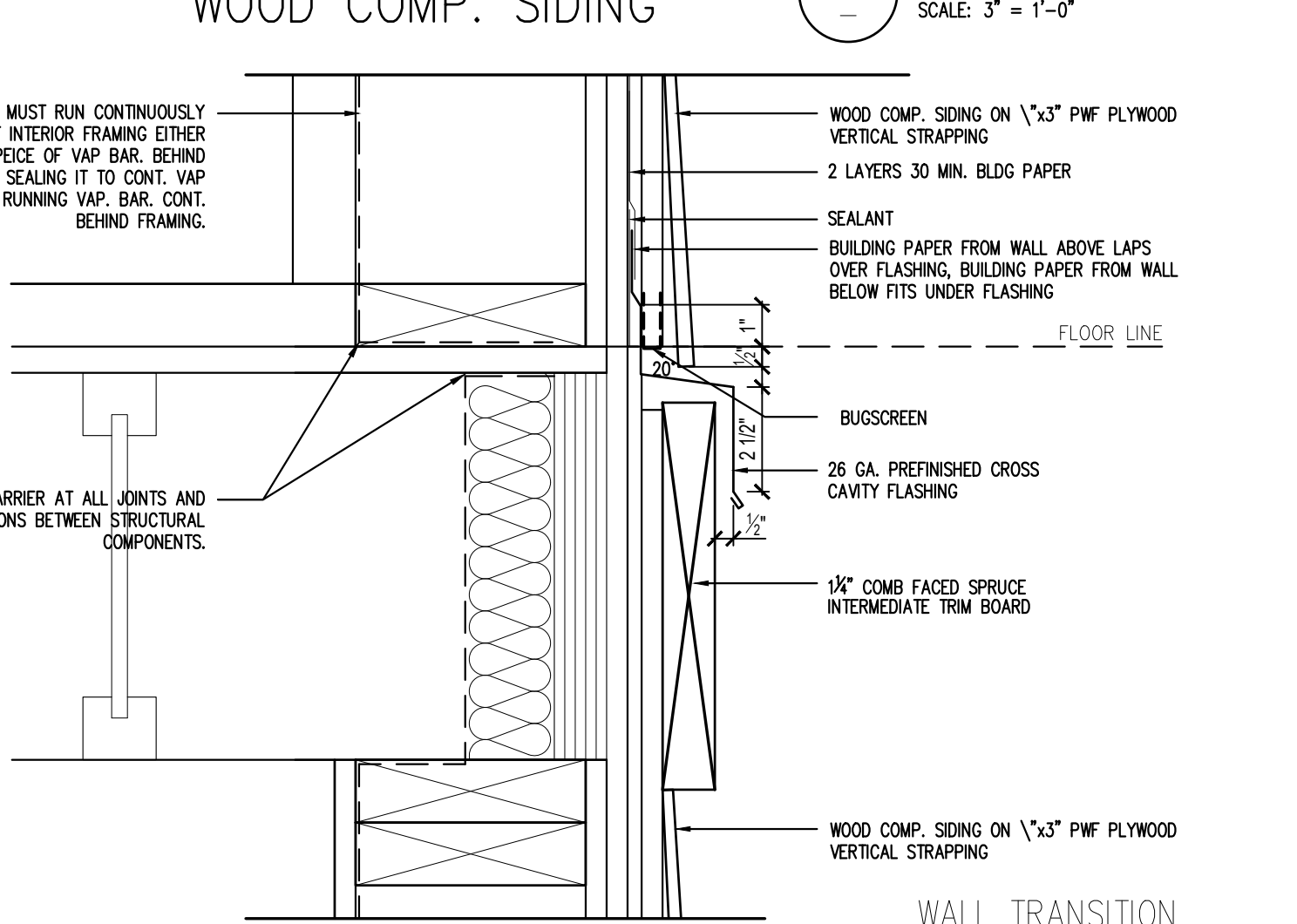
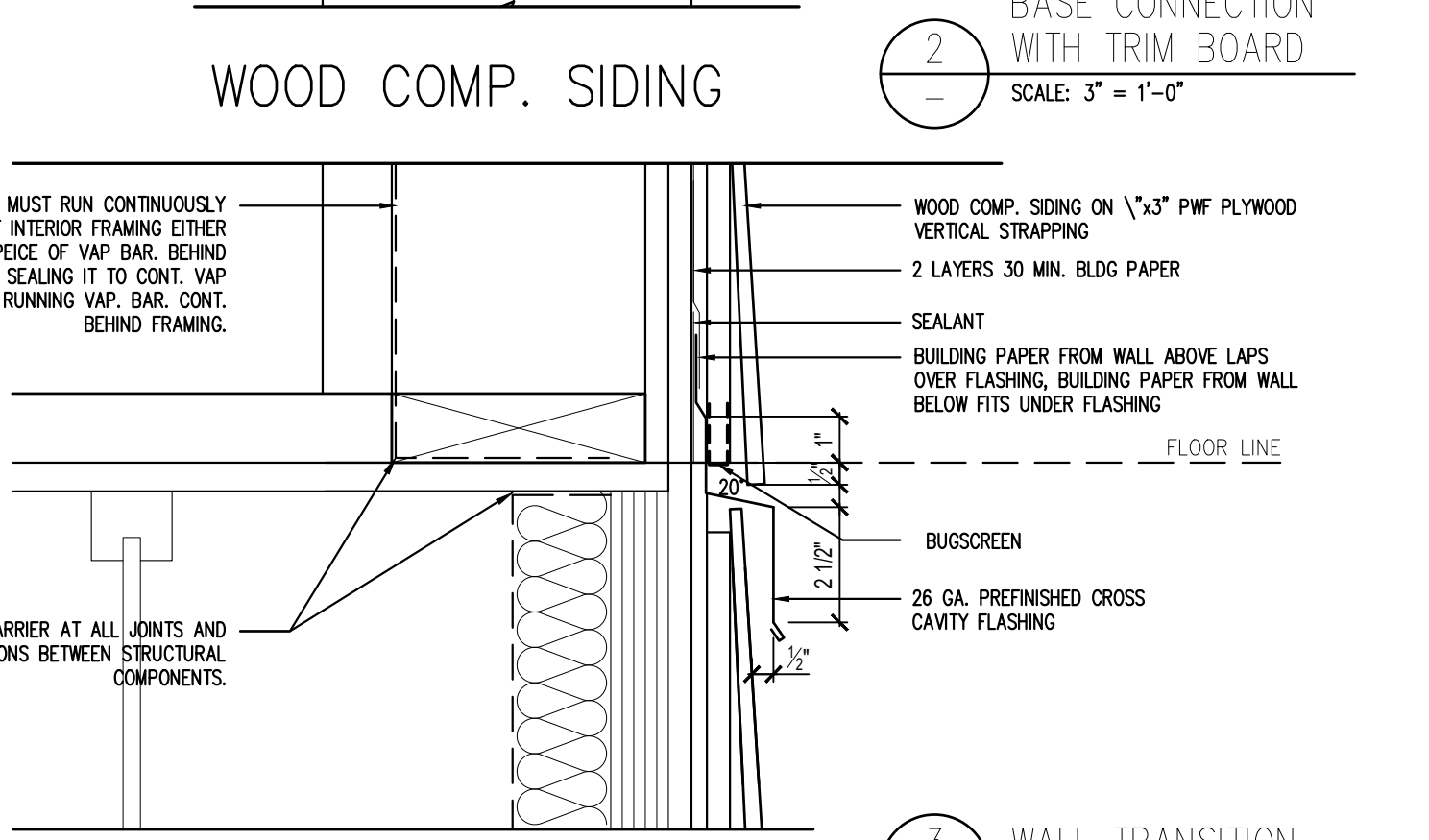
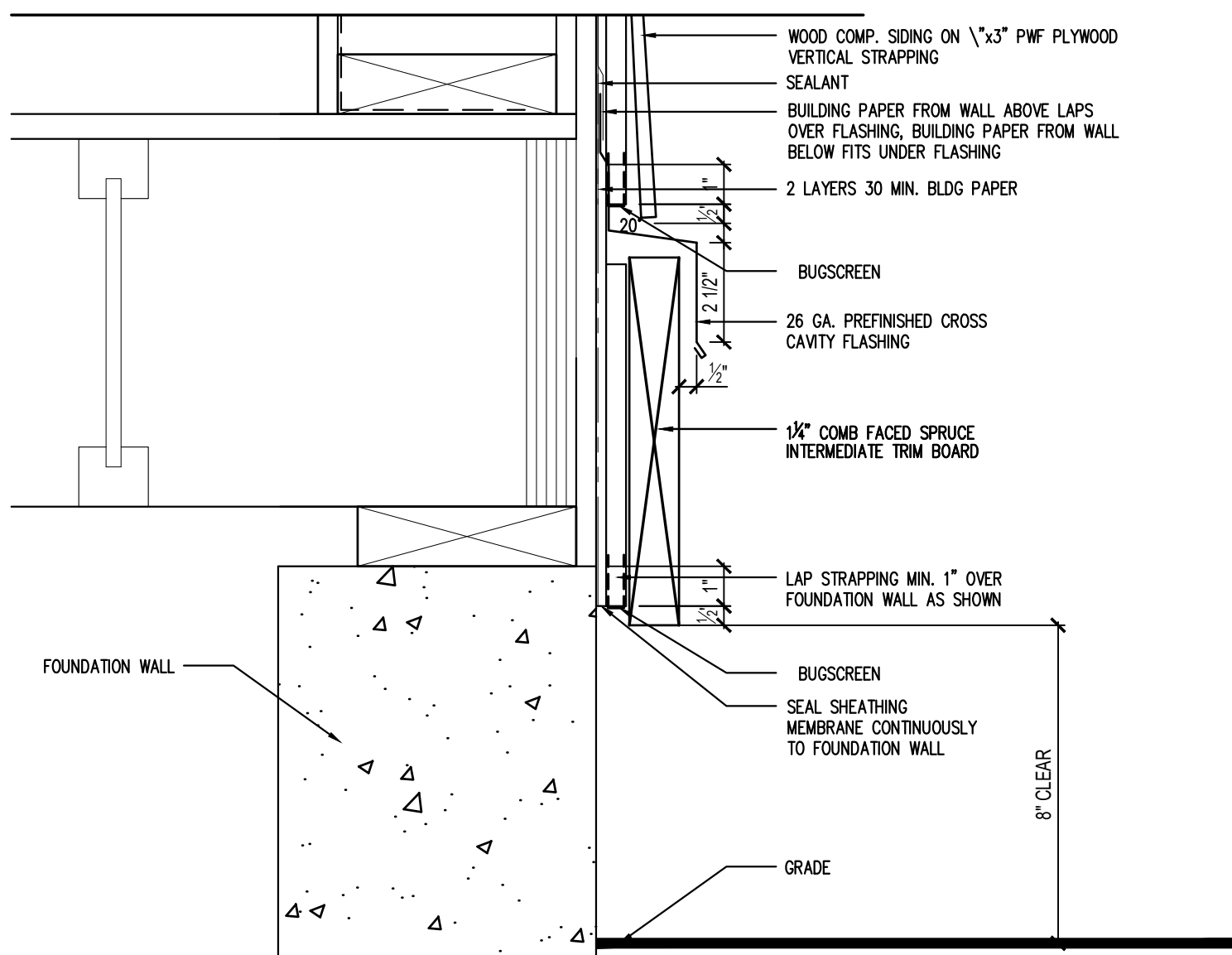
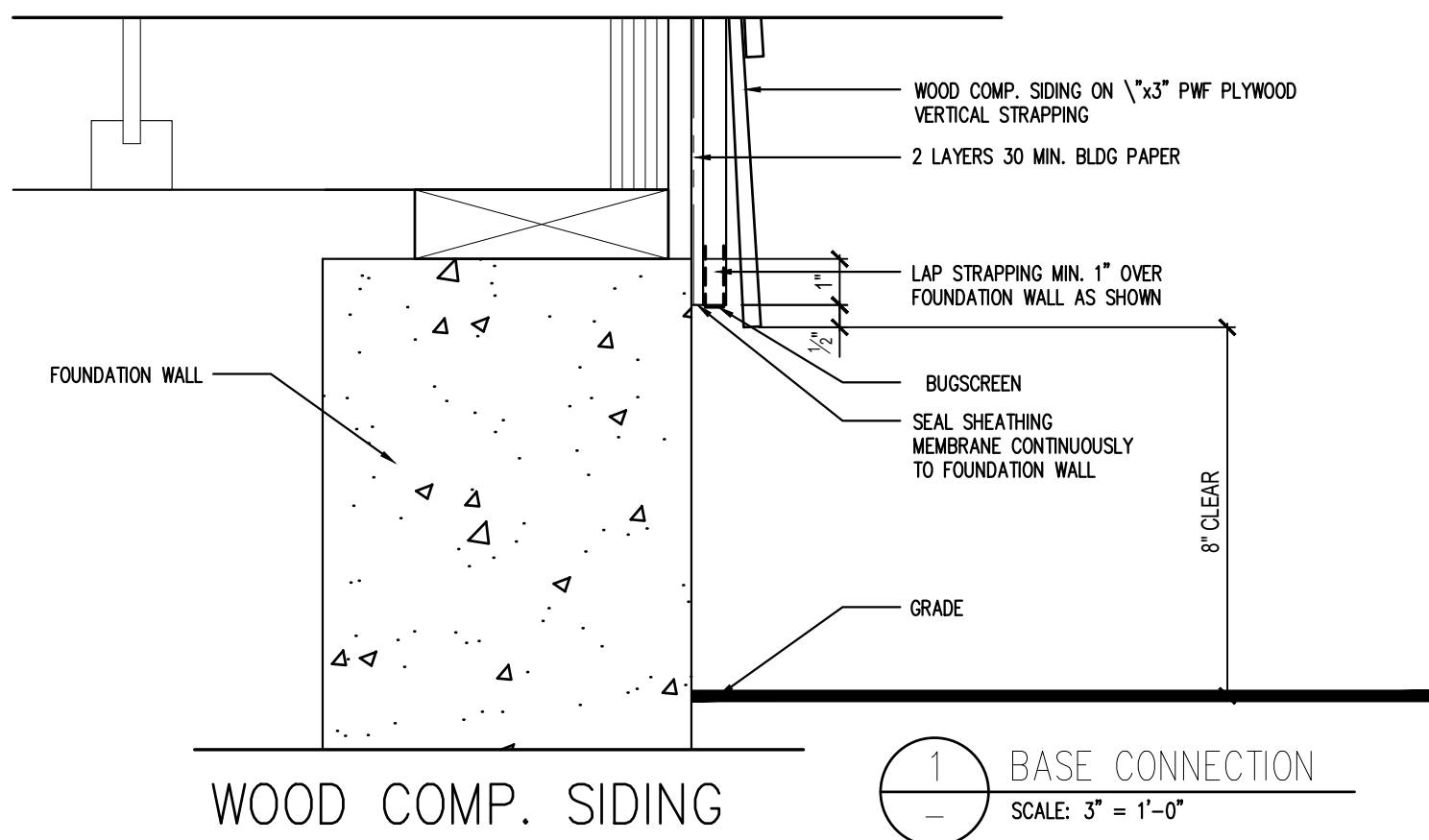
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REV.	DATE	DESCRIPTION



DATE:	01-28-2025
PROJECT:	RA-24-86
DESIGNED/CHECKED:	JM
DRAWN:	MS







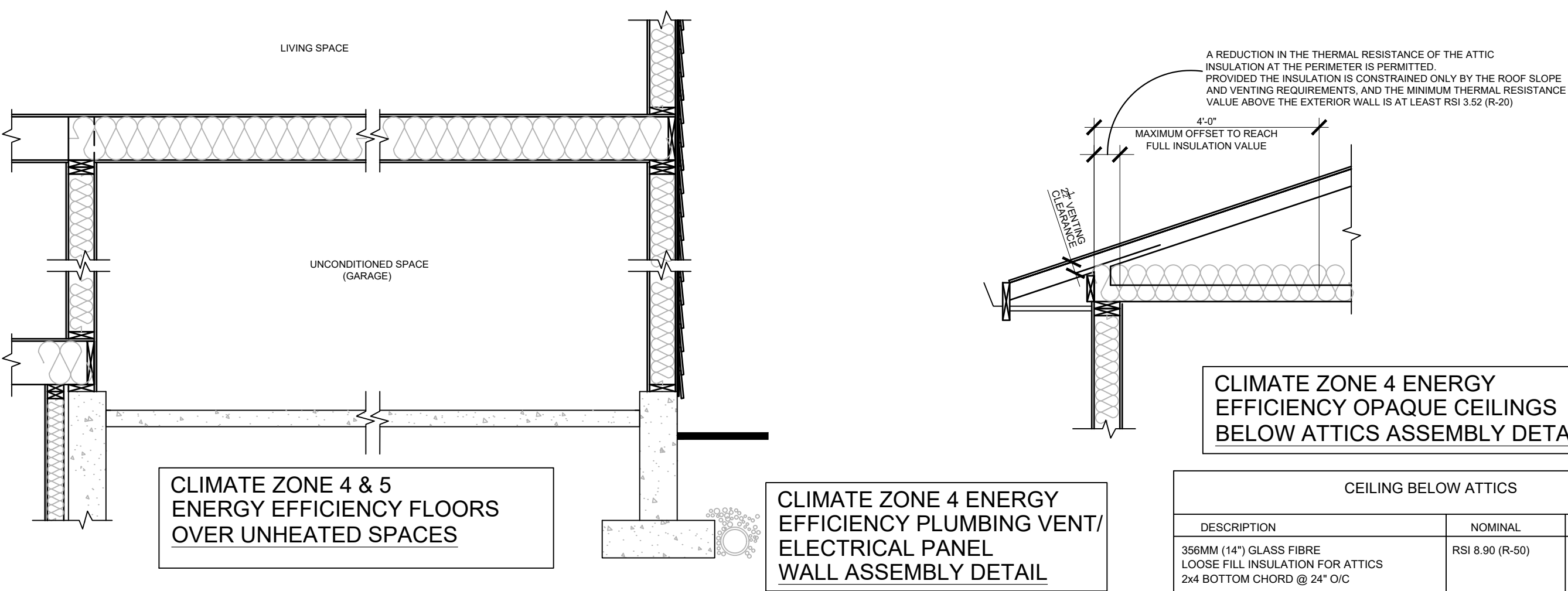
FLOORS OVER UNHEATED SPACES (HARDWOOD FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.12	
2. FLOORING MATERIAL- HARDWOOD	0.12	
3. 5/8" PLYWOOD SUBFLOOR	0.14	
4. 3/4" AIR BARRIER	0.18	
5. POLYETHYLENE	0.10	
6. 5/8" GYPSUM CEILING BOARD	0.03	
7. EXTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 4.97 (R-28.2)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.18 (R-29.4)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CARPET FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.12	
2. FLOORING MATERIAL- CARPET & RUBBER PAD	0.22	
3. 5/8" PLYWOOD SUBFLOOR	0.14	
4. 3/4" AIR BARRIER	0.18	
5. POLYETHYLENE	0.10	
6. 5/8" GYPSUM CEILING BOARD	0.03	
7. EXTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 5.07 (R-28.8)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.18 (R-30.0)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

FLOORS OVER UNHEATED SPACES (CERAMIC TILE FLOORING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.28 (R-24.3)
R-32 BATT INSULATION IN I-JOIST WOOD FRAMING @ 16" O/C	RSI 4.93 (R-28)	RSI 4.49 (R-25.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.12	
2. FLOORING MATERIAL- CERAMIC TILE	0.005	
3. 1/4" PLYWOOD SUBFLOOR	0.05	
4. 5/8" PLYWOOD SUBFLOOR	0.14	
5. 3/4" AIR BARRIER	0.18	
6. POLYETHYLENE	0.10	
7. 5/8" GYPSUM CEILING BOARD	0.03	
8. EXTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE (2x10 FRAMING)		RSI 4.90 (R-27.8)
TOTAL EFFECTIVE INSULATION VALUE (I-JOIST FRAMING)		RSI 5.11 (R-29.0)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

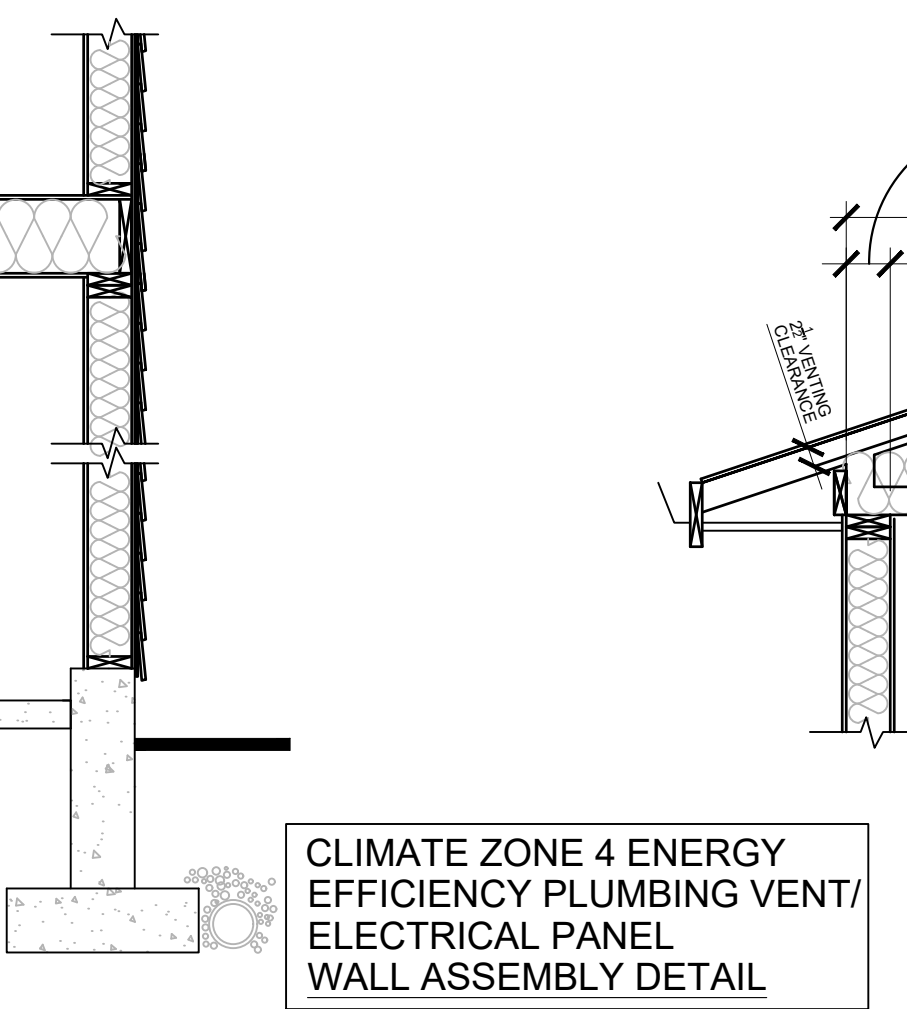
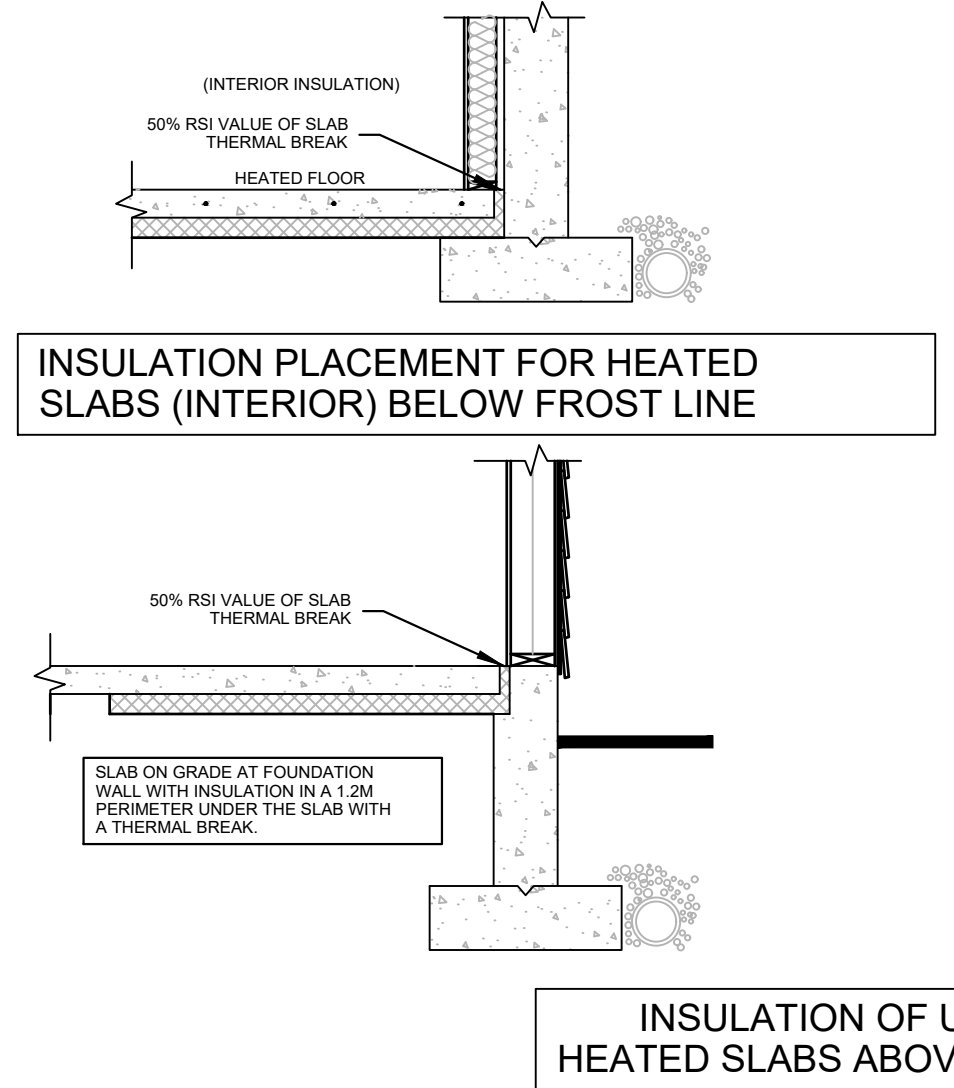
ABOVE GRADE WALL ASSEMBLY (HOLLOW BACKED VINYL SIDING)		
DESCRIPTION	NOMINAL	EFFECTIVE
R-24 BATT INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 4.22 (R-24)	RSI 2.95 (R-16.8)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. EXTERIOR AIR FILM	0.03	
2. VINYL CLADDING HOLLOW BACKED	0.11	
3. SHEATHING MEMBRANE	0.11	
4. 1/2" PLYWOOD SHEATHING	0.11	
5. POLYETHYLENE	0.08	
6. 1/2" GYPSUM WALL BOARD	0.12	
7. INTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE		RSI 0.45 (R-2.81)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

SPECIFIC REQUIREMENTS	
<ul style="list-style-type: none"> <li>EFFECTIVE INSULATION OF CEILINGS, WALLS, AND FLOORS MEET THE REQUIREMENTS OF TABLE 9.36.2.6.A AND TABLE 9.36.2.6.B FOR THE CORRECT CLIMATE ZONE</li> <li>THE THERMAL CHARACTERISTICS OF WINDOWS, DOOR AND SKYLIGHTS MEET THE REQUIREMENTS OF TABLE 9.36.2.7.A, B AND C FOR CORRECT CLIMATE ZONE</li> <li>EFFECTIVE INSULATION OF FOUNDATIONS MEET THE REQUIREMENTS OF TABLE 9.36.2.8.A OR B FOR THE CORRECT CLIMATE ZONE</li> <li>DUCTS LOCATED OUTSIDE THE THERMAL ENCLOSURE ARE SEALED AND INSULATED TO THE EXTERIOR WALL INSULATION REQUIREMENTS</li> <li>DAMPERS ARE INSTALLED AT AIR INLETS AND EXHAUSTS WHERE REQUIRED</li> <li>PIPING FOR HEATING OR COOLING SYSTEMS IS LOCATED WITHIN THE THERMAL ENCLOSURE OR ARE FULLY INSULATED</li> <li>HVAC EQUIPMENT IS LOCATED WITHIN THERMAL ENCLOSURE OR DESIGNATED TO BE INSTALLED OUTSIDE OF THERMAL ENCLOSURE</li> <li>TEMPERATURE CONTROLS ARE INSTALLED ON HEATING AND COOLING EQUIPMENT</li> <li>INDOOR POOLS ARE COVERED OR HAVE AN HRV/DEHUMIDIFIER</li> <li>HVAC &amp; SHW EQUIPMENT MEET MINIMUM PERFORMANCE REQUIREMENTS DETERMINED IN TABLES 9.36.3.10 AND 9.36.4.2</li> <li>SERVICE WATER HEATING PIPES ARE INSULATED AT THE INLET AND OUTLET OF STORAGE TANKS</li> <li>SERVICE WATER HEATERS HAVE TEMPERATURE CONTROLS</li> <li>THE AIR BARRIER DETAILS, AND LOCATIONS HAVE BEEN IDENTIFIED</li> </ul>	
TEMPERATURE CONTROLS AS PER SECTION 9.36.3.6	
<ul style="list-style-type: none"> <li>TEMPERATURE CONTROLS ARE GENERALLY REQUIRED FOR HEATING AND COOLING EQUIPMENT. THE ACCURACY OF THE CONTROL MUST BE BETTER THAN PLUS OR MINUS 0.5 DEGREES CELSIUS</li> </ul>	
ENERGY EFFECIENCY REQUIREMENTS	
<ul style="list-style-type: none"> <li>THIS HOME IS DESIGNED TO COMPLY WITH ENERGY EFFECIENCY REQUIREMENTS AND VALUES USING THE PRESCRIPTIVE METHOD FOR CLIMATE 4-LOWER MAINLAND AND SOUTHERN VANCOUVER ISLAND WITH NO H.V. (BCBC 2018 LATEST EDITION)</li> </ul>	



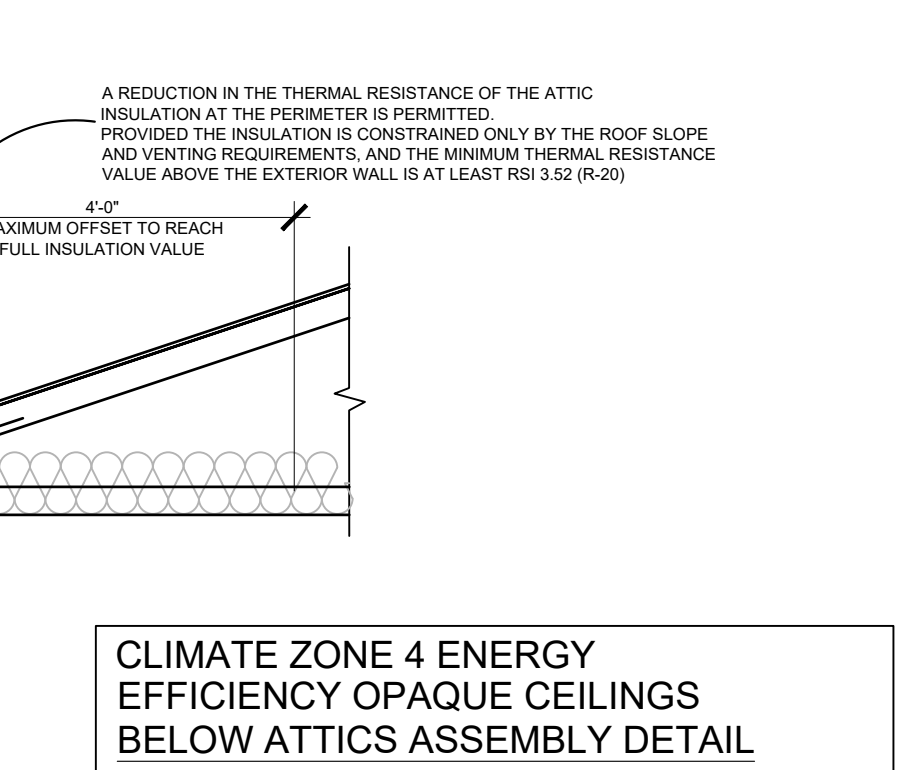
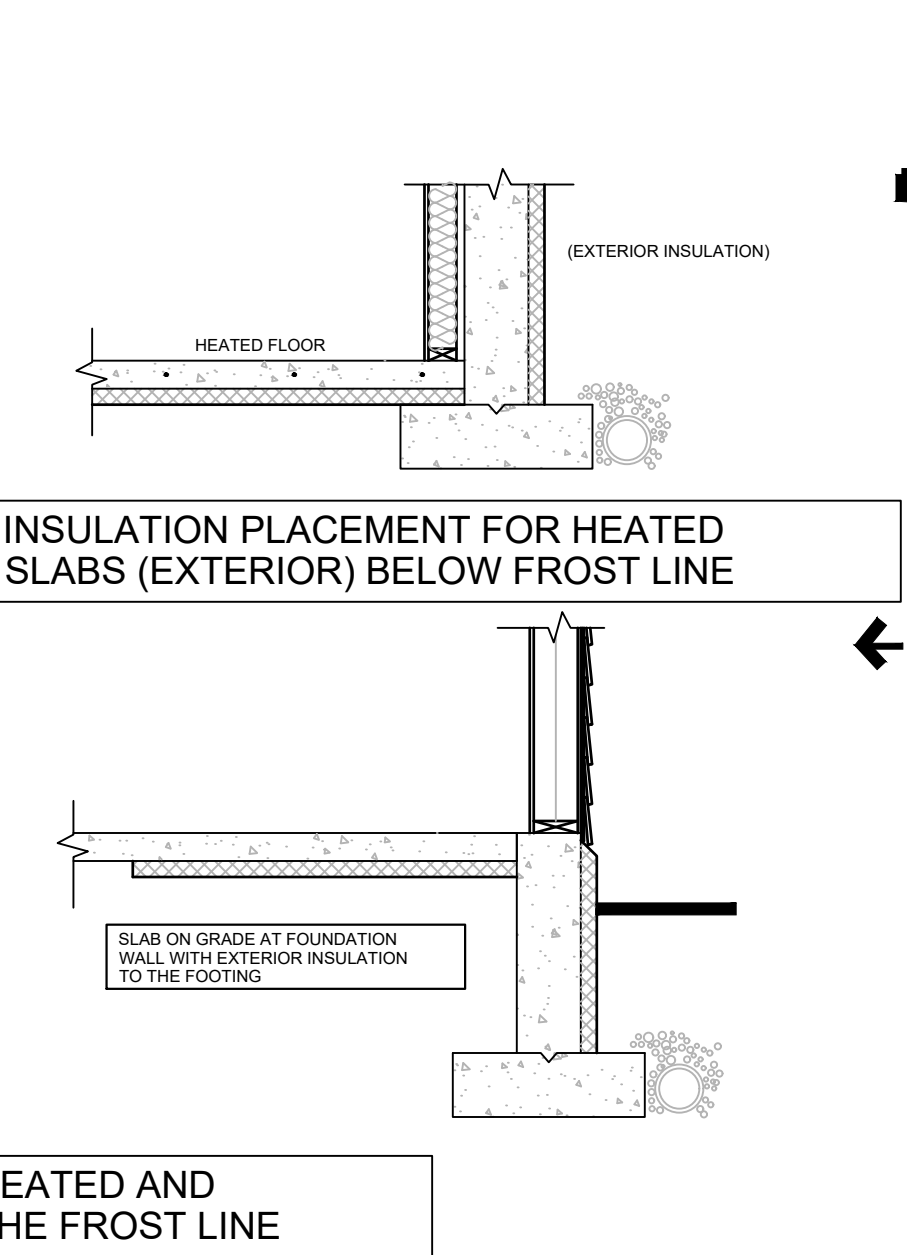
WALLS ADJOINING ENCLOSED UN-CONDITIONED SPACE		
DESCRIPTION	NOMINAL	EFFECTIVE
R24 BATT INSULATION IN 2X6 WOOD FRAMING @ 16" O/C	RSI 4.22 (R-24)	RSI 3.25 (R-18.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. EXTERIOR AIR FILM	0.03	
2. VINYL CLADDING HOLLOW BACKED	0.11	
3. SHEATHING MEMBRANE	0.11	
4. 1/2" PLYWOOD SHEATHING	0.16	
5. 2 1/2" AIR CAVITY	0.16	
6. POLYETHYLENE	0.08	
7. 1/2" GYPSUM WALL BOARD	0.12	
8. INTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.56 (R-15.17)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

BELOW GRADE HEATED FLOOR		
DESCRIPTION	NOMINAL	EFFECTIVE
3.5" POURED IN-PLACE CONCRETE SLAB	RSI 3.11 (R-17.6)	RSI 3.11 (R-17.6)
3.5" EXTRUDED POLYSTYRENE INSULATION		
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.16	
2. 3" CONCRETE SLAB		
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.25 (R-18.5)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE HEATED FLOORS		RSI 2.98 (R-16.9)



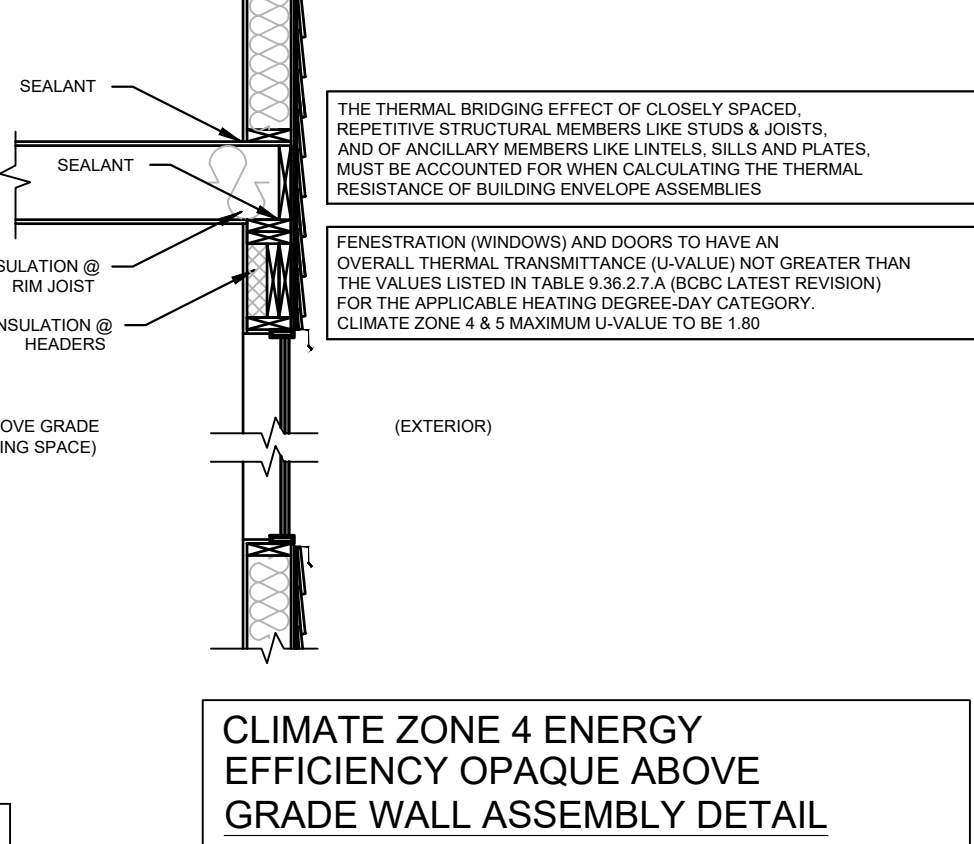
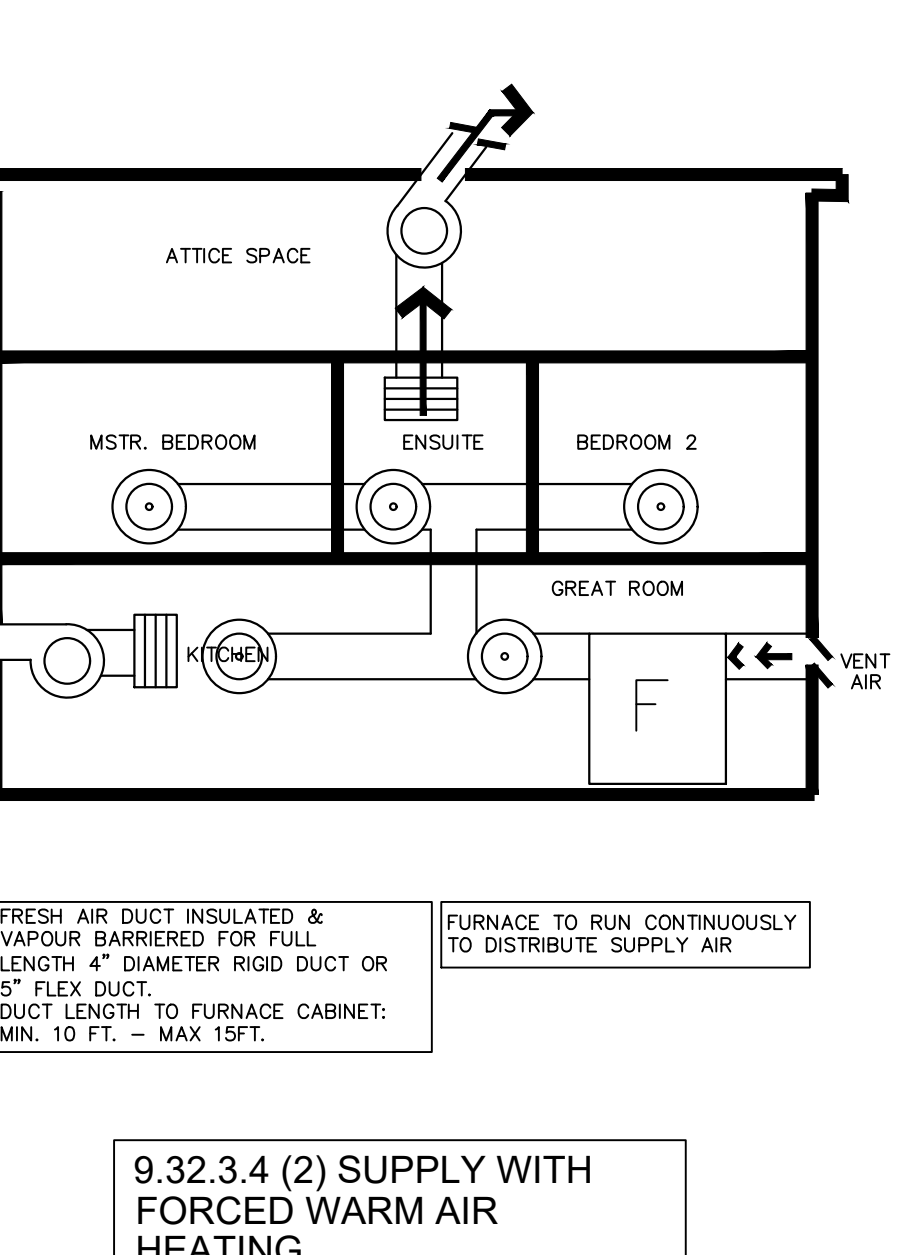
BONUS ROOM WALLS ATTIC TRUSS WEB WALLS @ 24" O.C.		
DESCRIPTION	NOMINAL	EFFECTIVE
R24 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 3.51 (R-24)	RSI 3.38 (R-19.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.12	
2. 12 MM GYPSUM BOARD INT. FINISH	0.08	
3. 6 MILL POLY (SEAL PLASTIC - NEGLIGABLE)	0.00	
4. 11MM ORIENTED STRAND BOARD	0.00	
5. AIR CAVITY	0.00	
6. 20MM OR 40MM AIR CAVITIES	0.00	
7. EXTERIOR AIR FILM	0.00	
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.58 (R-20.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

BELOW GRADE HEATED FLOOR		
DESCRIPTION	NOMINAL	EFFECTIVE
3.5" POURED IN-PLACE CONCRETE SLAB	RSI 3.11 (R-17.6)	RSI 3.11 (R-17.6)
3.5" EXTRUDED POLYSTYRENE INSULATION		
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.16	
2. 3" CONCRETE SLAB		
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.25 (R-18.5)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE HEATED FLOORS		RSI 2.98 (R-16.9)



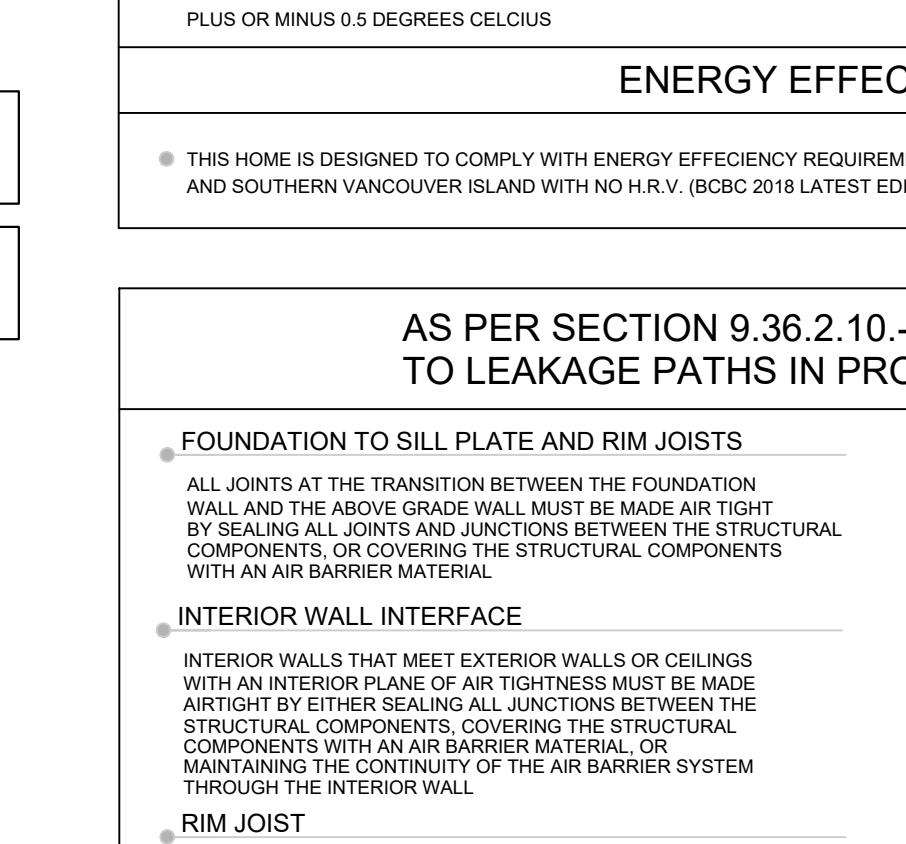
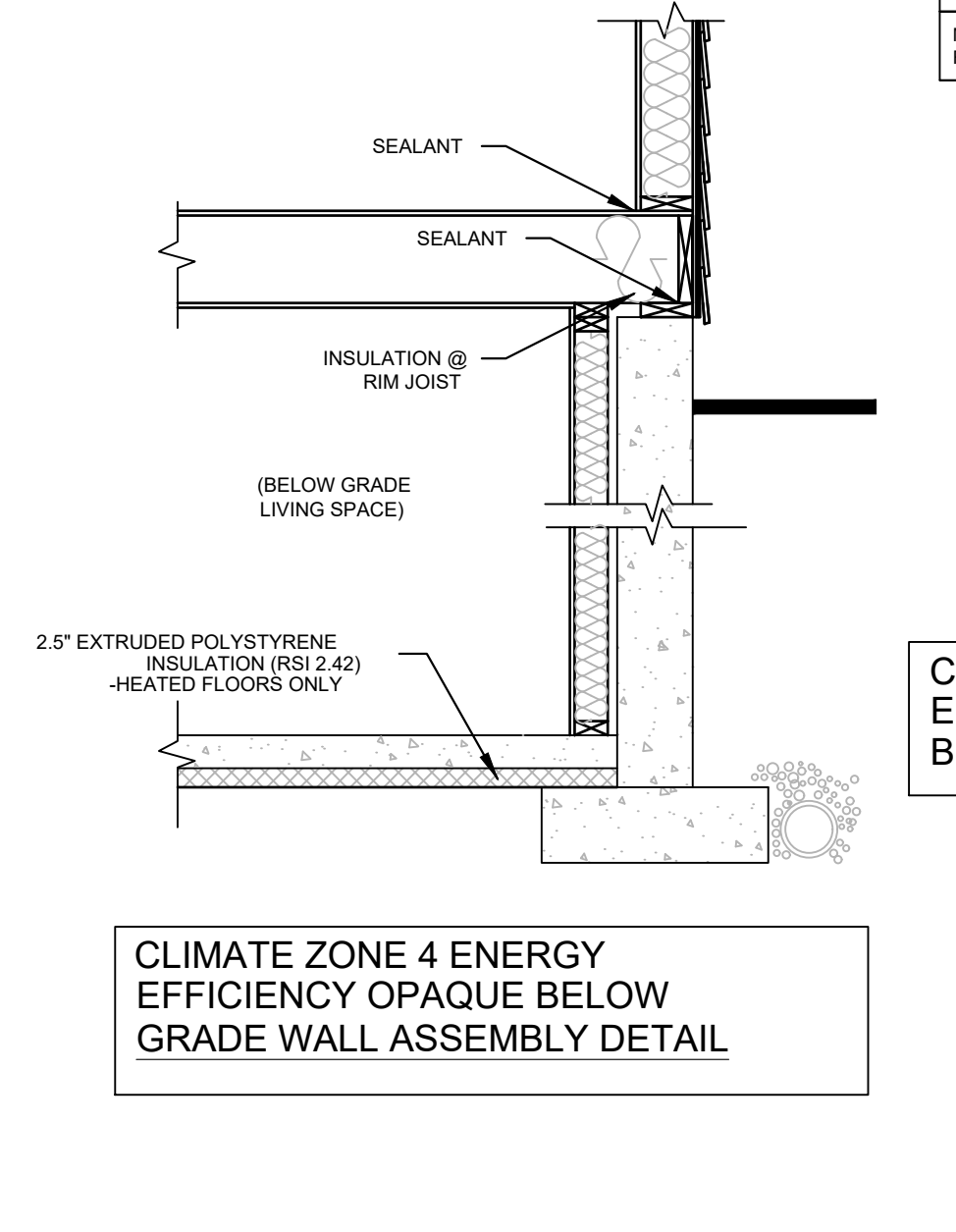
CEILING BELOW ATTICS		
DESCRIPTION	NOMINAL	EFFECTIVE
366MM (14") GLASS FIBRE LOOSE FILL INSULATION FOR ATTICS 2x4 BOTTOM CHORD @ 24" O/C	RSI 8.90 (R-50)	RSI 8.45 (R-47.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. EXTERIOR AIR FILM	0.03	
2. POLYETHYLENE	0.10	
3. 5/8" GYPSUM CEILING BOARD	0.11	
4. INTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE		RSI 8.69 (R-48.8)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR CEILINGS BELOW ATTICS		RSI 8.67 (R-49.2)

BONUS ROOM WALLS ATTIC TRUSS WEB WALLS @ 24" O.C.		
DESCRIPTION	NOMINAL	EFFECTIVE
R24 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 3.51 (R-24)	RSI 3.38 (R-19.2)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. INTERIOR AIR FILM	0.12	
2. 12 MM GYPSUM BOARD INT. FINISH	0.08	
3. 6 MILL POLY (SEAL PLASTIC - NEGLIGABLE)	0.00	
4. 11MM ORIENTED STRAND BOARD	0.00	
5. AIR CAVITY	0.00	
6. 20MM OR 40MM AIR CAVITIES	0.00	
7. EXTERIOR AIR FILM	0.00	
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.58 (R-20.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)



BELOW GRADE WALL ASSEMBLY		
DESCRIPTION	NOMINAL	EFFECTIVE
3" XPS INSULATION OVER 8" POURED-IN-PLACE CONCRETE WALL	RSI 2.64 (R-15)	RSI 2.64 (R-15)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. DAMPROOFING	0.21	
2. 1/2" GYPSUM WALL BOARD	0.08	
3. INTERIOR AIR FILM	0.12	
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.05 (R-17.3)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 2.98 (R-16.9)

BELOW GRADE WALL ASSEMBLY		
DESCRIPTION	NOMINAL	EFFECTIVE
8" POURED-IN-PLACE CONCRETE WALL	RSI 4.22 (R-24)	RSI 3.27 (R-18.5)
R-24 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 4.22 (R-24)	RSI 3.27 (R-18.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. DAMPROOFING	0.21	
2. 1" AIR SPACE	0.16	
3. POLYETHYLENE	0.08	
4. 1/2" GYPSUM WALL BOARD	0.12	
5. INTERIOR AIR FILM		
TOTAL EFFECTIVE INSULATION VALUE		RSI 3.84 (R-21.8)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR BELOW GRADE WALLS		RSI 3.46 (R-20.6)



BELOW GRADE WALL ASSEMBLY		
DESCRIPTION	NOMINAL	EFFECTIVE
8" POURED-IN-PLACE CONCRETE WALL	RSI 4.22 (R-24)	RSI 3.27 (R-18.5)
R-24 BATT INSULATION IN 2X6 WOOD FRAMING @ 24" O/C	RSI 4.22 (R-24)	RSI 3.27 (R-18.5)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. EXTERIOR AIR FILM	0.03	
2. POLYETHYLENE	0.16	
3. 5/8" GYPSUM CEILING BOARD	0.10	
4. INTERIOR AIR FILM	0.11	
TOTAL EFFECTIVE INSULATION VALUE		RSI 0.24 (R-1.36)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR ABOVE GRADE WALLS		RSI 3.08 (R-17.5)

CEILINGS BELOW CATHEDRAL & FLAT ROOFS		
DESCRIPTION	NOMINAL	EFFECTIVE
R-32 BATT INSULATION IN 2X12 WOOD FRAMING @ 24" O/C	RSI 5.63 (R-32)	RSI 5.06 (R-28.8)
R-28 BATT INSULATION IN 2X10 WOOD FRAMING @ 16" O/C	RSI 5.63 (R-32)	RSI 4.73 (R-26.8)
OTHER BUILDING ENCLOSURE LAYERS THAT CONTRIBUTE TO EFFECTIVE INSULATION:		
1. EXTERIOR AIR FILM	0.03	
2. POLYETHYLENE	0.16	
3. 5/8" GYPSUM CEILING BOARD	0.10	
4. INTERIOR AIR FILM	0.11	
TOTAL EFFECTIVE INSULATION VALUE		RSI 4.97 (R-28.22)
MINIMUM EFFECTIVE THERMAL RESISTANCE FOR FLOORS ABOVE UNHEATED SPACES		RSI 4.67 (R-26.5)

HVAC PERFORMANCE REQUIREMENTS		
EQUIPMENT TYPE	SIZE	PERFORMANCE REQUIREMENT
SPACE HEATING EQUIPMENT		
GAS FIRED FURNACE	LESS THAN 220,000 BTU/Hr (66 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GREATER OR EQUAL TO 92%
GAS FIRED BOILER	LESS THAN OR EQUAL TO 300,000 BTU/Hr (66 kW)	ANNUAL FUEL EFFICIENCY (AFUE) MUST BE GREATER OR EQUAL TO 90%
AIR COOLED UNITARY AIR CONDITIONER AND HEAT PUMP SPLIT SYSTEM	LESS THAN OR EQUAL TO 65,000 BTU/Hr (19 kW)	SEASONAL ENERGY EFFICIENCY RATING (SEER) OF 14.5 OR ENERGY EFFICIENCY RATING (EER) OF 11.5
GAS FIRED TANKLESS	LESS THAN 220,000 BTU/Hr (66 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.8
SERVICE WATER HEATING EQUIPMENT		
ELECTRIC STORAGE	13-71 GAL (50 TO 270L)	STANBY LOSS LESS THAN OR EQUAL TO: 25+ 0.20V (TOP INLET) 40+ 0.20V (BOTTOM INLET) WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED STORAGE	LESS THAN 75,000 BTU/Hr (22 kW)	ENERGY FACTOR (EF) MUST BE GREATER THAN OR EQUAL TO 0.67-0.0005V WHERE V=THE TANK VOLUME (IN LITRES)
GAS FIRED TANKLESS	LESS THAN OR EQUAL TO 250,000 BTU/Hr (73.2 kW)	ENERGY FACTOR MUST BE GREATER THAN OR EQUAL TO 0.8

# ENCY REQUIREMENTS

TS AND VALUES USING THE PRESCRIPTIVE METHOD FOR CLIMATE 4-LOWER MAINLAND (R)

## OTES PERTAINING TO PROBLEMATIC AREAS

- MECHANICAL FLUES AND CHIMNEYS

STEEL-LINED CHIMNEYS THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY BLOCKING THE VOID BETWEEN REQUIRED CLEARANCES FOR METAL CHIMNEYS AND SURROUNDING CONSTRUCTION WITH SHEET METAL AND SEALANT CAPABLE OF WITHSTANDING HIGH

- PLUMBING STACKS

PLUMBING VENT STACK PIPES THAT PENETRATE THE BUILDING ENVELOPE MUST BE MADE AIRTIGHT BY EITHER SEALING THE AIR BARRIER MATERIAL TO THE VENT STACK PIPE WITH A COMPATIBLE MATERIAL, OR SHEATHING TAP, OR INSTALLING A RUBBER GASKET OR PREFABRICATED ROOF FLASHING AT THE PENETRATION OF THE PLANE OF AIRTIGHTNESS AND SEALING IT TO THE TOP PLATE

- SKYLIGHTS

THE INTERFACE BETWEEN THE SKYLIGHT AND WALL ASSEMBLY MUST BE MADE AIRTIGHT BY SEALING ALL THE JOINTS AND JUNCTIONS BETWEEN THE AIR BARRIER MATERIAL IN THE WALL AND THE SKYLIGHT

- **WALL TO CEILING**  
ALL JOINTS AT THE TRANSITION BETWEEN THE ABOVE GRADE WALL AND CEILING MUST BE MADE AIRTIGHT BY SEALING ALL JOINTS AND JUNCTIONS BETWEEN THE STRUCTURAL COMPONENTS AND/OR COVERING THE STRUCTURAL COMPONENTS WITH AN AIR BARRIER MATERIAL.
- **WALL VENTED DUCTS**  
DUCT PENETRATIONS THROUGH THE BUILDING ENVELOPE MUST HAVE AN AIRTIGHT SEAL.
- **ELECTRICAL PENETRATION IN WALLS**  
ELECTRICAL PENETRATIONS IN WALLS, INCLUDING ELECTRICAL OUTLETS, WIRING, SWITCHES, AND RECESSED FIXTURES THROUGH THE PLANE OF AIRTIGHTNESS MUST BE AIRTIGHT. OPTIONS INCLUDE USING A COMPONENT THAT IS DESIGNED TO BE AIRTIGHT AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL, OR BY COVERING THE COMPONENT WITH AN AIR BARRIER MATERIAL AND SEALING IT TO THE ADJACENT AIR BARRIER MATERIAL.

POCKET BEAM INSULATION R. VALUE		
DESCRIPTION	NOMINAL	EFFECTIVE
1" XPS = 0.35 X 25.4MM	RSI 0.89	
5" FRAMING = 0.085 X 127MM	RSI 1.08	
TOTAL R VALUE REQ. = 60% OF 2.78 = 1.67	RSI 1.97	

STELLINGWERF RESIDENCE		
CLIENT:	PROJECT:	DATE:
STELLINGWERF RESIDENCE	RA-24-86	11.27.2024
	DESIGNED/CHECKED:	
	JM	
	DRAWN:	</



SCHEDULE A

Application to Board of Variance

I / We hereby apply to the Fraser Valley Regional District Board of Variance for:

- ☒ A minor variance from bylaw requirements due to hardship [Local Government Act, Section 540]
- ☒ Structural alteration or addition to non-conforming structure [Local Government Act 540 and 531]
- ☐ Other (describe) \_\_\_\_\_ LGA s. \_\_\_\_\_

An Application Fee in the amount of \$ \_\_\_\_\_ as stipulated in FVRD Board of Variance Establishment Bylaw No. 0903, 2008 must be paid upon submission of this application.

Civic Address #32-9053 Shook Road, V2V-7M7 PID 010-666-842

Legal Description Parcel 32 of (Save and Except part surrounded by Plan 27831)  
Lot 16 Block \_\_\_\_\_ Section 36 Township 17 Range \_\_\_\_\_ Plan 2677  
NWD

The property described above is the subject of this application and is referred to herein as the 'subject property.' This application is made with my full knowledge and consent. I declare that the information submitted in support of the application is true and correct in all respects.

Owner's  
Declaration

Name of Owner (print) <u>Peter C. Stellingwerff</u>	Signature of Owner <u>Peter Stellingwerff</u>	Date <u>Dec 4, 2024</u>
Name of Owner (print) <u>Corinne C. Stellingwerff</u>	Signature of Owner <u>Corinne Stellingwerff</u>	Date <u>Dec 4, 2024</u>

Owner's  
Contact  
Information

Address <u>#32-9053 Shook Rd.</u>	City <u>Mission</u>
Email <u>[REDACTED]</u>	Postal Code <u>V2V 7M7</u>
Phone <u>[REDACTED]</u>	Cell <u>Same</u>
	Fax _____

Office Use Only	Date	File No.
	Received By	Folio No.
	Receipt No.	Fees Paid: \$

Agent

I hereby give permission to

to act as my/our agent in all matters relating to this application.

(Will add Contractor's name when decided on.)

Only complete this section if the applicant is NOT the owner.

Signature of Owner	Date
Signature of Owner	Date

Agent's contact information and declaration

Name of Agent		Company
Address		City
Email		Postal Code
Phone	Cell	Fax

I declare that the information submitted in support of this application is true and correct in all respects.

Signature of Agent	Date
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Variance Details (Lot is 75x75 ft)

Property Size 8.34 ha (m<sup>2</sup> or ha) Present Zoning R-3

Existing Use Residential

Proposed Development Residential

Proposed Variance Add 25% to footprint; change from flat roof to sloped roof; add loft area and attic storage.

(use separate sheet if necessary)

Reasons in Support of Application Bring structure and efficiency up to code;  
Husband and wife require additional space due to both working  
opposite (early morning/late night) shifts.  
(Without changes, the building is something of an eyesore.)

Proposed Variance

(use separate sheet if necessary)

Reasons in Support of Application

45950 Cheam Avenue | Chilliwack, BC | V2P 1N6

Phone: 604-702-5000 | Toll Free: 1-800-528-0061 | Fax: 604-792-9684

2/3

Supporting Information

(check all applicable boxes)

- Share Certificate and Lease Agreement with Sundorn Holdings. (2) Below
- ☒ Title Search: Provide one for each property included in an application, and dated within 30 days of submission. Obtain a title search through [LISA.ca](http://LISA.ca)
  - ☐
  - ☒ Location Map See Hatzic Island Info on file
  - ☒ Site Plan showing dimensions of property, easements and locations of existing buildings Refer to plans.
  - ☒ Location of proposed buildings, alterations or additions, including any proposed variances Refer to plans
  - ☒ Location of any watercourses, streams, or ponds none
  - ☒ Location of existing or proposed water supplies, septic systems or other services Refer to Plans
  - ☒ Letters of support if applicable Verbal okay by Strata Council - Letter of Support by Sundorn Holdings pending Dec 10 meeting.
  - ☐ Other supporting information or reports (describe)

- ① Plans drawn up by 4<sup>th</sup> Dimension Design. Engineering notes pending.
- ② Share Certificate of ownership of land share/lease on lot.
- ③ Photos of existing building.

# *SunDorn Holdings Ltd*

#40 9053 Shook Road, Mission, B.C. V2V7M7

December 14, 2024

To: FVRD Board of Variance

Re: Lot 32 – FVRD Board of Variance Application

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The Directors of Sundorn-Holdings Ltd, Owner and lessor of non-conforming Lot 32 fully support the request by Peter Stellingwerff for modification of his structure.

It was unanimously approved December 10, 2024, by the Board of Directors.

A Director is available to attend the variance meeting and sign permitting paperwork where necessary.

Thank you.

Sundorn Directors  
SunDorn Holdings Ltd

cc: SunDorn Directors  
Peter Stellingwerff

## PART 4 GENERAL REGULATIONS

### 401 NON CONFORMING USE

- (1) The regulations governing non conforming use are set forth in the Municipal Act.
  - (2) No use shall be established so as to render any existing use on the same lot non conforming.
- 

## PART 5 RURAL ZONES

RURAL II	(R-2)
RURAL III	(R-3)

### 501 PERMITTED USES

<u>PERMITTED USES</u>	<u>ZONES IN WHICH THE USE IS PERMITTED</u>	
RURAL	R-2	R-3
ONE-FAMILY RESIDENTIAL	R-2	R-3
BOARDING	R-2	R-3
ACCESSORY HOME OCCUPATION	R-2	R-3
ACCESSORY HOME	R-2	R-3
ACCESSORY EMPLOYEE RESIDENTIAL		R-3
ACCESSORY OFF STREET PARKING	R-2	R-3
ACCESSORY PRODUCE SALES	R-2	R-3

- (1) Buildings for ONE-FAMILY RESIDENTIAL USE shall be limited to one per lot.

## 7.4

RURAL 4	R-4
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### Intent

The Rural 4 (R-4) zone is for rural *Residential Use* on *lots* at least 8.0 ha in *lot area*.

#### 7.4.1 Permitted Uses

The following *principal uses* are permitted:

*Residential;*

*Farm;*

*Resource Extraction;*

*Micro Cannabis Production Facility* (excluding Electoral Area F). [Byl#1723, 2023]

The following *accessory uses* are permitted:

*Accessory Dwelling Unit* (excluding Electoral Areas E and F); [Byl#1692, 2023]

*Accessory Personal Care Residential;*

*Accessory Employee Residential;*

*Boarding;*

*Cottage Industry;*

*Home Occupation;*

*Kennel;*

*Outdoor Storage;*

*Produce Sales;*

*Secondary Suite* (excluding Electoral Areas E and F). [Byl#1692, 2023]

#### 7.4.2 Site-Specific Uses

None.



### 7.4.3 Development Regulations

Subject	Requirement or Regulation
Maximum Density - Residential	One (1) dwelling unit in a single detached dwelling per lot
Maximum Density – Accessory Dwelling Unit, Accessory Personal Care Residential, Secondary Suite	One (1) dwelling unit per lot [Byl#1692, 2023]
Maximum Density – Accessory Employee Residential	One (1) dwelling unit in a single detached dwelling on a lot with a lot area greater than 7.5 ha; or Two (2) dwelling units in single detached dwellings on a lot with a lot area greater than 15.0 ha
Minimum Setback – Front	6.0 m
Minimum Setback – Exterior-Side	6.0 m
Minimum Setback – Interior-Side	1.5 m
Minimum Setback – Rear	6.0 m
Maximum Height	11.0 m 9.0 m – Accessory Dwelling Unit [Byl#1692, 2023]
Maximum Lot Coverage	30%

### 7.4.4 Subdivision Regulations

Subject	Requirement or Regulation
Minimum Lot Area	8.0 ha

### 7.4.5 Conditions of Use

*Accessory Employee Residential:*

Must be accessory to a *Farm*.

## 7.0 LOCAL AREA POLICIES

The Plan area is comprised of distinct hamlets and communities. While they have much in common, their circumstances are also different in important ways. This section of the Plan outlines policies aimed at the unique challenges of individual hamlet areas.

### 7.1 Hatzic Island

The recreational amenities and rural atmosphere of Hatzic Island have made it a popular recreation and residential location for many decades. However, the attraction of the area, combined with its particular development history and environmental attributes, have created a number of difficult challenges for the community:

- The average density of development on Hatzic Island is high for an unserviced rural area due to the presence of non-conforming urban-type residential developments, mobile home parks, and recreational resorts. By most standards, unserviced development at the density found on Hatzic Island is not sustainable. Redevelopment of several non-conforming developments is unlikely due to legislation, land ownership structures, and form of the development currently existing.
- On-site sewage disposal fields may be contaminating groundwater and water supplies in some locations.
- Hatzic Island is within the Fraser River floodplain. Even high points on the Island are two metres below the elevation of a 1:200 Fraser River flood. Locations on the island are also subject to frequent minor flooding from within the Hatzic watershed which cause the most disruption and damage in low lying areas such as Everglades Resort.
- Residents of the Island are dependent on one access road and bridge; access may be cut off during major Hatzic floods.

For these and other reasons, the land use plans and zoning bylaws since the late 1960's have generally designated the Island for low density rural uses. In doing so, they rendered a number of existing developments "nonconforming".<sup>43</sup>

This plan continues the objective of these previous plans to generally limit development to existing levels. However, it includes important new directions that may improve the situation in meaningful ways. This plan contains new policies regarding:

- a. legitimization of some non-conforming uses if current servicing, site development and flood mitigation standard can be met;
- b. investigation of public sewer and water services to address environmental and human health risks;
- c. the prospect of limited 'country residential'-type subdivision if community water or sewer infrastructure is achieved; and,

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<sup>43</sup> The 1968 Official Regional Plan for the Lower Mainland Planning Area designated the Island as a lowland rural area best suited to large rural holdings. Zoning was introduced to the community in 1972 by the Dewdney-Alouette Regional District. DARD Bylaw No. 28-1972 zoned much of the Island Rural-3 with a minimum site area of 20 acres. This direction has since been maintained in land use plans and zoning bylaws.

- d. advocacy for infrastructure improvements to reduce flood hazards and enhance recreational values.

### Non-conforming Uses

Occasionally, the adoption or amendment of a zoning bylaw will prohibit uses that were previously permitted. In these cases, lawfully existing uses established before the prohibiting bylaw are considered to be nonconforming, or 'grandfathered'. Rights surrounding lawfully non-conforming uses are set out in Section 911 of the Local Government Act (LGA). Section 911 allows lawfully established non-conforming uses to continue while eventually facilitating their elimination. The tension inherent in this purpose is obvious. Not surprisingly, a large and complex body of case law dealing with statutory nonconforming use has evolved which, from time to time, changes how the legislation is understood. It is essential to consider this case law when applying Section 911 in a particular instance.

Generally, Section 911 actively works towards conformance by preventing an increase in the scale of the use and limiting the duration of the use to the 'natural' life of the structure. In addition, nonconformance with zoning may depress the value of a property and increase difficulty in obtaining insurance, mortgages and financing. The net effect is to encourage replacement of the nonconforming use with one that conforms to the zoning bylaw.

However, in some instances the legal framework combined with practical considerations such as ownership structure and the nature of the use, leaves little or no expectation that conformity will be achieved, even in the long term. The result may be that a nonconforming use is permitted, and expected, to continue indefinitely but is still subject to the depressing affects of non-conforming status. In these instances, nonconforming status may create uncertainty and stifle investment necessary for the maintenance of safe and healthy residences or neighbourhoods. It can become difficult to sell or transfer interests, achieve market value, and obtain mortgages or financing necessary for upgrades and repairs. As a result, developments may steadily degrade over time without any clear mechanism for renewal and replacement. Some of the lawfully nonconforming developments on Hatzic Island may fall into this category.

It is the policy of the Regional Board that:

- 7.1.1 Where the Regional Board considers that there is low likelihood of achieving conformity with zoning over time, the Board may treat lawfully non-conforming uses on Hatzic Island as Class II nonconformities under Section 5.7 of this Plan and rezone to reflect actual existing uses subject to:
  - a. connection to a community water or sewer system, or where no public system is available, upgrade of on-site systems to meet acceptable standards;
  - b. implementation of appropriate site development standards;
  - c. no increase in density, scale or intensity of development;
  - d. no increase in hazard or exposure to risk;
  - e. ability to meet flood construction levels and setbacks; and,
  - f. adequate access.

## Services

### Sewage Disposal

Development on Hatzic Island relies on on-site water supplies and sewage disposal systems. The sewage disposal systems that are most commonly used on Hatzic Island are deep trench type systems where the trench depths are extended to the more permeable, deeper sand layer to avoid the less permeable top soils.<sup>44</sup> This may bring systems into conflict with groundwater, which is typically high on Hatzic Island, at least seasonally.

Many significant developments on Hatzic Island were constructed in the 1960's and 1970's, often before Provincial regulations respecting septic field design were introduced. "There are numerous sewage disposal systems of which some may be inadequately sized, subject to seasonal failure, failing currently, and/or encroaching on water wells."<sup>45</sup> These septic fields are likely not fully functioning or are nearing the end of their anticipated lifespan.

In the case of nonconforming developments, replacing failed septic systems may be difficult due to the hydro-geological conditions and the extent of development on the properties. Package treatment plants or alternative disposal systems may be an option, but potentially a costly one. Moreover, package treatment plants may be more difficult to operate and maintain than conventional systems. In any event, failure of a septic system in such a development could affect a significant number of people and result in pressure for public sanitary sewer and water systems.

In 2004, of residents who respond to the Community Planning Survey, 47% were very concerned that improper treatment and disposal of sewage may be reducing water quality. Another 25% of respondents were somewhat concerned. 35% of respondents reported problems with their own sewage disposal system. It is not surprising, then, that 75% of respondents to the Community Planning Survey supported the concept of a community sewage system for Hatzic Island.<sup>46</sup>

As a part of the OCP update process, the Regional District, in partnership with the District of Mission, commissioned Dayton & Knight Consulting Engineers to assess the feasibility of developing a sanitary sewer system for Hatzic Island and Hatzic Estates (in Mission). Dayton & Knight evaluated three potential options: 1. individual on-site ground-disposal systems; 2. a community collection system and treatment plant; and, 3. connection to the District of Mission collection system for conveyance to the JAMES Plant for treatment.

While individual on-site systems may have some application, they were not recommended as the basis of a servicing strategy for the area due to high water table, high capital costs, and high operations/maintenance costs. A community treatment plan was not recommended because of challenges with siting the plan, operation/maintenance issues, and social issues. Dayton & Knight recommend connection to the District of Mission system for conveyance to the JAMES Plant. This would involve a local collection system – either a partial gravity system or a low pressure system - and a conveyance system to move the sewage into the Mission system and on to the JAMES Plant. The capital costs were estimated at five to seven million dollars.

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<sup>44</sup> Fraser Health Authority. Letter to FVRD dated April 5, 2004 regarding Sewage Disposal on Hatzic Island.

<sup>45</sup> Central Fraser Valley Health Unit. *Hatzic Island Water Quality Survey*. April, 1994.

<sup>46</sup> For more information on the 204 Community Planning Survey, please see Section 1 of this Plan.

Certainly, the costs for a public sanitary sewer system for Hatzic Island and Hatzic Estates are high. It is likely that significant financial assistance from senior governments would be necessary to make capital costs affordable to the community. However, community perceptions of acceptable cost levels could change, particularly with greater awareness of the costs involved with replacement of failed individual on-site systems with new ones that meet current requirements.

A public sanitary sewer system for Hatzic Island would address existing concerns with water quality, human health, density of development, and impacts to the environment. It would not facilitate significant new development because land use and density on Hatzic Island is constrained by local and Fraser River flood hazards; limited access; existing land use and development patterns and other limitations. Accordingly, costs would not generally be offset by new development. Nevertheless, the presence of a sanitary sewer would undoubtedly generate substantial pressure for intensification of development.

## Water Supply

Most Hatzic Island residents have acceptable water supplies. Sixty percent of respondents to the 2004 *Community Planning Survey*<sup>47</sup> were generally satisfied with their drinking water. Yet, the quality of drinking water is a concern for many.

Hatzic Island residents generally obtain drinking water from on-site shallow (- 10 m) wells or sand points.<sup>48</sup> Shallow wells and sand points are at greater risk of contamination from septic fields, agricultural wastes or other surface pollutants compared to deeper wells. In addition, the Nicomen Slough Aquifer, the source of Hatzic Island drinking water, is classified by the Ministry of Environment as “highly vulnerable” to contamination from surface sources. The aquifer has little natural protection against surface contaminants. Furthermore, Hatzic Lake is undergoing sedimentation and eutrophication. Water is exchanged between the lake and groundwater which may also negatively impact drinking water quality, particularly phosphate levels.<sup>49</sup> This is an ongoing process which is not likely to be reversed.

Some private water systems serving high density non-conforming developments and recreational resorts regularly face boil orders. In a recent test of 12 wells on Hatzic Island, four wells had nitrate levels “of concern” (+3 mg/l) and one well exceeded national drinking water standards for nitrate concentration (+10 mg/l).<sup>50</sup> Wells with high nitrates were near or within urban-type developments; septic systems appear to be the source of contaminants.

The dense concentration of septic fields, the natural vulnerability of the aquifer to surface contamination, shallow wells, and the effect of Hatzic Lake on drinking water quality all interact to increase overall risk to the water supply. The risk can be expected to increase over time if the status quo is maintained.

Sixty eight percent of *Community Planning Survey* (2004) respondents supported the concept of a community water system. While a subsequent proposal for a water system to serve Hatzic Island and Hatzic Prairie was opposed, presumably due to cost, it may be appropriate to now investigate the potential for a water system to serve Hatzic Island only.

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<sup>47</sup> See Section 1.4 of this Plan for more information about the 2004 Community Planning Survey.

<sup>48</sup> In the 2004 Community Planning Survey, 84% of respondents stated that they rely on a well or sand point for drinking water.

<sup>49</sup> Magwood, 2004.

<sup>50</sup> Simone Magwood. *Drinking Water Quality in the Hatzic Valley, BC*. UBC Master's Thesis. 2004.

It is the policy of the Regional Board that:

- 7.1.2 The Regional District will undertake a study to assess the feasibility of providing a public sewage disposal system to Hatzic Island and canvas the Hatzic Island community to gauge interest in establishing a Service Area.
- 7.1.3 The Regional District will liaise with the District of Mission regarding the potential to develop for Hatzic Island a community sewage collection system which connects to the District of Mission sanitary sewer.
- 7.1.4 If there is community interest in establishing a public sewage disposal system for Hatzic Island, the Regional District will seek funding support from senior governments.
- 7.1.5 The Regional District will continue to investigate the feasibility and costs of providing a public water system to Hatzic Island, including connection to the Abbotsford-Mission Water and Sewer Commission system. Liaison with Abbotsford-Mission Water and Sewer Commission to determine feasibility and potential impacts on the water supply is an essential part of this investigation.
- 7.1.6 In the event that public community water or sewer services become available on Hatzic Island, the Regional Board may consider Plan and zoning amendments to facilitate limited 'country-residential' type subdivision of one (1) hectare parcels on Hatzic Island.

## **7.2 Hatzic Lake**

### **Lake Levels**

Low summer lake level was rated as the most important issue facing Hatzic Island in the *2004 Community Planning Survey*.<sup>51</sup> During summer months, the water levels naturally drop so low that recreational use of the lake is severely impacted. The Dewdney Area Improvement District is investigating modifications to the Hatzic Pump Station which would allow water impoundment in the summer to raise water levels. Such modifications are supportable provided that they do not increase the risk of flooding or negatively impact habitat and fish passage.

### **Flooding**

The 90 km<sup>2</sup> Hatzic watershed drains through Hatzic Lake to the Fraser River. During moderate to heavy rainfall events, low lying areas surrounding Hatzic Lake experience minor floods which impact private property, particularly at Everglades Resort. In more extreme events, flood water levels within the Hatzic system could reach 5.2 metres above sea level which would result in more significant property impacts and safety risks.<sup>52</sup> A number of factors contribute to the

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<sup>51</sup> Please see Section 1 of this Plan for information about the 2004 Community Plan Survey.

<sup>52</sup> Associated Engineering. *Hatzic Prairie Drainage Study*. August, 1992.

flooding, including low watercourse gradients, historical channel alterations, channel constrictions, sedimentation, and pump capacity.

When the Fraser River level is lower than water levels in the Hatzic system, water drains by gravity to the Fraser. When the Fraser River rises above the level of the Hatzic system, the flood boxes at the Hatzic Pump Station close and water from the Hatzic watershed must be pumped into the Fraser. Existing pumps are insufficient to move the volume of water draining from the Hatzic system during even moderate rainfall events.

Hatzic Lake flooding was examined in 1992 by Associated Engineering (AE) and in 2003 by Golder Associates. AE concluded that tripling pump capacity would not eliminate flooding during 1:10 year / 2-day storm events. However, it would significantly reduce the frequency of minor flood events and reduce flood elevations and durations during major floods. Golder recommended upgrades to increase pumping capacity to 14.0-20.5 m<sup>3</sup>/s.<sup>53</sup> Upgrades to the Hatzic Pump Station are discussed Section 11 of this Plan. The effects of the Hatzic Pump Station on fish passage are discussed in Section 12.

### Lake Access

Public access to Hatzic Lake is problematic. The Crown has preserved public access points, but they are generally impassible due to vegetation, fencing or other barriers. Understandably, landowners have little interest in increasing public access. It is a relatively small lake. Existing levels of use, especially with low summer lake levels, may already approach its recreational capacity. On the other hand, Hatzic Lake is a public resource and amenity. As such, it should be available to those who do not own land along its shore. In other areas, as a matter of policy and principle, the Regional Board has sought to protect properly-managed public access to lakes and to resist the tendency toward privatization and alienation of public amenities.

It is the policy of the Regional Board that:

- 7.2.1 The Regional Board encourages the efforts of the Dewdney Area Improvement District to maintain summer water levels in Hatzic Lake that are suitable for recreation provided that:
  - a. there is no increase in the risk or consequence of flooding;
  - b. there is no negative impact on habitat and fish passage between the Fraser River and the Hatzic system is not impeded;
  - c. the works are designed and supervised by a qualified hydraulic engineer; and,
  - d. all necessary Federal, Provincial and local approvals are obtained.
- 7.2.2 The Responsible Authorities are encouraged to undertake a study of user needs related to public access to Hatzic Lake.

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<sup>53</sup> Golder Associates LTD. *Hatzic Pump Station Upgrade Strategic Plan*. July 16, 2003.

- (a) the amounts received under subsection (4) in the applicable year;
  - (b) the expenditures from the reserve fund in the applicable year;
  - (c) the balance in the reserve fund at the start and at the end of the applicable year;
  - (d) the projected timeline for future projects to be funded from the reserve fund.
- (11) The local government must make a report under subsection (10) available to the public from the time it considers the report until June 30 in the following year.
- (12) The Lieutenant Governor in Council may make regulations
- (a) prescribing the local governments or classes of local governments that may make bylaws described in subsection (2), and
  - (b) prescribing the following in respect of the transportation demand measures to be provided by an owner or occupier in subsection (2) (a):
    - (i) classes of buildings or other structures;
    - (ii) design standards.

## **Division 14 — Non-conforming Use and Other Continuations**

### **Non-conforming uses: authority to continue use**

**528** (1) Subject to this section, if, at the time a land use regulation bylaw is adopted,

- (a) land, or a building or other structure, to which that bylaw applies is lawfully used, and
- (b) the use does not conform to the bylaw,

the use may be continued as a non-conforming use.

- (2) If a non-conforming use authorized under subsection (1) is discontinued for a continuous period of 6 months, any subsequent use of the land, building or other structure becomes subject to the land use regulation bylaw.
- (3) The use of land, a building or other structure, for seasonal uses or for agricultural purposes, is not discontinued as a result of normal seasonal or agricultural practices, including
- (a) seasonal, market or production cycles,
  - (b) the control of disease or pests, or
  - (c) the repair, replacement or installation of equipment to meet standards for the health or safety of people or animals.
- (4) A building or other structure that is lawfully under construction at the time of the adoption of a land use regulation bylaw is deemed, for the purpose of this section,
- (a) to be a building or other structure existing at that time, and



- (b) to be then in use for its intended purpose as determined from the building permit authorizing its construction.
- (5) If subsection (1) authorizes a non-conforming use of part of a building or other structure to continue, the whole of that building or other structure may be used for that non-conforming use.

### **Non-conforming structures: restrictions on maintenance, extension and alteration**

- 529** (1) If the use and density of buildings and other structures conform to a land use regulation bylaw but
- (a) the siting, size or dimensions of a building or other structure constructed before the bylaw was adopted does not conform with the bylaw, or
  - (b) the siting, size, dimensions or number of off-street parking or loading spaces constructed or provided before the bylaw was adopted does not conform with the bylaw,
- the building or other structure or spaces may be maintained, extended or altered to the extent authorized by subsection (2).
- (2) A building or other structure or spaces to which subsection (1) applies may be maintained, extended or altered only to the extent that
- (a) the repair, extension or alteration would, when completed, involve no further contravention of the bylaw than that existing at the time the repair, extension or alteration was started, and
  - (b) in the case of protected heritage property, the repair, extension or alteration is permitted or authorized in accordance with the provisions governing the heritage protection of the property.

### **Restrictions on increasing non-conforming use of land**

- 530** In relation to land, section 528 [*non-conforming uses*] does not authorize the non-conforming use of land to be continued on a scale or to an extent or degree greater than that at the time of the adoption of the land use regulation bylaw.

### **Restrictions on alteration or addition to building or other structure**

- 531** (1) Subject to this section, a structural alteration or addition must not be made in or to a building or other structure while a non-conforming use is continued in all or any part of it.
- (2) Subsection (1) does not prohibit a structural alteration or addition that is required by an enactment or is permitted by a board of variance under section 542 (1) [*authority for variance or exemption to relieve hardship*].
- (3) Subsection (1) does not apply to alterations or additions in or to a protected heritage property if the alteration or addition is authorized by a heritage alteration permit under section 617.

## Restrictions on repair or reconstruction of non-conforming structures

- 532** (1) If a building or other structure, the use of which does not conform to the provisions of a land use regulation bylaw, is damaged or destroyed to the extent of 75% or more of its value above its foundations, as determined by the building inspector, the structure must not be repaired or reconstructed except for a conforming use in accordance with the bylaw.
- (2) If the use of a building or other structure that is on land identified in a phased development agreement under Division 12 [*Phased Development Agreements*] complies with a zoning bylaw provision specified under section 516 (2) [*zoning rules for land subject to the agreement*] for the phased development agreement, subsection (1) of this section does not apply to the building or other structure while the phased development agreement is in effect, unless
- (a) the provision has been repealed or amended, and
  - (b) either
    - (i) the developer has agreed in writing under section 516 (5) that the changes to the zoning bylaw apply, or
    - (ii) the changes to the zoning bylaw apply under section 516 (6) without the written agreement of the developer.
- (3) Subsection (1) does not apply to repair or reconstruction of a protected heritage property if the repair or reconstruction is authorized by a heritage alteration permit under section 617.

## Non-conforming uses in relation to terminated land use contracts

- 533** (1) In this section:

**"contract termination date"** means, in relation to a land use contract, the date of termination under section 547 [*termination of all remaining land use contracts*] or 548 [*early termination of land use contract*], as applicable;

**"end of land use contract authority"** means, in relation to a land use contract, the later of the following:

- (a) the contract termination date;
  - (b) if an order under section 543 [*board of variance exemption to relieve hardship from early termination*] is made in respect of the land, the expiry of the period of time specified in the order.
- (2) Subject to this section, if, at the end of land use contract authority,
- (a) land, or a building or other structure, is lawfully used, and
  - (b) the use does not conform to a land use regulation bylaw that
    - (i) is in force at the end of land use contract authority, and
    - (ii) would not apply to the land, building or other structure but for the end of the land use contract authority,

the use may be continued as a non-conforming use.

- (3) If the non-conforming use authorized under subsection (2) is discontinued for a continuous period of 6 months, any subsequent use of the land, building or other structure becomes subject to the land use regulation bylaw.
- (4) The following provisions apply in relation to a use described in subsection (2):
  - (a) section 528 (3) to (5) *[non-conforming uses in relation to new land use regulation rules]*;
  - (b) section 529 *[non-conforming structures]*;
  - (c) section 530 *[restrictions on increasing non-conforming use of land]*;
  - (d) section 531 *[restrictions on alteration or addition]*;
  - (e) section 532 *[restrictions on repair or reconstruction]*.
- (5) For the purposes of subsection (4), a reference in a provision referred to in that subsection to the adoption of a bylaw is to be read as a reference to the applicable end of contract authority.

### **Change in ownership, tenants or occupants in relation to use**

- 534** For the purposes of this Division, a change of owners, tenants or occupants of any land, or of a building or other structure, does not, by reason only of the change, affect the use of the land or building or other structure.

### **Non-conforming use and subdivision in relation to expropriation of land**

- 535** (1) If the use of land or the siting of existing buildings and other structures on the land ceases, as a result of expropriation of land, to conform to a land use regulation bylaw, the remainder of the property is deemed to conform.
- (2) Subsection (1) does not apply if compensation was paid to the owner or occupant of the land in an amount that is directly attributable to the loss, if any, suffered by the owner or occupant as a result of the non-conformity.
- (3) If, as a result of an expropriation,
- (a) a parcel of land could have been subdivided into 2 or more parcels under the applicable zoning bylaw in effect when the land expropriated was vested in the expropriating authority, and
  - (b) the parcel, as a result of the expropriation, can no longer be subdivided into the same number of parcels,
- the parcel is, to the extent authorized under subsection (4), deemed to conform to the applicable zoning bylaw for the purposes of the subdivision as though the expropriation had not occurred.
- (4) The deemed conformance under subsection (3) applies only to the extent that none of the parcels that would be created by the subdivision would be less than 90% of the area that would otherwise be permitted by the applicable zoning bylaw.

- (5) Subsection (3) does not apply if the owner of the parcel being subdivided has received compensation that is directly attributable to the reduction in the market value of the land that results from the inability to subdivide the parcel in the manner that would have been permitted under the applicable zoning bylaw.

## **Division 14.1 — Non-conforming Form of Tenure**

### **Non-conforming form of tenure: authority to continue tenure**

**535.1** (1) If, at the time a zoning bylaw that limits the form of tenure to residential rental tenure is adopted, a housing unit to which the bylaw applies has a form of tenure other than residential rental tenure, the other form of tenure continues as a non-conforming form of tenure.

- (2) If, at the time a zoning bylaw that limits the form of tenure to residential rental tenure is adopted, a local government has issued a building permit or a development permit in relation to a building that will contain housing units to which the bylaw would otherwise apply, and the housing units have or may have a form of tenure other than residential rental tenure, the other form of tenure continues as a non-conforming form of tenure.

### **Non-conforming form of tenure: repair, extension and alteration**

**535.2** (1) Subject to subsection (2), if a non-conforming form of tenure is authorized, under section 535.1, to continue in relation to a housing unit in a building and the building is maintained, extended or altered, the non-conforming form of tenure continues if the repair, extension or alteration would, when completed, involve no further contravention of the bylaw than that existing at the time the repair, extension or alteration was started.

- (2) If the repair, extension or alteration includes the construction of additional housing units, the additional housing units are subject to the zoning bylaw in relation to residential rental tenure.

### **Change in ownership, tenants or occupants in relation to form of tenure**

**535.3** For the purposes of this Division and subject to section 535.4, a change of owners, tenants or occupants of a housing unit does not, by reason only of the change, affect the authority to continue a non-conforming form of tenure of the housing unit.

### **Dissolution of strata corporations**

**535.4** If

- (a) a non-conforming form of tenure is authorized to continue under section 535.1 in relation to a housing unit in a building,
- (b) the building includes strata lots,
- (c) the strata corporation for the owners of the strata lots is wound up under Part 16 of the *Strata Property Act*, and

(d) there is a disposition of all of the land and the building of that strata corporation,  
the non-conforming form of tenure is no longer authorized to continue.

### Regulation-making powers

**535.5** (1) In relation to this Division, the Lieutenant Governor in Council may make regulations referred to in section 41 of the *Interpretation Act*.

(2) Without limiting subsection (1), the Lieutenant Governor in Council may make regulations respecting non-conforming forms of tenure, including, without limitation,

- (a) regulations prescribing circumstances in which a non-conforming form of tenure is authorized, or is no longer authorized, to continue, and
- (b) regulations in relation to when a non-conforming form of tenure is no longer authorized.

## Division 15 — Board of Variance

### Requirement for board of variance

**536** (1) A local government that has adopted a zoning bylaw must, by bylaw, establish a board of variance.

(2) A person is not eligible to be appointed to a board of variance if the person is

- (a) a member of the local government or the advisory planning commission, or
- (b) an officer or employee of the local government.

(3) Subject to subsections (4) and (5) and to the rules established under section 538  
(2) (b) (i) *[rules for joint board of variance]*, an appointment to a board of variance is for a 3 year period.

(4) If no successor has been appointed at the end of the 3 year period referred to in subsection (3), the appointment continues until the time that a successor is appointed.

(5) A local government may rescind an appointment to a board of variance at any time.

(6) If a member of a board of variance ceases to hold office, the person's successor is to be appointed in the same manner as the member who ceased to hold office, and, until the appointment of the successor, the remaining members constitute the board of variance.

(7) Members of a board of variance must not receive compensation for their services as members, but must be paid reasonable and necessary expenses that arise directly out of the performance of their duties.

- (8) A local government must provide in its annual budget for the necessary funds to pay for the costs of the board of variance.

### **Board of variance for municipality or regional district**

- 537** (1) If the population of a municipality is 25 000 or less, the municipal board of variance is to consist of 3 persons appointed by the council.
- (2) If the population of a municipality is more than 25 000, the municipal board of variance is to consist of 5 persons appointed by the council.
- (3) A regional district board of variance is to consist of 3 persons appointed by the board.
- (4) The board of a regional district may establish one or more boards of variance for the regional district, but, if more than one board of variance is established, the bylaw establishing them must specify the area of the regional district over which each board of variance has jurisdiction and those areas must not overlap.

### **Joint board of variance**

- 538** (1) Two or more local governments may satisfy the obligation under section 536 (1) *[requirement for board of variance]* by jointly establishing a board of variance by bylaw adopted by all participating local governments.
- (2) A bylaw under subsection (1) must
- (a) specify the area of jurisdiction for the board of variance, which may be all or part of the participating local governments, but must not overlap with the area of jurisdiction of any other board of variance, and
  - (b) establish rules for the following that apply in place of those established by sections 536 *[requirement for board of variance]* and 539 *[chair and procedures]*:
    - (i) appointment and removal of members of the board of variance;
    - (ii) appointment and removal of a chair of the board of variance.
- (3) As exceptions to section 537 *[local board of variance]*, the following apply to a board of variance established under this section:
- (a) if a municipality is one of the participating local governments, the board of variance is to consist of
    - (i) 3 persons, if the population of the area of the jurisdiction of the board of variance is 25 000 or less, and
    - (ii) 5 persons, if the population of the area of the jurisdiction of the board of variance is more than 25 000;
  - (b) if a municipality is not one of the participating local governments, the board of variance is to consist of 3 persons.

### **Chair and procedures for board of variance**

- 539** (1) The members of a board of variance must elect one of their number as chair.
- (2) The chair may appoint a member of the board of variance as acting chair to preside in the absence of the chair.
- (3) A bylaw establishing a board of variance must set out the procedures to be followed by the board of variance, including the manner in which appeals are to be brought and notices under section 541 *[notice of application for variance]* or 543 (2) *[notice of application in relation to early termination of land use contract]* are to be given.
- (4) A board of variance must maintain a record of all its decisions and must ensure that the record is available for public inspection during regular office hours.

### **Application for variance or exemption to relieve hardship**

- 540** A person may apply to a board of variance for an order under section 542 *[board powers on application]* if the person alleges that compliance with any of the following would cause the person hardship:
- (a) a bylaw respecting
    - (i) the siting, size or dimensions of a building or other structure, or
    - (ii) the siting of a manufactured home in a manufactured home park;
  - (b) a subdivision servicing requirement under section 506 (1) (b) *[works and services requirements]* in an area zoned for agricultural or industrial use;
  - (c) the prohibition of a structural alteration or addition under section 531 (1) *[restrictions on alteration or addition while non-conforming use continued]*;
  - (d) a bylaw under section 8 (3) (c) *[fundamental powers — trees]* of the [Community Charter](#), other than a bylaw that has an effect referred to in section 50 (2) *[restrictions on authority — preventing all uses]* of that Act if the council has taken action under subsection (3) of that section to compensate or mitigate the hardship that is caused to the person.

### **Notice of application for variance**

- 541** (1) If a person makes an application under section 540, the board of variance must notify all owners and tenants in occupation of
- (a) the land that is the subject of the application, and
  - (b) the land that is adjacent to land that is the subject of the application.
- (2) A notice under subsection (1) must state the following:
- (a) the subject matter of the application;
  - (b) the time and date when and, if applicable, the place where the application will be heard;

- (c) if the meeting at which the application is heard is conducted by means of electronic or other communication facilities, the way in which the meeting is to be conducted by those means.
- (3) The obligation to give notice under subsection (1) is satisfied if the board of variance made a reasonable effort to mail or otherwise deliver the notice.

### Board powers on application

**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.
- (2) The board of variance must not make an order under subsection (1) that would do any of the following:
  - (a) be in conflict with a covenant registered under section 219 of the [Land Title Act](#) or section 24A of the *Land Registry Act*, R.S.B.C. 1960, c. 208;
  - (b) deal with a matter that is covered in a land use permit or covered in a land use contract;
  - (c) deal with a matter that is covered by a phased development agreement under Division 12 *[Phased Development Agreements]*;
  - (d) deal with a flood plain specification under section 524 (3);
  - (e) apply to a property
    - (i) for which an authorization for alterations is required under Part 15 *[Heritage Conservation]*,
    - (ii) for which a heritage revitalization agreement under section 610 is in effect, or
    - (iii) that is scheduled under section 614 (3) (b) *[protected heritage property]* or contains a feature or characteristic identified under section 614 (3) (c) *[heritage value or character]*.



- (3) In relation to an order under subsection (1),
- (a) if the order sets a time within which the construction of the building, structure or manufactured home park must be completed and the construction is not completed within that time, or
  - (b) if that construction is not substantially started within 2 years after the order was made, or within a longer or shorter time period established by the order,
- the permission or exemption terminates and the bylaw or section 531 (1), as the case may be, applies.
- (4) A decision of the board of variance under subsection (1) is final.

### **Exemption to relieve hardship from early termination of land use contract**

**543** (1) The owner of land subject to a land use contract that will be terminated by a bylaw adopted under section 548 [*early termination of land use contracts*] may apply to a board of variance for an order under subsection (5) of this section if

- (a) the owner alleges that the timing of the termination of the land use contract by the bylaw would cause the owner hardship, and
  - (b) the application is received by the board of variance within 6 months after the adoption of the bylaw.
- (2) If an application is made under subsection (1), the board of variance must notify all owners and tenants in occupation of
- (a) the land that is the subject of the application, and
  - (b) the land that is adjacent to land that is the subject of the application.
- (3) A notice under subsection (2) must state the following:
- (a) the subject matter of the application;
  - (b) the time and date when and, if applicable, the place where the application will be heard;
  - (c) if the meeting at which the application is heard is conducted by means of electronic or other communication facilities, the way in which the meeting is to be conducted by those means.
- (4) The obligation to give notice under subsection (2) must be considered satisfied if the board of variance made a reasonable effort to mail or otherwise deliver the notice.
- (5) On an application under subsection (1), the board of variance may order that, despite the termination of the land use contract and despite any zoning bylaw, the provisions of that land use contract continue to apply in relation to the applicant for a specified period of time ending no later than June 30, 2024, if the board of variance
- (a) has heard the applicant, and

- (b) finds that the timing of the termination of the land use contract by the bylaw would cause undue hardship to the applicant.
- (6) An order under subsection (5) does not run with the land.
- (7) The board of variance must make a decision on an application under subsection (1) within 6 months after the application is received by the board of variance.
- (8) A decision of the board of variance under subsection (5) is final.

### **Extent of damage to non-conforming use property**

- 544** (1) A person may apply to a board of variance for an order under subsection (2) if the person alleges that the determination by a building inspector of the amount of damage under section 532 (1) *[end of non-conforming use protection if building of other structure is seriously damaged]* is in error.
- (2) On an application under subsection (1), the board of variance may set aside the determination of the building inspector and make the determination under section 532 (1) in its place.
- (3) The applicant or the local government may appeal a decision of the board of variance under subsection (2) to the Supreme Court.

## **Division 16 — Discharge and Termination of Land Use Contracts**

### **Application to land use contracts under previous legislation**

- 545** This Division applies to land use contracts within the meaning of section 702A of the *Municipal Act*, R.S.B.C. 1960, c. 255, before that section was repealed under section 13 of the *Municipal Amendment Act*, 1977.

### **Amendment and discharge of land use contract**

- 546** (1) In this section, "**amend**" means modify, vary or discharge.
- (2) Subject to subsection (4), a land use contract that is registered in a land title office may be amended as follows:
- (a) by bylaw, with the agreement of
    - (i) the local government, and
    - (ii) the owner of any parcel that is described in the bylaw as being covered by the amendment;
  - (b) subject to subsection (3), by a development permit or a development variance permit, if the amendment does not affect the permitted use or density of use of any parcel against which the contract is registered;
  - (c) in the manner specified in the land use contract.
- (3) A land use contract must not be discharged in the manner provided for in subsection (2) (b).

# HATZIC ISLAND



## Discussion Paper

**March 2018**

**Johannes Bendle, Planner I  
Fraser Valley Regional District**



## **Summary of Situation**

Development on Hatzic Island has occurred over time without a comprehensive planning framework. Much of the development on the Island pre-dates land use planning zoning regulations. Many older developments are at an urban density with simple on-site individual water and sewage systems. There are indications of variable contamination of the environment and drinking water. Furthermore, Hatzic Island is within the Fraser River floodplain and is also susceptible to localized flood hazards.

Since the adoption of land use controls, policies and regulations have constrained subdivision, but has failed to address the environmental and health hazards or provide for effective management of construction and land use. The situation is compounded by the lawful non-conforming status and complex land tenure arrangements found on the Island. There is increasing pressure for recreational residential use and low cost residential accommodations. New approaches are needed to address environmental and health risks, and manage land use and development on Hatzic Island.

## **Description**

Hatzic Island is located within Electoral Area “G” of the Fraser Valley Regional District (FVRD) on Hatzic Lake. Hatzic Island’s popularity as a recreational area and its evolution in use to a residential area, in conjunction with environmental constraints and concerns regarding water and sewage, has created challenges for the Island. This evolution from seasonal recreational use to permanent residential use has only exasperated existing challenges. The rising real estate costs in the Fraser Valley have arguably contributed to increasing permanent residential use on Hatzic Island as people seek out affordable housing options. Current development on the Island ranges from larger rural residential uses to dwelling units on small individual user lots, to mobile home parks, recreational vehicle campsites and a church summer camp. BC Assessment data obtained by the FVRD shows that there are currently 757 folio numbers associated with Hatzic Island. A folio number is typically associated with one parcel, multiple parcels, or a portion of a parcel. This data provides a good estimate on the number of lots and user sites there are on Hatzic Island.

## **Subdivision History**

Hatzic Island was first subdivided in 1882 when the provincial government issued the first Crown grant for the northern portion of the Island. The original Crown grant was for a 57.87 ha (143 ac) parcel<sup>1</sup>. A subsequent Crown grant was issued for the southern portion of the Island. It covered the remaining 16.61 ha (40 ac) of the Island<sup>2</sup>. The area of land known as Everglades Resort on the southeast portion of the Island seems to have been submerged and only appeared on later maps.

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<sup>1</sup> British Columbia. *Government Access Tool for Online Retrieval (GATOR)*  
[http://a100.gov.bc.ca/pub/pls/gator/gator\\$querylist\\_detail.parcel\\_detail?v\\_Pin\\_Sid=6507431&v\\_Historical=ON](http://a100.gov.bc.ca/pub/pls/gator/gator$querylist_detail.parcel_detail?v_Pin_Sid=6507431&v_Historical=ON).  
(accessed April 10, 2017).

<sup>2</sup> British Columbia. *Government Access Tool for Online Retrieval (GATOR)*  
[http://a100.gov.bc.ca/pub/pls/gator/gator\\$querylist\\_detail.parcel\\_detail?v\\_Pin\\_Sid=6500871&v\\_Historical=ON](http://a100.gov.bc.ca/pub/pls/gator/gator$querylist_detail.parcel_detail?v_Pin_Sid=6500871&v_Historical=ON).  
(accessed April 10, 2017).

The subdivision pattern that developed on Hatzic Island by 1919, with the exception of the southern quarter of the Island, resembles today's subdivision pattern. By 1922, there was further subdivision on the Island. By 1952, today's subdivision pattern on Hatzic Island was mostly established and the area of land known as Everglades Resort emerged. By 1972, the subdivision pattern resembles today's map. Since that time there have been several subdivisions in the form of lot realignments, consolidation of parcels, and creation of new parcels; however, overall the number of parcels appears to have stayed consistent. The subdivision pattern that developed on Hatzic Island is illustrated in Appendix A.

## **Development Constraints**

### ***Floodplain***

The major environmental constraint facing Hatzic Island is its location within the Fraser River floodplain. Historically the area has been prone to flooding. The highest points on the Island are two metres below the elevation of a 1:200 Fraser River flood<sup>3</sup>. The old 1988 Dewdney – Hatzic Lake Official Community Plan states that notable floods from the Fraser River occurred in 1882, 1883, 1894, 1900, 1936 and 1948<sup>4</sup>. The floods of 1948 were devastating and resulted in the reconstruction of riverside dikes. The present Dewdney Dike, along with flood boxes and a pump station, were constructed after the floods of 1948<sup>5</sup>. The Dewdney Dike protects Hatzic Island from flooding from the Fraser River. Since the 1948 flood there have been no Fraser River floods; however, Hatzic Island still experiences flooding due to the volume of water coming off the surrounding watersheds overwhelming the drainage capacity of the system<sup>6</sup>. Localized internal flooding occurred in 1955, 1972, 1981 and 1983<sup>7</sup>. The last noteworthy flood event occurred on Hatzic Island in 1990. Drainage from Hatzic Lake flows into the Fraser River through the Lower Hatzic Slough. However, high Fraser River levels can prevent this drainage and during rain events the lack of drainage causes flooding and necessitates the use of a pump station. In 2013, a second pump station with three fish friendly axel pumps was completed to enhance drainage during high Fraser River levels<sup>8</sup>.



Hatzic Island 1990 Flood, Everglades Resort

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<sup>3</sup> Fraser Valley Regional District. *Official Community Plan for Electoral Area "G" Bylaw No. 0866, 2008*. 2008.

<sup>4</sup> Dewdney – Alouette Regional District. *Dewdney – Hatzic Lake Official Community Plan Bylaw No. 478, 1988*. 1988.

<sup>5</sup> Dewdney Area Improvement District. <http://www.daidinfo.com/history/> (accessed January 30, 2017).

<sup>6</sup> Dewdney Area Improvement District.

<sup>7</sup> Dewdney – Alouette Regional District. *Dewdney – Hatzic Lake Official Community Plan Bylaw No. 478, 1988*. 1988.

<sup>8</sup> Letts Environmental Consultants Ltd. *Dewdney Area Improvement District. Operations Manual: Hatzic Lake Slide Gates*. October 2014.

Recognizing Hatzic Island is located within the floodplain, the FVRD has included the Island within the *Fraser Valley Regional District Floodplain Management Bylaw 0681, 2005* (Floodplain Management Bylaw). The Floodplain Management Bylaw states the Flood Construction Level (FCL) for Hatzic Island is 9.3 metres Geodetic Survey of Canada (GSC) datum. The minimum ponding elevation, which addresses flooding from within the Hatzic watershed, is 5.2 metres GSC datum. The floodplain setback for Hatzic Island is 7.5 metres from the natural boundary of Hatzic Lake. The required FCL is 9.3 metres GSC datum but if the minimum ponding elevation of 5.2 GSC is met and a save harmless covenant is registered in favour of the FVRD then the 9.3 m GSC FCL does not need to be met.

The mapping provided in Appendix B illustrates the low elevation of Hatzic Island. This mapping is showing GSC datum elevation levels and is therefore measuring elevation from sea level, but it still is illustrative of the low elevation levels of Hatzic Island. The lowest area of elevation on Hatzic Island is found in Everglades Resort, which happens to also be the most densely developed area on Hatzic Island. Most of the other high density development falls largely within the low level turquoise area. The existing FCL elevation on Hatzic Island ranges from 2.8 metres to 8.2 metres. Everglades Resort maximum elevation levels range from 2.8 metres to 3.6 metres and most other high density development on Hatzic Island falls within 5.6 metres to 7.4 metres GSC datum. Depending on elevation, new construction would at a minimum need to be 5.2 metres to 9.3 metres GSC datum. To meet the required FCL either fill has to be brought in to elevate the structure or construction has to be designed to have the non-habitable space (i.e. garage) locate below the FCL and the habitable floor located above the FCL or a combination of fill and construction. The elevation levels highlight the risk of flooding and the challenges of developing in low lying areas such as Hatzic Island.

The low elevation of Hatzic Island is not only a concern because of flooding but it is also a concern because seasonal high ground water affects on-site sewage septic systems and individual sand point water wells. The flooding also increases the risk of land use related contaminants from entering the water supply. The sewage and water challenges on Hatzic Island will be discussed in the next sections.

### **Road Access**

In addition to the flood risks and concerns regarding sewage and water there is only one access road and bridge to Hatzic Island. As a result access may be cut off during major floods or other emergencies. The elevation of the Shook Road Bridge is approximately 5.2 GSC metres. This should be sufficient to keep the bridge above design flood levels for floods within the Hatzic watershed; however, it would be inundated by a Fraser River flood that breaches the existing Fraser River dike system. During the flood of 1990 a water level 4.25 GSC was recorded at Everglades Resort<sup>9</sup>.

### **Sewage Disposal**

Development on Hatzic Island initially took the form of recreational development, but over time has evolved to primarily residential development that relies on on-site sewage disposal systems. Typically these are individual on-site septic fields. Considerable development occurred in the 1960's and 1970's

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<sup>9</sup> Associated Engineering, *Hatzic Prairie Drainage Study*. Volume 1. 1992.



prior to when provincial regulations were implemented regarding septic field design<sup>10</sup>. Many of these systems are nearing the end of their anticipated life<sup>11</sup>. As a result they will require significant investment to replace them. Concerns have been raised in the past that the deep trench sewage disposal systems most commonly used on the Island may be brought into conflict with the seasonally high groundwater on Hatzic Island<sup>12</sup>. In previous surveys respondents have experienced concerns or problems with sewage disposal systems and supported the concept of a community sewer system<sup>13</sup>. There were also concerns that the density of septic systems and proximity of wells to septic systems are a cause for concern.

### **Water Supply**

Hatzic Island residents generally rely on wells. The Nicomen Slough Aquifer, the source of the Island's drinking water was in the past classified by the Ministry of Environment as "highly vulnerable" to contamination<sup>14</sup>. There are some concerns that sewage disposal on Hatzic Island is contaminating ground water and drinking water supplies. Previous research that focused on groundwater to determine the quality of drinking water conducted sample well tests in Hatzic Valley and found wells that had high nitrate levels on Hatzic Island<sup>15</sup>. The source of nitrates was likely the septic systems. Furthermore, there was a strong relationship between nitrate levels, well depths and proximity to development.

### **Ownership Structure**

The ownership structure is also complex in numerous developments on Hatzic Island. In some instances there is one owner with multiple residential sites. In other instances there is fractional ownership in which each owner holds a fraction of the property and is allowed to occupy a defined area (user site) based on an agreement among the owners. In other instances, an owner may hold shares in the corporation which owns the land. These ownership structures act as "unregistered subdivision" of land but they have avoided the subdivision approval process which is intended to ensure the health, safety, practicality and overall suitability of the subdivision. This creates development challenges as individual owners wishing to apply for amendments to the Official Community Plan or Zoning Bylaw require the support of the other fractional owners of the development. It also creates a situation where there are no internal land use setbacks between user sites but only setbacks between buildings and exterior lot lines. As well, it complicates redevelopment and has important implications for lawful non-conforming ("grandfathering") status.

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<sup>10</sup> Fraser Valley Regional District.

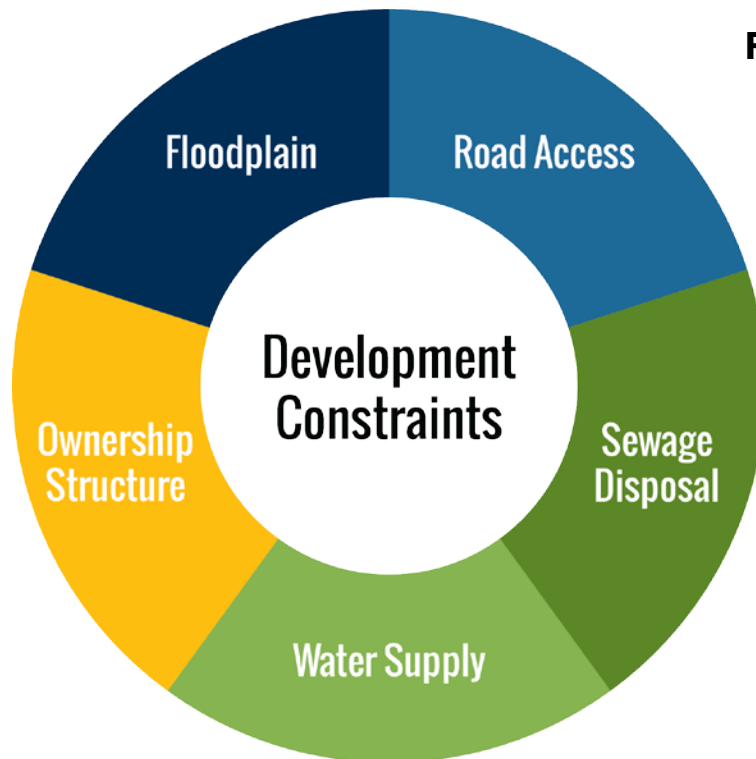
<sup>11</sup> Fraser Valley Regional District.

<sup>12</sup> Fraser Valley Regional District.

<sup>13</sup> Fraser Valley Regional District.

<sup>14</sup> Fraser Valley Regional District.

<sup>15</sup> Magwood, Simon. *Drinking Water Quality in the Hatzic Valley, BC*. Master's Thesis, University of British Columbia, 2004.



**Figure 1**

### **Planning Policies and Regulations**

The policy and regulatory regime has been consistent in preventing further subdivision and maintaining the size of the remaining larger parcels.

The Official Regional Plan adopted by the Lower Mainland Regional Planning Board in 1966, designated Hatzic Island as Lowland Rural (RRL-3). This designation was applied to areas located within a floodplain that are predominately large parcel size and are best suited for low agricultural or large holding rural development and therefore impacted less should flooding occur. The Official Regional Plan's subdivision policy for minimum parcel size was 20 ac (8 ha).

The original zoning bylaw, *Dewdney-Alouette Regional District Zoning Bylaw No. 28, 1972*, introduced by the Dewdney-Alouette Regional District in 1972, zoned much of Hatzic Island Rural III (R-3) with the exception of four parcels which were zoned Tourist-Recreation Commercial (TC) and one parcel zoned Institutional (P) where a church camp is located. The Zoning Bylaw maintained the minimum parcel size of 20 ac (8 ha) for the Rural III (R-3) zone that was designated by the Official Regional Plan. The minimum parcel size for the Tourist Recreation Commercial (TC) zone was 3 ac (1.2 ha). The minimum parcel size for the Institutional (P) Zone was not less than 20,000 ft<sup>2</sup> (0.186 ha).

*Dewdney-Alouette Regional District Zoning Bylaw No. 202, 1980* repealed and replaced *Dewdney-Alouette Regional District Zoning Bylaw No. 28, 1972* but maintained the same zoning with the exception of one parcel. The majority of parcels were zoned Rural III (R-3) and maintained a minimum



parcel size of 8 ha (20 ac). Three properties were assigned the Tourist Campsites (TC) zone and the minimum parcel size was increased to a minimum of 2 ha (4.94 ac). The church camp parcel maintained its Institutional (P) zone but the minimum parcel size was increased to 1 ha (2.47 ac).

The current *Dewdney-Alouette Regional District Zoning Bylaw No. 559, 1992* has maintained the zoning designations. The minimum parcel size for the Rural 3 (R-3) was maintained at 8 ha (19.77ac) but the minimum parcel size within the Tourist Campsite (TC) and Civic Assembly (P-1) was reduced to 0.5 ha (1.24 ac).

**Figure 2**

## Minimum Parcel Size History

### 1966 Official Regional Plan

Land Use Designation		Minimum Parcel Size	
RRL-3	Lowland Rural	8 ha	20 acres

### Zoning Bylaw No. 28, 1972

Land Use Designation		Minimum Parcel Size	
R-3	Rural III	8 ha	20 acres
TC	Tourist Commercial	1.2 ha	3 acres
P	Institutional	.186 ha	20,000 ft <sup>2</sup>

### Zoning Bylaw No. 202, 1980

Land Use Designation		Minimum Parcel Size	
R-3	Rural III	8 ha	20 acres
TC	Tourist Campsite	2 ha	4.95 acres
P	Institutional	1 ha	2.47 acres

### Zoning Bylaw No. 559, 1992

Land Use Designation		Minimum Parcel Size	
R-3	Rural III	8 ha	20 acres
TC	Tourist Campsite	.5 ha	1.24 acres
P-1	Civic Assembly	.5 ha	1.24 acres

The Official Regional Plan land designation map from 1966 illustrates a similar subdivision pattern as illustrated in the 1972 map shown in Appendix A. Therefore, subdivision patterns, minimum parcel size policies, and regulations regarding subdivision and land use on Hatzic Island have not significantly changed in over 50 years (1966-2017). With several minor exceptions, from 1966 onward further subdivision of Hatzic Island has been prevented by policies and regulations that were adopted. Since 1972, regulations have sought to keep residential development to large rural parcels and allow for tourist campsites on a number of parcels. There are numerous non-conforming uses that have continued up to the present day. However, evidence gathered by FVRD staff through complaints to bylaw enforcement and site visits indicates that the scale of non-conforming use has increased, rather than decreased. The policy and regulatory response is effective in preventing further subdivision but results in a variety of problems relating to legal non-conforming status implications and land tenure.

### **Non-Conforming Development**

The density of development on Hatzic Island is high for an unserviced area. The reason why Hatzic Island has such high density is because of the continued presence of lawfully non-conforming residential and recreational development that has occurred in the mobile home parks and resorts. These densities found on Hatzic Island are a concern at the current level of servicing. All together there are seven lawfully non-conforming recreational holdings/unregistered subdivisions on Hatzic Island that pre-date the original zoning regulations. These were recognized and described in *Dewdney-*

*Alouette Regional District Zoning Bylaw No. 202, 1980* and therefore existed prior to the existing *Dewdney-Alouette Regional District Zoning Bylaw No. 559, 1992*. The non-conforming recreational holdings/unregistered subdivisions recognized are: Green Acres, Aqua Vista Estates, Sundorn Holdings, Hatzic Lake Holdings, Griffs MHP, Everglades MHP and Little Beach MHP. Non-conforming developments are included in Table 1 which lists all high density properties on Hatzic Island. Because these sites are non-conforming, a structural alteration or addition must not be made unless it is permitted by a Board of Variance. The Board of Variance is the formal process to proceed with development on these sites.

**Table 1: Hatzic Island Developments**

Name	Land Use	Zoning	Units/Sites	Size (acres)	Incorporated
Swans Point	RV (sheds, awning, covered decks)	TC	114	10.26	NA
Camp Luther	Cabins & RV & tenting sites	P-1	39	6.74	NA
Green Acres*	MHP – manufactured homes	R-3	47	6.5	NA
Aqua Vista Estates*	Mobile homes, additions & houses	R-3	21	5	NA
Sundorn Holdings*	Houses & cabins	R-3	43 (45)	8.34	1965
Hatzic Lake Holdings (Dogpatch)*	Houses	R-3	28	5.5	1958
Kostur (Griffs) MHP*	MHP – manufactured homes	R-3	7	1.6	NA
Everglades MHP*	MHP – manufactured homes & additions, & modular homes	TC / R-3	17	4.5	NA
Everglades Resort	RVs, trailers & cabins	TC	395	26.1	1976
Little Beach MHP*	RVs & manufactured homes	R-3	13+1	2.9	NA

\*Recognized as existing non-conforming by *Dewdney-Alouette Regional District Zoning Bylaw No. 202, 1980*

Currently for those developments considered lawfully non-conforming, a structural alteration or addition is only allowed as per Section 531 of the *Local Government Act* if it is permitted by a Board of Variance. A person under Section 40 of the *Local Government Act* may apply to a Board of Variance if the person alleges that compliance with the prohibition of structural alterations or additions would cause the person “hardship”. The Board of Variance in turn under Section 542 of the *Local Government Act* may order that the applicant be exempted from Section 531 of the *Local Government Act* which restricts the structural alteration or addition of a building.

The FVRD Board of Variance has considered numerous applications for significant alteration or construction on user sites of legal non-conforming recreational holdings/unregistered subdivisions within the last 20 years. The Board of Variance has for all but one application approved the development applied for by the applicant. Table 2 summarizes the Board of Variance applications considered for Hatzic Island since 1997. Of the 17 Board of Variance applications considered 16 were approved and only one was denied. All Board of Variance applications came from three recreational holdings/unregistered subdivisions: Aqua Vista Estates, Hatzic Lake Holdings (Dogpatch), and Sundorn Holdings. The data reveals which lawfully non-conforming residential



communities applied for a Board of Variance; however, readers should be cautious in drawing further conclusions as this may simply reflect the circumstances of the property. Owners in these communities contain mostly houses or cabins as opposed to mobile homes and therefore may be more likely to apply for structural alterations or additions as they have a simpler path in receiving the necessary approvals to undertake construction. Members of the Board of Variance in making their decision are guided by the parameters set out in Section 542 of the *Local Government Act* attached in Appendix C. In making a decision the Board of Variance has concluded that the applications met all of the requirements. That development was allowed for an application may seem minimal but the planning concern lies in the incremental impacts of the approval of development over time. The long term result is that development on Hatzic Island intensifies without any improvement in the level of sewer and water services. The results may be a risk for the environment and human health.

**Table 2: Board of Variances**

Address	Application	Decision
Aqua Vista - 4-9201 Shook Road	Structural alteration and addition to existing double wide mobile.	Approved 2009
Dogpatch -11-8985 Shook Road	Addition of garage to existing dwelling.	Approved 2009
Dogpatch - 11-8985 Shook Road	Conversion of garage to habitable living space.	Approved 2013
Aqua Vista - 18-9201 Shook Road	Structural alteration and placement of manufactured home to an existing single family dwelling.	Approved 2013
Aqua Vista - 3-9201 Shook Road	Construction of extension to existing single family dwelling to accommodate a bathroom.	Approved 2013
Dogpatch - 4-8985 Shook Road	Structural alteration and addition to an existing single family dwelling to accommodate the replacement of current flat roof.	Approved 2015
Dogpatch - 3-8985 Shook Road	Removal and replacement of existing two storey garage attached to existing single family dwelling.	Approved 2015
Aqua Vista - 18-9201 Shook Road	Structural alteration and addition to an existing single family dwelling to accommodate addition of a two car garage and deck.	Approved 2015
Dogpatch - 3-8985 Shook Road	Internal structural alteration.	Approved 2009
Sundorn - 5-9055 Shook Road	BOV did not understand any undue hardship to the applicant to support allowing consideration of the extra addition to the home.	Denied 2006
Dogpatch - 1-8985 Shook Road	Reconstruction of flat roof to pitched roof and addition of storage in roof area.	Approved 2002
Dogpatch - 1-8985 Shook Road	Replace flat roof with pitched roof and enlarge two existing bedrooms by constructing an addition and build a single car open sided carport.	Approved 2003
Sundorn -11-9055 Shook Road	Addition of family room or bedroom and carport.	Approved 2003
Dogpatch - 16-8985 Shook Road	Reconstruction and enlargement of two bedrooms, addition of covered deck, second parking spot, and foyer in garage to building.	Approved 2002
Sundorn - 10-9055 Shook Road	Reduction in setback to the rear property line as long as the proposed picnic shelter not be within 1.5 m of rear property line.	Approved 2001
Sundorn -1-9055 Shook Road	Variance as applied for was denied but the second storey addition to single family dwelling was granted.	Approved 1998
Aqua Vista - 16-9201 Shook Road	Renovate and repair old residence.	Approved 1997

## **Bylaw Enforcement**

Currently there are 39 active bylaw enforcement files for properties on Hatzic Island which are summarized in Table 3. Bylaw enforcement in the FVRD is complaint driven unless FVRD staff are aware of a bylaw contravention which poses a major health or safety concern. Subsequently, there may be additional bylaw contraventions where FVRD staff have not received complaints from the public and therefore no files has been created.

The overwhelming number of bylaw enforcement files, 28 of 39, are located within Everglades Resort. This may be expected as Everglades Resort also has the largest number of user lots. There are also currently two active bylaw enforcement files in Aqua Vista Estates, Sundorn Holdings and Little Beach. All three of the developments are lawfully non-conforming and five of six bylaw enforcement files are concerning construction

without a permit. Most of the bylaw enforcement files relate to construction without a permit and the reason that building permits are never applied for in the first place is that the construction is not permitted because of the regulations of the zone. Where the unit is considered lawfully non-conforming a Board of Variance may be an option to reach a resolution; however, where a Board of Variance is not an option the only achievable option is removing the construction, or rezoning the entire property.



Placement of mobile home without a Permit, Little Beach

**Table 3: Bylaw Enforcement Files**

Address	Issue	Date File Opened
8400 Shook Road - 28 active files (Everglades)	Construction without permit	1996-2017
8564 Shook Road	Construction without permit	2007
8985 Shook Road	Construction without permit	2013
9010 Shook Road (Little Beach)	Construction without permit	2007
9010 Shook Road (Little Beach)	Zoning use contravention	2013
9046 Shook Road	Multiple bylaw enforcement	2017
9053 Shook Road (Sundorn)	Construction without permit	2016
9055 Shook Road (Sundorn)	Construction without permit	2005
9201 Shook Road (Aqua Vista)	Construction without permit	2013
9201 Shook Road (Aqua Vista)	Construction without permit	2014
9267 Shook Road	Construction without permit	2003
9341 Shook Road	Construction without permit	2000

## **Moving Forward**

### ***Evaluation of Policies***

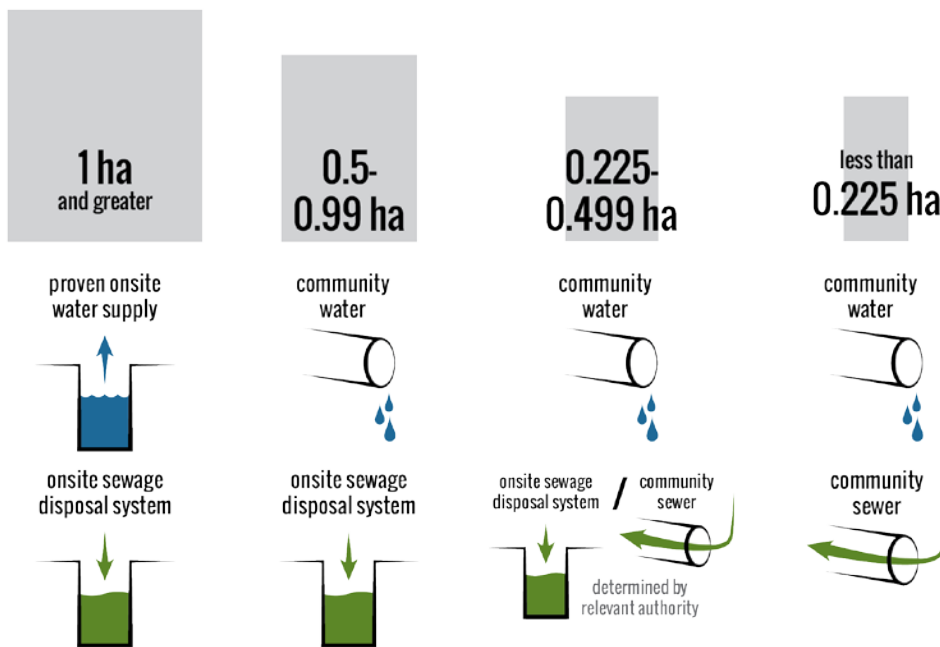
Considering the development history, planning policies and planning regulations, the planning policy and regulatory regime applied to Hatzic Island has only partly been effective in preventing further development and inadequate for protecting environment and health. The previous and current local government policies and the corresponding planning policies and regulations adopted have provided mixed results. The planning policies and regulations have been successful in preventing subdivision but have been unsuccessful in controlling development. The planning policies and regulations have frustrated development, which has resulted in prolonged uncertainty for residents, a difficult path forward for residents wishing to pursue development lawfully, and resulted in illegal development. The extent of the illegal development is unknown, but over the years signs of illegal development have been observed. It appears that illegal development has been quite prevalent. If the last 37 years are any indication, the “grandfathering” of residences within the recreational holdings/unregistered subdivisions look to continue in the future and show no signs of eventually conforming. The intention of the provincial legislation that allows for “grandfathering” of non-conforming uses is that eventually the non-conforming use will come into conformity. For “grandfathering” to apply, the use and structure must be lawfully constructed. This can be difficult to determine because there are changes in ownership. The intention of “grandfathering” is to allow for a use to continue in its current state but the expectation is that eventually the “grandfathered” use will be replaced by a conforming use. It achieves this by prohibiting structural alterations or new construction which would extend the life of the non-conforming use. Furthermore, the problem of “grandfathering” and land tenure is that “grandfathering” rights are evolving through case law. The only way for development to take place is through approval from the Board of Variance or illegal development. Therefore, it is appropriate to re-evaluate the FVRD Board’s policies regarding Hatzic Island, the corresponding planning policies and regulations, and to consider exploring a more sensible approach moving forward.

### ***Community Servicing***

The implementation of community servicing that is appropriate for the density of development on Hatzic Island is an effective option to consider in addressing concerns regarding sewage disposal and drinking water. The major foreseeable challenge in moving forward with any community water system or community sewage system is paying for the system. Should Hatzic Island residents support the building of a community water system and/or community sewer system the costs may be prohibitively high in comparison to property/improvement values. Furthermore, the FVRD would not want to encourage development that would result in significantly higher densities whether through subdivision or additions. Usually new development helps to assist in paying for new services but since the FVRD may not want to encourage development it may not be able to rely on future development to help pay for the upgrades to community services. Therefore, the FVRD would need provincial and/or federal support and have to look at funding alternatives in the form of grants to assist in subsidizing rate payers. The implementation of a community water system would be less costly than implementation of a community sewer system as well as having the added benefit of potentially reducing property insurance rates. Despite the financial challenges in bringing community water and

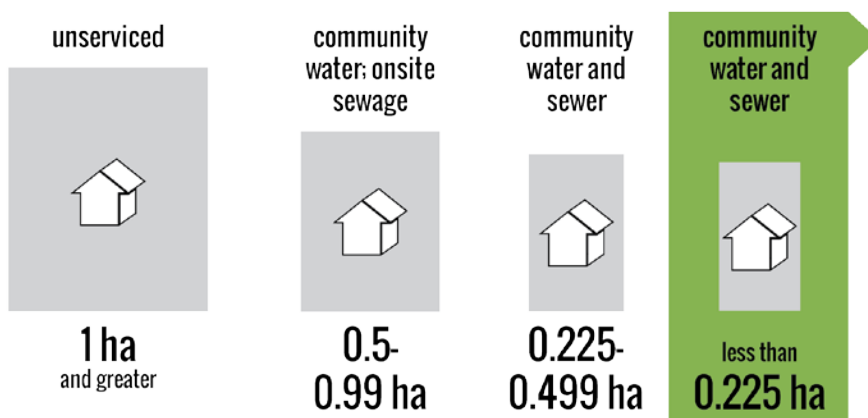
sewage services to Hatzic Island it would address concerns of water quality, human health and impacts on the environment while facilitating zoning to reflect the actual use. As a result the FVRD could also explore opportunities for modest development supported by community water and sewer services and flood protection.

**Levels of Service by Parcel Area**



**Figure 3**

**Density by Servicing Requirements in the FVRD**



**Figure 4**

Developments at Aqua Vista Estates, Sundorn Holdings, and Hatzic Lake Holdings have an average parcel size of **0.085 hectares** and are entirely **unserviced**.

### ***Planning Policies and Regulations***

Addressing the servicing on Hatzic Island would support the FVRD in looking into re-evaluating its planning policies and regulations regarding existing and future development on the Island. Observations and FVRD documents indicate that the FVRD can expect those non-conforming recreational holdings/unregistered subdivisions to continue in the foreseeable future. In the meantime, the non-conforming status creates uncertainty. The implementation of community services would support the FVRD bringing the non-conforming developments into conformity. The Official Community Plan policies support providing a community water and sewer system and subsequently bringing the non-conforming developments into conformity. The FVRD could explore options to update designations and regulations to recognize the majority of the non-conforming development as conforming. This will address the reality that the existing non-conforming developments are not going to conform on their own because of land ownership structure and compelling economic incentive associated with current density.

### ***Future Development***

Addressing the non-conforming status of existing development will also allow the FVRD to better address future development. As has already been discussed, development in the non-conforming recreational holdings/unregistered subdivisions is currently possible by going through the Board of Variance. By addressing the community servicing the FVRD could offer a more desirable and certain path forward for development that is achievable by the owner of a single user site. This would allow owners to construct as long as FVRD development requirements are met.

The major benefit of offering a more viable path forward to owners wishing to construct is that it discourages them from undertaking illegal construction. This would result in a more desirable development process and reduce cases of bylaw enforcement. There are currently bylaw enforcement files where options to legalize illegal construction involves the rezoning of the entire recreational property. This would require a list of items to be addressed which includes servicing. Construction in recreational holdings/unregistered subdivisions will occur regardless so the challenge is to allow limited development to proceed in a legal manner that is feasible for the individual owners.

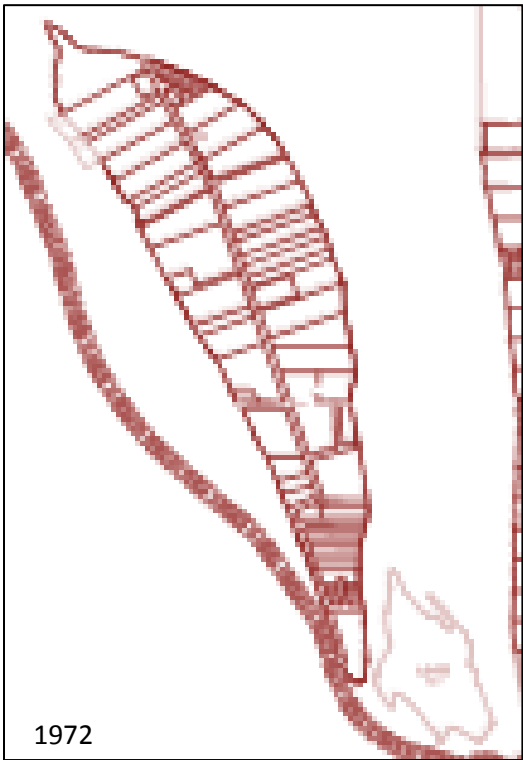
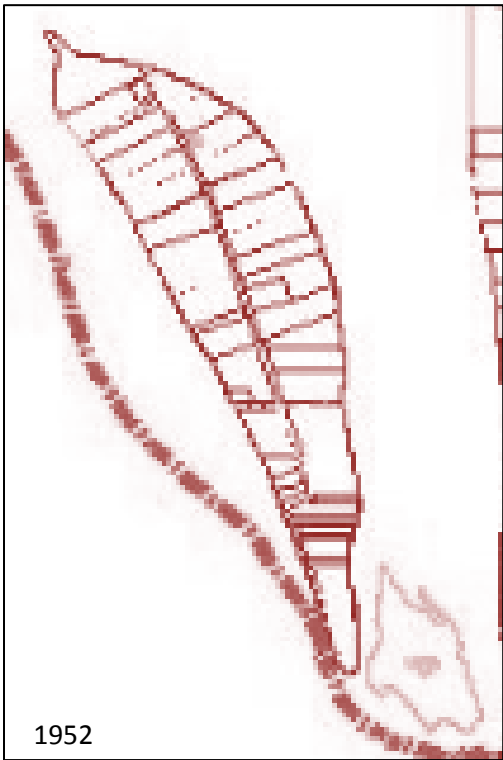
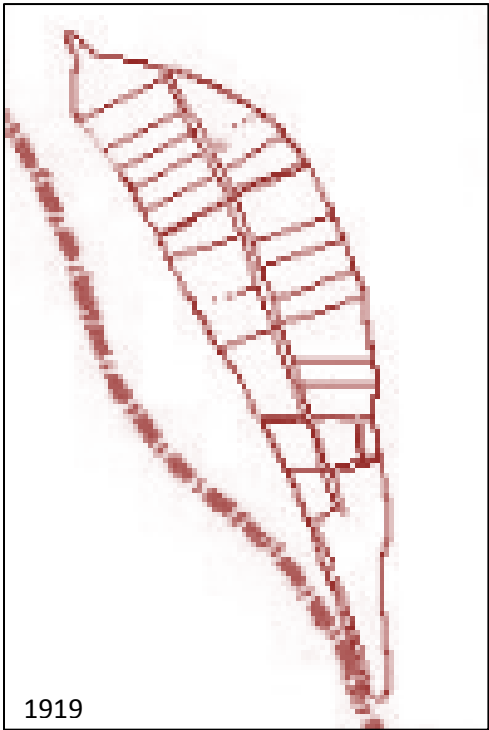
### ***Conclusion***

The FVRD has had subdivision and land use policies in place since 1966. The lawfully non-conforming recreational holdings/unregistered subdivisions on Hatzic Island have been recognized and defined in previous zoning bylaws. Given the longevity of the lawfully non-conforming development the FVRD can expect this issue to continue in the foreseeable future. Clearly this status quo has resulted in additional development. The FVRD has received information over the years that indicate there are concerns with the water quality and sources of potable water contamination; however, action is required to move beyond indicators and review a comprehensive study of the water quality and sources of contamination. As part of any policy bringing the non-conforming development into conformity, the delivery of a community water system and community sewer system are important considerations. Concerns associated with the existing and future development on Hatzic Island

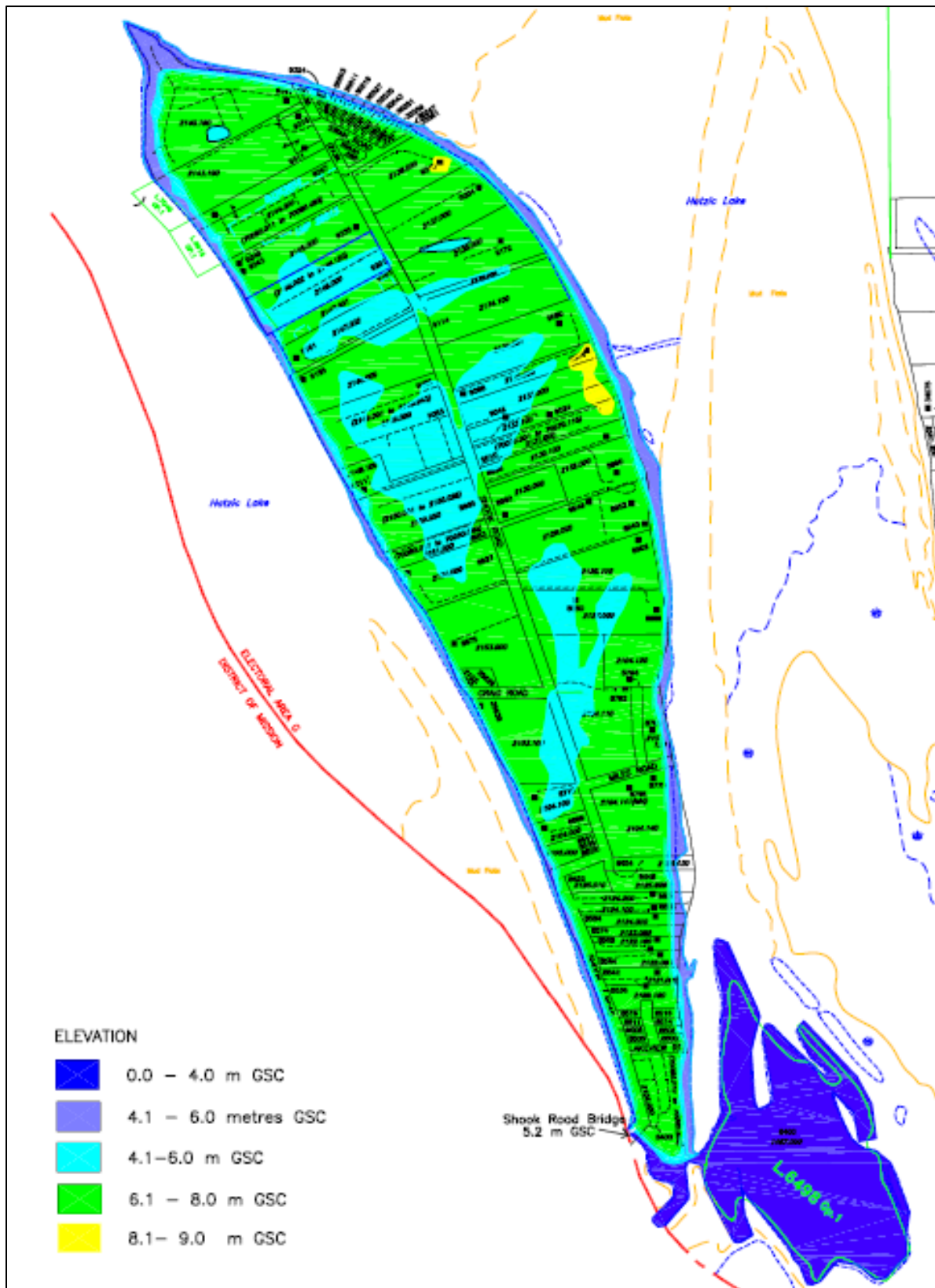
require active solutions that will likely require the cooperation of multiple government agencies to commit to investing in Hatzic Island. What is needed is a discussion focusing on different approaches to managing land use and development on Hatzic Island and the support of active solutions.



**Appendix A – Subdivision Patterns**



## Appendix B – Elevations



## Appendix C – Section 542 LGA

### Board powers on application

- 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.

**FRASER VALLEY REGIONAL DISTRICT  
BYLAW NO. 1669, 2022**

**A bylaw to establish regulations regarding floodplain management**

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**WHEREAS** Section 524(2) of the *Local Government Act* ("the Act") provides that if a local government considers that flooding may occur on land, the local government may, by bylaw, designate the land as a flood plain;

**AND WHEREAS** the Board of Directors of the Fraser Valley Regional District ("the Board") has deemed it advisable to establish floodplain management regulations over designated flood plain areas pursuant to Section 524(3) of the *Act*;

**NOW THEREFORE** the Board enacts as follows:

**1) CITATION**

This bylaw may be cited as *Fraser Valley Regional District Floodplain Management Bylaw No. 1669, 2022*.

**2) SEVERABILITY**

If any portion of this bylaw is declared invalid by a court of competent jurisdiction, then the invalid section must be severed and the remainder of the bylaw is deemed valid and will remain in effect.

**3) DEFINITIONS**

In this bylaw the following definitions apply:

**ADDITION** means the process or result of adding, extending, or increasing the size, floor area or height of a building or *Structure*.

**ALLUVIAL FAN** means an alluvial deposit of a stream where the stream issues from a steep mountain valley or gorge upon a plain or at the junction of a tributary stream with the main stream.

**BUILDING OFFICIAL** means any *Building Official* designated or appointed by the *Regional District Board*.

**CARPORT** means a roofed *Structure* with no enclosing walls, used or intended to be used for the parking and storage of vehicles.

**DEBRIS FAN** means a fan shaped surface, created by *Debris Flows* and debris floods and formed of coarse, bouldery to gravelly debris, carried and deposited by these processes. Fan debris is derived and reworked from mountain basins.

**DEBRIS FLOW** means rapid to extremely rapid downslope flows of cobbly and bouldery debris in slurries of mud also containing damaged trees, stumps and finer organic matter.

**DESIGNATED FLOOD** means a flood, which may occur in any given year, of such magnitude as to equal a flood having a 200-year recurrence interval, based on a frequency analysis of unregulated historic flood records or by regional analysis where there is inadequate stream flow data available.

**DESIGNATED FLOOD LEVEL** means the observed or calculated water surface elevation for the *Designated Flood*, which is used in the calculation of the *Flood Construction Level*.

**DWELLING UNIT** means one (1) or more adjoining rooms in a building that together contain or provide for the installation of: a separate entrance from the exterior of the building; one (1) or more sleeping areas; one (1) or more washrooms; a single (1) cooking facility.

**EXTENSION** means the process or result of adding, extending, or increasing the size, floor area or height of a building or *Structure*.

**FARM BUILDING** means a building or part thereof that does not contain a *Residential Use* and which is associated with and located on, land devoted to the practice of agriculture, and used for housing of equipment or livestock, or the production, storage of, or processing of agricultural, horticultural produce, or feeds.

**FLOOD CONSTRUCTION LEVEL** means the *Designated Flood Level* plus *Freeboard*, or where a *Designated Flood Level* cannot be determined, a specified height above a *Natural Boundary*, Natural Ground Elevation, or any obstruction that could cause ponding.

**FLOODPLAIN** means a lowland area which is susceptible to flooding from a watercourse, lake, or other body of water and that which is shown on Schedule A and/or designated in Section 6 of this bylaw.

**FLOODPLAIN SETBACK** means the required minimum distance from the *Natural Boundary* of a watercourse, lake, or other body of water to any landfill or structural support required to elevate a floor system or *Pad* above the *Flood Construction Level*, so as to maintain a floodway and allow for potential land erosion.

**FLOODPROOFING** means the alteration of land or *Structures* either physically or in use to reduce or eliminate flood damage and includes the use of elevation and/or building setbacks from water bodies to maintain a floodway and to allow for potential erosion.

**FREEBOARD** means a vertical distance added to a *Designated Flood Level*, used to establish a *Flood Construction Level*.

**GARAGE** means a building or *Structure*, or part thereof, used or intended to be used for the parking and storage of vehicles.

**GENERAL EXEMPTIONS** mean the exemptions set out in this bylaw that exempt certain types of development from the *Flood Construction Levels* specified in Section 6(a) of this bylaw.

**G.S.C.** means Geodetic Survey of Canada datum and refers to the elevation above mean sea level.

**HABITABLE AREA** means any space or room, including a manufactured or mobile home that is or can be used for *Residential Use*, business, or the storage of goods which are susceptible to damage by floodwater; and for certainty, *Habitable Area* includes any enclosed space within a building with headroom greater than 1.5 metres (4.92 ft.).

**HEAVY INDUSTRY** means and includes such uses as manufacturing or processing of wood and paper products, metal, heavy electrical, non-metallic mineral products, petroleum and coal products, industrial chemicals and by-products, and allied products.

**ISOLINE** means a line on a map or chart along which there is a constant value as of design flood level.

**INSTITUTIONAL USE** means a use providing for public functions and includes federal, provincial, regional and municipal offices, schools, churches, colleges, hospitals, community centres, libraries, museums, jails, courts of law and similar facilities; and specifically excludes public storage and works yards, and public utility uses.

**LIGHT OR SERVICE INDUSTRY** means and includes such uses as assembly, fabrication and light manufacturing, warehousing, wholesaling and food processing.

**MANUFACTURED HOME** means a *Structure* manufactured as a unit, intended to be occupied in a place other than at its manufacture, and designed as a *Dwelling Unit*, and includes mobile homes, and specifically excludes Recreation Vehicles.

**MINIMUM PONDING ELEVATION** means a minimum construction level assigned to reduce possible flood damage due to ponding of local drainage during a severe local storm.

**NATURAL BOUNDARY** means the visible high watermark of any lake, river, stream, or other body of water where the presence and action of the water are so common and usual and so long continued in all ordinary years as to mark upon the soil of the bed of the lake, river, stream, or other body of water a character distinct from that of the banks thereof, in respect to vegetation, as well as in respect to the nature of the soil itself, (Land Act Section 1 ) and also includes the edge of dormant side channels of any lake, river, stream, or other body of water.

**NATURAL GROUND ELEVATION** means the undisturbed ground elevation prior to site preparation.

**PAD** means a surface on which blocks, posts, runners or strip footings are placed for the purpose of supporting a manufactured home, or a concrete *Pad* for supporting a *Habitable Area*.

**PROFESSIONAL ENGINEER (P. ENG.)** means an individual registered with the Association of Professional Engineers and Geoscientists of the Province of British Columbia as a *Professional Engineer* under the *Professional Governance Act*.

**PROFESSIONAL GEOSCIENTIST (P.GEO.)** means an individual registered with the Association of Professional Engineers and Geoscientists of the Province of British Columbia as a *Professional Geoscientist* under the *Professional Governance Act*.

**PROTECTIVE WORKS** means any landfill, embankment, dike, berm, revetment, wall, barrier, flap gate, drainage infrastructure or other *Structure* constructed exclusively or *inter alia* for the purposes of protecting an area, *Structure* or development from the effects of floods, *Debris Flows*, or debris floods.

**PROVINCIAL GUIDELINES** means the policies, strategies, objectives, standards, guidelines and environmental management plans, in relation to flood control, flood hazard management and development of land that is subject to flooding, prepared and published by the Province and as amended from time to time.

**RECONSTRUCTION** Means the substantial rebuilding of an existing *Structure* to an extent that is equal to or greater than 75% of the existing *Structure* above the foundation. It must not include structural alterations to the foundation.

**REGIONAL DISTRICT** means the Fraser Valley Regional District.

**RENOVATION** Means a minor change, repair, improvement or alteration that does not result in a change of occupancy of the *Structure*. *Renovation* does not involve an *Addition* thereto. The Chief Building Official or designate is delegated the authority to determine minor change, repair, improvement or alteration in the case of any uncertainty in the application of the definition.

**RESIDENTIAL USE** means a use providing for the accommodation and home life of a person or persons; includes the keeping of household pets; excludes the keeping of any animals or birds for financial gain for favour or for the provision of food.

**STANDARD DIKE** means a dike built to a minimum crest elevation equal to the *Flood Construction Level* and meeting standards of design and construction approved by the Province and maintained by an ongoing public authority including an improvement district and/or the Regional District.

**STRUCTURE** means any construction fixed to, supported by, or sunk into land or water; and includes in-ground swimming pools, manufactured home *Pads*, and improvements accessory to the principal use of land, but excludes landscaping, screening, hot tubs, paving improvements, and retaining walls under 1.5m in height.

**TOP OF BANK** means the point at which the upward ground level becomes less than one (1.0) vertical to four (4.0) horizontal, and refers to the crest of the bank or bluff where the slope clearly changes into the natural upland bench.

**WATERCOURSE** means any natural or man made depression with well defined banks and a bed 0.6 metres or more below the surrounding land serving to give direction to a current of water at least six (6) months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration.

#### 4) **APPLICATION AND FLOODPLAIN DESIGNATION**

##### a) **Area of Application**

This bylaw shall be applicable within the boundaries of the Regional District except in:

- i. areas lying within a village, town, city or district municipality; and
- ii. lands at Cultus Lake Park separately administered by the Cultus Lake Park Board; and
- iii. lands in Electoral Area B, commonly known as Sunshine Valley, as shown on Schedule A (Map 4).

##### b) **Floodplain Designation**

The following lands are designated as *Floodplain*:

- i. land shown as *Floodplain* on Schedule A (Maps 1-10) of this bylaw;
- ii. land lower than the *Flood Construction Levels* specified in Section 6 of this bylaw; and
- iii. land within the *Floodplain Setbacks* specified in Section 6 of this bylaw.

#### 5) **SPECIFIED FLOOD HAZARD MANAGEMENT AREAS**

##### a) **Alluvial Fans**

Includes alluvial and debris torrent fans, as mapped or identified on Schedule A, as well as *Alluvial Fans* which have not yet been identified. Where development is proposed within or adjacent to an *Alluvial Fan* with an unspecified boundary identified on Schedule A, a *Professional Engineer* or *Professional Geoscientist* may be required to determine if the proposed development is subject to the *Alluvial Fan* hazard or if the flood protection regulations of this bylaw apply.

All development on properties on *Alluvial Fans* must meet the *Flood Construction Level* and setback as determined by a site-specific geohazard assessment by a *Professional Engineer* or *Professional Geoscientist* pursuant to Section 56 of the *Community Charter* and Section 302 of the *Local Government Act* and in accordance with the *Provincial Flood Hazard Area Land Use Management Guidelines* and subsequent amendments.

The flood protection regulations in this bylaw must be taken into consideration in site-specific geohazard assessments where development is proposed on *Alluvial Fans*. Where



land is within the Fraser River *Floodplain* and an *Alluvial Fan*, the greater of the *Flood Construction Levels* and *Floodplain* setbacks between this bylaw and the site-specific report shall apply.

**b) Diked Areas**

Within the portion of the Fraser River *Floodplain* shown on Schedule A (Map 8), no building or *Structure* is permitted to be constructed outside the area protected by the Dewdney Dike and Nicomen Island Dike.

**c) Coquihalla River**

Notwithstanding sections 6(a) and 6(b) of this bylaw, all development on lands in Electoral Area B, commonly known as Othello, as shown on Schedule A (Map 4), must meet the *Flood Construction Level* and setback as determined by a site-specific geohazard assessment by a *Professional Engineer* or *Professional Geoscientist* pursuant to Section 56 of the *Community Charter* and Section 302 of the *Local Government Act*.

**6) FLOODPLAIN SPECIFICATIONS**

**a) Flood Construction Levels**

The following elevations are specified as *Flood Construction Levels*, except where more than one *Flood Construction Level* is applicable, the higher elevation shall be the *Flood Construction Level*:

- i. The *Flood Construction Level* for a specific property, as determined by interpolation from those *Flood Construction Levels* shown on Schedule A.

OR

Where the *Flood Construction Level* is not shown on Schedule A, the following shall apply:

- ii. 6.0 metres above the *Natural Boundary* of the Fraser River.
- iii. 3.0 metres above the *Natural Boundary* of Anderson Creek, Anderson River, Carratt Creek, Cascade Creek, Chehalis River, Chilliwack River, Clayburn Creek, Coquihalla River, Deroche Creek, Emory Creek, Frosst Creek, Hamson River, Holachten Creek, Hunter Creek, Jones Creek (Wahleach Creek), Legace Creek, Lillooet River, Lorenzetta Creek, Lost Creek, Nahatlatch River, Nicolum Creek, Nomsh Creek, Pattison Creek, Pitt River, Pye Creek, Scuzzy Creek, Siddle Creek, Silverhope Creek, Slesse Creek, Sumallo River, Stave River, Stulkawhits Creek, Squakum Creek, Sweltzer River, Vedder River, Weaver Creek and Yale Creek.
- iv. 1.5 metres above the *Natural Boundary* of any other watercourse.
- v. Specified Lakes

Harrison Lake 14.55 metres Geodetic Survey of Canada datum.  
Lake Errock 1 6.5 metres Geodetic Survey of Canada datum.

Lilloette Lake 20 1.00 metres Geodetic Survey of Canada datum.  
 Pitt Lake 5.18 metres Geodetic Survey of Canada datum.  
 Stave Lake 83.8 metres Geodetic Survey of Canada datum.

- vi. 1.5 metres above the *Natural Boundary* of any other lake, pond or marsh.

#### **b) Floodplain Setbacks**

The following distances are specified as *Floodplain Setbacks*, except that where more than one *Floodplain Setback* is applicable, the greater setback shall be the *Floodplain Setback*:

- i. where the *Floodplain Setback* line is shown on Schedule A the distance shall be scaled from the map.  
 OR  
 where the *Floodplain Setback* is not shown on Schedule A the following shall apply:
- ii. 60.0 metres from the *Natural Boundary* of Cascade Creek, Chilliwack River (downstream of Slesse Creek to the *Floodplain Setback* line), Deroche Creek, Norrish Creek, Pattison Creek, Slesse Creek and from any flood channels.
- iii. 30.0 metres from the *Natural Boundary* of Anderson Creek, Anderson River, Carratt Creek, Chehalis River, Chilliwack River (upstream of Slesse Creek), Clayburn Creek, Coquihalla River, Emory Creek, Eng Creek, Frosst Creek, Gourlay Creek, Harrison River, Herford Creek, Hunter Creek, Jones Creek (Wahleach Creek), Lagace Creek, Lillooet River, Liumchen Creek, Lost Creek, Lorenzetta Creek, MacNab Creek, Nahatlatch River, Nicolum Creek, Paleface Creek, Pitt River, Pye Creek, Ryder Creek, Sakwi Creek, Scuzzy Creek, Siddall Creek, Silverhope Creek, Slesse Creek, Squakum Creek, Stave River, Stulkawhits Creek, Sumallo River, Sweltzer Creek, Tamihi River, Yale Creek, Vedder River, Weaver Creek, Wingfield Creek and from any flood channels.
- iv. 15.0 metres from the *Natural Boundary* of any other watercourse.
- v. 15.0 metres from the *Natural Boundary* of Pitt Lake, Harrison Lake and Stave Lake.
- vi. 7.5 metres from the *Natural Boundary* of any other lake, pond or marsh.
- vii. 7.5 metres to the inboard toe of any dike or dike right of way used for flood protection or seepage control.

#### **c) Minimum Ponding Elevation**

Notwithstanding Sections 6 a) and Section 8 of this bylaw, within the portion of the Fraser River *Floodplain* shown on Schedule A (Map 8), no building or *Structure* is permitted to be constructed, *Reconstructed*, moved, or *Extended* with the underside of any floor system or the top of any *Pad* supporting a *Habitable Area* ("the floor system") at an elevation lower than 5.2 metres GSC.

## 7) **APPLICATION OF FLOODPLAIN SPECIFICATIONS**

- a) Pursuant to Section 524 of the *Local Government Act*, after a bylaw has specified *Flood Construction Levels* and *Floodplain Setbacks*:
- i. No *Habitable Area* shall be constructed, reconstructed, altered, moved or extended, lower than the *Flood Construction Level* specified in Section 6(a) of this bylaw.
  - ii. The underside of any floor system, or the top of any *Pad* supporting a *Habitable Area*, any space or room, including a manufactured home, that is used for dwelling purposes, business, or storage of goods which are susceptible to damage by floodwater shall be above the *Flood Construction Level*.
  - iii. No building, *Structure* or *Habitable Area*, with the exception of *Minor Buildings*, as defined in this bylaw, shall be constructed, reconstructed altered, moved or extended within the *Floodplain Setback* as described in Section 6(b) of this bylaw.
  - iv. Any landfill required to support a floor system or *Pad* shall not extend within any setback from a water course or body of water specified by the bylaw.
  - v. Enclosed underground parking below the *Flood Construction Level* is not permitted on any property located within the *Floodplain* as identified on Schedule A.
  - vi. Hot water tanks and furnaces not behind *Standard Dikes* must meet Flood Construction Levels.
- b) Structural support or compacted landfill or a combination of both may be used to elevate the underside of the floor system or the top of the *Pad* above the *Flood Construction Levels* specified in Section 6 a). The structural support and/or landfill shall be protected against scour and erosion from flood flows, wave action, ice and other debris.
- c) The Building Inspector may require that a British Columbia Land Surveyor's certificate be required to verify compliance with:
- i. the location of the proposed development site in relation to *Alluvial Fan* hazard boundaries.
  - ii. the *Flood Construction Levels* and *Floodplain Setbacks* specified in Section 6(a) and (b).

The cost of the verification shall be assumed by the land owner.

- d) Notwithstanding the floodproofing and setback standards in this bylaw, a site-specific geohazard assessment, pursuant to Section 56 of the *Community Charter* and Section 302 of the *Local Government Act*, may be required by the *Building Official* prior to building permit approval.

## 8) **GENERAL EXEMPTIONS**

- a) Pursuant to the Provincial Guidelines and Section 524 of the *Local Government Act* the following types of construction are exempt from meeting the *Flood Construction Levels* specified in Section 6 a):
- i. A *Renovation* to an existing building or *Structure* that does not involve an *Addition* or *Reconstruction* thereto.
  - ii. An *Addition* to an existing building or *Structure*, at the original non-conforming floor elevation, that would:
    - a. increase the size of the building or *Structure* by not more than 25.0 percent of the ground floor area, as it existed in July 1981; or
    - b. increase the ground floor area of the building or *Structure* by not more than 50 square metres over the ground floor area as it existed in July 1981,
 provided that the degree of nonconformity regarding *Floodplain* setback is not increased.
  - iii. A building or *Structure*, or portion thereof, to be used as:
    - a. an attached *Garage* with no interior partitioning walls and not exceeding 110 square metres in floor area;
    - b. *Carport*, unenclosed porch, or open deck;
    - c. Detached non-habitable buildings accessory to *Residential* Use not exceeding 110 square metres; or
    - d. an entrance foyer up to 12 square metres.
  - iv. *Farm Buildings* other than *Dwelling Units* and closed-sided livestock housing.
  - v. Picnic shelters, stands, campsite washhouses, and outdoor playgrounds.
  - vi. Hot water tanks and furnaces behind *Standard Dikes*.
  - vii. Closed sided livestock housing behind *Standard Dikes*.
  - viii. On-loading and off-loading facilities associated with water-orientated industry and portablesawmills.
  - ix. Manure pits.

## 9) **CONDITIONAL EXEMPTIONS**

- a) The following types of development are exempt from the *Flood Construction Levels* specified in Section 6 a) of this bylaw, subject to the following conditions:
- i. Closed-sided livestock housing not behind *Standard Dikes* shall be located with the underside of the wooden floor system or the top of the *Pad* no lower than 1.0 metre above the surrounding ground elevation or no lower than the *Flood Construction Level* specified in Section 6 a) of this bylaw, whichever is lesser.

- ii. Heavy Industrial, or Light or Service Industrial uses, other than main electrical switchgear, shall be located with the underside of a wooden floor system or the top of the *Pad* no lower than the *Flood Construction Levels* specified in Section 6 a) of this bylaw, minus Freeboard of 0.6 metres. Main electrical switchgear shall be no lower than the *Flood Construction Level*.
- iii. Notwithstanding Subsection 6 a)(i), where a lot existed prior to July 26, 2005, and is protected by the Dewdney Dike as shown on Schedule A (Map 8), and:
  - a. where the difference between the 200-year *Flood Construction Level* and the ground elevation exceeds 2.5 metres, and
  - b. where the owner has entered into a Restrictive Covenant with the Regional District in the approved form, and
  - c. where the *Minimum Ponding Elevation* established in Section 6 (c) is met,

a single family *Residential Use* may be constructed, reconstructed, moved or extended and a manufactured home or unit, modular home or *Structure* used for single family residential purposes may be located on that lot with the underside of the floor system or any area used for habitation, business or storage of goods damageable by floodwaters to a minimum elevation of two point five (2.5) metres above the surrounding ground elevation.
- iv. Notwithstanding Subsection 6 a)(i), where a lot existed prior to July 26, 2005 and is protected by the Nicomen Island Dike as shown on Schedule A (Map 8), and:
  - a. where the difference between the 200-year *Flood Construction Level* and the ground elevation exceeds 3.3 metres, and
  - b. where the owner has entered into a Restrictive Covenant with the Regional District in the approved form, and
  - c. where the *Minimum Ponding Elevation* established in Section 6 (c) is met,

a single family *Residential Use* may be constructed, reconstructed, moved or extended and a manufactured home or unit, modular home or *Structure* used for single family residential purposes may be located on that lot with the underside of the floor system or any area used for habitation, business or storage of goods damageable by floodwaters to a minimum elevation of three point three (3.3) metres above the surrounding ground elevation.

## 10) **SITE-SPECIFIC EXEMPTIONS**

- a) Pursuant to Section 524(7) of the *Act* the Board may exempt a person from meeting the requirements specified in Section 6 of this bylaw in relation to a specific parcel of land or a use, building or other *Structure* on the parcel of land if the Board determines that:
- i. The Board has received a flood hazard assessment completed by a *Professional Engineer* or *Professional Geoscientist* that the land may be used safely for the use intended without sole reliance on *Protective Works* and that the exemption will not result in a transfer of flood hazard to other lands;
  - ii. Any proposed structural measures for flood hazard mitigation proposed are financially viable;
  - iii. The exemption is consistent with the Provincial Guidelines and as they may be amended from time to time; including:
    - a. The proposed *Flood Construction Level* and *Floodplain* setback represent the minimum practical variation from the requirements of the bylaw given the existing site characteristics, location of the existing infrastructure (if any), and intended use of the land, specifically without regard to the economic circumstances or siting preference of the applicant;
    - b. A valid hardship exists and no other reasonable option exists. A hardship shall only be recognized where the physical characteristics of the lot (e.g. exposed bedrock, steep slope, the presence of a watercourse, etc.) and size of the lot are such that development proposals consistent with the current land use zoning cannot occur under the requirements of this Bylaw. The economic circumstances or design and siting preferences of the applicant shall not be considered as grounds for hardship;
    - c. The proposed construction methods are designed to mitigate flood damage;
    - d. The owner shall enter into a restrictive covenant under Section 219 of the *Land Title Act* in the approved form; and
    - e. The application for exemption shall be in the approved form.

## 11) **SCHEDULES**

The following schedules attached hereto form an integral part of this bylaw:

- Schedule A – Maps 1-8b

**12) REPEAL**

The following Bylaws are hereby repealed:

*Fraser Valley Regional District Floodplain Management Bylaw No. 0681, 2005 and any amendments thereto*  
*Fraser Valley Regional District Floodplain Management Consolidation Bylaw No. 0748, 2006*

**13) READINGS AND ADOPTION**

READ A FIRST TIME THIS 18<sup>th</sup> day of May, 2023

READ A SECOND TIME THIS 18<sup>th</sup> day of May, 2023

READ A THIRD TIME THIS 18<sup>th</sup> day of May, 2023

ADOPTED THIS 18<sup>th</sup> day of May, 2023

  
\_\_\_\_\_  
Chair/Vice-Chair  
\_\_\_\_\_  
Corporate Officer/Deputy**14) CERTIFICATION**

I hereby certify that this is a true and correct copy of *Fraser Valley Regional District Floodplain Management Bylaw No. 1669, 2022* as adopted by the Board of Directors of the Fraser Valley Regional District on May 18, 2023

Dated at Chilliwack, BC on May 18, 2023

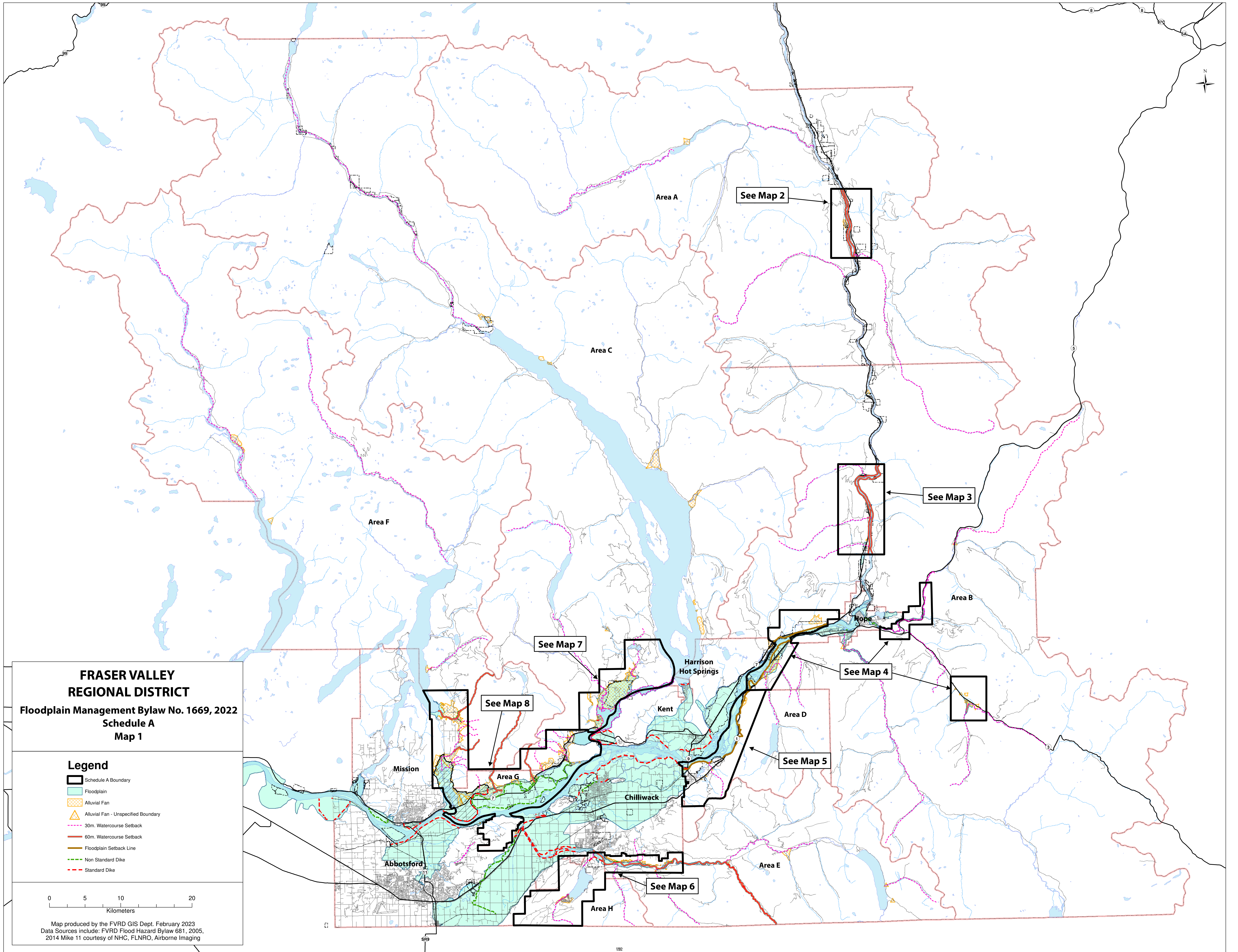
  
\_\_\_\_\_  
Corporate Officer/Deputy



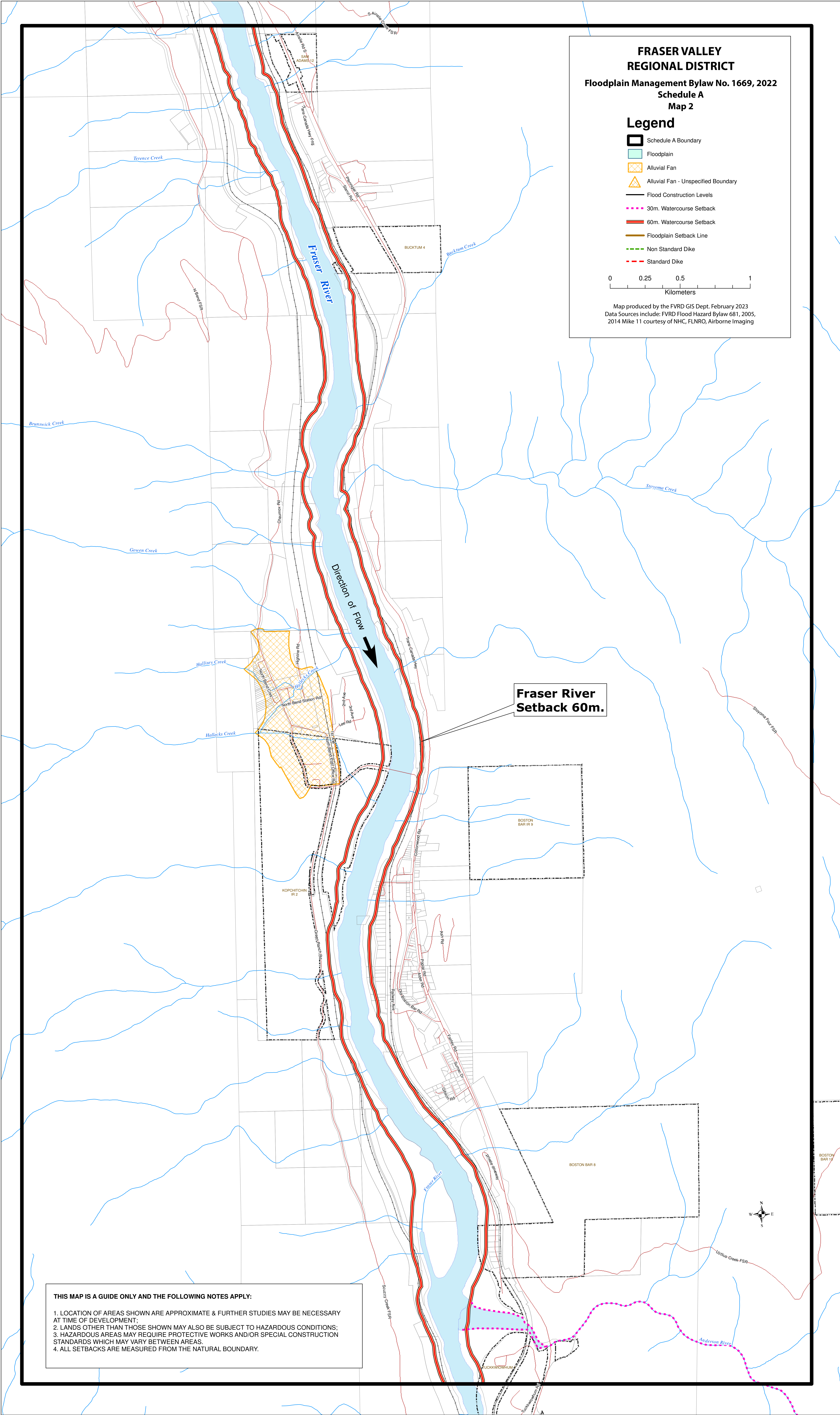
**FRASER VALLEY REGIONAL DISTRICT BYLAW NO. 1669, 2022**

**Schedule A – Maps 1-8b**

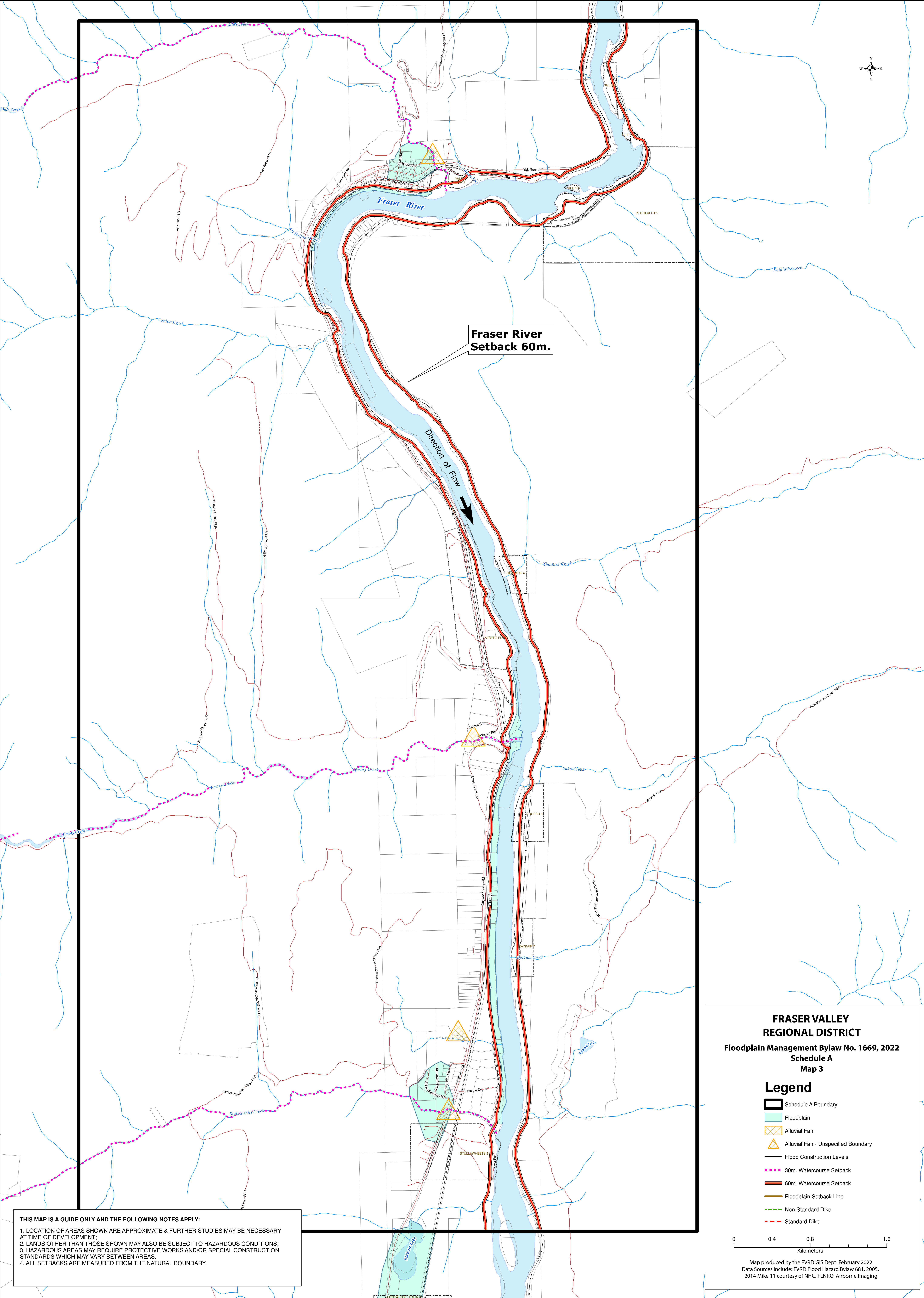












THIS MAP IS A GUIDE ONLY AND THE FOLLOWING NOTES APPLY:

1. LOCATION OF AREAS SHOWN ARE APPROXIMATE & FURTHER STUDIES MAY BE NECESSARY AT TIME OF DEVELOPMENT;
2. LANDS OTHER THAN THOSE SHOWN MAY ALSO BE SUBJECT TO HAZARDOUS CONDITIONS;
3. HAZARDOUS AREAS MAY REQUIRE PROTECTIVE WORKS AND/OR SPECIAL CONSTRUCTION STANDARDS WHICH MAY VARY BETWEEN AREAS.
4. ALL SETBACKS ARE MEASURED FROM THE NATURAL BOUNDARY.

**FRASER VALLEY  
REGIONAL DISTRICT**  
**Floodplain Management Bylaw No. 1669, 2022**  
**Schedule A**  
**Map 3**

**Legend**

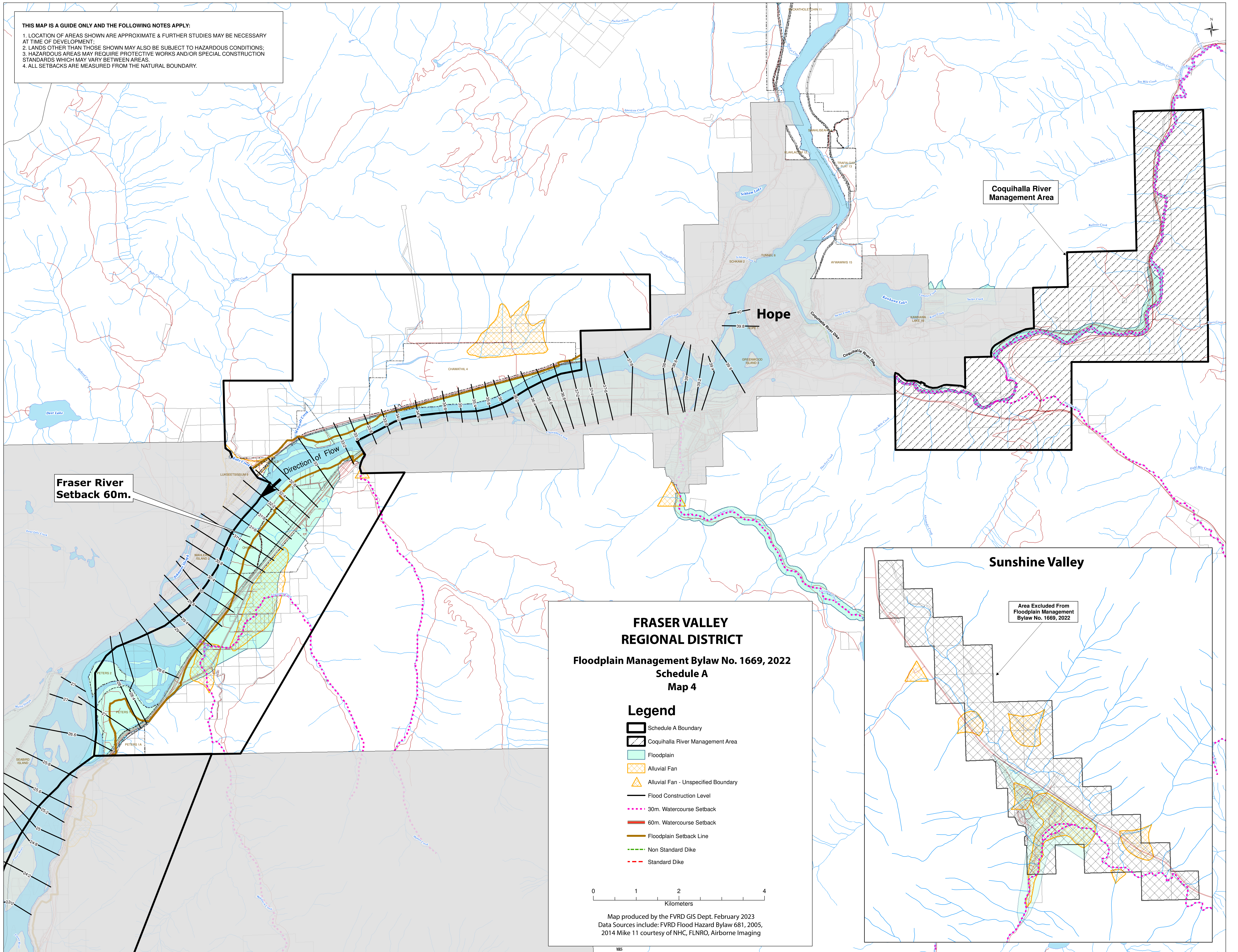
- Schedule A Boundary
- Floodplain
- Alluvial Fan
- Alluvial Fan - Unspecified Boundary
- Flood Construction Levels
- 30m. Watercourse Setback
- 60m. Watercourse Setback
- Floodplain Setback Line
- Non Standard Dike
- Standard Dike

0 0.4 0.8 1.6  
Kilometers

Map produced by the FVRD GIS Dept. February 2022  
Data Sources include: FVRD Flood Hazard Bylaw 681, 2005,  
2014 Mike 11 courtesy of NHC, FLNRO, Airborne Imaging



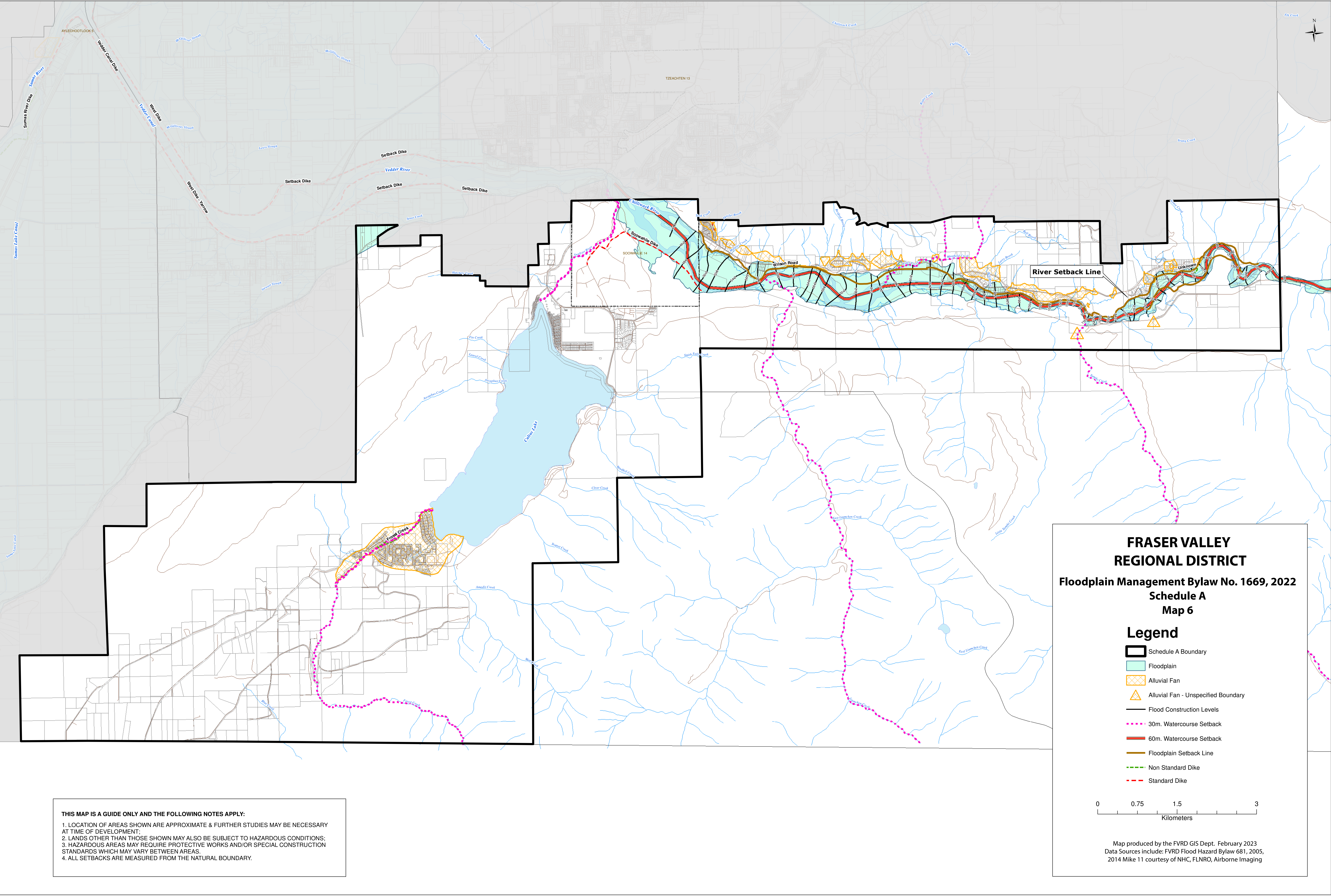
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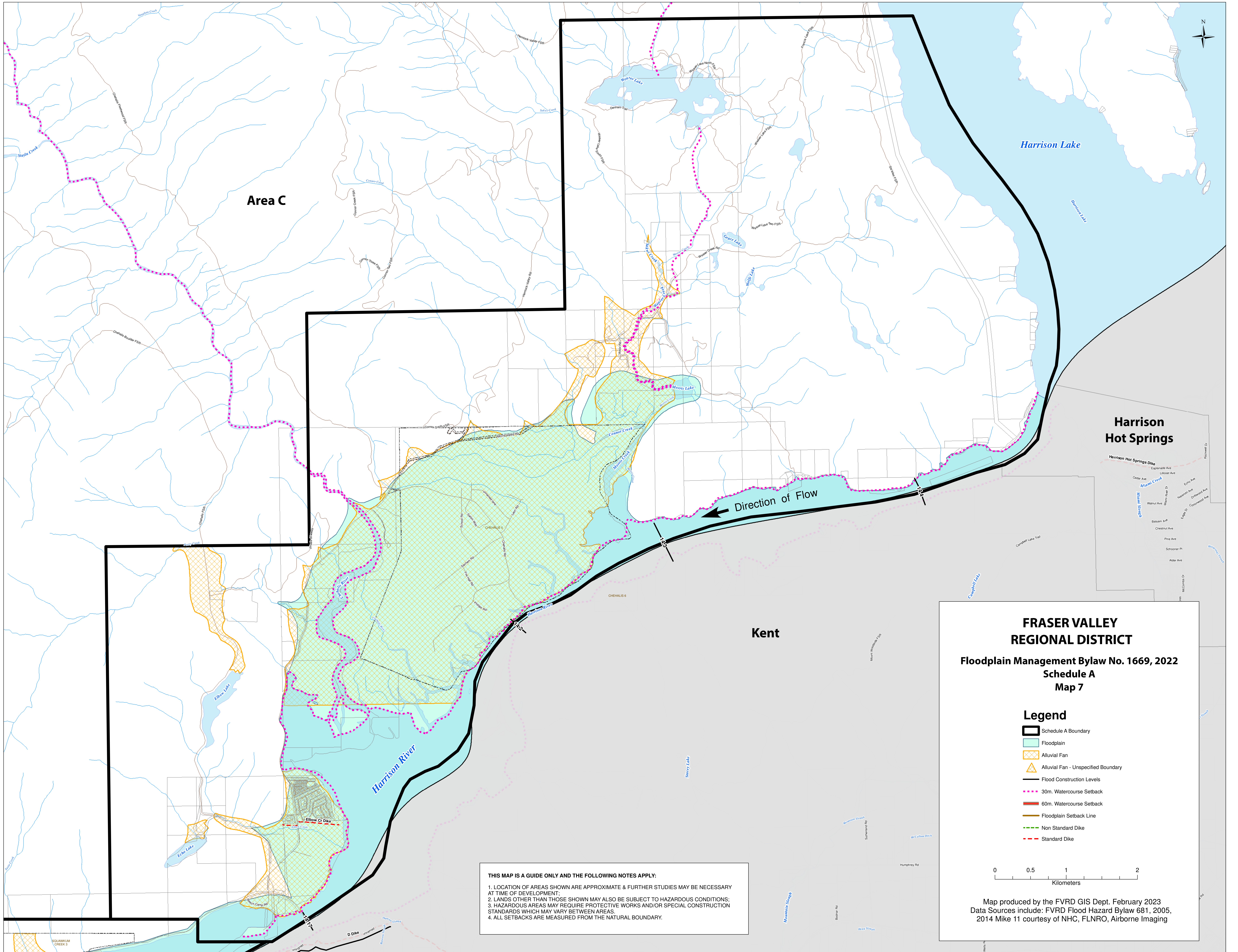














**FRASER VALLEY  
REGIONAL DISTRICT**  
**Floodplain Management Bylaw No. 1669, 2022**  
**Schedule A**  
**Map 8a**

**Legend**

- Schedule A Boundary
- Floodplain
- Alluvial Fan
- Alluvial Fan - Unspecified Boundary
- Flood Construction Levels
- 30m. Watercourse Setback
- 60m. Watercourse Setback
- Floodplain Setback Line
- Non Standard Dike
- Standard Dike
- 10.3 FCL and 5.2 Ponding

0 1 2 4  
Kilometers

Map produced by the FVRD GIS Dept. February 2023  
Data Sources include: FVRD Flood Hazard Bylaw 681, 2005,  
2014 Mike 11 courtesy of NHC, FLNRO, Airborne Imaging

**Area F**

**Area C**

**Kent**

**Area G**

**Mission**

**Nicomen Island**

**Fraser River  
Setback 60m.**

**Chilliwack**

**Abbotsford**

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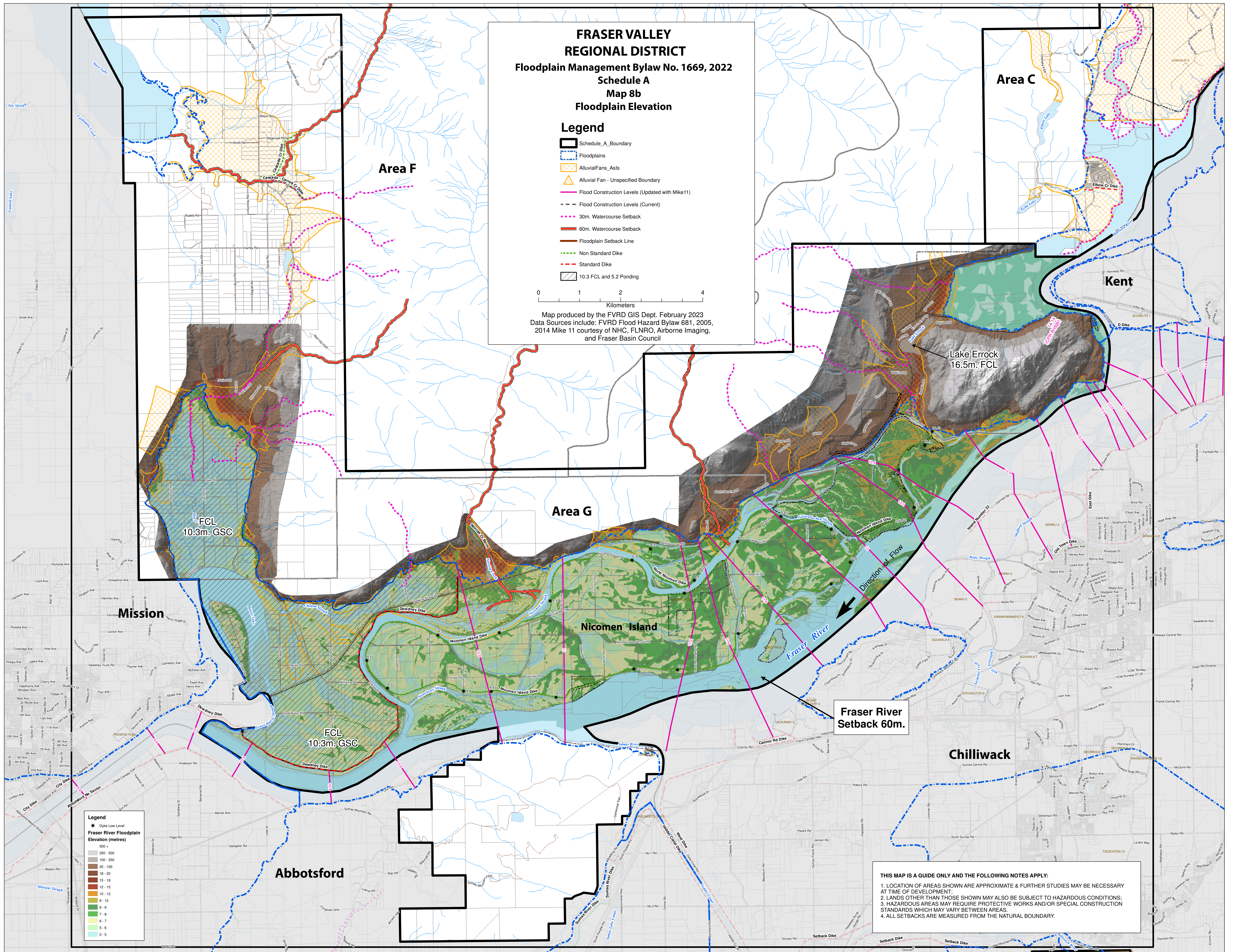
**FRASER VALLEY  
REGIONAL DISTRICT**  
**Floodplain Management Bylaw No. 1669, 2022**  
**Schedule A**  
**Map 8b**  
**Floodplain Elevation**

**Legend**

- Schedule\_A\_Boundary
- Floodplains
- AlluvialFans\_AsIs
- Alluvial Fan - Unspecified Boundary
- Flood Construction Levels (Updated with Mike11)
- Flood Construction Levels (Current)
- 30m. Watercourse Setback
- 60m. Watercourse Setback
- Floodplain Setback Line
- Non Standard Dike
- Standard Dike
- 10.3 FCL and 5.2 Ponding

0 1 2 4  
Kilometers

Map produced by the FVRD GIS Dept. February 2023  
Data Sources include: FVRD Flood Hazard Bylaw 681, 2005,  
2014 Mike 11 courtesy of NHC, FLNRO, Airborne Imaging,  
and Fraser Basin Council



Area C

Area F

Area G

Mission

Abbotsford

Nicomen Island

Chilliwack

Kent

Lake Errock  
16.5m. FCL

Fraser River  
Setback 60m.

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