Structural Calculations

Project Title: 22-12 Pinetop

Location: Valley County, Idaho

Job #: 2022-4157

Prepared in accordance with 2018 IBC. Calculations expire by: 7/18/2024

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

SITE SPECIFIC DESIGN CRITERIA:

Snow Criteria:

Roof Load (P_f)	**120 psf**
Ground Load (P_g)	**120 psf**
Exposure Factor (C_e)	**1.0** Partially
Thermal Factor (C_t)	**1.0** Typical
Importance (I_s)	**1.0**

Wind Criteria:

Wind Speed (V_3)	**115 mph**
Wind Exposure	**C** Open Terrain
Wind Importance (I_w)	**1.0**
Building Category	**II**

Seismic Criteria:

Site Class	**D**	Stiff Soil
S_s	**0.51**	F_a **1.39**
S_1	**0.15**	F_v **2.19**
S_{DS}	**0.47**	S_{D1} **0.22**
Risk Category	**II**	Other
Seismic Importance (I_E)	**1.0**	
Seismic Design Category (SDC)	**D**	

Seismic Criteria (continued):

Wall Material	Design Base Shear	Response Coeff., R	
Conc.	.14Wp	4	Typ @ Ext
GYP	.28Wp	2	Typ @ Int
CANT COL	.38Wp	1.5	

Soil Criteria:

Brg. Strength	**1500 psf**

STRUCTURE SPECIFIC DESIGN CRITERIA:

Live Loads:

Typ Residential	**40 psf**
Garage (P.V.)	**50 psf**
Sleeping Area's	**30 psf**

Floor Dead Loads:

Deck	2.5
Joist	2.0
Ceiling	2.0
Flooring	2.5
Misc	3.0
TOTAL	**12 psf**

Roof Dead Loads:

Deck	1.5
Insulation	2.0
Roofing	3.0
Joist	2.5
Ceiling	3.0
Misc	4.5
TOTAL	**17 psf**

Interior Wall Dead Loads:

Studs	2.0
Gyp. Board	2.5
Misc	3.0
TOTAL	**8 psf**

Exterior Wall Dead Loads:

Conc.	72.0
-	-
-	-
-	-
-	-
Misc	3.0
TOTAL	**75 psf**

Deck Dead Load

Decking	4.4
Joist	2.0
	0.0
Misc	3.0
TOTAL	**10 psf**

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SNAKE RIVER ENGINEERING

WIND ANALYSIS: Low-rise Building - Based on IBC / ASCE 7

INPUT DATA

Exposure category (B, C or D, ASCE 7-16 26.7.3)		C	
Importance factor (ASCE 7-16 Table 1.5-2)	I_w =	1.00	for all Category
Basic wind speed (ASCE 7-16 26.5.1 or 2018 IBC)	V =	115	*mph*
Topographic factor (ASCE 7-16 26.8 & Table 26.8-1)	K_{zt} =	1.00	Flat
Building height to ridge	h_r =	23.25 ft	*ft*
Building height to eave	h_e =	9.00 ft	*ft*
Building width	B =	68.00 ft	*ft*
Building length	L =	52.00 ft	*ft*
Overhang sloped width	O_h =	3.00 ft	*ft*
Effective area of components (or Solar Panel area)	A =	27.0 ft²	ft², <== Overhang? (Yes or No): Yes
Enclosed? (Y/N)		y	
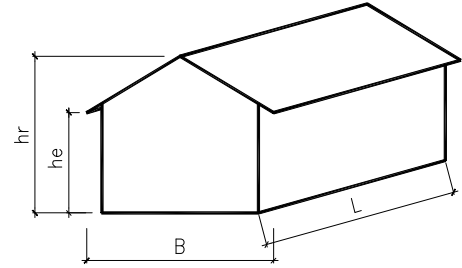
ANALYSIS

Velocity pressure

$$q_h = 0.00256\ K_z\ K_{zt}\ K_d\ K_e\ V^2 \qquad = \qquad 24.80 \quad psf$$

where: q_h = velocity pressure at mean roof height, h. (Eq. 26.10-1 page 268)

K_z = velocity pressure exposure coefficient evaluated at height, h, (Tab. 26.10-1, pg 2   =   **0.86**

K_d = wind directionality factor. (Tab. 26.6-1, for building, page 266)   =   **0.85**

h = mean roof height   =   **16.13** ft

K_e = ground elevation factor. (*1.0* per Sec. 26.9, page 268)   *< 60 ft, [Satisfactory]*   (ASCE 7-16 26.2.1)

< Min (L, B), [Satisfactory]   (ASCE 7-16 26.2.2)

Design pressures for MWFRS

$p = q_h\ [(G\ C_{pf}) - (G\ C_{pi})]$

where: p = pressure in appropriate zone. (Eq. 28.3-1, page 311). p_{min} = **16** psf (ASCE 7-16 28.3.4)

$G\ C_{pf}$ = product of gust effect factor and external pressure coefficient, see table below. (Fig. 28.3-1, page 312 & 313)

$G\ C_{pi}$ = product of gust effect factor and internal pressure coefficient.(Tab. 26.13-1, Enclosed Building, page 271)

=   **0.18**   or   **-0.18**

a = width of edge strips, Fig 28.3-1, page 312, MAX[MIN(0.1B, 0.1L, 0.4h), MIN(0.04B, 0.04L), 3] =   **5.20**   **ft**

Net Pressures (psf), Basic Load Cases

Surface	Roof angle q = 18.43			Roof angle q = 18.43		
	$G\ C_{pf}$	Net Press. W/		$G\ C_{pf}$	Net Press. W/	
		$(+GC_{pi})$	$(-GC_{pi})$		$(+GC_{pi})$	$(-GC_{pi})$
1	0.52	8.34	17.27	-0.45	-15.63	-6.70
2	-0.69	-21.58	-12.65	-0.69	-21.58	-12.65
3	-0.47	-16.09	-7.16	-0.37	-13.64	-4.71
4	-0.42	-14.77	-5.84	-0.45	-15.63	-6.70
5				0.40	5.46	14.39
6				-0.29	-11.66	-2.73
1E	0.78	14.89	23.82	-0.48	-16.37	-7.44
2E	-1.07	-31.00	-22.08	-1.07	-31.00	-22.08
3E	-0.67	-21.17	-12.24	-0.53	-17.61	-8.68
4E	-0.62	-19.80	-10.87	-0.48	-16.37	-7.44
5E				0.61	10.67	19.59
6E				-0.43	-15.13	-6.20

Net Pressures (psf), Torsional Load Cases

Surface	Roof angle q = 18.43		
	$G\ C_{pf}$	Net Press. W/	
		$(+GC_{pi})$	$(-GC_{pi})$
1T	0.52	2.09	4.32
2T	-0.69	-5.39	-3.16
3T	-0.47	-4.02	-1.79
4T	0.00	-3.69	-1.46

Surface	Roof angle q = 0.00		
	$G\ C_{pf}$	Net Press. W/	
		$(+GC_{pi})$	$(-GC_{pi})$
5T	0.40	1.36	3.60
6T	-0.29	-2.91	-0.68

+ / - Wind Pressure   64%
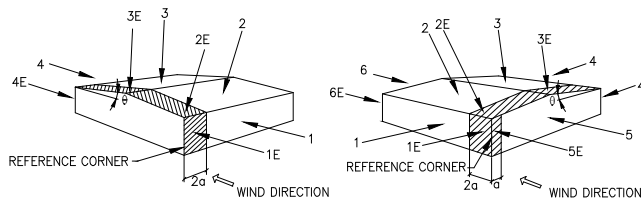
Load Case A (Transverse) Load Case B (Longitudinal) Load Case A (Transverse) Load Case B (Longitudinal)
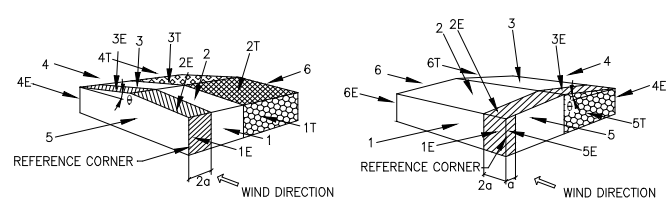
Basic Load Cases _Torsional Load Cases_

Design pressures for components and cladding

$$p = q_h[(G C_p) - (G C_{pi})]$$

where: p = pressure on component. (Eq. 30.3-1, pg 334
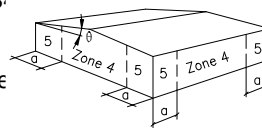
p_{min} = 16.00 psf (ASCE 7-16 30.2.2)

$G C_p$ = 1.00 external pressure coefficie

see table below. (ASCE 7-16 30.3.2)

q = 18.43 °
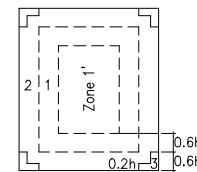
$p_{overhang}$ = **-85.57** psf

(ASCE 7-16 28.3.3)

Walls   Roof $_{\theta \leq 7°}$ Roof $_{\theta > 7°}$

	Effective	**Zone 1**		**Zone 1'**		**Zone 2**		**Zone 2e**		**Zone 2n**		**Zone 2r**	
Comp. & Cladding Coeffs.	**Area (ft²)**	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$
	1541	0.30	-0.80	0.30	-0.80	0.30	-2.20	0.30	-0.80	0.30	-1.00	0.30	-1.00
	Effective	**Zone 3**		**Zone 3e**		**Zone 3r**		**Zone 4**		**Zone 5**			
	Area (ft²)	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$	GC_p	$-GC_p$		
	27	0.30	-2.50	0.30	-2.50	0.30	-1.80	0.99	-1.09	0.99	-1.38		

	Zone 1		**Zone 1'**		**Zone 2**		**Zone 2e**		**Zone 2n**		**Zone 2r**	
Comp. & Cladding Pressures	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
	2.98	-15.38	2.98	-15.38	2.98	-50.10	2.98	-15.38	2.98	-20.34	2.98	-20.34
	Zone 3		**Zone 3e**		**Zone 3r**		**Zone 4**		**Zone 5**			
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative	_(Max Pressure_	
	2.98	-57.54	2.98	-57.54	2.98	-40.18	20.08	-22.56	20.08	-29.74	**57.54** _psf)_	

LOAD CASE 'A' FACTORED LOADS	
$0.6*W_r = (Z_2 + Z_3) * 0.6$ =	**3.3 psf**
$0.6*W_{rE} = (Z_{2E} + Z_{3E}) * 0.6$ =	**5.9 psf**
$0.6*W_w = (Z_1 + Z_4) * 0.6$ =	**13.9 psf**
$0.6*W_{wE} = (Z_{1E} + Z4E) * 0.6$ =	**20.8 psf**

LOAD CASE 'B' FACTORED LOADS	
$0.6*W_r = (Z_2 + Z_3) * 0.6$ =	**4.8 psf**
$0.6*W_{rE} = (Z_{2E} + Z_{3E}) * 0.6$ =	**8.0 psf**
$0.6*W_w = (Z_5 + Z_6) * 0.6$ =	**10.3 psf**
$0.6*W_{wE} = (Z_{5E} + Z_{6E}) * 0.6$ =	**15.5 psf**

ROOF COMPONENTS FACTORED LOAD	
$0.6*Z_{r,c\&c}$ =	**12.2 psf**

WALL COMPONENTS FACTORED LOAD	
$0.6*Z_{w,c\&c}$ =	**13.5 psf**

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Conc. SEISMIC LOADING ANALYSIS

IBC / ASCE 7: Equivalent Lateral Force (ELF) Procedure:

INPUT DATA			*DESIGN SUMMARY*		
Typical floor height:	h = **9** ft	$C_s = 1.2 * S_{DS} / (R / I_e)$ =	0.1414	**<= Applicable**
Typical floor weight:	w_x = **60.1** kips	Period Parameter, x =	*0.75*	, ASCE Tab 12.8-2
Number of floors:	n = **1**	Period: $T_a = C_t (h_n)^x$ =	*0.21*	sec, ASCE 12.8.2.1
Importance factor (ASCE 11.5.1):	I_e = 1.00	$C_s < S_{D1} / [(R / I_e) T_a]$ =	*0.2622*	, ASCE Tab 12.8.1.1 **<= Not Applicable**
Design spectral response:	S_{DS} = 0.47 g	$C_s > 0.044 S_{DS} I_e$ =	*0.0207*	, ASCE Tab 12.8.1.1 **<= Not Applicable**
	S_{D1} = 0.22 g	$C_s > 0.5 S_1 / (R / I_e)$ =	*0.0190*	, ASCE Tab 12.8.1.1 **<= Not Applicable**
Mapped spectral resp.:	S_1 = 0.15 g	k =	*1.52*	, (ASCE 12.8.3, page 91)
Period Parameter, C_t :				
(ASCE Tab 12.8-2):	C_t = **0.020**	$V = C_s W$ = **0.1414** W		
Resp. coefficient: (ASCE Tab. 12.2.1):	R = 4	$0.7 * V$ = **0.0989** W		
Seismic design category:	SDC = D			
	h_n = 23.3 ft	W = **60** kips, total		

SEISMIC COMPONENT & ANCHORING ANALYSIS

Out-of-plane seismic force for wall design (ASCE 7, Sec.12.11.1)

$$w_{1,seismic} = MAX\left(0.4 I S_{DS} W_p \ , 0.1 W_p\right) \quad = \quad \textbf{0.2} \ W_p = \quad \textbf{0.2} \ \text{psf} \qquad \textbf{\textit{<= USE FOR DIAPHRAGMS}}$$

Where : W_p = **1.0** psf , I_e = 1.00
(CBC / IBC Tab. 1604.5 & ASCE 7 Tab. 1.5-2)

Out-of-plane seismic force for anchorage design

For seismic design category A & B, any diaphragm (ASCE 7 Sec. 12.11.2)

$$F_{anch,seismic} = MAX\left[0.4 S_{DS} I W_p \frac{(h + h_p)^2}{2h} \ , \ 0.1 W_p \frac{(h + h_p)^2}{2h} \ , \ 400 S_{DS} I \ , \ F_{min} \right] =$$

Where : F_{min} = **0.14** plf, **1.77** W_p = **188** plf (Horizontal) **<= Not Applicable**
(ASCE 7 Sec. 12.11.2 & 11.7.3)

For seismic design category C and above, flexible diaphragm (ASCE 7 Sec. 12.11.2.1)

$$F_{anch,seismic} = MAX\left[0.8 S_{DS} I W_p \frac{(h + h_p)^2}{2h} \ , \ 0.1 W_p \frac{(h + h_p)^2}{2h} \ , \ 400 S_{DS} I \ , \ F_{min} \right] =$$

= **3.54** W_p = **188** plf (Horizontal) **<= Applicable**

For connections (ASCE 7 Sec. 12.11.2.1)

$F_{conn,seismic}$ = MAX [0.133 S_{DS} w_p , 0.5 w_p] = **0.5** W_p = **0.5** plf (Horizontal)

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WIND / SEISMIC SHEAR FORCE CALCULATIONS:

From ASCE 7-16 Wind & Seismic Loading Analysis

Wall Line	Roof / Floor					Wall				Load above			$*C_s$ (Wp)	=	Loading		
	Wind Force (psf)	Diaph. Weight	Wr, We truss trib (ft)	Area W (ft)	Area L (ft)	Wind Force (psf)	Wall DL (psf)	Wall ht (ft)	wall line dist (ft)	Upr. Flr Wall ht (ft)	Wind (#)	Seismic (#)			Wind Force (kips)	Seismic Force (kips)	Lateral Control
X1-1	9.6	52	14.3	52.0	58.0	15.3	75.0	9.0	52.0				0.10	=	5.34	10.49	Seismic
X2-1	9.6	52	14.3	52.0	68.0	15.3	75.0	9.0	52.0				0.10	=	5.34	11.70	Seismic
Y1-1	9.6	52	14.3	68.0	52.0	14.9	75.0	9.0	68.0				0.10	=	6.94	12.76	Seismic
Y2-1	9.6	52	10.8	68.0	37.0	14.9	75.0	9.0	68.0				0.10	=	5.82	10.39	Seismic

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Post Frame Wind Shear Force Calculations

Wr, W$_{rE}$

W$_w$, W$_{wE}$

∧   ∧
| |
| |

Uplift: 15.38 psf

Wall Line	# of Columns
X-Wall Line =	1
Y-Wall Line =	4
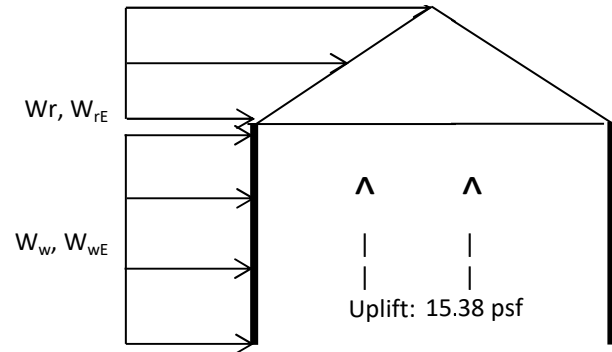
Wall Line	Max Uplift · DL (lbs)	Wind Force (psf)		Column line dist. (ft)		Total Wall Wind Force (plf)	Roof Wind Force (psf)		Wr, We truss trib (ft)		Column line dist. (ft)		Total Roof Wind Load (lbs)
X-End Line	640.81	13.87	x	15.00	=	**104.01**	9.60	x	14.25	x	15.00	=	**1026.00**
X-End Line	640.81	13.87	x	15.00	=	**104.01**	9.60	x	14.25	x	15.00	=	**1026.00**
Y-End Line	640.81	13.87	x	33.00	=	**228.82**	9.60	x	14.25	x	33.00	=	**2257.20**
Y-End Line	640.81	13.87	x	33.00	=	**228.82**	9.60	x	14.25	x	33.00	=	**2257.20**

Wall Line	*C$_s$	Wall Weight (psf)		Column line dist. (ft)		Total Wall Seismic Force (plf)	*C$_s$		Roof Area L (ft)		Roof Load (psf)		Total Roof Seismic Load (lbs)
X-End Line	0.061	x 12.00	x	15.00	=	**10.96**	0.061	x	123.75	x	5.00	=	**37.68**
X-End Line	0.061	x 12.00	x	15.00	=	**10.96**	0.061	x	123.75	x	5.00	=	**37.68**
Y-End Line	0.061	x 12.00	x	33.00	=	**24.11**	0.061	x	123.75	x	5.00	=	**37.68**
Y-End Line	0.061	x 12.00	x	33.00	=	**24.11**	0.061	x	123.75	x	5.00	=	**37.68**

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SNAKE RIVER ENGINEERING

TALL WALL CALCULATIONS:

This spreadsheet is used for designing a stud wall according to the NDS.

Description:	9' Tall Wall	King Stud (16' Max Opening)	9' Trimmer	9' Tall Wall	King Stud (5' Max Opening)	9' Trimmer
Type:	2x Lumber (2"-4")	2x Lumber (2"-4")	2x Lumber (2"-4")	2x Lumber (2"-4")	2x Lumber (2"-4")	2x Lumber (2"-4")
Species:	DF-L	DF-L	DF-L	DF-L	DF-L	DF-L
Grade:	No. 2	No. 2	No. 2	No. 2	No. 2	No. 2
Nominal width, t =	(1) 2	(1) 2	(1) 2	(1) 2	(1) 2	(1) 2
Actual width =	1.50 in	1.50 in	1.50 in	1.50 in	1.50 in	1.50 in
Nominal depth, d =	6	6	6	6	6	6
Actual depth =	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in	5.50 in
Span, L =	9.000 ft	9.000 ft	9.000 ft	9.000 ft	9.000 ft	9.000 ft
w/o Plates	8.750 ft	8.750 ft	8.750 ft	8.750 ft	8.750 ft	8.750 ft
Stud spacing, s =	16 in	106 in	16 in	16 in	40 in	16 in
Lat. Pressure, w_{wind} =	13.54 psf	13.54 psf	5.00 psf	13.54 psf	13.54 psf	5.00 psf
Axial load, P =	457 lbs	50 lbs	2740 lbs	2101 lbs	50 lbs	3939 lbs
Eccentricity, e =	0 in	0 in	0 in	0 in	0 in	0 in
K_{cE} =	0.3	0.3	0.3	0.3	0.3	0.3
c =	0.8	0.8	0.8	0.8	0.8	0.8
w =	18.0 plf	119.9 plf	6.7 plf	18.0 plf	45.4 plf	6.7 plf
F_b	900 psi	900 psi	900 psi	900 psi	900 psi	900 psi
F_v	180 psi	180 psi	180 psi	180 psi	180 psi	180 psi
F_{c-prll}	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi	1,350 psi
F_{c-perp}	625 psi	625 psi	625 psi	625 psi	625 psi	625 psi
C_d	1.60	1.60	1.15	1.60	1.60	1.15
$C_{F,Fb}$	1.30	1.30	1.30	1.30	1.30	1.30
$C_{F,Fcprll}$	1.10	1.10	1.10	1.10	1.10	1.10
C_r	1.15	1.00	1.00	1.15	1.00	1.00
C_p	0.47	0.47	0.60	0.47	0.47	0.60
C_H	1.00	1.00	1.00	1.00	1.00	6.00
C_b	1.07	1.07	1.07	1.07	1.07	1.07
E	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi	1,600,000 psi
Emin	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi	580,000 psi

Allowable Stress:

		9' Tall Wall	King Stud (16')	9' Trimmer	9' Tall Wall	King Stud (5')	9' Trimmer
F'_b =	$F_b\, C_d\, C_F\, C_r$ =	2153 psi	1872 psi	1346 psi	2153 psi	1872 psi	1346 psi
F'_v =	$F_v\, C_d\, C_H$ =	288 psi	288 psi	207 psi	288 psi	288 psi	1242 psi
F^*_c =	$F_c\, C_d\, C_F$ =	2376 psi	2376 psi	1708 psi	2376 psi	2376 psi	1708 psi
F_{cE} =	$(K_{cE}\, E')/(l_e/d)2$ =	1317 psi	1317 psi	1317 psi	1317 psi	1317 psi	1317 psi
F'_c =	$F_c\, C_d\, C_F\, C_p$ =	1118 psi	1118 psi	1017 psi	1118 psi	1118 psi	1017 psi
$F'_{c\,perp}$ =	$F_{c\,perp}\, Cb$ =	668 psi	668 psi	668 psi	668 psi	668 psi	668 psi
E' =	E =	1600000 psi	1600000 psi	1600000 psi	1600000 psi	1600000 psi	1600000 psi
F_{bE} =		2712 psi	2712 psi	2712 psi	2712 psi	2712 psi	2712 psi

Slenderness Ratio:

		9' Tall Wall	King Stud (16')	9' Trimmer	9' Tall Wall	King Stud (5')	9' Trimmer
		≤ 50 OK	≤ 50 OK	≤ 50 OK	≤ 50 OK	≤ 50 OK	≤ 50 OK
R_B =		16	16	16	16	16	16
Bending:		≤ F'b OK	≤ F'b OK	≤ F'b OK	≤ F'b OK	≤ F'b OK	≤ F'b OK
M =	$w\,L^2/8 + P\,e/12$ =	173 ft-lbs	1147 ft-lbs	64 ft-lbs	173 ft-lbs	435 ft-lbs	64 ft-lbs
f_b =	M/S =	274 psi	1820 psi	101 psi	274 psi	690 psi	101 psi
	S =	8 in³	8 in³	8 in³	8 in³	8 in³	8 in³
Shear:		≤ F'v OK	≤ F'v OK	≤ F'v OK	≤ F'v OK	≤ F'v OK	≤ F'v OK
V =	w L/2 =	79 lbs	524 lbs	29 lbs	79 lbs	199 lbs	22 lbs
f_v =	1.5 V/A =	14 psi	95 psi	5 psi	14 psi	36 psi	4 psi
	A =	8 in²	8 in²	8 in²	8 in²	8 in²	8 in²
Compression:		≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK
f_c =	P/A =	55 psi	6 psi	332 psi	255 psi	6 psi	477 psi
Compression (perp.):		≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK	≤ F'c OK
$f_{c\,perp}$ =	P/A =	55 psi	6 psi	332 psi	255 psi	6 psi	477 psi
Combined:		≤ 1.0 OK			≤ 1.0 OK		
$(fc/Fc)2 + \{fb/[Fb(1-(fc/FcE)]\}$ =		0.14			0.21		
Deflection:		≥ 180 OK	≥ 180 OK	≥ 180 OK	≥ 180 OK	≥ 180 OK	≥ 180 OK
D = $22.5\, w\, L^4/E'\, I$ =		0.07 in	0.48 in	0.03 in	0.07 in	0.18 in	0.03 in
I =		21 in^4	21 in^4	21 in^4	21 in^4	21 in^4	21 in^4
SPAN /		1468	221	3974	1468	583	3974

Roof, B1
1 piece(s) 5 1/8" x 13 1/2" 24F-V8 DF Glulam

Overall Length: 33' 1/2"
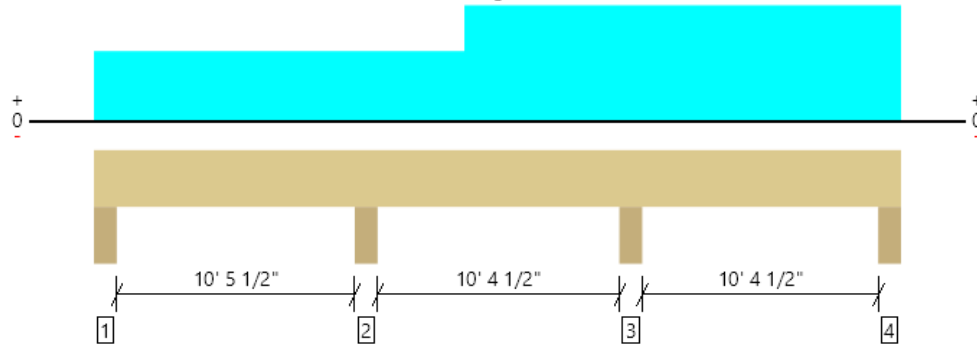
10' 5 1/2" | 10' 4 1/2" | 10' 4 1/2"

1 2 3 4

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	15030 @ 21' 11 3/4"	18322 (5.50")	Passed (82%)	--	1.0 D + 1.0 S (Adj Spans)
Shear (lbs)	6333 @ 23' 4"	14057	Passed (45%)	1.15	1.0 D + 1.0 S (Adj Spans)
Pos Moment (Ft-lbs)	12302 @ 28' 2 3/4"	35805	Passed (34%)	1.15	1.0 D + 1.0 S (Alt Spans)
Neg Moment (Ft-lbs)	-15151 @ 21' 11 3/4"	35805	Passed (42%)	1.15	1.0 D + 1.0 S (Adj Spans)
Live Load Defl. (in)	0.104 @ 27' 9"	0.536	Passed (L/999+)	--	1.0 D + 1.0 S (Alt Spans)
Total Load Defl. (in)	0.118 @ 27' 9 5/16"	0.715	Passed (L/999+)	--	1.0 D + 1.0 S (Alt Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Critical positive moment adjusted by a volume factor of 1.00 that was calculated using length L = 8' 11 1/2".
- Critical negative moment adjusted by a volume factor of 1.00 that was calculated using length L = 5' 2 1/8".
- The effects of positive or negative camber have not been accounted for when calculating deflection.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Column - DF	5.50"	5.50"	1.50"	491	3158	3649	None
2 - Column - DF	5.50"	5.50"	3.03"	1359	8742	10101	None
3 - Column - DF	5.50"	5.50"	4.51"	1997	13034	15030	None
4 - Column - DF	5.50"	5.50"	1.77"	768	5136	5903	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	33' 1" o/c	
Bottom Edge (Lu)	33' 1" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 33' 1/2"	N/A	16.8	--	
1 - Uniform (PSF)	0 to 15' 2" (Front)	5' 4"	17.0	120.0	3'10" span + 1'6" overhang
2 - Uniform (PSF)	15' 2" to 33' 1/2" (Front)	8' 10"	17.0	120.0	7'4" span + 1'6" overhang

ForteWEB Software Operator	Job Notes
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Weyerhaeuser

Roof, B2
1 piece(s) 6 x 12 DF No.2
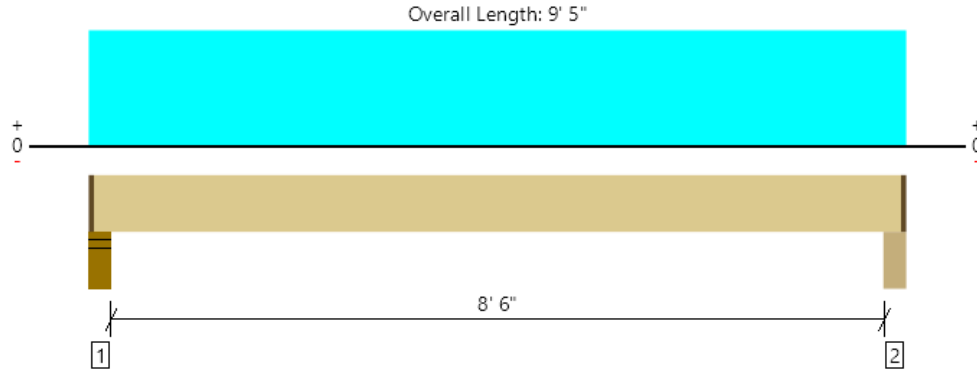
Overall Length: 9' 5"

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	3438 @ 4"	14609 (4.25")	Passed (24%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	2458 @ 1' 5"	8244	Passed (30%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	7146 @ 4' 8 1/2"	10166	Passed (70%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.093 @ 4' 8 1/2"	0.438	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.109 @ 4' 8 1/2"	0.583	Passed (L/966)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Stud wall - DF	5.50"	4.25"	1.50"	501	3013	3514	1 1/4" Rim Board
2 - Column - DF	5.50"	4.25"	1.50"	501	3013	3514	1 1/4" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	9' 3" o/c	
Bottom Edge (Lu)	9' 3" o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	1 1/4" to 9' 3 3/4"	N/A	16.0	--	
1 - Uniform (PSF)	0 to 9' 5" (Front)	5' 4"	17.0	120.0	Roof 3'10 + 1'6" overhang

ForteWEB Software Operator	Job Notes
Austin Fox
Snake River Engineering
(208) 453-6512
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Weyerhaeuser

Roof, B3
1 piece(s) 6 x 12 DF No.2
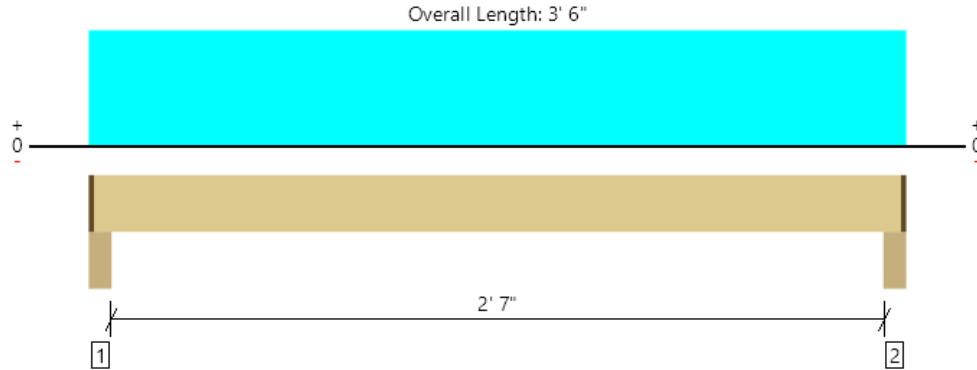
Overall Length: 3' 6"

2' 7"

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1229 @ 4"	14609 (4.25")	Passed (8%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	249 @ 1' 5"	8244	Passed (3%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	749 @ 1' 9"	10166	Passed (7%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.001 @ 1' 9"	0.142	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.001 @ 1' 9"	0.189	Passed (L/999+)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

- Deflection criteria: LL (L/240) and TL (L/180).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Column - DF	5.50"	4.25"	1.50"	185	1120	1305	1 1/4" Rim Board
2 - Column - DF	5.50"	4.25"	1.50"	185	1120	1305	1 1/4" Rim Board

- Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	3' 4" o/c	
Bottom Edge (Lu)	3' 4" o/c	

- Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	1 1/4" to 3' 4 3/4"	N/A	16.0	--	
1 - Uniform (PSF)	0 to 3' 6" (Front)	5' 4"	17.0	120.0	Roof 3'10 + 1'6" overhang

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
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Snake River Engineering
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austin@snakeriverengineering.com	

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9/1/2022 11:03:50 PM UTC
ForteWEB v3.4, Engine: V8.2.2.122, Data: V8.1.3.0
File Name: 22-12 PineTop
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Roof, B4
2 piece(s) 1 3/4" x 9 1/2" 2.0E Microllam® LVL
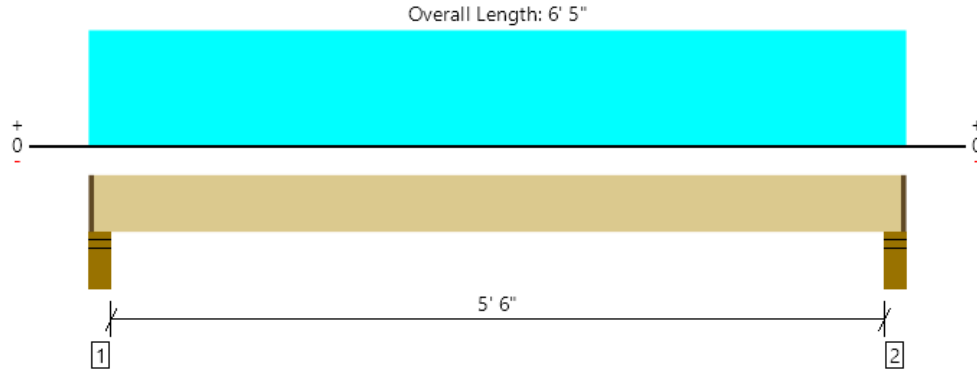
Overall Length: 6' 5"

5' 6"

1   2

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	7189 @ 4"	9297 (4.25")	Passed (77%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	4535 @ 1' 3"	7265	Passed (62%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	9571 @ 3' 2 1/2"	13541	Passed (71%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.128 @ 3' 2 1/2"	0.287	Passed (L/538)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.147 @ 3' 2 1/2"	0.383	Passed (L/469)	--	1.0 D + 1.0 S (All Spans)

System : Roof
Member Type : Flush Beam
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD
Member Pitch : 0/12

• Deflection criteria: LL (L/240) and TL (L/180).

• Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Stud wall - DF	5.50"	4.25"	3.29"	948	6481	7429	1 1/4" Rim Board
2 - Stud wall - DF	5.50"	4.25"	3.29"	948	6481	7429	1 1/4" Rim Board

• Rim Board is assumed to carry all loads applied directly above it, bypassing the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	6' 3" o/c	
Bottom Edge (Lu)	6' 3" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	1 1/4" to 6' 3 3/4"	N/A	9.7	--	
1 - Uniform (PSF)	0 to 6' 5" (Front)	16' 10"	17.0	120.0	Roof

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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

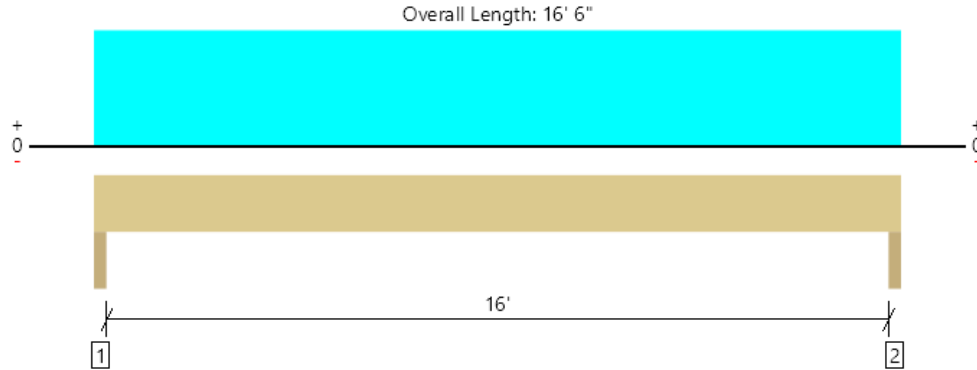| ForteWEB Software Operator	Job Notes
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9/1/2022 11:03:50 PM UTC
ForteWEB v3.4, Engine: V8.2.2.122, Data: V8.1.3.0
File Name: 22-12 PineTop
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Roof, H1
2 piece(s) 1 3/4" x 11 7/8" 2.0E Microllam® LVL

Overall Length: 16' 6"

All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	2926 @ 1 1/2"	7875 (3.00")	Passed (37%)	--	1.0 D + 1.0 S (All Spans)
Shear (lbs)	2486 @ 1' 2 7/8"	9081	Passed (27%)	1.15	1.0 D + 1.0 S (All Spans)
Moment (Ft-lbs)	11705 @ 8' 3"	20525	Passed (57%)	1.15	1.0 D + 1.0 S (All Spans)
Live Load Defl. (in)	0.509 @ 8' 3"	0.542	Passed (L/383)	--	1.0 D + 1.0 S (All Spans)
Total Load Defl. (in)	0.602 @ 8' 3"	0.813	Passed (L/324)	--	1.0 D + 1.0 S (All Spans)

System : Wall
Member Type : Header
Building Use : Residential
Building Code : IBC 2018
Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Snow	Factored	
1 - Trimmer - DF	3.00"	3.00"	1.50"	451	2475	2926	None
2 - Trimmer - DF	3.00"	3.00"	1.50"	451	2475	2926	None

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	12' 2" o/c	
Bottom Edge (Lu)	16' 6" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location	Tributary Width	Dead (0.90)	Snow (1.15)	Comments
0 - Self Weight (PLF)	0 to 16' 6"	N/A	12.1	--	
1 - Uniform (PSF)	0 to 16' 6"	2' 6"	17.0	120.0	Roof

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Weyerhaeuser

SNAKE RIVER ENGINEERING

**524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512**

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

H1 Beam Calculations

	Additional Drift	Roof	Floor	Deck	Wall	Total Load	Total Load
Trib	0.0	12	0	0	2.33		1,672.0 plf
Dead Load	-	204.0	0.0	0.0	28.0	232.0 plf	
Live / Snow Load	0	1440.0	0.0	0.0	-	1,440.0 plf	

Description:	3.0 ft Opening						
Header Callout	(2)2x8 DF-L No. 2						
Trimmers	(1) 2x6 DF-L No. 2						
King Studs	(1) 2x6 DF-L No. 2						

Wood Design
Species	DF-L
Grade	No. 2
Width	3.00 in
Depth	7.25 in

Reaction
Dead Load	348 lbs
Live Load	2,160 lbs

Load
lu	3.0 ft
le	6.2 ft

Adjustment Factors
Cd	1.15
CF	1.2

Material Properties
Fb	900 psi
Fv	180 psi
E	1,600,000 psi
Emin	580,000 psi

Calculated Prop.
A	21.75 in^2
I	95.27 in^4
S	26.28 in^3
RB	7.73
Emin'	580,000 psi
FbE	11,650 psi
Fb*	1,242 psi
CL	1

Shear and Moment
M	22,571 lb-in
V	2,508 lbs

Stress
fb	859 psi
Fb'	1,235 psi
fb/Fb'	0.70
fv	173 psi
Fv'	207 psi
fv/Fv'	0.84
Max Ratio	0.84
	Pass

Deflection
Δ_{TL}	0.02 in
	L/1,801
Δ_{LL}	0.02 in
	L/2,091
	Pass

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

SNAKE RIVER
E N G I N E E R I N G

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

H1 (2) Beam Calculations

	Additional Drift	Roof	Floor	Deck	Wall	Total Load	Total Load
Trib	0.0	12.25	0	0	2.33		
							1,706.2 plf
Dead Load	-	208.3	0.0	0.0	28.0	236.2 plf	
Live / Snow Load	0	1470.0	0.0	0.0	-	1,470.0 plf	

Description:	5.0 ft Opening						

Header Callout	(2)2x12 DF-L No. 2						
Trimmers	(2) 2x6 DF-L No. 2						
King Studs	(1) 2x6 DF-L No. 2						

Wood Design

Species	DF-L						
Grade	No. 2						
Width	3.00 in						
Depth	11.25 in						

Reaction

Dead Load	591 lbs						
Live Load	3,675 lbs						

Load

lu	5.0 ft						
le	10.3 ft						

Adjustment Factors

Cd	1.15						
CF	1						

Material Properties

Fb	900 psi						
Fv	180 psi						
E	1,600,000 psi						
Emin	580,000 psi						

Calculated Prop.

A	33.75 in^2						
I	355.96 in^4						
S	63.28 in^3						
RB	12.43						
Emin'	580,000 psi						
FbE	4,505 psi						
Fb*	1,035 psi						
CL	1						

Shear and Moment

M	63,983 lb-in						
V	4,266 lbs						

Stress

fb	1,011 psi						
Fb'	1,020 psi						
fb/Fb'	0.99						
fv	190 psi						
Fv'	207 psi						
fv/Fv'	0.92						
Max Ratio	0.99						
	Pass						

Deflection

ΔTL	0.04 in						
	L/1,424						
ΔLL	0.04 in						
	L/1,653						
	Pass						

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

SNAKE RIVER ENGINEERING

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

H1 (3) Beam Calculations

	Additional Drift	Roof	Floor	Deck	Wall	Total Load	Total Load
Trib	0.0	2	0	0	2.33		302.0 plf
Dead Load	-	34.0	0.0	0.0	28.0	62.0 plf	
Live / Snow Load	0	240.0	0.0	0.0	-	240.0 plf	

Description:	4.0 ft Opening						
Header Callout	(2)2x6 DF-L No. 2						
Trimmers	(1) 2x6 DF-L No. 2						
King Studs	(1) 2x6 DF-L No. 2						

Wood Design

Species	DF-L
Grade	No. 2
Width	3.00 in
Depth	5.50 in

Reaction

Dead Load	124 lbs
Live Load	480 lbs

Load

l_u	4.0 ft
l_e	7.9 ft

Adjustment Factors

C_d	1.15
CF	1.3

Material Properties

F_b	900 psi
F_v	180 psi
E	1,600,000 psi
E_{min}	580,000 psi

Calculated Prop.

A	16.50 in^2
I	41.59 in^4
S	15.13 in^3
RB	7.61
E_{min}'	580,000 psi
F_{bE}	12,021 psi
F_b*	1,346 psi
CL	1

Shear and Moment

M	7,247 lb-in
V	604 lbs

Stress

f_b	479 psi
F_b'	1,337 psi
f_b/F_b'	0.36
f_v	55 psi
F_v'	207 psi
f_v/F_v'	0.27
Max Ratio	0.36
	Pass

Deflection

Δ_{TL}	0.03 in
	L/1,837
Δ_{LL}	0.02 in
	L/2,311
	Pass

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

SNAKE RIVER
ENGINEERING

H1 (5) Beam Calculations

	Additional Drift	Roof	Floor	Deck	Wall	Total Load	Total Load
Trib	0.0	17	0	0	2.33		
							2,357.0 plf
Dead Load	-	289.0	0.0	0.0	28.0	317.0 plf	
Live / Snow Load	0	2040.0	0.0	0.0	-	2,040.0 plf	

Description:	2.3 ft Opening	2.5 ft Opening	3.0 ft Opening				

Header Callout	(2)2x8 DF-L No. 2	(2)2x8 DF-L No. 2	(2)2x10 DF-L No. 2				
Trimmers	(1) 2x6 DF-L No. 2	(2) 2x6 DF-L No. 2	(2) 2x6 DF-L No. 2				
King Studs	(1) 2x6 DF-L No. 2	(1) 2x6 DF-L No. 2	(1) 2x6 DF-L No. 2				

Wood Design

Species	DF-L	DF-L	DF-L				
Grade	No. 2	No. 2	No. 2				
Width	3.00 in	3.00 in	3.00 in				
Depth	7.25 in	7.25 in	9.25 in				

Reaction

Dead Load	369 lbs	396 lbs	475 lbs				
Live Load	2,377 lbs	2,550 lbs	3,060 lbs				

Load

lu	2.3 ft	2.5 ft	3.0 ft				
le	4.8 ft	5.2 ft	6.2 ft				

Adjustment Factors

Cd	1.15	1.15	1.15				
CF	1.2	1.2	1.1				

Material Properties

Fb	900 psi	900 psi	900 psi				
Fv	180 psi	180 psi	180 psi				
E	1,600,000 psi	1,600,000 psi	1,600,000 psi				
Emin	580,000 psi	580,000 psi	580,000 psi				

Calculated Prop.

A	21.75 in^2	21.75 in^2	27.75 in^2				
I	95.27 in^4	95.27 in^4	197.86 in^4				
S	26.28 in^3	26.28 in^3	42.78 in^3				
RB	6.81	7.06	8.73				
Emin'	580,000 psi	580,000 psi	580,000 psi				
FbE	15,001 psi	13,981 psi	9,131 psi				
Fb*	1,242 psi	1,242 psi	1,139 psi				
CL	1	1	1				

Shear and Moment

M	19,194 lb-in	22,097 lb-in	31,819 lb-in				
V	2,746 lbs	2,946 lbs	3,535 lbs				

Stress

fb	730 psi	841 psi	744 psi				
Fb'	1,236 psi	1,236 psi	1,131 psi				
fb/Fb'	0.59	0.68	0.66				
fv	189 psi	203 psi	191 psi				
Fv'	207 psi	207 psi	207 psi				
fv/Fv'	0.91	0.98	0.92				
Max Ratio	0.91	0.98	0.92				
	Pass	Pass	Pass				

Deflection

ΔTL	0.01 in	0.01 in	0.01 in				
	L/2,727	L/2,207	L/2,653				
ΔLL	0.01 in	0.01 in	0.01 in				
	L/3,150	L/2,550	L/3,065				
	Pass	Pass	Pass				

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

SNAKE RIVER
E N G I N E E R I N G

H1 (6) Beam Calculations

	Additional Drift	Roof	Floor	Deck	Wall	Total Load	Total Load
Trib	0.0	3	0	0	2.33		
							439.0 plf
Dead Load	-	51.0	0.0	0.0	28.0	79.0 plf	
Live / Snow Load	0	360.0	0.0	0.0	-	360.0 plf	

Description:	16.0 ft Opening						

Header Callout	(2)14" LVL 2.0E						
Trimmers	(2) 2x6 DF-L No. 2						
King Studs	(1) 2x6 DF-L No. 2						

Wood Design

Species	LVL
Grade	2.0E
Width	3.50 in
Depth	14.00 in

Reaction

Dead Load	632 lbs
Live Load	2,880 lbs

Load

lu	16.0 ft
le	29.6 ft

Adjustment Factors

Cd	1.15
CF	1

Material Properties

Fb	2,900 psi
Fv	285 psi
E	2,000,000 psi
Emin	1,016,535 psi

Calculated Prop.

A	49.00 in^2
I	800.33 in^4
S	114.33 in^3
RB	20.14
Emin'	1,016,535 psi
FbE	3,007 psi
Fb*	3,335 psi
CL	1

Shear and Moment

M	168,561 lb-in
V	3,512 lbs

Stress

fb	1,474 psi
Fb'	2,573 psi
fb/Fb'	0.57
fv	108 psi
Fv'	328 psi
fv/Fv'	0.33
Max Ratio	0.57
	Pass

Deflection

Δ_{TL}	0.40 in
	L/475
Δ_{LL}	0.33 in
	L/579
	Pass

Concrete Shear Wall

DESCRIPTION: X1-1

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : ASCE 7-16

General Information

Wall Material CONCRETE
Sds   0.30

Material Properties

f'c	2.50 ksi	Ec	3,120.0 ksi
fy	60.0 ksi	Ev	1,248.0 ksi
Density	150.0 pcf	Phi - Shear	0.650

Wall Data

	Bottom
Analysis Height	0.00 ft
Wall Offset	(datum) ft
Wall Length	4.0 ft
Wall Thickness	6.0 in
Structural Depth	2.640 ft

DESIGN SUMMARY

	Bottom Level	
Vu : Story Shear	2.098	+1.20D+E
Mu : Story Moment	18.882	+1.20D+E
Nu : Axial	3.780	+1.40D
Uplift @ Left End	5.311	+0.90D+E
Uplift @ Right End	5.311	+0.90D+E
Phi * 10 * sqrt(f'c)*h*d	61.776 k	
Phi * Vc	12.355 k	
Phi * Vs Req'd	0.0 k	
Horizontal As Req'd	0.1440 in^2	
Vertical As Req'd	0.180 in^2	
Bending As Req'd	0.3421 in^2	

Force Summary

Load Combination	Values for Wall section			Resultant	Overturning	Uplift (k)	
Wall Level	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
+1.40D							
Wall Level : 1			3.780				
+1.20D							
Wall Level : 1			3.240				
+1.20D+0.50W							
Wall Level : 1	0.534	4.806	3.240	1.483	1.348		
+1.20D+W							
Wall Level : 1	1.068	9.612	3.240	2.967	0.674	1.186	1.186
+0.90D+W							

LEADERS IN VALUE ENGINEERING

Concrete Shear Wall

Project File: 05 Beams.ec6

DESCRIPTION: X1-1

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant	Overturning	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
Wall Level : 1	1.068	9.612	2.430	3.956	0.506	1.800	1.800
+1.20D+E							
Wall Level : 1	2.098	18.882	3.240	5.828	0.343	4.698	4.698
+0.90D+E							
Wall Level : 1	2.098	18.882	2.430	7.770	0.257	5.311	5.311

Concrete Shear Wall

Project File: 05 Beams.ec6

DESCRIPTION: X2-1

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : ASCE 7-16

General Information

Wall Material CONCRETE
Sds   0.30

Material Properties

f'c	2.50 ksi		Ec	3,120.0 ksi
fy	60.0 ksi		Ev	1,248.0 ksi
Density	150.0 pcf		Phi - Shear	0.650

Wall Data

	Bottom
Analysis Height	0.00 ft
Wall Offset	(datum) ft
Wall Length	2.667 ft
Wall Thickness	6.0 in
Structural Depth	1.760 ft
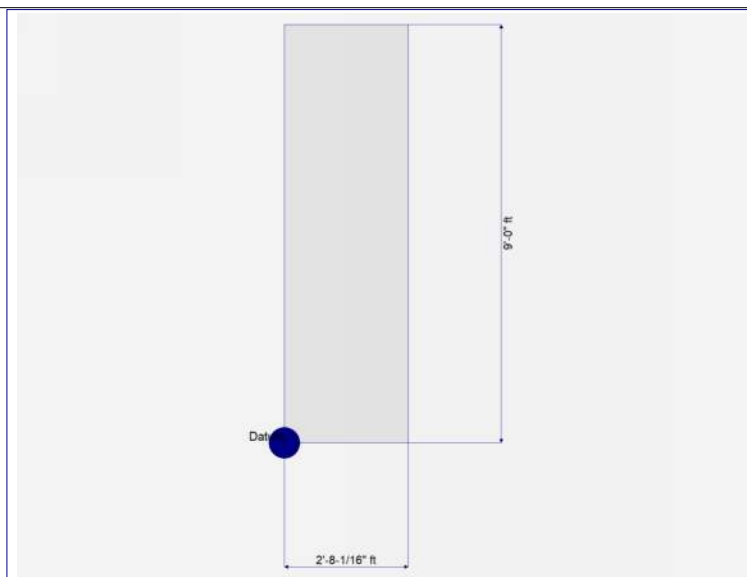
DESIGN SUMMARY

Bottom Level

Vu : Story Shear	1.460	+1.20D+E
Mu : Story Moment	13.140	+1.20D+E
Nu : Axial	2.520	+1.40D
Uplift @ Left End	6.238	+0.90D+E
Uplift @ Right End	6.238	+0.90D+E

Phi * 10 * sqrt(f'c)*h*d	41.184 k
Phi * Vc	8.237 k
Phi * Vs Req'd	0.0 k
Horizontal As Req'd	0.1440 in^2
Vertical As Req'd	0.180 in^2
Bending As Req'd	0.2281 in^2

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant	Overturning	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
+1.40D							
Wall Level : 1			2.520				
+1.20D							
Wall Level : 1			2.160				
+1.20D+0.50W							
Wall Level : 1	0.334	3.002	2.160	1.389	0.960	0.069	0.069
+1.20D+W							
Wall Level : 1	0.667	6.003	2.160	2.779	0.480	1.774	1.774
+0.90D+W							

LEADERS IN VALUE ENGINEERING

Concrete Shear Wall

Project File: 05 Beams.ec6

DESCRIPTION: X2-1

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant Ecc (ft)	Overturning Ratio	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)			Left	Right
Wall Level : 1	0.667	6.003	1.620	3.705	0.360	2.183	2.183
+1.20D+E							
Wall Level : 1	1.460	13.140	2.160	6.083	0.219	5.829	5.829
+0.90D+E							
Wall Level : 1	1.460	13.140	1.620	8.110	0.164	6.238	6.238

Concrete Shear Wall

Project File: 05 Beams.ec6

LIC# : KW-06013353, Build:20.23.2.14   SNAKE RIVER ENGINEERING   (c) ENERCALC INC 1983-2022

DESCRIPTION: Y1-1

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : ASCE 7-16

General Information

Wall Material CONCRETE
Sds   0.30

Material Properties

f'c	2.50 ksi		Ec	3,120.0 ksi
fy	60.0 ksi		Ev	1,248.0 ksi
Density	150.0 pcf		Phi - Shear	0.650

Wall Data

	Bottom
Analysis Height	0.00 ft
Wall Offset	(datum) ft
Wall Length	3.50 ft
Wall Thickness	6.0 in
Structural Depth	2.310 ft
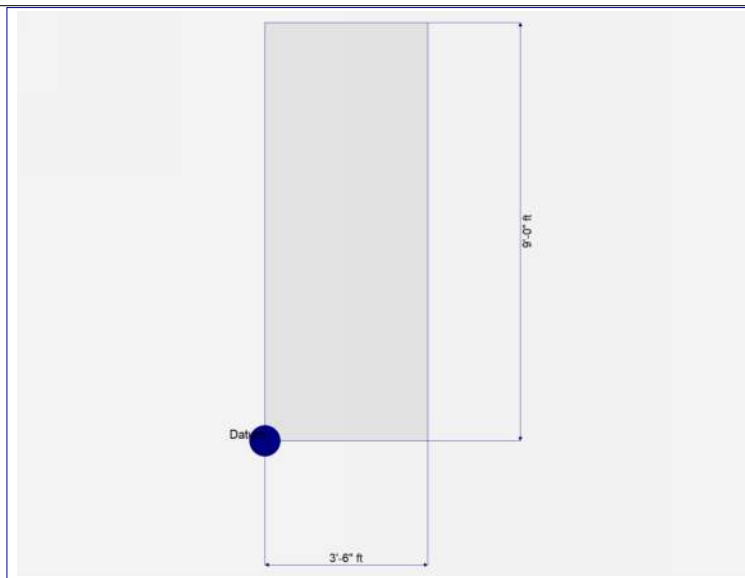
DESIGN SUMMARY

Bottom Level

Vu : Story Shear	3.190	+1.20D+E
Mu : Story Moment	28.710	+1.20D+E
Nu : Axial	3.308	+1.40D
Uplift @ Left End	10.818	+0.90D+E
Uplift @ Right End	10.818	+0.90D+E

Phi * 10 * sqrt(f'c)*h*d	54.054 k
Phi * Vc	10.811 k
Phi * Vs Req'd	0.0 k
Horizontal As Req'd	0.1440 in^2
Vertical As Req'd	0.180 in^2
Bending As Req'd	0.3131 in^2

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant	Overturning	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
+1.40D							
Wall Level : 1			3.308				
+1.20D							
Wall Level : 1			2.835				
+1.20D+0.50W							
Wall Level : 1	0.868	7.808	2.835	2.754	0.635	1.232	1.232
+1.20D+W							
Wall Level : 1	1.735	15.615	2.835	5.508	0.318	4.612	4.612
+0.90D+W							

Concrete Shear Wall

Project File: 05 Beams.ec6

DESCRIPTION: Y1-1

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant Ecc (ft)	Overturning Ratio	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)			Left	Right
Wall Level : 1	1.735	15.615	2.126	7.344	0.238	5.149	5.149
+1.20D+E							
Wall Level : 1	3.190	28.710	2.835	10.127	0.173	10.281	10.281
+0.90D+E							
Wall Level : 1	3.190	28.710	2.126	13.503	0.130	10.818	10.818

Concrete Shear Wall

Project File: 05 Beams.ec6

DESCRIPTION: Y2-1

Code References

Calculations per ACI 318-14, IBC 2018, CBC 2019, ASCE 7-16
Load Combinations Used : ASCE 7-16

General Information

Wall Material CONCRETE
Sds   0.30

Material Properties

f'c	2.50 ksi	Ec	3,120.0 ksi
fy	60.0 ksi	Ev	1,248.0 ksi
Density	150.0 pcf	Phi - Shear	0.650

Wall Data

	Bottom
Analysis Height	0.00 ft
Wall Offset	(datum) ft
Wall Length	36.50 ft
Wall Thickness	6.0 in
Structural Depth	24.090 ft

DESIGN SUMMARY

Bottom Level

Vu : Story Shear	10.390	+1.20D+E
Mu : Story Moment	93.510	+1.20D+E
Nu : Axial	34.493	+1.40D
Uplift @ Left End	0.0	
Uplift @ Right End	0.0	
Phi * 10 * sqrt(f'c)*h*d	563.71 k	
Phi * Vc	112.741 k	
Phi * Vs Req'd	0.0 k	
Horizontal As Req'd	0.1440 in^2	
Vertical As Req'd	0.180 in^2	
Bending As Req'd	3.122 in^2	

Force Summary

Load Combination	Values for Wall section			Resultant	Overturning	Uplift (k)	
Wall Level	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
+1.40D							
Wall Level : 1			34.493				
+1.20D							
Wall Level : 1			29.565				
+1.20D+0.50W							
Wall Level : 1	2.910	26.190	29.565	0.886	20.602		
+1.20D+W							
Wall Level : 1	5.820	52.380	29.565	1.772	10.301		
+0.90D+W							

LEADERS IN VALUE ENGINEERING

Concrete Shear Wall

DESCRIPTION: Y2-1

Force Summary

Load Combination Wall Level	Values for Wall section			Resultant	Overturning	Uplift (k)	
	Vu (k)	Mu (k)	Pu (k)	Ecc (ft)	Ratio	Left	Right
Wall Level : 1	5.820	52.380	22.174	2.362	7.726		
+1.20D+E							
Wall Level : 1	10.390	93.510	29.565	3.163	5.770		
+0.90D+E							
Wall Level : 1	10.390	93.510	22.174	4.217	4.328		

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

Individual Footing Design

Program: *Top Patio*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(16.8ft)	=	**286plf**
Snow Live	(120psf)	(16.8ft)	=	**2020plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(9.0ft)	=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

3126plf

Use Footing Width:	**30**	**x**	**10**	**in**
W/		**(3)**	**#4**	**Cont.**

Individual Footing Design

Program: *Gable*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(2.5ft)	=	**43plf**
Snow Live	(120psf)	(2.5ft)	=	**300plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(9.0ft)	=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

	1163plf

Use Footing Width:	**12**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

Individual Footing Design

Program: Top Right

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(11.7ft)	=	**198plf**
Snow Live	(120psf)	(11.7ft)	=	**1400plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(9.0ft)	=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

2419plf

Use Footing Width:	**24**	x	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

Individual Footing Design

Program: *Left Interior*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(13.4ft)	=	**228plf**
Snow Live	(120psf)	(13.4ft)	=	**1610plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(9.0ft)	=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

2659plf

Use Footing Width:	**24**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

SNAKE RIVER
E N G I N E E R I N G

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

Individual Footing Design

Program: *Middle Interior*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(16.3ft)	=	**278plf**
Snow Live	(120psf)	(16.3ft)	=	**1960plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc					
Wall Load:	(75psf)	(.0ft)		=	**plf**
Conc Stem:	(145pcf)	(2 x .5ft)		=	**145plf**
Misc Load:	(.0ft)	(.0ft)	(.0ft)	=	**plf**

2382plf

Use Footing Width:	**24**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

Individual Footing Design

Program: *Right/middle Interior*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(17.4ft)	=	**296plf**
Snow Live	(120psf)	(17.4ft)	=	**2090plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(.0ft)	=	**plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

2532plf

Use Footing Width:	**24**	x	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

Individual Footing Design

Program: *Garage Left/Right*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	*(17psf)*	*(10.8ft)*	=	**184plf**
Snow Live	*(120psf)*	*(10.8ft)*	=	**1300plf**

Upper Floor				
Floor Dead	*(12psf)*	*(.0ft)*	=	**plf**
Floor Live	*(40psf)*	*(.0ft)*	=	**plf**

Main Floor				
Floor Dead	*(12psf)*	*(.0ft)*	=	**plf**
Floor Live	*(40psf)*	*(.0ft)*	=	**plf**

Deck Cover				
Roof Dead	*(17psf)*	*(.0ft)*	=	**plf**
Snow Live	*(120psf)*	*(.0ft)*	=	**plf**

Deck Floor				
Floor Dead	*(12psf)*	*(.0ft)*	=	**plf**
Snow Live	*(120psf)*	*(.0ft)*	=	**plf**

Misc					
Wall Load:	*(75psf)*	*(9.0ft)*		=	**675plf**
Conc Stem:	*(145pcf)*	*(2 x .5ft)*		=	**145plf**
Misc Load:	*(.0ft)*	*(.0ft)*	*(.0ft)*	=	**plf**

	2304plf

Use Footing Width:	**24**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
City and State: Valley County, Idaho

Individual Footing Design

Program: *Front*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(8.7ft)	=	**147plf**
Snow Live	(120psf)	(8.7ft)	=	**1040plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc				
Wall Load:	(75psf)	(9.0ft)	=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)	=	**145plf**
Misc Load:	(.0ft)	(.0ft) (.0ft)	=	**plf**

2008plf

Use Footing Width:	**18**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

Individual Footing Design

Program: *Front left pop out*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(10.8ft)	=	**183plf**
Snow Live	(120psf)	(10.8ft)	=	**1290plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc					
Wall Load:	(75psf)	(9.0ft)		=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)		=	**145plf**
Misc Load:	(.0ft)	(.0ft)	(.0ft)	=	**plf**

2293plf

Use Footing Width:	**24**	**x**	**8**	**in**
W/		**(2)**	**#4**	**Cont.**

Individual Footing Design

Program: *Front right pop out*

Soil Bearing Pressure: *1500psf*

Roof				
Roof Dead	(17psf)	(7.8ft)	=	**133plf**
Snow Live	(120psf)	(7.8ft)	=	**940plf**

Upper Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Main Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Floor Live	(40psf)	(.0ft)	=	**plf**

Deck Cover				
Roof Dead	(17psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Deck Floor				
Floor Dead	(12psf)	(.0ft)	=	**plf**
Snow Live	(120psf)	(.0ft)	=	**plf**

Misc					
Wall Load:	(75psf)	(9.0ft)		=	**675plf**
Conc Stem:	(145pcf)	(2 x .5ft)		=	**145plf**
Misc Load:	(.0ft)	(.0ft)	(.0ft)	=	**plf**

1893plf

Use Footing Width:	**18**	x	**8**	in
W/		**(2)**	**#4**	Cont.

524 CLEVELAND BLVD. #230
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Project Name: 22-12 Pinetop
SRE Project #: 2022-4157
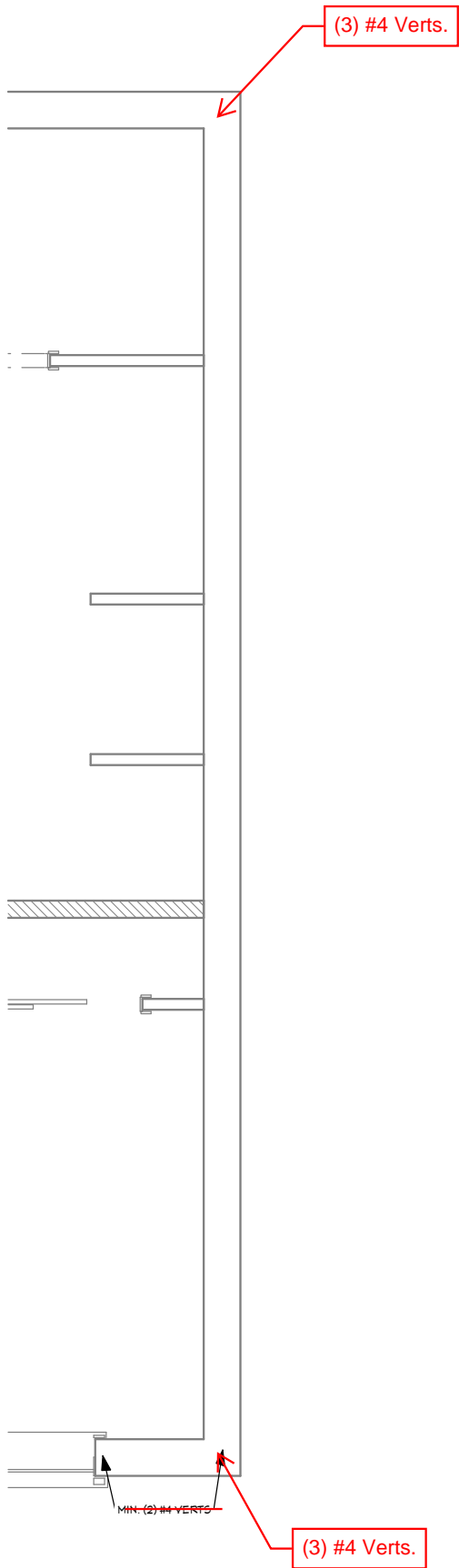**City and State:** Valley County, Idaho

Designer to delete these notes (TYP. ALL PAGES) & add a typical note stating " (2) #4 Verts. @ ea. corner of building and ea. side of openings U.N.O" (which will be typical for the whole building and additional to the ones that are @ 16" o.c. already)
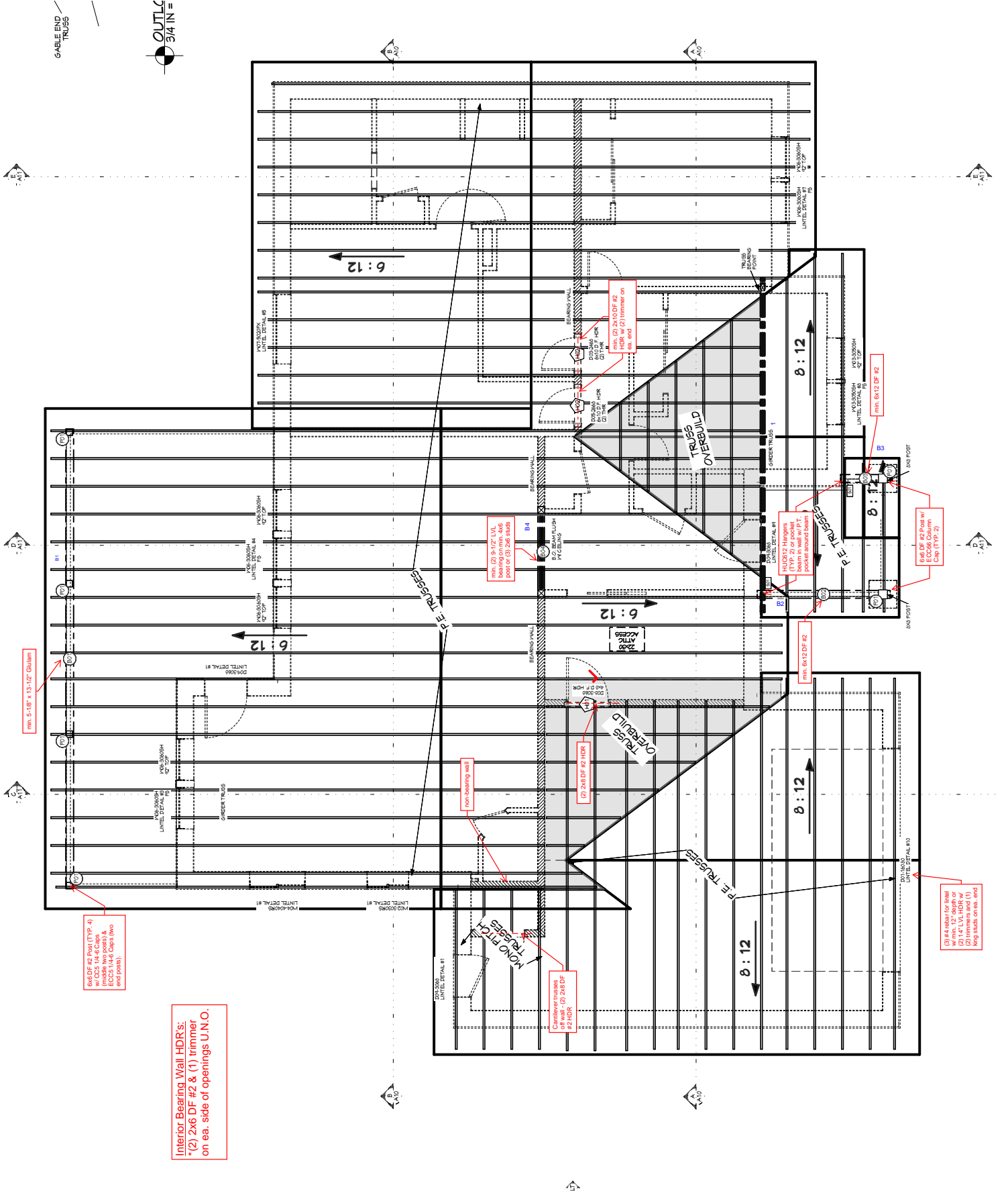
X1
1

MIN. (2) #4 VERTS.

MIN. (2) #4 VERTS.

(3) #4 Verts.

MIN. (2) #4 VERTS

(3) #4 Verts.

OUTLC
3/4 IN =

GABLE END
TRUSS

(2) 16d (0.131) TOENAILS

B
A10

A
A10

E
A11

E
A11

6:12

6:12

8:12

8:12

8:12

8:12

D
A11

D
A11

G
A11

F
A11

B
A10

A
A10

LT

TRUSS
OVERBUILD

TRUSS
OVERBUILD

P.E. TRUSSES

P.E. TRUSSES

P.E. TRUSSES

P.E. TRUSSES

MONO PITCH
TRUSSES

GIRDER TRUSS

GIRDER TRUSS

BEARING WALL

BEARING WALL

BEARING WALL

BEARING WALL

TRUSS BEARING POINT

TRUSS BEARING POINT

20x30 ATTIC ACCESS

B.O. BEAM FLUSH W/ CEILING

B1
B2
B3
B4

LINTEL DETAIL #1
LINTEL DETAIL #1
LINTEL DETAIL #1
LINTEL DETAIL #1
LINTEL DETAIL #4
LINTEL DETAIL #5
LINTEL DETAIL #5
LINTEL DETAIL #10

min. 6x12 DF #2

min. 6x12 DF #2

VK06-3060SH 42" TOP
VK06-3060SH 42" TOP
VK06-3060SH 42" TOP
VK06-3060SH 42" TOP
VK03-3060SH 42" TOP
VK06-3060SH FS
VK06-3060SH FS
VK06-3060SH FS
VK05-5020FX FS
VK03-3060SH FS

D04-3060
D04-3066
D08-3060 4x6 P.T. HDR
D08-3060 4x6 P.T. HDR
W2D-3030SQ
W2D-4040HS
D09-3060 LINTEL DETAIL #1
D05-2660 6x10 D.F. HDR (2) THR
D10-2460 (2) 2x10 D.F. HDR (2) THR
D11-16030 LINTEL DETAIL #10

8x6 POST

8x6 POST

min. 5-1/8" x 13-1/2" Glulam

6x6 DF #2 Post (TYP. 4) w/ ECC5 1/4-6 Caps (middle two posts) & ECC5 1/4-6 Caps (two end posts).

min. (2) 9-1/2" LVL bearing on min. 4x6 post or (3) 2x6 studs

non-bearing wall

Cantilever trusses of wall - (2) 2x8 DF #2 HDR

(2) 2x8 DF #2 HDR

min. (2) 2x10 DF #2 HDR w/ (2) trimmer on ea. end

HUC612 Hangers (TYP. 2) w/ pocket beam in wall w/ P.T. pocket around beam

6x6 DF #2 Post w/ ECC66 Column Cap (TYP. 2)

(3) #4 rebar for lintel w/ min. 12" depth or (2) 14" LVL HDR w/ (2) trimmers and (1) king studs on ea. end

Interior Bearing Wall HDR's:
*(2) 2x6 DF #2 & (1) trimmer on ea. side of openings U.N.O.

A35 @ ea. truss to sill plate connection

Blown insulation

Typical vapor barrier.
Or use either:
1. 3" thick layer of spray polyurethane foam.
2. Layer of reflective foil bubble.

NOTES:
See Section 6 – Engineering in the LOGIX Product Manual for reinforcement details.

Drywall

6¼" LOGIX Standard Forms

5.8.2 - 2x8 OVERHUNG TOP PLATE

Roof truss

Roofing

Roof sheathing

Rain gutter

2x8 sill gasket and anchor bolts, as per specs

Siding or other exterior finish

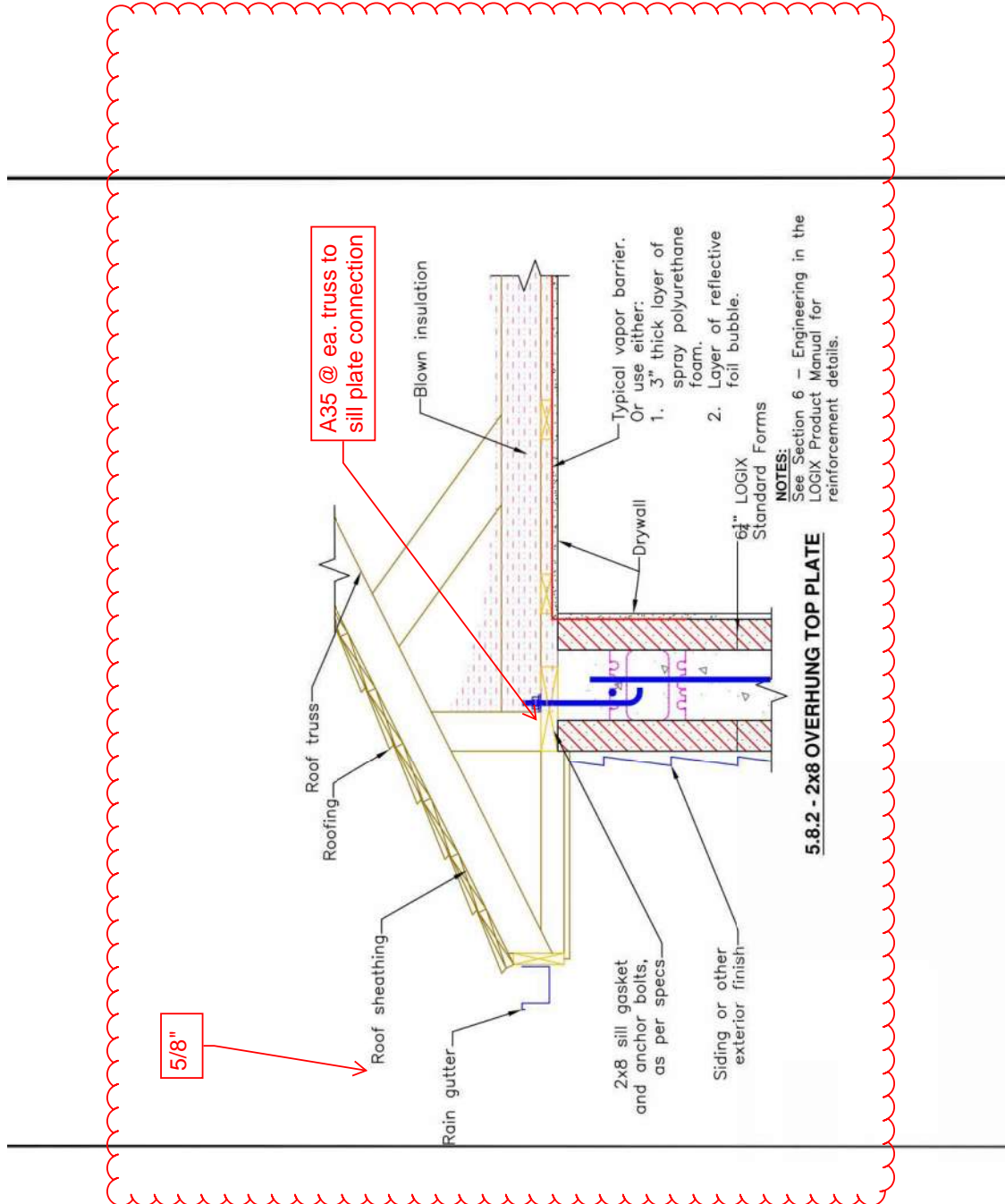5/8"

SNAKE RIVER ENGINEERING

**524 CLEVELAND BLVD. #230
CALDWELL, IDAHO 83605
(208) 453-6512**

Completed by: ASF
Review/Check: ARA

Project Name: 22-12 Pinetop
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Y2-1

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

min. (2) #4 Verts

Y1-1

X1-1

X2-1

MSTR CLOSET

MASTER BATH

MASTER BDRM
14'-5" X 13'-6"

BATH

BEDROOM #2
13'-6" X 11'-3"

BEDROOM #3
12'-8" X 11'-7"

GREAT ROOM
17'-10" X 18'-0"

PORCH

ENTRY

LAUNDRY

PORCH
7'-6" X 5'-11"

DINING

KITCHEN
13'-6" X 15'-0"

PANTRY

MECH

GARAGE
21'-10" X 24'-4"

5/8" TYPE X GYPSUM WALL BOARD ON "GARAGE TO HOUSE" WALL & CEILING TO BE TAPED PER FIRE CODE. (ALL OTHER WALLS ARE 1/2")

ATTIC ACCESS

524 CLEVELAND BLVD. #230
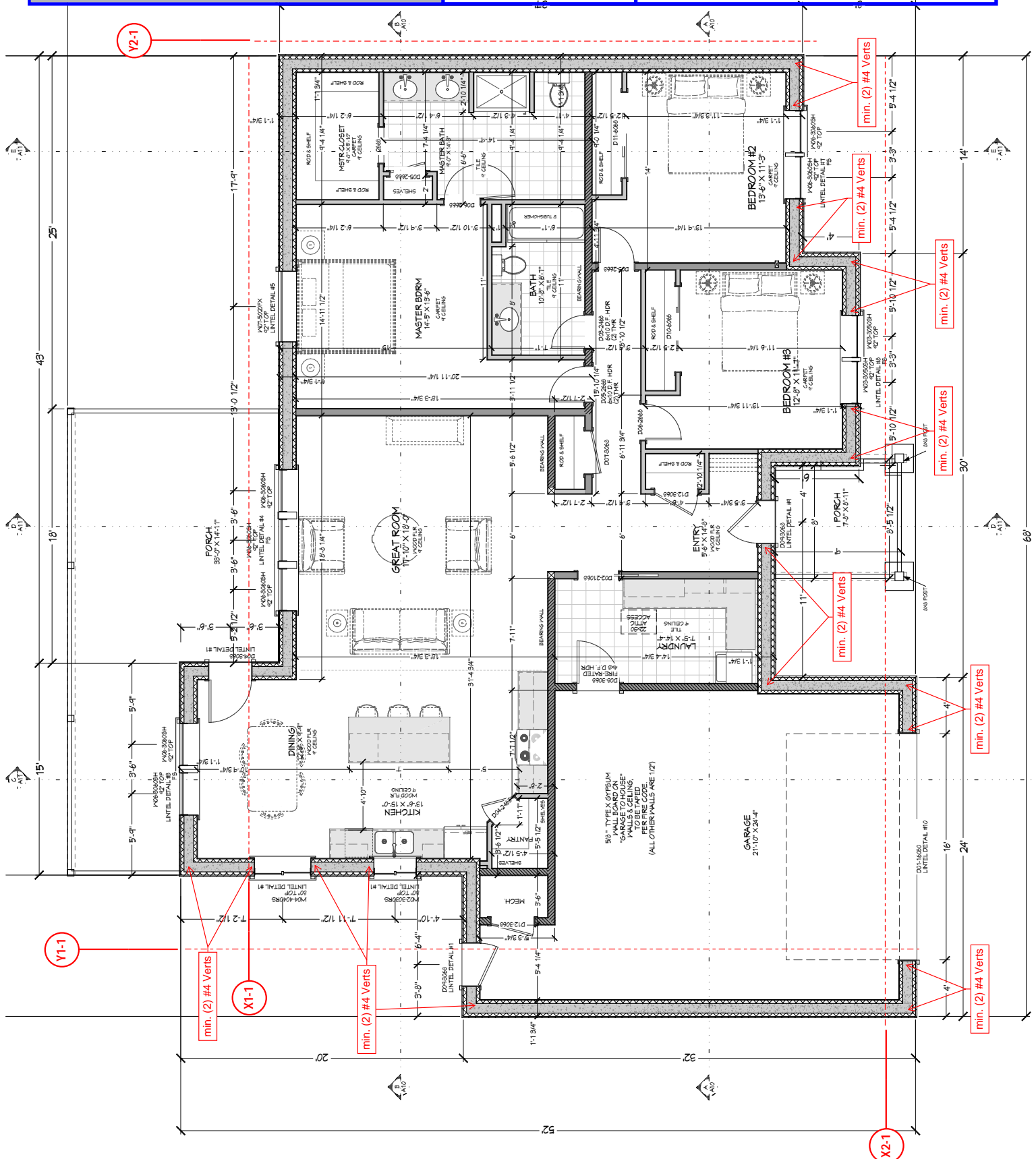**CALDWELL, IDAHO 83605**
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#4 CONT. @ ROW OF FORMS
(16" O.C. MAX)

#4 BAR @ 16" O.C.

ICF FORM,
SEE PLAN

1/2" EXPANSION MATERIAL

CONC. SLAB,
SEE PLAN

2'-0" BAR
DEVELOPMENT (MIN)

T.O. GRADE

2'-0" MIN.

SEE FTG SCHED

3" CLR.

FILL ICF PANEL INTERLOCK
GAPS WITH LOW
EXPANSION SPRAY FOAM
(INTERIOR AND EXTERIOR)

REBAR, SEE FOOTING
SCHEDULE

SEE FOOTING
SCHED

TYPICAL ICF WALL SECTION

1 / A3   SCALE: NTS

	524 CLEVELAND BLVD. #230 **CALDWELL, IDAHO 83605** **(208) 453-6512**	**Completed by:** ASF **Review/Check:** ARA	**Project Name:** 22-12 Pinetop **SRE Project #:** 2022-4157 **City and State:** Valley County, Idaho

SNAKE RIVER ENGINEERING

Pad Footing Design Capacities

Soil Bearing (1500 psf)					Min. Column Size
Dimensions (Inches)			Capacity	# of Bars	
84 x	84	x 14	64,300 lbs	10	8. sq.
72 x	72	x 12	47,500 lbs	8	3.5 sq.
66 x	66	x 12	39,750 lbs	8	3.5 sq.
60 x	60	x 10	33,450 lbs	6	3.5 sq.
54 x	54	x 10	27,000 lbs	5	3.5 sq.
48 x	48	x 8	21,500 lbs	4	3.5 sq.
42 x	42	x 8	16,500 lbs	4	3.5 sq.
36 x	36	x 8	12,000 lbs	4	3.5 sq.
30 x	30	x 8	8,350 lbs	3	3.5 sq.
24 x	24	x 8	5,300 lbs	2	3.5 sq.
18 x	18	x 8	2,900 lbs	2	3.5 sq.

Bars to be 3 1/2" from bottom of pad. Evenly space in both directions.

PAD FOOTING SCHEDULE

CALLOUT	FOOTING SIZE	REINFORCEMENT	QTY
P2.0 / 10 | 3	24" X 24" X 10	(3) #4 REBAR E.W.	1
P2.5 / 10 | 3	30" X 30" X 10	(3) #4 REBAR E.W.	3
P3.0 / 10 | 4	36" X 36" X 10	(4) #4 REBAR E.W.	1
P4.0 / 10 | 5	48" X 48" X 10	(5) #4 REBAR E.W.	1

P3.5   42"x42"x10" w/ (4) #4 bar E.W.

CONTINUOUS FOOTING SCHEDULE (ALL FOOTINGS "F1.3" UNO)

CALLOUT	FOOTING SIZE	REINFORCEMENT
F1.3 / 10 | 2	16" X 10"	(2) #4 CONT. REBAR
F2.0 / 10 | 3	24" X 10"	(3) #4 CONT. REBAR
F2.5 / 10 | 3	30" X 10"	(3) #4 CONT. REBAR
F3.0 / 10 | 4	36" X 10"	(4) #4 CONT. REBAR
F3.5 / 10 | 4	42" X 10"	(4) #4 CONT. REBAR

F1.5 18"x10"   (2) #4 cont. rebar