

January 3, 2022

Stowell Restaurants
Kara Samac
2208 Queen Anne Ave N
Seattle, WA 98109

ACCELA STATUS	
<input checked="" type="checkbox"/>	NO ACTION
<input type="checkbox"/>	REVIEW EXPIRED
<input type="checkbox"/>	CORRECTIONS OR INFO ADDED TO PLAN AND NO ACTION NEEDED
<input type="checkbox"/>	CORRECTIONS REQUIRED AND NO ADDITIONAL REVIEW NEEDED
<input type="checkbox"/>	CORRECTIONS REQUIRED AND ADDITIONAL REVIEW REQUIRED
BY: GuR	DATE: 1/11/2022

Project Number: 21-11-134

Re: Stowell Awning – 4 Bay Outdoor Structure
Seattle, WA

Per your request, Eclipse Engineering, P.C. (EEPC) has reviewed the 4-bay awning for the location listed above. These calculations are in accordance with the latest provisions outlined in the ASCE 7-16 and 2018 IBC.

The calculations conducted implement an ultimate wind speed of 97 MPH and ground snow load of 25 PSF. Please reference the attached plan drawing redmarks, corresponding details, and structural calculations for more information.

EEPC reviewed the 4-bay awning for the above noted project only. We take no responsibility for any other element of the structure, any other element not mentioned within this letter, nor for the performance of the structure as a whole.

Please contact us with any questions.

Sincerely,
Eclipse Engineering, P.C.

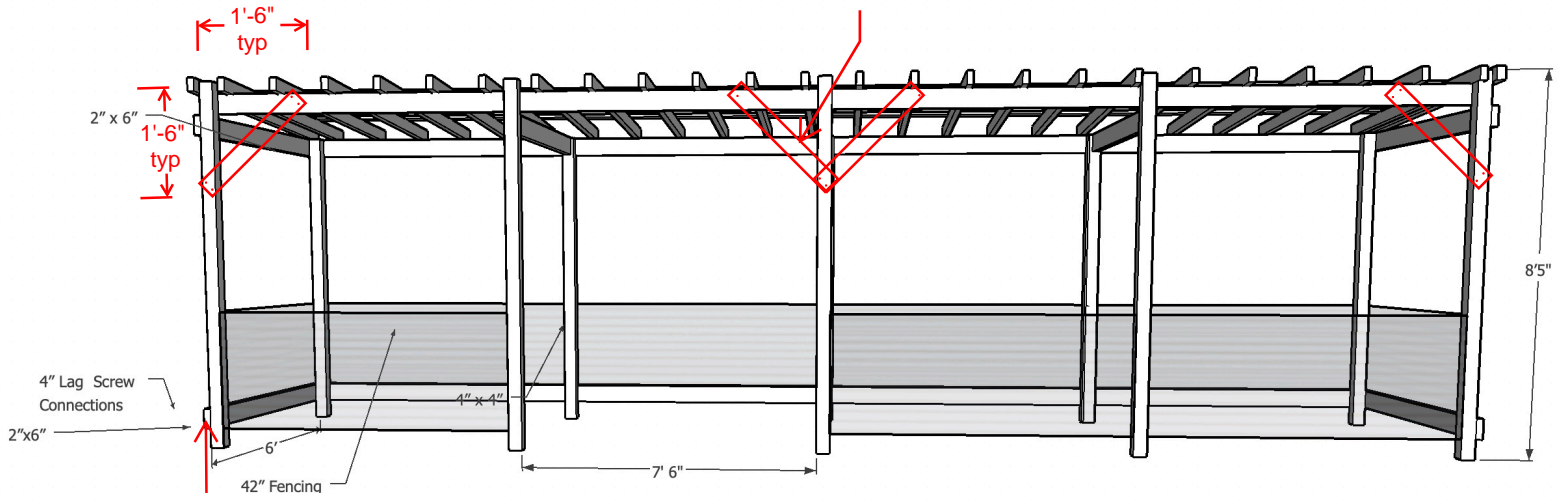
Sean Smith, E.I.T.
Staff Engineer



Attachments: *Plan Redmarks, Structural Calculations*

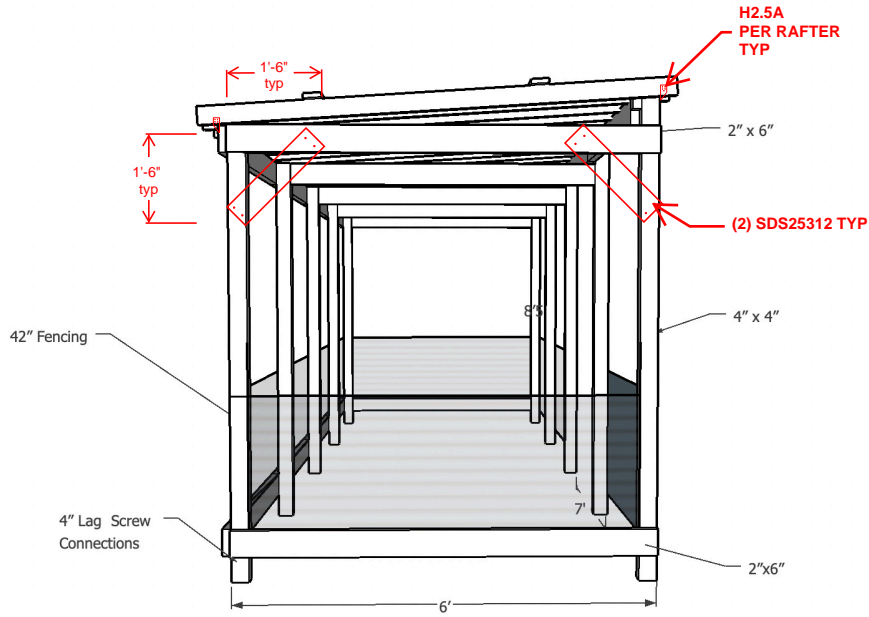
ESR: Updated 6' Wide 4 Bay Structure

INSTALL (N) 2X6 KNEE BRACES AS SHOWN W/ (2) SDS25312 SCREWS @ EA END, TYP



MIN 325 LBF BALLAST WEIGHT @ EA POST, TYP.

Front View



Side View

STRUCTURAL CALCULATIONS

Stowell Awning - 4 Bay Outdoor Structure

Seattle, WA

PREPARED FOR:

Stowell Restaurants
2208 Queen Anne Ave N
Seattle, WA 98109

PROJECT NAME: Stowell Awning - 4 Bay Outdoor Structure

DATE: 2021-12-02

CALCULATIONS

PAGE

PROJECT NUMBER: 21-11-134

ENGINEER: SDS

1 / 3

DESIGN CRITERIA

PROJECT NUMBER: 21-11-134

PROJECT NAME: Stowell Awning - 4 Bay Outdoor Structure

LEGAL DESCRIPTION OF:

PROPERTY Seattle, WA

CLIENT: Stowell Restaurants

ADDRESS: 2208 Queen Anee Ave N
Seattle, WA 98109

PROJECT CONTACT: Kara Samac

PHONE: 235-486-3500

EMAIL: kara.samac@esrhospitality.com

BUILDING DEPARTMENT: CITY OF SEATTLE

GOVERNING CODE: 2018 IBC | ASCE 7-16

OCCUPANCY TYPE: RESIDENTIAL

RISK CATEGORY: II

FROST DEPTH: 12

SOIL BEARING CAPACITY (PSF): 1500

GEOTECH REPORT: NO

GROUND SNOW LOAD, P_g (PSF): 23

OVERIDING JURISDICTION: N/A

ROOF SNOW LOAD, P_f (PSF): 20.00

MIN SNOW LOAD

DESIGN WIND SPEED, ULTIMATE (MPH): 97

SITE LOCATION



SITE SPECIFIC INFO - GOOGLE EARTH PRO 2020

SITE ADDRESS: Seattle, WA

SITE SPECIFIC SNOW LOAD - ASCE-7 CHAPTER-17

GROUND SNOW FACTOR:	N/A	STATE SNOW LOAD MAP	$P_g = 25$	PSF
EXPOSURE FACTOR, C_e :	1.0		$P_f = 0.7C_eC_tI_sP_g$	
THERMAL FACTOR, C_t :	1.1		$P_f = 20.00$	PSF
IMPORTANCE FACTOR, I_s :	1.0			

PROJECT NAME: Stowell Awning - 4 Bay Outdoor Structure	DATE: 2021-12-02	CALCULATIONS	PAGE 2 / 1
PROJECT NUMBER: 21-11-134	ENGINEER: SDS		

LATERAL LOADING

WIND PRESSURE DESIGN - ASCE 7-16 - CHAPTER 28, MWFRS METHOD 2

BASIC WIND SPEED:	97	MPH (3-SEC GUST SPEED)	LATERAL PRESSURES (PSF)	
EXPOSURE CATEGORY:	C		WALL (A): EDGE	15.9
MEAN ROOF HEIGHT:	FT		WALL (C): FACE	10.5
ROOF ANGLE:	0.5 / 12	2.4 °	ROOF (B): EDGE	8.2
ADJUSTMENT FACTOR, λ:	1.21		ROOF (D): FACE	4.9

PRESSURES BASED ON FIG. 28.6-1, EXP B VALUES

LATERAL WIND PRESSURES	ASD ROOF WIND PRESSURE:	$\left(\frac{B + D}{2}\right) (\lambda)(0.6)$	B & D =	5 PSF
	ASD WALL WIND PRESSURE:	$\left(\frac{A + C}{2}\right) (\lambda)(0.6)$	A & C =	12 PSF

VERTICAL PRESSURES (PSF)

WINDWARD (E): EDGE	7.6	LEEWARD (F): EDGE	11.9	WINDWARD (G): FACE	6.6	LEEWARD (H): FACE	10.3
WINDWARD (E _{OH}): EDGE OH	6.9	WINDWARD (G _{OH}): FACE OH	7.9	PRESSURES BASED ON FIG. 28.6-1, EXP B VALUES			

VERTICAL WIND PRESSURES (UPLIFT)	ASD WINDWARD PRESSURE:	$\left(\frac{E + G}{2}\right) (\lambda)(0.6)$	E & G =	6 PSF
	ASD LEEWARD PRESSURE:	$\left(\frac{F + H}{2}\right) (\lambda)(0.6)$	F & H =	9 PSF
	ASD OH PRESSURE:	$\left(\frac{E_{OH} + G_{OH}}{2}\right) (\lambda)(0.6)$	E_{OH} & D_{OH} =	6 PSF

SEISMIC DESIGN - ASCE 7-16 - CHAPTER 12

SHORT-PERIOD ACCEL. PARAMETER, S _S :	1.327	RISK CATEGORY:	II	
ONE SECOND ACCEL. PARAMETER, S ₁ :	0.461	SEISMIC IMPORTANCE FACTOR, I _E :	1.00	ATC
DESIGN SHORT-PERIOD ACCEL. PARAMETER, S _{DS} :	1.062	SEISMIC DESIGN CATEGORY:	N/A	HAZARD
DESIGN ONE SECOND ACCEL. PARAMETER, S _{D1} :	N/A	SITE CLASS:	D	

SEISMIC FORCE-RESISTING SYSTEM

LIGHT-FRAME WOOD SW	R: 6.5	$C_s = \frac{S_{DS}}{(R/I_E)} (0.7)$	ASD C_s =	0.1144
STEEL ORDINARY MF	R: 3.5	$C_s = \frac{S_{DS}}{(R/I_E)} (0.7)$	ASD C_s =	0.2124
LIGHT-FRAME CFS SW	R: 6.5	$C_s = \frac{S_{DS}}{(R/I_E)} (0.7)$	ASD C_s =	0.1144

Wood Beam

Project File: Stowell 4 Bay.ec6

LIC# : KW-06015235, Build:20.21.12.16

ECLIPSE ENGINEERING, P.C.

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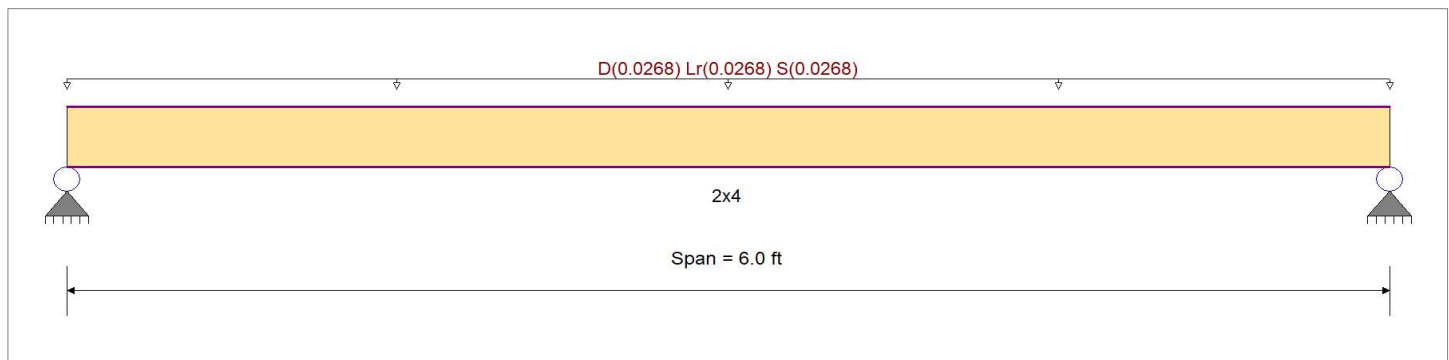
DESCRIPTION: Rafter Update

CODE REFERENCES

Calculations per NDS 2018, IBC 2018, CBC 2019, ASCE 7-16
 Load Combination Set : IBC 2018

Material Properties

Analysis Method : Allowable Stress Design	Fb +	850 psi	<i>E : Modulus of Elasticity</i>	
Load Combination : IBC 2018	Fb -	850 psi	Ebend- xx	1300ksi
	Fc - Prll	1300 psi	Eminbend - xx	470ksi
Wood Species : Hem-Fir	Fc - Perp	405 psi		
Wood Grade : No.2	Fv	150 psi		
	Ft	525 psi	Density	26.84pcf
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling				



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loads

Uniform Load : D = 0.020, Lr = 0.020, S = 0.020 ksf, Tributary Width = 1.340 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.820 : 1	Maximum Shear Stress Ratio	=	0.307 : 1
Section used for this span		2x4	Section used for this span		2x4
fb: Actual	=	962.36 psi	fv: Actual	=	42.34 psi
Fb: Allowable	=	1,173.00 psi	Fv: Allowable	=	138.00 psi
Load Combination		+D+S	Load Combination		+D+S
Location of maximum on span	=	3.000ft	Location of maximum on span	=	0.000 ft
Span # where maximum occurs	=	Span # 1	Span # where maximum occurs	=	Span # 1
Maximum Deflection					
Max Downward Transient Deflection	0.119 in	Ratio = 606 >=360	Span: 1 : Lr Only		
Max Upward Transient Deflection	0 in	Ratio = 0 <360	n/a		
Max Downward Total Deflection	0.242 in	Ratio = 297 >=180	Span: 1 : +D+Lr		
Max Upward Total Deflection	0 in	Ratio = 0 <180	n/a		

Maximum Forces & Stresses for Load Combinations

Load Combination	Segment Length	Span #	Max Stress Ratios								Moment Values			Shear Values						
			M	V	C _d	C _{F/V}	C _i	C _r	C _m	C _t	C _L	M	fb	F ^b	V	fv	F ^v			
D Only	Length = 6.0 ft	1	0.534	0.200	0.90	1.500	0.80	1.00	1.00	1.00	1.00	0.13	489.81	918.00	0.00	0.00	0.00	0.08	21.55	108.00
+D+Lr	Length = 6.0 ft	1	0.755	0.282	1.25	1.500	0.80	1.00	1.00	1.00	1.00	0.25	962.36	1275.00	0.00	0.00	0.00	0.15	42.34	150.00
+D+S	Length = 6.0 ft	1	0.820	0.307	1.15	1.500	0.80	1.00	1.00	1.00	1.00	0.25	962.36	1173.00	0.00	0.00	0.00	0.15	42.34	138.00
+D+0.750Lr	Length = 6.0 ft	1	0.662	0.248	1.25	1.500	0.80	1.00	1.00	1.00	1.00	0.22	844.23	1275.00	0.00	0.00	0.00	0.13	37.14	150.00
+D+0.750S	Length = 6.0 ft	1	0.720	0.269	1.15	1.500	0.80	1.00	1.00	1.00	1.00	0.22	844.23	1173.00	0.00	0.00	0.00	0.13	37.14	138.00
+0.60D	Length = 6.0 ft	1	0.180	0.067	1.60	1.500	0.80	1.00	1.00	1.00	1.00	0.08	293.89	1632.00	0.00	0.00	0.00	0.05	12.93	192.00

Project Title:
 Engineer:
 Project ID:
 Project Descr:

Wood Beam

Project File: Stowell 4 Bay.ec6

LIC# : KW-06015235, Build:20.21.12.16

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DESCRIPTION: Rafter Update

Overall Maximum Deflections

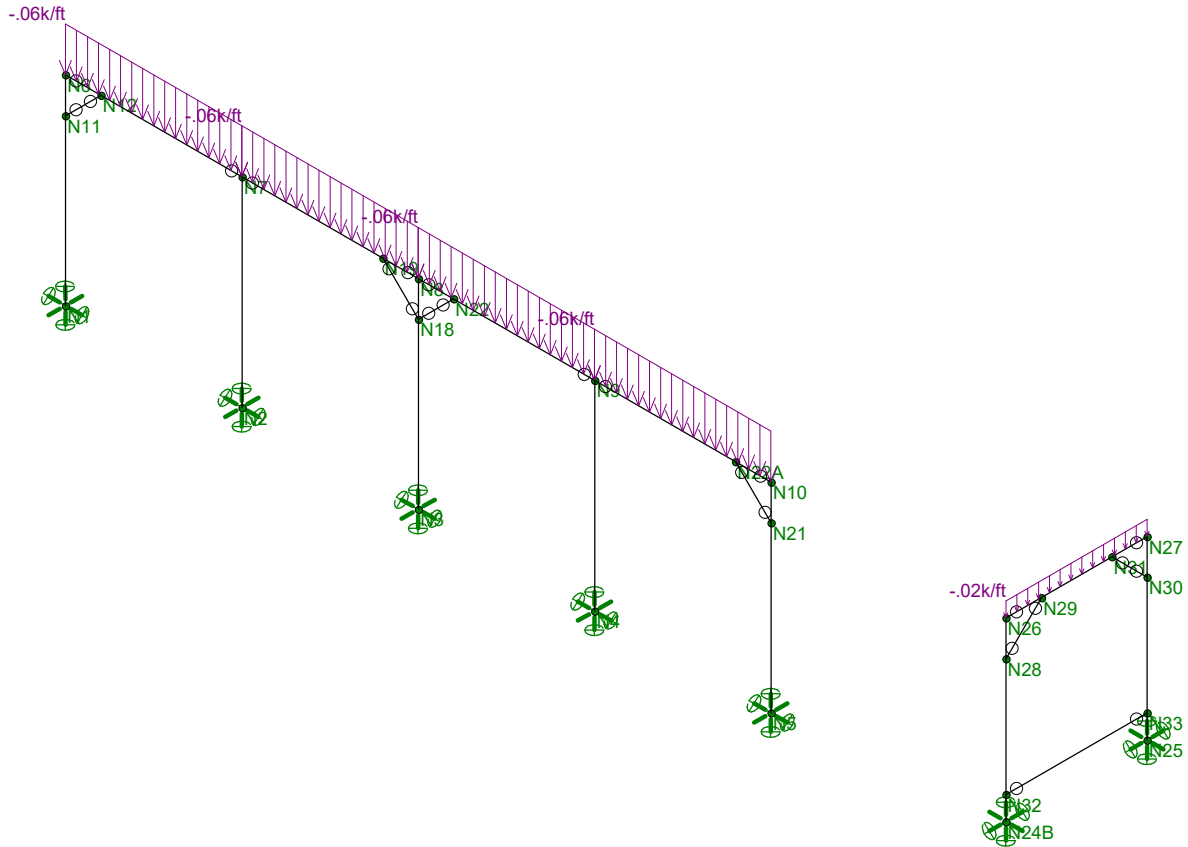
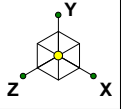
Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+S	1	0.2419	3.022		0.0000	0.000

Vertical Reactions

Support notation : Far left is #1

Values in KIPS

Load Combination	Support 1	Support 2
Overall MAXimum	0.164	0.164
Overall MINimum	0.080	0.080
D Only	0.083	0.083
+D+Lr	0.164	0.164
+D+S	0.164	0.164
+D+0.750Lr	0.144	0.144
+D+0.750S	0.144	0.144
+0.60D	0.050	0.050
Lr Only	0.080	0.080
S Only	0.080	0.080



Loads: BLC 1, Dead
Envelope Only Solution

Eclipse Engineering

SDS

21-11-134

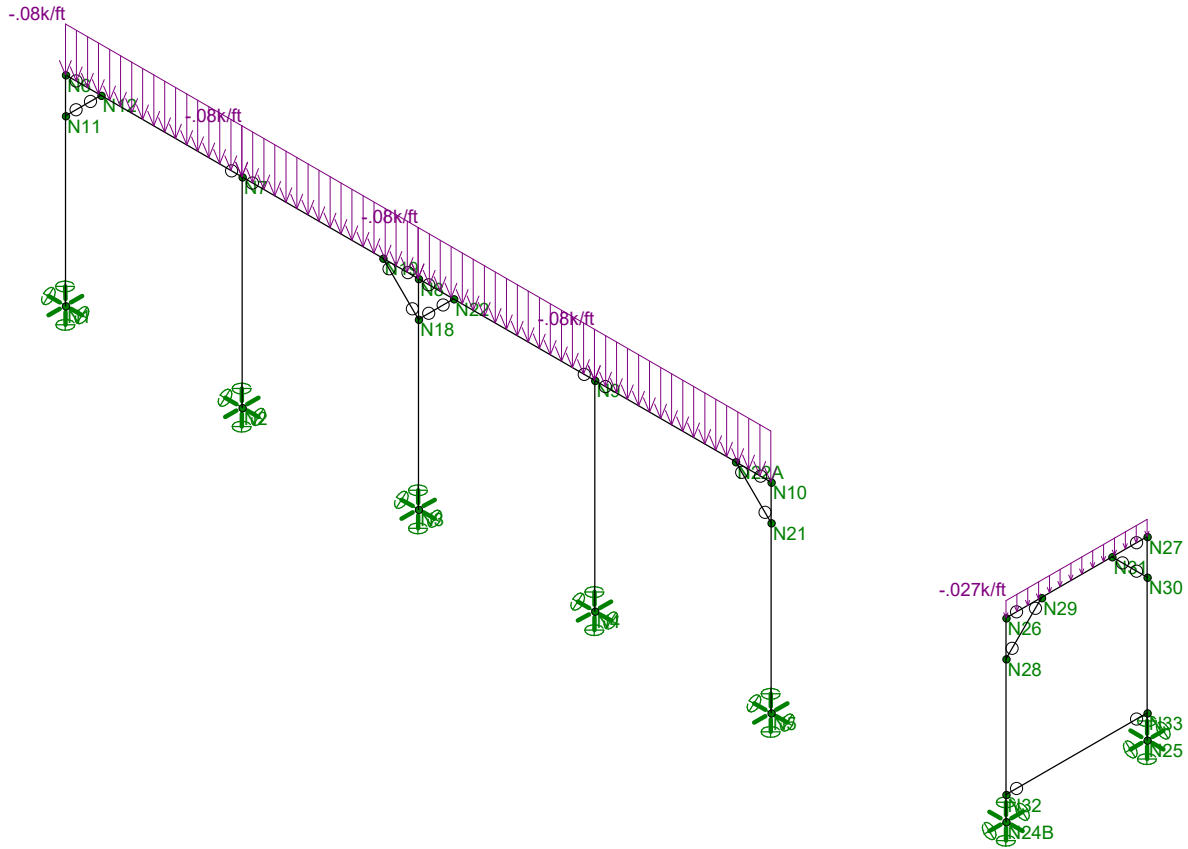
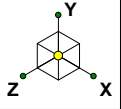
Stowell 4 Bay

Dead Load

SK - 1

Jan 3, 2022 at 12:55 PM

Stowell Update.r3d



Loads: BLC 2, Snow
Envelope Only Solution

Eclipse Engineering

SDS

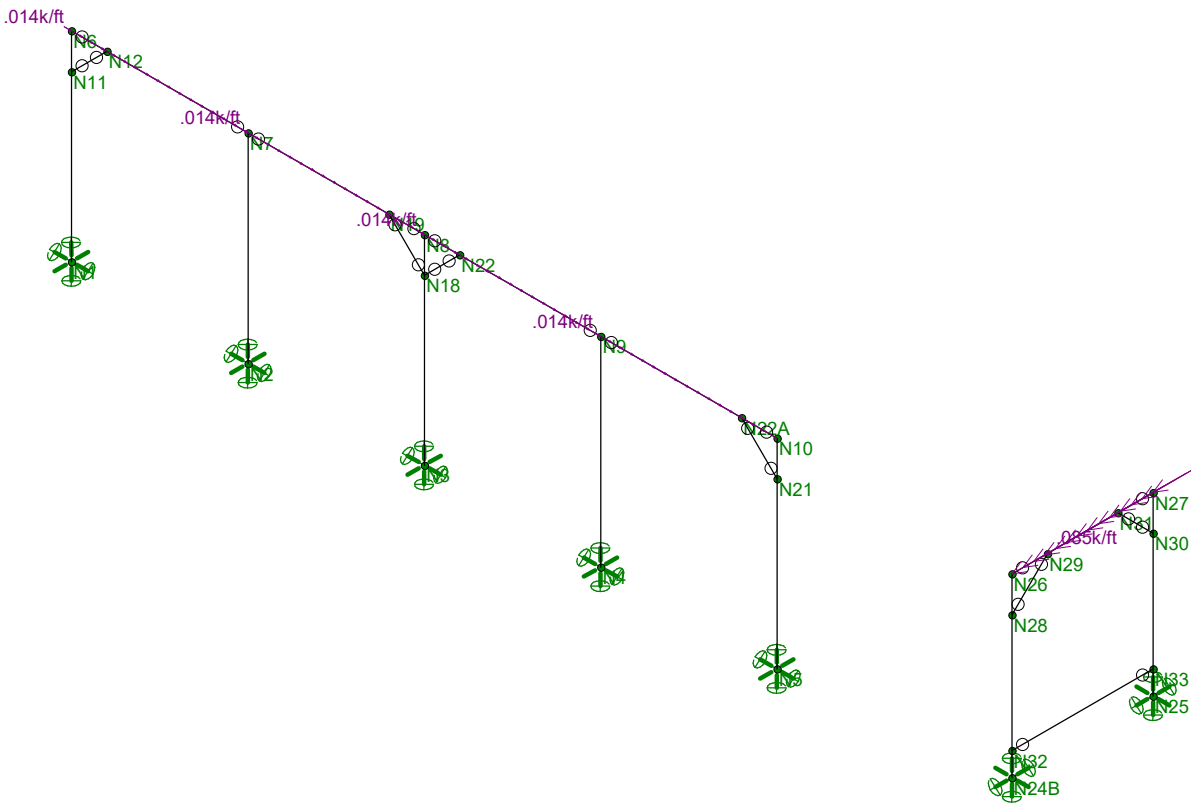
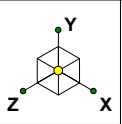
21-11-134

Stowell 4 Bay
Snow Load

SK - 2

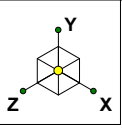
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Stowell Update.r3d

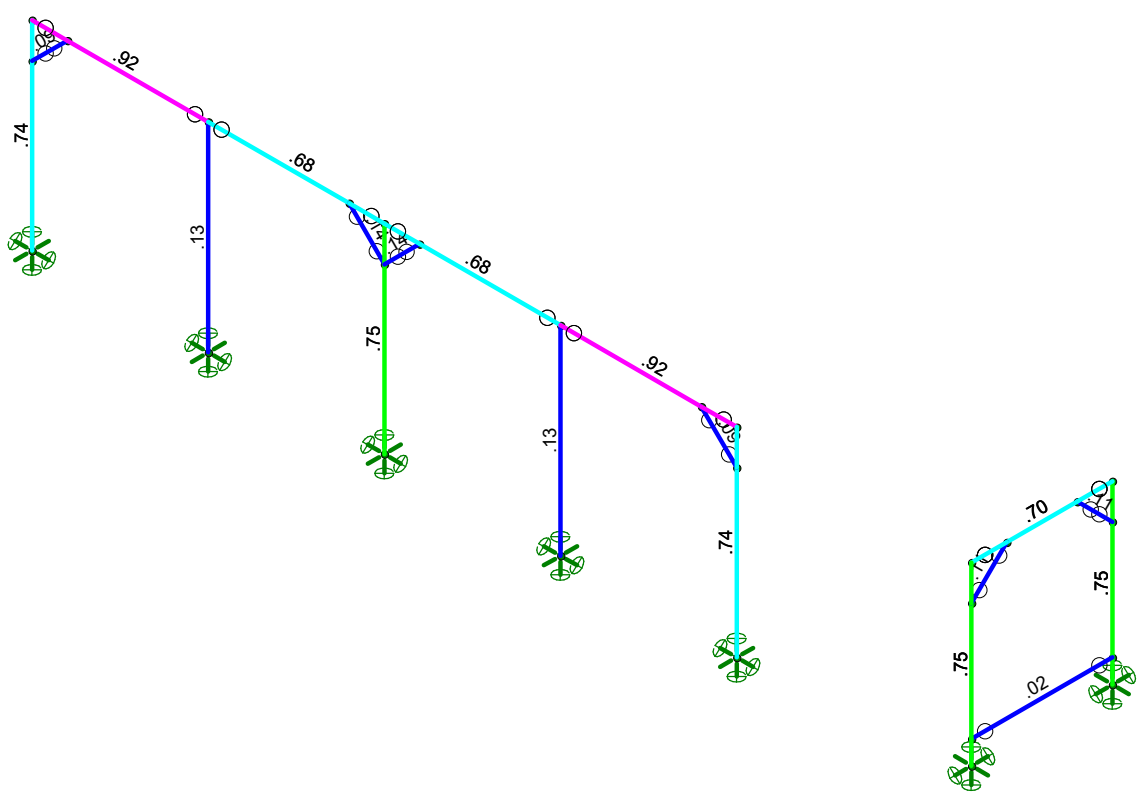


Loads: BLC 3, Wind
Envelope Only Solution

Eclipse Engineering	Stowell 4 Bay Wind Load	SK - 3
SDS		Jan 3, 2022 at 12:56 PM
21-11-134		Stowell Update.r3d

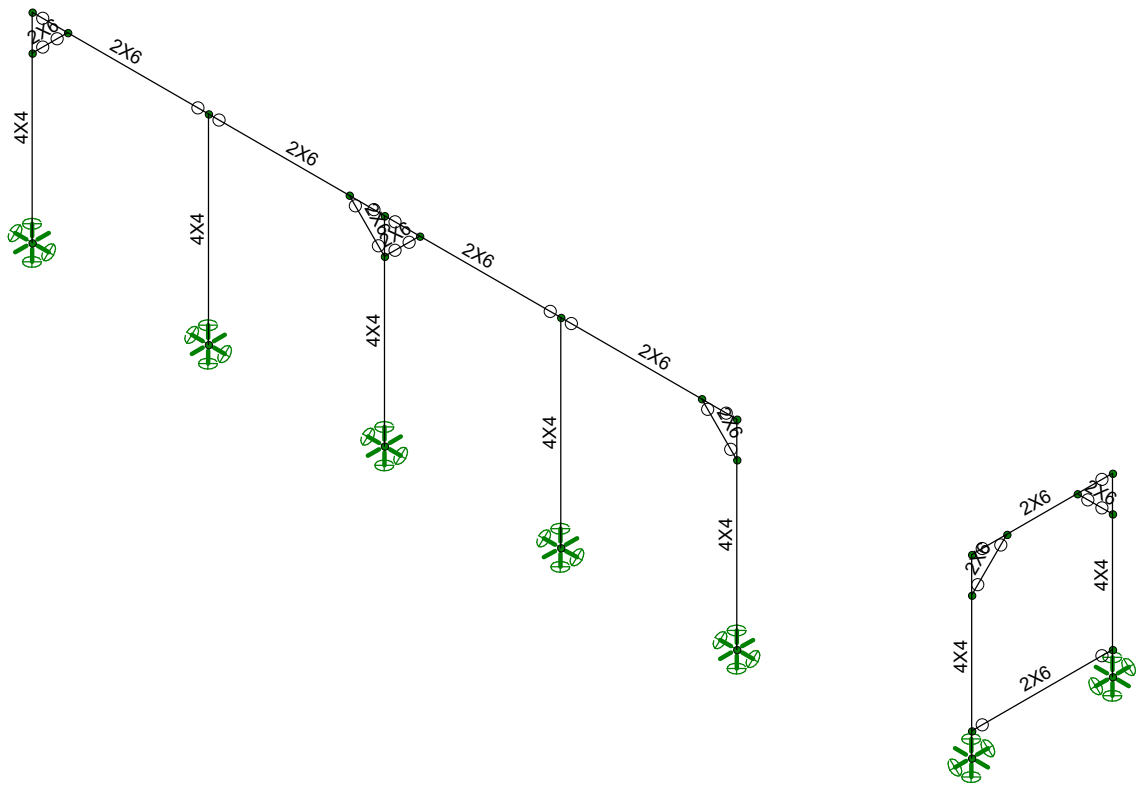
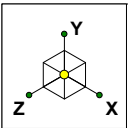


Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-.90
Cyan	.50-.75
Blue	0-.50



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Eclipse Engineering	Stowell 4 Bay Unity Check	SK - 4
SDS		Jan 3, 2022 at 12:56 PM
21-11-134		Stowell Update.r3d



Envelope Only Solution

Eclipse Engineering	Stowell 4 Bay Shape	SK - 5
SDS		Jan 3, 2022 at 12:56 PM
21-11-134		Stowell Update.r3d

Wood Material Properties

	Label	Type	Database	Species	Grade	Cm	Emod	Nu	Therm (/... Dens[k/ft^3])
1	DF	Solid Saw	Visually Gr...	Douglas Fir-Larch	No.2		1	.3	.3
2	SP	Solid Saw	Visually Gr...	Southern Pine	No.1		1	.3	.3
3	HF	Solid Saw	Visually Gr...	Hem-Fir	No.2		1	.3	.3
4	SPF	Solid Saw	Visually Gr...	Spruce-Pine-fir	No.1		1	.3	.3
5	24F-1.8E DF B...	Glulam	NDS Table...	24F-1.8E_DF_BAL	na		1	.3	.3
6	24F-1.8E DF U...	Glulam	NDS Table...	24F-1.8E_DF_UNB...	na		1	.3	.3
7	24F-1.8E SP B...	Glulam	NDS Table...	24F-1.8E_SP_BAL	na		1	.3	.3
8	24F-1.8E SP U...	Glulam	NDS Table...	24F-1.8E_SP_UNB...	na		1	.3	.3
9	1.35E-1600F_V...	SCL	Boise Cas...	1.35E-1600F_VERS...	na		1	.3	.3
10	1.35E LSL_Sol...	SCL	Louisiana ...	1.35E LSL_SolidSt...	na		1	.3	.3
11	1.3E_RIGIDLA...	SCL	Roseburg ...	1.3E_RIGIDLAM L...	na		1	.3	.3
12	2.0E_DF Parall...	SCL	TrusJoist	2.0E_DF Parallam ...	na		1	.3	.3
13	LVL_PRL_1.5...	Custom	N/A	LVL_PRL_1.5E_22...	na		1	.3	.3
14	LVL_Microlam...	Custom	N/A	LVL_Microllam_1.9...	na		1	.3	.3
15	PSL_Parallam...	Custom	N/A	PSL_Parallam_2.0...	na		1	.3	.3
16	LSL_TimberStr...	Custom	N/A	LSL_TimberStrand...	na		1	.3	.3

Wood Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	(2) 2x6	2X6	Beam	Rectangular	DF	Typical	8.25	1.547	20.797	5.125
2	Rafter	2X4	Beam	Rectangular	HF	Typical	5.25	.984	5.359	2.877
3	Post	4X4	Column	Rectangular	DF	Typical	12.25	12.505	12.505	21.134
4	Kicker	2X6	Beam	Rectangular	DF	Typical	8.25	1.547	20.797	5.125
5	2x6 Beam	2X6	Beam	Rectangular	DF	Typical	8.25	1.547	20.797	5.125

Wood Design Parameters

	Label	Shape	Length[ft]	le2[ft]	le1[ft]	le-bend to...	le-bend bo...	Kyy	Kzz	CV	Cr	y sway	z sway
1	M1	2x6 Beam	7.5	1.34		Lbyy							
2	M2	2x6 Beam	7.5	1.34		Lbyy							
3	M3	2x6 Beam	7.5	1.34		Lbyy							
4	M4	2x6 Beam	7.5	1.34		Lbyy							
5	M5	Post	8.5										
6	M6	Post	8.5										
7	M7	Post	8.5										
8	M8	Post	8.5										
9	M9	Post	8.5										
10	M10	Kicker	2.121			Lbyy							
11	M13	Kicker	2.121			Lbyy							
12	M16	Kicker	2.121			Lbyy							
13	M18	Kicker	2.121			Lbyy							
14	M18A	Post	7.5	Segment									
15	M19	Post	7.5	Segment									
16	M20	(2) 2x6	6			Lbyy							
17	M21	Kicker	2.121			Lbyy							
18	M22	Kicker	2.121			Lbyy							
19	M19A	2x6 Beam	6			Lbyy							

Load Combinations

	Descripti...	Sol..PD...	SRSS	BLC	Factor	BLC	Fac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..
1	IBC 16-8	Yes		DL	1									
2	IBC 16-9	Yes		DL	1	LL	1	LLS	1					



Load Combinations (Continued)

	Descripti...	Sol..PD...	SRSS	BLC	Factor	BLC	Fac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..	BLCFac..
3	IBC 16-1...	Yes		DL	1	SL	1	SLN	1						
4	IBC 16-1...	Yes		DL	1	LL	.75	LLS	.75	SL	.75	SLN	.75		
5	IBC 16-1...	Yes		DL	1	WL	.6								
6	IBC 16-1...	Yes		DL	1	WL	-.6								
7	IBC 16-1...	Yes		DL	1	WL	.45	LL	.75	LLS	.75				
8	IBC 16-1...	Yes		DL	1	WL	-.45	LL	.75	LLS	.75				
9	IBC 16-1...	Yes		DL	1	WL	.45	LL	.75	LLS	.75	SL	.75	SLN	.75
10	IBC 16-1...	Yes		DL	1	WL	-.45	LL	.75	LLS	.75	SL	.75	SLN	.75
11	IBC 16-1...	Yes		DL	.6	WL	.6								
12	IBC 16-1...	Yes		DL	.6	WL	-.6								

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	.128	6	.626	3	0	12	0	12	0	12	0	12
2		min	0	5	.157	11	0	1	0	1	0	1	0	1
3	N2	max	0	12	.84	3	0	12	0	12	0	12	0	12
4		min	0	1	.152	12	0	1	0	1	0	1	0	1
5	N3	max	.126	12	1.471	3	0	12	0	12	0	12	0	12
6		min	-.126	11	.442	11	0	1	0	1	0	1	0	1
7	N4	max	0	12	.84	3	0	12	0	12	0	12	0	12
8		min	0	1	.152	11	0	1	0	1	0	1	0	1
9	N5	max	0	12	.626	3	0	12	0	12	0	12	0	12
10		min	-.128	5	.157	12	0	1	0	1	0	1	0	1
11	N24B	max	0	12	.481	5	.174	6	0	12	0	12	0	12
12		min	0	1	-.323	12	-.141	11	0	1	0	1	0	1
13	N25	max	0	12	.481	6	.141	12	0	12	0	12	0	12
14		min	0	1	-.323	11	-.174	5	0	1	0	1	0	1
15	Totals:	max	.252	12	4.763	3	.306	12						
16		min	-.252	5	1.321	11	-.306	5						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotatio...	LC	Z Rotatio...	LC
1	N1	max	0	12	0	12	0	12	0	12	0	12	3.058e-2	12
2		min	0	1	0	1	0	1	0	1	0	1	-2.e-2	11
3	N2	max	0	12	0	12	0	12	0	12	0	12	2.e-2	12
4		min	0	1	0	1	0	1	0	1	0	1	-2.e-2	11
5	N3	max	0	12	0	12	0	12	0	12	0	12	3.058e-2	12
6		min	0	1	0	1	0	1	0	1	0	1	-3.058e-2	11
7	N4	max	0	12	0	12	0	12	0	12	0	12	2.e-2	12
8		min	0	1	0	1	0	1	0	1	0	1	-2.e-2	11
9	N5	max	0	12	0	12	0	12	0	12	0	12	2.e-2	12
10		min	0	1	0	1	0	1	0	1	0	1	-3.058e-2	11
11	N6	max	2.04	11	0	11	0	12	0	12	0	12	3.602e-3	12
12		min	-2.04	12	-.003	3	0	1	0	1	0	1	-2.e-2	11
13	N7	max	2.04	11	0	12	0	12	0	12	0	12	2.e-2	12
14		min	-2.04	12	-.004	3	0	1	0	1	0	1	-2.e-2	11
15	N8	max	2.04	11	-.002	12	0	12	0	12	0	12	3.603e-3	12
16		min	-2.04	12	-.006	3	0	1	0	1	0	1	-3.603e-3	11
17	N9	max	2.04	11	0	11	0	12	0	12	0	12	2.e-2	12
18		min	-2.04	12	-.004	3	0	1	0	1	0	1	-2.e-2	11
19	N10	max	2.04	11	0	12	0	12	0	12	0	12	2.e-2	12
20		min	-2.04	12	-.003	3	0	1	0	1	0	1	-3.602e-3	11
21	N11	max	1.68	11	0	11	0	12	0	12	0	12	8.363e-3	12
22		min	-1.948	12	-.003	3	0	1	0	1	0	1	-2.e-2	11

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotatio...	LC	Y Rotatio...	LC	Z Rotatio...	LC
23	N12	max	2.04	11	.087	12	0	12	0	12	0	12	3.307e-3	12
24		min	-2.039	12	-.16	9	0	1	0	1	0	1	-7.398e-3	9
25	N18	max	1.948	11	-.002	12	0	12	0	12	0	12	8.363e-3	12
26		min	-1.948	12	-.006	3	0	1	0	1	0	1	-8.363e-3	11
27	N19	max	2.039	11	.086	11	0	12	0	12	0	12	3.309e-3	6
28		min	-2.04	12	-.072	6	0	1	0	1	0	1	-3.315e-3	11
29	N22	max	2.04	11	.086	12	0	12	0	12	0	12	3.315e-3	12
30		min	-2.039	12	-.072	5	0	1	0	1	0	1	-3.309e-3	5
31	N21	max	1.948	11	0	12	0	12	0	12	0	12	2.e-2	12
32		min	-1.68	12	-.003	3	0	1	0	1	0	1	-8.363e-3	11
33	N22A	max	2.039	11	.087	11	0	12	0	12	0	12	7.398e-3	10
34		min	-2.04	12	-.16	10	0	1	0	1	0	1	-3.307e-3	11
35	N24B	max	0	12	0	12	0	12	2.48e-2	11	0	12	0	12
36		min	0	1	0	1	0	1	-2.483e-2	6	0	1	0	1
37	N25	max	0	12	0	12	0	12	2.483e-2	5	0	12	0	12
38		min	0	1	0	1	0	1	-2.48e-2	12	0	1	0	1
39	N26	max	0	12	0	12	1.341	5	-2.01e-4	11	0	12	0	12
40		min	0	1	-.001	5	-1.341	12	-8.626e-4	3	0	1	0	1
41	N27	max	0	12	0	11	1.341	11	8.626e-4	3	0	12	0	12
42		min	0	1	-.001	6	-1.341	6	2.01e-4	12	0	1	0	1
43	N28	max	0	12	.001	12	1.319	5	4.869e-3	11	0	12	0	12
44		min	0	1	-.002	5	-1.309	12	-5.194e-3	6	0	1	0	1
45	N29	max	0	12	.02	11	1.34	11	-1.326e-4	11	0	12	0	12
46		min	0	1	-.03	6	-1.34	6	-5.901e-4	3	0	1	0	1
47	N30	max	0	12	.001	11	1.309	11	5.194e-3	5	0	12	0	12
48		min	0	1	-.002	6	-1.319	6	-4.869e-3	12	0	1	0	1
49	N31	max	0	12	.02	12	1.34	5	5.901e-4	3	0	12	0	12
50		min	0	1	-.03	5	-1.34	12	1.326e-4	12	0	1	0	1
51	N32	max	0	12	0	12	.296	5	2.432e-2	5	0	12	0	12
52		min	0	1	0	5	-.296	12	-2.422e-2	12	0	1	0	1
53	N33	max	0	12	0	11	.296	11	2.422e-2	11	0	12	0	12
54		min	0	1	0	6	-.296	6	-2.432e-2	6	0	1	0	1

Envelope Beam Deflections

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
1	M1	1	max	5.313	-.003	NC	8
2		1	min	3.75	-.266	342	9
3	M2	1	max	6.406	-.006	NC	4
4		1	min	3.672	-.121	756	6
5	M3	1	max	1.094	-.006	NC	4
6		1	min	3.828	-.121	756	5
7	M4	1	max	2.188	-.003	NC	7
8		1	min	3.75	-.266	342	10
9	M10	1	max	2.121	1.504	NC	12
10		1	min	0	.037	NC	1
11	M13	1	max	2.121	-1.478	NC	12
12		1	min	0	-.002	NC	1
13	M16	1	max	2.121	1.503	NC	12
14		1	min	0	-.002	NC	1
15	M18	1	max	2.121	-1.477	NC	12
16		1	min	0	.037	NC	1
17	M20	1	max	3.563	0	NC	8
18		1	min	1.563	-.03	2385	6
19	M21	1	max	2.121	-.967	NC	12
20		1	min	0	.004	NC	1



Company : Eclipse Engineering
Designer : SDS
Job Number : 21-11-134
Model Name : Stowell 4 Bay

Jan 3, 2022
12:57 PM
Checked By: _____

Envelope Beam Deflections (Continued)

	Member Label	Span		Location [ft]	y' [in]	(n) L'/y' Ratio	LC
21	M22	1	max	2.121	.961	NC	12
22		1	min	0	.004	NC	1
23	M19A	1	max	3.563	-.001	NC	12
24		1	min	0	0	NC	1

Search Information

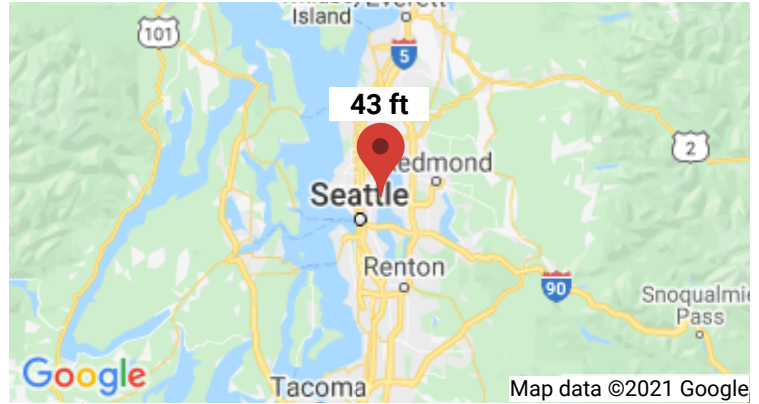
Address: 4200 E Madison St Seattle, WA 98112

Coordinates: 47.6359128, -122.2782739

Elevation: 43 ft

Timestamp: 2021-11-12T22:19:25.800Z

Hazard Type: Snow



ASCE 7-16

Ground Snow Load ----- ⚠️ 20 lb/sqft

The reported ground snow load applies at the query location of 43 feet up to a maximum elevation of 350 feet with a tolerance of 100 feet.

ASCE 7-10

Ground Snow Load --- ⚠️ 15 lb/sqft

The reported ground snow load applies at the query location of 43 feet up to a maximum elevation of 400 feet.

ASCE 7-05

Ground Snow Load ----- ⚠️ 15 lb/sqft

The reported ground snow load applies at the query location of 43 feet up to a maximum elevation of 400 feet.

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

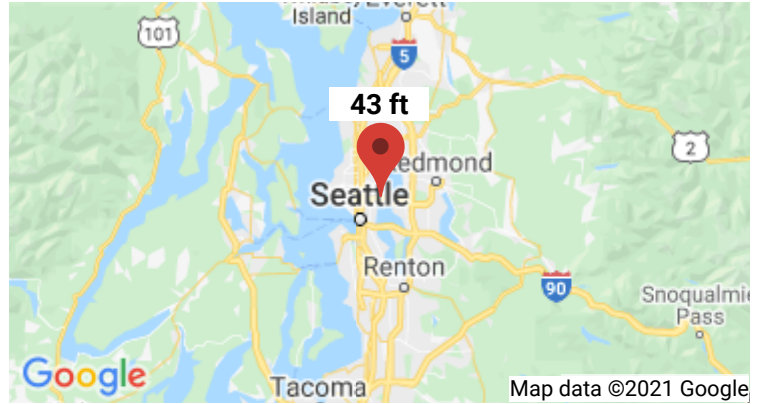
Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer.

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Search Information

Address: 4200 E Madison St Seattle, WA 98112
Coordinates: 47.6359128, -122.2782739
Elevation: 43 ft
Timestamp: 2021-11-12T22:19:06.808Z
Hazard Type: Seismic
Reference Document: ASCE7-16
Risk Category: II
Site Class: D-default



Basic Parameters

Name	Value	Description
S _S	1.327	MCE _R ground motion (period=0.2s)
S ₁	0.461	MCE _R ground motion (period=1.0s)
S _{MS}	1.592	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.062	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

▼Additional Information

Name	Value	Description
SDC	* null	Seismic design category
F _a	1.2	Site amplification factor at 0.2s
F _v	* null	Site amplification factor at 1.0s
CR _S	0.908	Coefficient of risk (0.2s)
CR ₁	0.896	Coefficient of risk (1.0s)
PGA	0.565	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	0.678	Site modified peak ground acceleration

T _L	6	Long-period transition period (s)
SsRT	1.327	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.462	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.262	Factored deterministic acceleration value (0.2s)
S1RT	0.461	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.515	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.898	Factored deterministic acceleration value (1.0s)
PGAd	0.784	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

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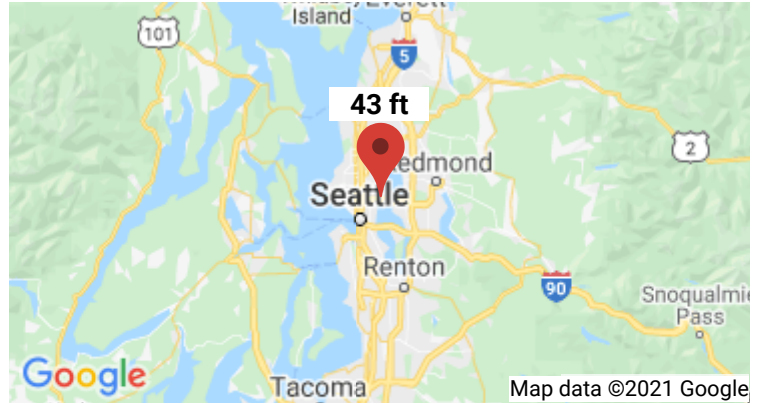
Disclaimer

Hazard loads are provided by the U.S. Geological Survey [Seismic Design Web Services](#).

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Search Information

Address: 4200 E Madison St Seattle, WA 98112
Coordinates: 47.6359128, -122.2782739
Elevation: 43 ft
Timestamp: 2021-11-12T22:19:34.045Z
Hazard Type: Wind



ASCE 7-16

MRI 10-Year 67 mph
 MRI 25-Year 73 mph
 MRI 50-Year 78 mph
 MRI 100-Year 83 mph
 Risk Category I 92 mph
 Risk Category II 97 mph
 Risk Category III 104 mph
 Risk Category IV 108 mph

ASCE 7-10

MRI 10-Year 72 mph
 MRI 25-Year 79 mph
 MRI 50-Year 85 mph
 MRI 100-Year 91 mph
 Risk Category I 100 mph
 Risk Category II 110 mph
 Risk Category III-IV 115 mph

ASCE 7-05

ASCE 7-05 Wind Speed 85 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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