

**General Information**

Number of Stories	2	Occupancy Category	II
Distance from base to Heighest Story (ft)	25	Lumber Used	Dry
Importance Factor	1	Framing Material	DF

**Wind Information**

Method of Analysis:	Analytical Method		
Wind exposure cat.	C	Wind Speed, V	85
Hurricane Prone Region	No	Building Enclosure	Enclosed
On hill, ridge or escarpment?	Yes	Shape of feature	Hill
Taller than 15 or 60 ft?	Yes	Height of feature	200
Unobstructed?	Yes	Average Slope of feature	0.8
Twice as tall as other features?	Yes	Distance from feature to building site	20
Directionality Coefficient (Kd)	0.85	Kzt	1.128
a	9.5	Zg	900.000

**Seismic Information**

Method of Analysis:	Equivalent Lateral Force Method		
Site Class	D	Long-Period Transition Period (sec)	3
0.2 Sec. Spectral Response Acceleration, Ss	135%	Damped 0.2 Sec. Spectral Response Acc., Sds	90%
1 Sec. Spectral Response Acceleration, S1	55%	Damped 1 Sec. Spectral Response Acc., Sd1	55%
Response Modification Factor, R	6.5	Seismic Design Category	D
Deflection Amplification Factor	4	System Overstrength Factor, O	2.5

**Total Forces of Building**

Response Coefficient (Cs)	0.14
Total Seismic Weight (w)	14.55 kips
Redundancy Coefficient (Rho)	1.00
Base Shear (Cs*W)	2.01 kips
Design Base Shear (0.7pCsW)	1.41 kips

**UPPER Story Seismic Dead Loads**

Dia	Diaphragm			Tributary Exterior Wall				Interior Wall			Total	
	Area (sq ft)	Unit DL (psf)	Wt (lbs)	Ht (ft)	Ln (ft)	Unit DL (psf)	Wt (lbs)	Wt Below (lbs)	Wt Above (lbs)	Added DL	Added DL Area (lbs)	Dia Wt (lbs)
U1	100	15	1500	5	40	9	1800	800	-	20	5	4200
Total	-	-	1500	-	-	-	1800	800	-	-	-	-
Story Wt 4100												

**UPPER Story Seismic Forces**

Seismic Weight (w)	4.20 kips
Height (h)	22.00 ft
Vert. Distribution (Cv)	0.60
Story Shear (V)	1.20 kips
Design Story Shear (0.7pV)	0.84 kips
Area	100.00 sqft

**UPPER Story Building Exterior**

Dia	Height From Base (ft)	Roof			East Face		West Face		North Face		South Face	
		Type	Slope	Dir	Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)
U1	22	G/H	.25	E-W	25	50	25	50	25	50	25	50

**UPPER Story Diaphragms**

Dia	Running N-S			Running E-W				Running N-S		Running E-W			
	East Grid	West Grid	Width (ft)	North Grid	South Grid	Width (ft)	Area (sqft)	Applied Wind Shear (plf)	Applied Seis. Wind (plf)	Wind / Seis Governing	Applied Wind Shear (plf)	Applied Seis. Wind (plf)	Wind / Seis Governing
U1	3	2	10	A	B	10	100	94	84	Wind	136	84	Wind

**UPPER Story Lateral Forces Running N-S: Tributary Method**

Grid Line	Allocation	Tributary Width (ft)	Tributary Force (lb)	Added Force (lb)	Wind Gridline Force (lb)	Seismic Gridline Force (lb)	Wind Torsion Gridline Force (lb)
2	50%(2-3) (U1)=50%(10 ft.)	5	470	0	470	420	0
3	50%(2-3) (U1)=50%(10 ft.)	5	470	0	470	420	0

**UPPER Story Lateral Forces Running E-W: Tributary Method**

Grid Line	Allocation	Tributary Width (ft)	Tributary Force (lb)	Added Force (lb)	Wind Gridline Force (lb)	Seismic Gridline Force (lb)	Wind Torsion Gridline Force (lb)
2	50%(2-3) (U1)=50%(10 ft.)	5	470	0	470	420	0
3	50%(2-3) (U1)=50%(10 ft.)	5	470	0	470	420	0

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A	50% (A-B) (U1)=50% (10 ft.)	5	680	0	680	420	0
B	50% (A-B) (U1)=50% (10 ft.)	5	680	0	680	420	0

UPPER Story Shear Walls Running N-S

Grid Line	Wall #	Length (ft)	Height (ft)	Acting Wind Unit Shear (plf)	Acting Seis. Unit Shear (plf)	Shear Wall Type	Shear Wall Wind Unit Shear Capacity (plf)	Shear Wall Seis. Unit Shear Capacity (plf)	Shear Wall Uplift (lb)	Shear Wall Drift (in)
2	1	4	10	118	105	A	365	260	1124	0.35
3	1	4	10	118	105	A	365	260	1004	0.08

UPPER Story Shear Walls Running E-W

Grid Line	Wall #	Length (ft)	Height (ft)	Acting Wind Unit Shear (plf)	Acting Seis. Unit Shear (plf)	Shear Wall Type	Shear Wall Wind Unit Shear Capacity (plf)	Shear Wall Seis. Unit Shear Capacity (plf)	Shear Wall Uplift (lb)	Shear Wall Drift (in)
A	1	5	10	136	84	A	365	260	1386	0.24
B	1	4	10	170	105	A	365	260	1721	0.30

UPPER Story Shear Wall Connectors Running N-S

Grid Line	Wall #	Connector Type	Connector Uplift (lb)	Connector Name	Connector Max Uplift (lb)	Anchor Bolt
2	1	SW Below	1262	MSTI36	1740	N/A
3	1	SW Below	1127	MSTI36	1740	N/A

UPPER Story Shear Wall Edge Members Running N-S

Grid Line	Wall #	Wind Edge Uplift (lb)	Seis Edge Uplift (lb)	Seismic Uplift (lb) (Beam/Hdr)	Wind Crushing (lb)	Seismic Crushing (lb)	Seismic Crushing (lb) (Beam/Hdr)	Wall Edge Member	Max Wind Edge Uplift (lb)	Max Seis Edge Uplift (lb)	Max Wind Edge Member Crushing (lb)	Max Seis Edge Member Crushing (lb)
2	1	1262	982	-	1555	1286	-	2-2x4 NO.2	8035	14490	2756	4132
3	1	1127	780	-	1780	1512	-	2-2x4 NO.2	8035	14490	2756	4132

UPPER Story Shear Wall Connectors Running E-W

Grid Line	Wall #	Connector Type	Connector Uplift (lb)	Connector Name	Connector Max Uplift (lb)	Anchor Bolt
A	1E	Post	1519	MSTI36	1740	N/A
	1W	SW Below	1519	MSTI36	1740	N/A
B	1	Post no SW	1932	MST37	2765	N/A

UPPER Story Shear Wall Edge Members Running E-W

Grid Line	Wall #	Wind Edge Uplift (lb)	Seis Edge Uplift (lb)	Seismic Uplift (lb) (Beam/Hdr)	Wind Crushing (lb)	Seismic Crushing (lb)	Seismic Crushing (lb) (Beam/Hdr)	Wall Edge Member	Max Wind Edge Uplift (lb)	Max Seis Edge Uplift (lb)	Max Wind Edge Member Crushing (lb)	Max Seis Edge Member Crushing (lb)
A	1E	1519	656	-	1696	1051	-	2-2x4 NO.2	8035	14490	2756	4132
	1W	1519	656	-	1696	1051	-	2-2x4 NO.2	8035	14490	2756	4132
B	1	1932	903	-	1850	1369	-	2-2x4 NO.2	8035	14490	2756	4132

UPPER Story Components and Cladding

Name	Type	Zone	Diaphragm	Effective Wind Area (sqft)	Positive Design Pressure (p+)	Negative Design Pressure (p-)
Deck Wall	Wall	4	U1	250	24.52	-16.64
Deck Wall 2	Wall	5	U1	250	24.52	-17.49
Deck Roof 1	Gable Roof (Slope <= 7°)	1	U1	250	6.12	-17.39
Deck Roof 2	Gable Roof (Slope <= 7°)	2	U1	250	6.12	-20.61
Deck Roof 3	Gable Roof (Slope <= 7°)	3	U1	250	6.12	-20.61
Patio Roof 1	Gable Overhang (Slope <= 7°)	1 & 2	U1	250	6.12	-24.08
Patio Roof 2	Gable Overhang (Slope <= 7°)	3	U1	250	6.12	-15.78
Patio Skylight 1	Gable Roof (7° < Slope <= 27°)	1	U1	250	7.73	-15.78
Patio SkyLight 2	Gable Roof (7° < Slope <= 27°)	2	U1	250	7.73	-22.23
Patio Skylight 3	Gable Roof (7° < Slope <= 27°)	3	U1	250	7.73	-35.11
Deck2 Roof 1	Gable Overhang (7° < Slope <= 27°)	2	U1	250	7.73	-38.33
Deck2 Roof 2	Gable Overhang (7° < Slope <= 27°)	3	U1	250	7.73	-43.16
Deck2 Roof3	Gable Roof (27° < Slope <= 45°)	1	U1	250	15.78	-15.78
Deck2 Roof 4	Gable Roof (27° < Slope <= 45°)	2	U1	250	15.78	-19.00
Deck2 Roof 5	Gable Roof (27° < Slope <= 45°)	3	U1	250	15.78	-19.00
Deck2 Roof 6	Gable Overhang (27° < Slope <= 45°)	2 & 3	U1	250	15.78	-31.89
Deck2 Roof 7	Multispan Gable Roof (10° < Slope <= 30°)	1	U1	250	9.34	-25.45
Deck2 Roof 8	Multispan Gable Roof (10° < Slope <= 30°)	2	U1	250	9.34	-30.28
Deck2 Roof 9	Multispan Gable Roof (10° < Slope <= 30°)	3	U1	250	9.34	-30.28
Deck2 Roof 10	Multispan Gable Roof (30° < Slope <= 45°)	1	U1	250	15.78	-20.61
Deck2 Roof 11	Multispan Gable Roof (30° < Slope <= 45°)	2	U1	250	15.78	-30.28

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Deck	Roof	Type	Slope	Area (sqft)	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20	
Deck2	Roof	12	Multispan Gable Roof (30° < Slope <= 45°)	3	U1	250	15.78	-30.28																	
Deck2	Roof	13	Monoslope Roof (3° < Slope <= 10°)	1	U1	250	6.12	-20.61																	
Deck2	Roof	14	Monoslope Roof (3° < Slope <= 10°)	2	U1	250	6.12	-22.23																	
Deck2	Roof	15	Monoslope Roof (3° < Slope <= 10°)	2'	U1	250	6.12	-27.06																	
Deck2	Roof	16	Monoslope Roof (3° < Slope <= 10°)	3	U1	250	6.12	-22.23																	
Deck2	Roof	17	Monoslope Roof (3° < Slope <= 10°)	3'	U1	250	6.12	-28.67																	
Deck2	Roof	18	Monoslope Roof (10° < Slope <= 30°)	1	U1	250	7.73	-20.61																	
Deck2	Roof	19	Monoslope Roof (10° < Slope <= 30°)	2	U1	250	7.73	-22.23																	
Deck2	Roof	20	Monoslope Roof (10° < Slope <= 30°)	3	U1	250	7.73	-35.11																	

LOWER Story Seismic Dead Loads

Dia	Diaphragm			Tributary Exterior Wall				Interior Wall				Total	
	Area (sq ft)	Unit DL (psf)	Wt (lbs)	Ht (ft)	Ln (ft)	Unit DL (psf)	Wt (lbs)	Wt Below (lbs)	Wt Above (lbs)	Added DL	Added DL Area	Dia Wt (lbs)	
M1	100	15	1500	10	40	10	4000	1000	400	0	0	6900	
M2	100	15	1500	4	30	9	1350	1000	400	0	0	4250	
Total	-	-	3000	-	-	-	5350	2000	800	-	-		
Story Wt 10350													

LOWER Story Seismic Forces

Seismic Weight (w)	10.35 kips
Height (h)	11.00 ft
Vert. Distribution (Cv)	0.40
Story Shear (V)	0.81 kips
Design Story Shear (0.7pV)	0.57 kips
Area	200.00 sqft

LOWER Story Building Exterior

Dia	Height From Base (ft)	Roof Type	Roof Slope	Roof Dir	East Face		West Face		North Face		South Face	
					Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)	Area (sqft)	Walls (sqft)
M1	10	Floor	N/A	N/A	0	100	0	100	0	100	0	100
M2	12	G/H	.25	E-W	0	0	25	50	25	50	25	50

LOWER Story Diaphragms

Dia	Running N-S			Running E-W			Running N-S			Running E-W			
	East Grid	West Grid	Width (ft)	North Grid	South Grid	Width (ft)	Area (sqft)	Applied Wind Shear (plf)	Applied Seis. Shear (plf)	Wind / Seis Governing	Applied Wind Shear (plf)	Applied Seis. Shear (plf)	Wind / Seis Governing
M1	3	2	10	A	B	10	100	171	36	Wind	149	36	Wind
M2	2	1	10	A	B	10	100	90	21	Wind	75	21	Wind

LOWER Story Lateral Forces Running N-S: Tributary Method

Grid Line	Allocation	Tributary Width (ft)	Tributary Force (lb)	Added Force (lb)	Wind Force Above (lb)	Seismic Force Above (lb)	Wind Gridline Force (lb)	Seismic Gridline Force (lb)	Wind Force (lb)
1	50% (2-1) (M2)=50% (10 ft.)	5	450	0	0	0	450	105	0
2	50% (2-3) (M1)=50% (10 ft.)	5	855	0	470	420	1775	705	0
	50% (1-2) (M2)=50% (10 ft.)	5	450	0					
3	50% (2-3) (M1)=50% (10 ft.)	5	855	0	470	420	1325	600	0

LOWER Story Lateral Forces Running E-W: Tributary Method

Grid Line	Allocation	Tributary Width (ft)	Tributary Force (lb)	Added Force (lb)	Wind Force Above (lb)	Seismic Force Above (lb)	Wind Gridline Force (lb)	Seismic Gridline Force (lb)	Wind Force (lb)
A	50% (A-B) (M1)=50% (10 ft.)	5	745	0	680	420	1800	705	0
	50% (A-B) (M2)=50% (10 ft.)	5	375	0					
B	50% (A-B) (M1)=50% (10 ft.)	5	745	0	680	420	1800	705	0
	50% (A-B) (M2)=50% (10 ft.)	5	375	0					

LOWER Story Shear Walls Running N-S

Grid Line	Wall #	Length (ft)	Height (ft)	Acting Wind Unit Shear (plf)	Acting Seis. Unit Shear (plf)	Shear Wall Type	Wind Unit Shear Capacity (plf)	Seis. Unit Shear Capacity (plf)	Uplift (lb)	Drift (in)
2	1	4	10	444	176	B	530	380	4150	0.57
3	1	4	10	331	150	B	530	380	3040	0.11
1	1	4	10	113	26	A	365	260	1072	0.23

LOWER Story Shear Walls Running E-W

Grid Line	Wall #	Length (ft)	Height (ft)	Acting Wind Unit Shear (plf)	Acting Seis. Unit Shear (plf)	Shear Wall Type	Wind Unit Shear Capacity (plf)	Seis. Unit Shear Capacity (plf)	Uplift (lb)	Drift (in)
A	1	6	10	300	118	A	365	260	E:2684 / W:0.40	

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B	1	4	10	225	88	A	365	260	2064	0.27
B	2	4	10	225	88	A	365	260	2064	0.29

**LOWER Story Shear Wall Connectors Running N-S**

Grid	Wall	Connector	Connector	Connector	Connector	Anchor
Line #	Type	Uplift (lb)	Name	(lb)	Bolt	
2	1	Concrete	5923	HDU8	8350	SSTB28
3	1	Concrete	4520	HDU5	5175	SSTB24
1	1	Concrete	1204	PAHD42	1400	N/A

**LOWER Story Shear Wall Edge Members Running N-S**

Grid	Wall	Wind Edge	Seis Edge	Seismic	Wind	Seismic	Seismic	Wall	Max Wind	Max Seis	Max Wind	Max Seis
Line #	Member	Uplift (lb)	Member	Uplift (lb)	Crushing (lb)	Crushing (lb)	Crushing (lb)	Edge Member	Edge Member	Edge Member	Edge Member	Edge Member
2	1	5923	2738	-	6703	3533	-	4x6 NO.1	31645	27027	14762	18504
3	1	4520	2305	-	5673	3536	-	2-2x6 NO.2	25066	19734	11653	14832
1	1	1204	77	-	1565	874	-	2-2x4 NO.2	8035	14490	2756	4132

**LOWER Story Shear Wall Connectors Running E-W**

Grid	Wall	Connector	Connector	Connector	Anchor	
Line #	Type	Uplift (lb)	Name	(lb)	Bolt	
A	1E	Concrete	2895	STHD14	5785	N/A
	1W	Concrete	4887	HDU5	5175	SSTB24
B	1	Concrete	2317	STHD8	2370	N/A
			2400			N/A
B	2	Concrete	2317	STHD10	2990	N/A

**LOWER Story Shear Wall Edge Members Running E-W**

Grid	Wall	Wind Edge	Seis Edge	Seismic	Wind	Seismic	Seismic	Wall	Max Wind	Max Seis	Max Wind	Max Seis
Line #	Member	Uplift (lb)	Member	Uplift (lb)	Crushing (lb)	Crushing (lb)	Crushing (lb)	Edge Member	Edge Member	Edge Member	Edge Member	Edge Member
A	1E	2895	1001	-	3539	1849	-	3x6 NO.2	20888	16445	9522	14708
	1W	4176	1607	-	5049	3007	-	2-2x6 NO.2	25066	19734	11653	14832
B	1	2317	824	-	2695	1179	-	2-2x4 NO.2	8035	14490	2756	4132
B	2	2317	824	-	2695	1269	-	2-2x6 NO.2	25066	19734	11653	14832

**LOWER Story Shear Wall Post Connectors Running E-W**

Wall	Grid	Wall	Post	Connector	Connector	Connector	Anchor
Above	Line #	Height (ft)	Type	Uplift (lb)	Name	(lb)	Bolt
	A	1E	Concrete	1519	HDU2	2625	SSTB16
	B	1	Concrete	10452	HDU11	11275	A

**LOWER Story Shear Wall Posts Running E-W**

Wall	Grid	Wind	Seismic	Wind	Seismic	Max Wind	Max Seis	Max Wind	Max Seis
Above	Line #	Uplift (lb)	Uplift (lb)	Crushing (lb)	Crushing (lb)	Post	Post	Post	Post
	A	1E	1519	1051	1548	1051	2-2x4 STAN	7052	6300
	B	1	1932	10452	2100	11392	4x4 NO.1	10005	19845

**LOWER Story Components and Cladding**

Name	Type	Zone	Diaphragm	Effective Wind Area (sqft)	Positive Design Pressure (p+)	Negative Design Pressure (p-)
Deck Roof Lower	Multispan Gable Roof (10° < Slope <= 30°)	2	M1	25	10.55	-32.84

**Torsional Analysis**

Building Dimensions

Floor Name	Running N-S (ft)	E-W (ft)
UPPER	0	0
LOWER	0	0

Center of Rigidity

Floor Name	Running N-S (ft)	E-W (ft)
UPPER	ERR	ERR
LOWER	ERR	ERR

**LATERAL ENGINEERING**

UPPER Story N-S Moment Arms							
Grid	G.L. Offset	G.L. Rigidity	G.L. Torsion	G.L. Torsion	Wind Load	Wind Load	Wind Load
Line	(ft)	(lb/in)	N-S (lb)	E-W (lb)	Case 1 (lb)	Case 2 (lb)	Case 4 (lb)

UPPER Story E-W Moment Arms							
Grid	G.L. Offset	G.L. Rigidity	G.L. Torsion	G.L. Torsion	Wind Load	Wind Load	Wind Load
Line	(ft)	(lb/in)	N-S (lb)	E-W (lb)	Case 1 (lb)	Case 2 (lb)	Case 4 (lb)

LOWER Story N-S Moment Arms							
Grid	G.L. Offset	G.L. Rigidity	G.L. Torsion	G.L. Torsion	Wind Load	Wind Load	Wind Load
Line	(ft)	(lb/in)	N-S (lb)	E-W (lb)	Case 1 (lb)	Case 2 (lb)	Case 4 (lb)

LOWER Story E-W Moment Arms							
Grid	G.L. Offset	G.L. Rigidity	G.L. Torsion	G.L. Torsion	Wind Load	Wind Load	Wind Load
Line	(ft)	(lb/in)	N-S (lb)	E-W (lb)	Case 1 (lb)	Case 2 (lb)	Case 4 (lb)

**Required Shearwall Types**

SITE-BUILT SHEAR WALLS		Stag.		Shear Wall/	Joist/Blkg/	Wood Bottom	Concrete	Panel	Seis
Name	Sheathing/Nailing	Sides	Nail	Bottom Plate Connection	Rafter to Top Plates	Connection	Bottom Connection	Edge Framing	Sill Plate (plf)
A	3/8" OSB 8d@6"/12"	1	No	SDS 1/4x6"@15"oc	LTP4@30"	LTP5@28"	5/8"Dia_x12"AB@48"oc	2xSTUDS	2x 208
B	3/8" OSB 8d@4"/12"	1	Yes	SDS 1/4x6"@11"oc	LTP4@20"	LTP5@18"	5/8"Dia_x12"AB@48"oc	3xSTUDS	3x 304

**Building Description:**

**General Notes:**

**Errors:**