SKYCIV WIND LOAD CALCULATION REPORT

Code Selected:	ASCE7-16
Risk Category:	Risk Category I
Exposure:	B
Site Location:	Oakland, CA, USA
Site Wind Speed:	86
Site Elevation:	42.89
Ground Elevation Factor K_e:	1.00

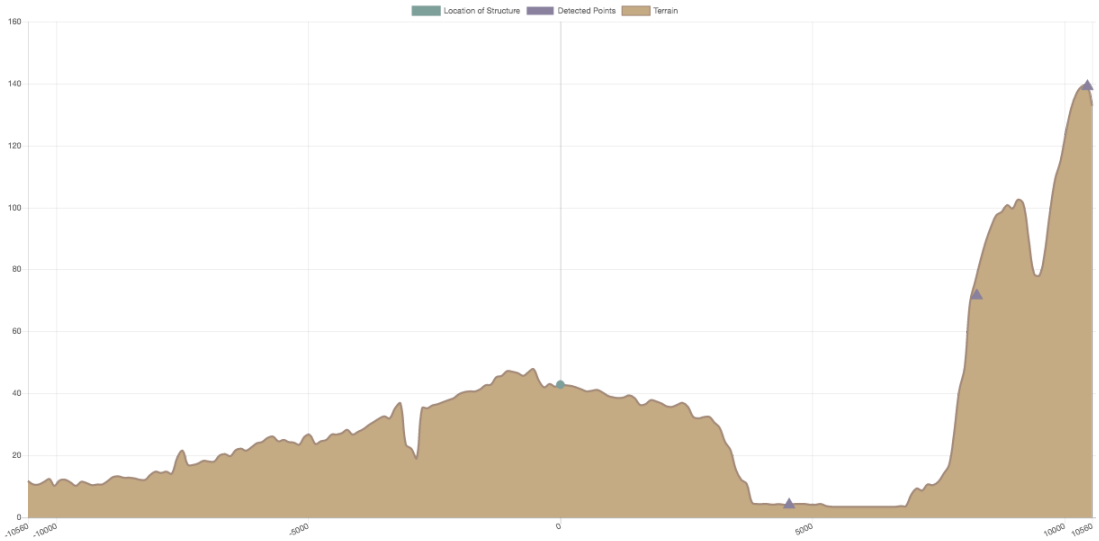
WIND SPEED MAP

Inverse distance weighting (IDW) was used to interpolate the wind speed values between ASCE 7 wind contour with known values.

TOPOGRAPHY AND TERRAIN DATA

The following topography factors have been calculated based on the wind direction coming from W.

Parameter	Value
K_{zt}	1
slope	0.031
Loc. of crest/peak	10454.24
Elev. of crest/peak	139.17
Loc. of foot	4540.73
Elev. of foot	4.05
H	135.12
x	-10454.24
Loc. of H/2	8257.76
L_h	2196.48
Terrain Detected	Flat



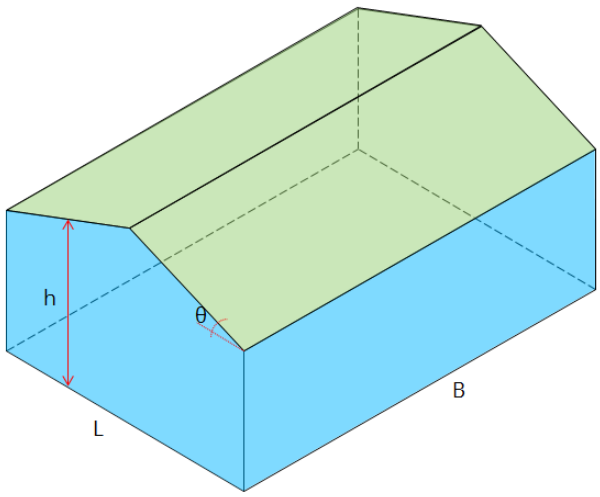
Terrain has been detected and classed as Flat.

STRUCTURE DATA

Parameter	Value
Structure Type	ASCE 7-16 - Buildings - Main Wind Force Resisting System
Enclosure Classification	Enclosed Buildings
Roof Profile	Gable
Building Length	25
Building Width	25
Mean Roof Height	32
Roof Pitch Angle	10 °

Floor Level	Elevation	Delete
2	1.5	

Figure of Structure



Gable Roof

WIND PRESSURE RESULTS

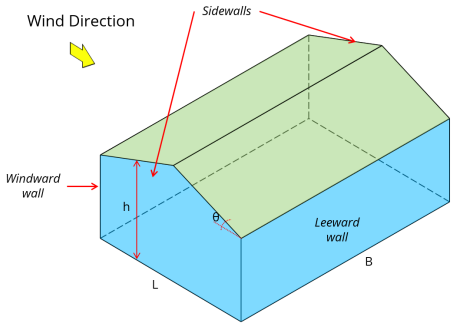
Wind Pressure Along L

Surface	Level	Elevation ft	Design Pressure psf	
			$p_{min} = qG(+C_p) - q_i(+GC_{pi})$	$p_{max} = qG(-C_p) - q_i(-GC_{pi})$
Windward Wall	2	1.5	4.18	8.29
Leeward Wall	All		-6.91	-2.8
Side Wall	All		-8.86	-4.74
Roof	Windward	Worst Case	-14.68	0.31
	Leeward	Worst Case	-8.86	-4.74

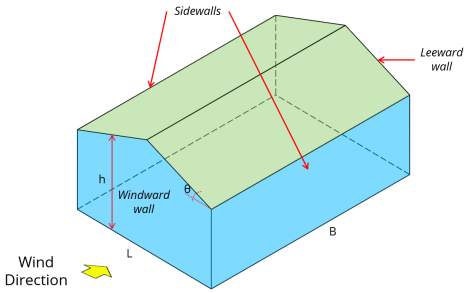
Wind Pressure Along B

Surface	Level	Elevation ft	Design Pressure psf	
			$p_{min} = qG(-C_p) - q_i(+GC_{pi})$	$p_{max} = qG(+C_p) - q_i(-GC_{pi})$
Windward Wall	2	1.5	4.18	8.29
Leeward Wall	All		-6.91	-2.8
Side Wall	All		-8.86	-4.74
Roof	Worst Case	0 to h/2	-13.31	0.31
		h/2 to h	-4.74	0.31
		h to 2h	-4.74	0.31
		> 2h	-4.74	0.31

Minimum design wind pressure for walls = 16 psf
Minimum design wind pressure for roof = 8 psf



Elevation - Wind along L



Elevation - Wind along B