

**Michael Baker International**

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JOB TITLE Creech DRP PH 2 - AEG Canopy

JOB NO. \_\_\_\_\_  
CALCULATED BY ACV  
CHECKED BY \_\_\_\_\_

SHEET NO. \_\_\_\_\_  
DATE \_\_\_\_\_  
DATE \_\_\_\_\_

**Wind Loads - Open Buildings**

Ultimate Wind Pressures

Type of roof = Pitched Free Roofs  
Wind Flow = Clear

G = 0.85  
Roof Angle = 4.8 deg

NOTE: The code requires the MWFRS be  
designed for a minimum pressure of 16 psf.

**Main Wind Force Resisting System**

Kz = Kh = 0.851

Base pressure (qh) = 21.4 psf  
(Kd qh) = **18.2 psf**

**Roof pressures - Wind Normal to Ridge**

Wind Flow	Load Case		Wind Direction Y = 0 & 180 deg	
			Cnw	Cnl
Clear Wind Flow	A	Cn =	1.20	0.30
		p =	18.5 psf	4.6 psf
	B	Cn =	-1.10	-0.10
		p =	-17.0 psf	-1.5 psf

NOTE: 1). Cnw and Cnl denote combined pressures from top and bottom roof surfaces.  
2). Cnw is pressure on windward half of roof. Cnl is pressure on leeward half of roof.  
3). Positive pressures act toward the roof. Negative pressures act away from the roof.

**Roof pressures - Wind Parallel to Ridge, Y = 90 deg**

Wind Flow	Load Case		Horizontal Distance from Windward Edge		
			≤ h	>h ≤ 2h	> 2h
Clear Wind Flow	A	Cn =	-0.80	-0.60	-0.30
		p =	-12.3 psf	-9.3 psf	-4.6 psf
	B	Cn =	0.80	0.50	0.30
		p =	12.3 psf	7.7 psf	4.6 psf

h = 11.0 ft  
2h = 22.0 ft

**Fascia Panels -Horizontal pressures**

qp = 18.2 psf

Windward fascia: 27.2 psf (GCpn = +1.5)  
Leeward fascia: -18.2 psf (GCpn = -1.0)

**Components & Cladding - roof pressures**

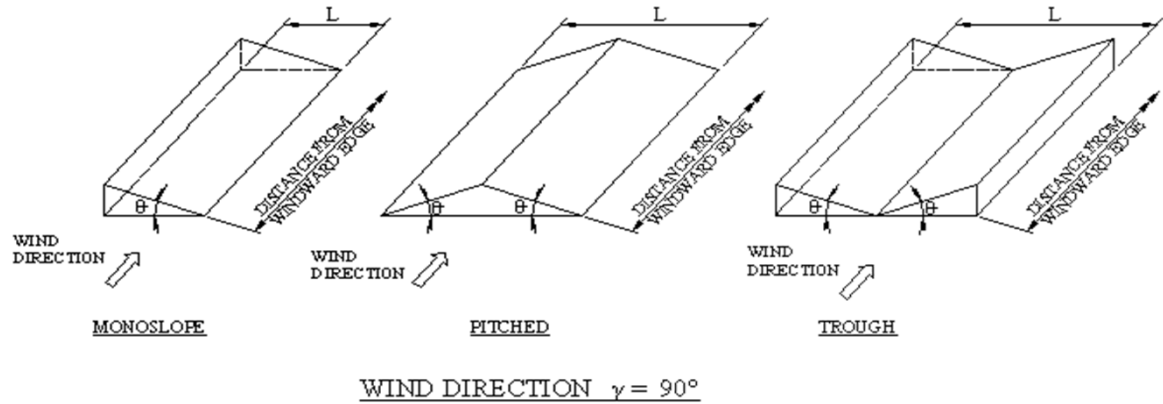
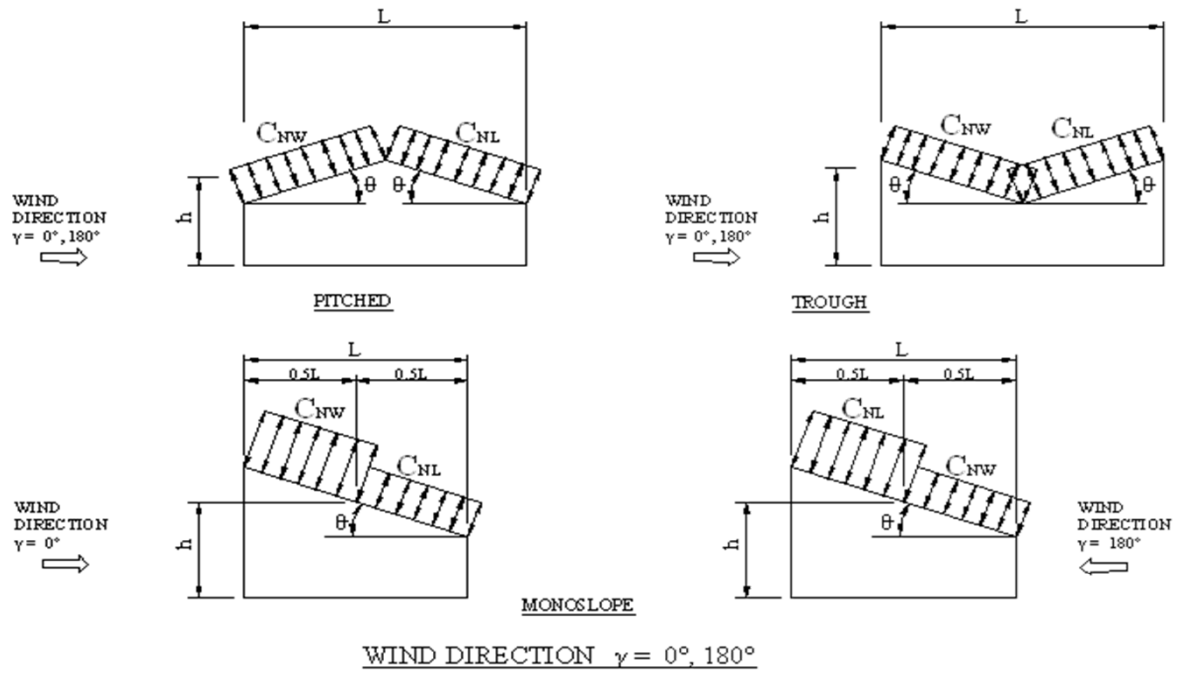
Kz = Kh = 0.85  
Base pressure (qh) = **18.2 psf**  
G = 0.85

a = 4.3 ft

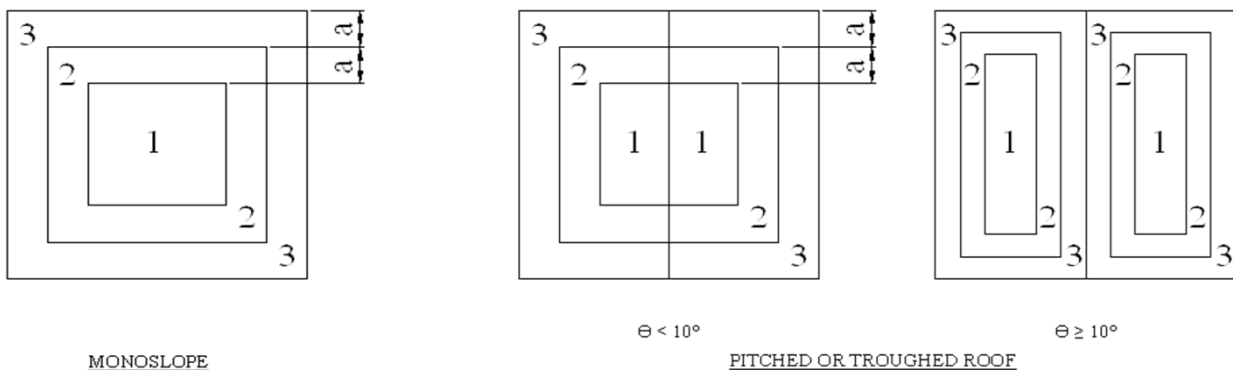
a<sup>2</sup> = 18.5 sf  
4a<sup>2</sup> = 74.0 sf

	Effective Wind Area	Clear Wind Flow					
		zone 3		zone 2		zone 1	
		positive	negative	positive	negative	positive	negative
C <sub>N</sub>	≤ 18.5 sf	2.27	-3.49	1.74	-1.76	1.14	-1.16
	>18.5, ≤ 74 sf	1.74	-1.76	1.74	-1.76	1.14	-1.16
	> 74 sf	1.14	-1.16	1.14	-1.16	1.14	-1.16
Wind pressure	≤ 18.5 sf	35.1 psf	-53.9 psf	26.8 psf	-27.2 psf	17.5 psf	-18.0 psf
	>18.5, ≤ 74 sf	26.8 psf	-27.2 psf	26.8 psf	-27.2 psf	17.5 psf	-18.0 psf
	> 74 sf	17.5 psf	-18.0 psf	17.5 psf	-18.0 psf	17.5 psf	-18.0 psf

## Location of Open Building Wind Pressure Zones



## MAIN WIND FORCE RESISTING SYSTEM



## COMPONENTS AND CLADDING