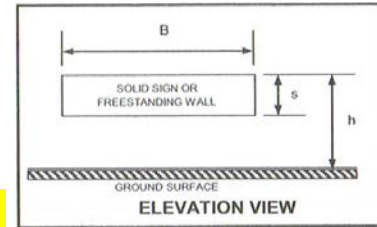


MWFRS Wind Load Calculations
ASCE 7-10 Chapter 29 Wind Loads on Other Structures and Building
Appurtenances - MWFRS

Design Wind Loads -- Solid Freestanding Walls and Solid Signs

Project: Patio Wall at the New Orleans Fair Grounds

Sign Height h = 11 feet
 Sign Width B = 30 feet
 Sign Height s = 11 feet



1. Risk Category Table 1.5-1
2. Basic Wind Speed, by wesite at council.org
3. Wind load parameters
 - a. Surface Roughness, Section 26.7.2:
 - b. Wind directionality Factor, Sec 26.6
 - c. Exposure Category, Section 26.7.3:
 - d. Topographic Factor, Section 26.8.2:
 - e. Gust Effect, Section 26.9
 - f. Terrain Exposure Constants, Tbl 26.9-1
 - g. Enclosure classification, Sec 26.10
 - h. Velocity Pressure Coefficient, Tbl 29.3-1
- f. Velocity Pressure, Section 29.3.2
- h. Net Force Coefficient, Fig 29.4-1
 (See Elevation View Top Left Corner)
4. Design Wind Force, Section 29.4.1

Cat I
 133 mph

Roughness B

$K_d = 0.85$

Exposure B

$K_{zt} = 1$

Rigid G = 0.85

$\alpha = 7.0$ z_g (ft) = 1200

Enclosed

0.57 $K_z = 2.01(z/z_g)^{(2/\alpha)}$

$K_z = 0.53$

$q_z = 0.00256 K_z K_{zt} K_d V^2$ (lb/ft^2)

$q_z = 20.2$

$s/h = 1$ $B/s = 2.73$

$C_f = 1.37$

$F = q_h G C_f A_s$ (lb)

$F = 7780$ lbs or 23.6 lb/ft^2

Prepared by: David Dammon

Date: 5/26/2015

Supplied data
 Calculated