

MWFRS Wind Load Calculations
ASCE 7-10 Chapter 28 Wind Loads on Buildings; Envelope Procedure
Simple Diaphragm

Project: First Baptist Church 4141 PONTCHARTRAIN DR, SLIDELL LA

Table 28.5-1 Enclosed Simple Diaphragm Low-Rise Buildings

- | | |
|--|--------------------------------|
| 1. Risk Category Table 1.5-1 | Cat I |
| 2. Basic Wind Speed, by website at council.org | 142 mph |
| 3. Wind load parameters | |
| a. Surface Roughness, Section 26.7.2: | Roughness C |
| b. Exposure Category, Section 26.7.3: | Exposure C |
| c. Topographic Factor, Section 26.8.2: | $K_{zt} = 1$ |
| 4. Wind Pressures Fig 28.6-1 | Load Case 1 for roof slope 25° |

Interpolating Wind Speeds												
Basic Wind Speed	Roof Angle	Load Case	Horizontal Pressures, P_{s30} (psf)				Vertical Pressures, P_{s30} (psf)				Overhangs	
			A	B	C	D	E	F	G	H	Eoh	Goh
142 mph	25°	1	33.6	5.4	24.3	5.5	-14.9	-20.4	-10.8	-16.4	-27.8	-23.7
142 mph	25°	1	39.0	6.3	28.2	6.4	-17.3	-23.6	-12.5	-19.0	-32.3	-27.5
142 mph	25°	1	34.7	5.6	25.1	5.7	-15.4	-21.0	-11.1	-16.9	-28.7	-24.5

5. Building mean height (h) = <15 ft

λ for Exposure B = 1.21

6. Adjusted wind pressure P_s = Equation 28.6-1

$$P_s = \lambda K_{zt} P_{s30} = 1.21 * 1 * P_{s30}$$

Adjusted Wind Pressure P_s												
Basic Wind Speed	Roof Angle	Load Case	Horizontal Pressures, P_s (psf)				Vertical Pressures, P_s (psf)				Overhangs	
			A	B	C	D	E	F	G	H	Eoh	Goh
142 mph	25°	1	42.0	6.8	30.3	6.9	-18.6	-25.5	-13.5	-20.5	-34.7	-29.6

7. D1.1 One and Two Story Building with $h \leq 30$ ft are exempt from torsional load cases.



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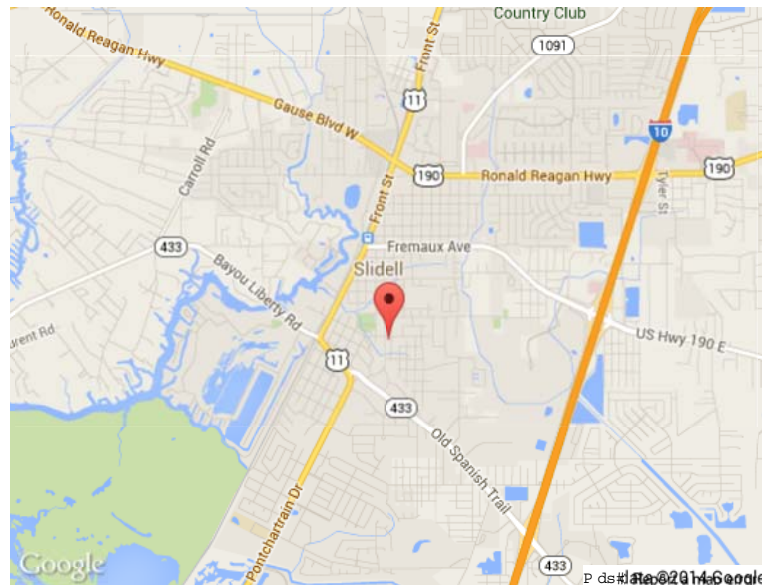
Search Results

Latitude: 30.2680
Longitude: -89.7800

**ASCE 7-10 Wind Speeds
(3-sec peak gust MPH*):**

Risk Category I: 132
Risk Category II: 142
Risk Category III-IV: 153
MRI 10 Year:** 79
MRI 25 Year:** 94
MRI 50 Year:** 105
MRI 100 Year:** 115

ASCE 7-05: 123
ASCE 7-93: 98



*MPH(Miles per hour)
**MRI Mean Recurrence Interval (years)

Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.



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