

4" L x 4" W x 0.25" wall, A500 46 ksi HSS Steel Column, S=3.9 M=8.97

Florida, FBC 8th Ed (2023), Sect 1609 wind

ref ASCE 7-22

140 Wind Speed, Vult, mph, from ASCE 7-22, Figure 26.5

IV Risk Category; I, Low; II, Normal; III, Substantial Hazard; IV, Essential/Critical

C Wind Exposure; C, House size obstructions for > 600 ft; D, no obstructions > 5000 ft

Acceptable Sign Support Columns

direct_embed type foundation

Grade offset (ft)

Sand, silty sand, clayey sand, silty gravel, clayey gravel

← Presumptive soil type

WIND LOAD CALC: ASCE 7-22 Section 29.3.1, Solid Freestanding Signs

Terrain K_{zt} =1, no hill, ridge, or escarpment >15' high; Directionality K_d =0.85; Gust G =0.85 rigid structure;

$K_z=2.01*(H/900)^(2/9.5)ExpC$, $(700\&11.5)ExpD$; $q_{h,ult}=0.00256*K_z*K_{zt}*V_{ult}^2$

A	B	C	D	E	F	Sign Segment ID	OAH
7.5						Segment Top Above Grade, Top, ft	7.5
9.0						Segment Width, W, ft	9.0
7.5						Segment Height, H, ft	7.5
67.50						Segment Area, ft ² , adjusted for grade offset	
0.85						Velocity Pressure Exposure Coeff; K_z	
36.2						Velocity Pressure, $q_{h,ult}$, psf	
1.45						Force Coefficient, C_f	1.55
44.6						Wind Pressure, P_{ult} , psf = $q_{h,ult} * G * C_{f,seg}$	
26.8						Wind Pressure, P_{seg} , psf = $P_{ult} * 0.6$	
1.8						Wind Force, F_{seg} , kips = $P_{seg} * Area_{seg}$	
7.5						Wind Moment Mseg, kip*ft = $F_{seg} * (Topseg - 0.45 * Hseg)$	
6.1						$M_{col,seg} = (F_{seg} / 2 + F_{seg} * 0.2 * W_{seg} / spacing) * centroid_{seg}$	

5.7 ft OC Column Spacing

"grade" = 0 ft

1.81 kip Total Shear at Grade, V = Sum (F_{seg})

4.125

7.5 kip*ft Total Moment at Grade, M = Sum(M_{seg})

1.48 kip

Column Shear, V_c = sum(F_{seg})/2+sum(($F_{seg} * 0.2$)*width)/Spacing

4.125

0.82

6.1 kip*ft Column Moment at Grade, M_c = sum($M_{col,seg}$)

- Sign manufacturer/installer's design, detailing, fabrication, and erection shall conform to the following specifications: Building Code, ASTM specifications, ACI-318 for reinforced concrete, American Welding Society Code for Welding in Building Construction, AISC Specification for Design, Fabrication, and Erection of Structural Steel for Buildings.
- Materials of construction: (Unless noted otherwise)
 - Structural steel (angles, shapes, plates, gussets): ASTM A-36, F_y =36 ksi.
 - HSS steel tubing: A-500, Grade B, Round F_y =42ksi; Rectangular F_y =46ksi.
 - Structural aluminum tubing: 6061-T6, or equivalent, F_y = 18 ksi at weld.
 - Structural pipe: A-53, Grade B, Type E or S, F_y =35 ksi.
 - Anchor bolts: ASTM F1554 Grade 36 with heavy hex at bottom, not "L or J" bolts.
 - Connection bolts: A-325, snug tight.
 - Rebar: ASTM 615, #6 or larger - Grade 60, #5 or smaller - Grade 40, 3" cover.
 - Concrete: 2500 psi, 28 days.
 - Provide coatings to prevent any possibility of corrosion.
- Welding design and fabrication according to AWS D1.1 (steel) or AWS D1.2 (aluminum).
 - AWS certification required for all structural welders.
 - Use D1.1 (steel) or D1.2 (aluminum) certified weld with same bending strength as column UNO.
- Embedded column acts as vertical reinforcement for drilled and cube foundations.
- Soil bearing capacity is Section 1806.2 Presumptive Load Bearing Value. Lateral bearing is doubled for sign poles per 1806.3.4. Soil choice types per Table 1806.2. Soil type must be applicable for entire foundation. Flat level grade and unsaturated soil matching presumptive soil type must be verified by sign installer.

Cube Drilled Shaft Foundation, Code Section 1807.3.2

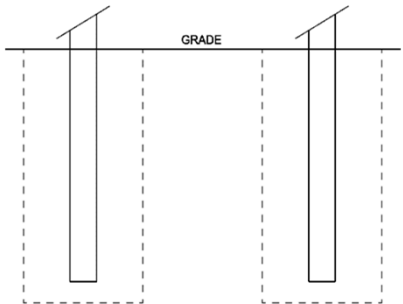
L=W=D laterally unconstrained at grade

3.8	3.0	2.5	2.0	Diameter, b, ft	(or length and width of cube)
3.8	4.7	5.1	5.6	Depth, D, ft	$D = 0.5 * A * \{1 + [(4.36 * Hcent / A)]^{\wedge}.5\}$
1.7	2.4	2.7	3.1	A term	$A = 2.34 * F / (S1 * b)$
377	474	510	558	S1 or S3	$S1 = 2 * Ssoil * D / 3$
150					Soil Bearing Capacity, $Ssoil$ =150 psft for Sand, silty sand, clayey sand, silty gravel, clayey gravel

Spread Foundation Soil Bearing Capacity, Q =2000 psf for Sand, silty sand, clayey sand, silty gravel, clayey gravel

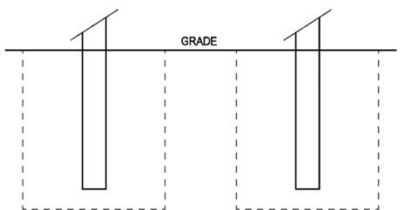
- 4.5 Length, L, ft
- 10.0 Width, W, ft
- 1.3 Depth, D, ft
- 2616 Soil Bearing at Bottom of Foundation, $Qbot$, psf, $Qbot = 1.3 * (Q + 100pcf * (D - 1))$
- 8.4 Total Weight, Wt , kips, $Wt = L * W * D * 0.15$ kips/ft³
- 0.6 Toe Length, Toe , ft, $Toe = Wt / (W * Qbot)$
- 2.0 Bearing Eccentricity, e , ft, $e = L / 2 - Toe / 3$
- 11.4 Overturning Capacity Calc, OT , kip*ft, $OT = Wt / e / 1.5$ safety

CODE APPROVED BRICK TO SUPPORT COLUMN TIES AT 16" OC HORIZONTAL, 10" OC VERTICAL



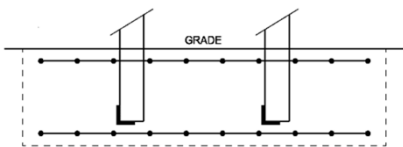
Drilled Shaft Foundation

3' dia. x 4'-9" deep
or 2.5' dia. x 5'-2" deep
or 2' dia. x 5'-8" deep



Cube Foundation

3'-10" cube, L=W=D



Spread Foundation (Long is perpendicular to face)

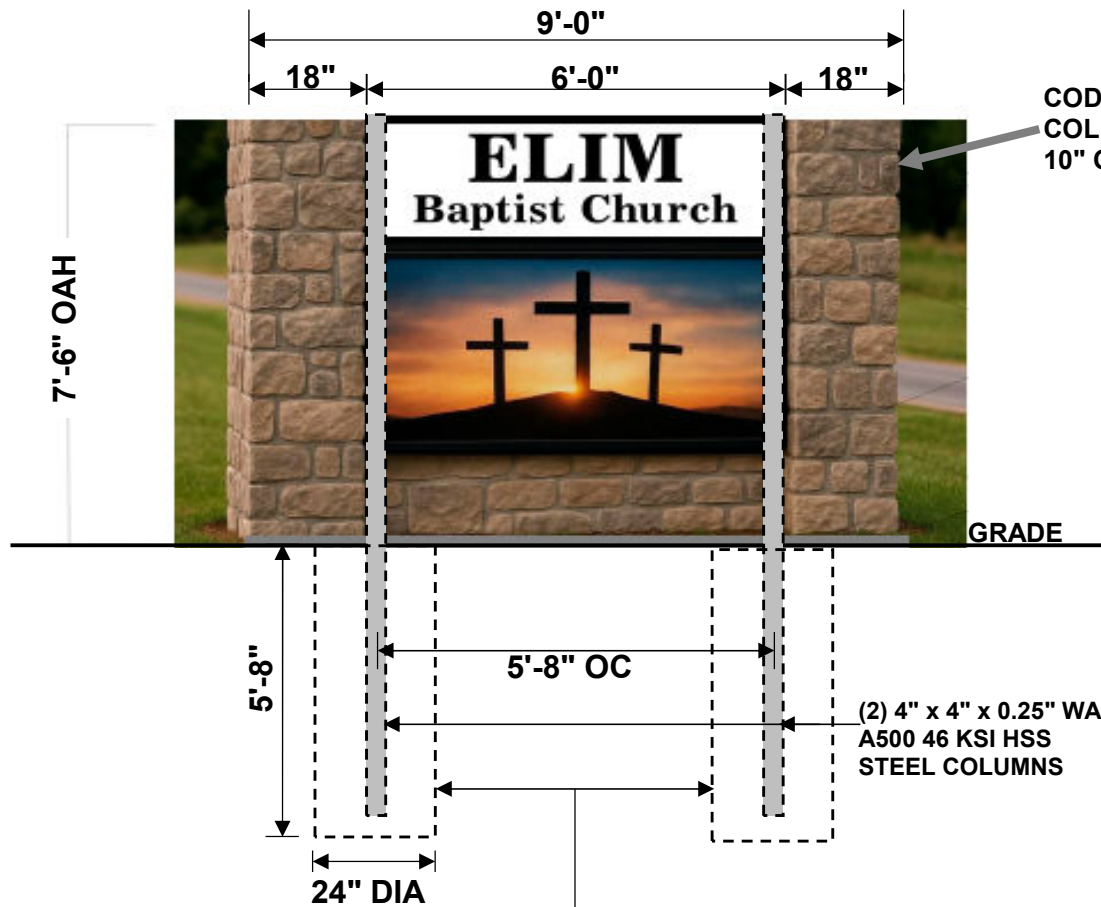
4'-6" long x 10'-0" wide x 1'-3" deep

#5, 12" OC each way, 2 mats, 3" from top and bottom, gentle bend around column.

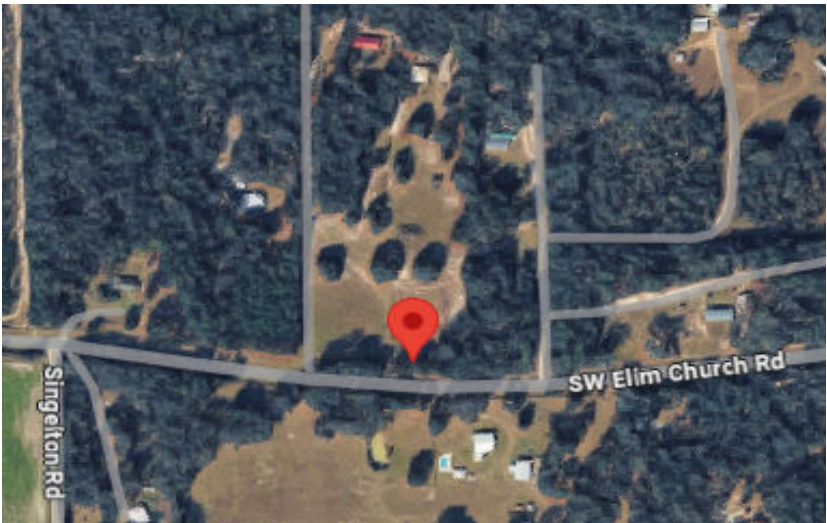
Weld 2' long, 2" x 2" x 3/8" angle to bottom and side of column with 3/8" fillet weld all around.

UNO, in 2500 psi or higher concrete, embed support columns, anchor bolts, and/or vertical rebar to 6" from bottom in drilled shaft and cube foundations, and to 3" from bottom in spread foundations.

NOT TO SCALE

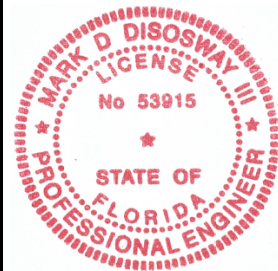


(2) 24" DIA x 5'-8" DEEP DRILLED SHAFT FOUNDATION OR OTHER FOUNDATION OPTION FROM TABLE.



Mark Disosway, Professional Engineer, Florida License 53915

This item has been digitally signed and sealed by Mark Disosway, PE, on the digital signature date. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies. Valid for one sign at this location, UNO.



Digitally signed by Mark d Disosway
Date: 2026.07.07 15:34:08 -04'00'

This seal for structural engineering (Support Column & Foundation ONLY)

SCOPE OF WORK: Design sign support column and foundation to meet structural requirements of building code based on stated (not verified) site factors and size & shape based on sign installer's drawing, attached. By using this engineering the sign owner, manufacturer, and installer accept responsibility to: Design, build, and install sign cabinet, face, attachment, electrical, etc according to building, appendix h, sign, fire, UL, zoning codes. Verify site conditions match stated wind speed, risk, exposure, topo, and soil factors or request engineering revision.

signengineering@gmail.com

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JOB # 260572

MONUMENT SIGN: 2 Columns, Centered & Embedded in Foundation

Signcraft & More, Inc.

Elim Church
1257 SW Elim Church Rd
Ft White, FL 32038

Job260572, Sign1, Sht1 of 1, Rev0, Day260707