

FRONT ELEVATION W/ VERTICAL SLAB

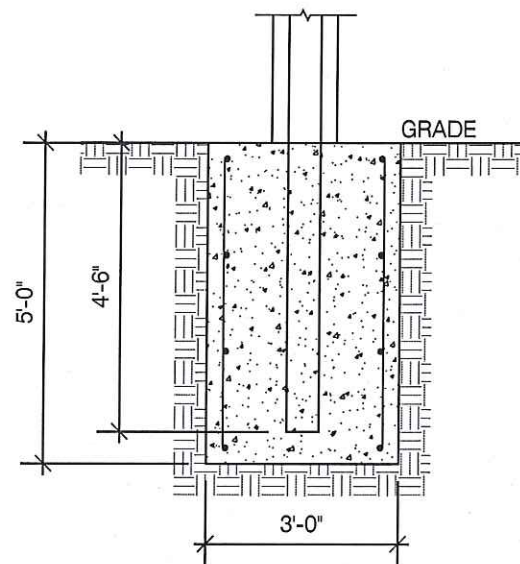
SCALE: N.T.S.

1

VERTICAL SLAB FOUNDATION

REQUIRED REINFORCEMENT

#8 BARS @ 18" O.C.
E.W. EACH FACE



VERTICAL SLAB SIDE VIEW

SCALE: N.T.S.

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DESIGN SPECIFICATIONS:

REFER TO SIGN COMPANY'S DRAWINGS FOR MORE DETAILS.
ALL DESIGNS, DETAILING FABRICATION AND CONSTRUCTION SHALL CONFORM TO:

- 2006 IBC
- ACI
- AISC
- AMERICAN WELDING SOCIETY
- LOCAL BUILDING CODES & ORDINANCES

CONCRETE: 2500 PSI @ 28 DAYS
STD. STEEL PIPE SECTION: ASTM A53 GRADE B (Fy=35 KSI), U.N.O.
STEEL PIPE SECTION (> 20" Ø): ASTM A252 GRADE 3 (Fy=42 KSI MIN.) U.N.O.
HSS ROUND SECTION: ASTM A500 GRADE B (Fy=42 KSI) U.N.O.
HSS SQUARE/RECTANGULAR SECTION: ASTM A500 GRADE B (Fy=46 KSI)
ANCHOR BOLTS: ASTM F1554 GRADE 36 U.N.O. (ALTERNATES GRADE 55 & 105)
CONNECTION BOLTS: ASTM A325

THREADED RODS: ASTM A193 GRADE B7
STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES & PLATES ASTM A36
REINFORCING: GRADE 60 ASTM A615
PROVIDE A MINIMUM OF THREE INCHES OF CONCRETE COVER OVER EMBEDDED STEEL.

THE CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS & METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
NO FIELD HEATING FOR BENDING OR CUTTING OF STEEL SHALL BE ALLOWED WITHOUT THE ENGINEER'S APPROVAL.

WELDING ELECTRODES: E70XX
ALLOWABLE SOIL BEARING PRESSURE ASSUMED: 2000 PSF
ASSUMED HORIZONTAL (PASSIVE PRESSURE) ASSUMED AT 150 PSF/FT OF DEPTH.
ISOLATED LATERAL BEARING FOUNDATIONS FOR SIGNS NOT ADVERSELY AFFECTED A 1/2" MOTION AT THE GROUND SURFACE DUE TO SHORT TERM LATERAL LOADS SHALL BE PERMITTED TO BE DESIGNED USING TWO TIMES THE TABULATED CODE VALUES.

ALL FOOTINGS SHALL BEAR ON FIRM UNDISTURBED RESIDUAL SOIL AND/OR ENGINEERED EARTH.
FILL COMPACTED TO 98% OF ITS MAXIMUM DRY DENSITY AS PER ASTM D 698-70 (STANDARD PROCTOR) UNLESS NOTED OTHERWISE. THE SOIL BEARING CAPACITY IS TO BE VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION. IF ALLOWABLE BEARING AND/OR LATERAL PRESSURE IS LESS THAN THE ABOVE ASSUMED AND/OR CALCULATED PRESSURES, THE ENGINEER SHOULD BE CONTACTED FOR RE-EVALUATION.

EXCAVATION SHALL BE FREE OF LOOSE SOIL BEFORE POURING CONCRETE.
WELDERS SHALL BE CERTIFIED FOR THE TYPE OF WELDING.
ADEQUATELY BRACE POLE(S) UNTIL CONCRETE HAS SET UP FOR 14 DAYS.
GROUT UNDER BASE PLATES WITH NON-SHRINK GROUT.
THIS ENGINEER DOES NOT WARRANT THE ACCURACY OF DIMENSIONS FURNISHED BY OTHERS.

ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION.

THIS DESIGN IS FOR THE INDICATED ADDRESS ONLY, AND SHOULD NOT BE USED AT OTHER LOCATIONS WITHOUT WRITTEN PERMISSION OF THE ENGINEER.
DESIGN OF DETAILS AND STRUCTURAL MEMBERS NOT SHOWN, BY OTHERS.

NOTES

- 1.) SEE MANUFACTURERS DRAWINGS FOR ADDITIONAL DETAILS AND DIMENSIONS.
- 2.) SIGN CABINET AND CONNECTION BY JOSEPH JR. / SR. HIGH SCHOOL.

- * CLIENT - JOSEPH JR. / SR. HIGH SCHOOL
- * 2006 IBC
- * 90 MPH WIND SPEED, EXP. C
- * (1) POLE, (1) FOOTING

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37919
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DSA

DARREN S. ANTLE, P.E.

sign engineering, structural engineering

PROJECT:
8137 RANDALL AVE., JOSEPH CITY, AZ

DRAWING TITLE:

JOSEPH CITY MARQUEE

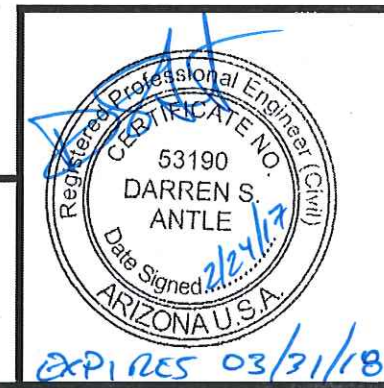
DRAWN BY: EBR
CHECKED BY: DSA
COMM. NO. 170210.01

DATE:
02/24/2014

DRAWING NO.
DWG.

REV. #	DATE	DRAWN BY

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WIND DATA				DEFLECTION ANALYSIS			
Building Code	2006 IBC	Importance Factor, I	1.0	Damping Ratio, β	0.005		
Wind Load Criteria	ASCE 7-05	Directionality Factor, K_d (2)	0.85	Natural Frequency, n_1	2.03 Hz		
Wind Speed, V	90 mph	Topography Factor, K_{zt}	1.0	Gust Effect Factor, G	0.85		
Exposure Category	C	Base Pressure, $\gamma(q_s/K_z)$	17.6 psf	ASD Wind Load Factor, γ (3)	1.0		
Wind Pressure Override per Jurisdiction Requirement	0 psf	Notes: (1) Loading values in chart below are based upon average K_z values for each segment. Actual values are calculated on hidden sheet using derived V-M equations. Chart is provided for information purposes only. (2) Wind directionality (K_d) factor is 0.95 for Single Pole (Round) segments instead of 0.85. The C_f value from Fig. 6-21 has been increased by 0.95/0.85 to account for this variation. (3) Wind pressures listed below have already been multiplied by the ASD Wind Load Factor, γ .					

GEOMETRY INPUT (1)																	
No. of Poles		1		No. of Footings		1											
Section	Location	Type	Height	Width	Horiz. Offset	Area	Top Elev.	Centroid	K_z	C_f	Wind Press.	Support Pole Loads			Footing Loads		
			ft	ft	ft	sq ft	ft	ft	psf	Trib. Factor	Shear kips	Moment k-ft	Trib. Factor	Shear kips	Moment k-ft		
1	Base	Single Pole w/ Cabinet	8.00	3.00		24.0	8.0	4.0	0.85	1.56	19.8	1.0	0.5	1.9	1.0	0.5	1.9
2		Single Pole w/ Cabinet	6.00	8.75		52.5	14.0	11.0	0.85	1.74	22.1	1.0	1.2	12.8	1.0	1.2	12.8
3		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
4		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
5		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
6		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
7		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
8		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
9		None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
10	Top	None				0.0	14.0	14.0	0.85	1.46	18.6	0.0	0.0	0.0	0.0	0.0	0.0
Overall Height:			14.00 ft		Summation based upon averages above:						1.6	14.7	1.6	14.7			
			Actual base reactions based upon V-M equations:						1.6	14.7	1.6	14.7					

SUPPORT POLE DESIGN SUMMARY																		
Base Elev ft	Section	Axis	Required Strength Values (ASD)				Allowable Strength Values (ASD)				Unity Ratios				Interaction Ratios		Status	
			V_r kips	M_r kip-ft	T_r kip-ft	P_r kips	V_c kips	M_c kip-ft	T_c kip-ft	P_c kips	V_r/V_c	M_r/M_c	T_r/T_c	P_r/P_c	P-M	P-M-V-T		
0.00	HSS6X6X3/16	Strong	1.6	14.7	2.3	1.0	35.1	18.5	16.3	29.8	4.7%	79.6%	14.3%	3.3%	82.9%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	
0.00	None	Strong	1.6	14.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	✓	

FOUNDATION DESIGN SUMMARY								
Type	Diameter ft	Width ft	Thickness ft	Length ft	Depth ft	Volume CY	Reinforcing	Status
<input type="checkbox"/> Caisson								
<input checked="" type="checkbox"/> Vertical Slab	--	5.00	3.00	--	5.00	2.78	#8 at 18 in o.c. E.W. E.F.	OK
<input type="checkbox"/> Spread								

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 sign engineering. structural engineering

PROJECT:
 8137 RANDALL AVE., JOSEPH CITY, AZ

DRAWING TITLE:
JOSEPH CITY MARQUEE

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