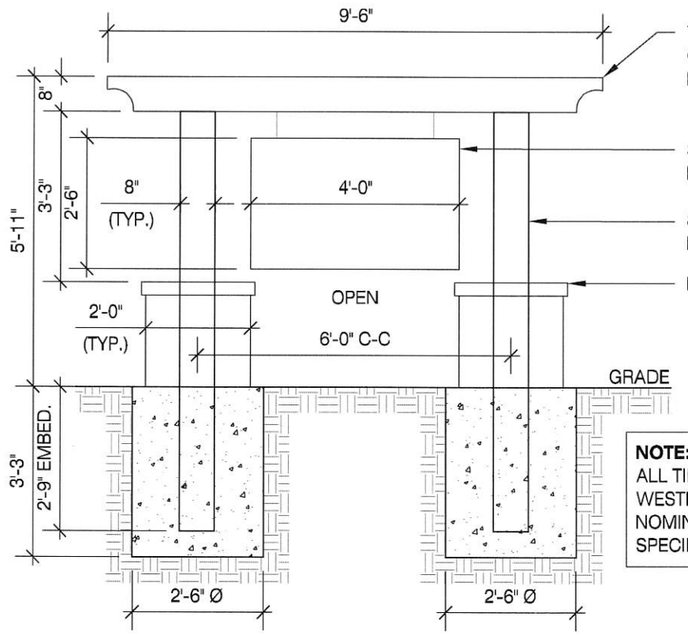
GROUND SIGN DESIGN SPECIFICATIONS:

1. REFER TO SIGN COMPANY'S DRAWINGS FOR MORE DETAILS. ALL DESIGNS, DETAILING FABRICATION AND CONSTRUCTION SHALL CONFORM TO:
   2018 NORTH CAROLINA BUILDING CODE
   ACI
   AISC
   AMERICAN WELDING SOCIETY
   LOCAL BUILDING CODES & ORDINANCES
2. CONCRETE: 2500 PSI @ 28 DAYS)
3. PROVIDE A MINIMUM OF THREE INCHES OF CONCRETE COVER OVER EMBEDDED POSTS.
4. THE CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS & METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
5. ALLOWABLE VERTICAL SOIL BEARING PRESSURE ASSUMED: 2000 PSF
6. 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.
7. ALL FOOTINGS SHALL BEAR ON FIRM UNDISTURBED RESIDUAL SOIL AND/OR ENGINEERED EARTH.
8. IF FILL IS PRESENT (NON-NATIVE SOIL), ENGINEERED FILL MUST BE 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.
9. EXCAVATION SHALL BE FREE OF LOOSE SOIL BEFORE POURING CONCRETE.
10. WELDERS SHALL BE CERTIFIED FOR THE TYPE OF WELDING.
11. ADEQUATELY BRACE POLE(S) UNTIL CONCRETE HAS SET UP FOR 14 DAYS.
12. THIS ENGINEER DOES NOT WARRANT THE ACCURACY OF DIMENSIONS FURNISHED BY OTHERS.
13. THIS DESIGN IS FOR THE INDICATED ADDRESS ONLY, AND SHOULD NOT BE USED AT OTHER LOCATIONS WITHOUT WRITTEN PERMISSION OF THE ENGINEER.
14. DESIGN OF DETAILS AND STRUCTURAL MEMBERS NOT SHOWN, BY OTHERS.



FRONT ELEVATION W/ (2) CAISSON FOUNDATIONS (1)

SCALE: N.T.S.

NOTES
1.) SEE MANUFACTURERS DRAWINGS FOR ADDITIONAL DETAILS AND DIMENSIONS.
2.) SIGN CABINET AND CONNECTION BY SIGNS UNLIMITED NC.

* CLIENT - SIGNS UNLIMITED NC
* 2018 NORTH CAROLINA BUILDING CODE
* RISK CATEGORY II
* 120 MPH WIND SPEED, EXP. C
* (2) POLES, (2) FOOTINGS

NOTE:
ALL TIMBER TO BE WEATHER-RESISTANT/TREATED WESTERN RED CEDAR No. 2 MIN. (OR EQUIVALENT). NOMINAL BENDING STRESS $F_b \geq 500$ PSI AND MIN. SPECIFIC GRAVITY ≥ 0.36.

WIND DATA

Building Code	2018 North Carolin	Importance Factor, I	1.0	Damping Ratio, β	0.005
Wind Load Criteria	ASCE 7-10	Directionality Factor, K_d [2]	0.85	Natural Frequency, n_1	0.00 Hz
Wind Speed, V	120 mph	Topography Factor, K_{zt}	1.0	Gust Effect Factor, G	0.85
Exposure Category	C	Base Pressure, $v(q_z/K_z)$	18.8 psf	ASD Wind Load Factor, γ [3]	0.6
Wind Pressure Override per Jurisdiction Requirement	0 psf				

DEFLECTION ANALYSIS

Deflection Limit	H/60
Deflection at 0.7*W	
Deflection Ratio	

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] — *Monument:* No

No. of Poles: 2 — No. of Footings: 2

Section	Location	Type	Height	Width	Horiz. Offset	Area	Top Elev.	Centroid	K_z	C_f	Wind Press.	Support Pole Loads Trib. Factor	Support Pole Loads Shear	Support Pole Loads Moment	Footing Loads Trib. Factor	Footing Loads Shear	Footing Loads Moment
			ft	ft	ft	sq ft	ft	ft			psf		kips	k-ft		kips	k-ft
1	Base	Single Pole (Not Round)	2.00	2.00		4.0	2.0	1.0	0.85	1.46	19.8	1.0	0.1	0.1	1.0	0.1	0.1
2		Single Pole (Not Round)	0.25	0.67		0.2	2.3	2.1	0.85	1.84	24.9	1.0	0.0	0.0	1.0	0.0	0.0
3		Multiple Poles w/ Cabinet	2.50	5.33		13.3	4.8	3.5	0.85	1.69	22.9	0.8	0.2	0.9	0.8	0.2	0.9
4		Single Pole (Not Round)	0.50	0.67		0.3	5.3	5.0	0.85	1.83	24.8	1.0	0.0	0.0	1.0	0.0	0.0
5		Multiple Poles w/ Cabinet	0.67	9.50		6.3	5.9	5.6	0.85	1.90	25.8	0.8	0.1	0.7	0.8	0.1	0.7
		Overall Height:	5.92 ft										0.5	1.7		0.5	1.7
		Column Spacing:	6.00 ft										0.5	1.8		0.5	1.8

Summation based upon averages above:
Actual base reactions based upon V-M equations:

FOUNDATION DESIGN SUMMARY

Type	Diameter ft	Width ft	Thickness ft	Length ft	Depth ft	Volume CY	Reinforcing	Status	Allowable Soil Pressure
☑ Caisson	2.50	--	--	--	3.25	0.59		OK	300 psf/ft

CALCULATIONS (2)

SCALE: N.T.S.

DARREN S. ANTLE, P.E.

299 N. WEISGARBER RD.
SUITE #: 104
KNOXVILLE, TN 37919

PHONE 865.584.0999
SIGN-ENGINEER.COM

PROJECT: BUNNLEVEL, NC 28323

DRAWN BY: CTP | CHECKED BY: DSA | COMM. NO. 250149-084-00 | DATE: 09/09/25

DRAWING TITLE: MCLEAN'S LANDING

REV #	DATE	DRAWN BY

DRAWING NO. DWG. 1

NORTH CAROLINA PROFESSIONAL SEAL 40910 ENGINEER DARREN S. ANTLE 9/9/25