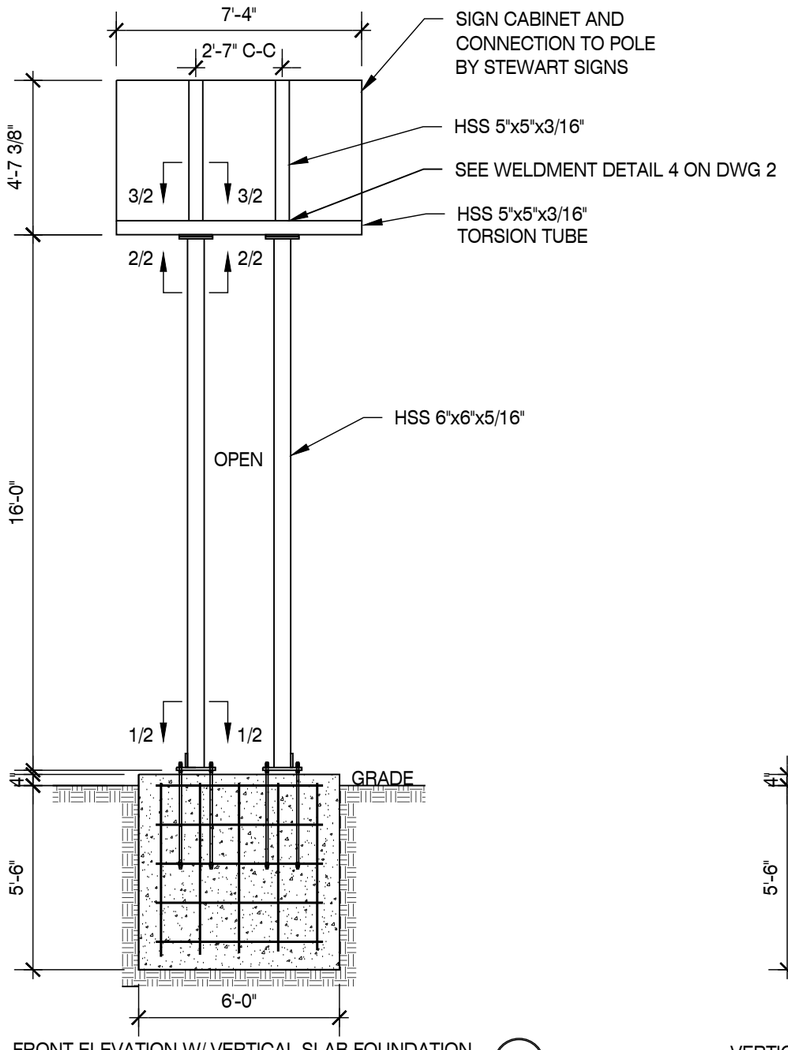
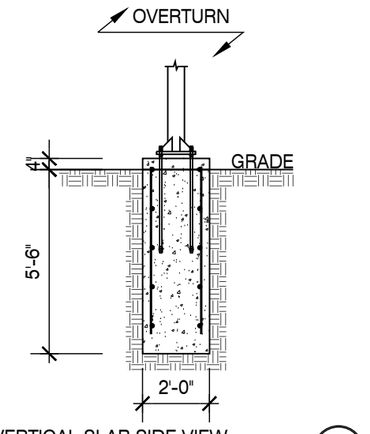
GROUND SIGN DESIGN SPECIFICATIONS:

1. REFER TO SIGN COMPANY'S DRAWINGS FOR MORE DETAILS. ALL DESIGNS, DETAILING FABRICATION AND CONSTRUCTION SHALL CONFORM TO:
   2021 IBC
   ACI
   AISC
   AMERICAN WELDING SOCIETY
   LOCAL BUILDING CODES & ORDINANCES
2. CONCRETE: 2500 PSI @ 28 DAYS
3. STD. STEEL PIPE SECTION: ASTM A53 GRADE B (Fy=35 KSI), U.N.O.
4. STEEL PIPE SECTION (> 20" Ø): ASTM A252 GRADE 3 (Fy=42 KSI MIN.) U.N.O.
5. HSS ROUND SECTION: ASTM A500 GRADE B (Fy=42 KSI) U.N.O.
6. HSS SQUARE/RECTANGULAR SECTION: ASTM A500 GRADE B (Fy=46 KSI)
7. W SHAPES: ASTM A992 (Fy = 50 KSI)
8. ANCHOR BOLTS: ASTM F1554 GRADE 36 U.N.O. (ALTERNATES GRADE 55 & 105)
9. CONNECTION BOLTS: ASTM A325
10. THREADED RODS: ASTM A193 GRADE B7
11. STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES & PLATES ASTM A36
12. REINFORCING: GRADE 60 ASTM A615
13. PROVIDE A MINIMUM OF THREE INCHES OF CONCRETE COVER OVER EMBEDDED STEEL.
14. THE CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS & METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
15. NO FIELD HEATING FOR BENDING OR CUTTING OF STEEL SHALL BE ALLOWED WITHOUT THE ENGINEER'S APPROVAL.
16. WELDING ELECTRODES: E70XX
17. ALLOWABLE VERTICAL SOIL BEARING PRESSURE ASSUMED: 2000 PSF
18. 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.
19. ALL FOOTINGS SHALL BEAR ON FIRM UNDISTURBED RESIDUAL SOIL AND/OR ENGINEERED EARTH.
20. 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.
21. EXCAVATION SHALL BE FREE OF LOOSE SOIL BEFORE POURING CONCRETE.
22. WELDERS SHALL BE CERTIFIED FOR THE TYPE OF WELDING.
23. ADEQUATELY BRACE POLE(S) UNTIL CONCRETE HAS SET UP FOR 14 DAYS.
24. GROUT UNDER BASE PLATES WITH NON-SHRINK GROUT.
25. THIS ENGINEER DOES NOT WARRANT THE ACCURACY OF DIMENSIONS FURNISHED BY OTHERS.
26. ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION.
27. THIS DESIGN IS FOR THE INDICATED ADDRESS ONLY, AND SHOULD NOT BE USED AT OTHER LOCATIONS WITHOUT WRITTEN PERMISSION OF THE ENGINEER.
28. DESIGN OF DETAILS AND STRUCTURAL MEMBERS NOT SHOWN, BY OTHERS.



FRONT ELEVATION W/ VERTICAL SLAB FOUNDATION 1

SCALE: N.T.S.



VERTICAL SLAB SIDE VIEW 2

SCALE: N.T.S.

VERTICAL SLAB FOUNDATION

REQUIRED REINFORCEMENT

#5 BARS @ 14" O.C.
E.W. EACH FACE

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

* CLIENT - STEWART SIGNS
* 2021 IBC
* RISK CATEGORY II
* 130 MPH WIND SPEED, EXP. C
* (2) POLE, (1) FOOTING

NOTE:
ALL OPEN-ENDED STEEL TO BE CAPPED.

Darren S. Antle, P.E.

Digitally signed by Darren S. Antle
DN: CN=Darren S. Antle, E=darrena@mbicompanies.com, G=Darren S., SN=Antle, C=US
Date: 2025.05.01 16:30:26-04'00'

N.J. PROFESSIONAL ENGINEER
NO. 24GE05111300 5/1/25

DARREN S. ANTLE, P.E.

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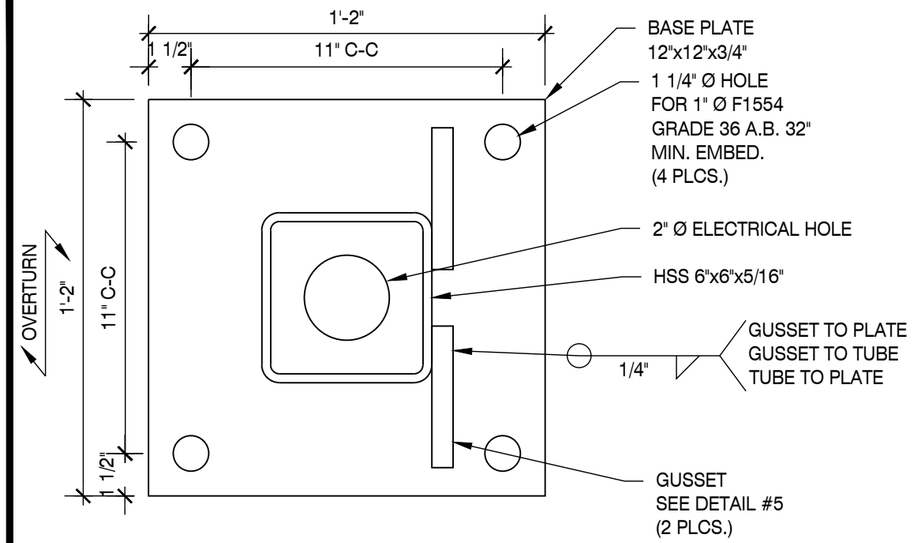
PROJECT:	DRAWN BY:	CHECKED BY:	COMM. NO.	DATE:	DRAWING NO.
287 WEST 8TH ST, BEACH HAVEN, NJ 08008	BSP	DSA	250811-063-00	05/1/2025	DWG. 1

DRAWING TITLE:

SHORE BUILDERS GROUP

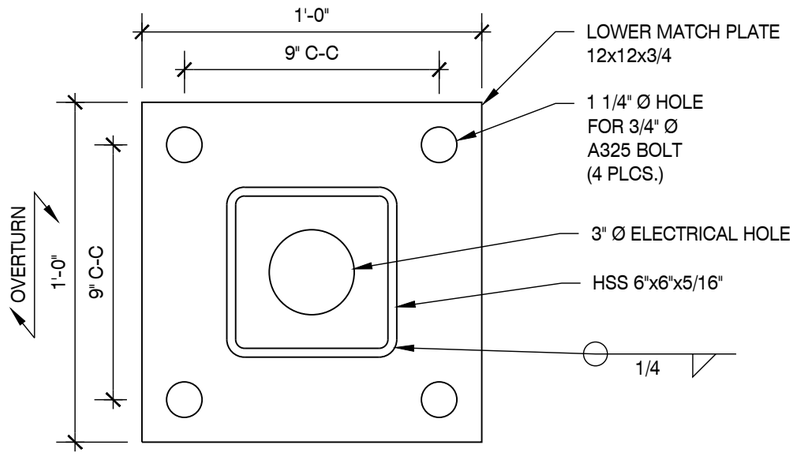
REV #	DATE	DRAWN BY



TYPICAL BASE PLATE DETAIL 1

SCALE: N.T.S.

NOTE:
RIGHT PLATE SHOW. MIRROR DETAILS FOR LEFT SIDE.



TYPICAL LOWER MATCH PLATE DETAIL 2

SCALE: N.T.S.

NOTES
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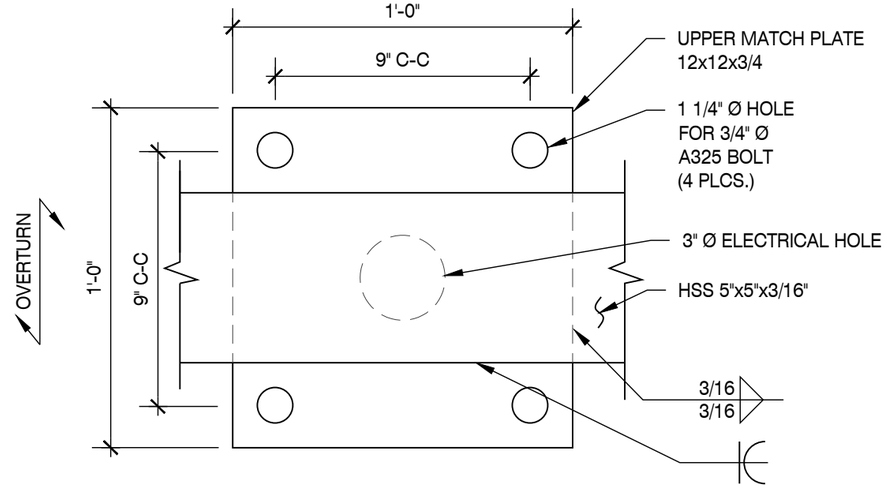
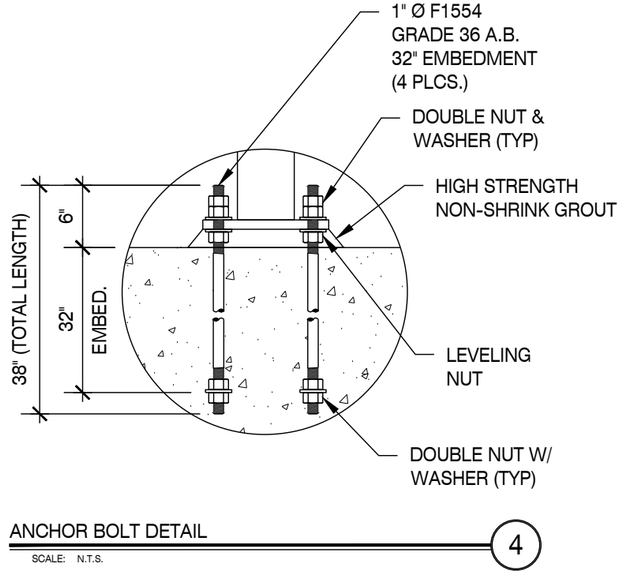


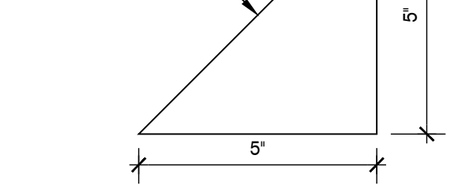
TYPICAL UPPER MATCH PLATE DETAIL 3

SCALE: N.T.S.



ANCHOR BOLT DETAIL 4

SCALE: N.T.S.



GUSSET DETAIL 5

SCALE: N.T.S.

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287 WEST 8TH ST, BEACH HAVEN, NJ 08008	BSP	DSA	250811-063-00	05/1/2025

DRAWING TITLE:

SHORE BUILDERS GROUP

REV #	DATE	DRAWN BY

DRAWING NO.

DWG.
2

DARREN S. ANTLE, P.E.

STATE OF NEW JERSEY
DARREN S. ANTLE
No. 24GE05111300
PROFESSIONAL ENGINEER

N.J. PROFESSIONAL ENGINEER
NO. 24GE05111300 5/1/25

NOTES
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NOTE:
ALL OPEN-ENDED STEEL TO BE CAPPED.

WIND DATA

Building Code	2021 IBC (New Jers	Importance Factor, I	1.0	Damping Ratio, β	0.005
Wind Load Criteria	ASCE 7-16	Directionality Factor, K_d [2]	0.85	Natural Frequency, n_1	1.48 Hz
Wind Speed, V	130 mph	Topography Factor, K_{zt}	1.0	Gust Effect Factor, G	0.85
Exposure Category	C	Base Pressure, $\gamma(q_z/K_z)$	22.1 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		3.90 in
Deflection Ratio	✓	H/64

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 1

Section	Location	Type	Height	Width	Horiz. Offset	Area	Top Elev.	Centroid	K_z	C_f	Wind Press.	Support Pole Loads Trib.	Shear	Moment	Footing Loads Trib.	Shear	Moment
			ft	ft	ft	sq ft	ft	ft			psf	Factor	kips	k-ft	Factor	kips	k-ft
1	Base	Multiple Poles w/ Cabinet	0.33	6.00		2.0	0.3	0.2	0.85	1.29	20.6	1.1	0.0	0.0	1.0	0.0	0.0
2		Single Pole (Not Round)	16.01	1.00		16.0	16.3	8.3	0.86	1.80	29.1	1.0	0.5	3.9	2.0	0.9	7.8
3		Multiple Poles w/ Cabinet	4.61	7.33		33.8	21.0	18.6	0.91	1.80	30.8	1.1	1.1	20.8	1.0	1.0	19.4
		Overall Height:	20.96 ft				*Summation based upon averages above:*						**1.6**	**24.7**		**2.0**	**27.2**
		Column Spacing:	2.58 ft				*Actual base reactions based upon V-M equations:*						**1.6**	**24.4**		**2.0**	**26.9**

SUPPORT POLE DESIGN SUMMARY MATERIAL = STEEL

Base Elev	Section	Axis	Required Strength Values (ASD) V_r	M_r	T_r	P_r	Allowable Strength Values (ASD) V_c	M_c	T_c	P_c	Unity Ratios V_r/V_c	M_r/M_c	T_r/T_c	P_r/P_c	Interaction Ratios P-M	P-M-V-T	Status
ft			kips	kip-ft	kip-ft	kips	kips	kip-ft	kip-ft	kips							
0.00	HSS6X6X5/16	Strong	1.6	24.4	0.0	0.8	54.9	31.2	26.0	19.0	2.9%	78.3%	0.0%	4.3%	82.6%	0.0%	✓
16.33	HSS5X5X3/16	Strong	1.1	2.6	0.0	0.4	28.7	13.5	11.1	76.5	3.9%	19.5%	0.0%	0.6%	20.1%	0.0%	✓

ELEMENT DESIGN LOCATIONS, LOADS AND DISPLACEMENTS

Element	Elev.	Type	V_r	M_r	T_r	P_r	0.7*θ	0.7*δ	Element	Elev.	Type	V_r	M_r	T_r	P_r	0.7*θ	0.7*δ
	ft		kips	kip-ft	kip-ft	kips	radians	in		ft		kips	kip-ft	kip-ft	kips	radians	in
1	0.00	Base Plate	1.6	24.4	0.0	0.8	0.0	0.0	3	0.00	Match Plate 2	1.6	24.4	0.0	0.8	0.000	0.00
2	16.33	Match Plate 1	1.1	2.6	0.0	0.4	0.0	2.7	4	0.00	Torsion Tube	1.6	24.4	0.0	0.8	0.000	0.00

PLATE DESIGN SUMMARY

Type	Plate Dimensions N	B	D	t	Bolts Number	d_b	N_{edge}	B_{edge}	Circle Diameter	Material	Embed in Caisson / Vertical Slab	Embed in	Weld Size	Gussets	Status
	in	in	in	in		in	in	in	in		in	in	in		
✓ Rectangular Base Plate	14	14	--	1	4	1	1.5	1.5	--	F1554 Grade 36	32	N/A	0.250	Yes	OK
Circular Base Plate															
✓ Match Plate 1 (Lower)	12	12	--	0.75	4	0.75	1.5	1.5	--	A325	--	--	0.250	No	OK
✓ Match Plate 1 (Upper)	12	12	--	0.75	4	0.75	1.5	1.5	--	A325	--	--	0.188	No	OK

FOUNDATION DESIGN SUMMARY

Type	Diameter	Width	Thickness	Length	Depth	Volume	Reinforcing	Status	Allowable Soil Pressure
	ft	ft	ft	ft	ft	CY			
Caisson									
✓ Vertical Slab	--	6.00	2.00	--	5.50	2.44	#5 at 14 in o.c. E.W. E.F.	OK	300 psf/ft

CALCULATIONS 1
SCALE: N.T.S.

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PROJECT: 287 WEST 8TH ST, BEACH HAVEN, NJ 08008
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CHECKED BY: DSA
COMM. NO. 250811-063-00
DATE: 05/1/2025
DRAWING TITLE: SHORE BUILDERS GROUP

REV #	DATE	DRAWN BY

DRAWING NO. DWG. 3

DARREN S. ANTLE, P.E.
STATE OF NEW JERSEY DARREN S. ANTLE No. 24GE05111300 PROFESSIONAL ENGINEER
N.J. PROFESSIONAL ENGINEER
NO. 24GE05111300 5/1/25