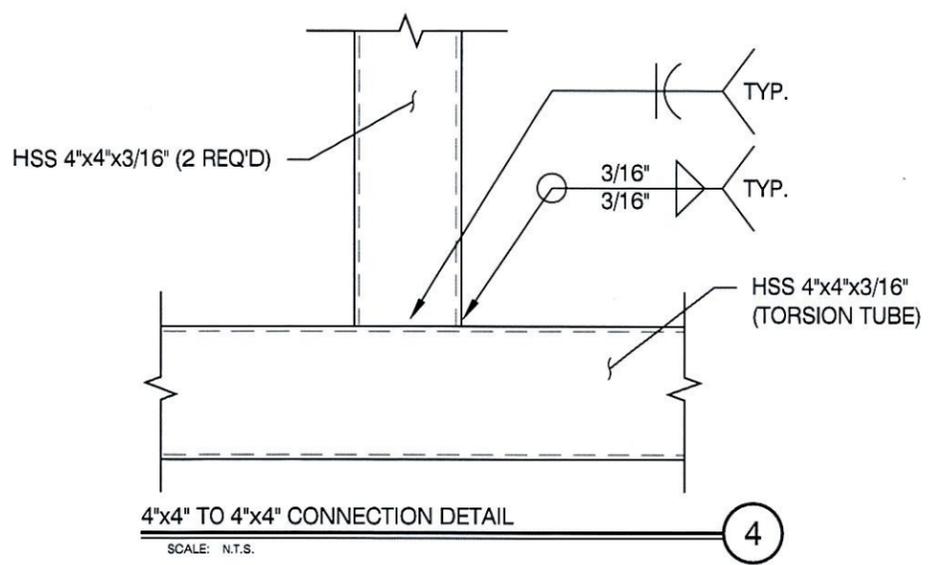
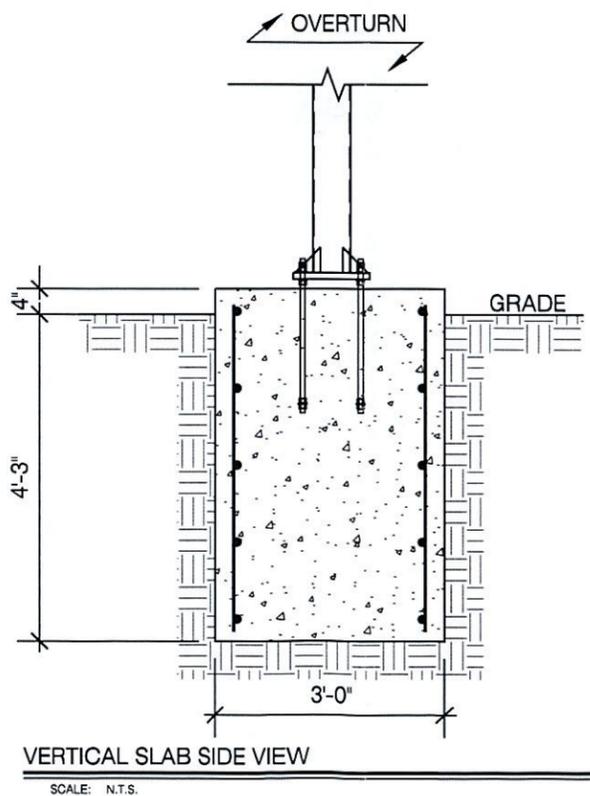


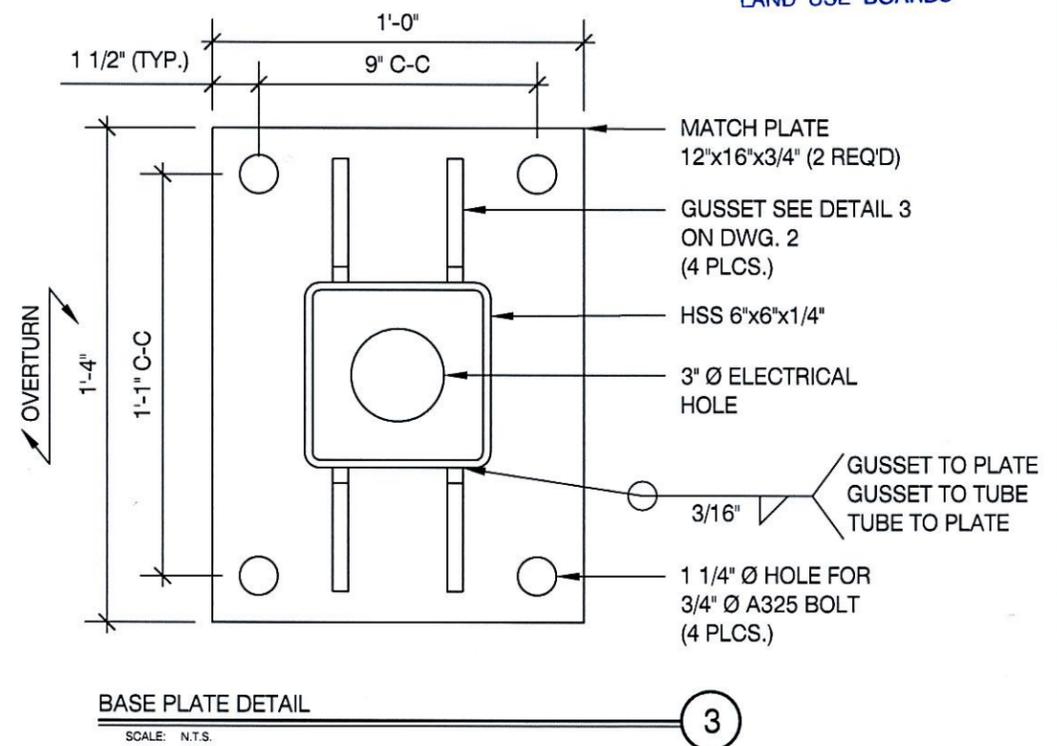
FRONT ELEVATION W/ VERTICAL SLAB FOUNDATION **1**
SCALE: N.T.S.



4"x4" TO 4"x4" CONNECTION DETAIL **4**
SCALE: N.T.S.



VERTICAL SLAB SIDE VIEW **2**
SCALE: N.T.S.



BASE PLATE DETAIL **3**
SCALE: N.T.S.

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

* CLIENT - STEWART SIGNS
* 2020 NEW YORK BUILDING CODE
* RISK CATEGORY II
* 115 MPH WIND SPEED, EXP. C
* (1) POLE, (1) FOOTING

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TOWN OF ORANGETOWN
LAND USE BOARDS

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299 N. WEISGARBER RD. PHONE 865.584.0999
SUITE #: 104 SIGN-ENGINEER.COM
KNOXVILLE, TN 37919

PROJECT:
89 WESTERN HIGHWAY, TAPPAN, NY 10983

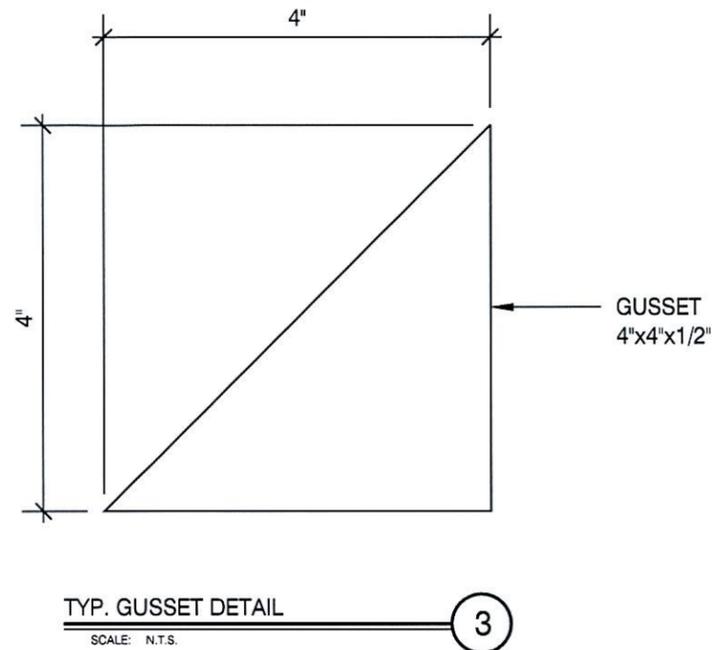
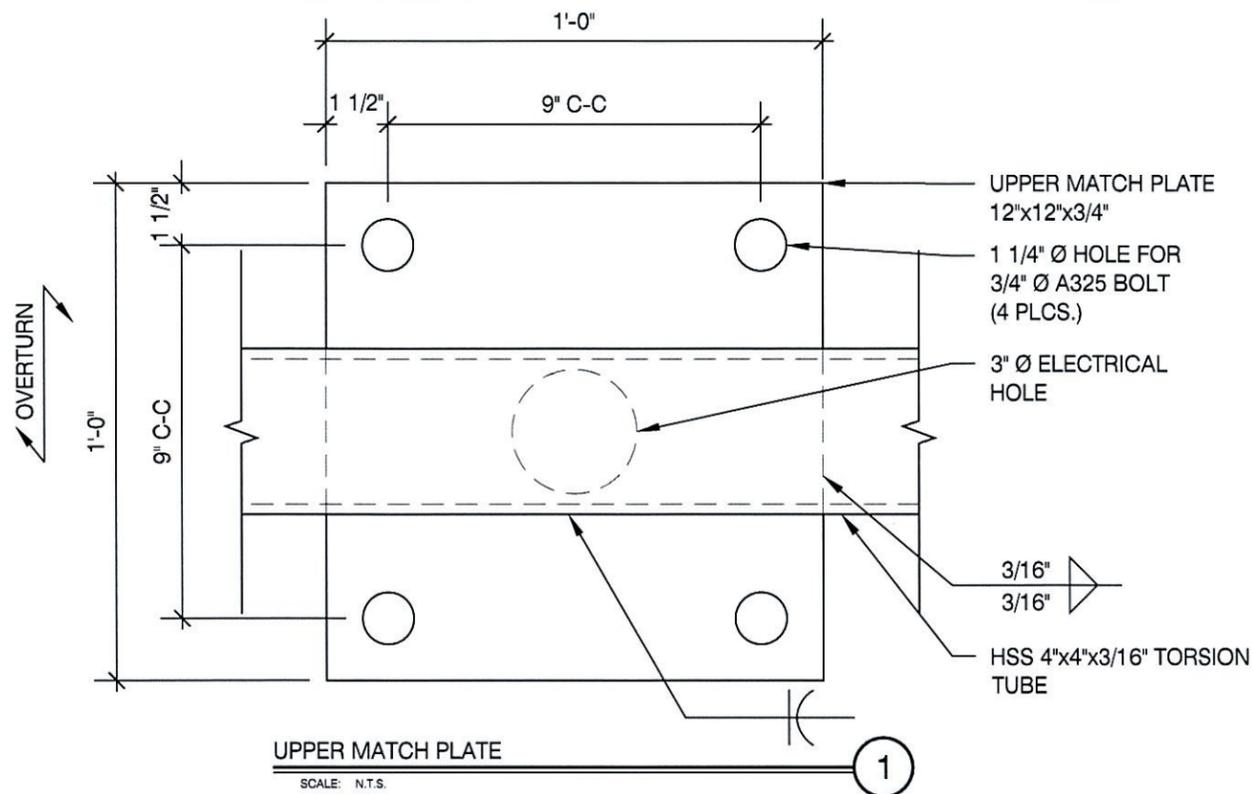
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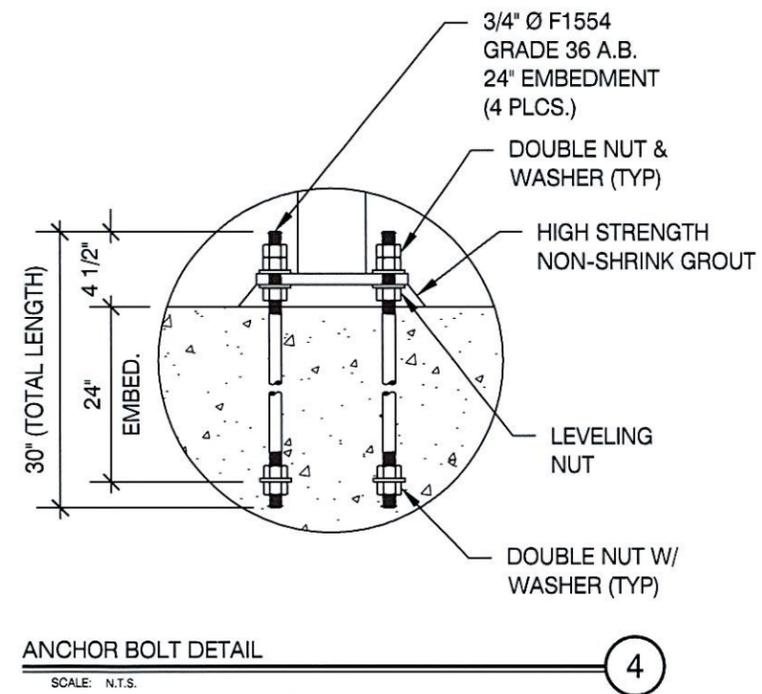
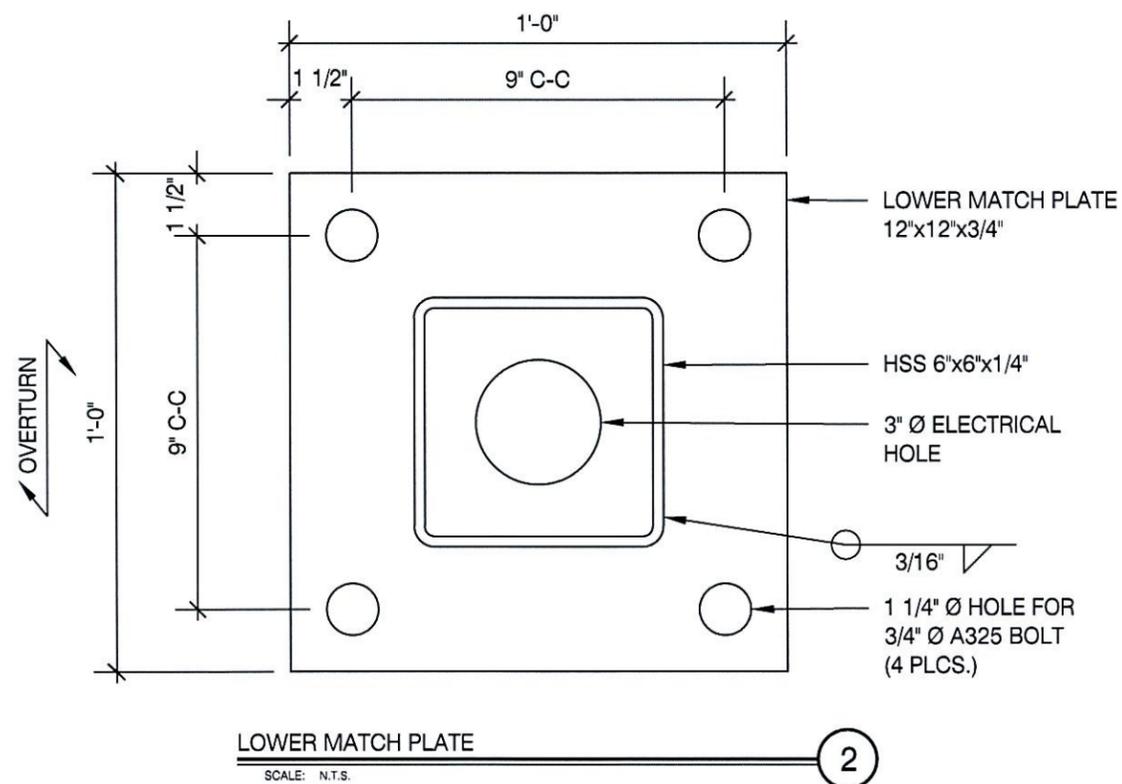
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GROUND SIGN DESIGN SPECIFICATIONS:

- REFER TO SIGN COMPANY'S DRAWINGS FOR MORE DETAILS. ALL DESIGNS, DETAILING FABRICATION AND CONSTRUCTION SHALL CONFORM TO: 2020 NEW YORK BUILDING CODE
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)
- W SHAPES: ASTM A992 (Fy = 50 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

- SEE MANUFACTURERS DRAWINGS FOR ADDITIONAL DETAILS AND DIMENSIONS.
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WIND DATA

Building Code	2020 New York Buil	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	2.01 Hz
Wind Speed, V	115 mph	Topography Factor, K _z	1.0	Gust Effect Factor, G	0.85
Exposure Category	C	Base Pressure, v(q _z /K _z)	17.3 psf	ASD Wind Load Factor, γ ⁽³⁾	0.6
Wind Pressure Override per Jurisdiction Requirement	0 psf	Notes: (1) Loading values in chart below are based upon average K, 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.			

DEFLECTION ANALYSIS

Deflection Limit	H/60
Deflection at 0.7*W	1.38 in
Deflection Ratio	H/127 ✓

GEOMETRY INPUT⁽¹⁾

Section	Location	Type	Height ft	Width ft	Horiz. Offset ft	Area sq ft	Top Elev. ft	Centroid ft	K _c	C _f	Wind Press. psf	Support Pole Loads			Footing Loads					
												Trib. Factor	Shear kips	Moment k-ft	Trib. Factor	Shear kips	Moment k-ft			
1	Base	Single Pole w/ Cabinet	0.33	5.00		1.7	0.3	0.2	0.85	1.30	16.2	1.0	0.0	0.0	1.0	0.0	0.0			
2		Single Pole w/ Cabinet	9.67	2.67		25.8	10.0	5.2	0.85	1.61	20.1	1.0	0.5	2.7	1.0	0.5	2.7			
3		Multiple Poles w/ Cabinet	4.61	7.35		33.9	14.6	12.3	0.85	1.78	22.2	1.0	0.8	9.2	1.0	0.8	9.2			
Overall Height:			14.61 ft			Summation based upon averages above:			1.3			11.9			1.3			11.9		
						Actual base reactions based upon V-M equations:			1.3			12.0			1.3			12.0		

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	1.3	12.0	1.4	0.8	35.1	18.5	16.3	21.7	3.7%	64.9%	8.7%	3.7%	68.6%	0.0%	✓
10.00	HSS4X4X3/16	Strong	0.8	1.8	1.1	0.4	22.3	8.4	7.0	59.1	3.4%	21.1%	16.0%	0.7%	21.8%	0.0%	✓

ELEMENT DESIGN LOCATIONS, LOADS AND DISPLACEMENTS

Element ft	Elev. ft	Type	V _r	M _r	T _r	P _r	0.7*θ	0.7*δ	Element ft	Type	V _r	M _r	T _r	P _r	0.7*θ	0.7*δ	
			kips	kip-ft	kip-ft	kips	radians	in			kips	kip-ft	kip-ft	kips	radians	in	
1	0.00	Base Plate	1.3	12.0	1.4	0.8	0.0	0.0	3	0.00	Match Plate 2	1.3	12.0	1.4	0.8	0.000	0.00
2	9.92	Match Plate 1	0.8	1.8	1.1	0.4	0.0	0.7	4	0.00	Torsion Tube	1.3	12.0	1.4	0.8	0.000	0.00

PLATE DESIGN SUMMARY

Type	Plate Dimensions				Number	Bolts				Material	Embed in Caisson / Vertical Slab in	Embed in in	Weld		Status
	N	B	D	t		d _b	N _{edge}	B _{edge}	Circle Diamete				Size	Gussets	
	in	in	in	in		in	in	in	in				in	in	
✓ Rectangular Base Plate	16	12	--	1	4	0.75	1.5	1.5	--	F1554 Grade 36	24	--	0.188	Yes	OK
✓ Match Plate 1 (Lower)	12	12	--	0.75	4	0.75	1.5	1.5	--	A325	--	--	0.188	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 ft	Width ft	Thickness ft	Length ft	Depth ft	Volume CY	Reinforcing	Status	Allowable Soil Pressure
✓ Caisson									
✓ Vertical Slab	--	5.00	3.00	--	4.25	2.36	#6 at 12 in o.c. E.W. E.F.	OK	300 psf/ft
✓ Spread									

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