

Date:	7/22/25	City, State:	Cameron, NC	SHEET:	1 OF 4
Client:	Lauretano Sign Group	Overall Height:	12'-0"	Sean M. McFarland, P.E.	
Sign:	Scooters Coffee #33843	Wind Speed	120 mph	McFarland Engineering	

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Height: 12'-0"		Foundation Design / General Notes	3
Width: 6'-10"			

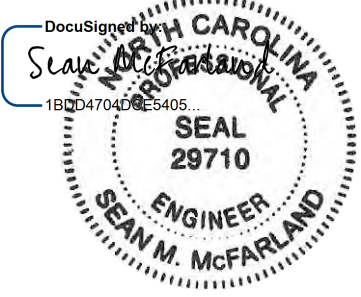
Structural Variables and Code Loading Specifications

Cabinet Type:	Miscellaneous	Code:	2015 IBC / 2018 NC State
Structural Section:	Tube Steel - 46000psi	Wind Speed:	120
Number of Zones:	7	Wind Exposure:	C
		Wind Loads Per ASCE 7-10	

Sign Sections:

Zone	Cabinet Wt. Per Sq. Ft.	Weight	Transition (Y or N)
1	20	19.0 #/FT	
2	0	19.0 #/FT	
3	20	19.0 #/FT	
4	0	19.0 #/FT	
5	15	19.0 #/FT	
6	0	19.0 #/FT	
7	35	19.0 #/FT	y
8	0		

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State License: North Carolina - 29710

Geometry:

Zone	Top Elevation	Height	* Approx. Width	Pressure	Force	Approx. Weight
1	12.00 FT	6.00 FT	5.36 FT *	28.74 PSF	0.93 K	758 #
2	6.00 FT	0.17 FT	14.00 FT *	21.56 PSF	0.05 K	3 #
3	5.83 FT	2.00 FT	4.67 FT *	27.84 PSF	0.26 K	225 #
4	3.83 FT	0.17 FT	14.00 FT *	21.56 PSF	0.05 K	3 #
5	3.66 FT	0.91 FT	2.33 FT *	26.94 PSF	0.06 K	49 #
6	2.75 FT	0.17 FT	1.00 FT *	21.56 PSF	0.00 K	3 #
7	2.58 FT	2.58 FT	6.18 FT *	26.05 PSF	0.41 K	607 #

Total Wind Force = 1.76 K 1,648 #

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130 Brandywood Ct

ME Job: 71756

Moments at Transitions:

Zone	Lateral Force	7 Mom. Arm
1	0.93 K	9.00 FT
2	0.05 K	5.92 FT
3	0.26 K	4.83 FT
4	0.05 K	3.75 FT
5	0.06 K	3.21 FT
6	0.00 K	2.67 FT
7	0.41 K	1.29 FT

10.81 K-FT

Section Properties:	4.27 IN^3	00 IN^3	00 IN^3	00 IN^3	00 IN^3	00 IN^3
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Structural Sections to be used:

Zone	Option	Tube Dim.	Wall t.	Weight	Sxx	d/t	Sxx Req'd
7	Tube	6.00 IN	0.250 IN	19 #/FT	9.49 IN^3	24.00	4.27 IN^3

Structure Required

# Req'd	Size	Wall Thickness
1	6.00 IN	0.250 IN

Date: 7/22/25	City, State: Cameron, NC	SHEET: 3 OF 4
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Sign: Scooters Coffee #33843	Wind Speed 120 mph	McFarland Engineering

130 Brandywood Ct

Baseplate Design -

D = 6.00 IN
e = 1.50 IN
b = 6.00 IN
d = 6.00 IN
Baseplate t = 1.00 IN

A36 Steel
E70 Electrodes
A307 A.B.'s
of Bolts = 4
Column Mom = 10,805 #-FT

Fy= 36ksi
Fw= 928 #/in/16th
Ft=20 ksi
Dia. Bolt 0.875

P Bolt =	$\frac{M * 12 \text{ (in/ft)}}{2 \text{ bolts (D + e + t)}}$	7,627 #	<	12,000 #
t req'd =	$[(6 * P * e * 2 \text{ bolts}) / (.75 * F_y (D + 2 * t))]^{1/2}$	.797 IN	<	1.00 IN
Weld =	$\frac{M * 12 \text{ (in/ft)}}{F_w (b * d + D^{2/3})}$	2.91 16th's	< (2)	3.00 16th's

USE: (4) 7/8" Dia. Bolts w/ 1" Baseplate. Weld to Support with (2) 3/16" Fillet Welds.

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130 Brandywood Ct

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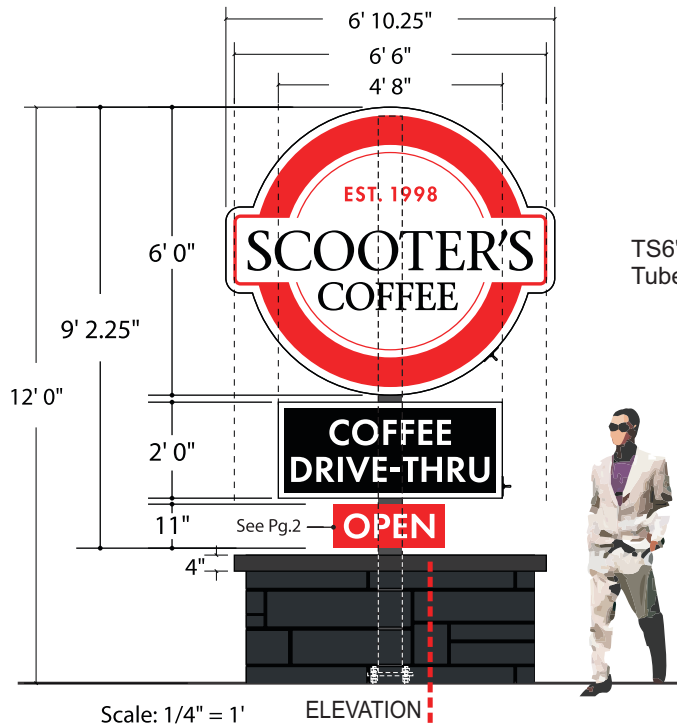
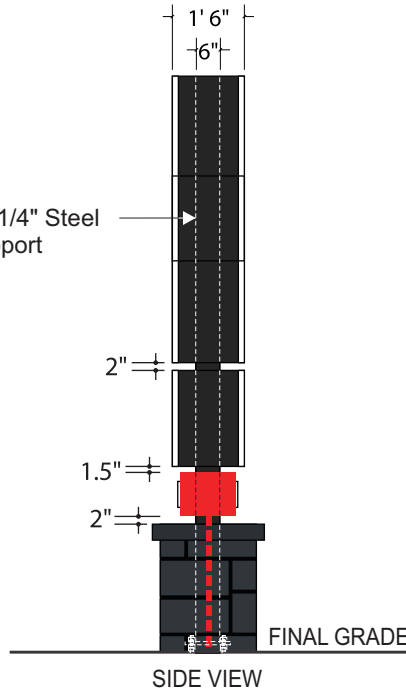
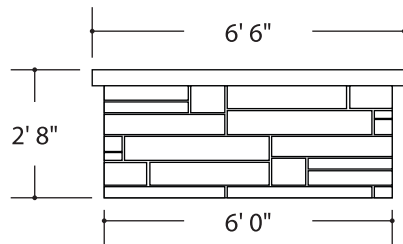
SPREAD FOOTING DESIGN

One Spread Footing

Loads:		P(DL) =	1,648 #	
		P(LL) =	0 #	
		M(WL) =	10,805 FT-#	
Footing:	CONCRETE	WIDTH =	7.00 FT	
		LENGTH =	5.00 FT	
		DEPTH =	2.00 FT	
		WEIGHT =	10,500 LBS	
	SURCHARGE PEDESTAL =	7.00 FT	X	
		5.00 FT	X	
		0.00 FT	(Zero Soil Surcharge)	
		WEIGHT =	0 LBS	
Overturning:		OTM =	10,805 FT-LBS	
		RM =	30,370 FT-LBS	
		FS =	2.811	>1.5 THEREFORE OK
Soil Pressure:		q(DL+LL) =	47.09 PSF	NET
		q(ALLOW) =	1500 PSF	OK
	FOR DL+WL:			
		e=M/P =	0.89 FT	
		L/6 =	0.83 FT	(Resultant Outside Middle 3rd)
		q(DL+WL) =	418.36 PSF	NET
		q(ALLOW)=	2000 PSF	OK
Reinforcing:		M(DL+LL)=	147 FT-LBS/FT	
	0.75 * M(DL+WL)=	674 FT-LBS/FT		DL+WL CONTROLS
	DL+WL CONTROLS			
	ASSUME: f'c=3000 PSI, Fy=40000 PSI (minimal)			
		d=	20.63 IN	
		As(REQ'D)=	0.02 IN^2	
		As(PROV.)=	0.31 IN^2	
		USE #5's AT 12" O.C. T&B, EACH WAY		

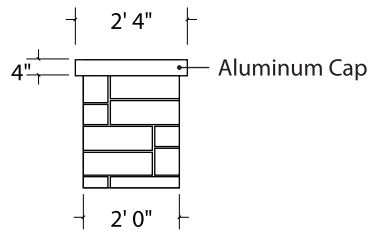
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Option 1 - Red OPEN Cabinet

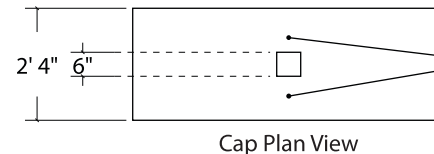
Description Illuminated D/S Pylon w/
Lexan Faces & PSV GraphicsTS6"x6"x1/4" Steel
Tube SupportNO ENGINEERING PROVIDED
OR IMPLIED FOR MASONRY SIGN
BASE.1" Conduit
Parallel to
6" Tube

Scale: 1/4" = 1'

Base Face Details



Base Side Details

Do Not Put Electrical Conduit
on either of these sides.**MATERIALS****Upper Cabinet (Scooter's Coffee)**

0.080" Thk. Aluminum X-Brace Returns
0.063" Thk. Aluminum Skins
0.040" Thk. Aluminum Retainers
1/8" Thk. Aluminum Internal Plate Structures
3/16" Thk. Lexan Faces
1st Surface PSV Graphics

Lower Cabinet (Coffee Drive Thru)

1" Aluminum Angle Frame
.063" Thk. Aluminum Skins
.040" Thk. Aluminum Retainers
3/16" Thk. Lexan Faces
1st Surface PSV Graphics

Illumination

White LEDs
Class II Power Supply

Retainer Size: 1 1/2"

Retainer: White ((COLOR))

COLORS

Skins painted Black, Satin Finish.
Retainers painted White, Satin Finish.
Square Tube painted Black, Satin Finish.
Translucent White Lexan.
PSV to match:
Black
Translucent Tomato Red (230-43), PMS 1788C

NOTES

Concrete Base & Aluminum Cap Provided by Others
Stone Color: Sherwin Williams Inkwell 6992
Electrical Conduit ran Parallel to 6" Tube.

POLE / FOOTING

6" Steel Sq. Tube

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183 Edgewater Ct
Mocksville, NC 27028

STRUCTURAL SIGN DESIGN
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Ph: (281) 813-7439
Fax: (888) 712-5364
Email: sean@signstructures.com
Web: www.signstructures.com

SCOOTERS COFFEE 33843

Address: 130 BRANDYWOOD CT

City/State: CAMERON, NC

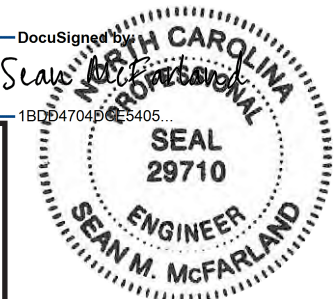
Client: LAURETANO SIGN GROUP

Initial Drawing: (71756) DS

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North Carolina License Number: 29710
North Carolina Expiration Date: 12/31/2025

Date: 7-22-2025
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ME #: 71756

**MATERIALS**

1" Aluminum Angle Frame
 .063" Thk. Aluminum Skins
 1/8" Thk. Aluminum CAD-CUT Faces.
 3/4" Thk. Acrylic Push-Through Letters
 1/8" Thk. Acrylic Backer

Illumination

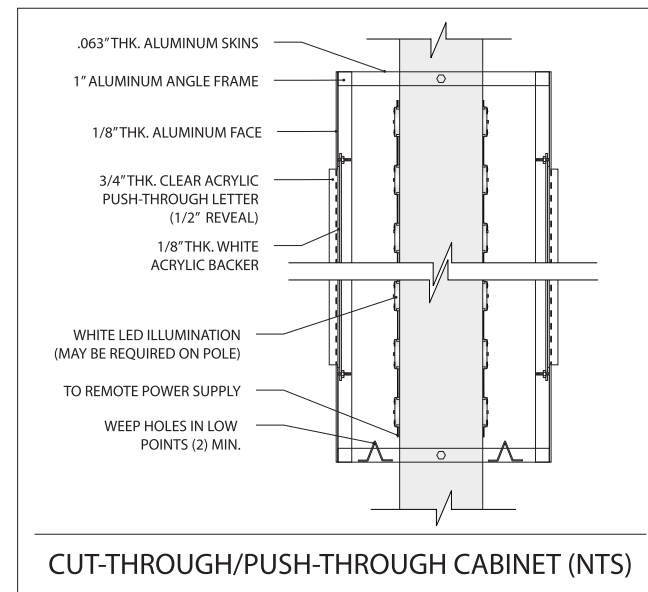
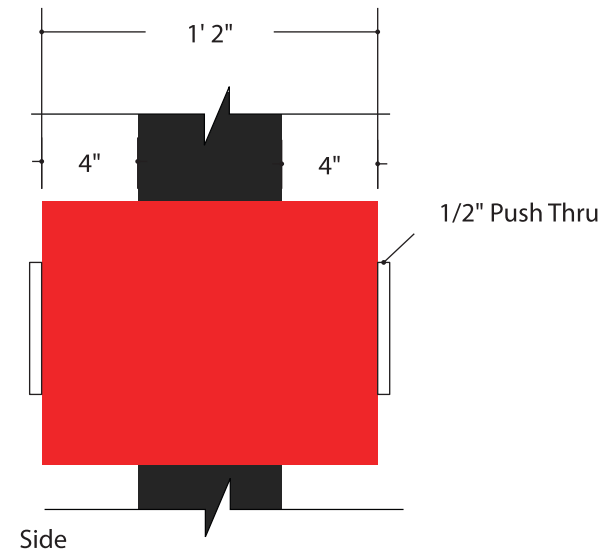
White LEDs
 Class II Power Supply

COLORS

Skins & Faces painted to match Tomato Red (230-43), PMS 1788C
 Clear Acrylic Push-Through Letters
 White Acrylic Backer

NOTES

Sign will have it's own dedicated curcuit to be on when store is open



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McFarland Engineering

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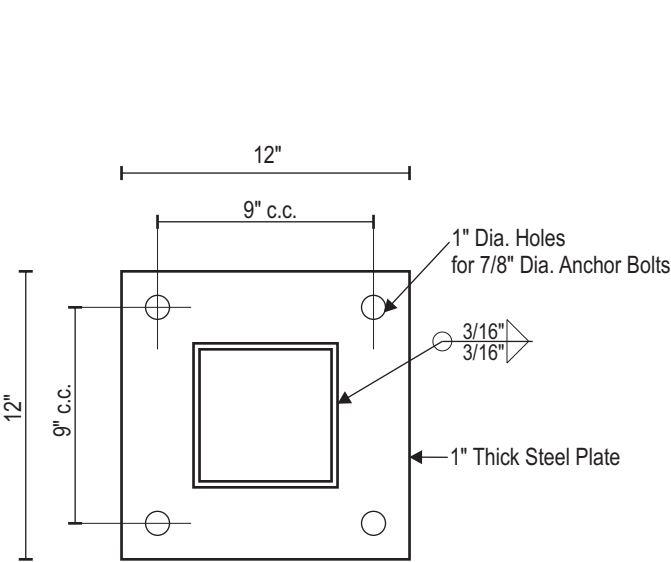
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ME #: 71756



BASE PLATE DETAIL
1-1/2"=1'-0"
A307 Anchor Bolts
A36 Steel Plate

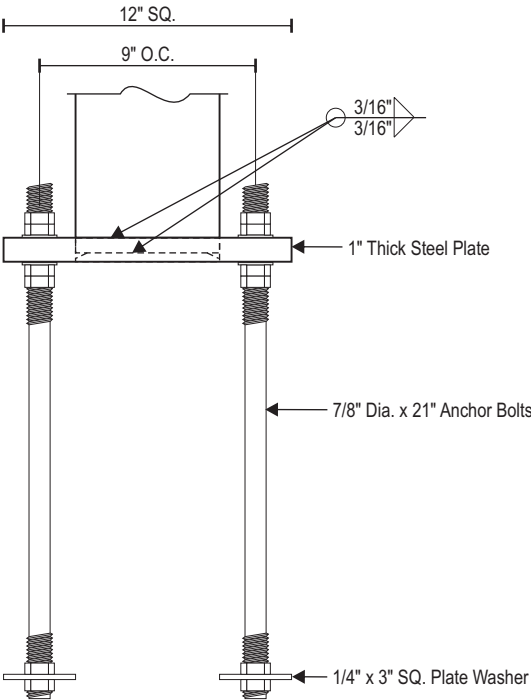


PLATE DETAIL
1 1/2"=1'-0"
A307 Anchor Bolts
A36 Steel Plate

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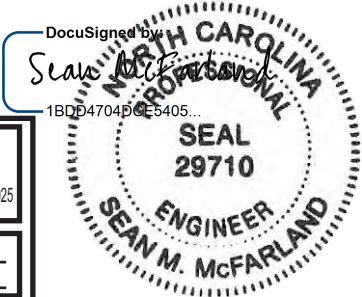
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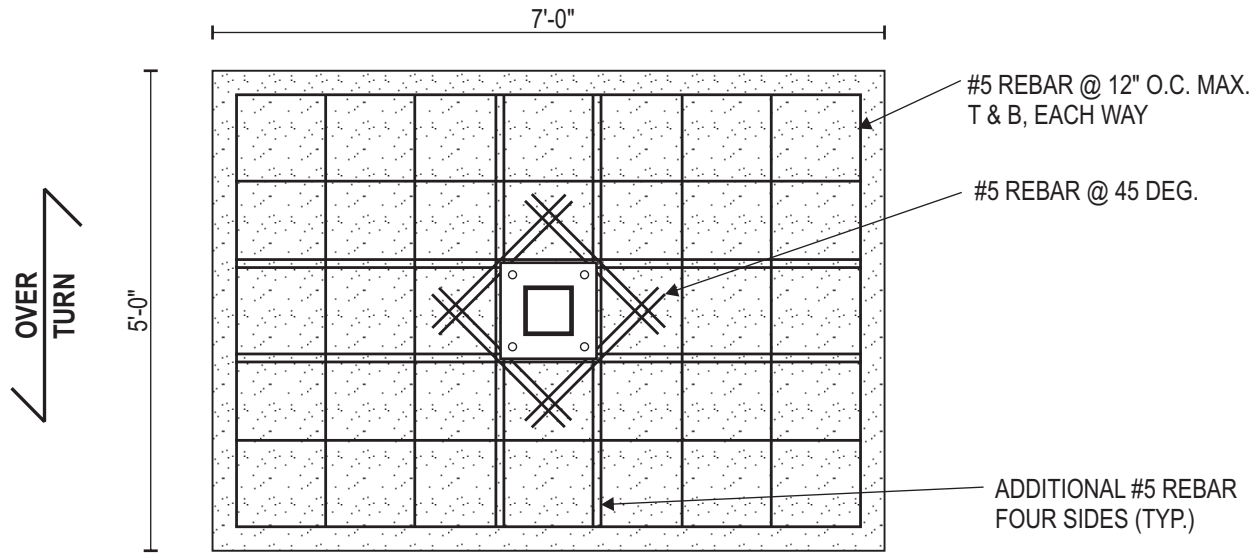
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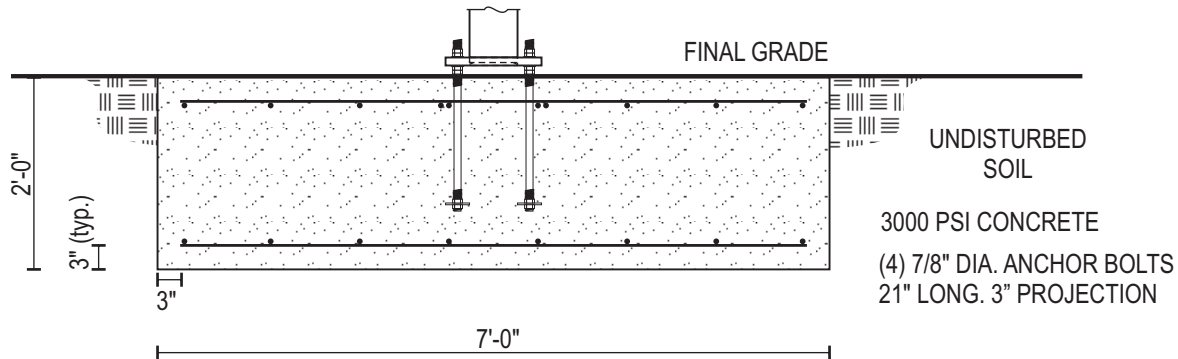
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FOUNDATION PLAN VIEW SCALE: 1/2"=1'



FOUNDATION SECTION SCALE: 1/2"=1'

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