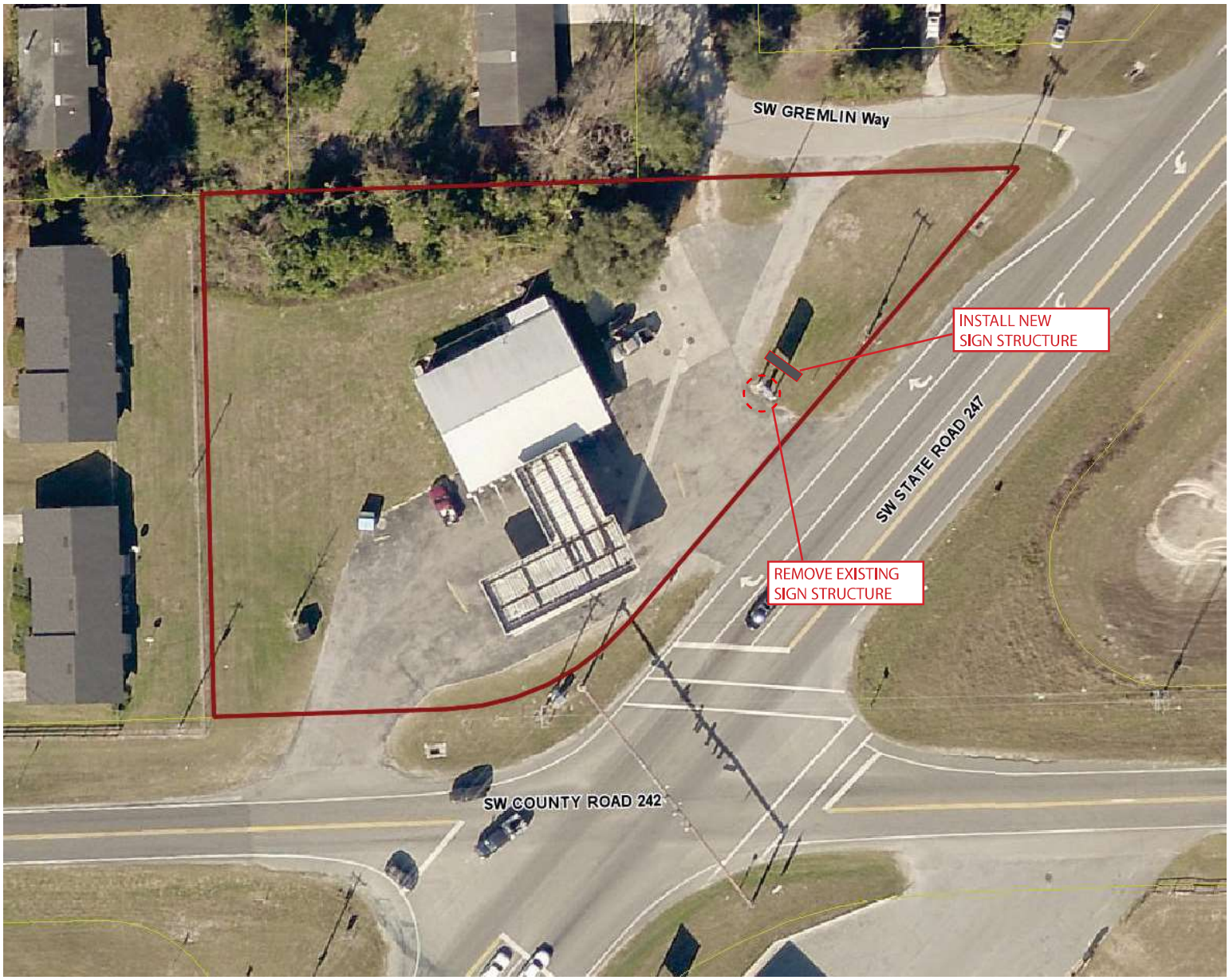

BRAND: 76
ADDRESS: 5672 SW STATE ROAD 247, LAKE CITY FLORIDA.
PID: 20-4S-16-03076-005

JOB SCOPE:
REMOVE & DISPOSE OF EXISTING MARATHON MAIN ID SIGN STRUCTURE.
INSTALL NEW 76 STRUCTURE & FOUNDATION PARALLEL TO PREVIOUS STRUCTURE, DISTANCE TO CLEAR PREVIOUS FOUNDATION.

JOHN J. ORLANDO LICENSE No 0044089 STATE OF FLORIDA PROFESSIONAL ENGINEER

John J Orlando PE
Digitally signed by John J Orlando PE
Date: 2024.03.07 20:44:09 -05'00'

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John J. Orlando PE LLC - 165 Old Ridge Road - Macon, GA 31211 - 478 731 5394 - jjorlando@cox.net - Florida registration # 0044089 job 0424APG

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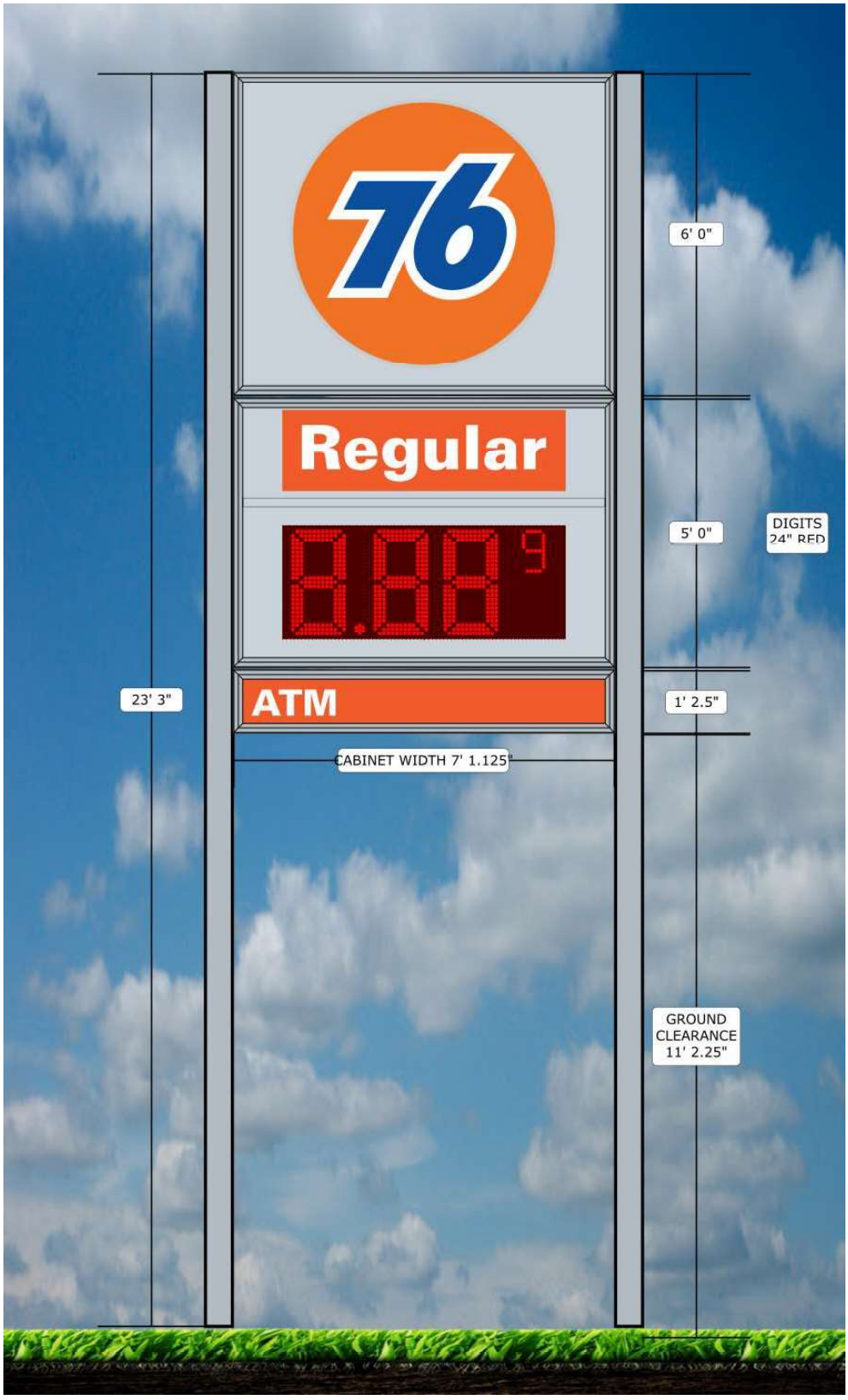
MIDWAY, FL. 32343
PH: 850.224.7446
FX: 850.224.8936
ApogeeSigns.com
STATE CERTIFIED SIGN CONTRACTOR LIC# ES12000314

DRAWN BY:
ERIC LARSON
EMAIL: Eric.Larson @ApogeeSigns.com
DIRECT LINE: 850.999.6042

76 #311
5672 SW State Road 247
Lake City, FL.

JOB NUMBER: 70467
DATE: 02/20/2024
SHEET NUMBER A.1
SHEET 1 of 6

Detailed Information:
Sign Type: Between Pole
Overall Height: 23' 3"
Number of Signs: 3
Distance Between Poles: 85.375"
Sign Sq Footage:85.1'



ELEVATION DRAWING OF NEW SIGN STRUCTURE

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

JOHN J. ORLANDO
LICENSE
No 0044089
STATE OF FLORIDA
PROFESSIONAL ENGINEER

John J Orlando PE
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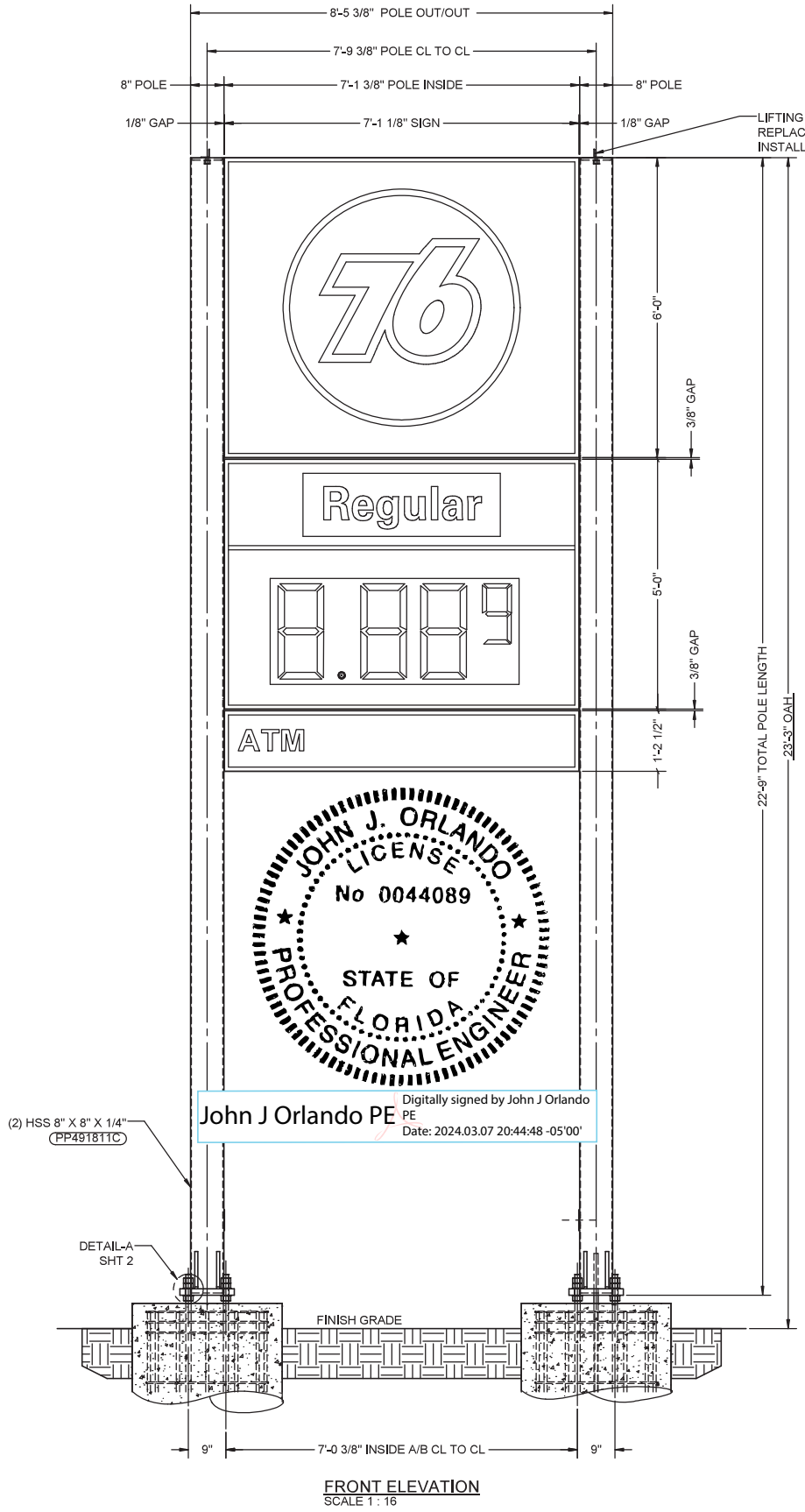
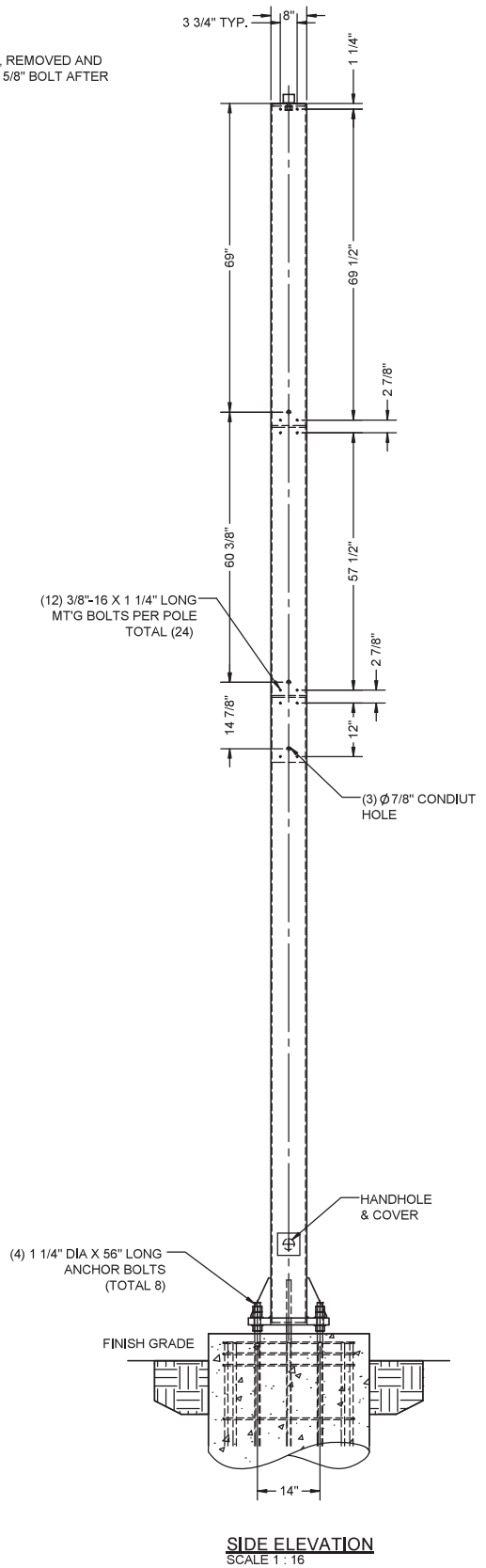
Lake City, FL.

JOB NUMBER: 70467
DATE: 02/20/2024
SHEET NUMBER A.2
SHEET 2 of 6

INSTALLATION DRAWING



FRONT ELEVATION
SCALE 1 : 16



SIDE ELEVATION
SCALE 1 : 16

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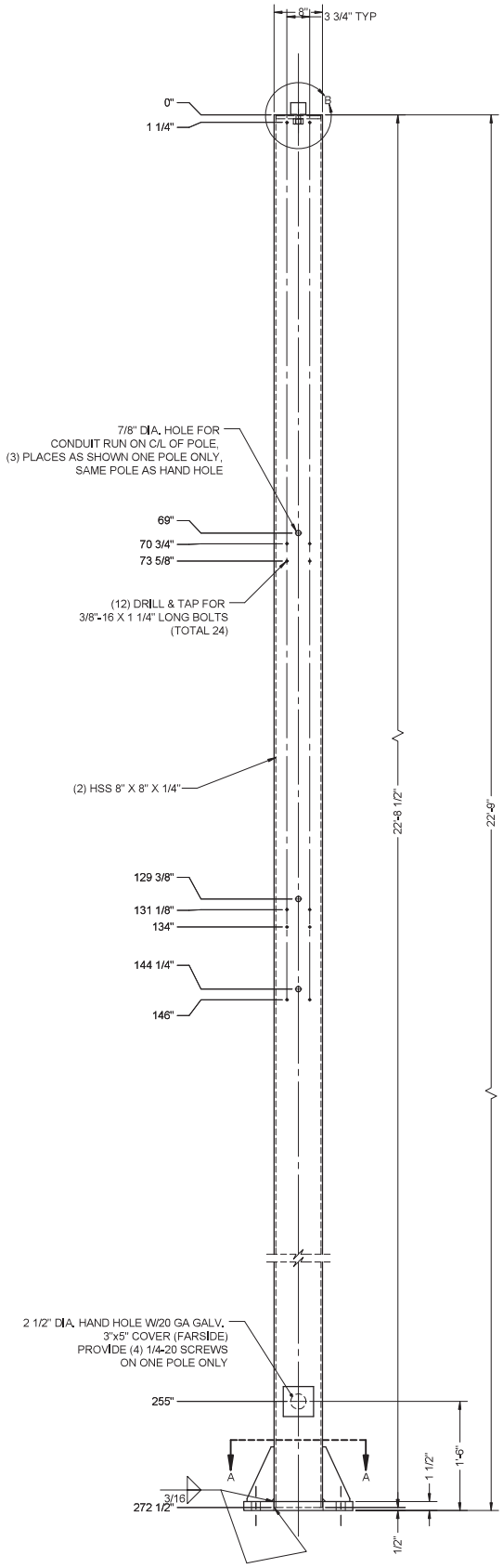
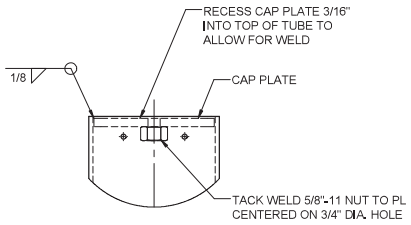
5672 SW State Road 247
Lake City, FL.

JOB NUMBER: 70467
DATE: 02/20/2024
SHEET NUMBER A.3
SHEET 3 of 6

FABRICATION DRAWING



INSIDE VIEW
(2) POLES REQUIRED
SCALE 1: 10

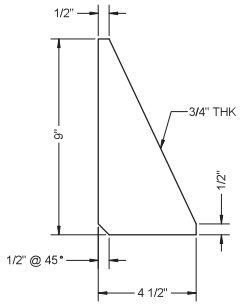


DETAIL B
SCALE 1 : 4

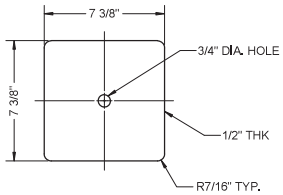
MATERIAL SPECIFICATION :
1. ALL PLATES TO BE ASTM A36
2. ALL TUBE STEEL TO BE ASTM A500 GRADE B

FINISH
1. POLE FINISH AS PER CUSTOMER SPEC

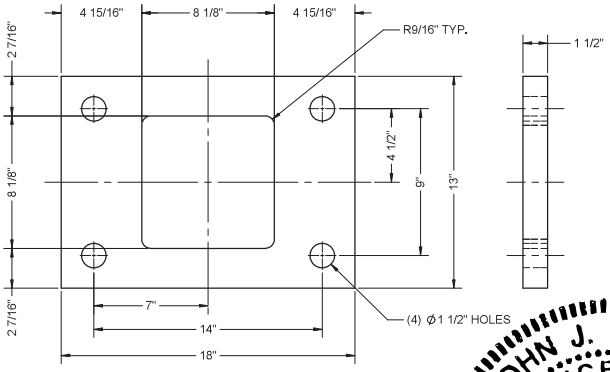
POLE SPECIFICATION:
APPROX. POLE WEIGHT: 684 LBS (EACH)
TOTAL POLE LENGTH: 22'-9"



(4) GUSSET DETAIL
SCALE 1 : 3



(2) CAP PLATE DETAIL
SCALE 1 : 4



BASE PLATE DETAIL
SCALE 1 : 4

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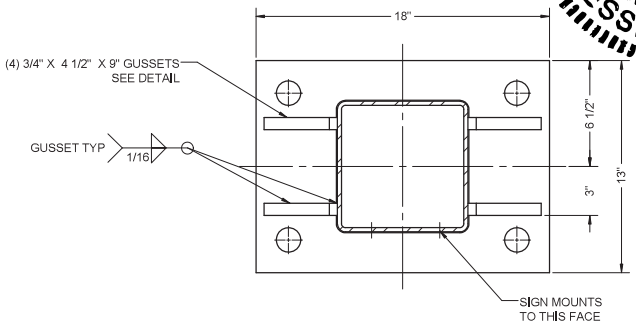
Date: 2024.03.07 20:45:02 -05'00'

JOHN J. ORLANDO LICENSE No 0044089 STATE OF FLORIDA PROFESSIONAL ENGINEER



BASE PLATE DETAIL
SECTION A-A
SCALE 1 : 4

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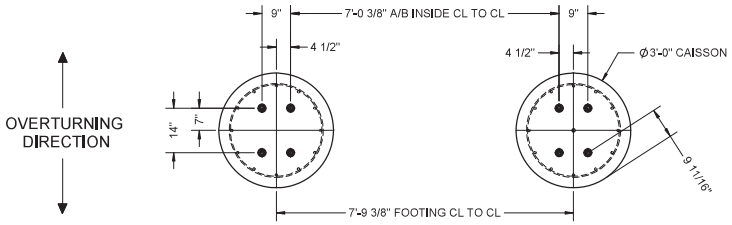
76 #311
5672 SW State Road 247
Lake City, FL.

JOB NUMBER: 70467
DATE: 02/20/2024

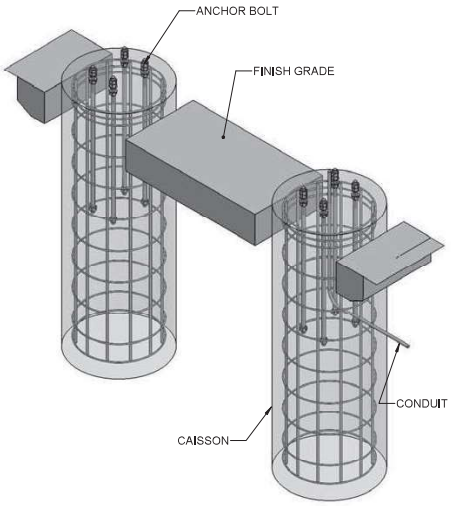
SHEET NUMBER A.4
SHEET 4 of 6

INSTALLER NOTE: THE POLE / ANCHOR BOLT AND REBAR ARE CENTERED ON THE Ø3'-0" CAISSON AND THE MINIMUM ANCHOR BOLT EDGE DISTANCE IS 9 11/16" ALL AROUND EACH CORNER ANCHOR BOLT.

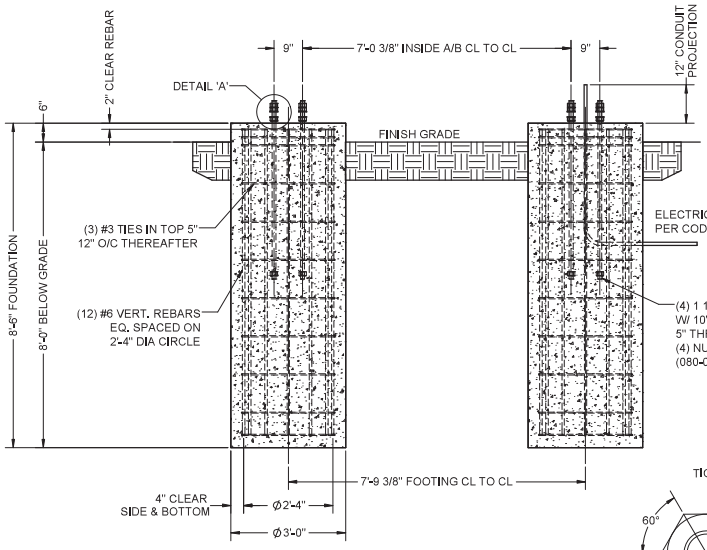
FOUNDATION DRAWING



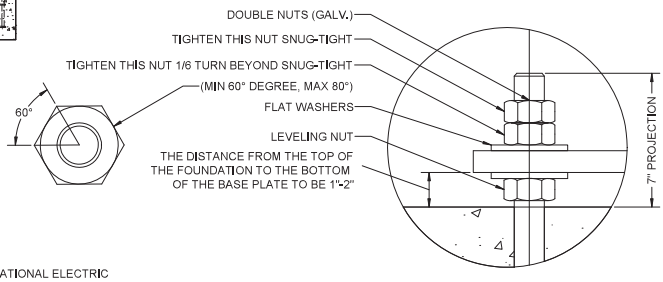
TOP VIEW
SCALE 1 : 20



ISOMETRIC VIEW
SCALE 1 : 20



FRONT ELEVATION
SCALE 1 : 20



ANCHOR BOLT DETAIL- 'A'
SCALE: NONE

GENERAL NOTES

THIS SIGN IS INTENDED TO BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 600 OF THE NATIONAL ELECTRIC CODE AND/OR OTHER APPLICABLE LOCAL CODES. THIS INCLUDES PROPER GROUNDING AND BONDING OF THE SIGN AND INSTALLING DISCONNECT SWITCHES IF NOT FACTORY INSTALLED ON THE SIGN.

LANDSCAPING MATERIALS SHOULD BE KEPT MINIMUM TWO INCHES AWAY FROM SIGN POLES OR BASE PLATES.

THIS DRAWING IS FOR INSTALLATION PURPOSES ONLY AND NOT TO BE USED FOR MANUFACTURING.

John J Orlando PE
Digitally signed by John J Orlando PE
Date: 2024.03.07 20:45:19 -05'00'

CONCRETE SPECIFICATION

2.22 CU. EACH FOOTING (4.44 CU. YDS. TOTAL.) CONCRETE SHALL HAVE A MIN. COMPRESSIVE STRENGTH OF 3,000 PSI @ 28 DAYS. REINFORCING STEEL SHALL HAVE A MIN. YIELD STRENGTH OF 60,000 PSI. RECOMMENDED MIN. CURE TIME OF 7 DAYS BEFORE PROCEEDING WITH INSTALLATION.

DESIGN NOTE

CONCRETE BASE DESIGNED USING A LATERAL SOIL BEARING PRESSURE OF 150 PSF/FT. IF THESE SOIL CONDITIONS DO NOT EXIST AT THE FOUNDATION LOCATION, IT IS THE INSTALLER'S RESPONSIBILITY TO NOTIFY EVERBRITE, LLC PRIOR TO PERFORMING ADDITIONAL EXCAVATION OR ANY CONCRETE PLACEMENT.

INSTALLATION INSTRUCTIONS

1. CONFIRM LOCATION OF THE FOUNDATION WITH ACCOUNT MANAGER AND SITE PLAN.
2. CONTACT THE LOCAL AUTHORITY 811 UTILITY LOCATING SERVICE AT LEAST 3- BUSINESS DAYS BEFORE ANY EXCAVATION BEGINS.
3. MARK THE LOCATION OF THE FOUNDATION AND CONFIRM NO UTILITIES WILL OBSTRUCT THE FOUNDATION OR SIGN STRUCTURE ONCE ERECTED. IF A CONFLICT IS FOUND, CONTACT EVERBRITE IMMEDIATELY FOR DIRECTION ON HOW TO PROCEED.
4. CONFIRM HEIGHT OF FINAL GRADE ON SITE BASED ON EXISTING CONDITIONS.
5. ONCE FOUNDATION LOCATION IS APPROVED AND NO OBSTRUCTIONS ARE FOUND, EXCAVATE THE FOUNDATION TO THE SIZE INDICATED, AND REMOVE SPOILS FROM SITE UNLESS DIRECTED OTHERWISE BY EVERBRITE.
6. TAKE PHOTO SHOWING EXCAVATED HOLE
7. SET ANY FORMS THAT MAY BE REQUIRED TO ACHIEVE THE REQUIRED FOUNDATION HEIGHT ABOVE FINAL GRADE.
8. SET REBAR CAGE, ANCHOR BOLTS, CONDUIT AS ILLUSTRATED.
9. ENSURE ANCHOR BOLTS ARE SET TO THE REQUIRED HEIGHT, PLUMB AND CENTERED IN THE FOUNDATION, AND ORIENTED IN THE CORRECT POSITION.
10. COVER EXPOSED THREADS WITH DUCT TAPE OR MASKING TAPE TO PREVENT CONCRETE FROM GETTING IN THE THREADS.
11. TAKE PHOTO SHOWING HOLE, REBAR CAGE ANY FORMS SET PRIOR TO POURING CONCRETE.
12. POUR CONCRETE AND SMOOTH THE TOP SURFACE.
13. TAKE PHOTO SHOWING POURED FOUNDATION.
14. ALLOW RECOMMENDED CURE TIME FOR THE CONCRETE BEFORE SETTING POLES/CABINETS.

EVERBRITE TO FURNISH:

1. (8) ANCHOR BOLTS AND NUTS

INSTALLER TO FURNISH

- ALL ELECTRICAL COMPONENTS REQD.
- FOUNDATION.

GENERAL CONTRACTOR TO FURNISH

1. PRIMARY WIRES FROM BUILDING TO SIGN

REBAR SPECIFICATION

REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60, DEFORMATIONS PER ASTM A305. DO NOT WELD REINFORCING BARS, CONCRETE COVER PER THE DRAWINGS.

ANCHOR BOLT SPECIFICATION:

ANCHOR BOLT SHALL BE CONFORM ASTM F1554, GRADE 36, HOT-DIP GALVANIZED.

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STATE CERTIFIED SIGN CONTRACTOR LIC# ES12000314

DRAWN BY:
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EMAIL: Eric.Larson @ApogeeSigns.com
DIRECT LINE: 850.999.6042

76 #311
5672 SW State Road 247
Lake City, FL.

JOB NUMBER: 70467
DATE: 02/20/2024
SHEET NUMBER A.5
SHEET 5 of 6

Job name	76 - #311
Job#	0424APG
Company:	Apogee Signs
Installation location:	5672 FL-247, Lake City, FL 32024

Section 3107, Appendix H and section 1609 of Florida Building Code 2023 and Chapter 30 ASCE 7-22 applies.
Chapter 29.3 of ASCE 7-22 (Design Wind Loads; Solid Freestanding Walls and Freestanding Sign) applies:

Type of structure:	pylon	
Risk Category:	II	
Wind velocity (3 sec gust), FBC 2023, section 1609.3:	130	mph
Wind stagnation pressure (qz)	43.3	psf
Design wind pressure conversion factor	0.77	
Gust effect factor (G) ASCE 7-22 26.9.1	0.85	
Widest part of sign face (B)	7.09	
Height of sign face (s)	12.21	
Overall height of sign (H)	23.25	
Aspect ratio (B/s)	0.58	
Clearance ratio (s/H)	0.53	
Force Coefficient Cf from Figure 29.3-1, ASCE 7-22	1.4	
Wind pressure (p) multiplied by design wind pressure conversion factor and Cf	39.7	psf

1. Calculate wind load and turning moments at base by the provisions of the alternate all-heights method in Section 1609.6. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

Hor Dim (ft)	Vert Dim (ft)	Fill Factor	Af (sf)	p	F (lbs)	H (ft)	M (base) (ft-lbs)
7.1	12.2	1.0	86.6	39.7	3436	17.1	58914
0.7	23.3	2.0	31.0	39.7	1230	11.6	14298
			0.0	39.7	0		0
			0.0	39.7	0		0
Total			117.6		4666	15.7	73212

2. Determine depth of embedment, D in feet

From Table 1806.2, class 4, sandy soil, lateral bearing pressure below grade= 150 psf/ft
Per 1806.3.4 Increase for poles, tabular value time 2 = 300 psf/ft
Assume depth of hole (D) = 5 ft (S1) = 1500 psf
- number of posts= 2 Load per post (P)= 2333
- from p. 5-81, Structural Engineering Handbook:
D=((1.18*P)/(b*S1))*(1+(SQRT(1+(1.88*b*S1*H/P))))
assume b (ft)= 3
D (ft) = 5.3
Alternatively, Section 1807.3.2.1, Equation 18-1
A=2.34P/S1*b= 1.21
D=0.5A((1+(1+(4.36h/A))^0.5)= 5.2 feet

3. Determine required section modulus (in^3) at base

max stress = (P*(H)*12)/section modulus
max stress < allowable stress
for outdoor signs, allowable stress < (0.66)(yield strength)

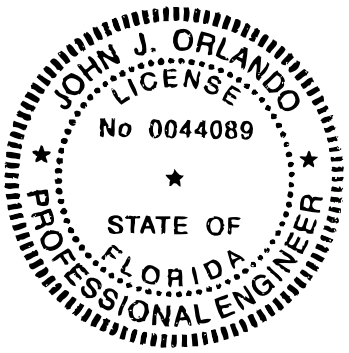
material	A500	
yield strength (modulus of rupture)	46000	psi
required section > (P*(H)*12)/((0.66*ys))		
At base, minimum section modulus =	14.5	in^3
Use 8" x 8" x 1/4" wall tube, section modulus (Wx) =	19.4	in^3

4. Check anchor bolt size

Number of posts	2
Number of anchor bolts per post	2
Diameter of bolt (inches)	1.25
Estimated weight of sign (pounds)	2000
Compressive load per bolt from dead load (pounds)	500
Bolt spacing across neutral axis (inches)	14
Maximum tension load under full wind load (pounds)	15188
Maximum compression load under full wind load (pounds)	15688
Average shear load	1166
Maximum combined load (pounds)	15438
Steel alloy of bolt	ASTM F1554 Gr 36
Minimum tensile strength (ksi)	36
Stress cross section of selected bolt size (inches)	0.9684
Tensile load (ksi)	15.942
Safety Factor	2.3

References:

The 8th Edition (2023) of the Florida Building Code
ASCE 7 22
Structural Engineering Handbook, Gaylord&Gaylord editors, Fourth edition, McGraw Hill, NY 1997
Mechanics of Materials, Beer and Johnston, McGraw Hill, NY 1981
Standard Handbook for Mechanical Engineers, T. Baumeister and
L.S. Marks, editors, Seventh edition, McGraw Hill, NY 1967



John J Orlando PE 0044089
165 Old Ridge Road
Macon GA 31211
(478) 731-5394

John J Orlando PE
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Date: 2024.03.07 20:45:34 -05'00'

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