

**GENERAL NOTES:**

- 1) The drawings provided are a performance specification and shall be considered the minimum acceptable design requirements. The selected vendor shall be responsible for the design of the structures to comply with or exceed the requirements outlined within these bid documents. The selected vendor shall submit signed and sealed shop drawings by a Florida Registered Engineer acting as the Engineer of Record for the structures and associated foundations. The shop drawings shall detail all materials, dimensions, and connections for review and shall be accompanied by wind load calculations. Signed, Sealed and dated by a Florida Registered Engineer. The selected fabricator/installer shall submit the shop drawings and be responsible for obtaining final permits from the City of Doral and any other jurisdictions as required.
- 2) The selected vendor's Florida Registered Engineer shall design the structure to resist wind loads in accordance with the following:
- i) Florida Building Code 7th Edition (FBC 2020) : For this project as allowed by Section 1609.2, wind loads on the structures shall be determined in accordance with Chapters 26 to 30 of ASCE 7 Minimum Design Load for Buildings and Other Structures. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.
- (a) Ultimate Design Wind Speed = Vult = 180 mph  
(b) Nominal Design Wind Speed = Vasd = 139 mph  
(c) Risk Category II  
(d) Wind Exposure C
- 3) The foundation shown is for bidding purposes. The selected vendor's Florida Registered Engineer shall design the foundation to resist wind loads in accordance with the requirements of Note 2 above and the "Report of Geotechnical-Exploration" Project No.: 100.142 November 2017 provided by Nutting Engineers of Florida, Inc.
- i) Due to the measured groundwater level, the immediate depth of water data shall not be relied upon alone for foundation design considerations.
- ii) Maximum allowable soil bearing capacity shall not exceed 2500 psf. A negative pressure shall not be allowed to form under the spread footing under maximum wind loads.
- iii) Factor of Safety against overturning shall be greater than 2.0.
- iv) Due to the irregular shape of the structures, the foundations shall be designed to resist the larger wind load anticipated on the Front, Rear, Left, and/or Right side in both directions.
- v) Bottom of the spread footings shall be at least 24" below the lowest adjacent finished grade.
- vi) Upon approval by the geotechnical engineer, the foundation area should then be thoroughly compacted with a vibratory plate compactor operated no faster than at a slow walking pace. The compaction operations must be observed by a representative of Nutting Engineers. In addition, the surface should also be compacted until a density equivalent to at least 98 percent of the modified Proctor maximum dry density (ASTM D-1557) is achieved to a depth of at least 12 inches below the compacted surface. Fill needed to bring the area to construction grade should be placed in maximum loose lifts of 12 inches. Each lift should be thoroughly compacted until densities equivalent to at least 98 percent of the modified Proctor maximum dry density are uniformly obtained. Fill should consist of granular soil, with less than 10% passing the No. 200 sieve, free of rubble, organics (5% or less) clay, debris and other unsuitable material. The fill should have ASTM designation (D-2487) of GP, GW, SP, or SW, with a maximum particle size of no more than 3 inches or as otherwise approved by Nutting Engineers. Sand which becomes loosened as a result of foundation excavation shall be recompacted to at least 98 percent of the modified Proctor maximum dry density (ASTM-D1557), for a minimum depth of one (1) foot below the bottom of the footing depth, as determined by field density compaction tests prior to placing reinforcing steel and concrete. If the footing bearing materials become disturbed due to surface water resulting from precipitation and runoff, the unsuitable and disturbed soils should be over excavated and replaced with compacted granular fill meeting the above compaction requirements.
- vii) Once plans are finalized for the proposed construction, a copy of the design documents shall be provided to Nutting Engineers for review to determine whether additional details or changes to their Geotechnical Report recommendations are warranted. Work shall not begin until the Geotechnical Engineer has reviewed and approved the plan of action for foundations as submitted by the vendor's Engineer of Record.
- viii) All foundation work shall be completed in accordance with applicable building codes, other regulations as appropriate, and good standard local practice.
- 4) All work on this project with respect to the structures and associated foundations shall comply with, at a minimum, the following design standards:
- i) Florida Building Code 5th Edition (FBC 2014)  
ii) ACI 318—11 Building Code Requirements for Structural Concrete  
iii) AA ADM1—2015 Aluminum Design Manual: Part 1—A Specification for Aluminum Structures  
iv) AISC 360—10 Specification for Structural Steel Buildings  
v) AISI Design Manual for Structural Tubing  
vi) ASCE 7—10 Minimum Design Loads for Buildings and Other Structures  
vii) AWS D1.1—D1.1M—2010 Structural Welding Code—Steel  
viii) AWS D1.2 Structural Welding Code—Aluminum  
ix) Default Weld Requirements: Unless specifically shown on drawings all welds shall be fillet welds. For materials less than 1/4 inch, welds shall be no less than the thickness of the material. For material greater than 1/4 inch, weld shall be equal to thickness of the material less 1/16 inch.

**(Continued):**

- 5) All work on this project with respect to the structures and associated foundations shall comply with, at a minimum, the following material standards:
- i) Structural Steel:
- (a) Base Plates, Steel Shapes: ASTM A36/A36M—08 Specification for Carbon Structural Steel  
(b) HSS Steel Tubing: ASTM A588/A588M—10 Specification for High-strength Low-alloy Structural Steel with 50 ksi (345 MPa) Minimum Yield Point with Atmospheric Corrosion Resistance  
(c) Structural Steel & Plate Washer Coating: ASTM A123/A123M—09 Standard Specification for Zinc Coating (Hot-dip) on Iron and Steel Products  
(d) Galvanizing Repair: ASTM 780/780M Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings  
(e) Structural Steel Connections:  
1. High Strength Bolts - ASTM F325 A325 Type 1  
2. Nuts - ASTM A563 Grade DH Heavy-Hex  
3. Washers - ASTM F436 Type 1, one under turned element)  
(f) Weld Material: E70XX  
(g) ISOLATION: All dissimilar metals to be isolated from each other with neoprene gasketing material or other approved material
- ii) Aluminum Products:
- (a) Round Pipe: Aluminum Alloy 6061-T6  
(b) Square/Rectangular Tubing: Aluminum Alloy 6061-T6  
(c) Angles: Aluminum Alloy 6063-T5  
(d) Connection Hardware: Type 316 Stainless Steel Bolts/Screws  
(e) Aluminum Sheet: Aluminum Alloy 3003-H14 painted satin white Matthews Acrylic Polyurethane Paint or approved equal. Specify recommended paint finish  
(f) Perforated Aluminum Sheet: Aluminum Alloy 3003-H14 painted with Matthews Clear Coat or approved equal. Specify recommended clear coat finish in bid
- iii) Sign Components:
- (a) All signs inserted into structure shall utilize UL listed LEDs and Transformers.  
(b) Each Structure will require one 20 AMP dedicated circuit either 277V or 120V
- iv) Foundation Materials:
- (a) Concrete: Concrete Compressive Strength = 3500 psi @ 28 days  
(b) Concrete Reinforcing Materials = ASTM Grade 60  
(c) Foundation Anchorage:  
1. Anchor Bolts - ASTM F1554 Grade 55  
2. Nuts - ASTM A563 Grade DH Heavy-Hex  
3. Plate Washers - ASTM A36 (2 per bolt)  
4. Coatings (excluding Plate Washers) - ASTM F2329
- 6) Contractor to coordinate with the electrical contractor for the installation of the LED strips and access panels. See Calvin, Giordano & Associates electrical drawing, page E4.

ASCE 7-16, 180 mph Wind, Exposure C  
This design Complies with the High Velocity  
Hurricane Zone Code and with the 2020 FBC 7th Ed.



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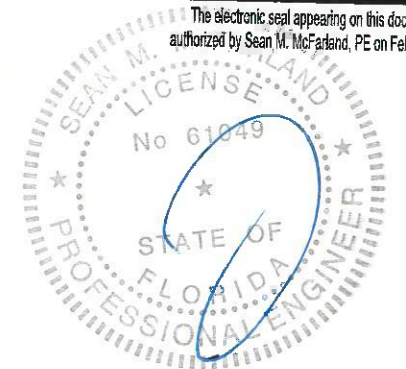
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Initial Drawing: (40616) AB  
Revised Code: (54436) DS  
Updated Artwork: (55182) DS

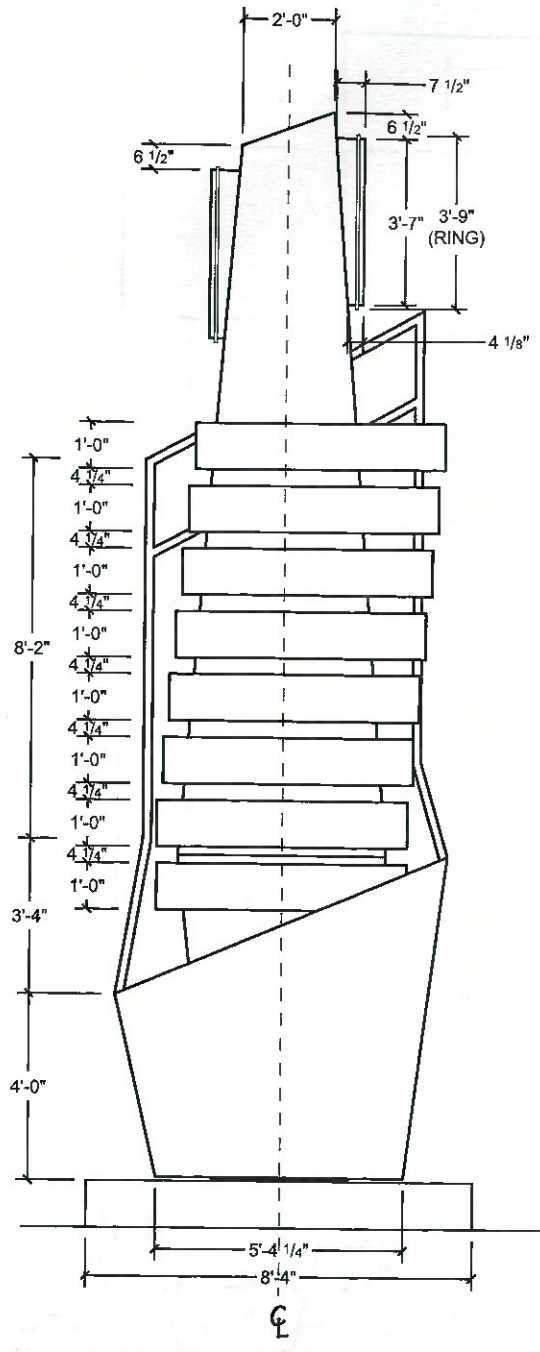
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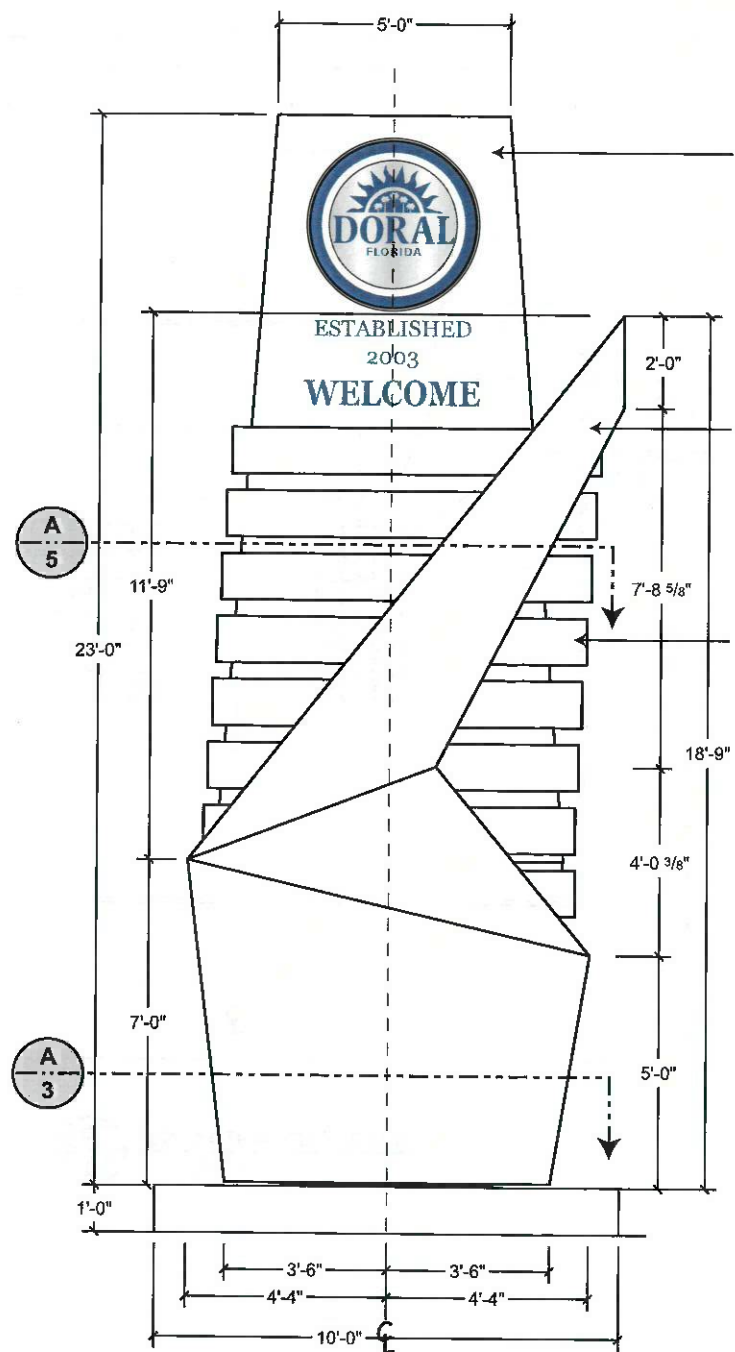


Date: 2-7-2022  
Sheet #: 1 of 7

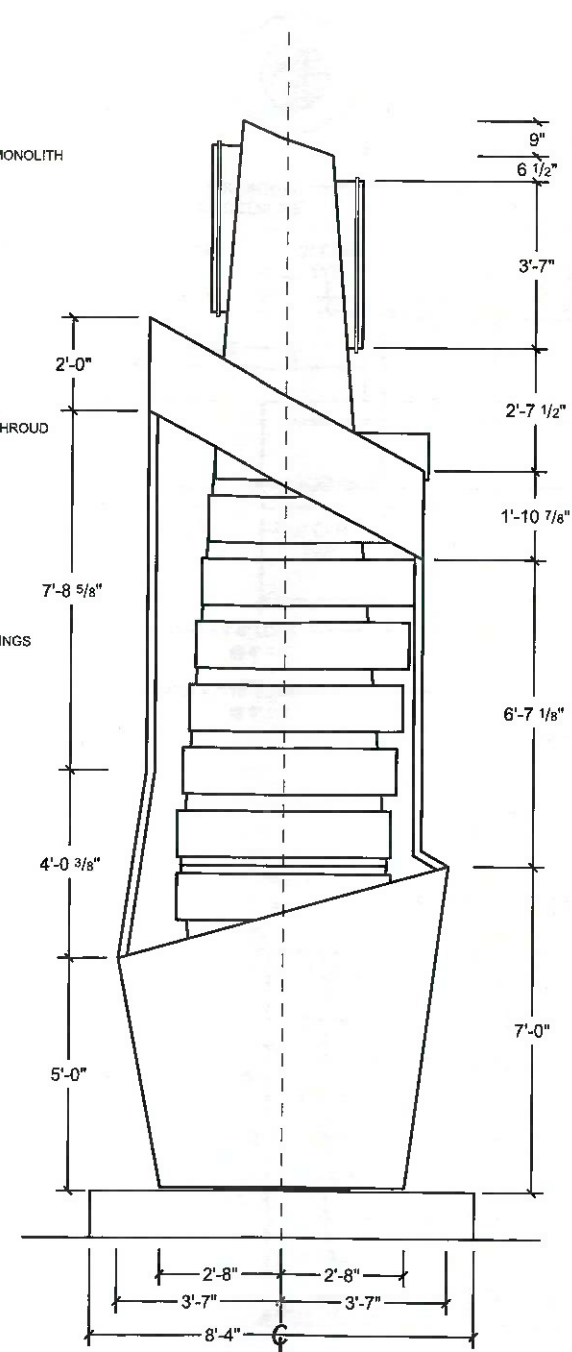
ME #: 55182



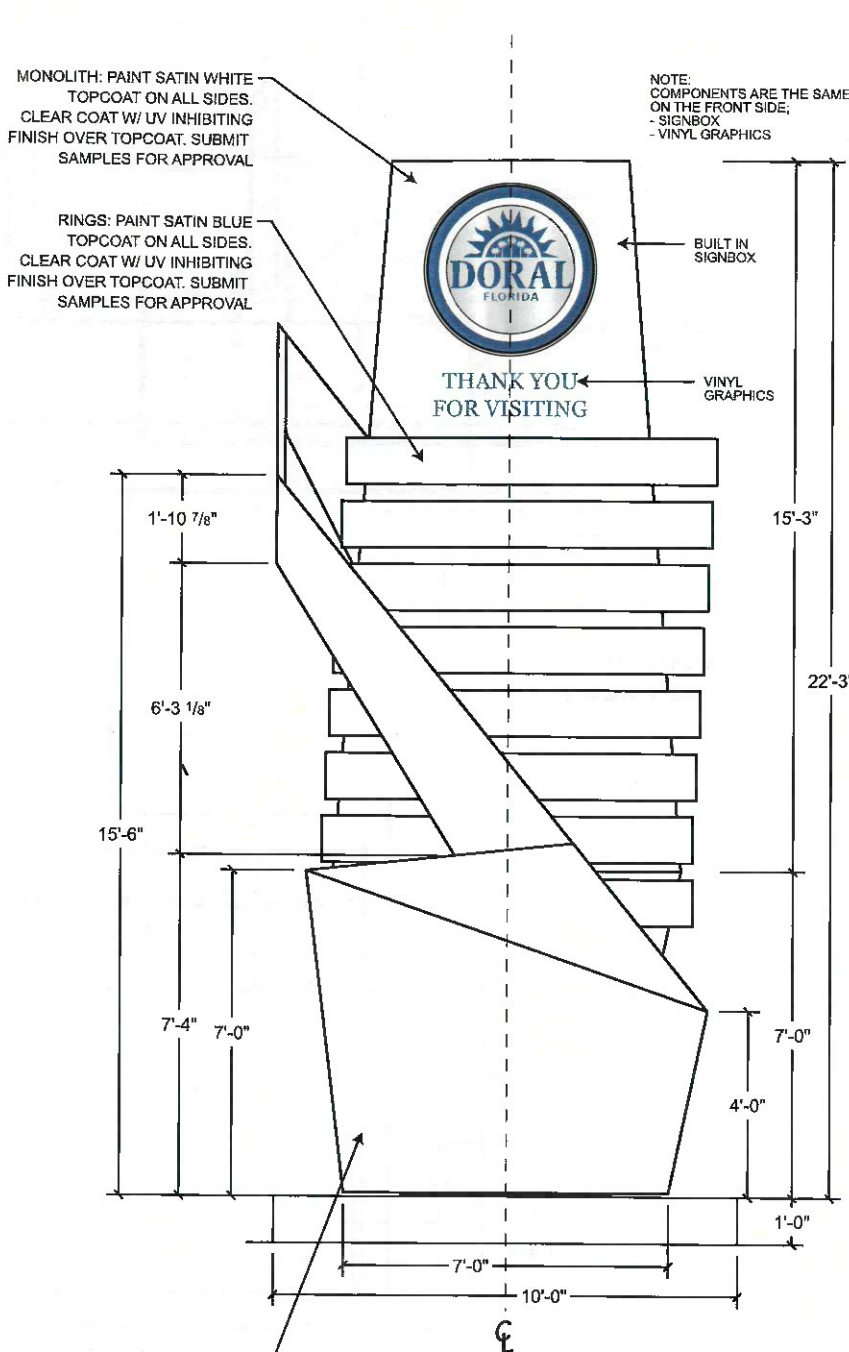
**A**  
**2** LEFT SIDE ELEVATION  
1/4" = 1'-0"



**B**  
**2** FRONT ELEVATION  
1/4" = 1'-0"



**C**  
**2** RIGHT SIDE ELEVATION  
1/4" = 1'-0"



**D**  
**2** REAR ELEVATION  
1/4" = 1'-0"

MONOLITH: PAINT SATIN WHITE  
TOPCOAT ON ALL SIDES.  
CLEAR COAT W/ UV INHIBITING  
FINISH OVER TOPCOAT. SUBMIT  
SAMPLES FOR APPROVAL

RINGS: PAINT SATIN BLUE  
TOPCOAT ON ALL SIDES.  
CLEAR COAT W/ UV INHIBITING  
FINISH OVER TOPCOAT. SUBMIT  
SAMPLES FOR APPROVAL

NOTE: COMPONENTS ARE THE SAME  
ON THE FRONT SIDE,  
- SIGNBOX  
- VINYL GRAPHICS

SHROUD: CLEAR COAT.  
SUBMIT SAMPLES FOR APPROVAL.

ASCE 7-16, 180 mph Wind, Exposure C  
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**McFarland Engineering**

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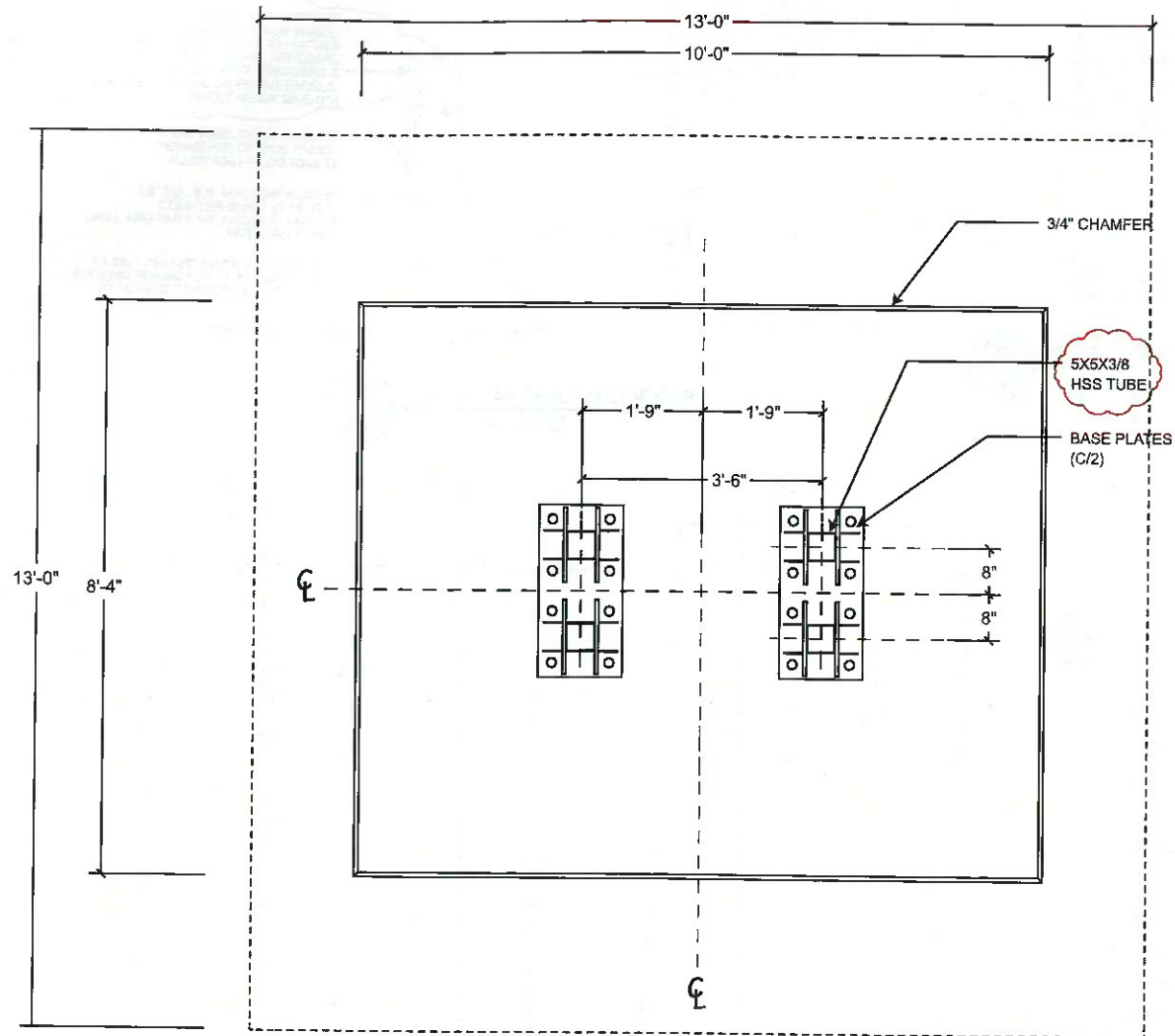
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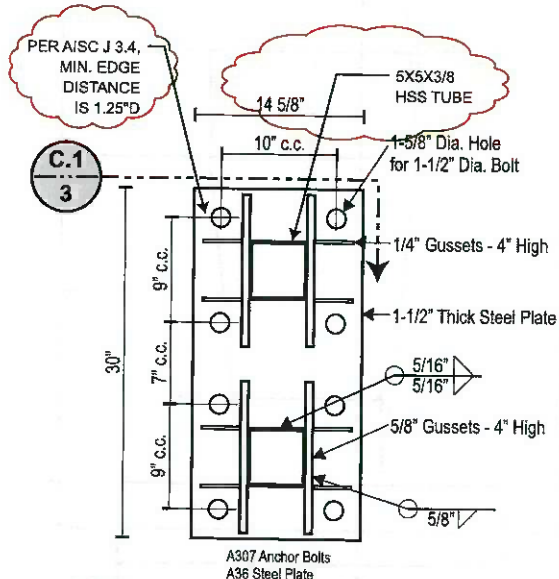


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Sheet #: 2 OF 7

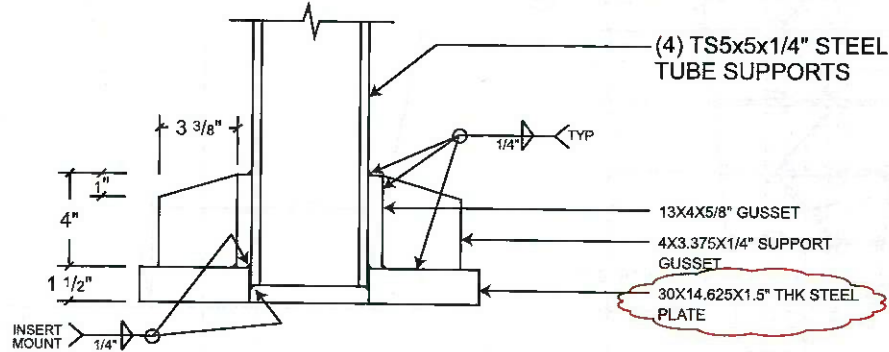
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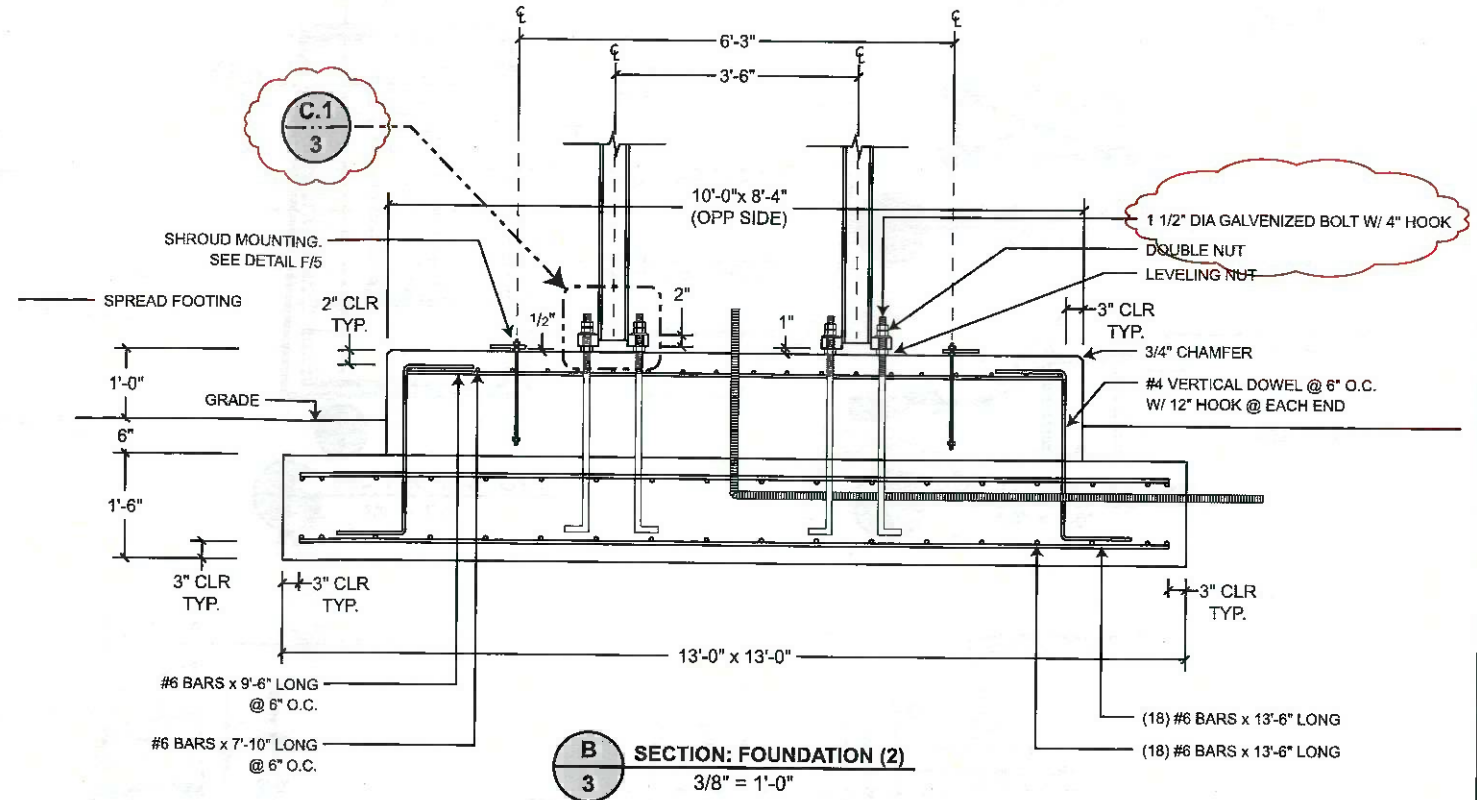
**A** TOP SECTION VIEW - BASE  
3/8" = 1'-0"



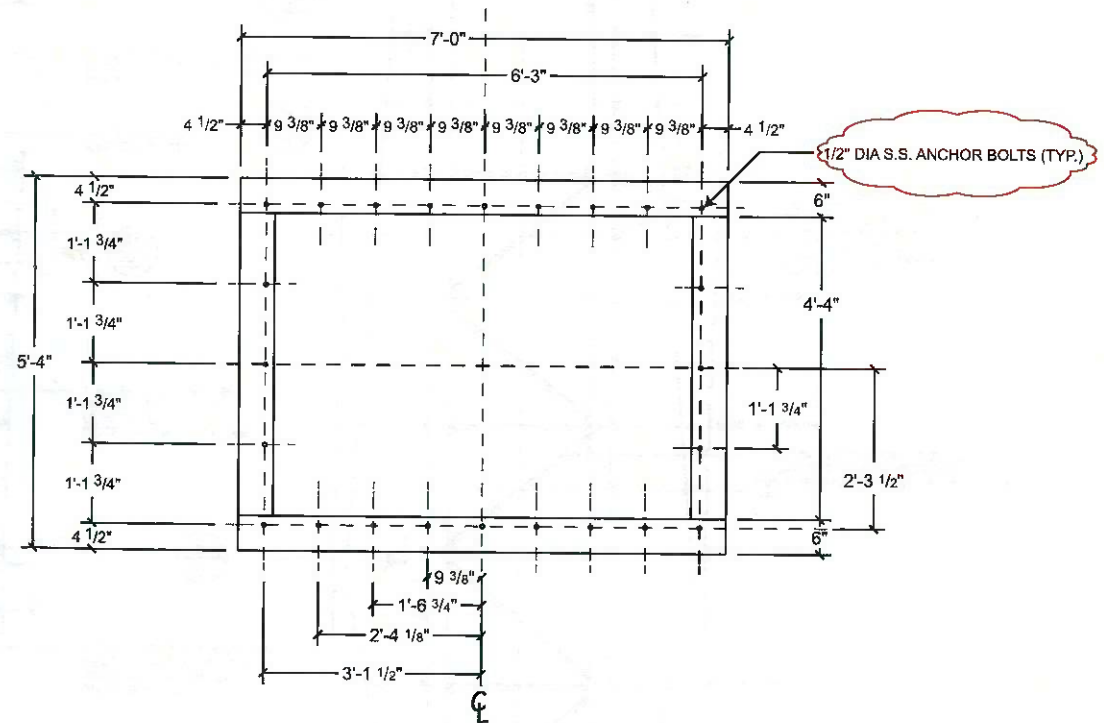
**C** DETAIL: FRAME BASE PLATES  
3/4" = 1'-0"



**C.1** DETAIL: FRAME BASE PLATES  
3/4" = 1'-0"



**B** SECTION: FOUNDATION (2)  
3/8" = 1'-0"



**D** DETAIL: SHROUD BASE PLATE  
3/8" = 1'-0"

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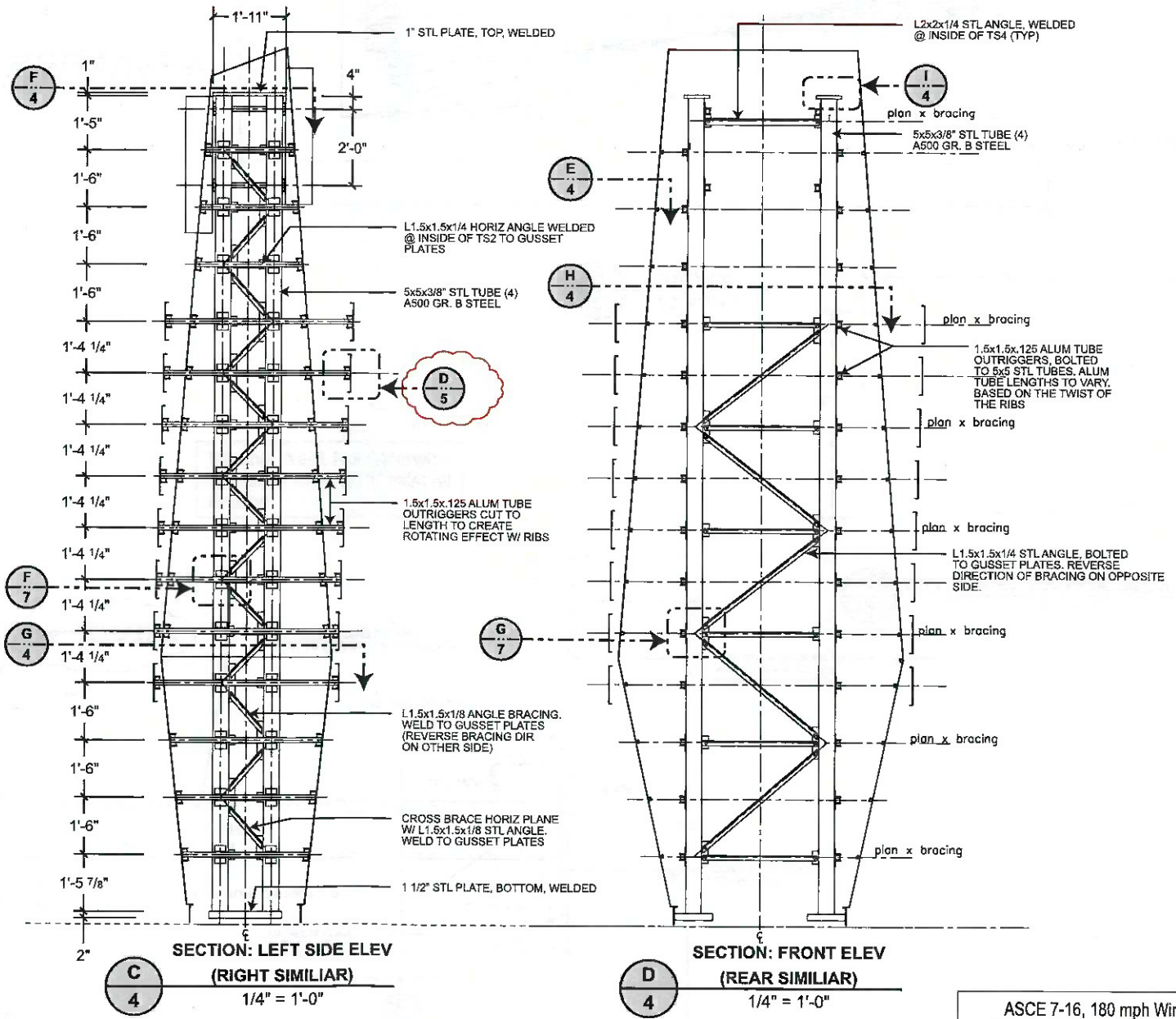
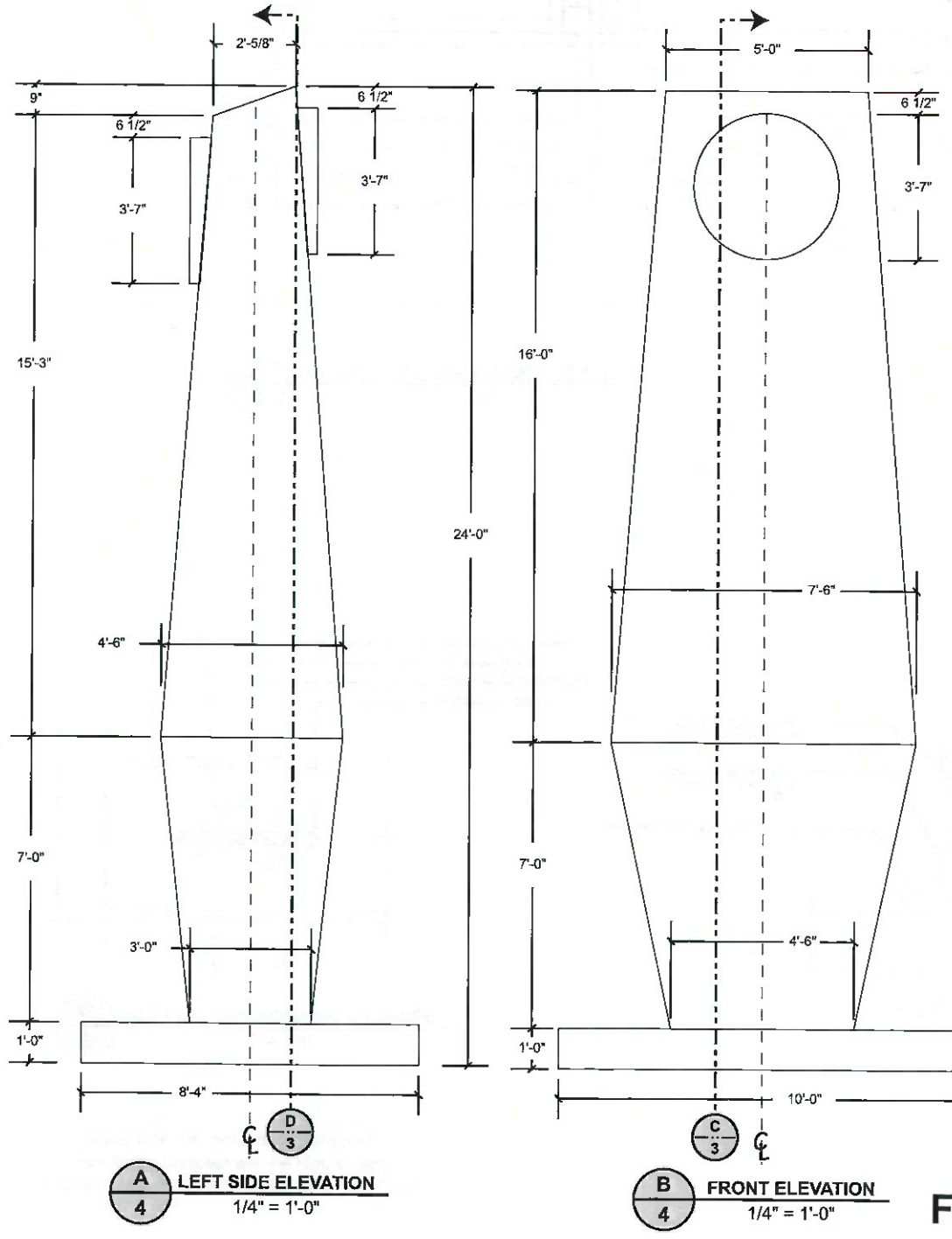
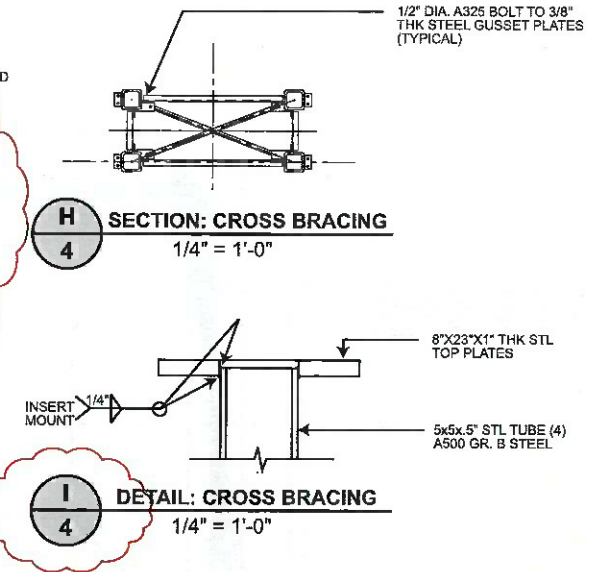
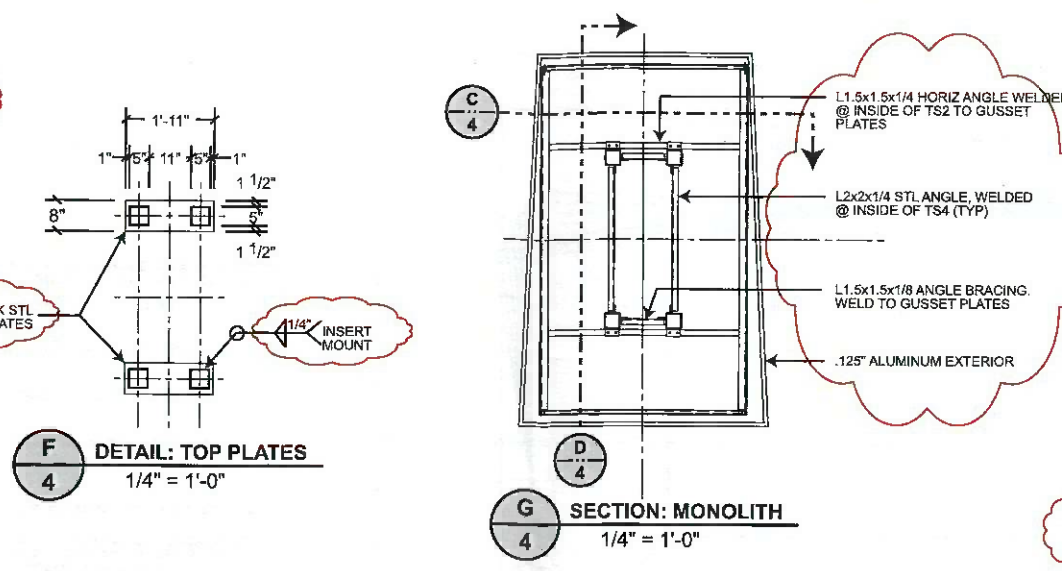
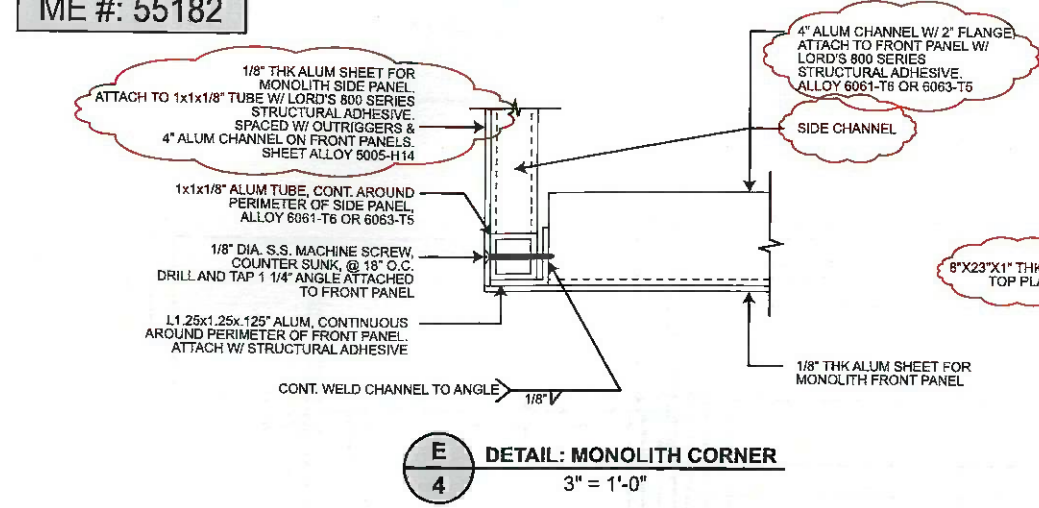
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Sheet #: 3 OF 7

ME #: 55182



**FRAMING**

NOTE: ALL BRACING SHOWN IN THIS DIRECTION TO BE WELDED TO 3/8" THK STEEL GUSSET PLATES WITH 3/16" FILLET WELDS (TYPICAL)

NOTE: ALL BRACING SHOWN IN THIS DIRECTION TO BE BOLTED TO 3/8" THK STEEL GUSSET PLATES WITH 1/2" DIA. A325 BOLTS (TYPICAL)

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**Mcfarland Engineering**

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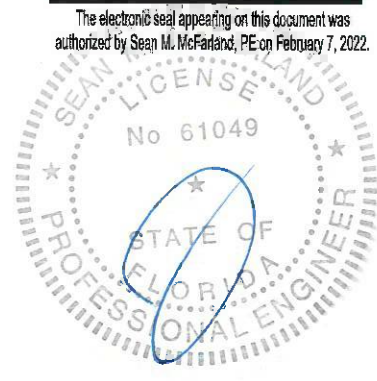
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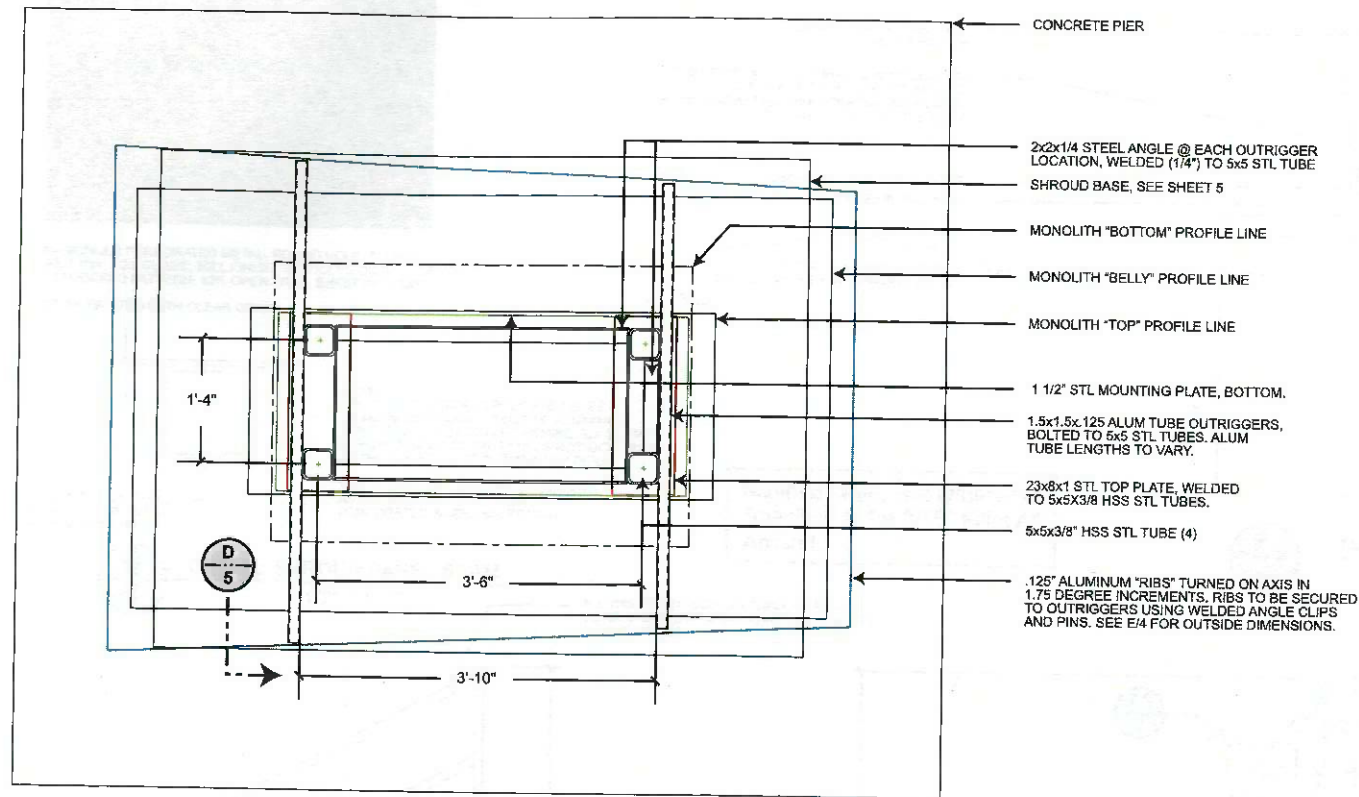
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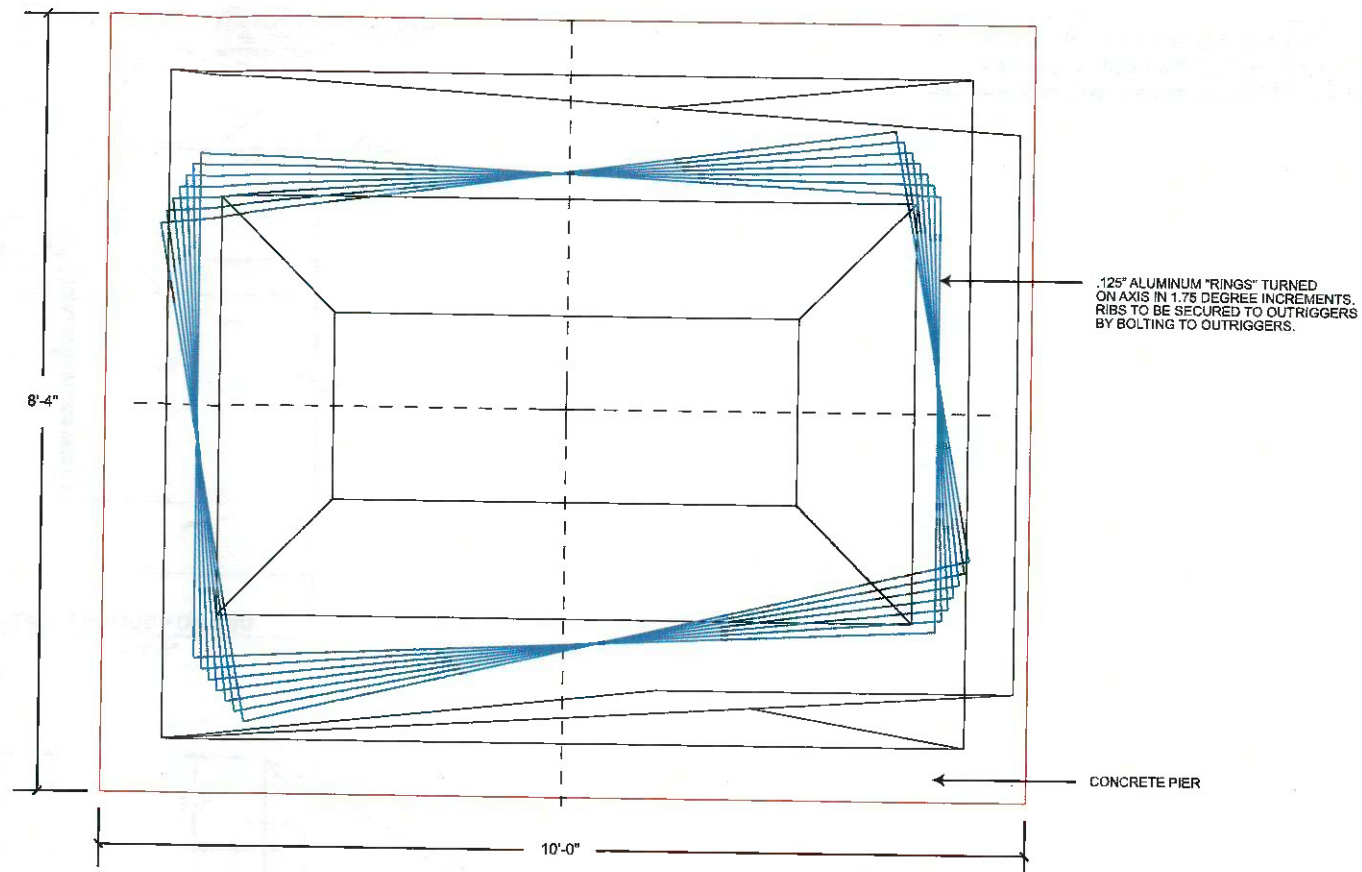


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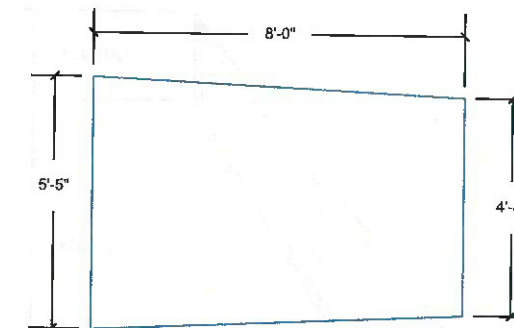
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**A** TOP SECTION VIEW-FRAME (CONT.)  
5 1/2" = 1'-0"

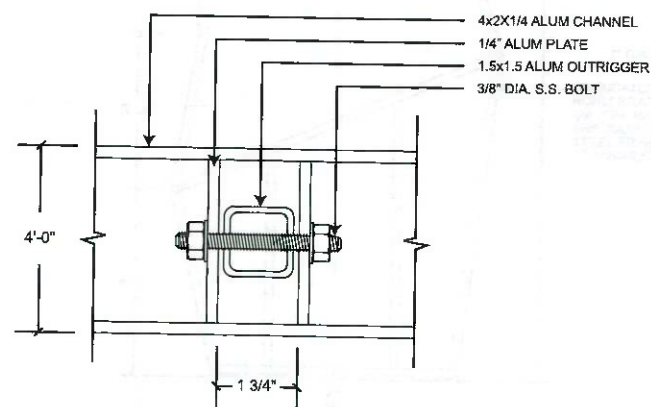


**B** TOP VIEW  
5 1/2" = 1'-0"

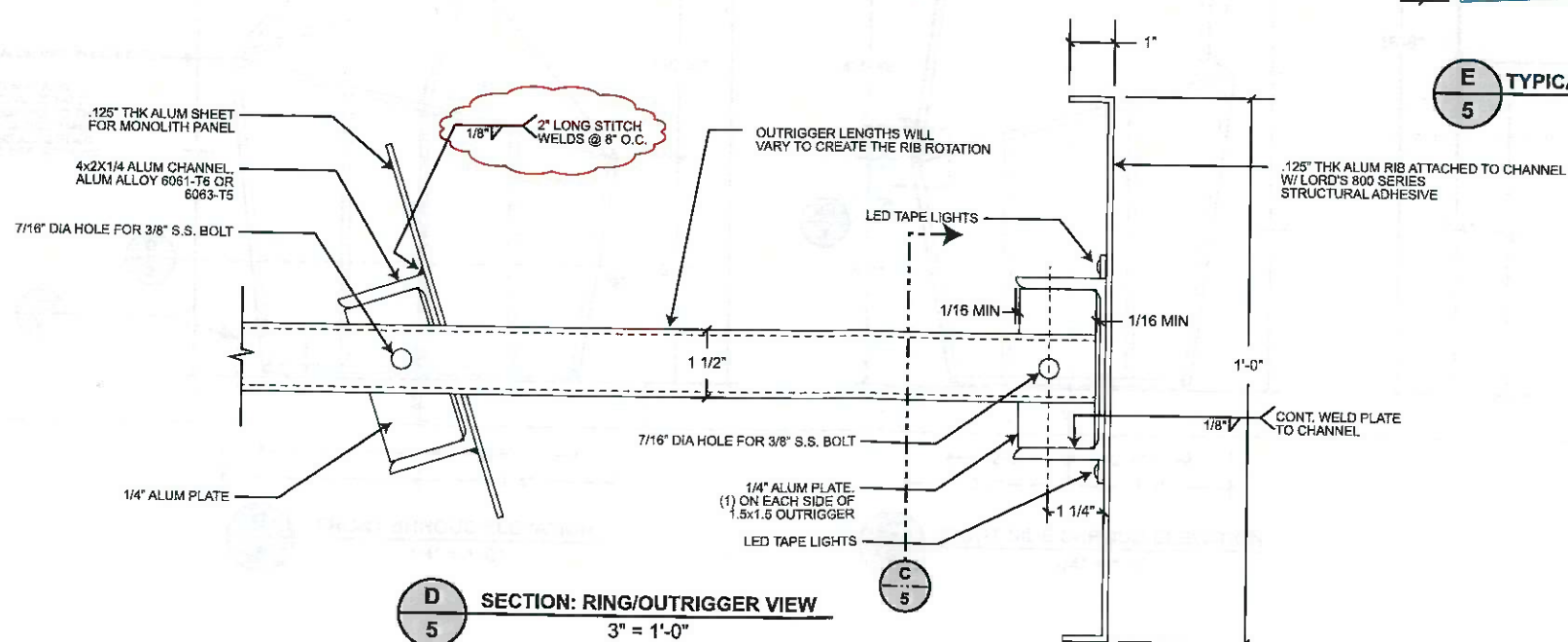


**E** TYPICAL RINGS OUTSIDE DIMENSIONS  
5 1/4" = 1'-0"

Minimal Weld, Not Otherwise Specified to be 3/16" Fillet All Around.



**C** SECTION: OUTRIGGER/CHANNEL  
5 3" = 1'-0"



**D** SECTION: RING/OUTRIGGER VIEW  
5 3" = 1'-0"

ASCE 7-16, 180 mph Wind, Exposure C  
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**M** McFarland Engineering

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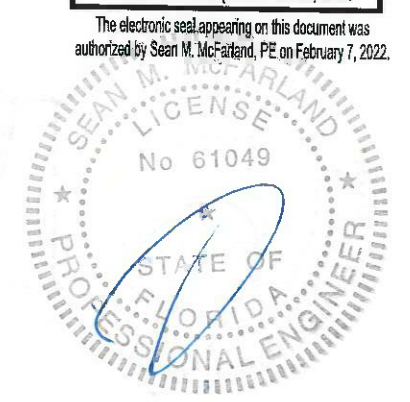
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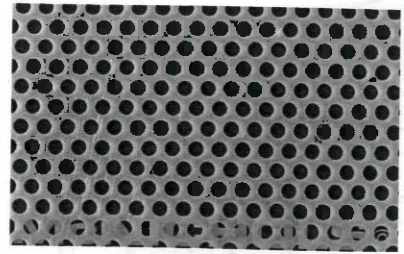
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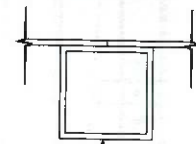


Date: 2-7-2022  
Sheet #: 5 of 7

ME #: 55182



McNICHOLS PERFORATED METAL, ROUND HOLE, ALUM TYPE 3003-H14, .125 GAUGE, MILL FINISH, 3/8" HOLES ON 9/16" CENTERS, STAGGERED PATTERN, 40% OPEN AREA, SHEET 48" x 120".  
TO BE PAINTED WITH CLEAR COAT.

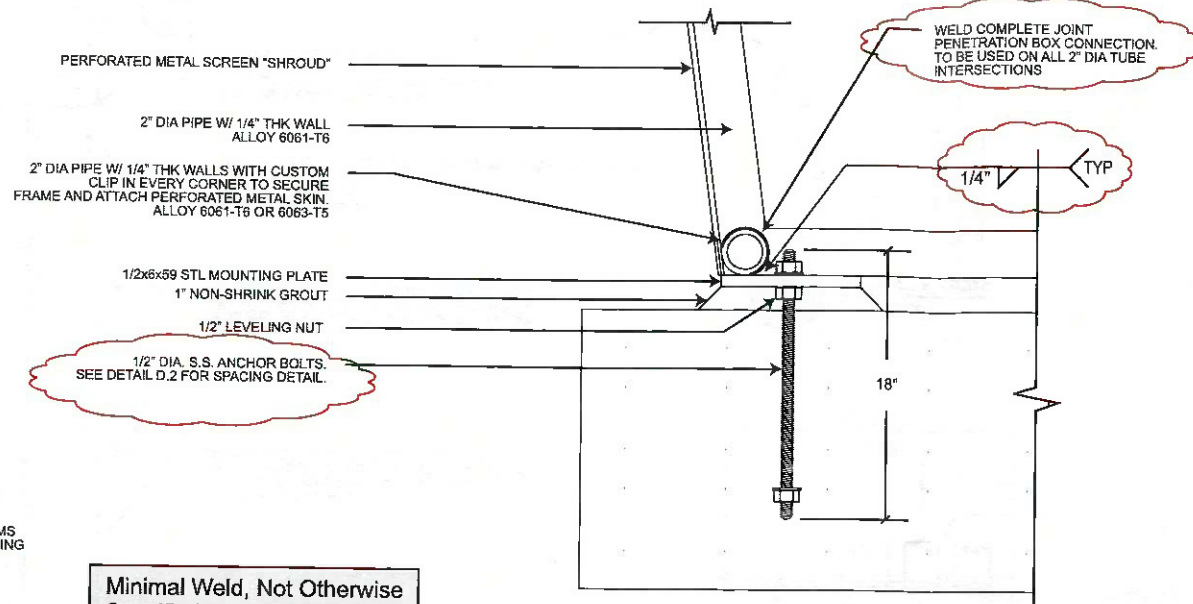


2x2x1/4" ALUM TUBE BACKUP AT SEAMS IN PERFORATED METAL

NOTE:  
USE MAXIMUM SIZE PERFORATED SHEETS TO MINIMIZE SEAMS. A 1x1x1/16" ALUMINUM TUBE SHALL BE INSTALLED BEHIND ALL SEAMS IN PERFORATED METAL PANELS NOT OCCURRING AT THE LOCATION OF 2" DIAMETER PIPES.

ADD ADDITIONAL BRACING (FRAMING) AS NECESSARY TO SUPPORT FINAL PERFORATED SHEET SELECTION

**G** **6** **DETAIL: SHROUD PANEL SEAM**  
1 1/2" = 1'-0"



Minimal Weld, Not Otherwise Specified to be 3/16" Fillet All Around.

**F** **6** **DETAIL: SHROUD FOOTING**  
1 1/2" = 1'-0"

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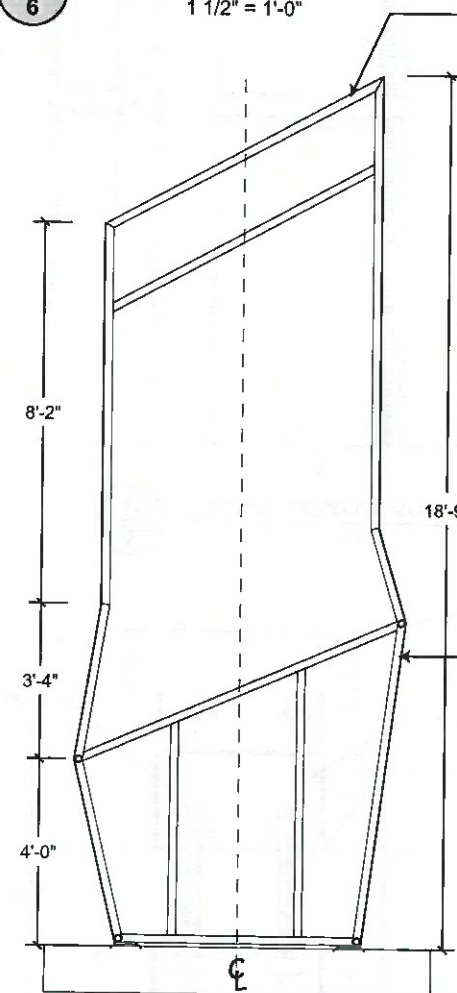
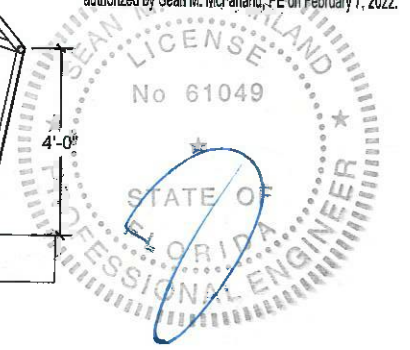
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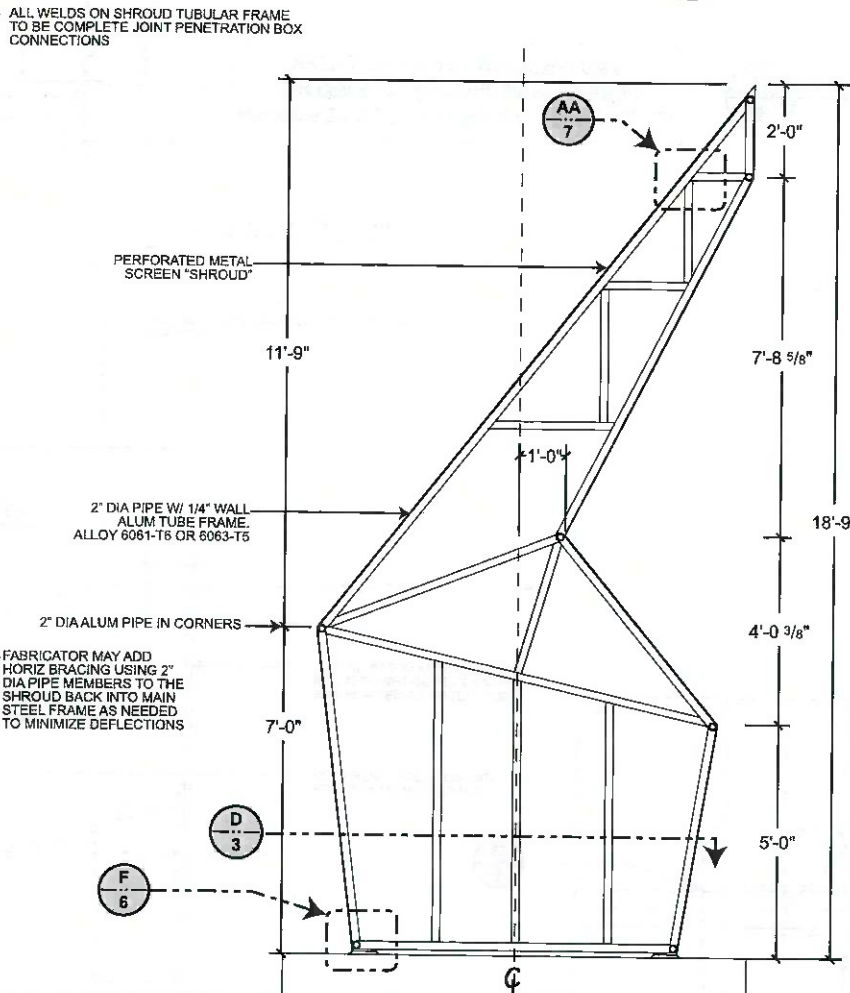
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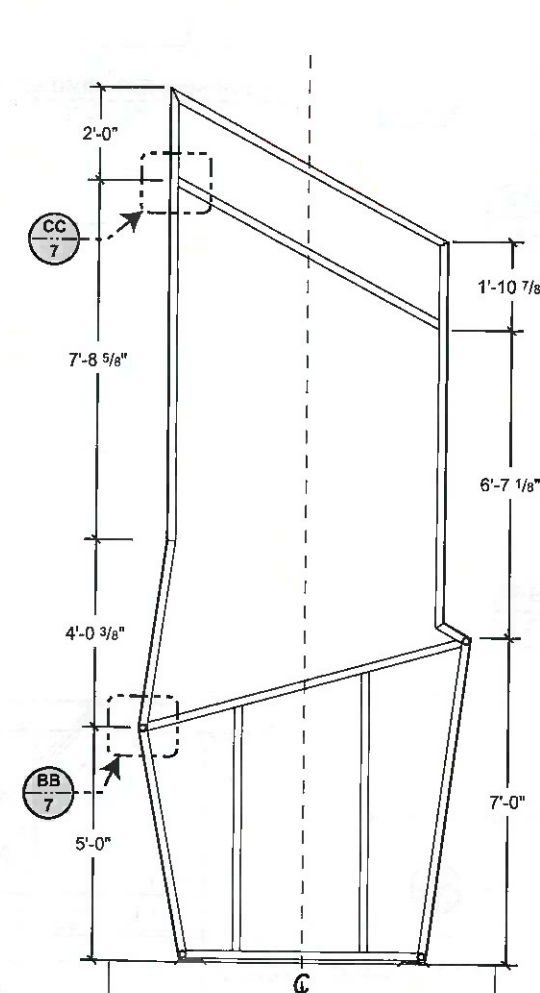
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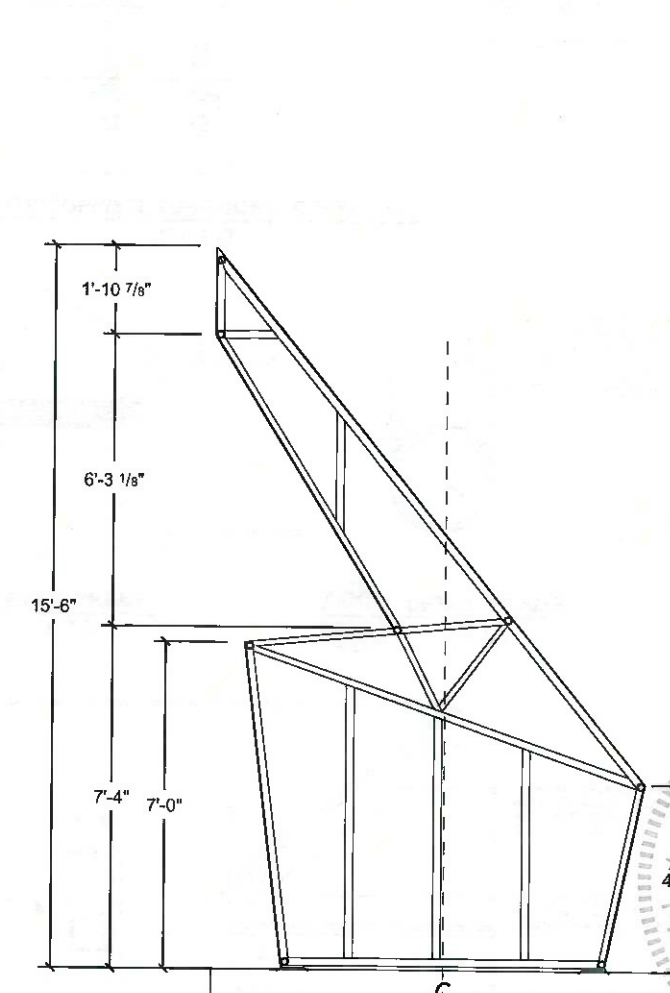
**A** **6** **LEFT SIDE SHROUD ELEVATION**  
1/4" = 1'-0"



**B** **6** **FRONT SHROUD ELEVATION**  
1/4" = 1'-0"

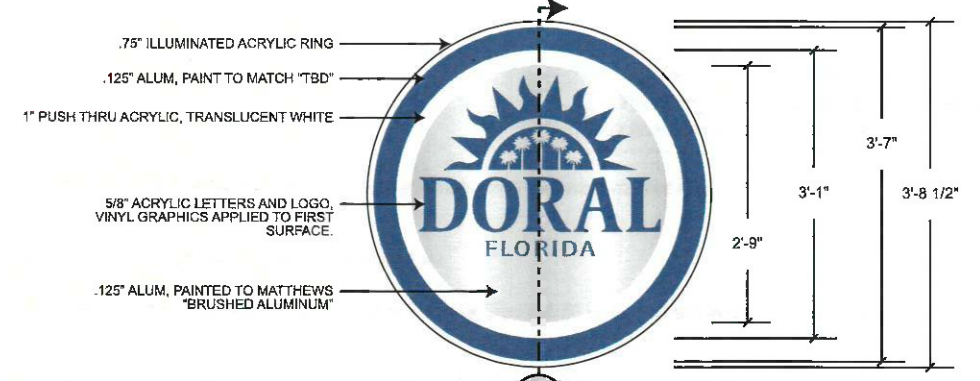
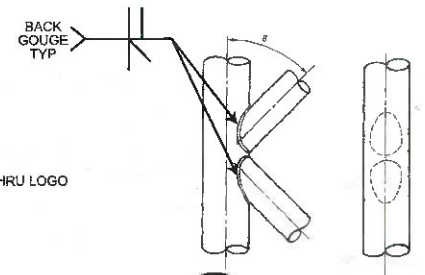
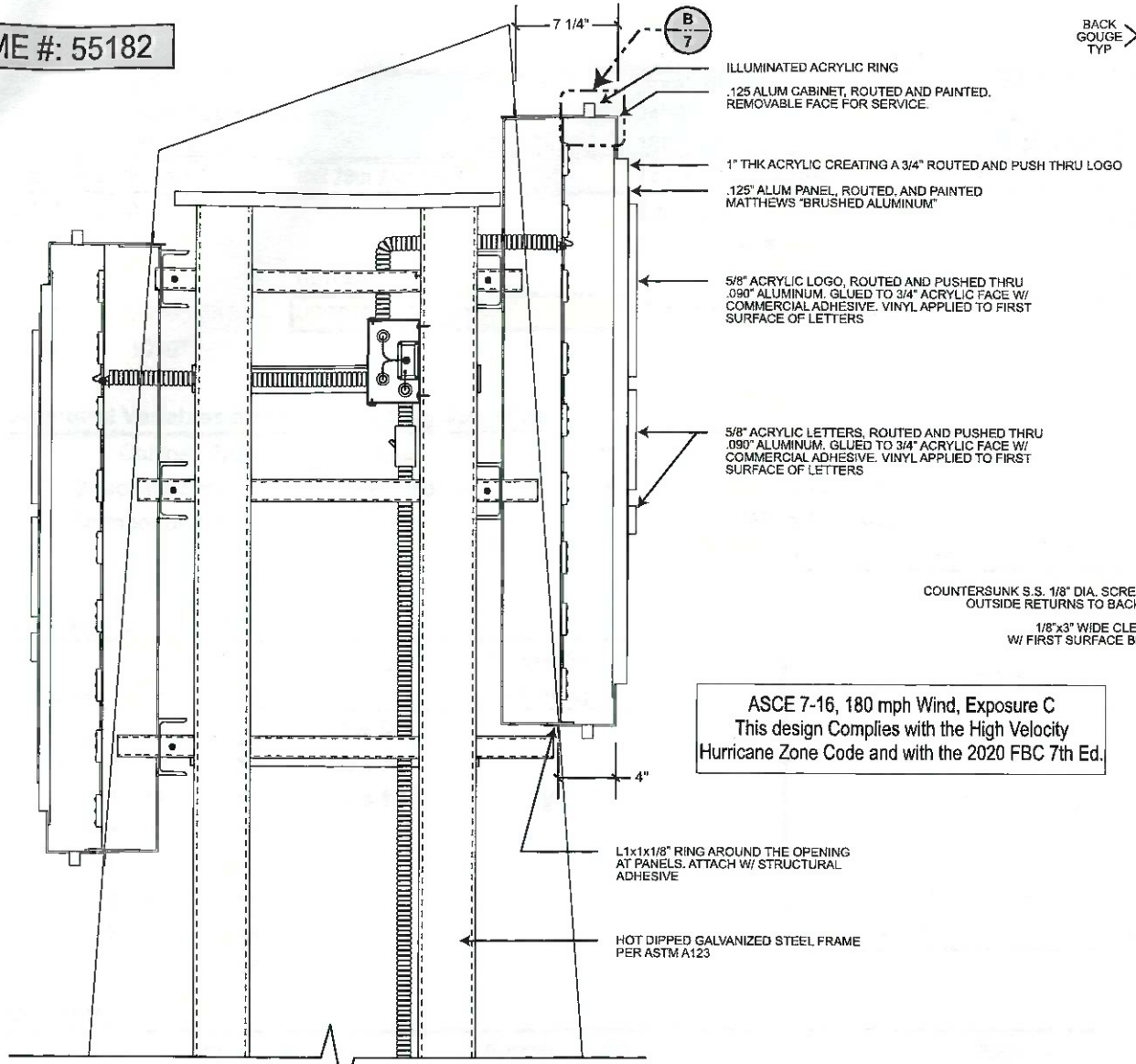


**C** **6** **RIGHT SIDE SHROUD ELEVATION**  
1/4" = 1'-0"

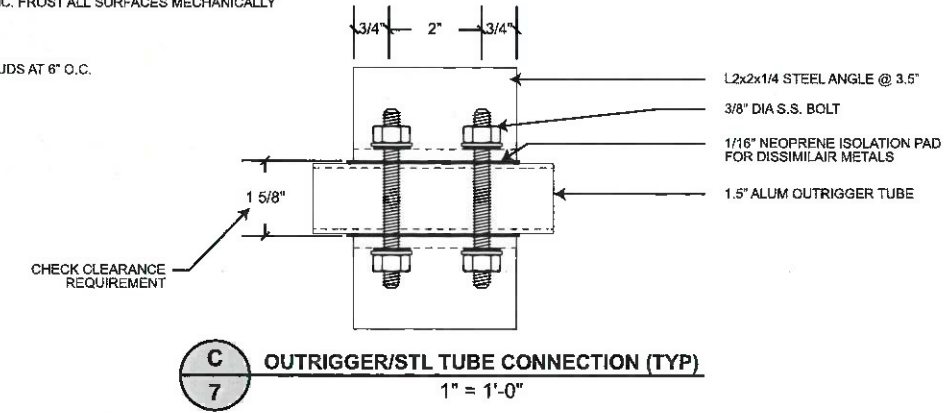
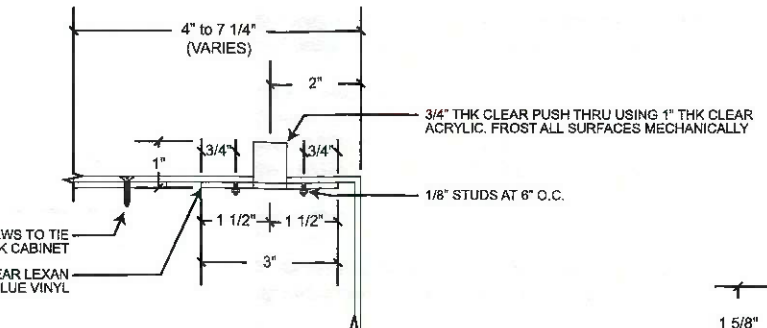


**D** **6** **REAR SHROUD ELEVATION**  
1/4" = 1'-0"

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Minimal Weld, Not Otherwise Specified to be 3/16" Fillet All Around.

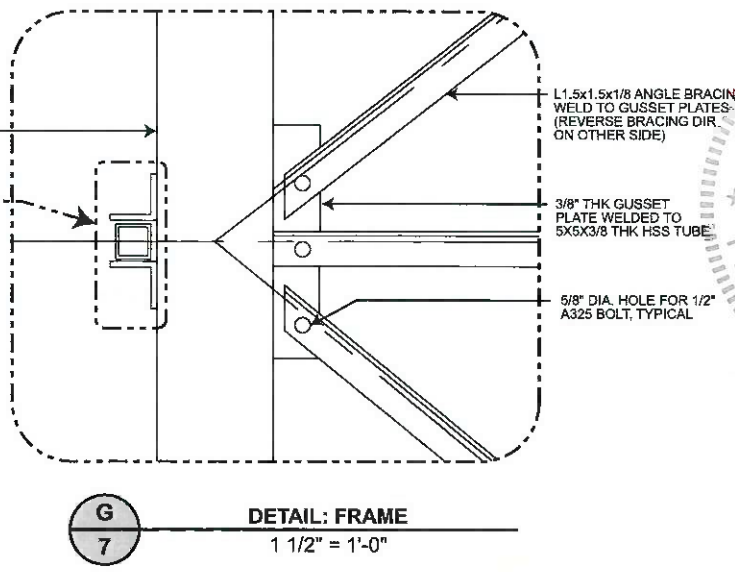
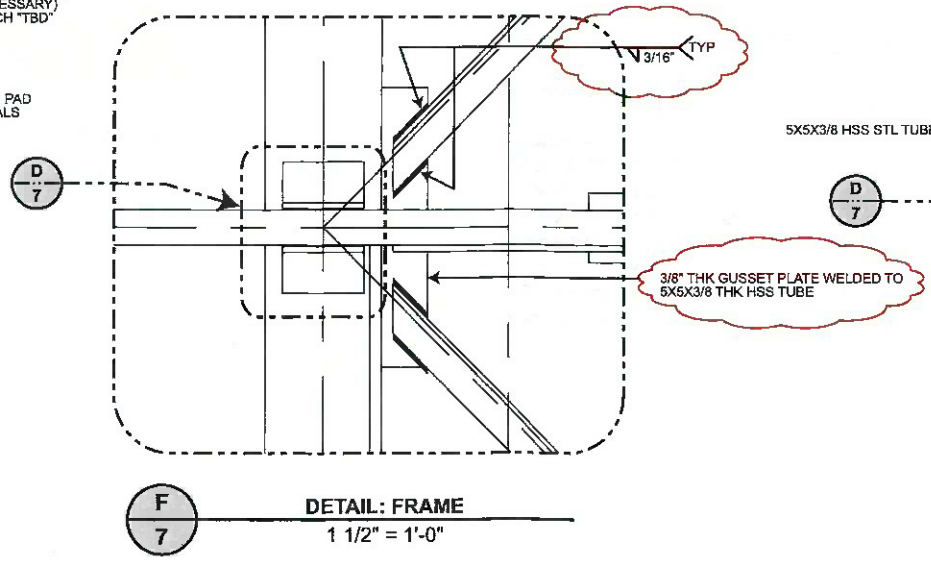
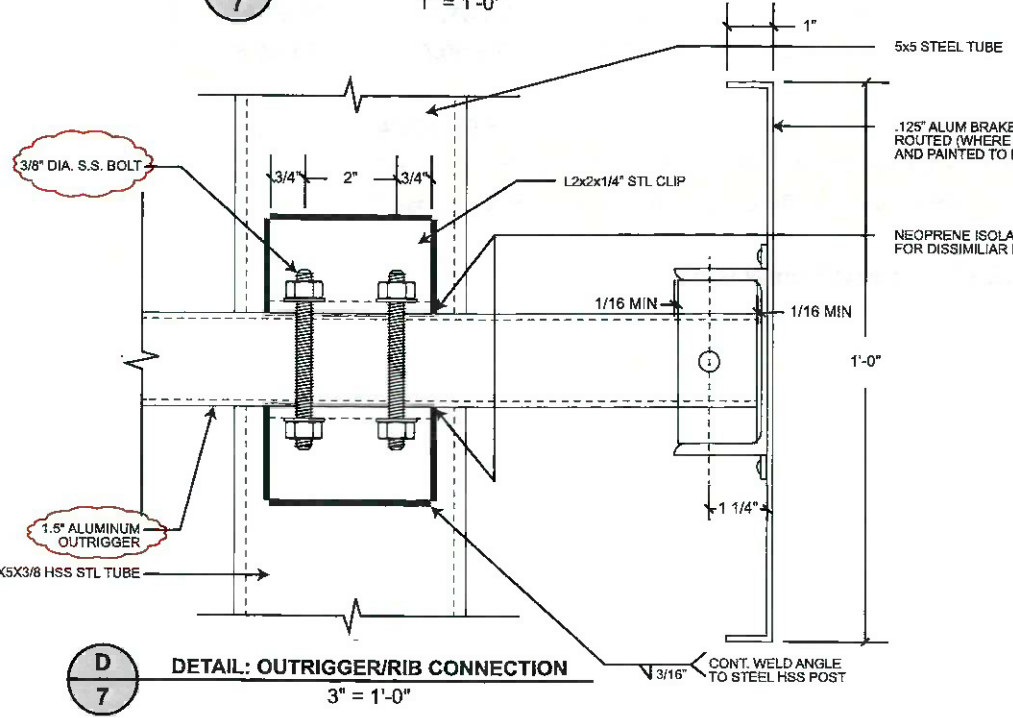
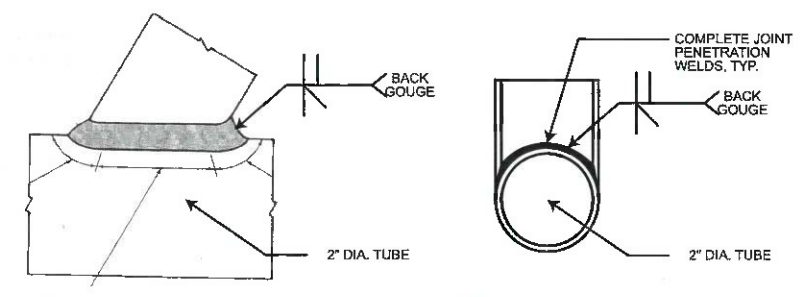


ASCE 7-16, 180 mph Wind, Exposure C  
This design Complies with the High Velocity Hurricane Zone Code and with the 2020 FBC 7th Ed.

A 7

DETAIL: SIGNBOX/MONOLITH

1" = 1'-0"



**McFarland Engineering**

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**CITY OF DORAL**

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City/State: DORAL, FL

Client: IMAGE RESOURCE GROUP

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Initial Drawing: (40616) AB  
Revised Code: (54436) DS  
Updated Artwork: (55182) DS

NC Firm Registration: F-1136  
Florida License Number: 61049  
Florida License Expires: Feb. 28, 2023

The electronic seal appearing on this document was authorized by Sean M. McFarland, PE on February 7, 2022.



Date: 2-7-2022  
Sheet #: 7 of 7