

THE FRENCH STEEL CO

FRENCH STEEL EXTERIOR STATIONARY WINDOWS

ANCHORAGE DETAILS

GENERAL NOTES:

1. THIS PRODUCT WAS TESTED IN A MANNER CONSISTENT WITH THE HIGH VELOCITY HURRICANE ZONE (HVHZ) REQUIREMENTS OF THE CURRENT EDITION OF THE FLORIDA BUILDING CODE (FBC) TO THE DESIGN PRESSURE(S) STATED HEREIN USING THE FOLLOWING PROTOCOLS.
- 1.1. TAS 201-94

1.2. TAS 202-94

1.3. TAS 202-94
2. THIS PRODUCT WAS TESTED IN A MANNER CONSISTENT WITH THE WIND- BORNE DEBRIS REGION REQUIREMENTS OF THE CURRENT EDITION OF THE FLORIDA BUILDING CODE (FBC) TO THE DESIGN PRESSURE(S) STATED HEREIN USING THE FOLLOWING PROTOCOLS.
- 2.1. ASTM E330, ASTM E331, ASTM E283, ASTM E1886 AND ASTM E1996.
3. THE PRODUCT DETAILS CONTAINED HEREIN ARE BASED UPON THE FOLLOWING SIGNED AND SEALED TEST REPORTS BY INTERTEK/ARCHITECTURAL TESTING, 1701 WESTFORK DRIVE, SUITE 106, LITHIA SPRINGS, GA 30122
- 3.1. TEST REPORT NO. L8469.01-550-01 R1, DATED 11/08/21, SIGNED AND SEALED BY TANYA A. DOLBY, FL PE NO. 93536.
4. THIS PRODUCT EVALUATION DOCUMENT IS FOR USE IN THE HIGH VELOCITY HURRICANE ZONE (HVHZ).
5. ADEQUACY OF THE EXISTING STRUCTURAL CONCRETE / MASONRY, 2X FRAMING AND METAL FRAMING SUBSTRATES AS A MAIN WIND FORCE RESISTING SYSTEM CAPABLE OF WITHSTANDING AND TRANSFERRING APPLIED PRODUCT LOADS TO THE FOUNDATION IS THE RESPONSIBILITY OF THE LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT ACTING AS THE DESIGN PROFESSIONAL OF RECORD FOR THE PROJECT OF INSTALLATION.
6. 2X BUCKS (WHEN USED) HAVE BEEN DESIGNED TO PROPERLY TRANSFER ALL LOADS TO THE OPENING SUPPORTING STRUCTURE.
7. THIS PRODUCT IS IMPACT RESISTANT. ADDITIONAL IMPACT PROTECTIVE DEVICES ARE NOT REQUIRED.
8. SITE CONDITIONS NOT COVERED IN THIS PRODUCT EVALUATION DOCUMENT ARE SUBJECT TO ADDITIONAL ENGINEERING ANALYSIS BY A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
9. MATERIALS:
- 9.1. SEE SHEET 11 FOR FRAMING COMPONENTS.

9.2. SEE SHEET 10 FOR GLAZING DETAIL, KURARAY AMERICA SENTRYGLAS INTERLAYER PER CURRENT MD NOA.
10. GLASS MEETS THE REQUIREMENTS OF ASTM E1300-12AE1.
11. ALL SETTING BLOCKS SHALL BE IN COMPLIANCE WITH THE CURRENT EDITION OF THE FLORIDA BUILDING CODE. SETTING BLOCKS SHALL BE NEOPRENE WITH A 70 TO 90 SHORE A DUROMETER.
12. DESIGNATION X STANDS FOR OPERABLE PANEL AND "O" FOR FIXED PANEL.
13. THIS DRAWING CERTIFIES THE WINDOW INSTALLATION ONLY. WATER PROOFING OF THE INSTALLED WINDOW IS NOT PART OF THIS INSTALLATION CERTIFICATION. IT SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER AND/OR THE INSTALLER TO PROVIDE APPROPRIATE SEALING DETAILS.
14. IN ACCORDANCE WITH THE CURRENT EDITION OF THE FLORIDA BUILDING CODE, WOOD BUCKS SHALL HAVE BEEN PRESERVATIVE TREATED OR SHALL BE OF A DURABLE SPECIES.

INSTALLATION NOTES:

1. WINDOW FRAME TO 2X WOOD BUCK:
- 1.1. TWO (2) INSTALLATION ANCHORS ARE REQUIRED AT EACH MOUNTING FLANGE (ANGLED INSTALLATION CLIP) INSTALLATION LOCATION SHOWN.

1.1.1. SEE SHEETS 2 THROUGH 5 FOR ELEVATIONS SHOWING ANCHOR LOCATIONS.

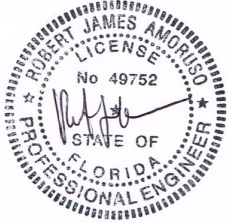
1.1.2. SILL ANCHORAGE SHALL BE THROUGH FRAME AS SHOWN WHEN ANGLED INSTALLATION CLIP IS USED AT HEAD AND JAMBS
- 1.2. ONE (1) INSTALLATION ANCHOR IS REQUIRED AT EACH THROUGH FRAME ANCHOR INSTALLATION LOCATION SHOWN.
- 1.2.1. SEE SHEETS 6 THROUGH 9 FOR ELEVATIONS SHOWING ANCHOR LOCATIONS.
2. ANCHOR SPACING TOLERANCES:
- 2.1. ANCHOR SPACING DIMENSIONS HAVE A TOLERANCE OF +/- 1 INCH.

2.2. EDGE DISTANCE DIMENSIONS HAVE A TOLERANCE OF +/- 2 INCH TO ALLOW FIT-UP AT FRAME CORNERS AND TO CLEAR INTERFERENCES.
3. FOR WINDOW ASSEMBLY SIZES SMALLER THAN THOSE SHOWN, ANCHOR QUANTITIES CAN BE REDUCED WHILE MAINTAINING EDGE DISTANCE AND O.C. SPACING REQUIREMENTS.
4. PRODUCT ANCHORS SHALL BE AS DESIGNATED AND LOCATED AS SHOWN IN THIS PRODUCT EVALUATION DOCUMENT. ANCHOR EMBEDMENT AND EDGE DISTANCE EXCLUDE WALL FINISHES, INCLUDING BUT NOT LIMITED TO STUCCO, FOAM, BRICK VENEER AND SIDING.
3. SEE INSTALLATION ANCHOR SCHEDULE ON SHEET 1 FOR TYPE AND GRADE OF ANCHOR, AND/OR MANUFACTURER'S ANCHOR SPECIFICATIONS, INCLUDING MINIMUM NOMINAL SIZE, MINIMUM EMBEDMENT INTO SUBSTRATE AND MINIMUM EDGE DISTANCES.
4. EDGE DISTANCES SHALL BE MEASURED FROM CENTERLINE OF ANCHOR TO EDGE OF STRUCTURAL SUBSTRATE EITHER TO THE INTERIOR OR EXTERIOR OF THE FENESTRATION PRODUCT.
5. MINIMUM EMBEDMENT SHALL BE BASED ON PENETRATION INTO MAIN WIND FORCE RESISTING SYSTEM SUBSTRATE.
6. SEE SHEET 11 AND 12 FOR SPECIFIC ANCHOR INSTALLATION DETAILS.
7. MAXIMUM ALLOWABLE SHIM THICKNESS IS 1/2" INCH. SHIM WHERE SPACE OF 1/16 INCH OR GREATER OCCURS. SHIM(S) SHALL BE CONSTRUCTED OF WOOD COMPOSITE, HIGH DENSITY PLASTIC OR SIMILAR LOAD BEARING MATERIAL.
8. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED IN THE INSTALLATION ANCHOR SCHEDULE ON SHEET 1. FOR CONCRETE BLOCK APPLICATIONS DO NOT INSTALL INSTALLATION ANCHORS INTO MORTAR JOINTS.



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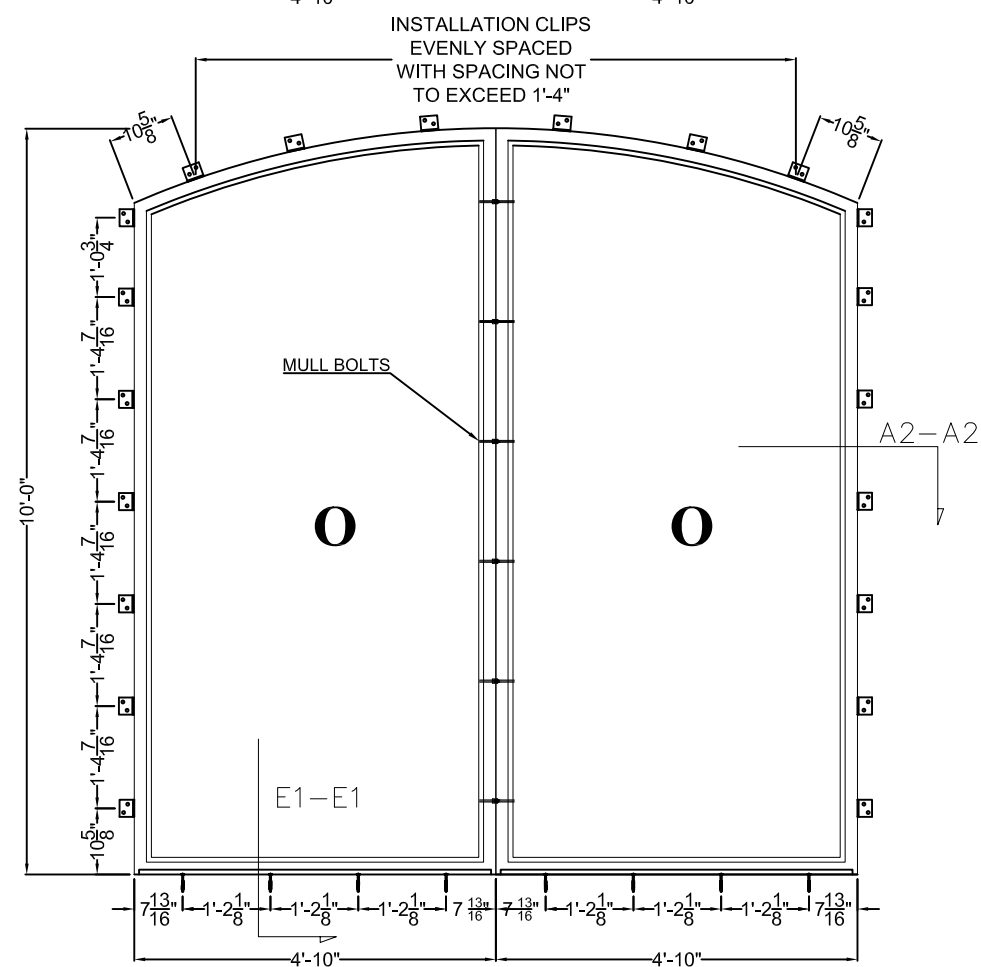
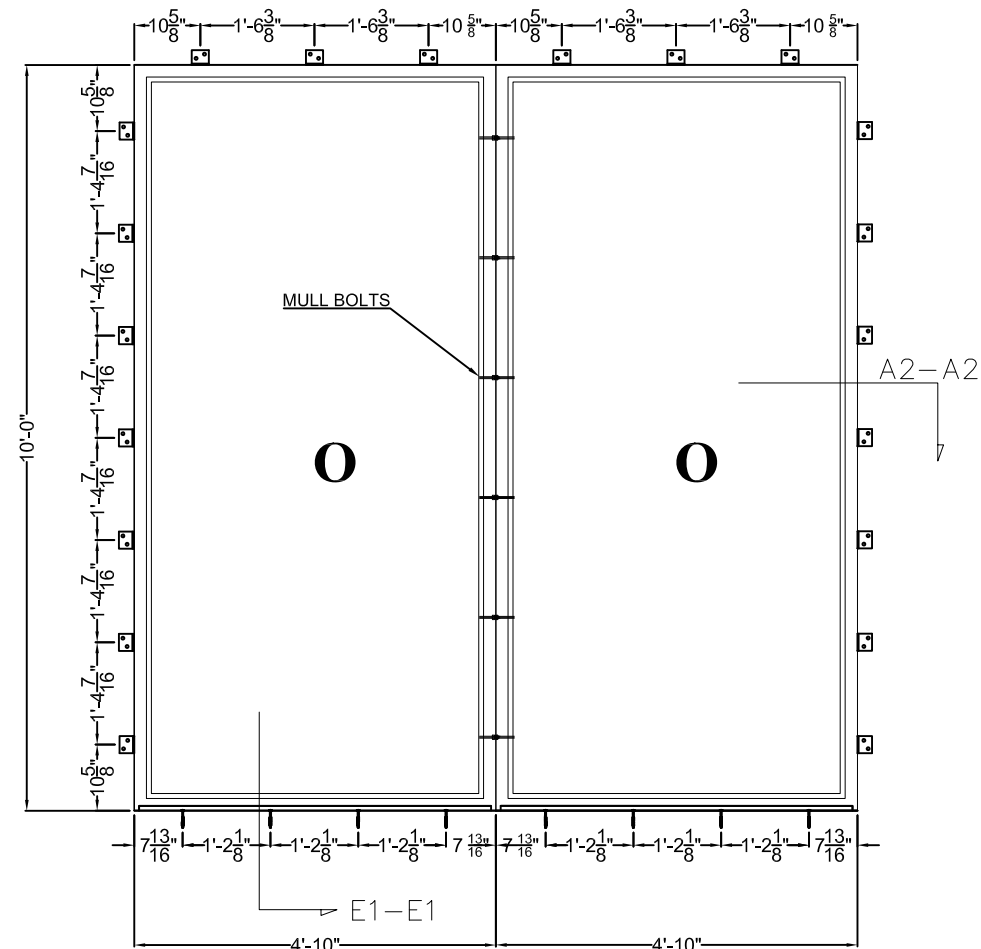
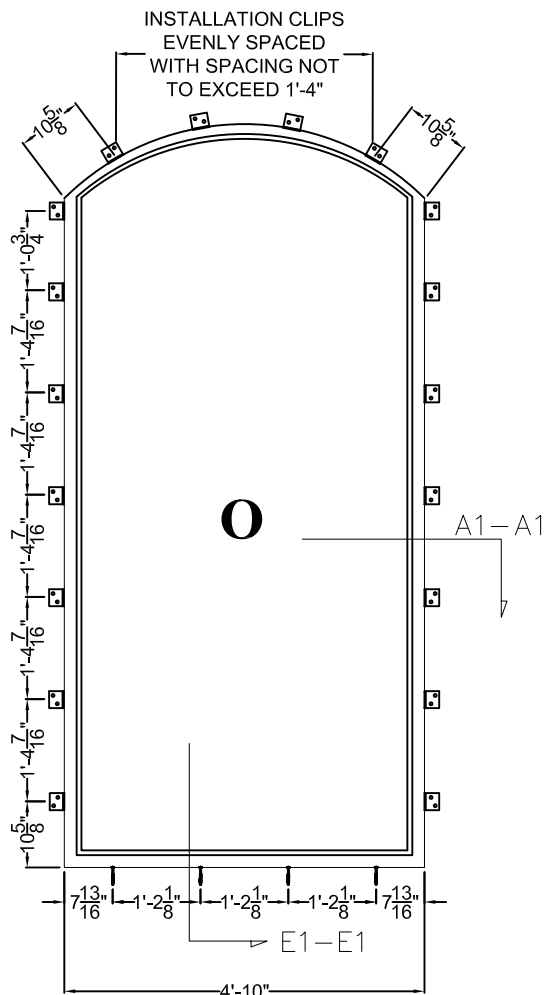
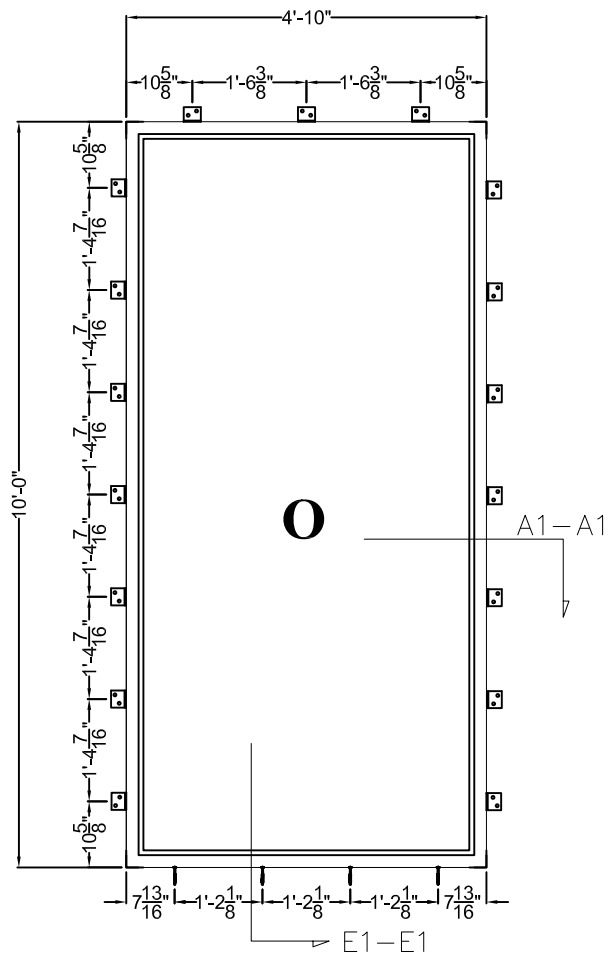
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DESIGN PRESSURE (PSF)	LIMITED WATER RESISTANCE RATING	IMPACT RATING (SEE GENERAL NOTE 7)
+/- 45	0 psf per ASTM E331-00 (16) (SEE NOTE 1 BELOW)	HVHZ LARGE MISSILE IMPACT ----- WIND ZONE 4, MISSILE LEVEL D
Note 1: OVERHANG IN ACCORDANCE WITH REQUIREMENT BELOW CAN BE USED PER CHAPTER 17 OF FBC. 1. Window assemblies installed where the overhang (OH) ratio is equal to or more than 1 do not have to meet the water infiltration requirements. The overhang ratio shall be calculated by the following equation. 2. OH ratio = OH Length/OH Height, Where: 2.1. OH length = The horizontal measure of how far an overhang over a window projects out from window surface. 2.2. OH height = The vertical measure of the distance from the window sill to the bottom of the overhang over a window .		

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12	JAMB (SHOWN) AND HEAD INSTALLATION ANCHOR REQUIREMENTS - SECTION VIEWS - STEEL ANCHOR CLIP & THROUGH FRAME INSTALLATION

FRAME ANCHOR REQUIRMENTS TABLE					
OPENING TYPES (SUBSTRATE)(1)	MOUNTING BRACKETS FASTENERS (2)	MINIMUM EMBED	THROUGH BOLT FASTENERS	MINIMUM EMBED	MINIMUM EDGE DISTANCE
(2) MIN. 2X4 WOOD FRAMING OR BUCK (MIN. GR. 3 & G=055)	3/8" x 3 1/2 in. Hex Galvanized Lag Screw W/ Flat washer	3"	3/8" x 4 in. Hex Galvanized Lag Screw W/ Flat washer	3 1/4"	5/8"
(2) MIN. 2X6 WOOD FRAMING OR BUCK (MIN. GR. 3 & G=055)	3/8" x 4 in. Hex Galvanized Lag Screw W/ Flat washer	3 1/4"	3/8" x 4 in. Hex Galvanized Lag Screw W/ Flat washer	3 1/4"	5/8"
(2) MIN. 2X8 WOOD FRAMING OR BUCK (MIN. GR. 3 & G=055)	3/8" x 4 in. Hex Galvanized Lag Screw W/ Flat washer	3 1/4"	3/8" x 4 in. Hex Galvanized Lag Screw W/ Flat washer	3 1/4"	5/8"
SILL ANCHOR REQUIRMENTS TABLE					
OPENING TYPES (SUBSTRATE)(1)	MOUNTING BRACKETS FASTENERS	MINIMUM EMBED	THROUGH BOLT FASTENERS	MINIMUM EMBED	MINIMUM EDGE DISTANCE
(2) MIN. 2" LAYERS SUBFLOOR WITH SOLID RIM JOIST BELOW	N/A	N/A	1/4 in. x 3 in. Torx Powerlag T-Star Drive Washer Head Yellow Zinc Coated Lag Screw	2 3/4"	1"
4" MIN. CONCRETE SUBFLOOR	N/A	N/A	1/4 in. x 4 in. Hex-Washer-Head TAPCON Concrete Anchors by ITW Buckle	1 3/4"	1 1/2"
(1) SUBSTRATES SHALL MEET THE FOLLOWING REQUIREMENTS: 2X WOOD BUCKS SG = 0.55, CONCRETE MINIMUM COMPRESSIVE STRENGTH OF 2500 PS; 6.4. METAL STUD: STEEL 18 GA., FY= 33 KSI. (2) 3/8" LAG SCREW PILOT HOLE = 0.234" or DRILL SIZE "A"					



EXTERIOR ELEVATION STATIONARY WINDOWS STEEL ANCHOR CLIP INSTALLATION

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SEE SHEET 10 FOR SECTION VIEWS.
SEE SHEETS 11 AND 12 FOR
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ANCHOR CLIP AND THROUGH
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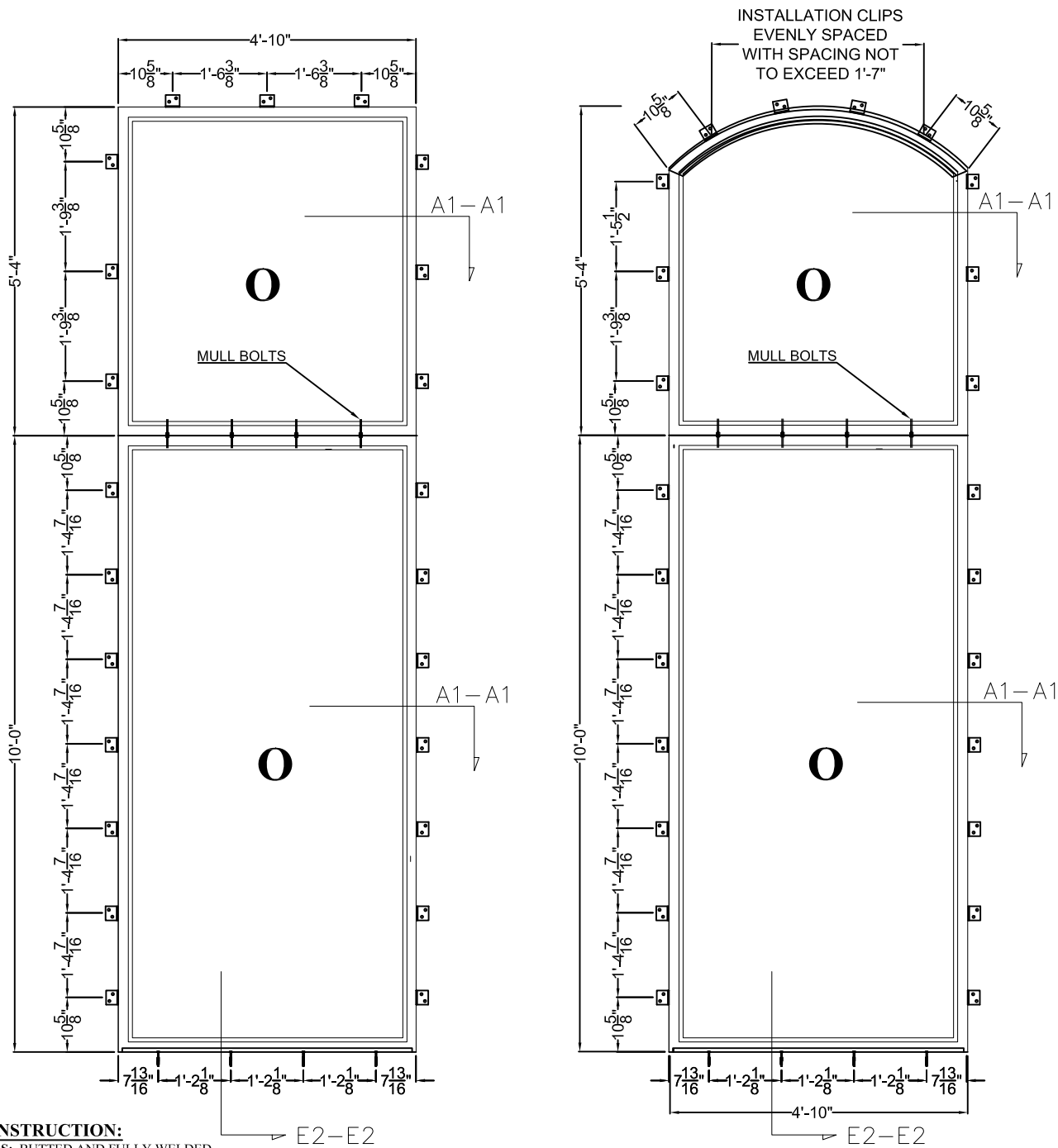


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EXTERIOR ELEVATION
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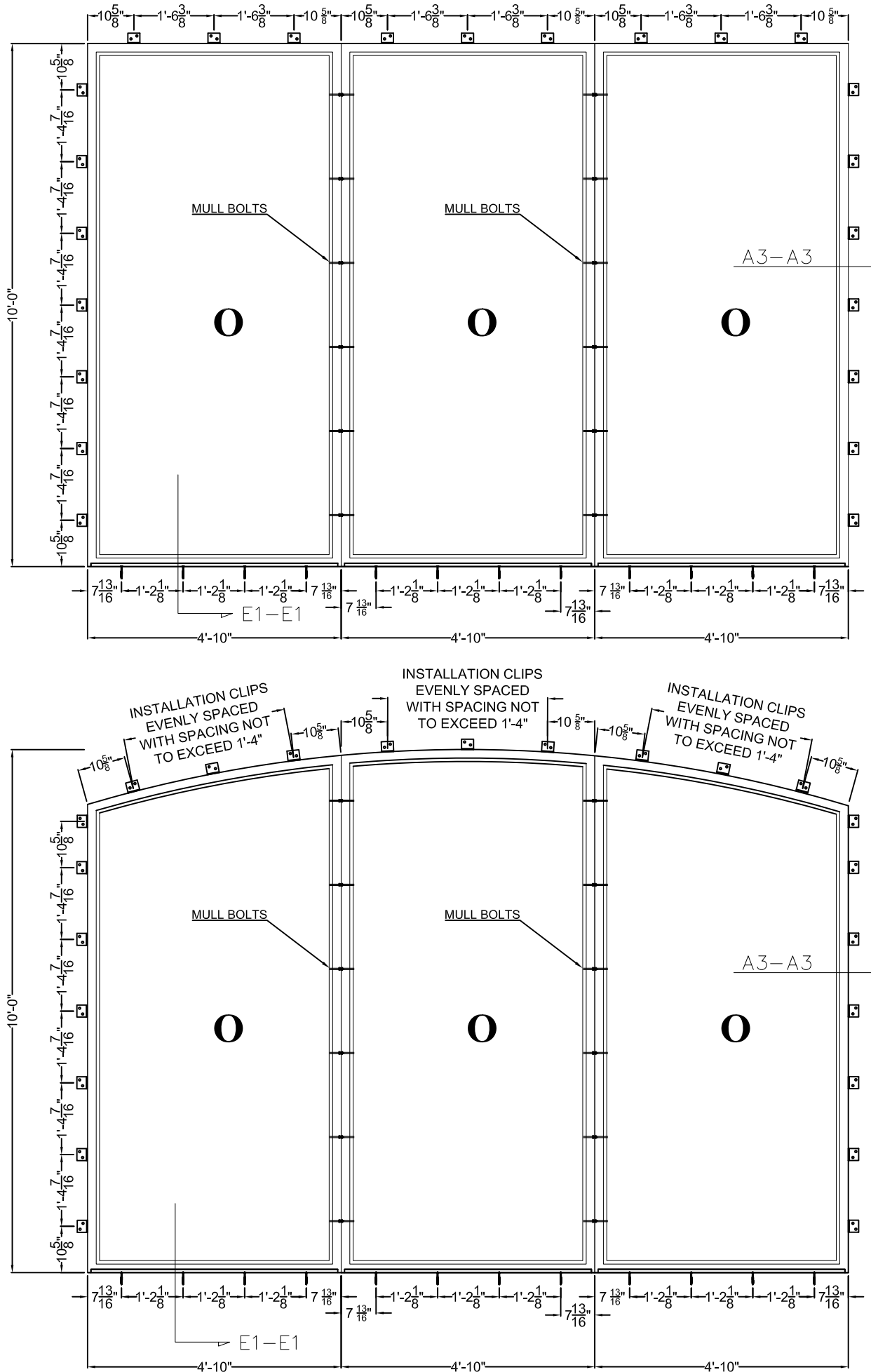


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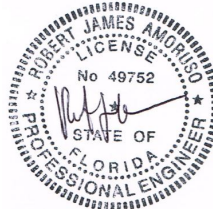
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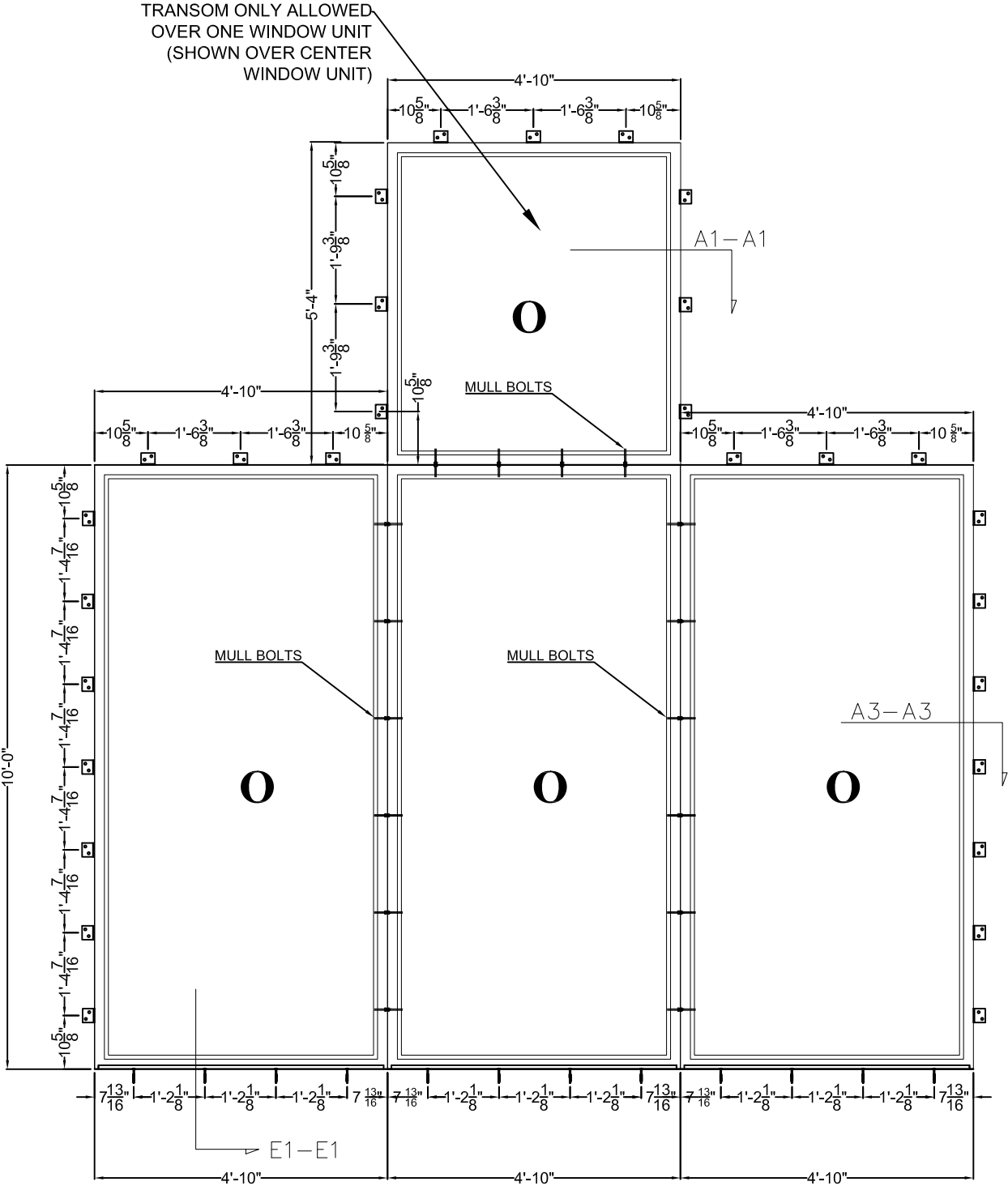
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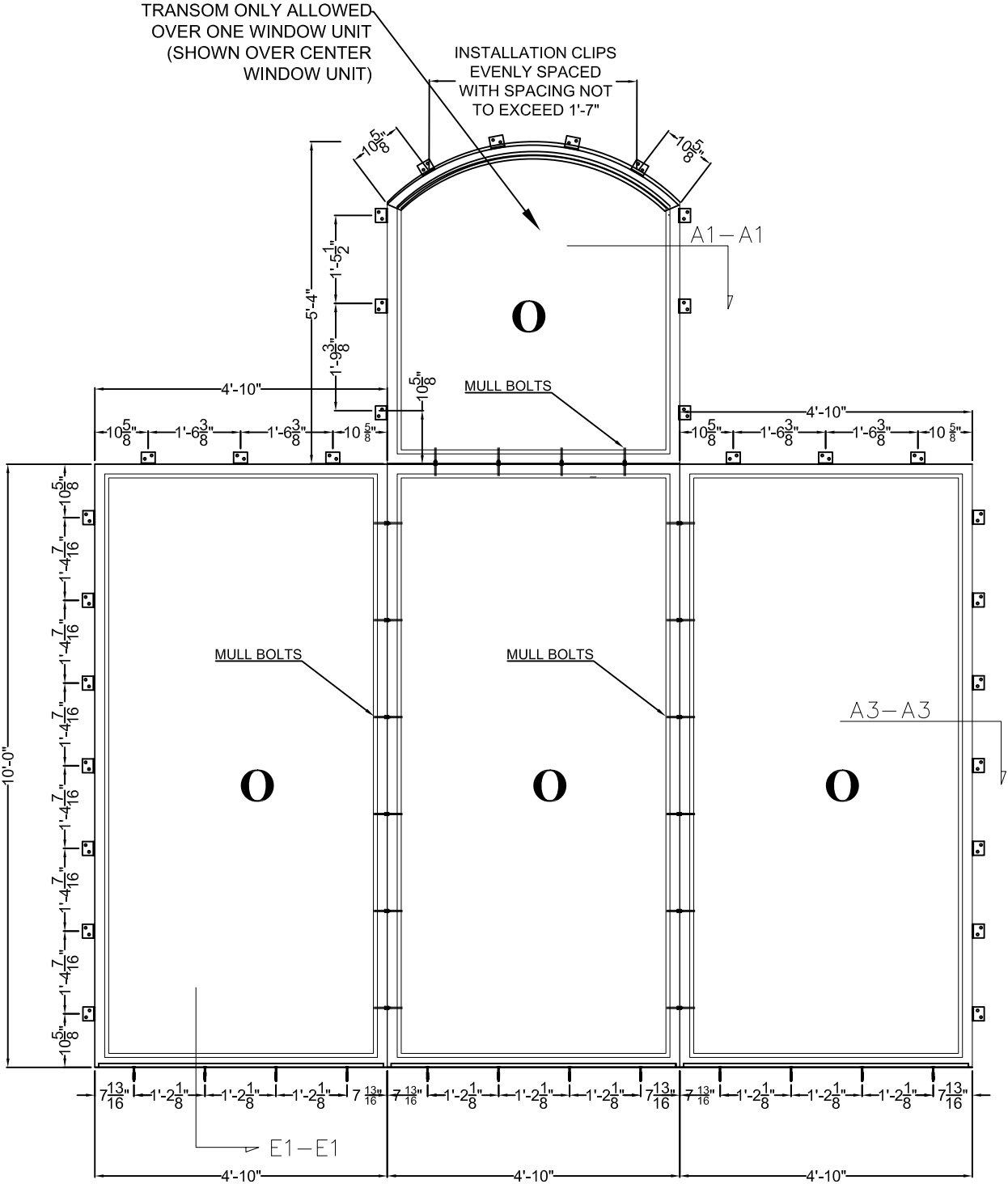
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EXTERIOR ELEVATION
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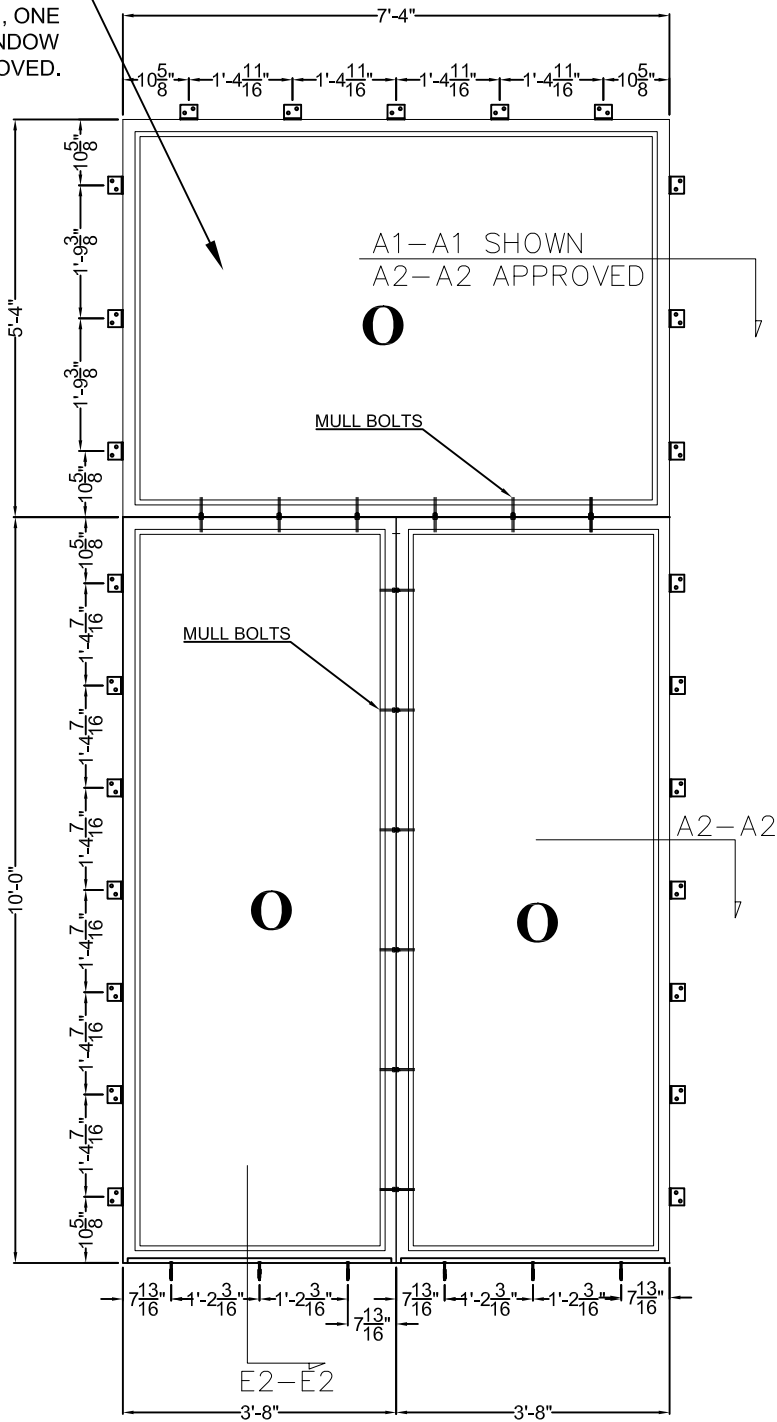


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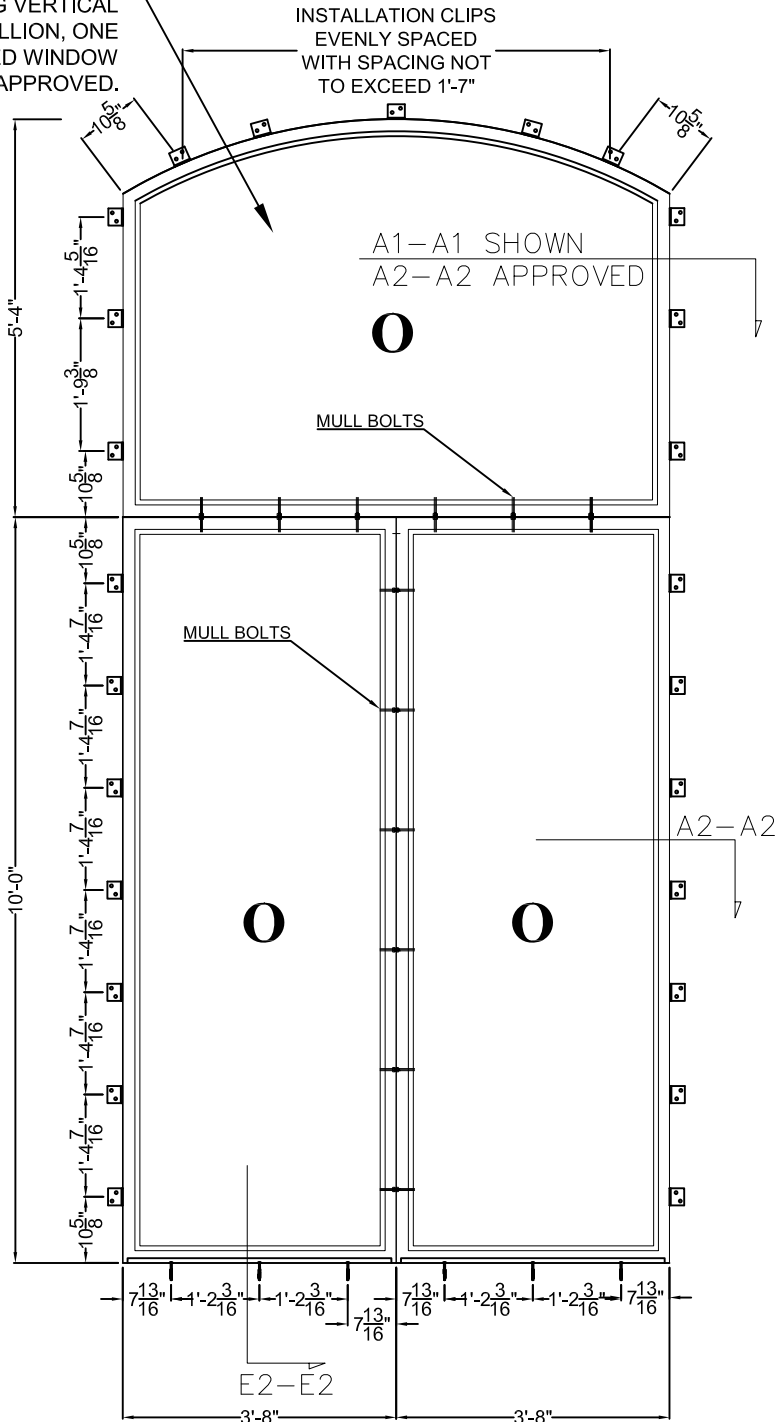
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SINGLE TRANSOM UNIT SHOWN. TWO TRANSOM WINDOWS USING VERTICAL COMBINATION MULLION, ONE OVER EACH FIXED WINDOW BELOW ALSO APPROVED.



SINGLE TRANSOM UNIT SHOWN. TWO TRANSOM WINDOWS USING VERTICAL COMBINATION MULLION, ONE OVER EACH FIXED WINDOW BELOW ALSO APPROVED.



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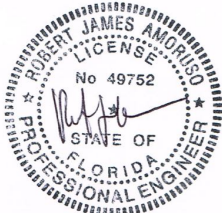
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**EXTERIOR ELEVATION
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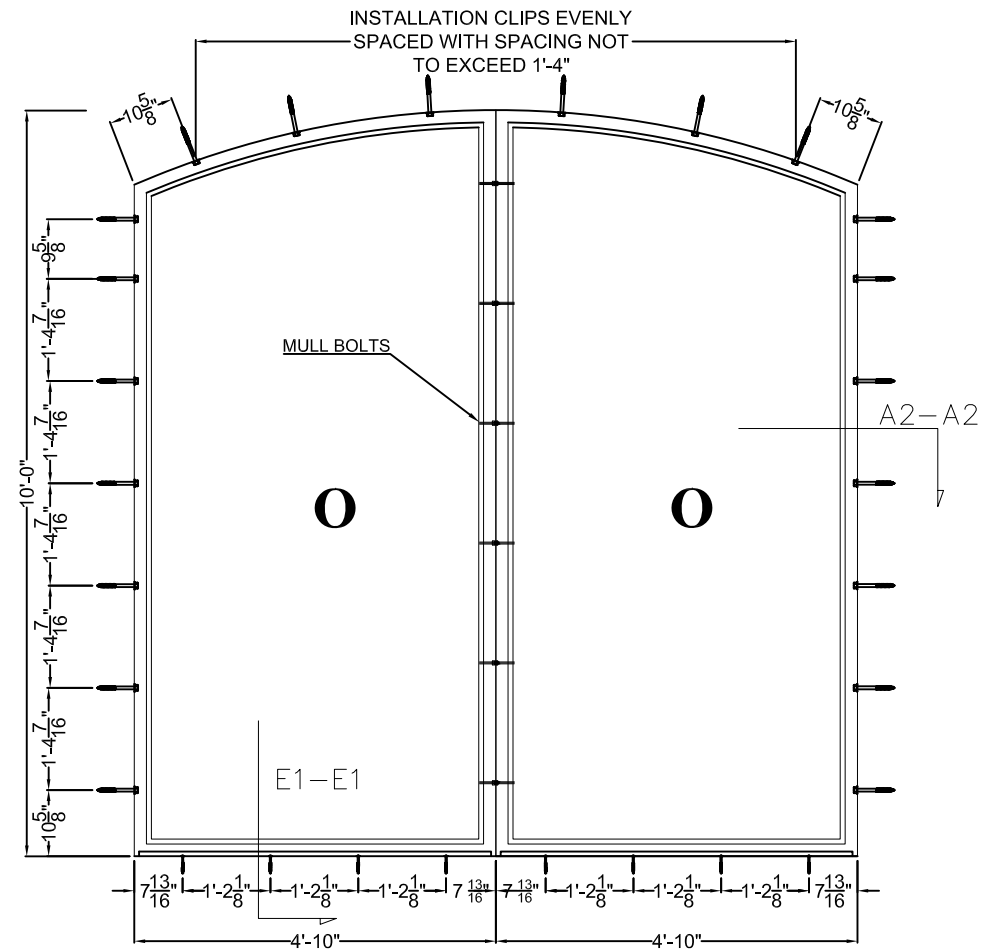
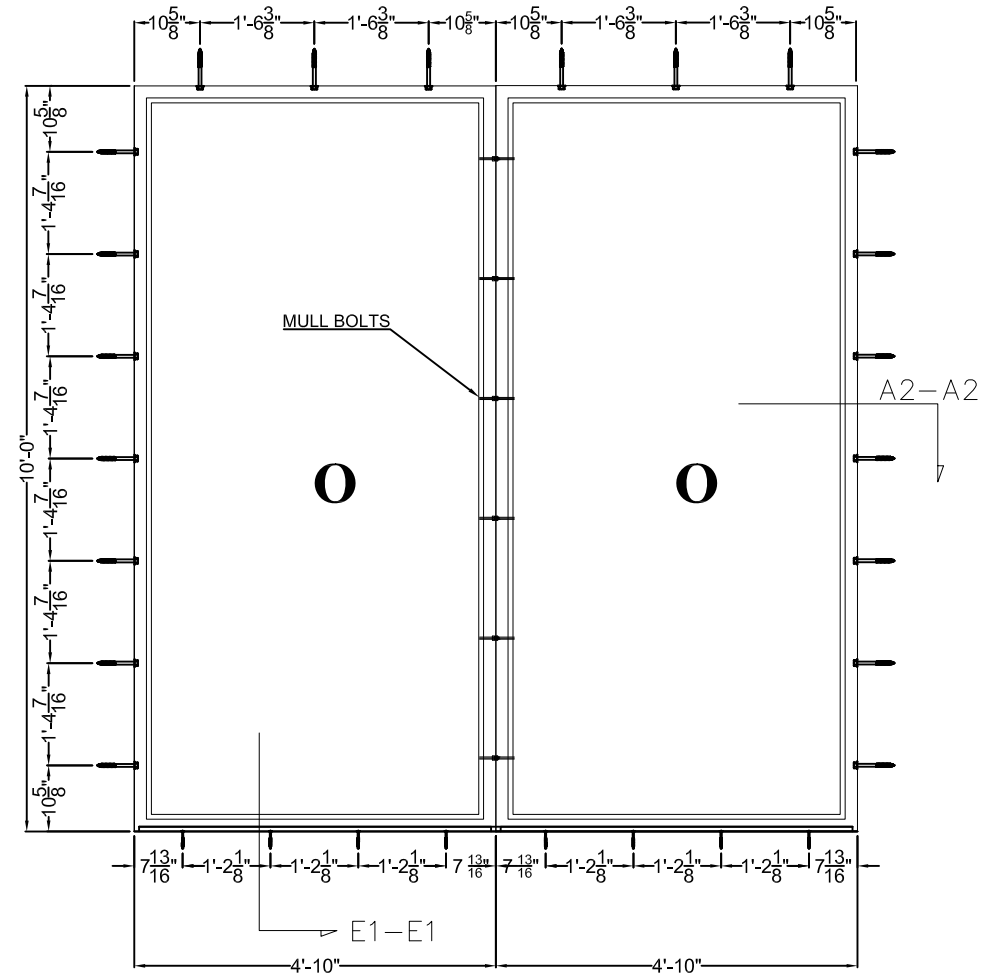
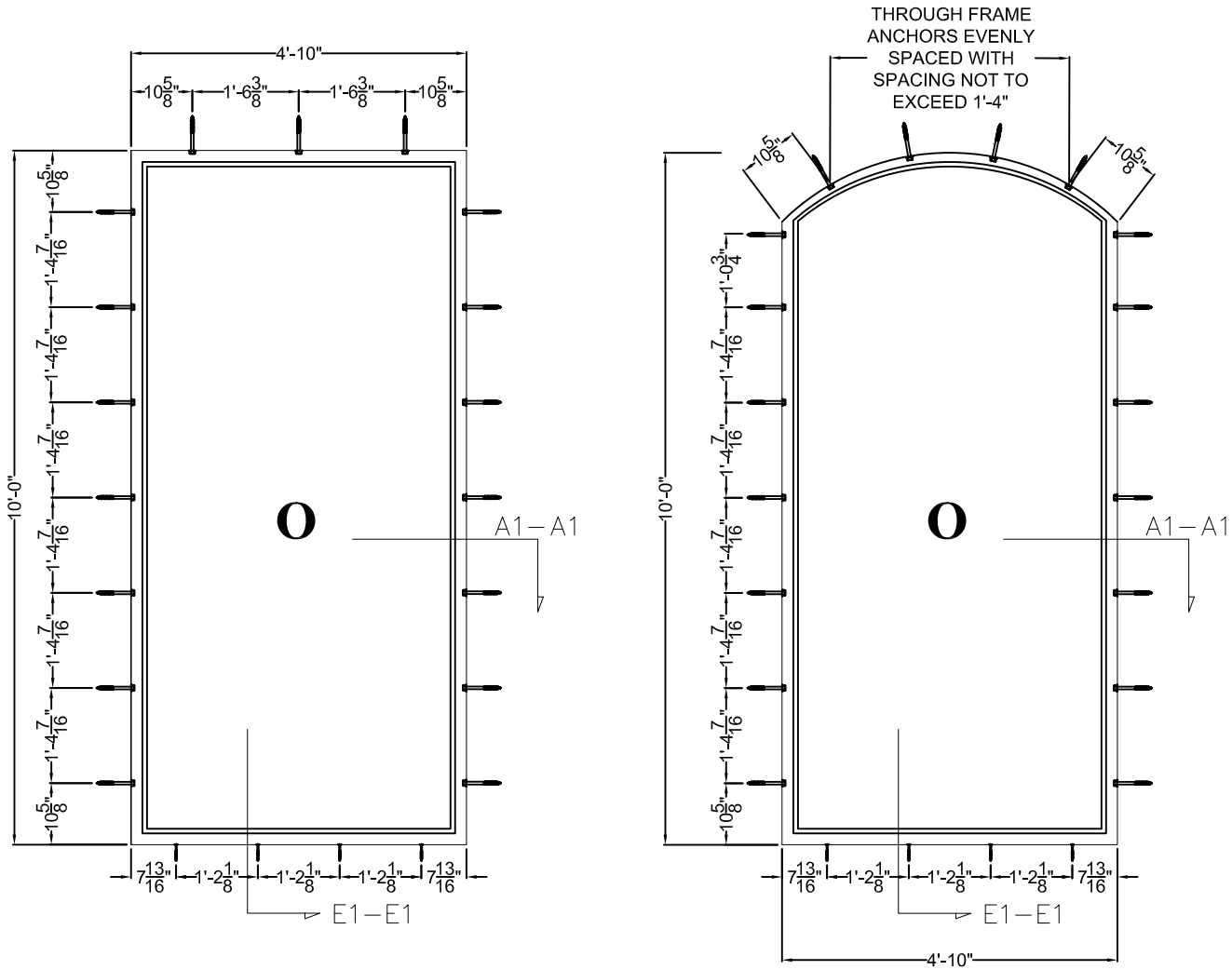
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EXTERIOR ELEVATION STATIONARY WINDOWS THROUGH FRAME INSTALLATION

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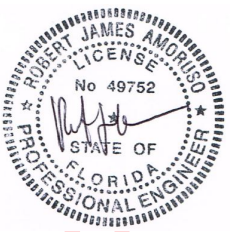
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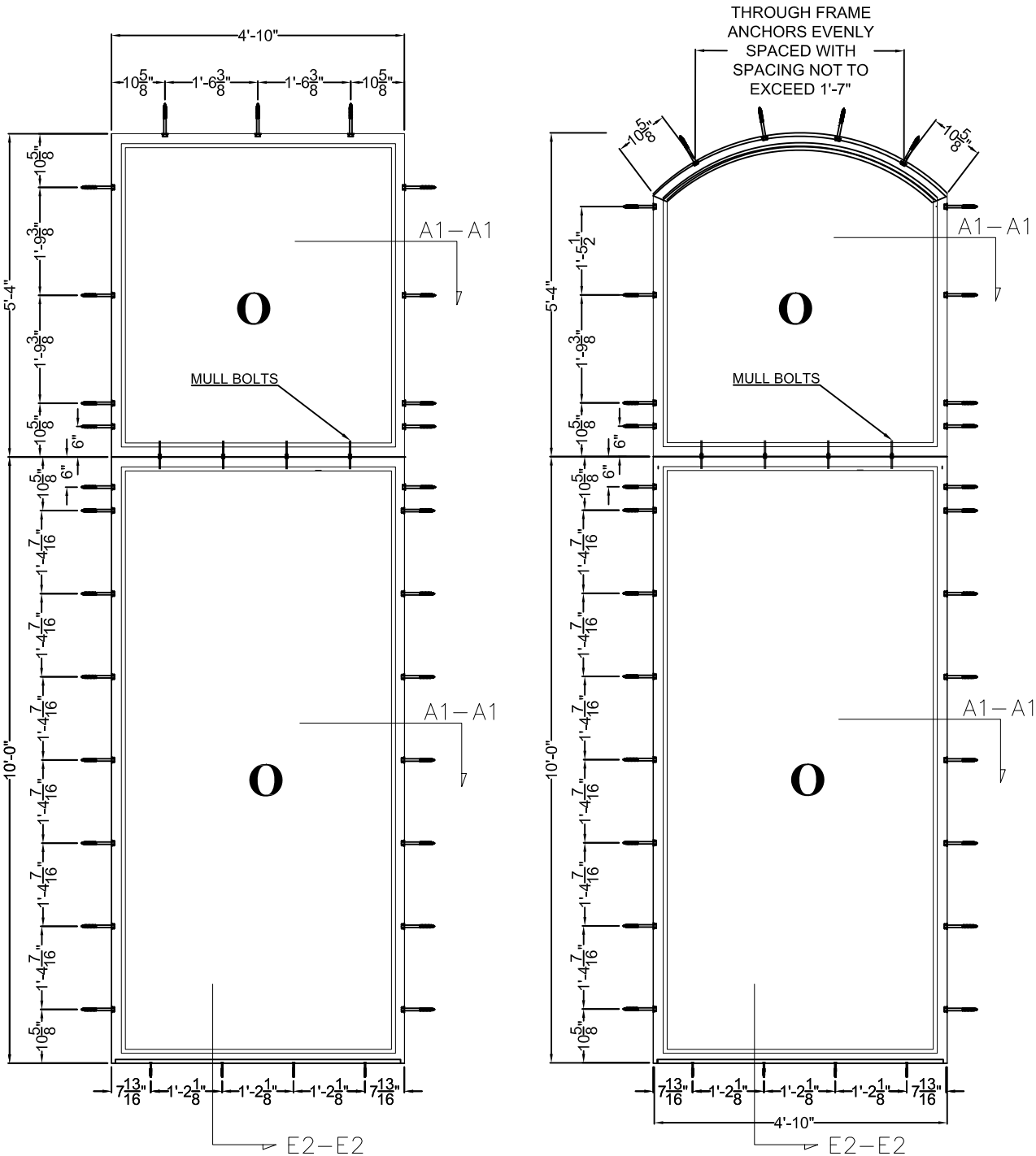


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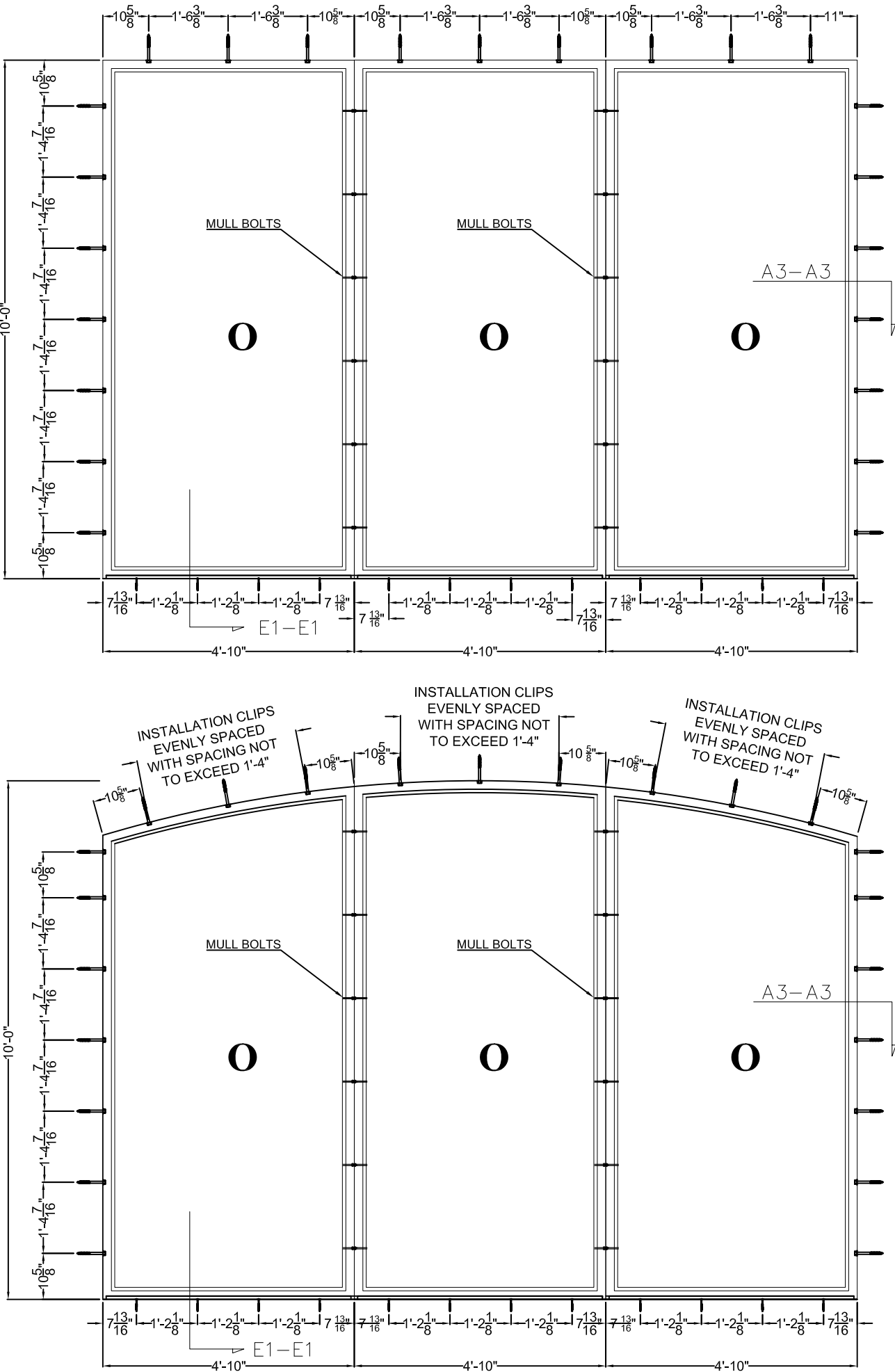


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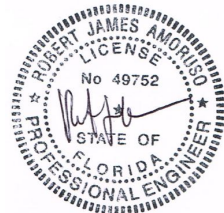
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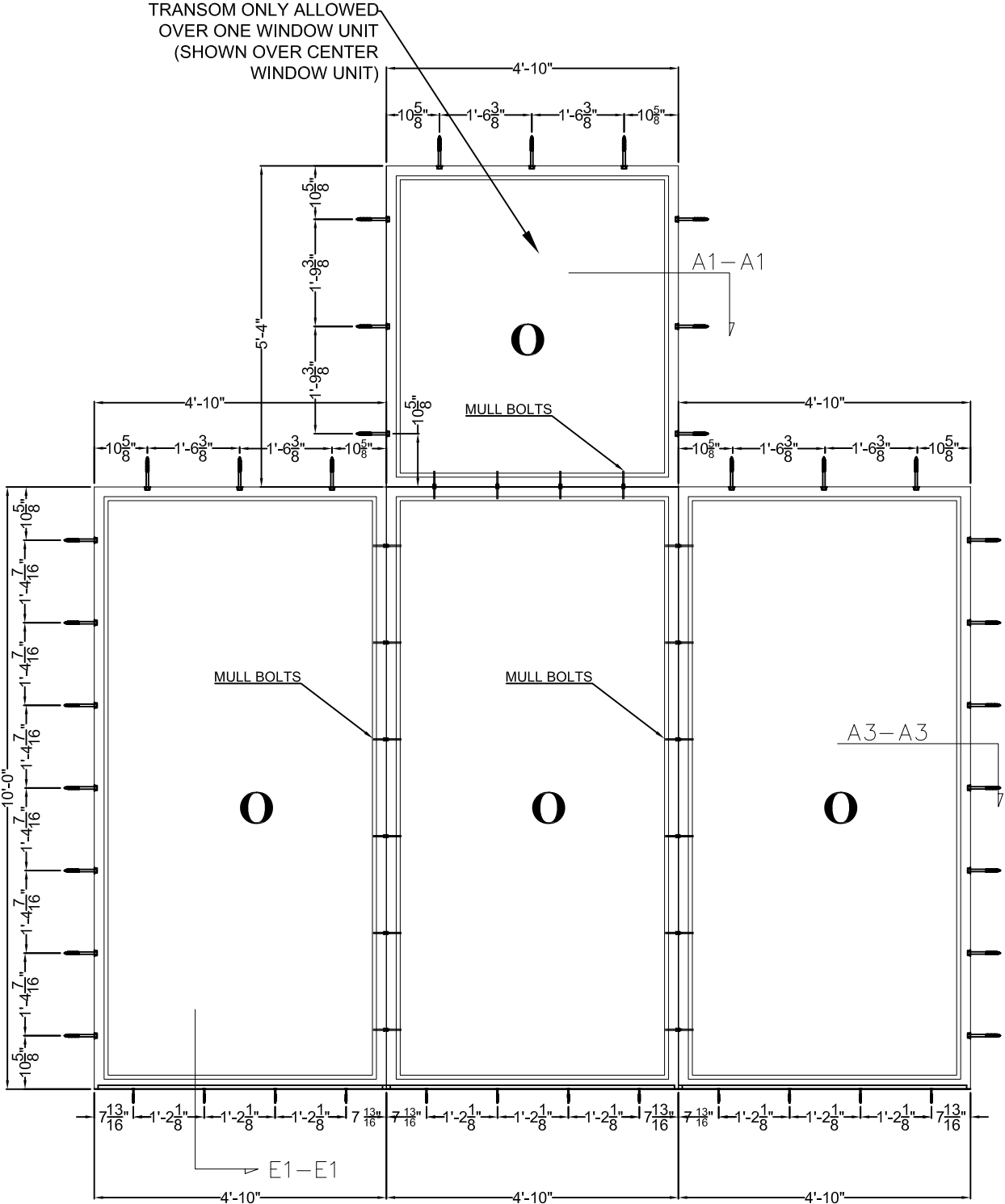
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REVISION A
DATED: 2/9/2024
SHEET 7 OF 12

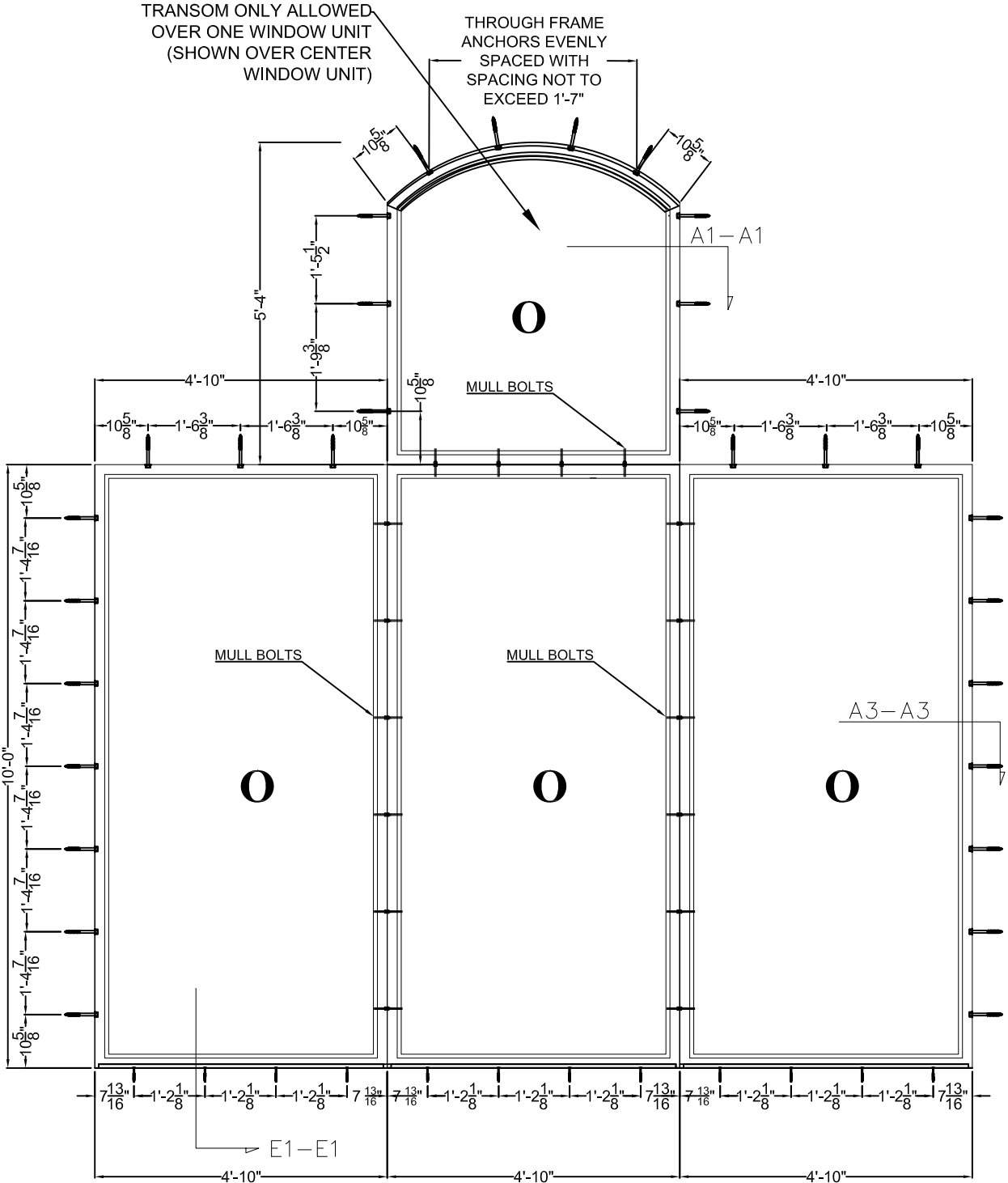
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CORNER CONSTRUCTION:
FRAME & PANELS: BUTTED AND FULLY WELDED
SILL AND FRAME: BUTTED AND FULLY WELDED

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SEE SHEET 10 FOR SECTION VIEWS.
SEE SHEETS 11 AND 12 FOR
INSTALLATION DETAILS FOR STEEL
ANCHOR CLIP AND THROUGH
FRAME INSTALLATION.



EXTERIOR ELEVATION STATIONARY WINDOWS THROUGH FRAME INSTALLATION



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EMAIL: Kevin@frenchsteel.com

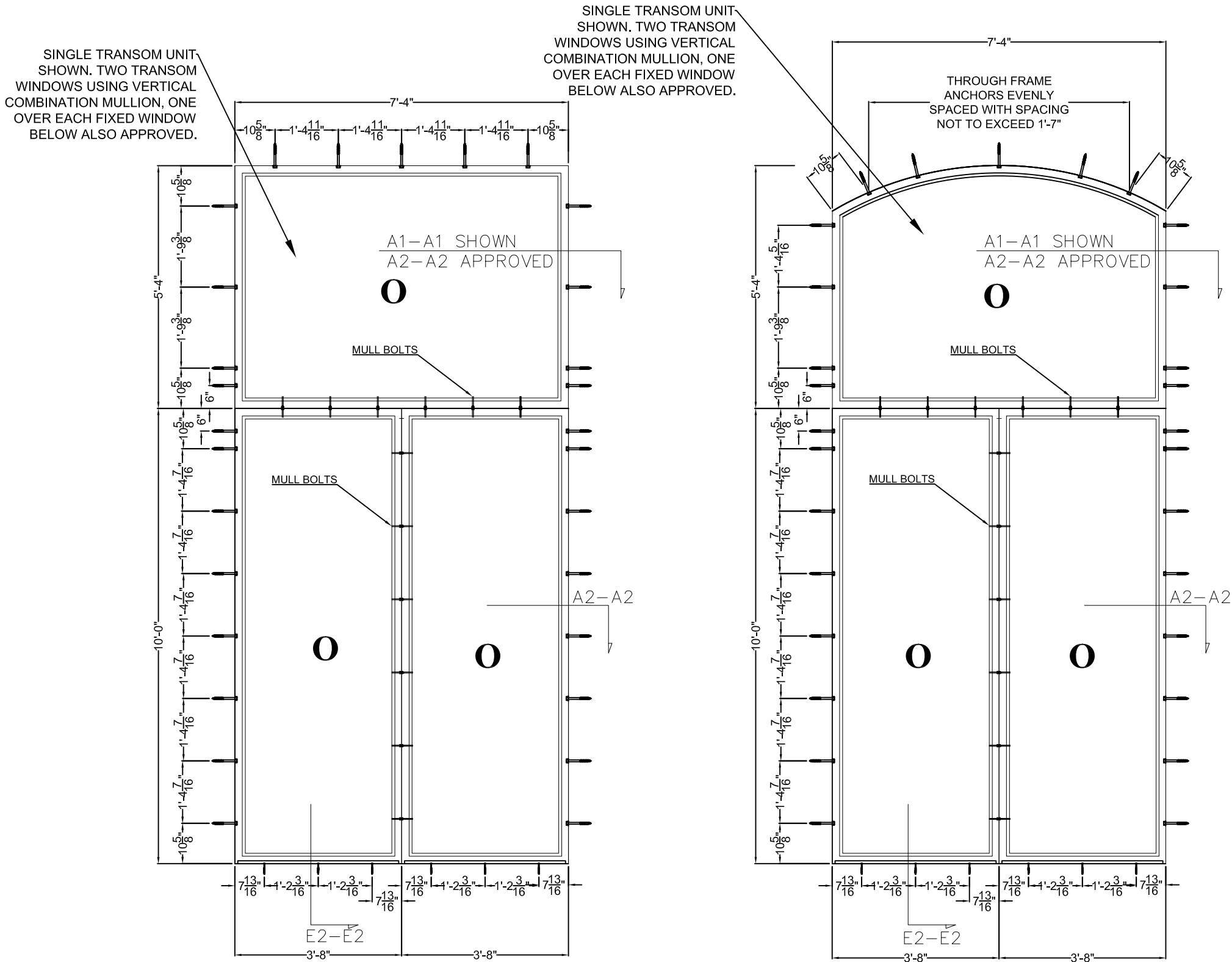
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SILL AND FRAME: BUTTED AND FULLY WELDED

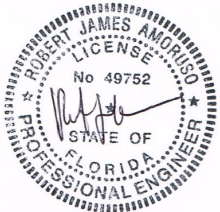
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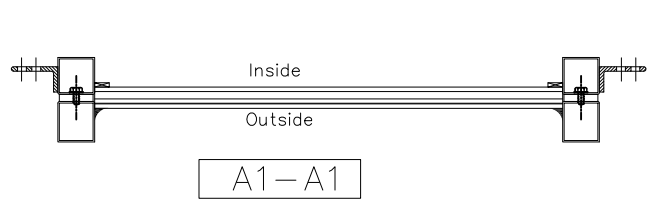


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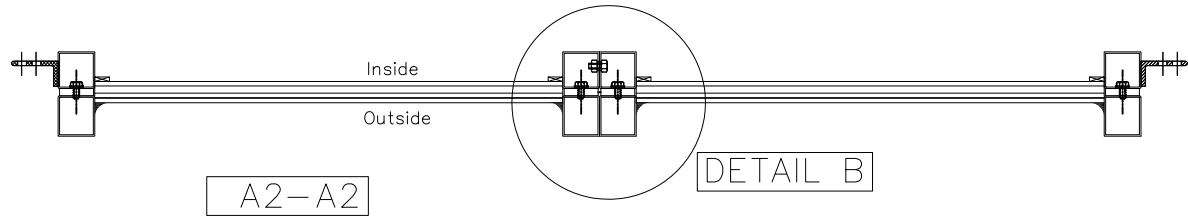
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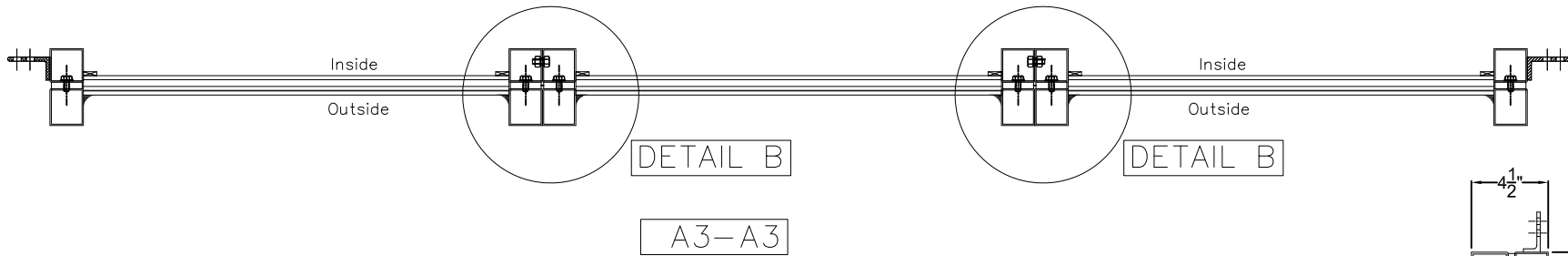
EXTERIOR ELEVATION STATIONARY WINDOWS THROUGH FRAME INSTALLATION



SINGLE WINDOW
OR TRANSOM



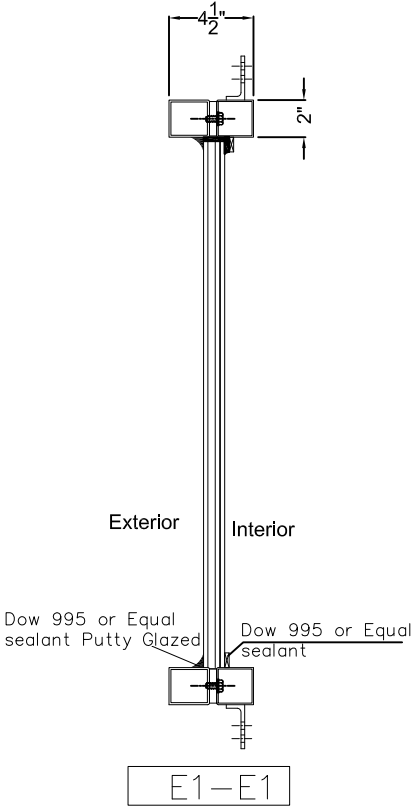
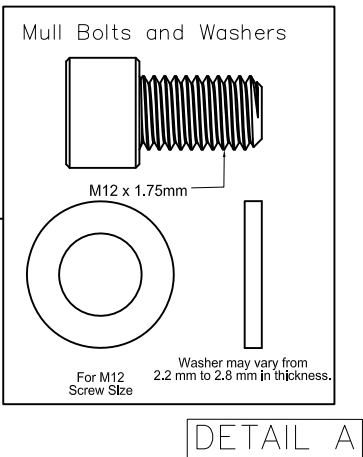
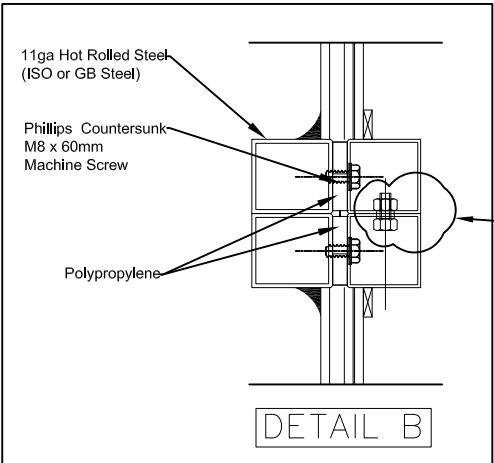
DOUBLE WINDOW
OR TRANSOM



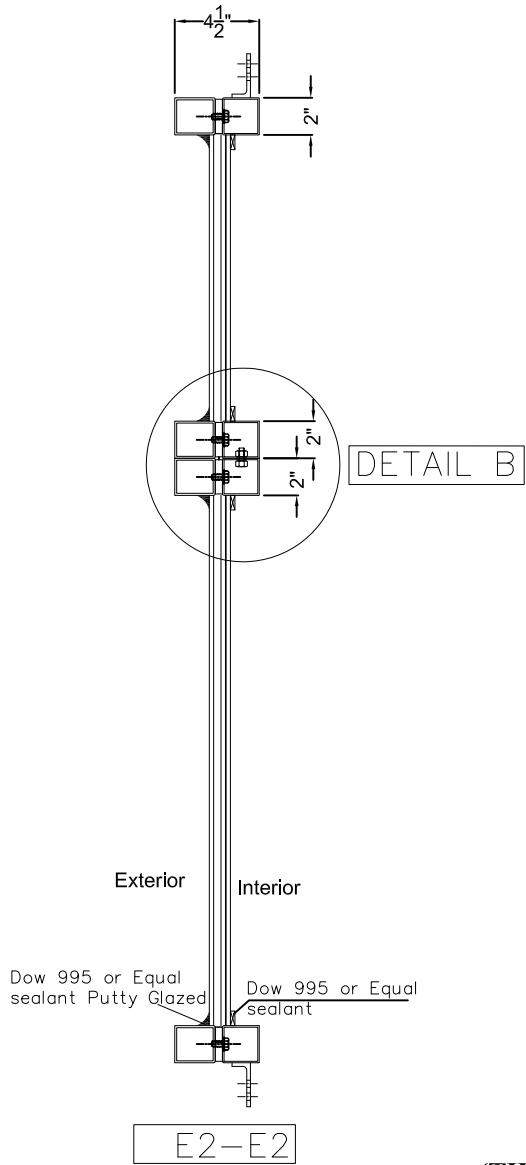
TRIPLE WINDOW

MULL BOLT SPACING

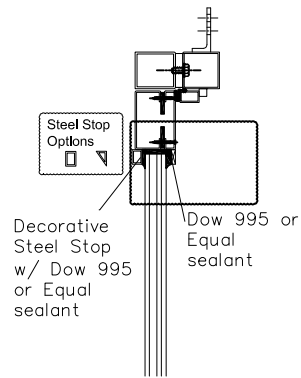
- 1. VERTICAL COMBINATION MULLIONS BETWEEN WINDOWS.
 - 1.1. QUANTITIES SHALL BE AS SHOWN IN THE ELEVATION VIEWS.
 - 1.1.1. SIX (6) TOTAL ANCHORS FOR 120" VERTICAL COMBINATION MULLIONS.
 - 1.1.2. FOR SHORTER HEIGHTS, MULLION BOLTS CAN BE REDUCED WHILE MAINTAINING SPACING.
 - 1.2. EDGE DISTANCE SHALL BE 12" MAXIMUM.
 - 1.3. ON CENTER SPACING SHALL BE 20" MAXIMUM.
- 2. HORIZONTAL COMBINATION MULLIONS BETWEEN TRANSOM AND WINDOW.
 - 2.1. UP TO 4'-10" WIDE COMBINATION MULLION
 - 2.1.1. QUANTITIES SHALL BE AS SHOWN IN THE ELEVATION VIEWS.
 - 2.1.1.1. FOUR (4) TOTAL ANCHORS FOR 4'-10" WIDE COMBINATION MULLIONS.
 - 2.1.1.2. FOR SHORTER WIDTHS, MULLION BOLTS CAN BE REDUCED WHILE MAINTAINING SPACING.
 - 2.1.2. EDGE DISTANCE SHALL BE 10" MAXIMUM.
 - 2.1.2.1. ON CENTER SPACING SHALL BE 12-3/4" MAXIMUM.
 - 2.2. GREATER THAN 4'-10" UP TO 7'-4" WIDE COMBINATION MULLION
 - 2.2.1. QUANTITIES SHALL BE AS SHOWN IN THE ELEVATION VIEWS.
 - 2.2.1.1. SIX (6) TOTAL ANCHORS FOR 7'-4" WIDE COMBINATION MULLIONS.
 - 2.2.1.2. FOR SHORTER WIDTHS, MULLION BOLTS CAN BE REDUCED WHILE MAINTAINING SPACING.
 - 2.2.2. EDGE DISTANCE SHALL BE 13" MAXIMUM.
 - 2.2.3. ON CENTER SPACING SHALL BE 12-1/2" MAXIMUM.



WINDOW



WINDOW
W/TRANSOM



GLAZING DETAIL A

1/4"(6mm)TEMP / 3/8"
(10mm) air space /
1/4"(6mm) Heat
Strengthened / 0.090"
Kuraray America, Inc. SG
Interlayer/ 1/4"(6mm) Heat
Strengthened
(IGU SPACER:
RAMAPO ALUMINUM
SPACER)

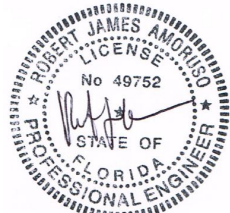
ALL SETTING BLOCKS SHALL BE IN COMPLIANCE WITH THE CURRENT EDITION OF THE FLORIDA BUILDING CODE. SETTING BLOCKS SHALL BE NEOPRENE WITH A 70 TO 90 SHORE A DUROMETER.

STATIONARY WINDOWS
SECTION VIEWS
STEEL ANCHOR CLIP INSTALLATION SHOWN
(THROUGH FRAME INSTALLATION SAME EXCEPT THROUGH FRAME ANCHORS
REPLACE STEEL CLIPS)



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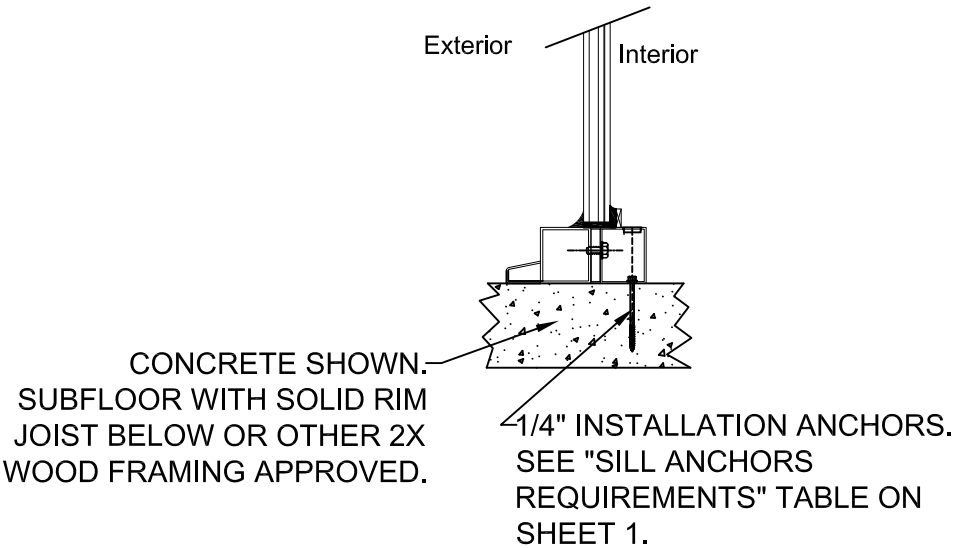
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SHEET 10 OF 12

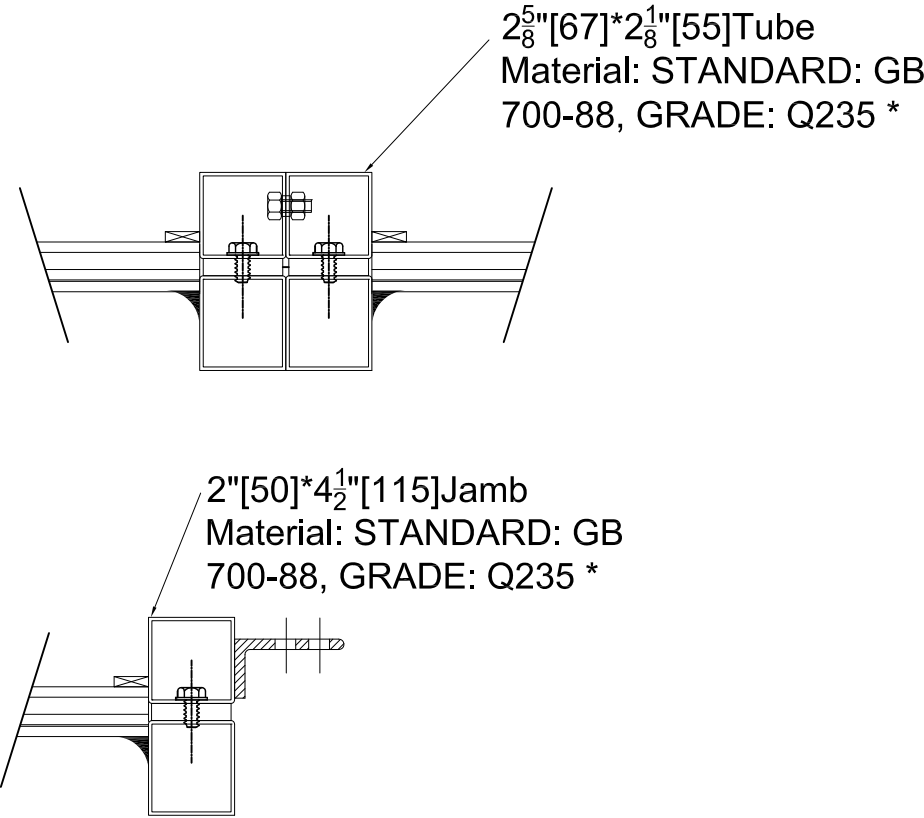
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SILL INSTALLATION ANCHOR
REQUIREMENTS
SECTION VIEWS
THROUGH FRAME INSTALLATION

TYPICAL FRAMING
COMPONENTS



Framing Requirements for Through Frame
Installation at Window

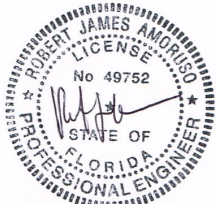


* STANDARD: GB 700-88, GRADE:
Q235 (CHINESE) EQUIVALENT TO THE
FOLLOWING USA SPECIFICATION(S):
ASTM A283M, GRADE D.



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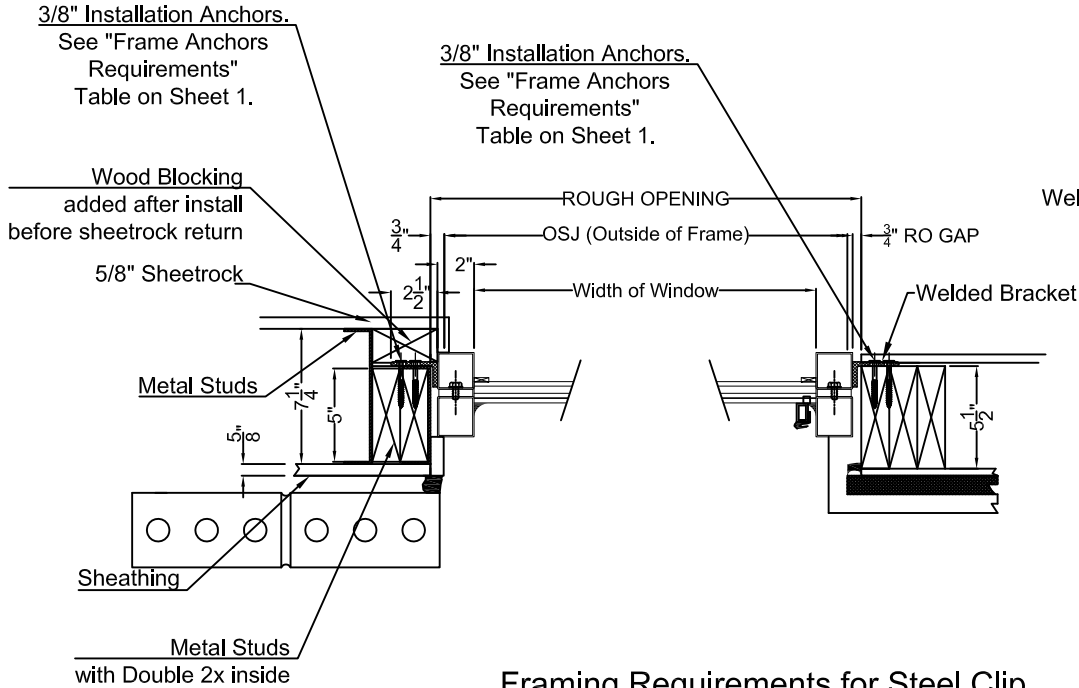
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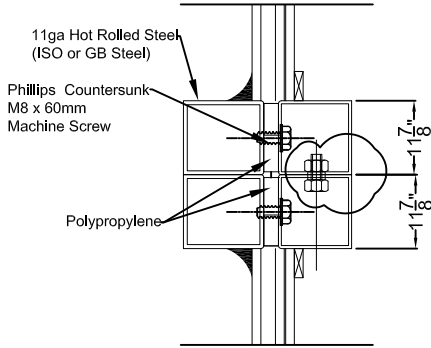
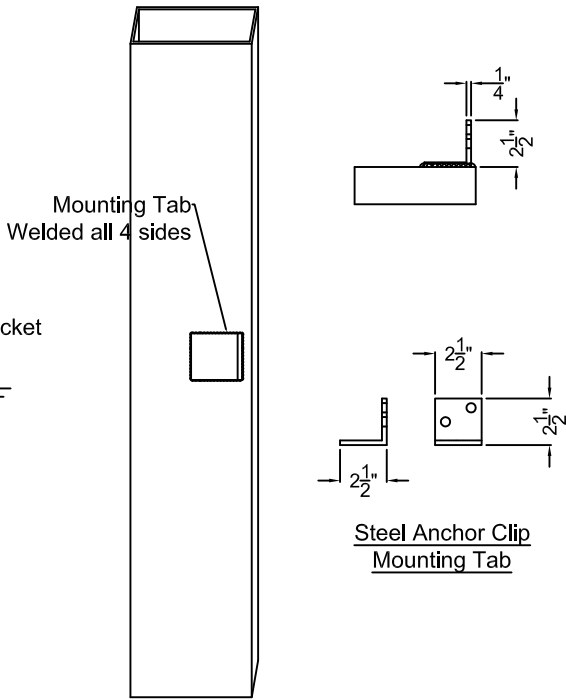
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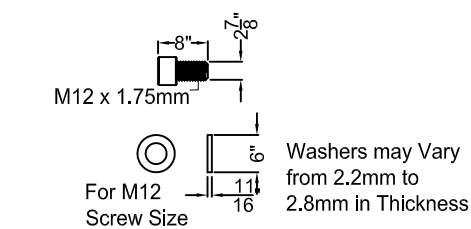
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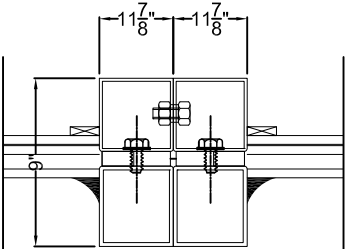
Framing Requirements for Steel Clip Installation (Jambs Shown, Head Same)



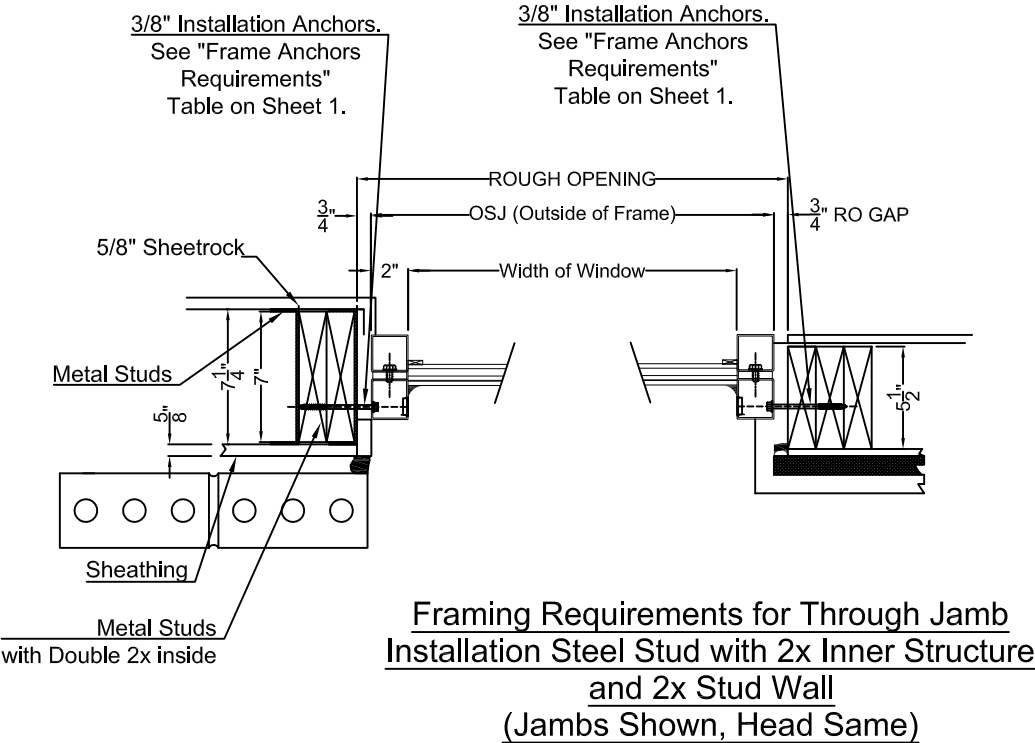
Horizontal Mull with Mull bolts



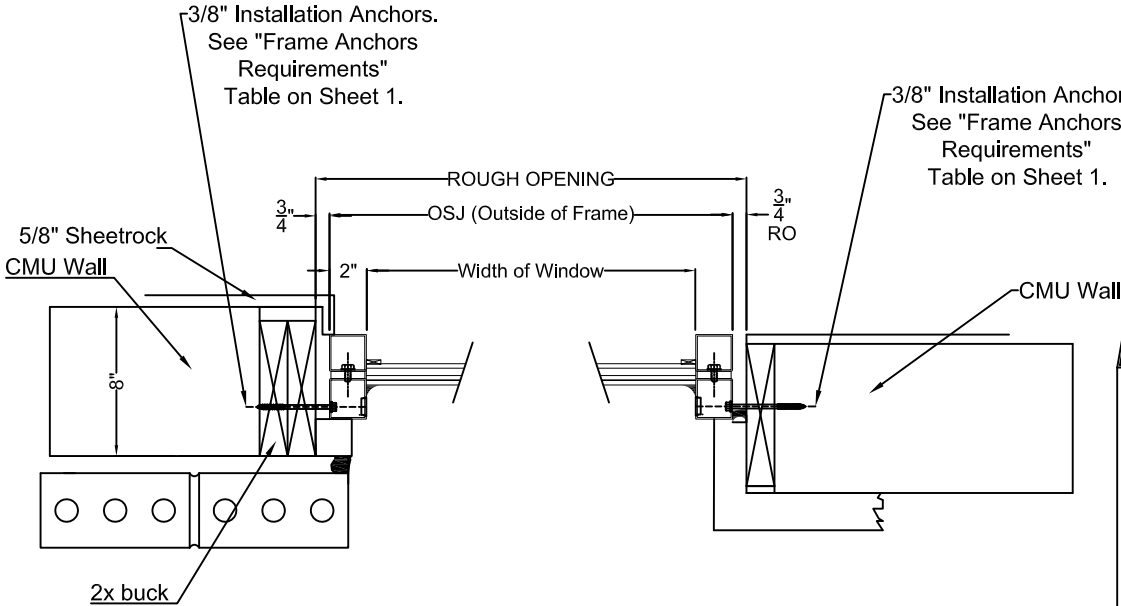
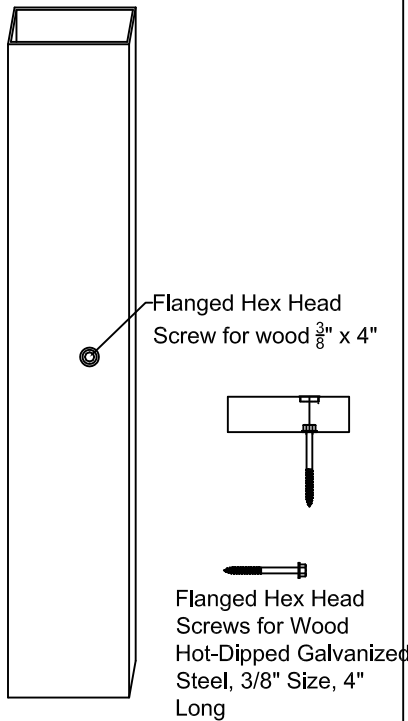
Mull Bolts and Washers



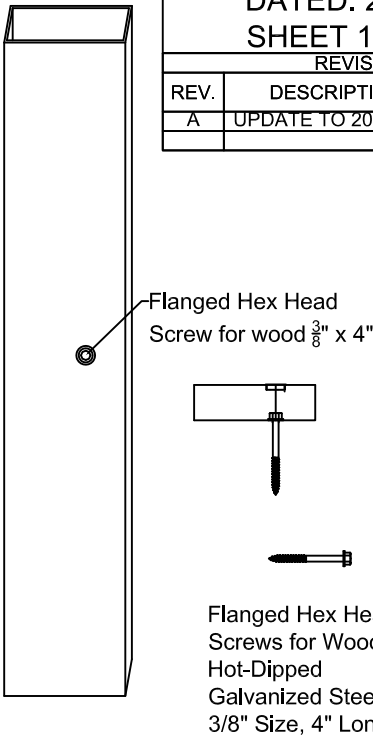
Vertical Mull with Mull bolts



Framing Requirements for Through Jamb Installation Steel Stud with 2x Inner Structure and 2x Stud Wall (Jambs Shown, Head Same)



Framing Requirements for Through Jamb Installation CMU wall with 2x stud buck Scale 3"=1'-0"



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JAMB (SHOWN) AND HEAD INSTALLATION ANCHOR REQUIREMENTS SECTION VIEWS

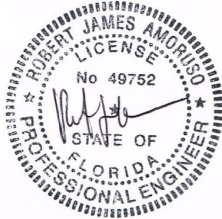
STEEL ANCHOR CLIP & THROUGH FRAME INSTALLATION

SECTION VIEWS ON THIS SHEET SHOW TYPICAL STEEL ANCHOR CLIP AND THROUGH FRAME INSTALLATION REQUIREMENTS AT THE JAMBS. HEAD INSTALLATION WILL BE PERFORMED SIMILARLY.



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