

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

NOTES:

- 1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE.
- 2. WOOD FRAMING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
- 3. ALLOWABLE STRESS INCREASE OF 1/3 WAS NOT USED IN THE DESIGN OF THE PRODUCT SHOWN HEREIN. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
- 4. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS UP TO WIND ZONE 3.
- 5. DESIGN PRESSURE AND INSTALLATION DETAILS SHOWN IN THIS DOCUMENT APPLY ONLY TO MULLION. FENESTRATION UNITS MUST BE APPROVED UNDER SEPARATE APPROVAL.
- 6. BUCKS SHALL EXTEND BEYOND UNIT FRAME INTERIOR FACE SO THAT FULL FRAME SUPPORT IS PROVIDED.
- 7. FENESTRATION UNITS TO BE MULLED ARE NOT LIMITED TO THOSE SHOWN IN THIS DRAWING. FENESTRATION UNITS MUST BE MANUFACTURED BY FENESTAR USA.
- 8. DESIGN PRESSURE OF MULLED UNIT SHALL BE CONTROLLED BY THE LESSER DESIGN PRESSURE OF THE MULLION OR THE INDIVIDUAL FENESTRATION UNIT.
- 9. UNITS MAY BE MULLED TOGETHER INDEFINITELY AS LONG AS SINGLE UNIT WIDTH AND HEIGHT ARE NOT EXCEEDED AND MULLION IS ANCHORED AS SHOWN HEREIN.

ANCHORING NOTES:

- 1. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #14 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 7/16" MINIMUM EMBEDMENT WITH 5/8" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS.
- 2. FOR ANCHORING INTO CONCRETE USE 1/4" TAPCON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT WITH 2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS.
- 3. FOR ANCHORING INTO METAL STRUCTURE USE #14 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL AND 5/8" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
- 4. ALL FASTENERS TO BE CORROSION RESISTANT.
- 5. 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 BELOW:
 - 5.1. WOOD – MINIMUM SPECIFIC GRAVITY OF G=0.42
 - 5.2. CONCRETE – MINIMUM COMPRESSIVE STRENGTH OF 3,200 PSI.
 - 5.3. MASONRY – GROUT/FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM.
 - 5.4. METAL STRUCTURE: STEEL 18GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063-T5 125" THICK MINIMUM
- 6. FENESTRATION UNITS ATTACHED TO MULLION MUST BE ANCHORED IN ACCORDANCE WITH THE FENESTRATION MANUFACTURER'S INSTALLATION INSTRUCTIONS AND FENESTRATION APPROVAL DOCUMENTATION.

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2	APPROVED CONFIGURATIONS
3	COMPONENTS AND PRESSURE CHARTS
4 – 9	INSTALLATION DETAILS

FENESTAR USA
110 JABEZ ST. SUITE 309
NEWARK, NJ 07105

STEEL HORIZONTAL MULLION ASSEMBLY
TWIN WITH TRANSOM – IMPACT
NOTES

DRAWN:
A.R.

DWG NO.
08-04096

REV
-

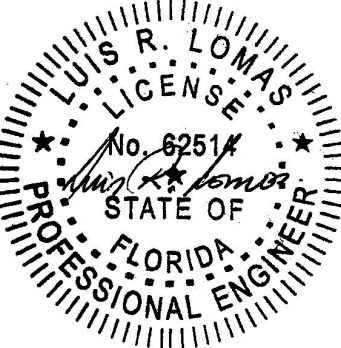
SCALE NTS

DATE 09/10/2024

SHEET 1 OF 9

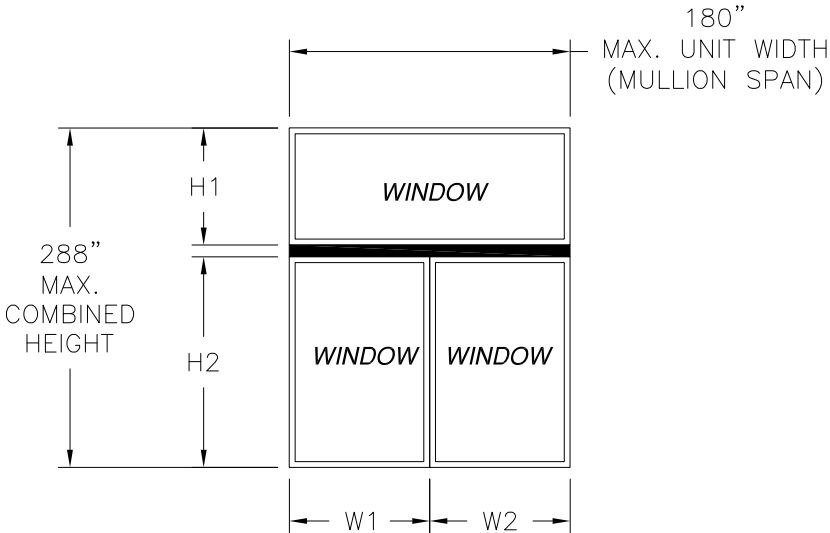
L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com

SIGNED: 09/26/2024



Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SEE DESIGN PRESSURE CHARTS, SHEETS 3 -7

- DESIGN PRESSURE TABLE INSTRUCTIONS:
1. DEFINE REQUIRED DESIGN LOAD PER FLORIDA BUILDING CODE CHAPTER 16.
 2. DETERMINE TRIBUTARY HEIGHT AND MULLION SPAN BASED ON PRODUCT TO BE INSTALLED. SEE FORMULA FOR TRIBUTARY HEIGHT.
 3. LOCATE MULLION SPAN (UNIT WIDTH) AND TRIBUTARY HEIGHT. AT THE INTERSECTION OF COLUMN AND ROW CONTAINING THE MULLION SPAN AND TRIBUTARY WIDTH RESPECTIVELY IS THE MULLION RATING FOR PRODUCT IN STEP .
MULLION RATING MUST BE EQUAL OR GREATER THAN REQUIRED DESIGN PRESSURE OBTAINED IN STEP 1.

TRIBUTARY HEIGHT = $\frac{H1 + H2}{2}$

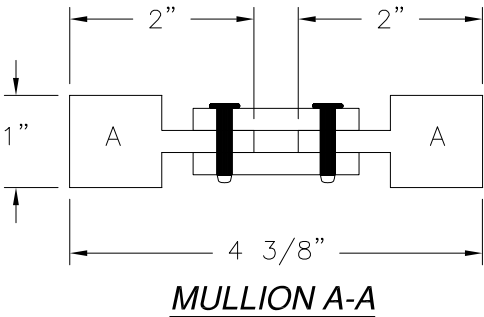
TRIBUTARY WIDTH = $\frac{W1 + W2}{2}$

SIGNED: 09/26/2024

FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT APPROVED CONFIGURATIONS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 2 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

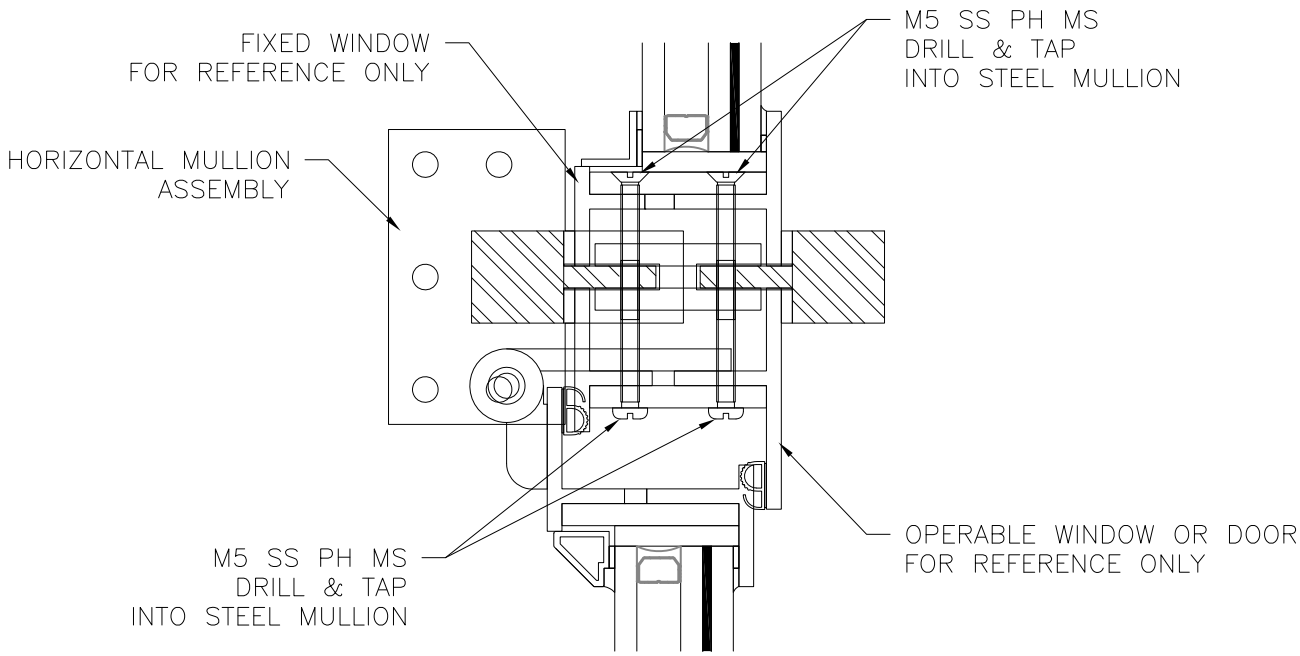
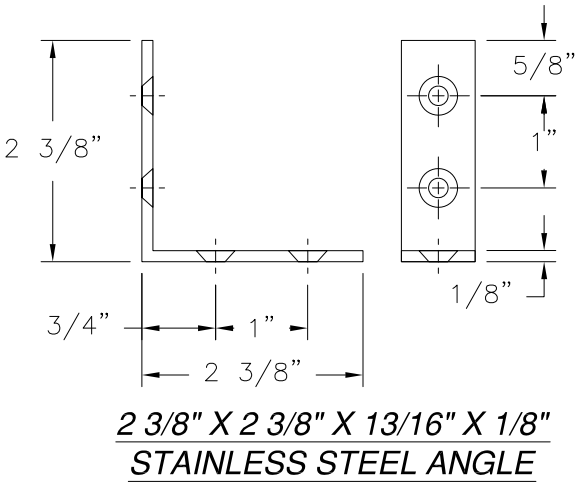
Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



Maximum design pressure capacity chart (psf)

Tributary Height (in)	Mullion Span and individual unit width (in)							
	96.00	108.00	120.00	132.00	144.00	156.00	168.00	180.00
	48.00	54.00	60.00	66.00	72.00	78.00	84.00	90.00
78.00	93.9	79.4	66.2	54.0	44.9	38.0	32.3	26.0
84.00	90.2	76.0	62.2	50.6	42.1	35.5	30.4	24.4
90.00	87.2	73.2	58.8	47.8	39.6	33.4	28.6	23.1
96.00	84.6	70.7	56.0	45.3	37.5	31.6	27.0	21.9
102.00	82.3	68.2	53.5	43.2	35.7	30.0	25.6	20.9
108.00	80.2	65.8	51.4	41.3	34.0	28.6	24.3	19.9
114.00	78.1	63.7	49.5	39.7	32.6	27.3	23.3	19.1
120.00	76.1	61.7	48.0	38.3	31.4	26.3	22.3	18.4
126.00	74.3	59.8	46.6	37.1	30.3	25.3	21.4	17.7
132.00	72.5	58.1	45.3	36.1	29.4	24.4	20.7	17.2
138.00	70.8	56.4	44.0	35.1	28.5	23.7	20.0	16.6
144.00	69.2	54.9	42.8	34.2	27.8	23.0	19.4	16.2



**WINDOW/DOOR TO MULLION ASSEMBLY
CONNECTION DETAIL**
3 1/8" X 3 1/8" X 3/16" STAINLESS STEEL PLATE SHOWN
4 5/16" X 4 5/16" X 3/16" STEEL PLATE SIMILAR

SIGNED: 09/26/2024

FENESTAR USA
110 JABEZ ST. SUITE 309
NEWARK, NJ 07105

STEEL HORIZONTAL MULLION ASSEMBLY
TWIN WITH TRANSOM – IMPACT
COMPONENTS AND PRESSURE CHART

DRAWN:
A.R.

DWG NO.
08-04096

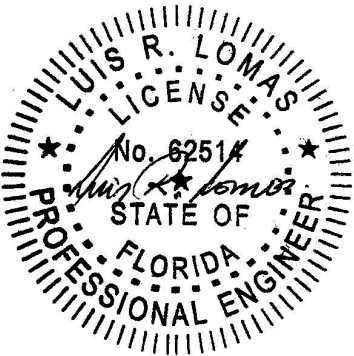
REV
-

SCALE
NTS

DATE
09/10/2024

SHEET
3 OF 9

L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrlomaspe.com



Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

M5X12 SS FH MS
DRILL & TAP INTO
MULLION ASSEMBLY END

M5X12 SS FH MS
DRILL & TAP INTO
MULLION ASSEMBLY END

2 3/8" X 2 3/8" X 1/8"
STAINLESS STEEL ANGLE

2 3/8" X 2 3/8" X 1/8"
STAINLESS STEEL ANGLE

VERTICAL MULLION
ASSEMBLY

HORIZONTAL
MULLION
ASSEMBLY

2 3/8" X 2 3/8" X 1/8"
STAINLESS STEEL ANGLE

M5X12 SS FH MS
DRILL & TAP INTO
MULLION ASSEMBLY END

TRANSOM FRAME
FOR REFERENCE ONLY

HORIZONTAL MULLION
ASSEMBLY

WINDOW FRAME
FOR REFERENCE ONLY

TRANSOM/WINDOW CONNECTION DETAIL A

SIGNED: 09/26/2024

FENESTAR USA
110 JABEZ ST. SUITE 309
NEWARK, NJ 07105

STEEL HORIZONTAL MULLION ASSEMBLY
TWIN WITH TRANSOM – IMPACT
INSTALLATION DETAILS

DRAWN:
A.R.

DWG NO.
08-04096

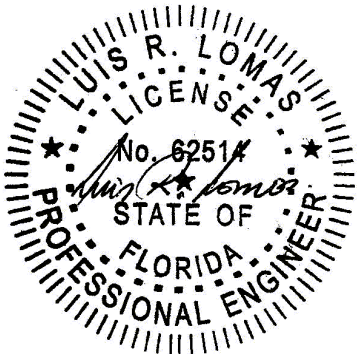
REV
-

SCALE NTS

DATE 09/10/2024

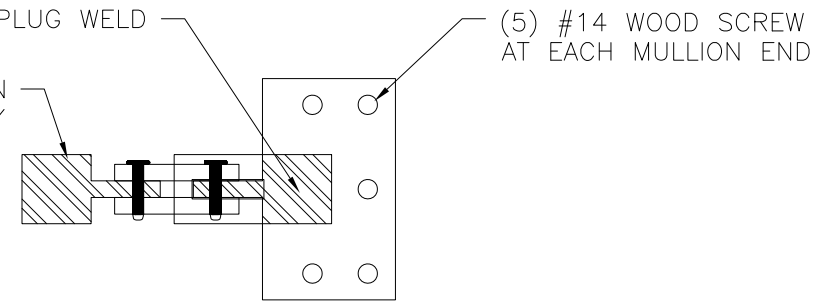
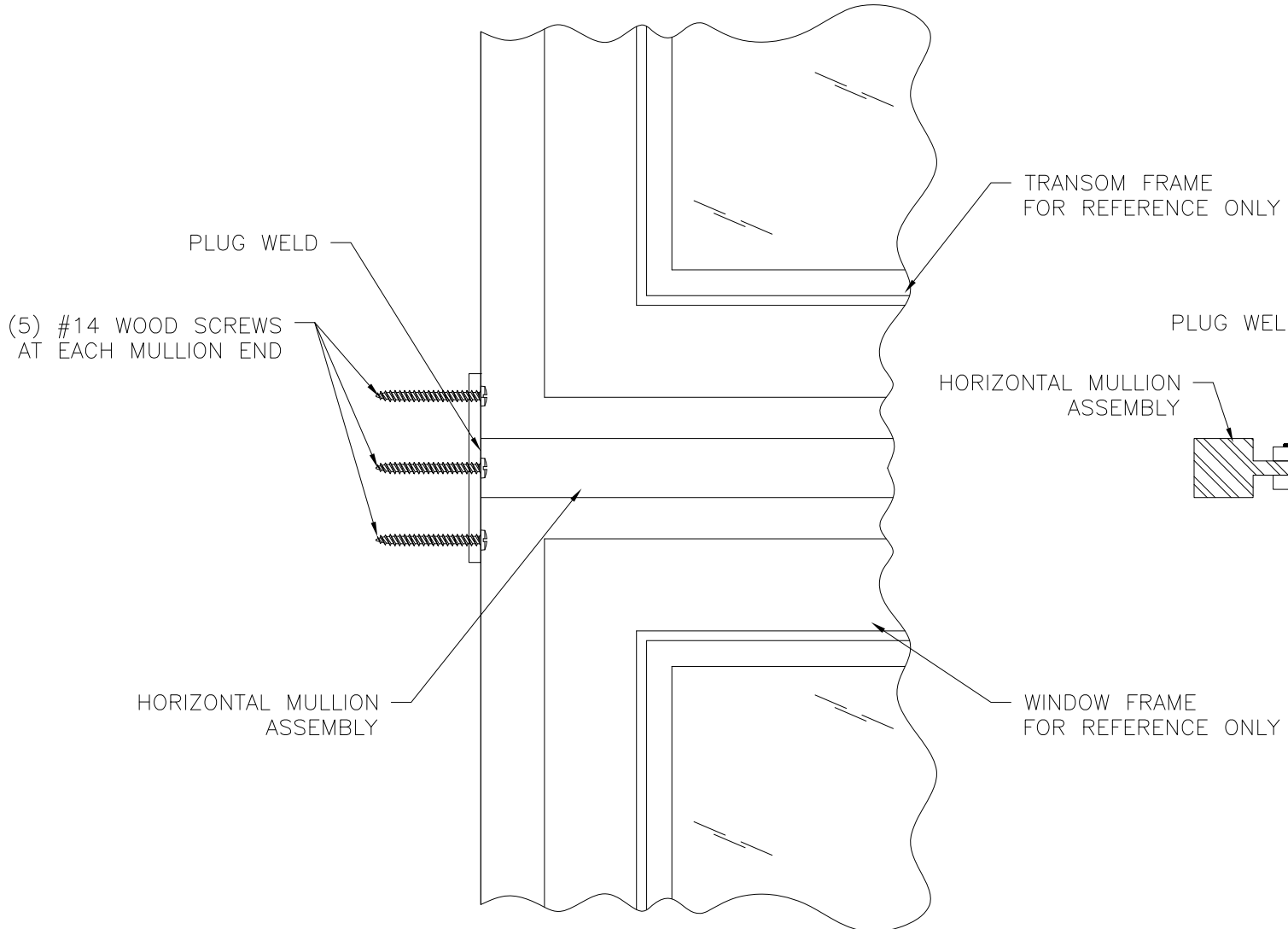
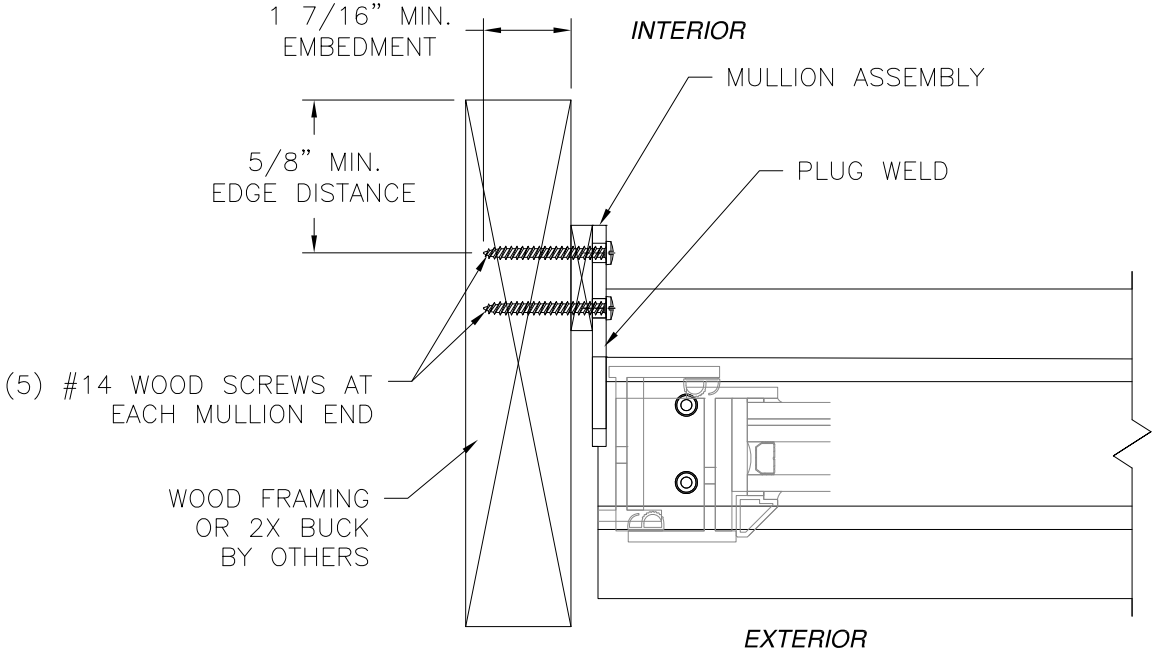
SHEET 4 OF 9

L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrlomaspe.com



Luis R. Lomas P.E.
FL No.: 62514

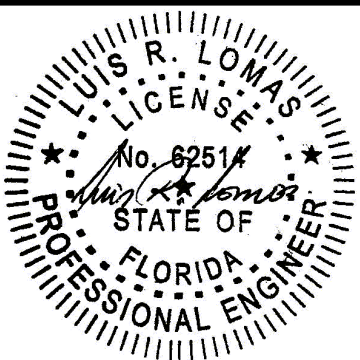
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



HORIZONTAL INSTALLATION DETAIL
WOOD FRAMING OR 2X BUCK

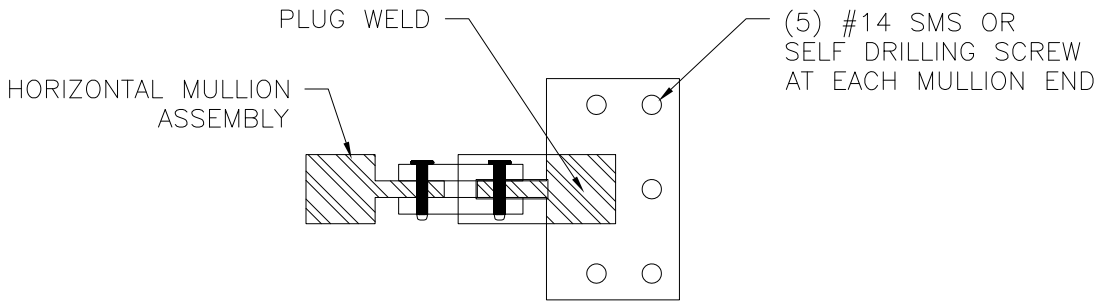
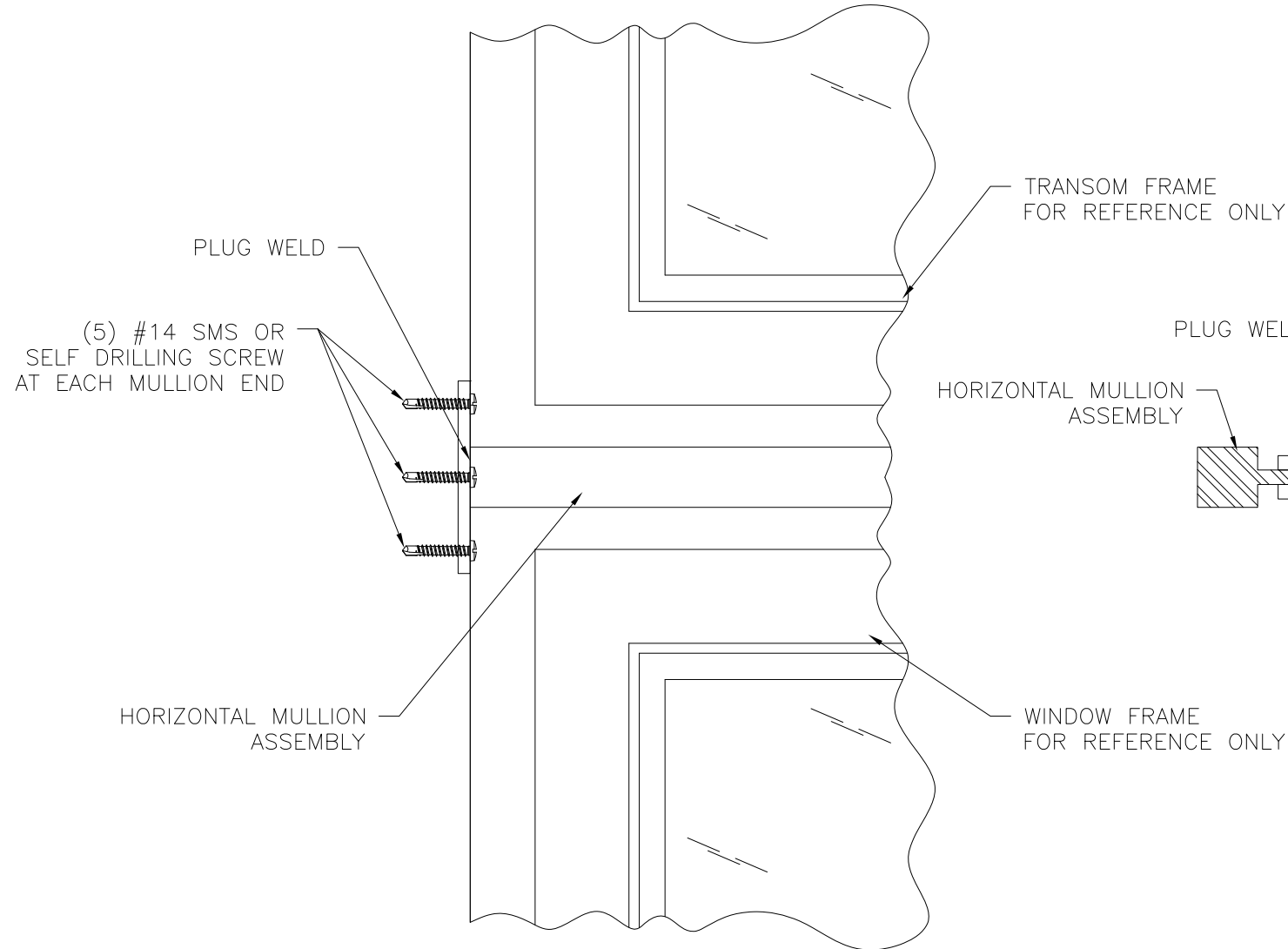
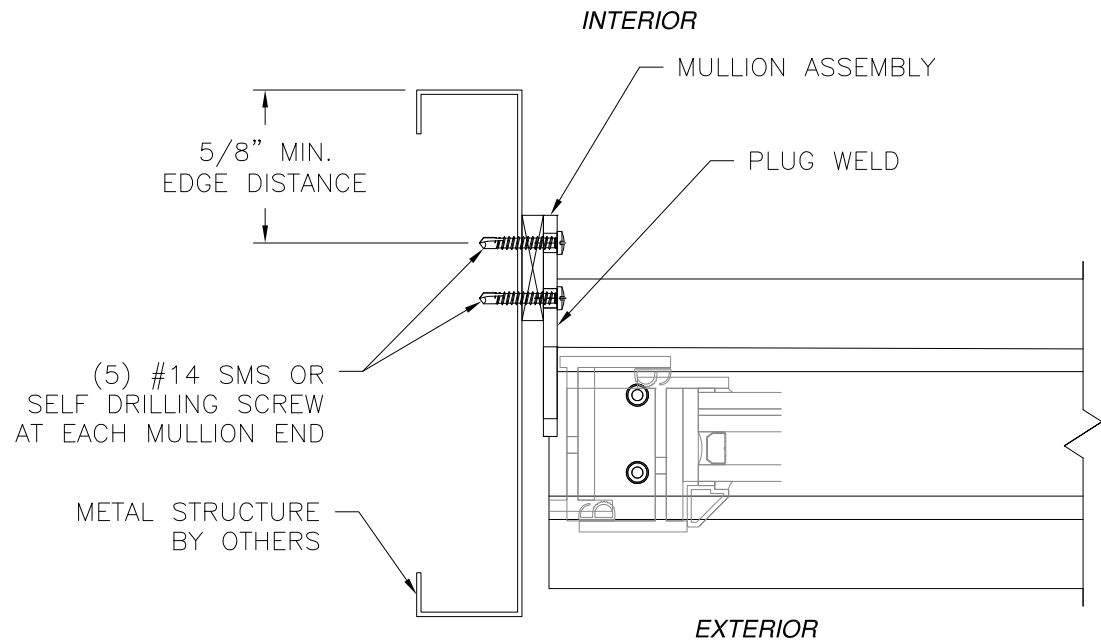
SIGNED: 09/26/2024

FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 5 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		



Luis R. Lomas P.E.
FL No.: 62514

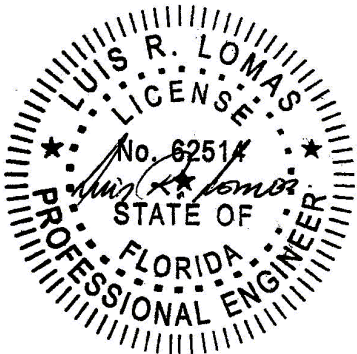
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



HORIZONTAL INSTALLATION DETAIL
METAL STRUCTURE

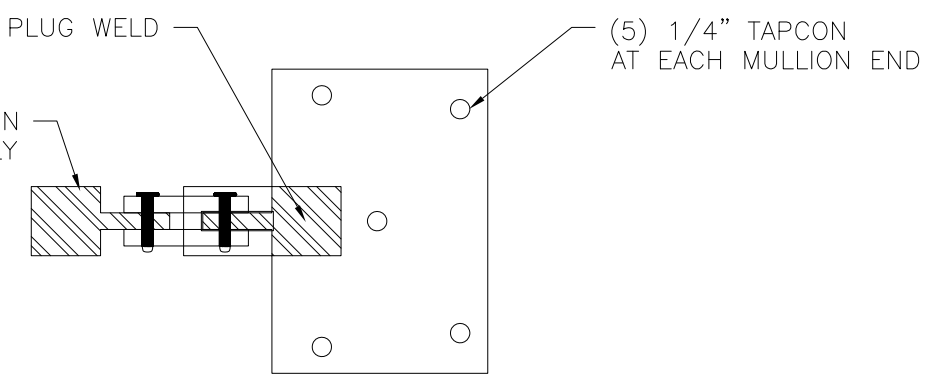
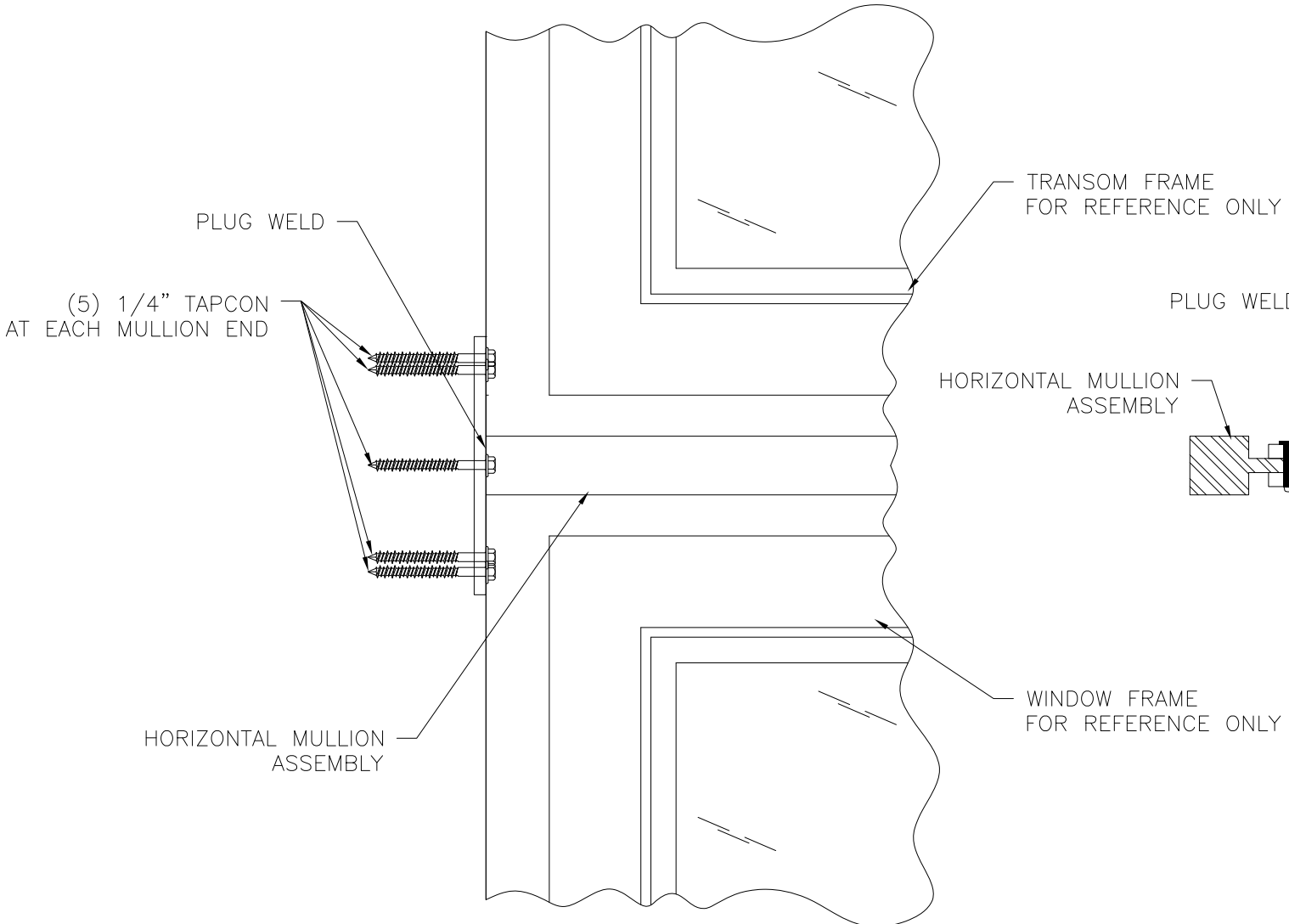
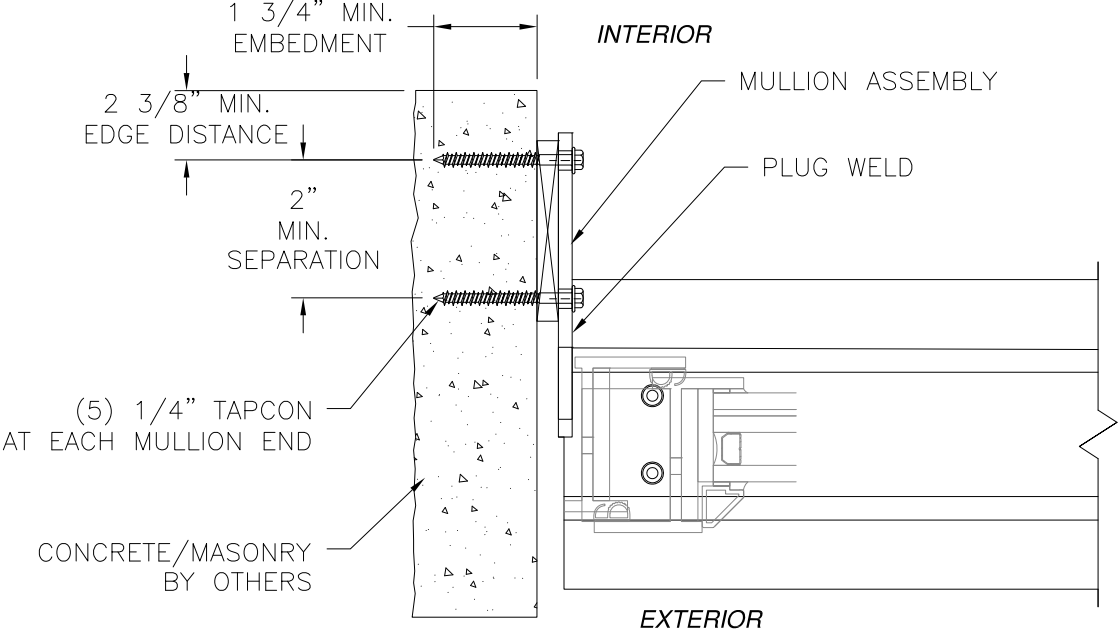
FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 6 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 09/26/2024



Luis R. Lomas P.E.
FL No.: 62514

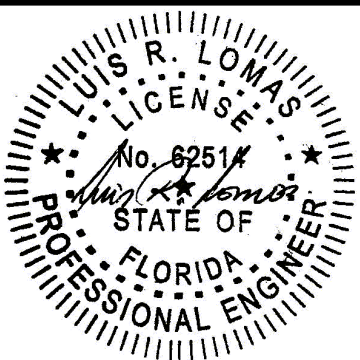
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



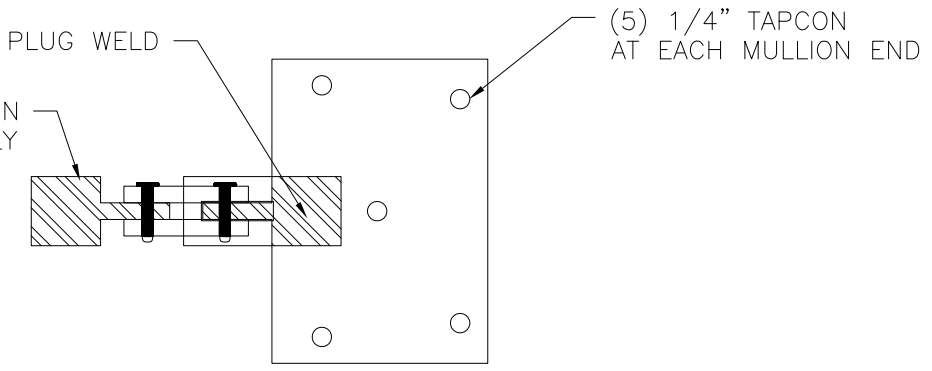
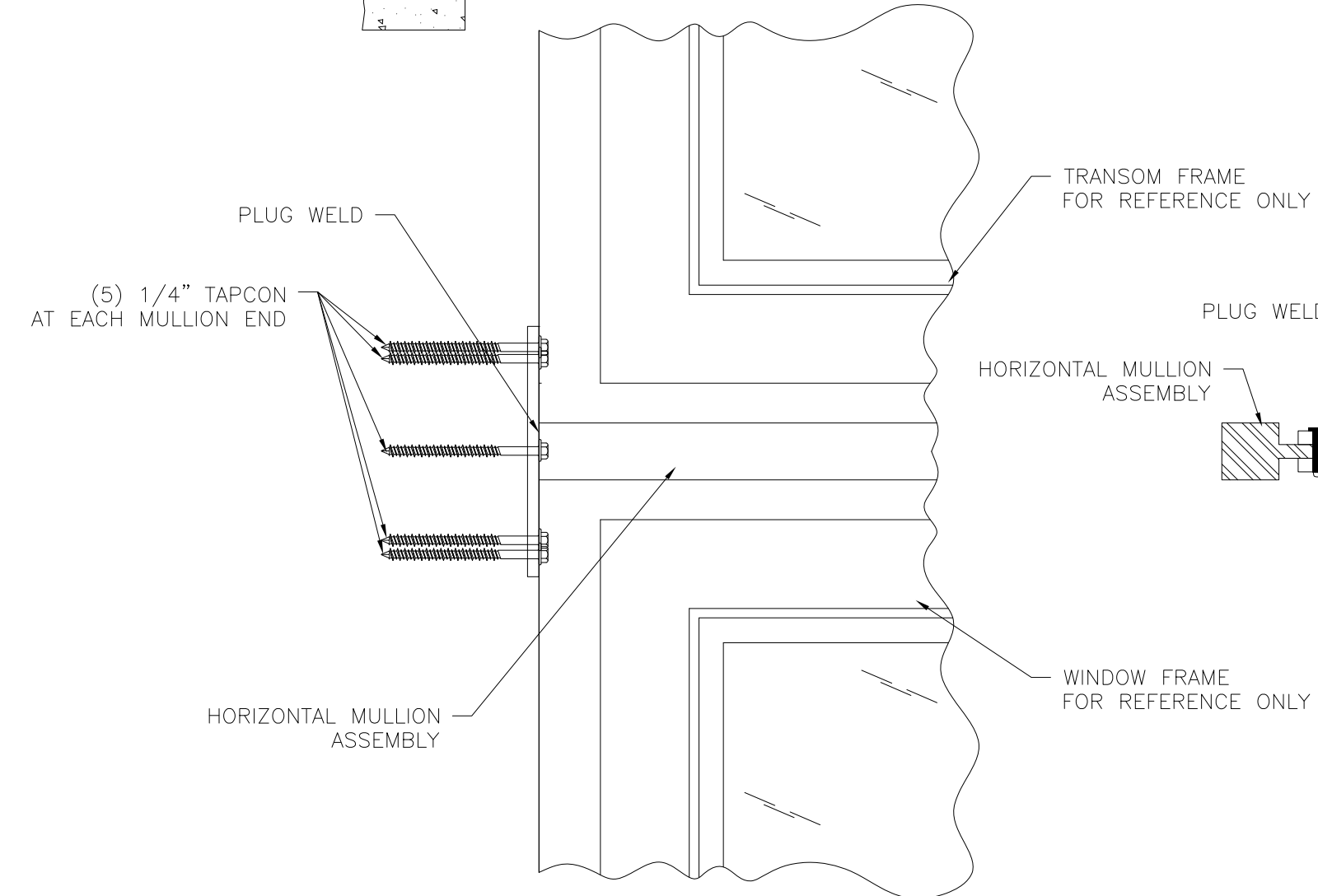
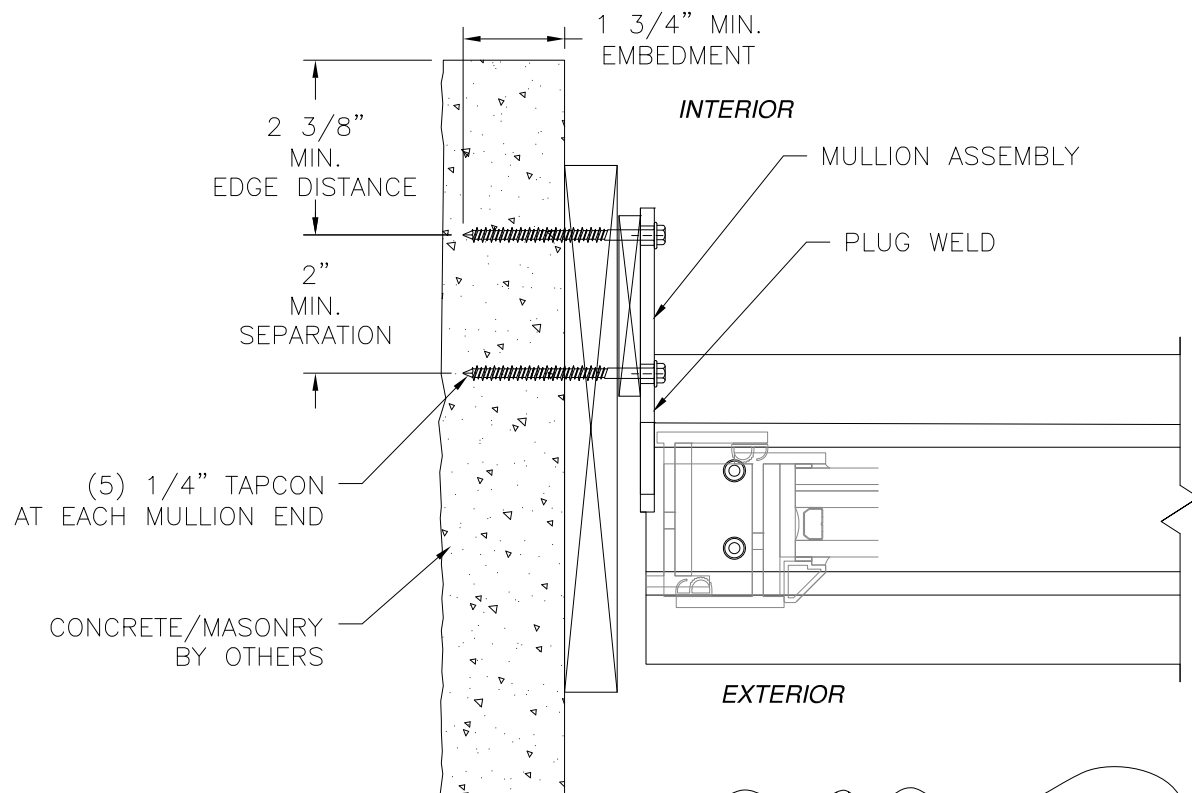
HORIZONTAL INSTALLATION DETAIL
CONCRETE/MASONRY

SIGNED: 09/26/2024

FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 7 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		



Luis R. Lomas P.E.
FL No.: 62514

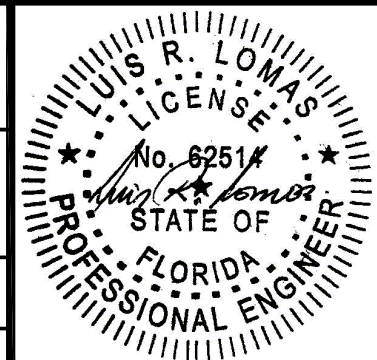


INSTALLATION DETAIL C
CONCRETE/MASONRY W/1X BUCK

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

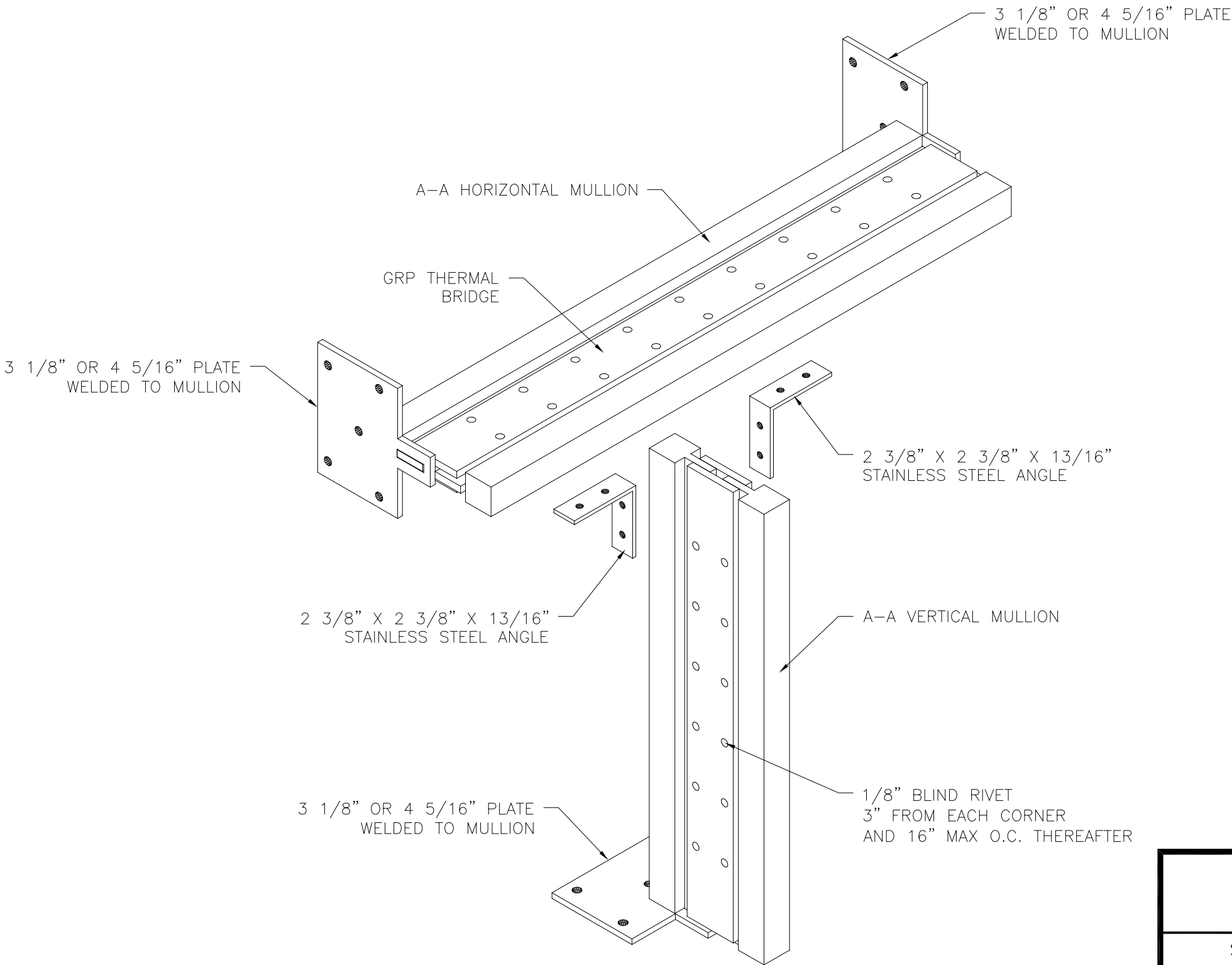
FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 8 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

SIGNED: 09/26/2024



Luis R. Lomas P.E.
FL No.: 62514

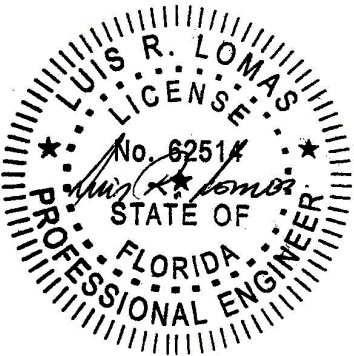
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



HORIZONTAL TO VERTICAL MULLION INSTALLATION

SIGNED: 09/26/2024

FENESTAR USA 110 JABEZ ST. SUITE 309 NEWARK, NJ 07105		
STEEL HORIZONTAL MULLION ASSEMBLY TWIN WITH TRANSOM – IMPACT CONNECTION DETAILS		
DRAWN: A.R.	DWG NO. 08-04096	REV -
SCALE NTS	DATE 09/10/2024	SHEET 9 OF 9
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		



Luis R. Lomas P.E.
FL No.: 62514