

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
F	REVISED PER NEW CODE	07/31/2024	R.L.

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING THE HVHZ.
2. WOOD FRAMING, METAL FRAMING AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
3. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
4. UNITS MUST BE GLAZED WITH 3/8" LEXAN. SEE SHEET 3 FOR GLAZING DETAIL.
5. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREW WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4" MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
6. FOR ANCHORING INTO MASONRY USE 3/16" ITW TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2" MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
7. FOR ANCHORING THROUGH FRAME INTO METAL STRUCTURE USE #10 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
8. ALL FASTENERS TO BE CORROSION RESISTANT.
9. 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:

A. WOOD – MINIMUM SPECIFIC GRAVITY OF G=0.42

B. CONCRETE – MINIMUM COMPRESSIVE STRENGTH OF 3,300 PSI.

C. MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, WITH Fm=2,000 PSI.

D. METAL STRUCTURE – STEEL 18 GA (.048") FY=33KSI/FU=52KSI OR ALUMINUM 6063-T5 FU=30KSI .125" THICK MINIMUM.
9. 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.
10. MAIN FRAME AND SUBFRAME MATERIAL: ALUMINUM 6063-T52.
11. PANELS MAY BE MULLED INDEFINITELY AS LONG AS PANEL SIZE AS SHOWN IS NOT EXCEEDED AND ANCHORED AS SHOWN IN THIS DOCUMENT.
12. ALL DISSIMILAR MATERIALS TO BE SEPARATED WITH PPG CONCEPT (DCC) ACRYLIC URETHANE PAINT.

SIGNED: 06/18/2025

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2	ELEVATION
3	CROSS SECTIONS AND COMPONENTS
4 – 6	INSTALLATION DETAILS

BOVARD STUDIO, INC.
2281 HIGHWAY 34 EAST
FAIRFILED, IA 52556

ALUMINUM FIXED SHUTTER
IMPACT
NOTES

DRAWN:
R.L.

DWG NO.
08-00404

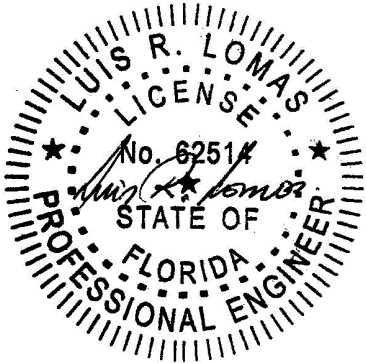
REV
F

SCALE NTS

DATE 02/13/08

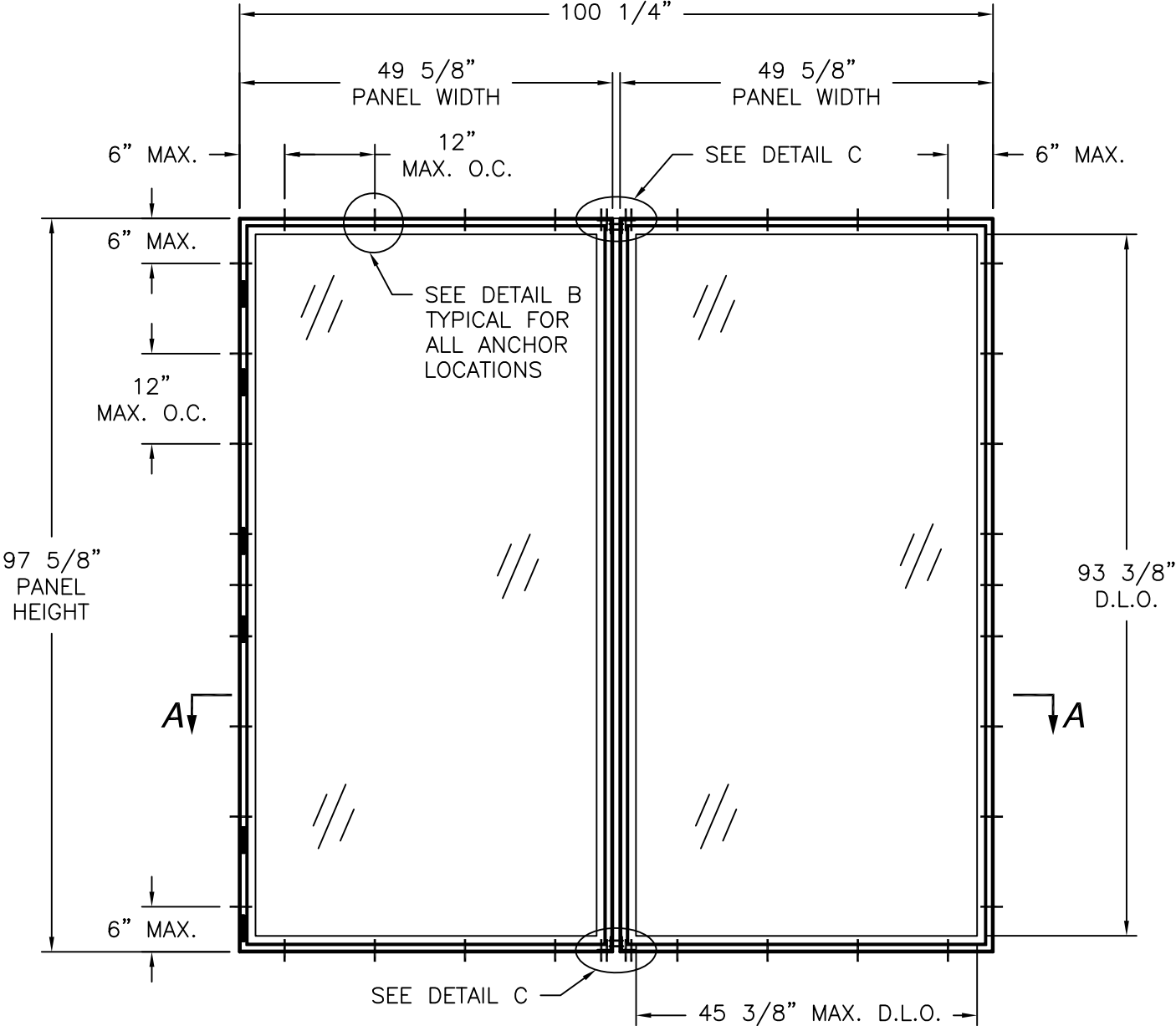
SHEET 1 OF 6

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
F	REVISED PER NEW CODE	07/31/2024	R.L.



1850 ALUMINUM FIXED SHUTTER
EXTERIOR VIEW

DESIGN PRESSURE RATING	IMPACT RATING
±75.0PSF	LARGE AND SMALL MISSILE IMPACT

2 PANELS SHOWN. MULTIPLE PANELS ARE APPROVED AS LONG AS INDIVIDUAL PANEL AREA DOES NOT EXCEED 33.6 FT²

SIGNED: 06/18/2025

BOVARD STUDIO, INC.
2281 HIGHWAY 34 EAST
FAIRFILED, IA 52556

ALUMINUM FIXED SHUTTER
IMPACT
ELEVATION

DRAWN:
R.L.

DWG NO.
08-00404

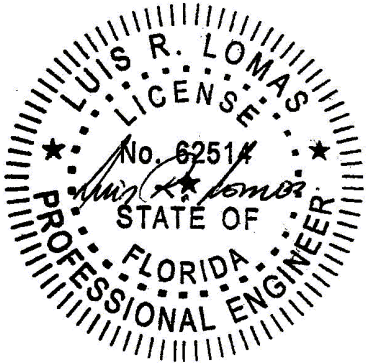
REV
F

SCALE NTS

DATE 02/13/08

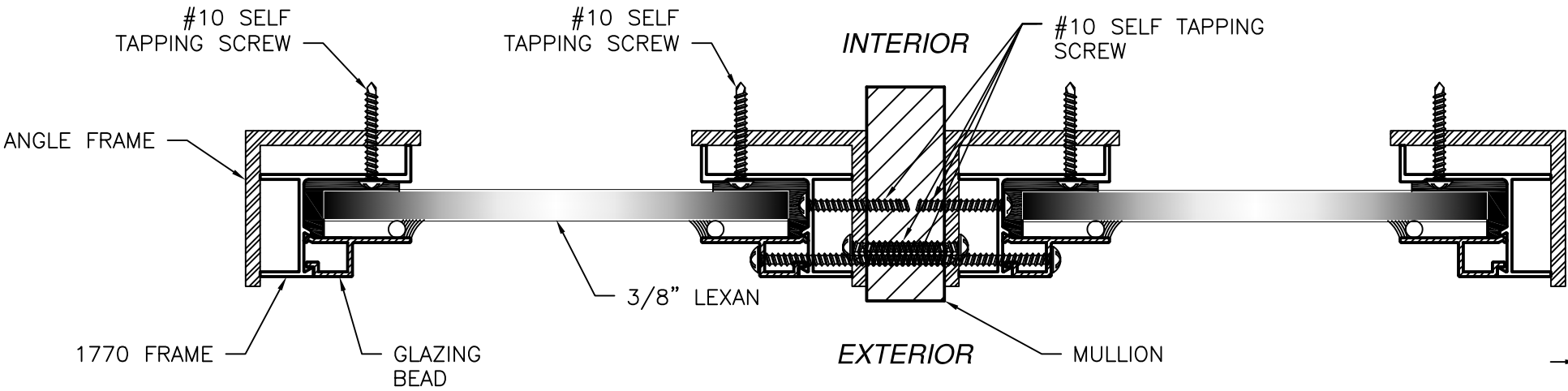
SHEET 2 OF 6

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

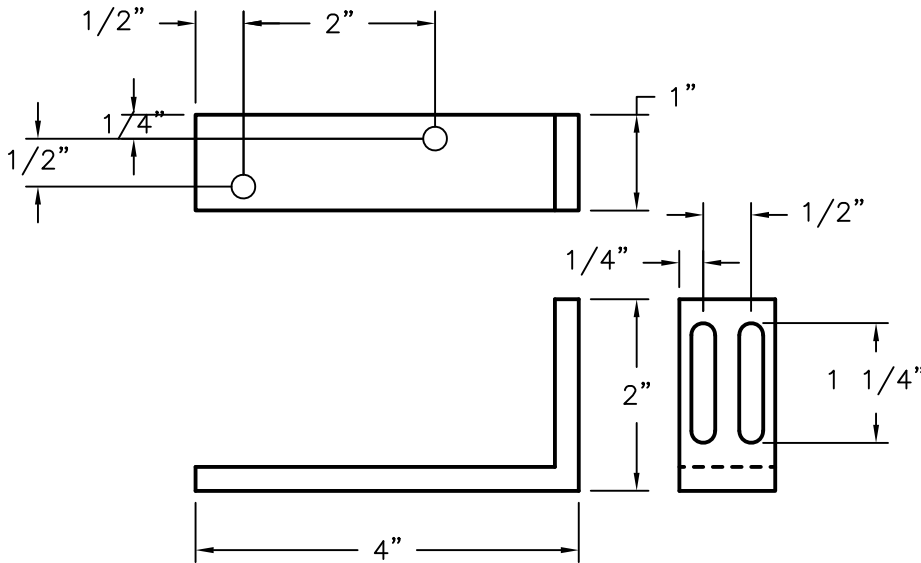
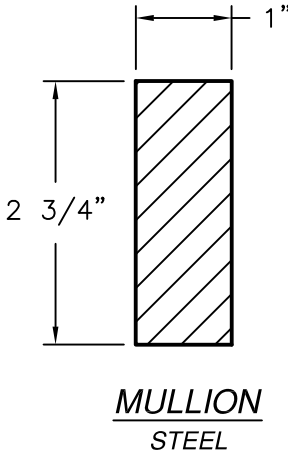
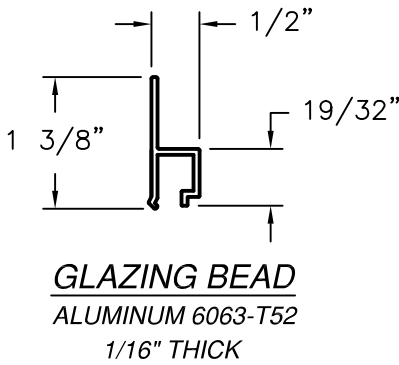


Luis R. Lomas P.E.
FL No.: 62514

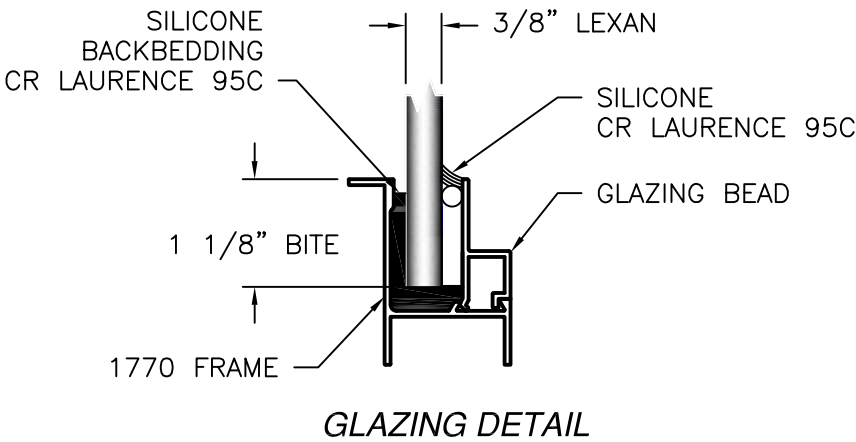
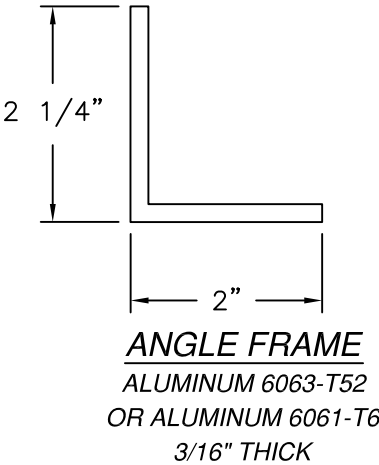
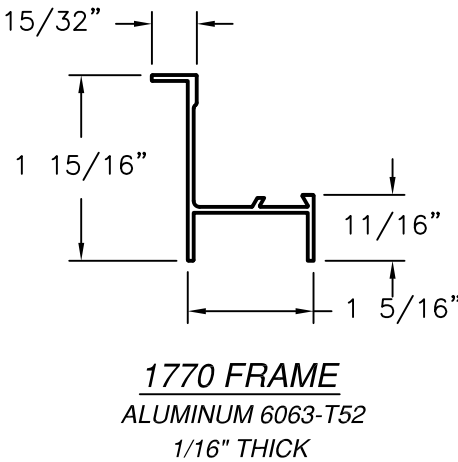
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
F	REVISED PER NEW CODE	07/31/2024	R.L.



SECTION A-A
HORIZONTAL SECTION SHOWN
VERTICAL SECTION SIMILAR



INSTALLATION /MULLION CLIP
A36 GALVANIZED STEEL 1/4" THICK



BOVARD STUDIO, INC.
2281 HIGHWAY 34 EAST
FAIRFILED, IA 52556

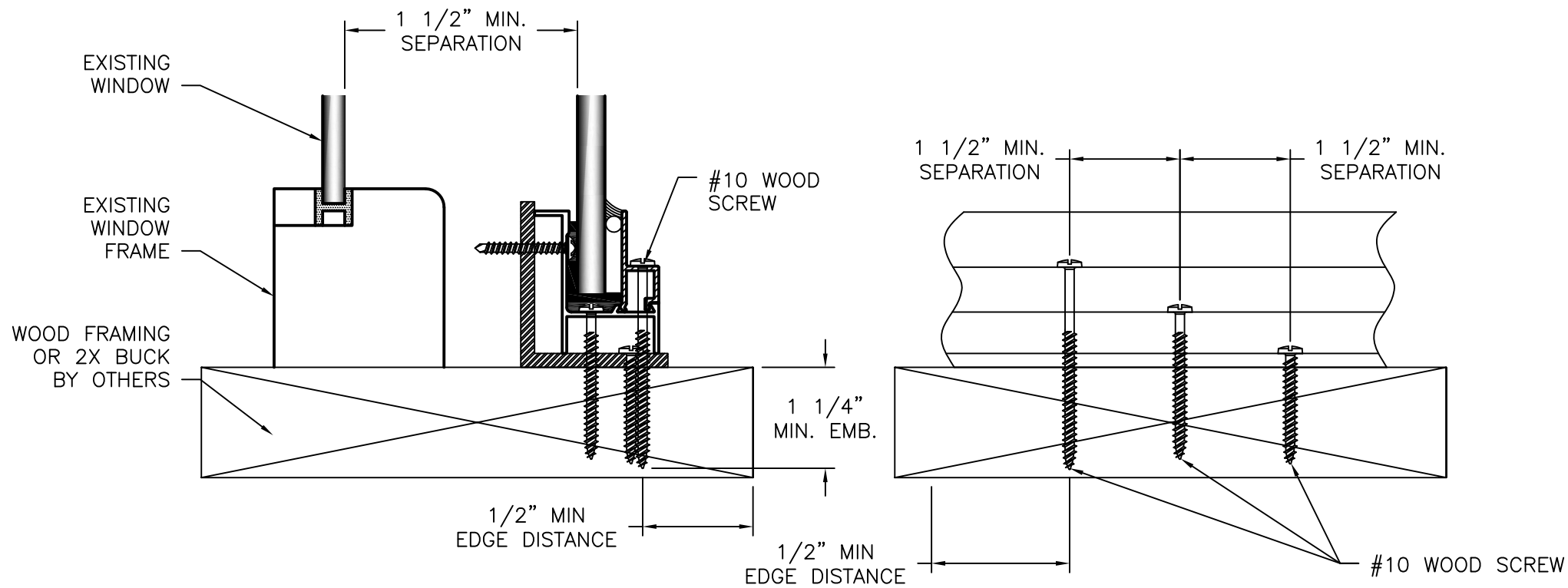
ALUMINUM FIXED SHUTTER
IMPACT
CROSS SECTIONS AND COMPONENTS

DRAWN: R.L.	DWG NO. 08-00404	REV F
SCALE NTS	DATE 02/13/08	SHEET 3 OF 6

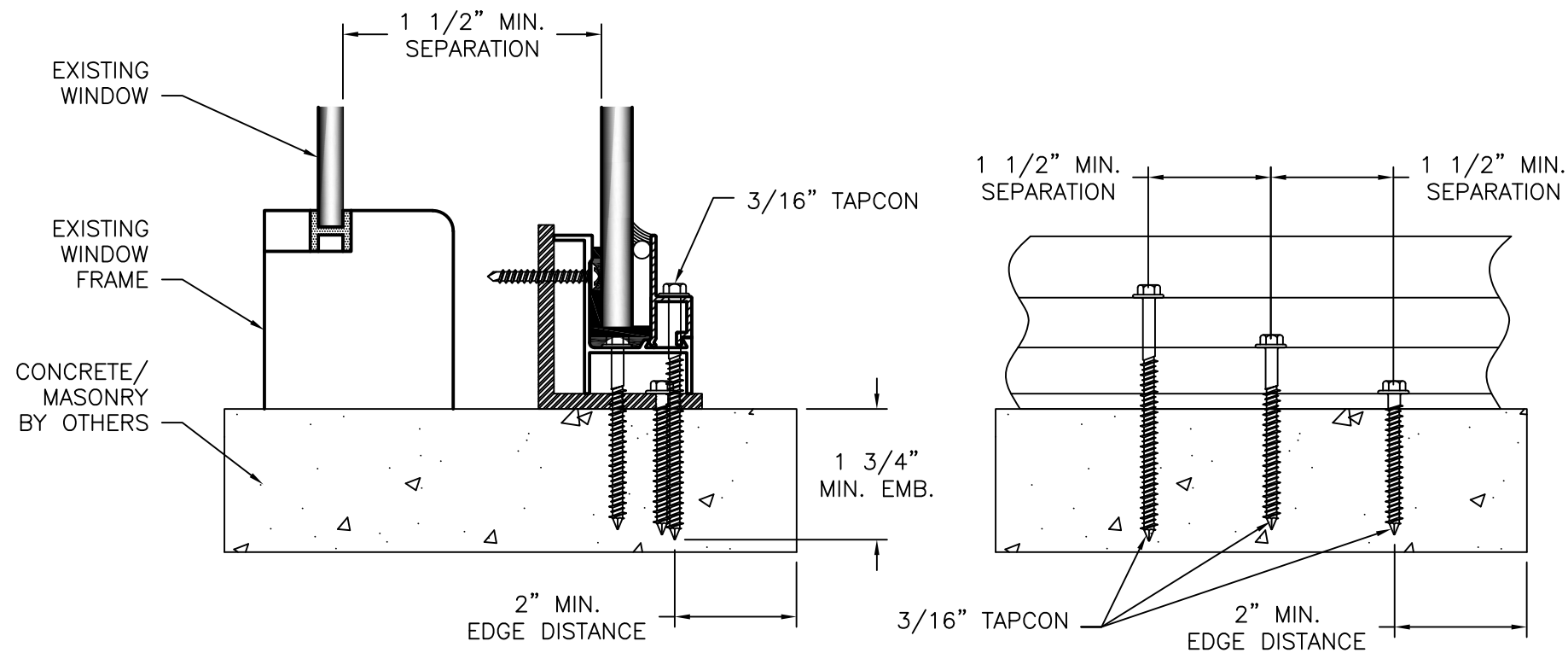
L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrllomaspe.com

SIGNED: 06/18/2025

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



DETAIL B
PERIMETER ANCHOR INSTALLATION
WOOD FRAMING OR 2X BUCK



DETAIL B
PERIMETER ANCHOR INSTALLATION
CONCRETE/MASONRY

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
F	REVISED PER NEW CODE	07/31/2024	R.L.

BOVARD STUDIO, INC.
2281 HIGHWAY 34 EAST
FAIRFILED, IA 52556

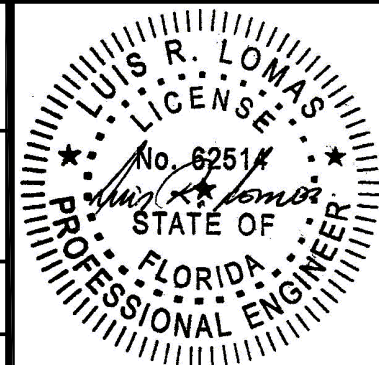
ALUMINUM FIXED SHUTTER
IMPACT
INSTALLATION DETAILS

DRAWN: R.L. DWG NO. 08-00404 REV F

SCALE NTS DATE 02/13/08 SHEET 4 OF 6

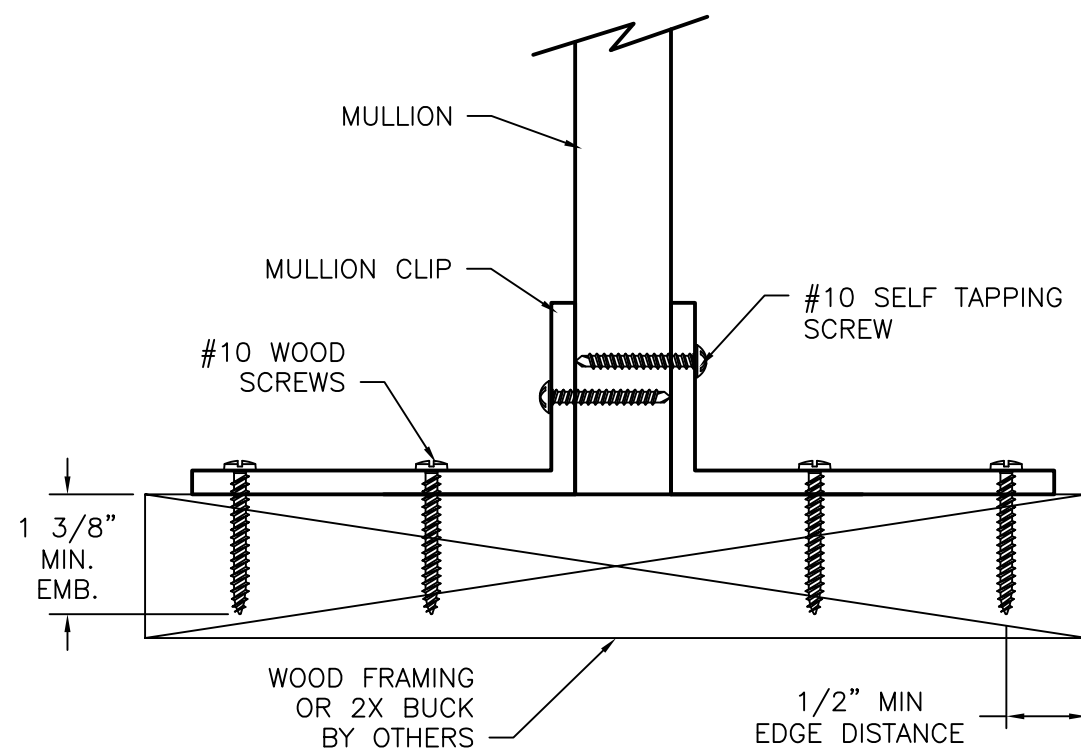
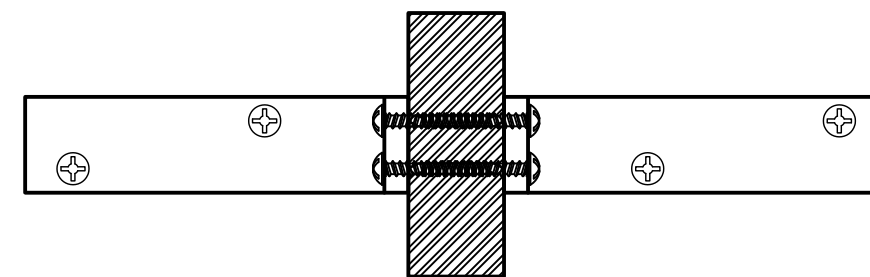
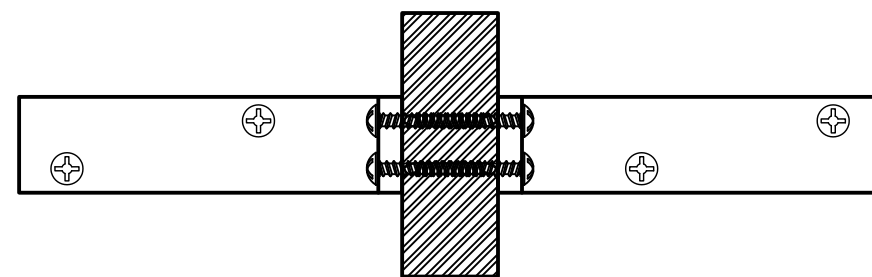
L. ROBERTO LOMAS P.E.
208 7th Ave, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrlomaspe.com

SIGNED: 06/18/2025

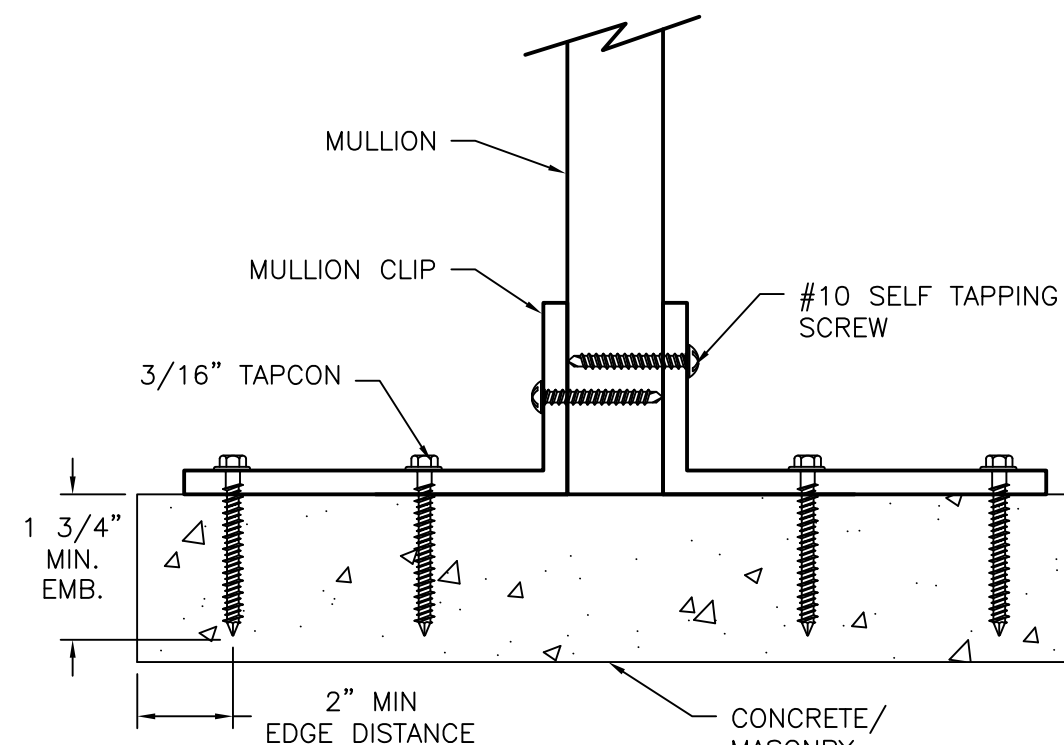
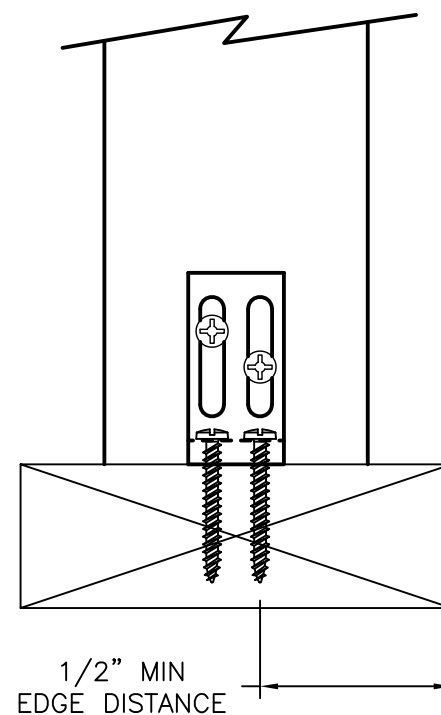


Luis R. Lomas P.E.
FL No.: 62514

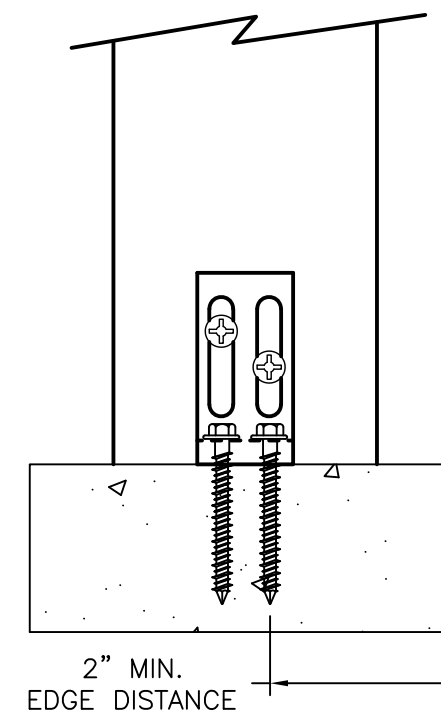
	REVISIONS		
REV	DESCRIPTION	DATE	APPROVED
F	REVISED PER NEW CODE	07/31/2024	R.L.



DETAIL C
MULLION CLIP INSTALLATION
WOOD FRAMING OR 2X BUCK

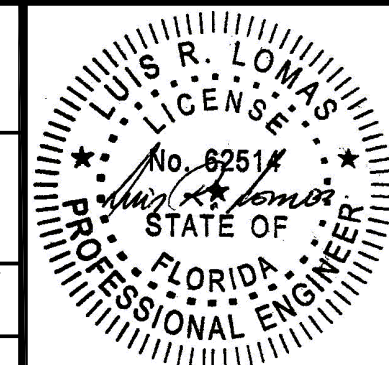


DETAIL C
MULLION CLIP INSTALLATION
CONCRETE/MASONRY



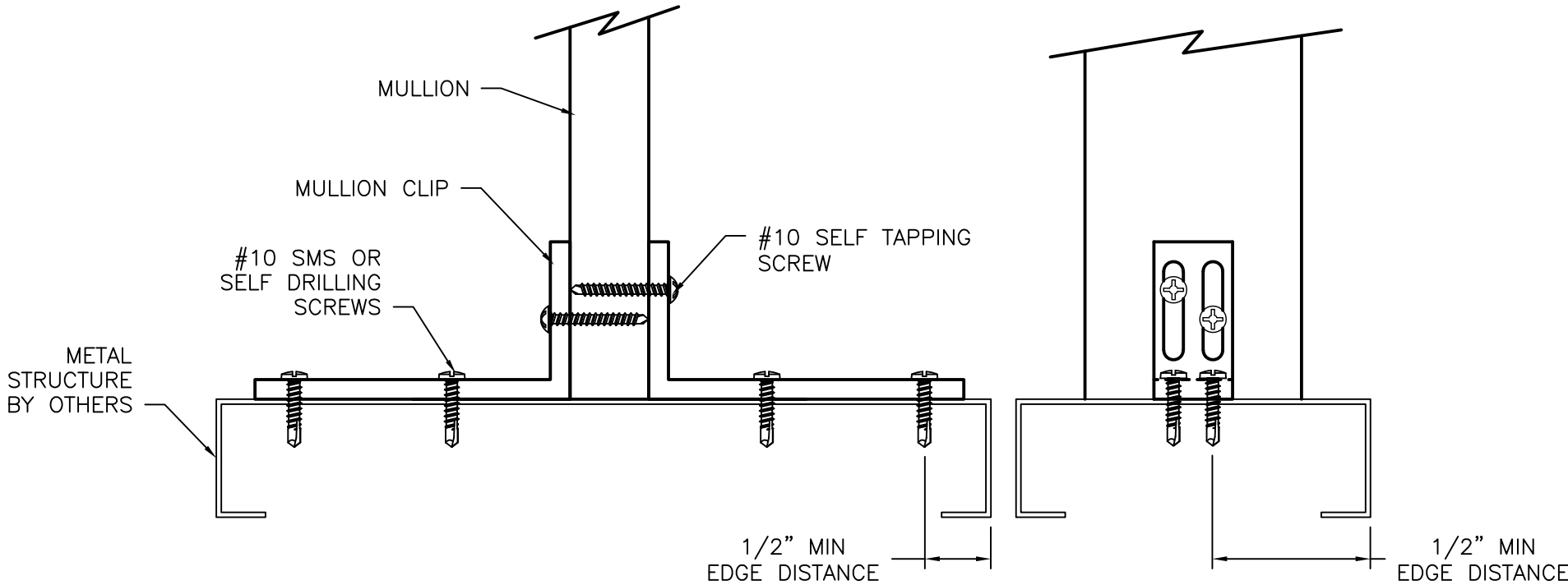
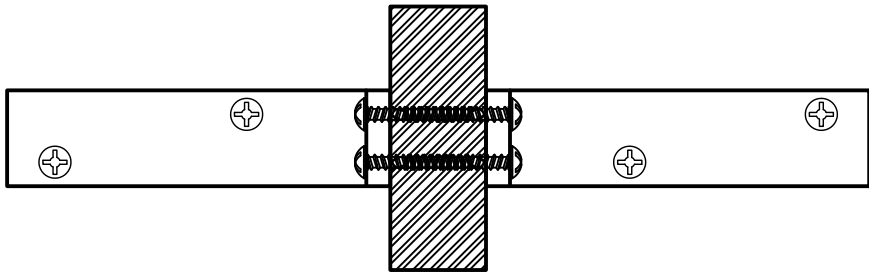
SIGNED: 06/18/2025

BOVARD STUDIO, INC.			
2281 HIGHWAY 34 EAST FAIRFILED, IA 52556			
ALUMINUM FIXED SHUTTER IMPACT INSTALLATION DETAILS			
DRAWN: R.L.		DWG NO. 08-00404	
SCALE NTS		DATE 02/13/08	SHEET 5 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlrlomaspe.com			

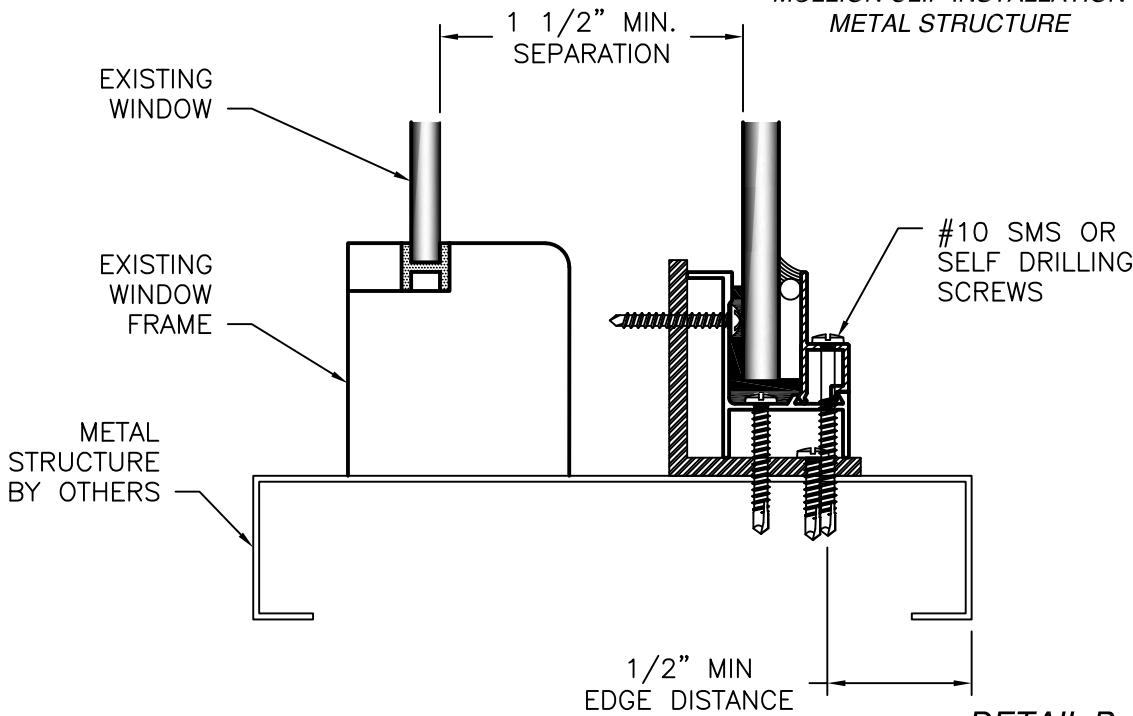


Luis R. Lomas P.E.
FL No.: 62514

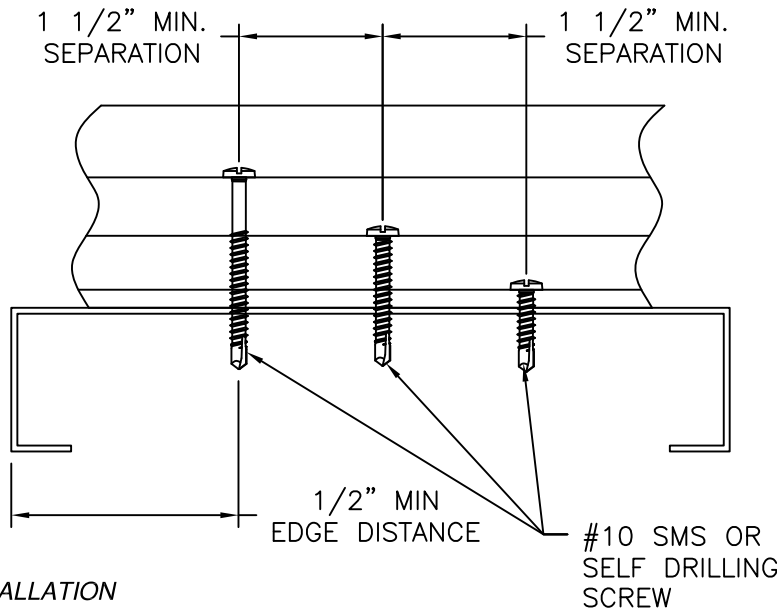
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
F	REVISED PER NEW CODE	07/31/2024	R.L.



DETAIL C
MULLION CLIP INSTALLATION
METAL STRUCTURE

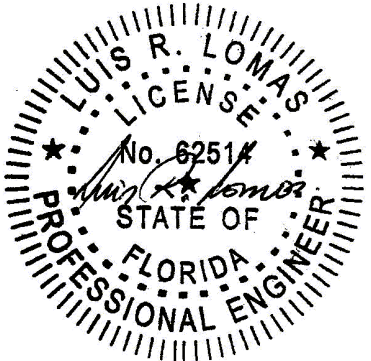


DETAIL B
PERIMETER ANCHOR INSTALLATION
METAL STRUCTURE



BOVARD STUDIO, INC. 2281 HIGHWAY 34 EAST FAIRFILED, IA 52556		
ALUMINUM FIXED SHUTTER IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-00404	REV F
SCALE NTS	DATE 02/13/08	SHEET 6 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 06/18/2025



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