

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	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, 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. WHERE SHIM OR BUCK THICKNESS IS LESS THAN 1–1/2” UNITS MUST BE ANCHORED THROUGH THE FRAME IN ACCORDANCE WITH MANUFACTURER’S PUBLISHED INSTALLATION INSTRUCTIONS. ANCHORS SHALL BE SECURELY FASTENED DIRECTLY INTO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE MATERIAL.
 - 4. WHERE WOOD BUCK THICKNESS IS 1–1/2” OR GREATER, BUCK SHALL BE SECURELY FASTENED TO MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE. UNITS MAY BE ANCHORED THROUGH FRAME TO SECURED WOOD BUCK IN ACCORDANCE WITH MANUFACTURER’S PUBLISHED INSTALLATION INSTRUCTIONS.
 - 5. WHERE 1X BUCK IS NOT USED DISSIMILAR MATERIALS MUST BE SEPARATED WITH APPROVED COATING OR MEMBRANE. SELECTION OF COATING OR MEMBRANE IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
 - 6. BUCKS SHALL EXTEND BEYOND UNIT FRAME INTERIOR FACE SO THAT FULL FRAME SUPPORT IS PROVIDED.
 - 7. SHIM AS REQUIRED AT EACH ANCHOR LOCATION WITH LOAD BEARING SHIM. SHIM WHERE SPACE OF 1/16” OR GREATER OCCURS. MAXIMUM ALLOWABLE SHIM STACK TO BE 3/8”.
 - 8. SHIMS SHALL BE LOCATED, APPLIED AND MADE FROM MATERIALS AND THICKNESS CAPABLE OF SUSTAINING APPLICABLE LOADS.
 - 9. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
 - 10. FRAME MATERIAL: THERMALLY IMPROVED STEEL.
 - 11. UNITS MUST BE GLAZED PER ASTM E1300, SEE SHEET 9 FOR GLASS DETAILS.
 - 12. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.

- 13. FOR ANCHORING THROUGH STEEL STRAP OR ANGLE INTO WOOD FRAMING OR 2X BUCK USE #12 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/8” MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
- 14. FOR ANCHORING THROUGH STEEL STRAP OR ANGLE INTO MASONRY/CONCRETE USE 1/4” 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.
- 15. FOR ANCHORING THROUGH STEEL STRAP OR ANGLE INTO METAL STRUCTURE USE #12 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.
- 16. FOR ATTACHING STEEL STRAP OR AMG;E TO WINDOW FRAME USE #10 X 1/2” SELF DRILLING SCREWS. LOCATE ANCHORS AS SHOWN IN INSTALLATION DETAILS.
- 17. ALL FASTENERS TO BE CORROSION RESISTANT.
- 18. 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:
 - 18.1. WOOD: MINIMUM SPECIFIC GRAVITY OF G=0.42
 - 18.2. CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
 - 18.3. MASONRY: GROUT FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM.
 - 18.4. METAL STRUCTURE: STEEL 18GA (.048”) FY=33KSI/FU=52KSI OR ALUMINUM 6063–T5 FU=30KSI 1/8” THICK MINIMUM.
- 19. GEOMETRIC SHAPES ARE ALSO APPROVED. APPROVED GEOMETRIC SHAPES DIMENSIONS SHALL NOT EXCEED INSCRIBED DIMENSIONS OF APPROVED RECTANGULAR ASSEMBLY SHOWN IN SHEET 2.

SIGNED: 01/22/2024

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2	ELEVATION
3 – 8	INSTALLATION DETAILS
9	COMPONENTS

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

FS-56 3200I OUTSWING CASEMENT WINDOW
IMPACT – HVHZ
NOTES

DRAWN:
A.R.

DWG NO.
08-03937

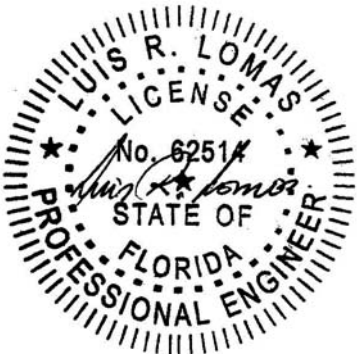
REV
A

SCALE NTS

DATE 03/27/2023

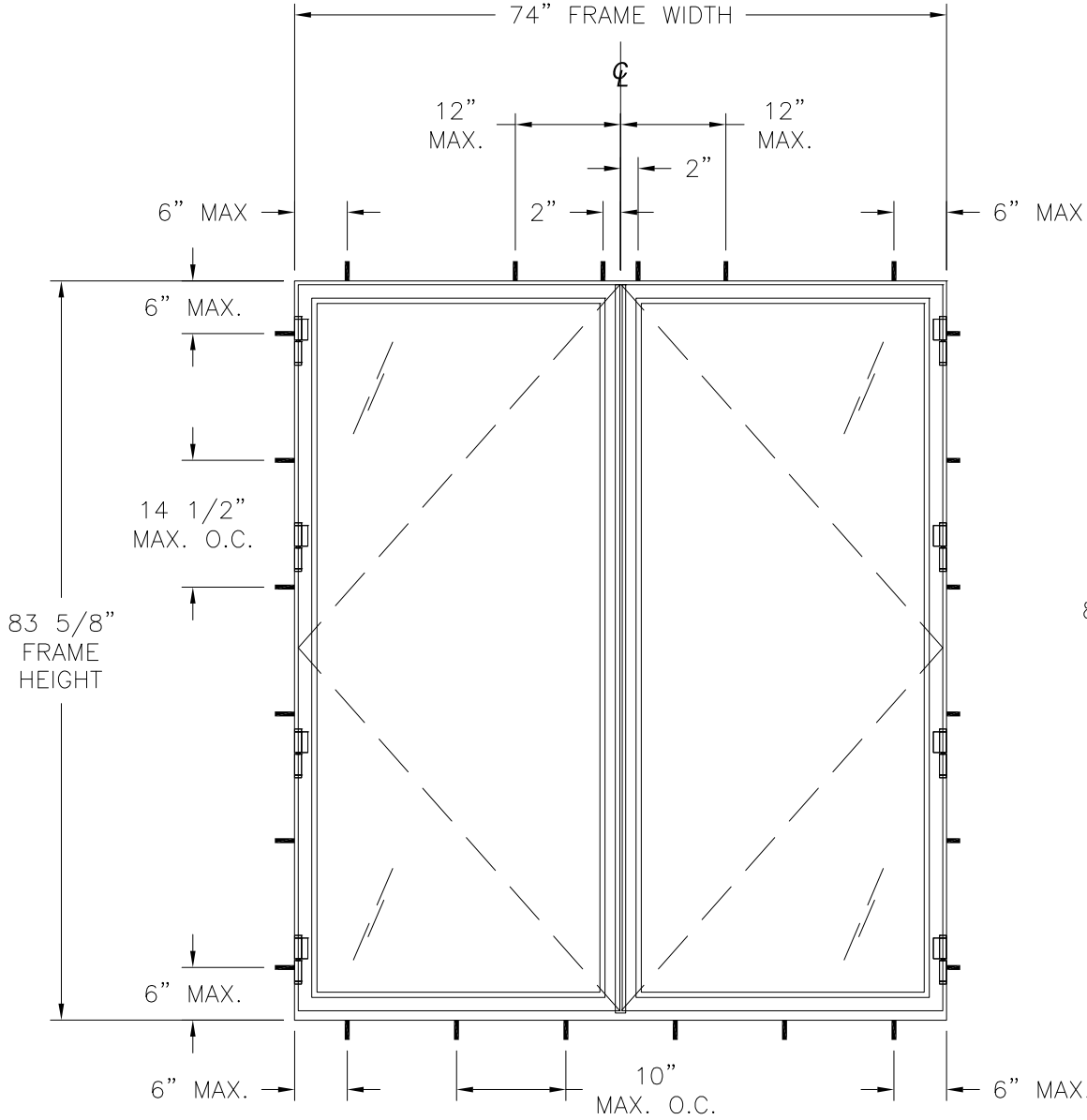
SHEET 1 OF 6

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

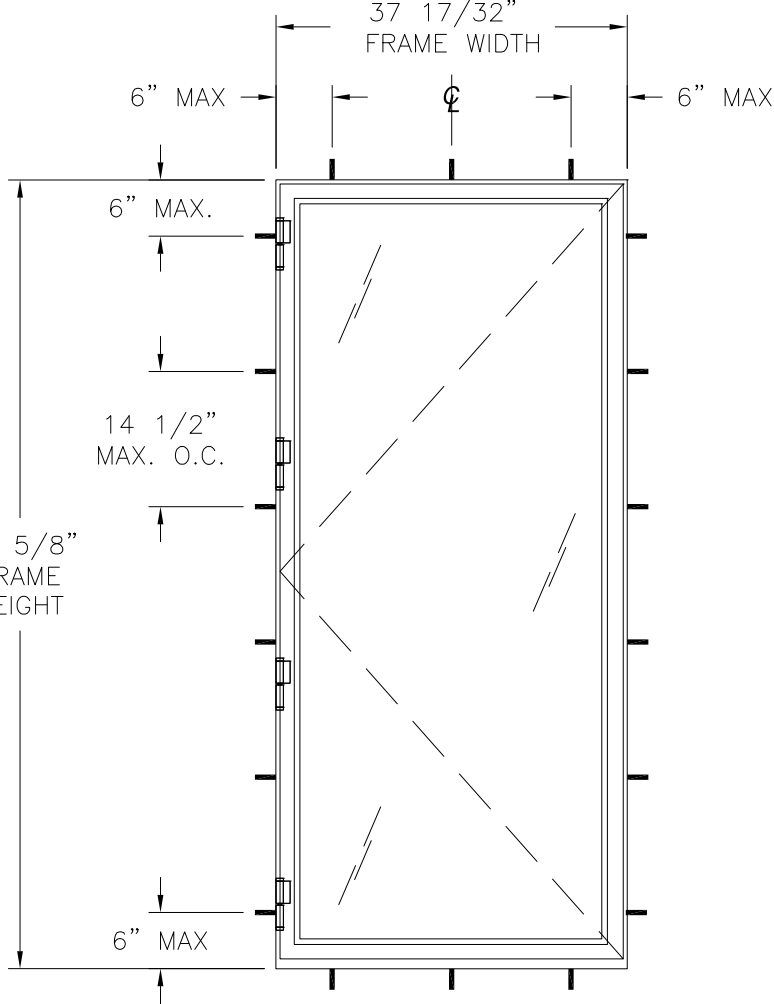


Luis R. Lomas P.E.
FL No.: 62514

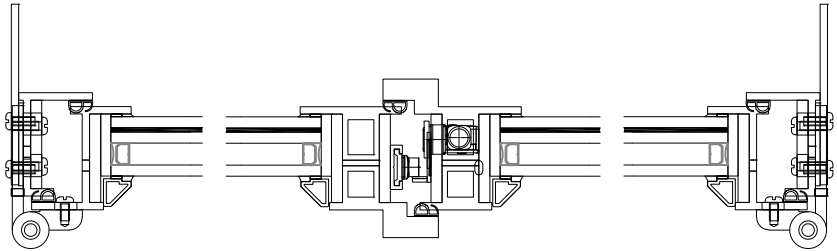
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



FS-56 3200I DOUBLE CASEMENT WINDOW
EXTERIOR VIEW



FS-56 3200I SINGLE CASEMENT WINDOW
EXTERIOR VIEW



HORIZONTAL CROSS SECTION

Chart #1
Rating Design pressure (psf)

Panel Height (in)	Single Panel Width (in)						
	24.00	30.00	33.00	35.50	36.00	42.00	45.00
80.00	60.0	60.0	60.0	60.0	59.3	52.2	49.4
84.00	60.0	59.6	54.8	51.4	50.8	44.8	42.5
90.00	59.2	48.1	44.2	41.4	40.9	35.9	34.0
96.00	48.6	39.4	36.2	33.9	33.5	29.3	27.7
102.00	40.4	32.7	30.0	28.1	27.7	24.2	22.8
108.00	34.0	27.5	25.1	23.5	23.2	20.2	19.1
114.00	28.8	23.3	21.3	19.9	19.6	17.1	16.1
120.00	24.7	19.9	18.2	17.0	16.8	-	-
126.00	21.3	17.2	15.7	-	-	-	-
132.00	18.5	-	-	-	-	-	-
138.00	16.1	-	-	-	-	-	-

WITH GLASS A, B OR C

DP RATING	IMPACT RATING
±60.0PSF	LARGE & SMALL MISSILE

MISSILE ELVEL D, WIND ZONE 4 AND HVHZ

OTHER SIZES APPROVED, SEE CHART #1 THIS SHEET

- NOTES:
- PANEL SIZE: 35 1/2" 80"
 - D.L.O. SIZE: 32" X 78 1/4"
 - HANDLE AT 37" FROM BOTTOM RAIL WITH 10 LOCK POINTS AT:
 - MEETING STILE: 12", 23", 33", 55", 64" AND 72" FROM BOTTOM RAIL
 - HEAD: 6" AND 10" FROM MEETING STILE (PRIMARY VENT)
 - SILL: 6" AND 16" FROM MEETING STILE (PRIMARY VENT)

HARDWARE SCHEDULE

A.	(4 PER VENT) HINGES AT JAMB, 6" FROM EACH CORNER AND SPACED 24" ON CENTER
B.	(1) MULTI-POINT LOCK WITH HANDLE AT PRIMARY VENT LOCK STILE
C.	(2) SHOOT BOLTS AT TOP AND BOTTOM OF SECONDARY VENT MEETING STILE

FENESTAR USA LLC

110 JABEZ ST., SUITE 309
NEWARK, NJ 07105

FS-56 3200I OUTSWING CASEMENT WINDOW
IMPACT - HVHZ
ELEVATION

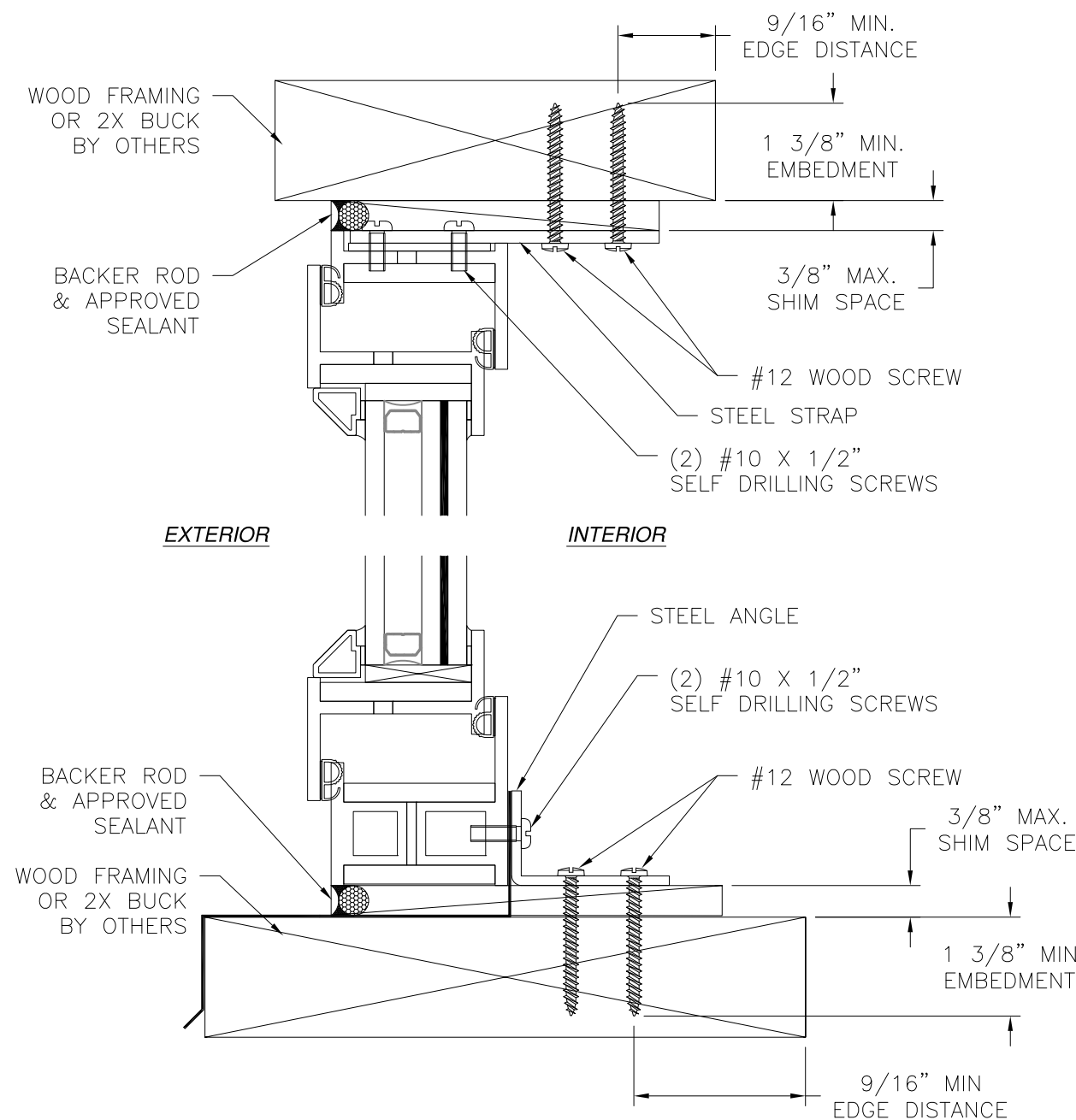
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 2 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

SIGNED: 01/22/2024

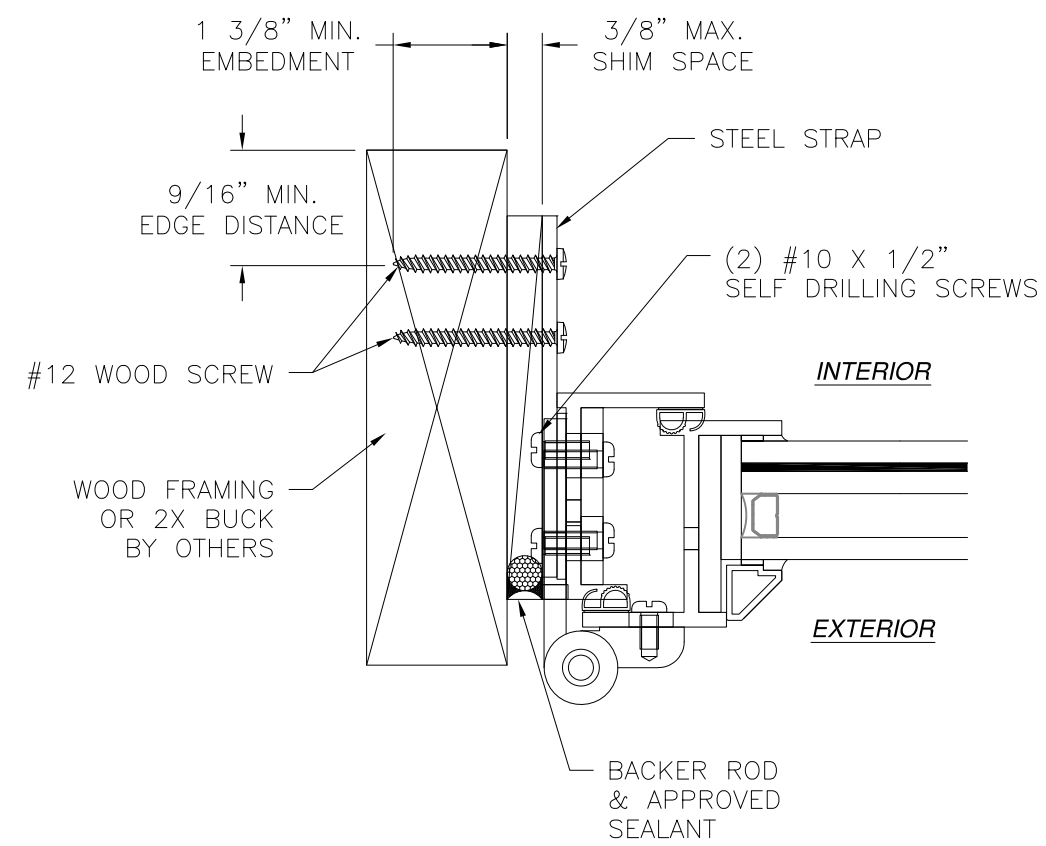


Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



VERTICAL CROSS SECTION
WOOD FRAMING OR 2X BUCK INSTALLATION

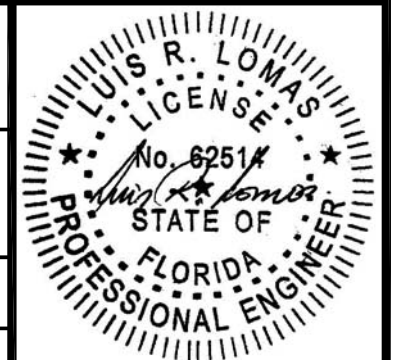


JAMB INSTALLATION DETAIL
WOOD FRAMING OR 2X BUCK INSTALLATION

- NOTES:
1. INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
 2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112

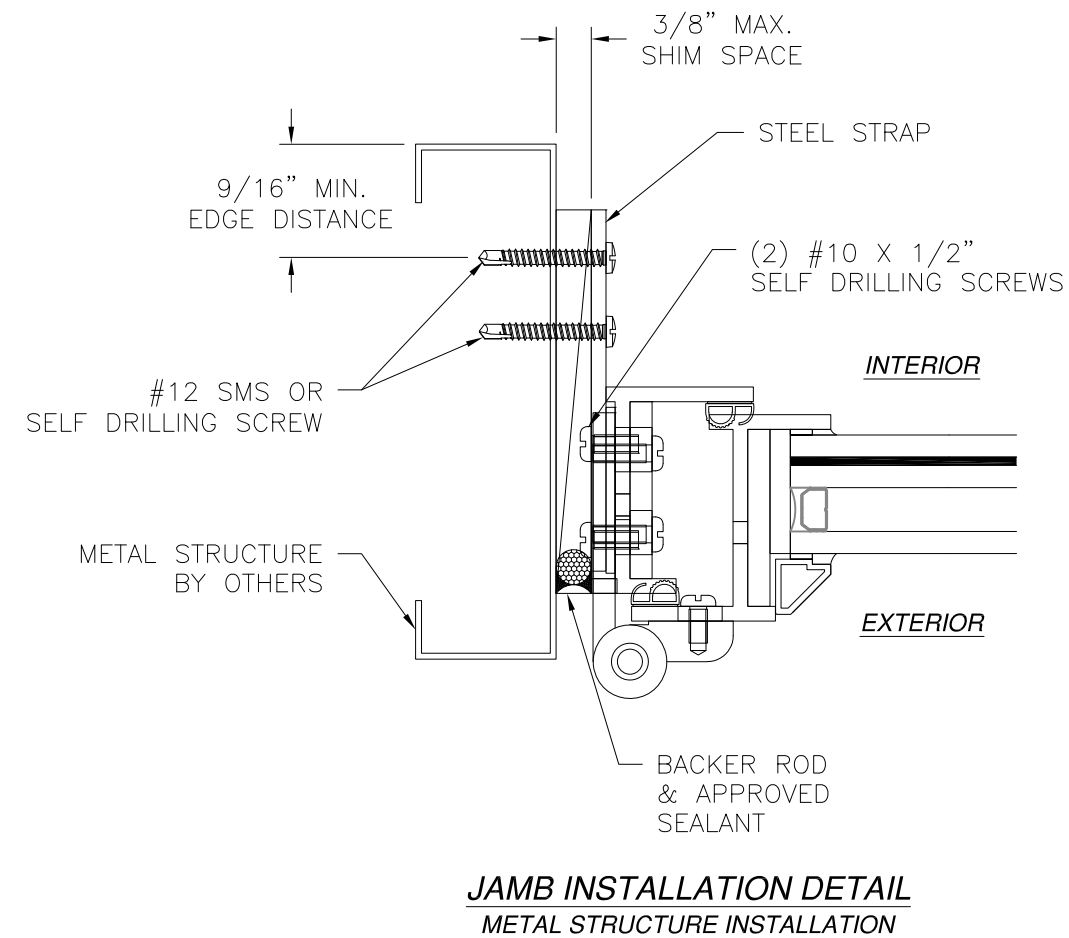
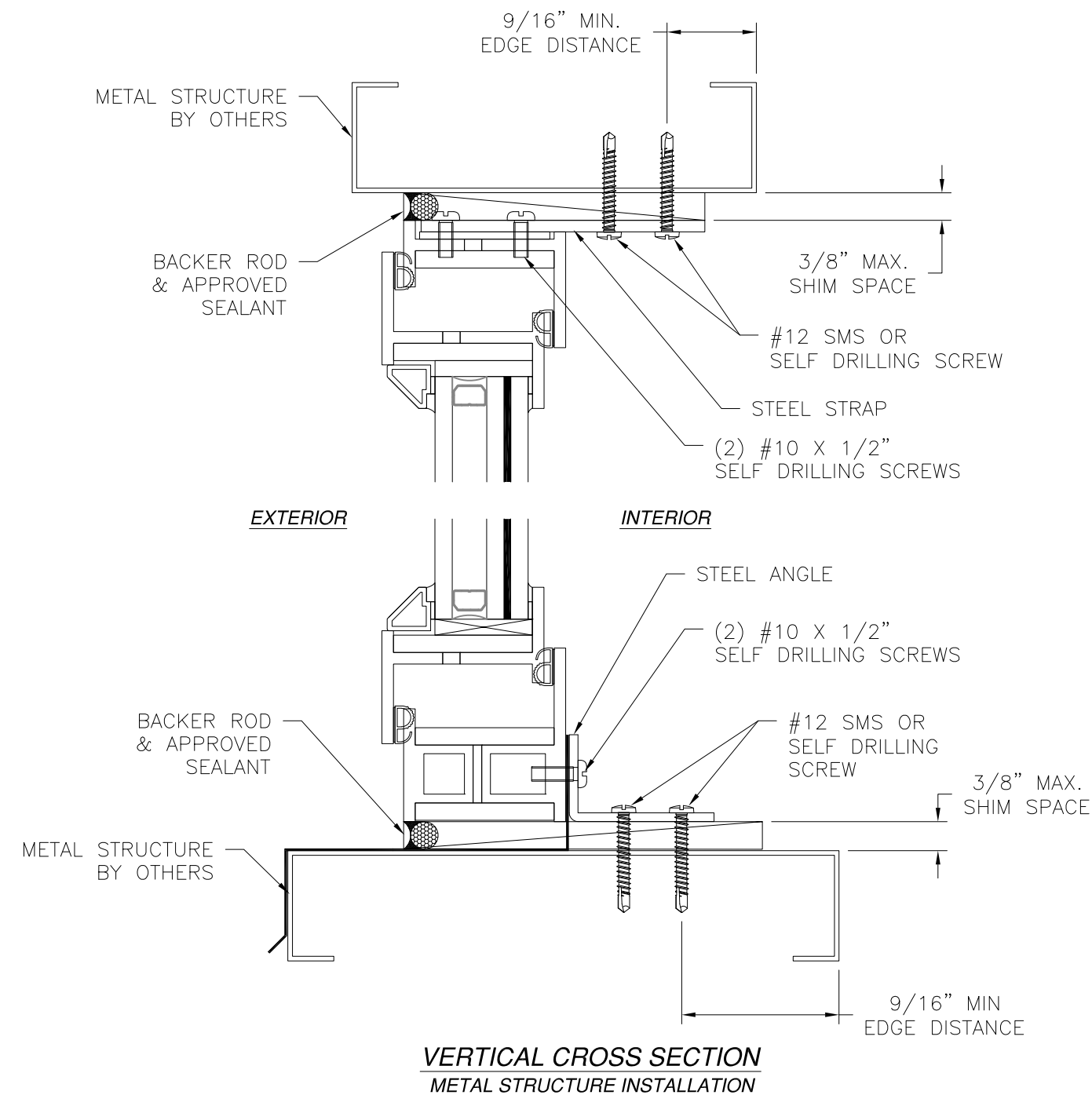
FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 3 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 01/22/2024



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

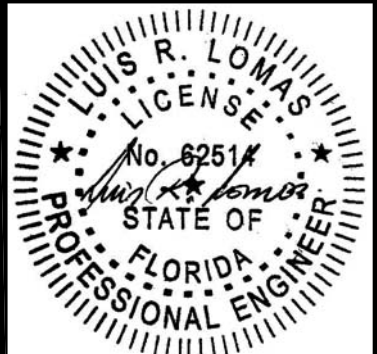
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



- NOTES:
- INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
 - PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112

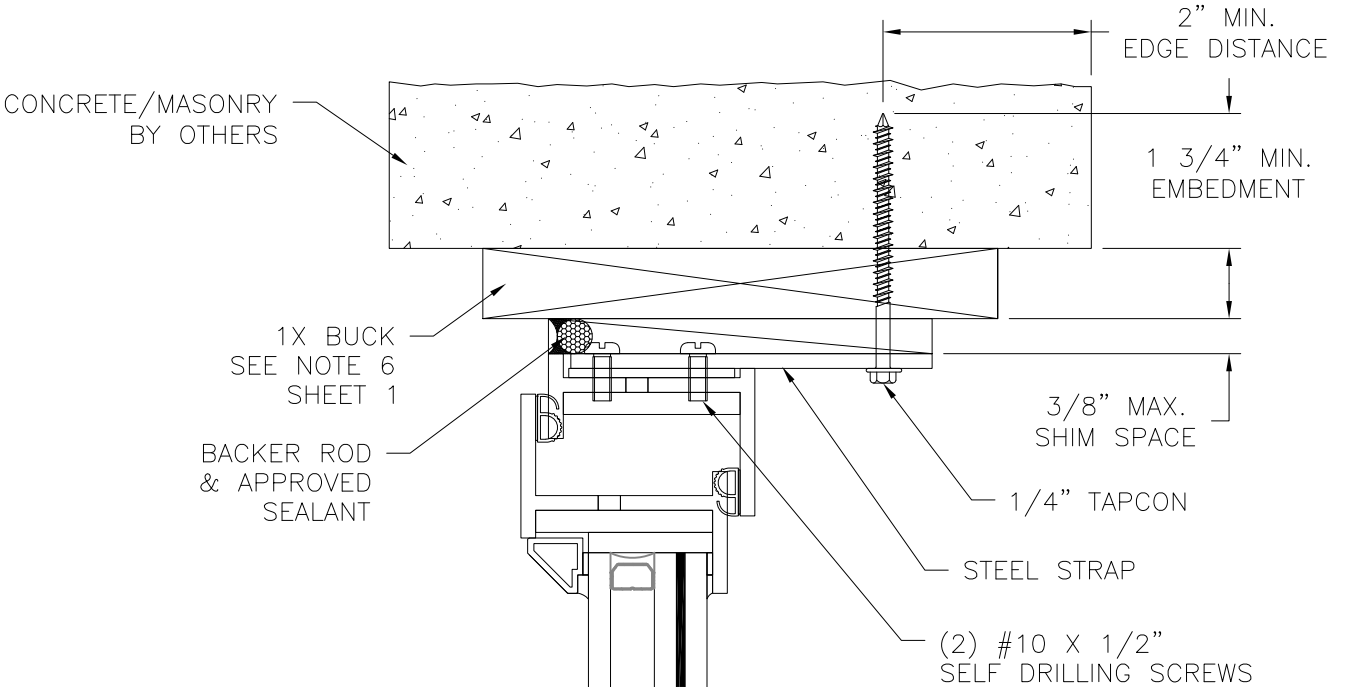
FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 4 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 01/22/2024



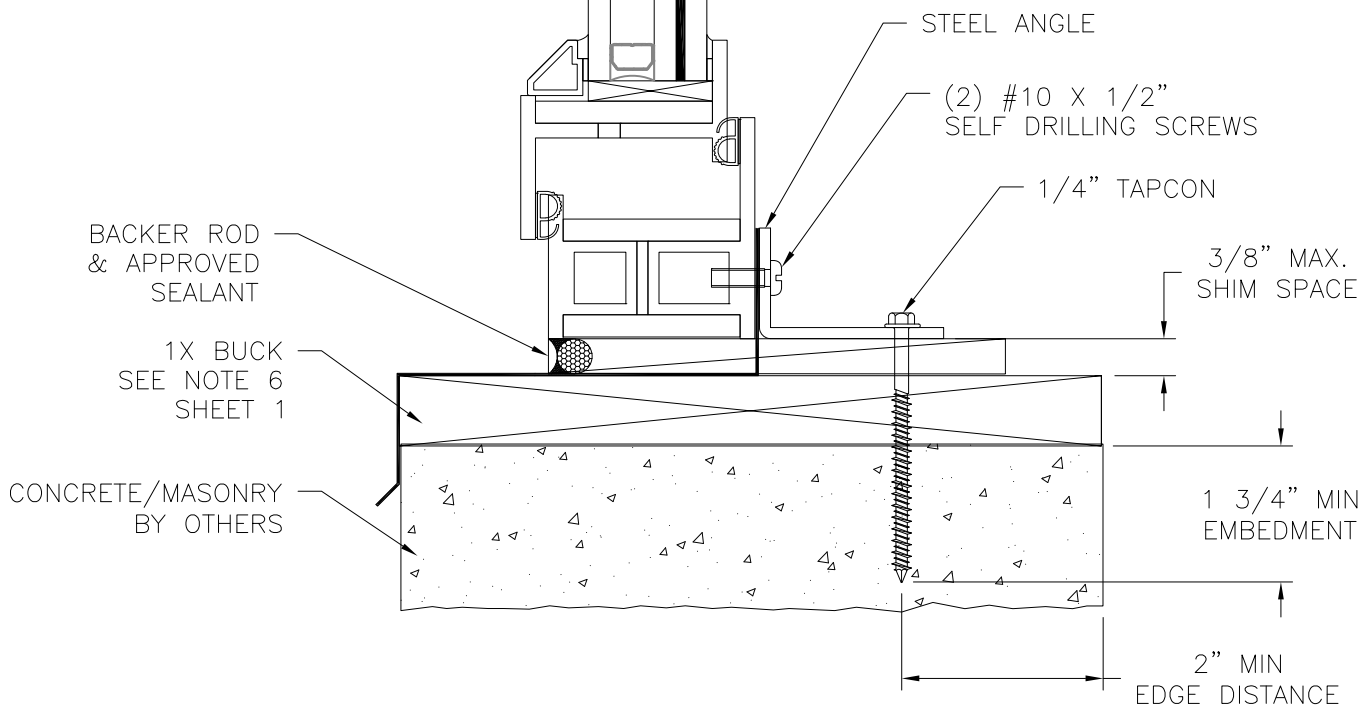
Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



EXTERIOR

INTERIOR

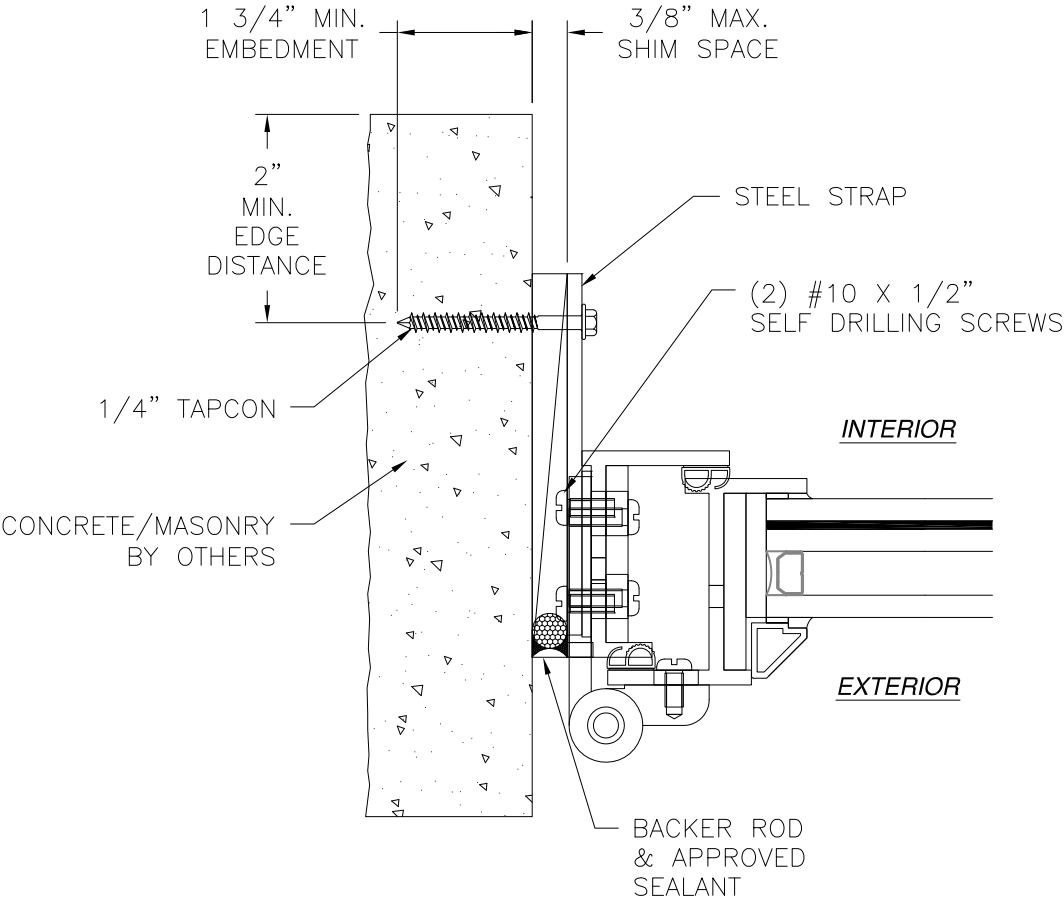


VERTICAL CROSS SECTION

CONCRETE/MASONRY INSTALLATION WITH 1X BUCK INSTALLATION
FOR CONCRETE/MASONRY WITHOUT 1X BUCK REFER TO JAMB
INSTALLATION DETAILS

NOTES:

1. INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112



JAMB INSTALLATION DETAIL

CONCRETE/MASONRY WITHOUT 1X BUCK INSTALLATION
FOR CONCRETE/MASONRY WITH 1X BUCK REFER
TO HEAD AND SILL INSTALLATION DETAILS

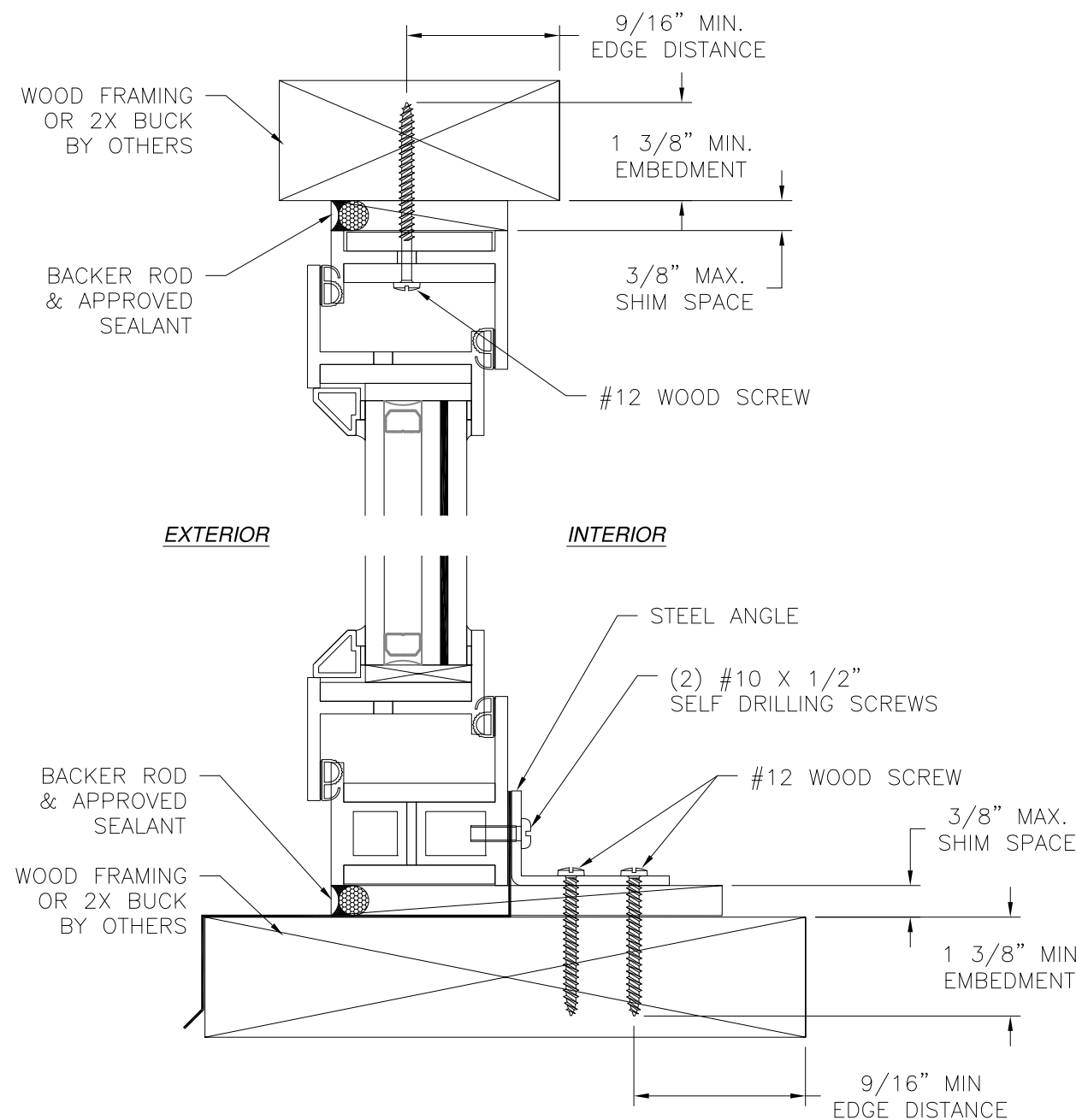
SIGNED: 01/22/2024

FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 5 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

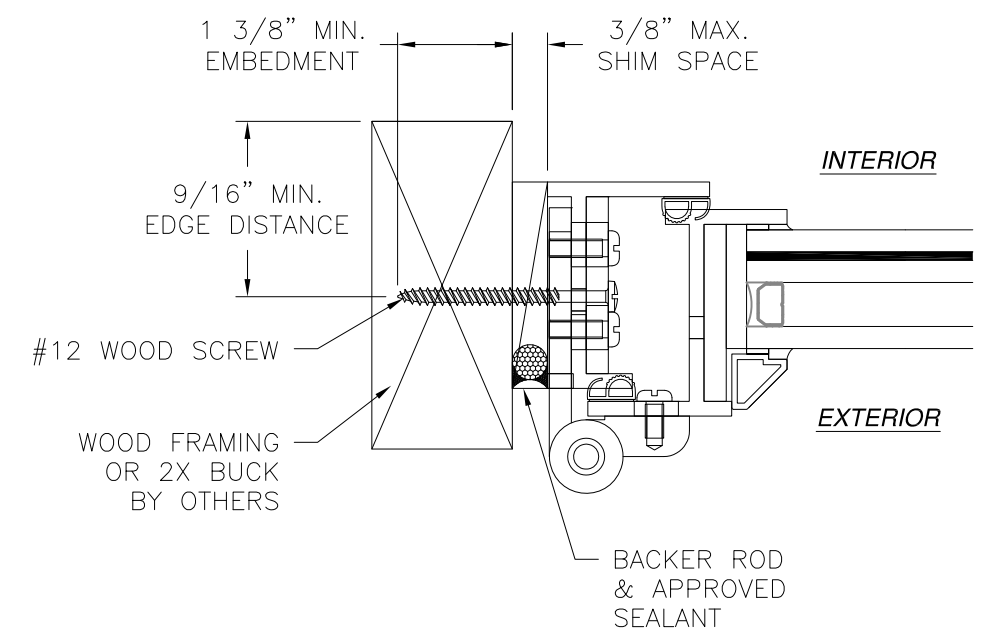


Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



VERTICAL CROSS SECTION
WOOD FRAMING OR 2X BUCK INSTALLATION



JAMB INSTALLATION DETAIL
WOOD FRAMING OR 2X BUCK INSTALLATION

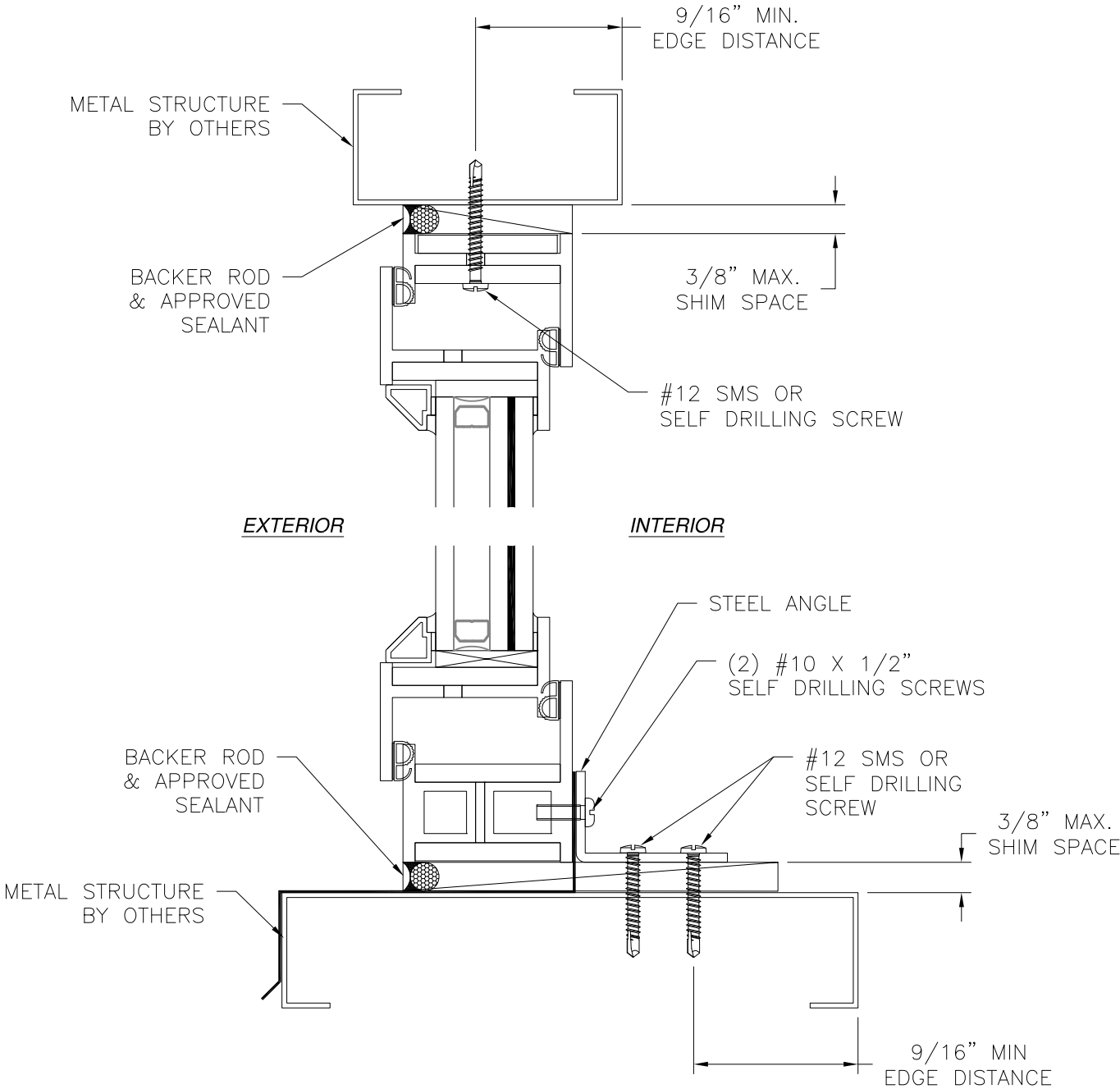
- NOTES:
1. INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
 2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112

FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 6 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 01/22/2024

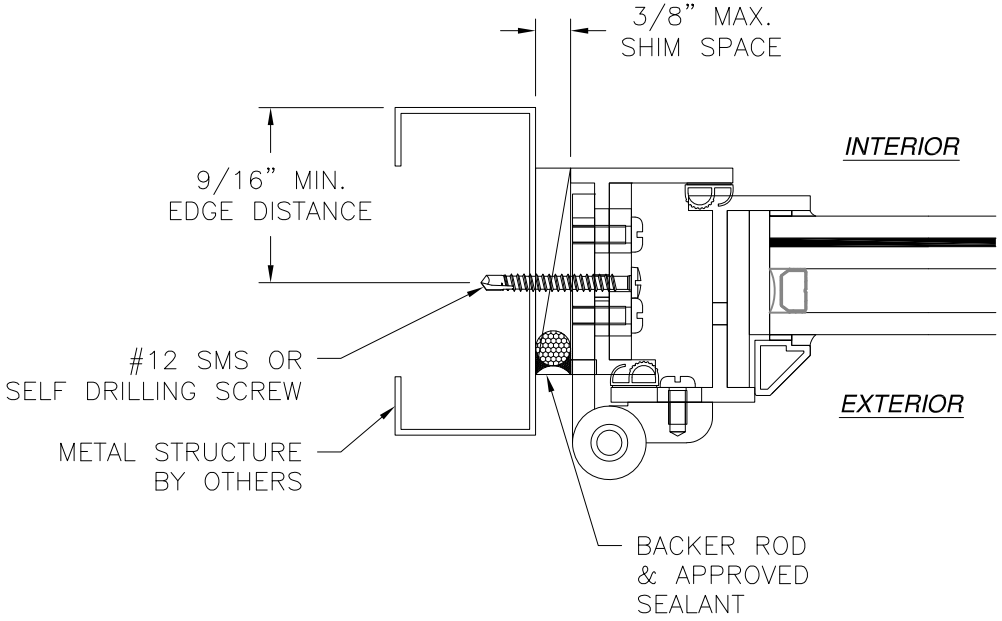
Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



VERTICAL CROSS SECTION
METAL STRUCTURE INSTALLATION

- NOTES:
1. INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
 2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112



JAMB INSTALLATION DETAIL
METAL STRUCTURE INSTALLATION

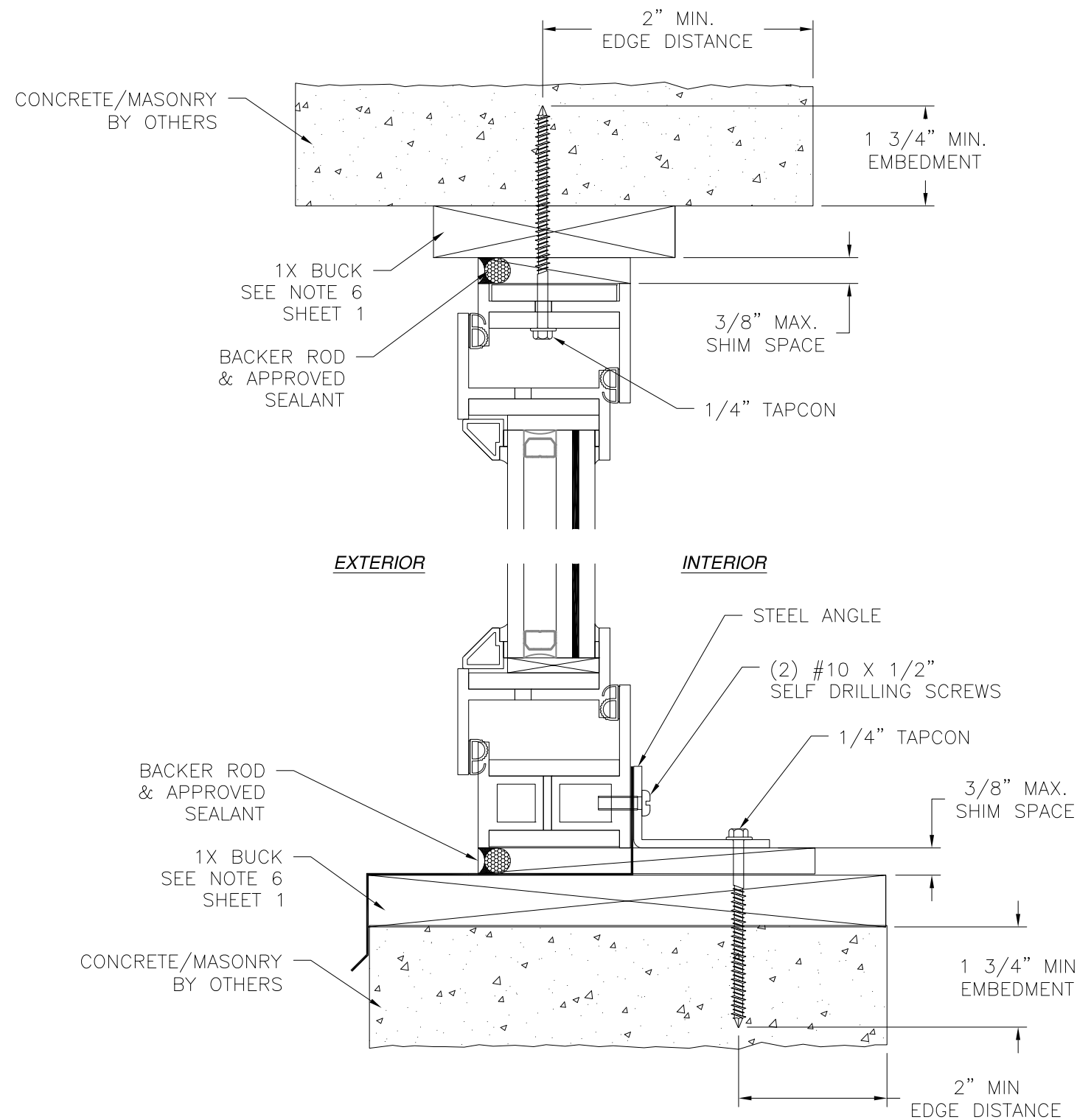
SIGNED: 01/22/2024

FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 7 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

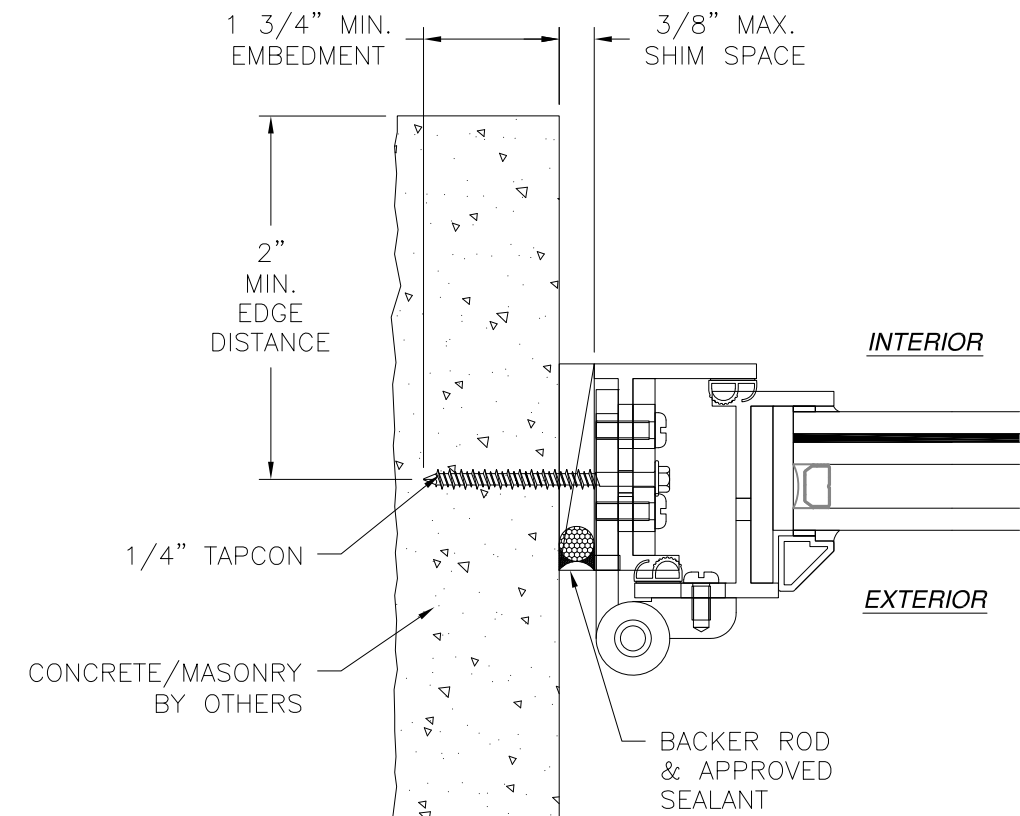


Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



VERTICAL CROSS SECTION
CONCRETE/MASONRY INSTALLATION WITH 1X BUCK INSTALLATION
FOR CONCRETE/MASONRY WITHOUT 1X BUCK REFER TO JAMB
INSTALLATION DETAILS

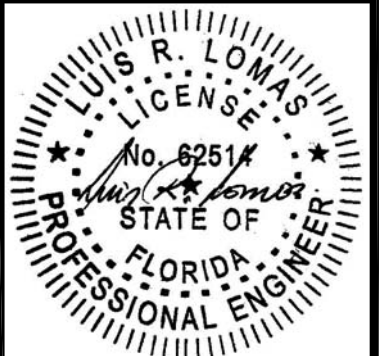


JAMB INSTALLATION DETAIL
CONCRETE/MASONRY WITHOUT 1X BUCK INSTALLATION
FOR CONCRETE/MASONRY WITH 1X BUCK REFER
TO HEAD AND SILL INSTALLATION DETAILS

- NOTES:
- INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
 - PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112

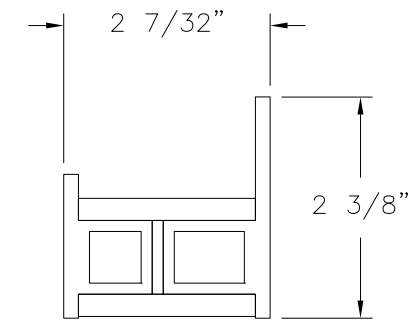
SIGNED: 01/22/2024

FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ INSTALLATION DETAILS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 8 OF 6
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

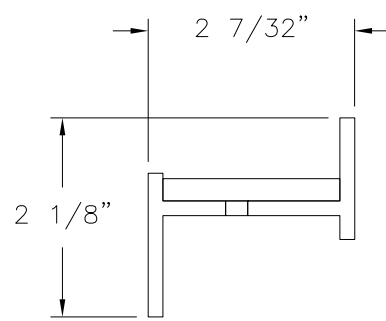


Luis R. Lomas P.E.
FL No.: 62514

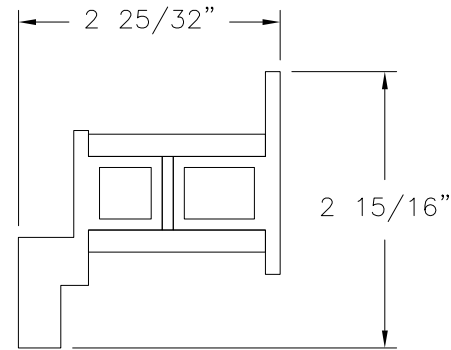
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	ADDED GLASS C	10/23/23	R.L.



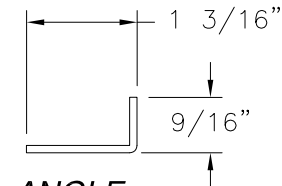
SILL FRAME
THERMALLY BROKEN STEEL



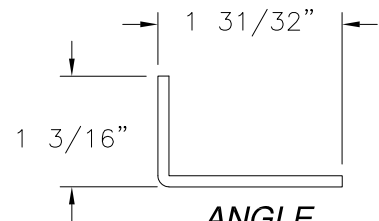
HEAD AND JAMB FRAME
THERMALLY BROKEN STEEL



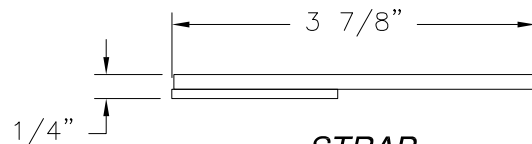
MEETING STILE
THERMALLY BROKEN STEEL



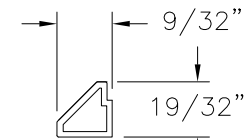
ANGLE
6063-T5 ALUMINUM .08" THICK



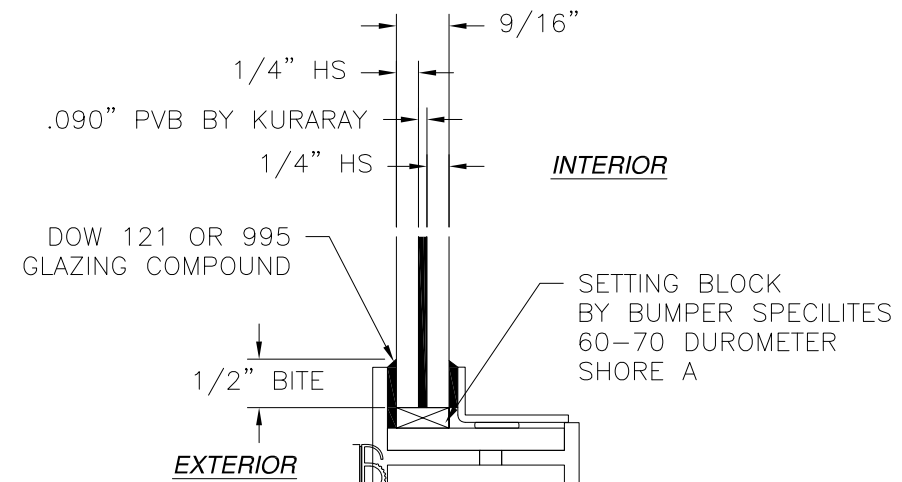
ANGLE
STEEL



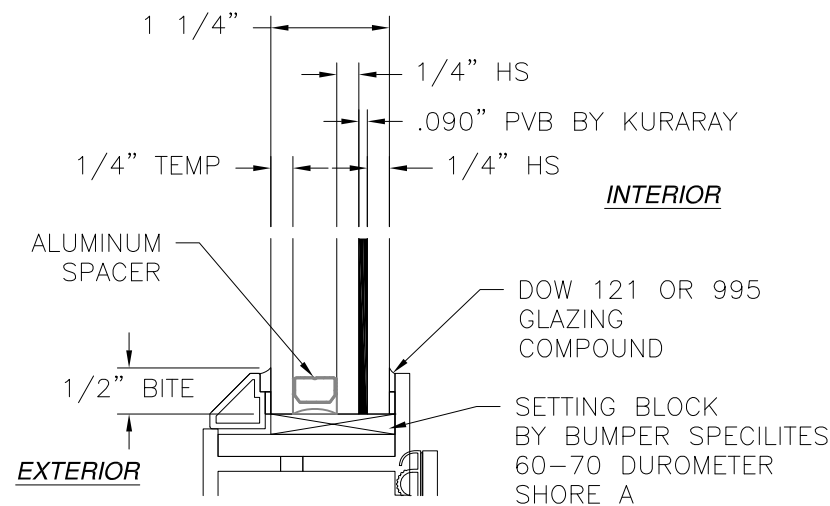
STRAP
STEEL



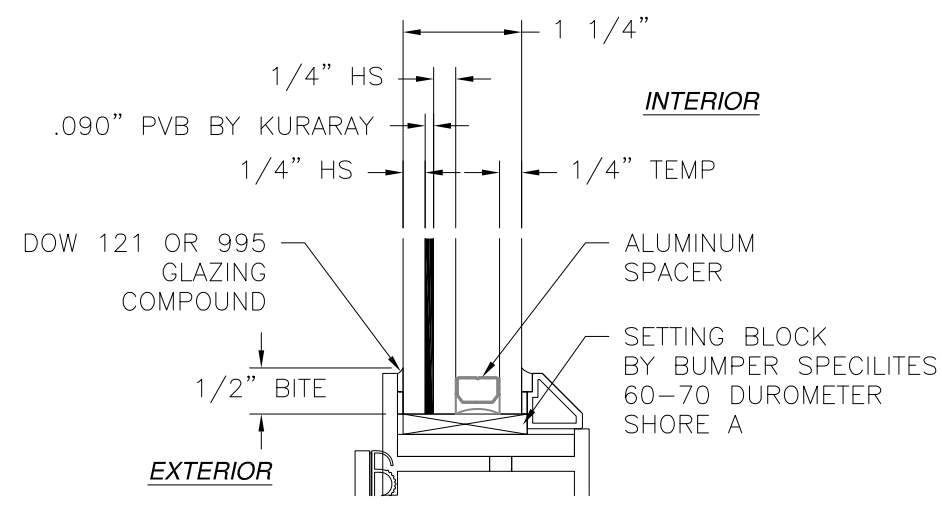
GLAZING BEAD
6063-T5 ALUMINUM .059" THICK



GLAZING DETAIL C



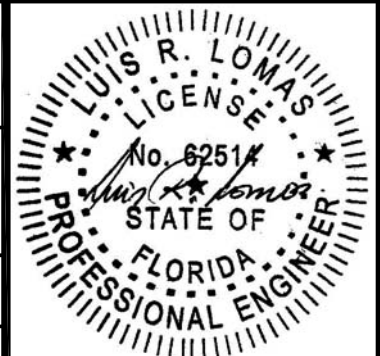
GLAZING DETAIL A



GLAZING DETAIL B

SIGNED: 01/22/2024

FENESTAR USA LLC 110 JABEZ ST., SUITE 309 NEWARK, NJ 07105		
FS-56 3200I OUTSWING CASEMENT WINDOW IMPACT - HVHZ COMPONENTS		
DRAWN: A.R.	DWG NO. 08-03937	REV A
SCALE NTS	DATE 03/27/2023	SHEET 9 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