

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, METAL STRUCTURE 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 NEEDED 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: EXTRUDED ALUMINUM.
11. UNITS MUST BE GLAZED PER ASTM E1300.
12. APPROVED IMPACT PROTECTIVE SYSTEM IS REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.

13. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #10 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4” MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
14. FOR ANCHORING INTO MASONRY/CONCRETE USE 1/4” TAPCONS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/4” MINIMUM EMBEDMENT INTO SUBSTRATE WITH 2” MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
15. FOR ANCHORING 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.
16. ALL FASTENERS TO BE CORROSION RESISTANT.
17. 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:
- 17.A. WOOD: MINIMUM SPECIFIC GRAVITY OF G=0.42
- 17.B. CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.
- 17.C. MASONRY: HOLLOW/FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM.
- 17.D. METAL STRUCTURE: STEEL 18GA (.048”) FY=33KSI/FU=52KSI OR 1/4” THICK STRUCTURAL STEEL. METAL STUDS MUST BE FILLED WITH WOOD BACKER. WOOD BACKER SHOULD BE ABLE TO WITHSTAND APPLIED LOADS AND IT IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.

SIGNED: 12/12/2024

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2	ELEVATION AND DESIGN PRESSURE CHARTS
3	ANCHORING LAYOUTS
4 – 6	INSTALLATION DETAILS
7	COMPONENTS

NANA WALL SYSTEMS, INC.

100 MEADOWCREEK DRIVE, SUITE 250

CORTE MADERA, CA 94925

NW TILTTURN 820 ALUMINUM WINDOW

NON-IMPACT

NOTES

DRAWN: A.R.

DWG NO. 08-04100

REV -

SCALE NTS

DATE 10/10/2024

SHEET 1 OF 7

L. ROBERTO LOMAS P.E.

208 7th Ave, INDIALANTIC, FL 32903

434-688-0609 rllomas@lrlomaspe.com

LUIS R. LOMAS

LICENSE

No. 62514

STATE OF FLORIDA

PROFESSIONAL ENGINEER

Luis R. Lomas P.E.

FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

CHART #1
Maximum design pressure capacity chart (psf)

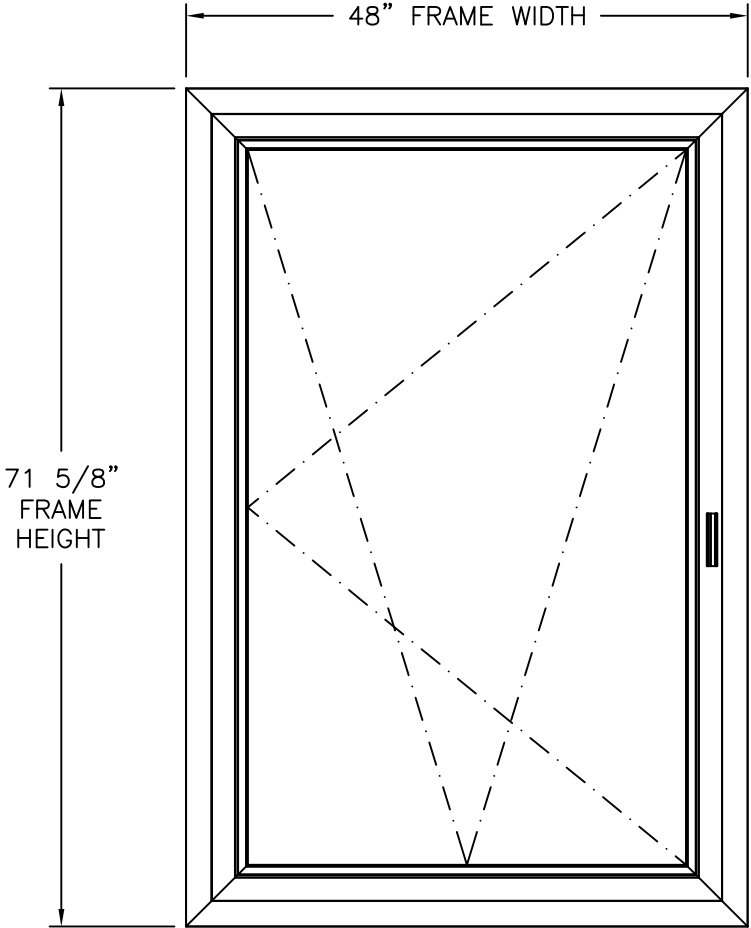
Frame Height (in)	Frame width (in)															
	24.0		30.0		36.0		42.0		48.0		54.0		60.0			
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
30.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0
36.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0
42.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	109.1
48.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	119.4	80.0	106.1	80.0	106.1	80.0	95.5
54.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	106.1	80.0	94.3	80.0	84.9	80.0	84.9
60.0	80.0	120.0	80.0	120.0	80.0	120.0	80.0	109.1	80.0	95.5	80.0	84.9	-	-	-	-
66.0	80.0	120.0	80.0	120.0	80.0	115.8	80.0	99.2	80.0	86.8	-	-	-	-	-	-
71.6	80.0	120.0	80.0	120.0	80.0	106.7	80.0	91.4	80.0	80.0	-	-	-	-	-	-
72.0	80.0	120.0	80.0	120.0	80.0	106.1	80.0	91.0	-	-	-	-	-	-	-	-
78.0	80.0	120.0	80.0	117.5	80.0	97.9	80.0	84.0	-	-	-	-	-	-	-	-
84.0	80.0	120.0	80.0	109.1	80.0	91.0	-	-	-	-	-	-	-	-	-	-
90.0	80.0	120.0	80.0	101.9	80.0	84.9	-	-	-	-	-	-	-	-	-	-
96.0	80.0	119.4	80.0	95.5	-	-	-	-	-	-	-	-	-	-	-	-
102.0	80.0	112.4	80.0	89.9	-	-	-	-	-	-	-	-	-	-	-	-
108.0	80.0	106.1	80.0	84.9	-	-	-	-	-	-	-	-	-	-	-	-
114.0	80.0	100.5	80.0	80.4	-	-	-	-	-	-	-	-	-	-	-	-
120.0	80.0	95.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Where water penetration resistance is required

CHART #2
Maximum design pressure capacity chart (psf)

Frame Height (in)	Frame width (in)															
	24.0		30.0		36.0		42.0		48.0		54.0		60.0			
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
30.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
36.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0
42.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	109.1	109.1	109.1	109.1
48.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	119.4	119.4	106.1	106.1	95.5	95.5	95.5	95.5
54.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	120.0	106.1	106.1	94.3	94.3	84.9	84.9	84.9	84.9
60.0	120.0	120.0	120.0	120.0	120.0	109.1	109.1	95.5	95.5	84.9	84.9	-	-	-	-	-
66.0	120.0	120.0	120.0	120.0	115.8	115.8	99.2	99.2	86.8	86.8	-	-	-	-	-	-
71.6	120.0	120.0	120.0	120.0	106.7	106.7	91.4	91.4	80.0	80.0	-	-	-	-	-	-
72.0	120.0	120.0	120.0	120.0	106.1	106.1	91.0	91.0	-	-	-	-	-	-	-	-
78.0	120.0	120.0	117.5	117.5	97.9	97.9	84.0	84.0	-	-	-	-	-	-	-	-
84.0	120.0	120.0	109.1	109.1	91.0	91.0	-	-	-	-	-	-	-	-	-	-
90.0	120.0	120.0	101.9	101.9	84.9	84.9	-	-	-	-	-	-	-	-	-	-
96.0	119.4	119.4	95.5	95.5	-	-	-	-	-	-	-	-	-	-	-	-
102.0	112.4	112.4	89.9	89.9	-	-	-	-	-	-	-	-	-	-	-	-
108.0	106.1	106.1	84.9	84.9	-	-	-	-	-	-	-	-	-	-	-	-
114.0	100.5	100.5	80.4	80.4	-	-	-	-	-	-	-	-	-	-	-	-
120.0	95.5	95.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Where water penetration resistance is not required



NW TILTTURN 820 ALUMINUM WINDOW
EXTERIOR VIEW

DESIGN PRESSURE RATING	IMPACT RATING
±80.0PSF	NONE

FOR ADDITIONAL SIZES SEE CHARTS #1 AND #2

48 X 71 5/8" UNIT SHOWN. OTHER SIZES APPROVED AS LONG AS
FRAME AREA DOES NOT EXCEED 23 7/8 FT²

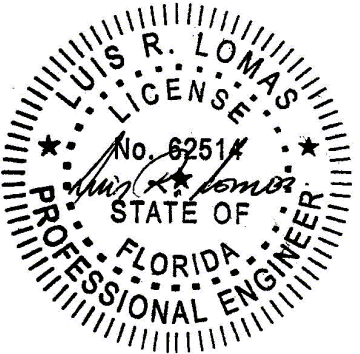
NOTES:

- PANEL SIZE: 42 3/4" X 65 1/8"
- D.L.O.: 36 3/8" X 60 1/2"

HARDWARE SCHEDULE	
A.	SIEGENIA MULTIPOINT LOCK

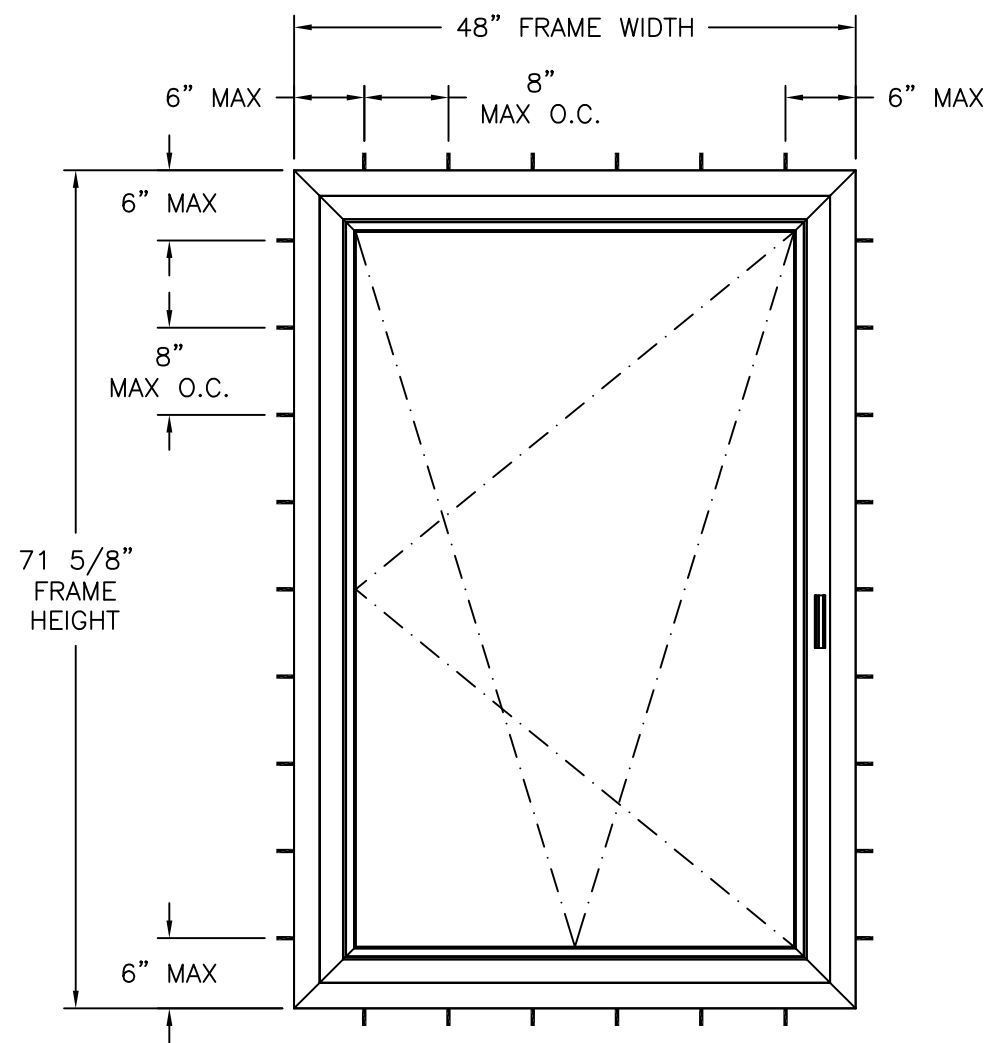
SIGNED: 12/12/2024

NANA WALL SYSTEMS, INC. 100 MEADOWCREEK DRIVE, SUITE 250 CORTE MADERA, CA 94925		
NW TILTTURN 820 ALUMINUM WINDOW NON-IMPACT ELEVATION AND DESIGN PRESSURE CHARTS		
DRAWN: A.R.	DWG NO. 08-04100	REV -
SCALE NTS	DATE 10/10/2024	SHEET 2 OF 7
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

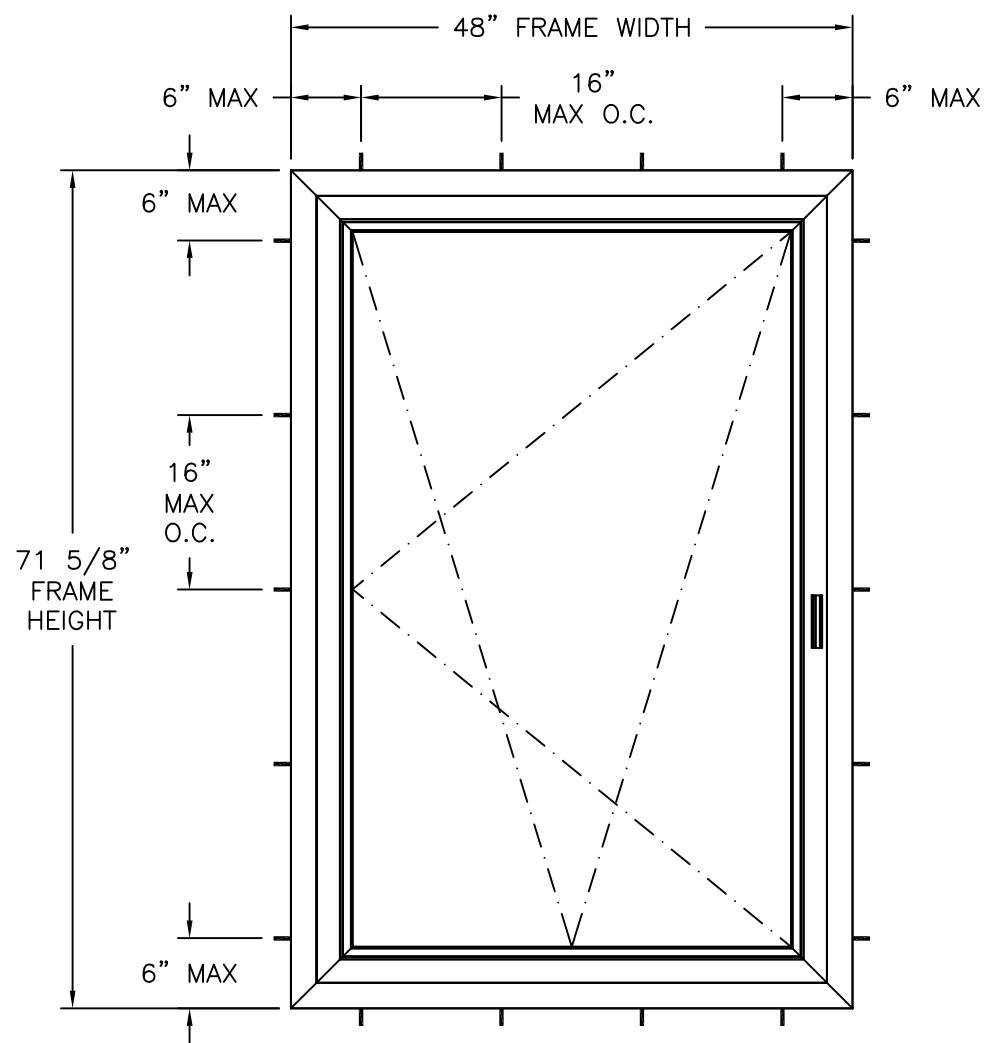


Luis R. Lomas P.E.
FL No.: 62514

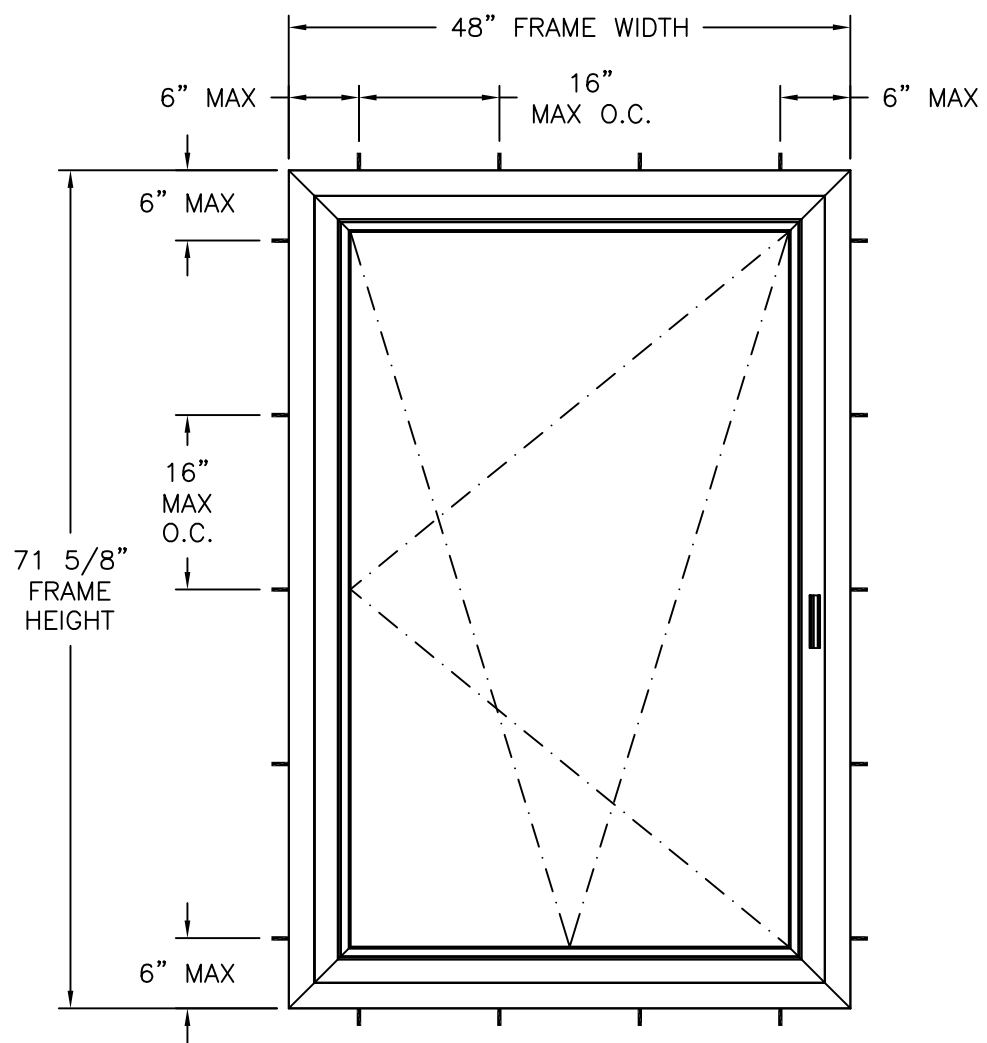
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



THROUGH FRAME ANCHORING
FOR DP RATINGS 30.0PSF OR HIGHER



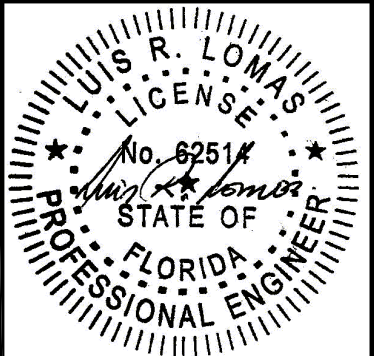
THROUGH FRAME ANCHORING
FOR DP RATINGS LOWER THAN 30.0PSF



FLAT CLIP OR ANGLE ANCHORING
FOR ALL RATINGS

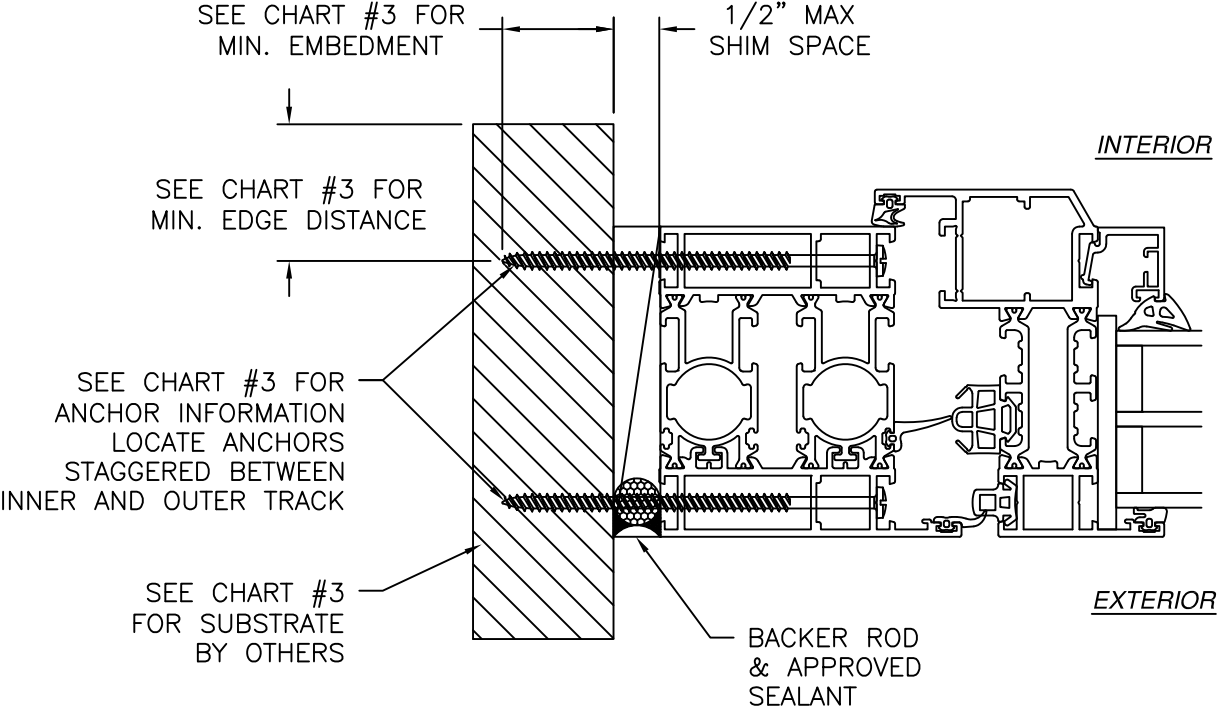
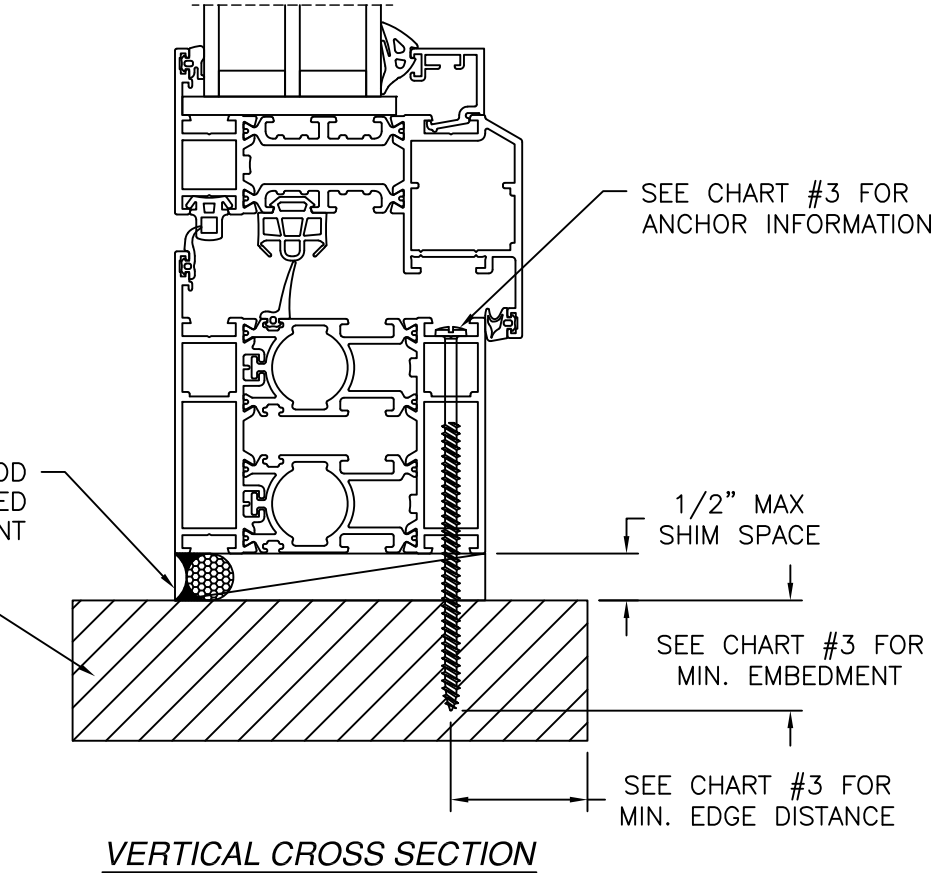
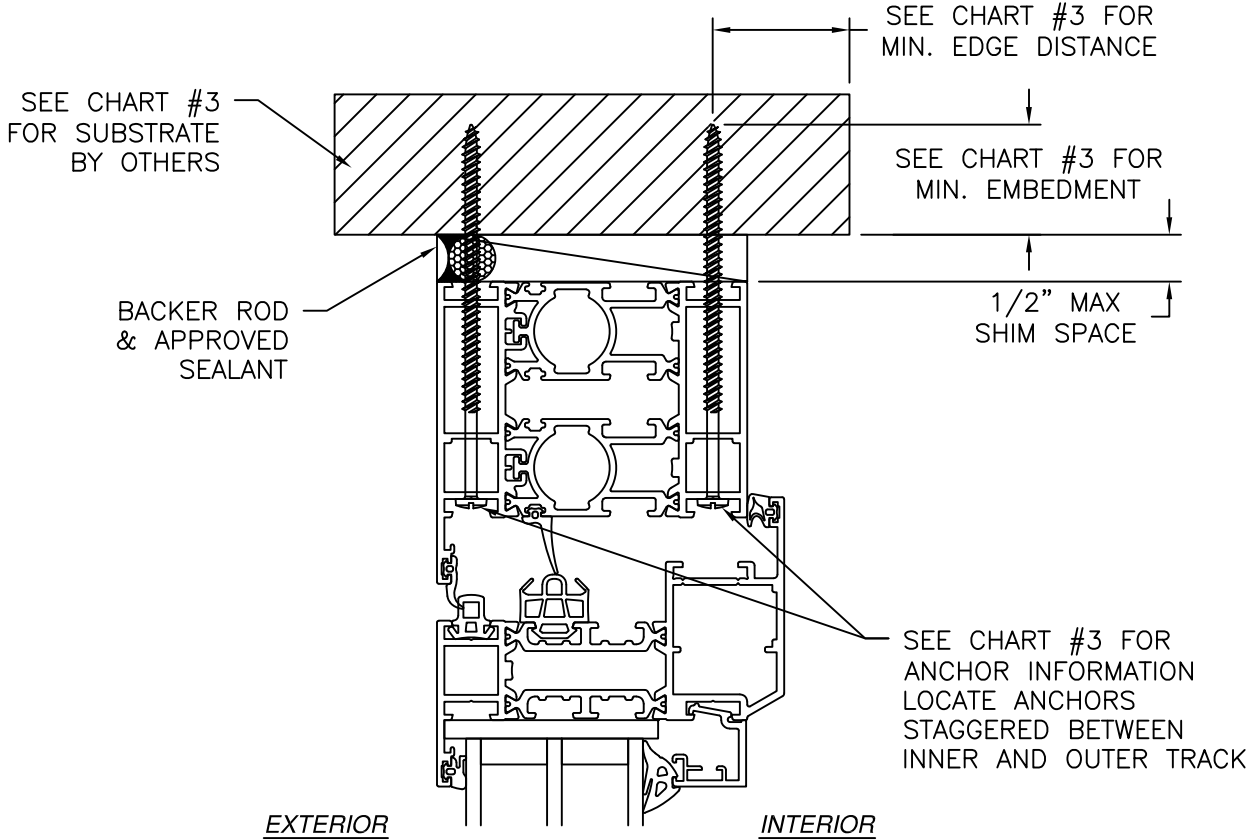
SIGNED: 12/12/2024

NANA WALL SYSTEMS, INC. 100 MEADOWCREEK DRIVE, SUITE 250 CORTE MADERA, CA 94925		
NW TILTTURN 820 ALUMINUM WINDOW NON-IMPACT ANCHORING LAYOUTS		
DRAWN: A.R.	DWG NO. 08-04100	REV -
SCALE NTS	DATE 10/10/2024	SHEET 3 OF 7
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



JAMB INSTALLATION DETAIL

CHART #3 ANCHOR DETAILS			
SUBSTRATE	ANCHOR	MIN. EDGE DISTANCE	MIN. EMBEDMENT
WOOD OR 2X BUCK	#10 WOOD SCREW	1/2"	1 1/4" SEE NOTE 17D SHEET 1
METAL STRUCTURE	#10 SMS OR SELF DRILLING SCREW	1/2"	SEE NOTE 15 SHEET 1
CONCRETE/MASONRY	1/4" TAPCON	2"	1 1/4"

- 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.
 3. WEEP HOLES NOT SHOWN FOR CLARITY.

NANA WALL SYSTEMS, INC.

100 MEADOWCREEK DRIVE, SUITE 250
CORTE MADERA, CA 94925

NW TILTTURN 820 ALUMINUM WINDOW
NON-IMPACT
INSTALLATION DETAILS

DRAWN:
A.R.

DWG NO.
08-04100

REV
-

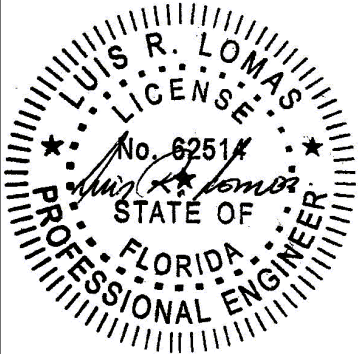
SCALE
NTS

DATE
10/10/2024

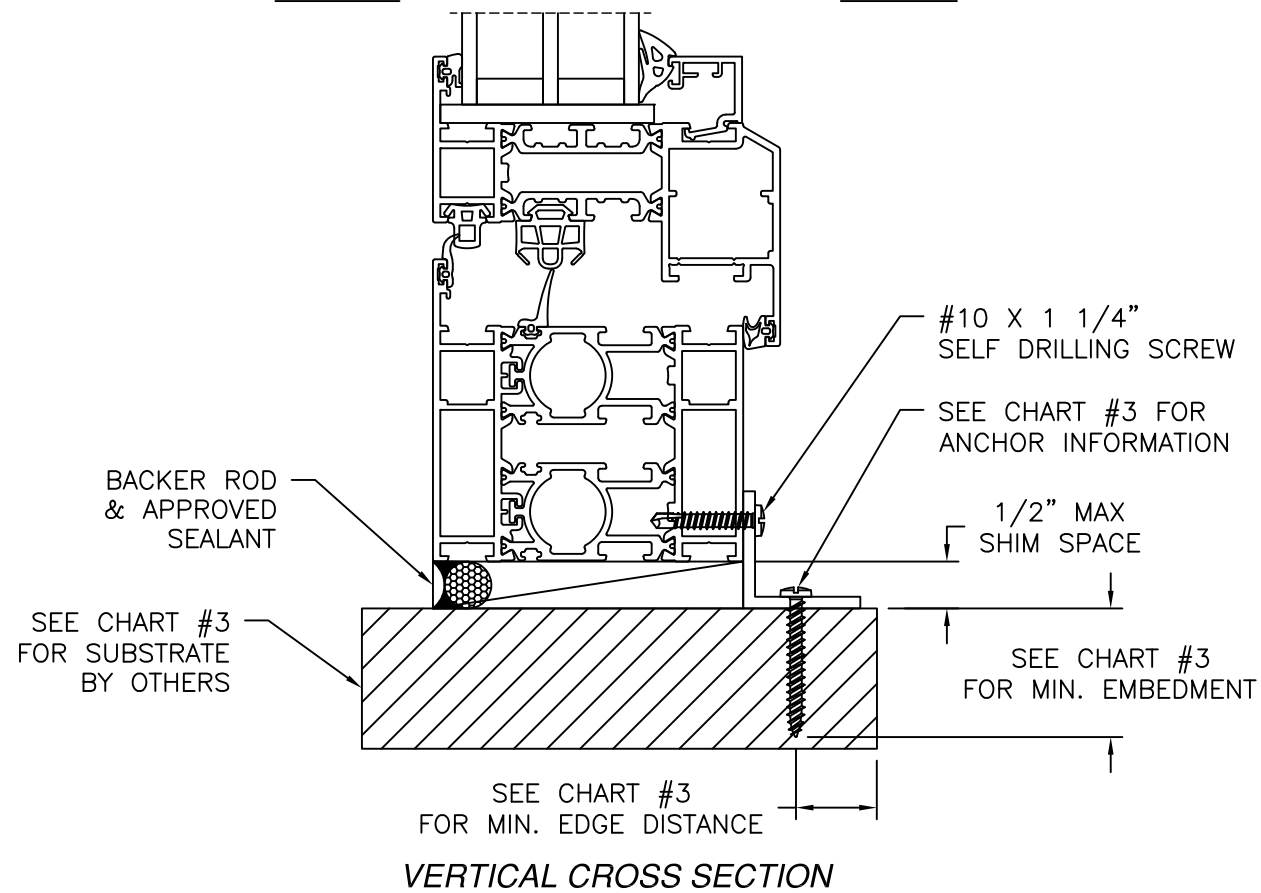
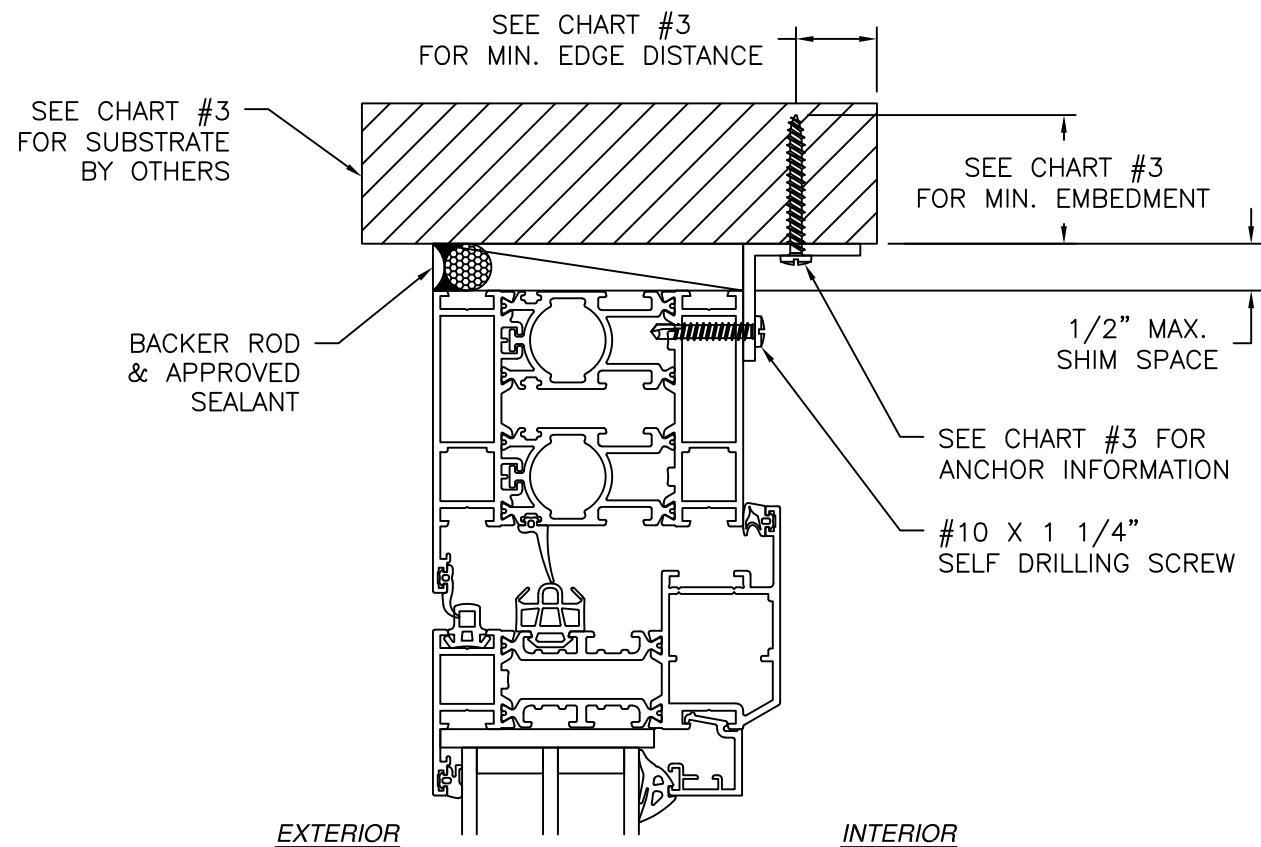
SHEET
4 OF 7

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

SIGNED: 12/12/2024

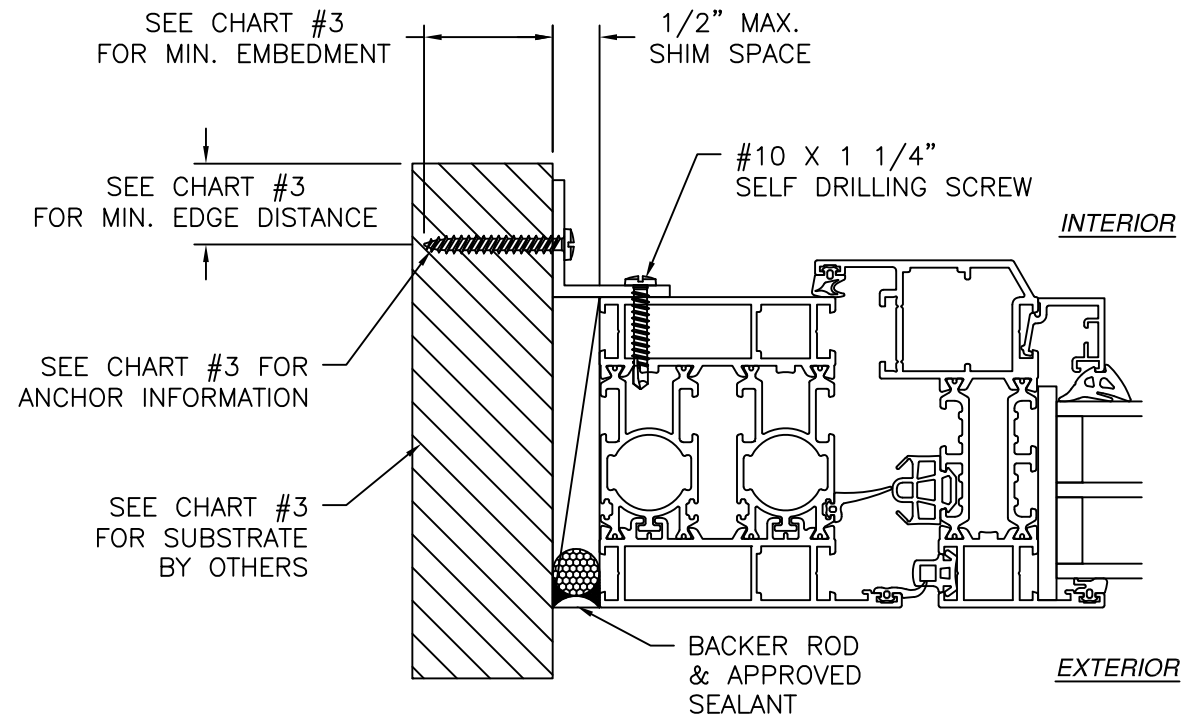


Luis R. Lomas P.E.
FL No.: 62514



- 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.
 3. WEEP HOLES NOT SHOWN FOR CLARITY.

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

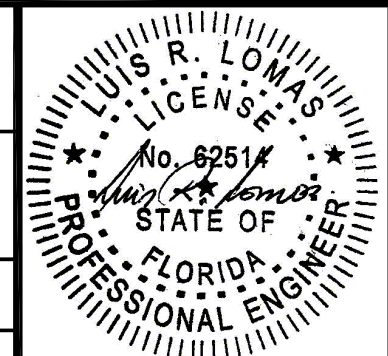


JAMB INSTALLATION DETAIL
WOOD FRAMING OR 2X BUCK INSTALLATION

CHART #3 ANCHOR DETAILS			
SUBSTRATE	ANCHOR	MIN. EDGE DISTANCE	MIN. EMBEDMENT
WOOD OR 2X BUCK	#10 WOOD SCREW	1/2"	1 1/4" SEE NOTE 17D SHEET 1
METAL STRUCTURE	#10 SMS OR SELF DRILLING SCREW	1/2"	SEE NOTE 15 SHEET 1
CONCRETE/MASONRY	1/4" TAPCON	2"	1 1/4"

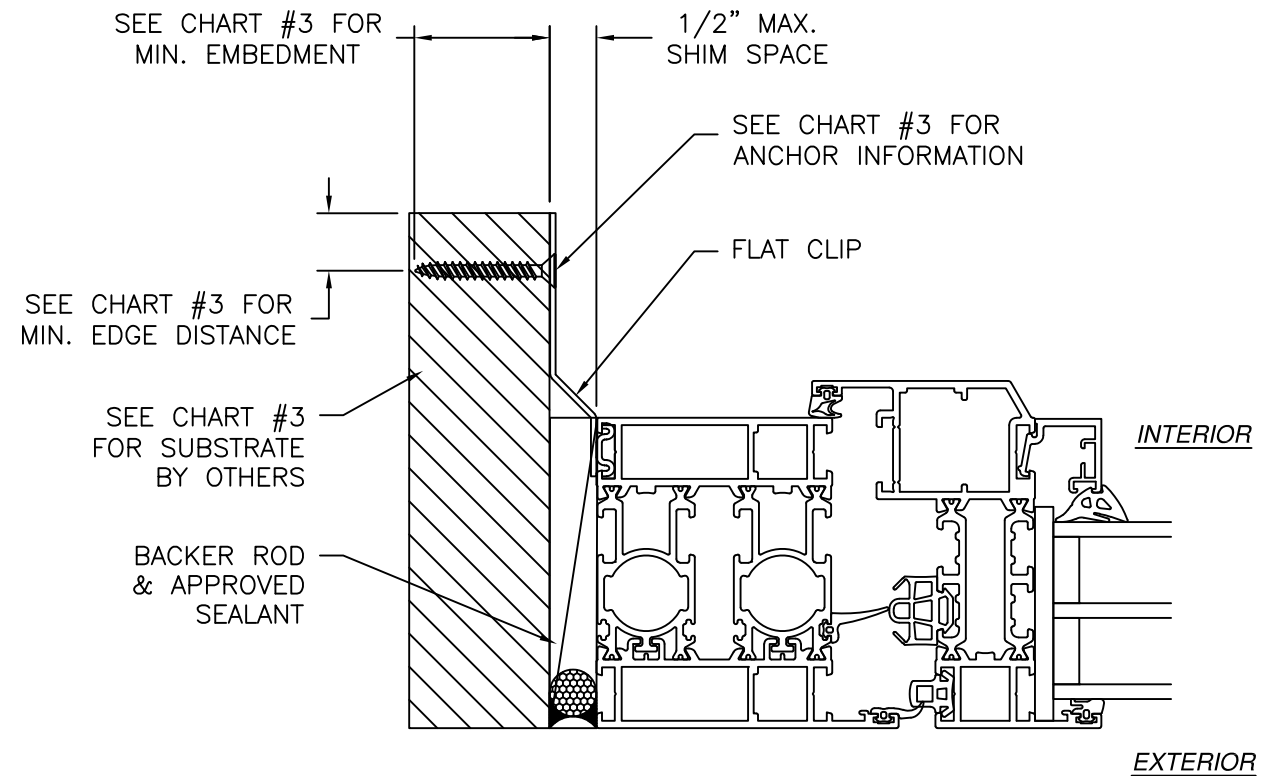
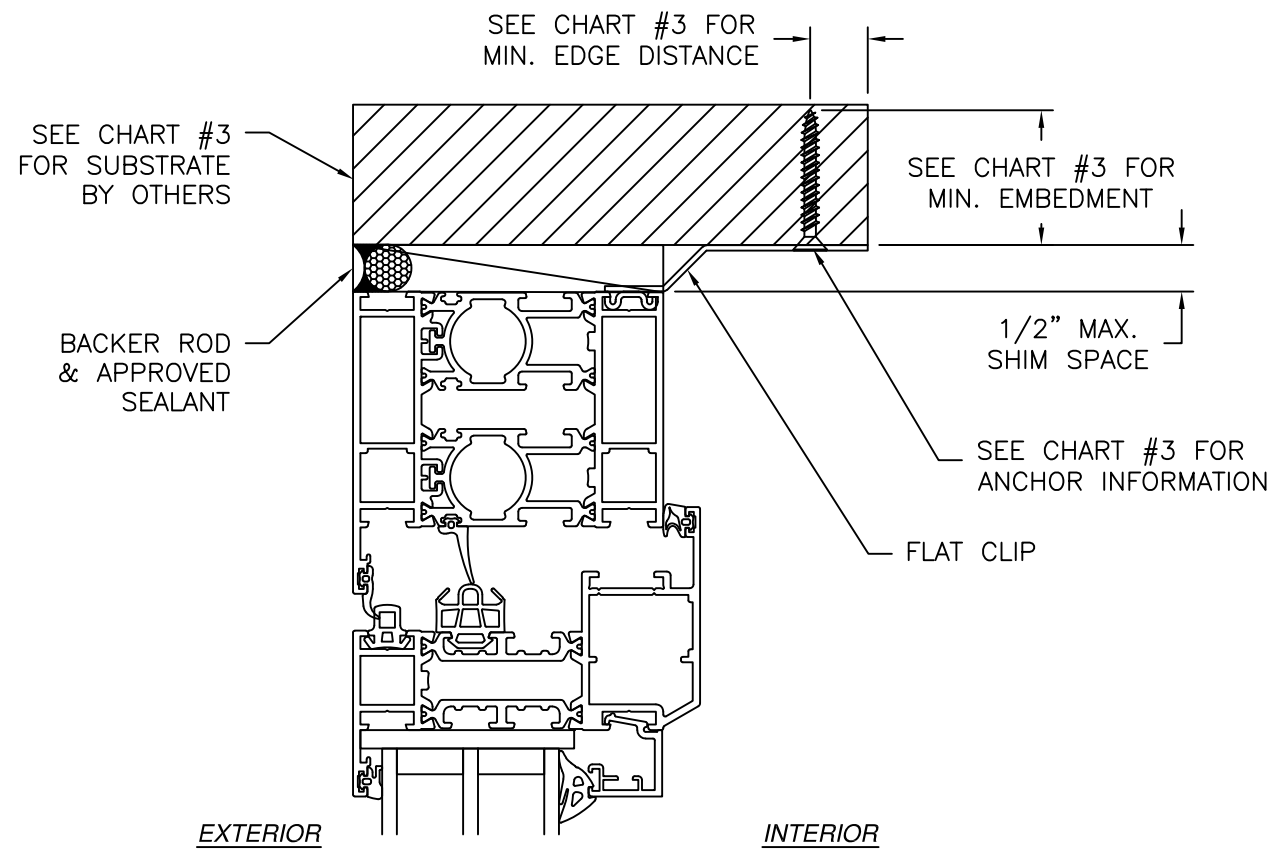
SIGNED: 12/12/2024

NANA WALL SYSTEMS, INC. 100 MEADOWCREEK DRIVE, SUITE 250 CORTE MADERA, CA 94925		
NW TILTTURN 820 ALUMINUM WINDOW NON-IMPACT INSTALLATION DETAILS WITH ANGLE CLIP		
DRAWN: A.R.	DWG NO. 08-04100	REV -
SCALE NTS	DATE 10/10/2024	SHEET 5 OF 7
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

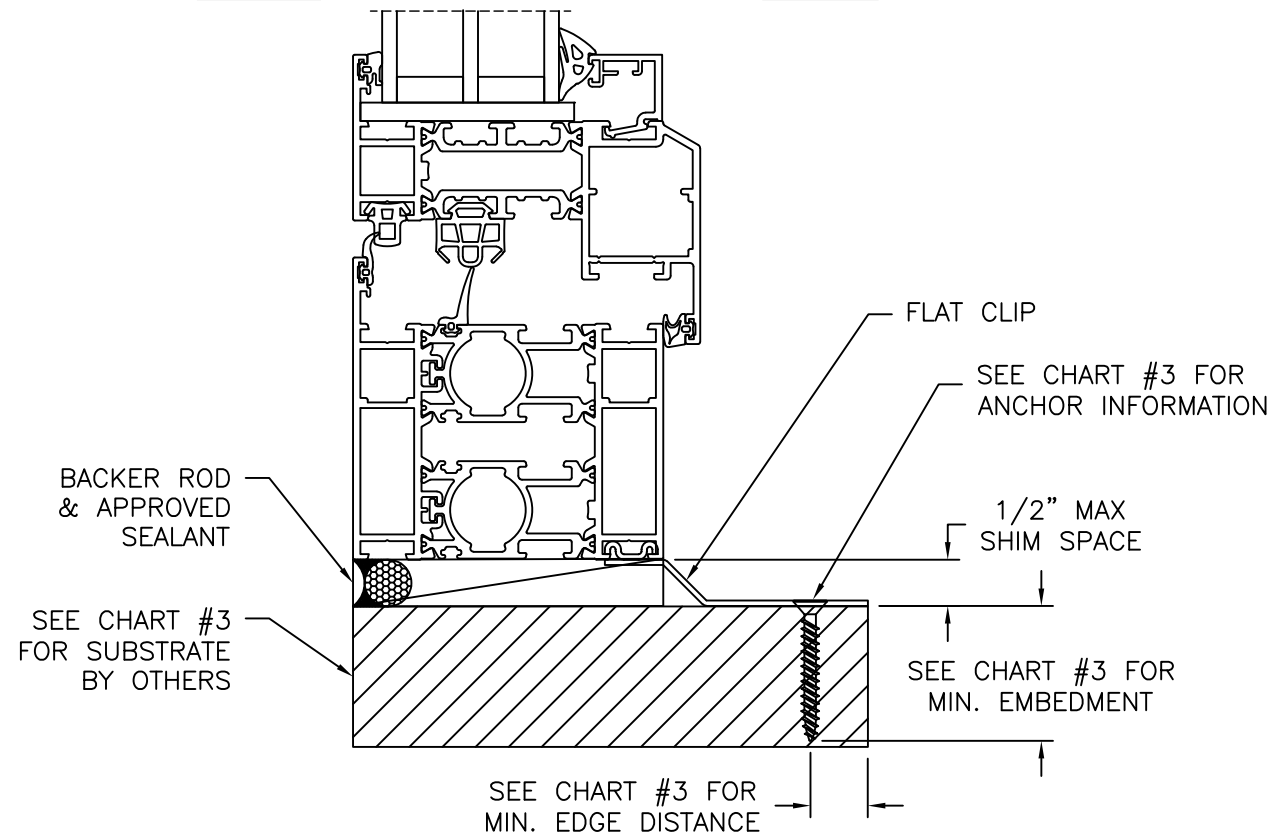


Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



JAMB INSTALLATION DETAIL



VERTICAL CROSS SECTION

NOTES:

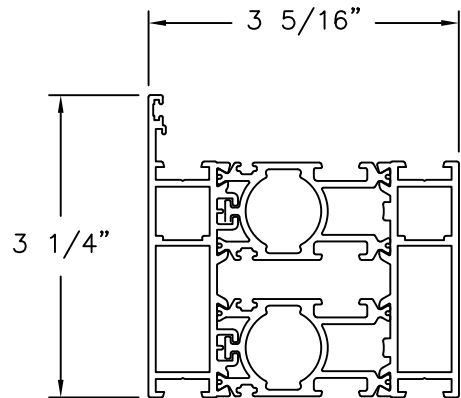
1. INTERIOR AND EXTERIOR FINISHES, BY OTHERS, NOT SHOWN FOR CLARITY.
2. PERIMETER AND JOINT SEALANT BY OTHERS TO BE DESIGNED IN ACCORDANCE WITH ASTM E2112.
3. WEEP HOLES NOT SHOWN FOR CLARITY.

CHART #3 ANCHOR DETAILS			
SUBSTRATE	ANCHOR	MIN. EDGE DISTANCE	MIN. EMBEDMENT
WOOD OR 2X BUCK	#10 WOOD SCREW	1/2"	1 1/4" SEE NOTE 17D SHEET 1
METAL STRUCTURE	#10 SMS OR SELF DRILLING SCREW	1/2"	SEE NOTE 15 SHEET 1
CONCRETE/MASONRY	1/4" TAPCON	2"	1 1/4"

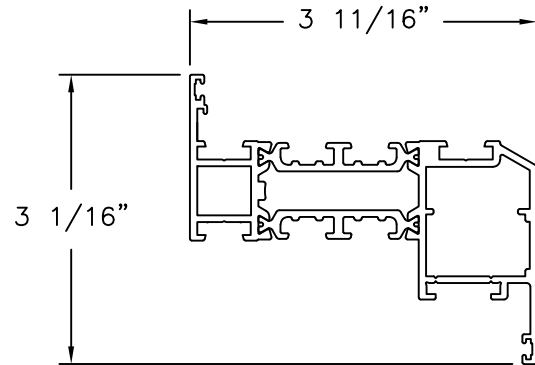
SIGNED: 12/12/2024

NANA WALL SYSTEMS, INC. 100 MEADOWCREEK DRIVE, SUITE 250 CORTE MADERA, CA 94925			
NW TILTTURN 820 ALUMINUM WINDOW NON-IMPACT INSTALLATION DETAILS WITH FLAT CLIP			
DRAWN: A.R.	DWG NO. 08-04100	REV -	
SCALE NTS	DATE 10/10/2024	SHEET 6 OF 7	
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

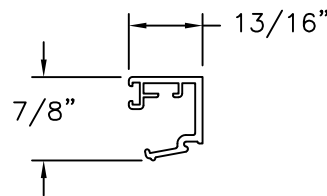
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



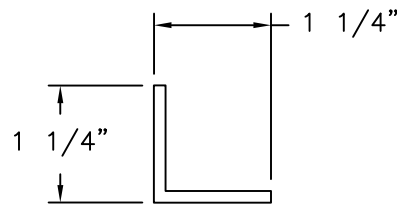
FRAME
ALUMINUM 6063-T5 (.079" THICK)



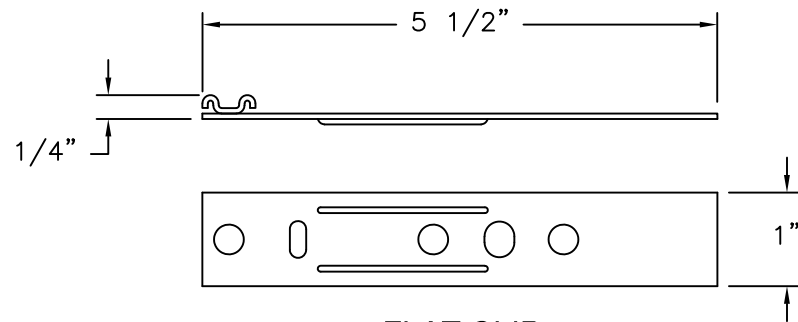
PANEL
ALUMINUM 6063-T5 (.079" THICK)



GLASS STOP
ALUMINUM 6063-T5 (.067" THICK)



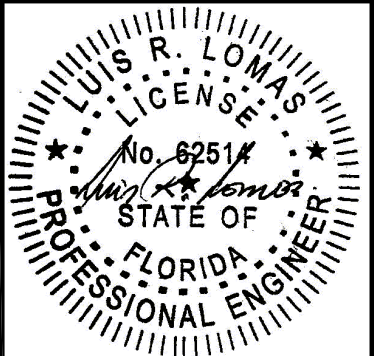
ANGLE CLIP
6063-T5 ALUMINUM (.125" THICK)



FLAT CLIP
GALVANIZED STEEL (.058" THICK)

NANA WALL SYSTEMS, INC. 100 MEADOWCREEK DRIVE, SUITE 250 CORTE MADERA, CA 94925		
NW TILTTURN 820 ALUMINUM WINDOW NON-IMPACT COMPONENTS		
DRAWN: A.R.	DWG NO. 08-04100	REV -
SCALE NTS	DATE 10/10/2024	SHEET 7 OF 7
L. ROBERTO LOMAS P.E. 208 7th Ave, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

SIGNED: 12/12/2024



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