

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

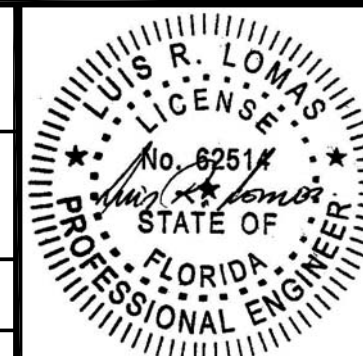
NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING THE HVHZ.
2. WOOD FRAMING 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 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.
4. 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.
5. FRAME MATERIAL: ALUMINUM 6063-T6 AND 6005A-T5.
6. UNITS MUST BE GLAZED PER ASTM E1300, SEE SHEET 4 FOR GLASS DETAILS.
7. APPROVED IMPACT PROTECTIVE SYSTEM IS NOT REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
8. SHIM AS REQUIRED AT EACH INSTALLATION ANCHOR WITH LOAD BEARING SHIM. SHIM WHERE SPACE OF 1/16" OR GREATER OCCURS. MAXIMUM ALLOWABLE SHIM STACK TO BE 3/8".
9. FOR ANCHORING INTO WOOD FRAMING OR 2X BUCK USE #14 WOOD SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
10. 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.
11. FOR ANCHORING INTO METAL STRUCTURE USE #14 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.
12. ALL FASTENERS TO BE CORROSION RESISTANT.
13. 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 3,000 PSI.
 - C. MASONRY – STRENGTH CONFORMANCE TO ASTM C-90, GRADE N, TYPE 1 (OR GREATER).
 - D. METAL STRUCTURE: STEEL 18GA, 33KSI OR ALUMINUM 6063-T5 .125" THICK MINIMUM

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2 – 3	ELEVATIONS AND CHARTS
4	ANCHORING LAYOUT
5 – 9	CROSS SECTIONS
10 – 11	INSTALLATION DETAILS
12	WEEP DETAILS
13	COMPONENTS

THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM NOTES		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 1 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

SIGNED: 04/11/2023

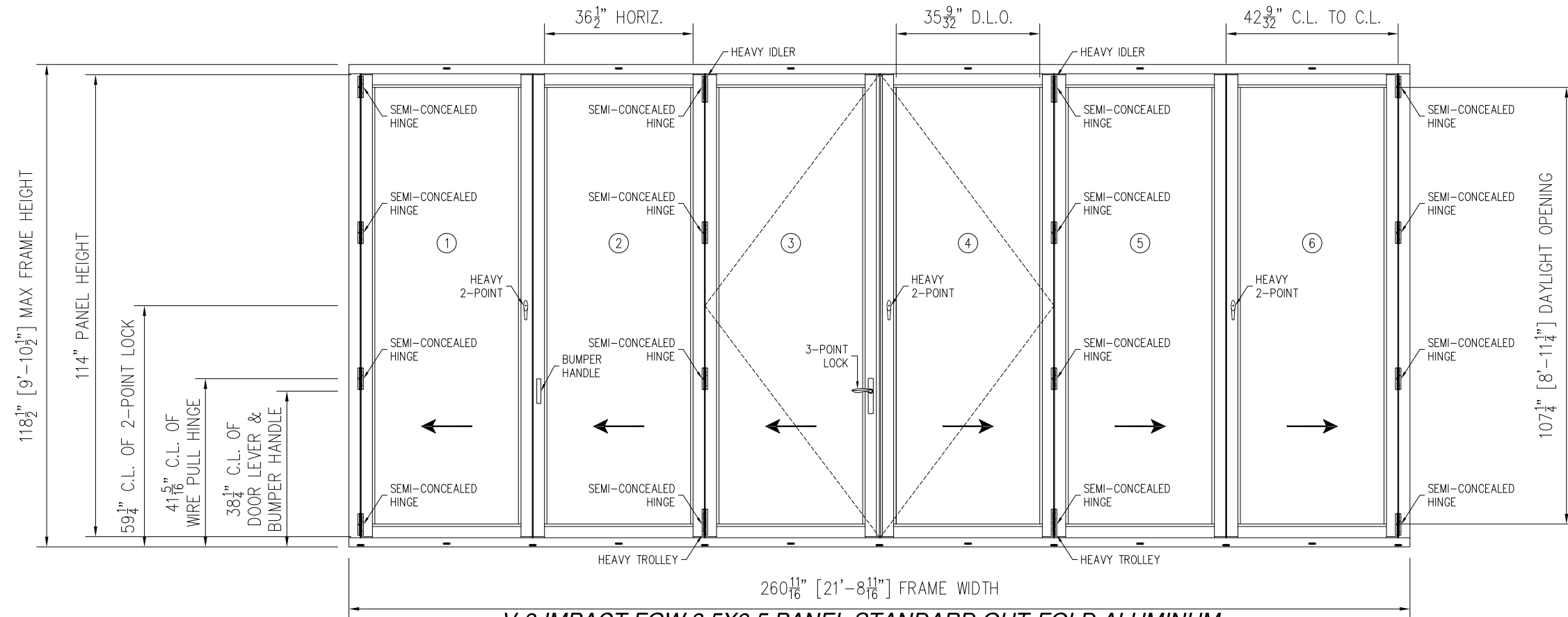
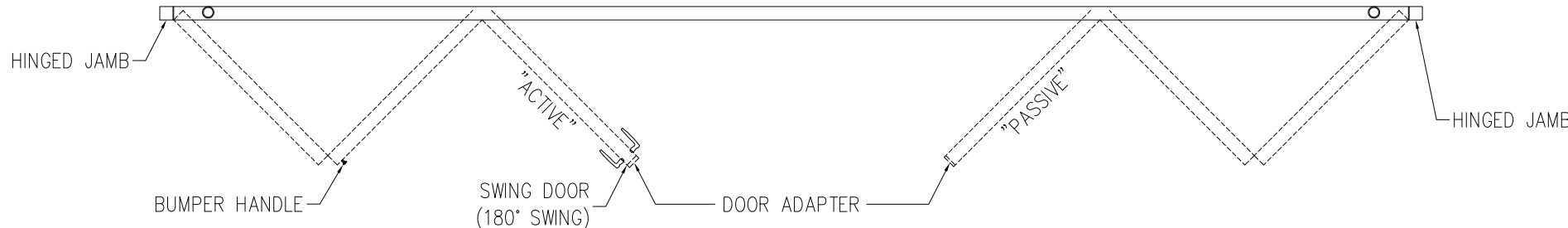


Luis R. Lomas P.E.
FL No.: 62514

10" C.L. OF DRAIN PIPE SEE NOTES THIS SHEET

10" C.L. OF DRAIN PIPE SEE NOTES THIS SHEET

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



DESIGN PRESSURE RATING	IMPACT RATING
±70.0PSF	LARGE AND SMALL MISSILE IMPACT

MISSILE LEVEL D, WIND ZONE 4, AND HVHZ
SEE CHART #1 SHEET 3

DESIGN PRESSURE RATING	IMPACT RATING
±55.0PSF	LARGE AND SMALL MISSILE IMPACT

MISSILE LEVEL D, WIND ZONE 4, AND HVHZ
UNITS WITH FLUSH SILL
SEE CHART #2 SHEET 3

DESIGN PRESSURE RATING	IMPACT RATING
±55.0PSF	LARGE AND SMALL MISSILE IMPACT

MISSILE LEVEL D, WIND ZONE 4, AND HVHZ
UNITS WITH NON-THERMAL PANELS
SEE CHART #2 SHEET 3

V-3 IMPACT FGW 3.5X9.5 PANEL STANDARD OUT-FOLD ALUMINUM

EXTERIOR VIEW
UNLIMITED NUMBER OF PANELS IN UNLIMITED CONFIGURATION ARE APPROVED AS LONG AS INDIVIDUAL PANEL AREA DOES NOT EXCEED 33.25 FT² USES VERTICAL CONDITIONS AS SHOWN AND FRAME AREA DOES NOT EXCEED 214.5FT².

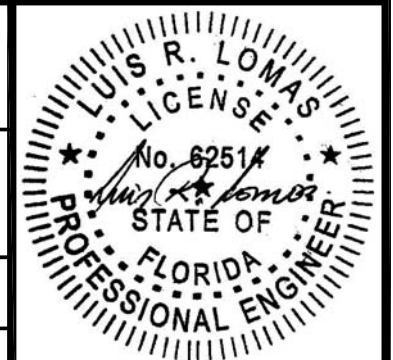
SIGNED: 04/11/2023

THERMA-TRU
1750 INDIAN WOOD CIRCLE
MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
STANDARD OUT-FOLD ALUMINUM
ELEVATIONS

DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 2 OF 13

L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIALANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com



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

HARDWARE SCHEDULE

A. SEMI-CONCEALED HINGE BY THERMA-TRU
B 2 POINT HANDLE & LOCK MS000487-XX BY THERMA-TRU
C 3 POINT HANDLE & LOCK BY THERMA-TRU
D SURFACE MOUNT HINGE BY THERMA-TRU

NOTES:

- PANEL SIZE: 42" X 114"
- PANEL D.L.O.: 39 1/4" X 107 1/4"
- DRAIN TUBE IS ONLY INSTALLED WITH RECESSED SILL TYPES

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

Chart #1

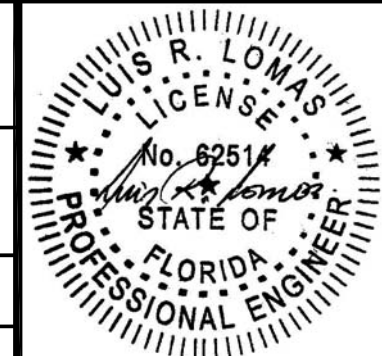
Maximum Design pressure (psf)										
Panel Height (in)	Single Panel Width (in)									
	24.00		30.00		36.00		42.00		48.00	
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
78.00	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
84.00	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0
90.00	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	77.6	77.6
96.00	80.0	80.0	80.0	80.0	80.0	80.0	80.0	80.0	72.7	72.7
102.00	80.0	80.0	80.0	80.0	80.0	80.0	78.2	78.2	-	-
108.00	80.0	80.0	80.0	80.0	80.0	80.0	73.9	73.9	-	-
114.00	80.0	80.0	80.0	80.0	79.1	79.1	70.0	70.0	-	-
120.00	80.0	80.0	80.0	80.0	68.7	68.7	-	-	-	-
126.00	80.0	80.0	70.3	70.3	59.2	59.2	-	-	-	-
132.00	75.7	75.7	61.0	61.0	51.3	51.3	-	-	-	-
138.00	66.2	66.2	53.3	53.3	-	-	-	-	-	-
144.00	58.2	58.2	46.8	46.8	-	-	-	-	-	-
150.00	51.4	51.4	41.4	41.4	-	-	-	-	-	-
156.00	45.7	45.7	36.7	36.7	-	-	-	-	-	-

Chart #2

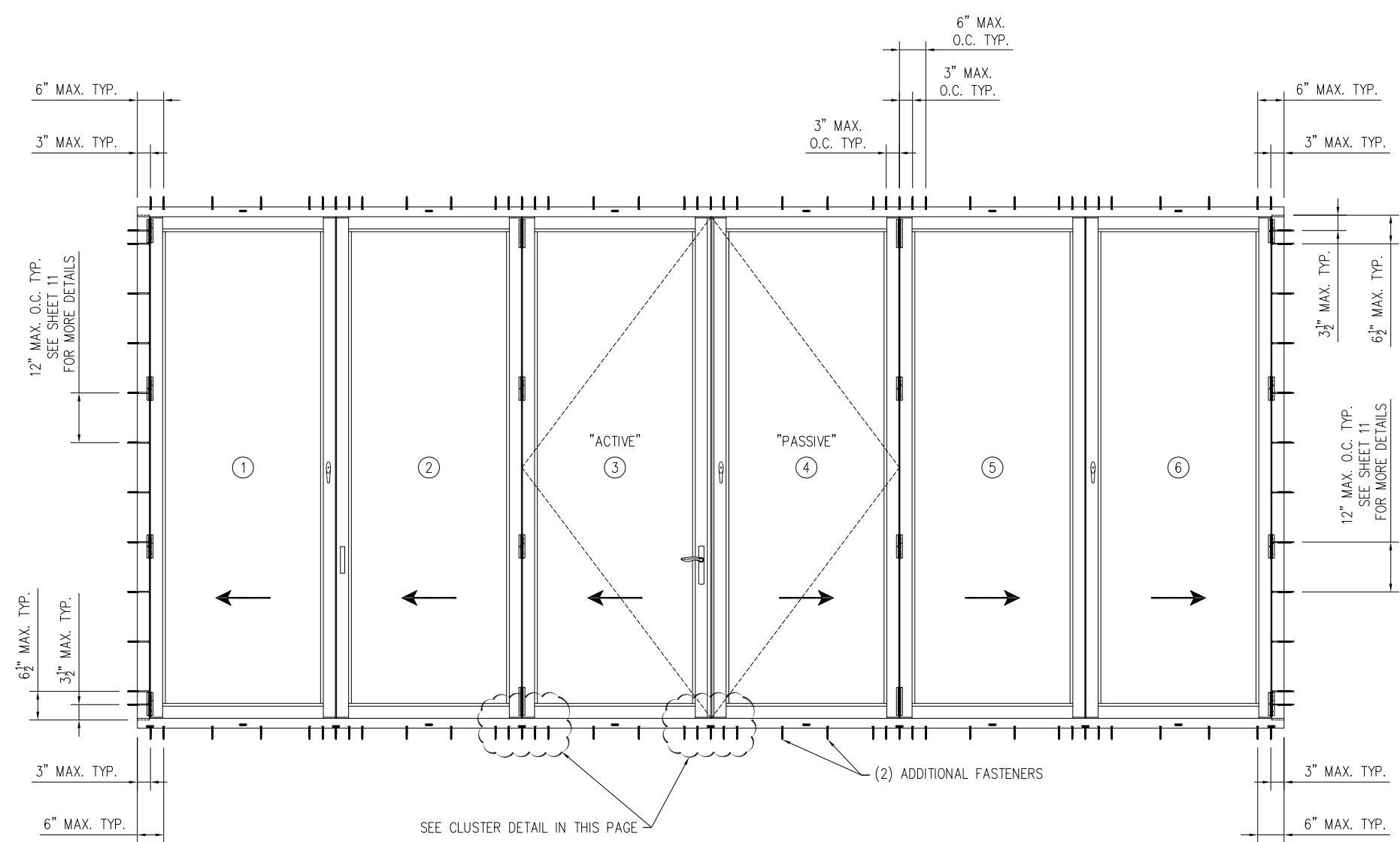
Maximum Design pressure (psf)										
Panel Height (in)	Single Panel Width (in)									
	24.00		30.00		36.00		42.00		48.00	
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
78.00	60.0	80.0	60.0	80.0	60.0	80.0	60.0	80.0	60.0	70.3
84.00	60.0	80.0	60.0	80.0	60.0	80.0	60.0	74.6	60.0	65.3
90.00	60.0	80.0	60.0	80.0	60.0	80.0	60.0	69.7	60.0	61.0
96.00	60.0	80.0	60.0	80.0	60.0	76.2	60.0	65.3	57.1	57.1
102.00	60.0	80.0	60.0	80.0	60.0	71.0	60.0	61.5	-	-
108.00	60.0	80.0	60.0	77.0	60.0	66.3	58.1	58.1	-	-
114.00	60.0	80.0	60.0	72.3	60.0	62.2	55.0	55.0	-	-
120.00	60.0	79.4	60.0	64.1	54.0	54.0	-	-	-	-
126.00	60.0	68.5	55.2	55.2	46.5	46.5	-	-	-	-
132.00	59.5	59.5	47.9	47.9	40.3	40.3	-	-	-	-
138.00	52.0	52.0	41.9	41.9	-	-	-	-	-	-
144.00	45.7	45.7	36.8	36.8	-	-	-	-	-	-
150.00	40.4	40.4	32.5	32.5	-	-	-	-	-	-
156.00	35.9	35.9	28.9	28.9	-	-	-	-	-	-

SIGNED: 04/11/2023

THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM DESIGN PRESSURE CHARTS		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 3 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

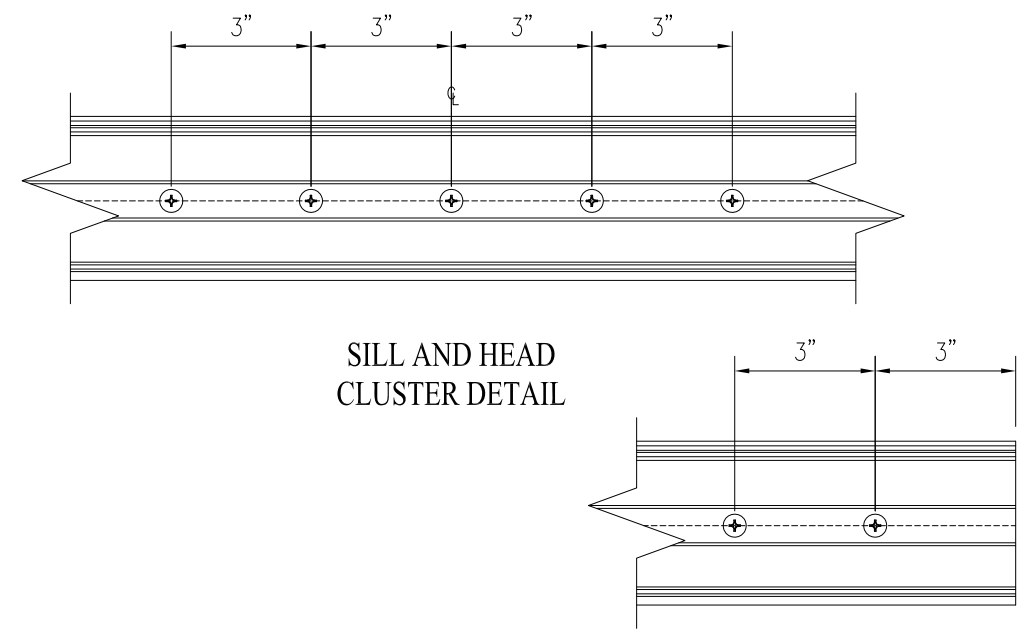


Luis R. Lomas P.E.
FL No.: 62514

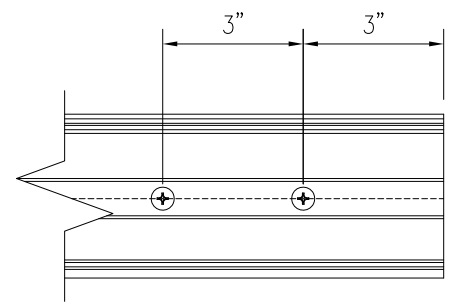


ANCHOR LAYOUT
APPLICABLE TO ALL CONFIGURATIONS.

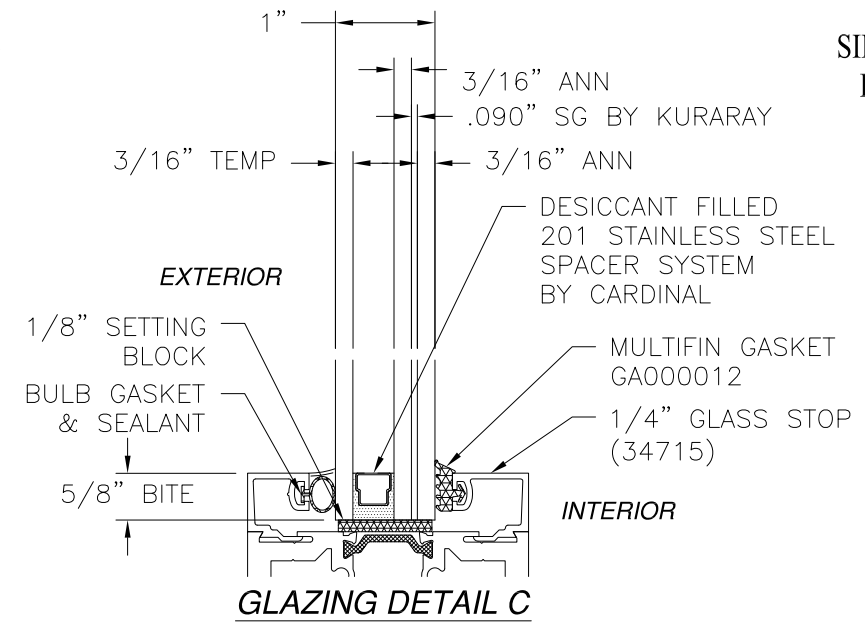
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



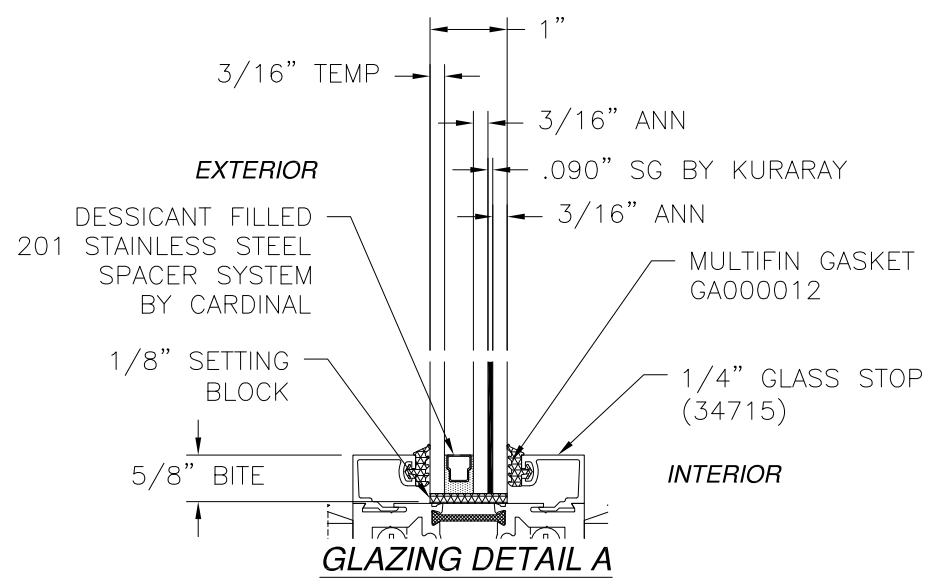
SILL AND HEAD CLUSTER DETAIL



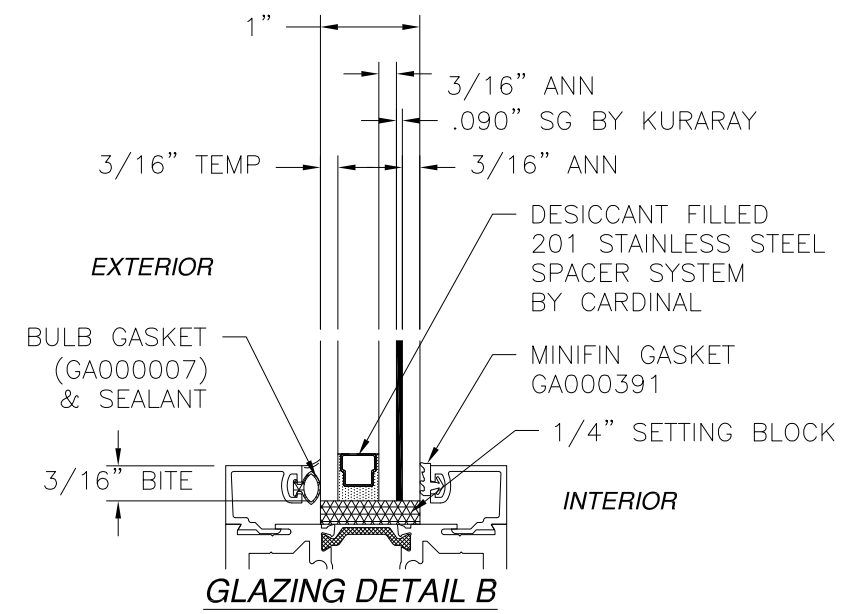
SILL AND HEAD END DETAIL



GLAZING DETAIL C



GLAZING DETAIL A



GLAZING DETAIL B

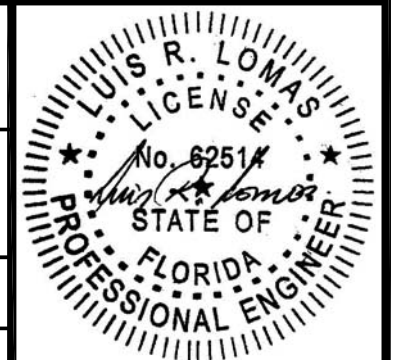
SIGNED: 04/11/2023

THERMA-TRU
1750 INDIAN WOOD CIRCLE
MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
STANDARD OUT-FOLD ALUMINUM
ANCHOR LAYOUT AND GLAZING DETAIL

DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 4 OF 13

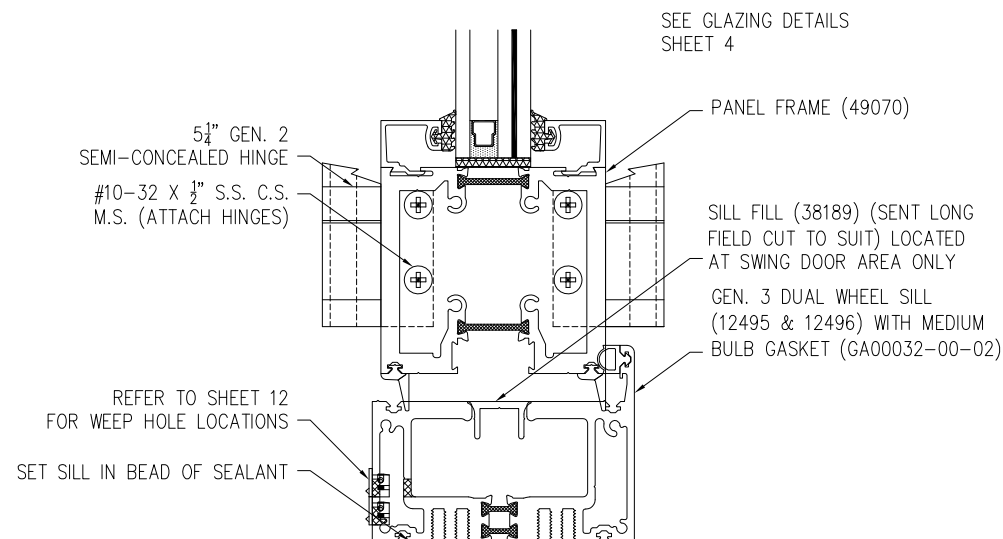
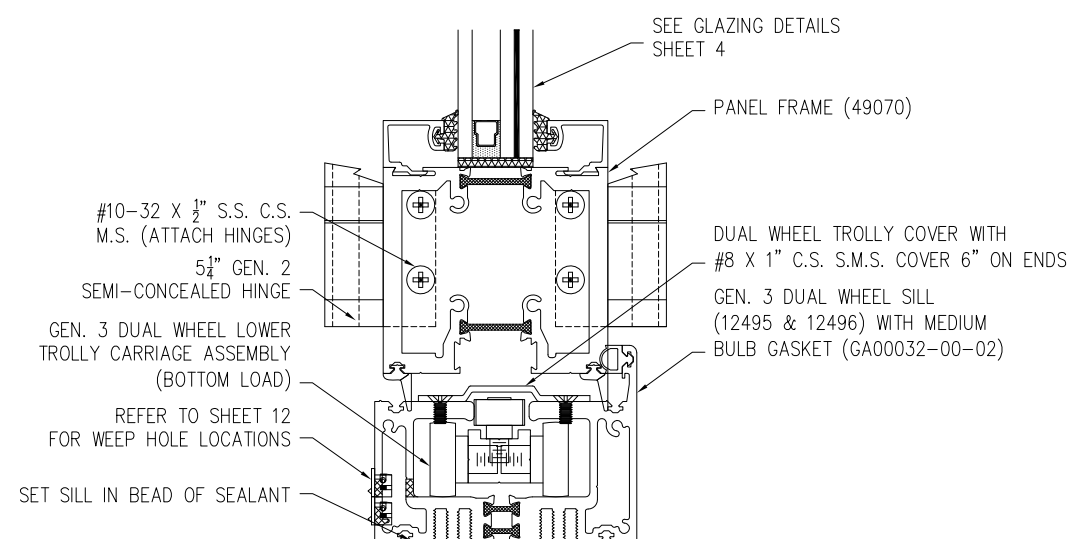
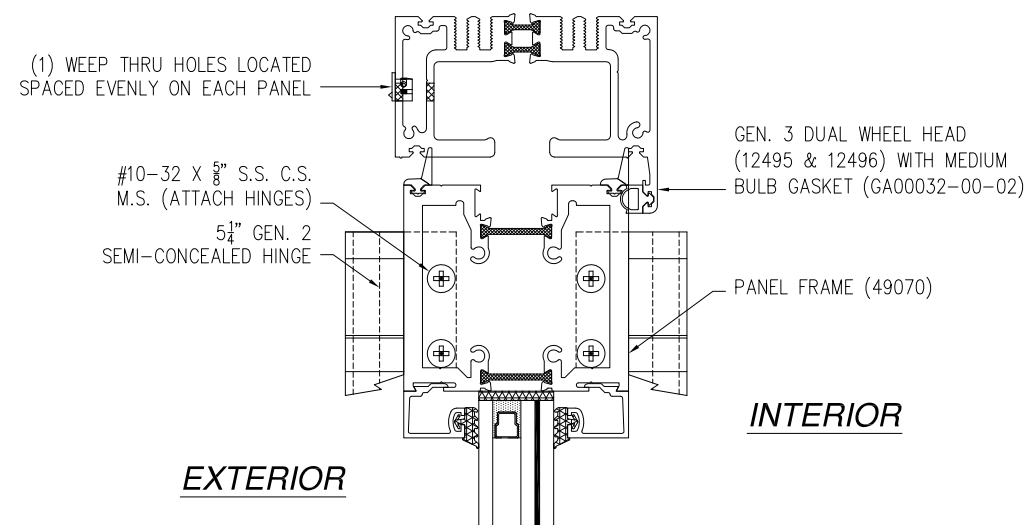
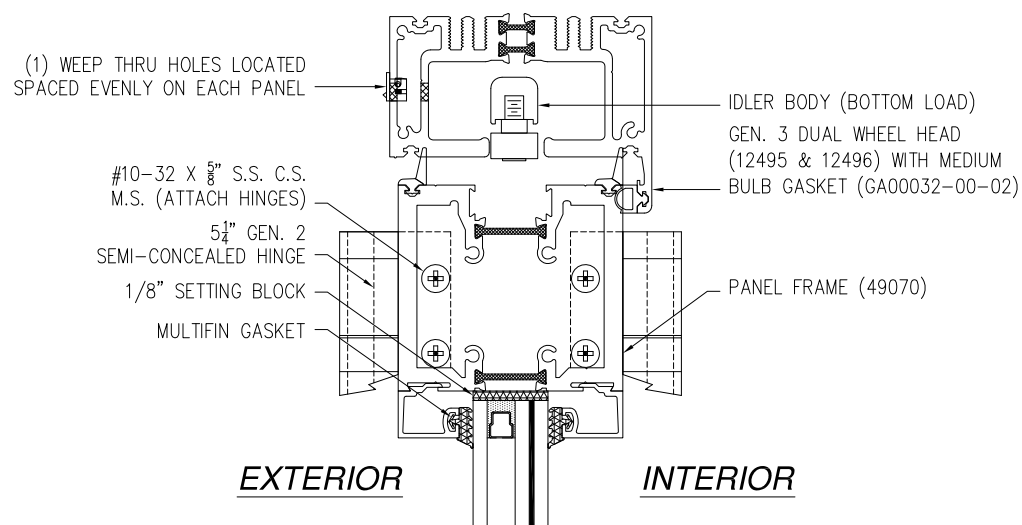
L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIANLANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com



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

**FOR ILLUSTRATION PURPOSES ONLY
FOR INSTALLATION DETAILS REFER TO SHEETS 10 - 11**

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

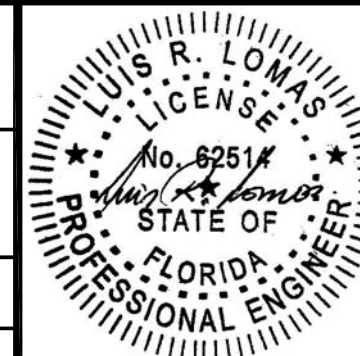


**VERTICAL CROSS SECTION
BOTTOM LOAD SILL**

**VERTICAL CROSS SECTION
STANDARD**

SIGNED: 04/11/2023

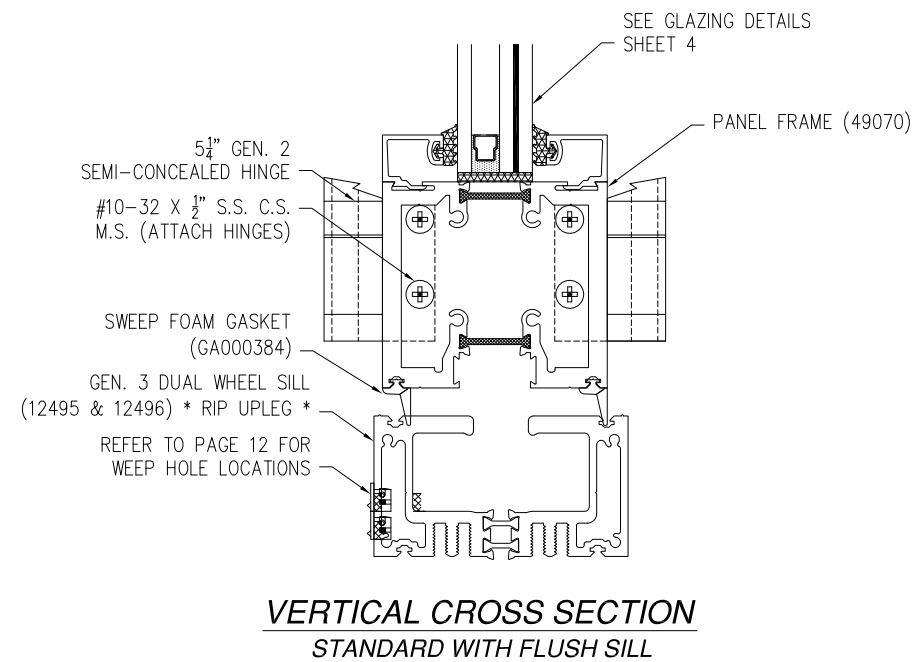
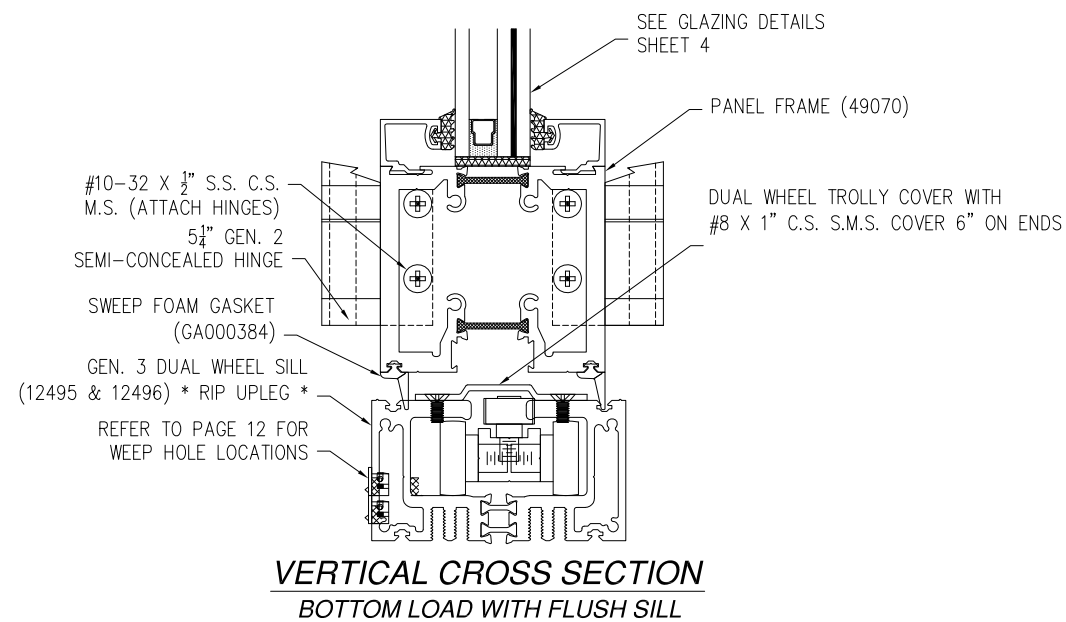
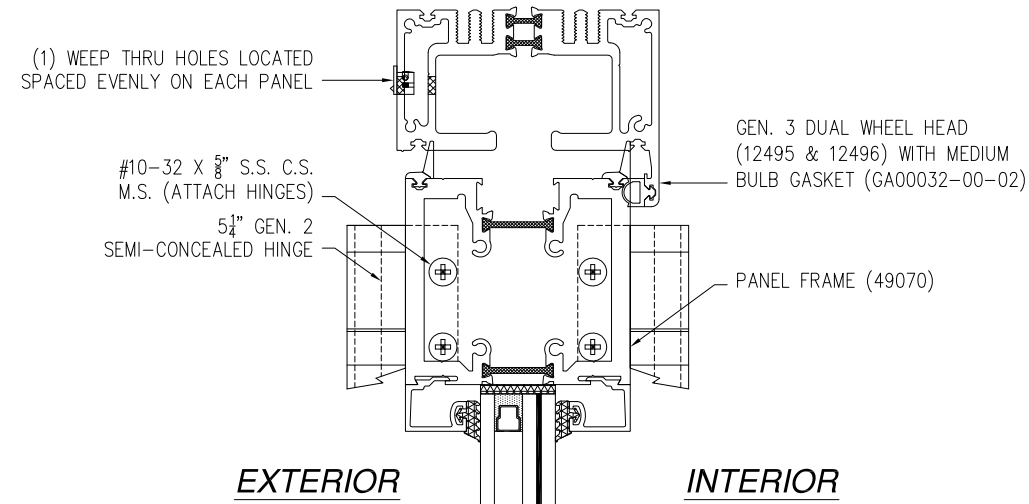
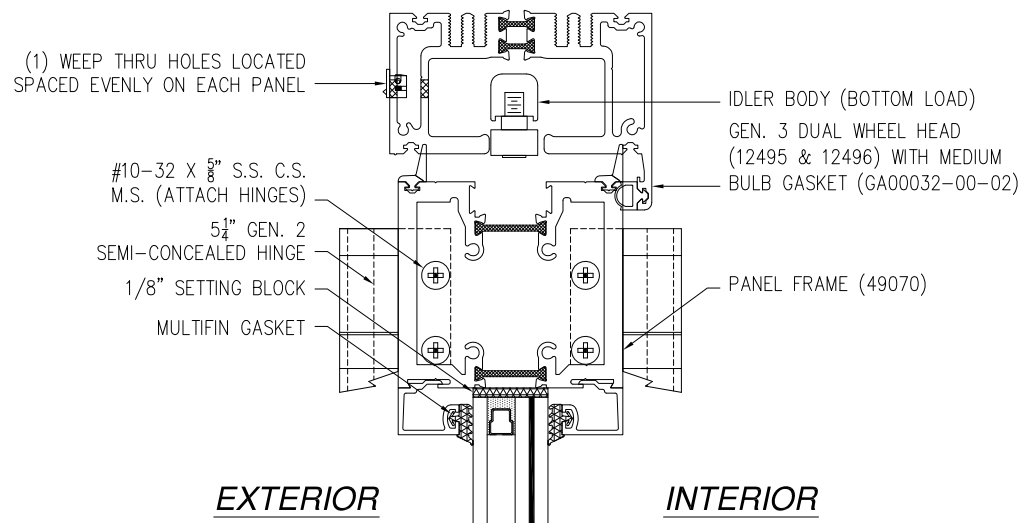
THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM VERTICAL CROSS SECTIONS		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 5 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		



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

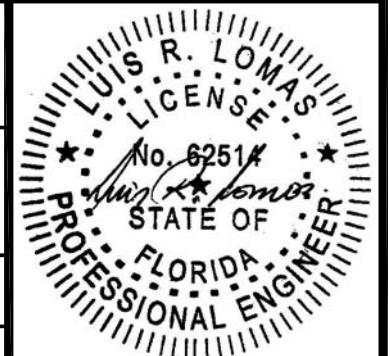
FOR ILLUSTRATION PURPOSES ONLY
FOR INSTALLATION DETAILS REFER TO SHEETS 10 - 11

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SIGNED: 04/11/2023

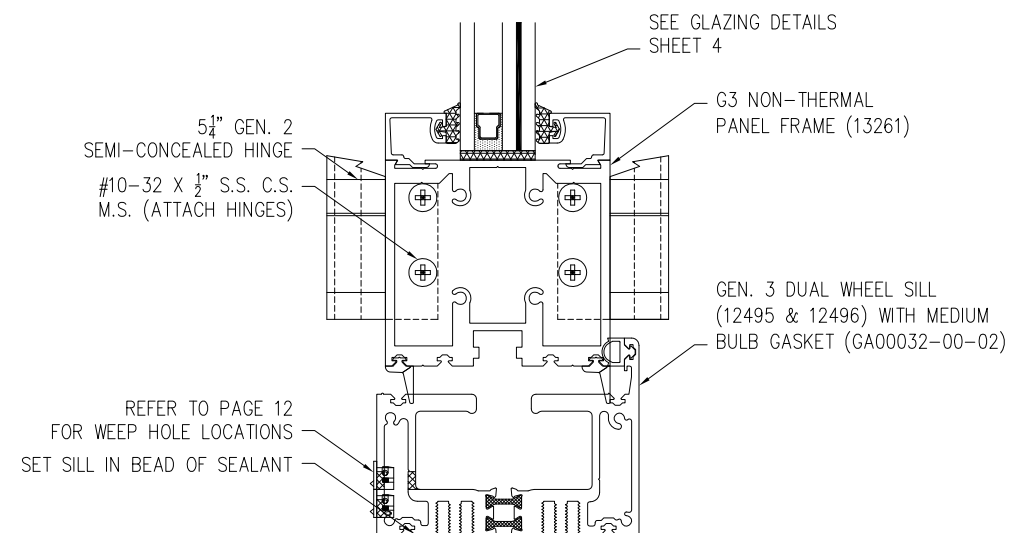
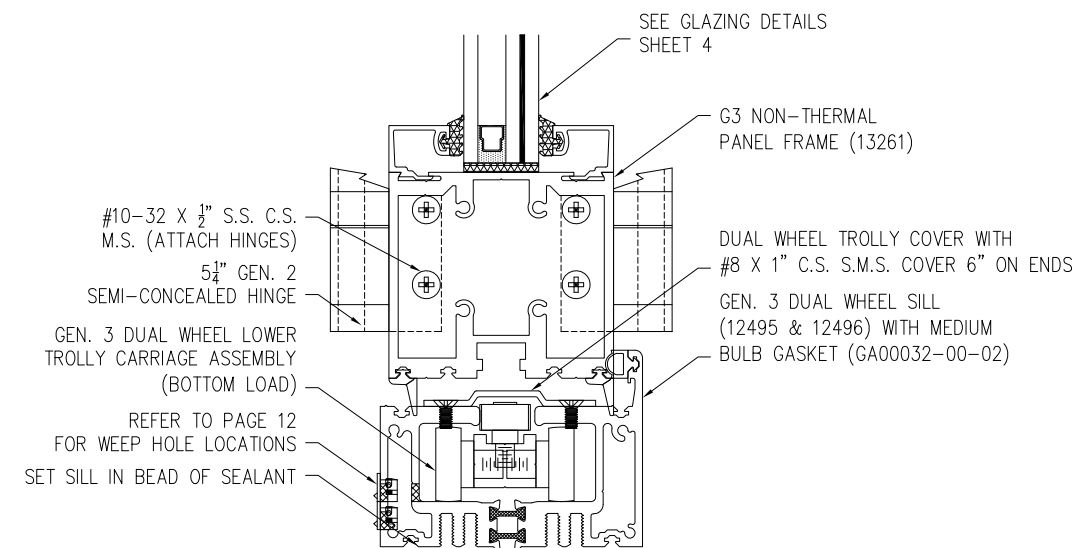
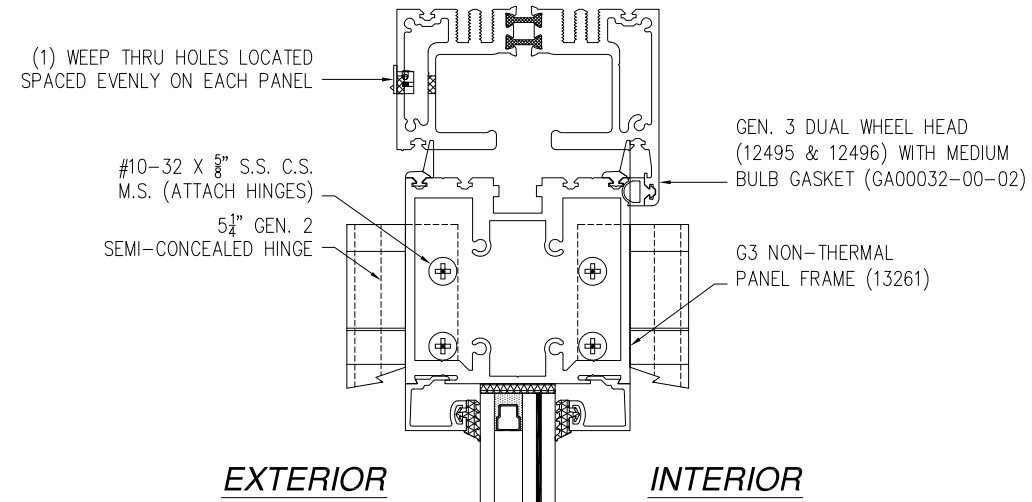
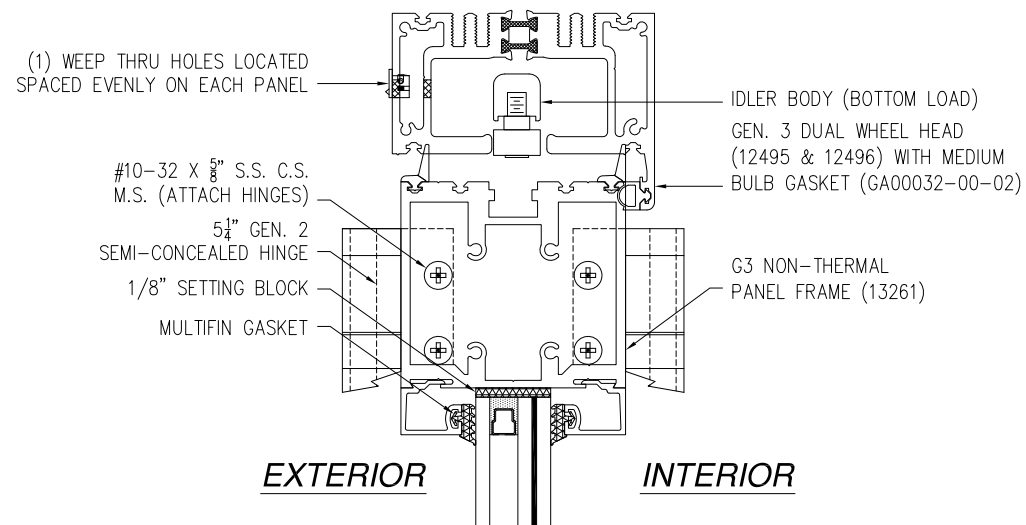
THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM VERTICAL CROSS SECTIONS		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 6 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		



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

FOR ILLUSTRATION PURPOSES ONLY
FOR INSTALLATION DETAILS REFER TO SHEETS 10 - 11

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

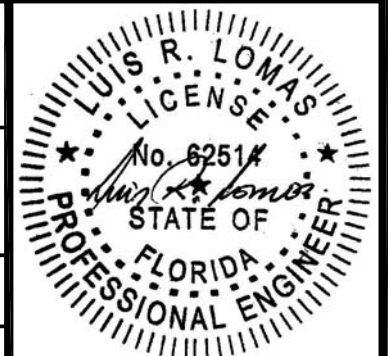


VERTICAL CROSS SECTION
BOTTOM LOAD SILL WITH NON-TERMAL PANELS

VERTICAL CROSS SECTION
STANDARD WITH NON-TERMAL PANELS

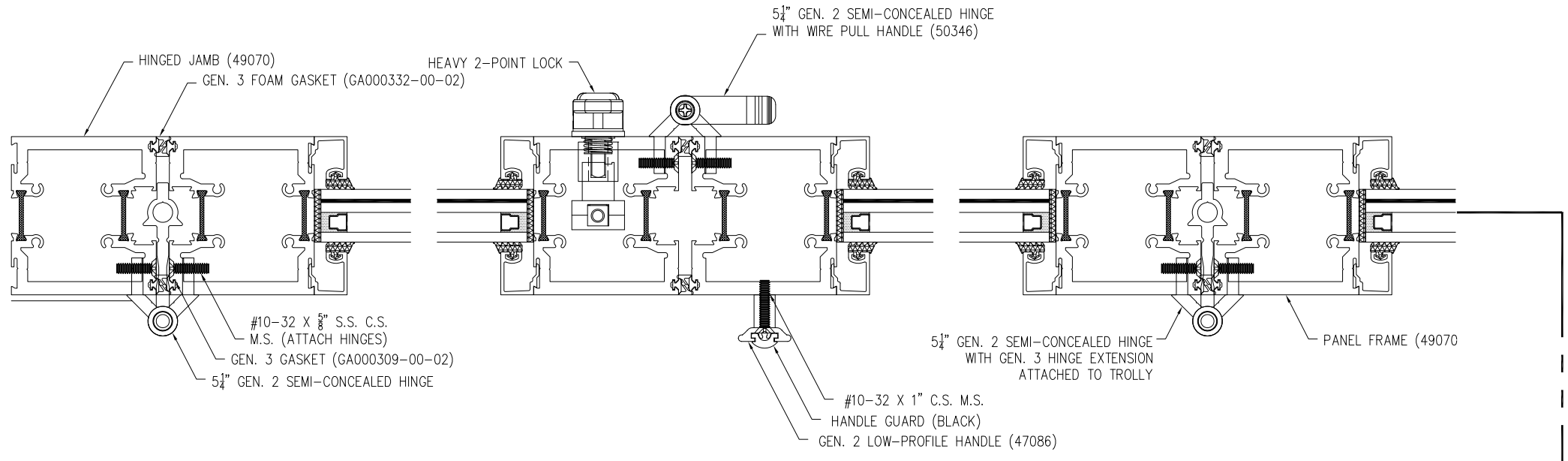
SIGNED: 04/11/2023

THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM VERTICAL CROSS SECTIONS		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 7 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

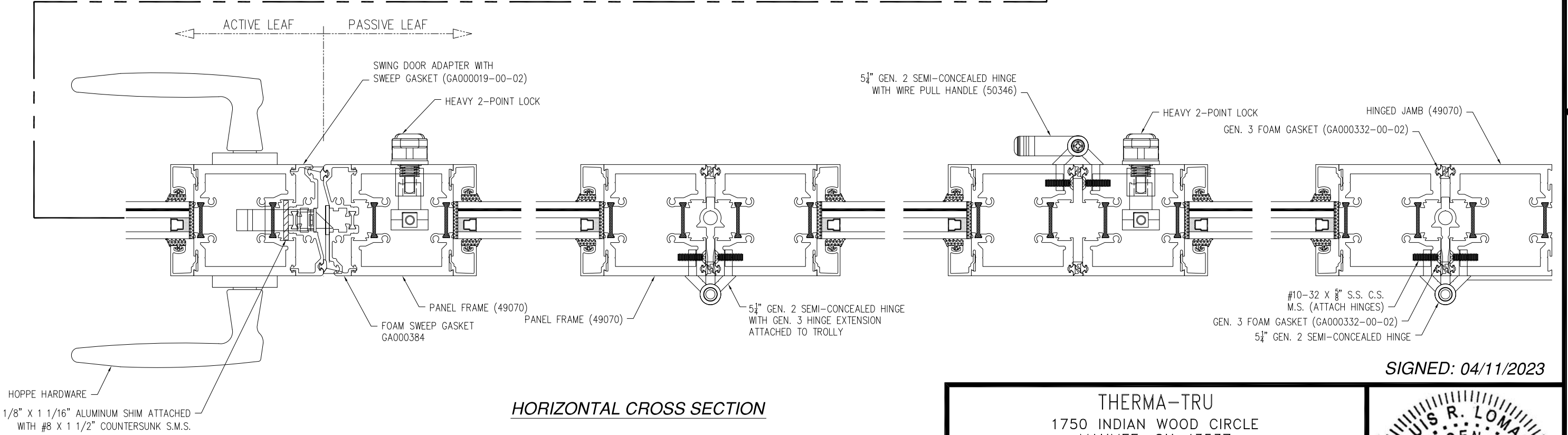


Luis R. Lomas P.E.
 FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



**FOR ILLUSTRATION PURPOSES ONLY
FOR INSTALLATION DETAILS REFER TO
SHEETS 10 - 11**



HORIZONTAL CROSS SECTION

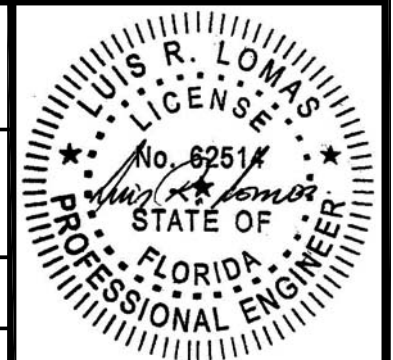
SIGNED: 04/11/2023

THERMA-TRU
1750 INDIAN WOOD CIRCLE
MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
STANDARD OUT-FOLD ALUMINUM
HORIZONTAL CROSS SECTIONS

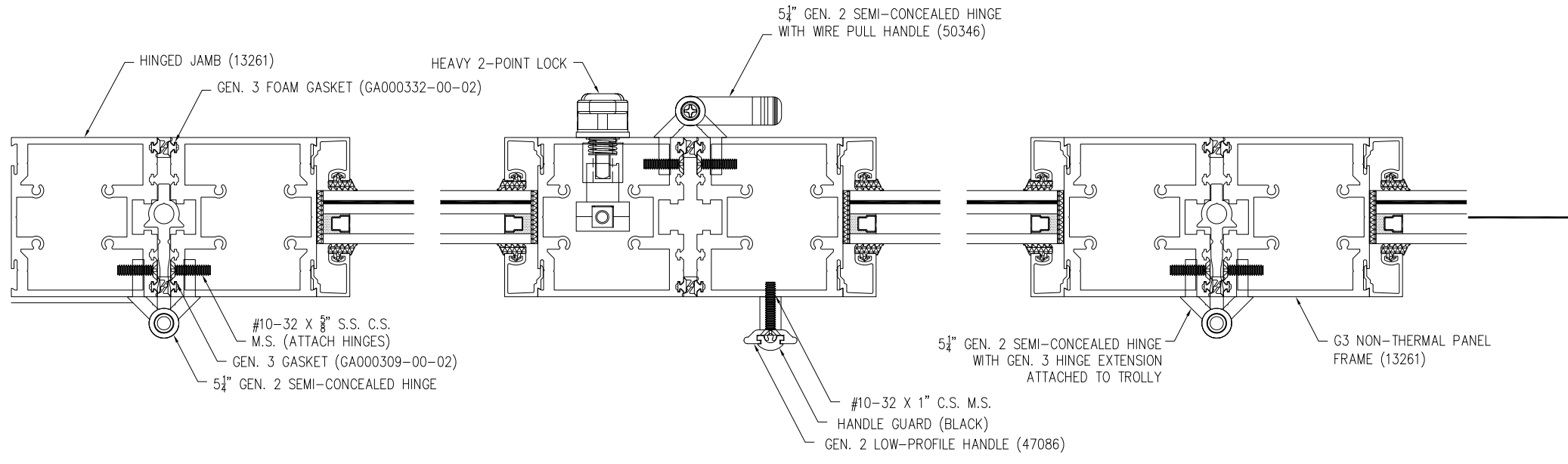
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 8 OF 13

L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIAN LANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com

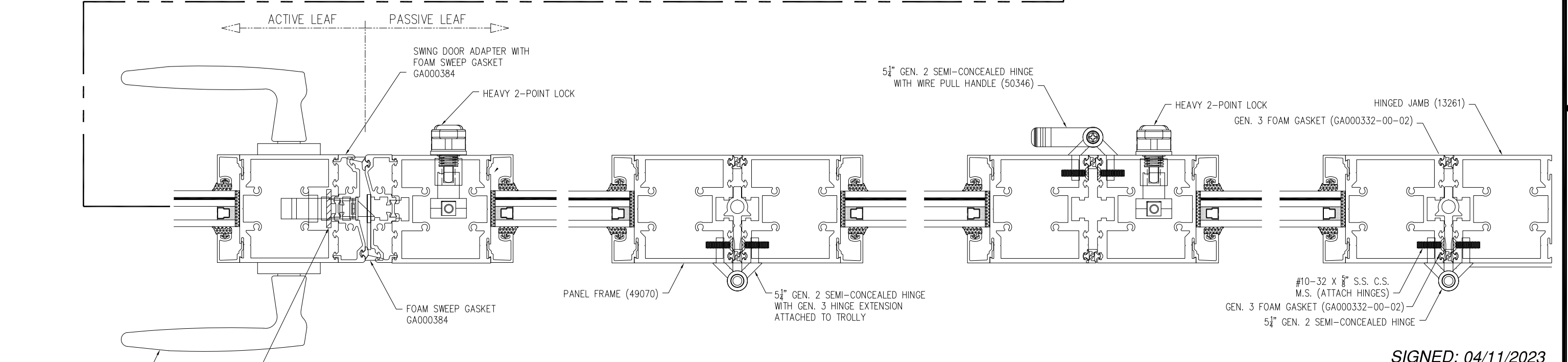


Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



**FOR ILLUSTRATION PURPOSES ONLY
FOR INSTALLATION DETAILS REFER TO
SHEETS 10 - 11**



**HORIZONTAL CROSS SECTION
WITH NON-THERMAL PANELS**

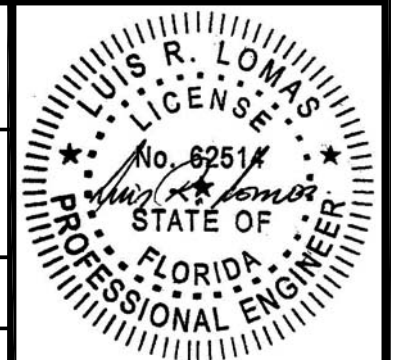
SIGNED: 04/11/2023

THERMA-TRU
 1750 INDIAN WOOD CIRCLE
 MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
 STANDARD OUT-FOLD ALUMINUM
 HORIZONTAL CROSS SECTION

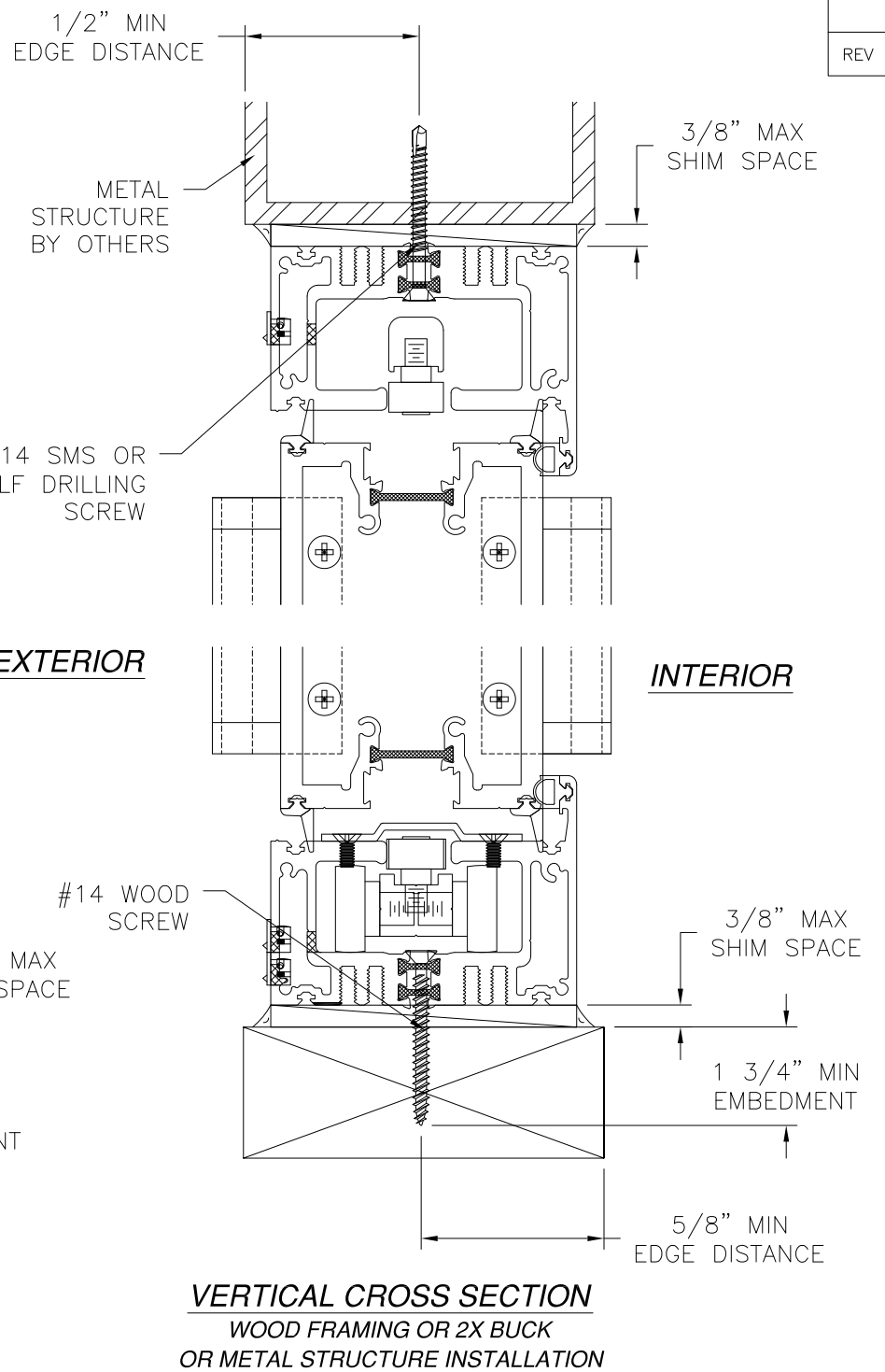
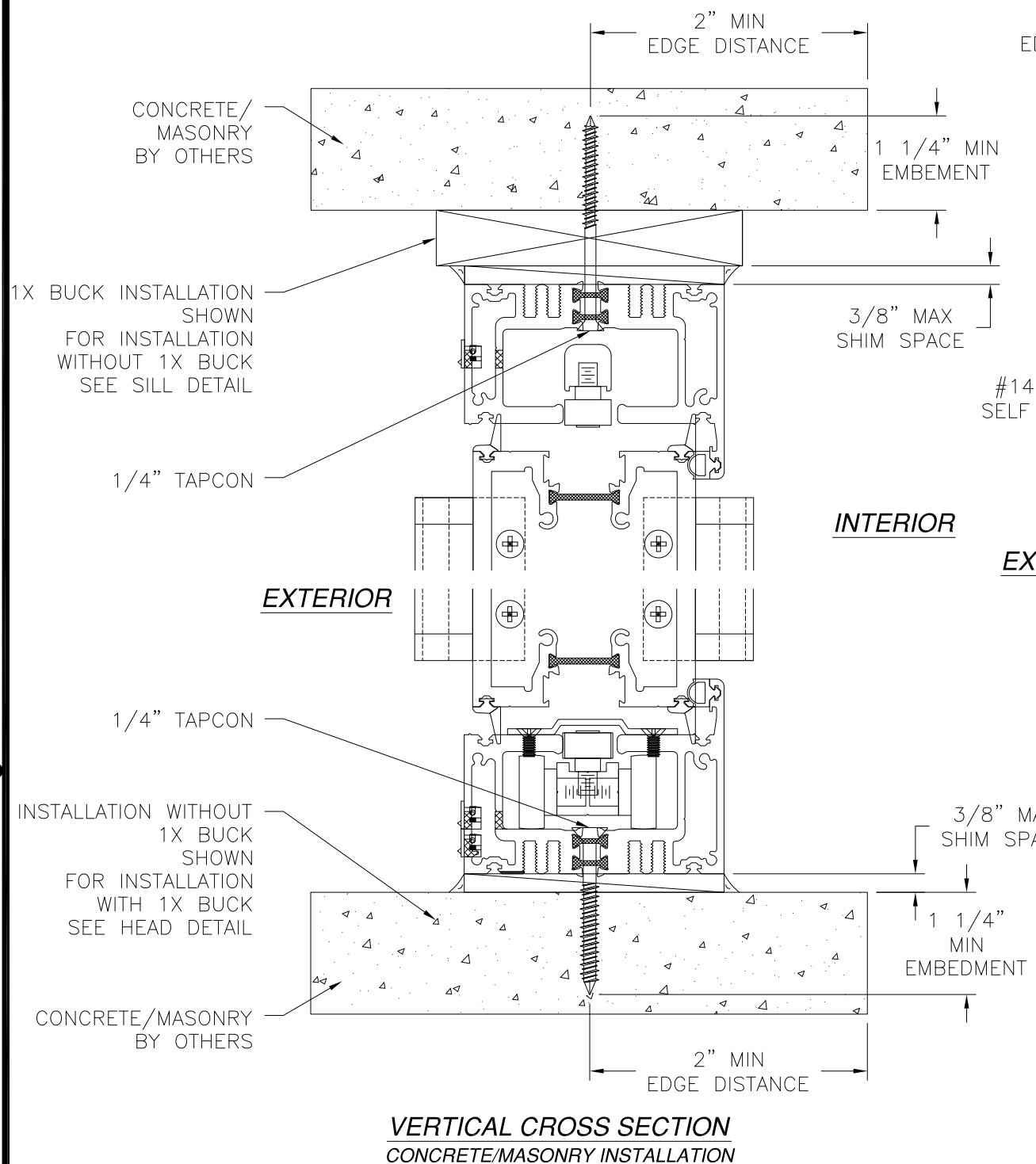
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 9 OF 13

L. ROBERTO LOMAS P.E.
 400 S. PALM AVE, INDIALANTIC, FL 32903
 434-688-0609 rllomas@rlomaspe.com



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

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



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

SIGNED: 04/11/2023

THERMA-TRU
 1750 INDIAN WOOD CIRCLE
 MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
 STANDARD OUT-FOLD ALUMINUM
 INSTALLATION DETAILS

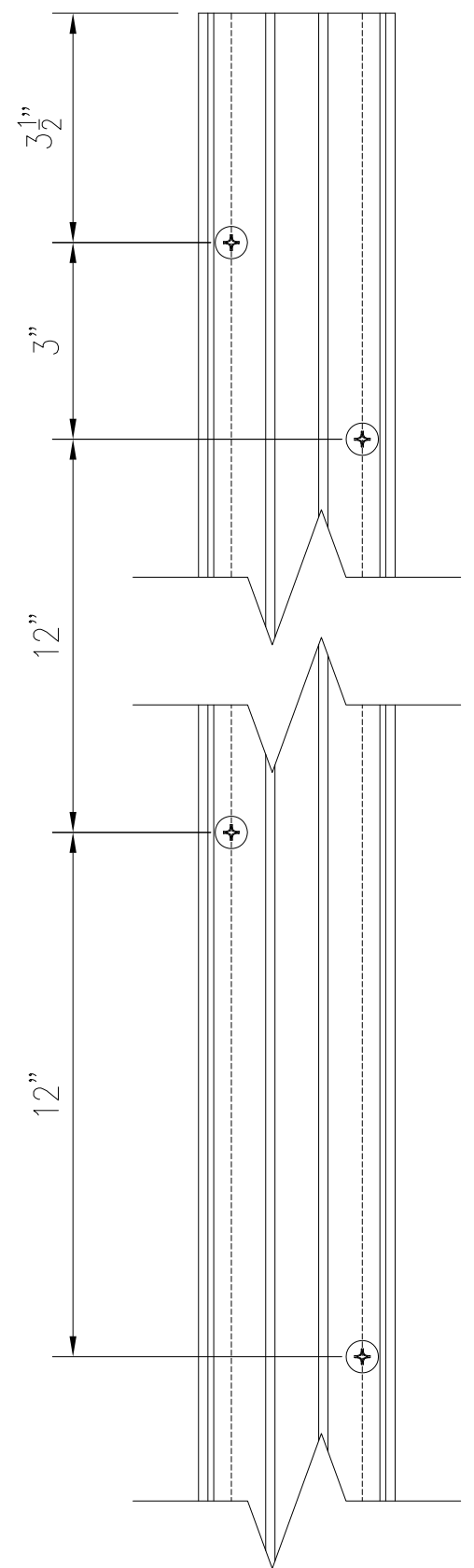
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 10 OF 13

L. ROBERTO LOMAS P.E.
 400 S. PALM AVE, INDIALANTIC, FL 32903
 434-688-0609 rllomas@rlomaspe.com

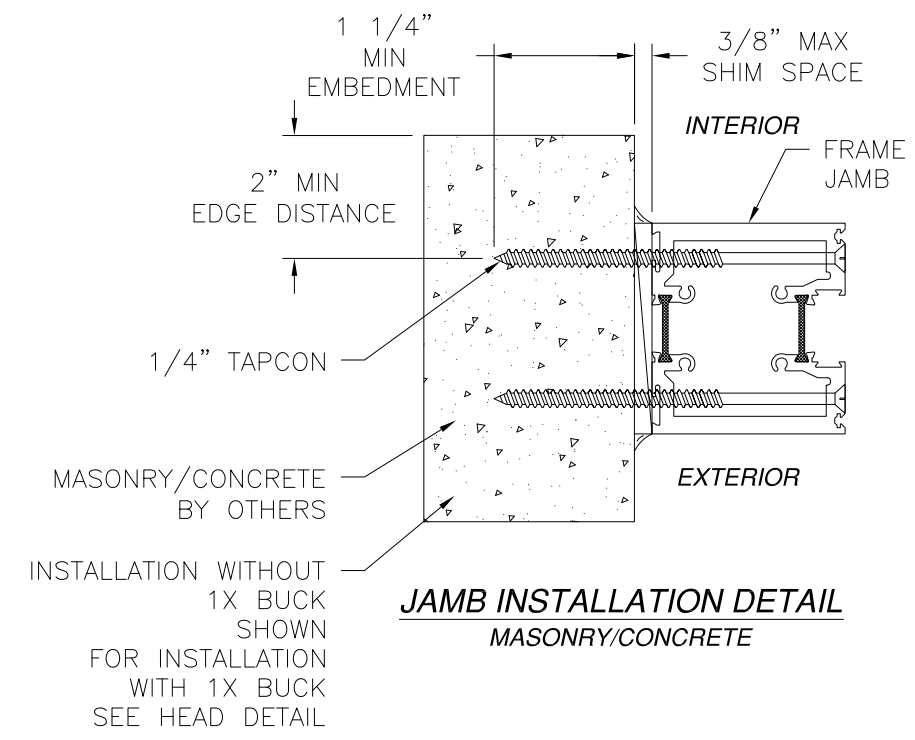


Luis R. Lomas P.E.
 FL No.: 62514

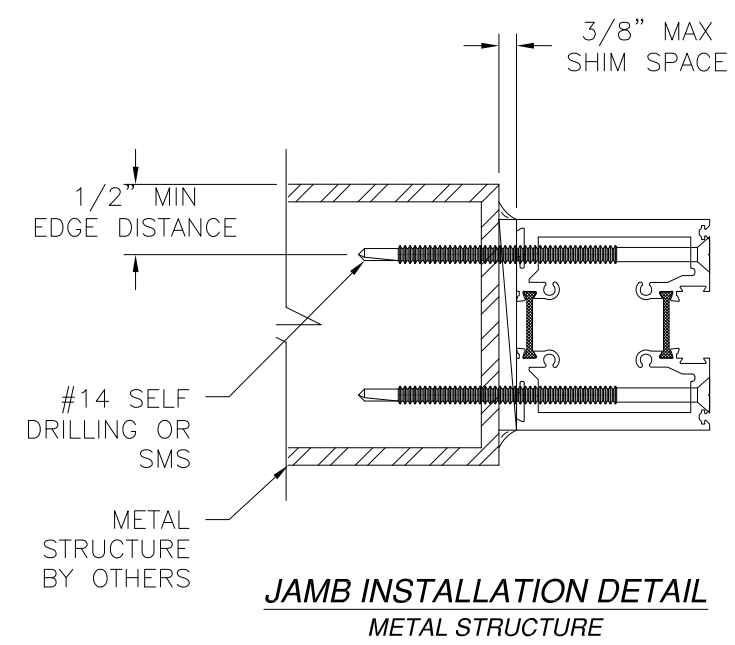
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



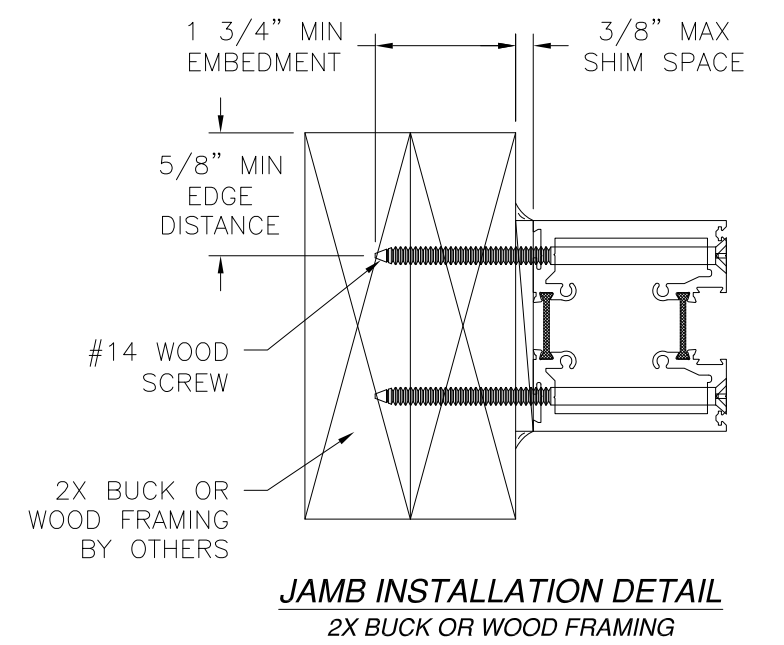
**JAMB ANCHOR LOCATIONS
DETAIL**



**JAMB INSTALLATION DETAIL
MASONRY/CONCRETE**



**JAMB INSTALLATION DETAIL
METAL STRUCTURE**

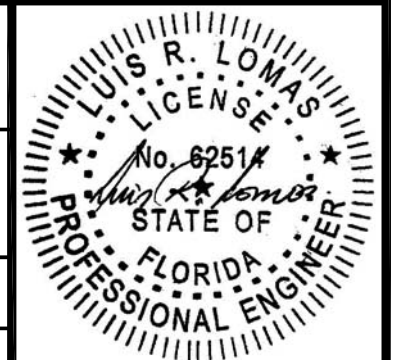


**JAMB INSTALLATION DETAIL
2X BUCK OR WOOD FRAMING**

- 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

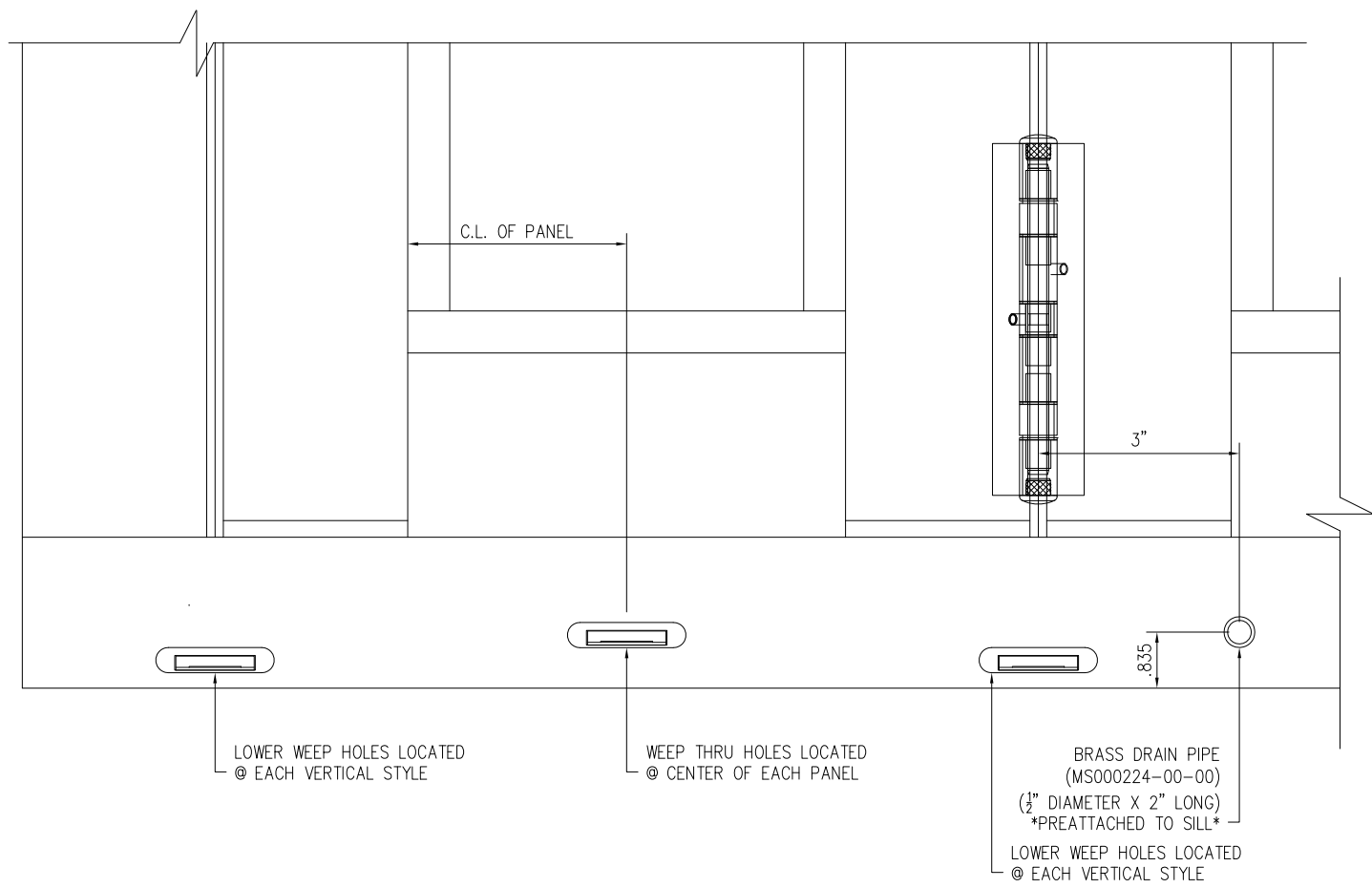
SIGNED: 04/11/2023

THERMA-TRU 1750 INDIAN WOOD CIRCLE MAUMEE, OH 43537		
SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL STANDARD OUT-FOLD ALUMINUM INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 11 OF 13
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		

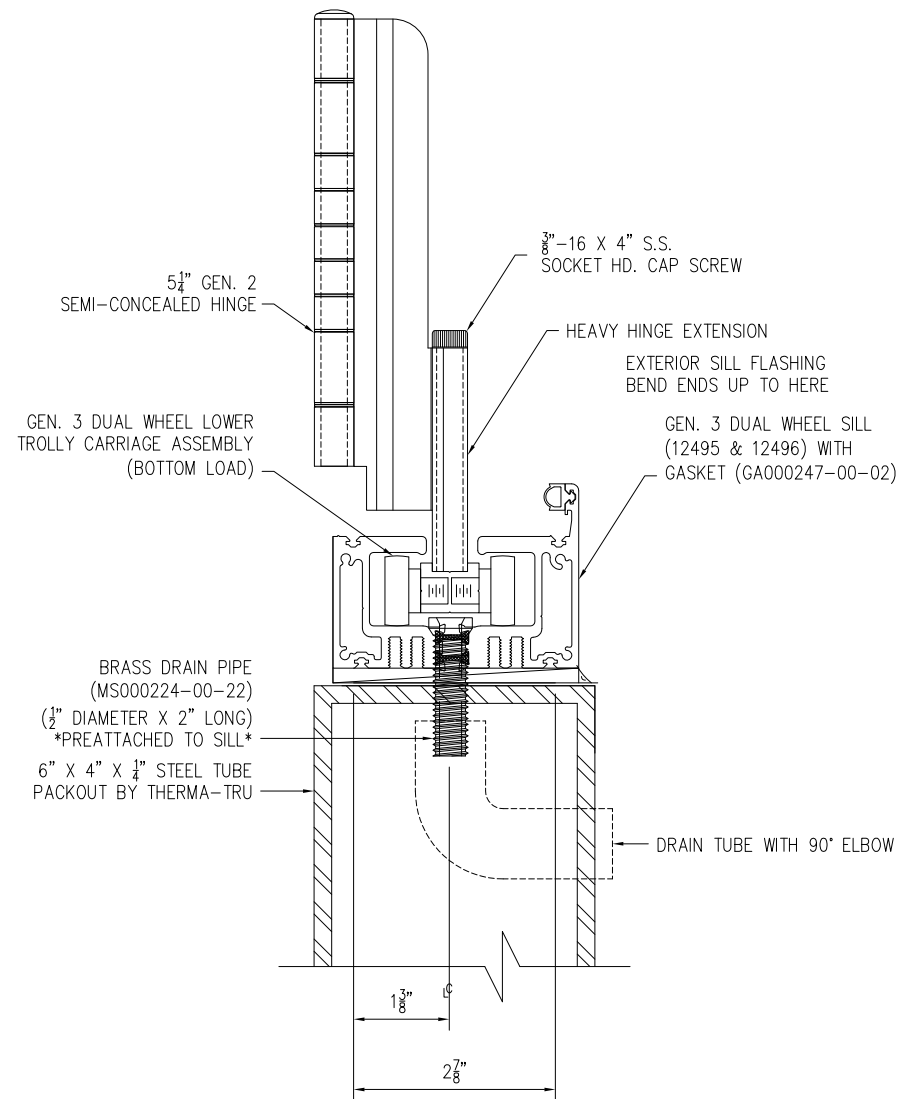


Luis R. Lomas P.E.
FL No.: 62514

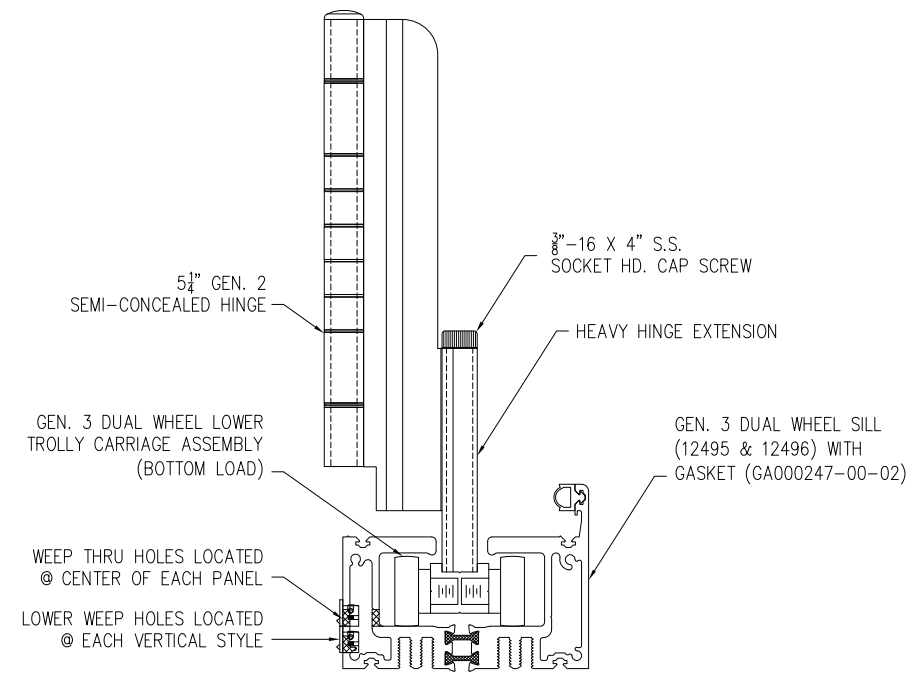
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



WEEP HOLES DETAILS



DRAIN PIPE AND HINGE EXTENSION DETAILS



WEEP HOLES AND HINGE EXTENSION DETAIL

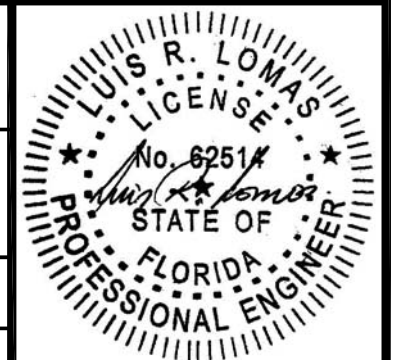
THERMA-TRU
1750 INDIAN WOOD CIRCLE
MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
STANDARD OUT-FOLD ALUMINUM
INSTALLATION DETAILS

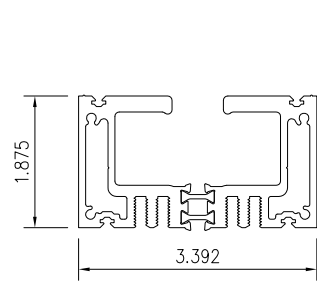
DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 12 OF 13

L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIALANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com

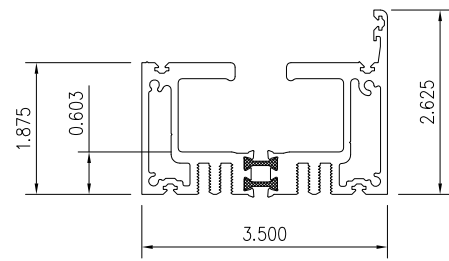
SIGNED: 04/11/2023



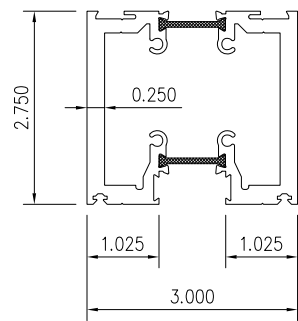
Luis R. Lomas P.E.
FL No.: 62514



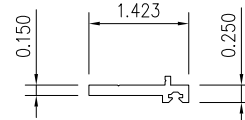
FLUSH
SILL



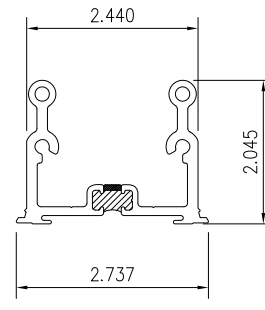
DUAL WHEEL
HEAD / SILL



FRAME

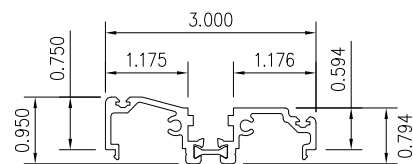


FRAME
CAP

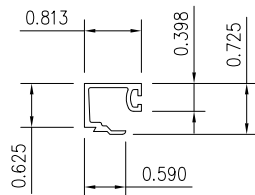


FRAME
LUG

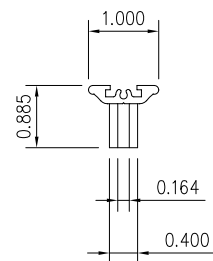
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



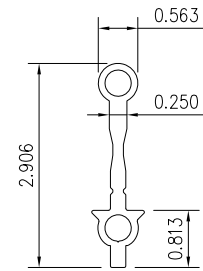
3rd GENERATION
DOOR ADAPTOR



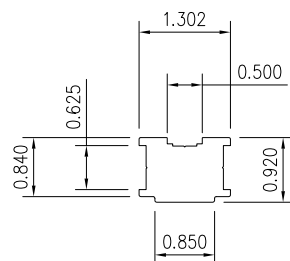
1/4" GLASS
STOP



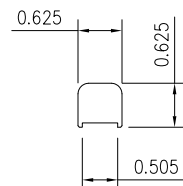
2nd GENERATION
HANDLE



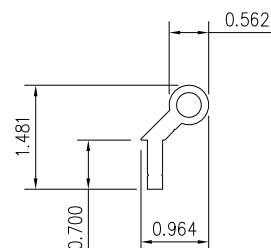
HINGE
EXTENSION



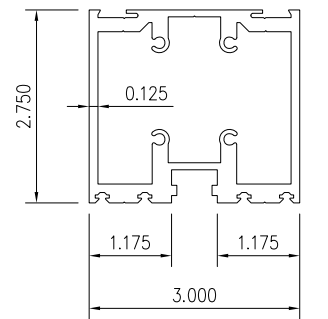
TROLLEY
BODY



IDLER
BODY



5 1/4" SEMI-
CONCEALED HINGE



NON-THERMAL
FRAME

SIGNED: 04/11/2023

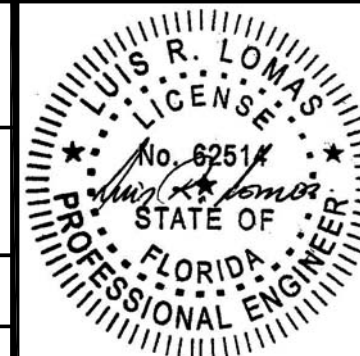
THERMA-TRU

1750 INDIAN WOOD CIRCLE
MAUMEE, OH 43537

SERIES V-3 IMPACT FGW 3.5 X 9.5 PANEL
STANDARD OUT-FOLD ALUMINUM
INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-03865	REV -
SCALE NTS	DATE 11/03/22	SHEET 13 OF 13

L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIALANTIC, FL 32903
434-688-0609 rllomas@rlomaspe.com



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