

**SERIES 4010A NON-IMPACT
HORIZONTAL ROLLER WINDOW**

DESIGN PRESSURE RATING	IMPACT RATING
VARIABLES, SEE SHEET 4	NOT RATED FOR IMPACT RESISTANCE

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

2) SHUTTERS ARE REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.

3) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 2. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.

4) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH. INSTALLATION ANCHORS SHOULD BE SEALED. OVERALL SEALING/FLASHING STRATEGY FOR WATER RESISTANCE OF INSTALLATION SHALL BE DONE BY OTHERS AND IS BEYOND THE SCOPE OF THESE INSTRUCTIONS.

5) SHIMS ARE REQUIRED AT EACH FLANGE ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS. WOOD BUCKS, BY OTHERS, MUST BE SUFFICIENTLY ANCHORED TO RESIST LOADS IMPOSED ON THEM BY THE WINDOW.

6) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WIND LOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

7) REFERENCES: TEST REPORT FTL-6657, 6658 & 18-7858

USER INSTRUCTIONS:

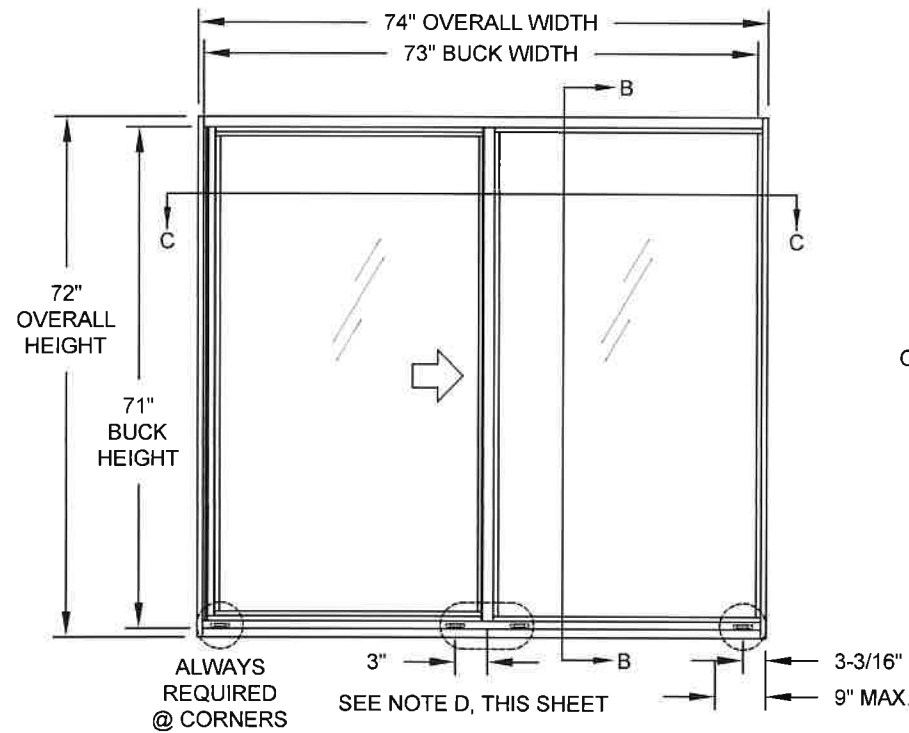
1) DETERMINE THE SITE SPECIFIC, WINDOW OPENING'S DESIGN PRESSURE REQUIREMENT USING WINDLOAD STANDARD ASCE 7.

2) KNOWING YOUR WINDOW CONFIGURATION (OX, XO, XO), SIZE AND GLASS TYPE, DETERMINE YOUR WINDOW'S DESIGN PRESSURE REQUIREMENT FOR THE WINDOW OPENING USING TABLE 2. IT MUST EQUAL OR EXCEED THE DESIGN PRESSURE REQUIREMENT FOR THE WINDOW OPENING OBTAINED IN STEP 1.

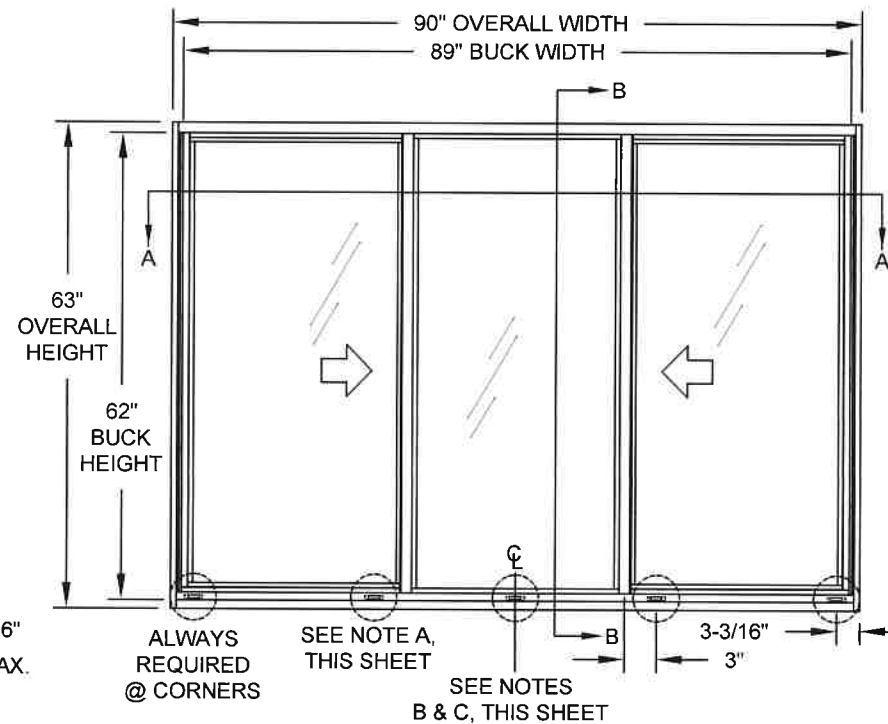
3) DETERMINE THE MOST SUITABLE ANCHOR GROUP FROM TABLE 1 ACCORDING TO THE INSTALLATION CONDITIONS.

4) DETERMINE THE ANCHOR QUANTITY FROM SHEET 2. VERIFY THAT THE ANCHOR/SUBSTRATE WILL MEET REQUIREMENTS FOR YOUR OPENING'S CONDITION FROM TABLE 1, AND THAT ALL MIN. REQUIREMENTS FROM THIS SHEET SET ARE MET.

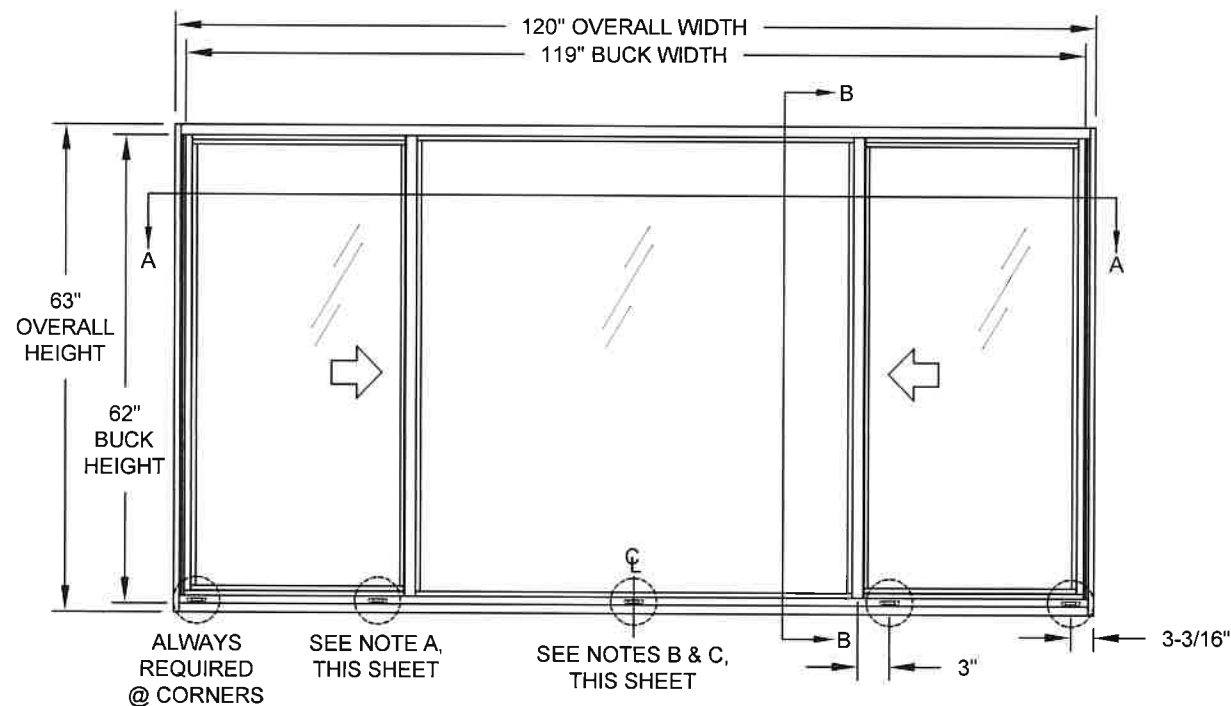
5) INSTALL AS PER SHEET 3.



TYP. XO ELEVATION (OX SIM.)



TYP. XOx (1/3-1/3-1/3) ELEVATION



TYP. XOx (1/4-1/2-1/4) ELEVATION

GENERAL NOTES.....	1
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CODES / STANDARDS USED:

- 2017 FLORIDA BUILDING CODE (FBC), 6TH EDITION
- ASTM E1300-04
- ANSI/AF&PA NDS-2015 FOR WOOD CONSTRUCTION
- ALUMINUM DESIGN MANUAL, ADM-2015
- AISI S100-12
- AISC 360-10

WEEPHOLE NOTES:

- A. REQUIRED IF WINDOW WIDTH IS OVER 67".
- B. REQUIRED IF WINDOW WIDTH IS OVER 45" AND UP TO 67".
- C. REQUIRED IF WINDOW WIDTH IS OVER 89".
- D. REQUIRED IF WINDOW WIDTH IS OVER 45".

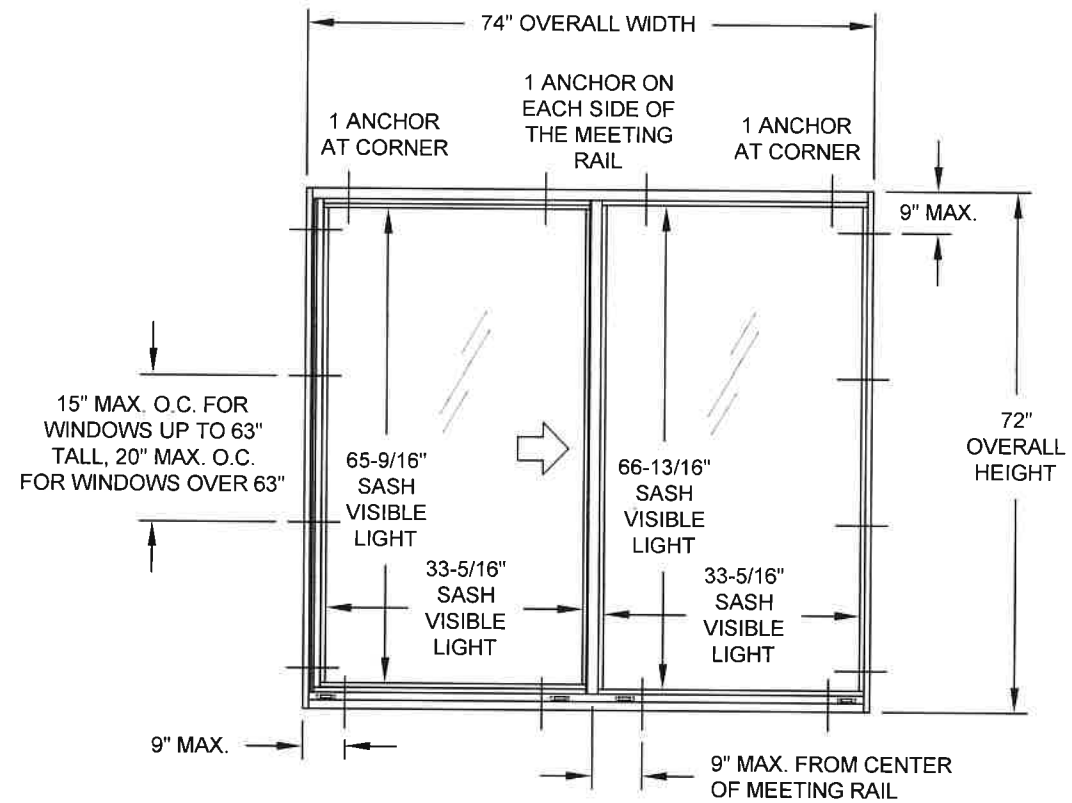
1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		CERT. OF AUTH. #29296 COPYRIGHT © 2019 PGT INDUSTRIES, INC. ALL RIGHTS RESERVED.	04/12/19 Date	JENS ROSOWSKI By	HR4010FLPA No.
ALUM HR WINDOW (NI) NOTES, ELEVATION		1 OF 6 Sheet	NTS Scale	HR-4010A Series	

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P.E.# 58705

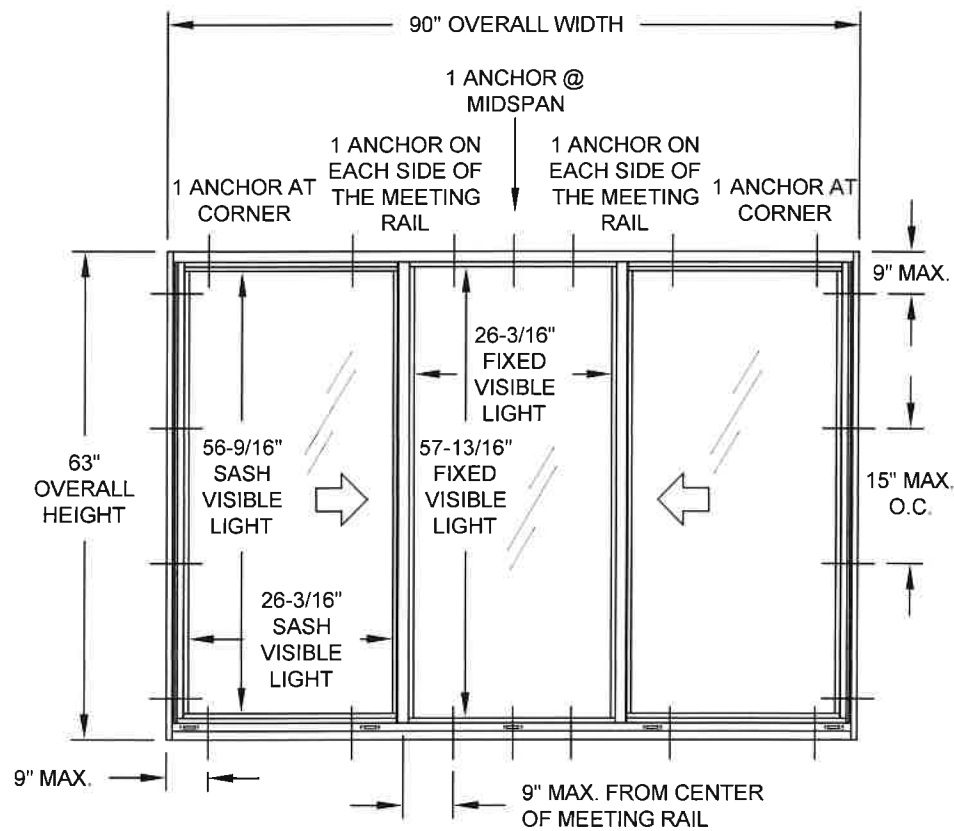
TABLE 1:

Anchor Type	Frame Member	Substrate	Min. Edge Distance	Min. O.C. Distance	Min. Embedment or Metal Thickness
#12, Steel SMS (Gr. 5 or 410 SS, (min. of 3 threads beyond metal substrate))	All	Southern Pine (SG = 0.55)	9/16"	7/8"	1-3/8"
		6063-T5 Aluminum	3/8"	9/16"	0.060"
		A36 Steel	3/8"	9/16"	0.050"
		Gr. 33 Steel Stud	3/8"	9/16"	0.045" (20 Ga)
1/4" Elco UltraCon®	Jamb	Hollow or Filled Block, (ASTM C90)	2-1/2"	6"	1-1/4"
	All	Concrete (min. 2.85 ksi)	2-1/2"	4"	1-3/8"
	All	Southern Pine (SG = 0.55)	1-1/16"	1-1/16"	1-3/8"
1/4" 410 SS Elco CreteFlex®	Jamb	Hollow or Filled Block, (ASTM C90)	1-3/4"	6"	1-1/4"
	All	Concrete (min. 3.35 ksi)	2-1/2"	4"	1-3/4"

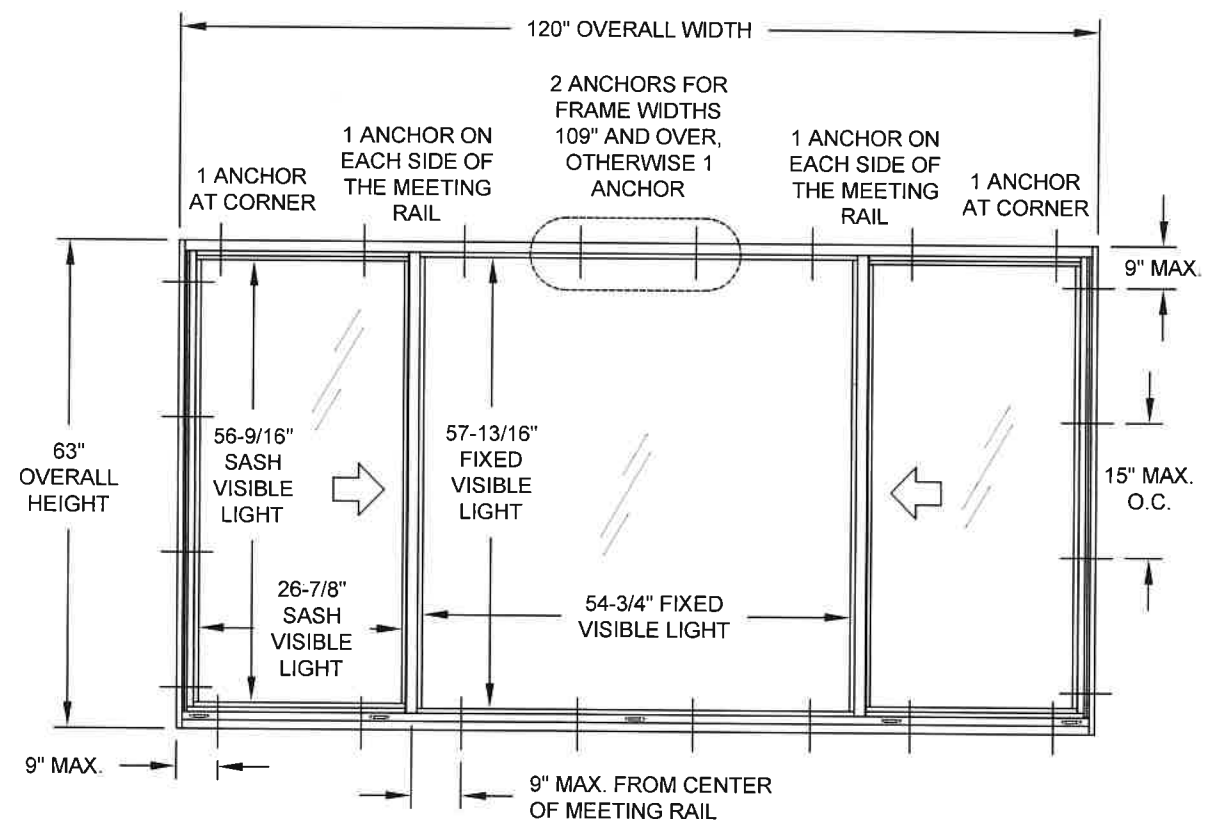
IF THE FRAME CONTAINS A FACTORY COUNTERSINK, ONLY USE FLATHEAD ANCHORS AT THAT LOCATION.



TYP. XO ANCHORAGE (OX SIM.) & MAX. VISIBLE LIGHT OPENING



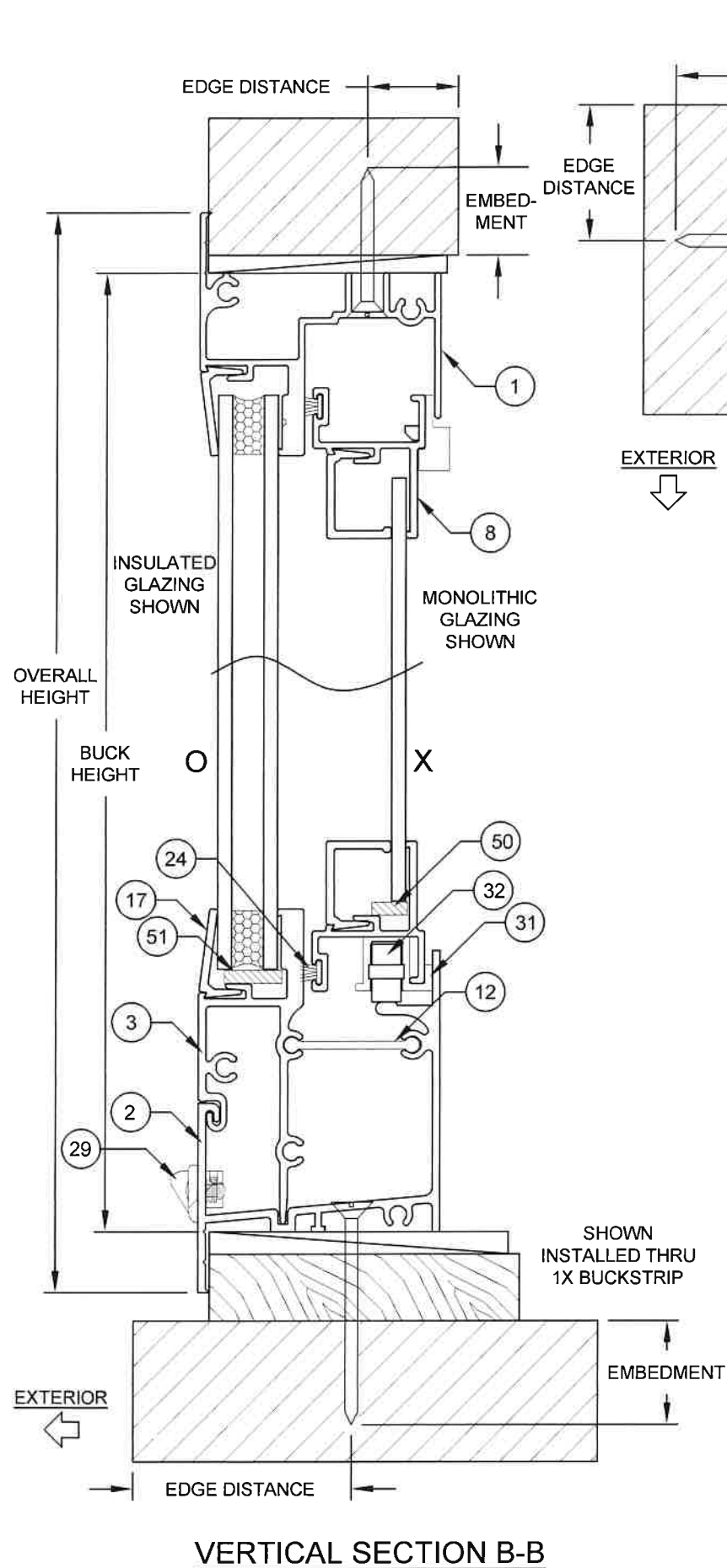
TYP. XOX (1/3-1/3-1/3) ANCHORAGE & MAX. VISIBLE LIGHT OPENING



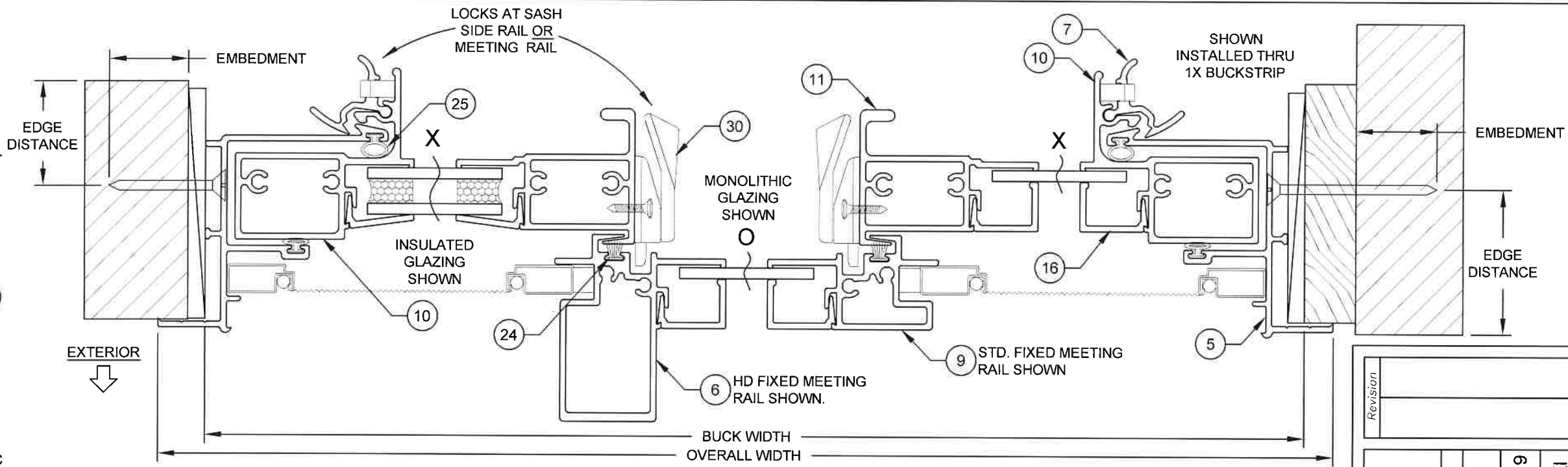
TYP. XOX (1/4-1/2-1/4) ANCHORAGE & MAX. VISIBLE LIGHT OPENING

Revision		Date		By		Dwg. No.		Rev.	
		04/12/19		JENS ROSOWSKI		HR4010FLPA			
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PGI®		ANCHOR INFO		NTS		Sheet			
		HR-4010A		Scale		2 OF 6			

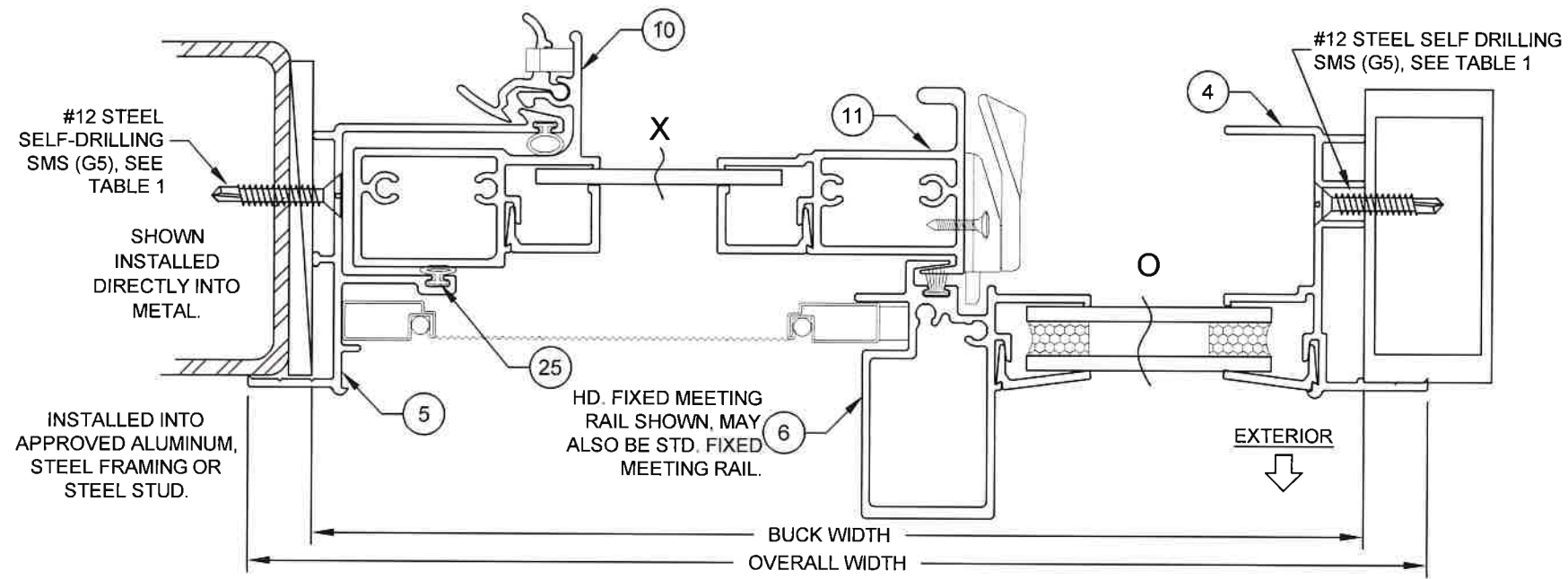
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VERTICAL SECTION B-B



HORIZONTAL SECTION A-A



HORIZONTAL SECTION C-C

MULLION SECTION

APPROVED MULLION, MAY BE VERTICAL OR HORIZONTAL.

- NOTES:**
- 1) USE ONLY SUBSTRATE APPROPRIATE ANCHORS LISTED IN TABLE 1. FOLLOW EMBEDMENT AND EDGE DISTANCE LIMITS. ANY INSTALLATION OPTION SHOWN MAY BE USED ON ANY SIDE OF THE WINDOW.
 - 2) MASONRY ANCHORS MAY BE USED INTO WOOD AS PER TABLE 1. ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL IF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER. 1X AND 2X BUCKS (WHEN USED) SHALL BE DESIGNED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER OR ARCHITECT OF RECORD.
 - 3) SEE SHEET 2 & TABLE 1 FOR SPACING REQUIREMENTS.
 - 4) MAX. SHIM THICKNESS TO BE 1/4".
 - 5) GLASS SHOWN IS FOR ILLUSTRATIVE PURPOSES ONLY AND MAY DIFFER TO MEET DESIGN REQUIREMENTS.

Revision	
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ALUM HR WINDOW (NI)	DATE 04/12/19
CROSS SECTION	BY JENS ROSOWSKI
HR-4010A	NO. HR4010FLPA
NTS	DWG. No. 3 OF 6
Scale	Sheet
Series	Desc

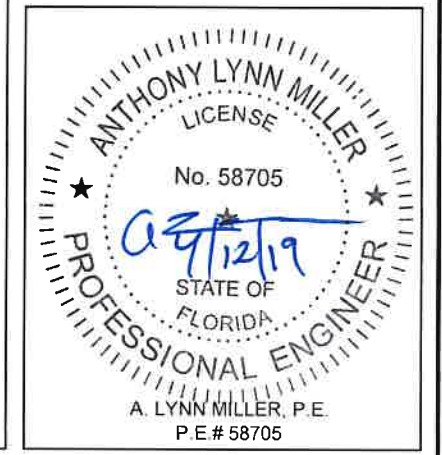


TABLE 2:

MAXIMUM DESIGN PRESSURES (psf)

Overall Width	Overall Height	w/ Standard Meeting Rail				w/ Heavy-duty Meeting Rail			
		Glass 1	Glass 2	Glass 3	Glass 4&5	Glass 1	Glass 2	Glass 3	Glass 4&5
XO or OX	53-1/8"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	61"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	66"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	74"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	53-1/8"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	61"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	66"	+/-48.5	+/-50.0	+/-50.0	+/-50.0	+/-48.5	+/-50.0	+/-50.0	+/-50.0
	74"	+/-44.2	+/-50.0	+/-50.0	+/-50.0	+/-44.2	+/-50.0	+/-50.0	+/-50.0
	26-1/2"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	37"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0
	45"	+/-44.6	+/-50.0	+/-50.0	+/-50.0	+/-44.6	+/-50.0	+/-50.0	+/-50.0
	49"	+/-43.6	+/-50.0	+/-50.0	+/-50.0	+/-43.6	+/-50.0	+/-50.0	+/-50.0
53-1/8"	+/-43.5	+/-50.0	+/-50.0	+/-50.0	+/-43.5	+/-50.0	+/-50.0	+/-50.0	
61"	+/-42.8	+/-50.0	+/-50.0	+/-50.0	+/-42.8	+/-50.0	+/-50.0	+/-50.0	
66"	+/-41.6	+/-50.0	+/-50.0	+/-50.0	+/-41.6	+/-50.0	+/-50.0	+/-50.0	
74"	+/-38.9	+/-50.0	+/-50.0	+/-50.0	+/-38.9	+/-50.0	+/-50.0	+/-50.0	
26-1/2"	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	+/-50.0	
37"	+/-49.7	+/-50.0	+/-50.0	+/-50.0	+/-49.7	+/-50.0	+/-50.0	+/-50.0	
45"	+/-35.5	+/-50.0	+/-50.0	+/-50.0	+/-35.5	+/-50.0	+/-50.0	+/-50.0	
49"	+/-32.3	+/-50.0	+/-50.0	+/-50.0	+/-32.3	+/-50.0	+/-50.0	+/-50.0	
53-1/8"	+/-31.2	+/-50.0	+/-50.0	+/-50.0	+/-31.2	+/-50.0	+/-50.0	+/-50.0	
61"	+/-31.8	+/-45.4	+/-45.4	+/-50.0	+/-31.8	+/-50.0	+/-50.0	+/-50.0	
66"	+/-32.0	+/-43.0	+/-43.0	+/-50.0	+/-32.0	+/-49.3	+/-50.0	+/-50.0	
74"	+/-30.0	+/-40.0	+/-40.0	+/-50.0	+/-30.0	+/-47.9	+/-50.0	+/-50.0	
26-1/2"	-	-	-	-	-	+/-50.0	+/-50.0	+/-50.0	
37"	-	-	-	-	-	+/-50.0	+/-50.0	+/-50.0	
45"	-	-	-	-	-	+/-50.0	+/-50.0	+/-50.0	
49"	-	-	-	-	-	+/-50.0	+/-50.0	+/-50.0	
53-1/8"	-	-	-	-	-	+/-50.0	+/-46.8	+/-50.0	
61"	-	-	-	-	-	+/-44.0	+/-46.4	+/-50.0	
66"	-	-	-	-	-	+/-41.2	+/-47.0	+/-50.0	
74"	-	-	-	-	-	+/-39.8	+/-45.0	+/-50.0	
85"	44"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
90"	44"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
74"	50-5/8"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
85"	50-5/8"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
90"	50-5/8"	-	+/-48.6	+/-48.6	+/-50.0	-	+/-50.0	+/-50.0	
53-1/8"	63"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
61"	63"	-	+/-49.0	+/-49.0	+/-50.0	-	+/-50.0	+/-50.0	
74"	63"	-	+/-41.9	+/-41.9	+/-48.8	-	+/-50.0	+/-50.0	
85"	63"	-	+/-37.7	+/-37.7	+/-44.0	-	+/-50.0	+/-50.0	
90"	63"	-	+/-36.2	+/-36.2	+/-42.2	-	+/-48.2	+/-48.2	
97"	38-3/8"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
109"	38-3/8"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
120"	38-3/8"	-	+/-49.7	+/-50.0	+/-50.0	-	+/-49.7	+/-50.0	
85"	44"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
97"	44"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
109"	44"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
120"	44"	-	+/-47.9	+/-50.0	+/-50.0	-	+/-47.9	+/-50.0	
74"	50-5/8"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
85"	50-5/8"	-	+/-49.1	+/-49.1	+/-50.0	-	+/-50.0	+/-50.0	
97"	50-5/8"	-	+/-46.3	+/-46.3	+/-50.0	-	+/-50.0	+/-50.0	
109"	50-5/8"	-	+/-44.7	+/-44.7	+/-50.0	-	+/-48.4	+/-48.2	
120"	50-5/8"	-	+/-43.6	+/-43.6	+/-50.0	-	+/-44.3	+/-44.1	
53-1/8"	63"	-	+/-50.0	+/-50.0	+/-50.0	-	+/-50.0	+/-50.0	
74"	63"	-	+/-39.3	+/-39.3	+/-45.9	-	+/-47.9	+/-50.0	
85"	63"	-	+/-35.8	+/-35.8	+/-41.8	-	+/-46.8	+/-47.8	
97"	63"	-	+/-33.1	+/-33.1	+/-38.7	-	+/-43.9	+/-44.2	
109"	63"	-	+/-31.2	+/-31.2	+/-36.4	-	+/-40.5	+/-39.6	
120"	63"	-	+/-30.0	+/-30.0	+/-35.0	-	+/-37.5	+/-35.8	

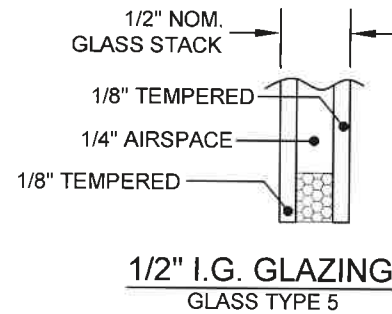
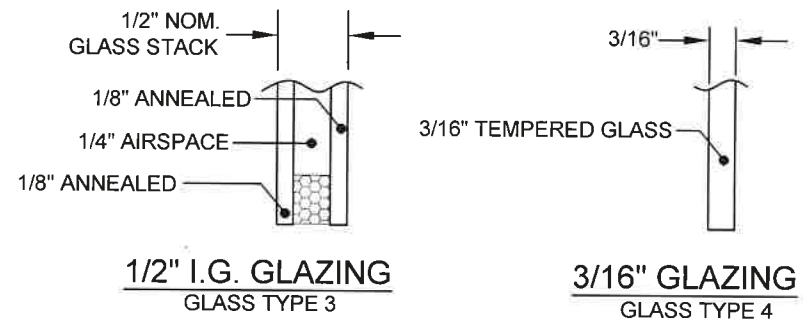
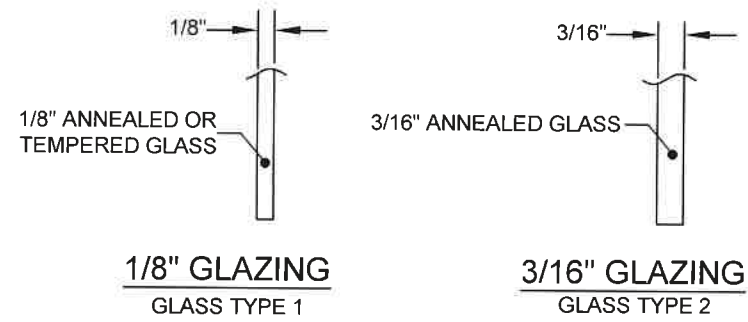


TABLE 3:

Glass Types	
1	1/8" Annealed or Tempered
2	3/16" Annealed
3	1/8" Annealed-1/4" Airspace-1/8" Annealed
4	3/16" Tempered
5	1/8" Tempered-1/4" Airspace-1/8" Tempered

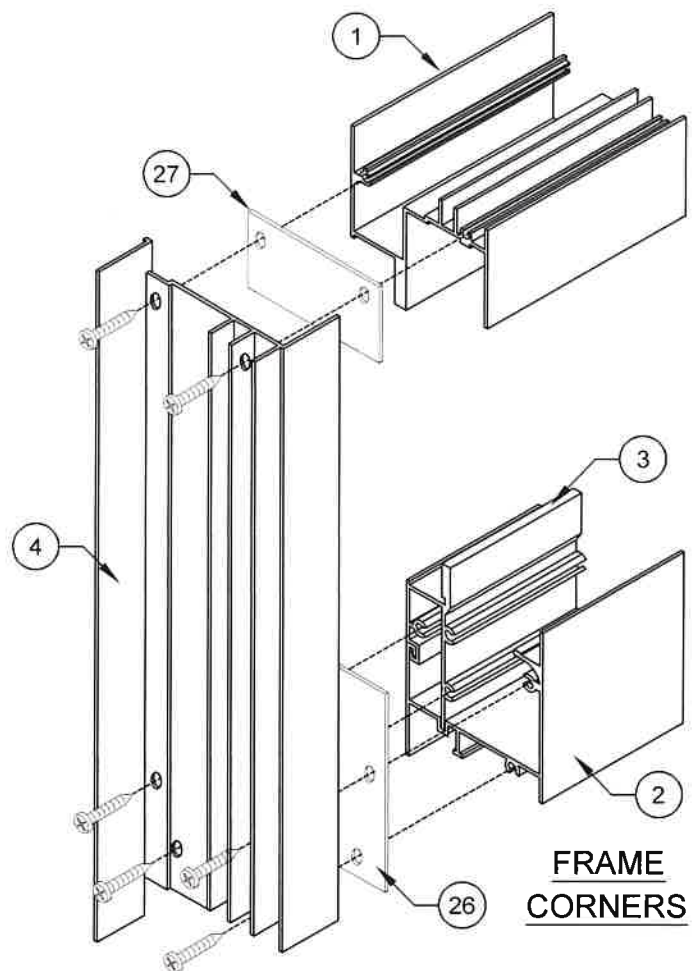
NOTES:

1) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION SHOWN ON THE TABLE.

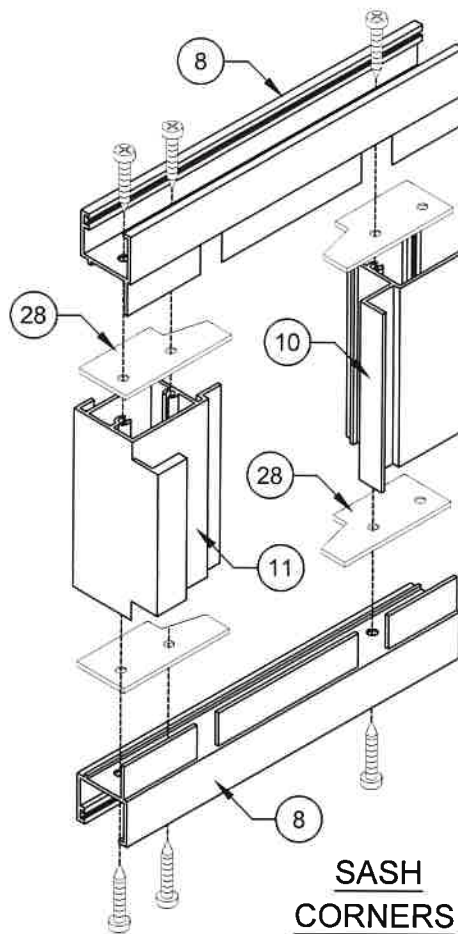
Revision		Date		By		Title	
1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		04/12/19		JENS ROSOWSKI		HR4010FLPA	
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ALUM HR WINDOW (NI)		Date		Anchor Info		DWG	
ANCHOR INFO		Date		Title		4 OF 6	
HR-4010A		Date		Title		Sheet	
NTS		Date		Title		Scale	

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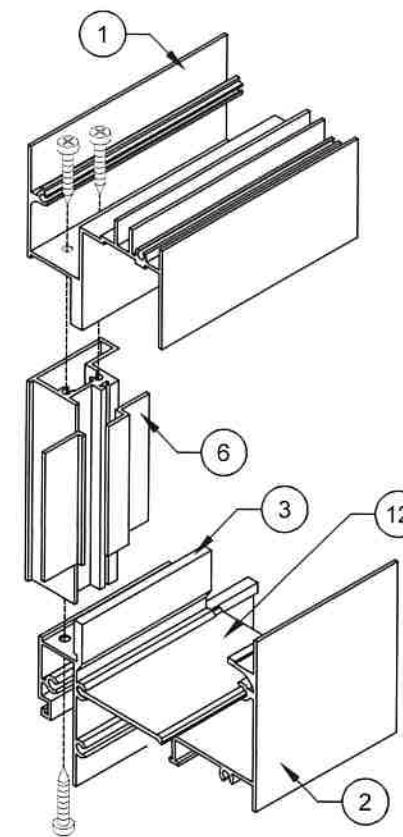


FRAME CORNERS

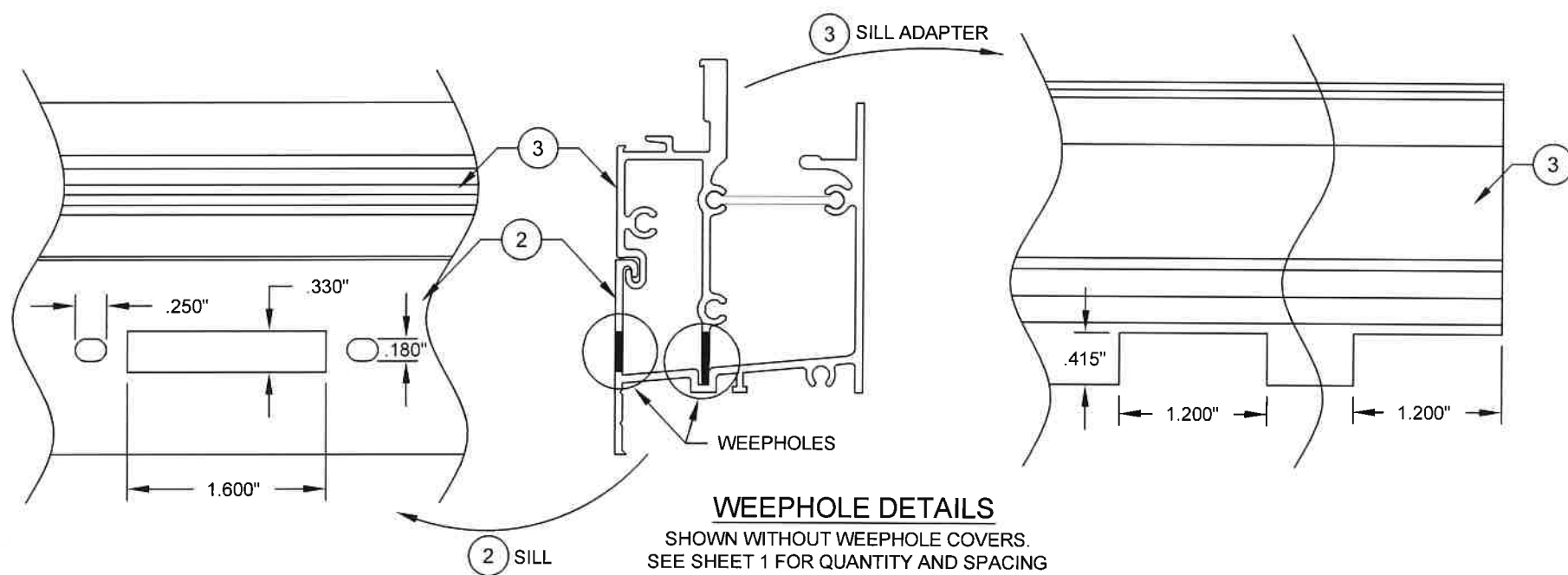


SASH CORNERS

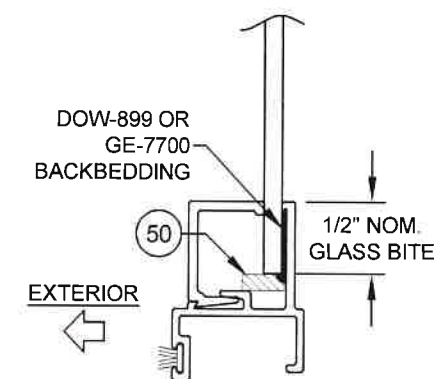
ASSEMBLY DETAILS



STD. MEETING RAIL (HD SIMILAR)



WEEPHOLE DETAILS
SHOWN WITHOUT WEEPHOLE COVERS.
SEE SHEET 1 FOR QUANTITY AND SPACING



TYP. GLAZING DETAIL

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ALUM HR WINDOW (NI)		Date	04/12/19
CORNER/WEEPHOLE DETAILS		By	JENS ROSOWSKI
HR-4010A		DWG No.	HR4010FLPA
NTS		Scale	5 OF 6
Sheet			
Title			

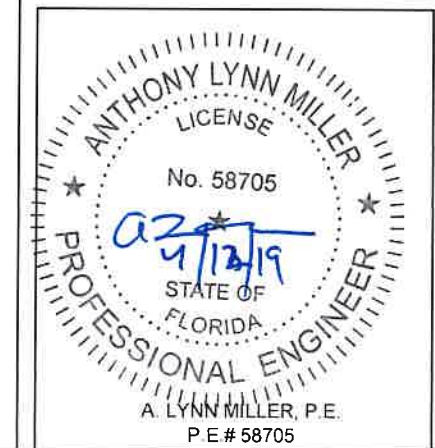
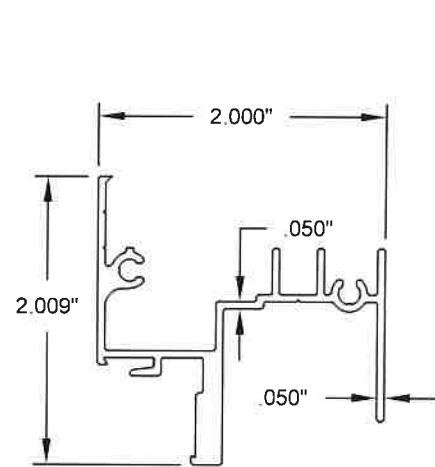
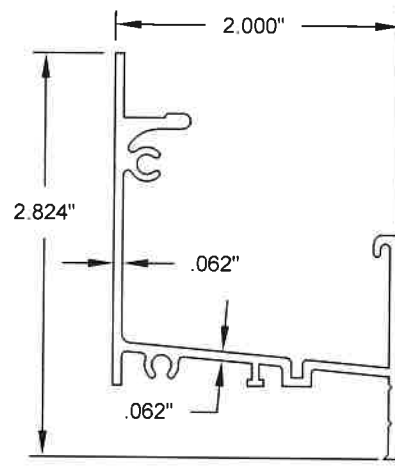


TABLE 4:

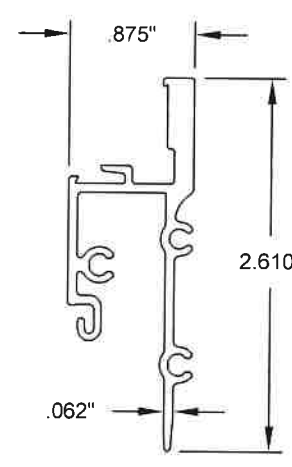
Item	Description
1	Frame Head
2	Frame Sill
3	Sill Adapter
4	Frame Jamb (Fixed)
5	Frame Jamb (Operable)
6	Heavy Duty Fixed Meeting Rail
7	Side Rail Lock
8	Sash Top & Bottom Rail
9	Standard Fixed Meeting Rail
10	Sash Side Rail
11	Sash Meeting Rail
12	Dogbone Reinforcement
13	Sash Stop
15	3/16" Bead
16	1/8" Bead
17	I.G. Bead
23	.190" X .200" Q-Ion Wstp. (Frame)
24	.187" X .230" Fin Wstp.
25	Bulb Vinyl Wstp. (Sash)
29	Weephole Cover
30	Sweep Latch
31	Roller Housing & Guide
32	Roller
50	Setting Block 3/32" X 1/4" X 1"
51	Setting Block 1/8" X 1/2" X 1"
81	Silicone Glazing Sealant



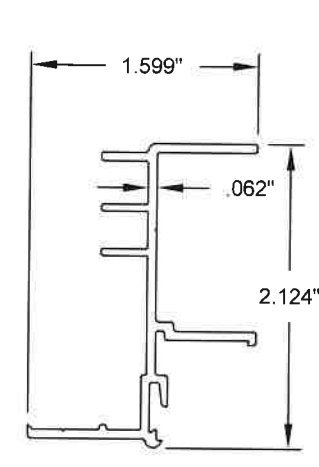
1 FRAME HEAD
6063-T6 ALUMINUM



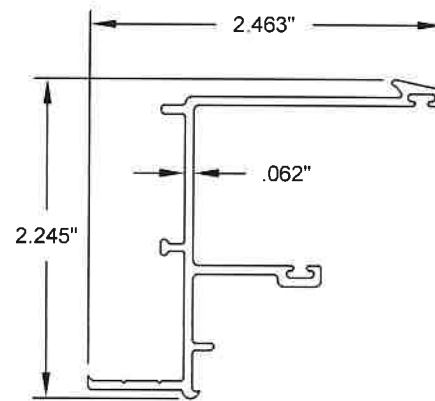
2 FRAME SILL
6063-T6 ALUMINUM



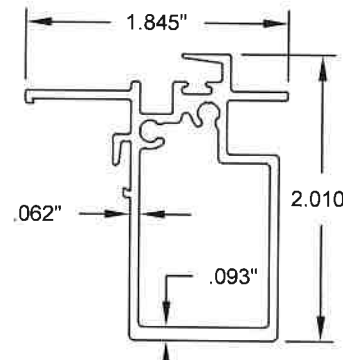
3 SILL ADAPTER
6063-T6 ALUMINUM



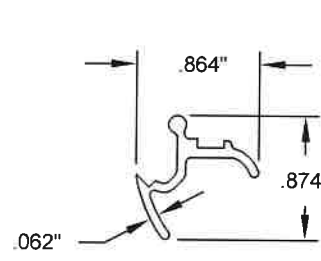
4 FRAME JAMB (FIXED)
6063-T6 ALUMINUM



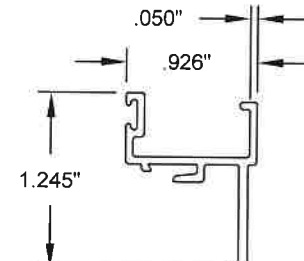
5 FRAME JAMB (OPERABLE)
6063-T6 ALUMINUM



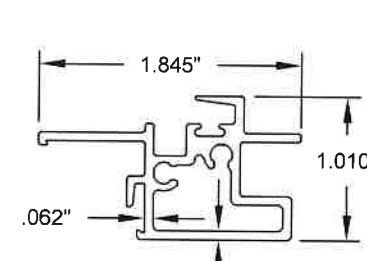
6 HD FIXED MEETING RAIL
6063-T6 ALUMINUM



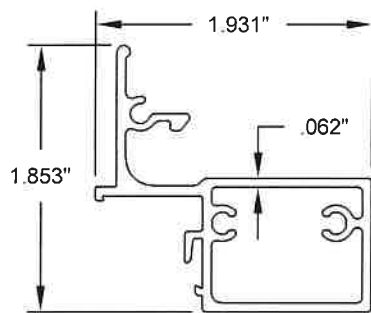
7 SIDE RAIL LOCK
6063-T6 ALUMINUM



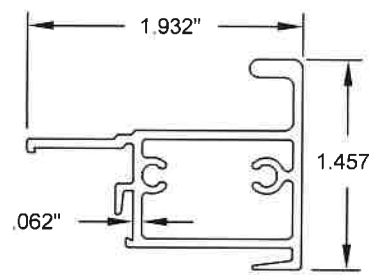
8 SASH TOP & BOTTOM RAIL
6063-T6 ALUMINUM



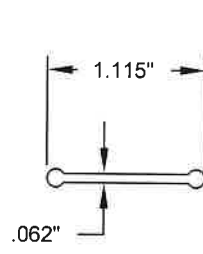
9 STD. MEETING RAIL
6063-T6 ALUMINUM



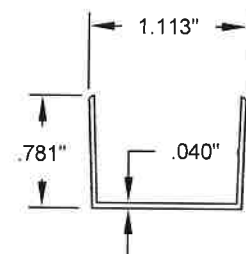
10 SASH SIDE RAIL
6063-T6 ALUMINUM



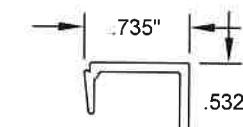
11 SASH MEETING RAIL
6063-T6 ALUMINUM



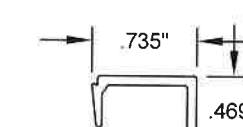
12 DOGBONE REINFORCEMENT
6063-T6 ALUMINUM



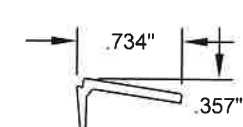
13 SASH STOP
6063-T6 ALUMINUM



15 3/16" BEADING
PVC



16 1/8" BEADING
PVC



17 IG BEADING
PVC

Revision	
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ALUM HR WINDOW (NI)	04/12/19
BOM / EXTRUSIONS	HR4010FLPA
HR-4010A	6 OF 6
NTS	Scale
Series Desc.	Sheet
Drawn	DWG No.
By	Rev
Date	

ANTHONY LYNN MILLER
LICENSE
No. 58705
4/12/19
STATE OF FLORIDA
PROFESSIONAL ENGINEER

A. LYNN MILLER, P.E.
P.E.# 58705