

THESE WINDOWS ARE RATED FOR LARGE & SMALL MISSILE IMPACT.
SHUTTERS ARE NOT REQUIRED.

SERIES-155 (L.M.I.)
ALUMINUM SINGLE HUNG WINDOW WALL SYSTEM

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2017 (6TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS TO THE BUILDING STRUCTURE.

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS AND INSTALLED PER MANUF’S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 2017 FLORIDA BLDG. CODE & ADOPTED STANDARDS.

THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC.

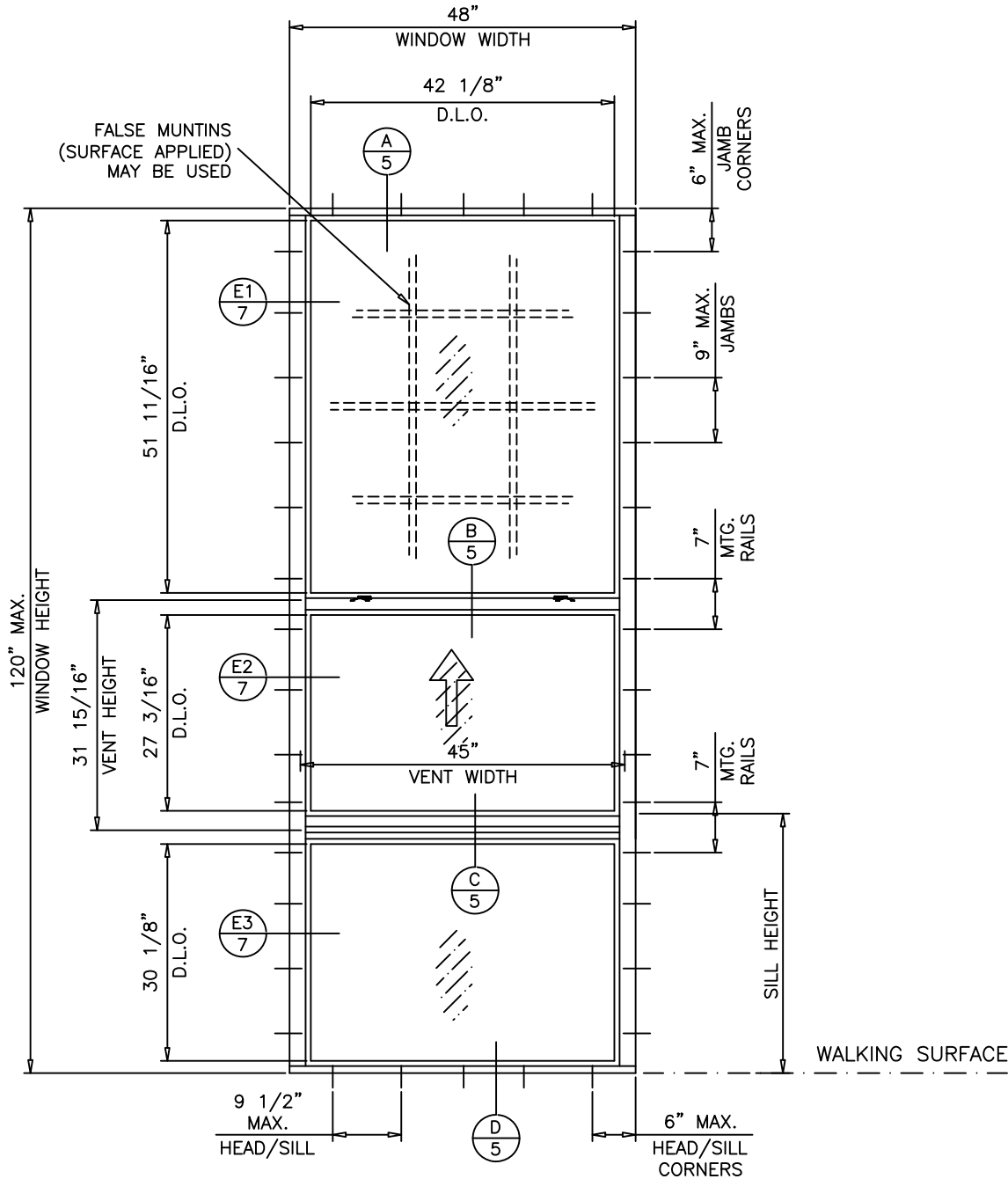
CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL.

DESIGN LOADS SHOWN ARE BASED ON ‘ALLOWABLE STRESS DESIGN (ASD)’ FOR EQUIVALENT LOADS IN ‘LOAD AND RESISTANCE FACTOR DESIGN (LRFD)’ MULTIPLY ‘ASD’ LOADS BY 1.67 (ASD LOAD X 1.67 = LRFD LOAD).

MANUFACTURER’S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE.

LABELING TO COMPLY WITH SECTION 1709.9.2.

NOTE:
VENT HEIGHT MAY BE INCREASED UP TO 42-1/2” MAX. BY DECREASING THE TOP FIXED LITE HEIGHT.



TYPICAL ELEVATION

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1
WITH MINIMUM SILL HEIGHT OF 36 IN. ABOVE WALKING SURFACE.

LAMINATED GLASS
INSUL. LAM. GLASS
LARGE MISSILE IMPACT

Sealed 6-9-2020

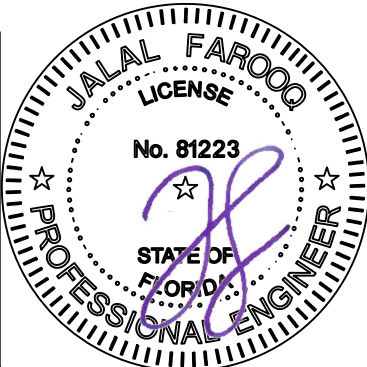
FL #32408

A- CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION OF THIS PRODUCT BASED ON THIS PRODUCT EVALUATION PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

B- THIS PRODUCT EVALUATION DOCUMENT WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

C- SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

D- THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.



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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

SERIES-155 ALUMINUM S.H. WINDOW WALL (L.M.I.)

ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
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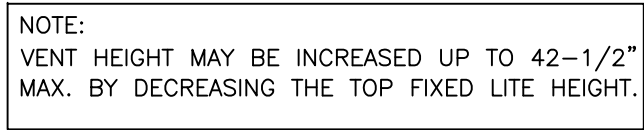
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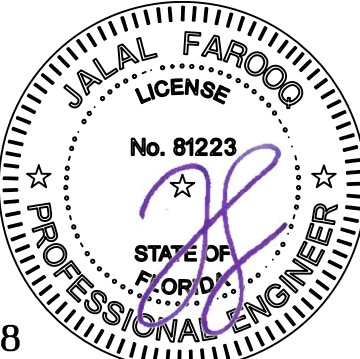
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20-32F

sheet 1 of 12

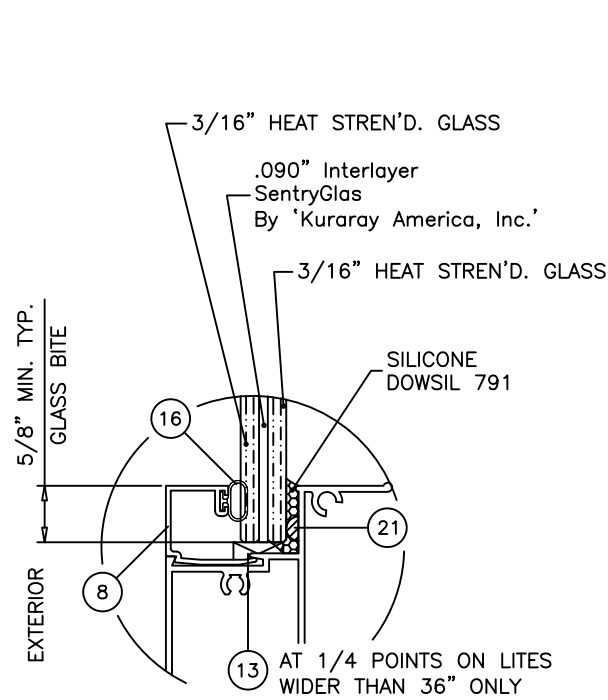
COMP-ANL\20-32F-ECO



MULLION ANCHORS CLIPS
REQD. FOR LOADS ABOVE ± 70.0 PSF ONLY
SEE SHEET 4 FOR CAPACITY
SEE SHEET 9 FOR DETAIL
FOR UNCLIPPED APPLICATION INSTALL 3 ANCHORS AT
EACH SIDE OF MULLION DIRECTLY FROM FRAME HEAD
AND SILL SPACED AT 4" O.C.

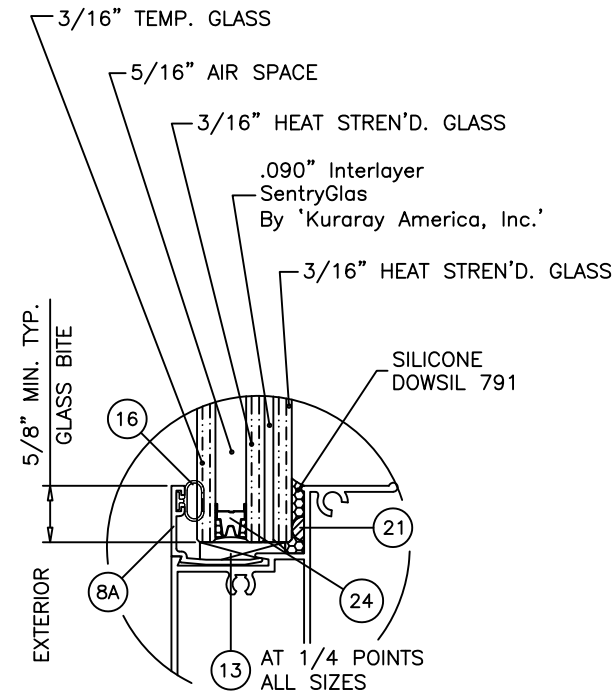


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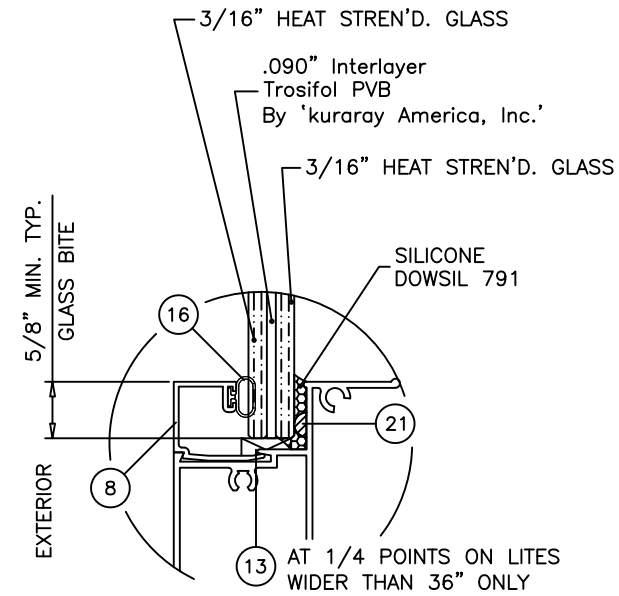
GLASS TYPE 'G2'
7/16" OVERALL LAM. GLASS

MAXIMUM DESIGN LOAD RATING = + 80.0 PSF
(GLASS TYPES 'G2' & 'G2i') - 120.0 PSF

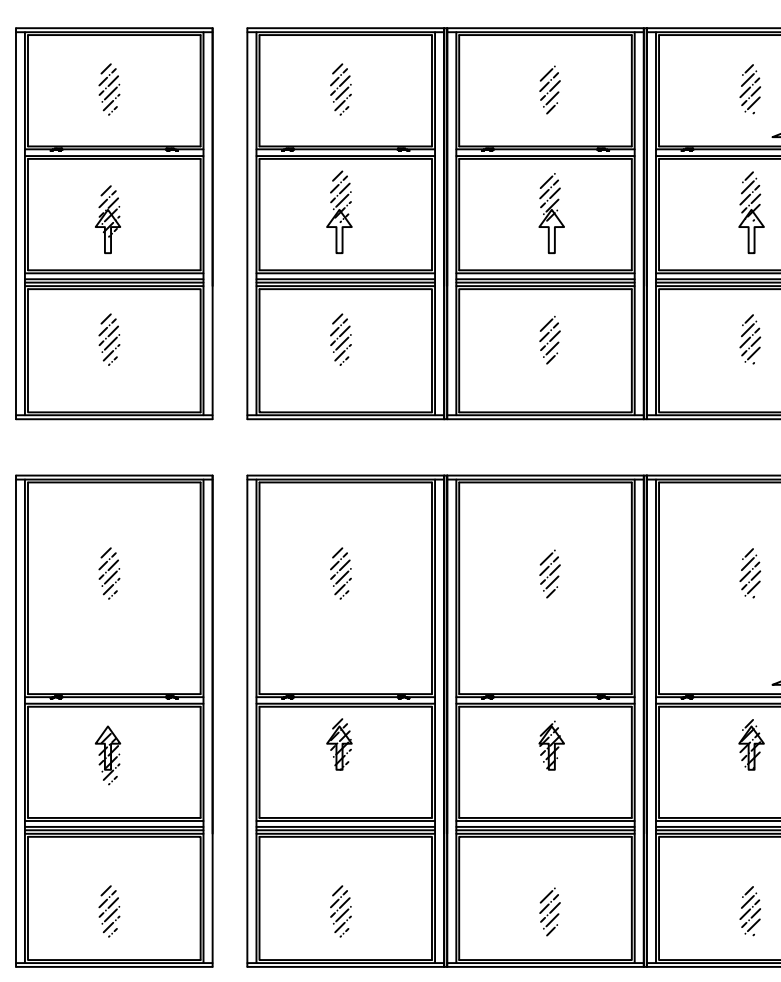


GLASS TYPE 'G2i'
15/16" OVERALL INSUL. LAM. GLASS

MAXIMUM DESIGN LOAD RATING = + 70.0 PSF
(GLASS TYPE 'G3') - 70.0 PSF



GLASS TYPE 'G3'
7/16" OVERALL LAM. GLASS

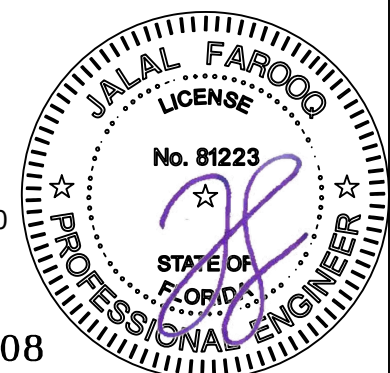


APPROVED CONFIGURATIONS

APPROVAL APPLIES TO INDIVIDUAL UNITS OF SINGLE HUNG OVER FIXED WINDOWS.
ALSO SIDE BY SIDE COMBINATIONS OF S.H./FIX. TO S.H./FIX. IN MODULES OF TWO OR MORE UNITS.

Sealed 6-9-2020

FL #32408



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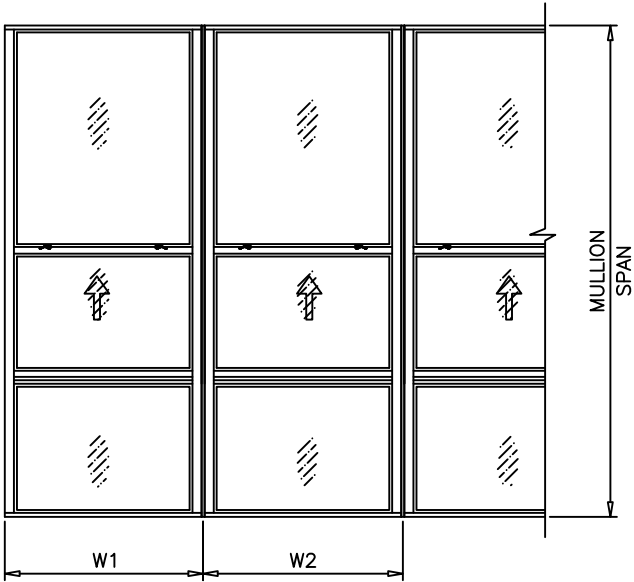
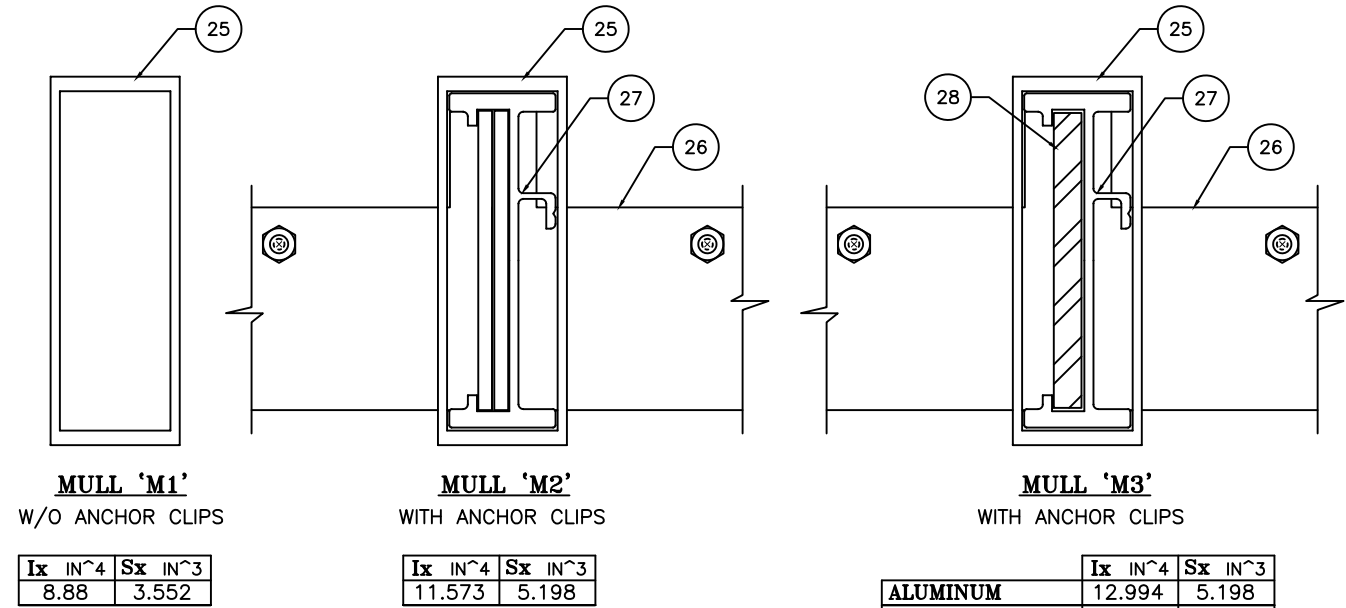
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drawing no. 20-32F		
sheet 3 of 12		

drawing no.
20-32F

sheet 3 of 12

MULLION LOAD CAPACITY – PSF							
WINDOW DIMS.		MULL ‘M1’		MULL ‘M2’		MULL ‘M3’	
WIDTH (W)	MULL SPAN	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
36”	102”	70.0	70.0	80.0	120.0	80.0	120.0
42”		70.0	70.0	80.0	120.0	80.0	120.0
48”		70.0	70.0	80.0	120.0	80.0	120.0
36”	108”	70.0	70.0	80.0	120.0	80.0	120.0
42”		70.0	70.0	80.0	120.0	80.0	120.0
48”		70.0	70.0	80.0	118.8	80.0	120.0
36”	114”	70.0	70.0	80.0	120.0	80.0	120.0
42”		70.0	70.0	80.0	115.4	80.0	120.0
48”		70.0	70.0	80.0	101.0	80.0	120.0
36”	120”	70.0	70.0	80.0	115.4	80.0	120.0
42”		70.0	70.0	80.0	99.0	80.0	120.0
48”		66.4	66.4	80.0	86.6	80.0	117.5

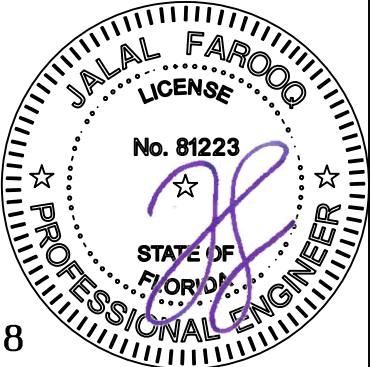


EQUAL LITES
UNEQUAL LITES (ORIEL)
SINGLE HUNG OVER
FIXED WINDOWS

WIDTH (W) = $\frac{W1 + W2}{2}$

MULLION ANCHOR CLIP LOAD CAPACITY – PSF					
WINDOW DIMS.		ANCHORS TYPE ‘A’		ANCHORS TYPE ‘B’ & ‘C’	
WIDTH (W)	MULL SPAN	EXT.(+)	INT.(–)	EXT.(+)	INT.(–)
36”	96”	80.0	120.0	80.0	120.0
42”		80.0	119.6	80.0	120.0
48”		80.0	120.0	80.0	120.0
36”	102”	80.0	120.0	80.0	120.0
42”		80.0	112.5	80.0	120.0
48”		80.0	113.7	80.0	120.0
36”	108”	80.0	120.0	80.0	120.0
42”		80.0	106.3	80.0	120.0
48”		80.0	107.4	80.0	120.0
36”	114”	80.0	117.5	80.0	120.0
42”		80.0	100.7	80.0	120.0
48”		80.0	101.7	80.0	120.0
36”	120”	80.0	111.6	80.0	120.0
42”		80.0	95.7	80.0	120.0
48”		80.0	96.7	80.0	120.0

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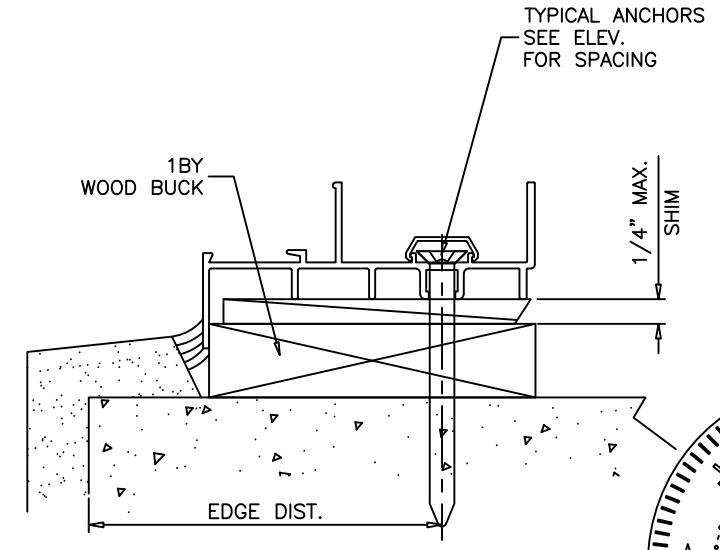
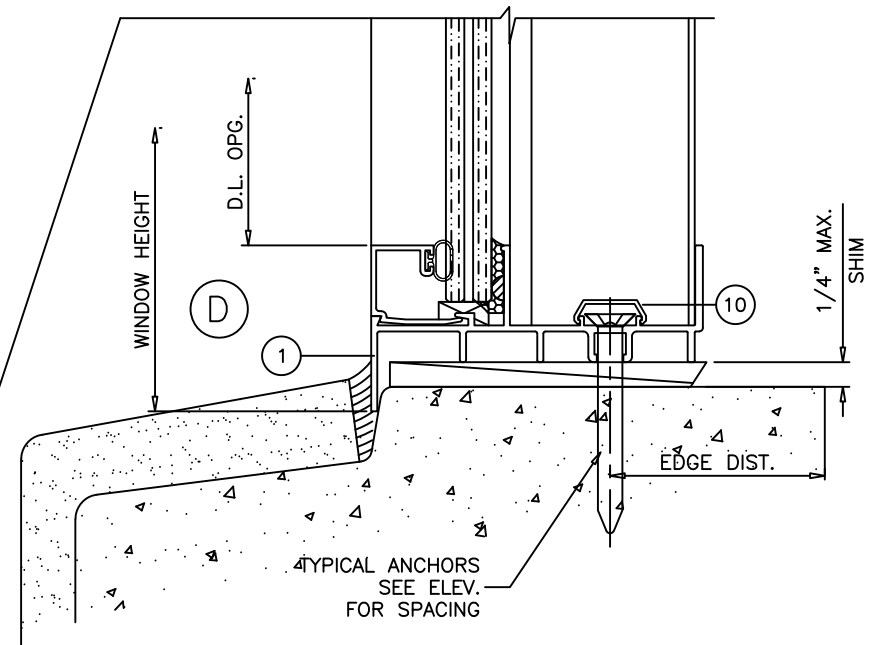
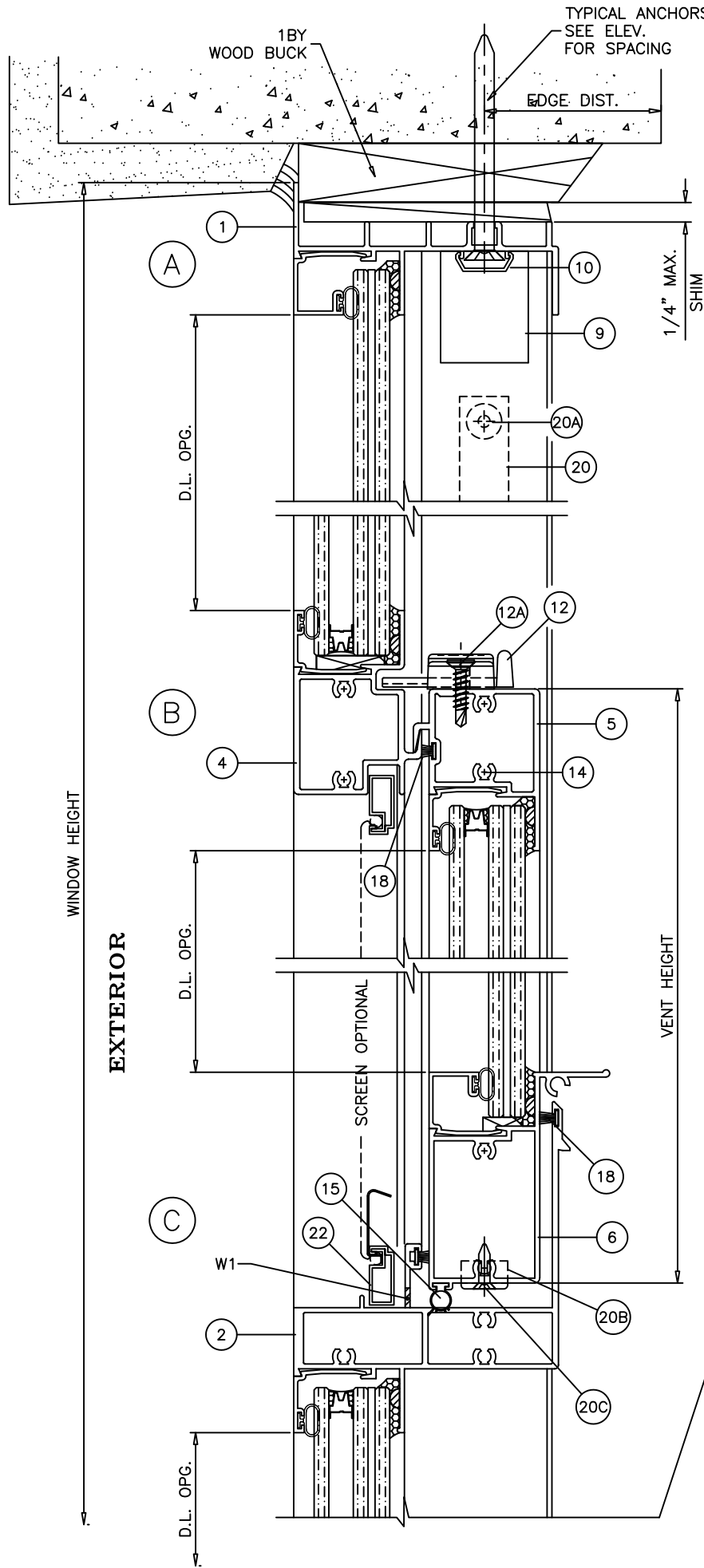
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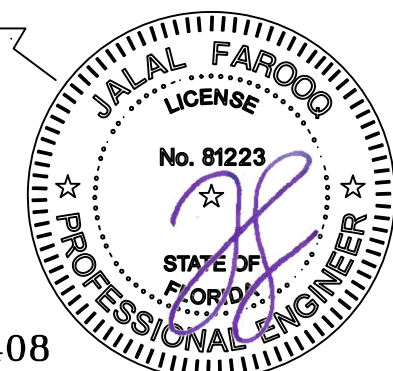
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sheet	4 of 12			



WEEPHOLES:
W1 = 1/4" X 3/4" WEEPHOLES AT 12-1/2"
FROM EACH END

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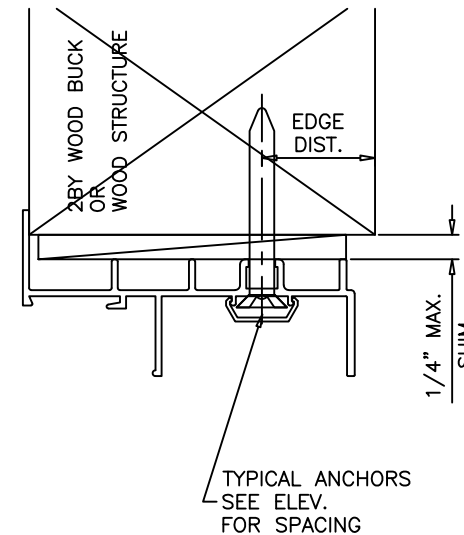
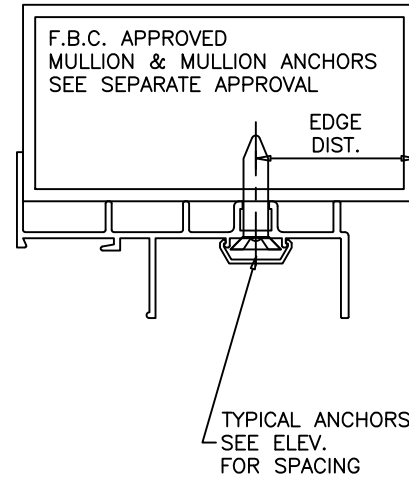
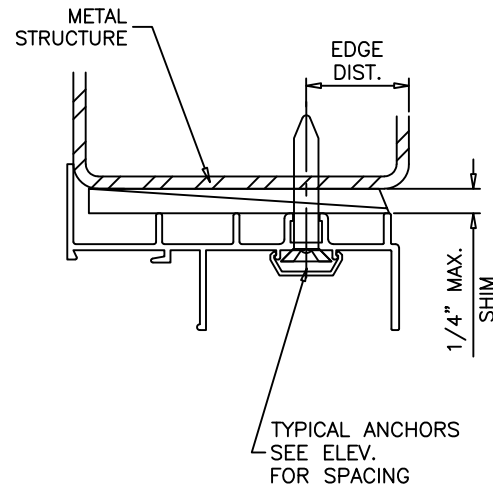
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20-32F
sheet 5 of 12



WOOD BUCKS AND METAL STRUCTURE NOT BY ECO WDW.
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM
AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A' - 1/4" DIA. ULTRACON BY 'ELCO' ($F_u=177$ KSI, $F_y=155$ KSI)
INTO 2BY WOOD BUCKS OR WOOD STRUCTURES
1-1/2" MIN. PENETRATION INTO WOOD (HEAD/JAMBS)

THRU 1BY BUCKS INTO CONC. OR BLOCKS
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/JAMBS)
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

DIRECTLY INTO CONCRETE OR BLOCKS
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/JAMBS)
1-1/4" MIN. EMBED INTO BLOCKS (JAMBS)

TYPE 'B' - 1/4" DIA. ULTRACON BY 'ELCO' ($F_u=177$ KSI, $F_y=155$ KSI)
DIRECTLY INTO CONCRETE
1-1/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

TYPE 'C' - 1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/JAMBS)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. ($F_y = 36$ KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

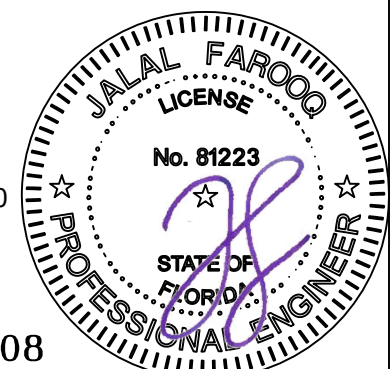
TYPICAL EDGE DISTANCE

INTO CONCRETE AND BLOCKS = 2-1/2" MIN.
INTO WOOD STRUCTURE = 1" MIN.
INTO METAL STRUCTURE = 3/4" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
CONCRETE AT HEAD, SILL OR JAMBS $f'_c = 3000$ PSI MIN.
C-90 HOLLOW/FILLED BLOCK AT JAMBS $f'_m = 2000$ PSI MIN.

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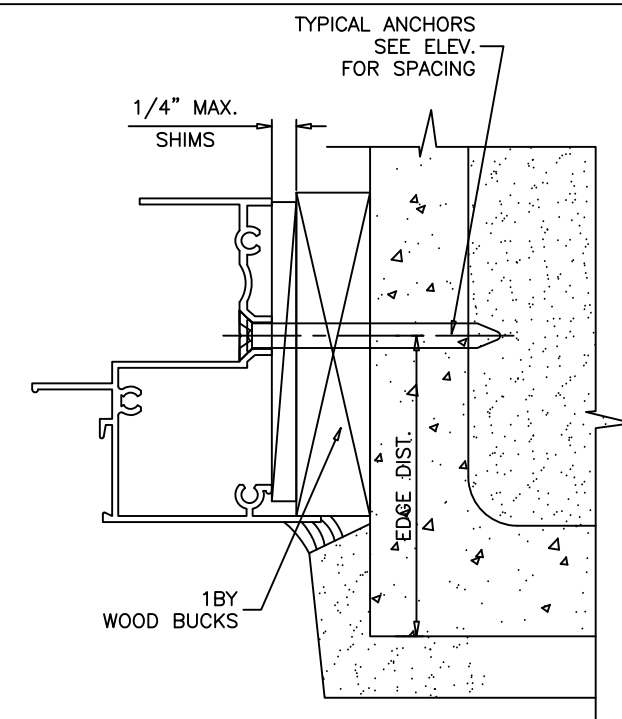
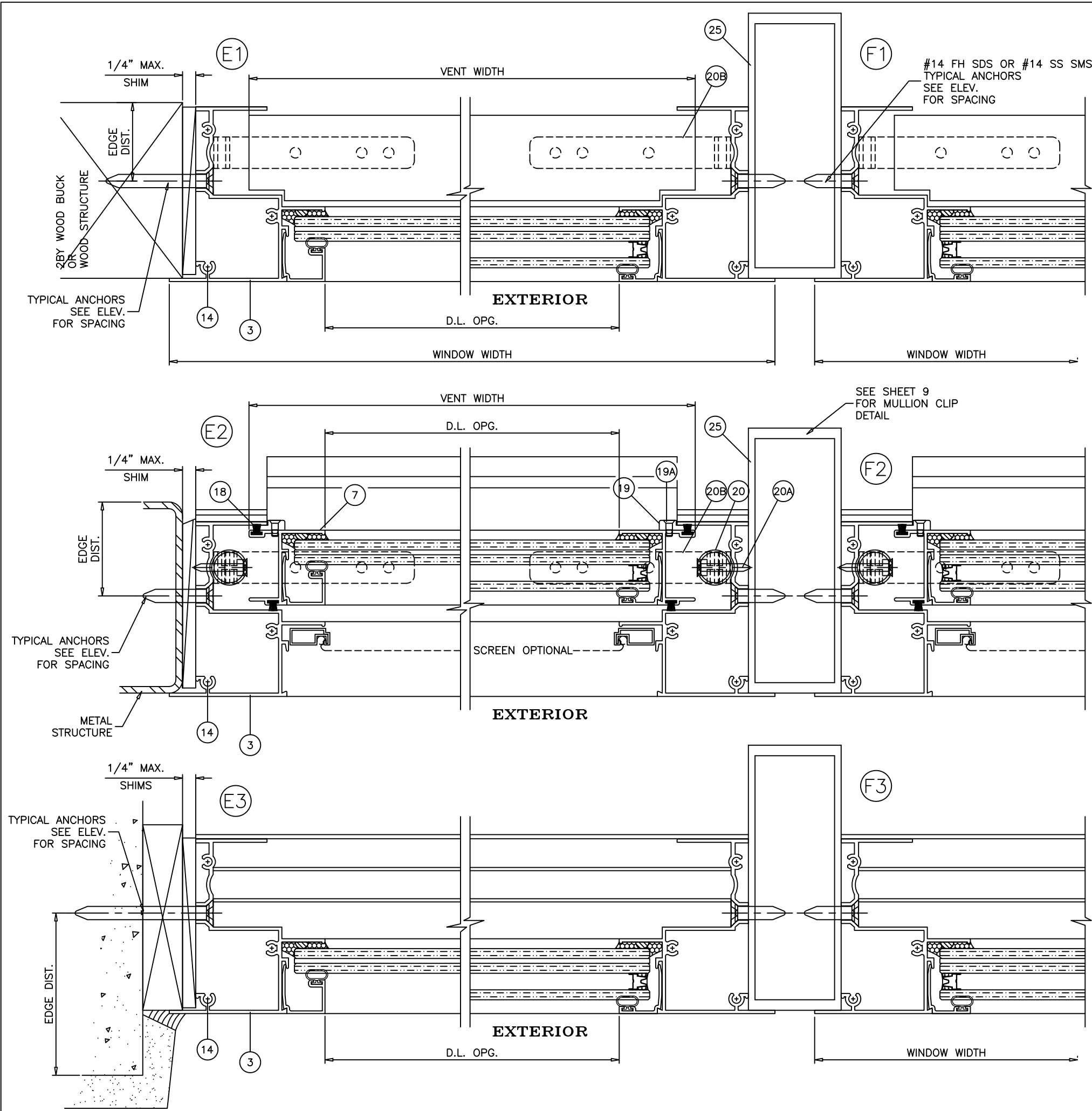
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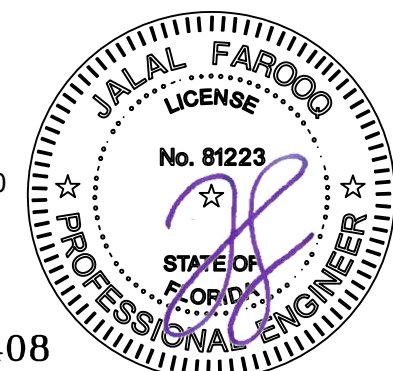
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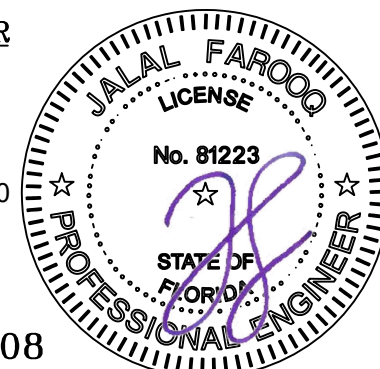
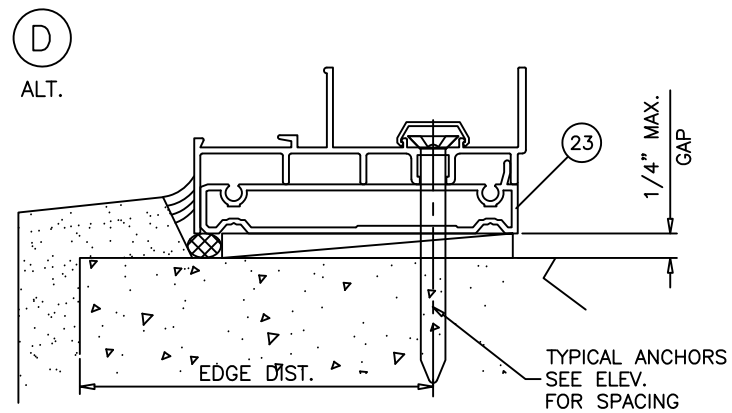
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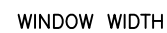
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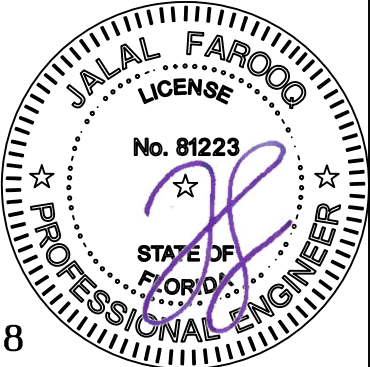


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sheet 9 of 12																																															

ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	E151	1	FRAME HEAD	6063-T6	-
2	E165	1	INTERMEDIATE SILL	6063-T6	-
3	E153	2	FRAME JAMB	6063-T6	-
4	E154	1	FIXED MTG. RAIL	6063-T6	-
5	E155	1	VENT TOP RAIL	6063-T6	-
6	E156	1	VENT BOTTOM RAIL	6063-T6	-
7	E157	2	VENT SIDE RAIL	6063-T6	-
8	E159	AS RQD.	GLAZING BEAD (LAM. GLASS)	6063-T6	-
8A	E158	AS RQD.	GLAZING BEAD (INSUL. LAM. GLASS)	6063-T6	-
9	FY116	2/VENT	SASH STOP	6063-T5	-
10	E162	AS REQD.	SCREW COVER	RIGID PVC	-
12	SL203P	2/VENT	SWEEP LATCH, AT 12" FROM ENDS	ZAMAK	SULLIVAN & ASSOC.
12A	#8 X 5/8"	2/ LATCH	LATCH INST. SCREWS	ST. STEEL	FH SMS
13	-	AS REQD.	SETTING BLOCK	EPDM	DUROMETER 80±5 SHORE A
14	#10 X 1"	AS REQD.	FRAME & VENT ASSEMBLY SCREWS	CRS	PH SMS
14A	#10 X 1-1/4"	2/ CORNER	FLUSH FRAME ADAPTER FASTENERS	CRS	FH SMS
15	E207	AS REQD.	BOTTOM RAIL SEAL - SERIES 101	NEOPRENE	ULTRAFAB
16	TR.3020	AS REQD.	GLAZING BEAD BULB	SANTOPRENE	TECHNO RUBBER
17	E163	2/ VENT	SASH TOP GUIDE	DERLIN	M&M PLASTICS
18	W23181	AS REQD.	FIN SEAL W'STRIPPING	-	ULTRAFAB
19	E164	4/ VENT	SASH SIDE GUIDE	DERLIN	M&M PLASTICS
19A	#6 X 3/8"	1/ GUIDE	SASH GUIDE INST. SCREW	CRS	OH SMS TYPE B
20	F210	2/VENT	SASH BALANCE	-	SUPERBOOST BY BSI
20A	#8 X 1"	1/ BALANCE	BALANCE INST. SCREW	ST STEEL	FH SMS
20B	21B02 UEK	1/ BALANCE	BALANCE BRACKET	STEEL	CALDWELL
20C	#8 X 1/2"	2/ BRACKET	BRACKET FASTENER	ST. STEEL	PH SMS
21	-	AS REQD.	GLASS SPACER	SILICONE	FRANK LOWE
22	-	1	5/16" BOX SCREEN	-	OPTIONAL
23	E161	-	FLUSH FRAME ADAPTER	6063-T6	OPTIONAL
24	-	-	INSUL. GLASS EDGE SPACER	-	SUPER SPACER BY QUANEX
25	E168	-	MULLION	6063-T6	-
26	E169	AS REQD.	MULLION CLIP, REQD. FOR LOADS ABOVE 70.0 PSF	6063-T6	-
27	UW-408	-	MULLION INSERT	6063-T6	-
28	-	-	MULLION REINFORCING BAR	STEEL	A36, Fu MIN. 58 KSI

Sealed 6-9-2020

FL #32408



a f c

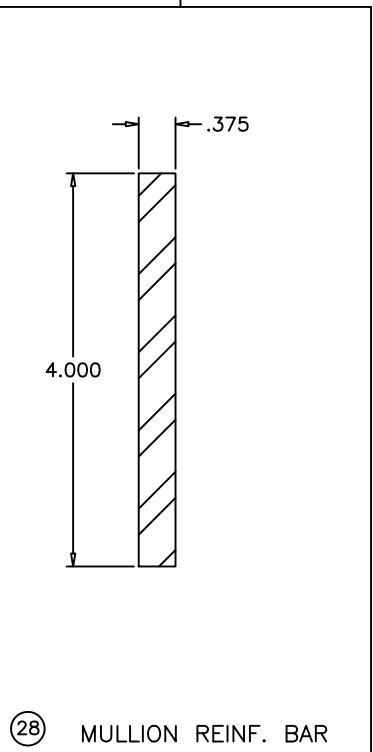
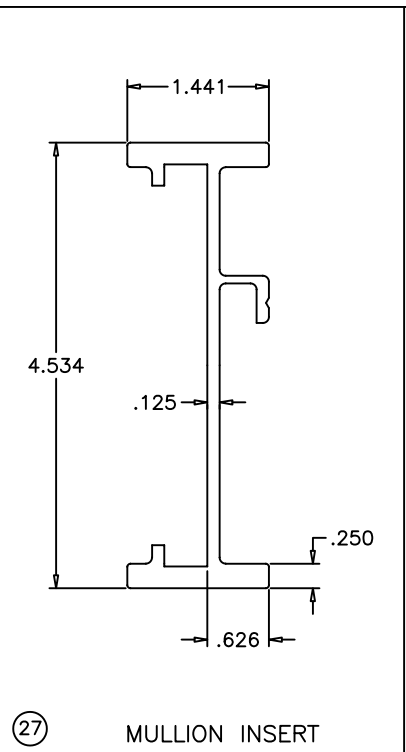
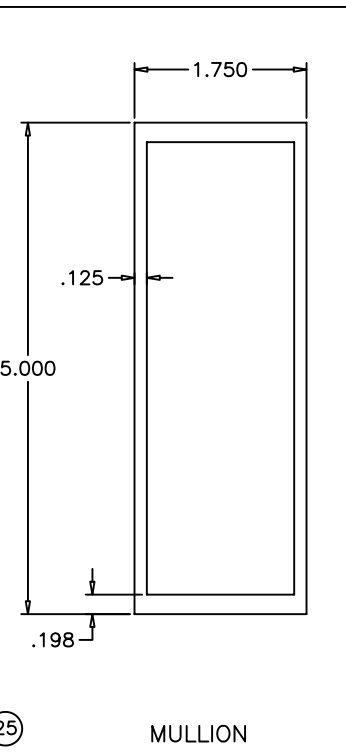
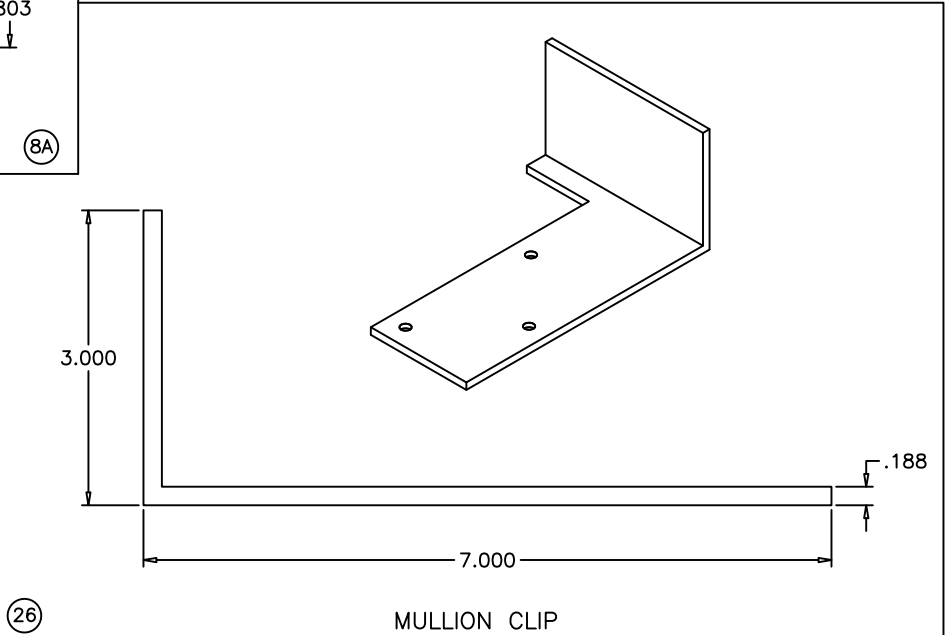
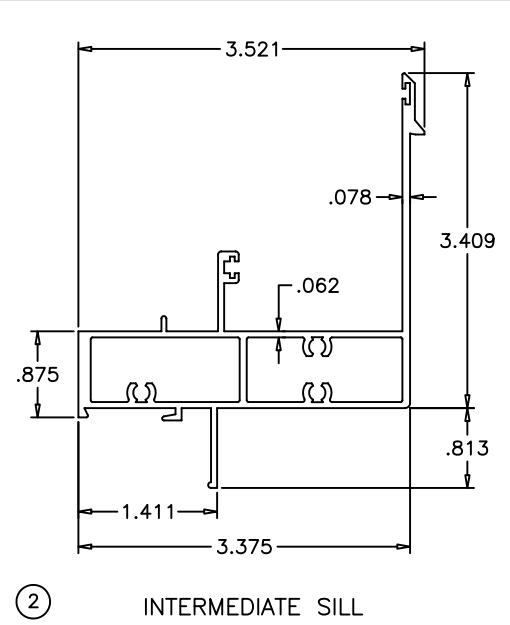
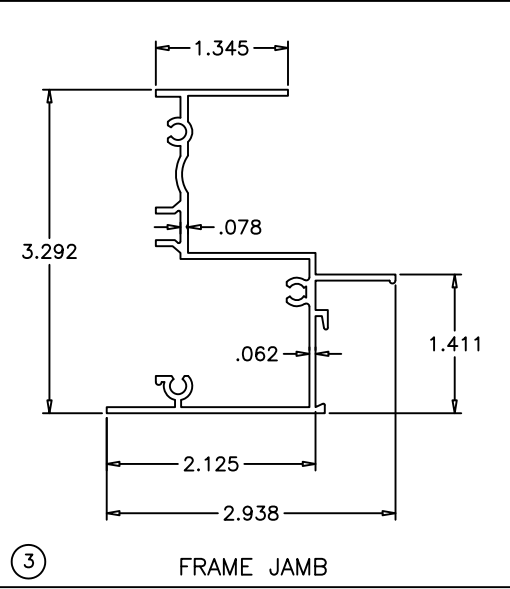
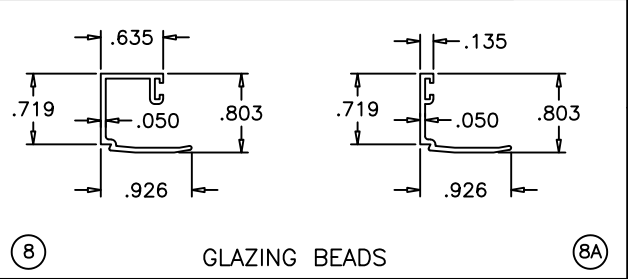
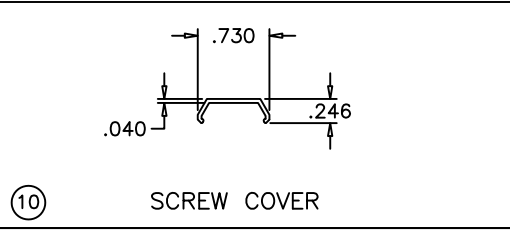
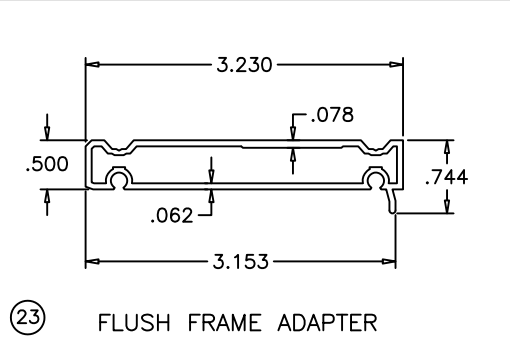
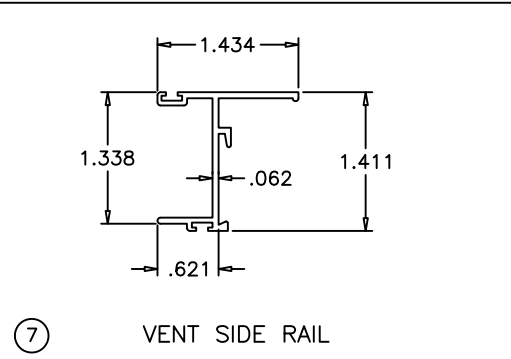
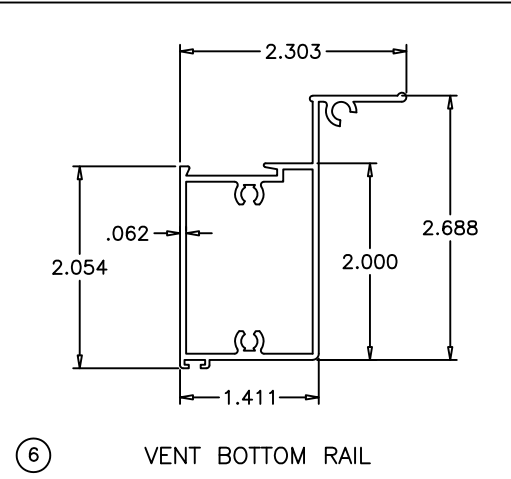
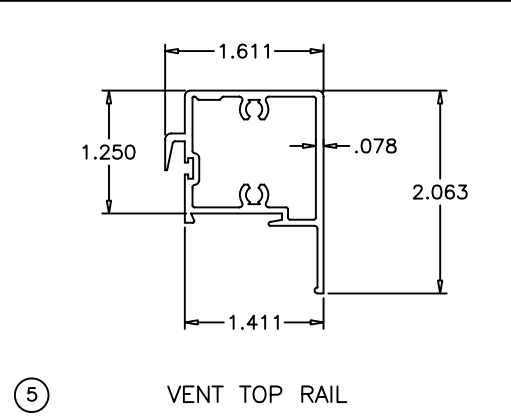
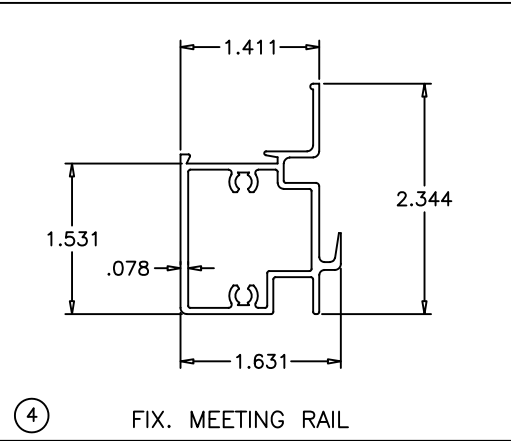
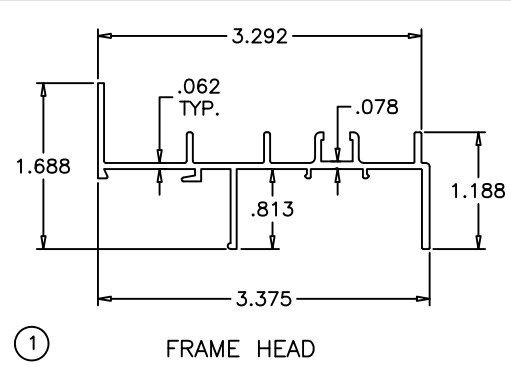
AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
(C.A.N. 3538)

SERIES-155 ALUMINUM S.H. WINDOW WALL (L.M.I.)

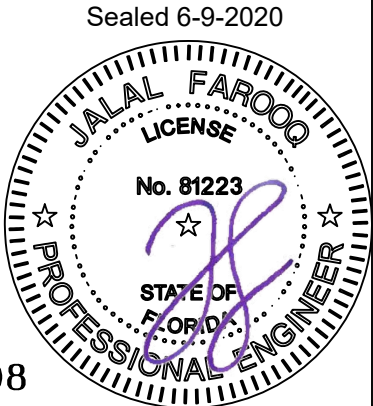
ECO WINDOW SYSTEMS, LLC.
8502 N.W. 80th STREET
MEDLEY, FL. 33166
TEL. (305) 885-5299 FAX (305) 885-5902

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COMP-ANL\20-32F-ECO



FL #32408



af c

AL-FAROOQ CORPORATION

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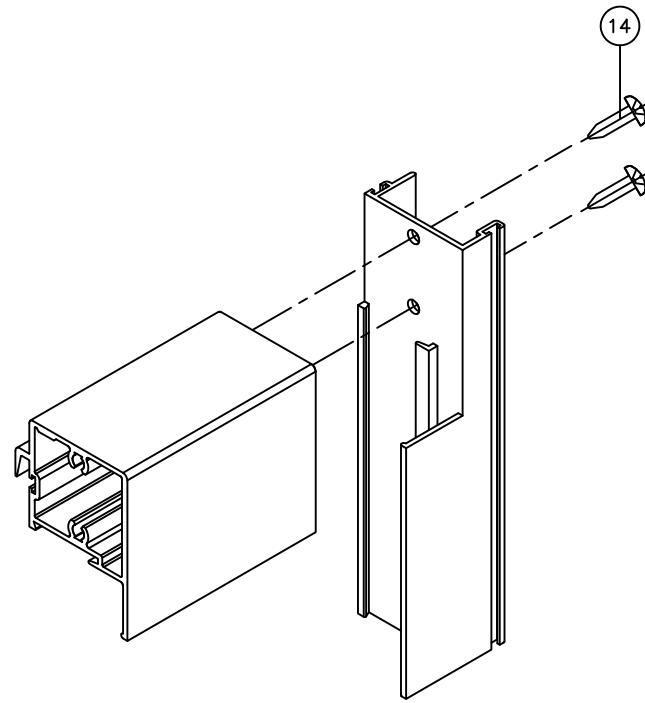
MEDLEY, FL. 33166

TEL. (305) 885-5299

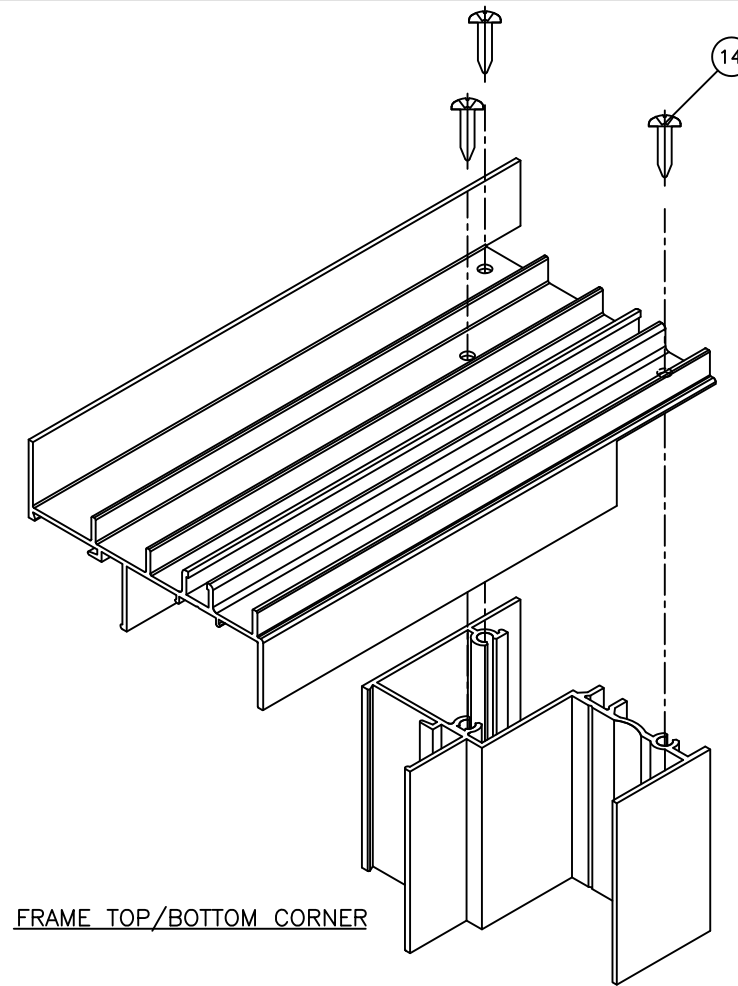
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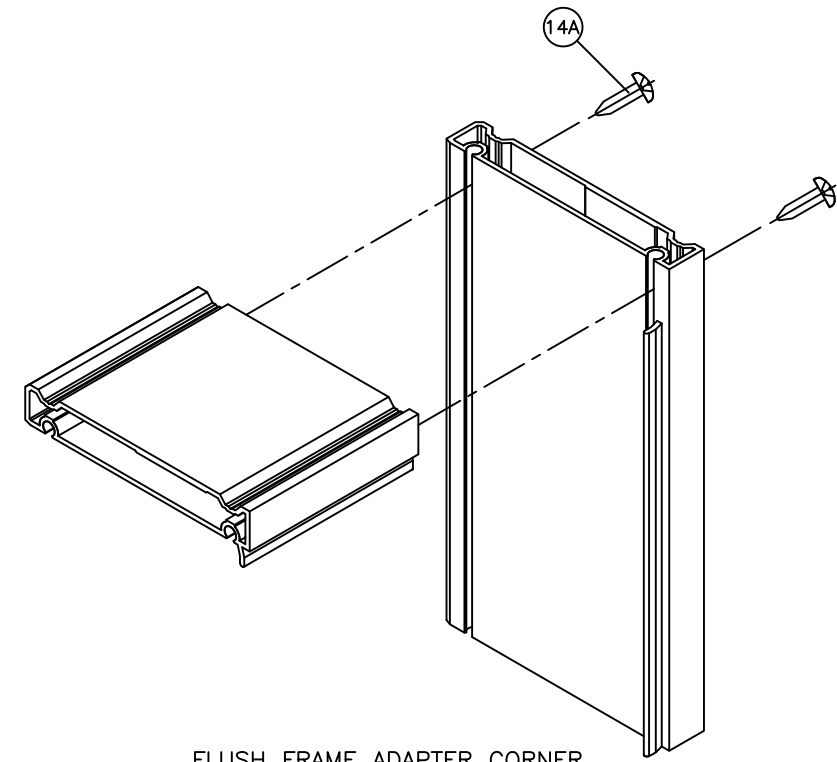
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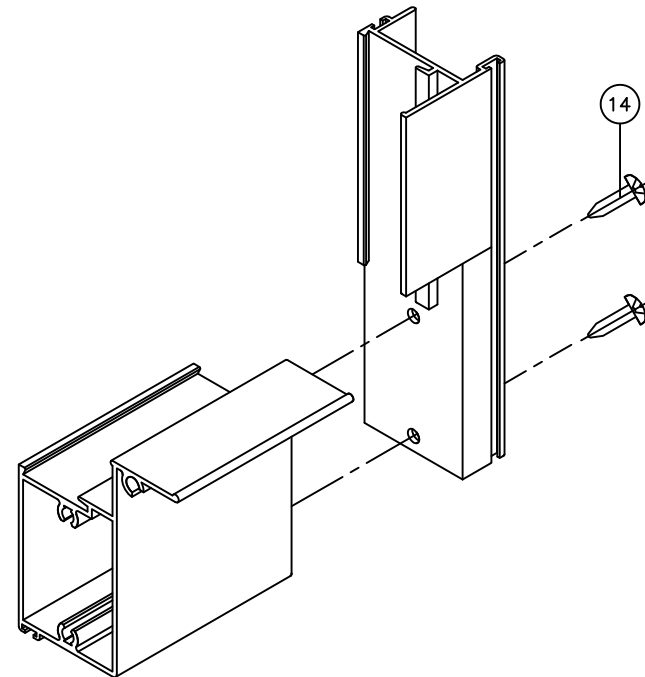
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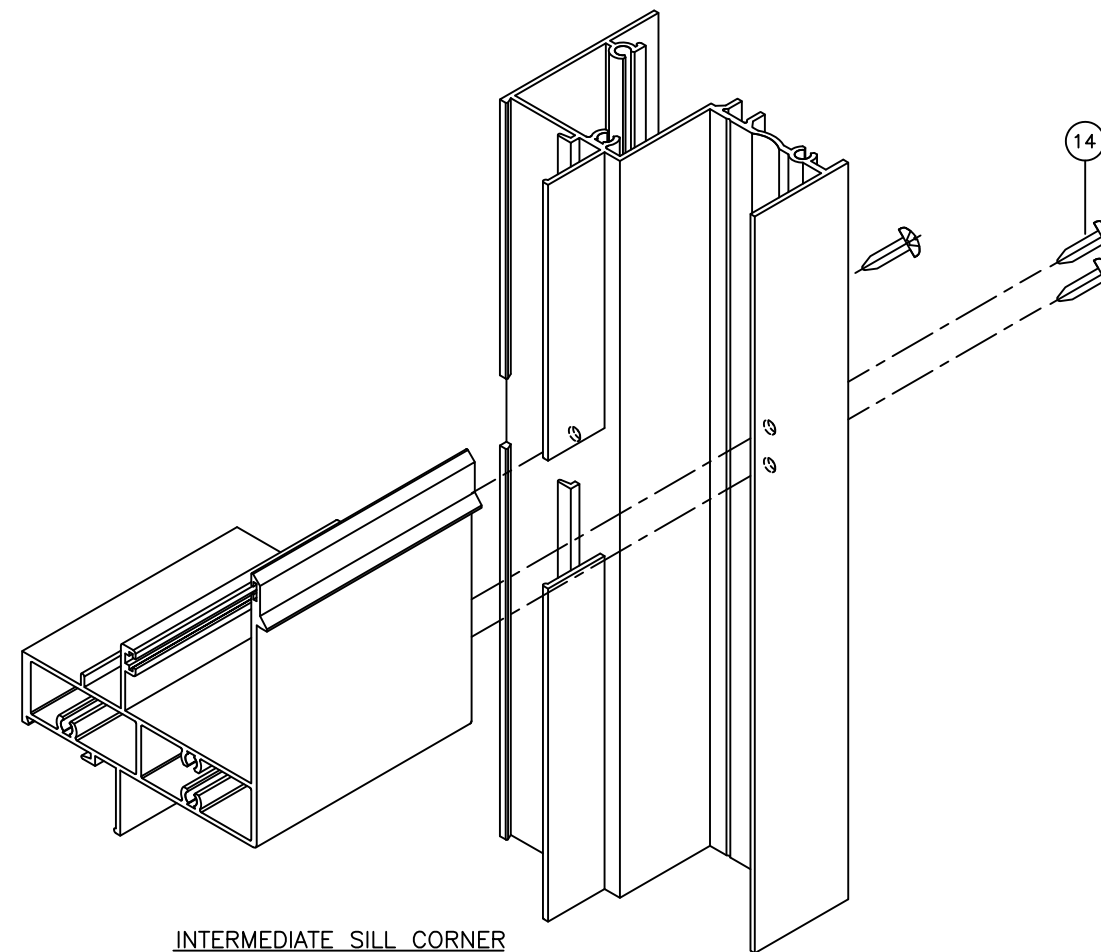
FRAME TOP/BOTTOM CORNER



FLUSH FRAME ADAPTER CORNER



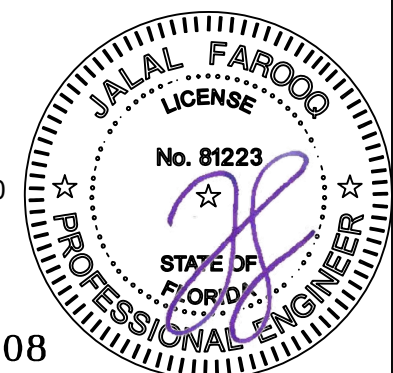
VENT BOTTOM CORNER



INTERMEDIATE SILL CORNER

Sealed 6-9-2020

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chk. by:
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COMP-ANL\20-32F-ECO