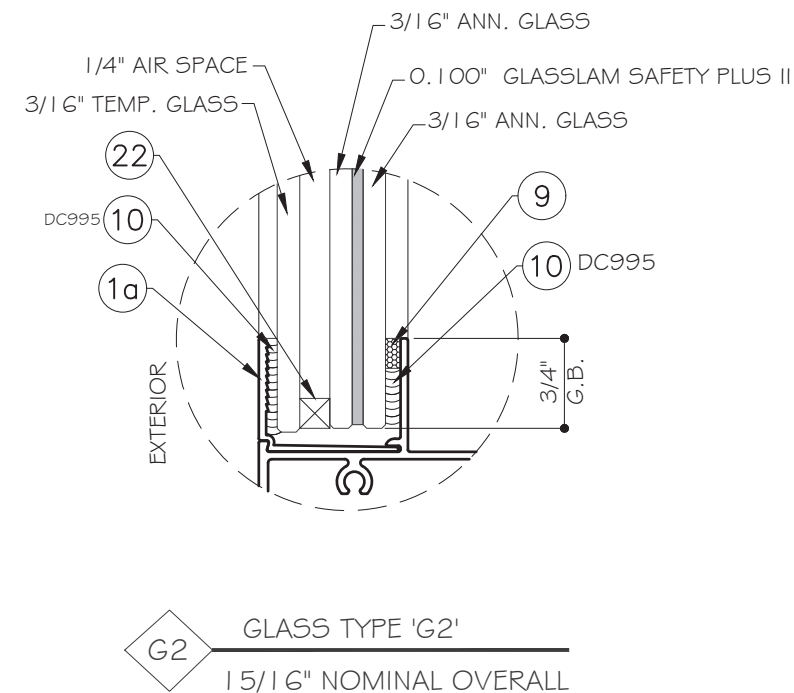
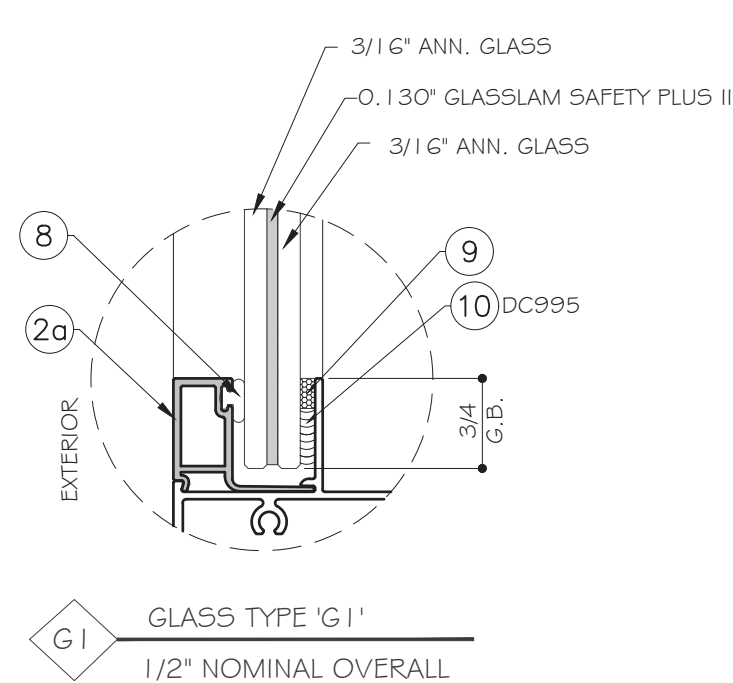


# EMC WINDOW AND DOORS LLC. SERIES "CS 2100" ALUMINUM CASEMENT WINDOWS LARGE AND SMALL MISSILE IMPACT



**GENERAL NOTES:**

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 7TH EDITION OF FLORIDA BUILDING CODE 2020 INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- WINDOWS RATED FOR LARGE AND SMALL MISSILE IMPACT. LMI SYSTEM TO BE USED FOR INSTALLATIONS UP TO 30 FT OF GRADE. FOR ABOVE 30 FT OF GRADE, SMI TO BE USED. IMPACT SHUTTERS ARE NOT REQUIRED.
- THESE WINDOWS ARE APPROVED FOR AIR AND WATER INFILTRATION.
- ANCHORS SHALL BE AS LISTED, SPACED AS SHOWN ON DETAILS. ANCHORS EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.
- ANCHORING OR LOADING CONDITIONS NOT SHOWN IN THESE DETAILS ARE NOT PART OF THIS APPROVAL.
- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 7TH EDITION OF FLORIDA BUILDING CODE 2020 SECTION AS APPLICABLE.
- METAL STRUCTURES NOT CONTINENTAL GLASS SYSTEM TO BE DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS GLAZING SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.
- ULTIMATE LOAD OBTAINED FROM ASCE 7-16, MULTIPLY BY 0.6 SHALL BE LESS THAN OR EQUAL TO MAX. DESIGN LOAD IN THIS DOCUMENT. THE DESIGN LOADS SHOWN IN THIS DOCUMENT ARE ALLOWABLE DESIGN LOADS.

USE CHARTS AS FOLLOWS.

- STEP 1: DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7-16 STANDARD OR WIND TUNNEL REPORTS.
- STEP 2: SEE SHEET E1 FOR APPROVED TYPICAL ELEVATION & CONFIGURATION.
- STEP 3: SEE SHEET E2 FOR ALLOWED WINDOW SIZE AND APPROVED DESIGN LOAD. FOR WINDOW MULLTOGETHER WITH 1"X4"X1/8" ALUM. MULLION, DESIGN LOAD FOR WINDOW GOVERNS.
- STEP 4: ANCHOR OPTION SEE SHEET A1. ANCHOR LAYOUT SEE SHEET E1.

**NOTE:**  
GLASS COMPLIES WITH ASTM E1300-09 (3 SEC. GUSTS).

ABBREVIATIONS AND SYMBOLS	
D.L.O. - DAYLITE OPENING	
F.H. - FRAME HEIGHT	
F.W. - FRAME WIDTH	
W/ - WITH	
W/O - WITHOUT	
O.C. - ON CENTER	
	SECTION NUMBER
	SHEET NUMBER

**LIMITATIONS OF USE**

A- THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

B- 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.

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

D- 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.

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

FLORIDA APPROVAL:  
**FL#35387**

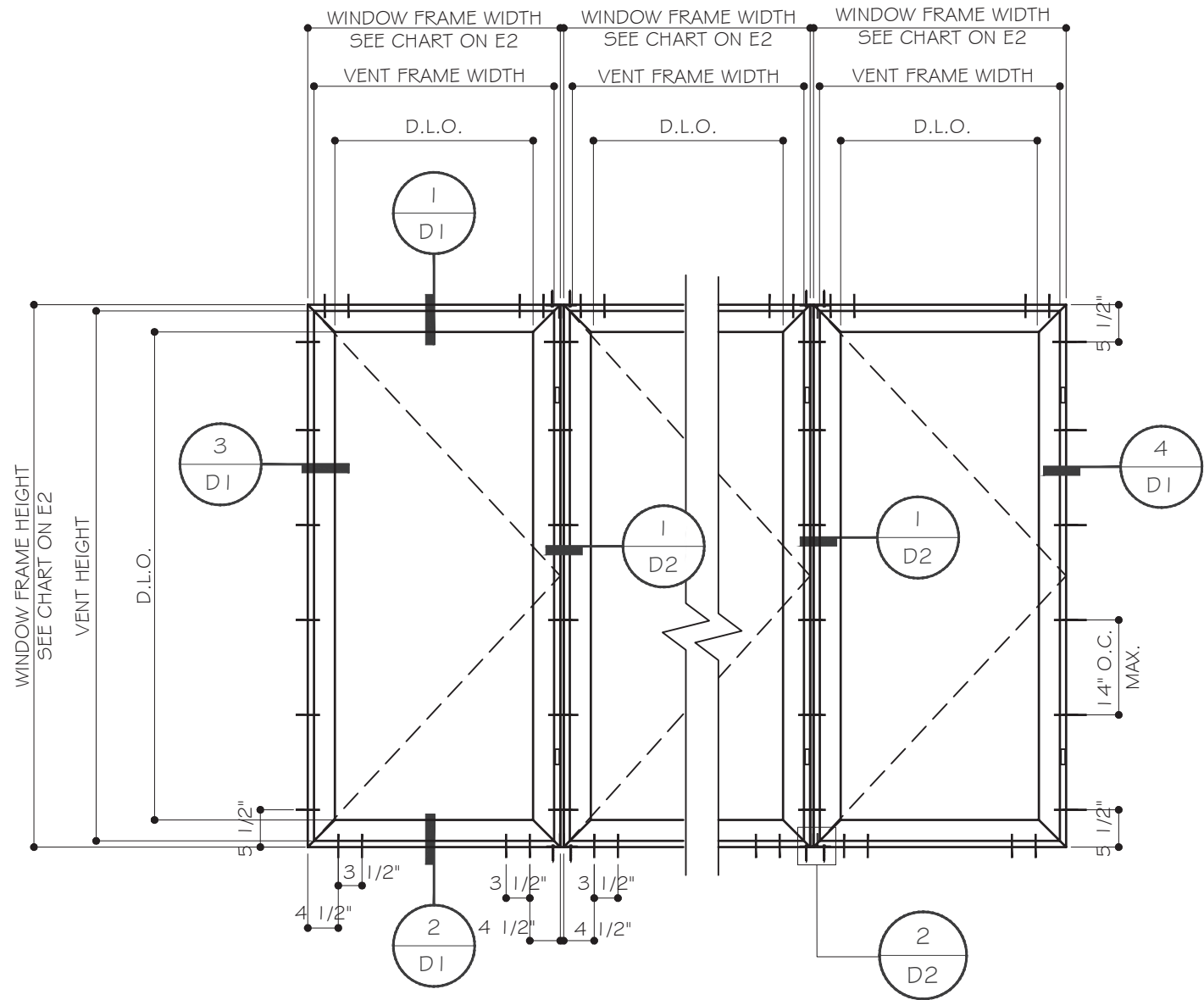
December 16th, 2020

**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS  
12781 MIRAMAR PKWY., STE. 301  
MIRAMAR, FL 33027 P: 305.271.0117  
www.MCYEngineering.com mcy@mcyengineering.com

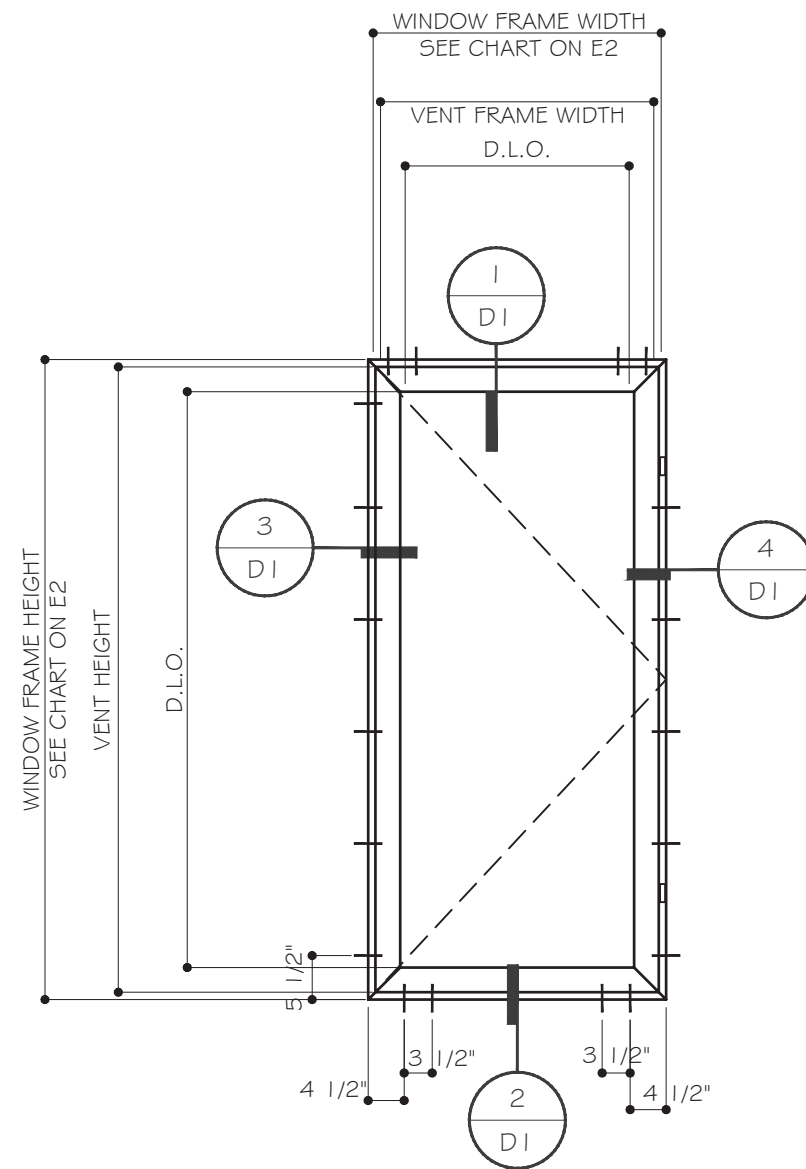
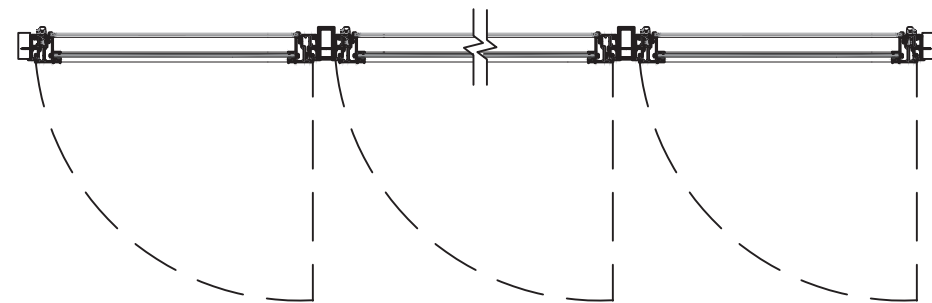
SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.  
**EMC WINDOWS AND DOORS, LLC.**  
1356 W. 76TH STREET  
HIALEAH, FL 33014  
TEL: (305) 283-6280 EMCWindowsDoors@gmail.com

Rev. No.	Date	Drawn By	Description

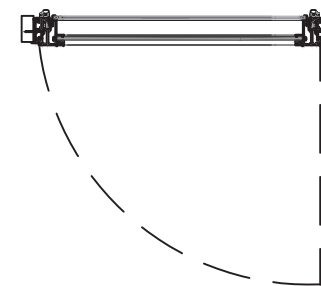
Drawn Date	Scale
11/23/2020	
DRAWING NO.	
AD20-33	
COVER	
Sheet No.	
1 OF 9	



TYPICAL EXTERIOR ELEVATIONS



TYPICAL EXTERIOR ELEVATIONS



FLORIDA APPROVAL:  
FL#35387

YIPING WANG  
FLORIDA REGISTERED PROFESSIONAL ENGINEER  
A.N. 28897  
No 55983  
December 16th, 2020

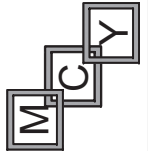
SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.

EMC WINDOWS AND DOORS, LLC.

1356 W. 76TH STREET

HIALEAH, FL 33014

TEL. (305) 283-6280 EMCWindowsDoors@gmail.com



MCY ENGINEERING, INC.  
GLAZING CONSULTANTS

12781 MIRAMAR PKWY., STE. 301  
MIRAMAR, FL 33027

P: 305.271.0117

www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	Date	Drawn By	Description

Drawn Date: 11/23/2020 Scale: AS SHOWN

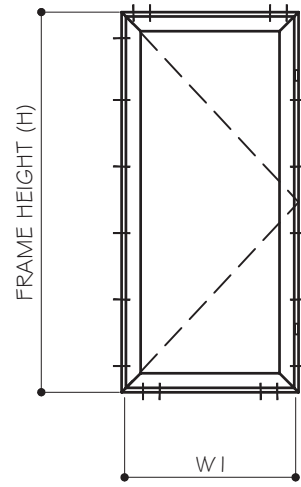
DRAWING NO. AD20-33

E1

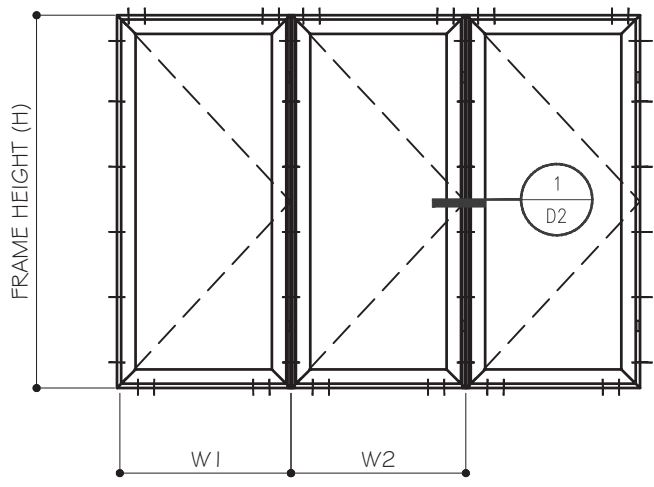
Sheet No. 02 OF 9

CHART#1:

WINDOW ALLOW DESIGN LOAD ( PSF)			
NOM. DIMENSION		GLASS OPTION	
BUCK HEIGHT	BUCK WIDTH	"G1"	"G2"
H (in)	W (in)	(+/-) psf	(+/-) psf
48	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
	42	80.0	70.0
	48	80.0	70.0
54	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
	42	80.0	70.0
	48	80.0	70.0
60	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
	42	80.0	70.0
	48	80.0	70.0
66	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
	42	80.0	70.0
	48	80.0	70.0
72	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
78	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
84	24	80.0	70.0
	30	80.0	70.0
	36	80.0	70.0
90	24	80.0	70.0
	30	65.3	65.3
96	24	65.9	65.9
	30	53.5	53.5



SINGLE UNIT WINDOW  
(W) = W1

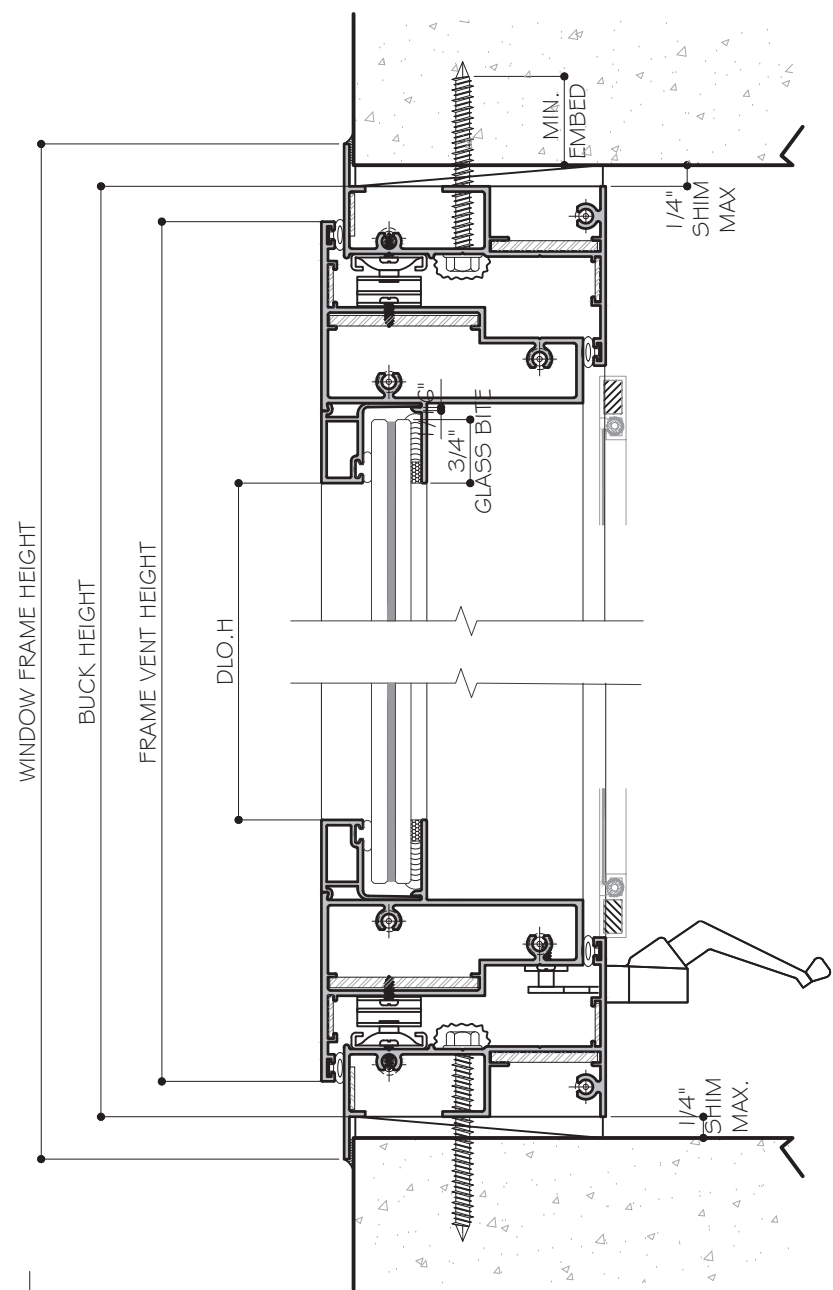
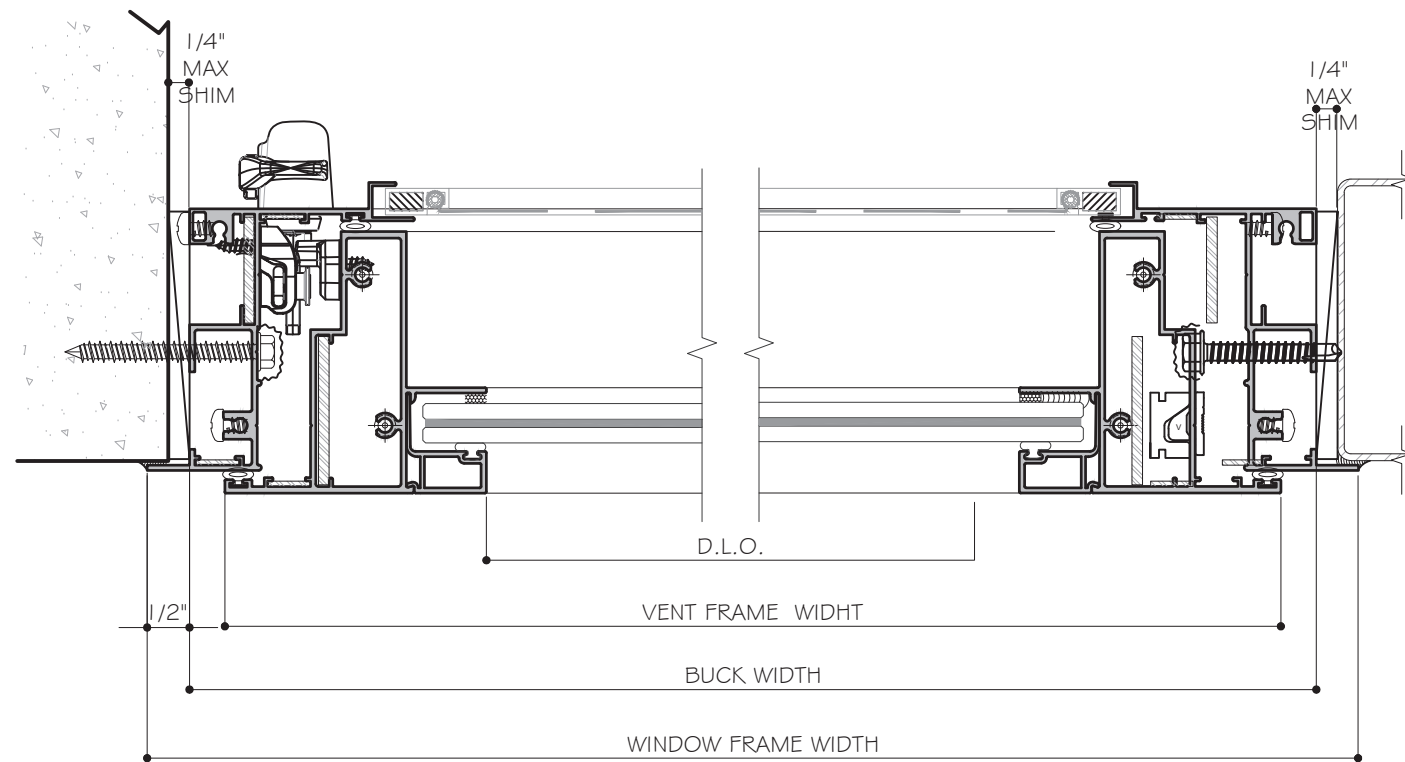


WIDTH AT FRAME MULLION

(W) = W1 OR W2

MULLION MEET CHART 1 REQUIREMENT

BUCK WIDTH= FRAME WIDTH - 1"  
 BUCK HEITH= FRAME HEIGHT - 1"  
 VENT WIDTH= FRAME WIDTH - 1.84"  
 VENT HEIGHT= FRAME HEIGHT - 1.84"  
 DLOW=FRAME WIDTH - 8"  
 DLOH=FRAME HEIGHT - 8"

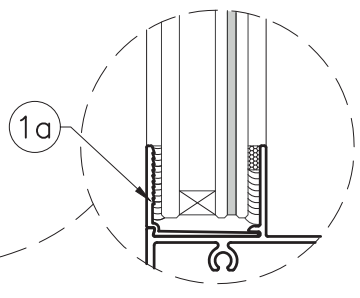
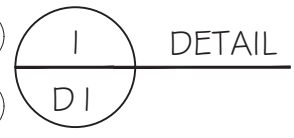
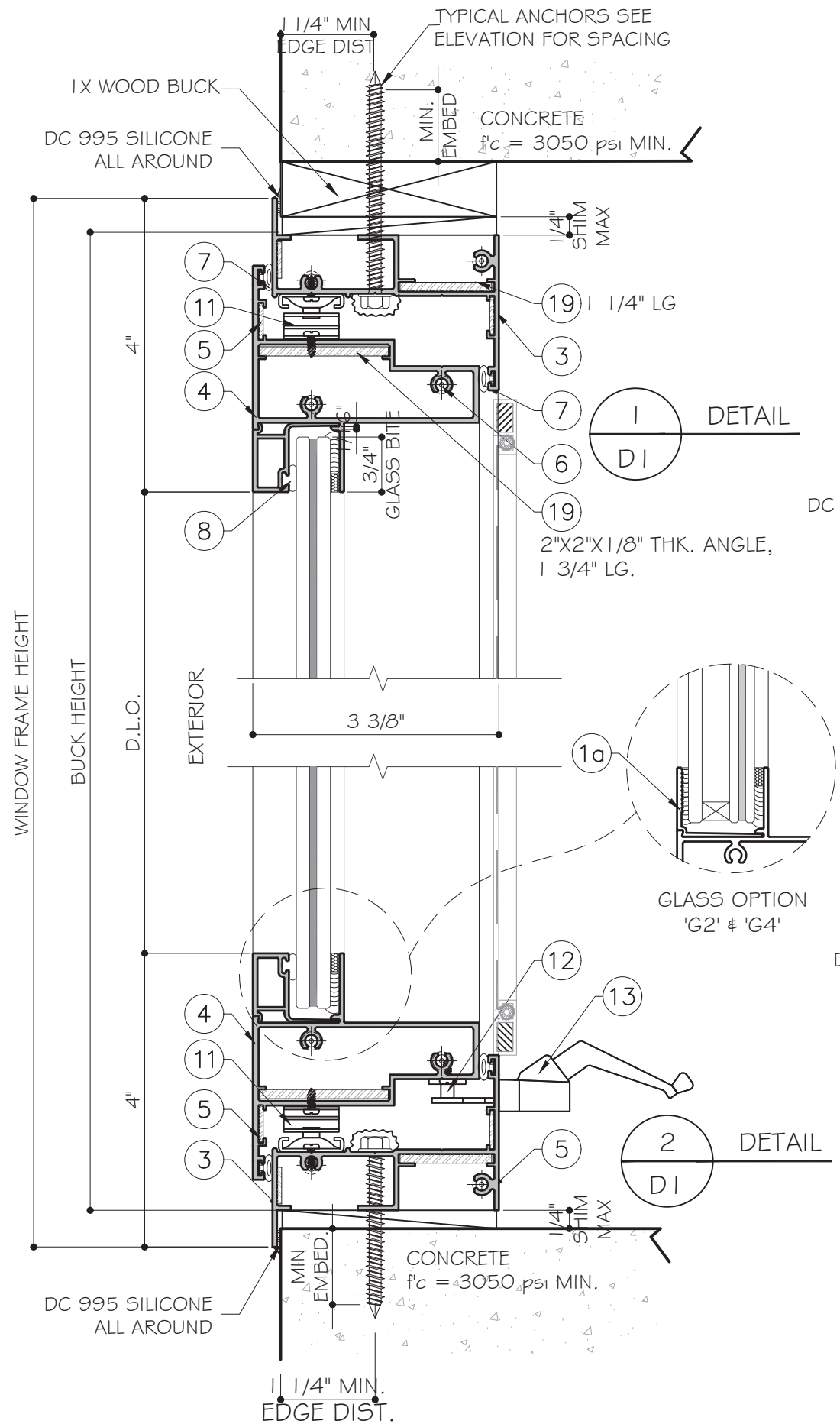


FLORIDA APPROVAL:  
**FL#35387**

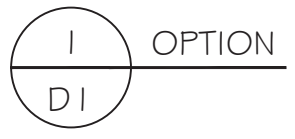
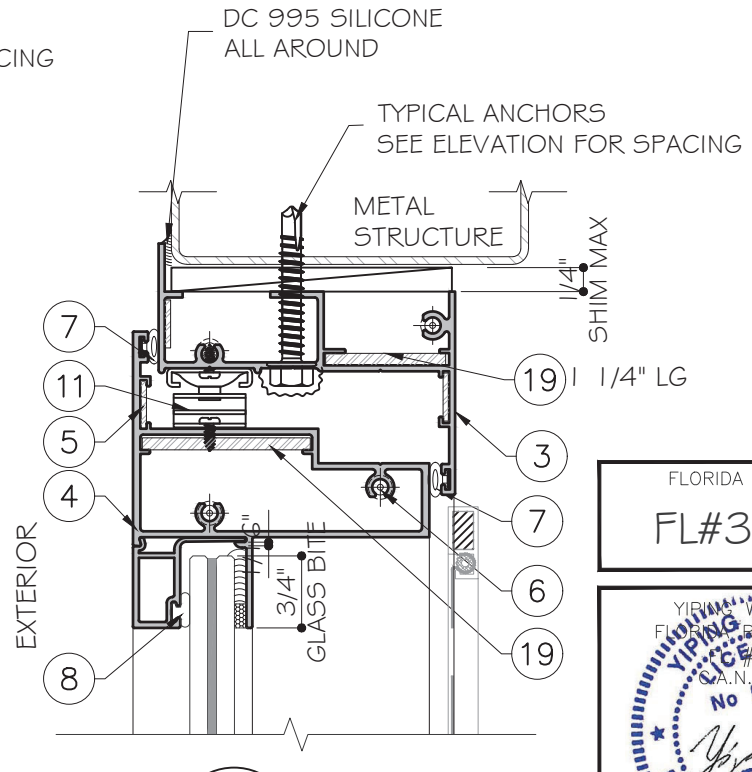
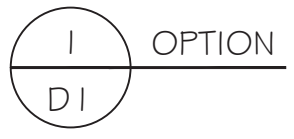
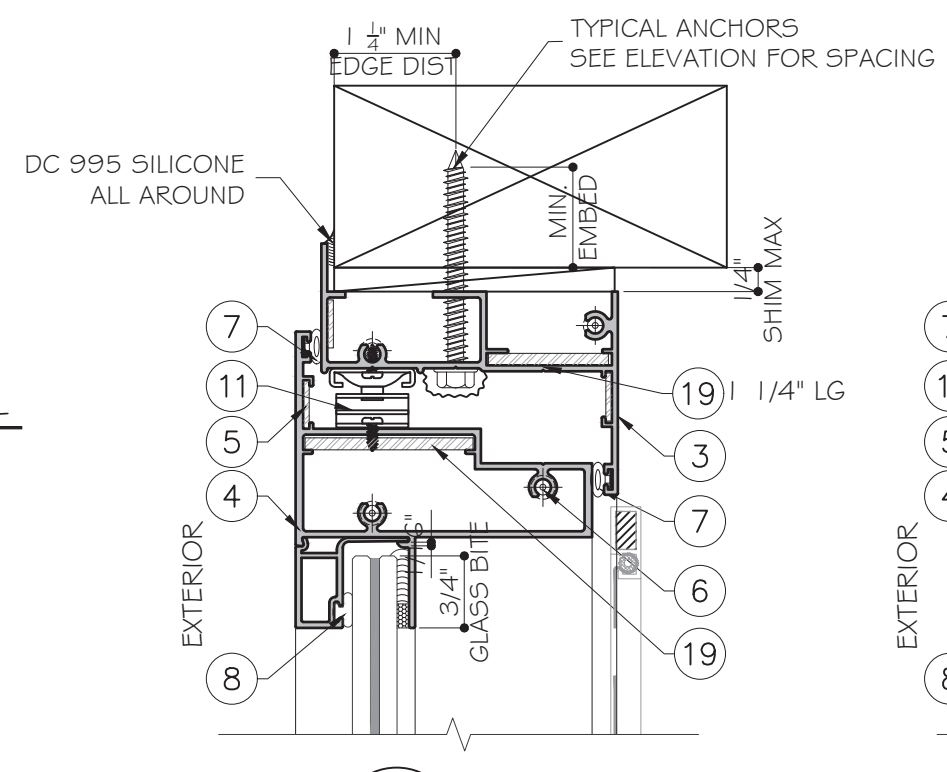
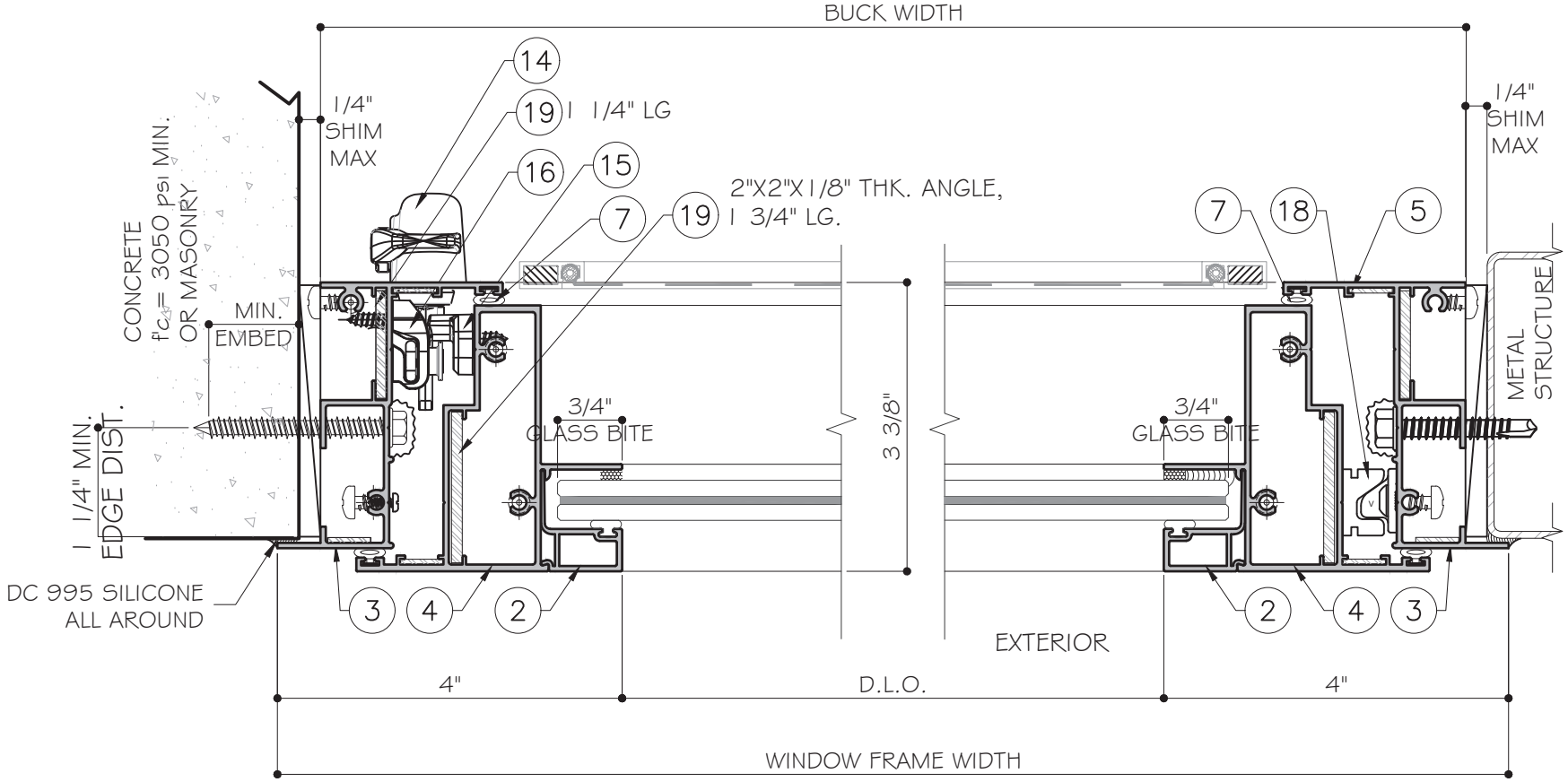
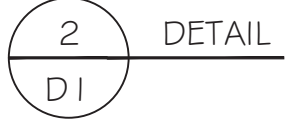
**MCY ENGINEERING, INC.**  
 GLAZING CONSULTANTS  
 12781 MIRAMAR PKWY., STE. 301  
 MIRAMAR, FL 33027 P: 305.271.0117  
 www.MCYEngineering.com mcy@mcyengineering.com

SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.  
**EMC WINDOWS AND DOORS, LLC.**  
 1356 W. 76TH STREET  
 HIALEAH, FL 33014  
 TEL: (305) 283-6280 EMCWindowsDoors@gmail.com

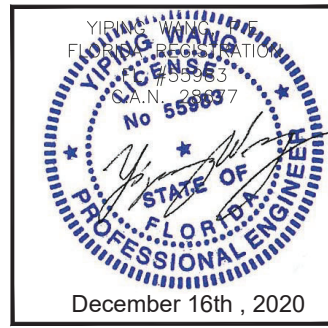
Drawn Date	Scale	Drawn By	Description
11/23/2020	AS SHOWN		
DRAWING NO. <b>AD20-33</b>			
Sheet No. <b>E2</b>			
03 OF 9			



GLASS OPTION 'G2' & 'G4'

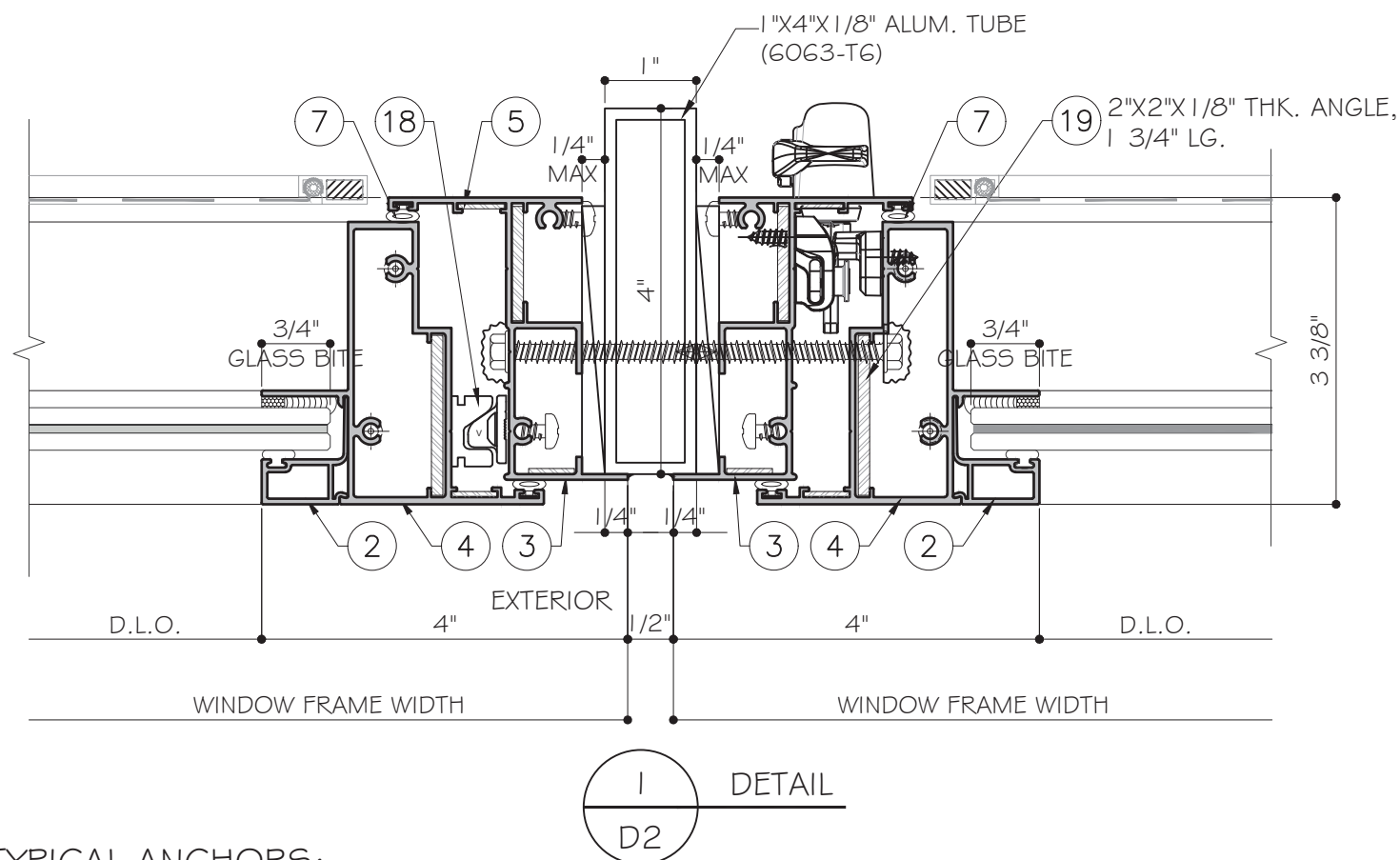


FLORIDA APPROVAL:  
FL#35387

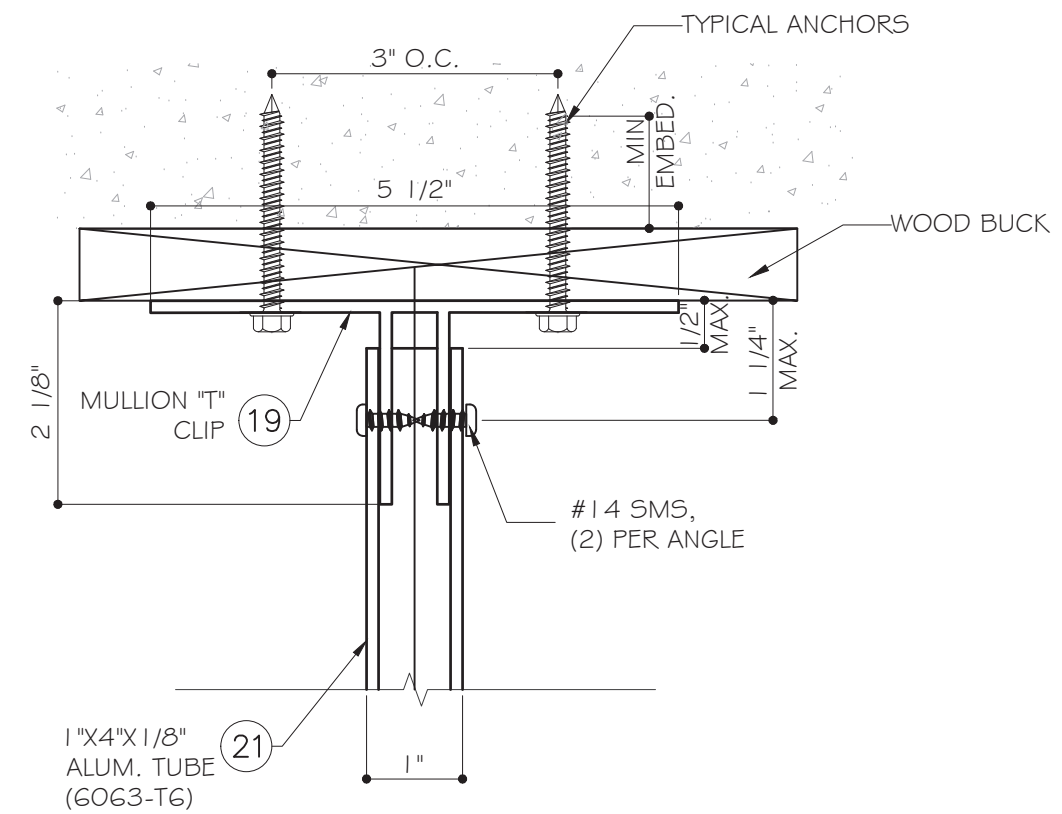


<p><b>MCY ENGINEERING, INC.</b> GLAZING CONSULTANTS 12781 MIRAMAR PKWY., STE. 301 MIRAMAR, FL 33027 P: 305.271.0117 www.MCYEngineering.com mcy@mcyengineering.com</p>	
<p>SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I. &amp; S.M.I. <b>EMC WINDOWS AND DOORS, LLC.</b> 1356 W. 76TH STREET HIALEAH, FL 33014 TEL: (305) 283-6280 EMCWindowsDoors@gmail.com</p>	
Drawn Date	Scale
11/23/2020	AS SHOWN
Drawn By	Description
Rev. No.	Date
DRAWING NO. AD20-33	
Sheet No. D1	
04 OF 9	

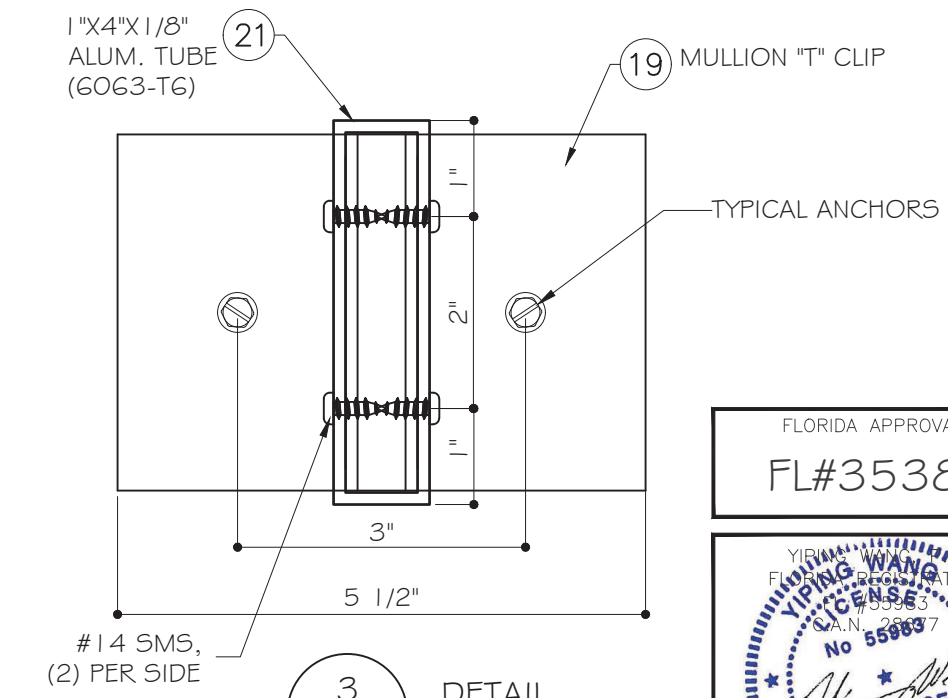




1  
D2  
DETAIL



2  
D2  
DETAIL



3  
D2  
DETAIL

**TYPICAL ANCHORS:**

TYPE "A": 1/4" DIA. ULTRACON + BY DEWALT (Fu = 164 KSI, Fy = 148 KSI)  
 1-1/2" EMBED INTO WOOD BUCK OR WOOD STRUCTURE  
 OR THRU 1X OR 2X BUCKS INTO CONCRETE OR MASONRY  
 W/ 1 3/4" MIN. EMBED

TYPE "B": 1/4" DIA. ULTRACON + BY DEWALT (Fu = 164 KSI, Fy = 148 KSI)  
 1-3/4" EMBED DIRECTLY INTO CONCRETE  
 1-3/4" EMBED DIRECTLY INTO GROUND FILLED BLOCK ( JAMB ONLY)  
 1 1/4" EMBED DIRECTLY INTO HOLLOW BLOCK ( JAMB ONLY)

TYPE "B": #14 DIA. SMS (Fy=57KSI , Fu=74 KSI)  
 OR 1/4" TEKS- SELF DRILLING SCREW (Fy=92 KSI, Fu=120KSI)  
 INTO METAL STRUCTURE  
 STEEL : 12 GA. MIN. (Fy = 36 KSI MIN.)  
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)  
 INTO FLORIDA APPROVED ALUMINUM MULLIONS  
 ALUMINUM : 1/8" THK. MIN. (G063-T5 MIN.)

ANCHOR EDGE DISTANCES  
 INTO CONCRETE AND MASONRY = 1 1/4" MIN.  
 INTO METAL STRUCTURE = 3/4" MIN.  
 INTO WOOD = 1" MIN.

CONCRETE AT HEAD,SILL OR JAMB:  
 fc= 3050 PSI MIN.  
 C-90 HOLLOW / FILLED BLOCK AT JAMB:  
 fm=2000 PSI MIN.  
 WOOD STRUCTURE:SG=0.55 MIN.

WOOD BUCK & METAL STRUCTURE NOT BY EMC MUST BE DESIGNED AND ANCHORED PROPERLY TO SUSTAIN THE LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

**SEALANTS:**

ALL FRAME AND PANEL JOINT, INSTALLATION SCREWS AND HEADS OF ANCHOR SCREWS TO BE SEALED WITH DOW CORNING 899 SILICONE BUILDING SEALANT.

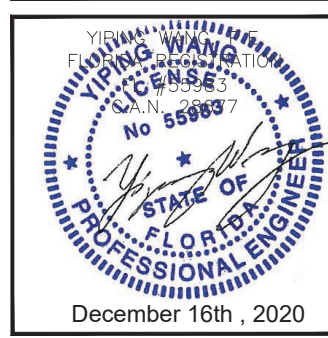
**MCY ENGINEERING, INC.**  
 GLAZING CONSULTANTS  
 12781 MIRAMAR PKWY., STE. 301  
 MIRAMAR, FL 33027 P: 305.271.0117  
 www.MCYEngineering.com mcy@mcyengineering.com

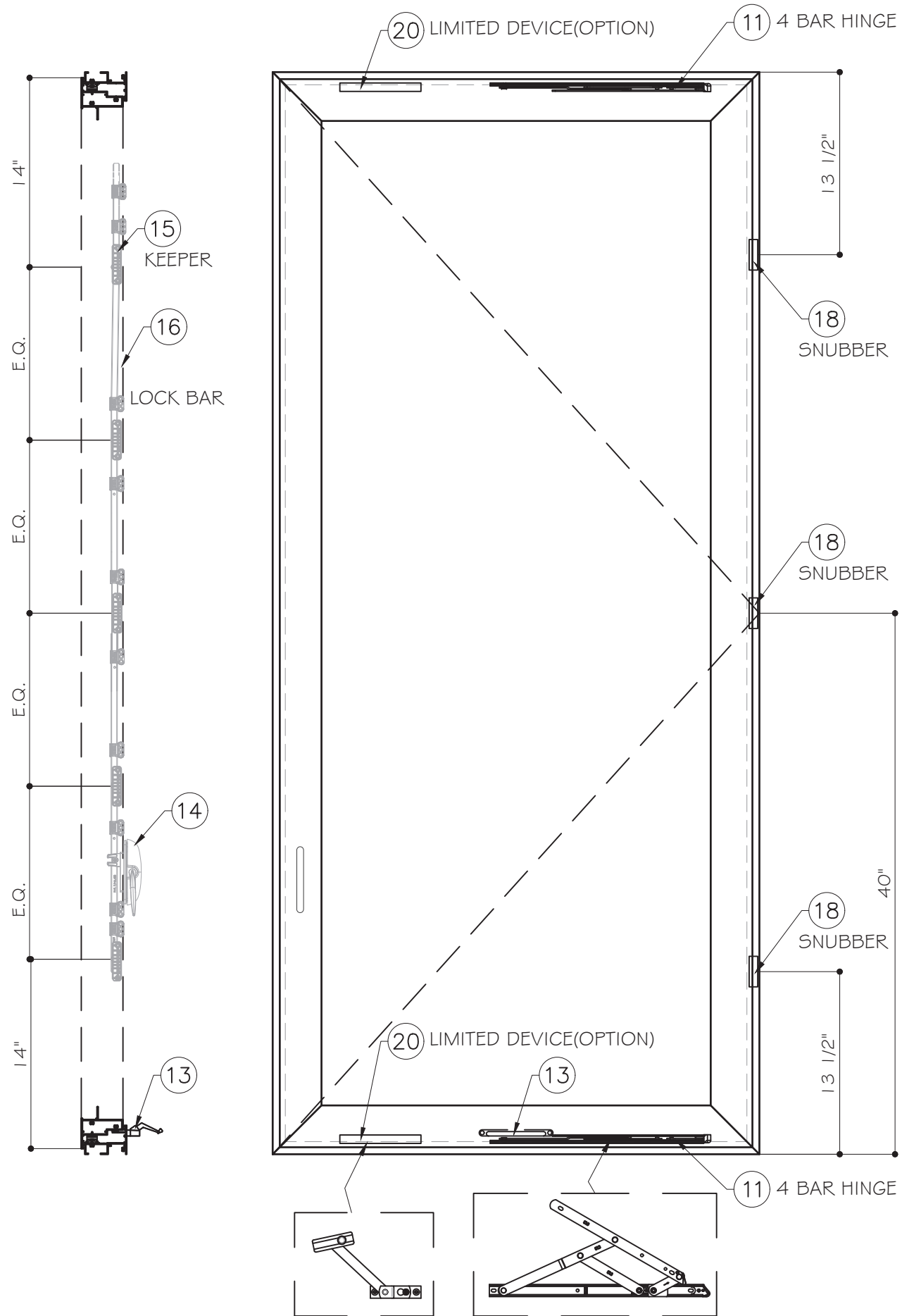
SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.  
**EMC WINDOWS AND DOORS, LLC.**  
 1356 W. 76TH STREET  
 HIALEAH, FL 33014  
 TEL: (305) 283-6280 EMCWindowsDoors@gmail.com

Drawn Date	Scale	Rev. No.	Date	Drawn By	Description
11/23/2020	AS SHOWN				

DRAWING NO. **AD20-33**  
 Sheet No. **05 OF 9**

FLORIDA APPROVAL:  
**FL#35387**





**KEEPERS:**

(5) KEEPERS BY 'INTERLOCK-ASSA ABLOY' EACH ATTACHED W/ (2) #6 X 5/8 PFH SDS .

**SNUBBER:** (3) MATCHING PAIRS BY MONTICELLI AT FRAME AND THE VENT @ 7 1/4", 37" & 71 1/2" FROM THE INSIDE OPENING OF THE FRAME EACH ATTACHED W/ (2) #10 X 3/4" PFH SDS.

**LOCK:**

MULTIPOINT LOCK SYSTEM BY 'INTERLOCK-ASSA ABLOY' AT FRAME JAMB CLO2-0600 & CLO2-1020 LOCK & HANDLE WITH (2) #10 X 1/2" PFH THREAD FORMING SCREW B  
 CLO2-2059 MULTIPOINT KEEPERS W/ (2) #6 X 5/8" PFH SDS  
 CLO2-002 MULTIPOINT LOCK BAR W/ (6) MUSHROOM HEADS @ 15", 32 5/8", 44", 48", 55" & 62 1/2" FROM BOTTOM OF THE OPENING, EACH ATTACHED W/ (2) #10 X 1" PFH SMS.

**HINGE:**

SPSH 16 - CASEMENT 4 BAR ST/ST HINGE BY 'SECURISTYLE' W/ (3) #10 X 1" PFH SMS.

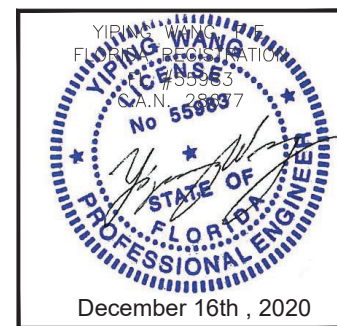
**LIMITED DEVICE(OPTION):**

LIMITED DEVICE-FRICTION ADJUSTERS BY 'CALDWELL'

**OPERATOR:**

23 SERIES SINGLE ARM OPERATOR BY 'TRUTH' W/ (8) # 10 X 1/2" PFH THREAD FORMING SCREW TYPE B.

FLORIDA APPROVAL:  
 FL#35387



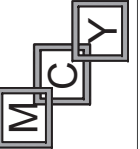
SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.

EMC WINDOWS AND DOORS, LLC.

1356 W. 76TH STREET

HIALEAH, FL 33014

TEL. (305) 283-6280 EMCWindowsDoors@gmail.com



**MCY ENGINEERING, INC.**

GLAZING CONSULTANTS

12781 MIRAMAR PKWY. STE. 301

MIRAMAR, FL 33027

P: 305.271.0117

www.MCYEngineering.com

mcy@mcyengineering.com

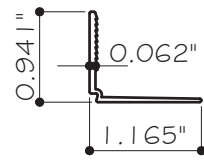
Rev. No.	Date	Drawn By	Description

Drawn Date: 11/23/2020 Scale: AS SHOWN

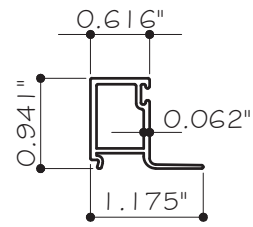
DRAWING NO. AD20-33

HARDWARE

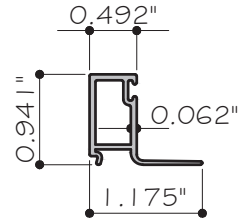
Sheet No. 06 OF 9



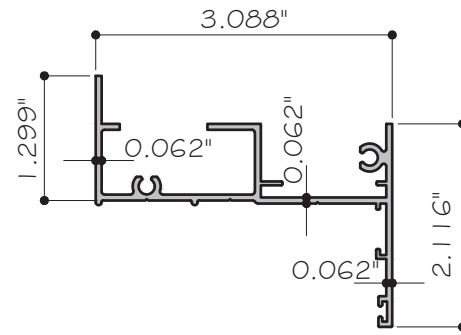
1a GLAZING BEAD  
6063-T6



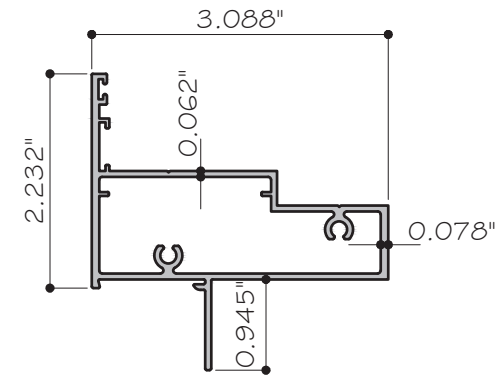
2 GLAZING BEAD  
6063-T6



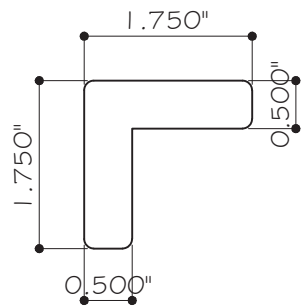
2a GLAZING BEAD  
6063-T6



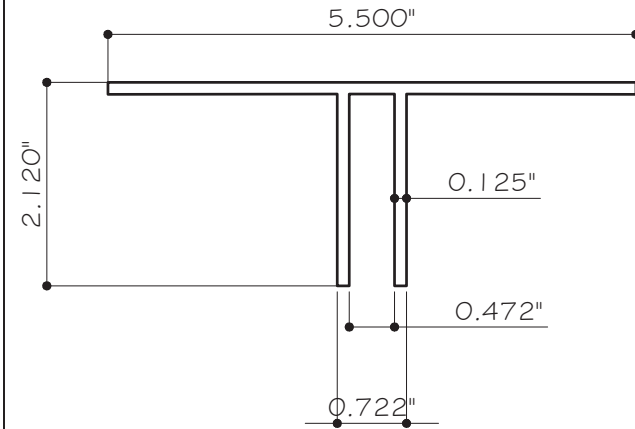
3 FRAME HEAD/SILL  
6063-T6



4 VENT  
6063-T6

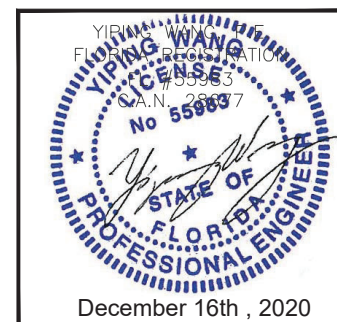


5 1/16" CORNER KEY  
STAINLESS STEEL



19 MULLION T CLIP  
6063-T5

FLORIDA APPROVAL:  
FL#35387



**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS  
12781 MIRAMAR PKWY., STE. 301  
MIRAMAR, FL 33027 P: 305.271.0117  
www.MCYEngineering.com mcy@mcyengineering.com

SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I. & S.M.I.  
**EMC WINDOWS AND DOORS, LLC.**  
1356 W. 76TH STREET  
HIALEAH, FL 33014  
TEL. (305) 283-6280 EMCWindowsDoors@gmail.com

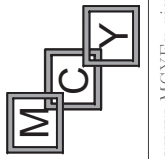
Drawn Date	Scale	Rev. No.	Date	Drawn By	Description
11/23/2020	AS SHOWN				
DRAWING NO. AD20-33					
PARTS					
Sheet No. 07 OF 9					

# BILL OF MATERIALS

ITEM	PART	DESCRIPTION	MATERIAL	MANUF. / REMARKS
1a	-	GLAZING BEAD FOR GLASS 'G2'#G4'	ALUM. 6063-T6	-
2	-	GLAZING BEAD FOR GLASS 'G 1'	ALUM. 6063-T6	-
2a	-	GLAZING BEAD FOR GLASS 'G3'	ALUM. 6063-T6	-
3	-	FRAME HEAD/SILL	ALUM. 6063-T6	-
4	-	VENT	ALUM. 6063-T6	-
5	-	1/1 6" THK. CORNER KEY	STAINLESS STEEL	-
6	-	#10 X 1 1/4" SMS / FRAME AND VENT ASSEMBLY SCREWS	-	-
7	NO.3252B	BULB VINYL AIR SEAL GASKET(BLACK)	-	MELTPOINT PLASTICS
8	E202	VOO21 VINYL BULB, GLAZING STOP	VINYL	FENESTRATIONGLASS PRODUCTS
9	W0019	1/8 X 1/4 GLAZING TAPE, 2 SIDED	TAPE	FRANK LOWED
10	SEALO1-I	DOW 995 BACK SILICONE	SILICONE	-
11	-	4 BAR HINGE	STAINLESS STEEL	SECURISTYLE
12	-	CASEMENT OPERATOR TRACK	-	TRUTH HARDWARE
13	-	23 SERIES FACEMOUT CASEMENT OPERATOR	-	TRUTH HARDWARE
14	CLO2-0600 & CLO2-1020	LOCK HANDLE ASSEMBLY	-	INTERLOCK - ASSA ABLOY
15	CLO2-2059	(5) MULTIPOINT KEEPERS W/ (2) #6 X 5/8" FH SMS	-	INTERLOCK - ASSA ABLOY
16	CLO2-002	MULTIPOINT LOCK BAR	-	INTERLOCK - ASSA ABLOY
17	-	#8 X 1/2" S.S. PH SMS.	STAINLESS STEEL	-
18	-	SNUBBER	MONTICELLI	-
19	-	5 1/2" X 2 1/8" X 3.71" LONG. MULLION T CLIP	ALUM. 6063-T5	-
20	-	LIMITED DEVICE-FRICTION ADJUSTERS(OPTION)	STAINLESS STEEL	CALDWELL
21	-	1"x4"x1/8" ALUM. TUBE	ALUM. 6063-T6	-
22	-	CRL GRAY EDGETECH SUPER SPACER - GLASS SPACER	SILICONE FOAM	C.R. LAURENCE CO., INC.

**MCY ENGINEERING, INC.**  
GLAZING CONSULTANTS

12781 MIRAMAR PKWY., STE. 301  
MIRAMAR, FL 33027 P: 305.271.0117  
www.MCYEngineering.com mcy@mcyengineering.com

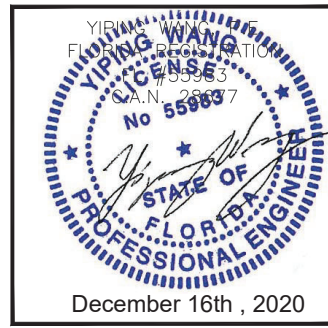


SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I.& S.M.I.

**EMC WINDOWS AND DOORS, LLC.**  
1356 W. 76TH STREET  
HIALEAH, FL 33014  
TEL. (305) 283-6280 EMCWindowsDoors@gmail.com

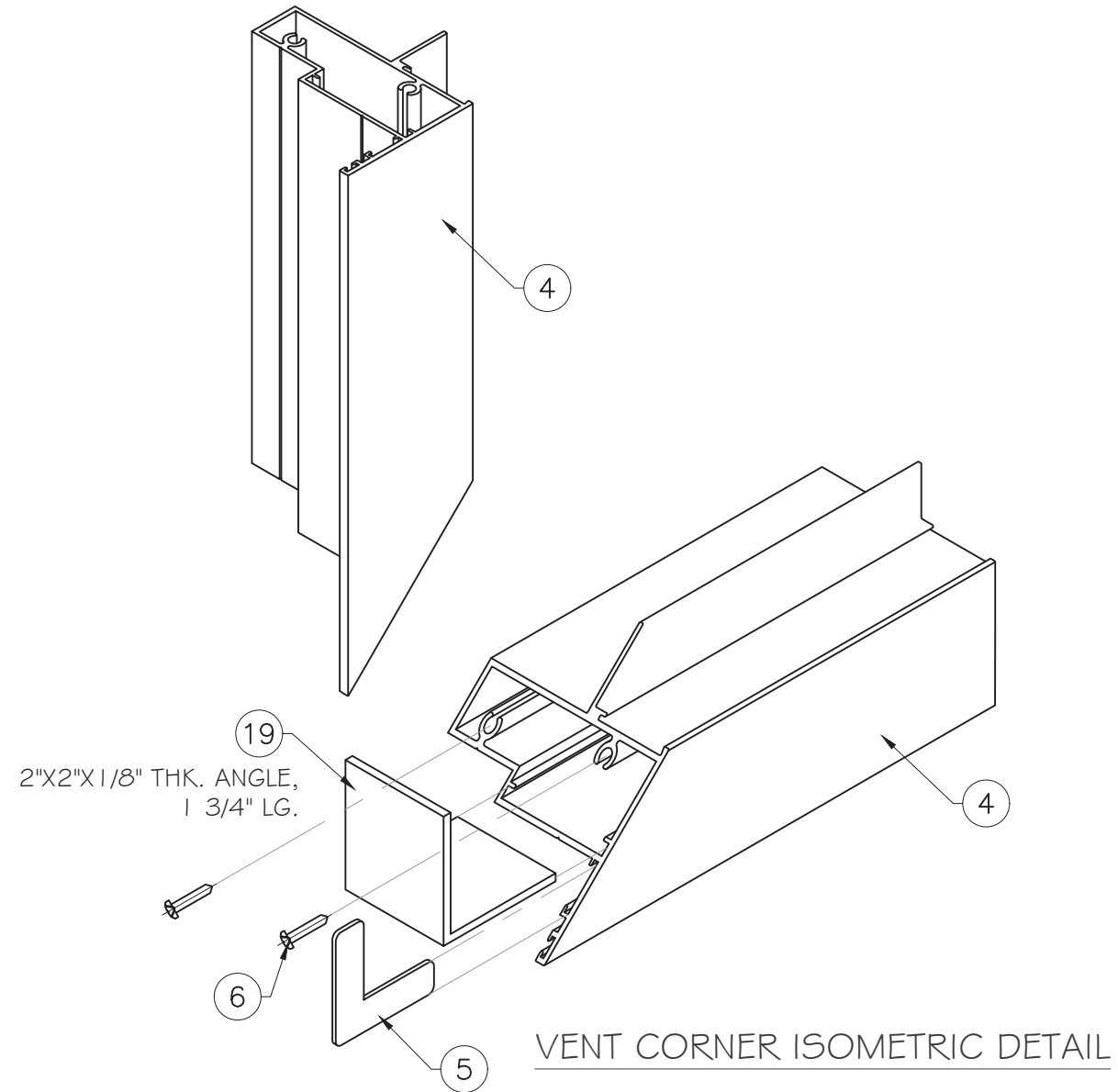
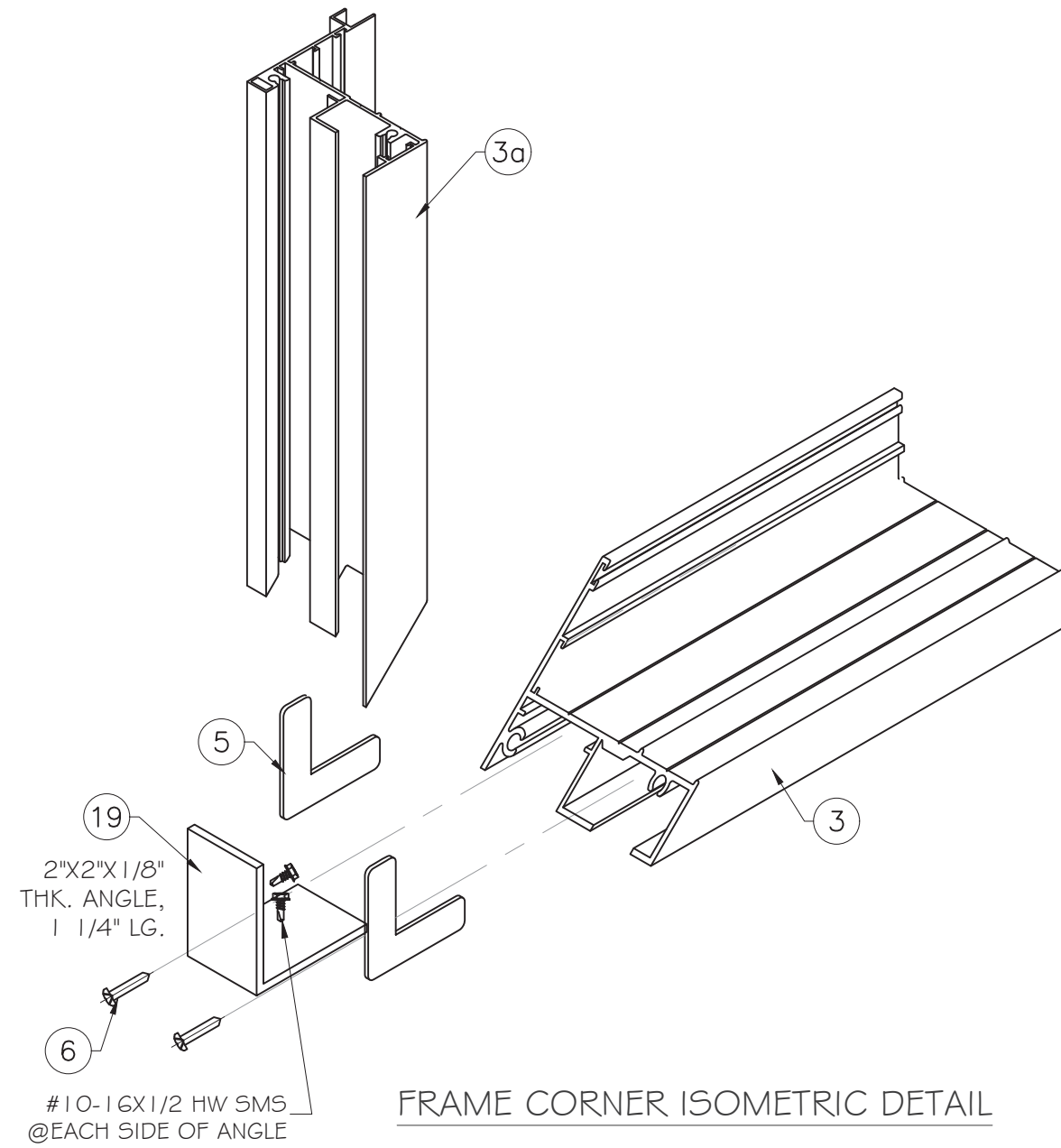
Rev. No.	Date	Drawn By	Description

FLORIDA APPROVAL:  
**FL#35387**



Drawn Date 11/23/2020	Scale AS SHOWN
DRAWING NO. <b>AD20-33</b>	
BOM	
Sheet No. <b>08 OF 9</b>	





FLORIDA APPROVAL:  
FL#35387

YIPING WANG  
FLORIDA REGISTERED PROFESSIONAL ENGINEER  
LICENSE No 55983  
S.A.N. 28097  
December 16th, 2020

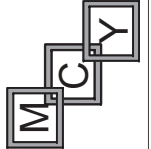
SERIES "CS 2100" ALUMINUM CASEMENT WINDOW - L.M.I. & S.M.I.

EMC WINDOWS AND DOORS, LLC.

1356 W. 76TH STREET

HIALEAH, FL 33014

TEL. (305) 283-6280 EMCWindowsDoors@gmail.com



MCY ENGINEERING, INC.  
GLAZING CONSULTANTS

12781 MIRAMAR PKWY. STE. 301  
MIRAMAR, FL 33027

P: 305.271.0117

www.MCYEngineering.com mcy@mcyengineering.com

Drawn Date	Scale	Rev. No.	Date	Drawn By	Description
11/23/2020	AS SHOWN				
DRAWING NO. AD20-33					
ISO					
Sheet No. 09 OF 9					