

ES.WINDOWS ES-P300 WINDOW MULLION - L.M.I

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 7TH EDITION OF FLORIDA BUILDING CODE 2020/ 8TH EDITION OF FLORIDA BUILDING CODE 2023 INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- MULLIONS ARE USED WITH ES P300 FIXED WINDOW/ ES P300 CASEMENT/ ES-P300 AWNING WINDOW, LOWER DESIGN PRESSURE FROM WINDOW APPROVALS OR MULLION CHARTS WILL APPLY TO ENTIRE SYSTEM.
- 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 2020/8TH EDITION OF FLORIDA BUILDING CODE 2023 SECTION AS APPLICABLE.
- METAL STRUCTURES BY OTHERS 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/ ASCE 7-22, 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.
- 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.
- SEALANT:
ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER GLAZING BEAD TO FRAME INSTALLATION FASTENERS SEALED WITH SILICONE SEALANT.

USE CHARTS AS FOLLOWS.

- STEP 1: DETERMINE DESIGN WIND LOAD REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7-16/ ASCE 7-22 STANDARD OR WIND TUNNEL REPORTS.
- STEP 2: SEE SHEET E I FOR ANCHOR LAYOUT.
- STEP 3: ANCHOR OPTION SEE SHEET D I & D2.
- STEP 4: SEE SHEET M I FOR MULLION CAPACITY.
- STEP 5: THE LOWEST VALUE RESULTING FROM STEPS 2 TO 4 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.

ABBREVIATIONS AND SYMBOLS	
G.B. - GLASS BITE	
D.L.O. - DAYLITE OPENING	
F.H. - FRAME HEIGHT	
F.W. - FRAME WIDTH	
W/ - WITH	
W/O - WITHOUT	
O.C. - ON CENTER	

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.

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#40524.1

YU-KING WANG, P.E.
FLORIDA REGISTRATION
FL #55983
C.A.N. 5528677

STATE OF FLORIDA
PROFESSIONAL ENGINEER

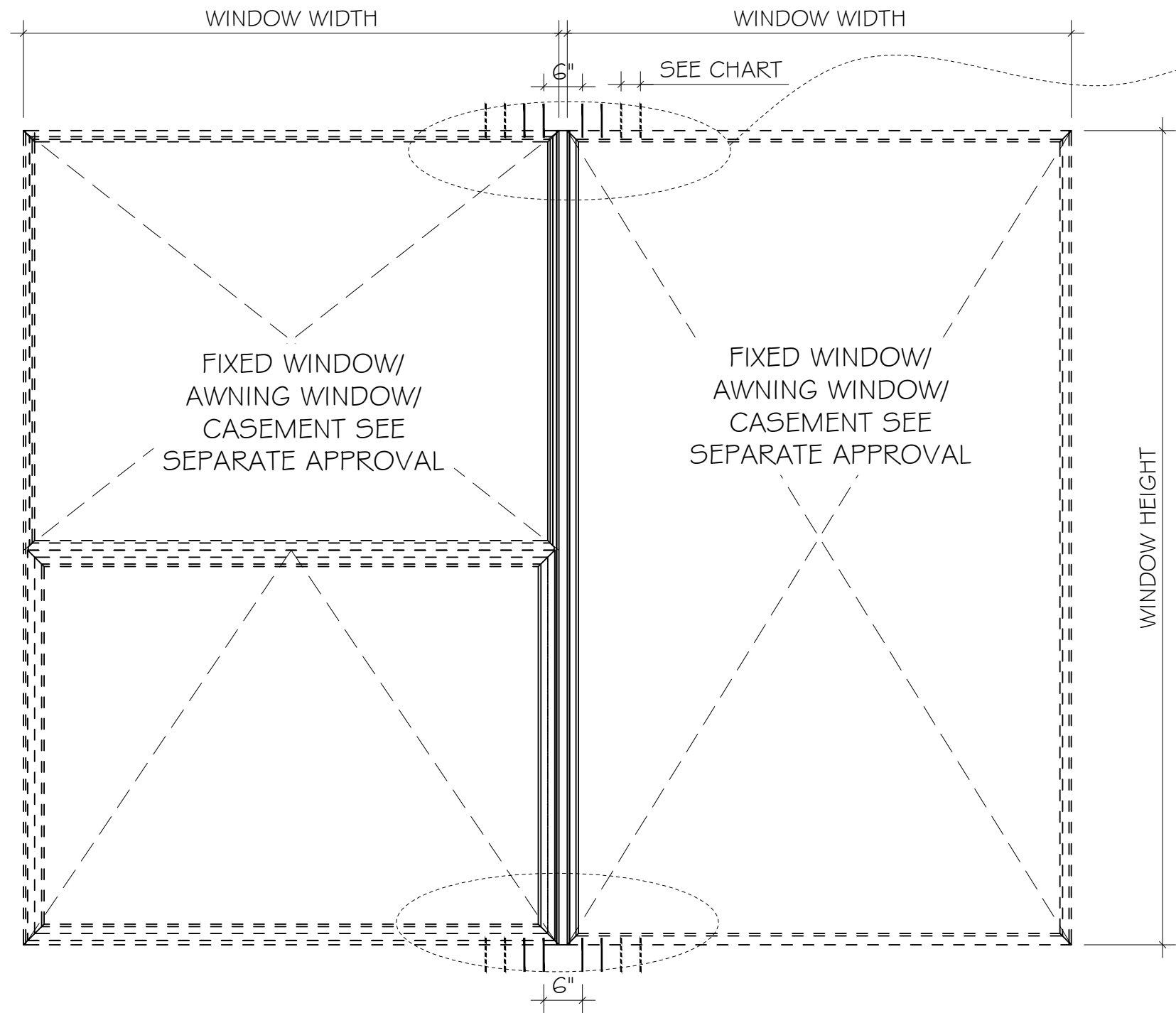
November 3rd, 2023

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ES-P300 ALUMINUM MULLION - L.M.I.

E.S.WINDOWS, INC.
10653 NE QUAYBRIDGE CT.
MIAMI, FL 33138
TEL. (305) 624-7775

Drawn Date	Scale	UPDATE	Description
10.11.2023		FBC 2023	
		JAMES	Drawn By
		R2	Date
			Rev. No.
DRAWING NO. AD21-55			
COVER			
Sheet No. 1 OF 6			

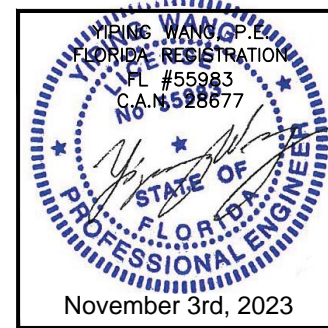


	ANCHOR TYPE	# OF ANCHOR AT MULLION END	ANCHOR SPACING
DIRECT	TYPE "A"	8	3" MIN. O.C.
	TYPE "B"	8	
	TYPE "C"	8	
RECEPTOR	TYPE "D"	6	4" MIN. O.C.
	TYPE "E"	4	
	TYPE "F"	4	

TYPICAL ELEVATIONS

MAXIMUM DESIGN LOAD
+80/-90 PSF

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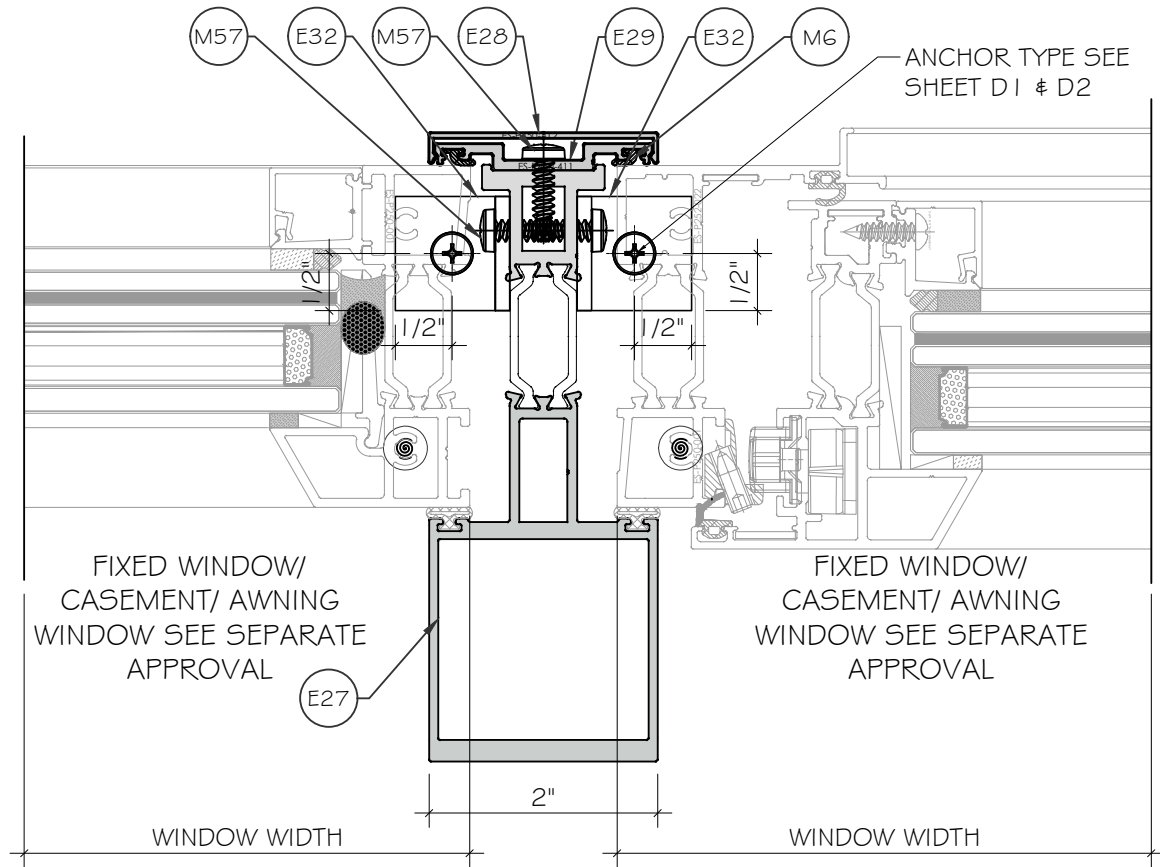
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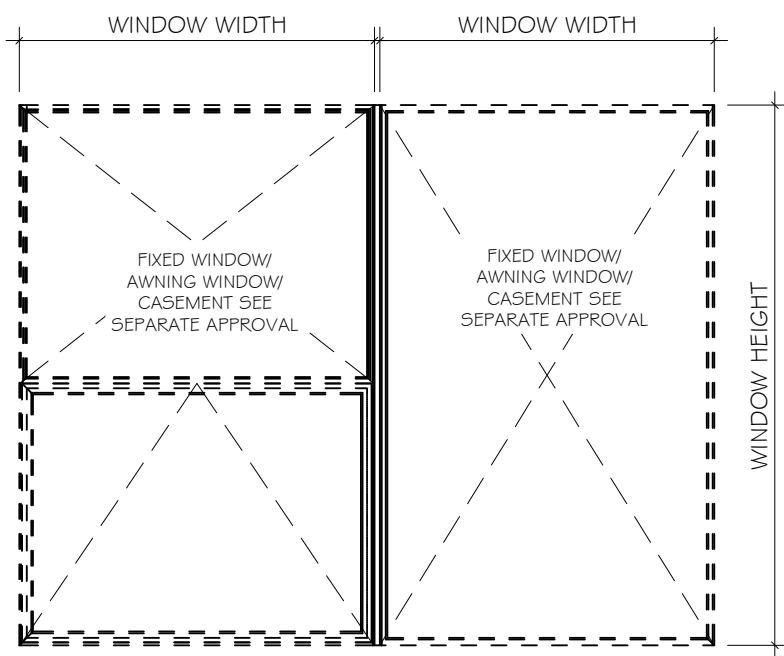
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2 OF 6

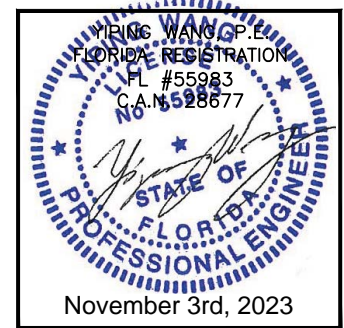
MULLION DESIGN LOAD			
WINDOW PANEL		MAX. DESIGN LOAD	
WIDTH	HEIGHT	EXT (+)	INT (-)
INCH	INCH	PSF	PSF
24.0	72.0	80.0	90.0
30.0			
36.0			
42.0			
48.0			
54.0			
60.0			
66.0			
72.0			
24.0	78.0	80.0	90.0
30.0			
36.0			
42.0			
48.0			
54.0			
60.0			
66.0			
24.0	84.0	80.0	90.0
30.0			
36.0			
42.0			
48.0			
54.0			
60.0			
66.0			
24.0	90.0	80.0	90.0
30.0			
36.0			
42.0			
48.0			
54.0			
60.0			
66.0			
24.0	96.0	80.0	90.0
30.0			
36.0			
42.0			
48.0			
54.0			
57.0			



FOR DETAIL ON D2
DIRECT ANCHOR



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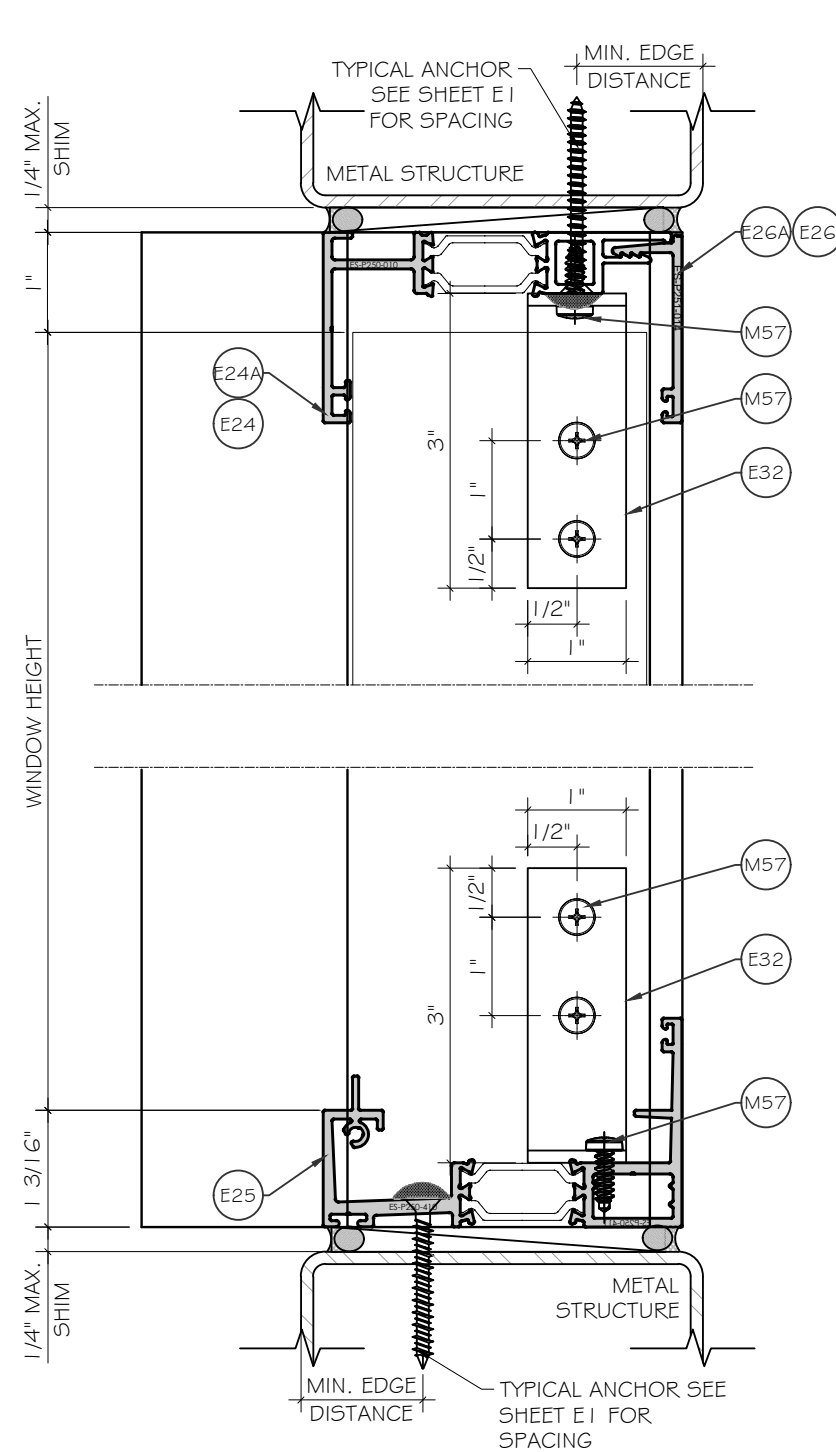
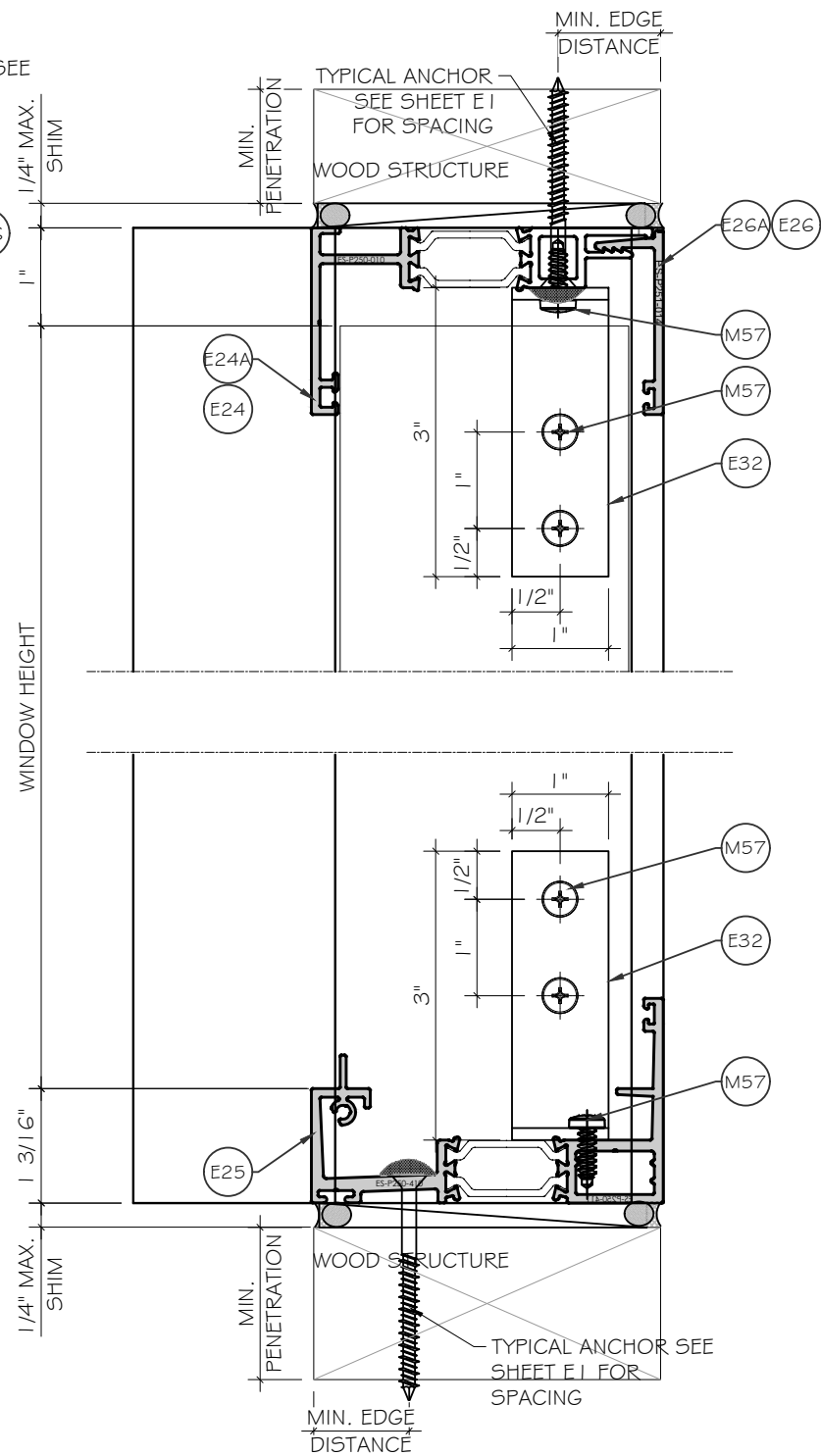
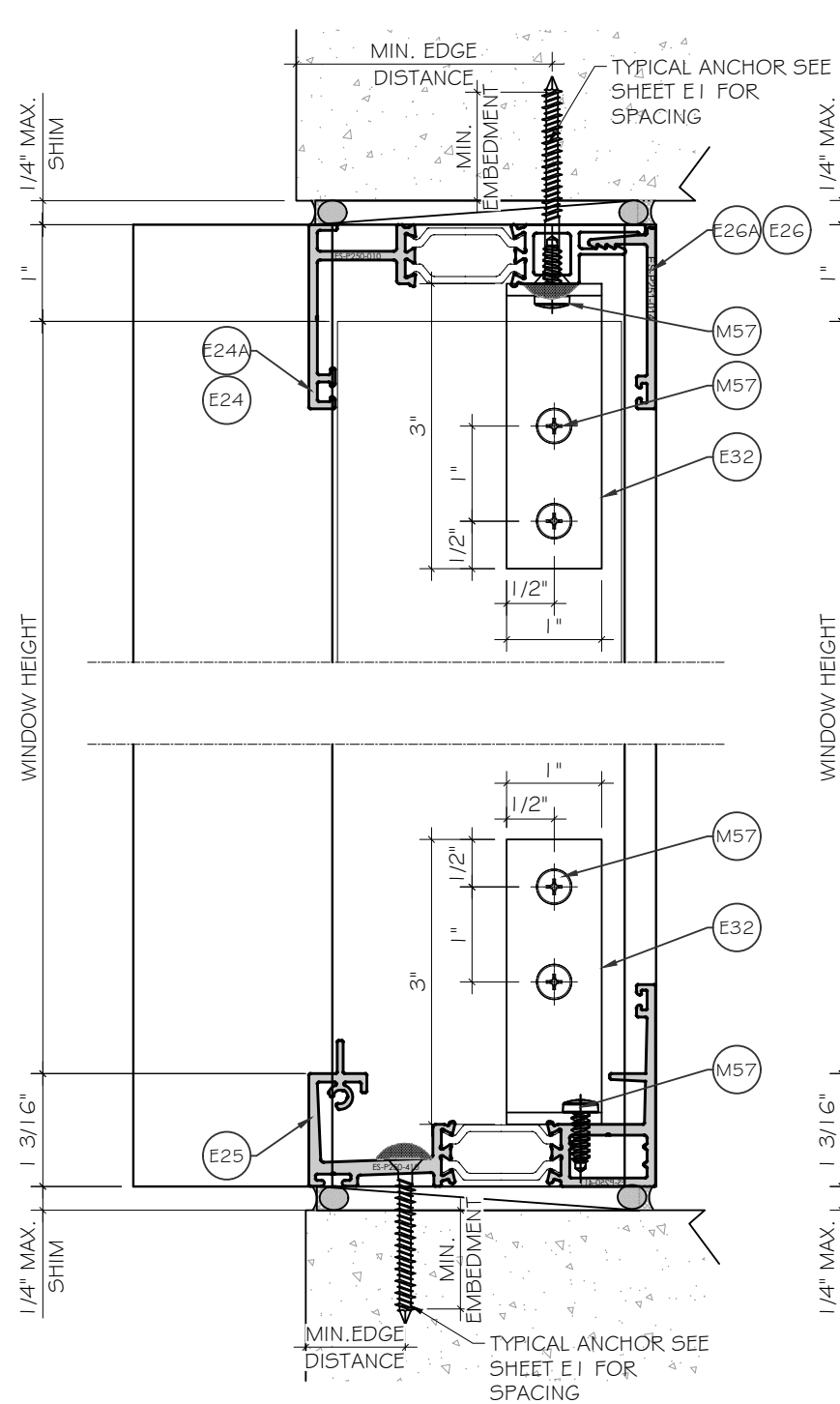


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10.11.2023	
DRAWING NO.	
AD21-55	
M1	
Sheet No.	
3 OF 6	



ANCHOR OPTIONS:

ANCHOR TYPE 'D' - 1/4" DIA. ULTRACON+ BY 'DEWALT'(Fu= 1 64KSI, Fy= 1 48KSI) INTO 2BY WOOD BUCKS (SG=0.55 MIN.) WITH 1 1/2" MIN. PENETRATION. OR THRU 1 BY WOOD BUCK INTO CONCRETE

ANCHOR TYPE 'E' - 1/4" DIA. ULTRACON+ BY 'DEWALT'(Fu= 1 64KSI, Fy= 1 48KSI) DIRECTLY INTO CONCRETE f'c=3KSI MIN. W/ 3/4" MIN. EMBEDMENT

ANCHOR TYPE 'F' - 1/4" DIA. SEFL-DRILLING SCREWS, GRADE 5 (Fu= 1 20KSI, Fy=92KSI) INTO METAL STRUCTURES. (3) THREADS MIN. PENETRATION BEYOND METAL SUBSTRATE

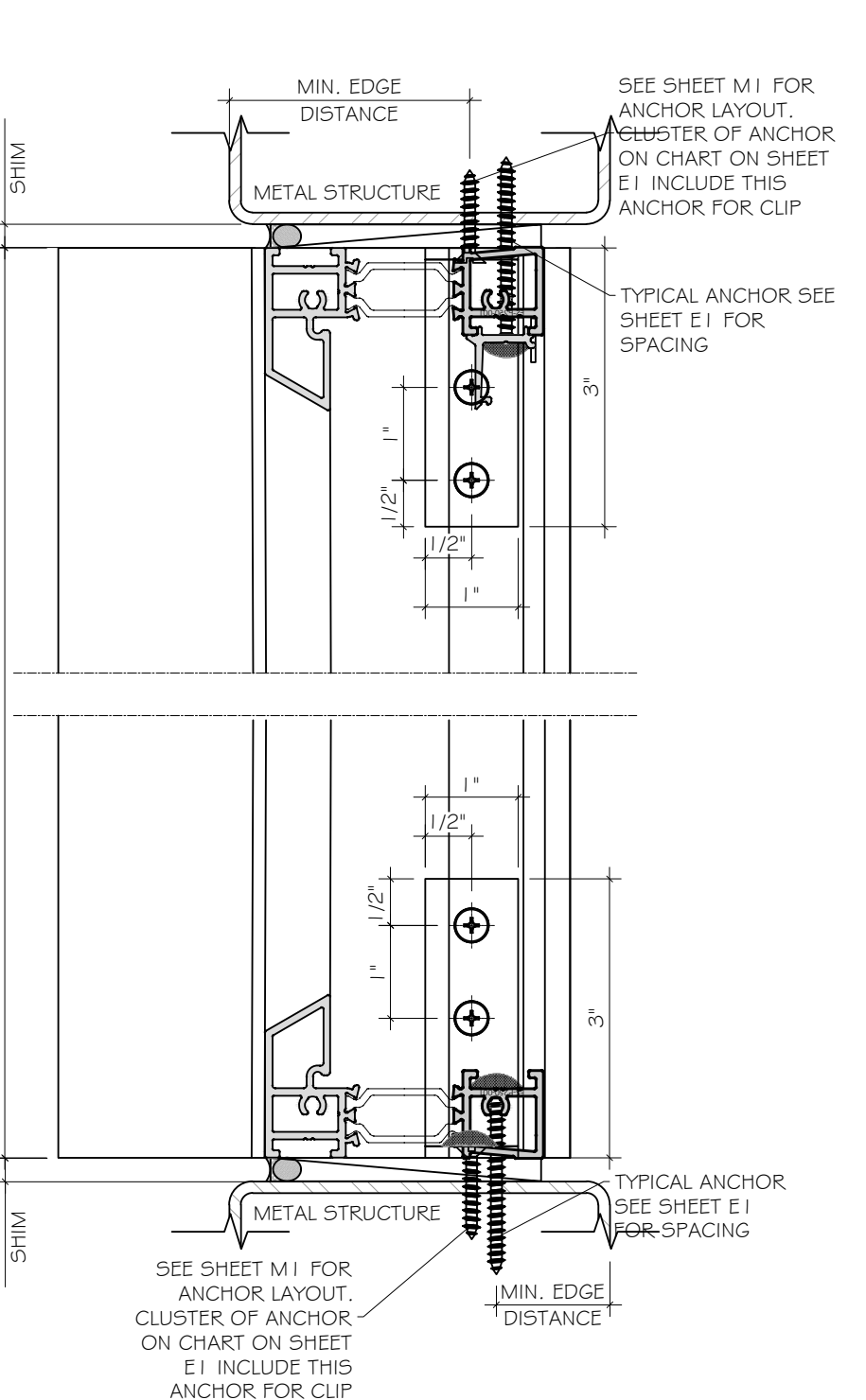
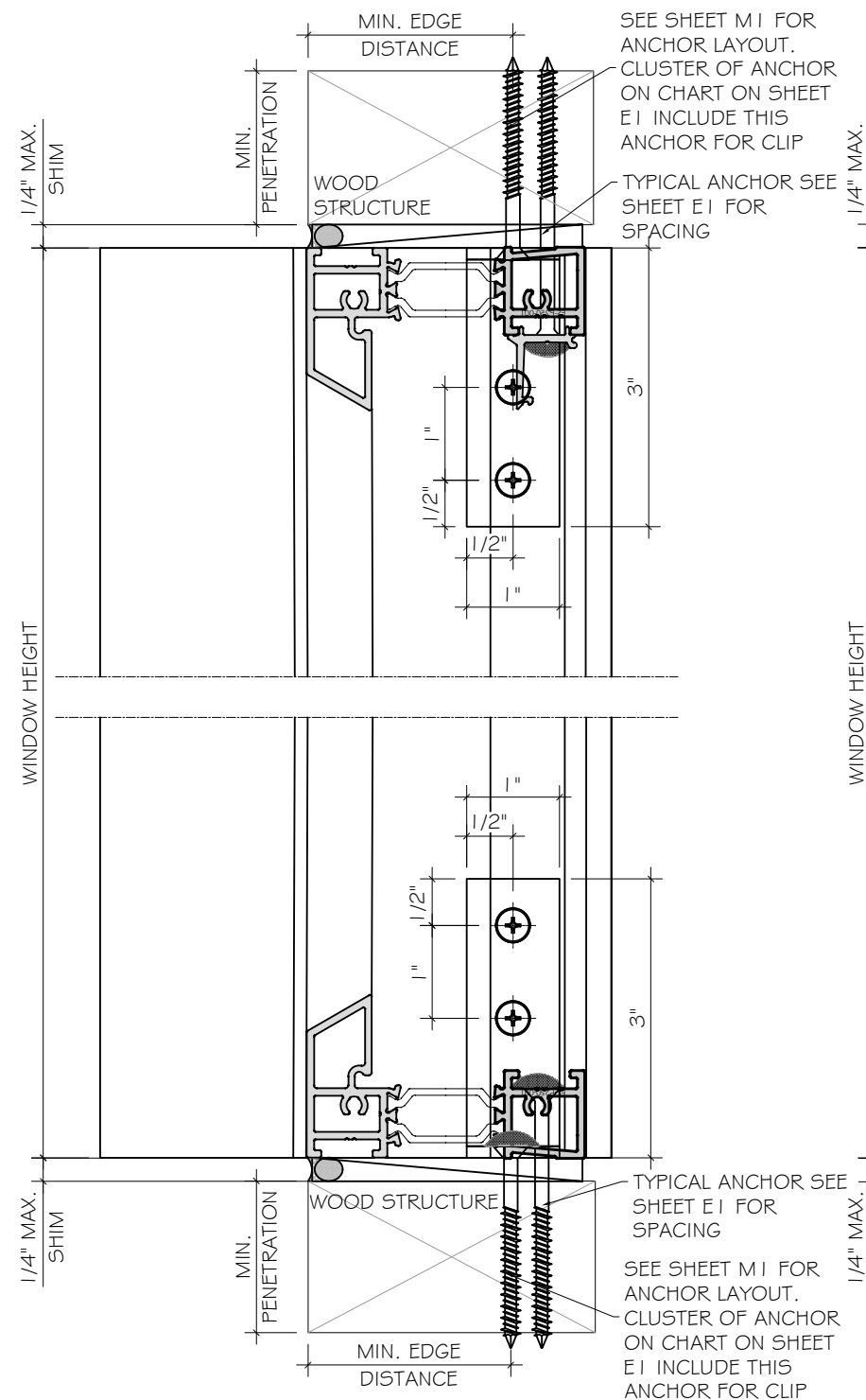
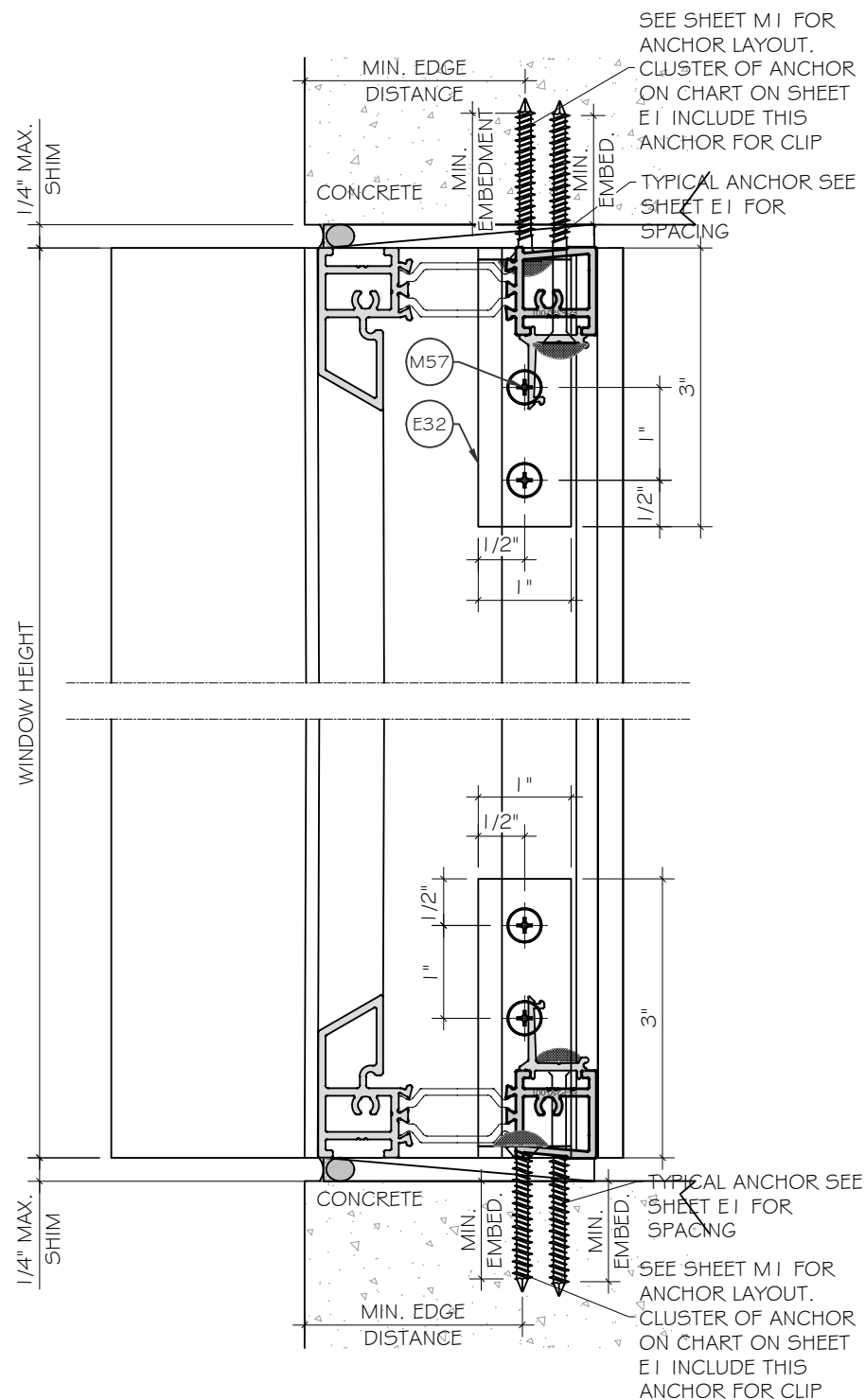
ALUMINUM: 1/8" THK. MIN. (6063-T5, MIN)
 STEEL: 1/8" THK. MIN. (Fy=36KSI MIN)
 STEEL: 1 2GA STL STRUCTURE
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE INTO CONCRETE = 2 1/2" MIN.
 INTO WOOD = 1" MIN.
 INTO METAL STRUCTURE = 1/2" MIN.

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Drawn Date	Scale
10.11.2023	
Drawn By	JAMES
Date	10.11.2023
Rev. No.	R2
Description	UPDATE FEB 2023
DRAWING NO.	AD21-55
Sheet No.	4 OF 6



ANCHOR OPTIONS:

ANCHOR TYPE 'A' - 3/16" DIA. ULTRACON BY 'DEWALT'(Fu= 164 KSI, Fy= 117 KSI) INTO 2BY WOOD BUCKS (SG=0.55 MIN.) WITH 1 1/2" MIN. PENETRATION. OR THRU 1BY WOOD BUCK INTO CONCRETE WITH MIN. 1 3/4" EMBEDMENT.

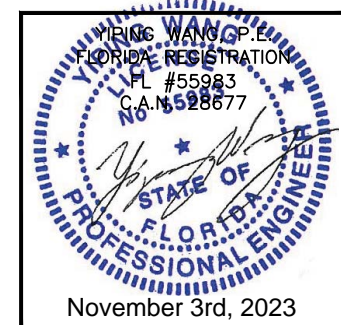
ANCHOR TYPE 'B' - 3/16" DIA. ULTRACON BY 'DEWALT'(Fu= 164 KSI, Fy= 117 KSI) DIRECTLY INTO CONCRETE f'c=3KSI MIN. W/1 3/4" MIN. EMBEDMENT

ANCHOR TYPE 'C' - #10 - SELF DRILLING SCREW GRADE 5 (Fu= 120KSI, Fy=92KSI) INTO F.B.C. APPROVED MULLIONS OR INTO METAL STRUCTURES. (3) THREADS MIN. PENETRATION BEYOND METAL SUBSTRATE

ALUMINUM: 1/8" THK. MIN. (G063-T5, MIN)
 STEEL: 1/8" THK. MIN. (Fy=36KSI MIN)
 STEEL: 1/8" THK. STL STRUCTURE
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE INTO CONCRETE = 2 1/2" MIN.
 INTO WOOD = 1" MIN.
 INTO METAL STRUCTURE = 1/2" MIN.

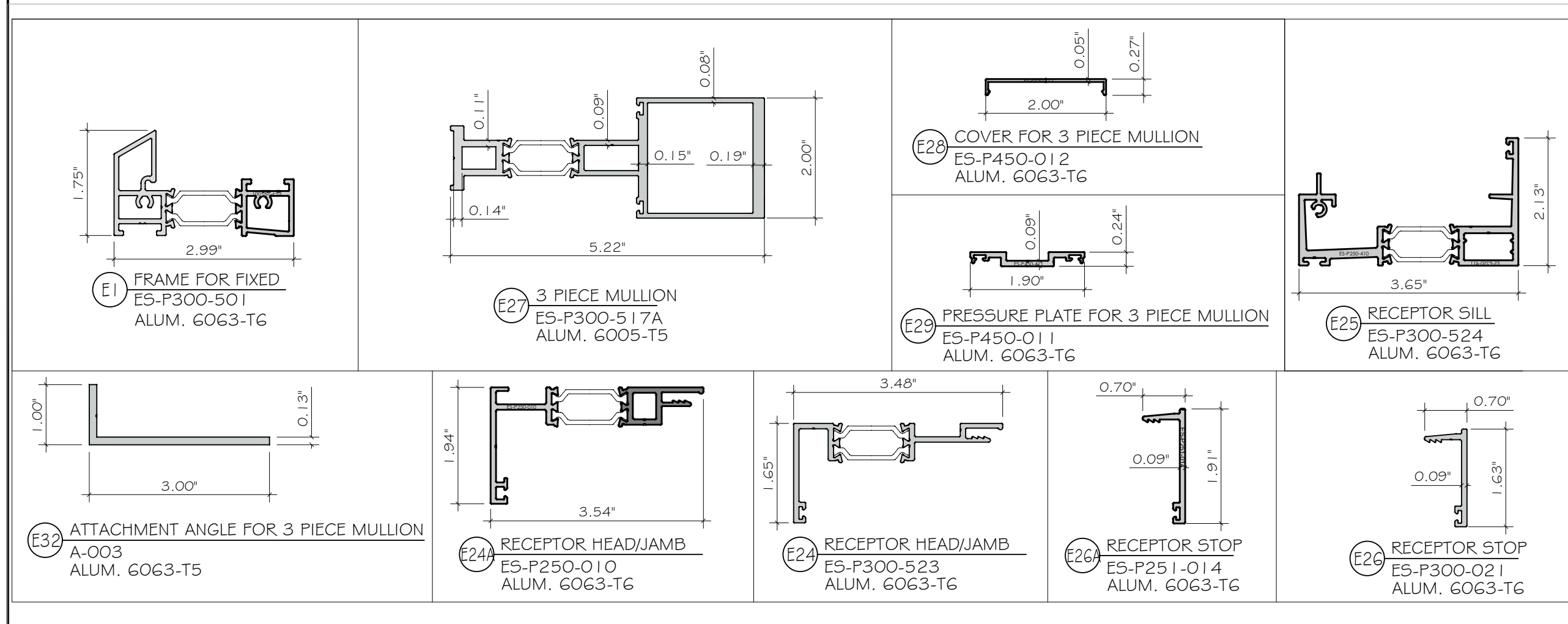
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DRAWING NO. AD21-55	
Sheet No. D2	
5 OF 6	

MATERIAL LIST

CODE	PART NUMBER	DESCRIPTION	MATERIAL
E1	ES-P300-501	FRAME FOR FIXED	ALUMINIUM 6063-T6
E24	ES-P300-523	RECEPTOR HEAD/JAMB	ALUMINIUM 6063-T6
E24A	ES-P250-010	RECEPTOR HEAD/JAMB	ALUMINIUM 6063-T6
E25	ES-P300-524	RECEPTOR SILL	ALUMINIUM 6063-T6
E26	ES-P300-021	RECEPTOR STOP	ALUMINIUM 6063-T6
E26A	ES-P251-014	RECEPTOR STOP	ALUMINIUM 6063-T6
E27	ES-P300-517A	3 PIECE MULLION	ALUMINIUM 6005-T5
E28	ES-P450-012	COVER FOR 3 PIECE MULLION	ALUMINIUM 6063-T6
E29	ES-P450-011	PRESSURE PLATE FOR 3 PIECE MULLION	ALUMINIUM 6063-T6
E32	ES-P450-011	ATTACHMENT ANGLE FOR 3 PIECE MULLION	ALUMINIUM 6063-T6
M6	ES-7530-G06	TONGUE GASKET @3 PIECE MULLION	EPDM 60 DUROMETER
M57	#10-16 x 5/8" PH SELF DRILLING	FOR 3 PIECE MULLION, @10" O.C.	STAINLESS STEEL



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Sheet No. **6 OF 6**