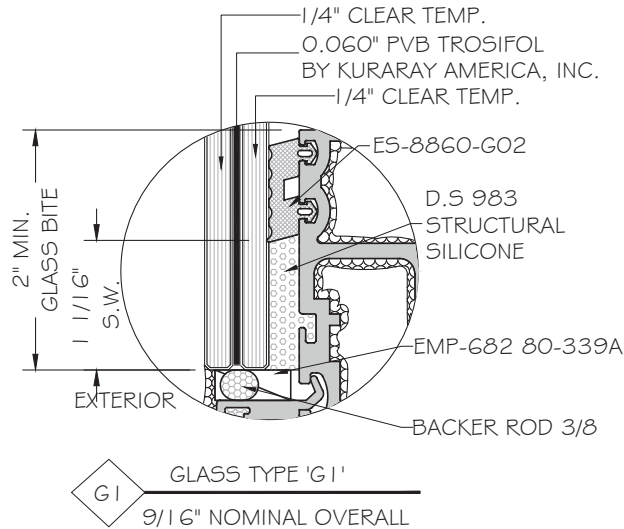


E.S. WINDOWS, INC.
ES-8860 WINDOW WALL SYSTEM – SMALL MISSILE IMPACT



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

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 8TH EDITION OF FLORIDA BUILDING CODE 2023 INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- WINDOWS RATED FOR SMALL MISSILE IMPACT. IMPACT SHUTTERS ARE NOT REQUIRED FOR ELEVATIONS ABOVE 30’-0” FROM GRADE. IMPACT SHUTTERS ARE REQUIRED FOR ELEVATIONS BELOW 30’-0” FROM GRADE.
- 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. OTHER SITE SPECIFIC ANCHORING CONDITIONS TO BE DESIGNED BY A LICENSED DESIGN PROFESSIONAL.
- MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/ METAL SCREWS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE 8TH EDITION OF FLORIDA BUILDING CODE 2023 SECTION AS APPLICABLE.
- MAIN 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 7-22, 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 7-22 STANDARD OR WIND TUNNEL REPORTS.
- STEP 2: SEE SHEET 02 FOR APPROVED CONFIGURATION AND MULLION & JAMB CAPACITIES. SEE SHEET 03 FOR SILICONE CAPACITIES.
- STEP 3: SEE SHEET 01 FOR GLASS TYPES.
- STEP 4: THE LOWEST VALUE RESULTING FROM STEPS 2 & 3 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.

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:
FL47020.2

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	
O.H. – OPPOSITE HAND	
OPP. – OPPOSITE	

SECTION NUMBER

SHEET NUMBER

YIPING WANG
Professional Engineer
No. 55983
FLORIDA
September 05th, 2025

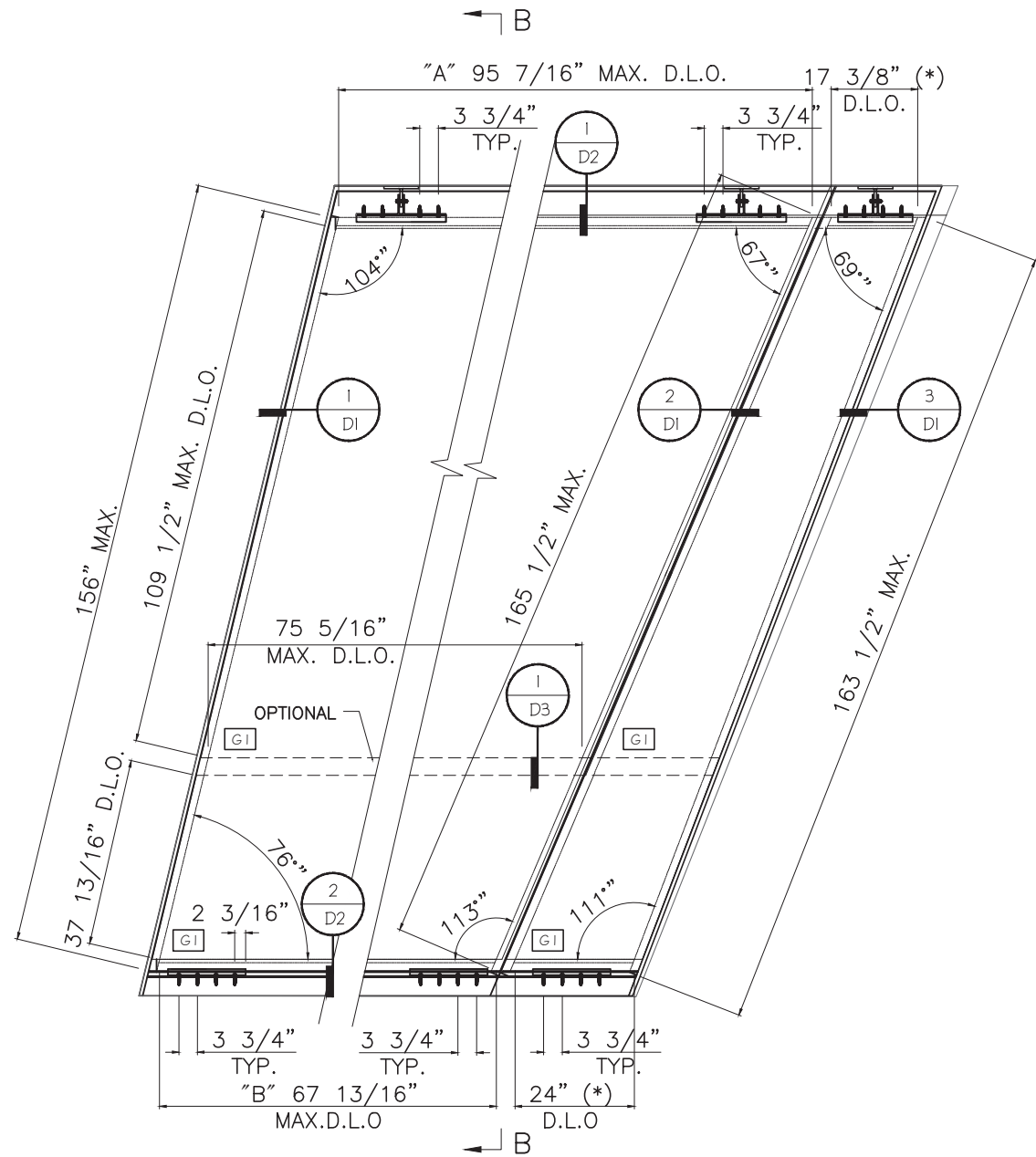
MCY ENGINEERING, INC.
GLAZING CONSULTANTS

12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

ES-8860 WINDOW WALL SYSTEM - SMI

ES WINDOWS, INC.
10653 NE Quaybridge Ct.
Miami, FL 33138
TEL: (305) 624-7775

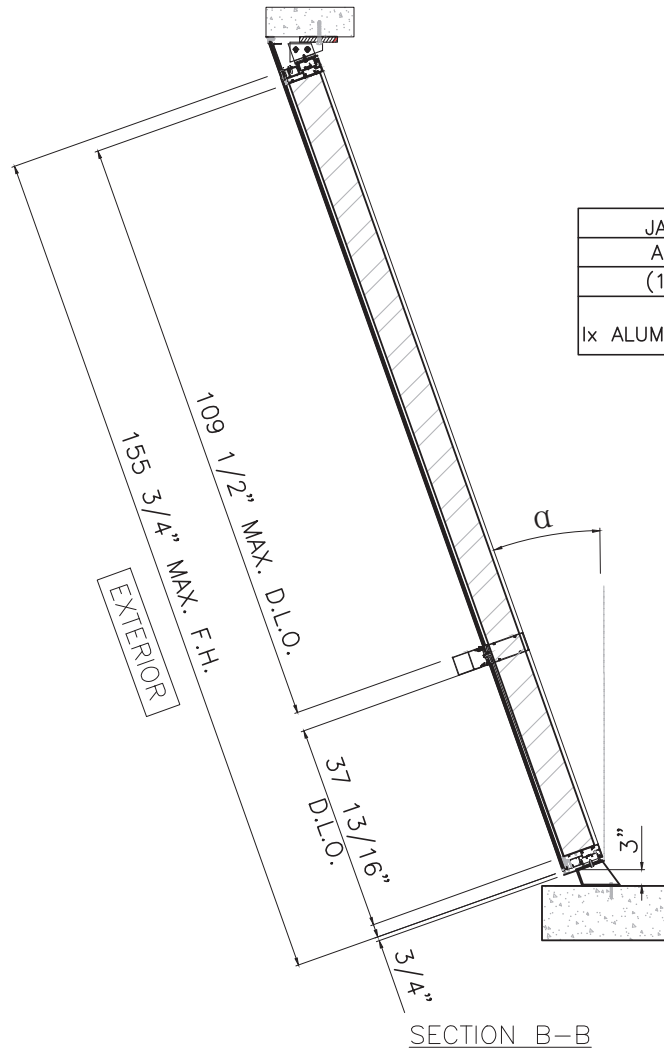
Drawn Date	Scale
07.31.2025	AS SHOWN
DRAWING NO.	
AD25-29	
COVER	
Sheet No.	
1 OF 8	



TYPICAL EXTERIOR ELEVATION
TESTED UNIT SIZE

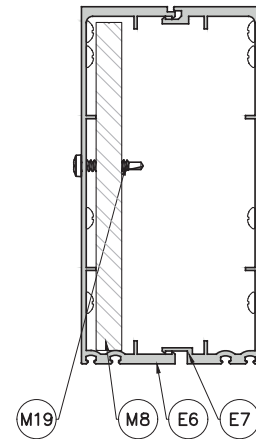
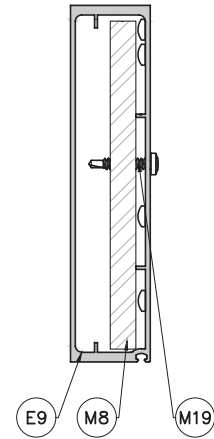
SLANT WW8860 MULLION & JAMB CAPACITIES					
SLANT ANGLE α	MULLION/JAMB TYPE	MAX. DLO W (INCH)		DESIGN LOAD (psf)	
		A	B	(+)	(-)
$\alpha \leq 19^\circ$	J1	95 7/16	67 13/16	84	84
$\alpha \leq 19^\circ$	J1	88 7/8	61 1/4	84	90
$\alpha \leq 15^\circ$	M1	95 7/16	67 13/16	84	84
$\alpha \leq 15^\circ$	M1	87 7/16	59 13/16	84	90
$15 < \alpha \leq 19^\circ$	M1	95 7/16	67 13/16	82	82
$15 < \alpha \leq 19^\circ$	M1	87 7/16	59 13/16	84	84
$15 < \alpha \leq 19^\circ$	M1	79 7/16	51 13/16	84	90

(*) DLOW SIZE AS SHOWN ON ELEVATION FOR ABOVE CHART.

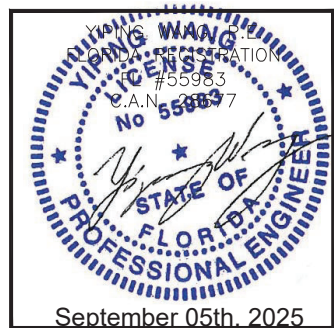


JAMB "J1"	Ix(IN ⁴)	Sx(IN ³)
ALUMIUM	11.5883	3.2812
(1) STEEL	11.4427	3.5208
TOTAL		
Ix ALUM + STL X 2.9	44.7722	-

MULLION "M1"	Ix(IN ⁴)	Sx(IN ³)
ALUMIUM	20.3191	5.5319
(1) STEEL	11.4427	3.5208
TOTAL		
Ix ALUM + STL X 2.9	53.5030	-



FLORIDA APPROVAL:
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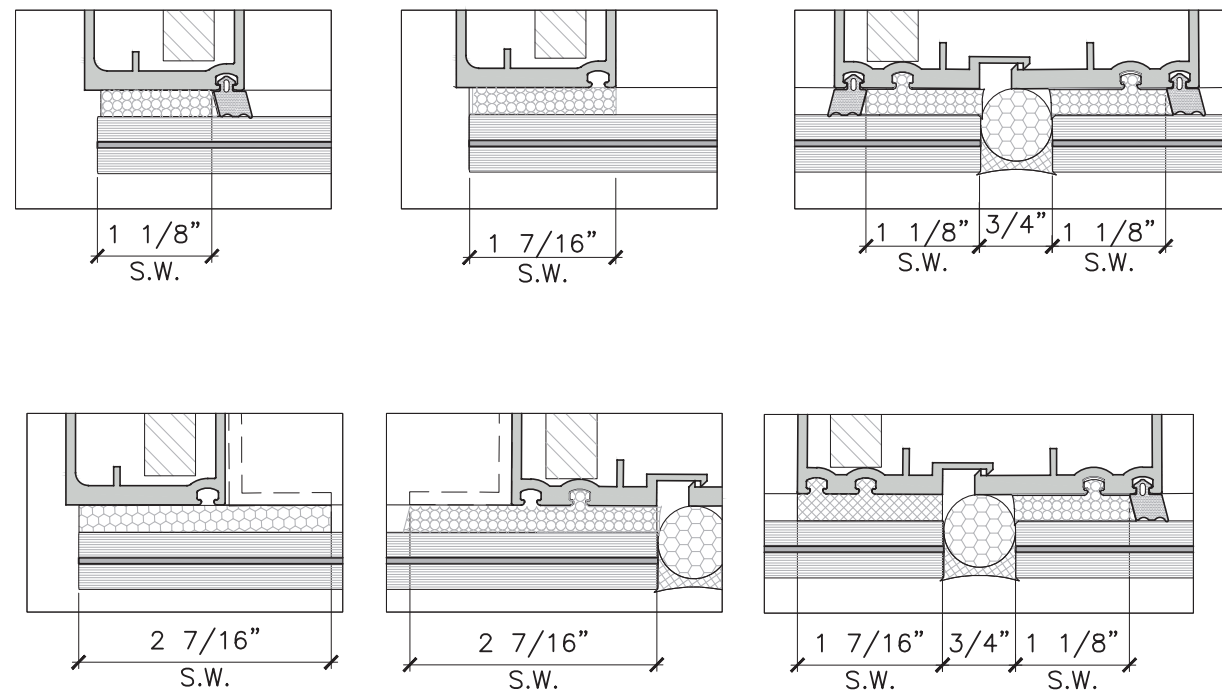
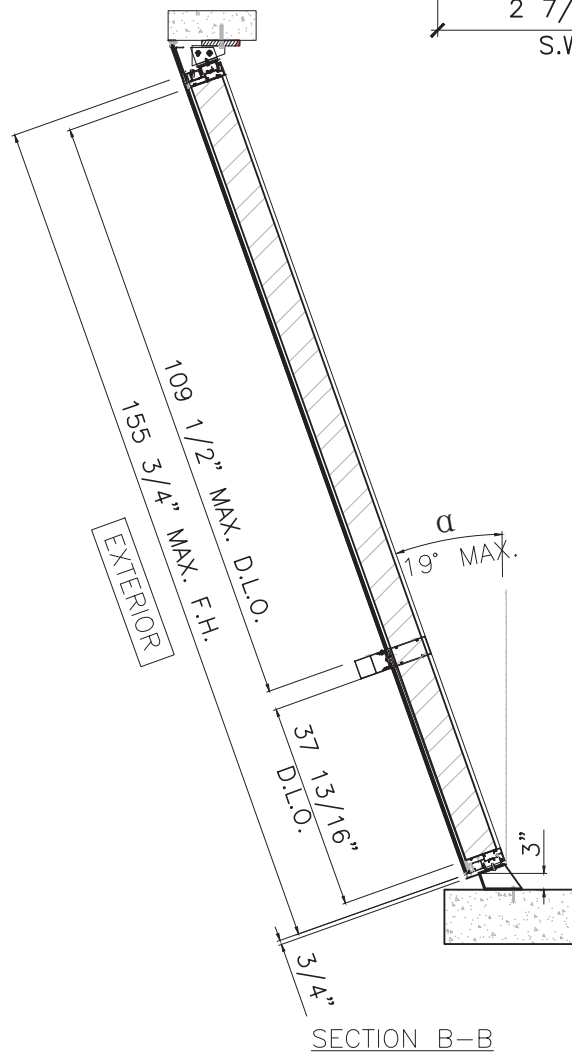
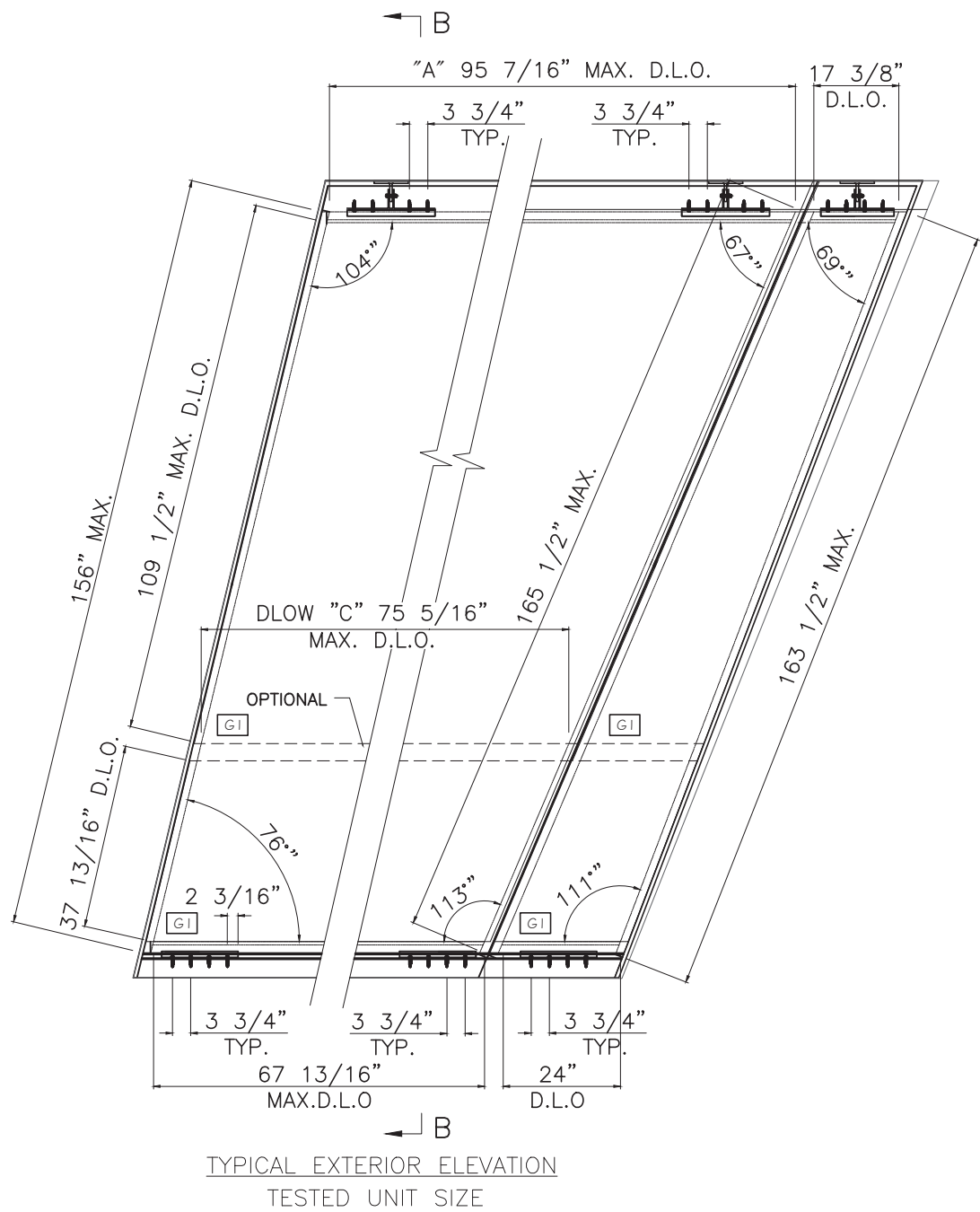
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MIRAMAR, FL 33027 P: 305.588.5224
www.MCYEngineering.com mcy@mcyengineering.com

Rev. No.	Date	Drawn By	Description
1.	07.31.2025	JAMES	NEW APPROVAL

Drawn Date: 07.31.2025 Scale: AS SHOWN

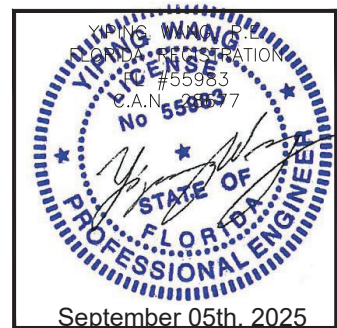
DRAWING NO.
AD25-29

E1
Sheet No.
2 OF 8



DIMENSIONS			SILICONE SEALANT CAPACITY	
			$\alpha \leq 15^\circ$	$15^\circ < \alpha \leq 19^\circ$
S.W.	MAX. DLO W (INCH)		DESIGN LOAD	DESIGN LOAD
INCH	A	C	Pd (+/-psf)	Pd (+/-psf)
1 1/8"	95 7/16	75 5/16	40	30
	87 7/16	67 1/2	48	38
	79 7/16	59 1/2	55	47
	71 7/16	51 1/2	65	56
	54	54	80	70
	48 1/2	48 1/2	90	84
1 7/16	45 1/2	45 1/2	90	90
	95 7/16	75 5/16	60	50
	87 7/16	67 1/2	70	61
	79 7/16	59 1/2	80	71
2 7/16	71 7/16	51 1/2	90	84
	95 7/16	75 5/16	90	90

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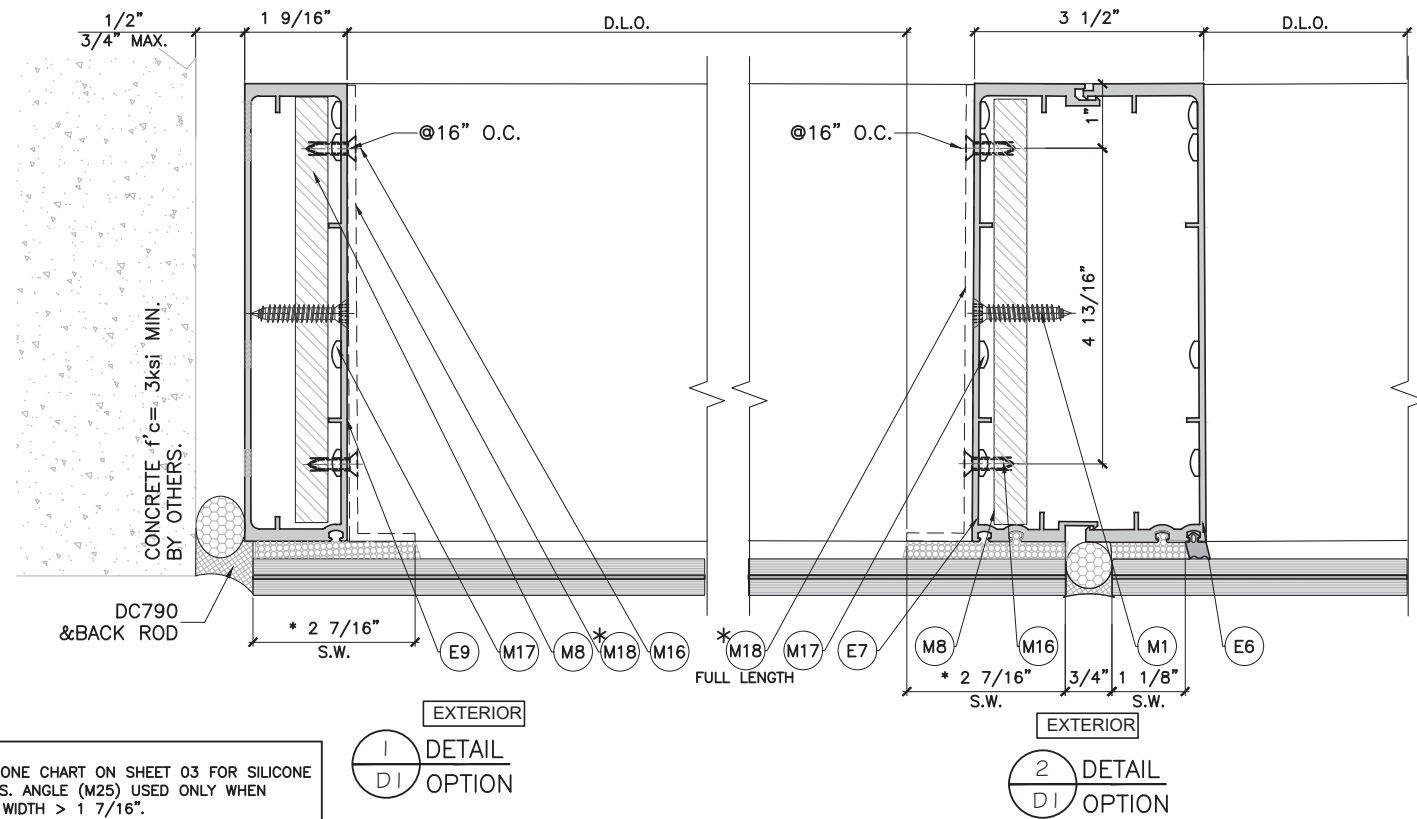
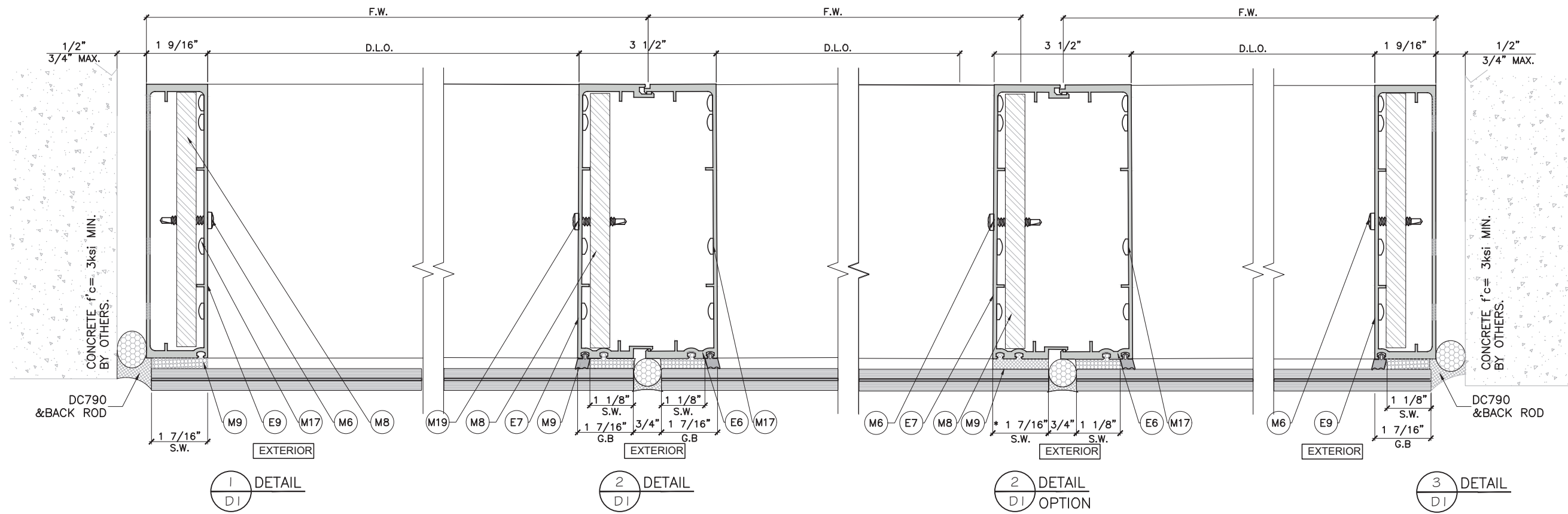
Scale
AS SHOWN

DRAWING NO.
AD25-29

SILICONE

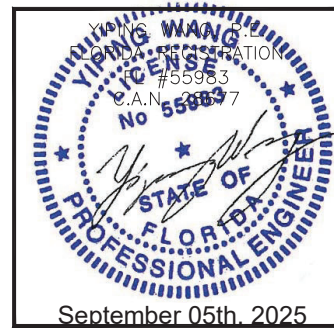
Sheet No.
3 OF 8

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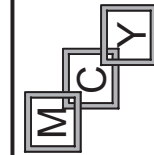
* NOTE:
SEE SILICONE CHART ON SHEET 03 FOR SILICONE
CAPACITIES. ANGLE (M25) USED ONLY WHEN
SILICONE WIDTH > 1 7/16\".

FLORIDA APPROVAL:
FL47020.2



ES-8860 WINDOW WALL SYSTEM - SMI

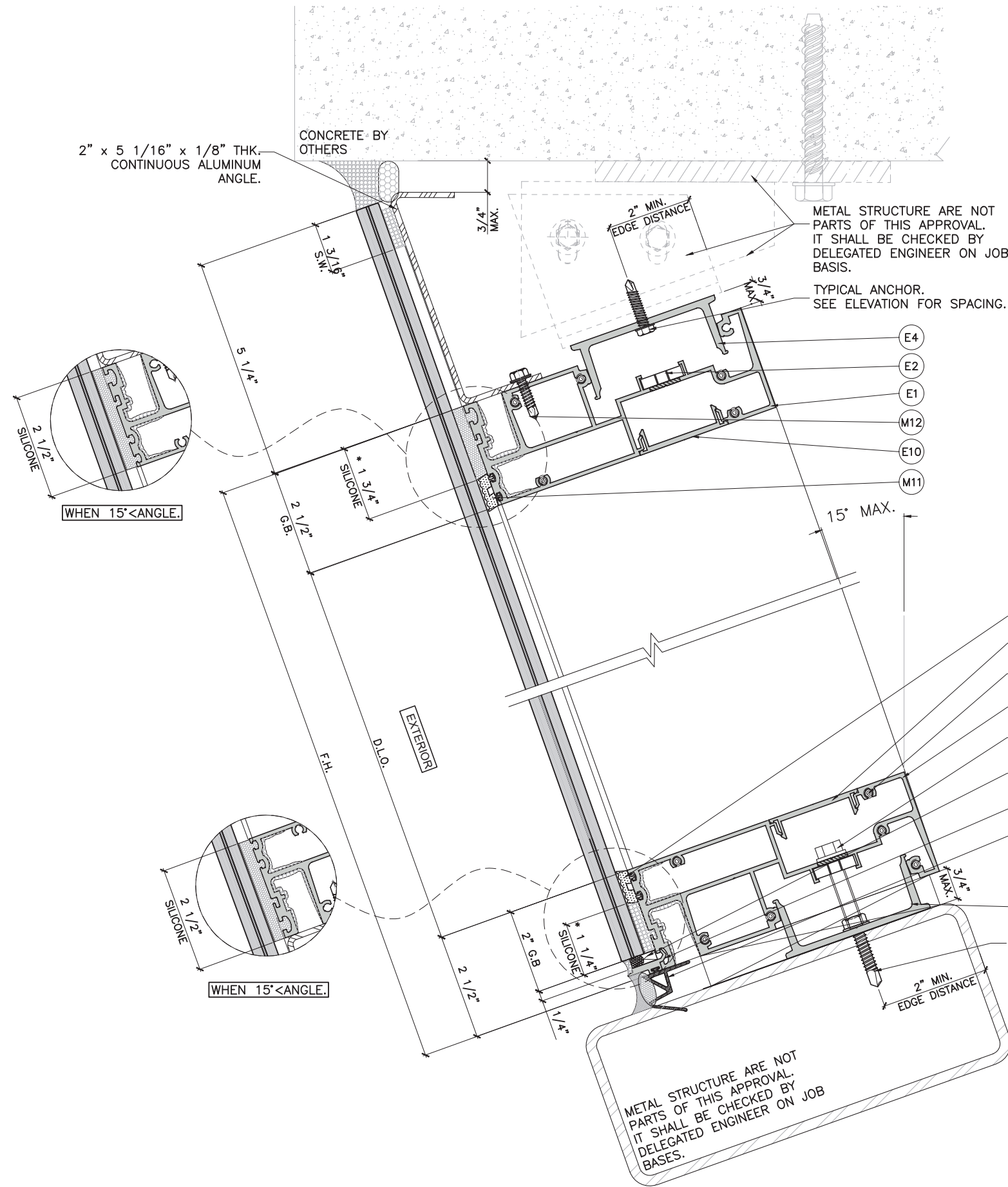
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TYPICAL ANCHOR(SEE ELEVATION FOR SPACING):

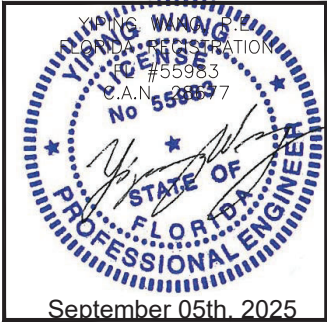
TYPE "A": 5/16" DIA. TEKS OR DRILL FLEX BY ELCO (GRADE 5)(Fy=92ksi, Fu=120 ksi). INTO 3/16" MIN. THK. STEEL (A36 MIN.).
 2 3/16" FROM END, @3 3/4" O.C..
 3 TREADS MIN PENETRATION BEYOND STEEL STRUCTURES.
 STEEL IN CONTACT WITH ALUMINUM TO BE PAINTED OR PLATED.

NOTE:
 METAL STRUCTURES BY OTHERS TO BE DESIGNED TO SUPPORT THE LOADS IMPOSED BY THIS SYSTEM AND TO TRANSFER SUCH LOADS TO THE BUILDING MAIN STRUCTURE.

1 DETAIL
 D2 SLANTED ANGLE≤15°

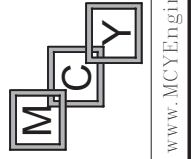
2 DETAIL
 D2 SLANTED ANGLE≤15°

FLORIDA APPROVAL:
 FL47020.2



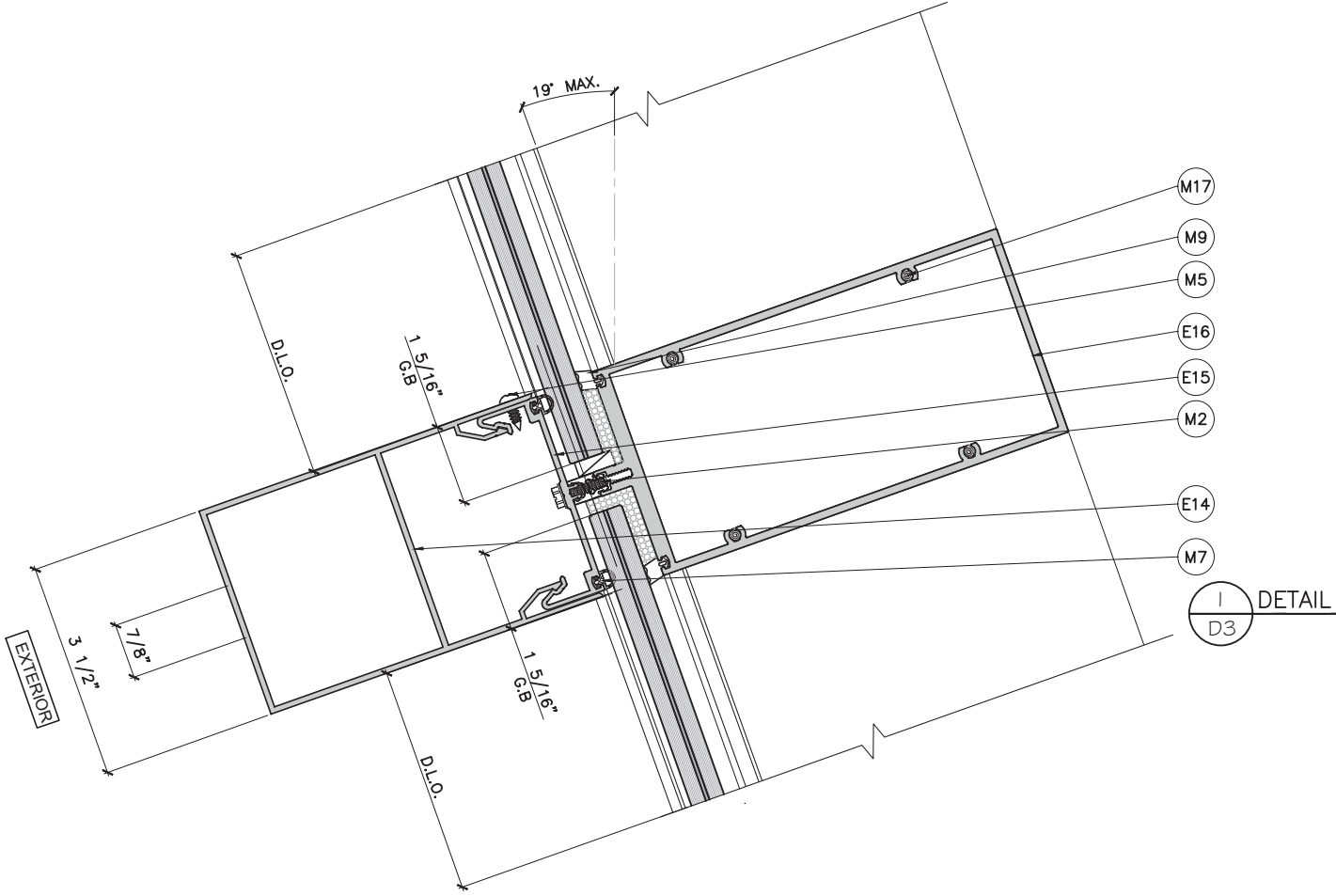
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Rev. No.	Date	Drawn By	Description
1.	07.31.2025	JAMES	NEW APPROVAL
Drawing Date 07.31.2025 Scale AS SHOWN			
Drawing No. AD25-29			
Sheet No. 5 OF 8			



FLORIDA APPROVAL:

FL47020.2

YIPING WANG

PROFESSIONAL ENGINEER

STATE OF FLORIDA

License No. 55983

Exp. Date 07/31/2025

September 05th, 2025

D3		AD25-29	
Sheet No.		6 OF 8	
D3		AD25-29	
DRAWING NO.		AD25-29	
Scale		AS SHOWN	
Drawn Date		07.31.2025	
Rev. No.		1.	
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Description		NEW APPROVAL	

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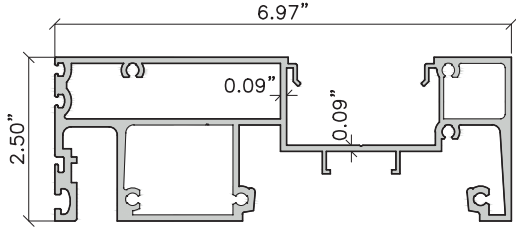
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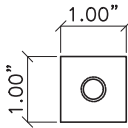
INC.

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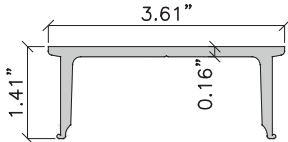
12781 MIRAMAR PKWY, STE. 301
MIRAMAR, FL 33027
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www.MCYEngineering.com
mcy@mcyengineering.com



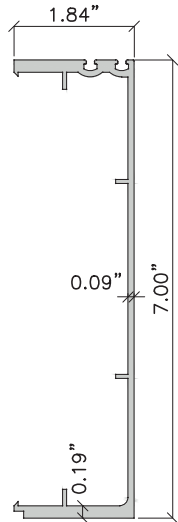
E1 FRAME HEAD AND SILL
ES-8860-007AALUM. 6063-T6



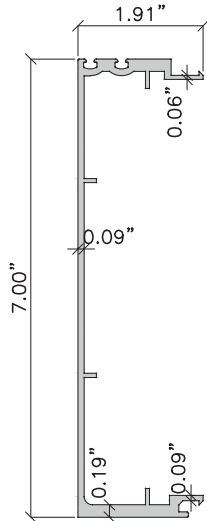
E2 SILL LEVELER
ALU-P-020 ALUM. 6063-T6



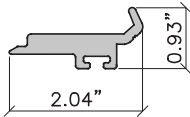
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ES-7004 ALUM. 6005-T5



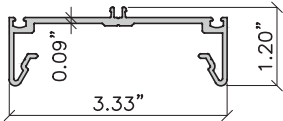
E6 SSG FEMALE MULLION
ES-8860-008 ALUM. 6005-T5



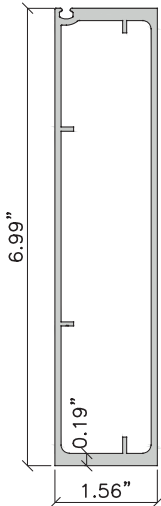
E7 MALE MULLION SSG AND CAPTURED
ES-8860-009 ALUM. 6005-T5



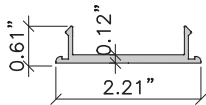
E8 SETTING CHAIR
ES-WW8860-402ALUM. 6063-T6



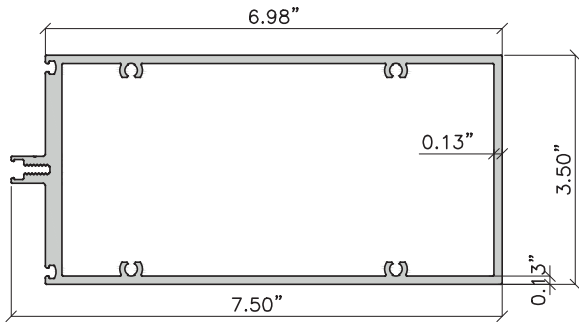
E15 PRESSURE PLATE FOR
HORIZONTAL AND VERTICAL
ES-8860-011 ALUM.6005-T6



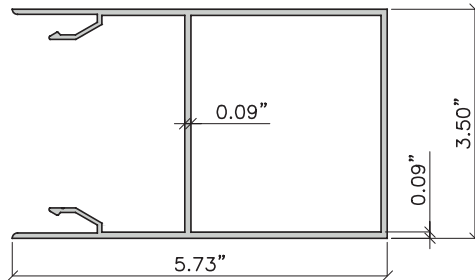
E9 JAMB SSG
ES-WW8832-104ALUM. 6063-T6



E10 SNAP COVER
ES-7003A ALUM. 6063-T5



E16 HORIZONTAL INTERMEDIATE
ES-8860-022 ALUM.6063-T6



E14 PRESSURE PLATE COVER
ES-8860-019 ALUM.6063-T6

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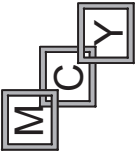
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ES-8860 WINDOW WALL SYSTEM - SMI

ES WINDOWS, INC.

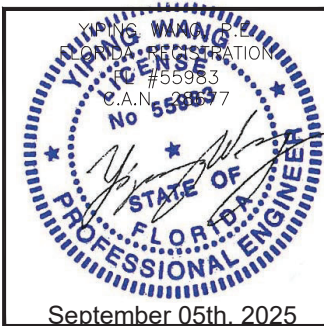
10653 NE Quaybridge Ct.

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FLORIDA APPROVAL:

FL47020.2



Rev. No.	Date	Drawn By	Description
1.	07.31.2025	JAMES	NEW APPROVAL

Drawn Date 07.31.2025 Scale AS SHOWN

DRAWING NO.

AD25-29

P1

Sheet No.

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