

ES WINDOWS, INC.

ES-V I 50 VINYL FIXED WINDOW - L.M.I. & S.M.I.

GENERAL NOTES:

- THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 8TH EDITION FLORIDA BUILDING CODE (2023) INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).
- WINDOWS RATED FOR LARGE MISSILE IMPACT. 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 8TH EDITION FLORIDA BUILDING CODE (2023) SECTION AS APPLICABLE.
- WOOD BUCKS AND METAL STRUCTURES NOT BY E.S. WINDOWS 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.
- ALL JOINT AND FRAME CONNECTION SEALED WITH SILICONE SEALANT.

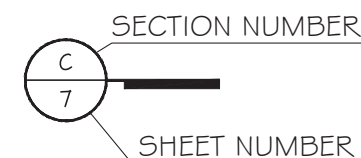
INSTRUCTIONS:

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.
- STEP 2: SEE SHEET E1 & E2 FOR APPROVED TYPICAL ELEVATION.
- STEP 3: SEE CHARTS ON SHEET G1 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE BASED ON APPLICABLE WIND DURATION.
- STEP 4: ANCHOR OPTION SEE SHEET D1 & D2. ANCHOR LAYOUT SEE ELEVATION.
- STEP 5: THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

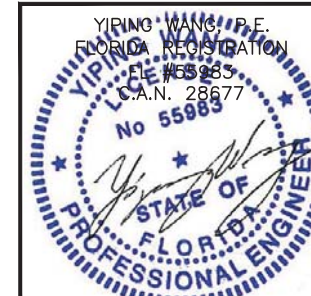
ABBREVIATIONS AND SYMBOLS

- 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.

FL 42155



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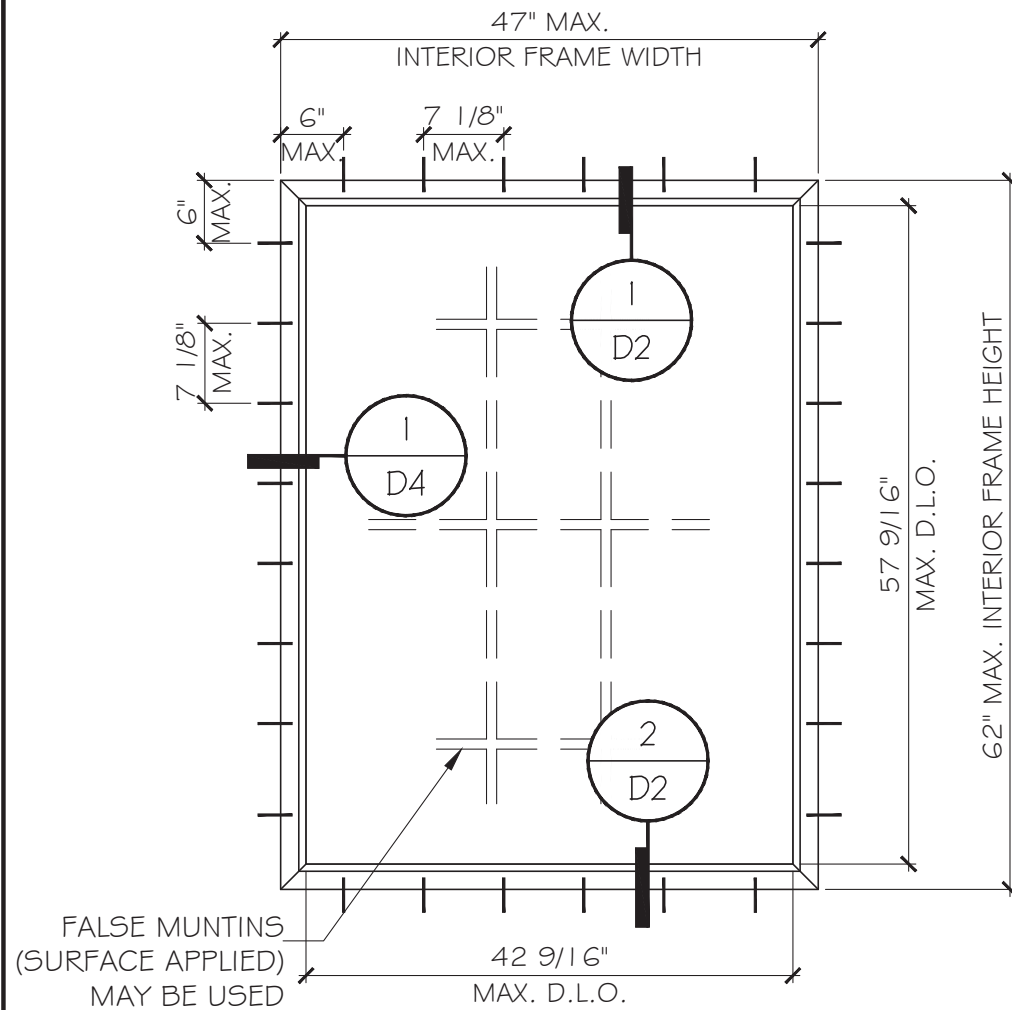
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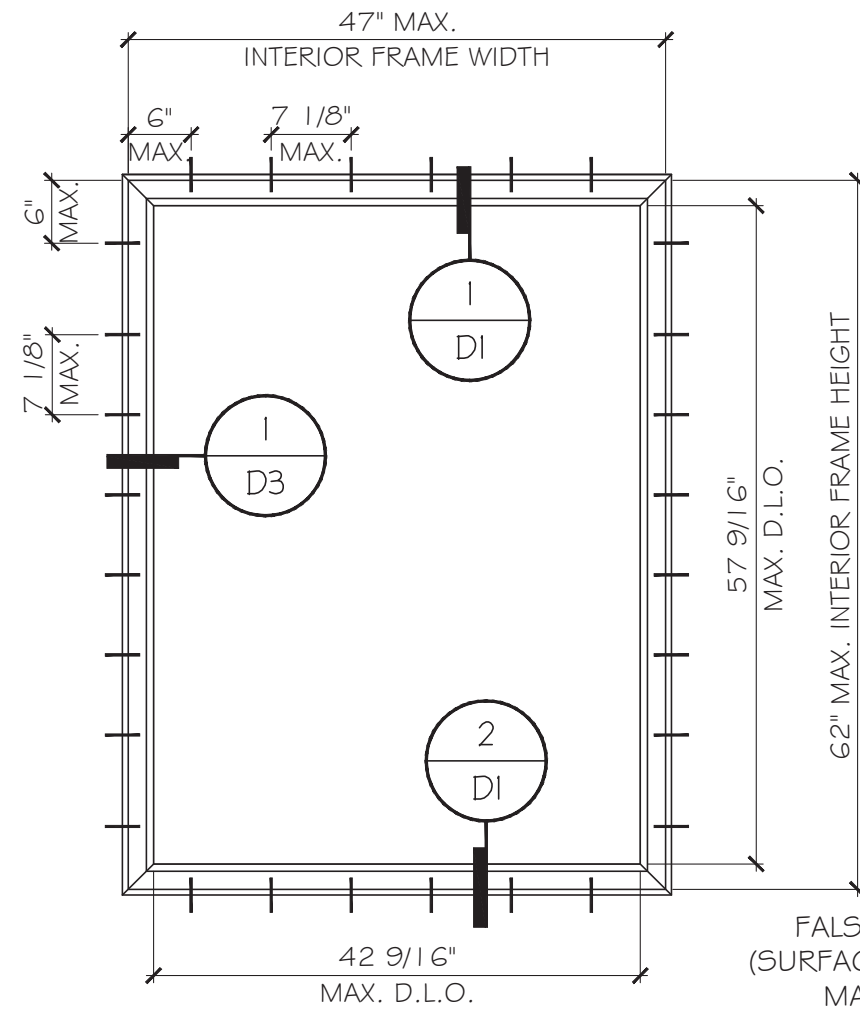
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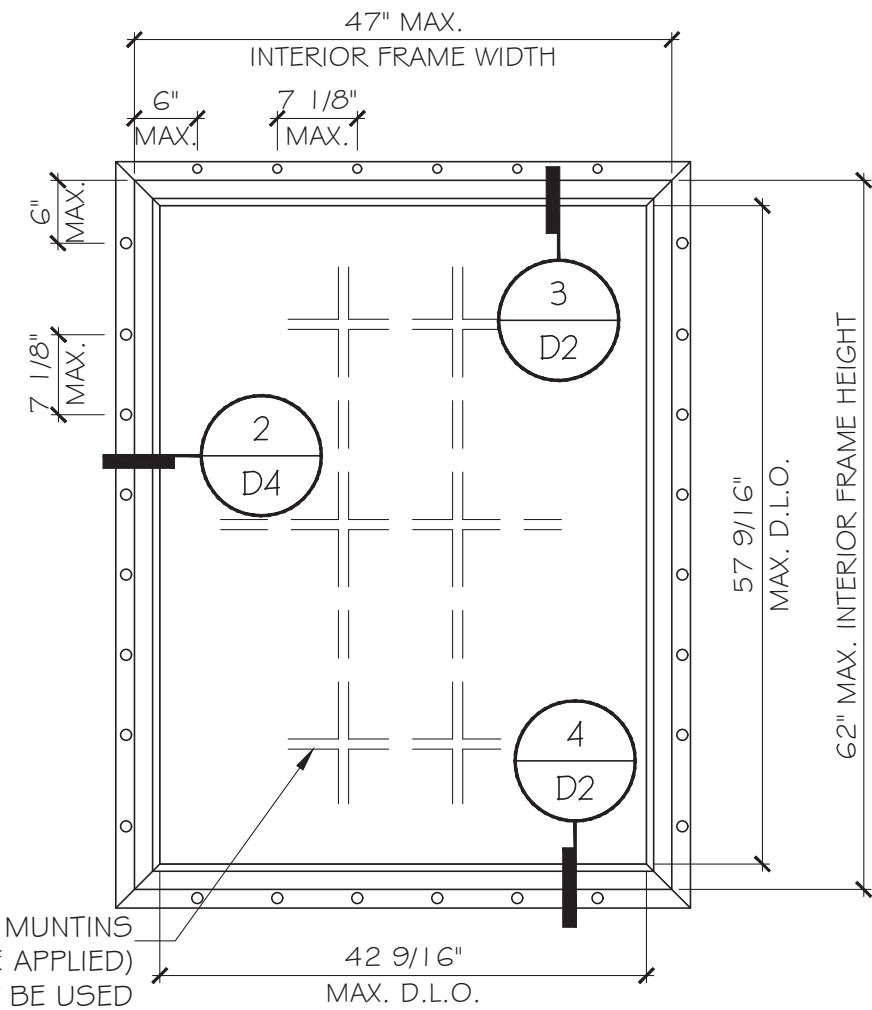
Sheet No. 01 OF 10



TYPICAL EXTERIOR ELEVATIONS
 FLUSH FRAME
 SEE SHEET G1 FOR DESIGN LOAD



TYPICAL EXTERIOR ELEVATIONS
 FLANGE FRAME
 SEE SHEET G1 FOR DESIGN LOAD



TYPICAL EXTERIOR ELEVATIONS
 FIN FRAME
 SEE SHEET G1 FOR DESIGN LOAD

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July 11th, 2023

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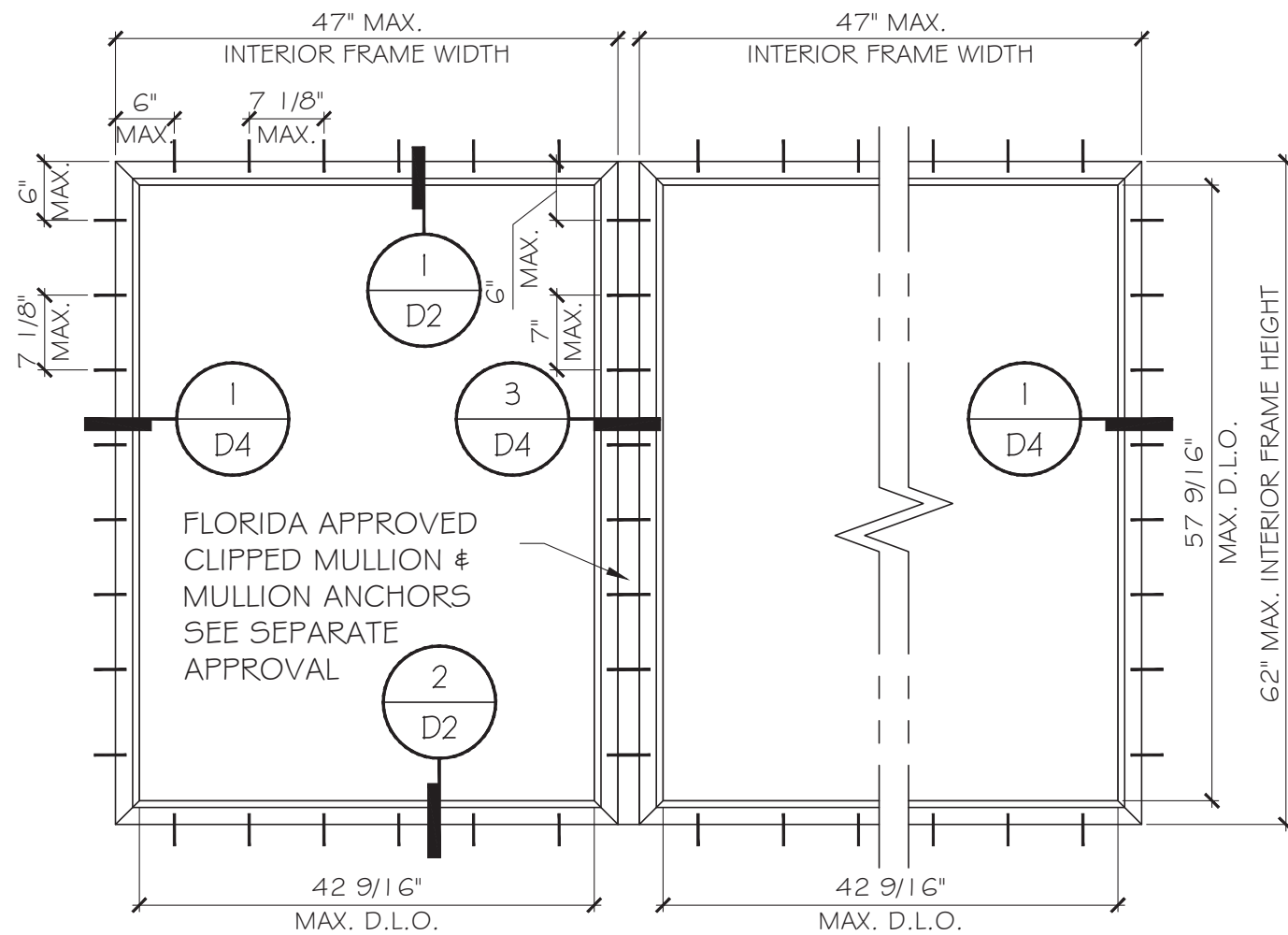
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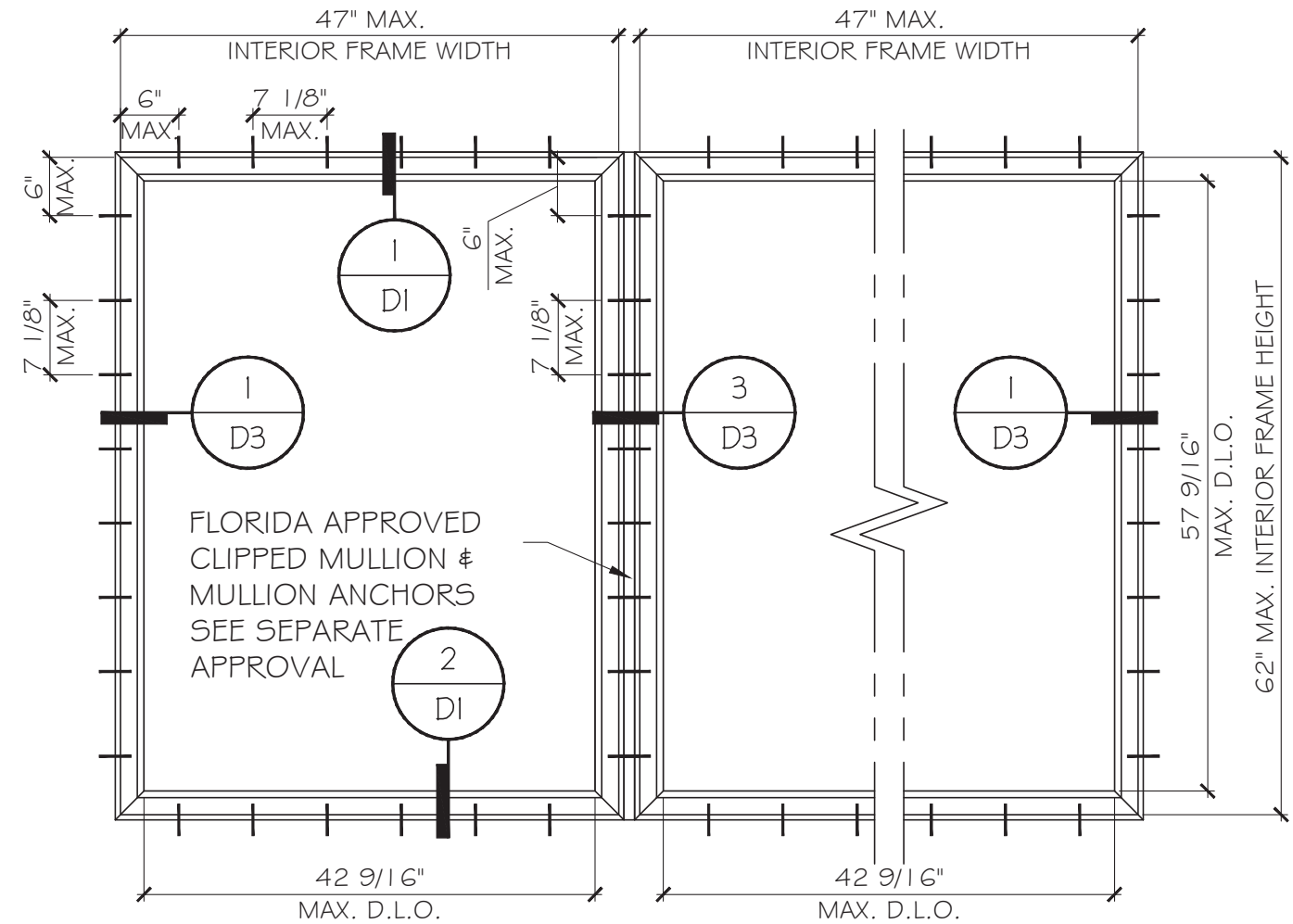
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E1

Sheet No. 02 OF 10



TYPICAL EXTERIOR ELEVATIONS
FLUSH FRAME
 SEE SHEET G1 FOR DESIGN LOAD



TYPICAL EXTERIOR ELEVATIONS
FLANGE FRAME
 SEE SHEET G1 FOR DESIGN LOAD

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Sheet No. E2

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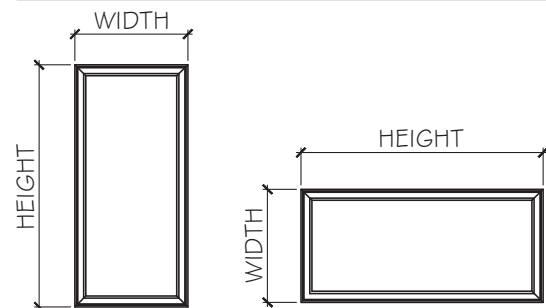
DESIGN LOAD CAPACITY - PSF			
INTERIOR FRAME DIMENSIONS		GLASS TYPE	
HEIGHT	WIDTH	'A'	'A1' & 'B' & 'B1'
INCH	INCH	(+)/(-)	(+)/(-)
25	18-1/8	50	80
	25-1/2	50	80
	36	50	80
	41	50	80
	47	50	80
37-3/8	52-1/8	50	80
	18-1/8	50	80
	25-1/2	50	80
	36	50	80
	41	50	80
49-5/8	47	50	80
	52-1/8	50	80
	18-1/8	50	80
	25-1/2	50	80
	36	50	80
58	41	50	80
	47	51	81
	18-1/8	50	80
	25-1/2	50	80
62	36	50	80
	41	50	80
	47	51	81
	18-1/8	50	80
73-1/4	25-1/2	50	80
	36	50	80
	18-1/8	50	80
75	25-1/2	50	80
	36	50	80

DESIGN LOAD CAPACITY - PSF			
INTERIOR FRAME DIMENSIONS		GLASS TYPE	
HEIGHT	WIDTH	'A'	'A1' & 'B' & 'B1'
INCH	INCH	(+)/(-)	(+)/(-)
47	23	50	80
	29	50	80
	35	50	80
	41	50	80
	47	50	80
53	53	50	80
	59	50	80
	23	50	80
	29	50	80
	35	50	80
62	41	50	80
	47	50	80
	53	50	80
	23	50	80
	29	50	80
65	35	50	80
	41	50	80
	47	50	80
71	23	50	80
	29	50	80
	35	50	80
77	23	50	80
	29	50	80
	35	50	80

GLASS D.L.O. DIMS.

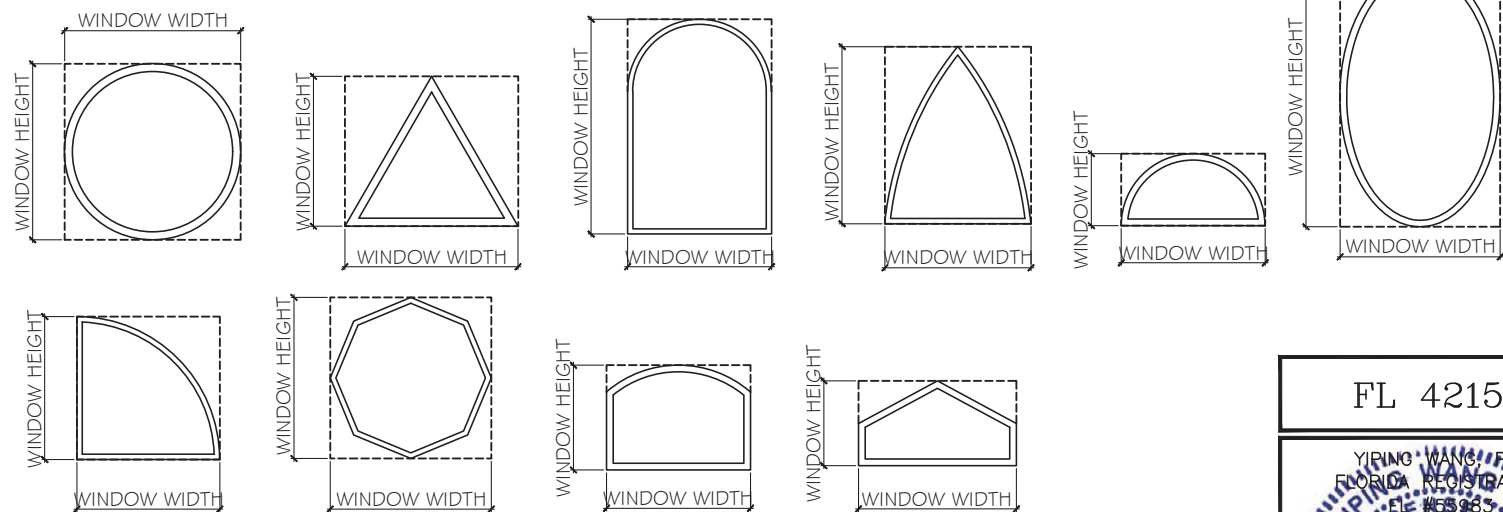
D.L.O. HEIGHT = INTERIOR FRAME HEIGHT - 4.375"

D.L.O. WIDTH = INTERIOR FRAME WIDTH - 4.5"



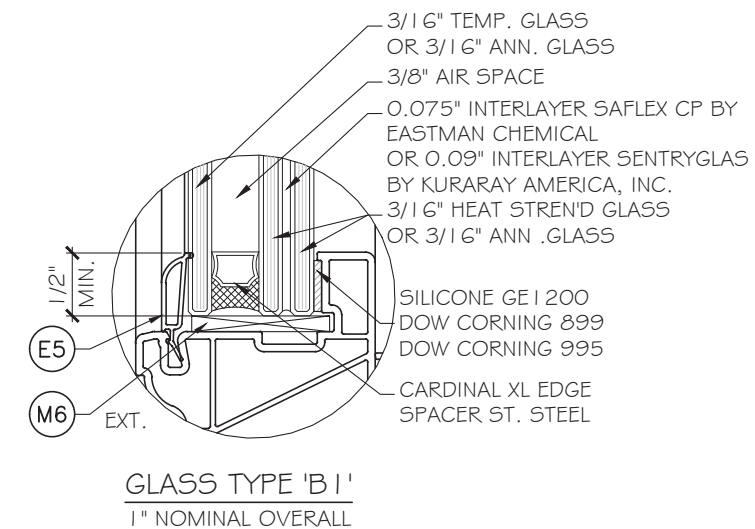
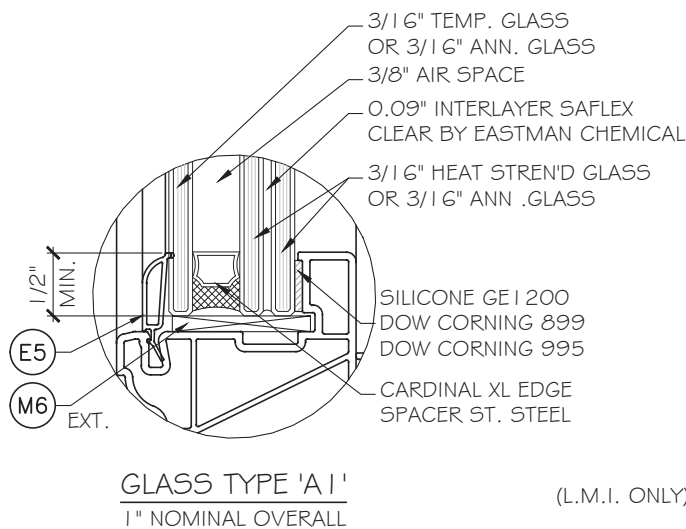
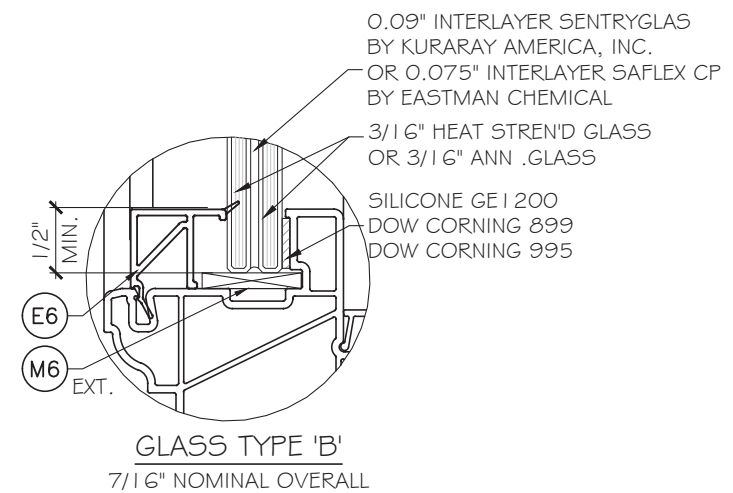
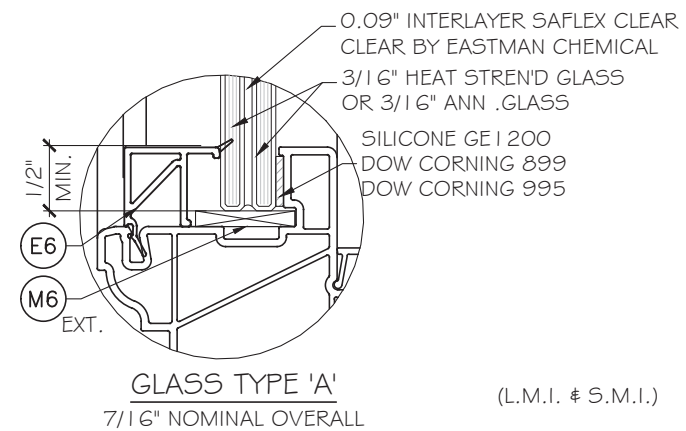
NOTE:
WIDTH AND LENGTH DIMENSION CAN BE ORIENTED VERTICALLY OR HORIZONTALLY AS SHOWN ABOVE.

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



ALLOWABLE LOAD FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES.

ANCHOR SPACING AT GEOMETRIC SHAPES:
ALL ANCHORS ARE SPACED AT 6" FROM CORNERS/ WELDED JOINT ENDS AND 7-1/8" O.C.



(S.M.I.)
IN ORDER TO QUALIFY FOR SMALL MISSILE IMPACT RATING,
EXTERIOR PLY OF GLASS TYPES 'A1' & 'B1' MUST BE TEMPERED.

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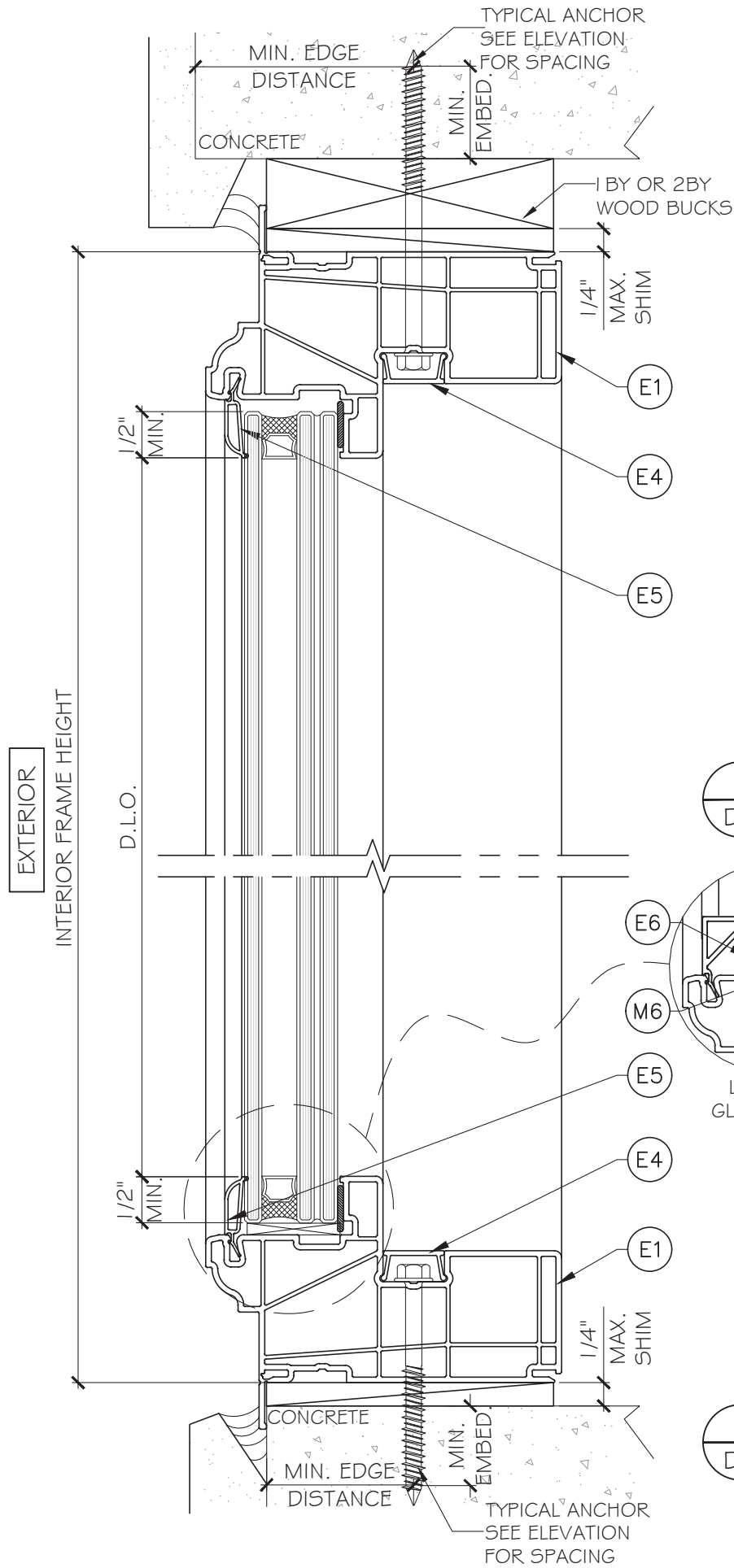
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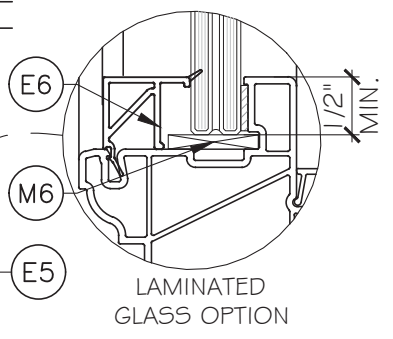
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G1

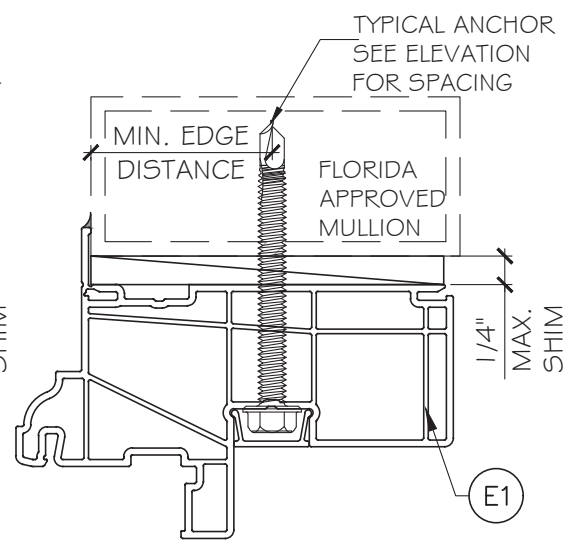
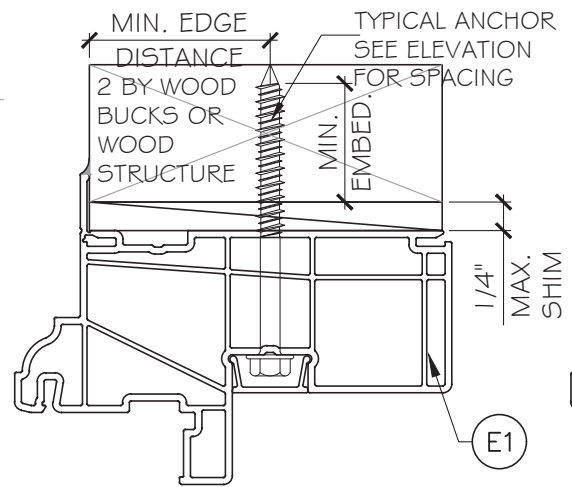
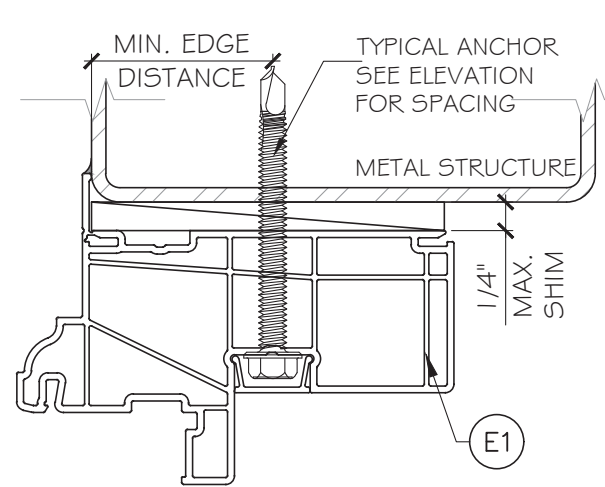
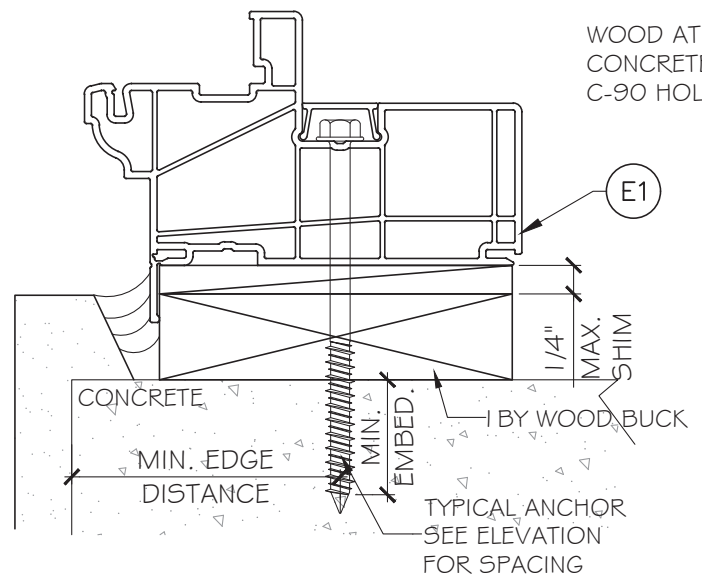
Sheet No. **04 OF 10**



1 DETAIL
D1



2 DETAIL
D1



TYPICAL ANCHOR TYPES: (SEE ELEVATIONS FOR SPACING)

TYPE 'A' -- 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI) INTO 2 BY WOOD BUCKS OR WOOD STRUCTURES. 1 1/2" MIN. PENETRATION INTO WOOD (HEAD/ JAMBS)

THRU 1 BY BUCKS INTO CONCRETE OR BLOCKS 1 3/4" MIN. EMBED INTO CONCRETE (HEAD/ SILL/ JAMBS) 1 3/4" MIN. EMBED IN TO BLOCKS (JAMBS)

DIRECTLY INTO CONCRETE OR BLOCKS 1 3/4" MIN. EMBED IN TO CONCRETE (HEAD/ SILL/ JAMBS) 1 3/4" MIN. EMBED IN TO BLOCKS (JAMBS)

TYPE 'B' -- #14 SMS OR SELF-DRILLING SCREWS: (GRADE 2 CRS) INTO FBC APPROVED MULLIONS, 1/8" THK. MIN. (G063-T5 MIN.) OR INTO METAL STRUCTURES, STEEL: 12GA. MIN. (Fy=36 ksi MIN.) (3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

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

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN. CONCRETE AT HEAD, SILL OR JAMB f'c=3 ksi MIN. C-90 HOLLOW/ FILLED BLOCK AT JAMBS fm=2000 PSI MIN.

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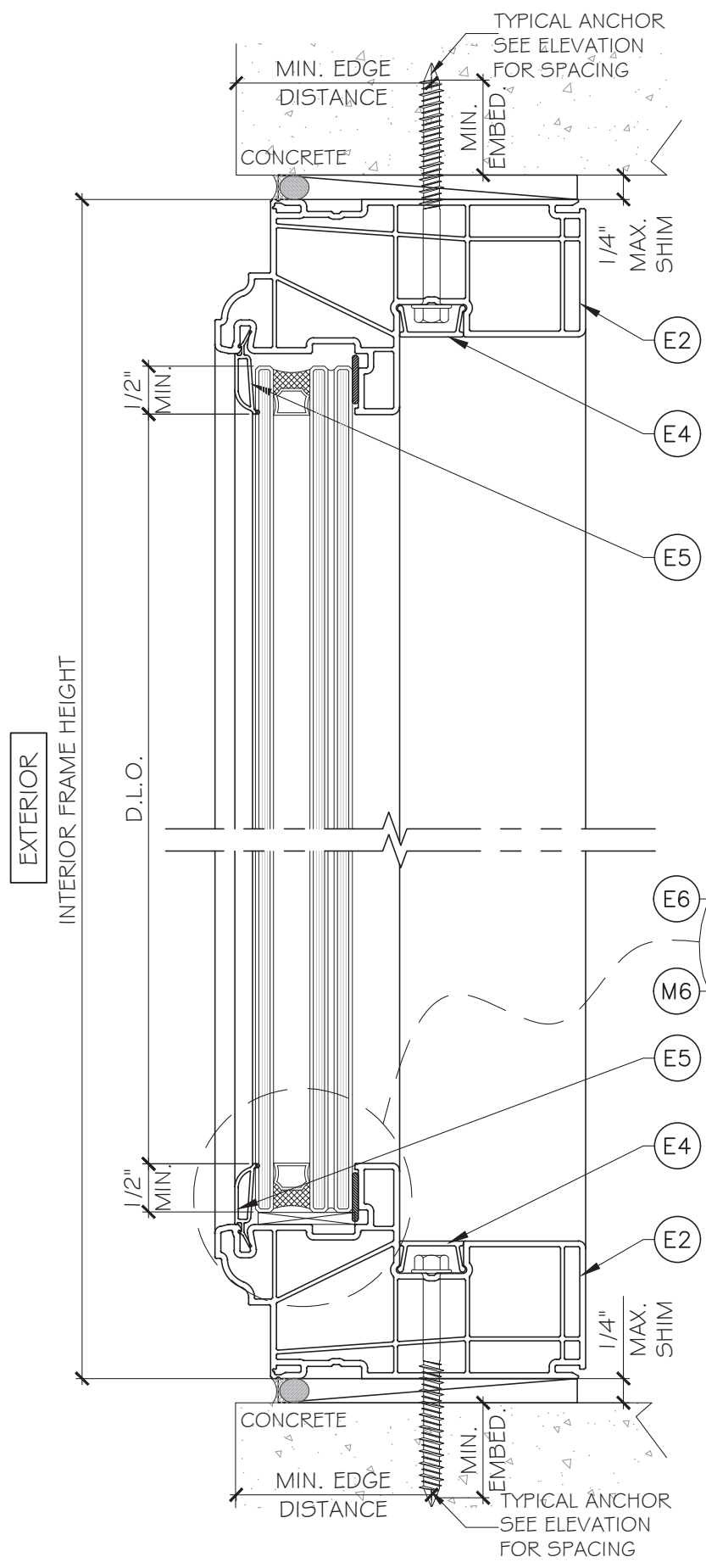
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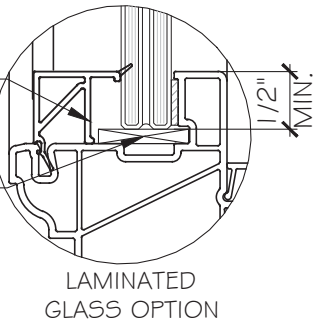
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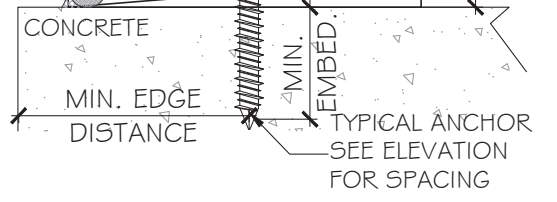
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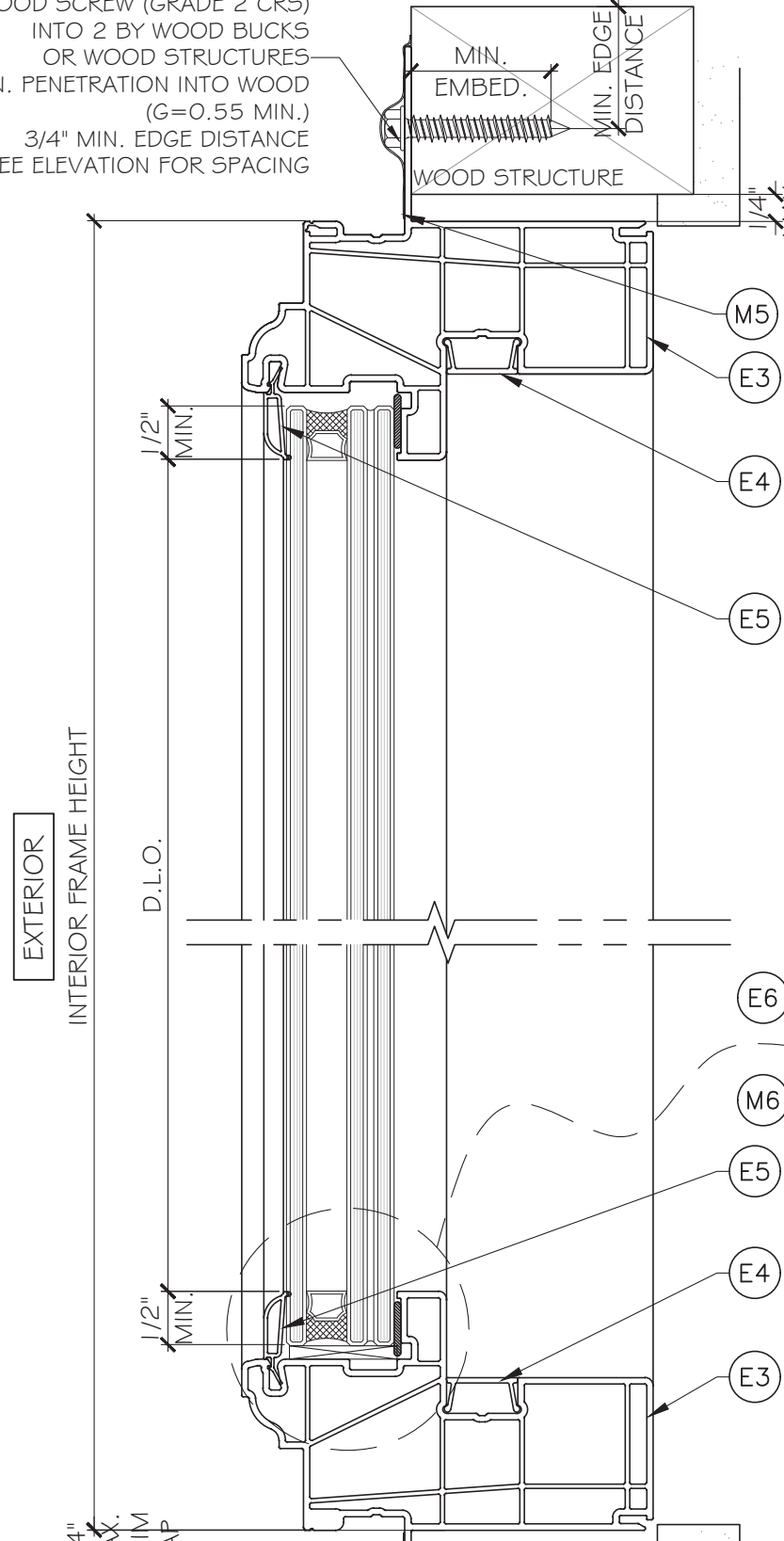
1 D2 DETAIL



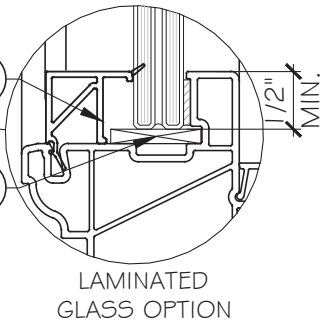
2 D2 DETAIL



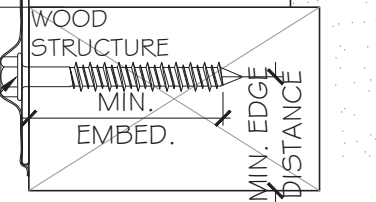
#8 SMS/ WOOD SCREW (GRADE 2 CR5)
 INTO 2 BY WOOD BUCKS
 OR WOOD STRUCTURES
 1 - 1/4" MIN. PENETRATION INTO WOOD
 (G=0.55 MIN.)
 3/4" MIN. EDGE DISTANCE
 SEE ELEVATION FOR SPACING



3 D2 DETAIL



4 D2 DETAIL



#8 SMS/ WOOD SCREW (GRADE 2 CR5)
 INTO 2 BY WOOD BUCKS
 OR WOOD STRUCTURES
 1 - 1/4" MIN. PENETRATION INTO WOOD
 (G=0.55 MIN.)
 3/4" MIN. EDGE DISTANCE
 SEE ELEVATION FOR SPACING

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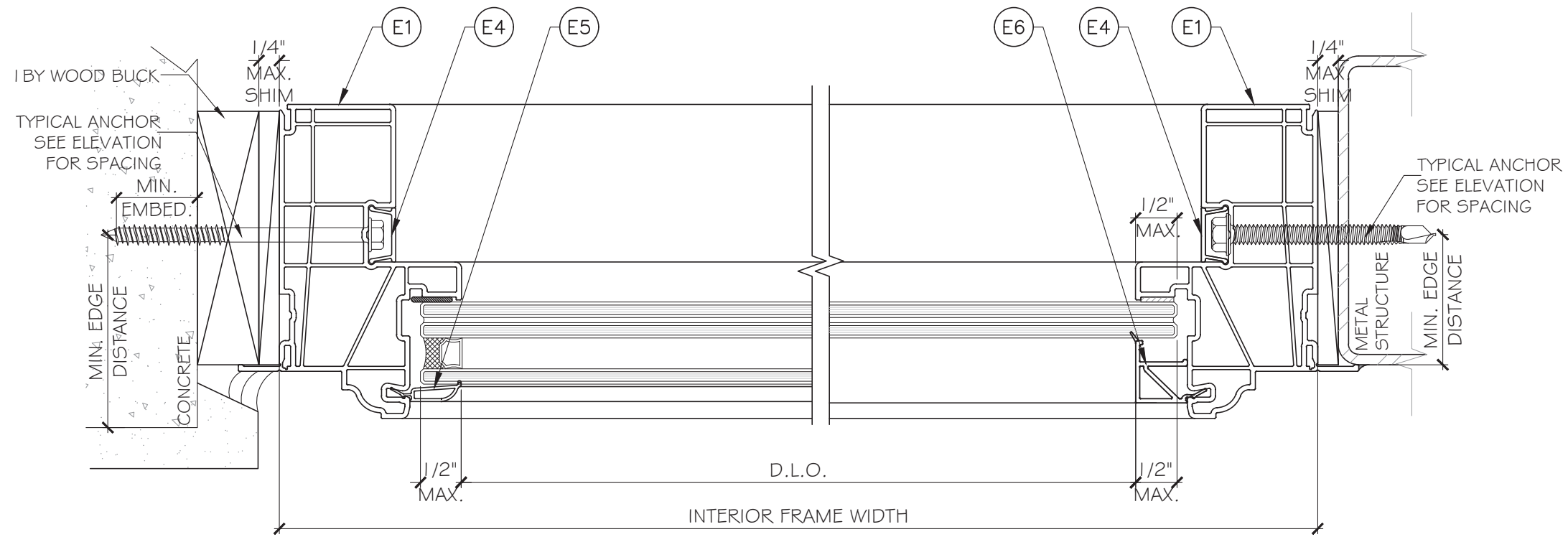
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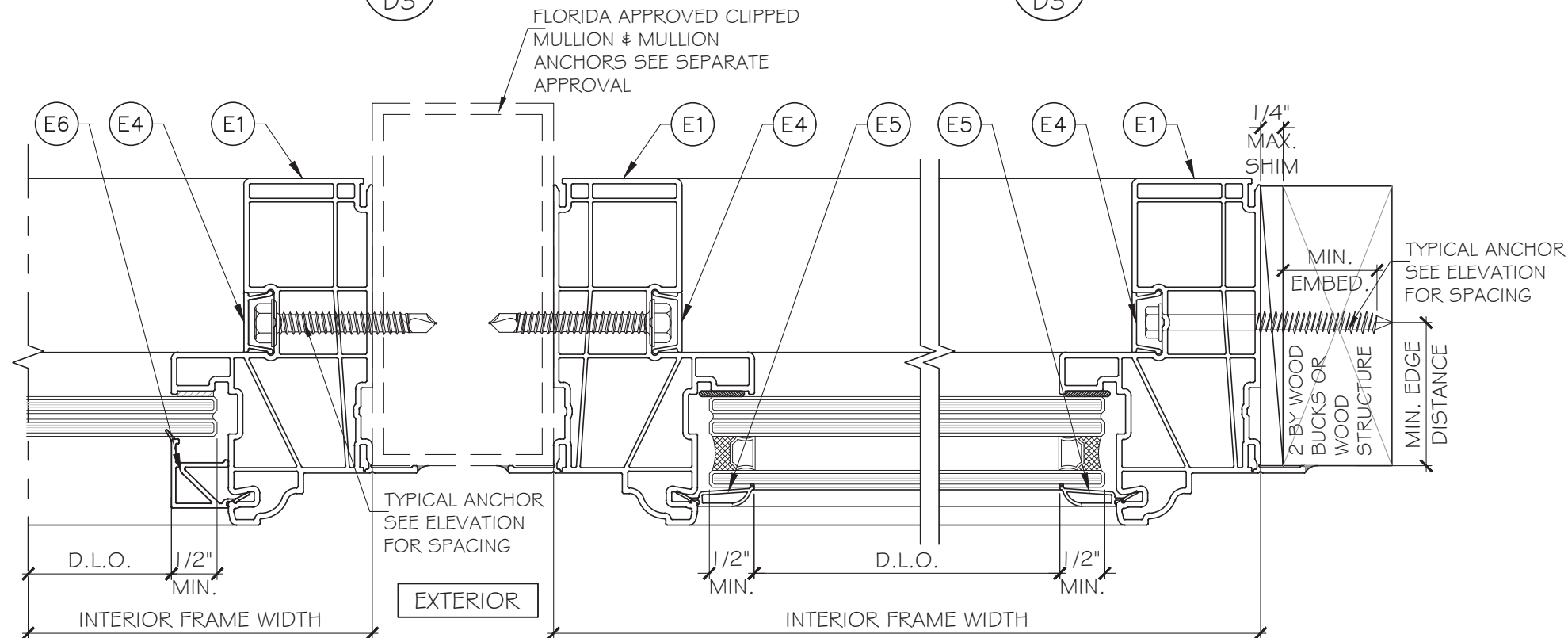
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1
D3
DETAIL

EXTERIOR

2
D3
DETAIL



3
D3
DETAIL

EXTERIOR

2
D3
DETAIL
OPTION

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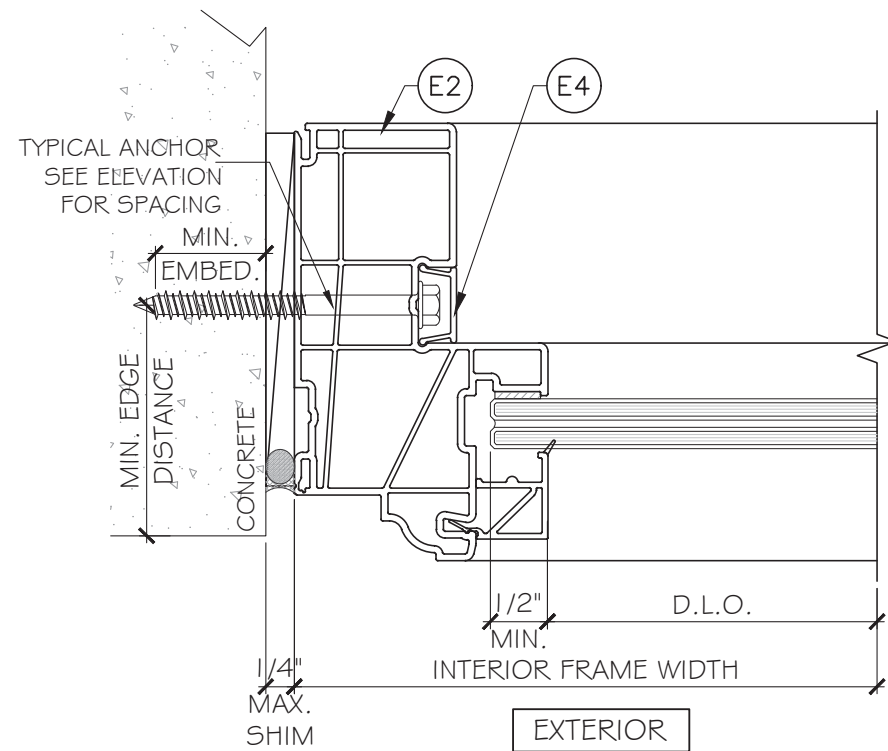
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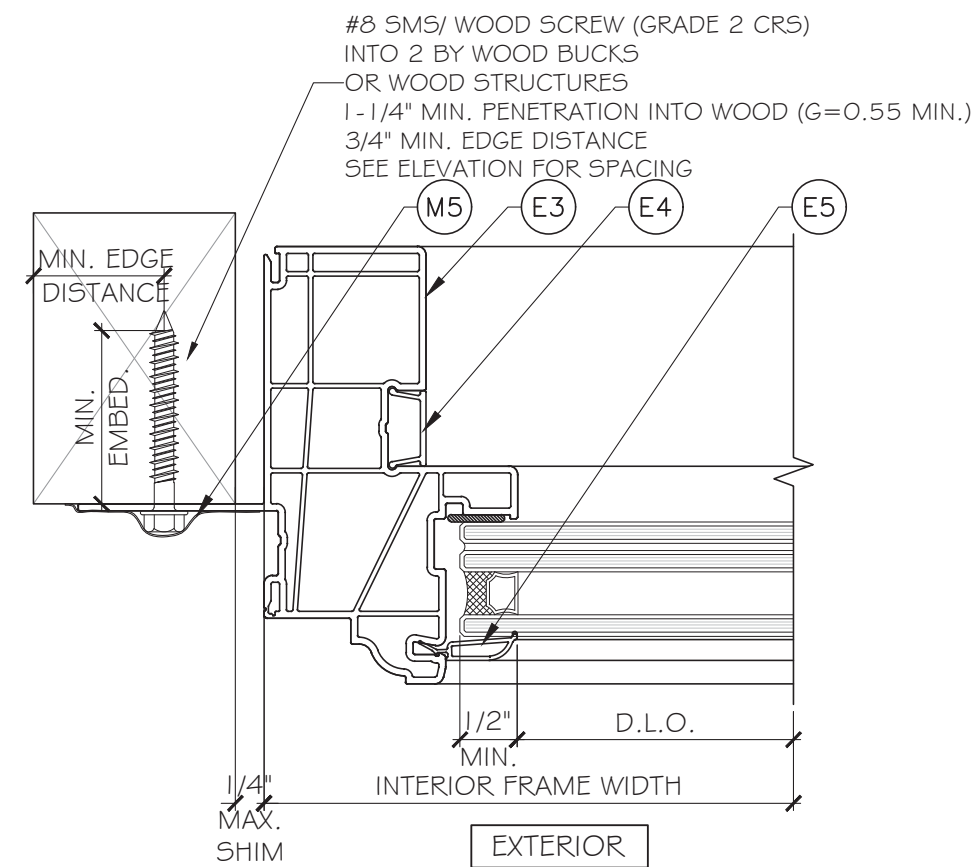
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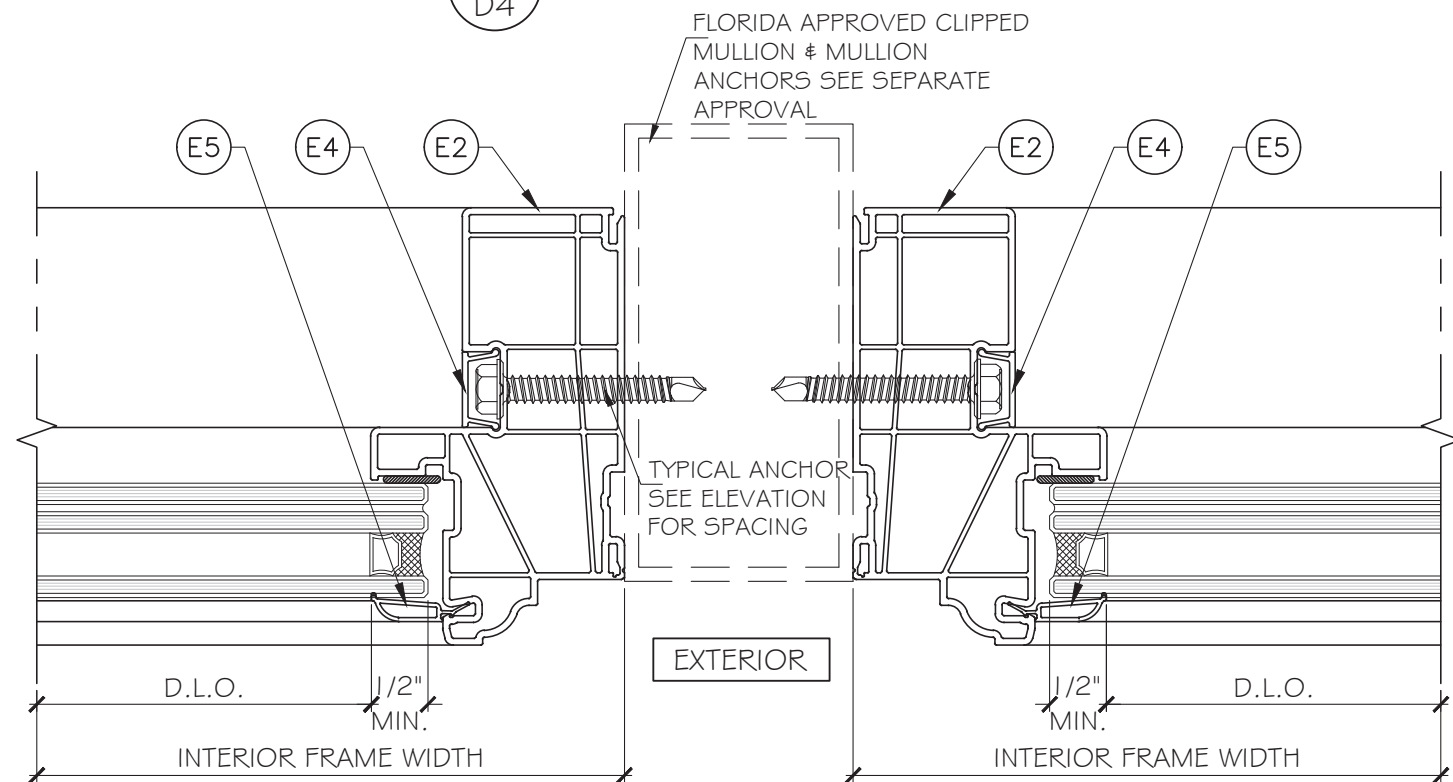
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1
D4
DETAIL



2
D4
DETAIL



3
D4
DETAIL

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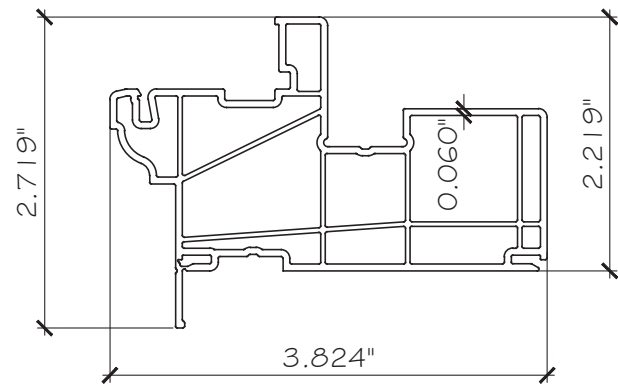
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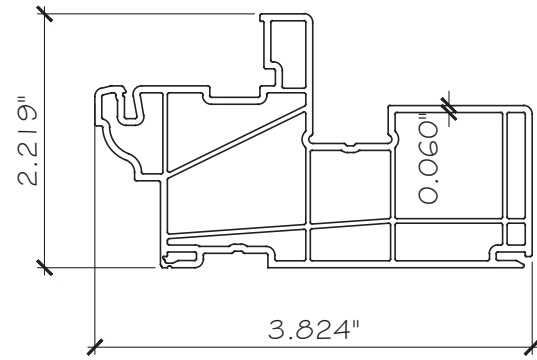
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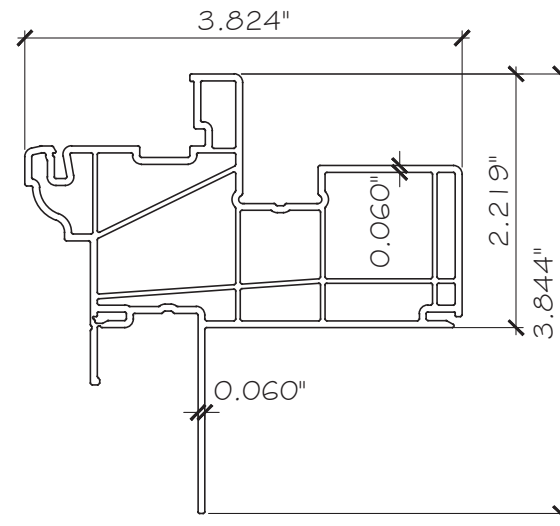
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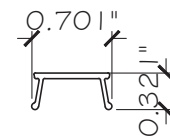
E1 FLANGE FRAME
PVC



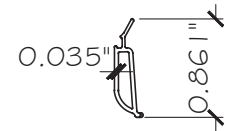
E2 FLUSH FRAME
PVC



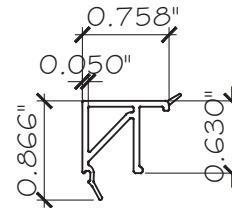
E3 FIN FRAME
PVC



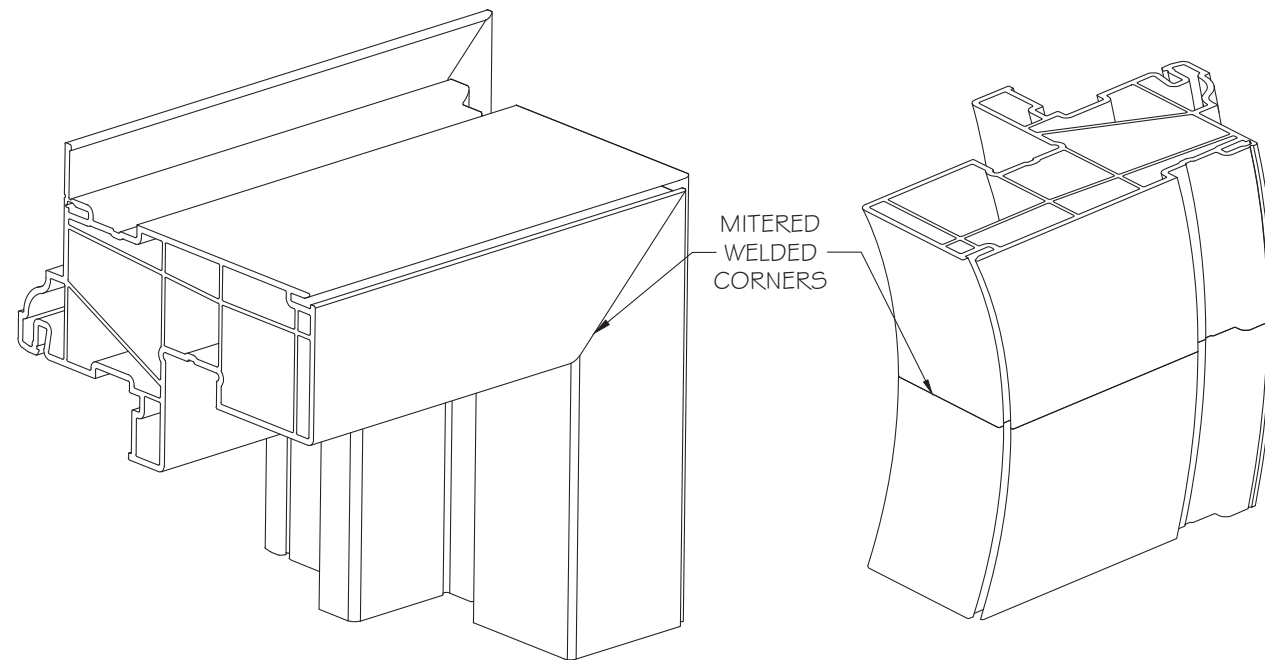
E4 SCREW COVER
PVC



E5 GLAZING BEAD
PVC



E6 GLAZING BEAD
PVC



RECT. OR SQUARE WINDOWS

CIRCULAR WINDOWS

MITERED WELDED CORNERS
FRAME CORNER
FLANGE FRAME SHOWN
FLUSH & FIN FRAMES SIMILAR

FL 42155

YIPING WANG, P.E.
FLORIDA REGISTRATION
No. 55983
C.A.N. 28677

YIPING WANG
LICENSED PROFESSIONAL ENGINEER
STATE OF FLORIDA

July 11th, 2023

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

ES-V150 Vinyl Fixed Window-L.M.I.& S.M.I.
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Miami, FL 33142
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Rev. No.	Date	Drawn By	Description
1.	06.23.2023	MCY	NEW

Drawn Date: 06.23.2023 Scale: _____

DRAWING NO. AD23-10

PARTS

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BILL OF MATERIALS

ITEM	PART	DESCRIPTION	MATERIAL	MANUF.	REMARKS
E1	ES-1000	EQUAL LEG FRAME	PVC	DECEUNINCK NORTH AERICA LLC	-
E2	ES-1013	FLANGE FRAME	PVC	DECEUNINCK NORTH AERICA LLC	-
E3	ES-1018	FIN FRAME	PVC	DECEUNINCK NORTH AERICA LLC	-
E4	ES-1003	SCREW COVER	PVC	DECEUNINCK NORTH AERICA LLC	-
E5	ES-1008	IG GLAZING BEAD	PVC	DECEUNINCK NORTH AERICA LLC	-
E6	ES-1025	7/16" MONOLITHIC GLAZING BEAD	PVC	DECEUNINCK NORTH AERICA LLC	-
M1	SCS 1200	GLAZING SILICONE (1/2" X 3/16" BEAD)	SILICONE	GENERAL ELECTIC	-
M2	DOW 995	GLAZING SILICONE (1/2" X 3/16" BEAD)	SILICONE	DOW CORNING	-
M3	DOW 899	GLAZING SILICONE (1/2" X 3/16" BEAD)	SILICONE	DOW CORNING	-
M5		PROTECTO WARP WATERPROOFING OR EQUIV			AT FIN FRAME
M6	-	SETTING BLOCK, 2 PER LITE	EPDM	-	DUROMETER 85±5

WHITE PVC EXTRUSIONS TO BE LABELED WITH AAMA EXTRUDER CODE, EXTRUDER NAME, CITY STATE AND 'MDCA'

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BOM

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