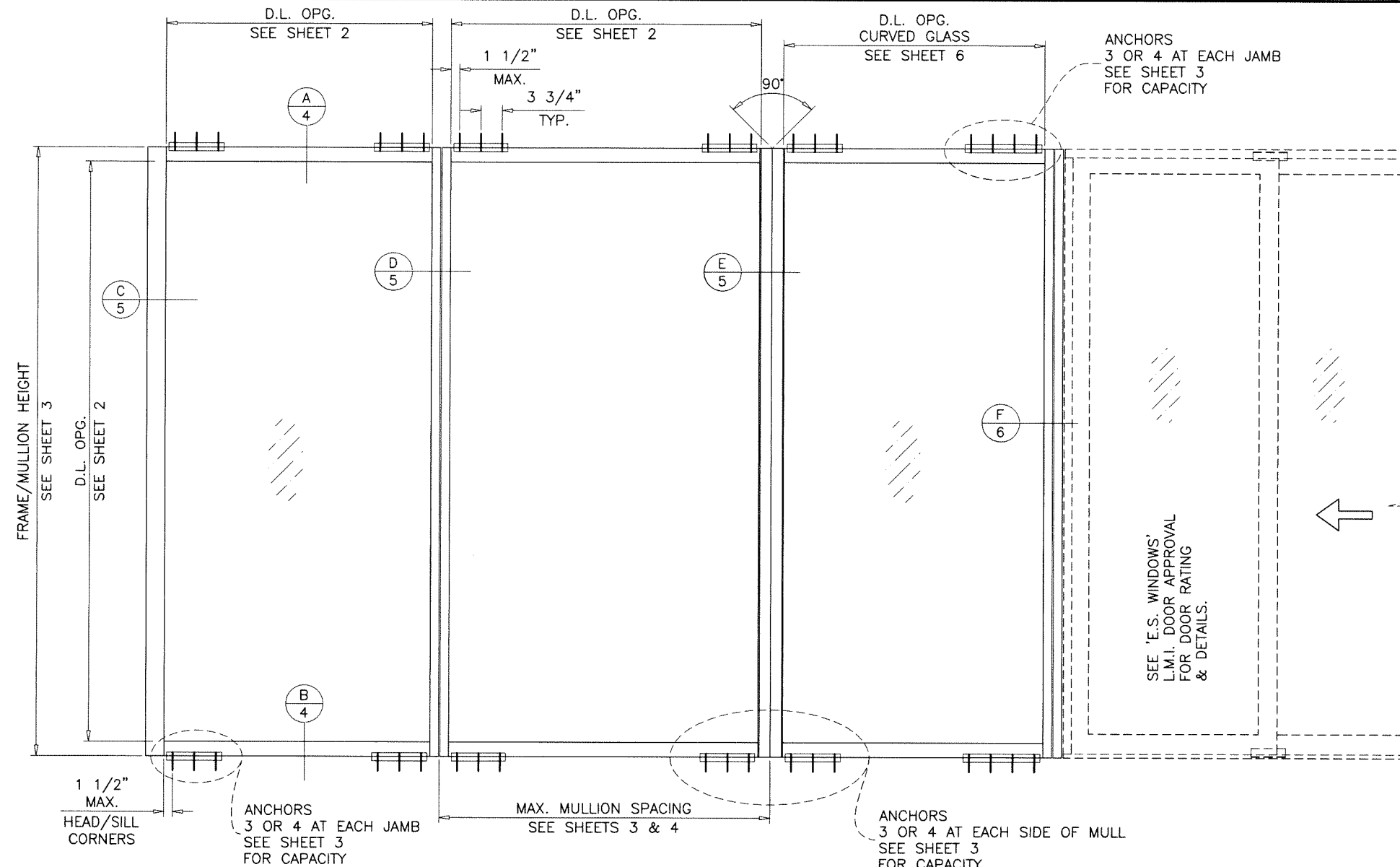
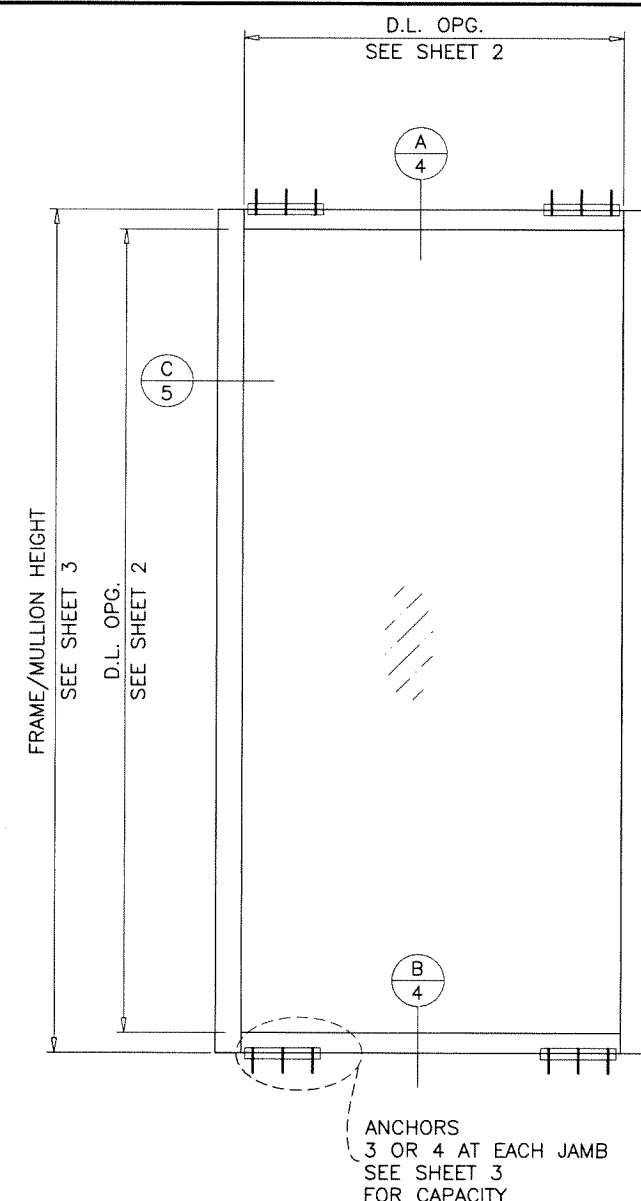




TYPICAL ELEVATIONS



ES-WW8701 ALUMINUM WINDOW WALL SYSTEM

THIS SYSTEM MAY BE USED IN CONJUNCTION WITH F.B.C. APPR'D LARGE MISSILE IMPACT RESISTANT DOORS. LOWER DESIGN PRESSURE FROM STOREFRONT OR DOOR APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2020 (7TH EDITION)/2023 (8TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

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.

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 2020/2023 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)'.

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.

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND PRESSURE REQUIREMENTS BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR GLASS DESIGN LOAD CAPACITY.
- STEP 3** CHECK MULLION DESIGN LOAD CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEET 3 THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** USING CHARTS ON SHEET 3 SELECT ANCHOR OPTION WITH DESIGN LOAD CAPACITY MORE THAN DESIGN LOAD SPECIFIED IN STEP 1 ABOVE.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 THAT EXCEED THE DESIGN WIND PRESSURES DETERMINED THRU STEP 1 SHALL APPLY TO ENTIRE SYSTEM.
- STEP 6** FOR UNANCHORED JAMBS, USING SHEET 5, DETERMINE THE MIN. & MAX. GAP DIMENSIONS.
- STEP 7** WHEN USING THIS SYSTEM WITH DOORS, THE LOWER VALUE OF THE DESIGN PRESSURE RATING FOR THE SYSTEM AND THE DOOR SHALL APPLY.

THIS SYSTEM IS RATED FOR LARGE & SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

INSUL. LAM. GLASS
LARGE MISSILE IMPACT

Sealed: 10/9/2023

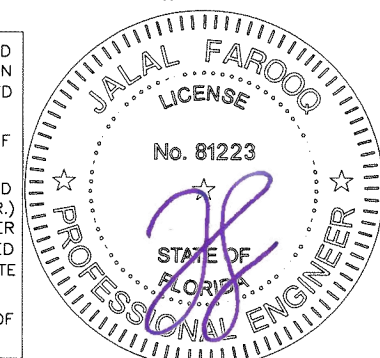
FL #29069

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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ES-WW8701 ALUM WINDOW WALL SYSTEM (L.M.I.)

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3550 N.W. 49 STREET
MIAMI, FL. 33142
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revisions:	no	date	by	description
	A	12.04.20		UPDATED TO 2020 FBC
	B	09.27.23		UPDATED TO 2023 FBC
date:	01-31-19			
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dr. by:	TARIQ			
chk. by:				
drawing no.	19-06F			
sheet	1 of 8			

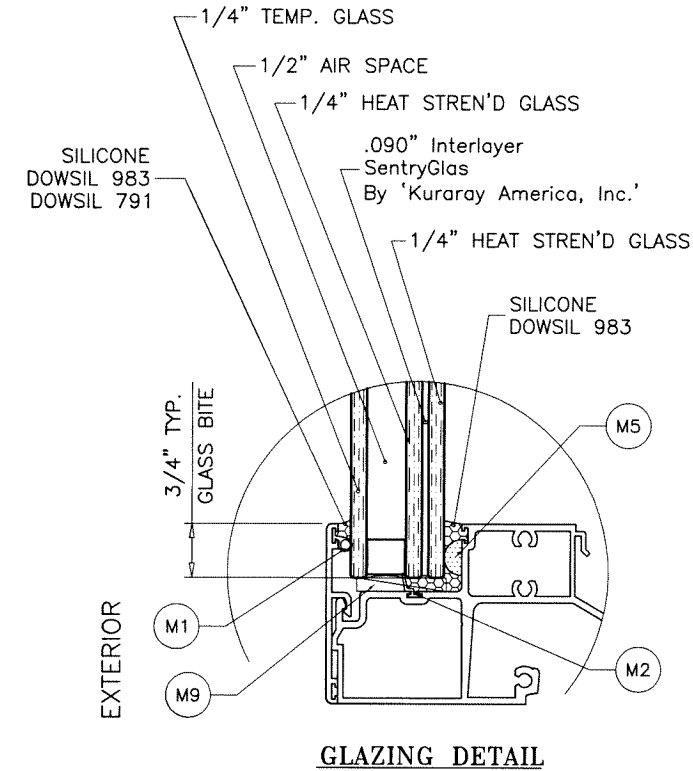
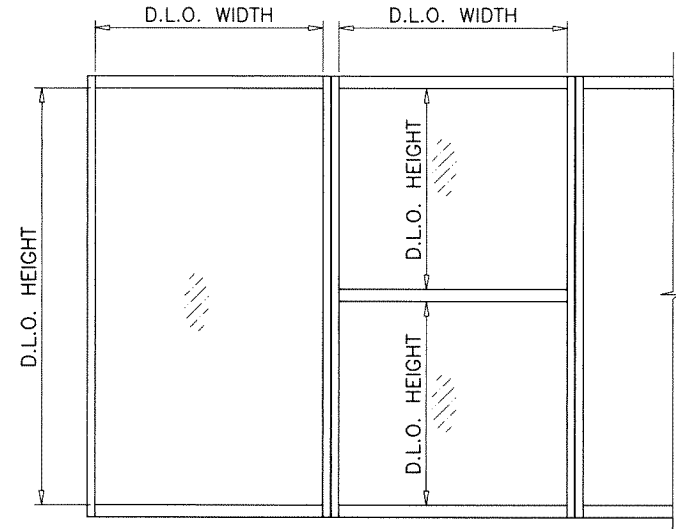
COMP-ANL\19-06F-ES

GLASS DESIGN LOAD CAPACITY - PSF			
NOMINAL DIMS.		1-5/16" OVERALL INSUL. LAM. GLASS	
D.L.O. WIDTH	D.L.O. HEIGHT	EXT. (+)	INT. (-)
44-3/4"	91"	125.0	125.0
50-3/4"		125.0	125.0
56-3/4"		125.0	125.0
62-3/4"		113.6	113.6
68-3/4"		104.2	104.2
44-3/4"	97"	125.0	125.0
50-3/4"		125.0	125.0
56-3/4"		125.0	125.0
62-3/4"		113.6	113.6
44-3/4"	102"	125.0	125.0
50-3/4"		125.0	125.0
56-3/4"		125.0	125.0
62-3/4"		113.6	113.6
44-3/4"	108"	125.0	125.0
50-3/4"		125.0	125.0
56-3/4"		125.0	125.0
44-3/4"	114"	125.0	125.0
50-3/4"		125.0	125.0
56-3/4"		125.0	125.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.

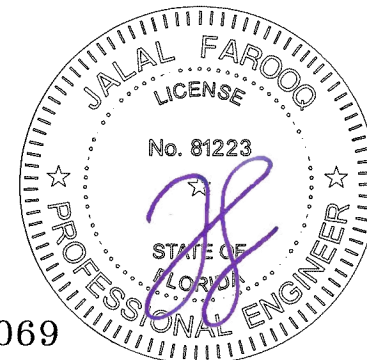
FOR CURVED GLASS LIMITAIONS SEE SHEET 6.

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE
BASED ON ASTM E1300-09 (3 SEC. GUSTS).



1/2" AIR SPACE CONSISTING OF:
SPACER:
'HELIMA' LOW PROFILE ALUMINUM SPACER
BY 'LINGERMANN GMBH'
AROUND THE PERIMETER OF THE GLASS.
PERIMETER SEALANT:
SILICONE
DOWSIL 791
GE 2000

Sealed: 10/9/2023



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revisions:	
no	date by description

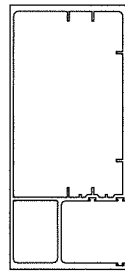
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dr. by: TARIQ
chk. by:

drawing no.
19-06F

sheet 2 of 8

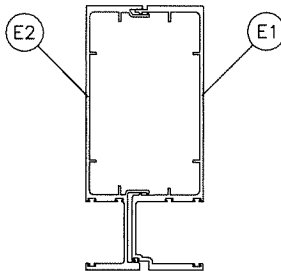
MULLION DESIGN LOAD CAPACITY - PSF					
NOMINAL DIMS.		JAMB 'J1'		JAMB 'J1'	
WIDTH (W)	FRAME HEIGHT	EXT. (+)	INT. (-)	EXT. (+)	INT. (-)
48"	96"	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0
72"		125.0	125.0	125.0	125.0
48"	102"	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0
48"	108"	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0
66"		125.0	125.0	125.0	125.0
48"	114"	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0
60"		125.0	125.0	125.0	125.0
48"	120"	125.0	125.0	125.0	125.0
54"		125.0	125.0	125.0	125.0
60"		124.0	124.0	125.0	125.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



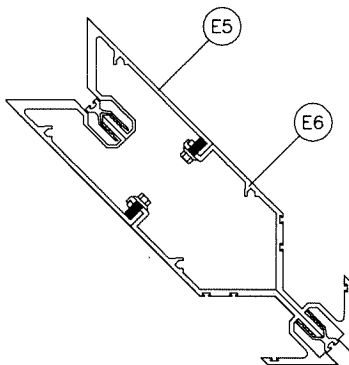
JAMB 'J1'

Ix IN^4	Sx IN^3
21.1700	5.4968



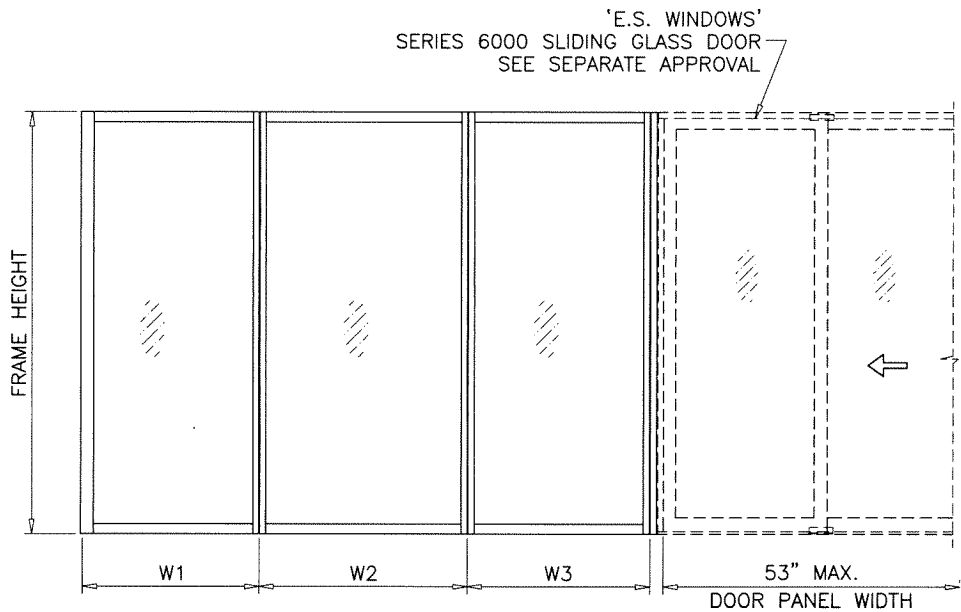
MULLION 'M1'

Ix IN^4	Sx IN^3
21.7597	5.4810



MULLION 'MC'

Ix IN^4	Sx IN^3
21.3134	4.9211

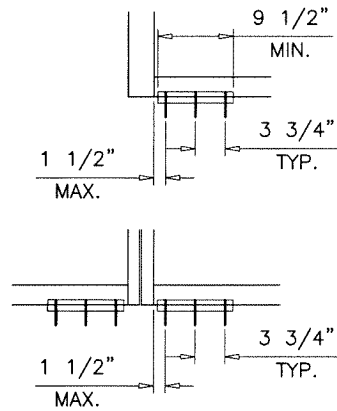


WIDTH (W) = W1
AT JAMB

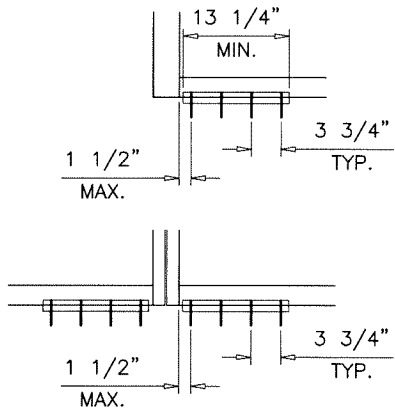
WIDTH (W) = (W2 + W3) / 2
AT MULLION

HEAD/SILL ANCHOR DESIGN LOAD CAPACITY - PSF								
EXT.(+) & INT.(-)								
NOMINAL DIMS.		ANCHOR TYPE 'A'		ANCHOR TYPE 'B'		ANCHOR TYPE 'AA'		ANCHOR 'BB'
WIDTH (W)	FRAME HEIGHT	'A3'	'A4'	'B3'	'B4'	'AA3'	'AA4'	'BB3'
48"	96"	122.8	125.0	125.0	125.0	125.0	125.0	125.0
54"		109.2	125.0	125.0	125.0	122.5	125.0	125.0
60"		98.2	125.0	125.0	125.0	110.3	125.0	125.0
66"		89.3	119.1	125.0	125.0	100.2	125.0	125.0
72"		81.9	109.2	119.9	125.0	91.9	122.5	125.0
48"	102"	115.6	125.0	125.0	125.0	125.0	125.0	125.0
54"		102.7	125.0	125.0	125.0	115.3	125.0	125.0
60"		92.5	123.3	125.0	125.0	103.8	125.0	125.0
66"		84.1	112.1	123.1	125.0	94.3	125.0	125.0
48"	108"	109.2	125.0	125.0	125.0	122.5	125.0	125.0
54"		97.0	125.0	125.0	125.0	108.9	125.0	125.0
60"		87.3	116.4	125.0	125.0	98.0	125.0	125.0
66"		79.4	105.8	116.2	125.0	89.1	118.8	125.0
48"	114"	103.4	125.0	125.0	125.0	116.1	125.0	125.0
54"		91.9	122.6	125.0	125.0	103.2	125.0	125.0
60"		82.7	110.3	121.1	125.0	92.9	123.8	125.0
48"	120"	98.2	125.0	125.0	125.0	110.3	125.0	125.0
54"		87.3	116.4	125.0	125.0	98.0	125.0	125.0
60"		78.6	104.8	115.1	125.0	88.2	117.6	125.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



A3, B3, AA3, BB3



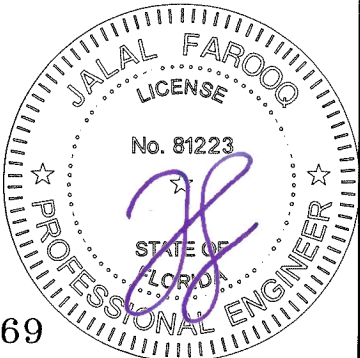
A4, B4, AA4

ANCHORS TYPES: SEE SHEET 4 FOR DESCRIPTION

A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
AA3 = (3) ANCHORS TYPE 'AA' AT EACH SIDE OF JAMB AND MULLION
BB3 = (3) ANCHORS TYPE 'BB' AT EACH SIDE OF JAMB AND MULLION

A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
AA4 = (4) ANCHORS TYPE 'AA' AT EACH SIDE OF JAMB AND MULLION

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revisions:

no	date	by	description

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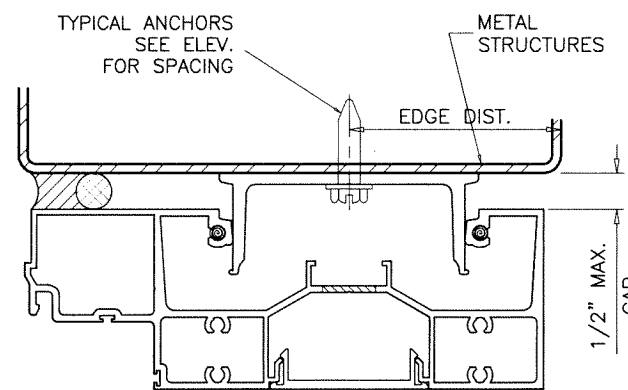
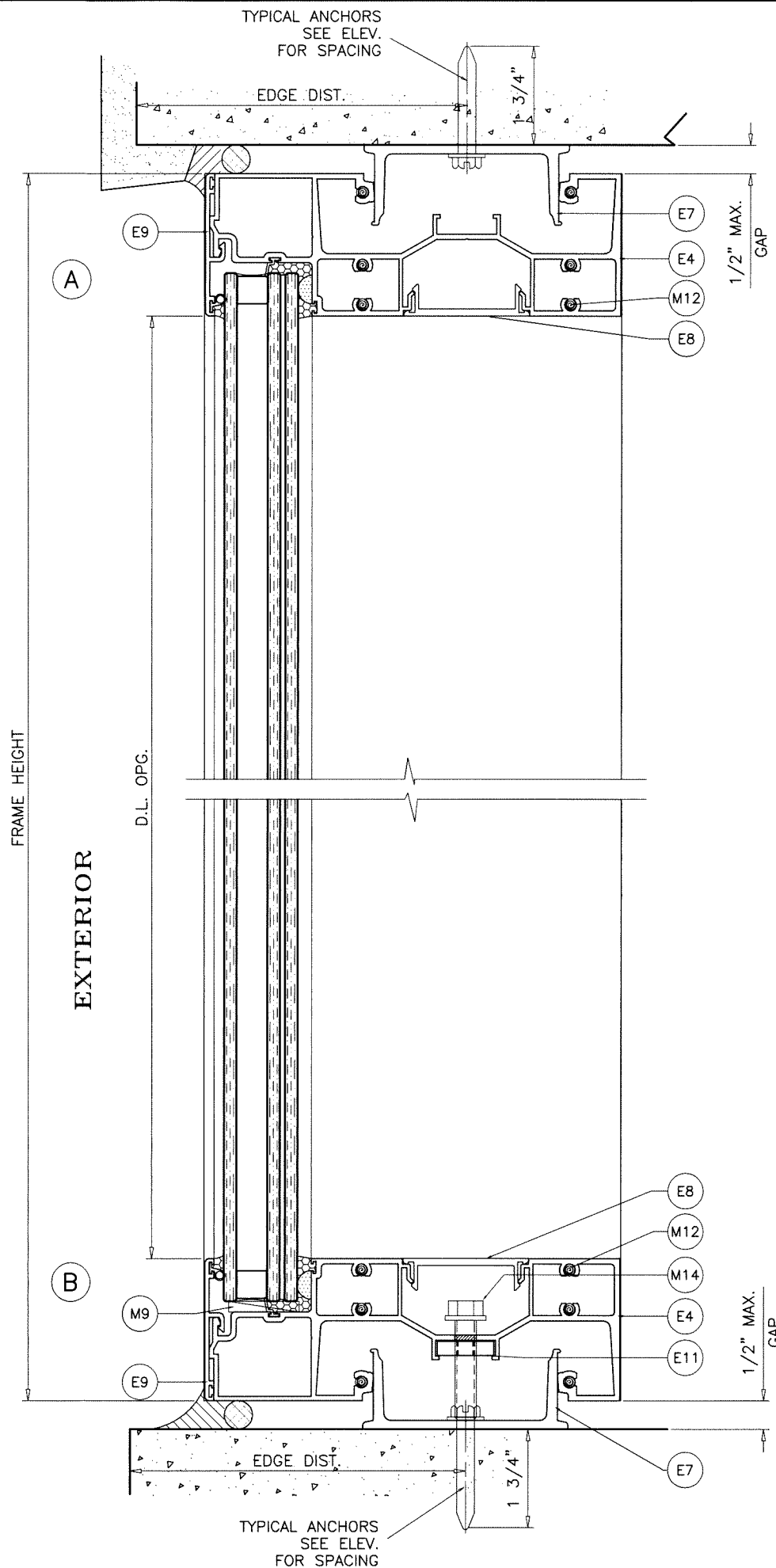
dr. by: TARIQ

chk. by: -

drawing no.

19-06F

sheet 3 of 8



METAL STRUCTURES NOT BY 'E.S. WDW.'
MUST SUPPORT 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 'DEWALT' (Fu=164 KSI, Fy=148 KSI)
DIRECTLY INTO CONCRETE
1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

TYPE 'B'— 1/4" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 3/16" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPE 'AA'— 5/16" DIA. ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)
DIRECTLY INTO CONCRETE
1-3/4" MIN. EMBED INTO CONCRETE (HEAD/SILL)

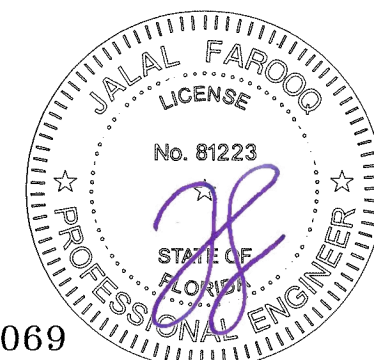
TYPE 'BB'— 5/16" DIA. TEKS OR SELF DRILLING SCREWS (GRADE 5 CRS)
INTO F.B.C. APPROVED MULLIONS
OR
INTO METAL STRUCTURES (HEAD/SILL)
(3) THREADS MIN. TO EXTEND BEYOND METAL THICKNESS
ALUMINUM: 3/16" THK. MIN. (6063-T5 MIN.)
STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
(STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

TYPICAL EDGE DISTANCE

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

CONCRETE AT HEAD, SILL f'c = 3500 PSI MIN.

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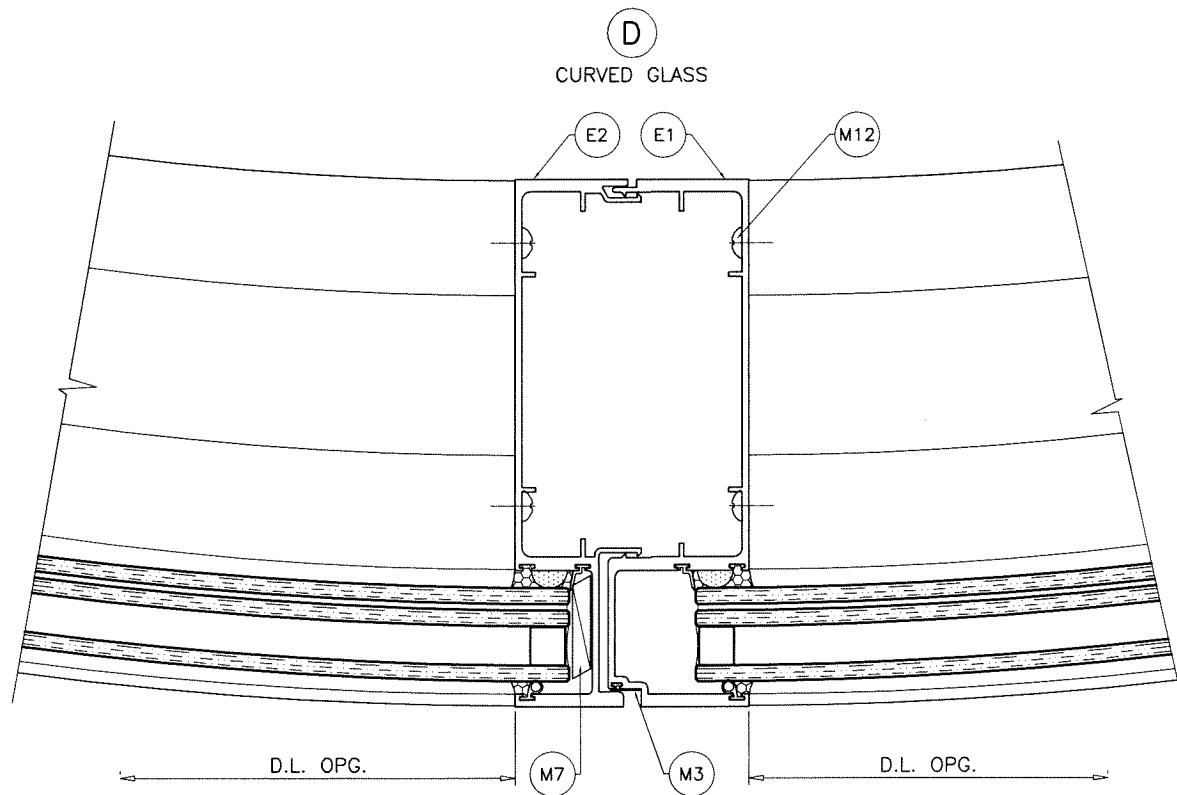
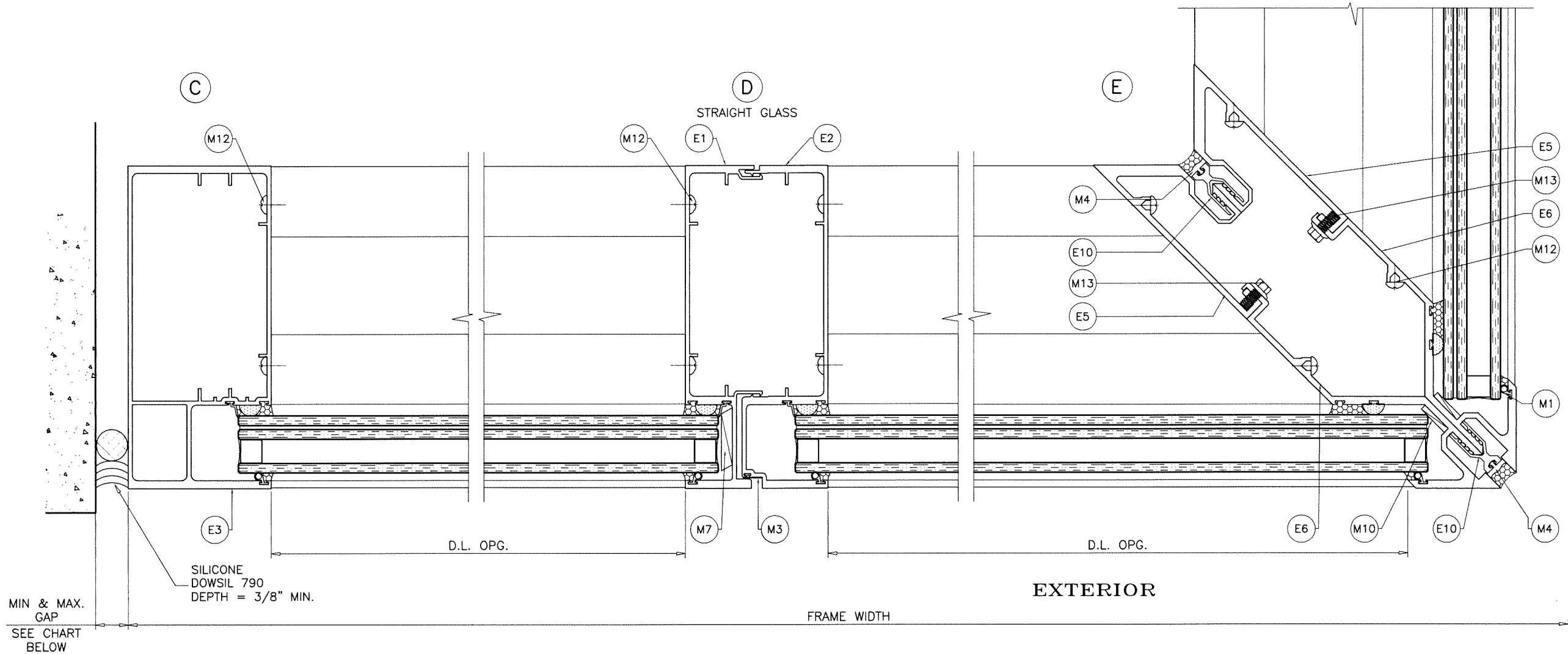
AL-FAROOQ CORPORATION
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revisions:		no date by description	
date:	01-31-19	scale:	3/8" = 1"
dr. by:	TARIQ	chk. by:	
drawing no.	19-06F	sheet	4 of 8

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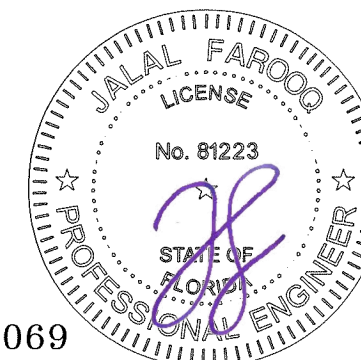
MAX. FRAME HEIGHT	GAP	
	MIN.	MAX.
96"	1/2"	3/4"
120"	5/8"	3/4"

NOTE:
MAX. MOVEMENT CONSIDERED=100% STRETCH.
PLEASE REFER TO SEALANT MANUFACTURER'S DATA AND APPLICATION MANUAL FOR COMPATABILITY OF SEALANT TO SUBSTRATE & WINDOWALL MATERIAL/FINISH AND COMPLIANCE FOR WARRANTY.
REFER TO ACI-117-10 FOR CONSTRUCTION TOLERANCES.

ALTERNATE SEALANTS AT JAMB GAPS CAN BE DESIGNED BY ENGINEER OF RECORD BASED ON MANUFACTURER GUIDE LINES.

GAPS LESS THAN 1/4" MAY BE DESIGNED BY ENGINEER OF RECORD BY THE USE OF BOND BREAKER TAPE OR 15% OF GAP ALLOWED MOVEMENT.

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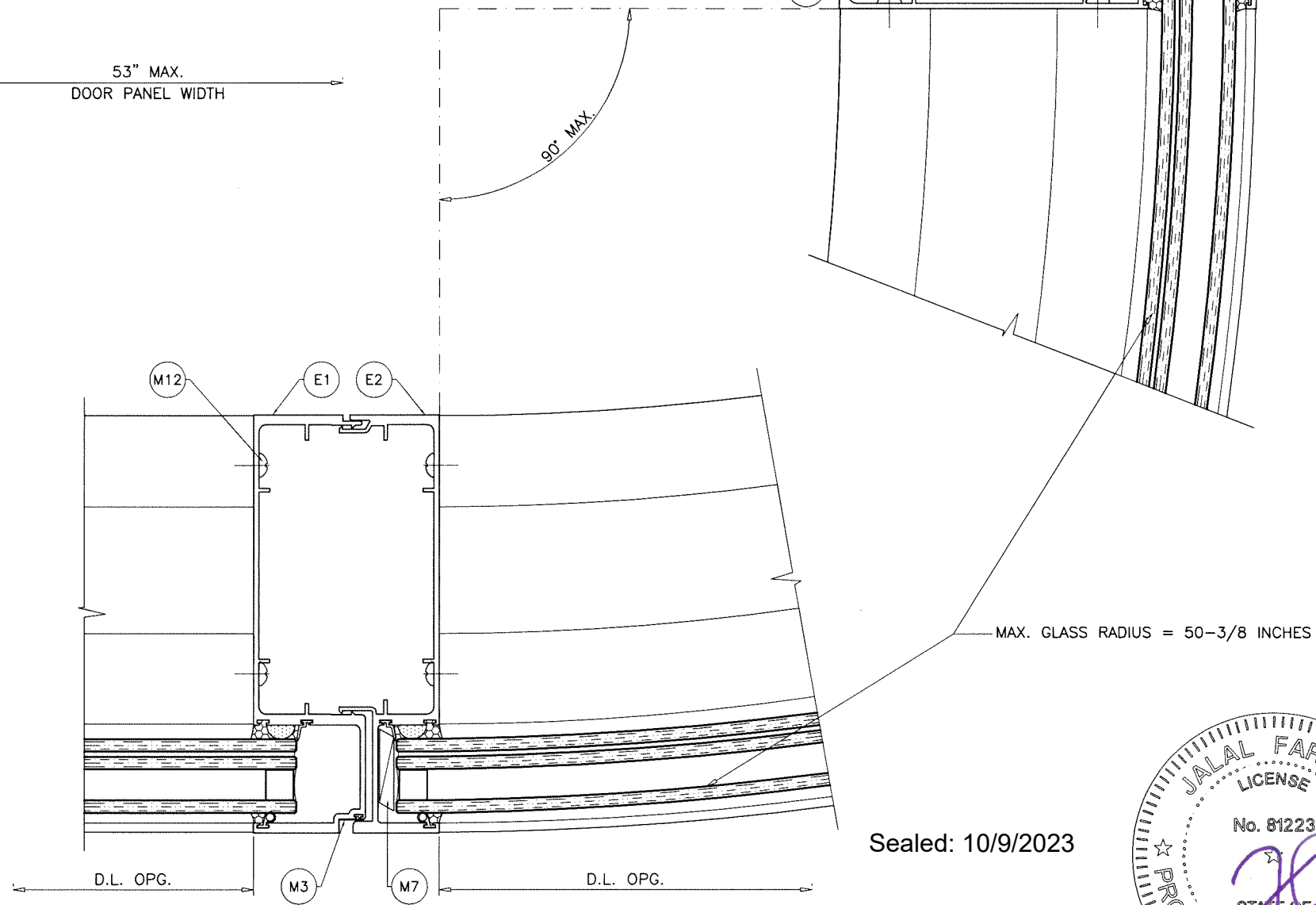
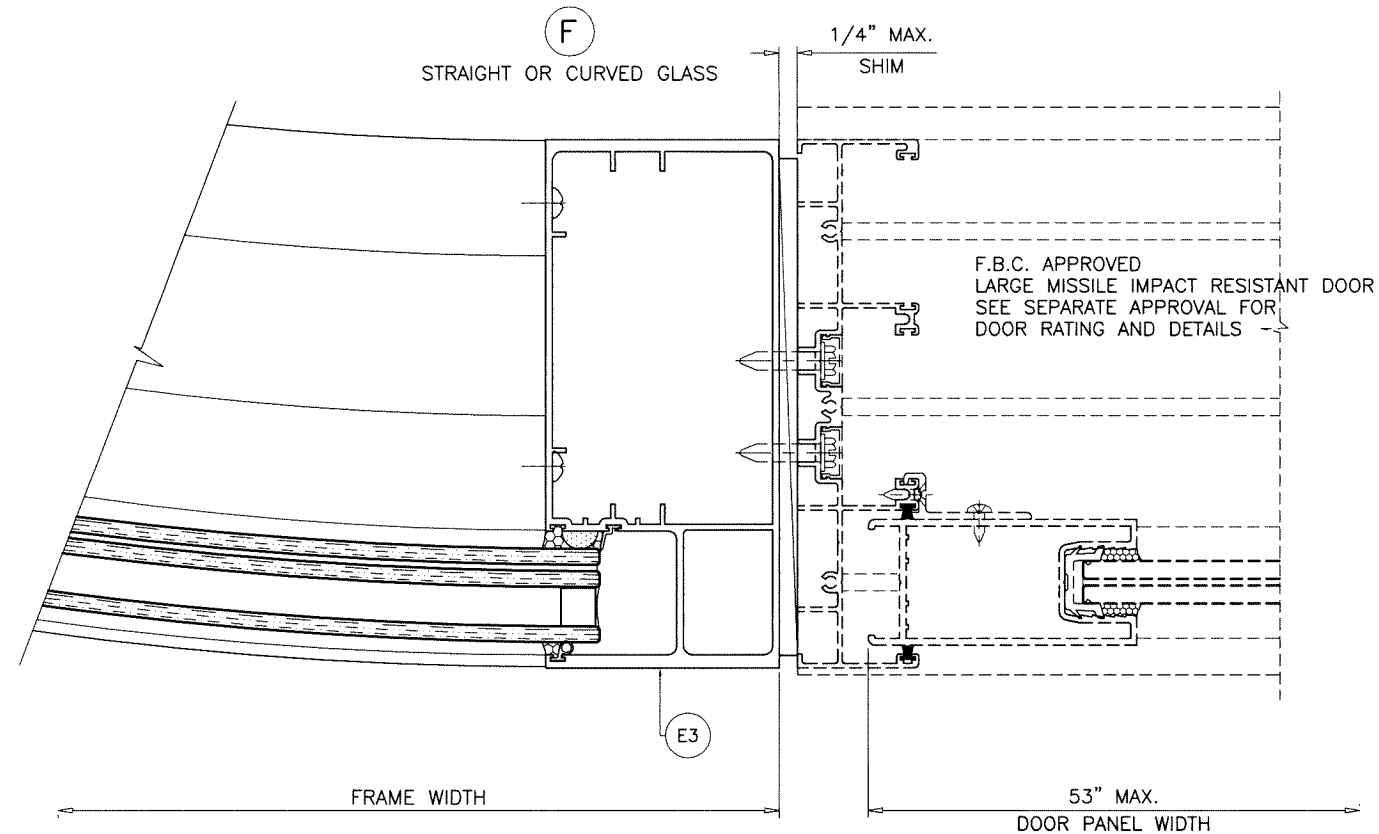
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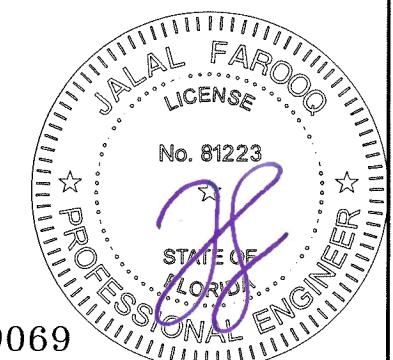
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19-06F

sheet 5 of 8

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revisions:

no	date	by	description

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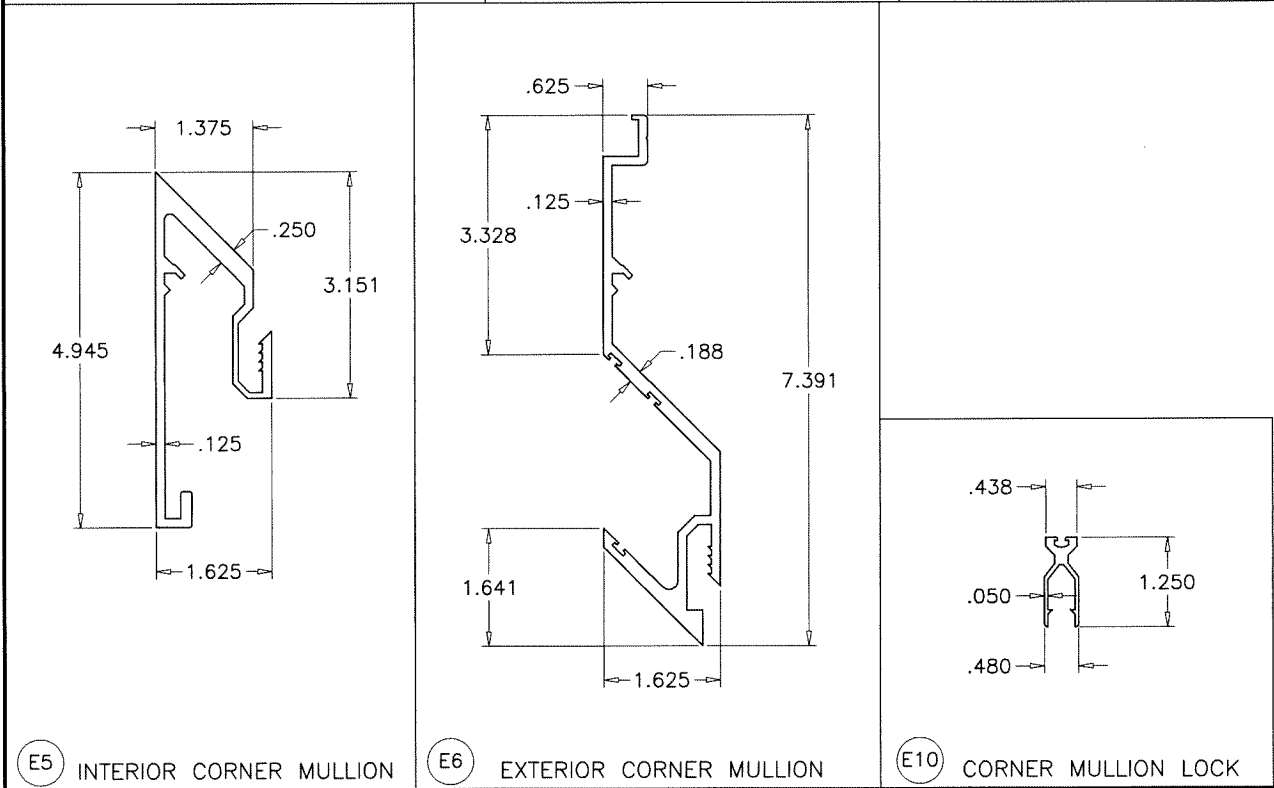
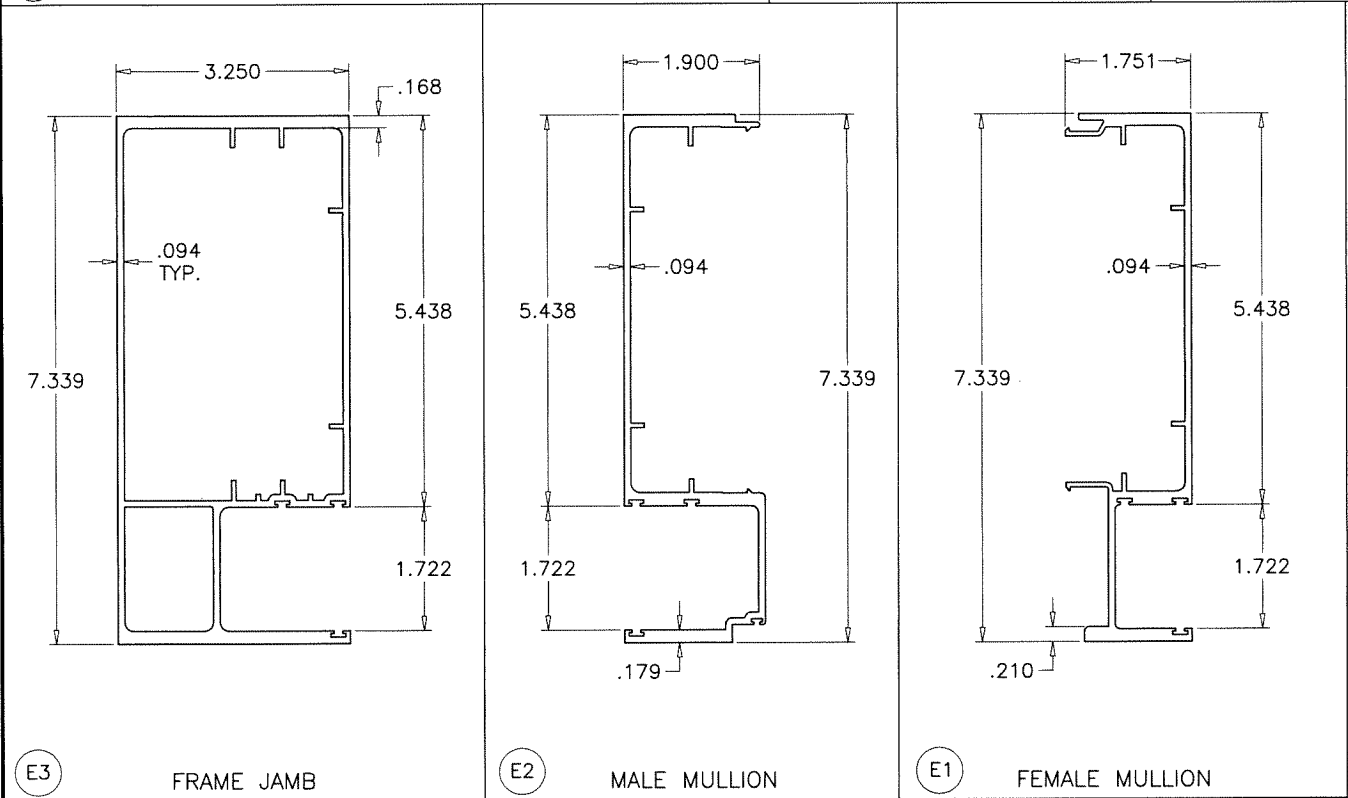
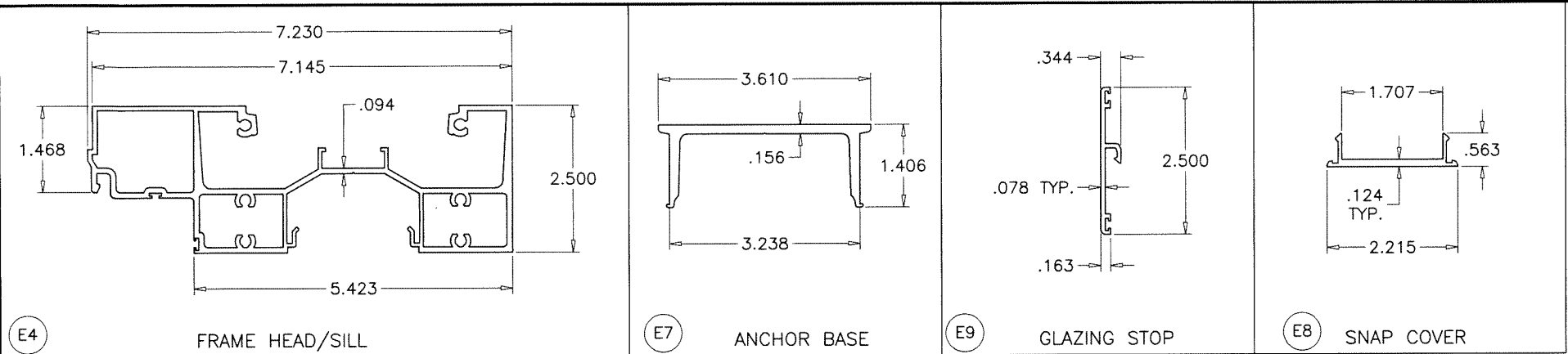
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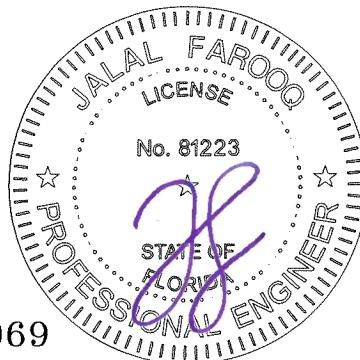
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drawing no.
19-06F

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chk. by:

drawing no.

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