

FLORIDA DEPARTMENT OF
Business & Professional Regulation



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**Product Approval**

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[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > **Application Detail**

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FL #	FL17897-R6
Application Type	Revision
Code Version	2020
Application Status	Approved

Comments

Archived

☐

Product Manufacturer	E.S. Windows, Inc.
Address/Phone/Email	10653 NE Quaybridge Ct. Miami, FL 33138 (305) 624-7775 achamorro@eswillc.com

Authorized Signature	Jalal Farooq veronica@afceng.com
----------------------	-------------------------------------

Technical Representative	Manuel Perez
Address/Phone/Email	10653 NE Quaybridge Ct. Miami, FL 33138 maph@bellsouth.net

Quality Assurance Representative	
Address/Phone/Email	

Category	Panel Walls
Subcategory	Storefronts

Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer
	☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report	Jalal Farooq
Florida License	PE-81223
Quality Assurance Entity	Keystone Certifications, Inc.
Quality Assurance Contract Expiration Date	07/16/2025
Validated By	JAVAD AHMAD PE, INC.
	☒ Validation Checklist - Hardcopy Received

Certificate of Independence	FL17897 R6 COI SS - Certificate of Independence.pdf
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Referenced Standard and Year (of Standard)	Standard	Year
	AAMA 501	2015
	TAS 201	1994
	TAS 202	1994
	TAS 203	1994

Equivalence of Product Standards Certified By	
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Sections from the Code	
------------------------	--

Product Approval Method

Method 1 Option D

Date Submitted

12/21/2020

Date Validated

12/23/2020

Date Pending FBC Approval

12/29/2020

Date Approved

02/09/2021

Summary of Products

FL #	Model, Number or Name	Description
17897.1	Series ES-8000 Aluminum Window Wall System	Large missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +130/-130 Other: See drawing W17-92 for span vs load combinations and installation details.		Installation Instructions FL17897 R6 II SS - ES 8000 WW (LMI) DWG W17-92 (2020 R1.1).pdf Verified By: Jalal Farooq PE# 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897 R6 AE SS - ES-8000 Window Wall System (LMI)-PAE 2020 R1.pdf Created by Independent Third Party: Yes
17897.2	Series ES-8000T Aluminum Window Wall System	Large missile impact resistant aluminum window wall system.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +90/-120 Other: See drawing W15-37 for span vs load combinations and installation details.		Installation Instructions FL17897 R6 II SS - ES-8000T Window Wall System (LMI) W15-37-DWG 2020.pdf Verified By: Jalal Farooq PE# 81223 Created by Independent Third Party: Yes Evaluation Reports FL17897 R6 AE SS - ES-8000T Window Wall System (LMI)-PAE 2020.pdf Created by Independent Third Party: Yes

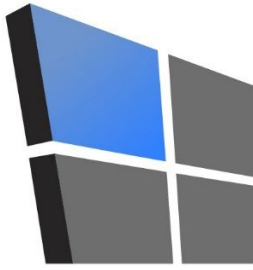
[Back](#)[Next](#)

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Product Approval Accepts:



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

August 11, 2020

Product Approval Administrator
Building Codes & Standards Section
Department of Business & Professional Regulations
1940 North Monroe Street, Suite 90
Tallahassee, FL 32399-2100

To whom it may concern,

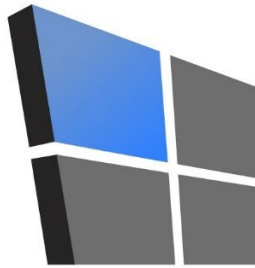
As the design engineer retained to prepare the product approval(s) associated with this letter as shown below on this same web page, I do hereby declare that I do not have and will not have any financial interest in any company manufacturing or distributing the referenced product(s), nor do I have or will have any financial interest with any other entity involved in the approval process of the referenced product(s).

Sincerely,



Sealed 8-11-2020

Jalal Farooq, P.E.
CFO



AL-FAROOQ CORPORATION

CONSULTING ENGINEERS & PRODUCT DEVELOPMENT

PRODUCT APPROVAL EVALUATION RULE CHAPTER #61G20-3 • METHOD 1 OPTION D

FL 17897

Date: 12/17/2020

Detailed Product Description:

Manufacturer: E.S. WINDOWS, LLC.

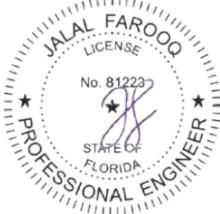
Manufacturer Address: 3550 N.W. 49 STREET – MIAMI, FL. 33142

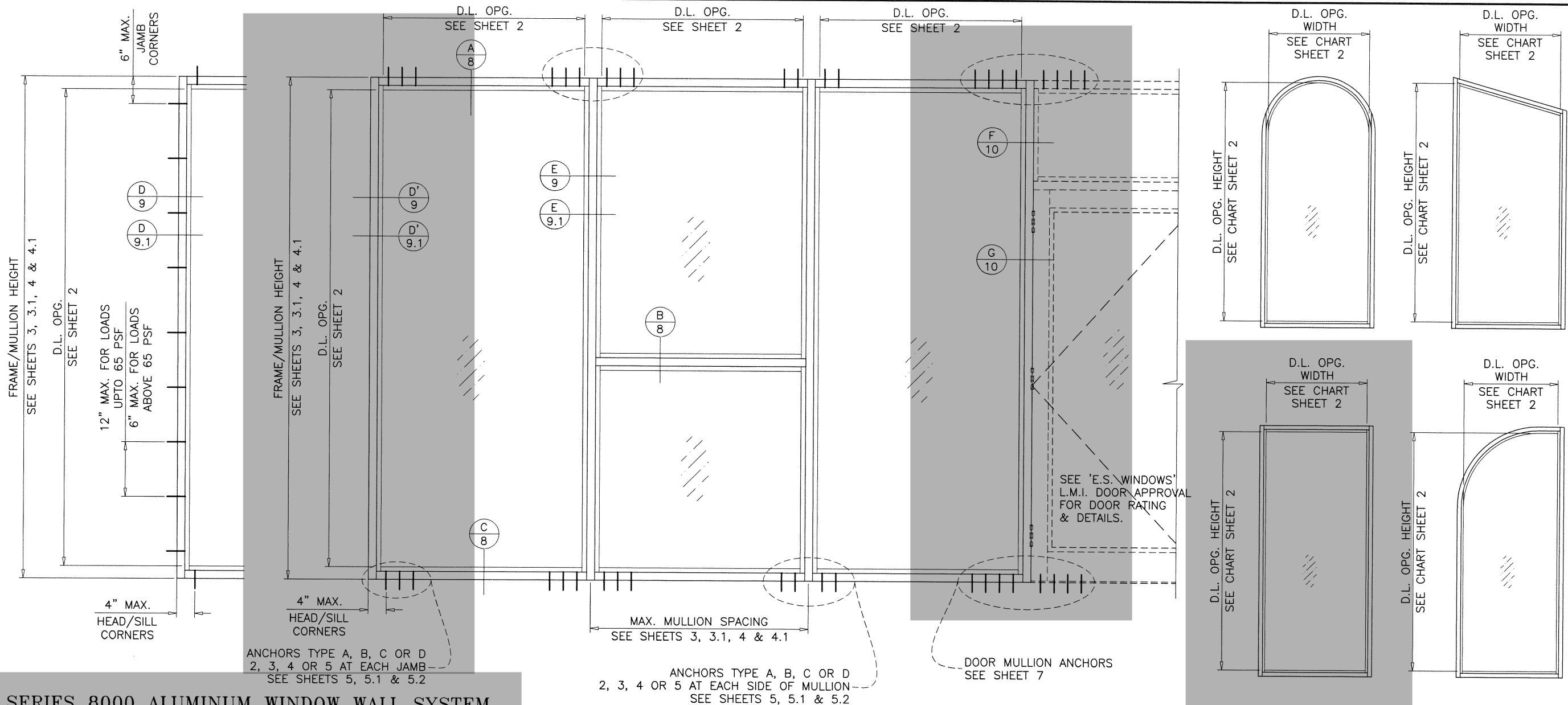
Model Name: SERIES ES-8000 ALUMINUM WINDOW WALL SYSTEM

Maximum Load: +130PSF, -130 PSF (Large Missile Impact)

Installation Drawings # W17-92

This product complies with the High Velocity Hurricane Zone (HVHZ) testing requirements.					
For maximum sizes, combination of span vs loads and anchor type refer to installation drawings.					
Comparative analysis used ☒ Yes ☐ No					
Mandatory Tests (Tested in accordance with AAMA 501/101/I.S.2/NAFS/TAS-202)					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
ASTM E283	Air Infiltration Leakage	Fenestration Testing Laboratory, Inc.	12/19/2007 03/24/2016 08/16/2017 05/17/2018 06/19/2020	FTL-5447 FTL-8372 FTL-9605 BT-ESW-18-004 FTL-12112	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Constantin Bortes, P.E. Idalmis Ortega, P.E.
		Blackwater Technical Services Inc.	12/18/2020	BT-ESW-20-036A	Mike Caldwell, P.E.
ASTM E331 OR ASTM 547 & TAS 202	Water Penetration	Fenestration Testing Laboratory, Inc.	12/19/2007 03/24/2016 08/16/2017 05/17/2018 06/19/2020	FTL-5447 FTL-8372 FTL-9605 BT-ESW-18-004 FTL-12112	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Constantin Bortes, P.E. Idalmis Ortega, P.E.
		Blackwater Technical Services Inc.	12/18/2020	BT-ESW-20-036A	Mike Caldwell, P.E.
ASTM E330 & TAS 202	Uniform Static Air Press.	Fenestration Testing Laboratory, Inc.	12/19/2007 03/24/2016 08/16/2017 05/17/2018 06/19/2020	FTL-5447 FTL-8372 FTL-9605 BT-ESW-18-004 FTL-12112	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Constantin Bortes, P.E. Idalmis Ortega, P.E.
ASTM F588	Forced Entry	Fenestration Testing Laboratory, Inc.	06/19/2020	FTL-12112	Idalmis Ortega, P.E.
		Blackwater Technical Services Inc.	12/18/2020	BT-ESW-20-036A	Mike Caldwell, P.E.

Supplemental Tests (Tested in accordance with TAS-201 and TAS-203)					
TEST	DESCRIPTION	TEST LOCATION	TEST REPORT DATE	TEST REPORT #	Test Sealed by
FBC 1626.2 (TAS 201 & 203) ANSI Z97.1	Large Missile Impact & Cyclic	Fenestration Testing Laboratory, Inc.	12/19/2007 03/24/2016 08/16/2017 05/17/2018 06/19/2020	FTL-5447 FTL-8372 FTL-9605 BT-ESW-18-004 FTL-12112	Michael R. Wenzel, P.E. Idalmis Ortega, P.E. Idalmis Ortega, P.E. Constantin Bortes, P.E. Idalmis Ortega, P.E.
		Blackwater Technical Services Inc.	12/18/2020	BT-ESW-20-036A	Mike Caldwell, P.E.
Under the limitations of the attached installation drawings, to the best of my knowledge and ability, the above product conforms to the requirements of the 2020 Florida Building Code.					
Evaluation Report Engineer:					
Jalal Farooq Al-Farooq Corporation		PE # 81223 EB # 3538	Sealed: 12/21/20		



SERIES 8000 ALUMINUM WINDOW WALL SYSTEM

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

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE 2017 (6TH EDITION)/2020 (7TH EDITION) FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS TO THE BUILDING STRUCTURE.

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.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

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 2017/2020 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.

TYPICAL ELEVATION

INSTRUCTIONS:

USE CHARTS AS FOLLOWS.

- STEP 1** DETERMINE DESIGN WIND LOAD REQUIREMENT BASED ON WIND VELOCITY, BLDG. HEIGHT, WIND ZONE USING APPLICABLE ASCE 7 STANDARD.
- STEP 2** SEE CHARTS ON SHEET 2 FOR DESIGN LOAD CAPACITY OF DESIRED GLASS SIZE.
- STEP 3** CHECK MULLION CAPACITY FOR A GIVEN SPACING AND HEIGHT USING CHARTS ON SHEETS 3 & 4 FOR WINDOW WALL MULLION AND SHEETS 6 & 7 FOR DOOR MULLION. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 4** CHECK ANCHOR CAPACITY FOR WINDOW WALL SYSTEM USING CHARTS ON SHEETS 5, 5.1 & 5.2. FOR DOOR MULLION ANCHOR CAPACITY SEE CHART ON SHEET 7. THE CAPACITY SHOULD EXCEED THE DESIGN LOAD.
- STEP 5** THE LOWEST VALUE RESULTING FROM STEPS 2, 3 AND 4 SHALL APPLY TO ENTIRE SYSTEM.

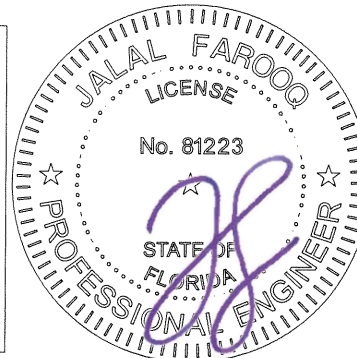
ALLOWABLE LOADS FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE VERIFIED BY INSCRIBING PICTURE WINDOW SHAPE WITHIN SQUARE OR RECTANGLE AS SHOWN IN DOTTED LINES AND OBTAINING ALLOWABLE LOADS FROM THOSE SHAPES. SINGLE LITES MAY BE INSTALLED VERTICALLY AS SHOWN ABOVE OR HORIZONTALLY.

PRODUCT COMPLIES WITH REQUIREMENTS OF ANSI Z97.1.

LAMINATED GLASS
LARGE MISSILE IMPACT

Sealed: 12/23/20

FL #17897



- 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.

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978
STORE \W17-92ES

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)
E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

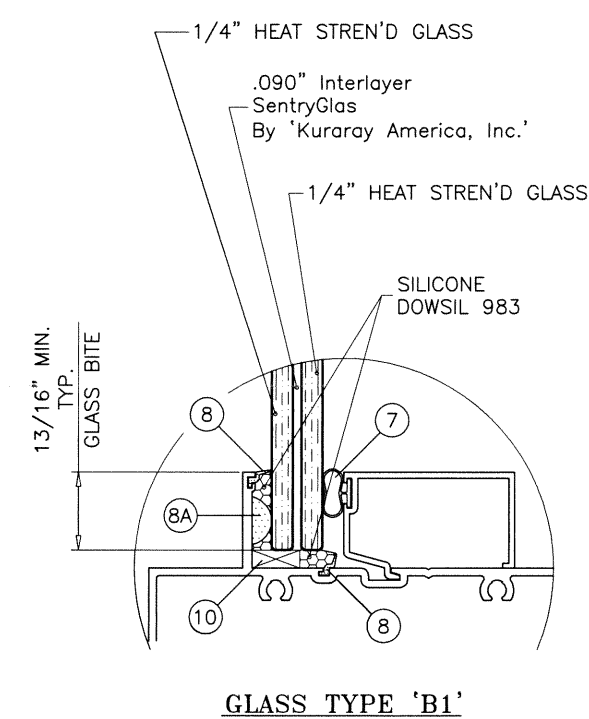
revisions:	no.	date	by	description
	A	08.16.19		GENERAL REVISION
	B	08.10.20		UPDATED TO 2020 FBC
	C	12.21.20		NEW TESTS ADDED

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dr. by:	TARIQ
chk. by:	

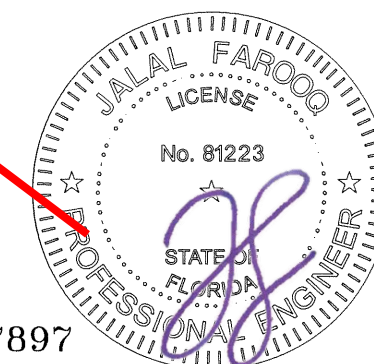
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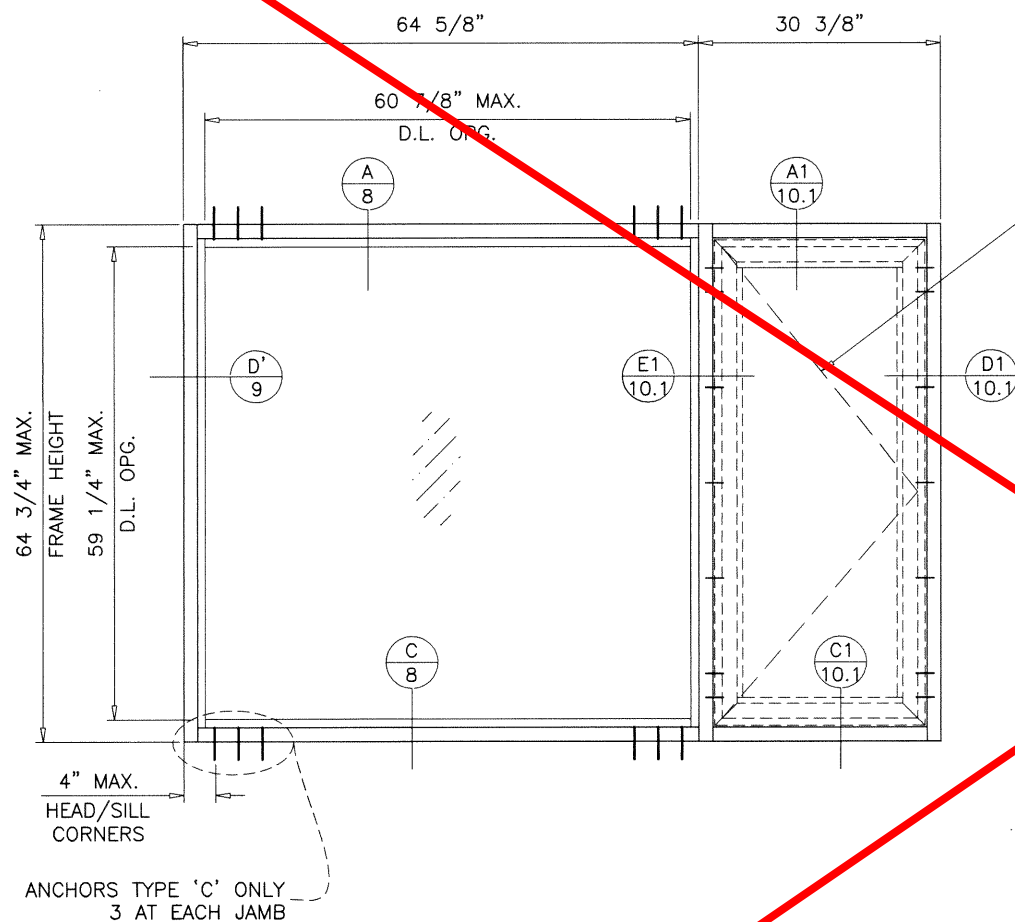
W17-92

sheet 1 of 12



FL #17897

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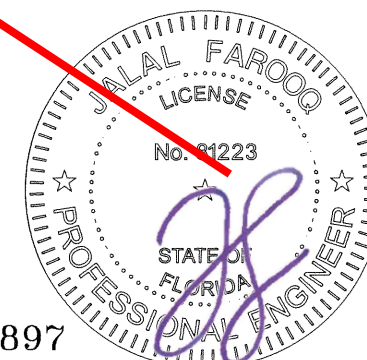


WINDOW WALL SYSTEM WITH WINDOW INSERT
SEE SEPARATE APPROVAL FOR WINDOW CAPACITY
LOWER RATING OF WINDOW OR
WINDOW WALL SYSTEM WILL CONTROL.

MAXIMUM DESIGN LOAD RATINGS = + 78.0 PSF
- 114.0 PSF
(ONLY FOR SINGLE UNITS SHOWN IN THIS SHEET)

Sealed: 12/23/20

FL #17897



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af c
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revisions:

no	date	description

date: 10-20-17

scale: 1/2" = 1'-0"

dr. by: TARIQ

chk. by:

drawing no.
W17-92

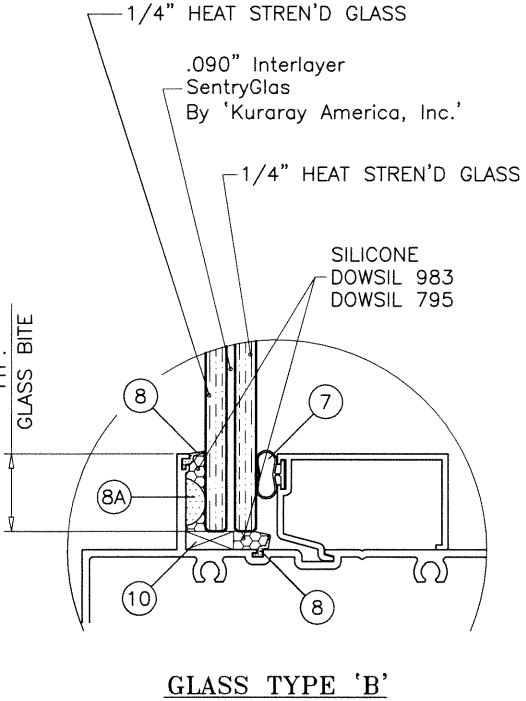
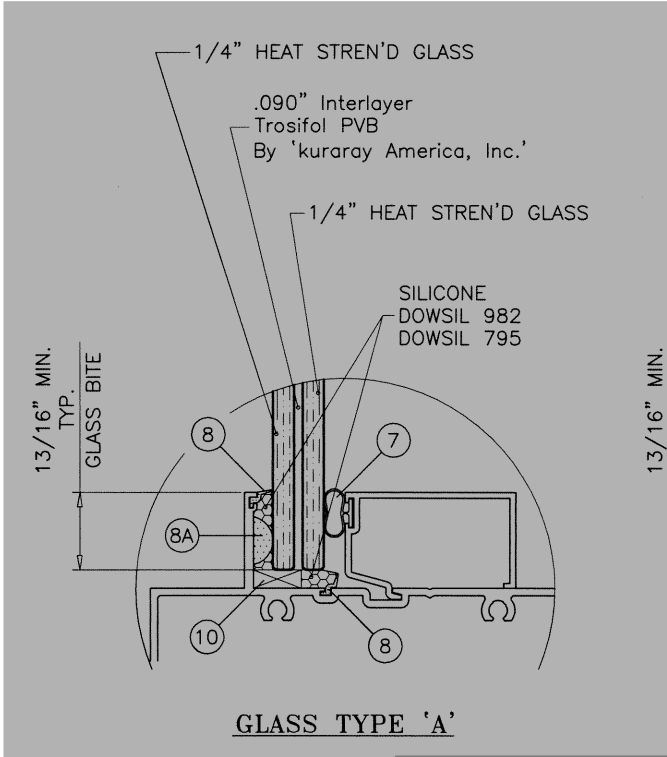
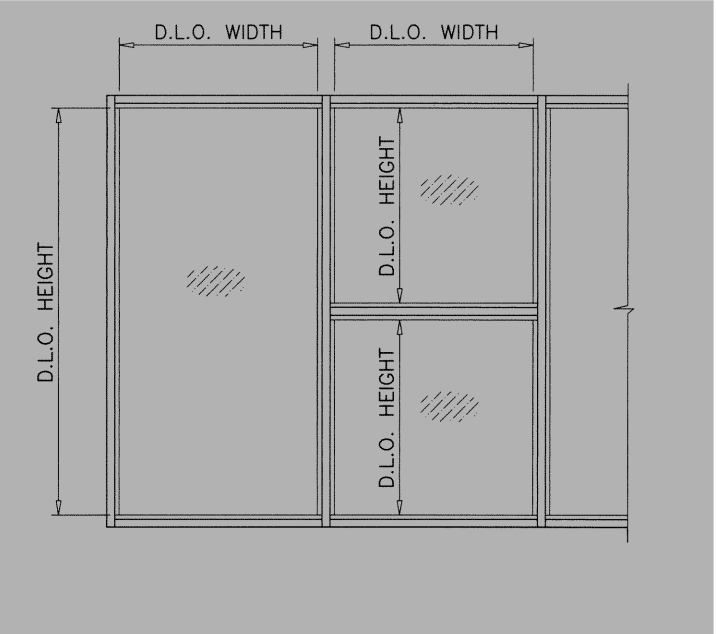
sheet 1.2 of 12

GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)
28"	84-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
56-1/4"		80.0	130.0
60-1/2"		-	63.6
66-1/2"		-	58.3
28"	90-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	130.0
54-1/2"		56.0	70.0
60-1/2"		-	63.6
66-1/2"		-	58.3
28"	96-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48"		80.0	130.0
52"		80.0	127.2
54-1/2"		56.0	70.0
60-1/2"		-	63.6
66-1/2"		-	58.3
28"	102-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48"		80.0	128.9
54-1/2"		56.0	70.0
60-1/2"		-	63.6
66-1/2"		-	58.3
28"	108-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48"		62.2	70.0
54-1/2"		56.0	70.0
60-1/2"		-	63.6
66-1/2"		-	58.3

GLASS LOAD CAPACITY - PSF			
NOMINAL DIMS.		GLASS TYPE 'A'	GLASS TYPE 'B'
D.L.O. WIDTH	D.L.O. HEIGHT	EXT.(+)/INT.(-)	EXT.(+)/INT.(-)
28"	114-1/2"	80.0	130.0
32"		80.0	130.0
36"		80.0	130.0
40"		80.0	130.0
44-1/4"		80.0	130.0
48-1/2"		62.2	90.0
51-1/2"		-	90.0
54-1/2"		-	70.0
60-1/2"		-	63.6
66-1/2"		-	58.3
44-1/4"	120-1/2"	70.0	90.0
48"		62.2	90.0
50"		-	90.0
54-1/2"		-	70.0
60-1/2"		-	63.6
42-1/4"	126-1/2"	70.0	90.0
44-1/4"		-	90.0
48"		-	90.0
48-1/2"		-	70.0
54-1/2"		-	70.0
40"	132-1/2"	70.0	90.0
42-1/4"		70.0	90.0
44-1/4"		-	90.0
46"		-	90.0
48-1/2"		-	70.0
54-1/2"	138-1/2"	70.0	90.0
42-1/4"		70.0	90.0
44-1/4"		-	90.0
48-1/2"		-	70.0
54-1/2"		-	70.0

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

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

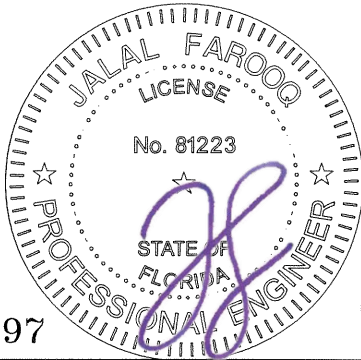


GLAZING OPTIONS

Sealed: 12/23/20

GLASS

FL #17897



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revisions:

no	date	by	description

date: 10-20-17

scale: 1/2"=1'-0"

dr. by: TARIQ

chk. by:

drawing no.

W17-92

sheet 2 of 12

MULLION LOAD CAPACITY – PSF MULLIONS WITHOUT INTERMEDIATE HORIZONTALS					
NOMINAL DIMS.		JAMB 'J1'	JAMB 'J1'	JAMB 'J2'	JAMB 'J3'
		MULL 'M1'	MULL 'M2'	MULL 'M3'	MULL 'M4'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	86-1/2"	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0
42"		130.0	130.0	130.0	130.0
48"		130.0	130.0	130.0	130.0
54"		130.0	130.0	130.0	130.0
60"		127.3	130.0	130.0	130.0
30"	90"	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0
42"		130.0	130.0	130.0	130.0
48"		130.0	130.0	130.0	130.0
54"		122.9	130.0	130.0	130.0
60"		114.9	130.0	130.0	130.0
30"	96"	130.0	130.0	130.0	130.0
36"		130.0	130.0	130.0	130.0
42"		121.1	130.0	130.0	130.0
48"		108.6	130.0	130.0	130.0
54"		99.4	130.0	125.6	130.0
60"		92.4	130.0	116.3	130.0
30"	98-1/2"	130.0	130.0	130.0	130.0
36"		127.6	130.0	130.0	130.0
42"		111.6	130.0	130.0	130.0
48"		100.0	130.0	130.0	130.0
54"		91.4	130.0	118.6	130.0
58"		86.8	130.0	112.4	130.0
30"	102"	130.0	130.0	130.0	130.0
36"		114.5	130.0	130.0	130.0
42"		100.0	130.0	130.0	130.0
48"		89.5	130.0	120.9	130.0
54"		81.6	130.0	109.8	130.0
56"		79.4	127.7	106.7	130.0
30"	108"	113.5	130.0	130.0	130.0
36"		95.9	130.0	130.0	130.0
42"		83.6	130.0	120.3	130.0
48"		74.6	120.0	107.0	130.0
53"		68.8	110.7	98.4	130.0
30"	110-1/2"	105.9	130.0	130.0	130.0
36"		89.4	130.0	130.0	130.0
42"		77.8	125.2	114.7	130.0
48"		69.4	111.6	101.9	130.0
52"		64.9	104.5	95.1	130.0
30"	114"	96.2	130.0	130.0	130.0
36"		81.2	130.0	123.8	130.0
42"		70.6	113.6	107.4	130.0
48"		62.9	101.1	95.3	130.0
50"		60.8	97.7	92.0	130.0
30"	120"	82.3	130.0	130.0	130.0
36"		69.3	111.5	111.4	130.0
42"		60.2	96.9	96.5	130.0
48"		53.5	86.1	85.5	130.0

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

MULLION LOAD CAPACITY – PSF MULLIONS W/O INTERMEDIATE HORIZONTALS				
NOMINAL DIMS.		JAMB 'J2'	JAMB 'J3'	UNANCHORED
		MULL 'M4'	MULL 'M4'	JAMB OPTIONS
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)	MULL OPTIONS
54"	120"	90.0	90.0	
57"		90.0	90.0	
60"		–	70.0	
66"		–	70.0	
72"		–	70.0	
30"	126"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
54"		90.0	90.0	
60"		–	70.0	
66"		–	70.0	
30"	132"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
52"		90.0	90.0	
54"		–	70.0	
60"		–	70.0	
30"	138"	90.0	90.0	
36"		90.0	90.0	
42"		90.0	90.0	
48"		90.0	90.0	
50"		86.9	86.9	
54"		–	70.0	
60"		–	64.9	
30"	144"	90.0	90.0	
36"		90.0	90.0	
42"		89.4	89.4	
48"		79.0	79.0	
54"		–	65.1	
60"		–	59.3	

JAMB 'J1'

Ix IN ⁴	Sx IN ³
6.6509	2.6421

JAMB 'J2'

Ix IN ⁴	Sx IN ³
10.6486	4.4452

JAMB 'J3'

Ix IN ⁴	Sx IN ³
6.6509	2.6421
STEEL	2.7506
TOTAL	14.6276
Ix ALUM + Ix STL X 2.9	

MULLION 'M1'

Ix IN ⁴	Sx IN ³
6.7195	2.6757

MULLION 'M2'

Ix IN ⁴	Sx IN ³
10.8072	3.7590

MULLION 'M3'

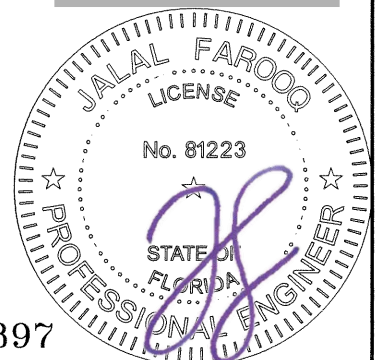
Ix IN ⁴	Sx IN ³
6.7195	2.6757
STEEL	2.7506
TOTAL	14.6962
Ix ALUM + Ix STL X 2.9	

MULLION 'M4'

Ix IN ⁴	Sx IN ³
6.7195	2.6757
STEEL	3.7533
TOTAL	17.6047
Ix ALUM + Ix STL X 2.9	

WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION



Sealed: 12/23/20

FL #17897

AL-FAROOQ CORPORATION
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SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

no	date	by	description

date: 10-20-17

scale: –

dr. by: TARIQ

chk. by:

drawing no.
W17-92

sheet 3 of 12

MULLION LOAD CAPACITY – PSF
MULLIONS WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1A'	JAMB 'J1A'
WIDTH (W)	FRAME HEIGHT	MULL 'M1A'	MULL 'M2A'
		EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	86-1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		60.0	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		55.6	70.0
60"		51.5	70.0
30"	98-1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		57.6	70.0
54"		52.4	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		59.7	70.0
48"		53.2	70.0
54"		48.3	70.0
30"	108"	60.0	70.0
36"		60.0	70.0
42"		52.6	70.0
48"		46.8	70.0
54"		-	70.0
60"		-	70.0
30"	110-1/2"	60.0	70.0
36"		57.1	70.0
42"		49.7	70.0
48"		44.3	70.0
54"		-	70.0
60"		-	70.0
30"	114"	60.0	70.0
36"		51.8	70.0
42"		45.1	70.0
48"		40.1	70.0
54"		-	70.0
30"	120"	52.5	70.0
36"		44.3	70.0
42"		38.5	70.0
48"		34.2	66.7
54"		-	60.4
57"		-	57.8

MULLION LOAD CAPACITY – PSF
MULLIONS WITHOUT INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1A'	JAMB 'J1A'
WIDTH (W)	FRAME HEIGHT	MULL 'M1A'	MULL 'M2A'
		EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	126"	-	70.0
36"		-	70.0
42"		-	64.6
48"		-	57.3
54"		-	51.8
30"	132"	-	70.0
36"		-	64.5
42"		-	55.9
48"		-	49.6
52"		-	46.2
30"	138"	-	67.1
36"		-	56.3
42"		-	48.8
48"		-	43.2
50"		-	41.6
30"	144"	-	58.9
36"		-	49.5
42"		-	42.8
48"		-	37.8

UNANCHORED
JAMB OPTIONS
MULL OPTIONS

JAMB 'J1A'

Ix	IN^4	Sx	IN^3
4.1316		1.6902	

MULLION 'M1A'

Ix	IN^4	Sx	IN^3
4.2902		1.7239	

MULLION 'M2A'

Ix	IN^4	Sx	IN^3
8.3779		3.527	

Diagram of window frame with dimensions W1, W2, W3 and FRAME HEIGHT.

WIDTH (W) = W1
AT FRAME JAMB

WIDTH (W) = $\frac{W2 + W3}{2}$
AT FRAME MULLION

NOTE:
INTERPOLATION BETWEEN WIDTHS ALLOWED.

Sealed: 12/23/20

FL #17897

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AL-FAROOQ CORPORATION
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scale: -

dr. by: TARIQ

chk. by:

drawing no.
W17-92

sheet 3.1 of 12

MULLIONS

JAMAL FAROOQ
LICENSE
No. 81223
STATE OF FLORIDA
PROFESSIONAL ENGINEER

MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1A'	JAMB 'J1A'
		MULL 'M1A'	MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	86-1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		60.0	70.0
60"		55.9	70.0
30"	90"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		57.1	70.0
60"		51.4	70.0
30"	96"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		60.0	70.0
54"		56.1	70.0
60"		49.9	70.0
30"	98-1/2"	60.0	70.0
36"		60.0	70.0
42"		60.0	70.0
48"		53.2	70.0
54"		47.2	70.0
60"		43.9	70.0
30"	102"	60.0	70.0
36"		60.0	70.0
42"		56.4	70.0
48"		49.4	70.0
54"		43.9	70.0
60"		40.0	70.0
30"	108"	60.0	70.0
36"		58.4	70.0
42"		50.0	70.0
48"		43.8	70.0
54"		37.4	70.0
60"		32.1	70.0
30"	110-1/2"	60.0	70.0
36"		54.8	70.0
42"		47.0	70.0
48"		41.1	70.0
54"		35.2	70.0
60"		29.3	70.0
30"	114"	59.9	70.0
36"		49.9	70.0
42"		42.8	70.0
48"		37.4	70.0
54"		32.1	70.0
60"		26.8	70.0
30"	120"	51.4	70.0
36"		42.8	70.0
42"		36.7	70.0
48"		32.1	66.7
54"		27.5	60.4
57"		22.9	57.8

MULLION LOAD CAPACITY – PSF
MULLIONS WITH INTERMEDIATE HORIZONTALS

NOMINAL DIMS.		JAMB 'J1A'	JAMB 'J1A'
		MULL 'M1A'	MULL 'M2A'
WIDTH (W)	FRAME HEIGHT	EXT. (+) INT. (-)	EXT. (+) INT. (-)
30"	126"	—	70.0
36"		—	70.0
42"		—	64.6
48"		—	57.3
54"		—	51.8
60"		—	46.3
30"	132"	—	70.0
36"		—	64.5
42"		—	55.9
48"		—	49.6
52"		—	46.2
56"		—	42.8
30"	138"	—	67.1
36"		—	56.3
42"		—	48.8
48"		—	43.2
50"		—	41.6
52"		—	40.0
30"	144"	—	58.9
36"		—	50.5
42"		—	42.8
48"		—	37.8
54"		—	32.8
60"		—	27.8

UNANCHORED
JAMB OPTIONS

MULL OPTIONS
—

JAMB 'J1A'

Ix IN^4	Sx IN^3
4.1316	1.6902

MULLION 'M1A'

Ix IN^4	Sx IN^3
4.2902	1.7239

MULLION 'M2A'

Ix IN^4	Sx IN^3
8.3779	3.527

INTERMEDIATE HORIZONTALS

W1

W2

W3

WIDTH (W) = W1
AT FRAME JAMB

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

MULLIONS

Sealed: 12/23/20

FL #17897

AL FAL FAROOQ

LICENSE

No. 81223

STATE OF FLORIDA

PROFESSIONAL ENGINEER

AL-FAROOQ CORPORATION

ENGINEERS & PRODUCT DEVELOPMENT

9360 SUNSET DRIVE, SUITE 220

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scale: —

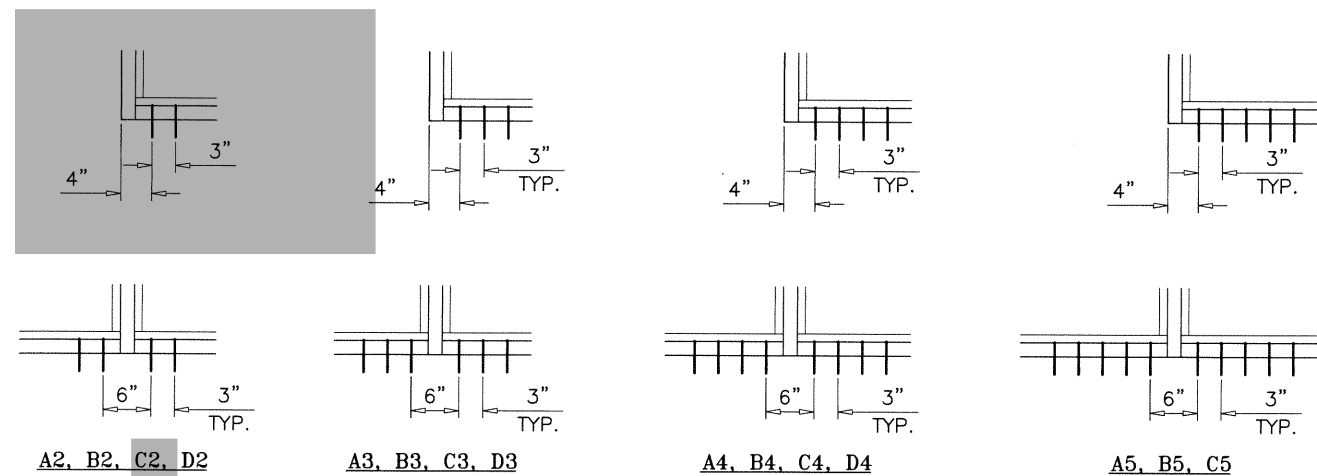
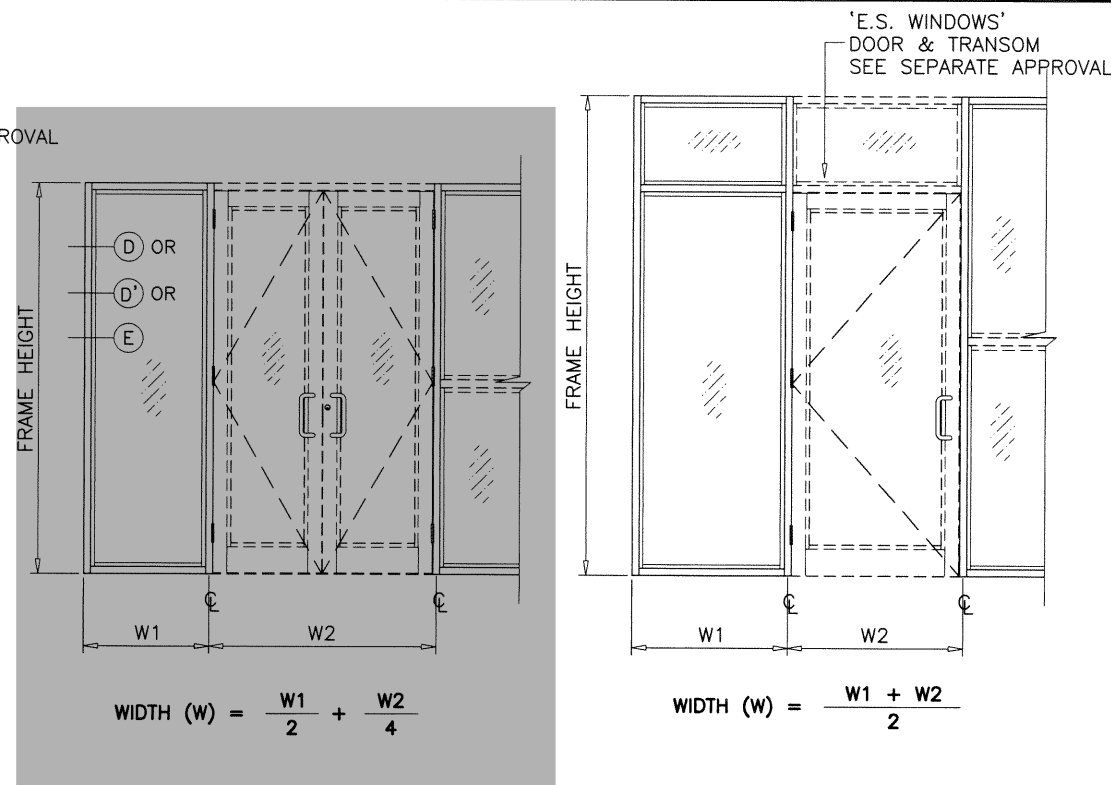
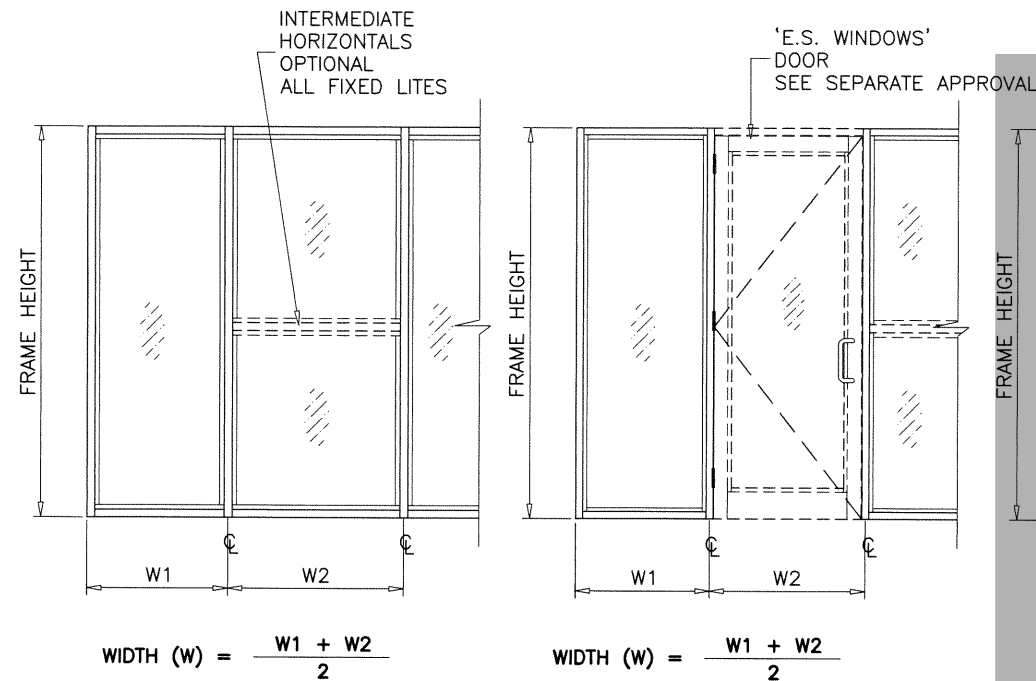
dr. by: TARIQ

chk. by: —

drawing no.

W17-92

sheet 4.1 of 12



ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

A2 = (2) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B2 = (2) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C2 = (2) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D2 = (2) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

A3 = (3) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B3 = (3) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C3 = (3) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D3 = (3) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

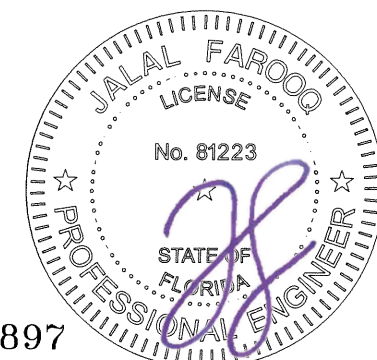
A4 = (4) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B4 = (4) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION
 D4 = (4) ANCHORS TYPE 'D' AT EACH SIDE OF JAMB AND MULLION

A5 = (5) ANCHORS TYPE 'A' AT EACH SIDE OF JAMB AND MULLION
 B5 = (5) ANCHORS TYPE 'B' AT EACH SIDE OF JAMB AND MULLION
 C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF JAMB AND MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

SEE SHEETS 5, 5.1, 5.2 & 7 FOR ANCHOR CAPACITY CHART.
 SEE SHEET 8 FOR ANCHOR DESCRIPTION.

ANCHORS



Sealed: 12/23/20

FL #17897

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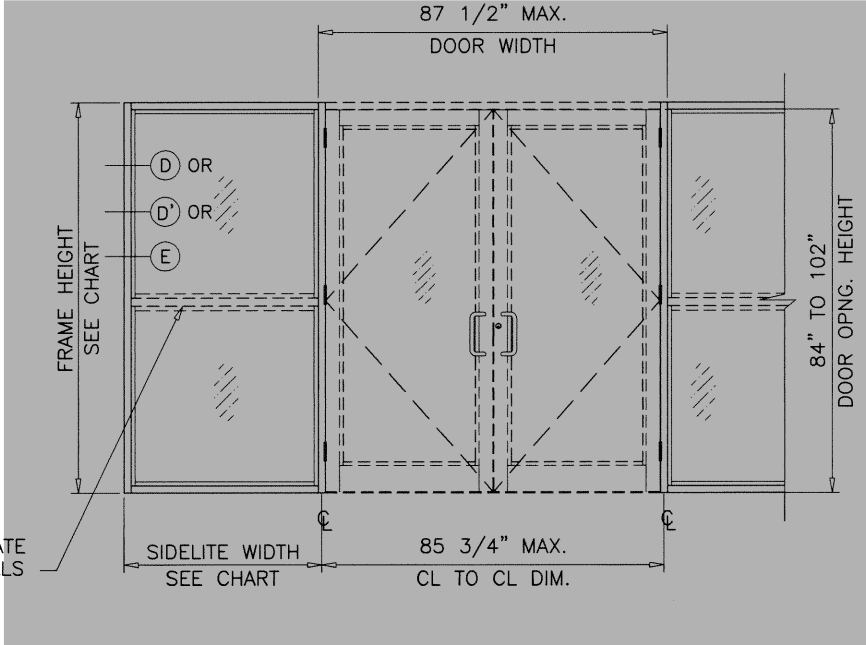
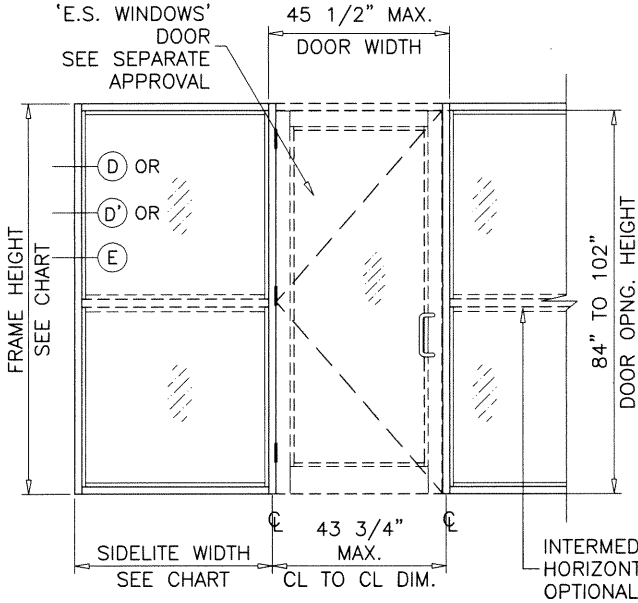
date: 10-20-17
 scale: -
 dr. by: TARIQ
 chk. by:

drawing no.
W17-92
 sheet 5 of 12

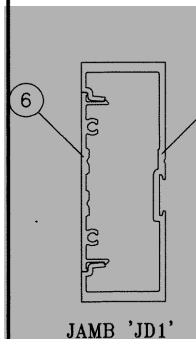
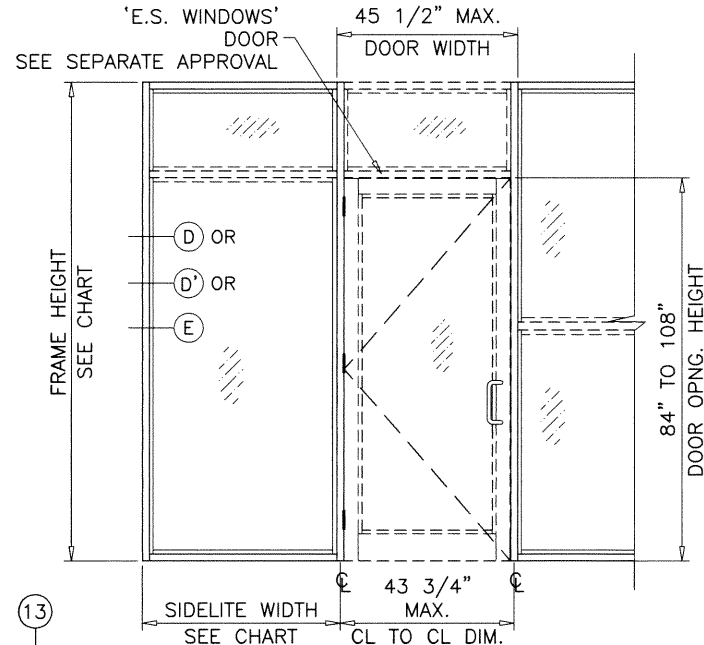
ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)																												
NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM		
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	86–1/2"	59.1	88.6	118.2	130.0	46.1	69.2	92.2	115.3	67.9	101.9	130.0	130.0	53.3	79.9	106.5	130.0	115.9	130.0	130.0	130.0	91.4	130.0	130.0	130.0	130.0	130.0	130.0
36"		49.2	73.9	98.5	123.1	38.4	57.7	76.9	96.1	56.6	84.9	113.2	130.0	44.4	66.6	88.8	111.0	96.6	130.0	130.0	130.0	76.2	114.3	130.0	130.0	130.0	130.0	130.0
42"		42.2	63.3	84.4	105.5	32.9	49.4	65.9	82.4	48.5	72.8	97.0	121.3	38.1	57.1	76.1	95.1	82.8	123.7	130.0	130.0	65.3	98.0	130.0	130.0	124.0	130.0	130.0
48"		36.9	55.4	73.9	92.3	28.8	43.2	57.7	72.1	42.5	63.7	84.9	106.1	33.3	49.9	66.6	83.2	72.4	108.2	130.0	130.0	57.2	85.7	114.3	130.0	108.5	130.0	130.0
54"		32.8	49.2	65.7	82.1	25.6	38.4	51.2	64.1	37.7	56.6	75.5	94.3	29.6	44.4	59.2	74.0	64.4	96.2	128.7	130.0	50.8	76.2	101.6	127.0	96.4	130.0	130.0
60"		29.5	44.3	59.1	73.9	23.1	34.6	46.1	57.7	34.0	50.9	67.9	84.9	26.6	40.0	53.3	66.6	57.9	86.6	115.9	130.0	45.7	68.6	91.4	114.3	86.8	130.0	130.0
66"		26.9	40.3	53.7	67.1	21.0	31.4	41.9	52.4	30.9	46.4	61.8	77.3	24.3	36.4	48.5	60.6	52.7	79.0	105.4	130.0	41.5	62.2	83.0	103.7	78.9	118.3	130.0
72"		24.6	36.9	49.2	61.5	–	28.8	38.4	48.0	28.3	42.5	56.7	70.8	22.2	33.4	44.5	55.6	48.3	72.4	96.6	120.7	38.0	57.0	76.1	95.1	72.3	108.5	130.0
30"	90"	56.8	85.2	113.6	130.0	44.3	66.5	88.7	110.8	65.3	97.9	130.0	130.0	51.2	76.8	102.4	128.0	111.4	130.0	130.0	130.0	87.9	130.0	130.0	130.0	130.0	130.0	130.0
36"		47.3	71.0	94.6	118.3	36.9	55.4	73.9	92.4	54.4	81.6	108.8	130.0	42.7	64.0	85.3	106.7	92.8	130.0	130.0	130.0	73.2	109.9	130.0	130.0	130.0	130.0	130.0
42"		40.6	60.8	81.1	101.4	31.7	47.5	63.3	79.2	46.6	69.9	93.3	116.6	36.6	54.9	73.1	91.4	79.5	118.9	130.0	130.0	62.8	94.2	125.6	130.0	119.2	130.0	130.0
48"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.0	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
54"		31.5	47.3	63.1	78.9	24.6	36.9	49.3	61.6	36.3	54.4	72.5	90.7	28.4	42.7	56.9	71.1	61.9	92.4	123.7	130.0	48.8	73.2	97.7	122.1	92.7	130.0	130.0
60"		28.4	42.6	56.8	71.0	22.2	33.2	44.3	55.4	32.6	49.0	65.3	81.6	25.6	38.4	51.2	64.0	55.7	83.2	111.4	130.0	43.9	65.9	87.9	109.9	83.4	125.1	130.0
66"		25.8	38.7	51.6	64.5	20.2	30.2	40.3	50.4	29.7	44.6	59.4	74.3	23.3	35.0	46.6	58.3	50.6	76.0	101.3	126.6	39.9	59.8	79.7	99.7	75.8	113.7	130.0
72"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.9	54.5	68.1	21.4	32.1	42.7	53.4	46.4	69.6	92.8	116.0	36.6	54.8	73.1	91.4	69.5	104.3	130.0
30"	96"	53.2	79.9	106.5	130.0	41.6	62.3	83.1	103.9	61.2	91.8	122.4	130.0	48.0	72.0	96.0	120.0	104.4	130.0	130.0	130.0	82.4	123.6	130.0	130.0	130.0	130.0	130.0
36"		44.4	66.6	88.7	110.9	34.6	52.0	69.3	86.6	51.0	76.5	102.0	127.5	40.0	60.0	80.0	100.0	87.0	130.0	130.0	130.0	68.7	103.0	130.0	130.0	130.0	130.0	130.0
42"		38.0	57.0	76.1	95.1	29.7	44.5	59.4	74.2	43.7	65.6	87.4	109.3	34.3	51.4	68.6	85.7	74.6	111.4	130.0	130.0	58.9	88.3	117.7	130.0	111.7	130.0	130.0
48"		33.3	49.9	66.6	83.2	26.0	39.0	52.0	64.9	38.3	57.4	76.5	95.6	30.0	45.0	60.0	75.0	65.3	97.5	130.0	130.0	51.5	77.3	103.0	128.8	97.8	130.0	130.0
54"		29.6	44.4	59.2	73.9	23.1	34.6	46.2	57.7	34.0	51.0	68.0	85.0	26.7	40.0	53.3	66.7	58.0	86.7	116.0	130.0	45.8	68.7	91.6	114.4	86.9	130.0	130.0
60"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
66"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.9	41.8	55.7	69.6	21.9	32.8	43.7	54.6	47.5	71.2	94.9	118.7	37.4	56.1	74.8	93.5	71.1	106.6	130.0
72"		22.2	33.3	44.4	55.5	–	26.0	34.6	43.3	25.5	38.3	51.1	63.8	20.0	30.1	40.1	50.1	43.5	65.3	87.0	108.8	34.3	51.4	68.5	85.7	65.2	97.8	130.0
30"	98–1/2"	51.9	77.8	103.8	129.7	40.5	60.8	81.0	101.3	59.6	89.5	119.3	130.0	46.8	70.2	93.6	117.0	101.8	130.0	130.0	130.0	80.3	120.5	130.0	130.0	130.0	130.0	130.0
36"		43.2	64.9	86.5	108.1	33.8	50.6	67.5	84.4	49.7	74.6	99.4	124.3	39.0	58.5	78.0	97.5	84.8	126.7	130.0	130.0	66.9	100.4	130.0	130.0	127.0	130.0	130.0
42"		37.1	55.6	74.1	92.7	28.9	43.4	57.9	72.3	42.6	63.9	85.2	106.5	33.4	50.1	66.8	83.5	72.7	108.6	130.0	130.0	57.4	86.0	114.7	130.0	108.9	130.0	130.0
48"		32.4	48.6	64.9	81.1	25.3	38.0	50.6	63.3	37.3	55.9	74.6	93.2	29.2	43.9	58.5	73.1	63.6	95.0	127.2	130.0	50.2	75.3	100.4	125.5	95.3	130.0	130.0
54"		28.8	43.2	57.7	72.1	22.5	33.8	45.0	56.3	33.1	49.7	66.3	82.8	26.0	39.0	52.0	65.0	56.5	84.5	113.1	130.0	44.6	66.9	89.2	111.5	84.7	127.0	130.0
60"		25.9	38.9	51.9	64.9	20.3	30.4	40.5	50.6	29.8	44.7	59.6	74.6	23.4	35.1	46.8	58.5	50.9	76.0	101.8	127.2	40.2	60.2	80.3	100.4	76.2	114.3	130.0
66"		23.6	35.4	47.2	59.0	–	27.6	36.8	46.0	27.1	40.7	54.3	67.9	21.3	31.9	42.6	53.2	46.3	69.4	92.5	115.7	36.4	54.6	72.9	91.1	69.3	103.9	130.0
72"		21.6	32.4	43.2	54.1	–	25.3	33.8	42.2	24.9	37.3	49.8	62.2	–	29.3	39.0	48.8	42.4	63.6	84.8	106.0	33.4	50.1	66.8	83.5	63.5	95.3	127.0
30"	102"	50.1	75.2	100.2	125.3	39.1	58.7	78.2	97.8	57.6	86.4	115.2	130.0	45.2	67.8	90.4	112.9	98.3	130.0	130.0	130.0	77.6	116.3	130.0	130.0	130.0	130.0	130.0
36"		41.8	62.6	83.5	104.4	32.6	48.9	65.2	81.5	48.0	72.0	96.0	120.0	37.6	56.5	75.3	94.1</											

ANCHOR LOAD CAPACITY – PSF EXT.(+) & INT.(–)																												
NOMINAL DIMS.		ANCHORS TYPE 'A'								ANCHORS TYPE 'B'								ANCHORS TYPE 'C'								1/4" MAX. SHIM		
		3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				3/8" SHIM SPACE				1/2" SHIM SPACE				ANCHORS TYPE 'D'		
WIDTH (W)	FRAME HEIGHT	A2	A3	A4	A5	A2	A3	A4	A5	B2	B3	B4	B5	B2	B3	B4	B5	C2	C3	C4	C5	C2	C3	C4	C5	D2	D3	D4
30"	110–1/2"	46.3	69.4	92.5	115.6	36.1	54.2	72.2	90.3	53.2	79.8	106.3	130.0	41.7	62.6	83.4	104.3	90.7	130.0	130.0	130.0	71.6	107.4	130.0	130.0	130.0	130.0	130.0
36"		38.5	57.8	77.1	96.4	30.1	45.1	60.2	75.2	44.3	66.5	88.6	110.8	34.8	52.1	69.5	86.9	75.6	112.9	130.0	130.0	59.7	89.5	119.3	130.0	113.2	130.0	130.0
42"		33.8	49.6	66.1	82.6	25.8	38.7	51.6	64.5	38.0	57.0	76.0	94.9	29.8	44.7	59.6	74.5	64.8	96.8	129.6	130.0	51.1	76.7	102.3	127.8	97.1	130.0	130.0
48"		28.9	43.4	57.8	72.3	22.6	33.8	45.1	56.4	33.2	49.8	66.5	83.1	26.1	39.1	52.1	65.2	56.7	84.7	113.4	130.0	44.7	67.1	89.5	111.9	84.9	127.4	130.0
54"		25.7	38.5	51.4	64.2	20.1	30.1	40.1	50.1	29.5	44.3	59.1	73.8	23.2	34.8	46.3	57.9	50.4	75.3	100.8	126.0	39.8	59.7	79.5	99.4	75.5	113.2	130.0
60"		23.1	34.7	46.3	57.8	–	27.1	36.1	45.1	26.6	39.9	53.2	66.5	20.9	31.3	41.7	52.1	45.4	67.8	90.7	113.4	35.8	53.7	71.6	89.5	67.9	101.9	130.0
66"		21.0	31.5	42.0	52.6	–	24.6	32.8	41.0	24.2	36.3	48.4	60.5	–	28.5	38.0	47.5	41.2	61.9	82.5	103.1	32.5	48.7	65.0	81.2	51.8	92.6	123.5
72"		–	28.9	38.5	48.2	–	22.6	30.1	37.6	22.2	33.3	44.4	55.5	–	26.1	34.8	43.5	37.8	56.7	75.6	94.5	29.8	44.7	59.5	74.1	56.6	84.9	113.2
30"	114"	44.8	67.3	89.7	112.1	35.0	52.5	70.0	87.5	51.5	77.3	103.1	128.8	40.4	60.6	80.8	101.1	87.9	130.0	130.0	130.0	69.4	104.1	130.0	130.0	130.0	130.0	130.0
36"		37.4	56.0	74.7	93.4	29.2	43.7	58.3	72.9	42.9	64.4	85.9	107.4	33.7	50.5	67.4	84.2	73.3	109.5	130.0	130.0	57.8	86.7	113.6	130.0	109.8	130.0	130.0
42"		32.0	48.0	64.0	80.1	25.0	37.5	50.0	62.5	36.8	55.2	73.6	92.0	28.9	43.3	57.7	72.2	62.8	93.8	125.6	130.0	49.6	74.3	99.1	123.9	94.1	130.0	130.0
48"		28.0	42.0	56.0	70.1	21.9	32.8	43.7	54.7	32.2	48.3	64.4	80.5	25.3	37.9	50.5	63.2	54.9	82.1	109.9	130.0	43.4	65.1	86.7	108.4	82.3	123.5	130.0
54"		24.9	37.4	49.8	62.3	–	29.2	38.5	48.6	28.6	42.9	57.3	71.6	22.5	33.7	44.9	56.1	48.8	73.0	97.7	122.1	38.5	57.8	77.1	96.4	73.2	109.8	130.0
60"		22.4	33.6	44.8	56.0	–	26.2	35.0	43.7	25.8	38.7	51.5	64.4	20.2	30.3	40.4	50.5	44.0	65.7	87.9	109.9	34.7	52.0	69.4	86.7	65.9	98.8	130.0
66"		20.4	30.6	40.8	50.9	–	23.9	31.8	39.8	23.5	35.2	46.9	58.6	–	27.6	36.8	46.0	40.0	60.0	80.0	99.9	31.5	47.2	63.0	78.7	59.9	89.8	119.7
72"		–	28.0	37.4	46.7	–	21.9	29.2	36.5	21.5	32.3	43.0	53.8	–	25.3	33.7	42.2	36.6	55.0	73.3	91.6	28.9	43.3	57.7	72.1	54.9	82.3	109.8
30"	120"	42.6	63.9	85.2	106.5	33.2	49.9	66.5	83.1	49.0	73.4	97.9	122.4	38.4	57.6	76.8	96.0	83.5	124.8	130.0	130.0	65.9	98.9	130.0	130.0	125.1	130.0	130.0
36"		35.5	53.2	71.0	88.7	27.7	41.6	55.4	69.3	40.8	61.2	81.6	102.0	32.0	48.0	64.0	80.0	69.6	104.5	130.0	130.0	54.9	82.4	109.9	130.0	104.3	130.0	130.0
42"		30.4	45.6	60.8	76.1	23.7	35.6	47.5	59.4	35.0	52.5	69.9	87.4	27.4	41.1	54.9	68.6	59.7	89.1	119.3	130.0	47.1	70.6	94.2	117.7	89.4	130.0	130.0
48"		26.6	39.9	53.2	66.6	20.8	31.2	41.6	52.0	30.6	45.9	61.2	76.5	24.0	36.0	48.0	60.0	52.2	78.0	104.4	130.0	41.2	61.8	82.4	103.0	78.2	117.3	130.0
54"		23.7	35.5	47.3	59.2	–	27.7	36.9	46.2	27.2	40.8	54.4	68.0	21.3	32.0	42.7	53.3	46.4	69.3	90.0	90.0	36.6	54.9	73.2	90.0	69.5	90.0	90.0
60"		21.3	31.9	42.6	53.2	–	24.9	33.2	41.6	24.5	36.8	49.0	61.3	–	28.8	38.5	48.1	41.8	62.7	83.6	90.0	32.9	49.3	65.8	82.2	62.6	90.0	90.0
66"		–	29.0	38.7	48.4	–	22.7	30.2	37.8	22.3	33.4	44.6	55.7	–	26.2	35.0	43.7	38.0	57.0	76.0	90.0	29.9	44.9	59.8	74.8	56.9	85.3	90.0
72"		–	26.6	35.5	44.4	–	20.8	27.7	34.6	20.4	30.6	40.9	51.1	–	24.0	32.1	40.1	34.8	52.2	69.6	87.0	27.4	41.1	54.8	68.5	52.1	78.2	90.0
30"	126"	40.6	60.8	81.1	90.0	31.7	47.5	63.3	79.2	46.6	69.9	90.0	90.0	36.6	54.9	73.1	90.0	79.5	90.0	90.0	90.0	62.8	90.0	90.0	90.0	90.0	90.0	90.0
36"		33.8	50.7	67.6	84.5	26.4	39.6	52.8	66.0	38.9	58.3	77.7	90.0	30.5	45.7	61.0	76.2	66.3	90.0	90.0	90.0	52.3	78.5	90.0	90.0	90.0	90.0	90.0
42"		29.0	43.5	57.9	72.4	22.6	33.9	45.2	56.5	33.3	50.0	66.6	83.3	26.1	39.2	52.2	65.3	56.8	84.9	90.0	90.0	44.8	67.3	89.7	90.0	85.1	90.0	90.0
48"		25.4	38.0	50.7	63.4	–	29.7	39.6	49.5	29.1	43.7	58.3	72.9	22.9	34.3	45.7	57.1	49.7	74.3	90.0	90.0	39.2	58.9	78.5	90.0	74.5	90.0	90.0
54"		22.5	33.8	45.1	56.3	–	26.4	35.2	44.0	25.9	38.9	51.8	64.8	20.3	30.5	40.6	50.8	44.2	66.0	88.4	90.0	34.9	52.3	69.8	87.2	66.2	90.0	90.0
60"		20.3	30.4	40.6	50.7	–	23.7	31.7	39.6	23.3	35.0	46.7	58.4	–	27.5	36.6	45.8	39.8	59.7	79.6	90.0	31.3	47.0	62.7	78.3	59.6	89.4	90.0
30"	132"	38.7	58.1	77.4	90.0	30.2	45.3	60.5	75.6	44.5	66.8	89.0	90.0	34.9	52.4	69.8	87.3	75.9	90.0	90.0	90.0	59.9	89.9	90.0	90.0	90.0	90.0	90.0
36"		32.3	48.4	64.5	80.7	25.2	37.8	50.4	63.0	37.1	55.6	74.2	90.0	29.1	43.6	58.2	72.7	63.3	90.0	90.0	90.0	49.9	74.9	90.0	90.0	90.0	90.0	90.0
42"		27.7	41.5	55.3	69.1	21.6	32.4	43.2	54.0	31.8	47.7	63.6	79.5	24.9	37.4	49.9	62.3	54.2	81.0	90.0	90.0	42.8	64.2	85.6	90.0	81.2	90.0	90.0
48"		24.2	36.3	48.4	60.5	–	28.3	37.8	47.2	27.8	41.7	55.6	69.5	21.8	32.7	43.6	54.5	47.5	70.9	90.0	90.0	37.5	56.2	74.9	90.0	71.1	90.0	90.0
54"		21.5	32.3	43.0	53.8	–	25.2	33.6	42.0	24.8	37.1	49.5	61.9	–														

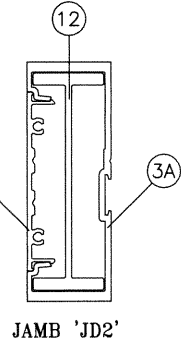
DOOR MULLION LOAD CAPACITY-PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1'	JAMB 'JD1'	JAMB 'JD2'	JAMB 'JD3'
		MULL 'MD1'	MULL 'MD2'	JAMB 'JD3'	MULL 'MD3'
		EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
32	86-1/2	120.0	120.0	120.0	120.0
36		120.0	120.0	120.0	120.0
42		120.0	120.0	120.0	120.0
48		120.0	120.0	120.0	120.0
54		120.0	120.0	120.0	120.0
60		120.0	120.0	120.0	120.0
32	98-1/2	112.6	120.0	120.0	120.0
36		107.1	120.0	120.0	120.0
42		99.7	120.0	120.0	120.0
48		93.3	120.0	120.0	120.0
54		87.7	120.0	116.1	120.0
32	110-1/2	79.8	120.0	118.5	120.0
36		75.8	120.0	112.6	120.0
42		70.6	113.6	104.9	120.0
48		66.1	106.3	98.2	120.0



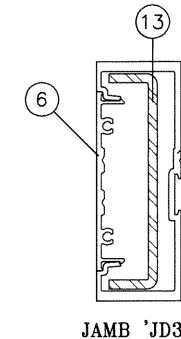
DOOR MULLION LOAD CAPACITY-PSF					
SIDELITE WIDTH INCHES	FRAME HEIGHT INCHES	JAMB 'JD1'	JAMB 'JD1'	JAMB 'JD2'	JAMB 'JD3'
		MULL 'MD1'	MULL 'MD2'	JAMB 'JD3'	MULL 'MD4'
		EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)	EXT. (+) INT. (-)
32	98-1/2	90.0	90.0	90.0	90.0
36		90.0	90.0	90.0	90.0
42		90.0	90.0	90.0	90.0
48		90.0	90.0	90.0	90.0
54		87.7	90.0	90.0	90.0
32	110-1/2	79.8	90.0	90.0	90.0
36		75.8	90.0	90.0	90.0
42		70.6	90.0	90.0	90.0
48		66.1	90.0	90.0	90.0
32	114	72.6	90.0	90.0	90.0
36		69.1	90.0	90.0	90.0
42		64.3	90.0	90.0	90.0
48		60.2	90.0	90.0	90.0
32	120	62.3	90.0	90.0	90.0
36		59.2	90.0	90.0	90.0
42		55.2	88.7	89.1	90.0
48		51.6	83.0	83.4	90.0
32	144	-	-	-	90.0
36		-	-	-	89.8
42		-	-	-	83.6
48		-	-	-	78.3



Ix IN^4	Sx IN^3
6.570	2.7226



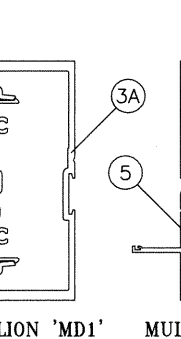
Ix IN^4	Sx IN^3
10.6577	3.8057



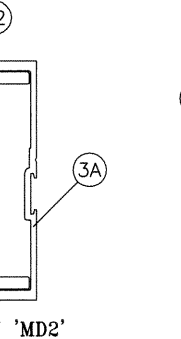
Ix IN^4	Sx IN^3
6.570	2.7226



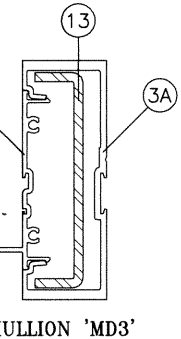
Ix IN^4	Sx IN^3
6.7195	2.6757



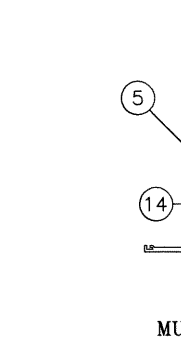
Ix IN^4	Sx IN^3
10.8072	4.4788



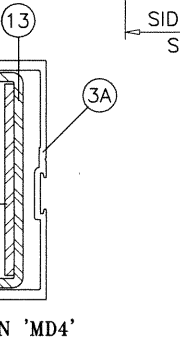
Ix IN^4	Sx IN^3
6.7195	2.6757



Ix IN^4	Sx IN^3
6.7195	2.6757



Ix IN^4	Sx IN^3
6.7195	2.6757



Ix IN^4	Sx IN^3
6.7195	2.6757

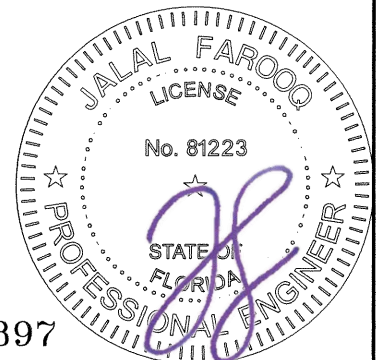
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL		
Ix ALUM + Ix STL X 2.9	14.5467	

ALUMINUM	6.7195	2.6757
STEEL	2.7506	1.224
TOTAL		
Ix ALUM + Ix STL X 2.9	14.6962	

ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL		
Ix ALUM + Ix STL X 2.9	17.6041	

ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL		
Ix ALUM + Ix STL X 2.9	17.6041	

DOOR-WINDOW WALL
TRANSITION MULLION



Sealed: 12/23/20

FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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3550 N.W. 49 STREET
MIAMI, FL. 33142
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revisions:
no. date by description

date: 10-20-17
scale: -
dr. by: TARIQ
chk. by:

drawing no.
W17-92
sheet 6 of 12

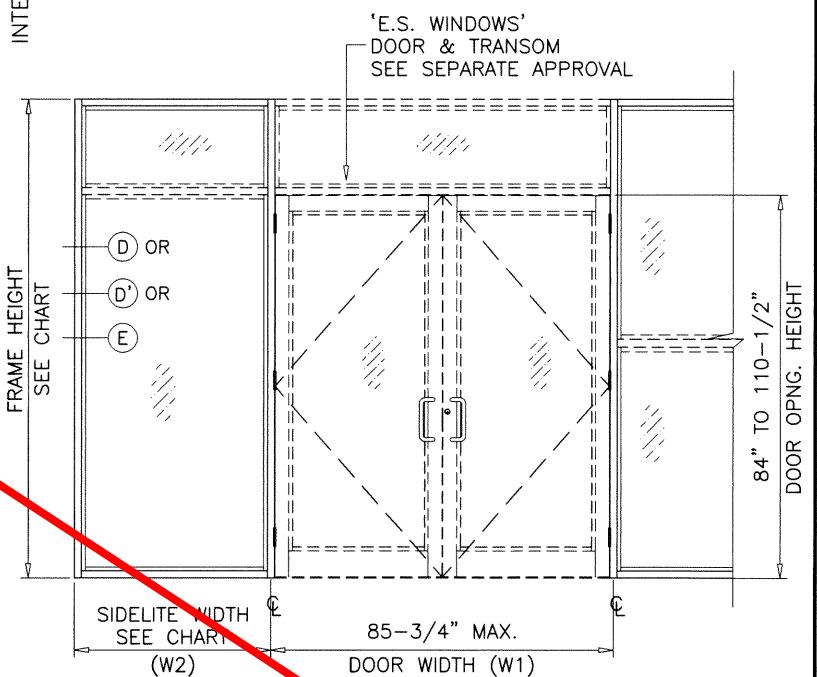
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STORE\W17-92ES

DOOR MULLION LOAD CAPACITY - PSF								
NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'	
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	
85-3/4	30	96	84	90.0	90.0	90.0	90.0	
	36			90.0	90.0	90.0	90.0	
	42			90.0	90.0	90.0	90.0	
	48			90.0	90.0	90.0	90.0	
	54			90.0	90.0	90.0	90.0	
	60			85.7	90.0	90.0	90.0	
	30	102		90.0	90.0	90.0	90.0	
	36			86.9	90.0	90.0	90.0	
	42			81.5	90.0	90.0	90.0	
	48			76.7	90.0	90.0	90.0	
	54			72.5	90.0	89.0	90.0	
	30			108	74.2	90.0	90.0	90.0
	36	69.5			90.0	89.1	90.0	
	42	65.4			90.0	84.4	90.0	
	48	61.7			90.0	80.2	90.0	
	30	114			60.2	90.0	81.7	90.0
	36				56.6	90.0	77.4	90.0
	42			53.3	85.8	73.4	87.8	
	48			50.5	81.2	69.9	83.5	
	30			120	49.7	80.0	71.9	85.9
	36				46.8	75.3	68.1	81.5
	42	44.2			71.2	64.8	77.4	
	48	41.9			67.5	61.7	73.8	
	85-3/4	30			102	90	90.0	90.0
36		90.0	90.0				90.0	90.0
42		86.6	90.0	90.0			90.0	
48		81.2	90.0	90.0			90.0	
54		76.5	90.0	90.0			90.0	
30		108	79.3	90.0	90.0		90.0	
36			74.0	90.0	90.0		90.0	
42			69.3	90.0	88.9		90.0	
48			65.2	90.0	84.3		90.0	
30			114	63.9	90.0		85.6	90.0
36		59.9		90.0	80.8		90.0	
42		56.3		90.0	76.5		90.0	
48		53.1		85.4	72.7		86.9	
30		120		52.4	84.2		74.5	89.1
36			49.2	79.1	70.5		84.7	
42			46.3	74.5	66.9		80.0	
48			43.8	70.5	63.6		76.1	

DOOR MULLION LOAD CAPACITY - PSF							
NOMINAL DIMS.				JAMB 'JD1' MULL 'MD1'	JAMB 'JD1' MULL 'MD2'	JAMB 'JD2' JAMB 'JD3' MULL 'MD3'	JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	108	96	84.6	90.0	90.0	90.0
	36			78.6	90.0	90.0	90.0
	42			73.4	90.0	90.0	90.0
	48			68.8	90.0	89.7	90.0
	30	114		68.2	90.0	90.0	90.0
	36			63.5	90.0	85.3	90.0
	42			59.5	90.0	80.6	90.0
	48			56.0	90.0	76.3	90.0
	30	120		55.5	89.3	78.0	90.0
	36			51.9	83.5	73.6	88.0
	42			48.8	78.5	69.7	83.3
	48			46.0	74.0	66.2	79.1
85-3/4	30	114	102	72.4	90.0	90.0	90.0
	36			67.2	90.0	90.0	90.0
	42			62.7	90.0	85.9	90.0
	48			58.8	90.0	81.1	90.0
	30	120		59.0	90.0	82.6	90.0
	36			55.0	88.4	77.7	90.0
	42			51.5	82.8	73.3	87.7
	48			48.4	77.8	69.4	83.0
85-3/4	30	120	110-1/2	63.7	90.0	90.0	90.0
	36			59.0	90.0	85.7	90.0
	42			55.0	88.4	80.4	90.0
	48			51.5	82.8	75.7	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



JAMB 'JD1'

Ix IN ⁴	Sx IN ³
6.570	2.7226

JAMB 'JD2'

Ix IN ⁴	Sx IN ³
10.6577	3.8057

JAMB 'JD3'

Ix IN ⁴	Sx IN ³
6.570	2.7226
STEEL	2.7506
TOTAL	14.5467
Ix ALUM + Ix STL X 2.9	

MULLION 'MD1'

Ix IN ⁴	Sx IN ³
6.7195	2.6757

MULLION 'MD2'

Ix IN ⁴	Sx IN ³
10.8072	4.4788

MULLION 'MD3'

Ix IN ⁴	Sx IN ³
6.7195	2.6757
STEEL	2.7506
TOTAL	14.6962
Ix ALUM + Ix STL X 2.9	

MULLION 'MD4'

Ix IN ⁴	Sx IN ³
6.7195	2.6757
STEEL	3.7533
TOTAL	17.6041
Ix ALUM + Ix STL X 2.9	

Sealed: 12/23/20

FL #17897

AL-FAROOQ CORPORATION
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3550 N.W. 49 STREET
MIAMI, FL. 33142
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revisions:	no	date	by	description

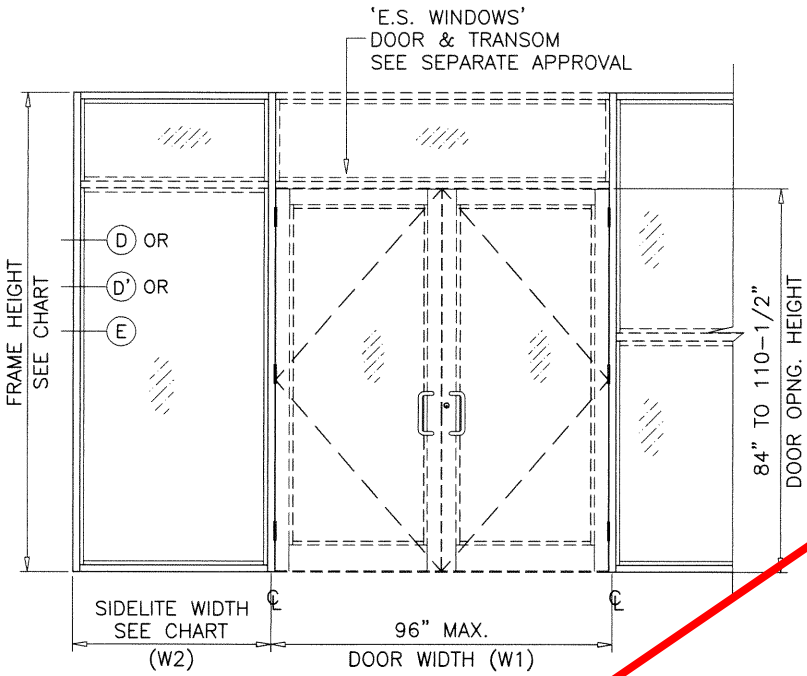
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dr. by:	TARIQ
chk. by:	

drawing no.	W17-92
sheet	6.1 of 12

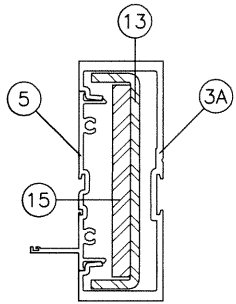
STORE\W17-92ES

DOOR MULLION LOAD CAPACITY – PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)
96	30	96	84	90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	60			90.0
	30	102		90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	30	108		90.0
	36			90.0
	42			90.0
	48			89.4
	30	114		90.0
	36			85.5
	42			81.5
	48			77.8
	30	120		79.1
36	75.3			
42	71.8			
48	68.7			
96	30	102	90	90.0
	36			90.0
	42			90.0
	48			90.0
	54			90.0
	30	108		90.0
	36			90.0
	42			90.0
	48			90.0
	30	114		90.0
	36			89.5
	42			85.1
	48			81.1
	30	120		82.1
	36			78.0
	42			74.3
48	70.9			

DOOR MULLION LOAD CAPACITY – PSF						
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD4'		
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)		
96	30	108	96	90.0		
	36			90.0		
	42			90.0		
	48			90.0		
	30	114		90.0		
	36			90.0		
	42			89.8		
	48			85.3		
	30	120		86.1		
	36			81.6		
	42			77.5		
	48			73.9		
	96	30		114	102	90.0
		36				90.0
		42				90.0
		48				90.0
30		120	90.0			
36			86.3			
42			81.8			
48			77.7			
96	30	120	110–1/2	90.0		
	36			90.0		
	42			90.0		
	48			85.1		
96	30	144	108	57.0		
	36			54.2		
	42			51.6		
	48			49.2		

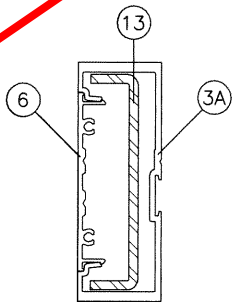


DOOR MULLION LOAD CAPACITY - PSF				
NOMINAL DIMS.				JAMB 'JD3' MULL 'MD5'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)
76	30	144	108	78.4
	36			73.8
	42			69.7
	48			66.1
84	30			73.1
	36			69.1
	42			65.5
	48			62.3
96	30			66.3
	36			63.0
	42			60.0
	48			57.3

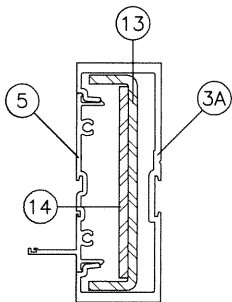


MULLION 'MD5'

	Ix IN ⁴	Sx IN ³
ALUMINUM	6.7195	2.6757
STEEL	4.7506	2.1114
TOTAL Ix ALUM + Ix STL X 2.9	20.3598	



JAMB 'JD3'

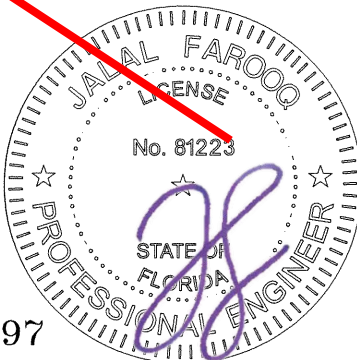


MULLION 'MD4'

	Ix IN ⁴	Sx IN ³
ALUMINUM	6.570	2.7226
STEEL	2.7506	1.2224
TOTAL Ix ALUM + Ix STL X 2.9	14.5467	

	Ix IN ⁴	Sx IN ³
ALUMINUM	6.7195	2.6757
STEEL	3.7533	1.668
TOTAL Ix ALUM + Ix STL X 2.9	17.6041	

DOOR-WINDOWALL
TRANSITION MULLION



Sealed: 12/23/20

FL #17897

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
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MIAMI, FL. 33142
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Revisions:

no	date	by	description

date: 10-20-17
scale: -
dr. by: TARIQ
chk. by:

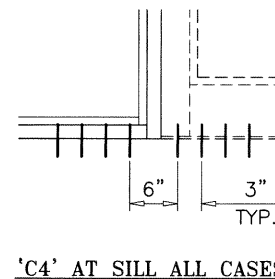
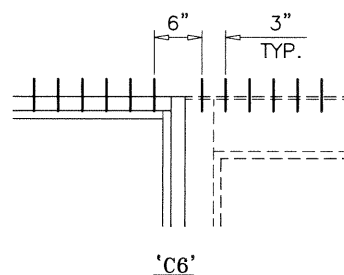
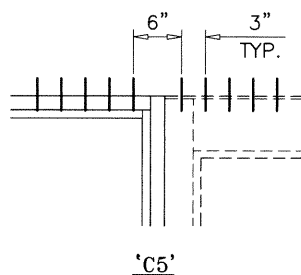
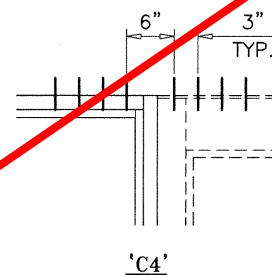
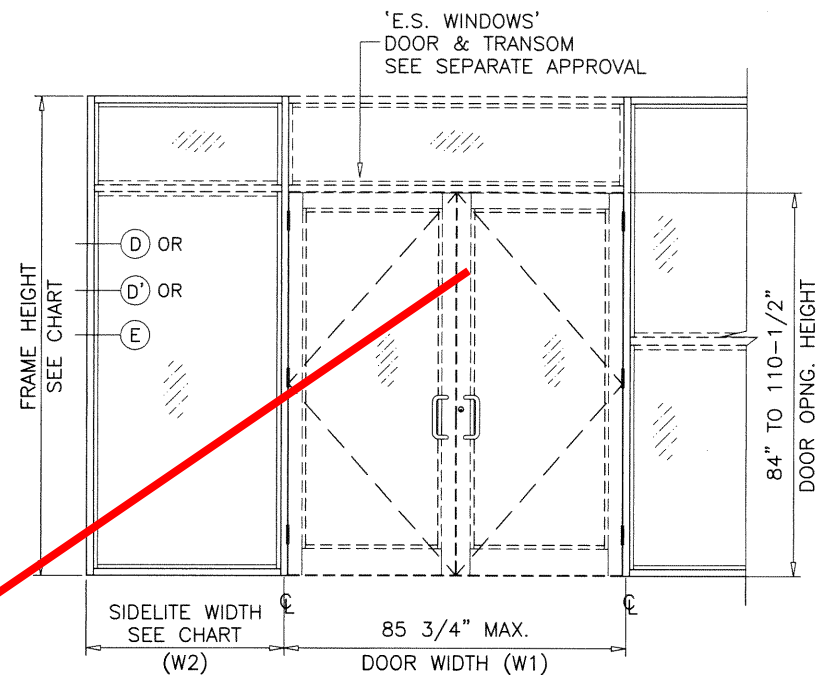
drawing no.
W17-92
sheet 6.2 of 12

STORE W17-92ES

DOOR MULLION HEAD ANCHOR LOAD CAPACITY – PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(–)	EXT.(+) INT.(–)	EXT.(+) INT.(–)
85–3/4	30	96	84	89.6	90.0	90.0
	36			85.0	90.0	90.0
	42			80.8	90.0	90.0
	48			77.0	90.0	90.0
	54			73.6	90.0	90.0
	60			70.4	88.0	90.0
	30	102		86.0	90.0	90.0
	36			81.5	90.0	90.0
	42			77.4	90.0	90.0
	48			73.8	90.0	90.0
	54			70.4	88.0	90.0
	30	108		82.7	90.0	90.0
	36			78.3	90.0	90.0
	42			74.3	90.0	90.0
	48			70.8	88.4	90.0
	30	114		79.7	90.0	90.0
	36			75.4	90.0	90.0
	42			71.5	89.4	90.0
	48			68.0	85.0	90.0
	30	120		76.9	90.0	90.0
36	72.6		90.0	90.0		
42	68.9		86.1	90.0		
48	65.4		81.8	90.0		
85–3/4	30	102	90	84.1	90.0	90.0
	36			79.7	90.0	90.0
	42			75.8	90.0	90.0
	48			72.3	90.0	90.0
	54			69.1	86.4	90.0
	30	108		80.9	90.0	90.0
	36			76.7	90.0	90.0
	42			72.9	90.0	90.0
	48			69.4	86.8	90.0
	30	114		78.0	90.0	90.0
	36			73.9	90.0	90.0
	42			70.1	87.7	90.0
	48			66.8	83.5	90.0
	30	120		75.3	90.0	90.0
	36			71.2	89.1	90.0
	42			67.6	84.5	90.0
	48			64.3	80.4	90.0

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
85-3/4	30	108	96	79.2	90.0	90.0
	36			75.1	90.0	90.0
	42			71.5	89.3	90.0
	48			68.1	85.2	90.0
	30	114		76.4	90.0	90.0
	36			72.4	90.0	90.0
	42			68.8	86.0	90.0
	48			65.6	82.0	90.0
	30	120		73.8	90.0	90.0
	36			69.9	87.4	90.0
	42			66.4	83.0	90.0
	48			63.2	79.0	90.0
85-3/4	30	114	102	74.9	90.0	90.0
	36			71.0	88.8	90.0
	42			67.6	84.5	90.0
	48			64.4	80.5	90.0
	30	120		72.4	90.0	90.0
	36			68.6	85.7	90.0
	42			65.2	81.5	90.0
	48			62.1	77.7	90.0
85-3/4	30	120	110-1/2	70.4	88.0	90.0
	36			66.8	83.5	90.0
	42			63.6	79.5	90.0
	48			60.7	75.9	90.0

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



TRANSITION MULLION ANCHORS

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

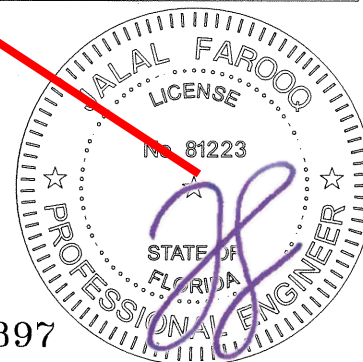
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

C6 = (6) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

Sealed: 12/23/20

FL #17897



afC

AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173 (C.A.N. 3538)
TEL. (305) 264-8100 FAX. (305) 262-6978

SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

E.S. WINDOWS, LLC
3550 N.W. 49 STREET
MIAMI, FL. 33142
TEL. (305) 638-5151 FAX. (305) 638-5158

revisions:

date: 10-20-17

scale: -

dr. by: TARIQ

chk. by:

drawing no.

W17-92

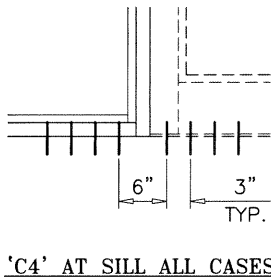
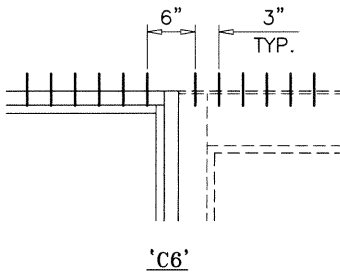
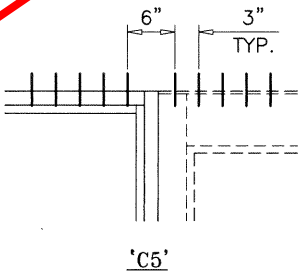
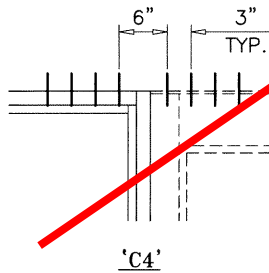
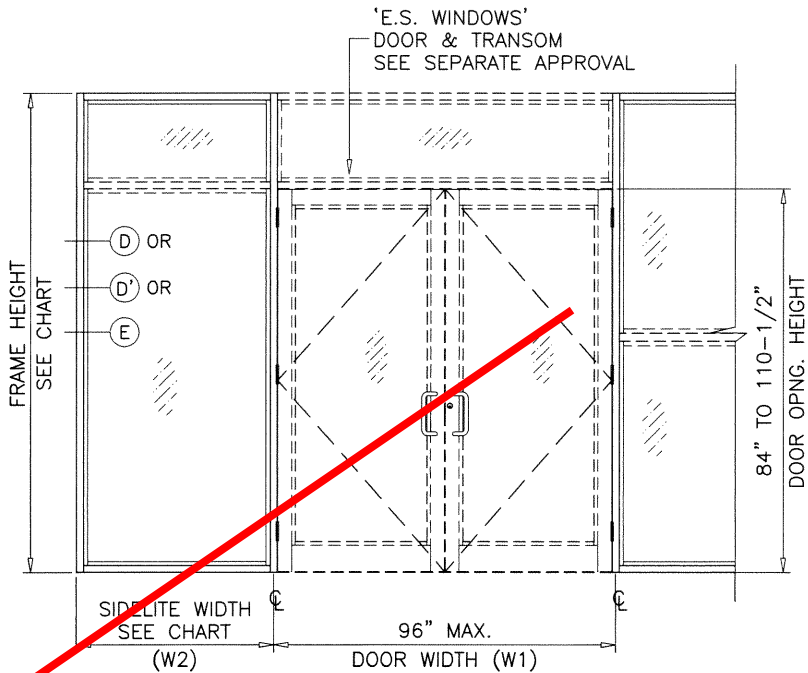
sheet 7 of 12

STORE \W17-92ES

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
96	30	96	84	82.4	90.0	90.0
	36			78.5	90.0	90.0
	42			74.9	90.0	90.0
	48			71.7	89.6	90.0
	54			68.7	85.8	90.0
	60			65.9	82.4	90.0
	30	102		79.2	90.0	90.0
	36			75.3	90.0	90.0
	42			71.8	89.8	90.0
	48			68.7	85.8	90.0
	54			65.8	82.2	90.0
	30	108		76.2	90.0	90.0
	36			72.4	90.0	90.0
	42			69.0	86.3	90.0
	48			65.9	82.4	90.0
	30	114		73.4	90.0	90.0
	36			69.8	87.2	90.0
	42			66.4	83.0	90.0
	48			63.4	79.2	90.0
	30	120		70.9	88.6	90.0
	36			67.3	84.1	90.0
	42			64.0	80.0	90.0
	48			61.0	76.3	90.0
	96	30		102	90	77.3
36		73.7	90.0			90.0
42		70.3	87.9			90.0
48		67.3	84.1			90.0
54		64.5	80.6			90.0
30		108	74.5	90.0		90.0
36			70.9	88.6		90.0
42			67.6	84.5		90.0
48			64.6	80.8		90.0
30		114	71.8	89.8		90.0
36			68.3	85.4		90.0
42			65.1	81.4		90.0
48			62.2	77.7		90.0
30		120	69.4	86.7		90.0
36			65.9	82.4		90.0
42			62.8	78.5		90.0
48			59.9	74.9		89.9

DOOR MULLION HEAD ANCHOR LOAD CAPACITY - PSF						
NOMINAL DIMS.				'C4'	'C5'	'C6'
WIDTH (W1) INCHES	WIDTH (W2) INCHES	FRAME HEIGHT INCHES	DOOR HEIGHT INCHES	EXT.(+) INT.(-)	EXT.(+) INT.(-)	EXT.(+) INT.(-)
96	30	108	96	72.8	90.0	90.0
	36			69.4	86.7	90.0
	42			66.3	82.8	90.0
	48			63.4	79.2	90.0
	30	114		70.3	87.9	90.0
	36			66.9	83.7	90.0
	42			63.8	79.8	90.0
	48			61.0	76.3	90.0
	30	120		68.0	84.9	90.0
	36			64.6	80.8	90.0
	42			61.6	77.0	90.0
	48			58.9	73.6	88.3
96	30	114	102	68.8	86.1	90.0
	36			65.6	82.0	90.0
	42			62.6	78.3	90.0
	48			59.9	74.9	89.9
	30	120		66.6	83.2	90.0
	36			63.4	79.2	90.0
	42			60.5	75.6	90.0
	48			57.8	72.3	86.7
96	30	120	110-1/2	64.7	80.9	90.0
	36			61.7	77.1	90.0
	42			58.9	73.7	88.4
	48			56.4	70.5	84.6
96	30	144	108	57.8	72.3	86.7
	36			54.9	68.7	82.4
	42			52.3	65.4	78.5
	48			49.9	62.4	74.9

INTERPOLATION BETWEEN WIDTHS OR HEIGHTS ALLOWED.



TRANSITION MULLION ANCHORS

ANCHORS TYPES: SEE SHEET 8 FOR DESCRIPTION

C4 = (4) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

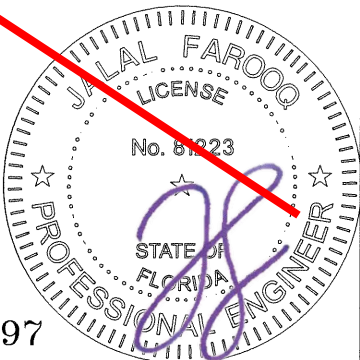
C5 = (5) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

C6 = (6) ANCHORS TYPE 'C' AT EACH SIDE OF DOOR MULLION

ALL OTHER ANCHORS TO BE SPACED AS PER ELEVATION.

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FL #17897



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MIAMI, FL. 33142

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AL-FAROOQ CORPORATION
ENGINEERS & PRODUCT DEVELOPMENT
9360 SUNSET DRIVE, SUITE 220
MIAMI, FLORIDA 33173
TEL. (305) 264-8100 FAX. (305) 262-6978

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no date by description

date: 10-20-17

scale: -

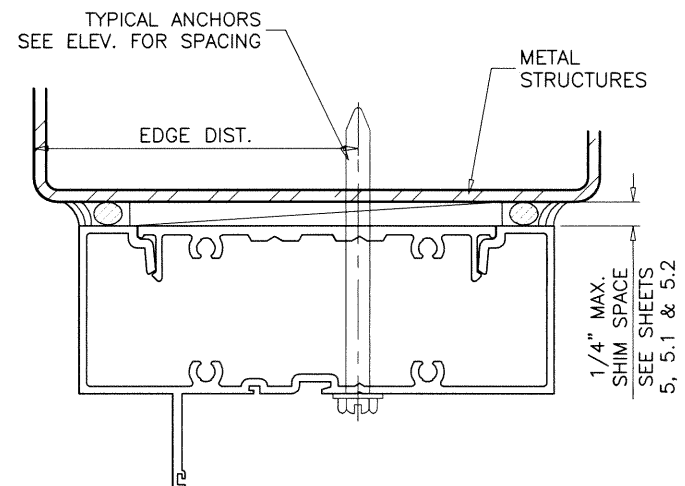
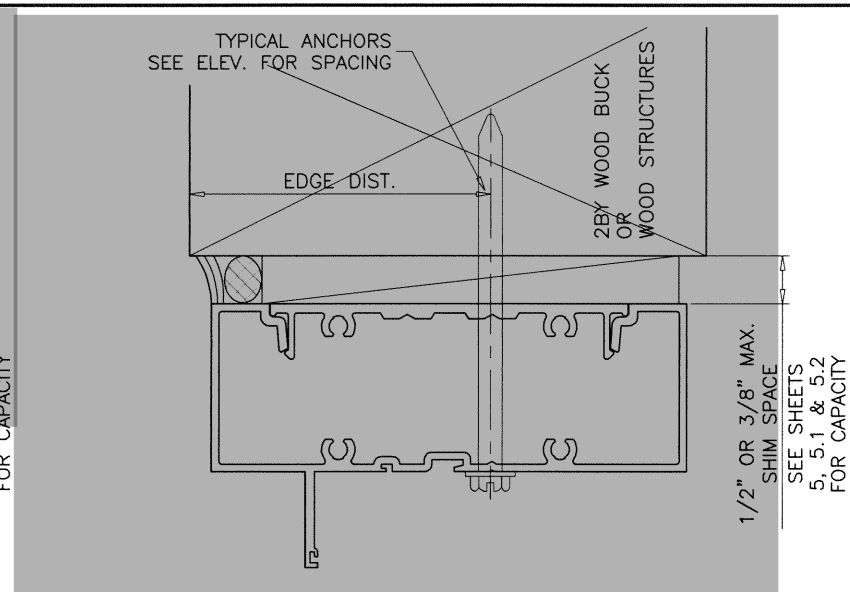
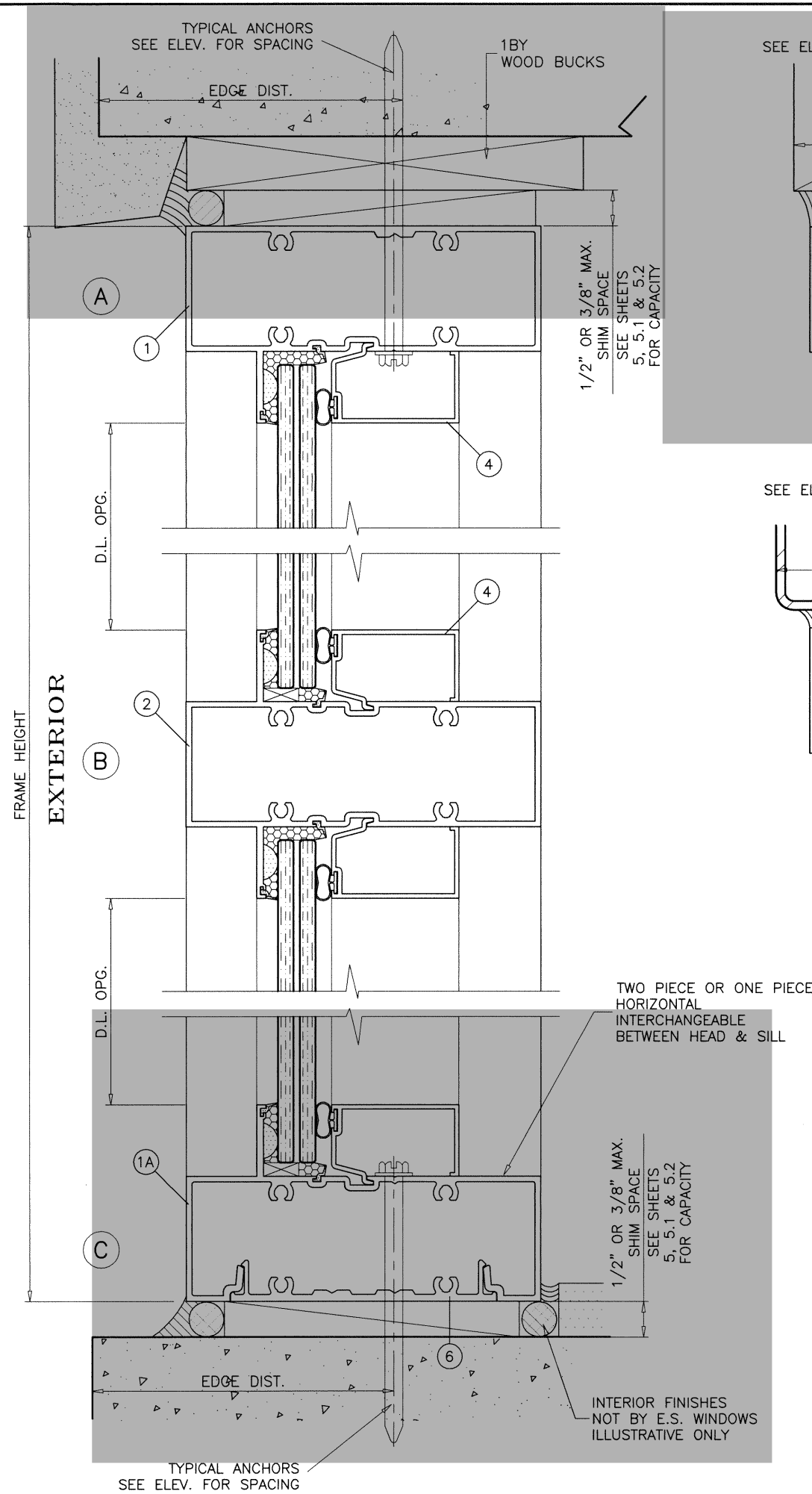
dr. by: TARIQ

chk. by:

drawing no.

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TYPICAL ANCHORS: SEE ELEV. FOR SPACING

TYPE 'A'— 1/4" DIA. ULTRACON+ BY 'DEWALT' (Fu=164 KSI, Fy=148 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE
 DIRECTLY INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONC.

ANCHOR EDGE DISTANCES
 INTO CONCRETE AND MASONRY = 2-1/2" MIN.
 INTO WOOD STRUCTURE = 1" MIN.

TYPE 'B'— 1/4" DIA. KWIK-CON II+ BY 'HILTI' (Fu=138 KSI, Fy=137 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE
 DIRECTLY INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONC.

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

TYPE 'C'— 5/16" DIA ULTRACON BY 'DEWALT' (Fu=177 KSI, Fy=155 KSI)
 INTO 2BY WOOD BUCKS OR WOOD STRUCTURES WITH 1-1/2" MIN. PENETRATION INTO WOOD
 THRU 1BY WOOD BUCKS INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONCRETE
 DIRECTLY INTO CONCRETE WITH 1-1/4" MIN. EMBED INTO CONC.

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

TYPE 'D'— 1/4" DIA. TEKS OR SELF DRILLING SCREWS ST/ST (GRADE 5 CRS)
 INTO METAL STRUCTURES
 (3) THREADS MIN. PENETRATION BEYOND SUBSTRATE
 ALUMINUM: 1/8" THK. MIN. (6063-T5 MIN.)
 STEEL: 1/8" THK. MIN. (Fy = 36 KSI MIN.)
 (STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED)

ANCHOR EDGE DISTANCES
 INTO METAL STRUCTURE = 1/2" MIN.

WOOD AT HEAD, SILL OR JAMBS SG = 0.55 MIN.
 CONCRETE AT HEAD, SILL OR JAMBS f'c = 3000 PSI MIN.
 C-90 HOLLOW/FILLED BLOCK AT JAMBS f'm = 2000 PSI MIN.

SEALANTS:

ALL FRAME CORNERS, JOINTS, MULLION SEAMS AND PERIMETER OF GLAZING BEAD TO FRAME SEALED WITH SILICONE SEALANT.

WOOD BUCKS AND METAL STRUCTURES NOT BY 'E.S. WDW.'
 MUST SUPPORT LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

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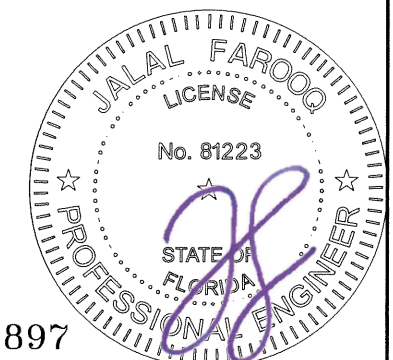
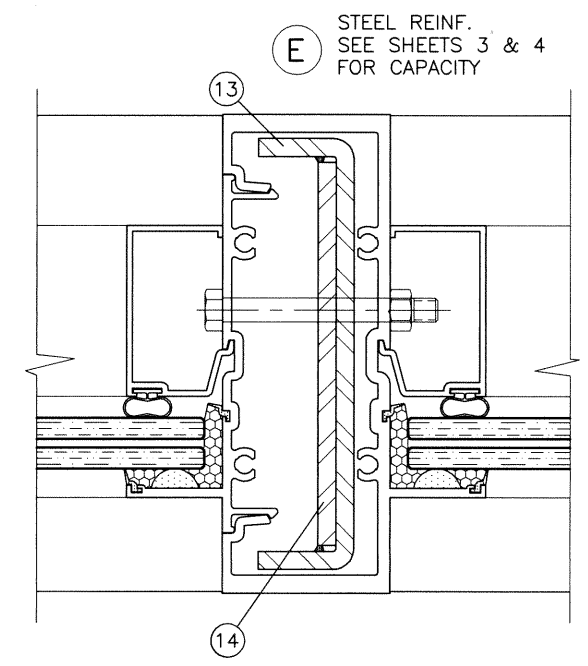
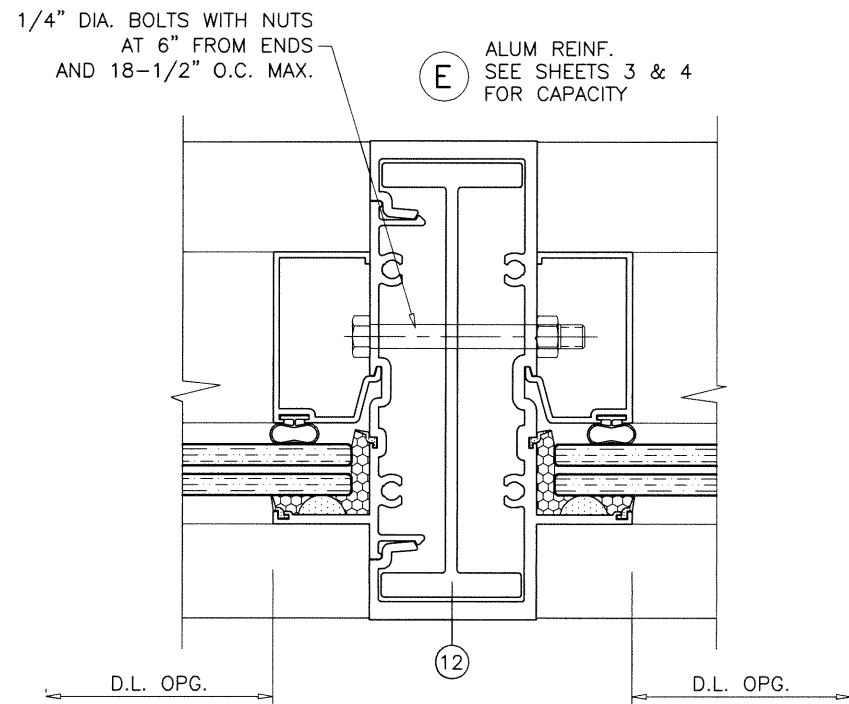
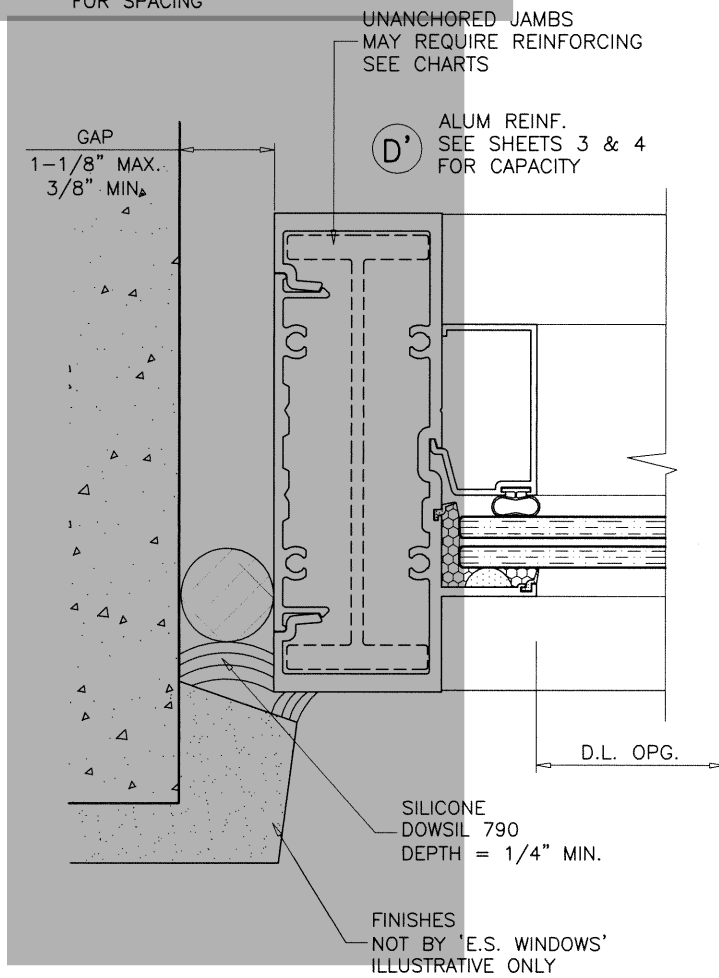
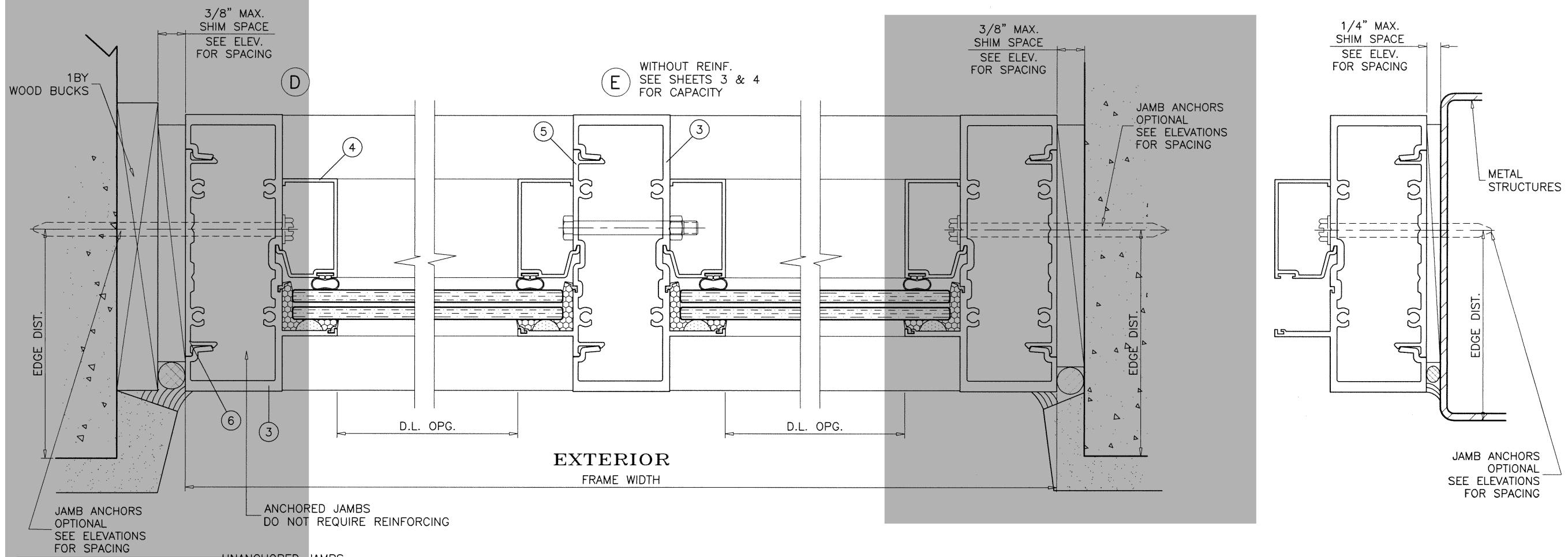
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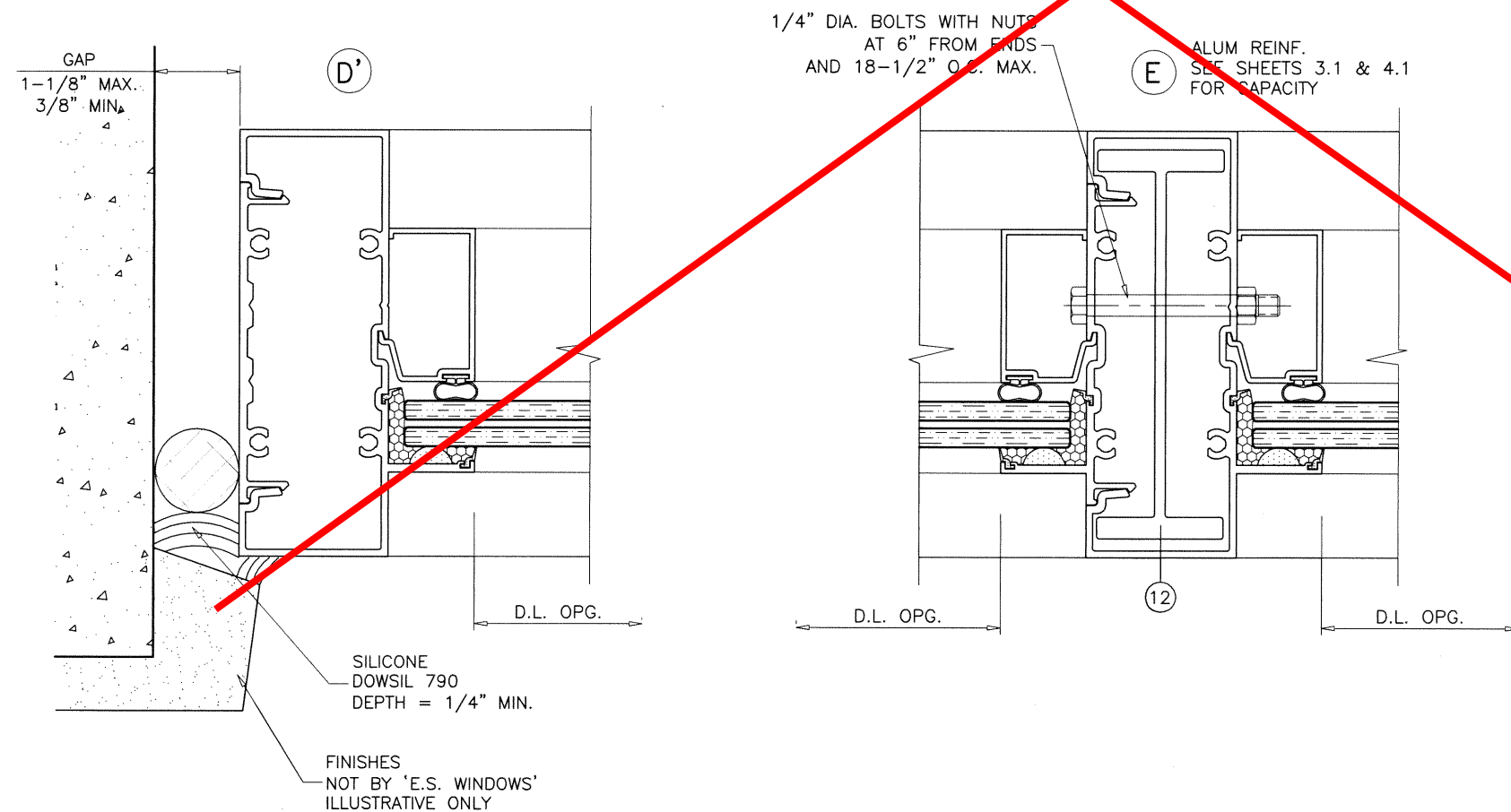
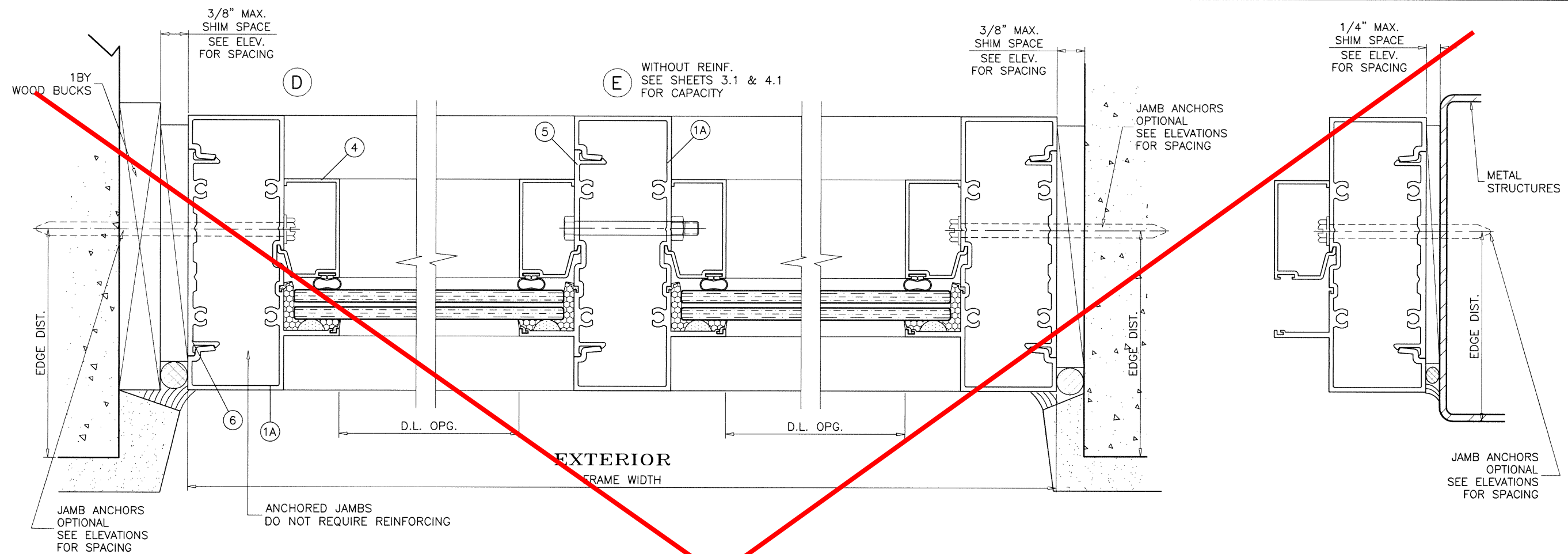
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revisions:

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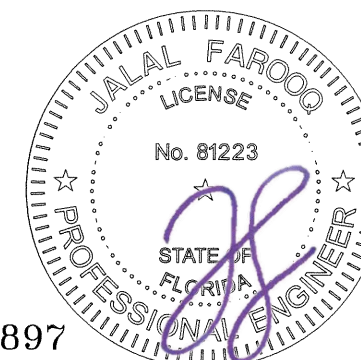
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drawing no.
W17-92
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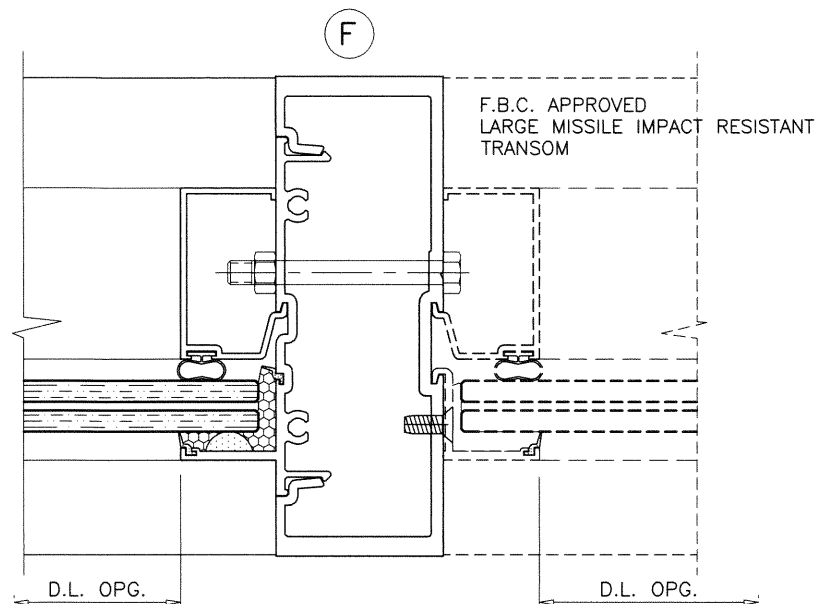
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chk. by:							

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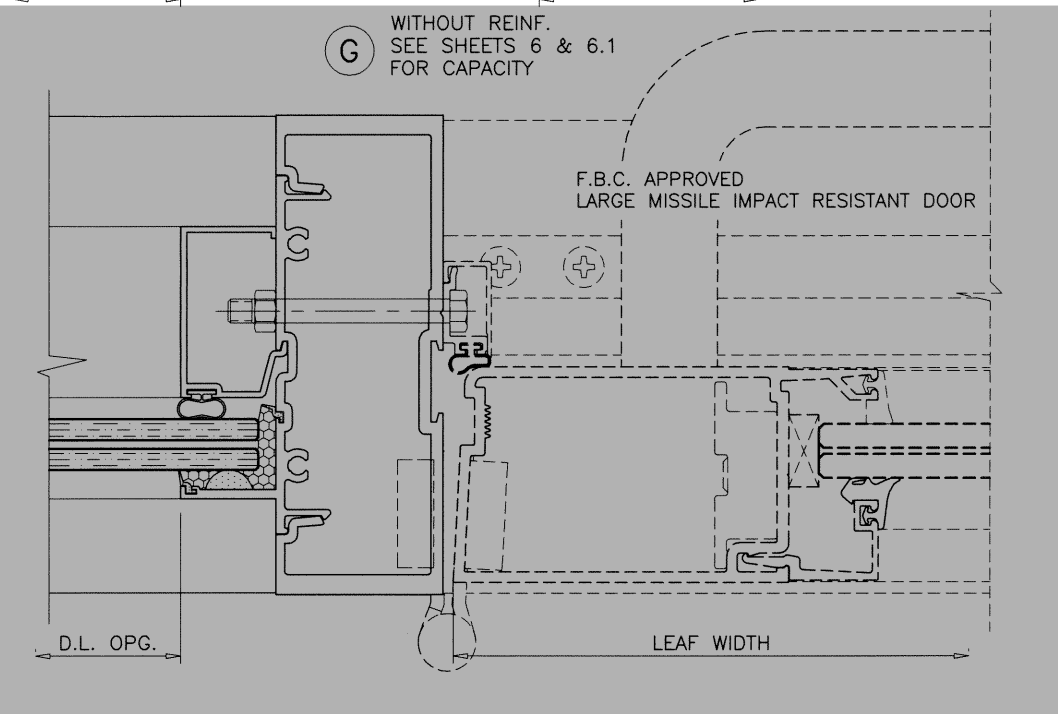
W17-92

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D.L. OPG.

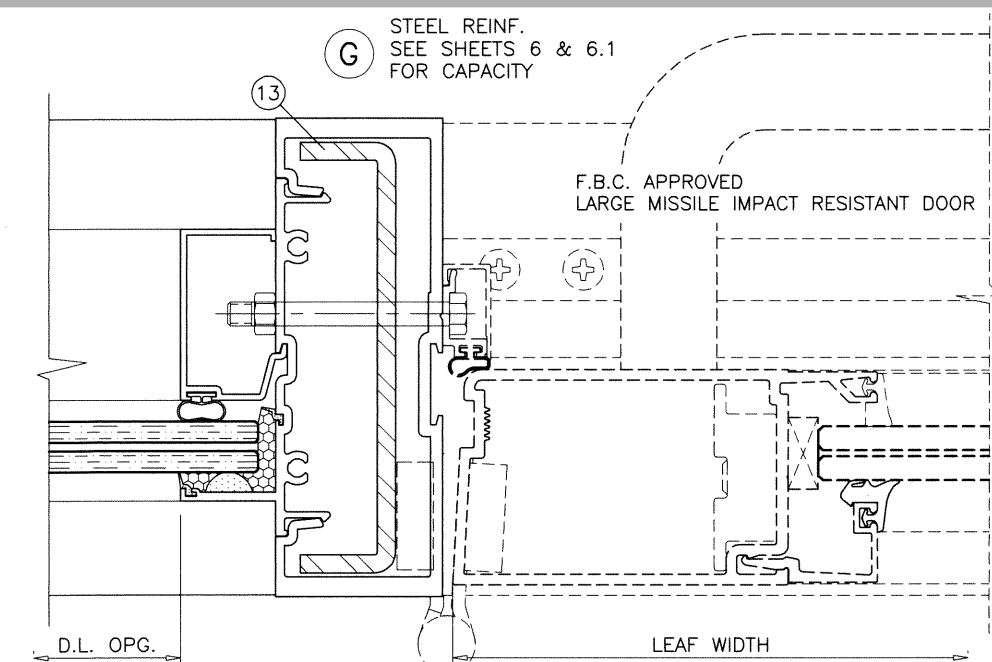
D.L. OPG.



F.B.C. APPROVED
LARGE MISSILE IMPACT RESISTANT DOOR

D.L. OPG.

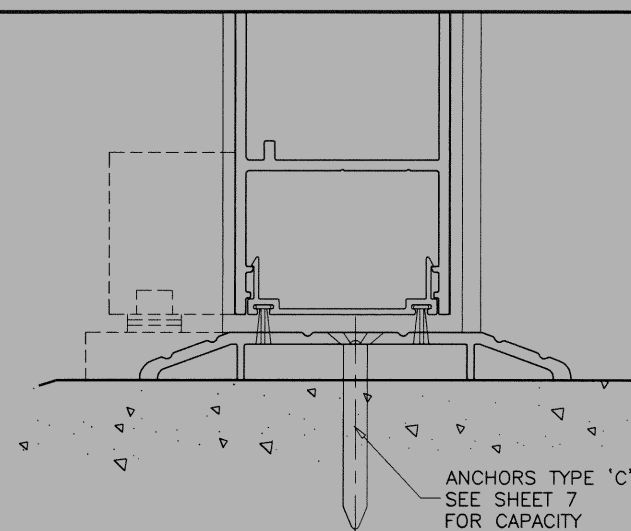
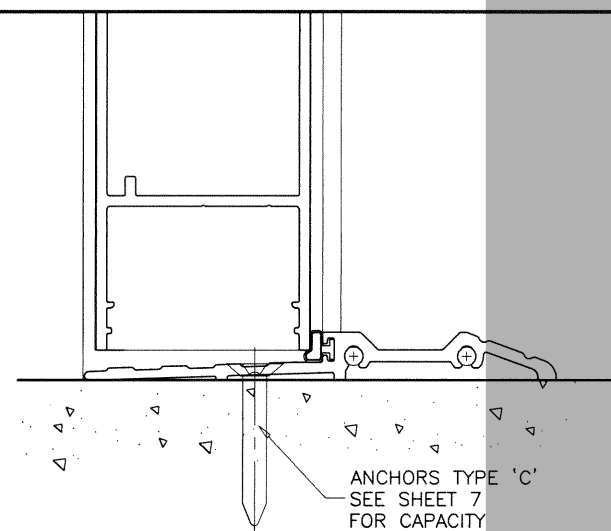
LEAF WIDTH



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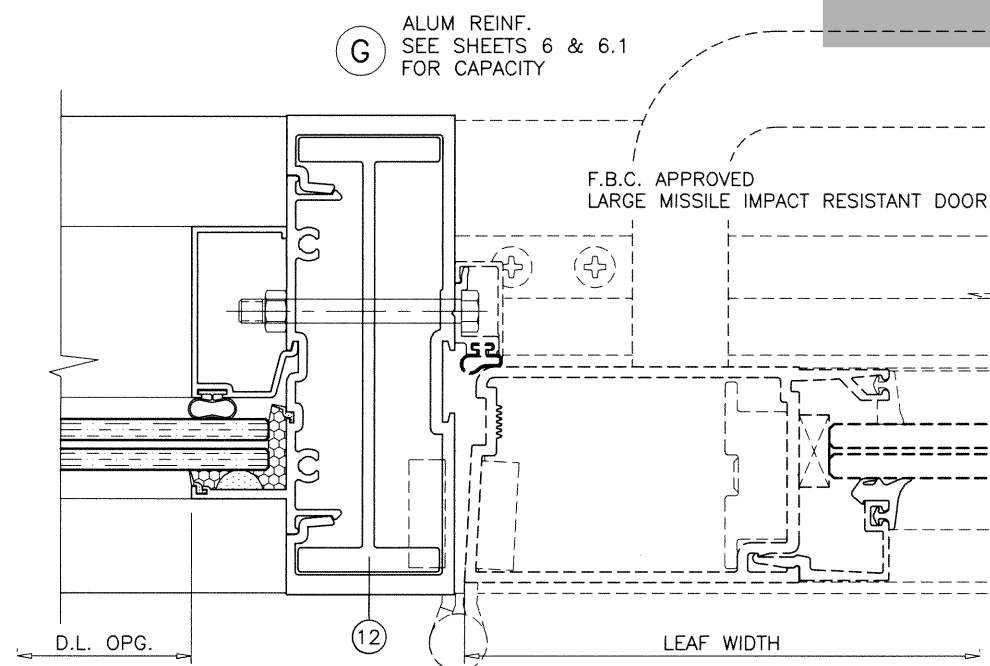
D.L. OPG.

LEAF WIDTH



SEE SEPARATE APPROVAL FOR DESIGN LOAD
CAPACITY OF DOORS AND DOOR ANCHORS.

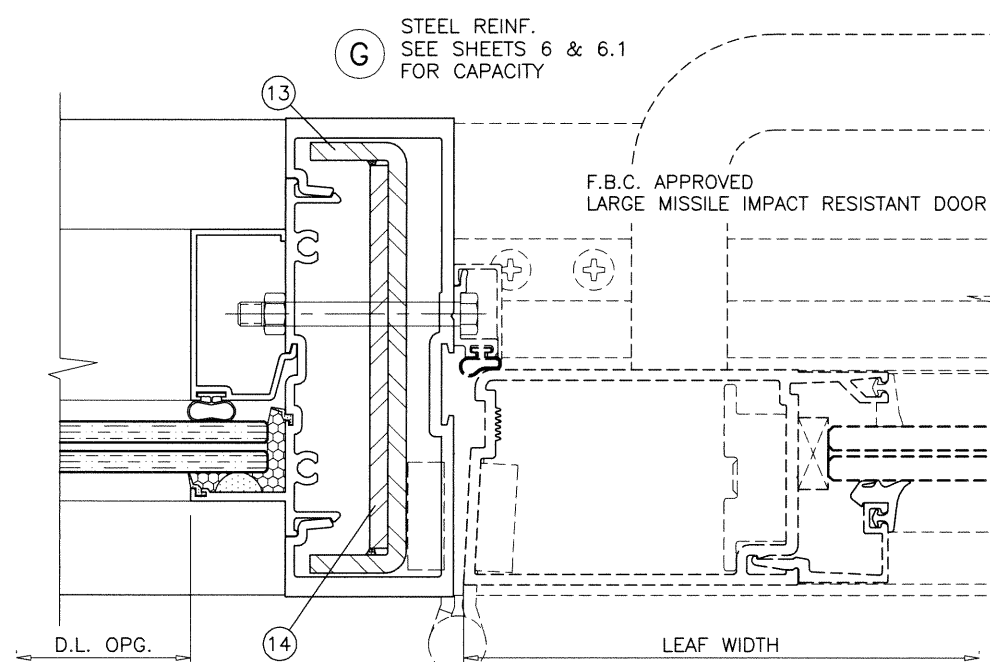
LOWER VALUES FROM DOORS APPROVAL
OR STOREFRONT SYSTEM CAPACITY CHARTS
WILL APPLY TO ENTIRE SYSTEM.



F.B.C. APPROVED
LARGE MISSILE IMPACT RESISTANT DOOR

D.L. OPG.

LEAF WIDTH



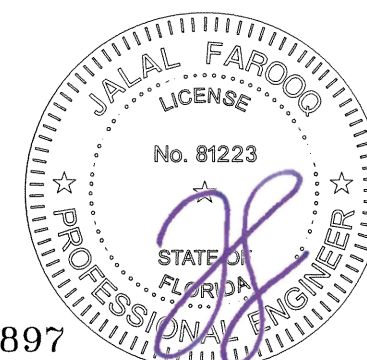
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LARGE MISSILE IMPACT RESISTANT DOOR

D.L. OPG.

LEAF WIDTH

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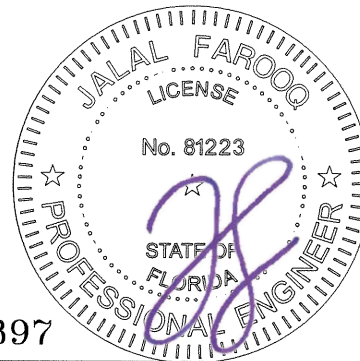
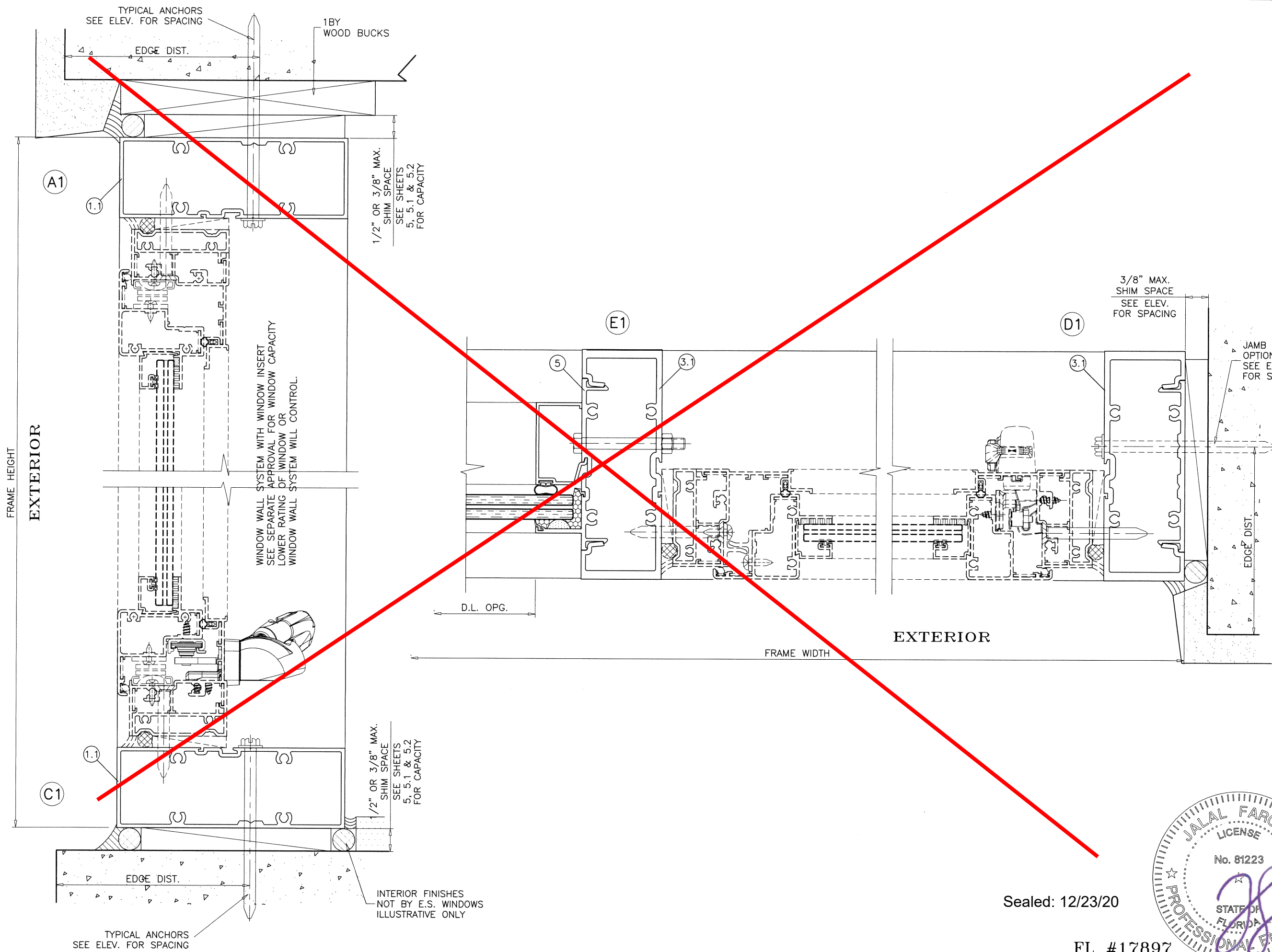


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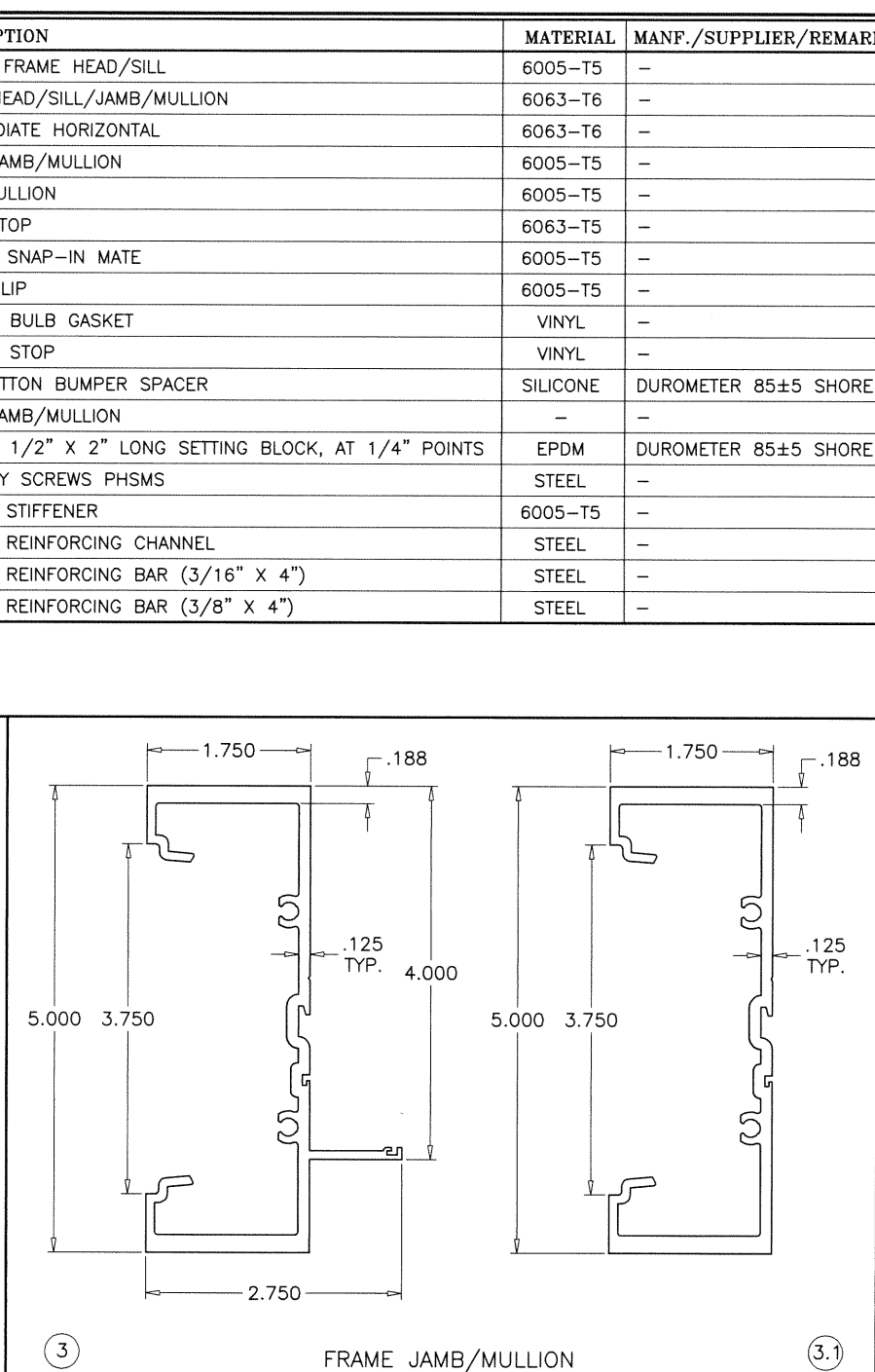
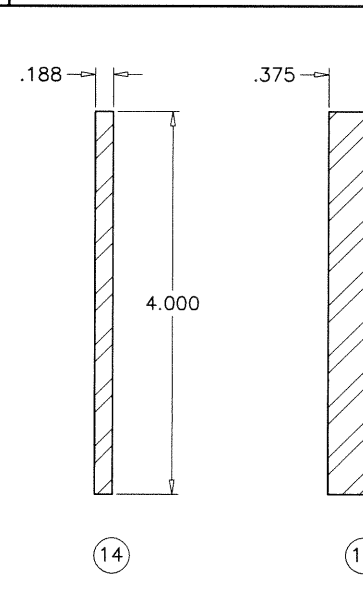
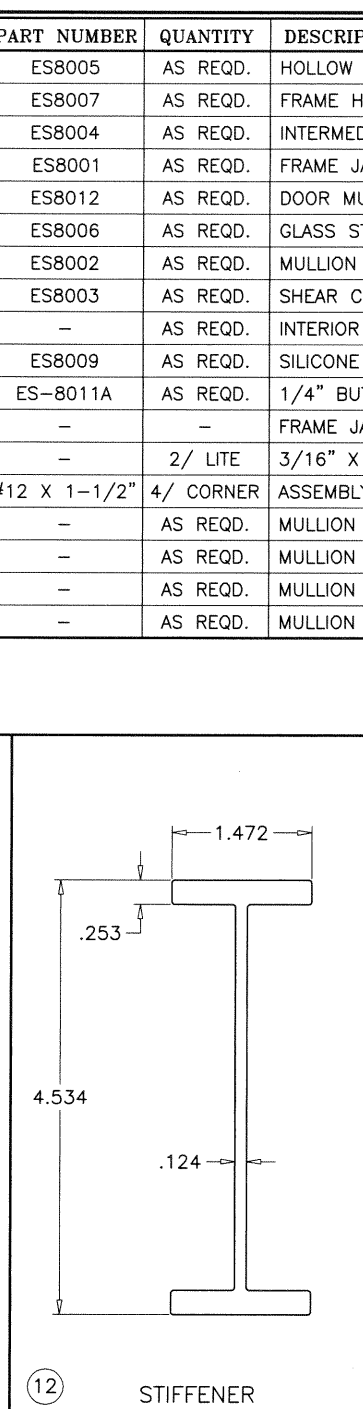
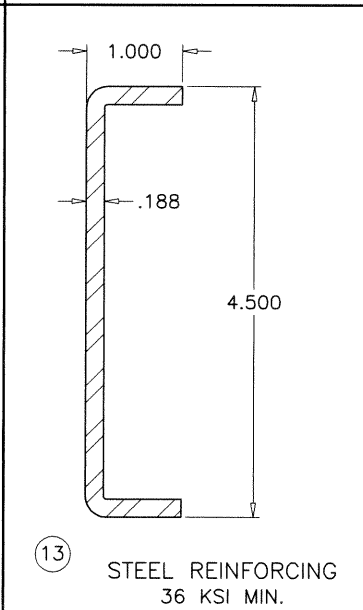
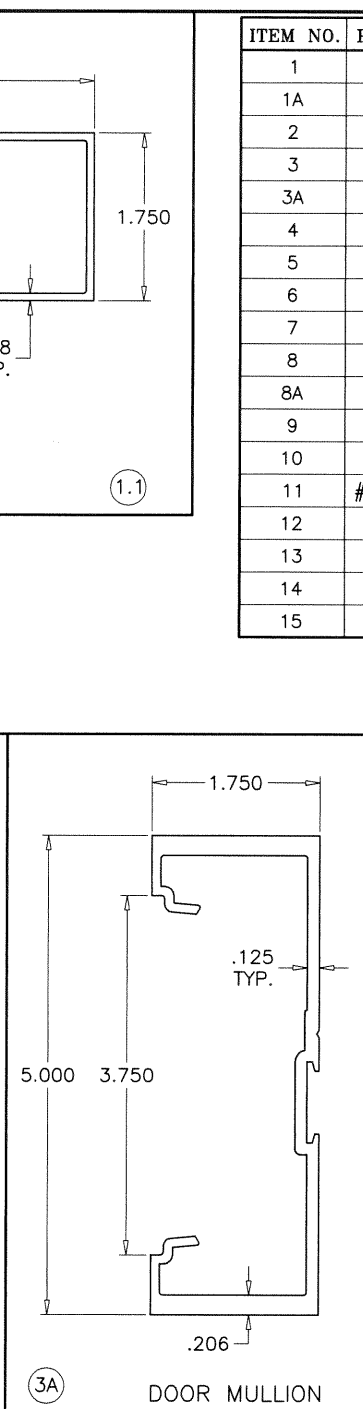
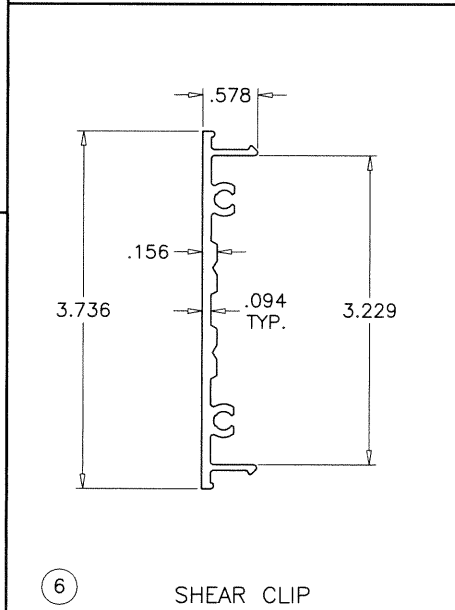
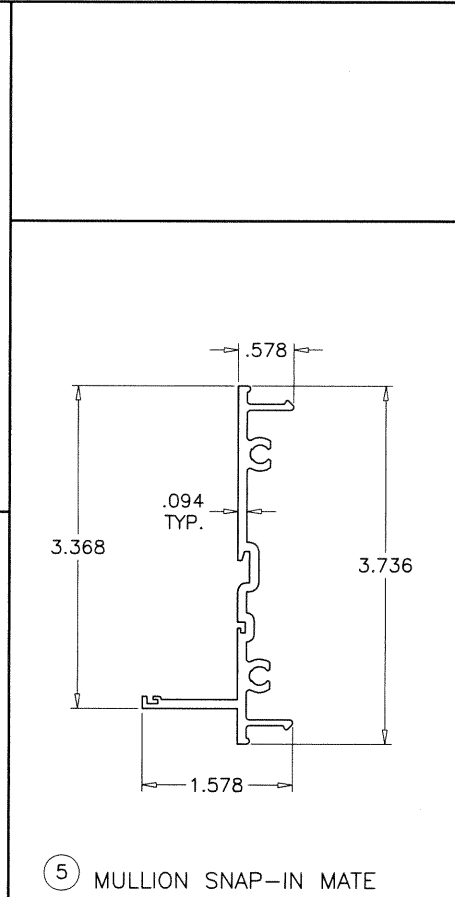
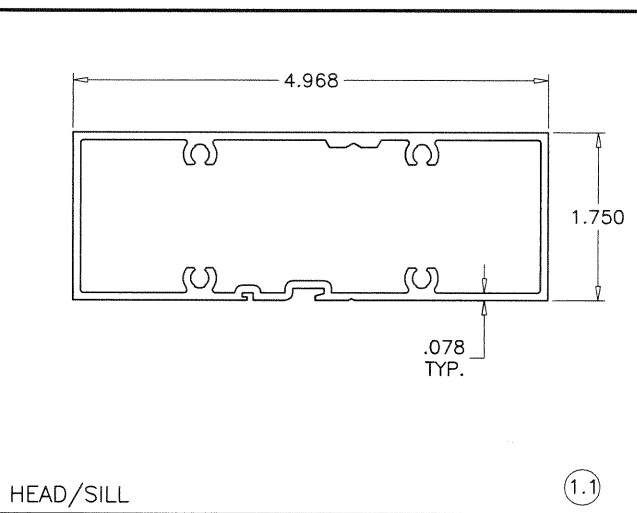
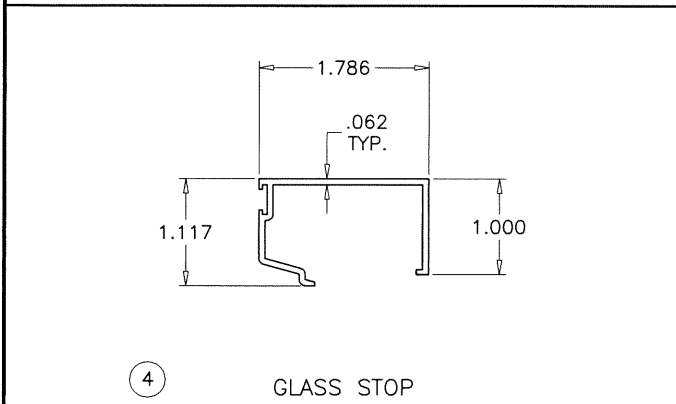
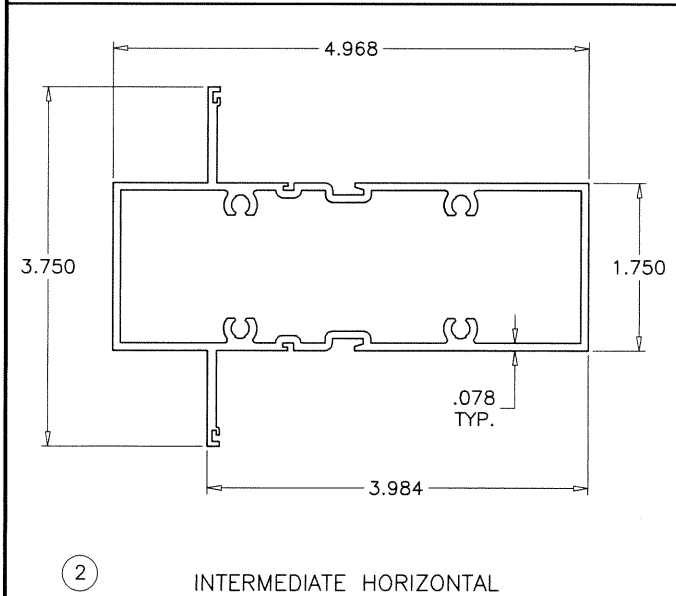
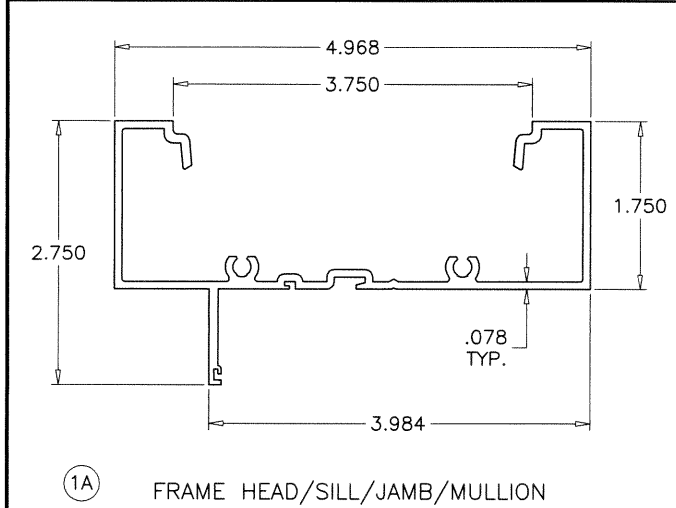
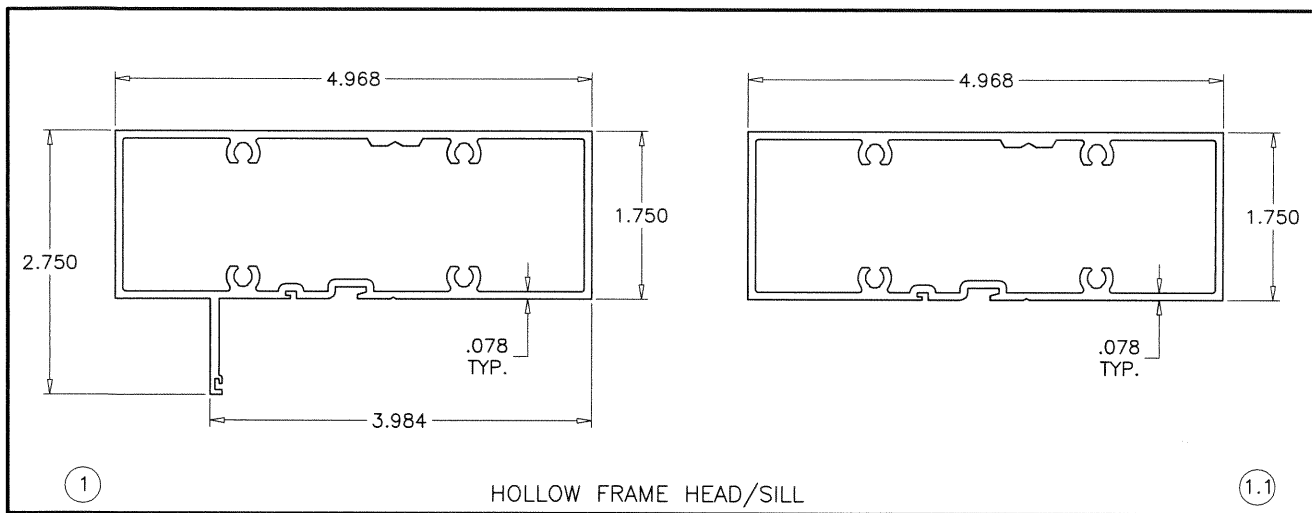
dr. by: TARIQ

chk. by:

drawing no.

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ITEM NO.	PART NUMBER	QUANTITY	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	ES8005	AS REQD.	HOLLOW FRAME HEAD/SILL	6005-T5	-
1A	ES8007	AS REQD.	FRAME HEAD/SILL/JAMB/MULLION	6063-T6	-
2	ES8004	AS REQD.	INTERMEDIATE HORIZONTAL	6063-T6	-
3	ES8001	AS REQD.	FRAME JAMB/MULLION	6005-T5	-
3A	ES8012	AS REQD.	DOOR MULLION	6005-T5	-
4	ES8006	AS REQD.	GLASS STOP	6063-T5	-
5	ES8002	AS REQD.	MULLION SNAP-IN MATE	6005-T5	-
6	ES8003	AS REQD.	SHEAR CLIP	6005-T5	-
7	-	AS REQD.	INTERIOR BULB GASKET	VINYL	-
8	ES8009	AS REQD.	SILICONE STOP	VINYL	-
8A	ES-8011A	AS REQD.	1/4" BUTTON BUMPER SPACER	SILICONE	DUROMETER 85±5 SHORE A
9	-	-	FRAME JAMB/MULLION	-	-
10	-	2/ LITE	3/16" X 1/2" X 2" LONG SETTING BLOCK, AT 1/4" POINTS	EPDM	DUROMETER 85±5 SHORE A
11	#12 X 1-1/2"	4/ CORNER	ASSEMBLY SCREWS PHSMS	STEEL	-
12	-	AS REQD.	MULLION STIFFENER	6005-T5	-
13	-	AS REQD.	MULLION REINFORCING CHANNEL	STEEL	-
14	-	AS REQD.	MULLION REINFORCING BAR (3/16" X 4")	STEEL	-
15	-	AS REQD.	MULLION REINFORCING BAR (3/8" X 4")	STEEL	-

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SERIES 8000 ALUM WINDOW WALL SYSTEM (L.M.I.)

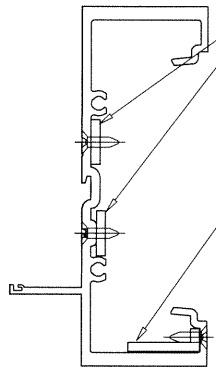
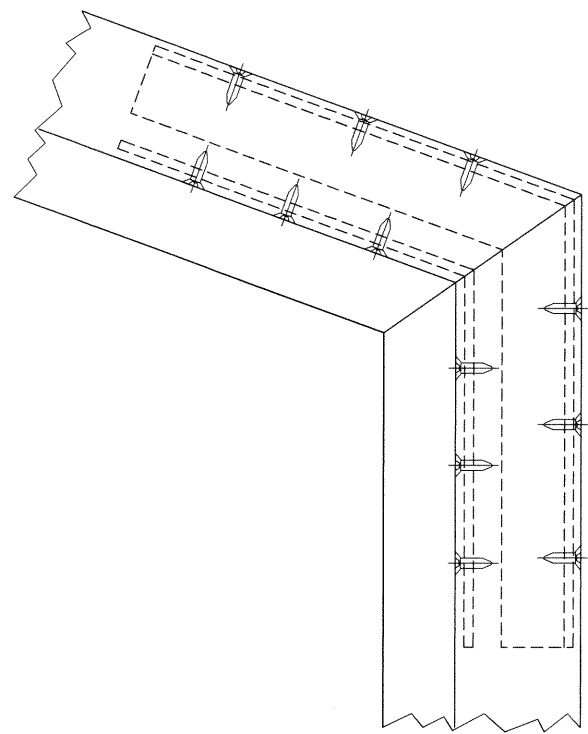
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revisions:

no	date	by	description

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chk. by:

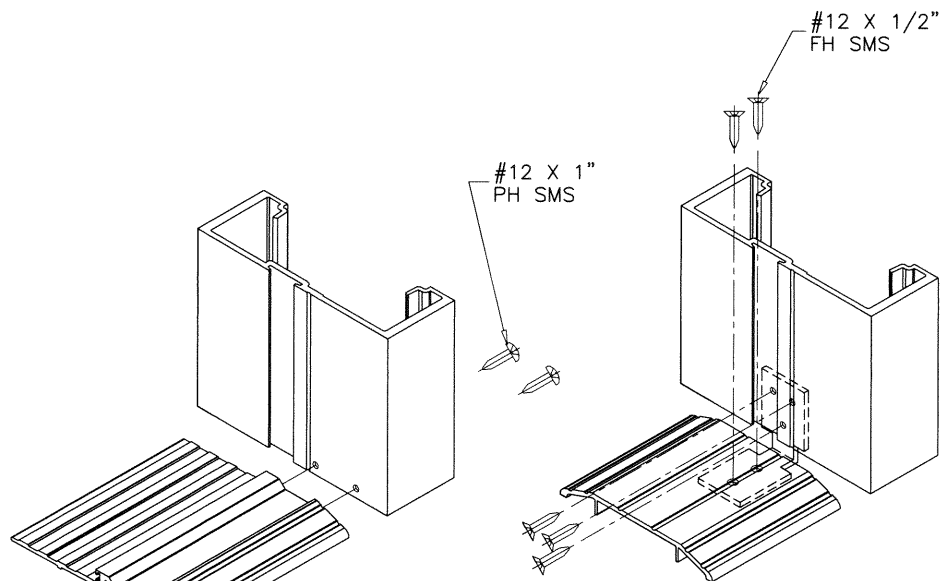
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sheet 11 of 12



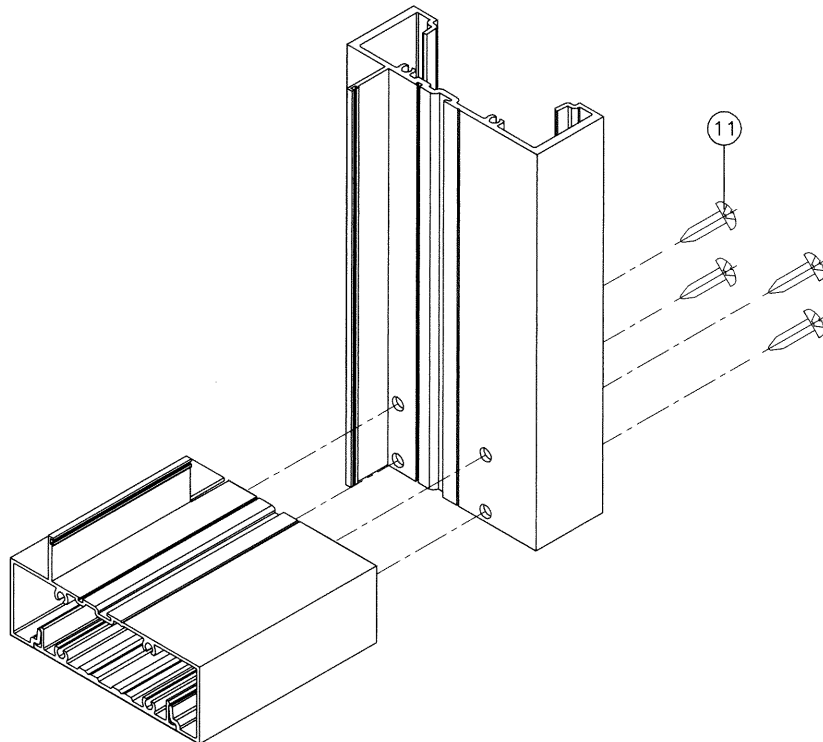
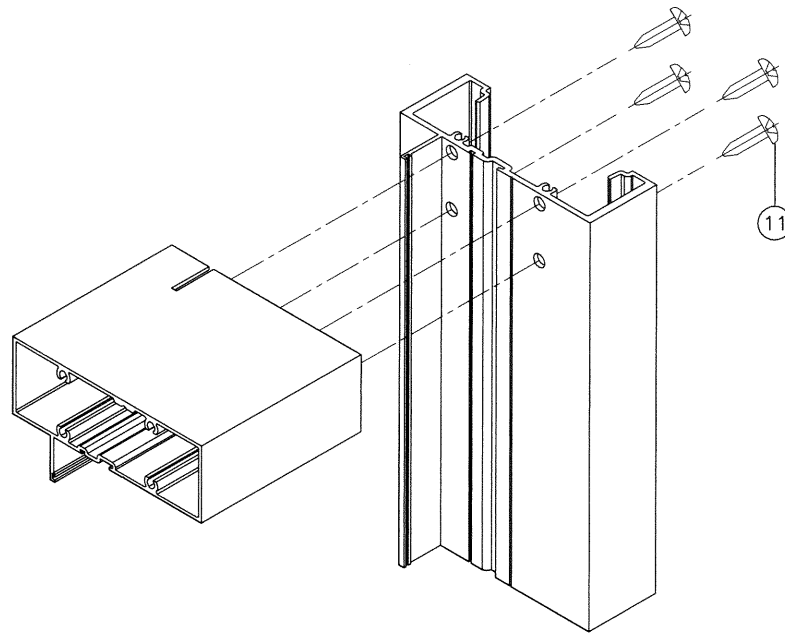
5/8" X 1/8"
ALUM PLATE
BENT TO MATCH JOINT
SECURED WITH #8 SMS
(3) PER SIDE OF JOINT

5/16 X 1 X 1/8"
ALUM ANGLE
BENT TO MATCH JOINT
SECURED WITH #8 SMS
(3) PER SIDE OF JOINT

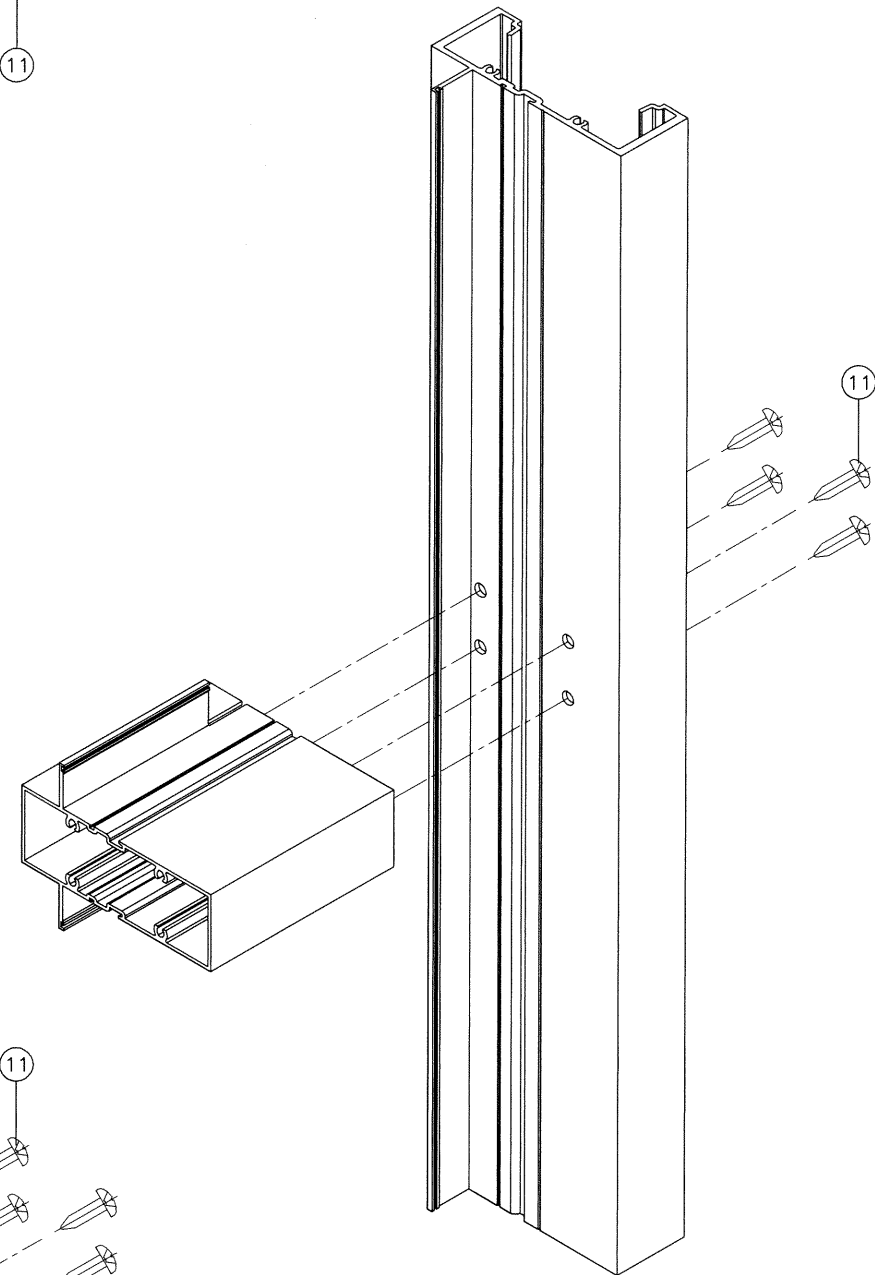
CIRCULAR OR ANGLED CORNERS



DOOR MULLION CORNER



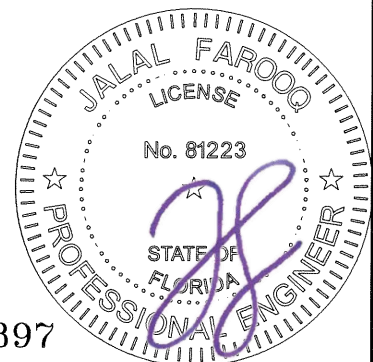
RECT. OR SQUARE CORNERS



HORIZONTAL CORNER

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scale: -
dr. by: TARIQ
chk. by:

drawing no.

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