



# Testing Evaluation Laboratories, Inc.

2002 Wood Court Suite 1 – Plant City, FL 33563  
 Phone: 813-754-9887

ASTM E 1886-05 / ASTM E 1996-06  
 Missile Level “D” (Includes Wind Zone 4)

## TEST REPORT SUMMARY

Test Report Issued To:

Fleetwood Windows and Doors  
 1 Fleetwood Way  
 Corona, CA 92879

Kona 3800 Casement and Awning Windows

Title of Test	Results			
	Specimen 1A 42.00 x 84.00	Specimen 1B 42.00 x 84.00	Specimen 1C 42.0 x 84.00	Specimen 2A 42.0 x 84.00
Impact	Pass	Pass	Pass	Pass
Fatigue Load Cycling	+65.0/- 65.0 psf	+65.0/- 65.0 psf	+65.0/- 65.0 psf	+65.0/- 70.0 psf

Title of Test	Results			
	Specimen 3A 42.00 x 65.00	Specimen 5A 42.00 x 84.00	Specimen 6A 42.00 x 84.00	Specimen 8A 42.0 x 180.00
Impact	Pass	Pass	Pass	Pass
Fatigue Load Cycling	+65.0/- 65.0 psf	+65.0/- 65.0 psf	+65.0/- 65.0 psf	+65.0/- 65.0 psf

Title of Test	Results
	Specimen 12A 42.00 x 72.00
Impact	Pass
Fatigue Load Cycling	+65.0/- 65.0 psf

Reference should be made to Report No. TEL 01990818 for complete test specimen description and data. For corresponding data regarding AAMA/WDMA/CSA 101/I.S./2/A440-08 reference should be made to Report No. TEL 01990817.

For Testing Evaluation Laboratories, Inc.

*Vivian K. Wright*  
 Vivian K. Wright,  
 President



# Testing Evaluation Laboratories, Inc.

2002 Wood Court Suite 1 – Plant City, FL 33563  
Phone: 813-754-9887

## TEST RESULTS

IAS Laboratory Certification No: TL-299

Report No: TEL 01990818  
Test Dates: September 23-27, 2013  
Report Date: October 31, 2013

### Issued to:

Fleetwood Windows and Doors  
1 Fleetwood Way  
Corona, CA 92879

**Project Summary:** Testing Evaluation Laboratories, Inc. (TEL) was contracted by Fleetwood Windows and Doors to perform tests on the Kona 3800 Casement and Awning Windows at TEL's Plant City, FL test facility.

Test specimen descriptions and results are reported herein.

**Test Specifications:** The test specimens were evaluated in accordance with the following:

ASTM E 1886-05 / ASTM E 1996-06  
Missile Level "D" (Includes Wind Zone 4)

### Test Specimen Description:

<b>Series / Model:</b>	Kona 3800 Casement and Awning Windows
<b>Type:</b>	Aluminum Casement and Awning Windows
<b>Overall Size:</b>	42.00" x 84.00 – Specimens 1a, 1b, 1c, 2a, 5a and 6a – (X) 42.00" x 65.00" – Specimens 3a – (X) 42.00" x 180.00" – Specimen 8a - (O/X/O) 42.00" x 72.00" – Specimen 12a – (X)
<b>Daylight Opening:</b>	33.063" x 75.13" – Specimens 1a, 1b, 1c, 2a, 5a and 6a – (X) 33.625" x 56.50" – Specimen 3a – (X) 39.062" x 9.312" – Specimen 8a - Top Fixed Panel (O) 33.13" x 76.062" – Specimen 8a - Center Active Panel (X) 39.062" x 81.625" – Specimen 8a - Bottom Fixed Panel (O) 32.88" x 56.06" – Specimen 12a – (X)
<b>Glazing Detail:</b>	See attached drawings for glazing details.
<b>Frame Material:</b>	Aluminum
<b>Finish:</b>	Mill Finish

For Tested Elevation, Vertical Cross Sections, Horizontal Cross Sections, Components, Frame Anchoring, Glazing Detail and Bill of Materials See Attached Drawing numbers L-7031, L-7032, L-7032A and L-7033.

## IMPACT AND CYCLING TESTS

### Specimen 1A – 42.0” x 84.0” Aluminum Casement Window – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
77°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	21.0"	42.0"	49.9 fps
2	Pass	31.0"	11.0"	49.7 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.54
0% to 60%	0.0 to 39.0	300	2.49
50% to 80%	32.5 to 52.0	600	1.69
30% to 100%*	19.5 to 65.0	100	2.98

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.87
50% to 80%	32.5 to 52.0	1050	1.54
0% to 60%	0.0 to 39.0	50	2.51
20% to 50%	13.0 to 32.5	3350	2.62

\*Panel deflected 2.50” from original plane at 100% Positive load and 2.38” from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

# IMPACT AND CYCLING TESTS

## Specimen 1B – 42.0” x 84.0” Aluminum Casement Window – (X)

### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
77°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	20.75"	42.25"	49.9 fps
2	Pass	30.75"	10.75"	49.9 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.13
0% to 60%	0.0 to 39.0	300	2.83
50% to 80%	32.5 to 52.0	600	1.58
30% to 100%*	19.5 to 65.0	100	2.00

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.29
50% to 80%	32.5 to 52.0	1050	1.58
0% to 60%	0.0 to 39.0	50	1.79
20% to 50%	13.0 to 32.5	3350	1.73
*Panel deflected 2.38" from original plane at 100% Positive load and 2.75" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.			

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 1C – 42.0” x 84.0” Aluminum Casement Window – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
77°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	21.25"	41.75"	49.9 fps
2	Pass	10.50"	75.00"	50.0 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.79
0% to 60%	0.0 to 39.0	300	2.62
50% to 80%	32.5 to 52.0	600	1.70
30% to 100%*	19.5 to 65.0	100	2.95

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.94
50% to 80%	32.5 to 52.0	1050	1.60
0% to 60%	0.0 to 39.0	50	2.71
20% to 50%	13.0 to 32.5	3350	1.82

\*Panel deflected 2.25" from original plane at 100% Positive load and 2.00" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 2A – 42.0” x 84.0” Aluminum Casement Window with Nail Fin – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
77°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	22.00"	43.00"	50.1 fps
2	Pass	32.50"	11.25"	50.0 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -70.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.31
0% to 60%	0.0 to 39.0	300	2.51
50% to 80%	32.5 to 52.0	600	1.98
30% to 100%*	19.5 to 65.0	100	2.88

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	21.0 to 70.0	50	2.91
50% to 80%	35.0 to 55.0	1050	2.03
0% to 60%	0.0 to 42.0	50	2.32
20% to 50%	14.0 to 35.0	3350	1.82

\*Panel deflected 1.75" from original plane at 100% Positive load and 1.88" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 3A – 42.0" x 65.0" Aluminum Casement Window – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 3 oz	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	21.00"	33.00"	49.8 fps
2	Pass	11.00"	11.00"	49.9 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	1.50
0% to 60%	0.0 to 39.0	300	2.25
50% to 80%	32.5 to 52.0	600	1.25
30% to 100%*	19.5 to 65.0	100	2.07

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.27
50% to 80%	32.5 to 52.0	1050	1.63
0% to 60%	0.0 to 39.0	50	1.70
20% to 50%	13.0 to 32.5	3350	1.36

\*Panel deflected 1.75" from original plane at 100% Positive load and 2.00" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 5A – 42.0" x 84.0" Aluminum Casement Window with Nail Fin – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	21.00"	42.00"	49.7 fps
2	Pass	11.00"	75.00"	50.0 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.08
0% to 60%	0.0 to 39.0	300	1.83
50% to 80%	32.5 to 52.0	600	1.72
30% to 100%*	19.5 to 65.0	100	2.31

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.89
50% to 80%	32.5 to 52.0	1050	2.27
0% to 60%	0.0 to 39.0	50	2.68
20% to 50%	13.0 to 32.5	3350	2.00

\*Panel deflected 1.50" from original plane at 100% Positive load and 1.50" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 6A – 42.0" x 84.0" Aluminum Casement Window –Direct Mount – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	20.75"	42.00"	49.9 fps
2	Pass	11.25"	74.75"	50.0 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.41
0% to 60%	0.0 to 39.0	300	2.79
50% to 80%	32.5 to 52.0	600	2.05
30% to 100%*	19.5 to 65.0	100	2.26

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.95
50% to 80%	32.5 to 52.0	1050	1.55
0% to 60%	0.0 to 39.0	50	2.09
20% to 50%	13.0 to 32.5	3350	1.68

\*Panel deflected 2.50" from original plane at 100% Positive load and 2.88" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

Specimen 8A – 42.0" x 180.0" Aluminum Stacked Fixed/Awning/Fixed Window – (O/X/O)

### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 3 oz	8'-0"	17'0"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	32.00"	11.00"	49.9 fps
2	Pass	21.00"	43.00"	49.7 fps
3	Pass	21.00"	84.00"	49.9 fps
4	Pass	32.00"	94.00"	50.0 fps
5	Pass	21.00"	126.00"	49.8 fps
<p>Orientation of Missile at Impact was within +/-5° of horizontal.                      None of the impacts penetrated the specimens.                      "X" measurement is from the left edge of test specimen.                      "Y" measurement is from the bottom edge of test specimen.</p>				

### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.93
0% to 60%	0.0 to 39.0	300	2.81
50% to 80%	32.5 to 52.0	600	1.75
30% to 100%*	19.5 to 65.0	100	2.65

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.81
50% to 80%	32.5 to 52.0	1050	1.65
0% to 60%	0.0 to 39.0	50	2.10
20% to 50%	13.0 to 32.5	3350	2.28
<p>*Panel deflected 2.25" from original plane at 100% Positive load and 2.75" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.</p>			

Jarrett Wright and James Hayhurst, Test Technicians

Mfg Observers – Joe Zammit

## IMPACT AND CYCLING TESTS

### Specimen 12A – 42.0" x 72.0" Aluminum Casement Window – (X)

#### ASTM E1886-05/ASTM E1996-06 – Large Missile Impact (2 x 4 Southern Yellow Pine)

Cond. Temp Of Specimen	Missile Level	Missile Weight	Missile Length	Muzzle Distance From Specimen
76°F	D	9.0 lbs, 2 oz	8'-1/4"	17'1"

Impact Location	Results	X - Measurement	Y - Measurement	Speed
1	Pass	21.00"	36.00"	49.8 fps
2	Pass	9.00"	9.50"	50.1 fps
Orientation of Missile at Impact was within +/-5° of horizontal. None of the impacts penetrated the specimens. "X" measurement is from the left edge of test specimen. "Y" measurement is from the bottom edge of test specimen.				

#### ASTM E1886-05/ASTM E1996-06– Fatigue Load Cycling Design Pressure +65.0 psf / -65.0 psf

Positive % of Test Load	Positive Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
20% to 50%	13.0 to 32.5	3500	2.12
0% to 60%	0.0 to 39.0	300	1.71
50% to 80%	32.5 to 52.0	600	1.65
30% to 100%*	19.5 to 65.0	100	2.26

Negative % of Test Load	Negative Pressure Range (psf)	Number Of Cycles	Average Cycle Time (Sec)
30% to 100%*	19.5 to 65.0	50	2.17
50% to 80%	32.5 to 52.0	1050	1.37
0% to 60%	0.0 to 39.0	50	1.93
20% to 50%	13.0 to 32.5	3350	2.69

\*Panel deflected 1.75" from original plane at 100% Positive load and 1.75" from original plane at 100% Negative load. At the completion of cycles the door panel was operable. There were no tears in the film. In our opinion, the tape and film used to seal for air leakage did not influence the results of the test.

## Conditions, Terms, and General Notes Regarding These Tests

The product tested Has Been compared to the detailed drawing, bill of materials and fabrication information supplied by the client so named herein. Our analysis, which includes dimensional and component description comparisons, indicate the tested product and engineering information supplied by the client "Are Equivalent". The report and representative samples will be retained for four years from the date of initial test.

These test results were obtained by employing all requirements of the designated test methods with no Deviations unless explicitly noted in test report. The test results and specimen supplied for testing are in compliance with the reference.

The test results are specific to the product tested by this laboratory and of the sample supplied by the client named herein, and they relate to no other product either manufactured by the client, a fabricator of the client or of the client or of installed field performance.

This test report does not constitute certification of this product, but only that the above test results were obtained using the designated test methods and they indicate compliance with the performance requirements (paragraphs as listed) of the above referenced specifications.

Testing Evaluation Laboratories, Inc. makes no opinions or endorsements regarding this product and its performance. This report may not be reproduced or quoted in partial form without the expressed written approval of Testing Evaluation Laboratories, Inc.

Testing Evaluation Laboratories, Inc.'s letter, reports, its name or insignia or mark are for the exclusive use of the client so named herein and any other use is strictly prohibited. The report, letters and the name of Testing Evaluation Laboratories, Inc., its seal or mark shall not be used in any circumstance to the general public or in any advertising.

Limitation of liability: Due diligence was used in performing the tests and reporting the results. By acceptance of this report, this client agrees to hold harmless and indemnify Testing Evaluation Laboratories, Inc., its employees, sub-contractors, officers and owners against all claims and demands of any kind whatsoever, which arise out of or in any manner connected with the performance of work referred to herein.

Testing Evaluation Laboratories, Inc.



Vivian K. Wright,  
President

**Revision Log**

Rev No.	Date	Page(s)	Revision(s)
0	10/21/2013	NA	Original Report Issue

**TABLE OF CONTENTS**

SHEET #	DESCRIPTION
1	Table of contents
2	Test elevation
3	Test elevation
4	Horizontal and vertical cross sections
5	Horizontal and vertical cross sections
6	Horizontal cross sections
7	Horizontal and vertical cross sections
8	Frame anchoring
9	Frame anchoring
10	Frame anchoring
11	Components
12	Glazing details
13	Bill of materials

Testing Evaluation Laboratories Inc.  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 21920818  
 Date 10-31-13 Verified by *gnd*

PRODUCT:

FLEETWOOD  
 KONA 3800  
 CASEMENT WINDOW

PART OR ASSEMBLY:

TABLE OF CONTENTS



DATE: 9/25/13

SCALE: N.T.S.

DWG. BY: JK

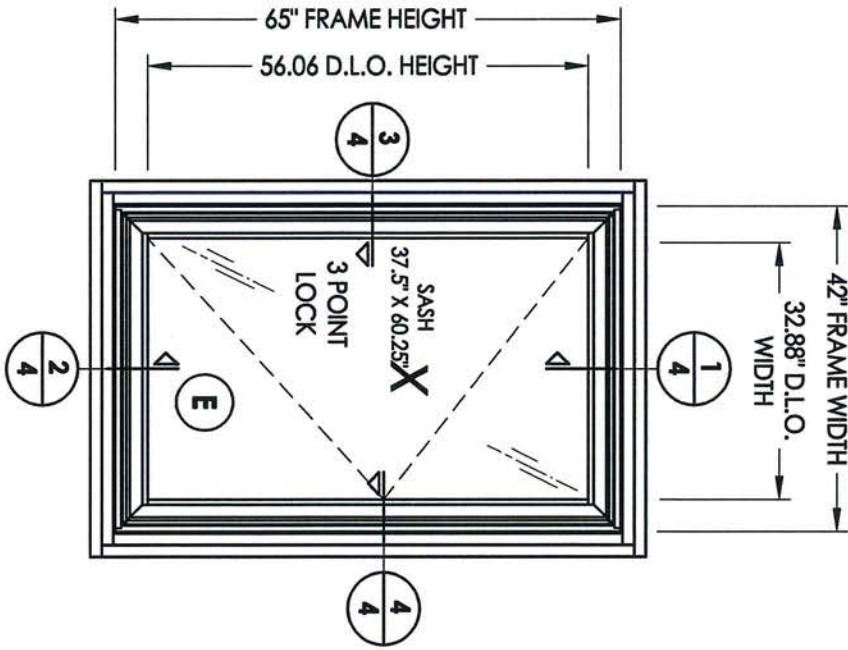
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DRAWING NO.:

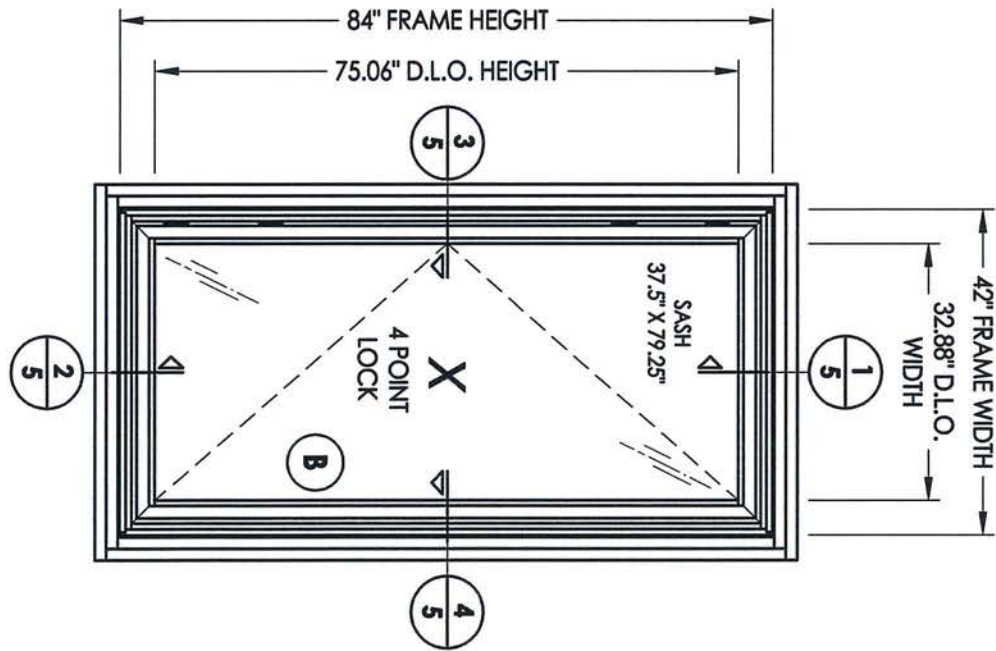
L-7031

SHEET 1 OF 13

NO.	DATE	REVISIONS	BY



**SPEC. #3, 3A**



**SPEC. #1, 1A, 1B, 1C**

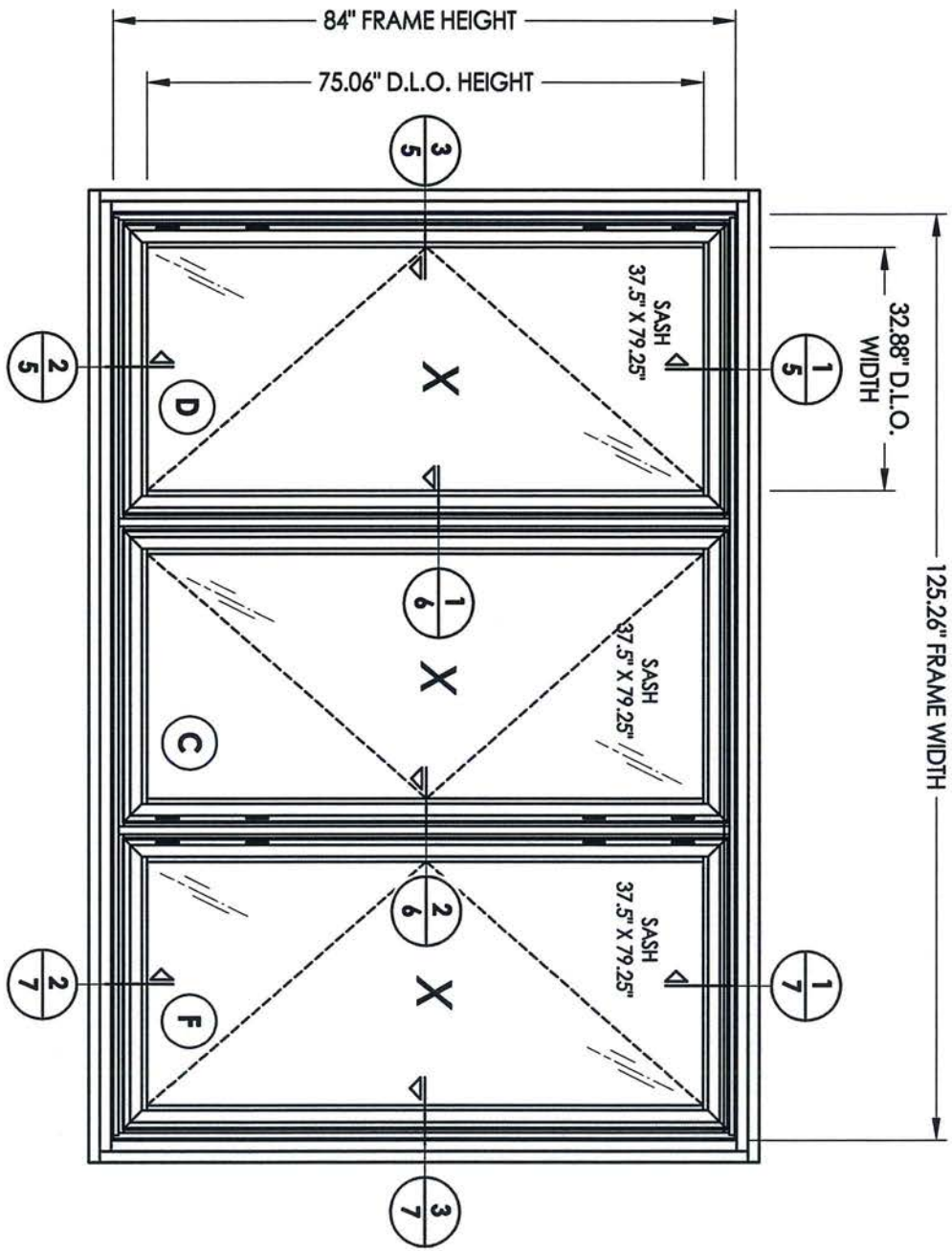
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 81990818  
 Date 10-31-13 Verified by *gpa*

DATE:	9/25/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7031
SHEET	2 OF 13

**R<sub>W</sub>** BUILDING CONSULTANTS, INC.  
 813.659.9197

NO.	DATE	REVISIONS	BY

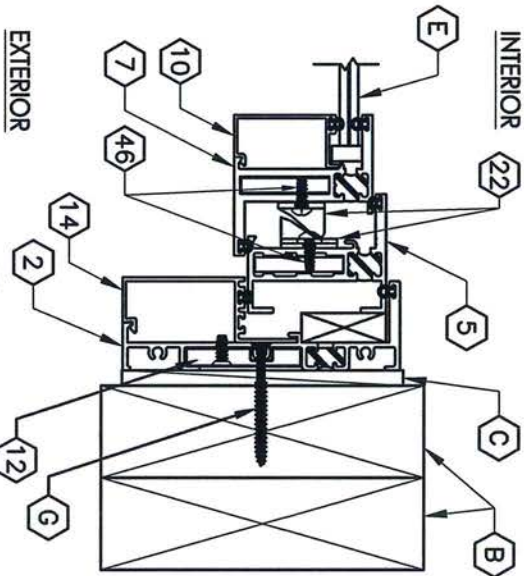
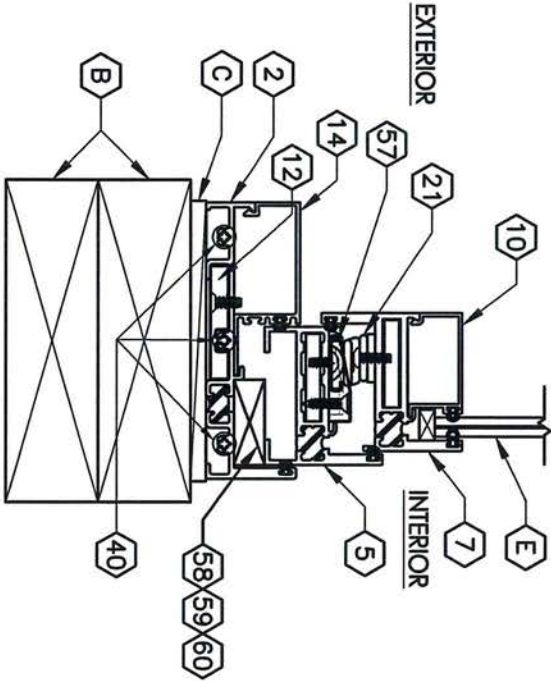
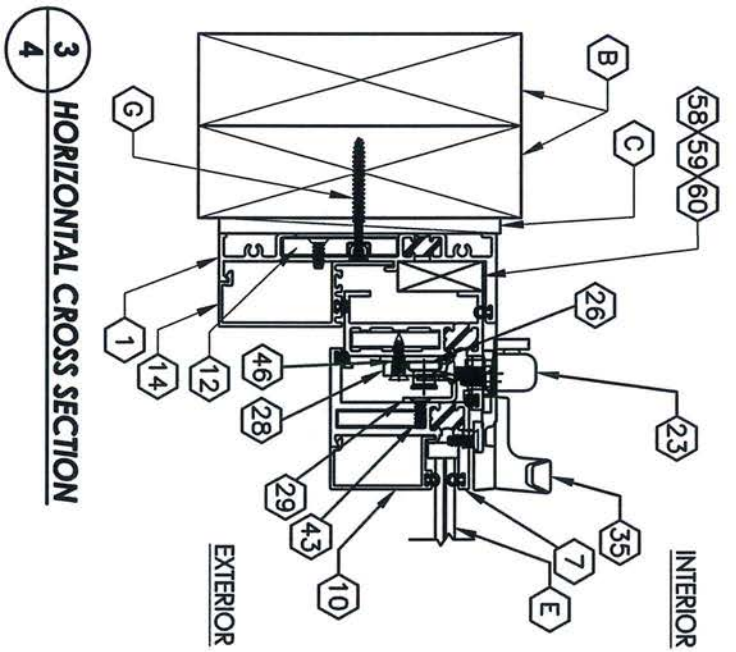
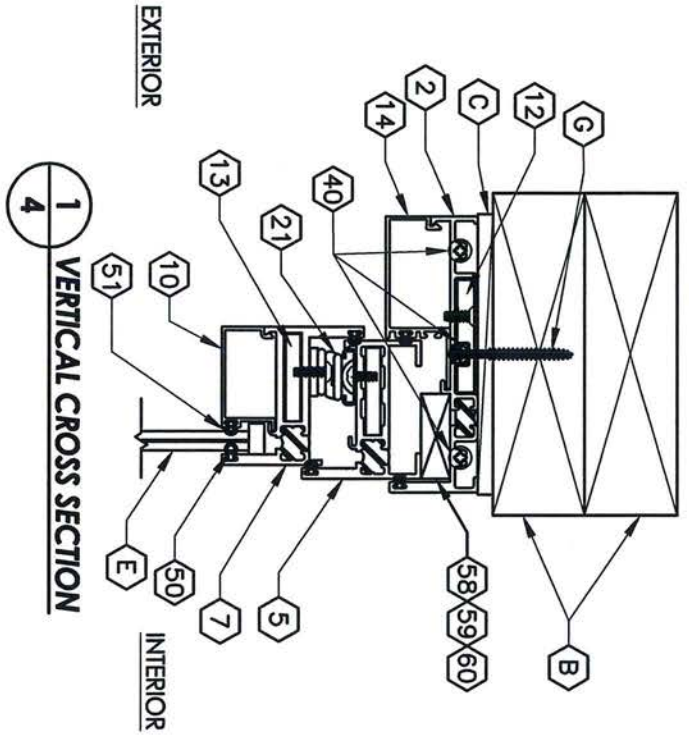
PRODUCT:	<b>FLEETWOOD KONA 3800 CASEMENT WINDOW</b>
PART OR ASSEMBLY:	<b>TEST ELEVATION</b>



**SPEC. #4, 4A**

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gjd*

DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7031 SHEET 3 OF 13	RWB BUILDING CONSULTANTS, INC. 813.659.9197	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
		PART OR ASSEMBLY: TEST ELEVATION	
NO.		DATE	BY
REVISIONS			



**2**  
VERTICAL CROSS SECTION

**1**  
VERTICAL CROSS SECTION

**3**  
HORIZONTAL CROSS SECTION

**4**  
HORIZONTAL CROSS SECTION

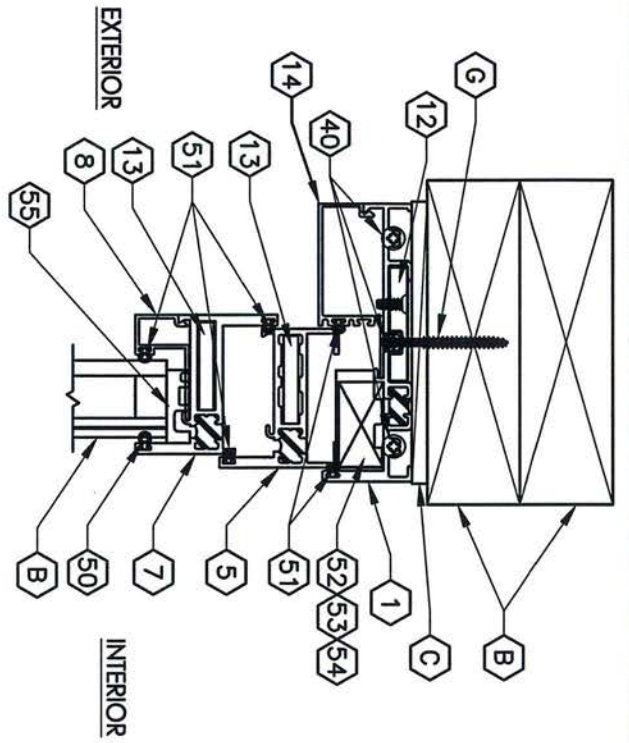
Return Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-21-13 verified by gao

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW	
PART OR ASSEMBLY:		HORIZONTAL AND VERTICAL CROSS SECTIONS	

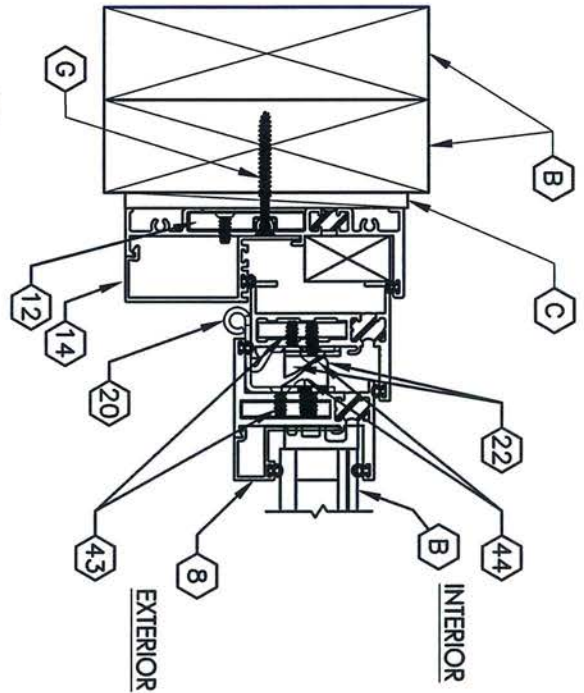
NO.	DATE	REVISIONS	BY

**RW** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197

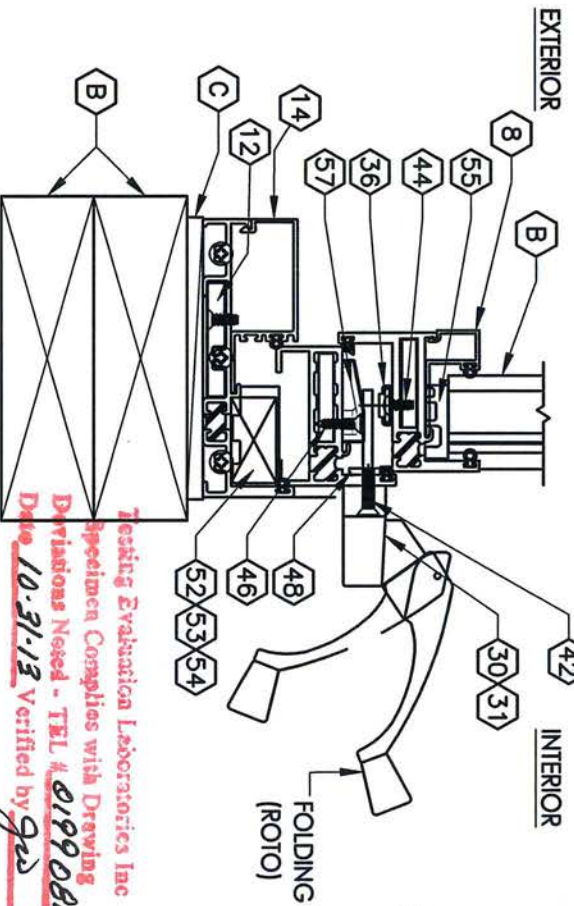
DATE:	9/25/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7031
SHEET	4 OF 13



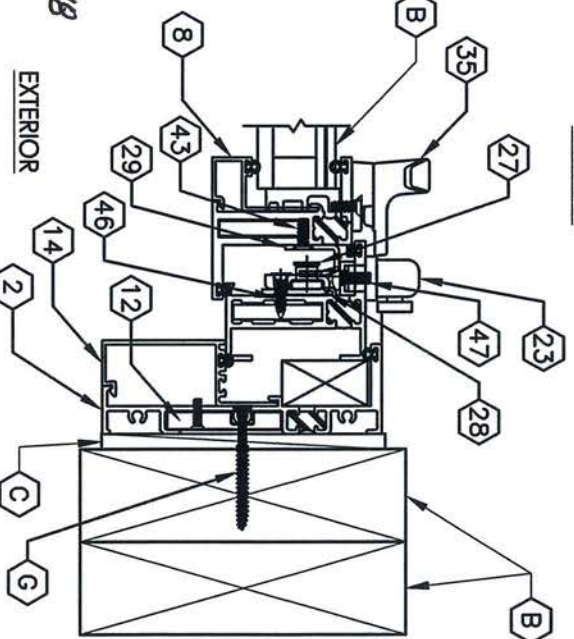
1 VERTICAL CROSS SECTION  
5



3 HORIZONTAL CROSS SECTION  
5



2 VERTICAL CROSS SECTION  
5



4 HORIZONTAL CROSS SECTION  
5

Testing Evaluation Laboratories Inc  
Specimen Complies with Drawing  
Deviations Noted - TEL # 01990818  
Date 10-31-13 Verified by gjs

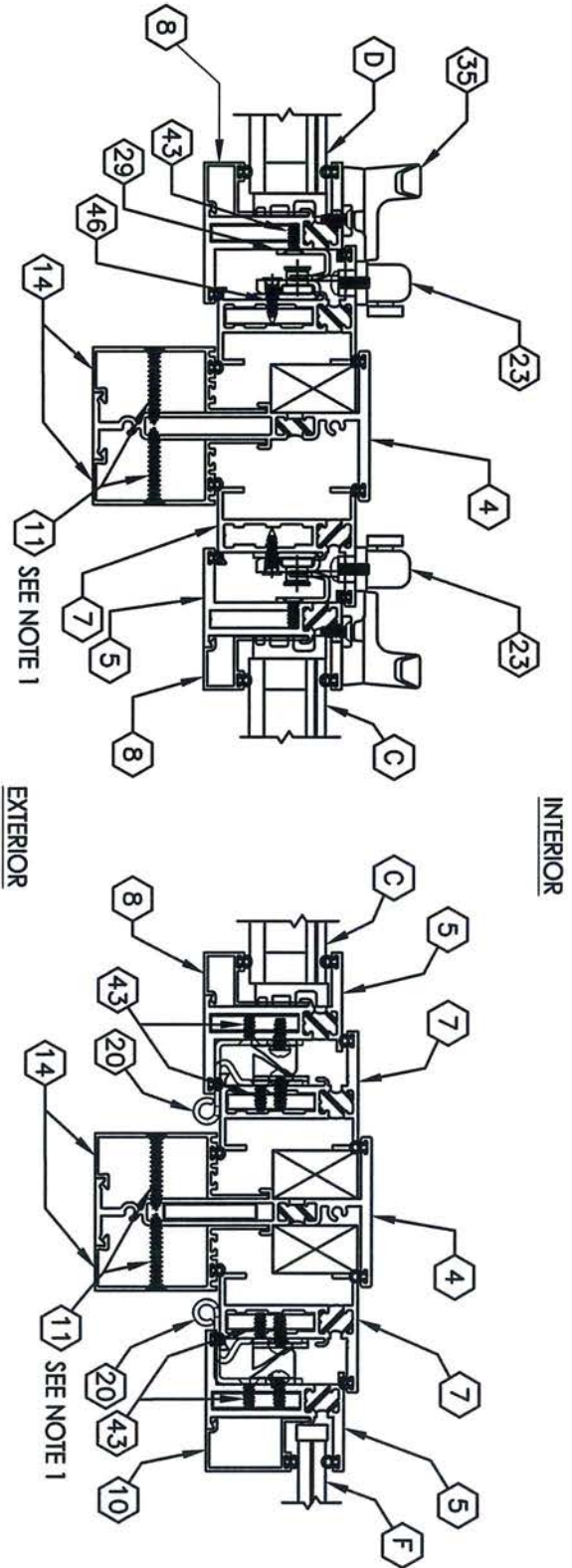
PRODUCT:  
**FLEETWOOD  
KONA 3800  
CASEMENT WINDOW**

PART OR ASSEMBLY:  
**HORIZONTAL AND VERTICAL  
CROSS SECTIONS**

NO.	DATE	REVISIONS	BY

**RW** BUILDING CONSULTANTS, INC.  
813.659.9197

DATE: 9/25/13  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: L-7031  
SHEET 5 OF 13



1 HORIZONTAL CROSS SECTION

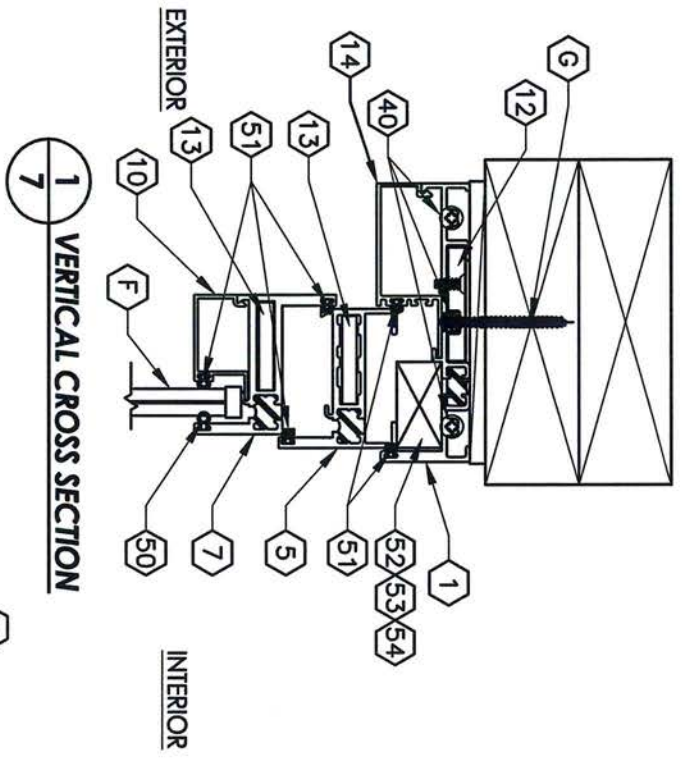
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NOTE:  
1. Item #11 located 4" from each end then 12" on center for (8) total.

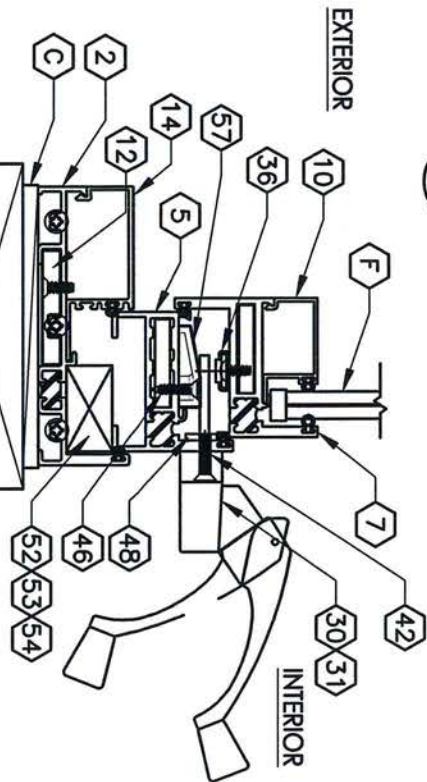
Testing Evaluation Laboratories Inc  
Specimen Complies with Drawing  
Deviations Noted - TEL # 01990018  
Date 10.31.13 Verified by jzw

DATE: 9/25/13		PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
SCALE: N.T.S.		PART OR ASSEMBLY: HORIZONTAL CROSS SECTIONS	
DWG. BY: JK		BY:	
CHK. BY: LFS		DATE:	
DRAWING NO.: L-7031		NO.:	
SHEET 6 OF 13		REVISIONS	

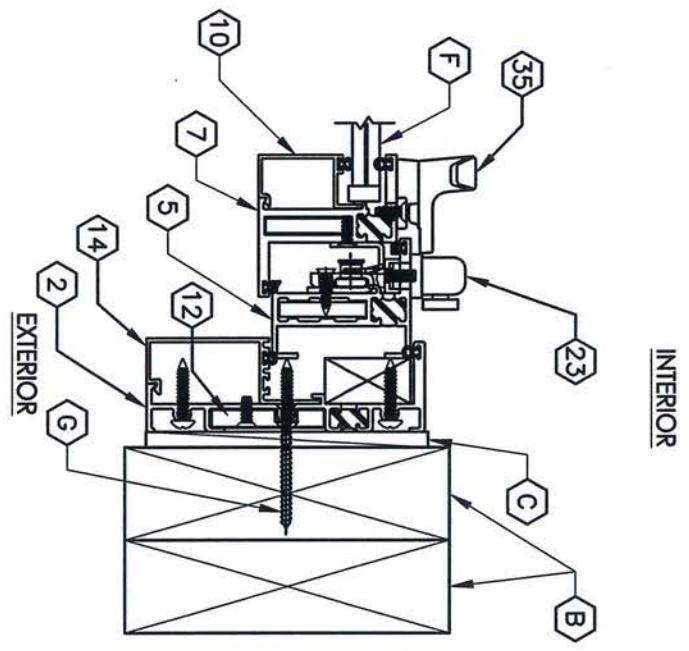
**RW** BUILDING CONSULTANTS, INC.  
813.659.9197



1  
7  
VERTICAL CROSS SECTION



2  
7  
VERTICAL CROSS SECTION

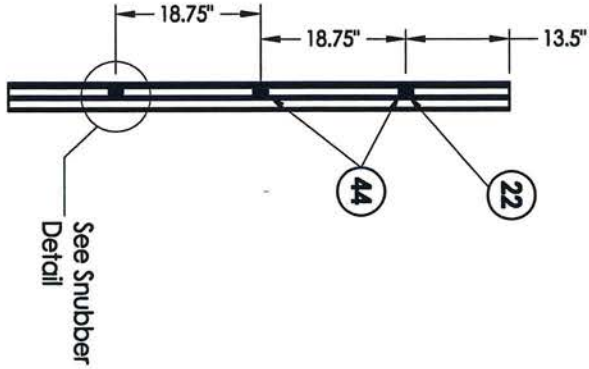


3  
7  
HORIZONTAL CROSS SECTION

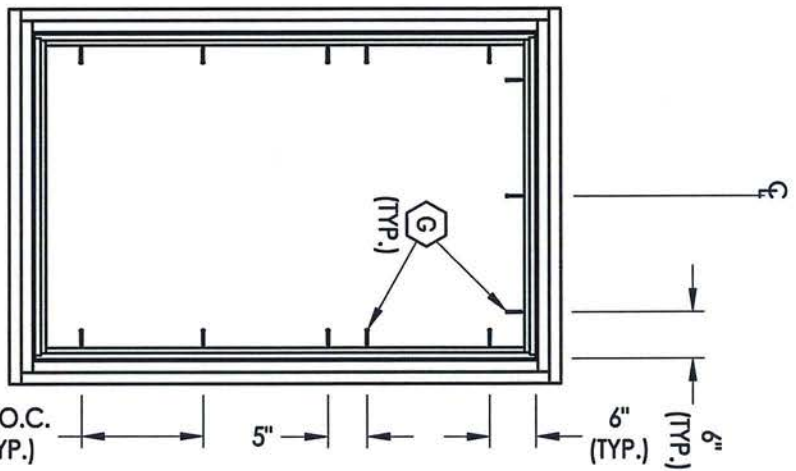
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TBL # 01990818  
 Date 10-31-13 Verified by *gms*

DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7031 SHEET 7 OF 13		PRODUCT: <b>FLEETWOOD                  KONA 3800                  CASEMENT WINDOW</b>	
NO.      DATE      REVISIONS		PART OR ASSEMBLY: <b>HORIZONTAL AND VERTICAL                  CROSS SECTIONS</b>	
BY		BY	

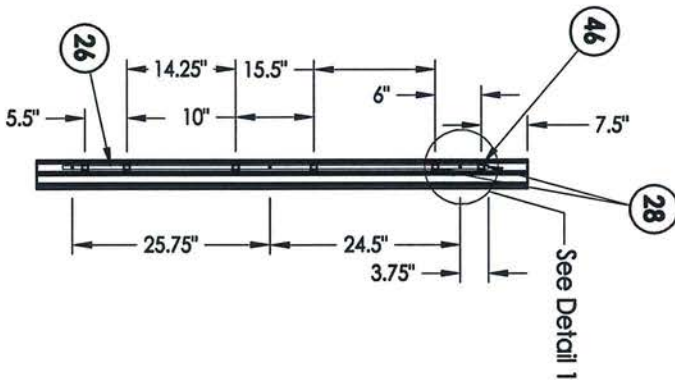
  
**RWB** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197



**SNUBBERS JAMB**



**FRAME ANCHORING**  
2X buck construction



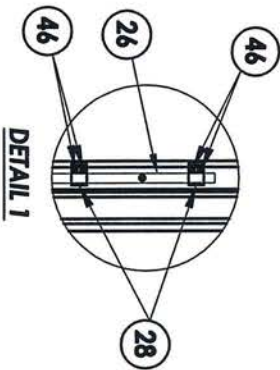
**LOCK JAMB**  
Locking Points (3)



**SNUBBER DETAIL**

Testing Evaluation Laboratories Inc  
Specimen Complies with Drawing  
Deviations Noted - TEL # 01990818

Date 10.31.13 Verified by JLD



**DETAIL 1**

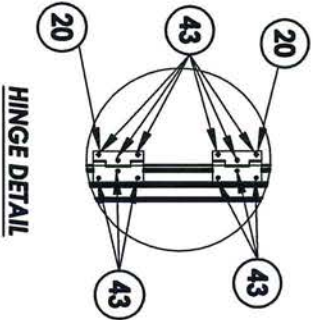
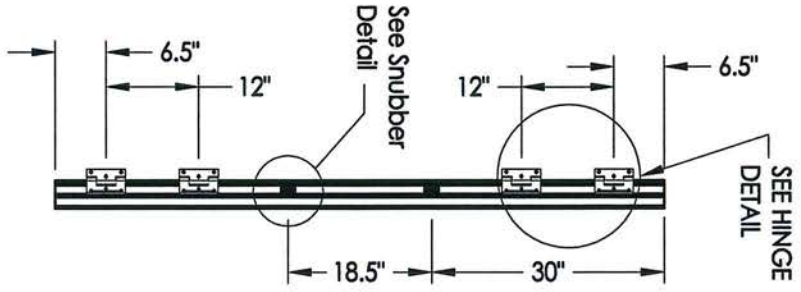
PRODUCT:  
**FLEETWOOD  
KONA 3800  
CASEMENT WINDOW**

PART OR ASSEMBLY:  
**FRAME ANCHORING**

NO.	DATE	REVISIONS	BY

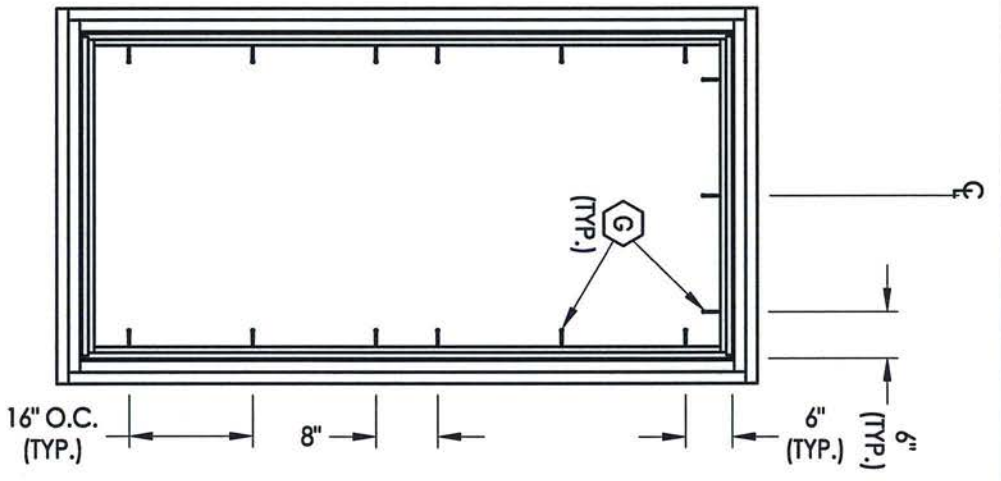
**RW** BUILDING CONSULTANTS, INC.  
813.659.9197

DATE: **9/25/13**  
SCALE: **N.T.S.**  
DWG. BY: **JK**  
CHK. BY: **LFS**  
DRAWING NO.: **L-7031**  
SHEET **8** OF **13**



**HINGE JAMB**

**HINGE DETAIL**

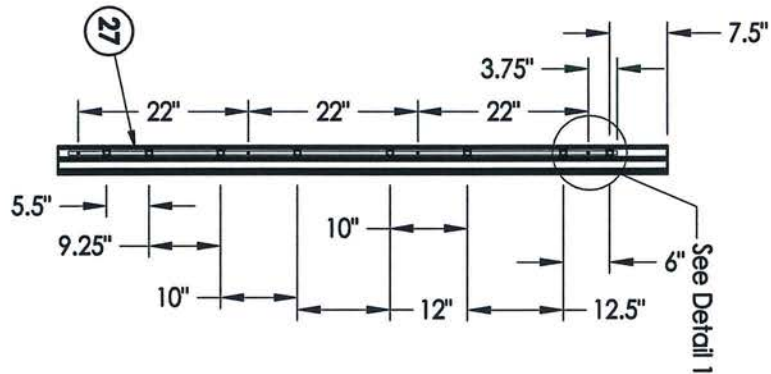


**FRAME ANCHORING**

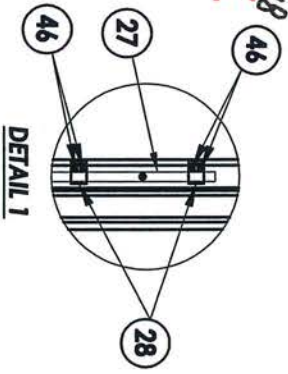
2X buck construction Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 10-31-13 Verified by *gms*



**SNUBBER DETAIL**



**LOCK JAMB**  
 Locking Points (4)

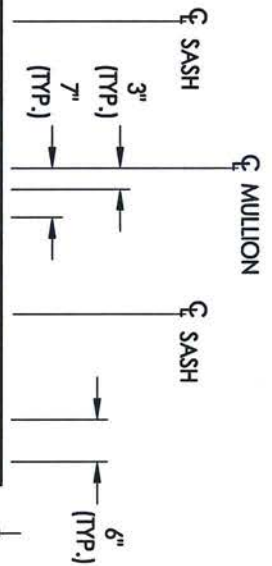
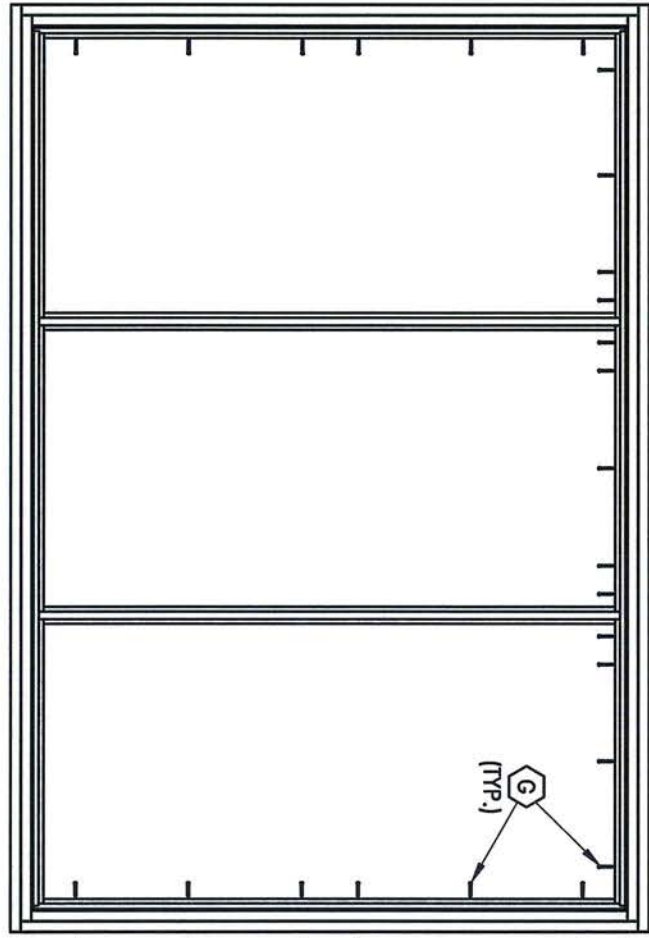
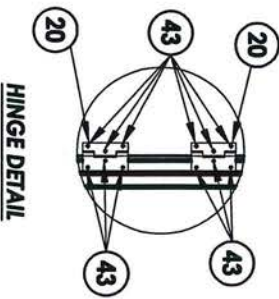
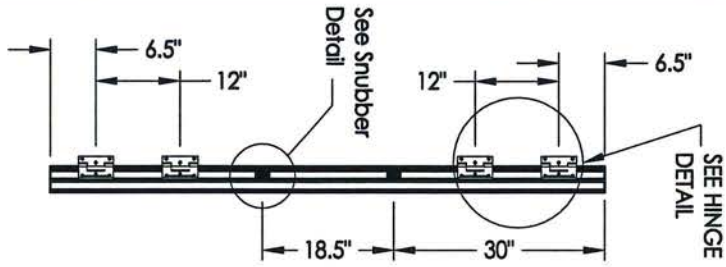


**DETAIL 1**

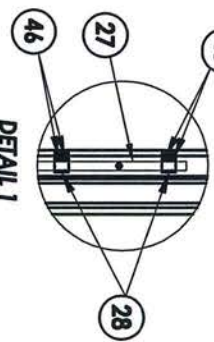
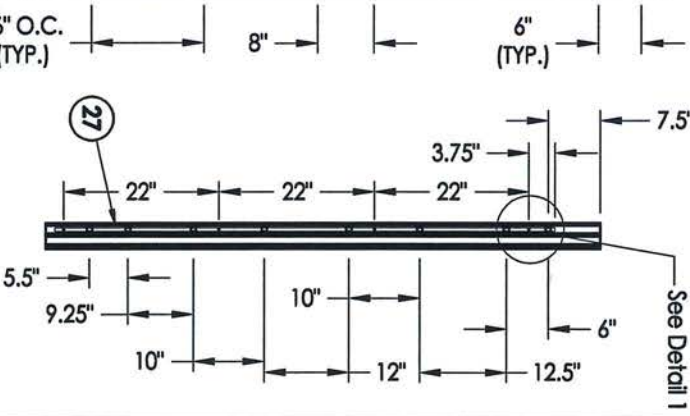
DATE: 9/25/13	 RBM BUILDING CONSULTANTS, INC. 813.659.9197
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: L-7031	
SHEET 9 OF 13	

NO.	DATE	BY	REVISIONS

PRODUCT:	FLEETWOOD KONA 3800 CASEMENT WINDOW
PART OR ASSEMBLY:	FRAME ANCHORING



Testing Evaluation Laboratories Inc.  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 10-31-13 Verified by *[Signature]*  
**FRAME ANCHORING**  
 2X buck construction

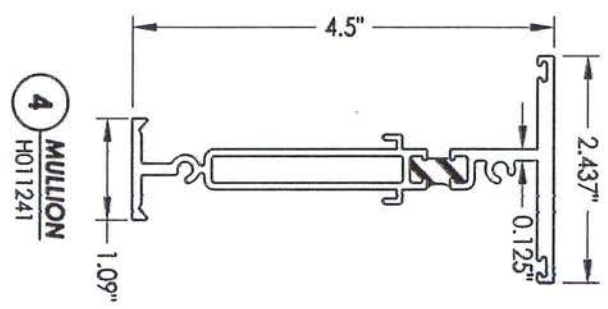
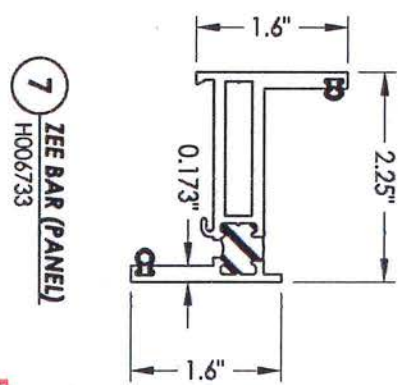
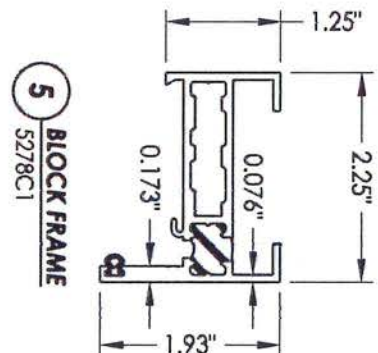
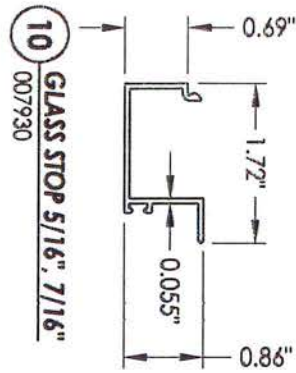
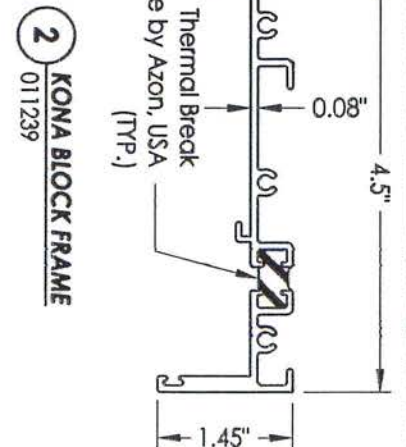
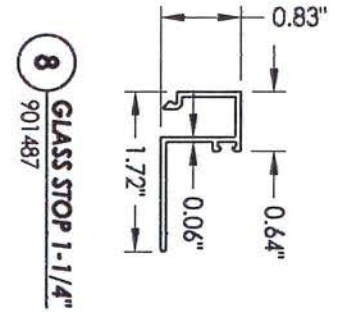
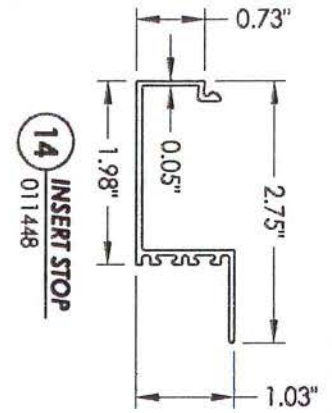


DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7031  
 SHEET 10 OF 13

**R<sup>M</sup>** BUILDING CONSULTANTS, INC.  
 813.659.9197

NO.	DATE	REVISIONS	BY

PRODUCT: **FLEETWOOD KONA 3800 CASEMENT WINDOW**  
 PART OR ASSEMBLY: **FRAME ANCHORING**



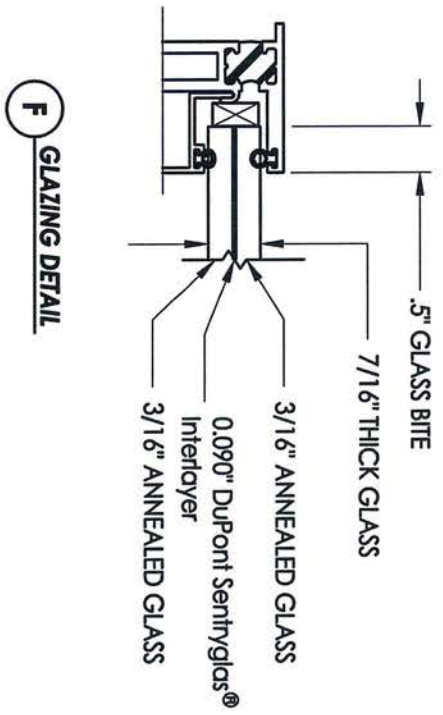
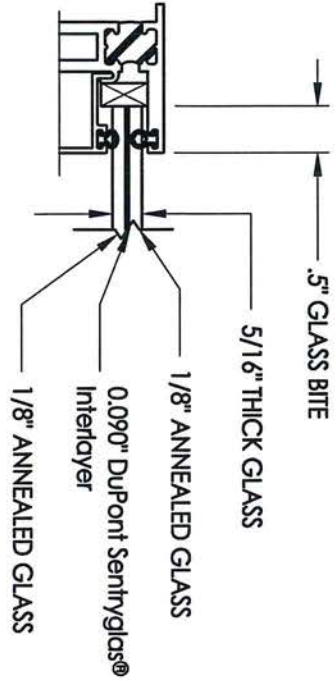
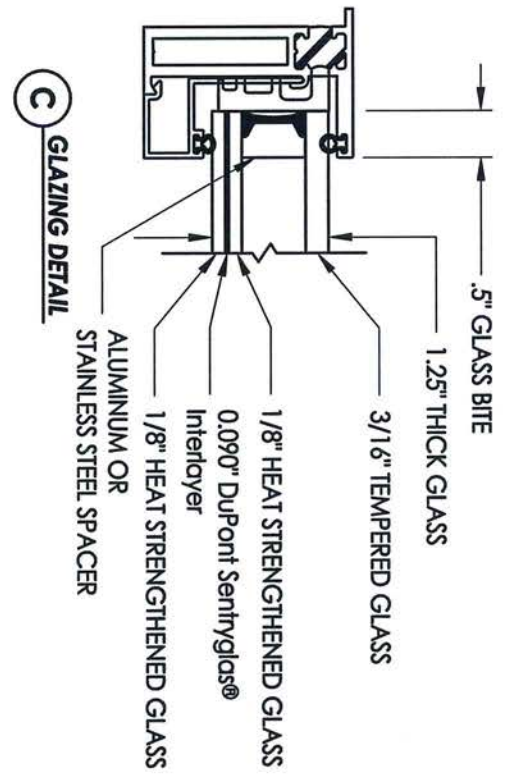
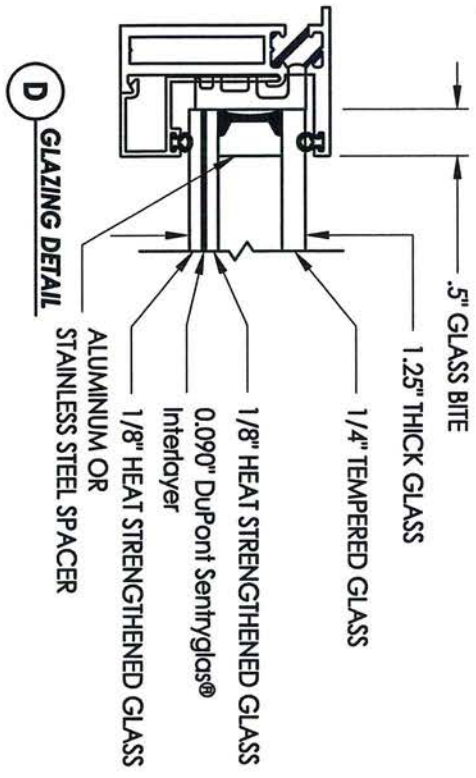
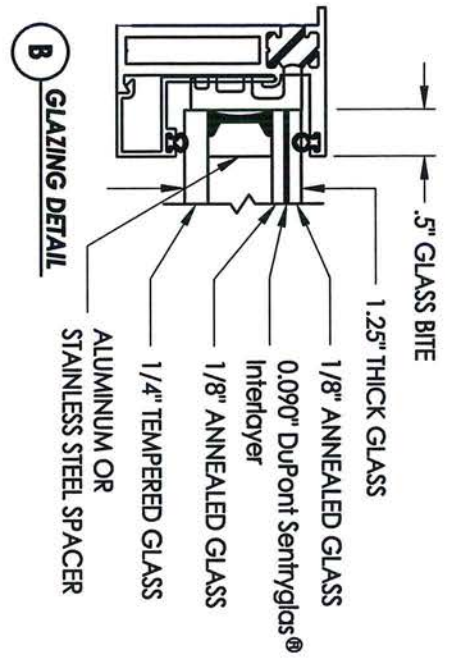
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gsl*

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW	
PART OR ASSEMBLY:		COMPONENTS	

NO.	DATE	BY	REVISIONS

**RW** BUILDING CONSULTANTS, INC.  
 813.659.9197

DATE:	9/25/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7031
SHEET	11 OF 13



Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TBL # 01990818  
 Date 10-31-13 Verified by *gru*

DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7031 SHEET 12 OF 13	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW PART OR ASSEMBLY: GLAZING DETAILS	NO.	DATE	BY
		REVISIONS		



BILL OF MATERIALS		MATERIAL
ITEM #	DESCRIPTION	
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
G	#10 X 2" PPH WOOD SCREW	STEEL
2	KONA BLOCK FRAME	6063-T6 ALUM
4	MULLION	6063-T6 ALUM
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
9	GLASS STOP (1/4")	6063-T6 ALUM
10	GLASS STOP (5/16", 7/16")	6063-T6 ALUM
11	#8 X 1-1/2" PPH SMS	STEEL
12	SHEAR BLOCK	ALUM
13	CORNER KEY	ALUM
14	INSERT STOP	6063-T6 ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE	SS
26	3 POINTS LOCKING BAR	SS
27	4 POINTS LOCKING BAR	SS
28	TIE BAR GUIDE	-
29	KEEPER	SS
30	CASEMENT ROTOR GEAR 13.5"	SS
35	CAM HANDLE / STRIKE PLATE	SS

36	CASEMENT SS. TRACK	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINE SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10, UFHP .5"	STEEL
44	SCREW NO 8, PHP .50"	STEEL
46	SCREW NO 8, FHP .750"	STEEL
47	MACHINE SCREW NO 10-32, PHP .5"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
52	WOOD BLOCK .750" X 1.250"	-
53	ALUMINUM BLOCK .750" X 1.250"	-
54	PVC BLOCK .750" X 1.250"	-
55	SETTING BLOCK	-
56	SETTING BLOCK 4" x 1/4" x 1"	-
57	PIVOT SHIM	-
58	WOOD BLOCK .50" X 1.250"	-
59	ALUMINUM BLOCK .50" X 1.250"	-
60	PVC BLOCK .50" X 1.250"	-
61	SETTING BLOCK 4" x 1/8" x 1"	-

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gms*

PRODUCT:

FLEETWOOD  
 KONA 3800  
 CASEMENT WINDOW

PART OR ASSEMBLY:

BILL OF MATERIALS

NO.	DATE	BY	REVISIONS



**RW** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7031  
 SHEET 13 OF 13

**TABLE OF CONTENTS**

SHEET #	DESCRIPTION
1	Table of contents
2	Test elevation
3	Vertical cross sections
4	Horizontal cross sections
5	Horizontal cross sections
6	Horizontal cross sections
7	Vertical cross sections
8	Frame anchoring
9	Frame anchoring
10	Components
11	Glazing details
12	Bill of materials

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10.31.13 Verified by *gws*

PRODUCT:  
 FLEETWOOD  
 KONA 3800 CASEMENT WINDOW

PART OR ASSEMBLY:  
 TABLE OF CONTENTS

NO.	DATE	BY

REVISIONS



DATE: 9/25/13

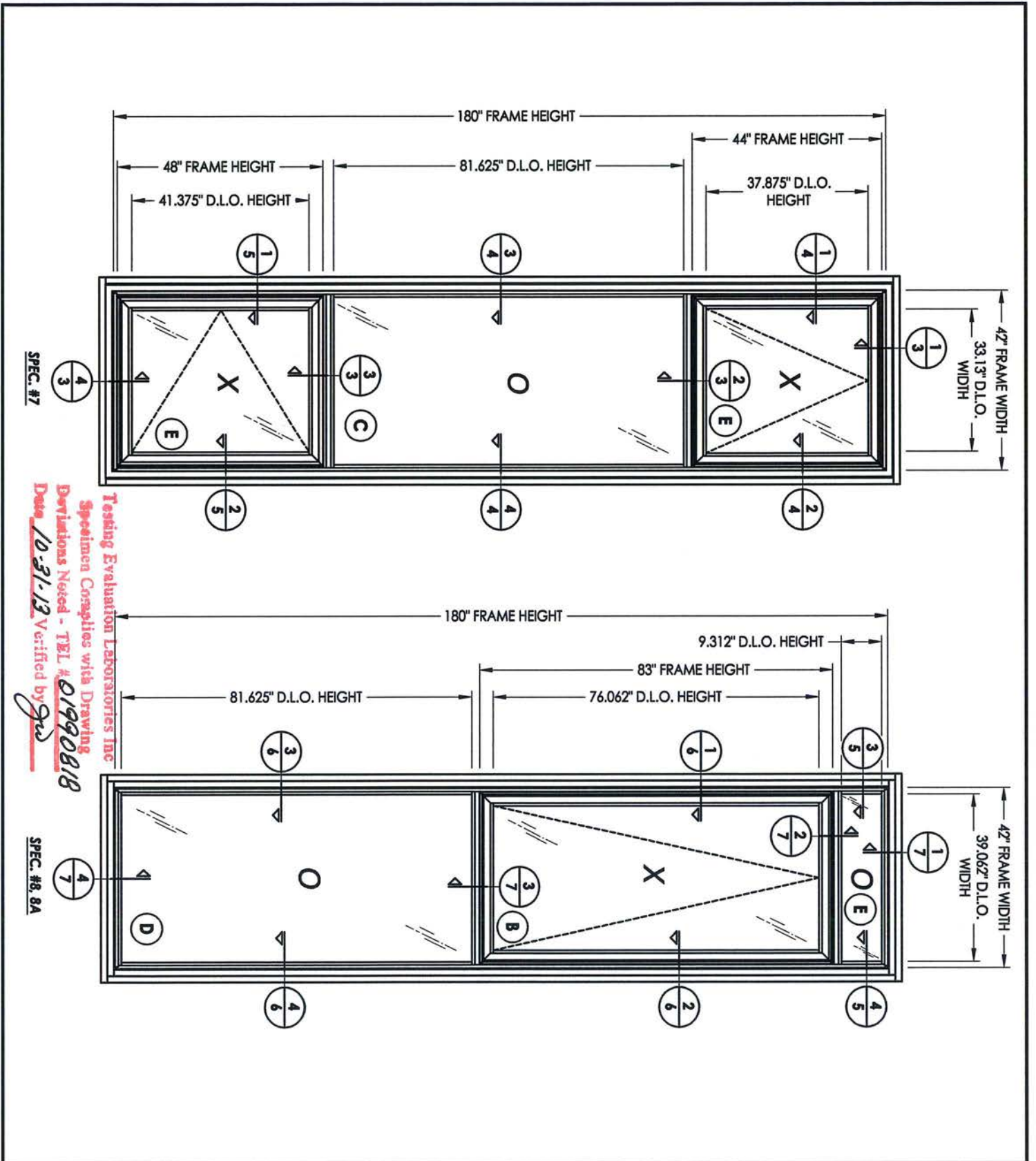
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DWG. BY: JK

CHK. BY: LFS

DRAWING NO.: L-7032

SHEET 1 OF 12

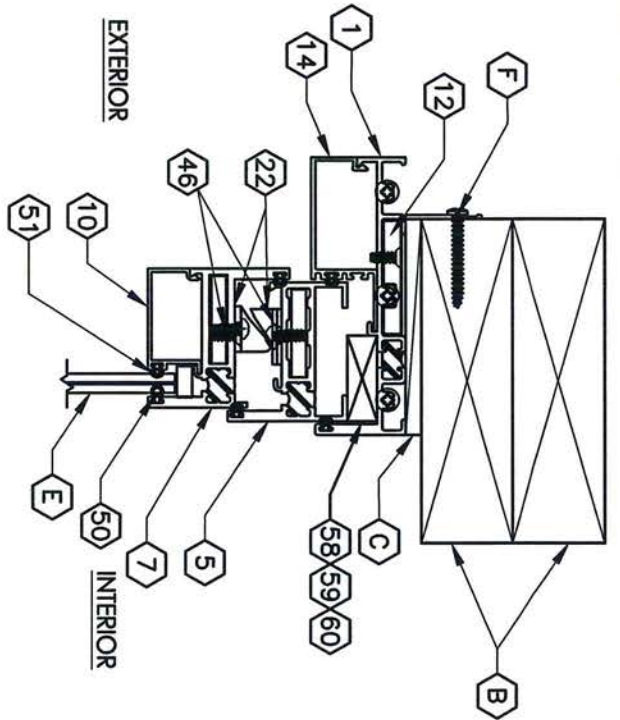


SPEC. #7

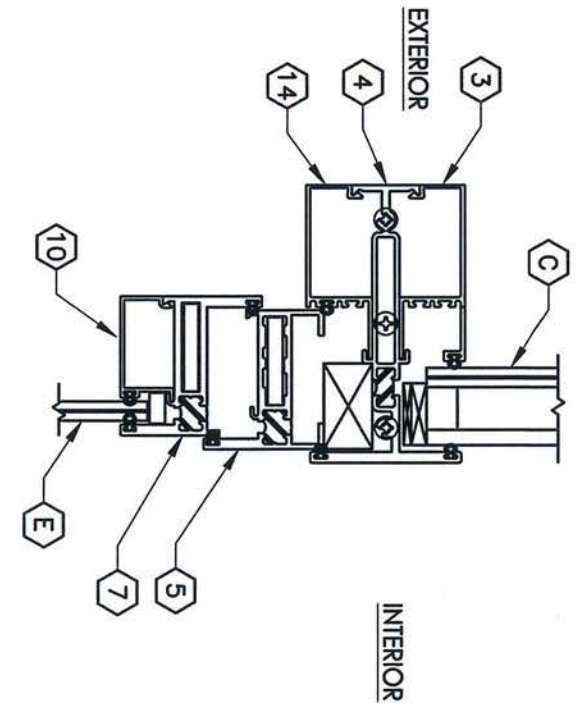
Testing Evaluation Laboratories Inc  
 Specimen Correlates with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gud*

SPEC. #8, 8A

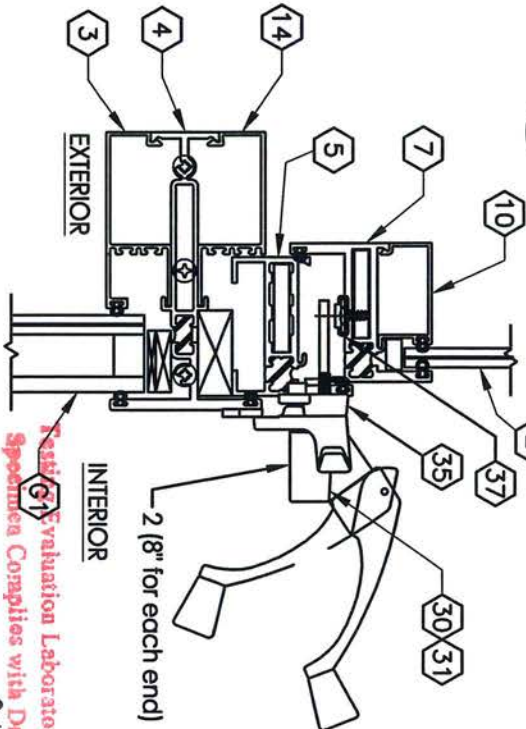
DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7032 SHEET 2 OF 12	RWB BUILDING CONSULTANTS, INC. 813.659.9197	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
		PART OR ASSEMBLY: TEST ELEVATION	
NO. DATE REVISIONS BY		NO. DATE REVISIONS BY	



1  
3  
VERTICAL CROSS SECTION

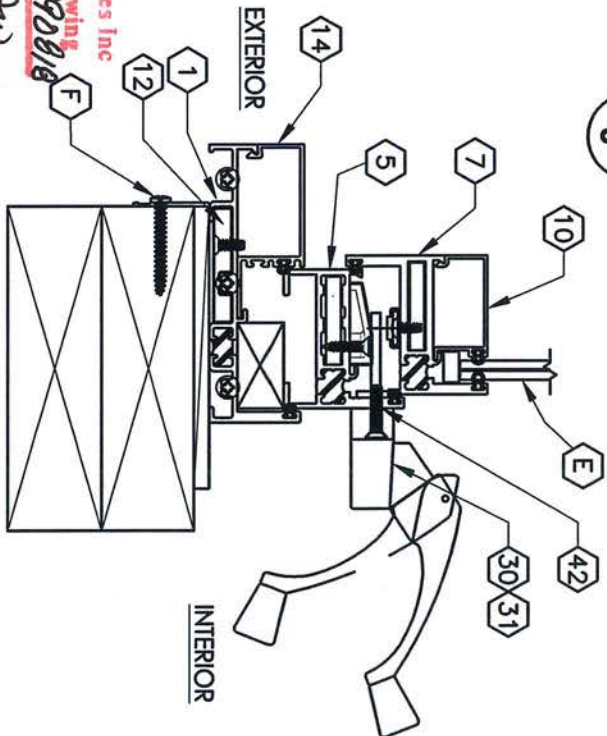


3  
3  
VERTICAL CROSS SECTION



2  
3  
VERTICAL CROSS SECTION

Test Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gms*



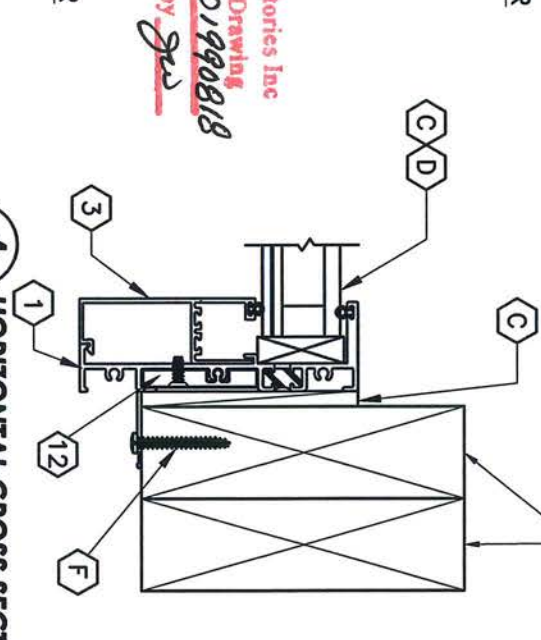
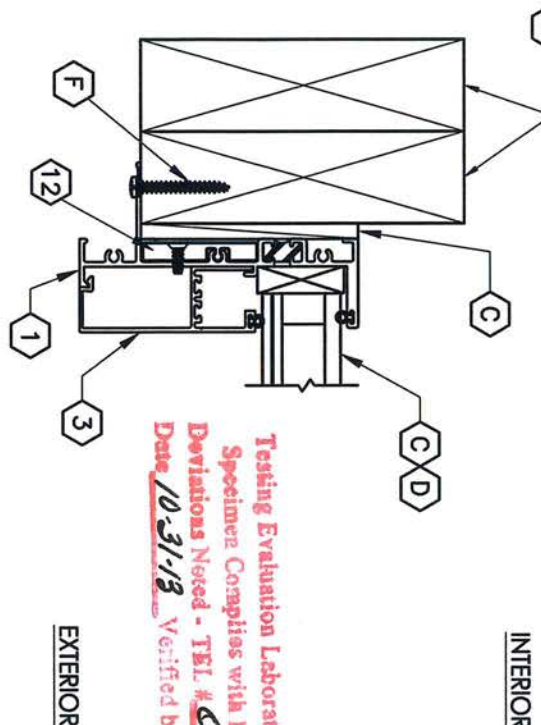
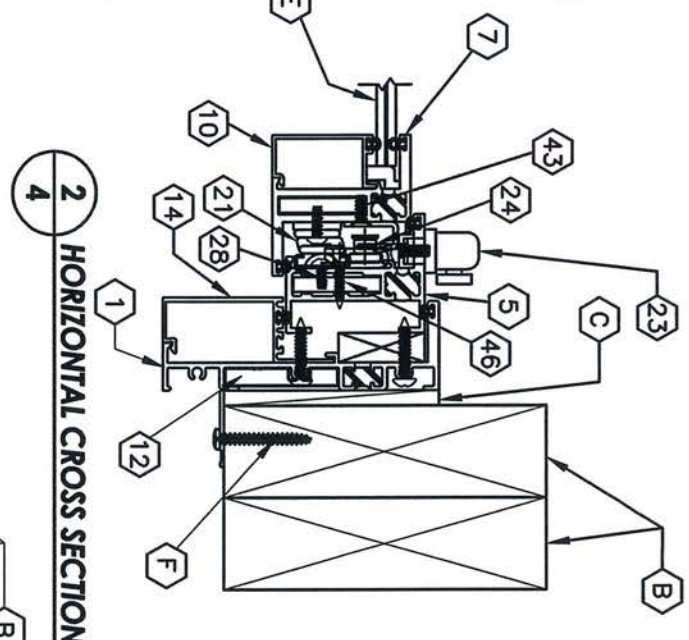
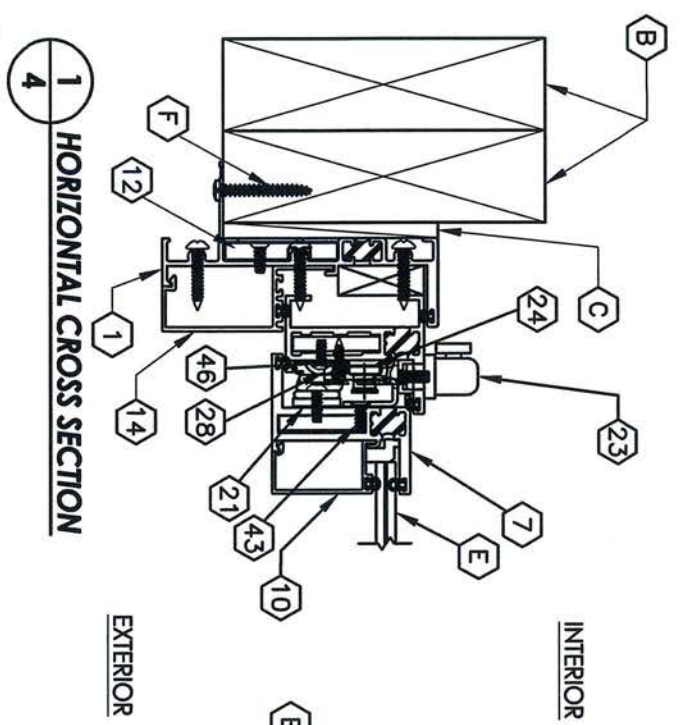
4  
3  
VERTICAL CROSS SECTION

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW
PART OR ASSEMBLY:		VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

**RW BUILDING CONSULTANTS, INC.**  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032  
 SHEET 3 OF 12



Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL. # 01990818  
 Date 10-31-13 Verified by *[Signature]*

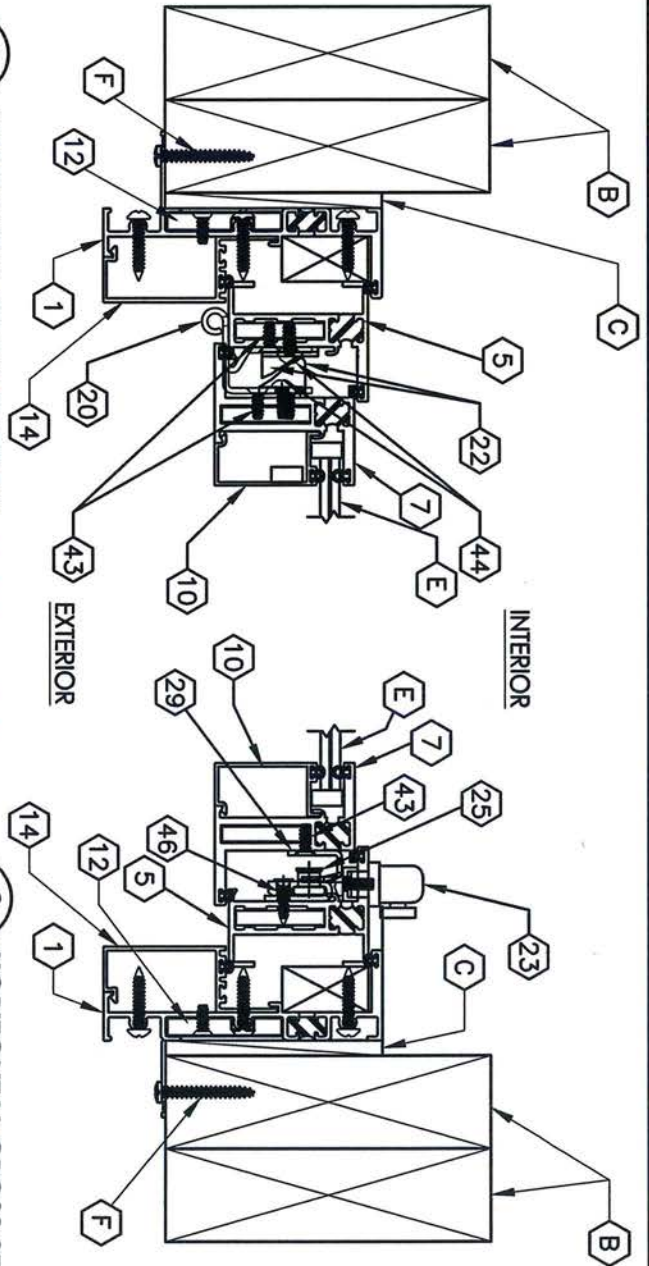
PRODUCT:  
 FLEETWOOD  
 KONA 3800 CASEMENT WINDOW

PART OR ASSEMBLY:  
 HORIZONTAL  
 CROSS SECTIONS

NO.	DATE	REVISIONS	BY

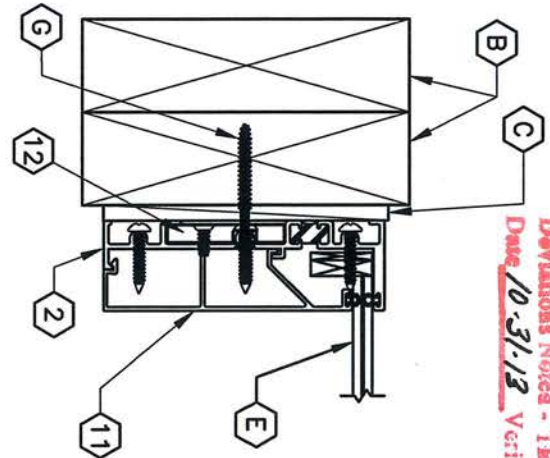
**RW** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032  
 SHEET 4 OF 12

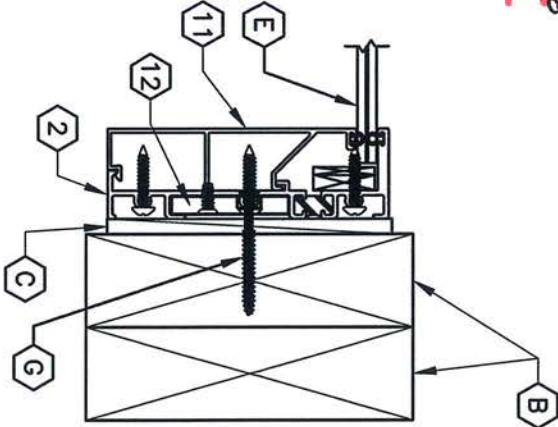


**1 HORIZONTAL CROSS SECTION**

Specification Laboratories Inc  
 Specimen Correlates with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by [Signature]



**3 HORIZONTAL CROSS SECTION**



**4 HORIZONTAL CROSS SECTION**

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW	
PART OR ASSEMBLY:		HORIZONTAL CROSS SECTIONS	

NO.	DATE	REVISIONS	BY

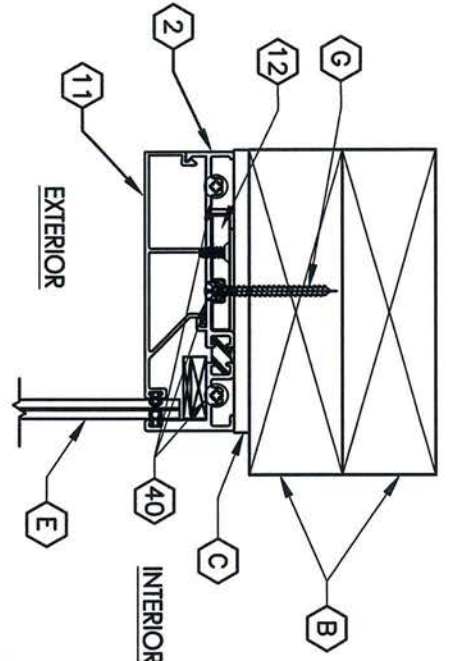
**R<sub>W</sub>** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197

DATE:	9/25/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7032
SHEET	5 of 12

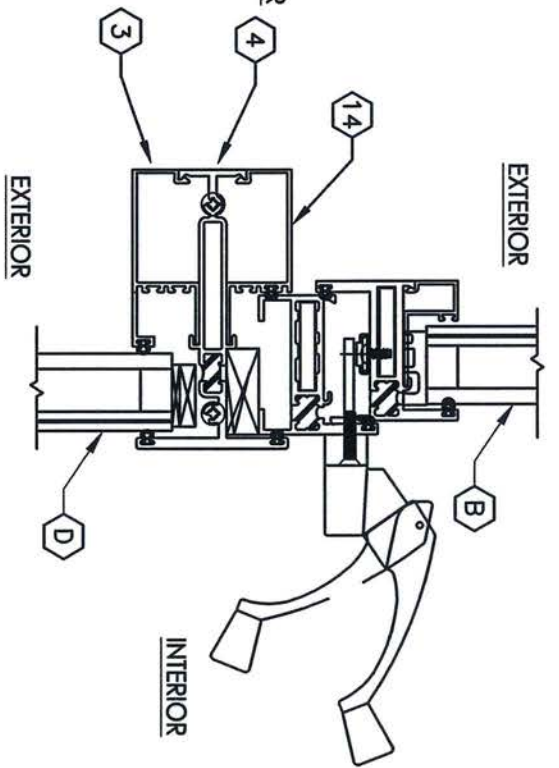


Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gpc*

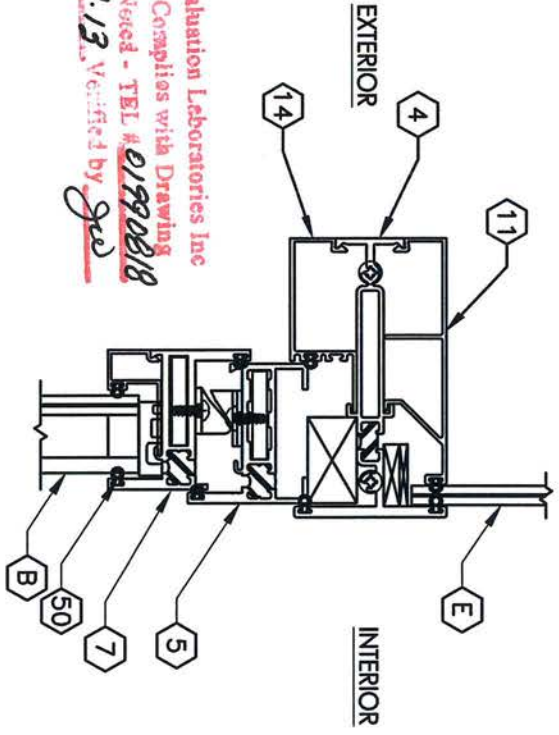
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7  
VERTICAL CROSS SECTION



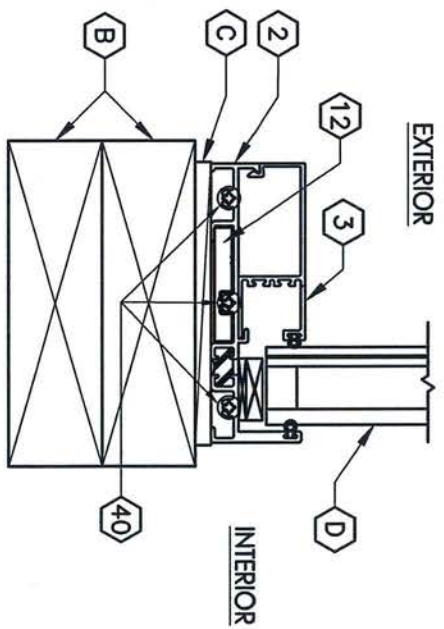
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7  
VERTICAL CROSS SECTION



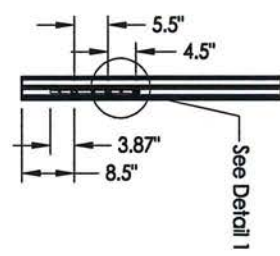
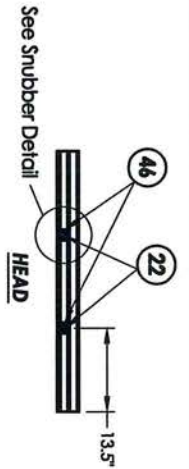
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7  
VERTICAL CROSS SECTION



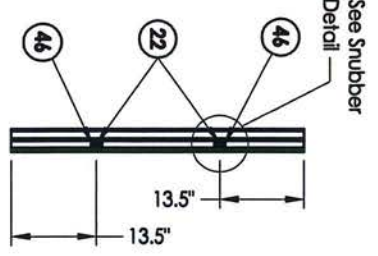
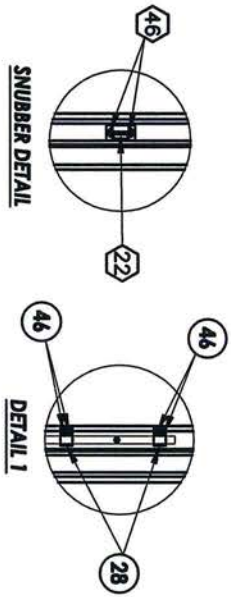
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7  
VERTICAL CROSS SECTION



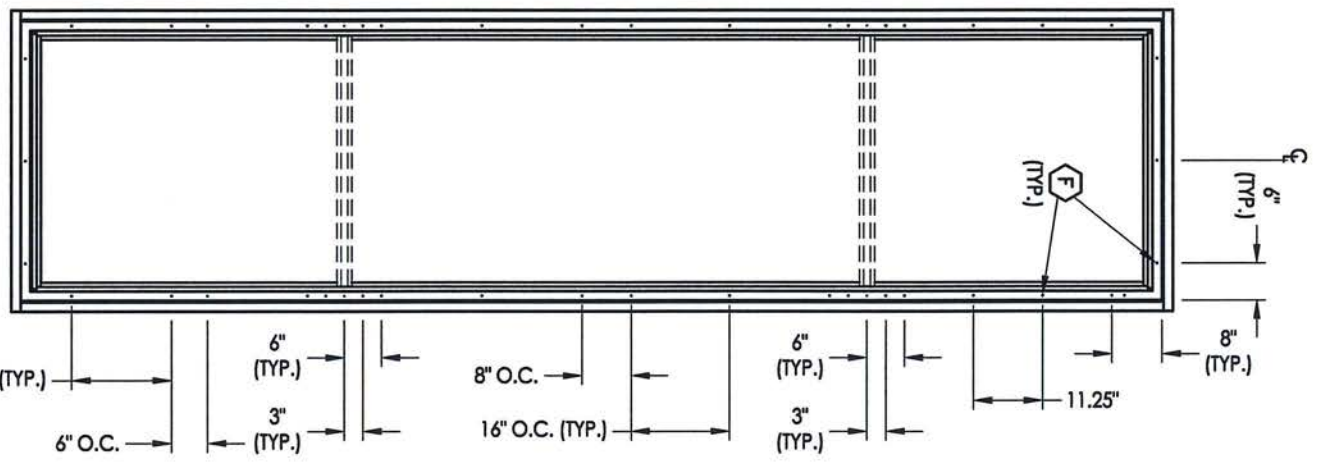
DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7032 SHEET 7 of 12	RQM BUILDING CONSULTANTS, INC. 813.659.9197	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
		PART OR ASSEMBLY: VERTICAL CROSS SECTIONS	
NO. DATE REVISIONS BY		NO. DATE REVISIONS BY	



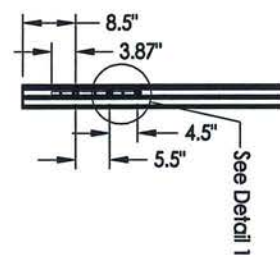
**LOCK JAMB**  
Single Point Lock  
(Jamb Sides Horizontal Avring)



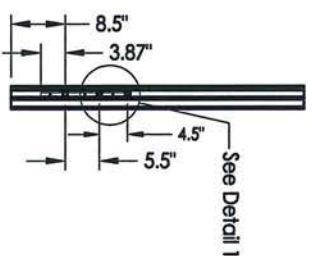
**SNUBBER JAMB**  
(Casement)



**FRAME ANCHORING**  
2X buck construction  
w / Nail Fin



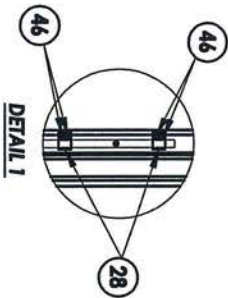
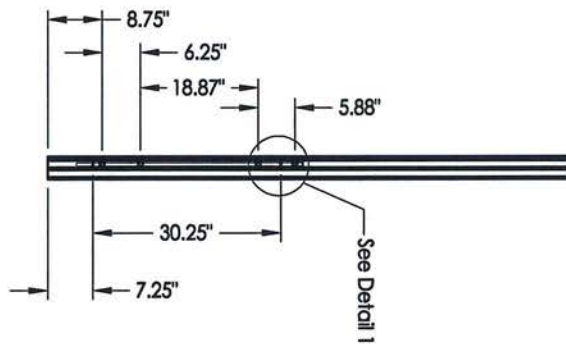
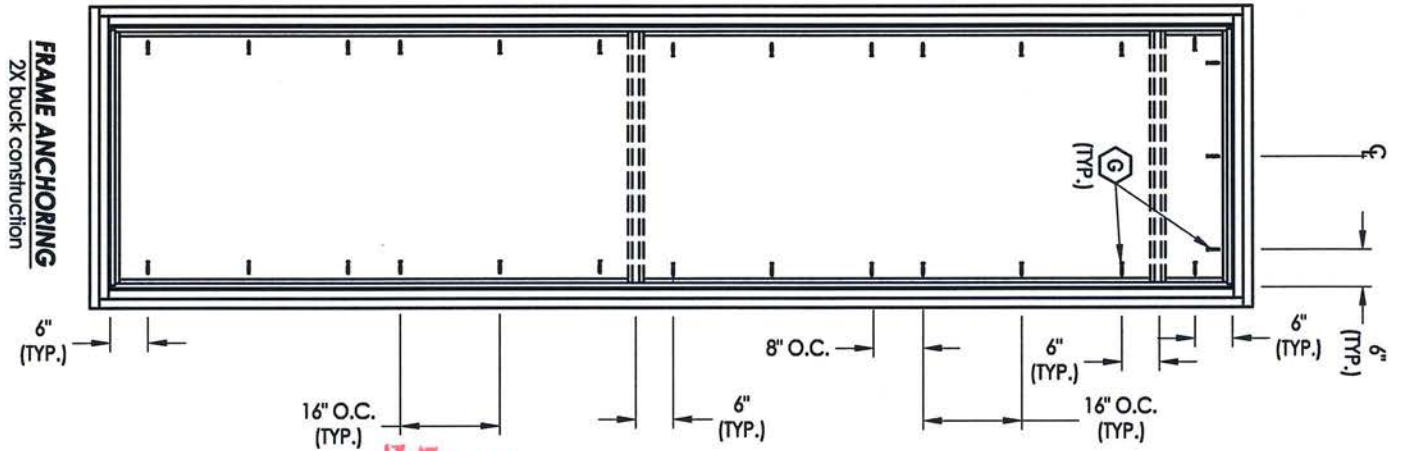
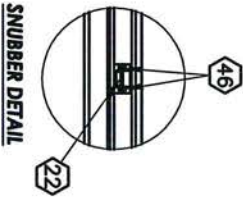
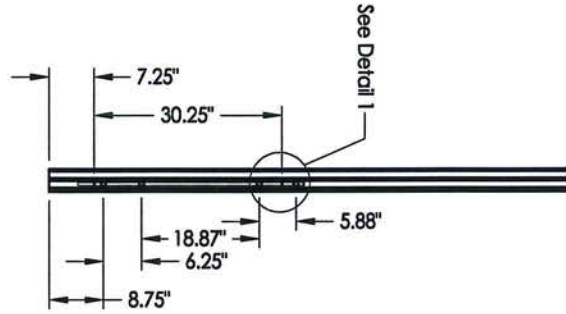
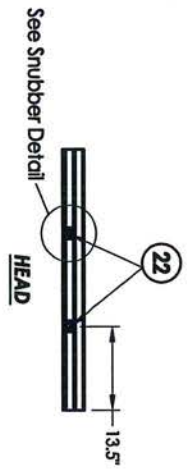
**LOCK JAMB**  
Single Point Lock  
(Jamb Sides Horizontal Avring)



**LOCK JAMB**  
Two Point Lock  
(Casement)

Testing Evaluation Laboratories Inc  
Specimen Complies with Drawing  
Deviations Noted - TSL # 01990818  
Date 10-31-13, Verified by *gpd*

R9W BUILDING CONSULTANTS, INC. 813.659.9197	DATE: 9/25/13	SCALE: N.T.S.	DWG. BY: JK	CHK. BY: LFS	DRAWING NO.: L-7032	SHEET 8 OF 12
	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW PART OR ASSEMBLY: FRAME ANCHORING					
NO.	DATE	REVISIONS	BY			



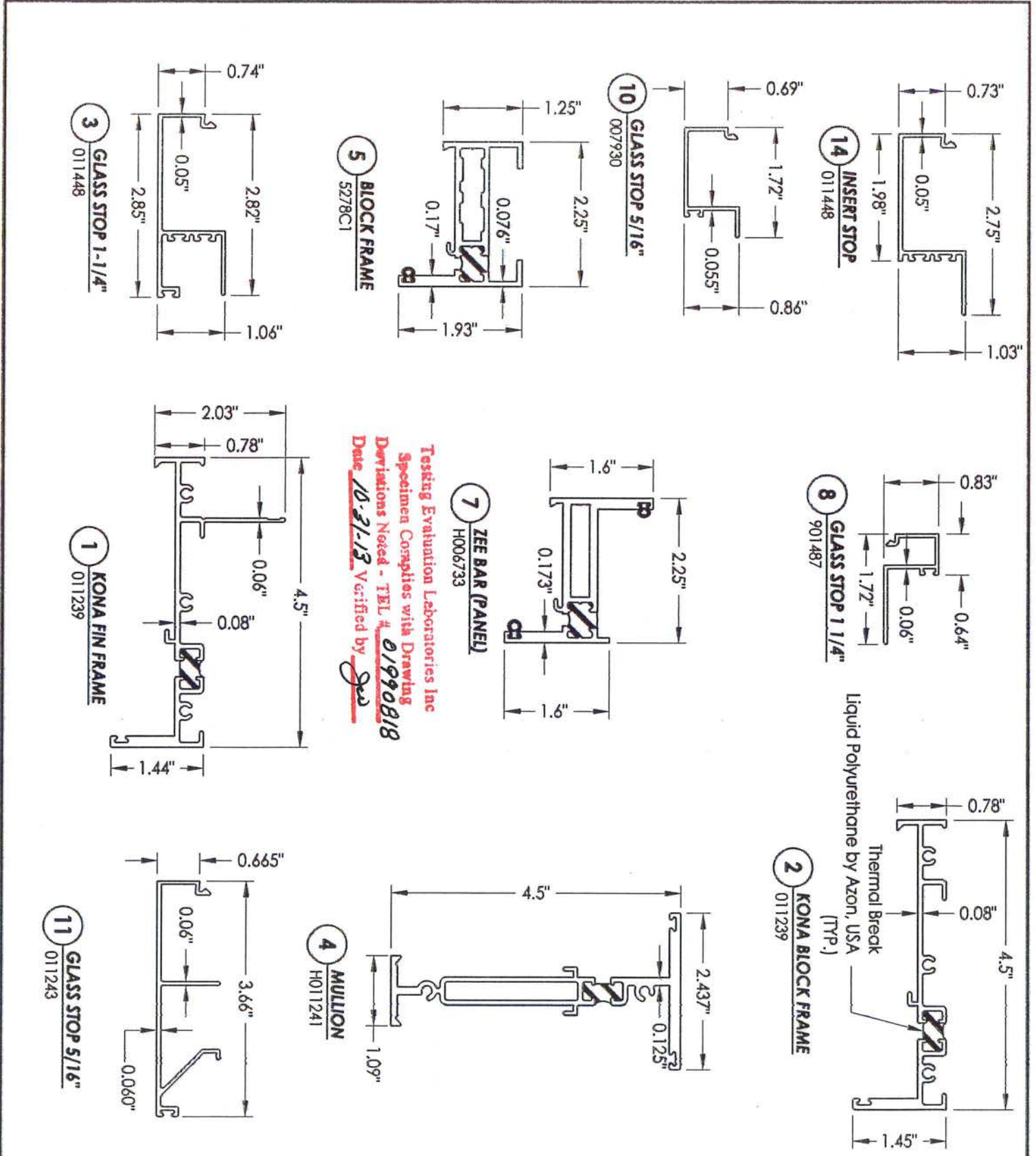
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *[Signature]*

**FRAME ANCHORING**  
 2X buck construction

**LOCK JAMB**  
 Two Point Lock  
 (Casement)

**LOCK JAMB**  
 Two Point Lock  
 (Casement)

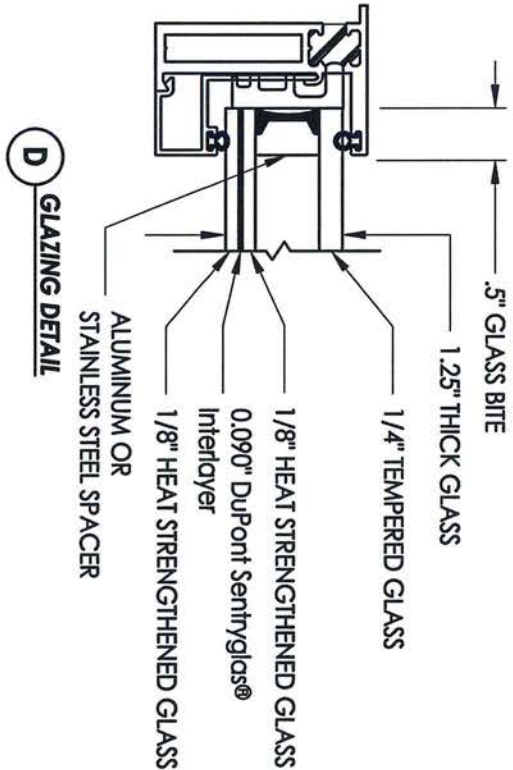
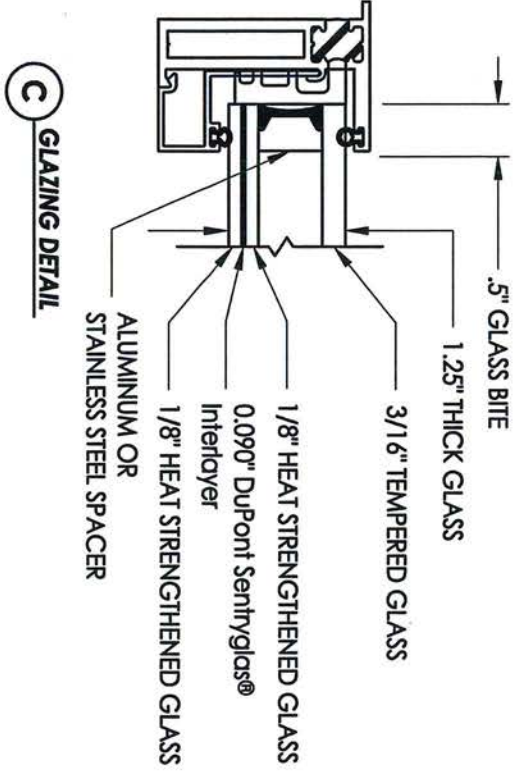
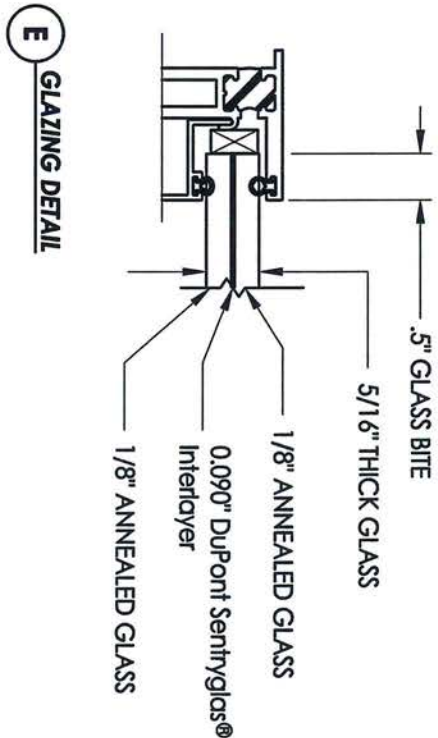
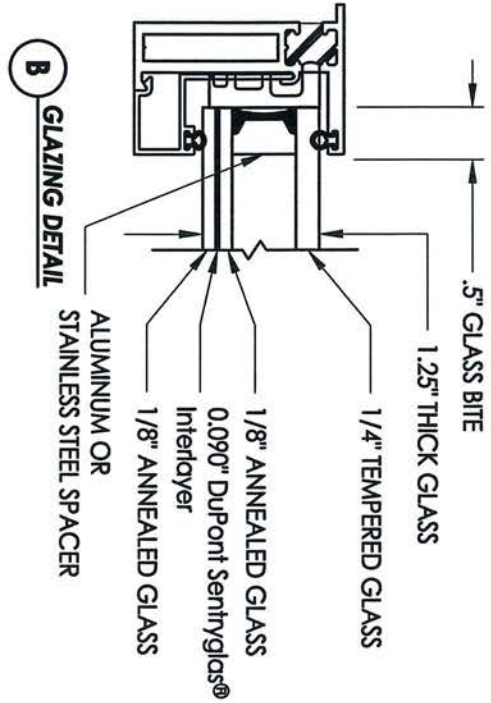
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	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW PART OR ASSEMBLY: FRAME ANCHORING														
REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 30%;">DATE</th> <th style="width: 60%;">BY</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>							NO.	DATE	BY						
NO.	DATE	BY													



PRODUCT: <b>FLEETWOOD KONA 3800 CASEMENT WINDOW</b>		
PART OR ASSEMBLY: <b>COMPONENTS</b>		
NO.	DATE	BY
REVISIONS		

**RW BUILDING  
CONSULTANTS, INC.**  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032  
 SHEET 10 of 12



Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gms*

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW	
PART OR ASSEMBLY:		GLAZING DETAILS	

NO.	DATE	BY	REVISIONS

**R<sup>9</sup>W** BUILDING CONSULTANTS, INC.  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032  
 SHEET 11 OF 12

BILL OF MATERIALS		MATERIAL
ITEM #	DESCRIPTION	
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
F	#10 x 1-1/2" PFH WOOD SCREW	STEEL
G	#10 x 2" PFH WOOD SCREW	STEEL
1	KONA FIN FRAME	6063-T6 ALUM
2	KONA BLOCK FRAME	6063-T6 ALUM
3	GLASS STOP 1 1/4"	6063-T6 ALUM
4	MULLION	6063-T6 ALUM
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP 1 1/4"	6063-T6 ALUM
10	GLASS STOP 1/2"	6063-T6 ALUM
11	GLASS STOP 5/8"	6063-T6 ALUM
12	SHEAR BLOCK	ALUM
13	CORNER KEY	ALUM
14	INSERT STOP	ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	ZINC ALLOY
23	MULTIPOINT LOCK HANDLE	SS
24	SINGLE POINT LOCKING BAR	SS
25	2 POINTS LOCKING BAR	SS
28	TIE BAR GUIDE	PLASTIC
29	KEEPER	SS
30	CASEMENT ROTOR GEAR 13.5"	SS
35	CAM HANDLE / STRIKE PLATE	SS
36	CASEMENT SS. TRACK	SS
37	AWNING SS. TRACK	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINE SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10, UFHP .5"	STEEL
44	SCREW NO 8, FHP, .50"	STEEL

46	SCREW NO 8, FHP, .750"	STEEL
47	MACHINE SCREW NO 10-32, PHP .5"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
52	WOOD BLOCK .750" X 1.250"	-
53	ALUMINUM BLOCK .750" X 1.250"	-
54	PVC BLOCK .750" X 1.250"	-
55	SETTING BLOCK	-
56	SETTING BLOCK 4" x 1" x 1"	-
57	PIVOT SHIM	-
58	WOOD BLOCK .50" X 1.250"	-
59	ALUMINUM BLOCK .50" X 1.250"	-
60	PVC BLOCK .50" X 1.250"	-
61	SETTING BLOCK 4" x 1/8" x 1"	-

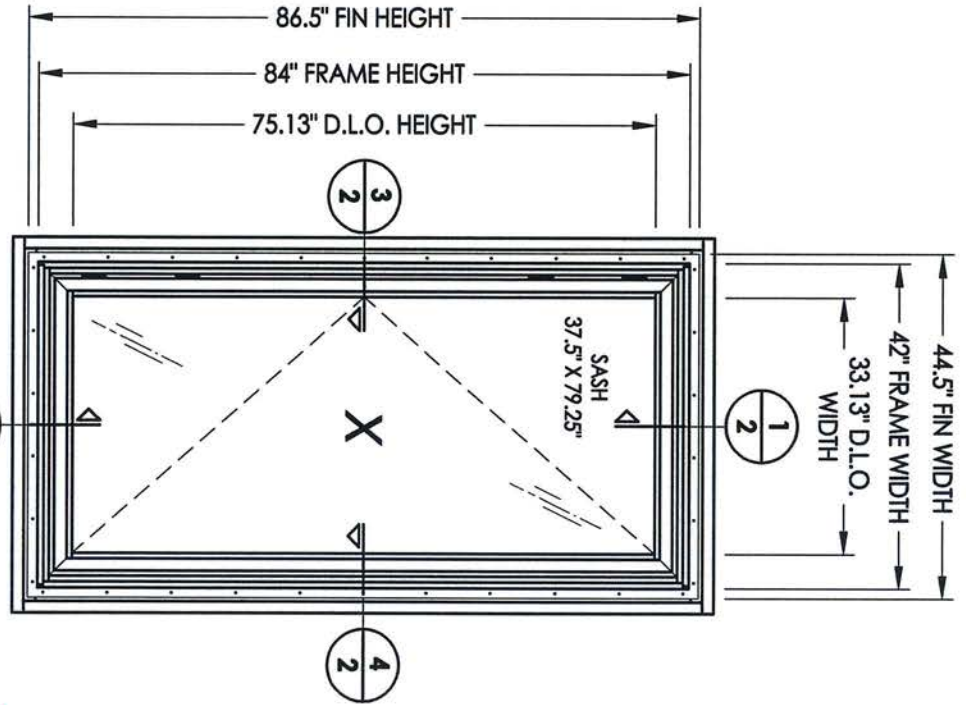
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10.31.13 Verified by *gms*

PRODUCT: FLEETWOOD  
 KONA 3800 CASEMENT WINDOW  
 PART OR ASSEMBLY: BILL OF MATERIALS

NO.	DATE	REVISIONS	BY



DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032  
 SHEET 12 OF 12



SPEC# 2, 2A GLASS TYPE A  
 SPEC# 5, 5A GLASS TYPE C

Testing Evaluation Laboratories Inc  
 Specimen Consolies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-12 Verified by *gws*

TABLE OF CONTENTS

SHEET #	DESCRIPTION
1	Table of contents and test elevation
2	Horizontal and vertical cross sections
3	Frame anchoring
4	Components and glazing details
5	Bill of materials

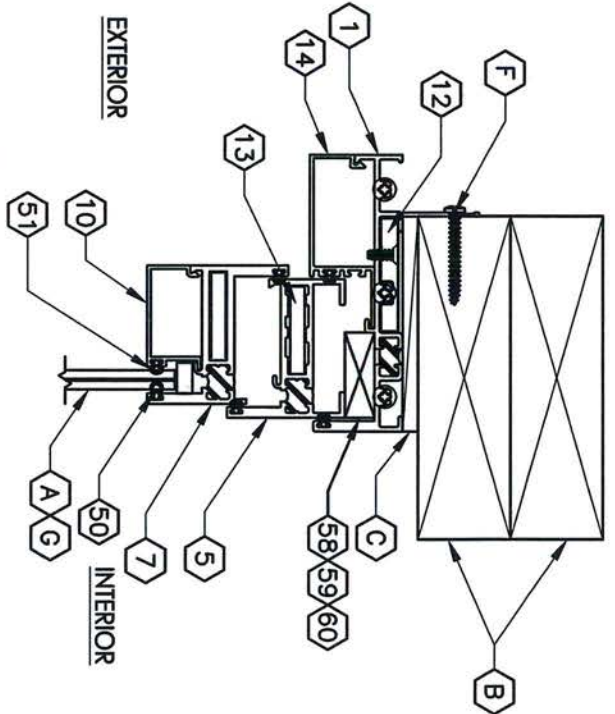
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 KONA 3800 CASEMENT WINDOW

PART OR ASSEMBLY:  
 TABLE OF CONTENTS  
 AND TEST ELEVATION

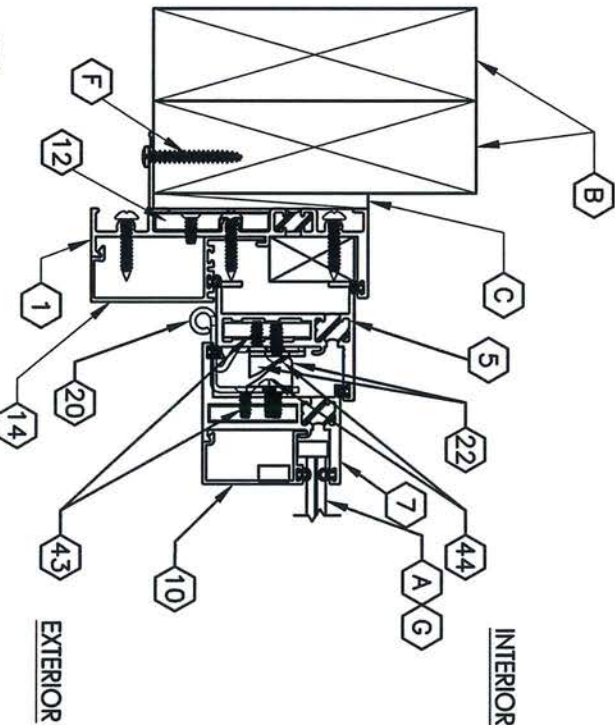
NO.	DATE	BY

**RM** BUILDING  
 CONSULTANTS, INC.  
 813.659.9197

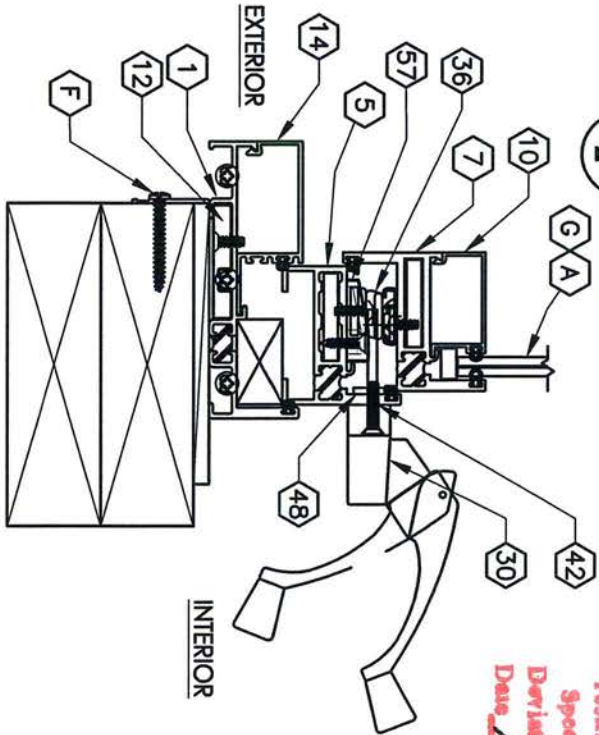
DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032A  
 SHEET 1 OF 5



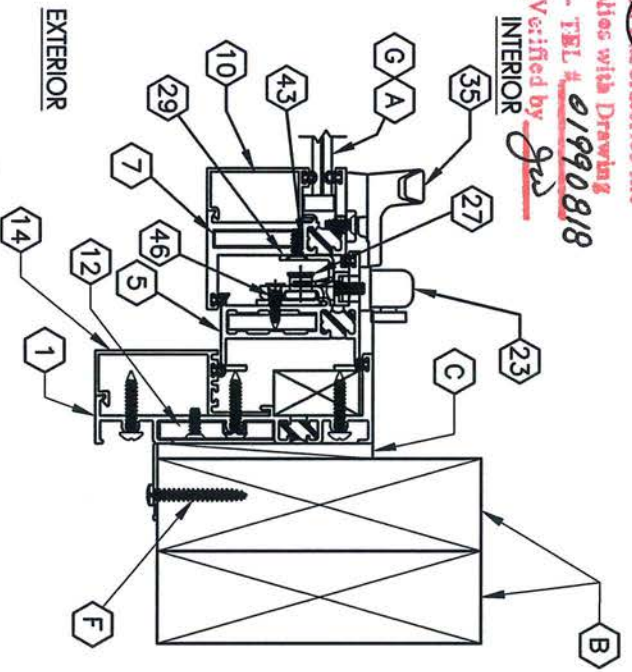
1 VERTICAL CROSS SECTION



3 HORIZONTAL CROSS SECTION



2 VERTICAL CROSS SECTION



4 HORIZONTAL CROSS SECTION

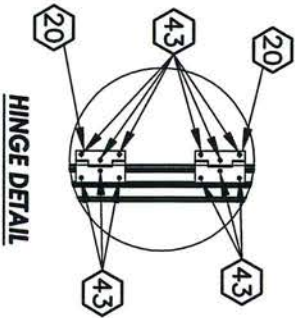
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gws*

PRODUCT:		FLEETWOOD KONA 3800 CASEMENT WINDOW
PART OR ASSEMBLY:		HORIZONTAL AND VERTICAL CROSS SECTIONS

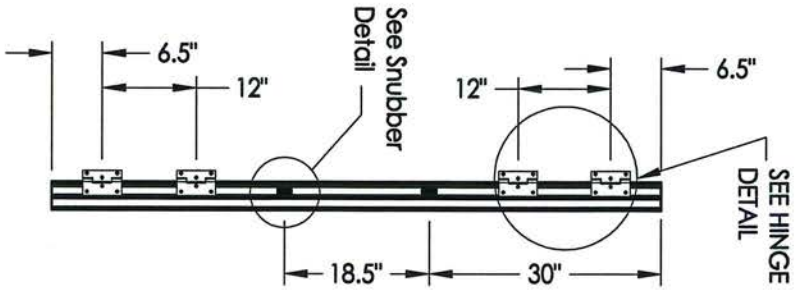
NO.	DATE	REVISIONS	BY

**RBC** BUILDING CONSULTANTS, INC.  
 813.659.9197

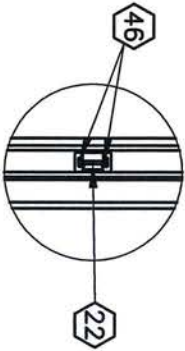
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SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7032A
SHEET	2 OF 5



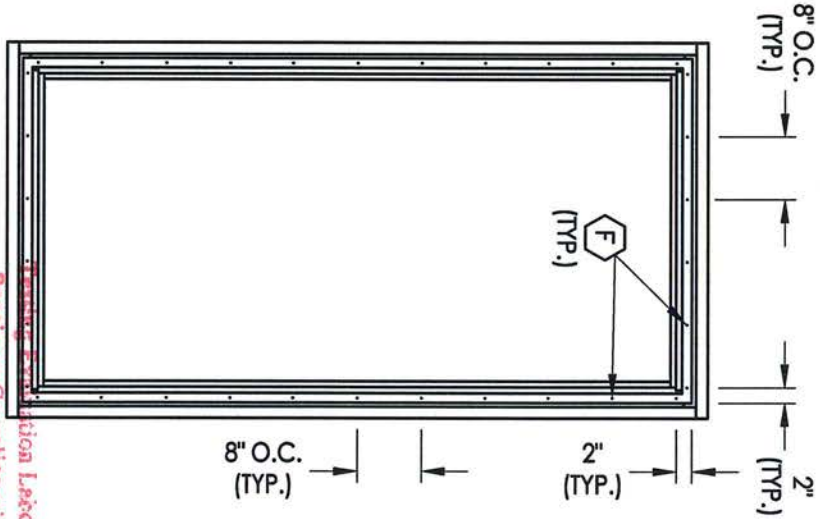
**HINGE DETAIL**



**HINGE JAMB**

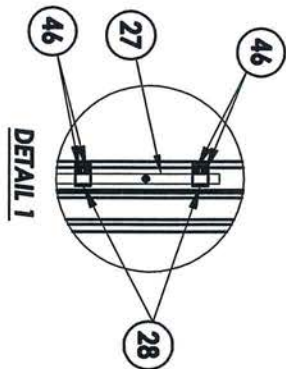


**SNUBBER DETAIL**

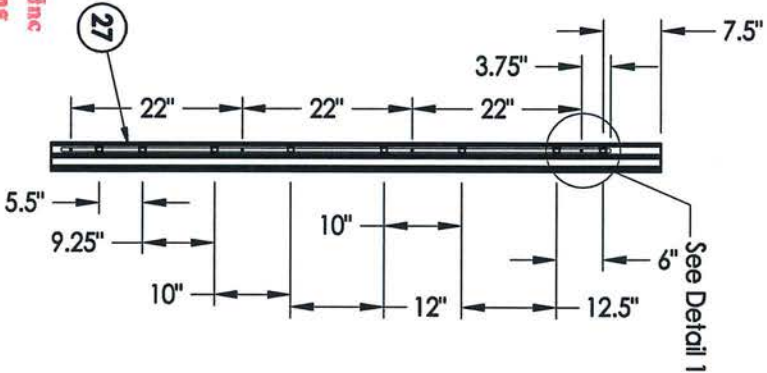


**FRAME ANCHORING**  
2X buck construction

*Specimen Complies with Drawing  
Deviations Noted - TEL # 01990818  
Verified by [Signature]*



**DETAIL 1**



**LOCK JAMB**  
Locking Points (4)

DATE: 9/25/13  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: L-7032A  
SHEET 3 OF 5

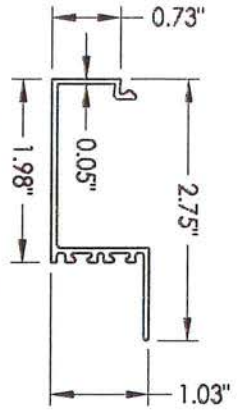
**R<sup>2</sup>M** BUILDING CONSULTANTS, INC.  
813.659.9197

NO.	DATE	REVISIONS	BY

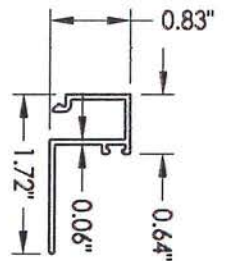
PRODUCT: **FLEETWOOD KONA 3800 CASEMENT WINDOW**

PART OR ASSEMBLY: **FRAME ANCHORING**

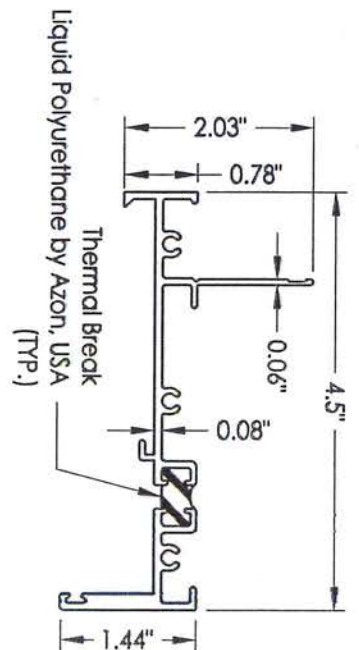
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TBL # 01990818  
 Date 10.31.13 Verified by *gms*



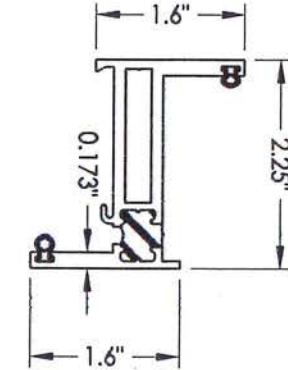
**14** INSERT STOP  
0111448



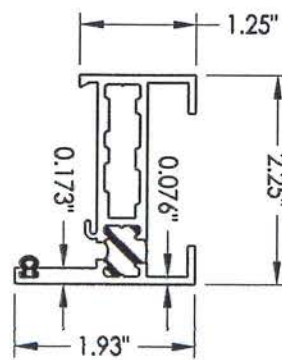
**8** GLASS STOP 1-1/4"  
901487



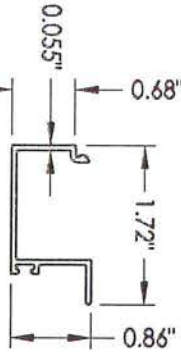
**1** KONA FIN FRAME  
0111239



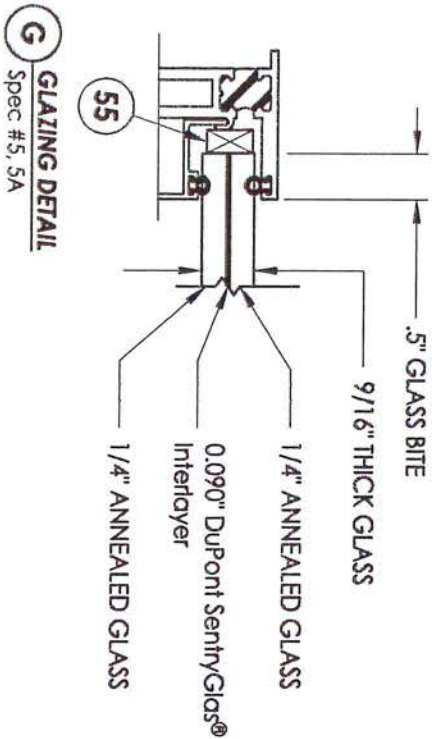
**7** ZEE BAR (PANEL)  
H006733



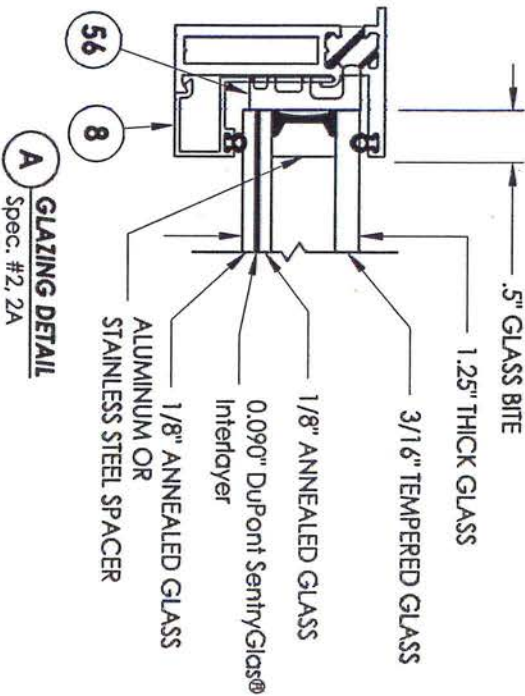
**5** BLOCK FRAME  
5278C1



**10** GLASS STOP 9/16"  
007930



**G** GLAZING DETAIL  
Spec #5, 5A



**A** GLAZING DETAIL  
Spec. #2, 2A

PRODUCT:	FLEETWOOD KONA 3800 CASEMENT WINDOW
PART OR ASSEMBLY:	COMPONENTS AND GLAZING DETAILS

NO.	DATE	REVISIONS	BY

**R<sup>9</sup>W** BUILDING CONSULTANTS, INC.  
 813.659.9197

DATE:	9/25/13
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	L-7032A
SHEET	4 OF 5

BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
F	#10 x 1-1/2" PPH WOOD SCREW	STEEL
G	#10 x 2" PPH WOOD SCREW	STEEL
1	KONA FIN FRAME	6063-T6 ALUM
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP 1 1/4"	6063-T6 ALUM
10	GLASS STOP 1/2"	6063-T6 ALUM
12	SHEAR BLOCK	ALUM
13	CORNER KEY	ALUM
14	INSERT STOP	ALUM
20	SS. BUTT HINGE	SS
22	SNUBBER-COMMERCIAL PULL-IN BLOCK	SS
23	MULTIPOINT LOCK HANDLE	SS
27	4 POINTS LOCKING BAR	SS
28	TIE BAR GUIDE	PLASTIC
29	KEEPER	SS
30	CASEMENT ROTOR GEAR 13.5"	SS
35	CAM HANDLE / STRIKE PLATE	SS
36	CASEMENT SS. TRACK	SS
42	MACHINE SCREW NO 10-32, FHP. .75"	STEEL
43	SCREW NO 10, UFHP. .5"	STEEL
44	SCREW NO 8, PHP. .50"	STEEL
46	SCREW NO 8, FHP. .750"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-
51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
55	SETTING BLOCK	-

56	SETTING BLOCK 4" x 1/4" x 1"	-
57	PIVOT SHIM	-
58	WOOD BLOCK .50" X 1.250"	-
59	ALUMINUM BLOCK .50" X 1.250"	-
60	PVC BLOCK .50" X 1.250"	-

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gjd*

PRODUCT:  
 FLEETWOOD  
 KONA 3800 CASEMENT WINDOW

PART OR ASSEMBLY:  
 BILL OF MATERIALS


NO.	DATE	BY

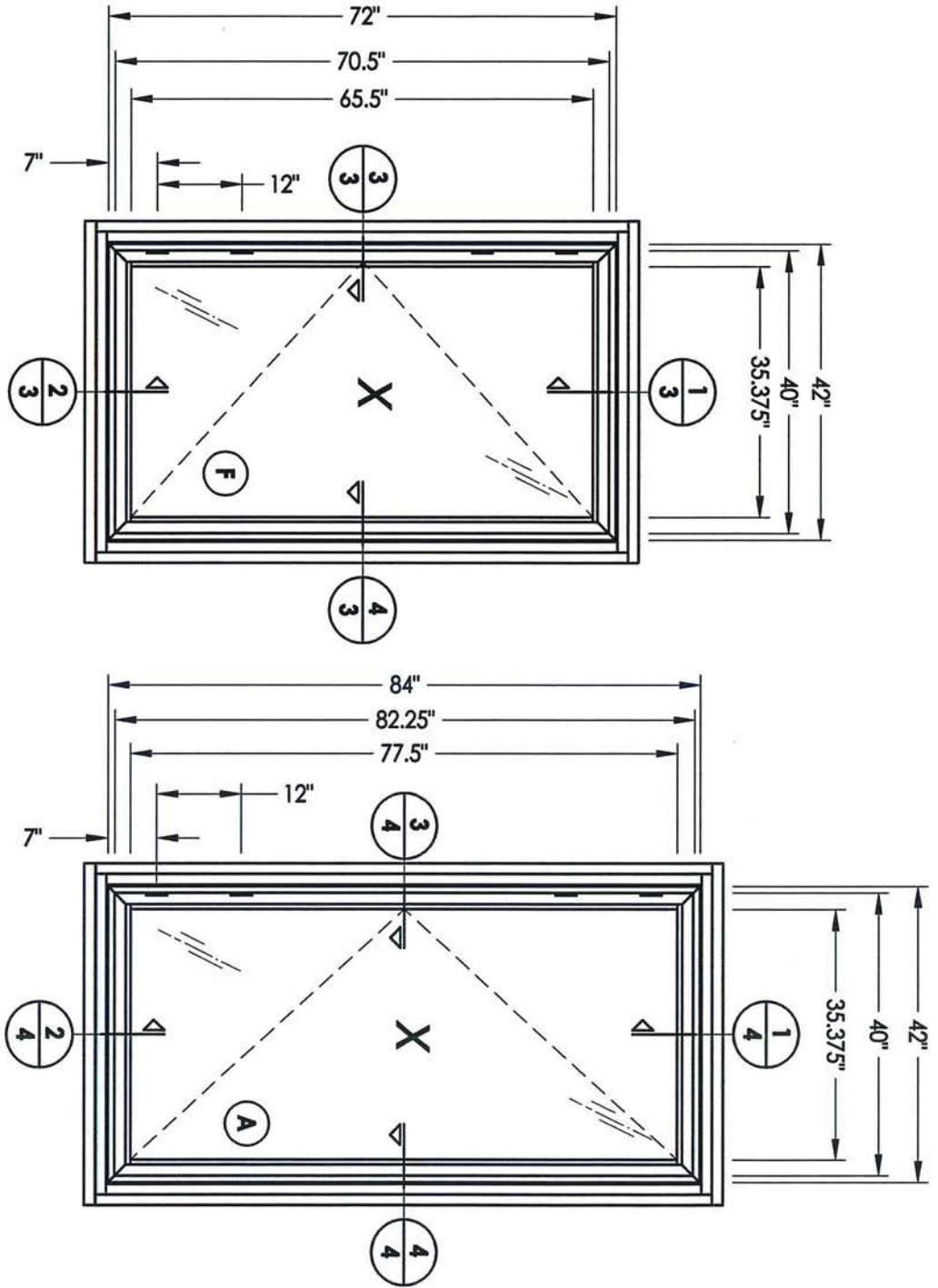
**R BUILDING CONSULTANTS, INC.**  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7032A  
 SHEET 5 OF 5

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	Table of contents
2	Test elevation
3	Horizontal and vertical cross sections
4	Horizontal and vertical cross sections
5	Frame anchoring
6	Frame anchoring
7	Components
8	Glazing details
9	Bill of materials

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by: *JPL*

 R.W. BUILDING CONSULTANTS, INC. 813.659.9197	DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7033 SHEET 1 OF 9	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW
	NO.      DATE      BY	PART OR ASSEMBLY: TABLE OF CONTENTS
REVISIONS		

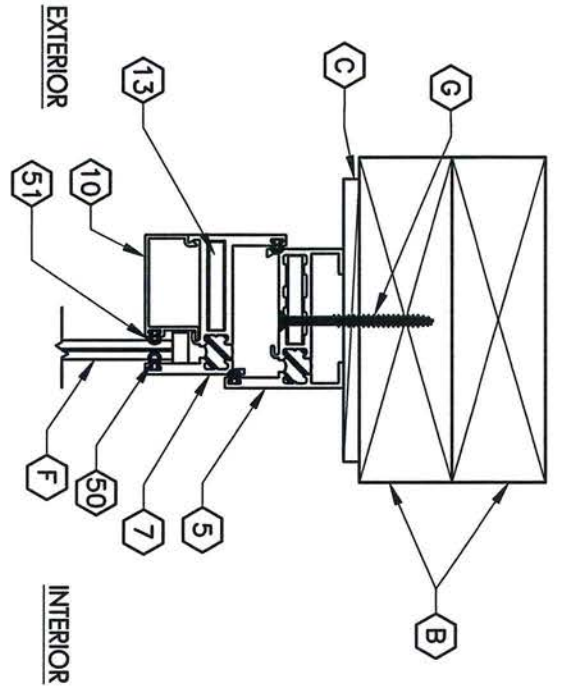


SPEC# 12, 12A

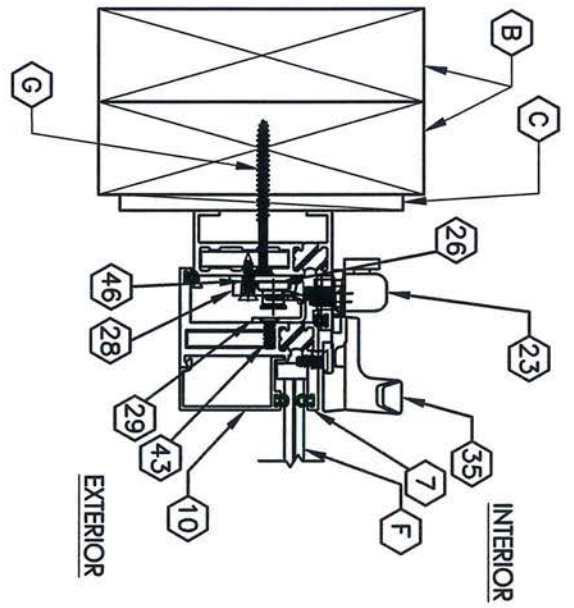
SPEC# 6, 6A

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10.31.13 Verified by [Signature]

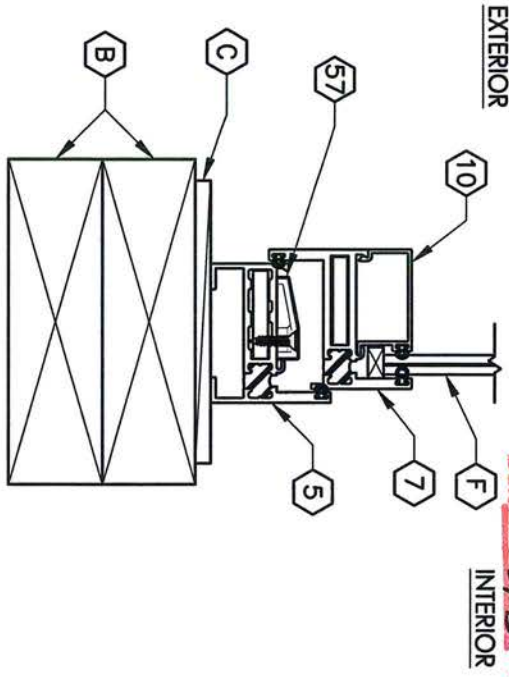
DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7033 SHEET 2 OF 9		PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
		PART OR ASSEMBLY: TEST ELEVATION	
NO. DATE REVISIONS		BY	



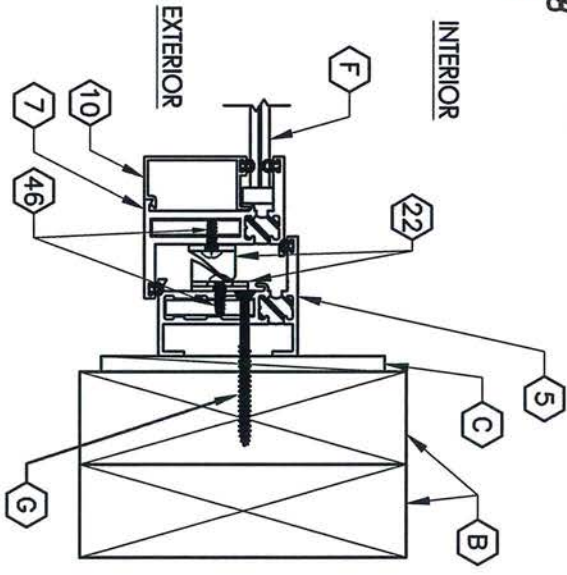
1 VERTICAL CROSS SECTION



3 HORIZONTAL CROSS SECTION



2 VERTICAL CROSS SECTION

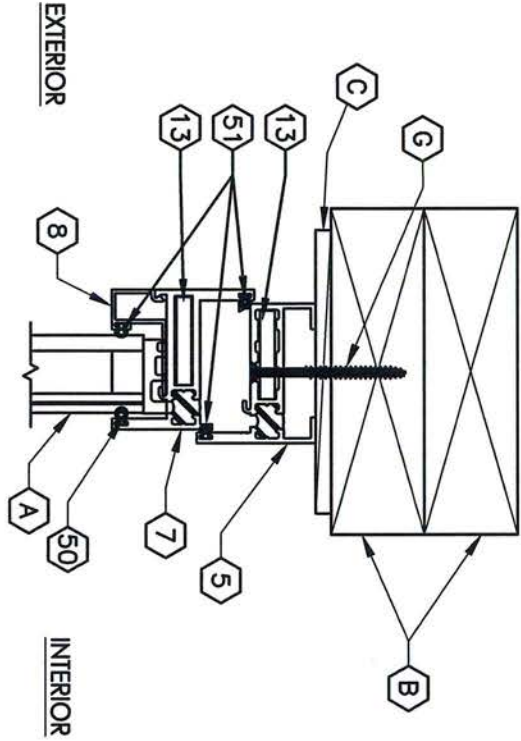


4 HORIZONTAL CROSS SECTION

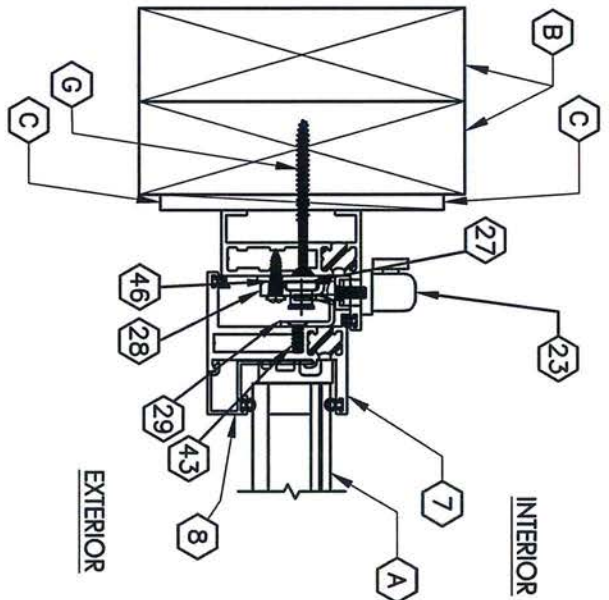
Calibration Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *SPD*

PRODUCT: <b>FLEETWOOD                  KONA 3800 CASEMENT WINDOW</b>		
PART OR ASSEMBLY: <b>HORIZONTAL AND VERTICAL                  CROSS SECTIONS</b>		
NO.	DATE	BY
REVISIONS		
R <sup>W</sup> BUILDING CONSULTANTS, INC. 813.6559.9197		
DATE:	9/25/13	
SCALE:	N.T.S.	
DWG. BY:	JK	
CHK. BY:	LFS	
DRAWING NO.:	L-7033	
SHEET	3 OF 9	

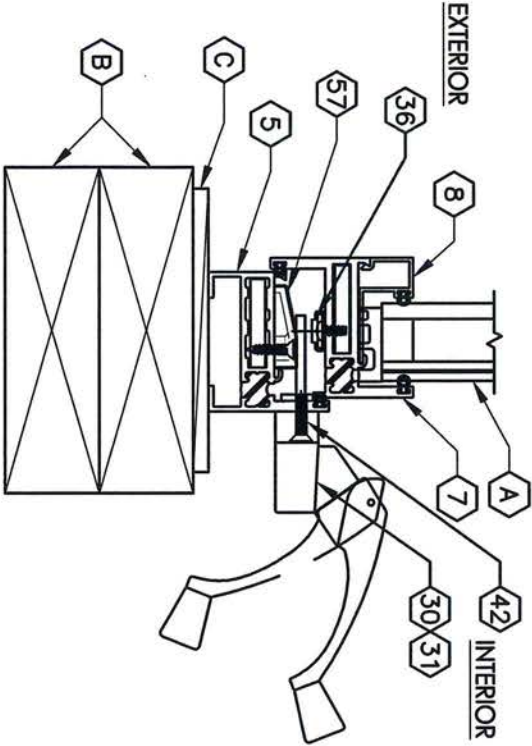
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *[Signature]*



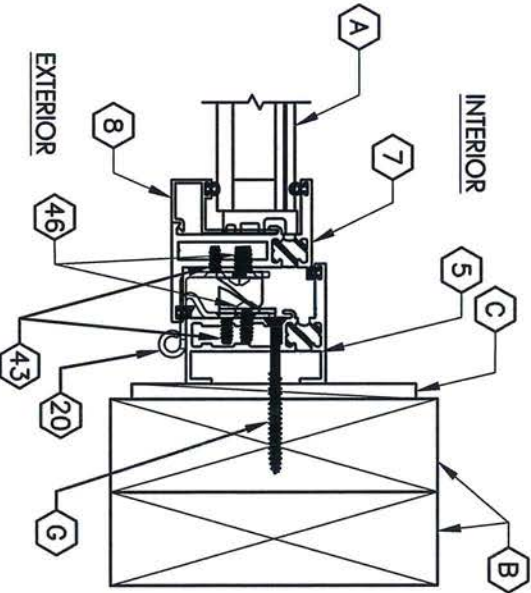
1 VERTICAL CROSS SECTION  
4



3 HORIZONTAL CROSS SECTION  
4



2 VERTICAL CROSS SECTION  
4



4 HORIZONTAL CROSS SECTION  
4

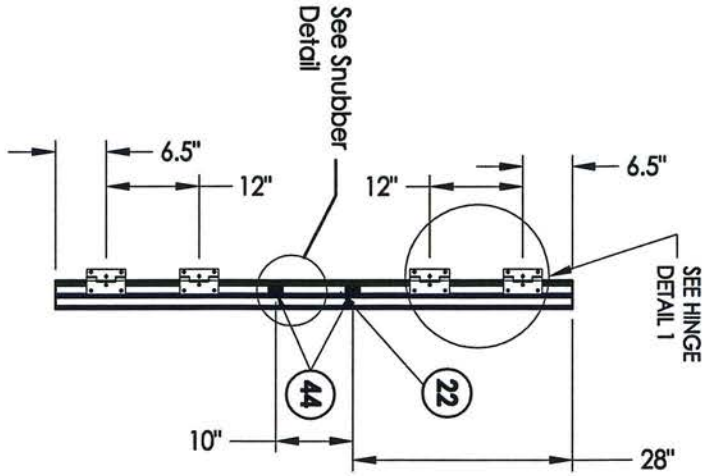
PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW  
 PART OR ASSEMBLY: HORIZONTAL AND VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS	BY

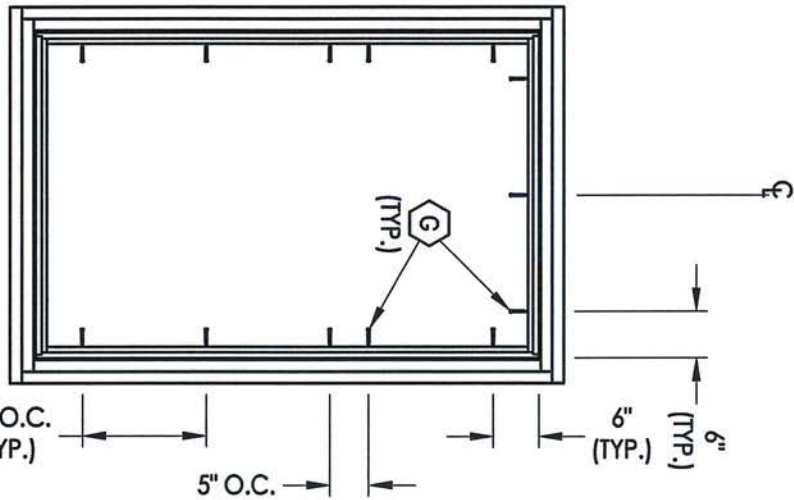
**RW** BUILDING CONSULTANTS, INC.  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7033  
 SHEET 4 OF 9

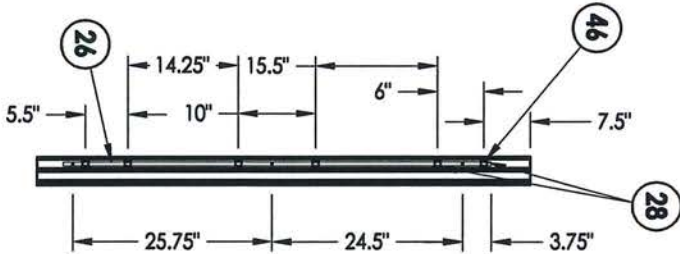
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gms*



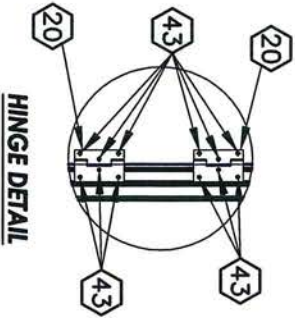
**SNUBBER JAMB**



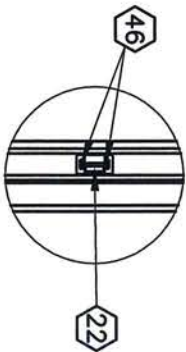
**FRAME ANCHORING**  
 2X buck construction



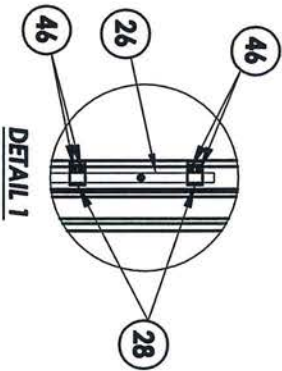
**LOCK JAMB**  
 Locking Points (3)



**HINGE DETAIL**



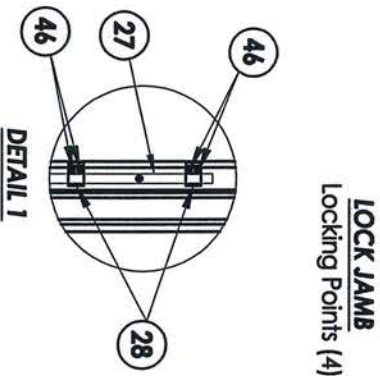
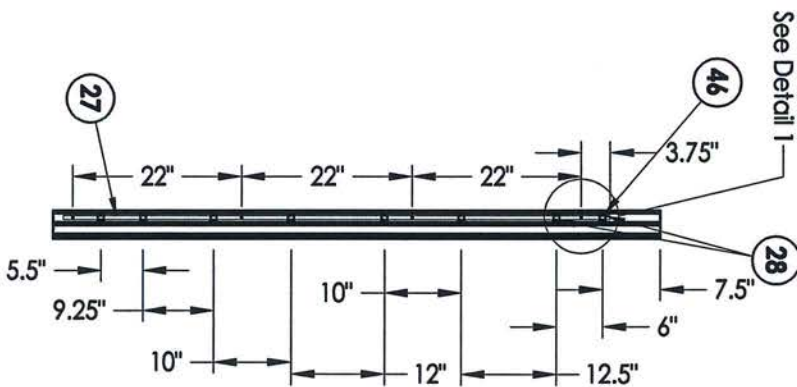
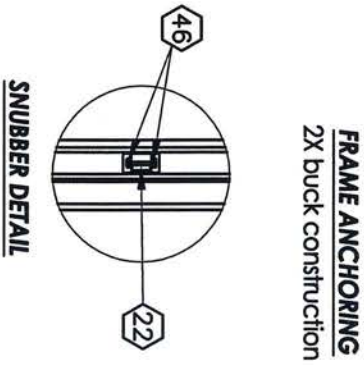
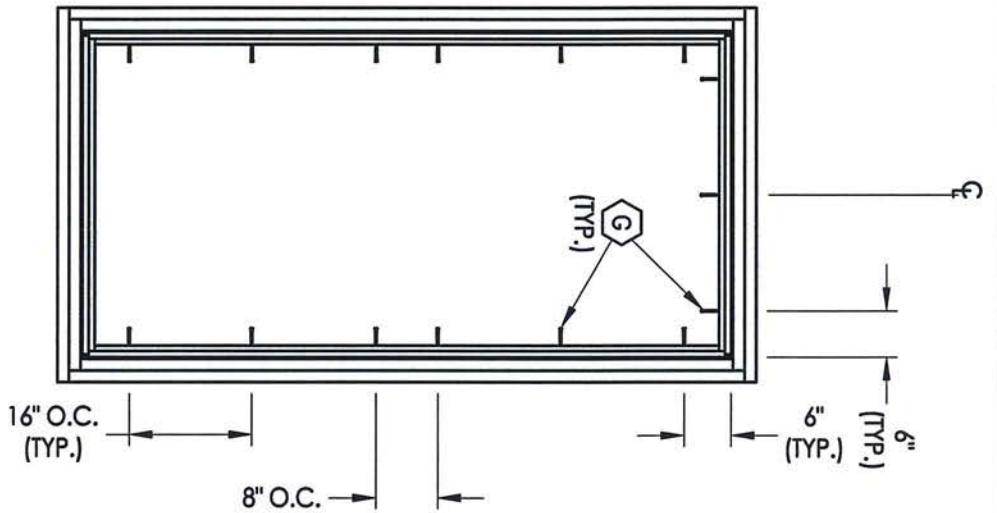
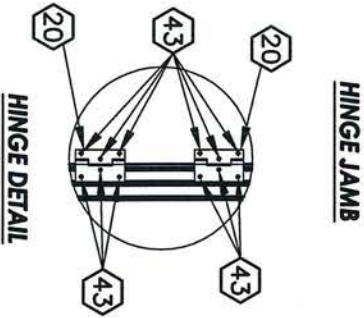
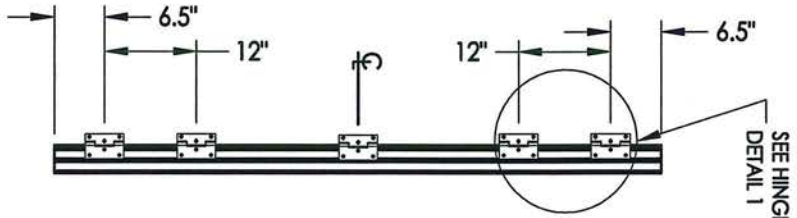
**SNUBBER DETAIL**



**DETAIL 1**

DATE: 9/25/13 SCALE: N.T.S. DWG. BY: JK CHK. BY: LFS DRAWING NO.: L-7033 SHEET 5 OF 9	 RWM BUILDING CONSULTANTS, INC. 813.659.9197	PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW	
		PART OR ASSEMBLY: FRAME ANCHORING	
NO. DATE REVISIONS BY		NO. DATE REVISIONS BY	

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10.31.13 Verified by *[Signature]*

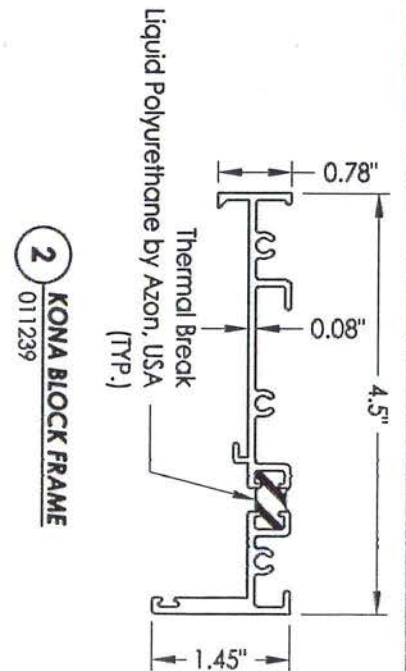
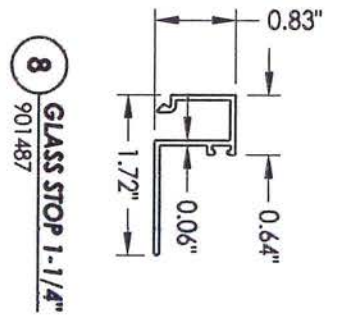
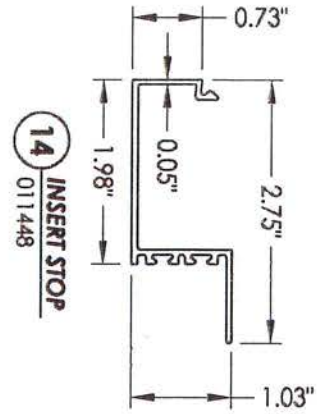


DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7033  
 SHEET 6 OF 9

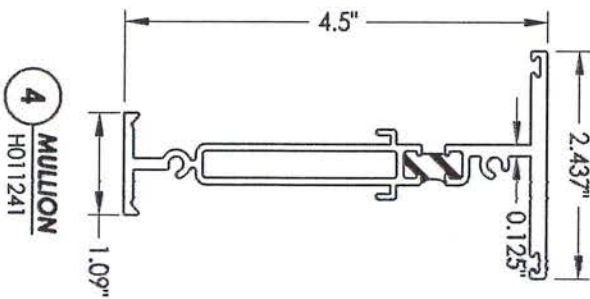
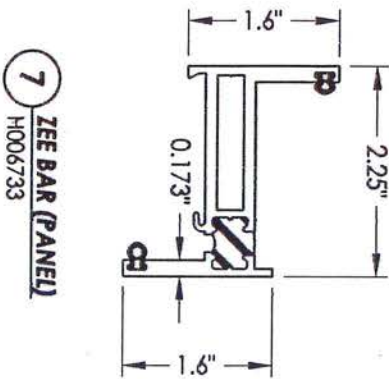
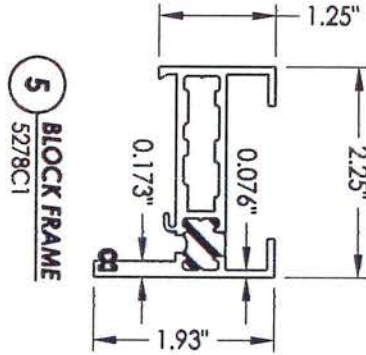
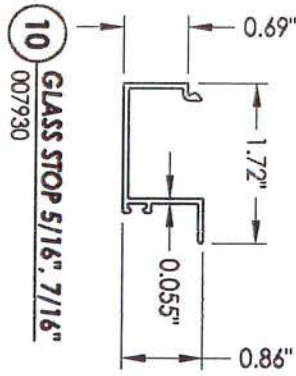
**RW BUILDING CONSULTANTS, INC.**  
 813.659.9197

NO.	DATE	REVISIONS	BY

PRODUCT: FLEETWOOD KONA 3800 CASEMENT WINDOW  
 PART OR ASSEMBLY: FRAME ANCHORING



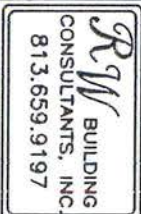
Testing Evaluation Laboratories Inc  
Specimen Complies with Drawing  
Deviations Noted - TEL # 01990818  
Date 10-31-13 Verified by *[Signature]*



PRODUCT:  
FLEETWOOD  
KONA 3800 CASEMENT WINDOW

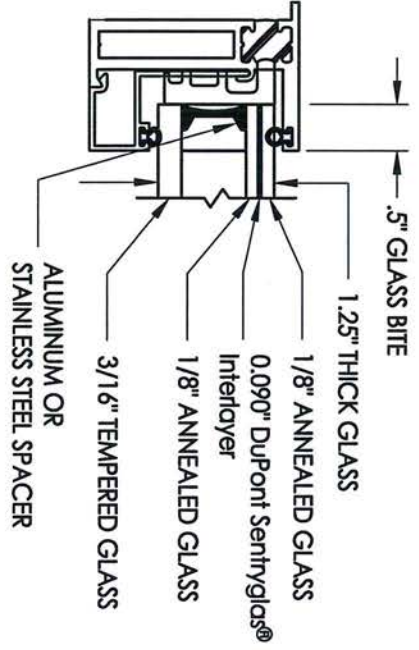
PART OR ASSEMBLY:  
COMPONENTS

NO.	DATE	REVISIONS	BY

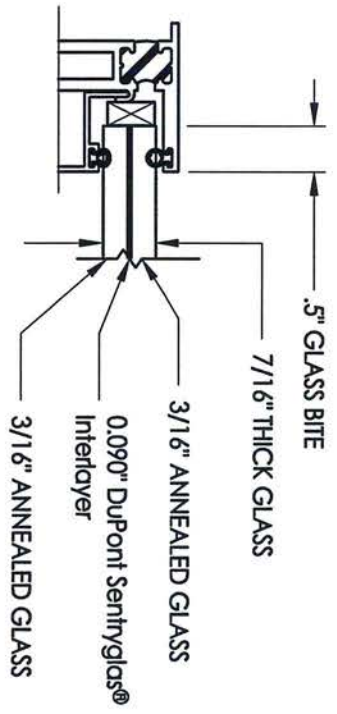


DATE: 9/25/13  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: L-7033  
SHEET 7 OF 9

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gws*



**A** GLAZING DETAIL



**F** GLAZING DETAIL

PRODUCT:	FLEETWOOD KONA 3800 CASEMENT WINDOW
PART OR ASSEMBLY:	COMPONENTS AND GLAZING DETAILS

NO.	DATE	REVISIONS	BY

**RWB** BUILDING CONSULTANTS, INC.  
 813.659.9197

DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7033  
 SHEET 8 OF 9

BILL OF MATERIALS		MATERIAL
ITEM #	DESCRIPTION	
B	2X BUCK SG >= 0.55	WOOD
C	1/4" MAX. SHIM SPACE	-
G	#10 x 2" PFH WOOD SCREW	STEEL
2	KONA BLOCK FRAME	6063-T6 ALUM
4	MULLION	6063-T6 ALUM
5	WESTWOOD BLOCK FRAME	6063-T6 ALUM
7	WESTWOOD ZEE BAR (PANEL)	6063-T6 ALUM
8	GLASS STOP (1-1/4")	6063-T6 ALUM
10	GLASS STOP (7/16")	6063-T6 ALUM
13	CORNER KEY	ALUM
14	INSERT STOP	ALUM
20	SS. BUTT HINGE	SS
21	4 BAR HINGE	SS
22	SNUBBER	ZINC ALLOY
23	MULTIPOINT LOCK HANDLE	SS
26	3 POINTS LOCKING BAR	SS
27	4 POINTS LOCKING BAR	SS
28	TIE BAR GUIDE	PLASTIC
29	KEEPER	SS
30	CASEMENT ROTOR GEAR 13.5"	SS
35	CAM HANDLE / STRIKE PLATE	SS
36	CASEMENT SS. TRACK	SS
40	#10 X 1" PPH SMS	STEEL
42	MACHINE SCREW NO 10-32, FHP .75"	STEEL
43	SCREW NO 10, UFHP .5"	STEEL
44	SCREW NO 8, PHP, .50"	STEEL
46	SCREW NO 8, FHP, .750"	STEEL
47	MACHINE SCREW NO 10-32, PHP .5"	STEEL
48	BACK UP NUTS	STEEL
50	BULB VINYL (EPDM 70 DUROMETER)-TREMCO	-

51	MINI BULB VINYL(EPDM 70 DUROMETER)-TREMCO	-
52	WOOD BLOCK .750" X 1.250"	-
53	ALUMINUM BLOCK .750" X 1.250"	-
54	PVC BLOCK .750" X 1.250"	-
55	SETTING BLOCK	-
56	SETTING BLOCK 4" x 1/4" x 1"	-
57	PIVOT SHIM	-
58	WOOD BLOCK .50" X 1.250"	-
59	ALUMINUM BLOCK .50" X 1.250"	-
60	PVC BLOCK .50" X 1.250"	-
61	SETTING BLOCK 4" x 1/8" x 1"	-

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gsl*

PRODUCT:  
 FLEETWOOD  
 KONA 3800 CASEMENT WINDOW

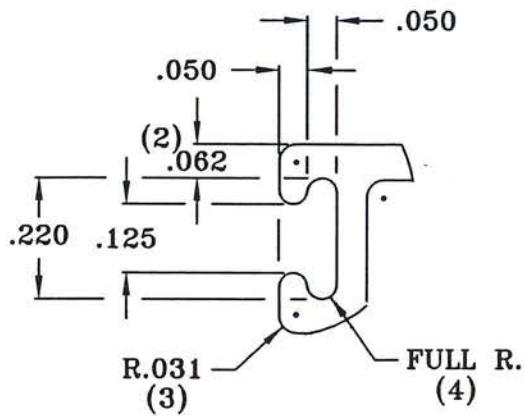
PART OR ASSEMBLY:  
 BILL OF MATERIALS

NO.	DATE	BY	REVISIONS

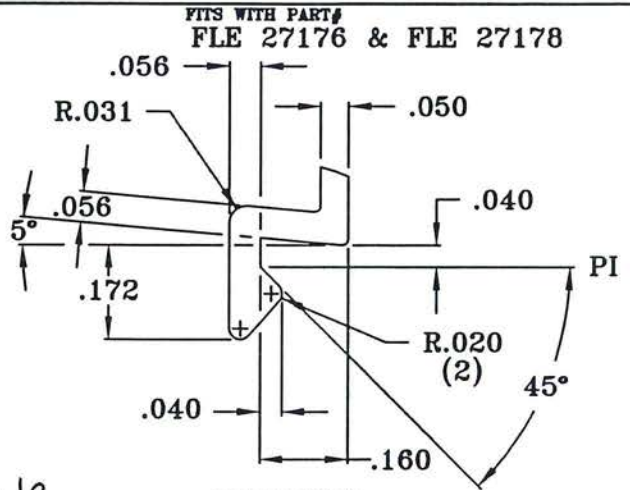


**RWB** BUILDING CONSULTANTS, INC.  
 813.6559.9197

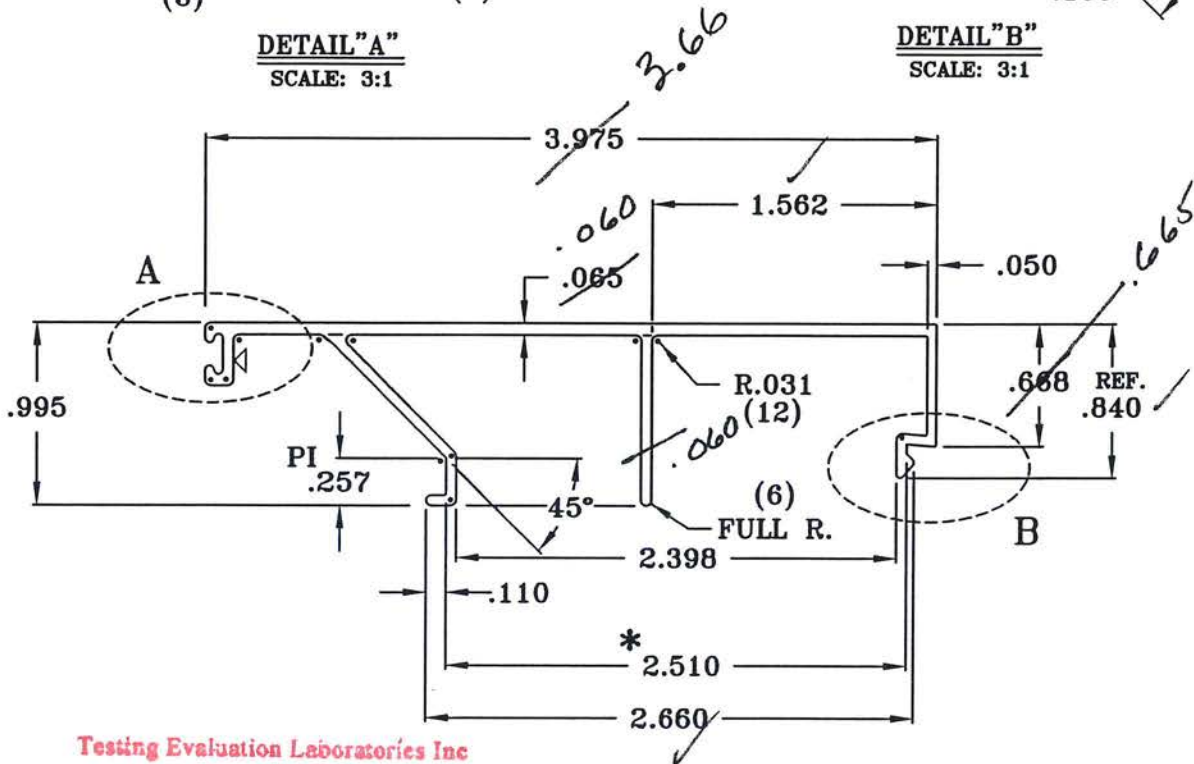
DATE: 9/25/13  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: L-7033  
 SHEET 9 OF 9



**DETAIL "A"**  
SCALE: 3:1



**DETAIL "B"**  
SCALE: 3:1

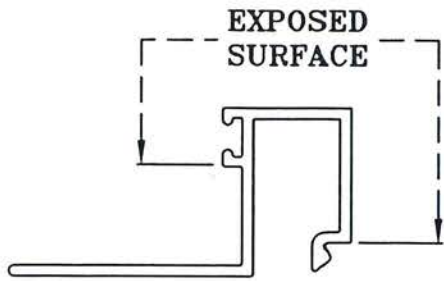


Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990918  
 Date 10-31-13 Verified by *JW*

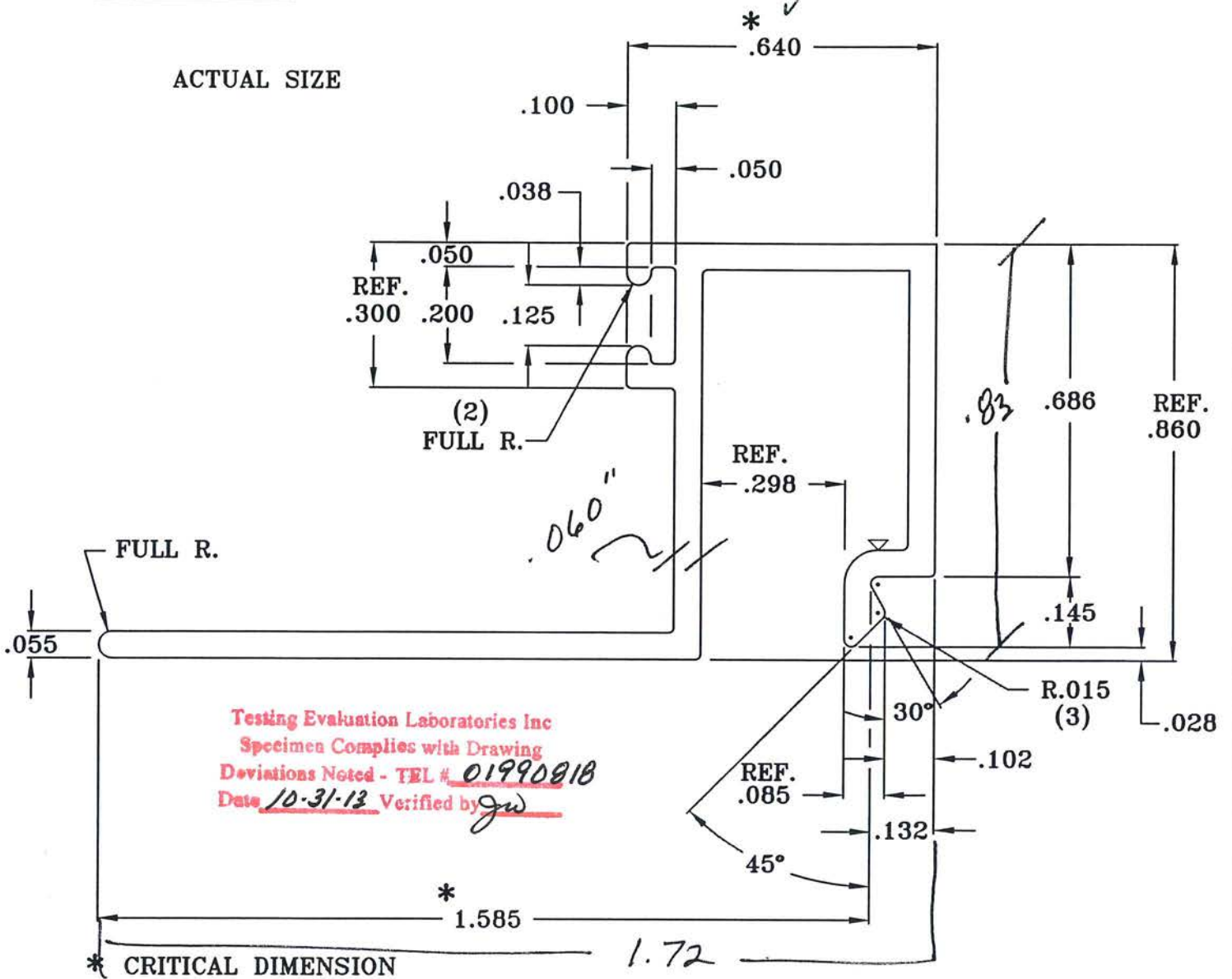
▷.010 R. X .010DEEPI.D. MARK

NOTE: .056 TYP. WALL EXCEPT AS NOTED  
 UNMARKED CORNERS .010 R.

CONTAINER	7/8	DIE RING	5	SPACER RING	2					
AREA	.462	PORTS	2	BKR	11242					
WT/FT	.554	W/P	POCKET	BOLSTER	2-8					
PERL.	15.063	FLE	27180	DIE SIZE	9X2					
DWN. BY	KEN	DATE	7/11/01	MAT'L	6063-T6					
CHKD. BY		DATE		STANDARD TOLERANCES UNLESS OTHERWISE NOTED		LET.	REVISION	BY	DATE	
 <b>SIERRA ALUMINUM COMPANY</b> 2345 Fleetwood Drive Riverside, California 92509 (909)781-7800 FAX (909)781-7864				CUSTOMER			SCALE		PART NO.	
				FLEETWOOD ALUMINUM			1:1			
				PART NAME			DIE NO.			
				GLAZING BEAD (1/4" GLASS)			011243			




ACTUAL SIZE



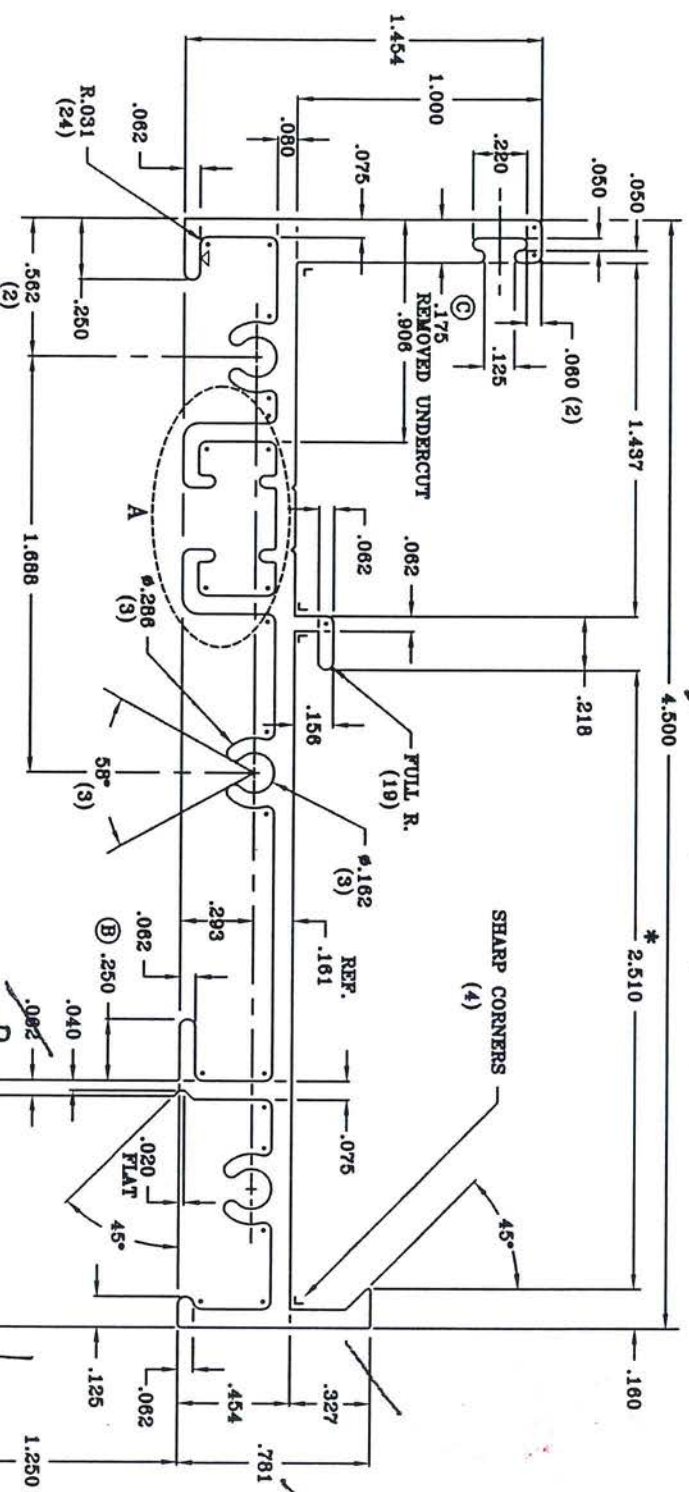
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gw*

▷.010 R. X .010DEEPI.D. MARK

NOTE: .055 TYP. WALL EXCEPT AS NOTED  
 UNMARKED CORNERS .010 R.

CONTAINER	7	DIE RING	5	SPACER RING	2				
AREA	.202	PORTS	4	BKR	901487				
WT/FT	.242	W/P	POCKET	BOLSTER	STD-4				
PERL.	7.360	FLE33161		DIE SIZE	9X2				
DWN. BY	KEN	DATE	3/12/04	MAT'L.	6063-T6				
CHKD. BY		DATE		STANDARD TOLERANCES UNLESS OTHERWISE NOTED		LET.	REVISION	BY	DATE
 <b>SIERRA ALUMINUM COMPANY</b> 2345 Fleetwood Drive Riverside, California 92509 (909)781-7800 FAX (909)781-7864				CUSTOMER		SCALE		PART NO.	
				FLEETWOOD WINDOWS & DOORS		2:1		05P12	
				PART NAME		N/C		DIE NO.	
				GLASS STOP, 1-1/4"				901487	

FROM WITH PART# FILE 271777 FILE 27179, & FILE 27180



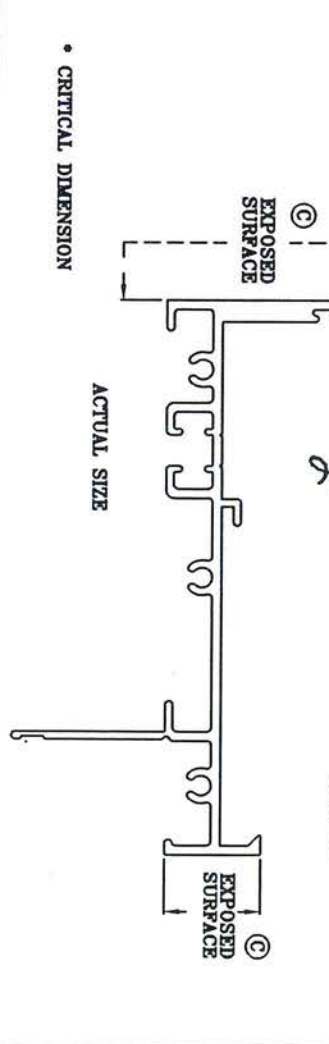
Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10.31.13 Verified by *[Signature]*

D.010 R. X .010DEEPI.D. MARK NOTE .075 TYP. WALL THICKNESS AS NOTED  
 OVERLAPPED COARSE A10 II

QUANTITY	7/8	PER INCH	5	PER INCH	2	11238	11238
RA	.921	POCKET	1	POCKET	1	11238	11238
1/PT	1.105	V/P	POCKET	POCKET	1	11238	11238
2L	22.854	FILE	27176	FILE	9X2	9X2	9X2
Y	KEN	DATE	11/12/03	MATL.	6063-T6	9	9
Y	DATE	DATE		DATE			

ERRA ALUMINUM COMPANY  
 2346 Fleetwood Drive  
 Riverside, California 92509  
 909/781-7800 FAX 909/781-7804

ERRA ALUMINUM COMPANY  
 FLEETWOOD ALUMINUM  
 PART NAME 4.500 FRAME BLOCK  
 SCALE 2:1  
 PART NO. 3805  
 REV. NO. N/C  
 011239

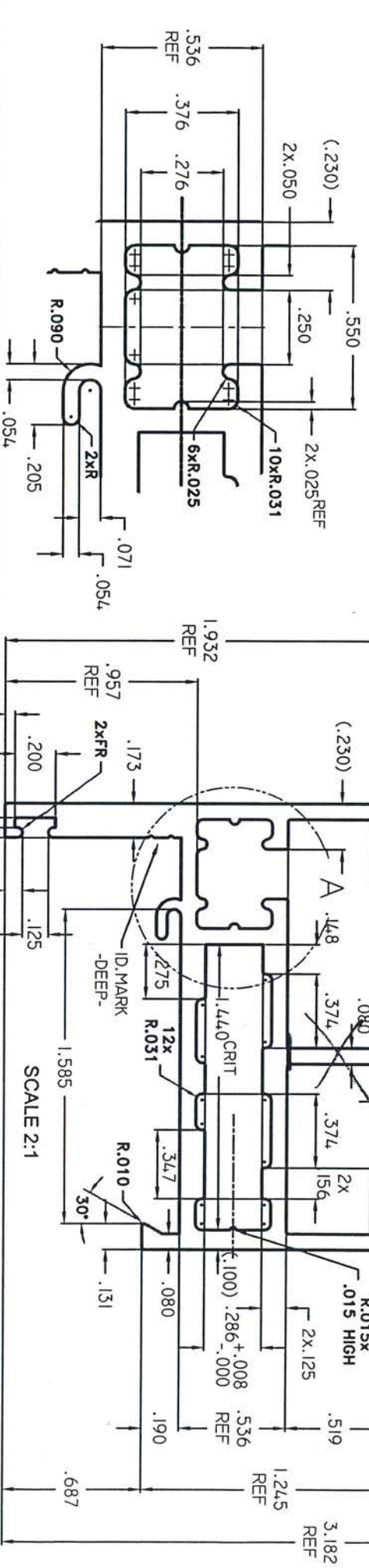
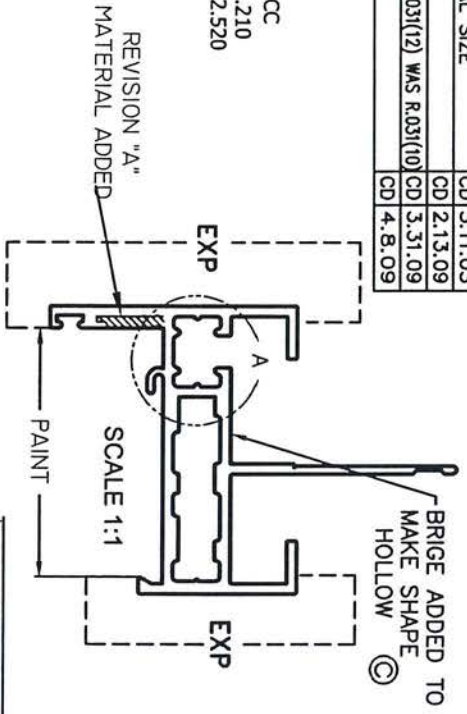




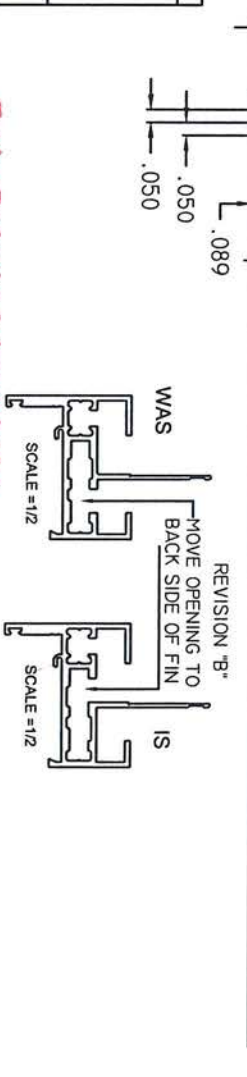
**TOWER: FLEETWOOD ALUMINUM** PART NAME: 5000 INSIDE GLAZE PERIM. (NAIL-ON)  
 PART NUMBER: 05P88

REVISIONS		BY	DATE
MATERIAL ADDED-SEE ACTUAL SIZE	CD	3.11.03	
SEE BELOW	CD	2.13.09	
NOW A HOLLOW DIE/.413 WAS .625/R.031(12) WAS R.031(10)	CD	3.31.09	
REBRAM	CD	4.8.09	

TB CAVITY TYPE CC  
 AREA SQ" .210  
 VOLUME CUBIC/FT. 2.520



ARKED WALLS: .080	UNMARKED R.010	UNMARKED R.010
S OTHERWISE SPECIFIED, STANDARD ALUMINUM ASSOCIATION TOLERANCES APPLY • FRONTIER ID. MARK: TWO .010 R x .100 APART		
.927	PRESS 4	DWN CD
T 1.113	PORTS 11x7-2H	DATE 4.17.2014
21.012	W/P HOLLOW	D 5278
OR 19	BKR. HOLLOW	CLASS HOLLOW
1.3.57	BOL. STD-2	MULTY & TEMPLER DIE NO. 5278
0201/92	RATIO: PRESS 1:	PRESS 2:
	PRESS 3:	REV. C1

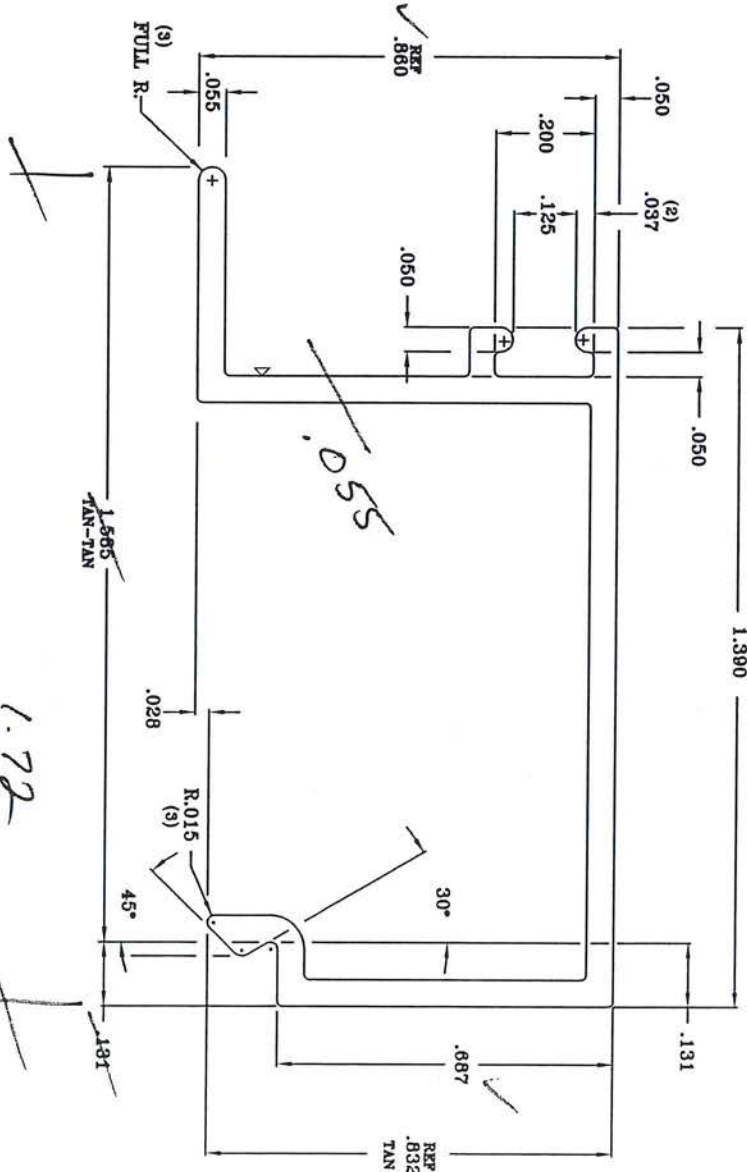
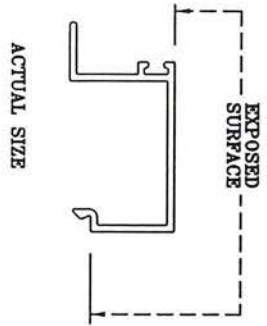
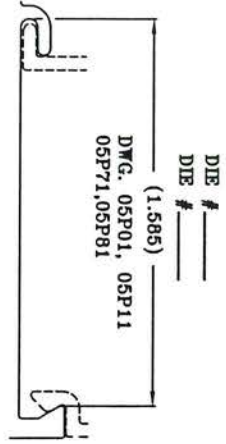


Frontier Aluminum Corp.  
 2480 Railroad St. Corona, Ca  
 Ph: (951) 735-1770 Fax: 735-1895  
 http://www.frontier-aluminum.com

Testing Evaluation Laboratories Inc

Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-12 Verified by *gwl*

THIS WITH PART



D.010 R. X .010HIGH I.D. MARK NOTE: .055 UNMACHINED CORNERS .010 R. TYP. WALL THICKNESS AS NOTED

QTY	REV	DATE	BY	CHKD	APP'D	REVISION
7	1	06/03/94				
2A	.202	POINTS	4	REV		2372
2B	.242	W/P	-	REV		4-9
2C	7.337	FLEETWOOD	6063-76	REV		9x1

REV	DATE	BY	CHKD	APP'D	REVISION
1	06/03/94				

REV	DATE	BY	CHKD	APP'D	REVISION
1	06/03/94				

ERRA ALUMINUM COMPANY  
 2346 Fleetwood Drive  
 Riverside, California 92509  
 (909)781-7800 FAX (909)781-7864

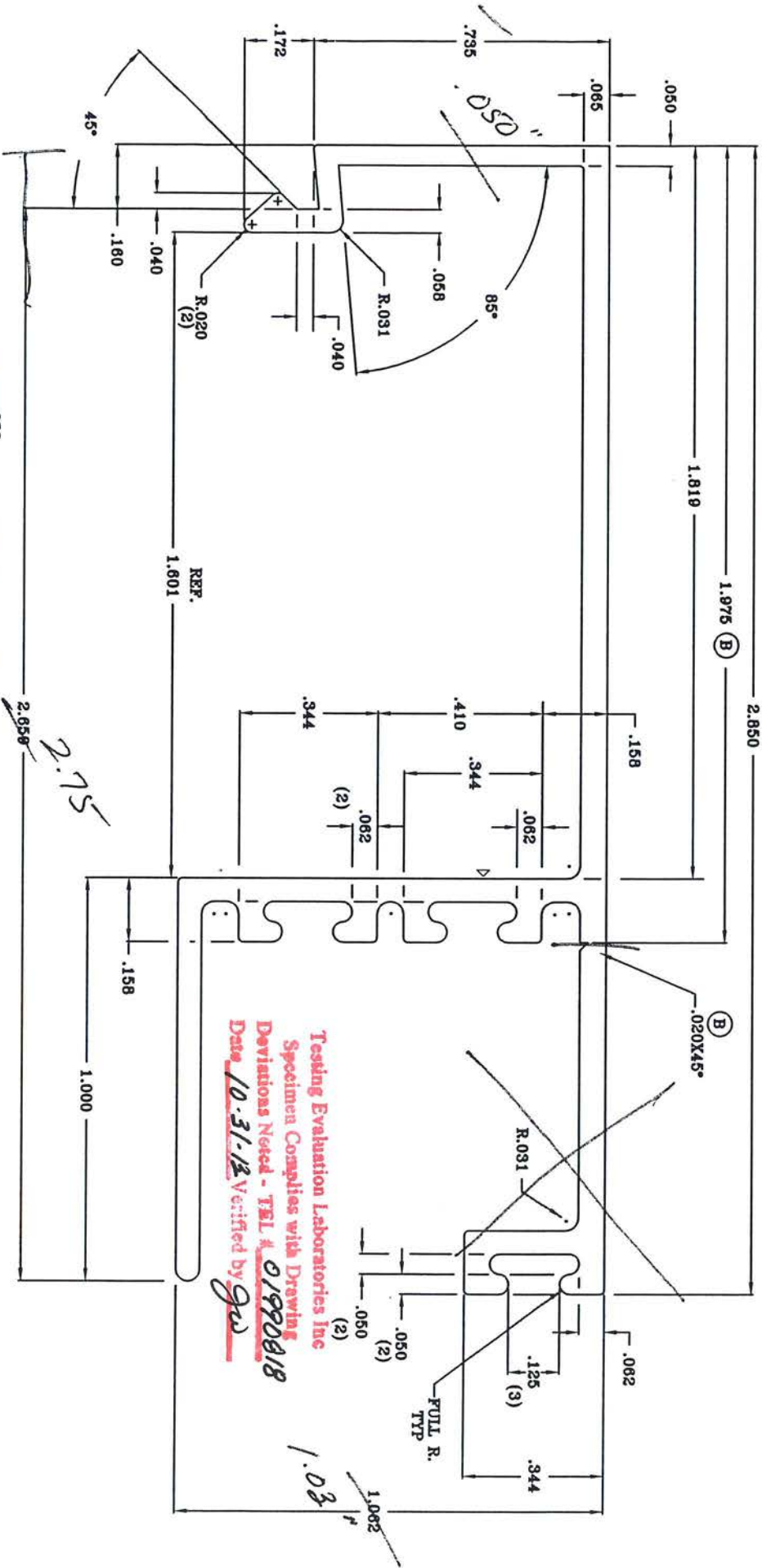
FLEETWOOD ALUMINUM PRODUCTS  
 PART NAME: GLASS STOP 1/2" ...5000

SCALE: 4:1  
 PART NO.: 05P08  
 REV NO.: 007930

Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01992018  
 Date 10-31-13 Verified by [Signature]

1.72

FROM VIEW PLATING

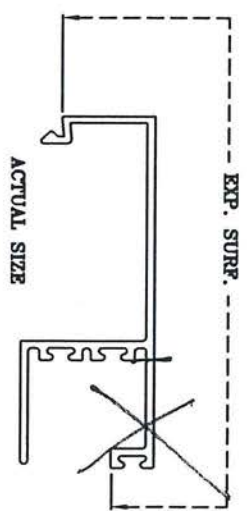


D.010 R. X .010DEPRID. MARK .058  
 NOTE: UNPLATED CONFORMS A10 B.

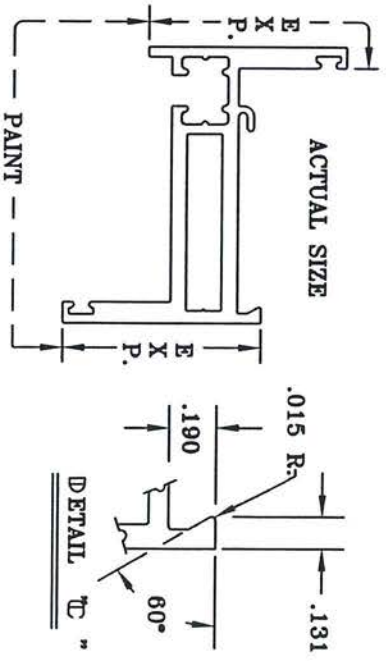
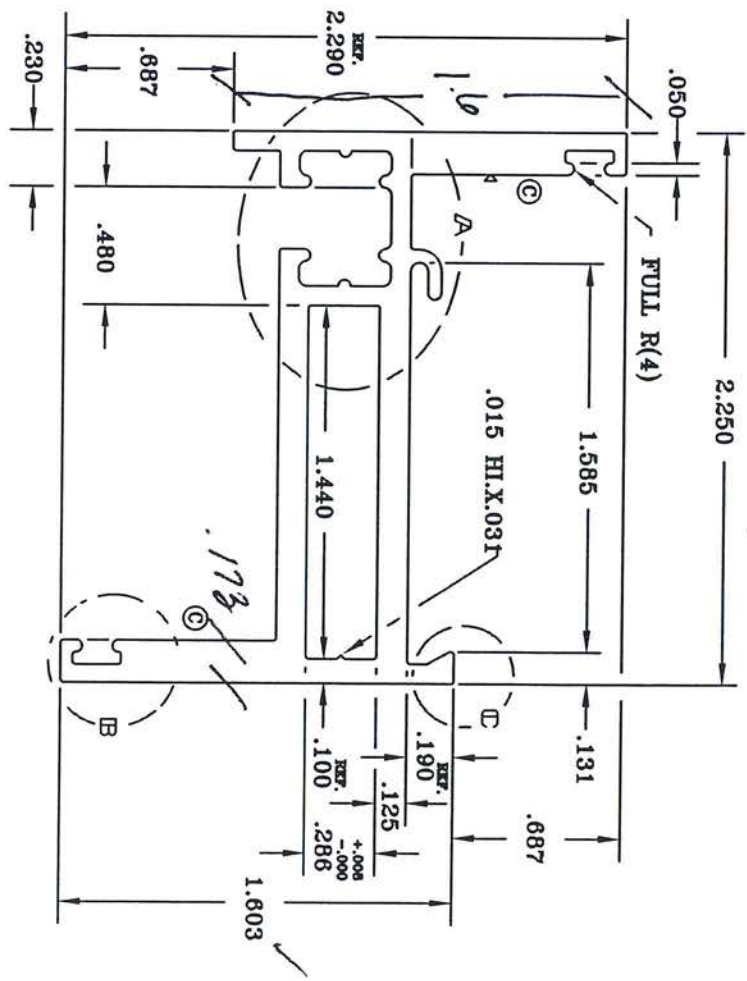
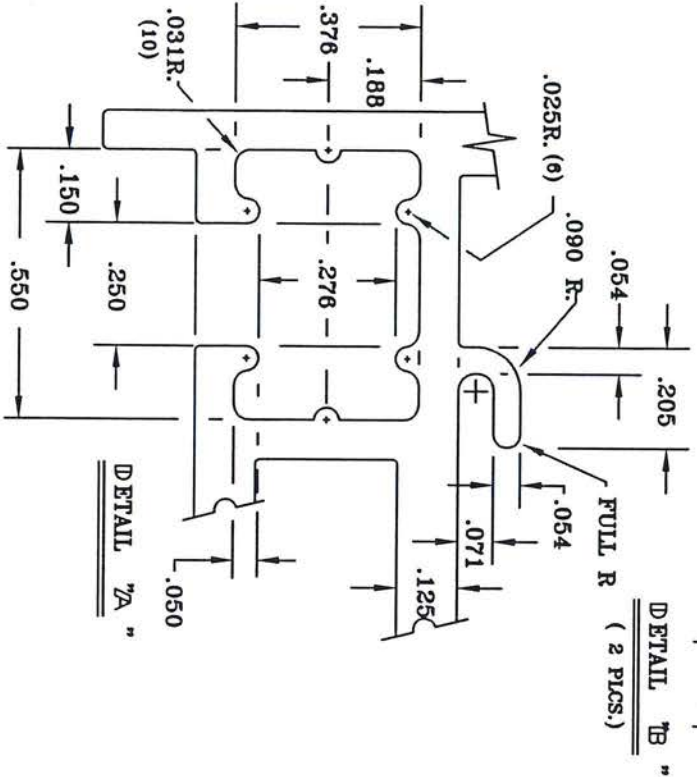
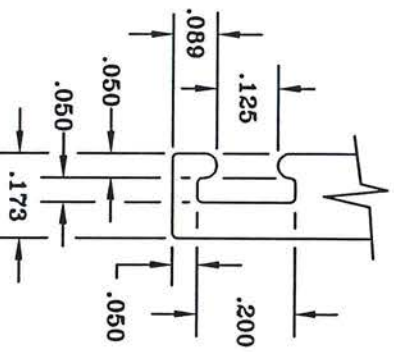
REV	8	REV	5	REV	2
DATE	4/15	DATE	3	DATE	011448
BY	W/P	BY	POCKET	BY	3-6
DATE	13.469	DATE	FLE 28807	DATE	9X2
REV	KEN	DATE	4/24/02	REV	6063-T6
DATE		DATE		DATE	9/29/08

ERRA ALUMINUM COMPANY  
 2346 Pinewood Drive  
 Riverside, California 92506  
 909/781-7800 FAX (909)781-7864

ERRA ALUMINUM COMPANY  
 FLEETWOOD ALUMINUM  
 PART NAME: GLASS STOP  
 SCALE: 4:1  
 PART NO.: 011448



Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gcs*



P.010 R. X .010DEP.I.D. MARK .080  
 TYP. VALUE EXCEPT AS NOTED  
 UNLESS OTHERWISE SHOWN 218 B.

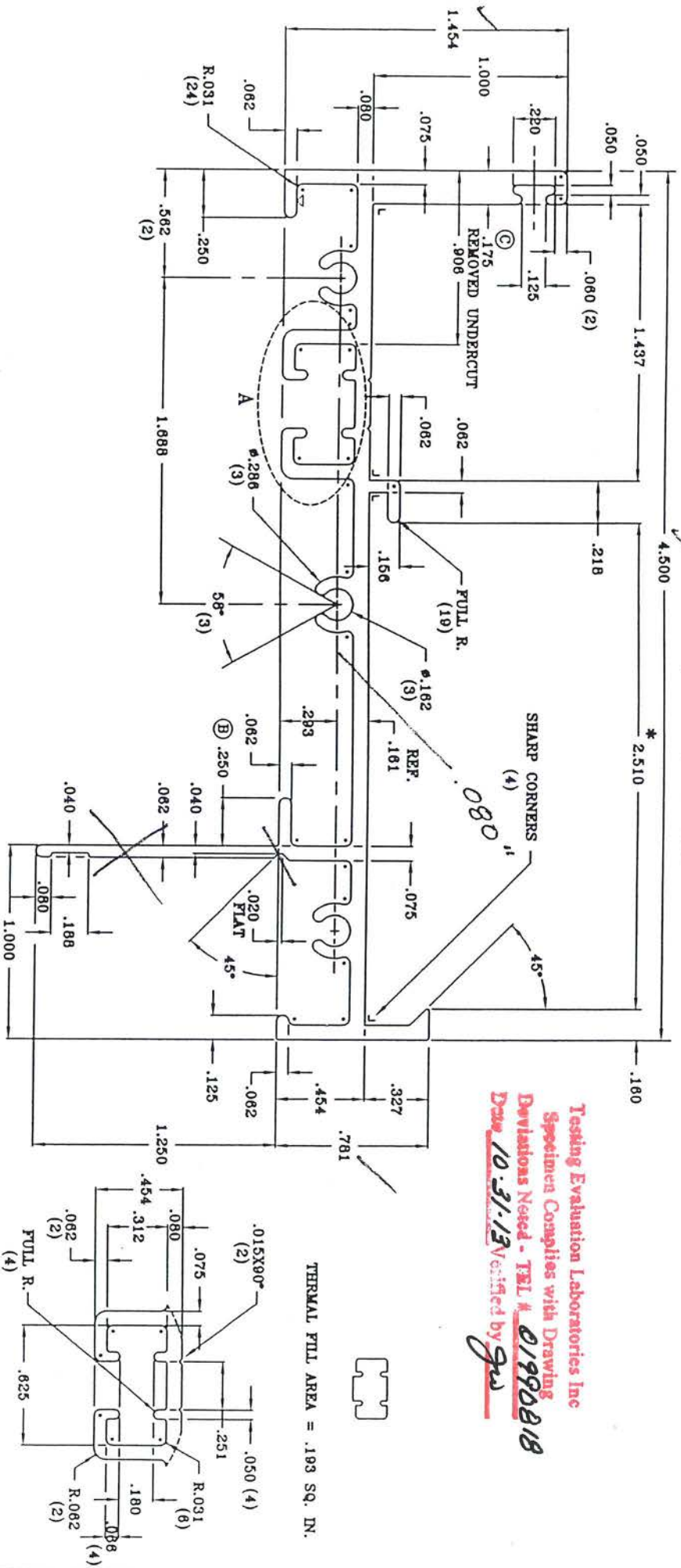
CONTAINER	SEE DRAWING	QUANTITY	REVISION	DATE	BY
AREA	.897	1			
WT/FT	1.076				
FILE	FILE8042				
DATE	3/14/03				
MATL	8063-T6				
FINISH					
REVISION					
DATE					
BY					

SIERRA ALUMINUM COMPANY  
 18000 W. 10th Ave., Suite 100  
 Denver, CO 80233  
 (303)731-7000 FAX (303)731-7044

SIERRA ALUMINUM PRODUCTS, INC.  
 ZEE BAR  
 H-006733



FROM OTHER PARTS FILE 271777, FILE 27179, & FILE 27180



Testing Evaluation Laboratories Inc  
 Specimen Complies with Drawing  
 Deviations Noted - TEL # 01990818  
 Date 10-31-13 Verified by *gms*

D.010 R. X .010DEP.I.D. MARK

NOTE: .075 UNDESIGNED CORNER .010 IN.

REV	DATE	BY	CHK	DESCRIPTION
7/8	7/8	POCKET	1	11238
1.105	22.854	FILE 27178	9X2	11238
KEN	11/12/03	MATL.	6063-T6	ADDED MEMBRANE DIM.

REV	DATE	BY	CHK	DESCRIPTION
1	11/14/06			REMOVED UNDERCUT
2	11/14/06			REMOVED UNDERCUT
3	7/28/01			ADDED MEMBRANE DIM.

REV	DATE	BY	CHK	DESCRIPTION
1	11/14/06			ADDED MEMBRANE DIM.
2	11/14/06			ADDED MEMBRANE DIM.
3	7/28/01			ADDED MEMBRANE DIM.

REV	DATE	BY	CHK	DESCRIPTION
1	11/14/06			ADDED MEMBRANE DIM.
2	11/14/06			ADDED MEMBRANE DIM.
3	7/28/01			ADDED MEMBRANE DIM.

ERRA ALUMINUM COMPANY  
 2545 Fleetwood Drive  
 Bristol, CT 06030  
 203/751-7000 FAX (203)751-7044

PART NAME: FLEETWOOD ALUMINUM  
 4.500 FRAME BLOCK

SCALE: 2:1  
 PART NO.: 3805  
 REV NO.: N/C  
 011239

