



MIAMI-DADE COUNTY
BUILDING CODE COMPLIANCE OFFICE (BCCO)
PRODUCT CONTROL DIVISION

MIAMI-DADE COUNTY, FLORIDA
METRO-DADE FLAGLER BUILDING

140 WEST FLAGLER STREET, SUITE 1603
MIAMI, FLORIDA 33130-1563
(305) 375-2901 FAX (305) 375-2908

NOTICE OF ACCEPTANCE (NOA)

www.miamidade.gov

Alufab Hurricane Shutters, Inc.
13000 N.W. 38th Avenue
Opa-Locka, Florida 33054

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed by Miami-Dade County Product Control Division and accepted by the Board of Rules and Appeals (BORA) to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Division (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BORA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Division that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the High Velocity Hurricane Zone of the Florida Building Code.

DESCRIPTION: 0.050" (min.) Galvanized Steel Storm Panels Shutter

APPROVAL DOCUMENT: Drawing No. 05-148, titled "0.050" Thick Galvanized Steel Storm Panel", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated August 24, 2005, last revision #1 dated August 24, 2005, signed and sealed by Walter A. Tillit Jr., P.E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Division.

MISSILE IMPACT RATING: Large and Small Missile Impact

LABELING: Each panel shall bear a permanent label with the manufacturer's name or logo, city, state and the following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises** NOA # **03-0303.15** & consists of this page 1 evidence submitted pages E-1, E-2, & E-3 as well as approval document mentioned above

The submitted documentation was reviewed by **Helmy A. Makar, P.E., M.S.**



Helmy A. Makar
 12/14/2006

NOA No 05-1003.18
Expiration Date: 03/06/2008
Approval Date: 12/14/2006

Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #97-0205.01

A. DRAWINGS

1. *Drawing No. 94-69 Sheets 1 thru 4 of 4, prepared by Tilteco, Inc. dated 03/31/94 revised on 08/16/94, signed and sealed by Walter A. Tillit Jr., P.E.*
2. *Drawing No. 94-69 Sheets 1 thru 6 of 6, prepared by Tilteco, Inc. dated 03/31/94 revised on 10/23/95, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS

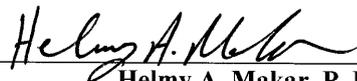
1. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of galvanized steel storm panels, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-94-74, dated March 29, 1994, signed and sealed by Arshad Viqar, P.E.*
2. *Test report on Uniform Static Air Test, Large Missile Impact Test and Cyclic Wind Pressure Test of galvanized steel storm panels, prepared by Miami Testing Laboratory, Report No. MTL-16299, dated February 23, 1995, signed and sealed by David Gale Ober, P.E.*
3. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of galvanized steel storm panels, prepared by Miami Testing Laboratory, Report No. MTL-16517, dated September 14, 1995, signed and sealed by David Gale Ober, P.E.*
4. *Test report on Large Missile Impact Test and Cyclic Wind Pressure Test of galvanized steel storm panels, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-94-147, dated June 15, 1994, signed and sealed by Arshad Viqar, P.E.*
5. *Test report on Uniform Static Air Pressure Test of galvanized steel storm panels, prepared by Hurricane Engineering & Testing, Inc., Report No. HETI-94-73, dated April 29, 1994, signed and sealed by Arshad Viqar, P.E.*

C. CALCULATIONS

1. *Comparative analysis and anchor calculations, dated 10/25/95, Pages 1 thru 11 of 11, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit, Jr., P.E.*
2. *Comparative analysis and anchor calculations, dated 07/15/94, Pages 1 thru 4 of 4, prepared by Tilteco, Inc., signed and sealed by Walter A. Tillit, Jr., P.E.*

D. MATERIAL CERTIFICATIONS

1. *Mill Certified Inspection Report, dated August 8, 1995, prepared by Wheeling-Nisshin, certified by Robert O'Neal.*
2. *Tensile Testing Report prepared by ARL, Applied Research Laboratories, dated 07/06/94 for .050" thick galvanized steel.*
3. *Tensile Testing Report prepared by ARL, Applied Research Laboratories, dated 09/25/95 for .050" thick 18 ga. galvanized steel*



Helmy A. Makar, P. E., M.S.
Product Control Examiner
NOA No 05-1003.18
Expiration Date: 03/06/2008
Approval Date: 12/14/2006

Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #00-0128.03

A. DRAWINGS

1. *None.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. MATERIAL CERTIFICATIONS

1. *None.*

E. OTHER

1. *Letter issued by Alufab Hurricane Shutters, Inc., signed by Bobby Andrade, dated February 19, 2000, stating that there is no changes from the existing drawings.*

3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 03-0303.15

A. DRAWINGS

1. *Drawing No. 03-026, titled " 18 gage Galvanized Steel Storm Panel ", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated February 05, 2003, last revision #1 dated February 05, 2003 signed and sealed Walter A. Tillit, Jr., P.E.*

B. TESTS

1. *None.*

C. CALCULATIONS

1. *None.*

D. MATERIAL CERTIFICATIONS

1. *None.*

E. STATEMENTS

1. *Letter issued by Mr. Walter A. Tillit, Jr., P.E., dated March 18, 2003, indicating that the only change is update General Note numbers 1 & 9 to reference the Florida Building Code and ASCE 7-98.*



Helmy A. Makar, P. E., M.S.

Product Control Examiner

NOA No 05-1003.18

Expiration Date: 03/06/2008

Approval Date: 12/14/2006

Alufab Hurricane Shutters, Inc.

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

4. NEW EVIDENCE SUBMITTED

A. DRAWINGS:

1. *Drawing No. 05-148, titled "0.050" Thick Galvanized Steel Storm Panel ", sheets 1 through 6 of 6, prepared by Tilteco, Inc., dated August 24, 2005, last revision #1 dated August 24, 2005, signed and sealed by Walter A. Tillit Jr., P.E.*

B. TESTS:

1. *None.*

C. CALCULATIONS:

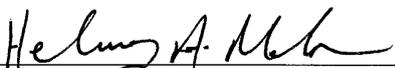
1. *Anchor analysis prepared by Tilteco, Inc., pages 1 through 52 of 52, dated 09/23/05, signed and sealed by Walter A. Tillit Jr., P.E.*

D. QUALITY ASSURANCE

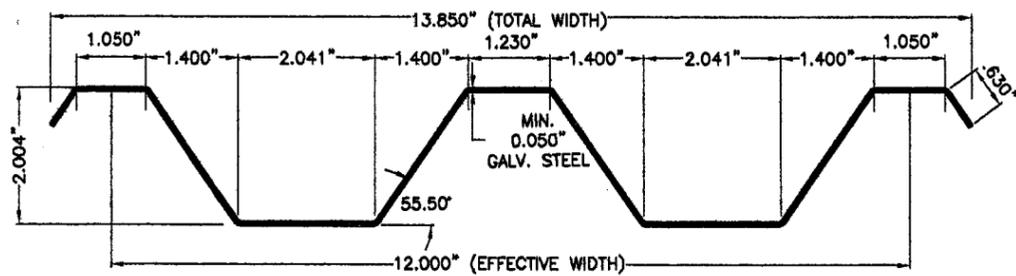
1. *By Miami-Dade building Code Compliance Office.*

E. MATERIAL CERTIFICATION:

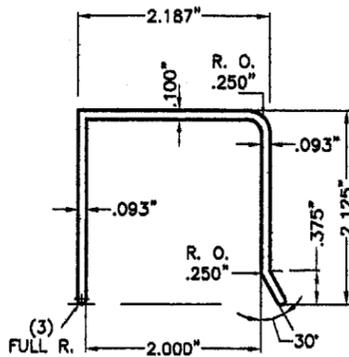
1. *None.*



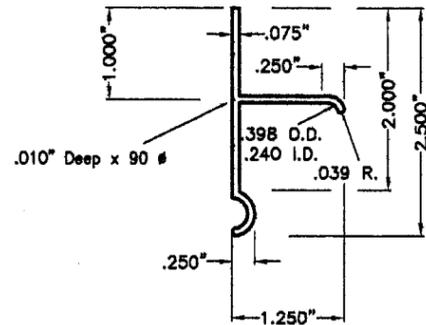
Helmy A. Makar, P. E., M.S.
Product Control Examiner
NOA No 05-1003.18
Expiration Date: 03/06/2008
Approval Date: 12/14/2006



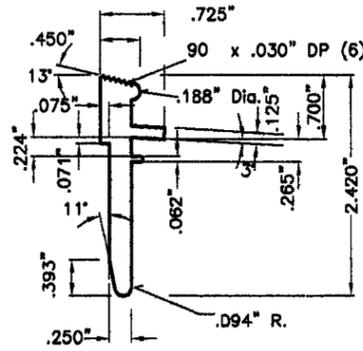
1 PANEL
SCALE: 3/8" = 1"



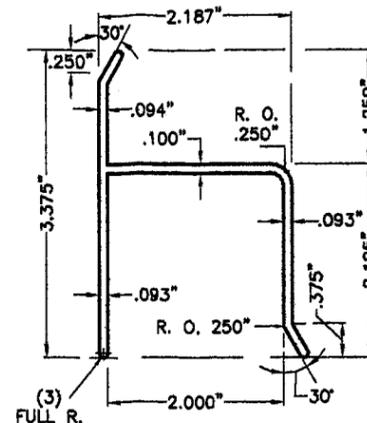
3 HEADER
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



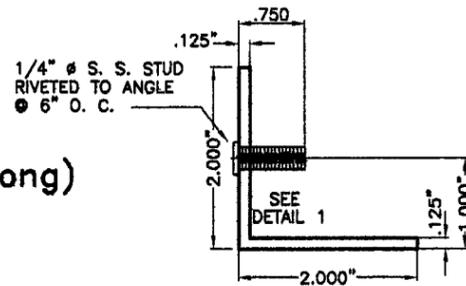
4 SILL
6063-T6 Alum. ALLOY
SCALE: 1/2" = 1"



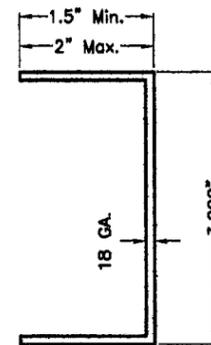
5 LOCKING PIN (1" long)
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



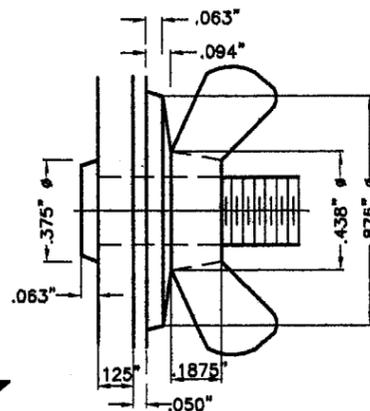
2 HEADER
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



6 ANGLE WITH STUD
SCALE: 1/2" = 1"

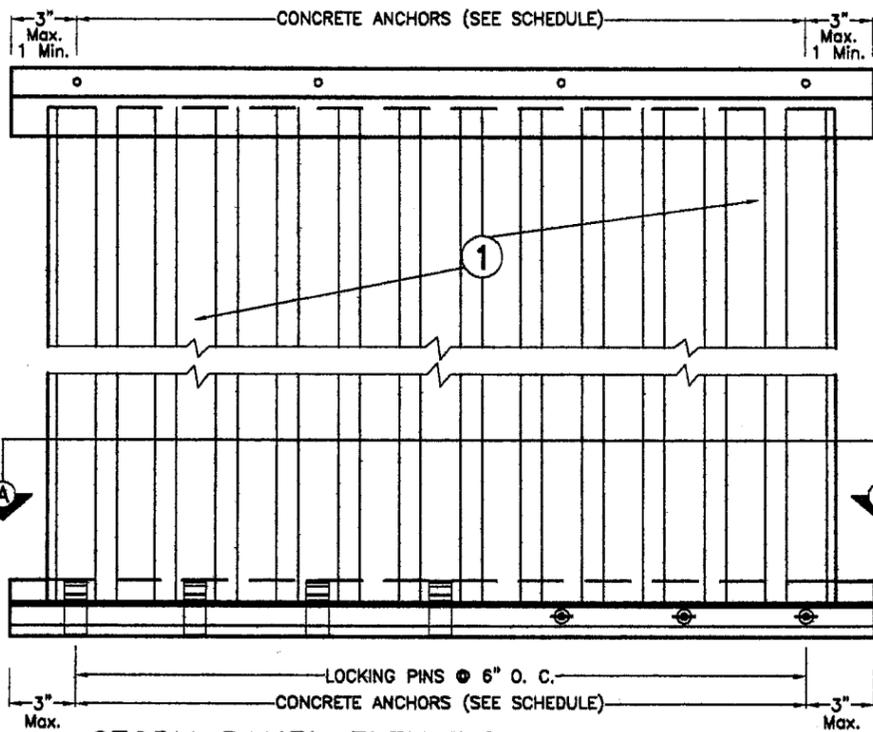


7 CHANNEL
SCALE: 1/2" = 1"
ASTM A-525 DESIGNATION
G-90 GALVANIZED STEEL W/FY=40 ksi

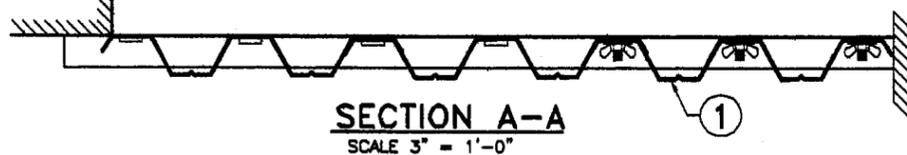


DETAIL 1
STUD W/ WING NUT
SCALE: 3" : 1"

COMPONENTS



STORM PANEL ELEVATION
SCALE 3" = 1'-0"



SECTION A-A
SCALE 3" = 1'-0"

GENERAL NOTES:

1. STORM PANEL SHOWN ON THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2004 EDITION OF THE FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1620 OF THE ABOVE MENTIONED CODE. IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.A.D. AS TESTED WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. A DURATION FACTOR CD=1.60 WAS USED FOR VERIFICATION OF FASTENERS IN WOOD.

STORM PANEL'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1609.1.4 OF THE ABOVE MENTIONED CODE AS PER TAS-201, TAS-202 AND TAS-203 PROTOCOLS AS PER MTL REPORT # 95-1193.

2. ALL STEEL SHEET METAL PANELS SHALL HAVE STRUCTURAL QUALITY ASTM A-653 SQ, GRADE 40, WITH G-60, GALVANIZED STEEL DESIGNATION W/FY=49 ksi (AFTER ROLLED).

3. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY UNLESS OTHERWISE NOTED.

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 SERIES W/ 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018.

5. BOLTS TO BE A.S.T.M. A-307, GALVANIZED OR STAINLESS STEEL, WITH 36 ksi MINIMUM YIELD STRENGTH.

6. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)

(A) TO EXISTING POURED CONCRETE:

- 1/4" TAPCON ANCHORS, AS MANUFACTURED BY I.T.W. BUILDIX OR ELCO TEXTRON, INC.
- 1/4"x7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.

NOTES:

- A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON ANCHOR IS 1 3/4"
- A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4"-20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST.
- A.3) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS, ANCHORAGE SHALL BE 1 3/4" MINIMUM FOR ANCHORS MENTIONED IN A.1), & 7/8" FOR ANCHORS MENTIONED IN A.2).

(B) TO EXISTING A.S.T.M. C-90 CONCRETE BLOCK WALL:

- 1/4" TAPCON ANCHORS, AS MANUFACTURED BY I.T.W. BUILDIX OR ELCO TEXTRON, INC.
- 1/4"x7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENERS, INC.

NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS, INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".
- B.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4"-20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- B.3) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE 1 1/4" MINIMUM FOR ANCHORS MENTIONED IN B.1), & 7/8" FOR ANCHORS MENTIONED IN B.2).

(C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

7. PANELS MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1A, 1B & 3 (SHEET 2 OF 6).

8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE.

9. (a) THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; I.E. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.A.D.

(b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.A.D., PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.

(c) THIS PRODUCT APPROVAL DOCUMENT WILL BE CONSIDERED INVALID IF MODIFIED.

(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A PROFESSIONAL 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.A.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.A.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

(e) THIS P.A.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

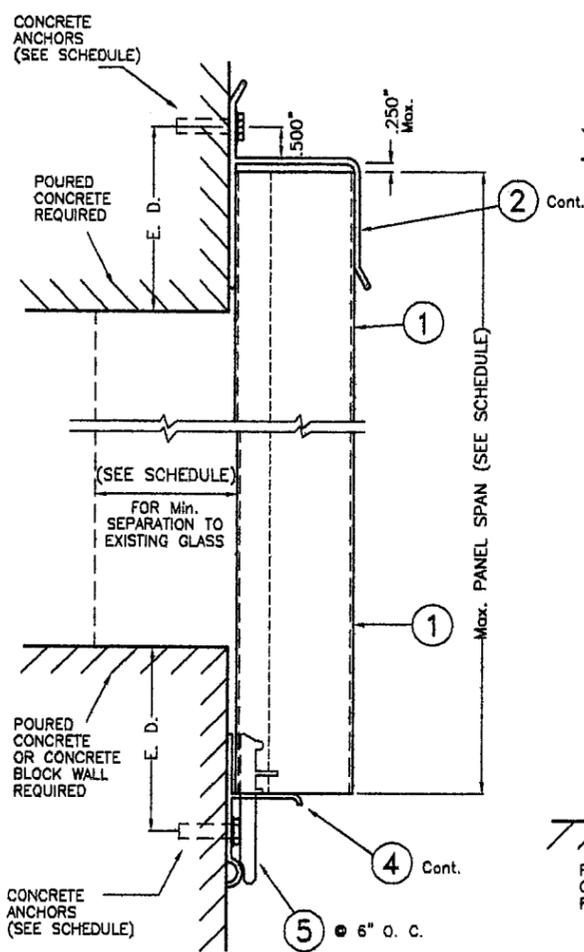
10. SHUTTER MANUFACTURER'S LABEL SHALL BE PLACED ON THE EXPOSED SURFACE OF THE CENTER FLANGE OF EVERY PANEL APPROXIMATELY 4" ABOVE THE BOTTOM OF SUCH PANEL.

LABEL SHALL READ AS FOLLOWS:
ALUFAB HURRICANE SHUTTERS, INC.
OPA LOCKA, FL.
MIAMI-DADE COUNTY PRODUCT APPROVED.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 05-1003.18
Expiration Date 03/06/2008
By *Helmut H. Mader*
Miami Dade Product Control
Division

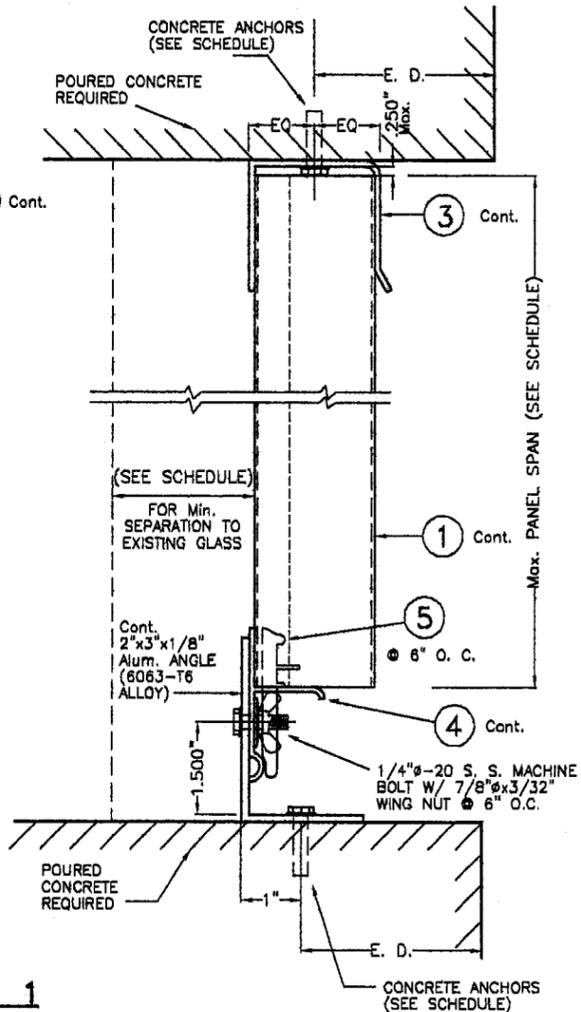
F.B.C.(High Velocity Hurricane Zone)

		0.050" THICK GALVANIZED STEEL STORM PANEL		Drawn by: J A S/LG./J.V.	
		ALUFAB HURRICANE SHUTTERS, INC.		8/24/05 DATE	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL. 33168 Phone: (305)871-1530, Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44187		13000 N.W. 38th AVENUE OPA LOCKA, FLORIDA 33054		05-148 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-028	8-24-05	3		
2			4		



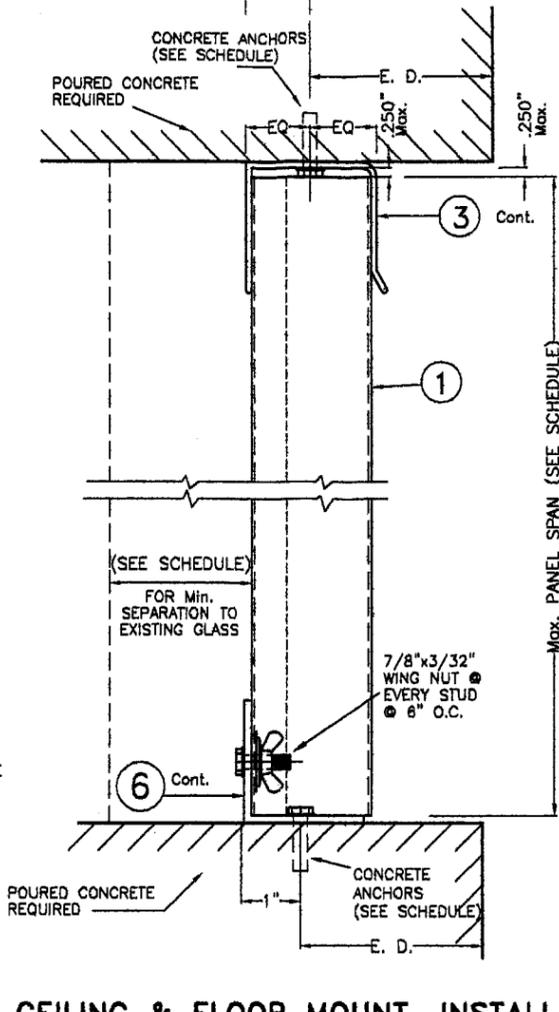
WALL MOUNT. INSTALL. - SECTION 1

SCALE: N.T.S.



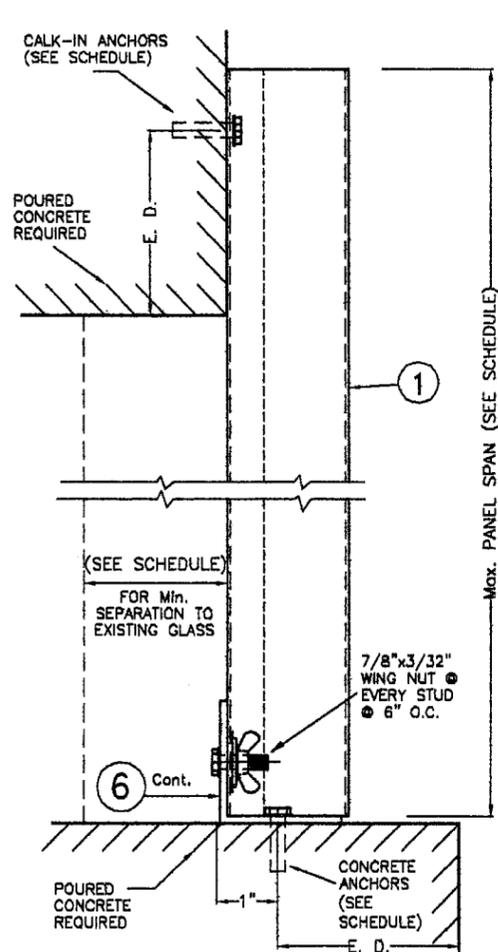
CEILING & FLOOR MOUNT. INSTALL. - SECTION 2

SCALE: N.T.S.



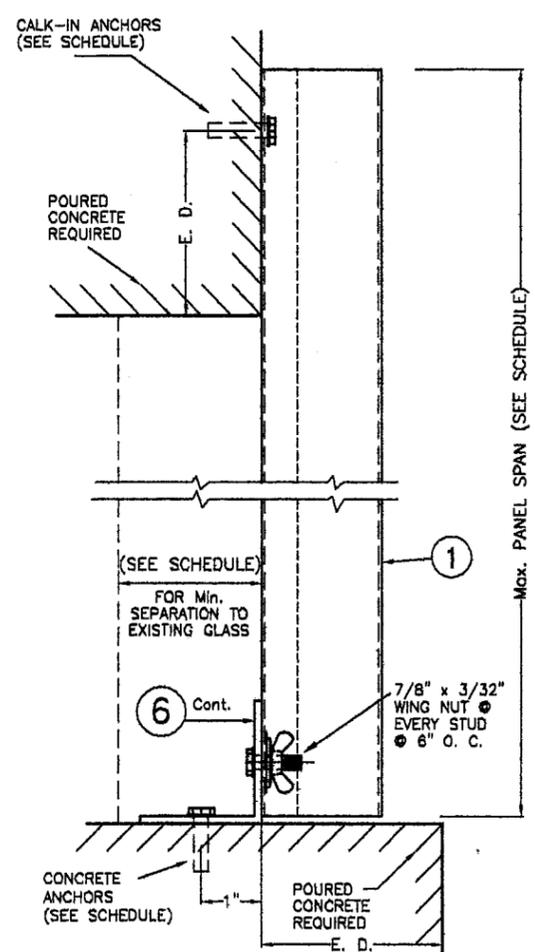
CEILING & FLOOR MOUNT. INSTALL. - SECTION 2A

SCALE: N.T.S.



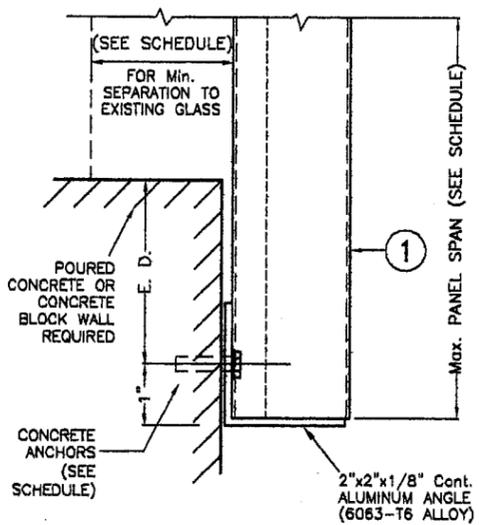
WALL & FLOOR MOUNT. INSTALL. - SECTION 3

SCALE: N.T.S.



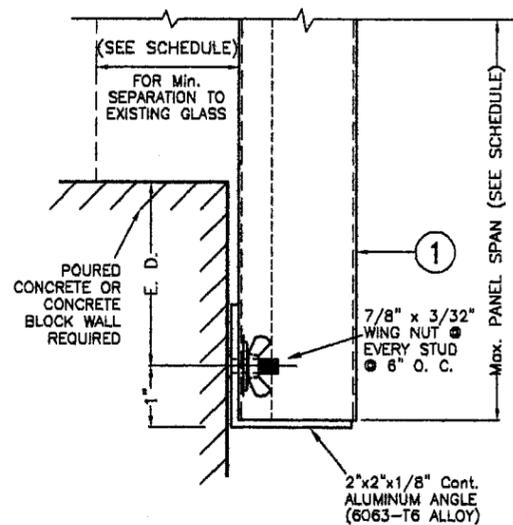
WALL & FLOOR MOUNT. INSTALL. - SECTION 3A

SCALE: N.T.S.



WALL MOUNTING INSTALLATION - SECTION 1A

NOTE: TOP MOUNTING AS ON SECTION 1 OR ALTERNATIVELY, IN CASE THAT HEADER WAS NOT USED ATTACH PANEL TO WALL USING SPECS AS INDICATED FOR BOTTOM CONNECTION DETAIL. SCALE: N.T.S.



WALL MOUNTING INSTALLATION - SECTION 1B

NOTE: ALTERNATIVELY, IN CASE THAT HEADER WAS NOT USED ATTACH PANEL TO WALL USING SPECS AS INDICATED FOR BOTTOM CONNECTION DETAIL.

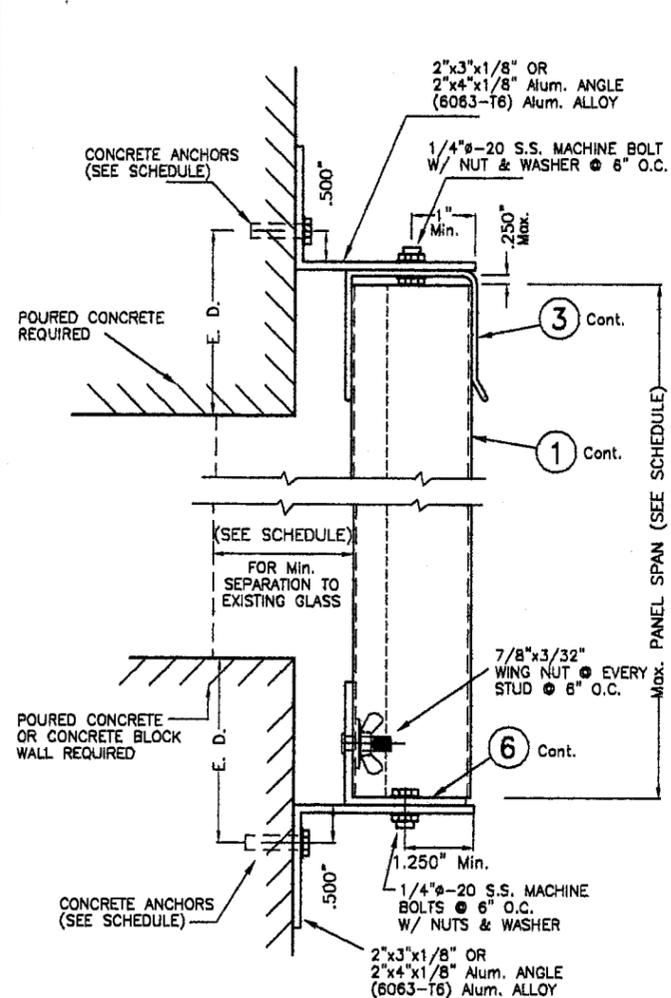
SCALE: N.T.S.

E. D. = EDGE DISTANCE (SEE SCHEDULE)

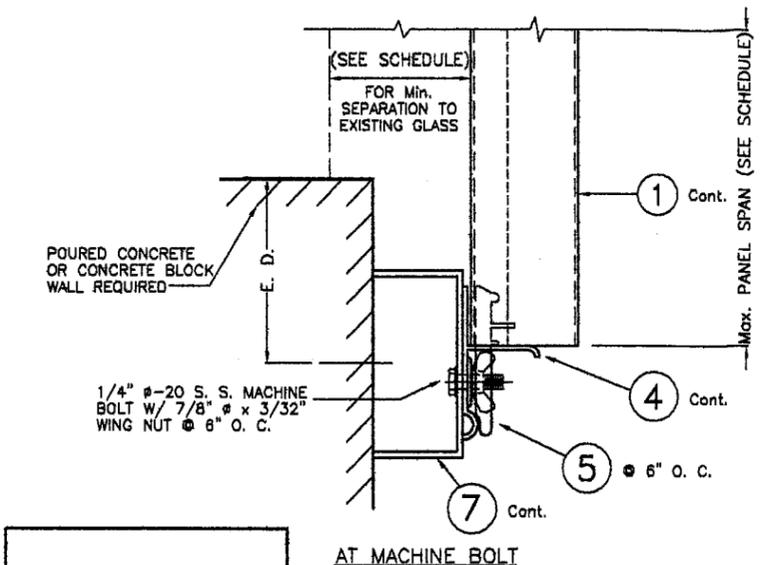
PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No 05-1003.18
 Expiration Date 03/06/2008
 By *Helmut A. Mader*
 Miami Dade Product Control
 Division

F.B.C.(High Velocity Hurricane Zone)

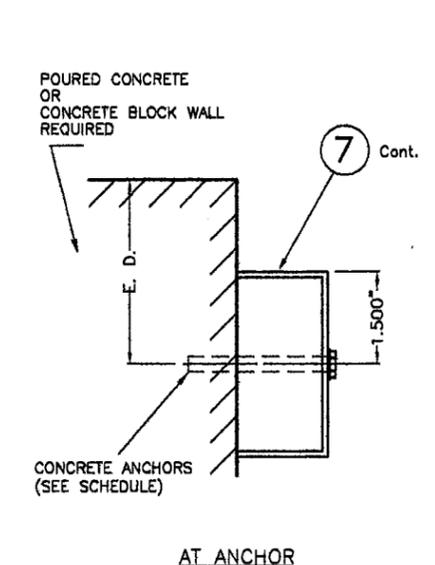
		0.050" THICK GALVANIZED STEEL STORM PANEL		Drawn by: J A S/LG./J.V.	
		ALUFAB HURRICANE SHUTTERS, INC.		B/24/05 DATE	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr. P. E. FLORIDA Lic. # 44167		13000 N.W. 38th AVENUE OPA LOCKA, FLORIDA 33054		05-148 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-026	6-24-06	3		
2			4		



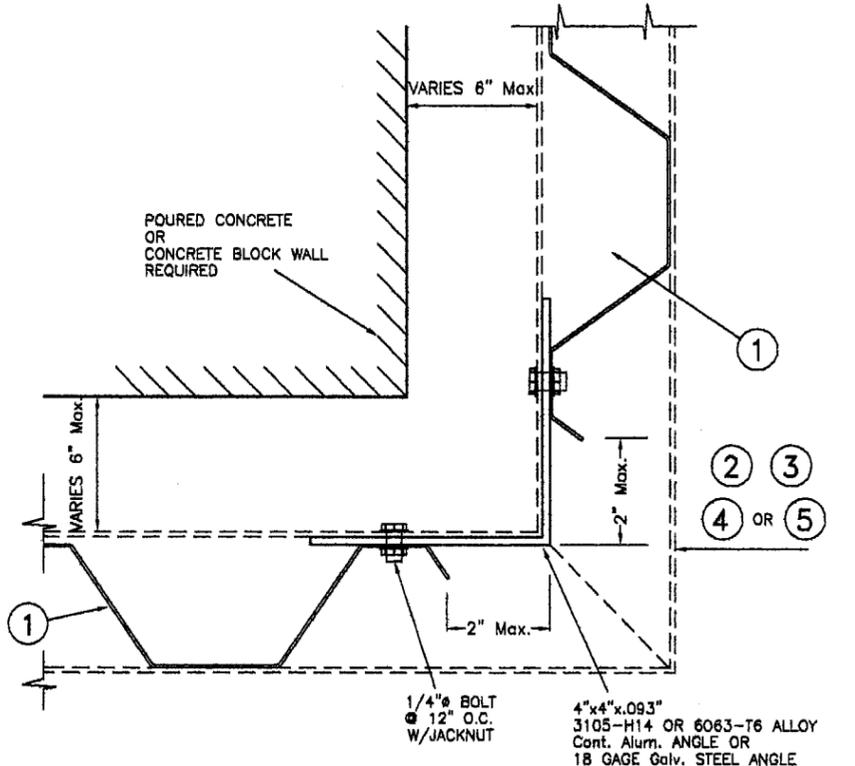
WALL MOUNTING INSTALLATION - OFFSET
- SECTION 4 SCALE: N.T.S.



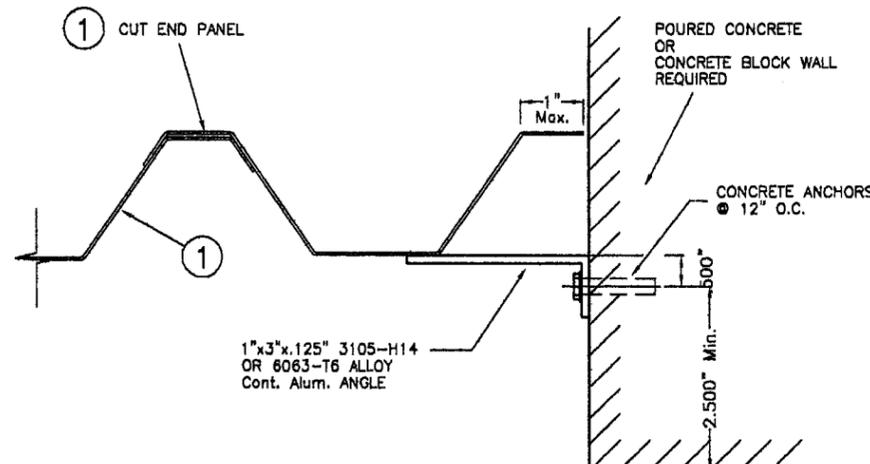
ALTERNATE WALL MOUNT. INSTALLAT. - OFFSET
- SECTION 4A SCALE: N.T.S.



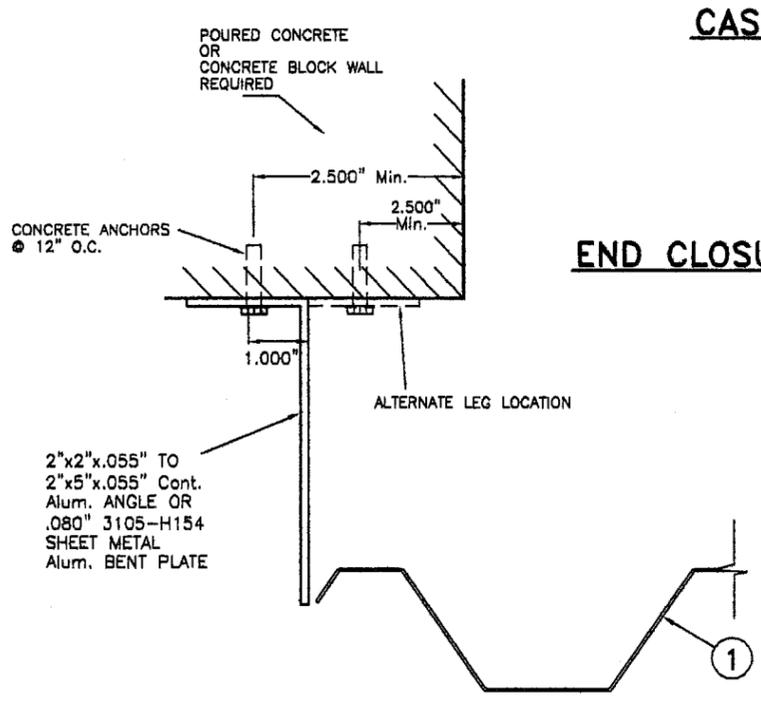
AT ANCHOR



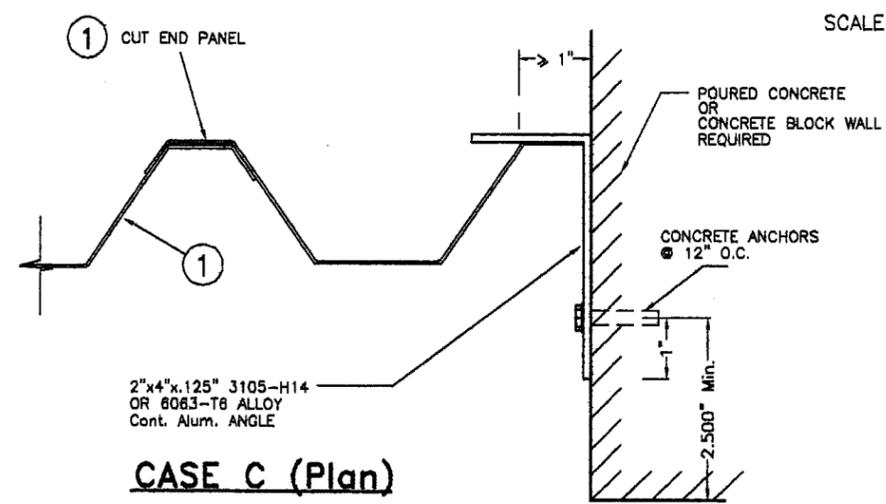
CASE A (Plan)
SCALE: N.T.S.



CASE B (Plan)
SCALE: N.T.S.



CASE D (Plan)



CASE C (Plan)
SCALE: N.T.S.

END CLOSURES DETAILS

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 05-1003.18
Expiration Date 03/06/2008
By *Helmut A. Mahr*
Miami Dade Product Control
Division

F.B.C.(High Velocity Hurricane Zone)

 TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530, Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167		0.050" THICK GALVANIZED STEEL STORM PANEL		Drawn by: J A S/LG./J.V.	
		ALUFAB HURRICANE SHUTTERS, INC. 13000 N.W. 38th AVENUE OPA LOCKA, FLORIDA 33054		8/24/05 DATE	
05-148 DRAWING No		SHEET 3 OF 6			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-028	8-24-05	3		
2			4		

**MAXIMUM DESIGN PRESSURE RATING "W" (p.s.f.) AND CORRESPONDING
 MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO
 CONCRETE AND CONCRETE BLOCK STRUCTURES ***

CORRESPONDING MAXIMUM SPAN "L" SCHEDULE

MAXIMUM DESIGN LOAD W (p.s.f.)	Max. PANEL SPAN L (ft.)	MINIMUM SEPARATION TO GLASS	APPLICABLE TO SECTIONS # (SEE SHEET 2 & 3 OF 6)
+50.0, -66.0	12'-4" OR LESS	3"	1, 1A, 1B, 3, 3A, 4 & 4A
+60.0, -80.0	8'-3" OR LESS	2 1/4"	1, 1A, 1B, 3, 3A, 4 & 4A
+60.0, -80.0	5'-7" OR LESS	1 1/4"	1
+60.0, -80.0	7'-10" OR LESS	2 1/4"	2 & 2A

ANCHORS LEGEND

ANCHOR MIN. SPACING	ANCHORS TYPE
3.0"	TAPCON
2.5"	CALK-IN

E. D. = EDGE DISTANCE

ACTUAL E. D.

ANCHORS TYPE AT ANCHORS LEGEND. LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE ANCHORS IS 2 1/2". FOR THIS OPERATION TO BE POSSIBLE, BY THE FOLLOWING FACTORS. (NOTE : MIN. E. D. FOR CALK-IN SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR * MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS. * SEE SHEET 5 & 6 OF 6 FOR ANCHORS TYPE &	FACTOR	
	TAPCON	.71
	CALK-IN	.86
		.50
		.50

MAXIMUM DESIGN LOAD W (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **	TAPCONS		TO CONCRETE TO MASONRY		TO CONCRETE TO MASONRY	TO CONCRETE TO MASONRY	APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
		CALK-IN							
+50.0, -66.0	5 1/2"			5 1/2"	6"	3 1/2"	1 (TOP)		
				4 1/2"	6"	6"	1A (BOTTOM)		
				4 1/2"	6"	6"	1B (BOTTOM)		
				-	6"	6"	3 (TOP)		
				-	6"	5 1/2"	3 (BOTTOM)		
				-	6"	6"	3A (TOP)		
				-	6"	5 1/2"	3A (BOTTOM)		
				-	6"	6"	4 (TOP)		
				-	6"	6"	4 (BOTTOM)		
				-	6"	2 1/2"	4A (BOTTOM)		
+60.0, -80.0	6"			9 1/2"	6"	-	1 (TOP)		
				3 1/2"	6"	5 1/2"	1 (BOTTOM)		
				5 1/2"	6"	12"	1A (BOTTOM)		
				5 1/2"	6"	12"	1B (BOTTOM)		
				-	6"	12"	3 (TOP)		
				-	6"	7"	3 (BOTTOM)		
				-	6"	12"	3A (TOP)		
				-	6"	12"	3A (BOTTOM)		
				-	6"	12"	4 (TOP)		
				-	6"	12"	4 (BOTTOM)		
+60.0, -80.0	6"			3 1/2"	6"	11 1/2"	2 (TOP)		
				4 1/2"	6"	11 1/2"	2 (BOTTOM)		
				-	6"	12"	2A (TOP)		
				-	6"	12"	2A (BOTTOM)		
				-	6"	12"	4 1/2"	2 (TOP)	
				-	6"	12"	4 1/2"	2 (BOTTOM)	
				-	6"	12"	3 1/2"	3 (TOP)	
				-	6"	12"	3 1/2"	3 (BOTTOM)	
				-	6"	11 1/2"	4A (TOP)		
				-	6"	11 1/2"	4A (BOTTOM)		
+60.0, -80.0	4 1/2"			6"	6"	6"	7'-10" OR LESS		
				6"	6"	6"	7'-10" OR LESS		
				6"	6"	6"	7'-10" OR LESS		
				6"	6"	6"	7'-10" OR LESS		

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 05-1003.18
 03/06/2008
 By *Helmut H. W. ...*
 Mechanical Engineering Consultant

 TILECO INC. TILITEST TESTING & ENGINEERING COMPANY 6305 N.W. 26th St., Suite 200, Miramar, Florida 33186 Phone: (305) 871-1530, Fax: (305) 871-1531 EB-0006719 WALTER A. TILITEST JR., P. E. FLORIDA LIC. # 44167	REV. NO.	DESCRIPTION	DATE
	1	OLD 03-028	8-24-05
ALUFAB HURRICANE SHUTTERS, INC. 13000 N.W. 38th AVENUE OPA LOCKA, FLORIDA 33064			
DRAWING NO.	DATE	DRAWN BY:	
05-148	8/24/05	J A S/LG./J.V.	
0.050" THICK GALVANIZED STEEL STORM PANEL			

Handwritten signature and date: 8/23/05

F.B.C.(High Velocity Hurricane Zone)

DRAWING No. 05-148		REV. No. 1		REV. No. 2		REV. No. 3		REV. No. 4		REV. No. 5	
DATE 8/24/05		DATE 8-24-05									
DRAWN BY: J A S/LG./J.V.		DESCRIPTION: STEEL STORM PANEL									
ALUFAB HURRICANE SHUTTERS, INC.		TILITEST & ENGINEERING COMPANY									
13000 N.W. 39th AVENUE OPA LOCKA, FLORIDA 33054		8335 N.W. 28th ST. STE. 205, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530, Fax: (305)871-1531		8335 N.W. 28th ST. STE. 205, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530, Fax: (305)871-1531		8335 N.W. 28th ST. STE. 205, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530, Fax: (305)871-1531		8335 N.W. 28th ST. STE. 205, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530, Fax: (305)871-1531		8335 N.W. 28th ST. STE. 205, VIRGINIA GARDENS, FL 33188 Phone: (305)871-1530, Fax: (305)871-1531	
WALTER A. TILITEST JR., P.E.		WALTER A. TILITEST JR., P.E.		WALTER A. TILITEST JR., P.E.		WALTER A. TILITEST JR., P.E.		WALTER A. TILITEST JR., P.E.		WALTER A. TILITEST JR., P.E.	
FLORIDA LIC. # 44187		FLORIDA LIC. # 44187		FLORIDA LIC. # 44187		FLORIDA LIC. # 44187		FLORIDA LIC. # 44187		FLORIDA LIC. # 44187	

05/23/05

NOTES:
 1. INSTALLATIONS ARE ONLY VALID FOR DESIGN LOADS LESS OR EQUAL THAN +60, -80psf AND FOR PANEL'S SPANS OF 8'-3" MAXIMUM (FOR SECTION A & B) & 7'-10" MAXIMUM (FOR SECTION C).
 2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE NO. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS:
 WALL MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

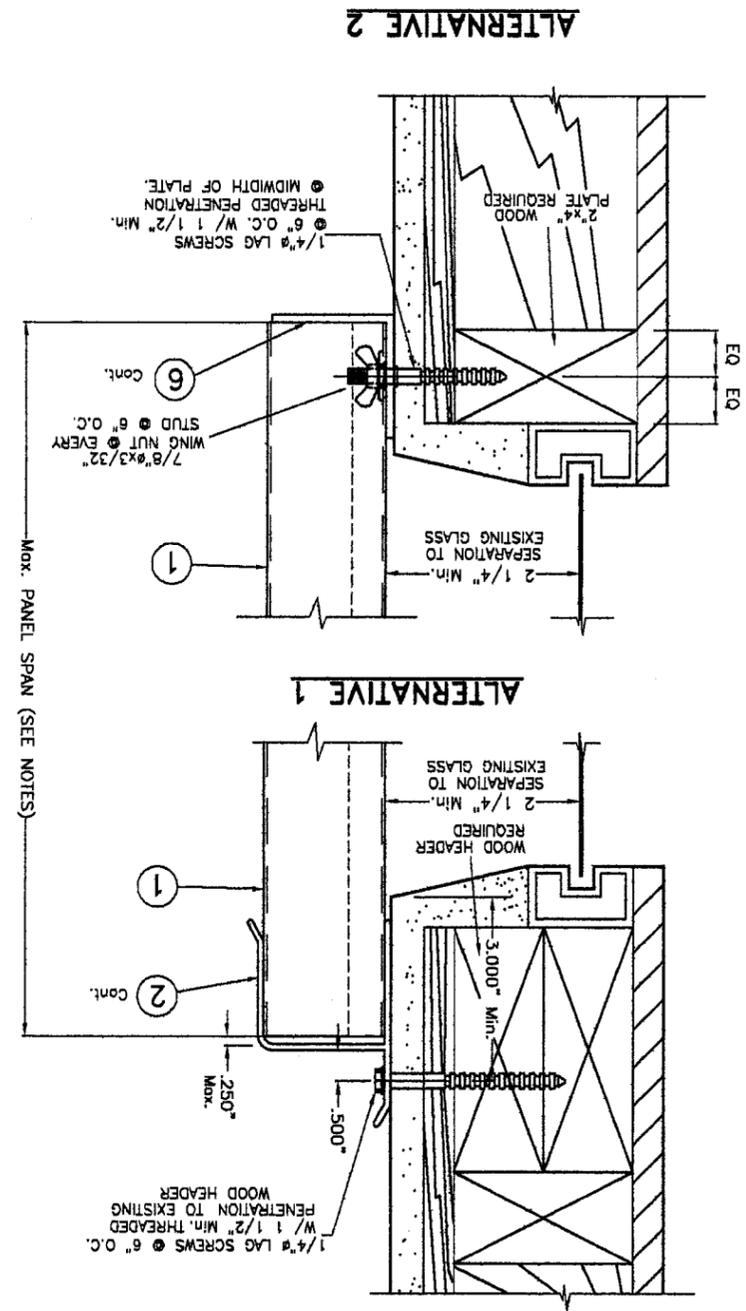
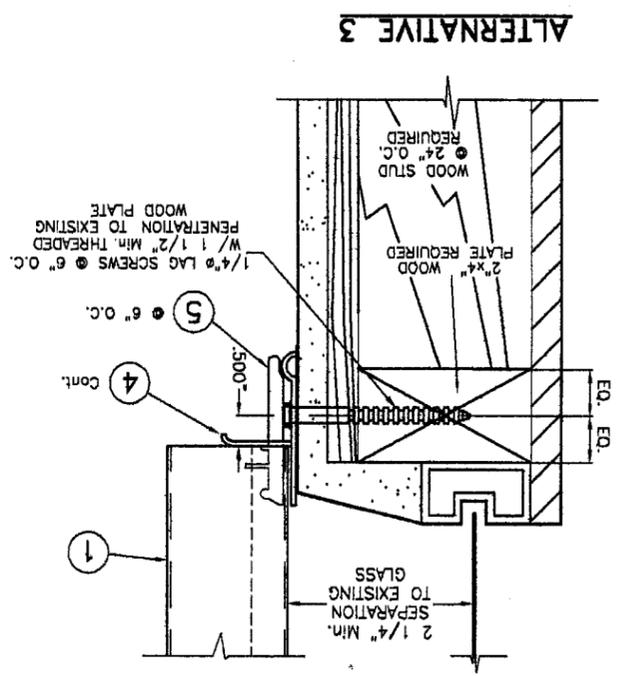
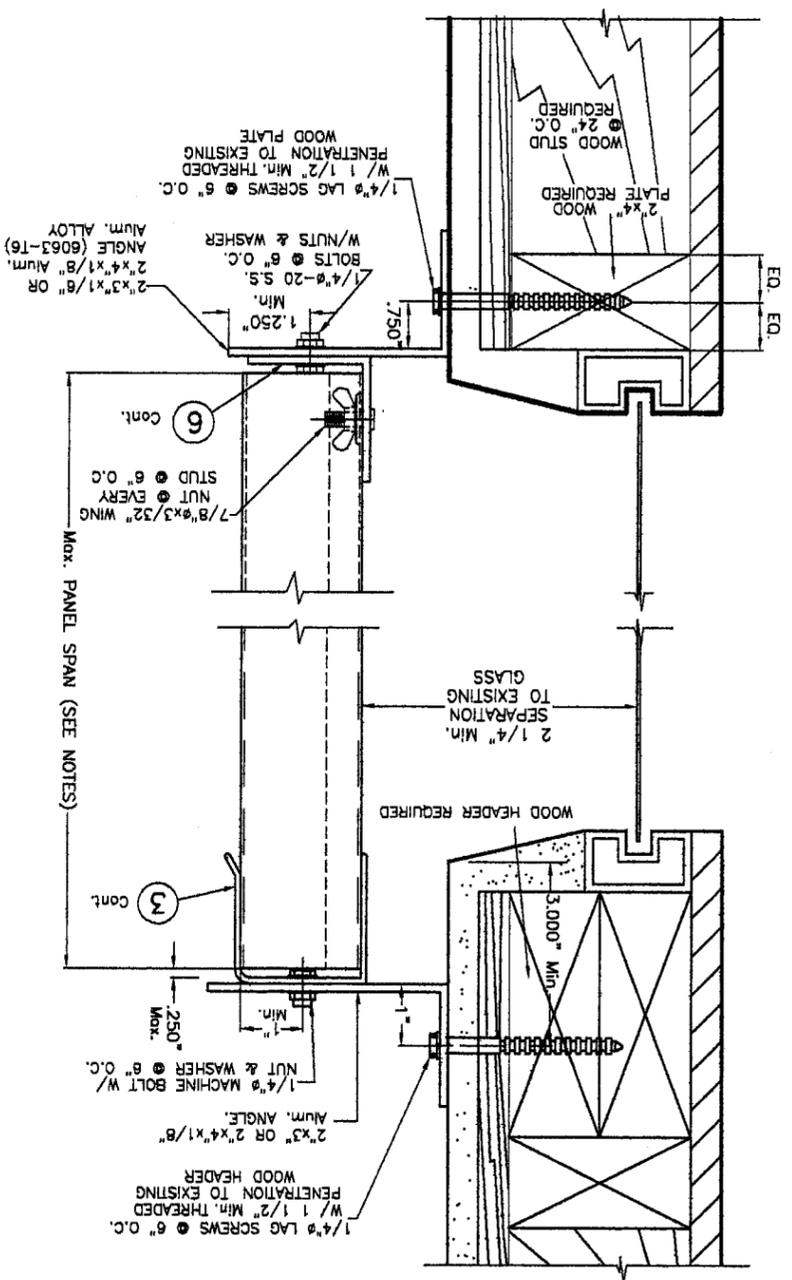
F.B.C.(High Velocity Hurricane Zone)

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

WALL MOUNTING INSTALLATION & (OFFSET) - SECTION B
 SCALE: 3/4" = 1"

WALL MOUNTING INSTALLATION - SECTION A
 SCALE: 3/4" = 1"

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 05-1003.18
 Expiration Date: 03/06/2008
 By: *Heung H. Wu*
 Minimum Edge Distance



1/4" LAG SCREWS @ 6" O.C.
 THREADED PENETRATION
 TO EXISTING WOOD PLATE

1/4" LAG SCREWS @ 6" O.C.
 W/ 1 1/2" MIN. THREADED
 PENETRATION TO EXISTING
 WOOD PLATE

7/8"x3/32" WING
 NUT @ EVERY
 STUD @ 6" O.C.
 Cont.

1/4" MACHINE BOLT W/
 NUT & WASHER @ 6" O.C.
 Max. 250"

1/4" LAG SCREWS @ 6" O.C.
 W/ 1 1/2" MIN. THREADED
 PENETRATION TO EXISTING
 WOOD HEADER

Alum. ANGLE;
 2"x3" OR 2"x4"x1/8"

1/4" MACHINE BOLT W/
 NUT & WASHER @ 6" O.C.

Max. 250"

Max. PANEL SPAN (SEE NOTES)

SEPARATION TO
 EXISTING
 GLASS
 2 1/4" Min.

WOOD HEADER REQUIRED

3,000" Min

250" Max.

1"

1"

1"

EQ. EQ.

SEPARATION TO
 EXISTING
 GLASS
 2 1/4" Min.

WOOD HEADER REQUIRED

3,000" Min

500"

1"

1"

1"

EQ. EQ.

Max. PANEL SPAN (SEE NOTES)

SEPARATION TO
 EXISTING GLASS
 2 1/4" Min.

WOOD HEADER
 REQUIRED

3,000" Min

250" Max.

1"

1"

1"

EQ. EQ.

1/4" LAG SCREWS
 @ 6" O.C. W/ 1 1/2" Min.
 THREADED PENETRATION
 @ MIDWIDTH OF PLATE.

7/8"x3/32"
 WING NUT @ EVERY
 STUD @ 6" O.C.
 Cont.

2 1/4" Min.

SEPARATION TO
 EXISTING GLASS

2x4" WOOD
 PLATE REQUIRED

EQ. EQ.

DRAWING No 05-148	REV. No	DESCRIPTION	DATE
	1	OLD 03-028	8-24-05
DATE 8/24/05	ALUFAB HURRICANE SHUTTERS, INC.		
Drawn by: J A S/LG./J.V.	0.050" THICK GALVANIZED STEEL STORM PANEL		

TILTECO INC.
 TILTE TESTING & ENGINEERING COMPANY
 6325 N.W. 26th St., Ste. 205, Virginia Gardens, Ft. Lauderdale, FL 33168
 Phone: (305)871-1530, Fax: (305)871-1531
 EB-0006719
 WALTER A. TILTE, JR., P.E.
 FLORIDA Lic. # 44187

0/23/00

NOTES:
 1. INSTALLATIONS ARE ONLY VALID FOR DESIGN LOADS LESS OR EQUAL THAN +60, -80psf AND FOR PANEL'S SPANS OF 8'-3" MAXIMUM (FOR SECTIONS A & B) & 7'-10" MAXIMUM (FOR SECTION C).
 2. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

NOTE FOR COMBINATION OF SECTIONS:
 FLOOR/ WALL/ CEILING MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

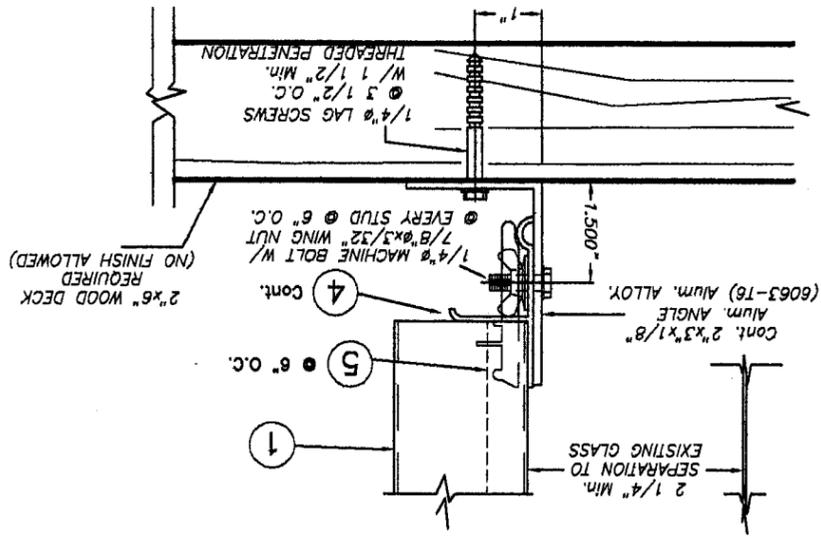
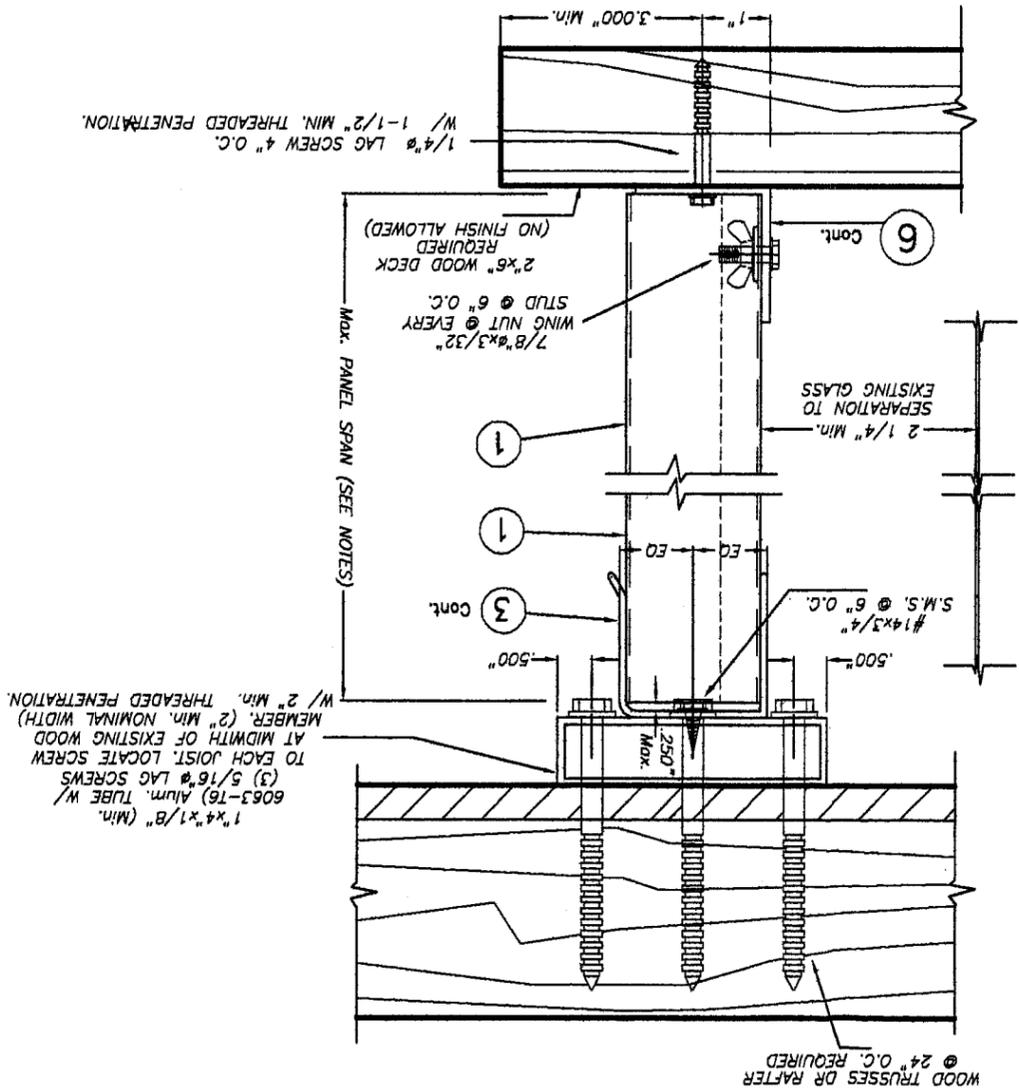
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

CEILING & REMOVABLE FLOOR MOUNTING INSTALLATION-SECTION C

SCALE: N.T.S.

ALTERNATIVE 2

ALTERNATIVE 1



PROJECT REVISED
 as complying with the Florida
 Building Code
 Approval No. 05-1003.18
 Expiration Date 03/06/2008
 By: *H. King H. King*
 Florida Professional Engineer