



**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**

[www.buildingcodeonline.com](http://www.buildingcodeonline.com)

**NOTICE OF ACCEPTANCE (NOA)**

**Alufab Hurricane Shutters, Inc.**  
**13000 N.W. 38<sup>th</sup> 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: Extruded Aluminum Bertha Bahama Shutter**

**APPROVAL DOCUMENT:** Drawing No. 05-133, titled "Florida Bahama, ASSA/Extruded Bertha Bahama Shutter", sheets 1 through 9 of 9, prepared by Tilteco, Inc., dated May 25, 2005, last revision #1 dated May 25, 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 Miami-Dade County Product Control Division.

**MISSILE IMPACT RATING: Large and Small Missile Impact**

**LABELING:** Each unit 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 # 03-0317.06 & 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.**



*Helmy A. Makar*  
 03/16/2006

**NOA No 05-0929.06**  
**Expiration Date: 03/30/2007**  
**Approval Date: 03/16/2006**

**Alufab Hurricane Shutters, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPRVAL #99-0208.04**

**A. DRAWINGS**

1. *Drawing No. 99-24, titled "Florida Bahama, ASSA/Extruded Bertha Bahama Shutter", prepared by Tilteco Inc., dated January 27, 1999, sheets 1 through 8 of 8, signed and sealed by Walter A. Tillit, Jr., P.E. on January 29, 1999.*

**B. TESTS**

1. *See Association's generic approval number 98-0090.*

**C. CALCULATIONS**

1. *See Association's generic approval number 98-0090.*

**D. MATERIAL CERTIFICATIONS**

1. *See Association's generic approval number 98-0090.*

**E. STATEMENTS**

1. *Release letter issued by the American Shutter Systems Association, Inc., dated January 21, 1999, certifying this product to meet the criteria of product tested and approved, and allowing Alufab Hurricane Shutters, Inc. to use the test results approved under Miami-Dade County Approval No. 98-0090, signed by Mr. John J. Cooper.*
2. *Acknowledgment letter by Alufab Hurricane Shutters, Inc., dated January 20, 1999, signed by Mr. Robert Andrade.*
3. *Letter by Tilteco Inc., dated January 25, 1999, certifying that the drawing (No. 99-24) prepared for Alufab Hurricane Shutters, Inc., signed and sealed by Mr. Walter A. Tillit, Jr., P.E., is engineering wise identical to ASSA's generic drawing (No. 97-229).*
4. *Acceptance Letter issued to Mr. Robert Andrade on March 29, 1999 and returned signed by Mr. Robert Andrade on March 29, 1999, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*

**2. EVIDENCE SUBMITTED UNDER PREVIOUS APPRVAL #02-0419.09**

**A. DRAWINGS**

1. *None.*

**B. TESTS**

1. *None.*

**C. CALCULATIONS**

1. *None.*



Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 05-0929.06  
Expiration Date: 03/30/2007  
Approval Date: 03/16/2006

**Alufab Hurricane Shutters, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**D. MATERIAL CERTIFICATIONS**

1. *None.*

**E. STATEMENTS**

1. *Statement letter from Alufab Hurricane Shutters, Inc., dated March 12, 2002, signed by Robert Andrade, stating that no change has done to the product.*
2. *Statement letter from Tilteco, Inc., dated February 28, 2002, signed and sealed by Walter A. Tillit Jr., P.E., stating that he is still in the engineering business.*
3. *Acceptance Letter issued to Mr. Robert Andrade on May 08, 2002 and returned signed by Mr. Robert Andrade on May 09, 2002, indicating to please issue the proposed Notice of Acceptance as submitted and reviewed.*

**3. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL #03-0317.06**

**A. DRAWINGS**

1. *Drawing No. 03-027, titled " Florida Bahama, ASSA/Extruded Bertha Bahama Shutter ", sheets 1 through 8 of 8, prepared by Tilteco, Inc., dated February 06, 2003, last revision #1 dated February 06, 2003 signed and sealed by Mr. Walter A. Tillit, Jr., P.E.*

**B. TESTS**

1. *None. See Association's generic approval number 03-0114.*

**C. CALCULATIONS**

1. *None. See Association's generic approval number 03-0114.*

**D. MATERIAL CERTIFICATIONS**

1. *None. See Association's generic approval number 03-0114.*

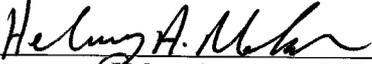
**E. STATEMENTS**

1. *Letter issued by Mr. Walter A. Tillit, Jr., P.E., dated February 12, 2003, indicating that the only change is update General Note numbers 1 & 9 to reference the Florida Building Code and ASCE 7-98.*

**4. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. *Drawing No. 05-133, titled " Florida Bahama, ASSA/Extruded Bertha Bahama Shutter ", sheets 1 through 9 of 9, prepared by Tilteco, Inc., dated May 25, 2005, last revision #1 dated May 25, 2005, signed and sealed by Walter A. Tillit Jr., P.E.*

  
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**Helmy A. Makar, P. E.**  
**Product Control Examiner**  
**NOA No 05-0929.06**  
**Expiration Date: 03/30/2007**  
**Approval Date: 03/16/2006**

**Alufab Hurricane Shutters, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**B. TESTS**

1. *See Association's generic approval under 05-0237.*

**C. CALCULATIONS**

1. *See Association's generic approval under 05-0237.*

**D. QUALITY ASSURANCE**

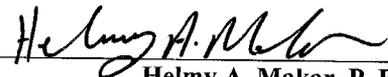
1. *By Miami-Dade Building Code Compliance Office.*

**E. MATERIAL CERTIFICATIONS**

1. *See Association's generic approval under 05-0237.*

**F. STATEMENTS**

1. *Letter by Tilteco Inc., dated August 10, 2005, certifying that the drawing (No. 05-133) prepared for Alufab Hurricane Shutters, Inc., signed and sealed by Mr. Walter A. Tillit, Jr., P.E., is engineering wise identical to ASSA's generic drawing (No. 05-094).*



Helmy A. Makar, P. E.  
Product Control Examiner  
NOA No 05-0929.06  
Expiration Date: 03/30/2007  
Approval Date: 03/16/2006

**GENERAL NOTES:**

1. EXTRUDED BERTHA BAHAMA SHUTTER 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.

THIS BAHAMA SHUTTER SYSTEM MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1620 OF THE ABOVE MENTIONED CODE. IN ORDER TO VERIFY THAT ANCHORS ON THIS P.A.D., AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE LOADS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. HOWEVER, FOR LAG SCREWS INTO WOOD, A 1.60 WIND LOAD DURATION FACTOR WAS USED TO CALCULATE SCREWS SPACINGS.

EXTRUDED BERTHA BAHAMA SHUTTER'S ADEQUACY FOR HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.4 OF THE ABOVE MENTIONED CODE AS PER ATL REPORTS #0923.01-97 AND #0309.01-04 AS PER PROTOCOLS TAS-201, TAS-202 AND TAS-203.

2. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER, WITH  $F_y = 25.0$  ksi MINIMUM (UNLESS OTHERWISE NOTED).

3. 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.

4. BOLTS TO BE ALUMINUM ASSOCIATION 2024-T4 ALLOY AND TEMPER, ASTM A-307 GALVANIZED STEEL, OR AISI 304 SERIES STAINLESS STEEL WITH 36 ksi MINIMUM YIELD STRENGTH.

5. ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.

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

- (A) TO EXISTING POURED CONCRETE: (Min.  $f'_c=3145$  p.s.i.)
  - 1/4"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDDEX.
  - 1/4"  $\phi$  x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY THE POWERS FASTENERS, INC.

NOTES:

A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 1/2".

A.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED.

1/4"  $\phi$ -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST AND 1" MINIMUM FOR WALLS WITH NO STUCCO.

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 AS INDICATED ON NOTES A.1) & A.2) ABOVE.

(B) TO EXISTING CONCRETE BLOCK WALL:

- 1/4"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDDEX.
- 1/4"  $\phi$  x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY THE POWERS FASTENERS, INC.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO THE CONCRETE BLOCK UNIT SHALL BE 1 1/4".

B.2) CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4"  $\phi$ -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 AS INDICATED ON NOTES B.1) & B.2) ABOVE.

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

7. EACH SHUTTER SHALL HAVE A LEGIBLE AND READILY VISIBLE MARKING INSTRUCTING OWNER OR TENANT TO SECURE SHUTTER WITH SIDE & SILL BRACKETS DURING PERIODS OF HURRICANE WARNINGS.

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. CONTRACTOR TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN PERMANENT AND CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.

9. EXTRUDED BERTHA BAHAMA SHUTTER'S INSTALLATION SHALL COMPLY WITH SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

10. (a) THIS 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 P.A.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.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.

11. SHUTTER'S MANUFACTURER LABEL SHALL BE PLACED ON THE EXPOSED SURFACE OF THE BAHAMA FRAME (E) OR (C). ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABEL SHALL READ AS FOLLOWS:  
**ALUFAB HURRICANE SHUTTERS, INC.**  
 OPA LOCKA, FL.  
 MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED.

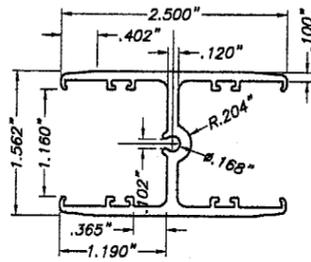
PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-0929.06  
 Expiration Date 03/30/2007  
 By *Walter A. Tillit Jr.*  
 Miami Dade Product Control  
 Division

*[Signature]*  
 AUG 08 2005

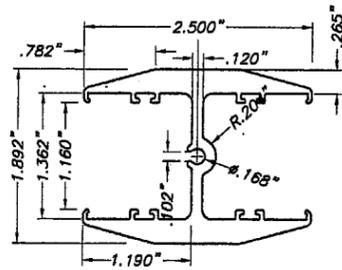
**TILECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166  
 Phone : (305)871-1530 Fax : (305)871-1531  
 EB-0006719  
 WALTER A. TILLIT Jr., P. E.  
 FLORIDA Lic. # 44167  
 © 2005 TILECO INC.

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

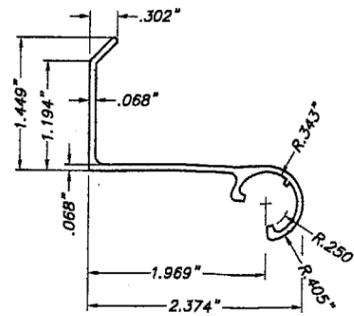
FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER		DRAWN BY: M.C.V.	
ALUFAB HURRICANE SHUTTERS, INC.		5/25/05 DATE	
13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054		05-133 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No
1	OLD 03-027	5/25/05	3
2	-	-	4
SHEET 1 OF 9			



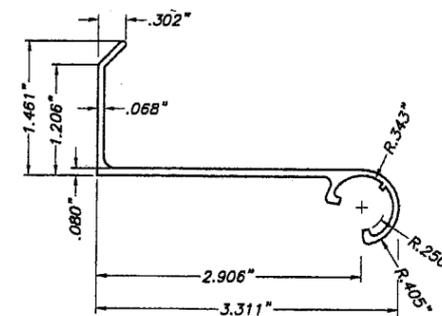
**(A1) REGULAR INTERIOR MULLION**  
6005-T5 Alum. ALLOY  
SCALE: 1/2" = 1"



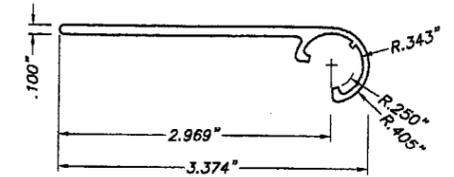
**(A2) HEAVY INTERIOR MULLION**  
6005-T5 Alum. ALLOY  
SCALE: 1/2" = 1"



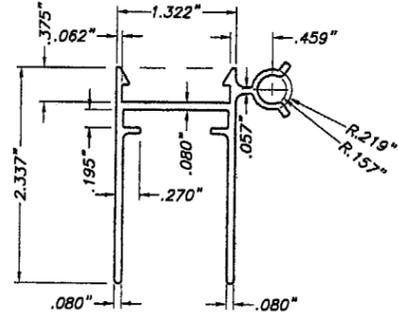
**(B) FEMALE HINGE**  
SCALE: 1/2" = 1"



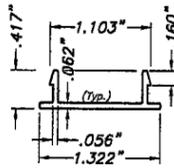
**(C) 1" B. O. FEMALE HINGE**  
SCALE: 1/2" = 1"



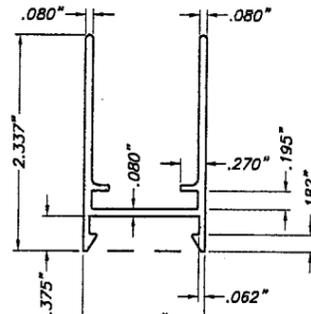
**(D) FLAT FEMALE HINGE**  
SCALE: 1/2" = 1"



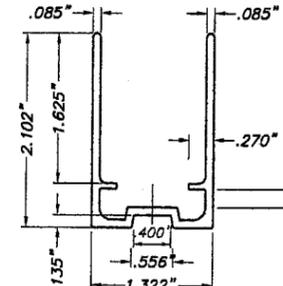
**(E) BAHAMA MALE TOP FRAME**  
SCALE: 1/2" = 1"



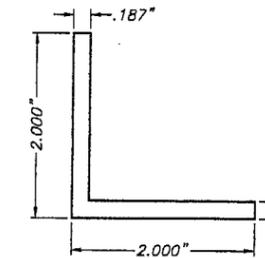
**(F) SNAP CAP**  
SCALE: 1/2" = 1"



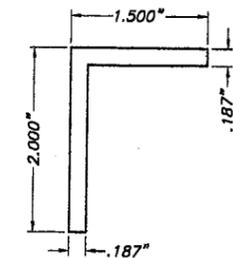
**(G) BAHAMA FRAME**  
SCALE: 1/2" = 1"



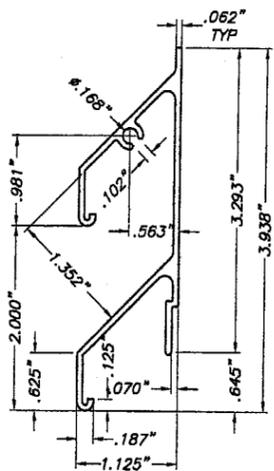
**(G1) ALTERNATE BAHAMA FRAME**  
SCALE: 1/2" = 1"



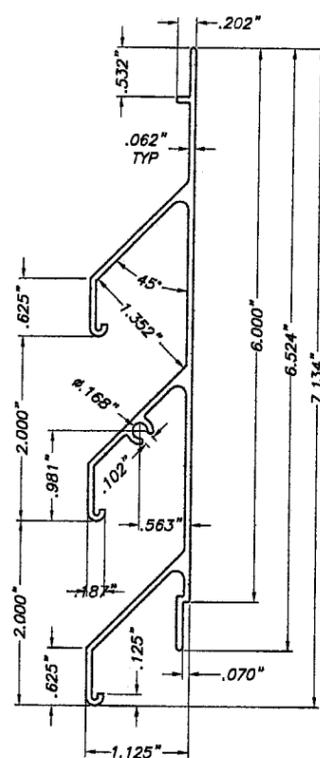
**(H) CORNER KEY**  
1" LONG  
SCALE: 1/2" = 1"



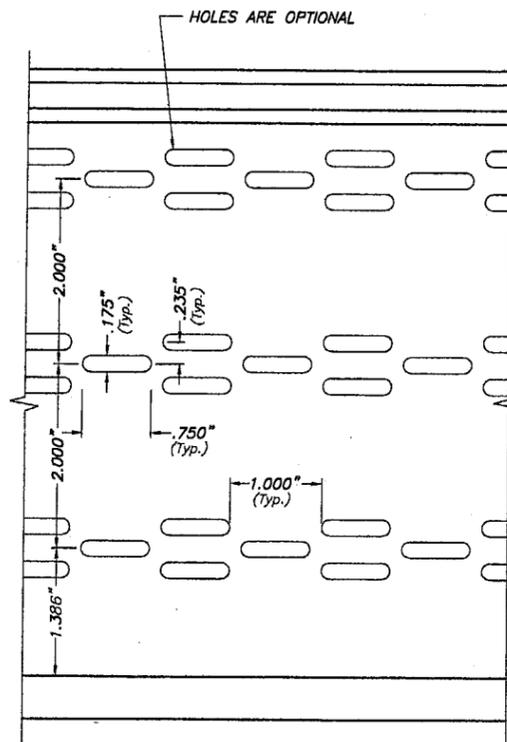
**(N) WALL MOUNT Alum. BRACKET**  
7" LONG  
SCALE: 1/2" = 1"



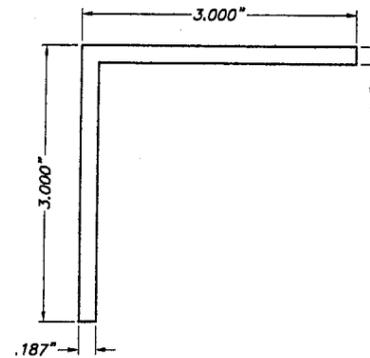
**(I) HALF SHUTTER BLADE**  
SCALE: 1/2" = 1"



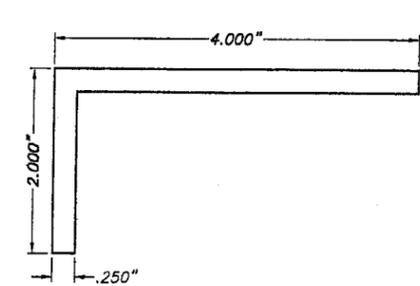
**(J) SHUTTER BLADE**  
SCALE: 1/2" = 1"



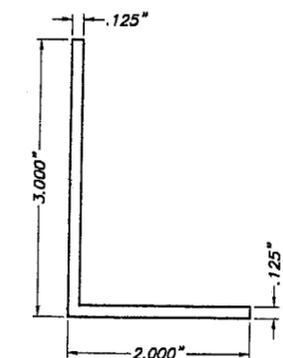
**SHUTTER BLADE ELEVATION**  
SCALE: 1/2" = 1"



**(O) BUILD-OUT Alum. BRACKET**  
7" LONG  
SCALE: 1/2" = 1"



**(P) BUILD-OUT SIDE BRACKET**  
7" LONG  
SCALE: 1/2" = 1"



**(Q) SILL ANGLE**  
SCALE: 1/2" = 1"

**COMPONENTS**

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 05-0929.06  
Expiration Date 03/30/2007  
By *Helmut A. Tillit*  
Miami Dade Product Control  
Division

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

**TILECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33168  
Phone: (305)871-1530 Fax: (305)871-1531  
EB-0006719  
WALTER A. TILLIT Jr., P. E.  
FLORIDA Lic. # 44167  
© 2005 TILTECO INC.

FLORIDA BAHAMA  
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER

**ALUFAB HURRICANE SHUTTERS, INC.**  
13000 N.W. 38th AVENUE  
OPA LOCKA, FL. 33054

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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2	-	-	4	-	-

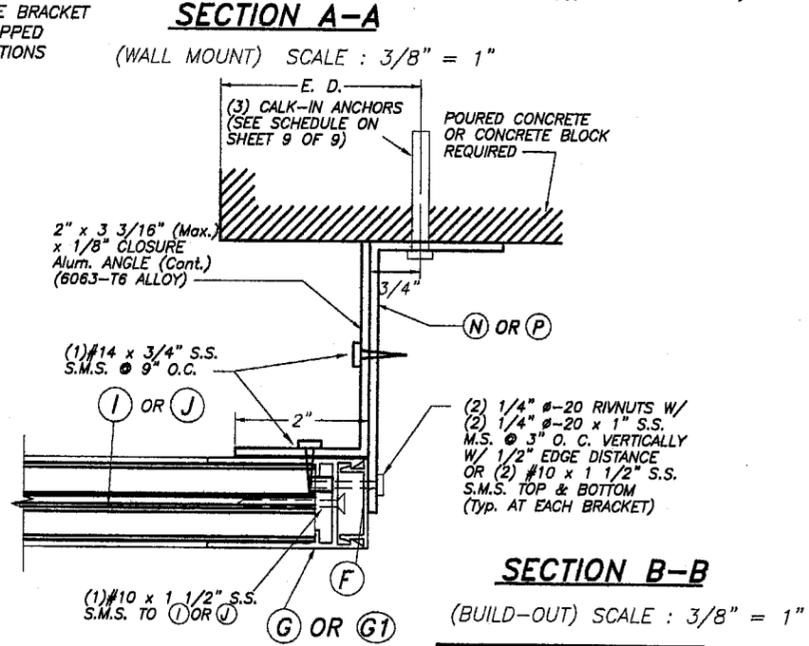
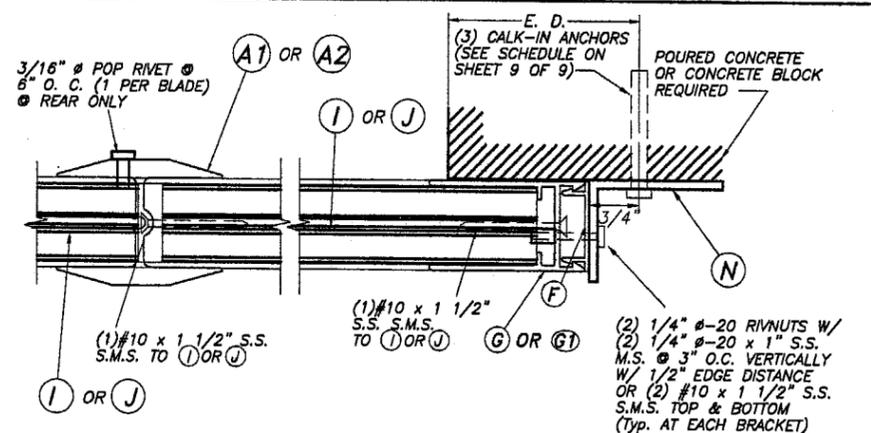
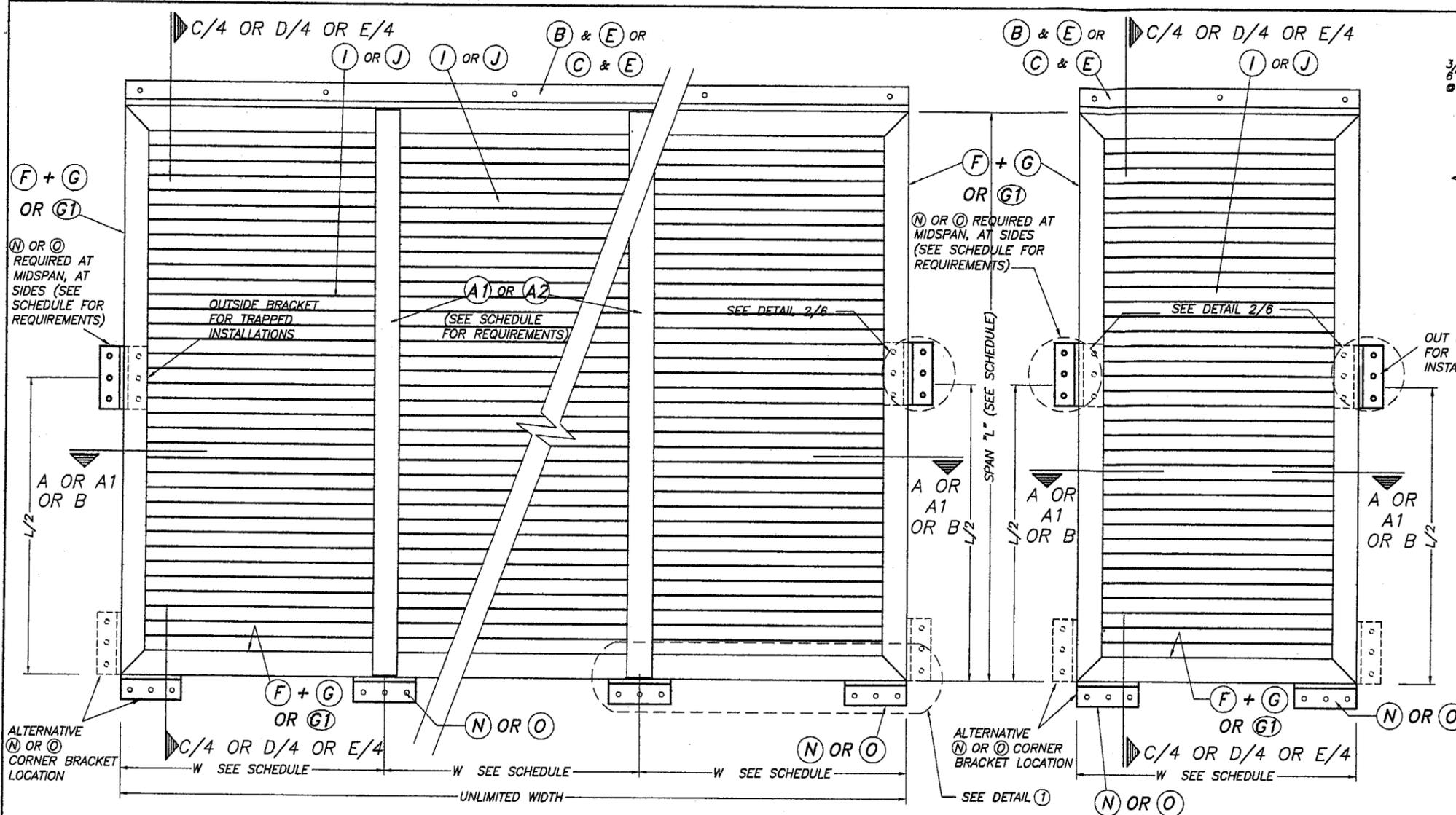
DRAWN BY:  
M.C.V.

5/25/05  
DATE

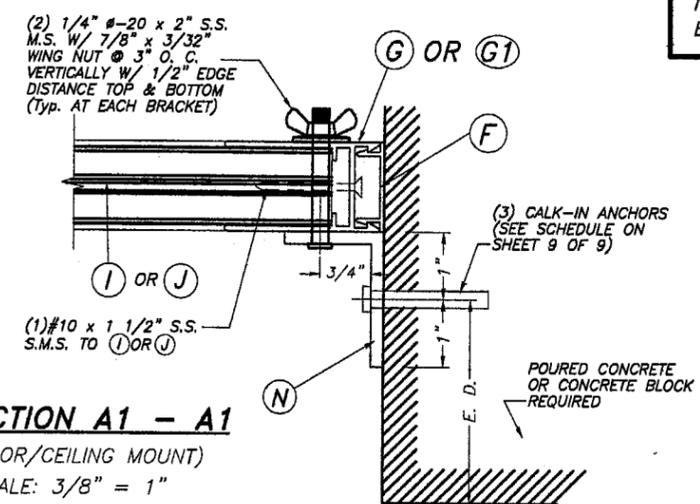
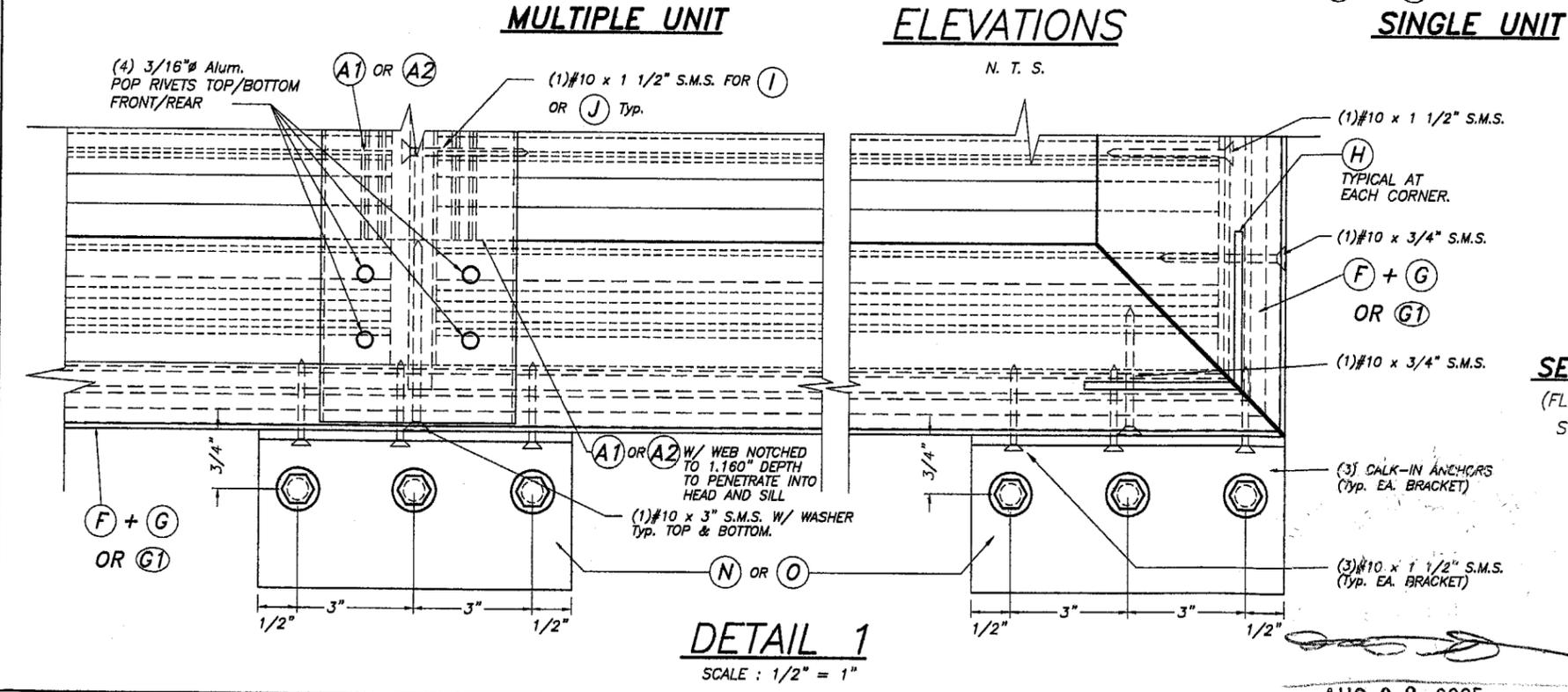
05-133  
DRAWING No

SHEET 2 OF 9

AUG 08 2005



**NOTE:**  
E. D. = 3 1/2" Min.



**PRODUCT REVISED**  
as complying with the Florida Building Code  
Acceptance No 05-0929.06  
Expiration Date 03/30/2007  
By *Healy A. Healy*  
Miami Dade Product Control Division

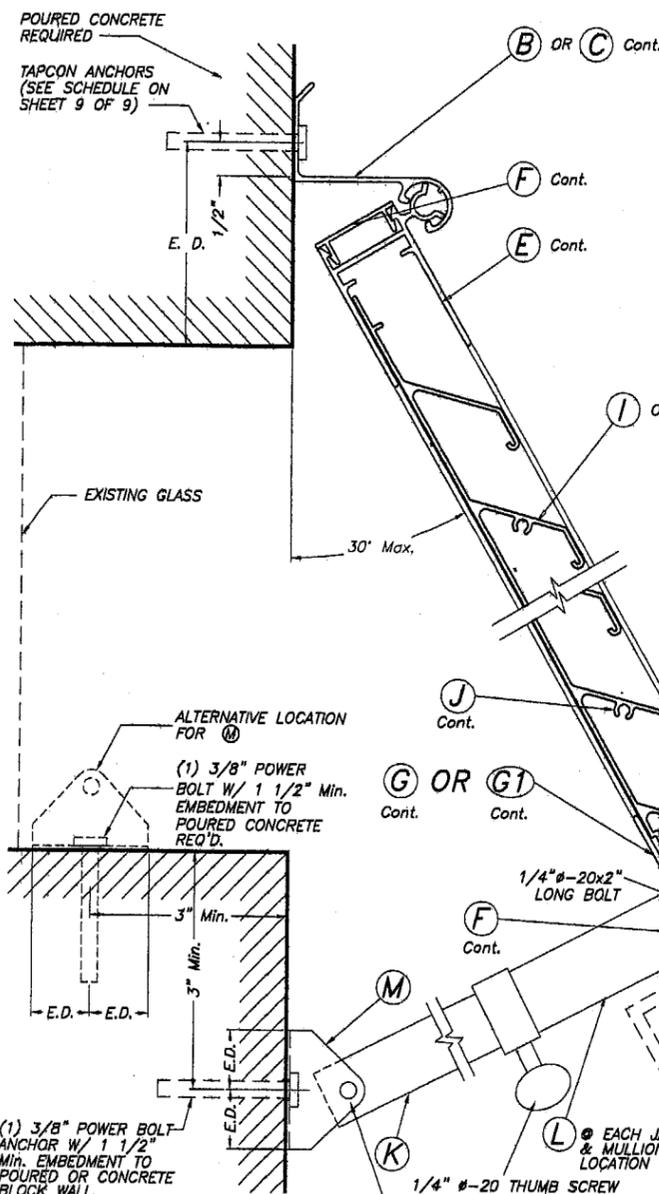
**F.B.C. (High Velocity Hurricane Zone)**

**TILECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6325 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166  
Phone: (305)871-1530 • Fax: (305)871-1531  
EB-0006719  
WALTER A. TILLIT Jr., P. E.  
FLORIDA Lic. # 44167  
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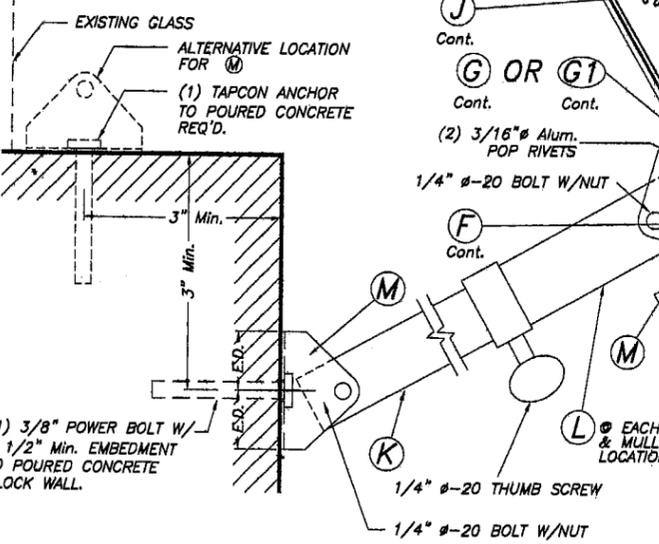
FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER		DRAWN BY: M.C.V.	
<b>ALUFAB HURRICANE SHUTTERS, INC.</b>		5/25/05 DATE	
13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054		05-133 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No
1	OLD 03-027	5/25/05	3
2	-	-	4

SHEET 3 OF 9

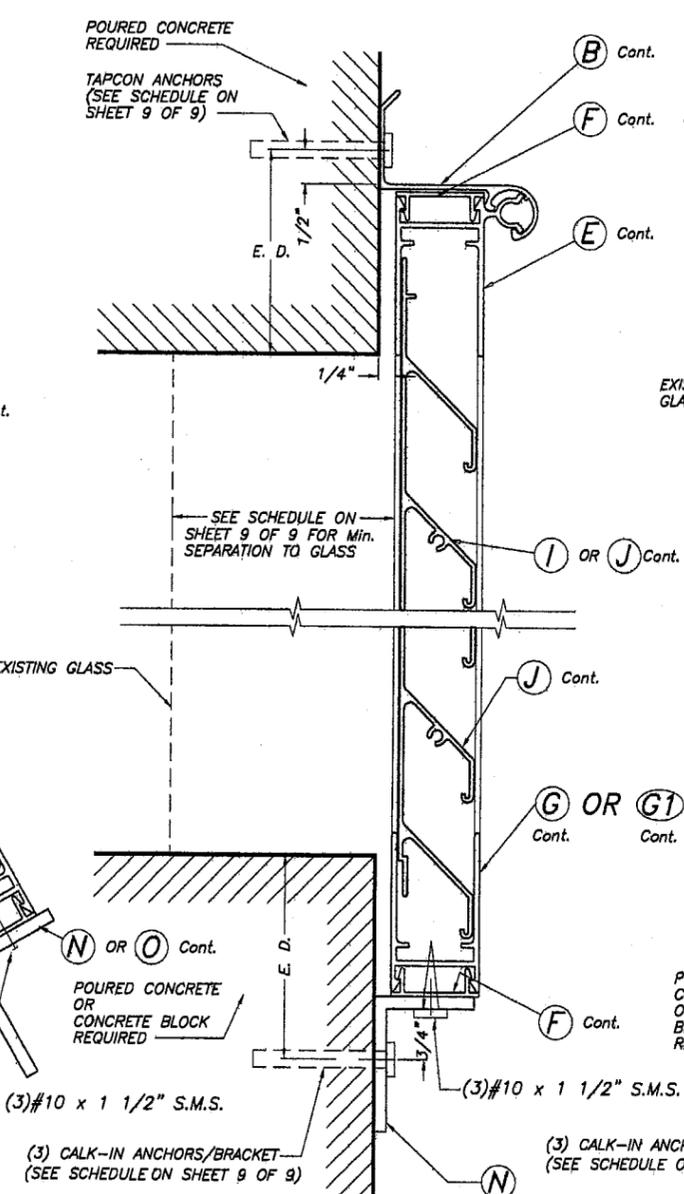
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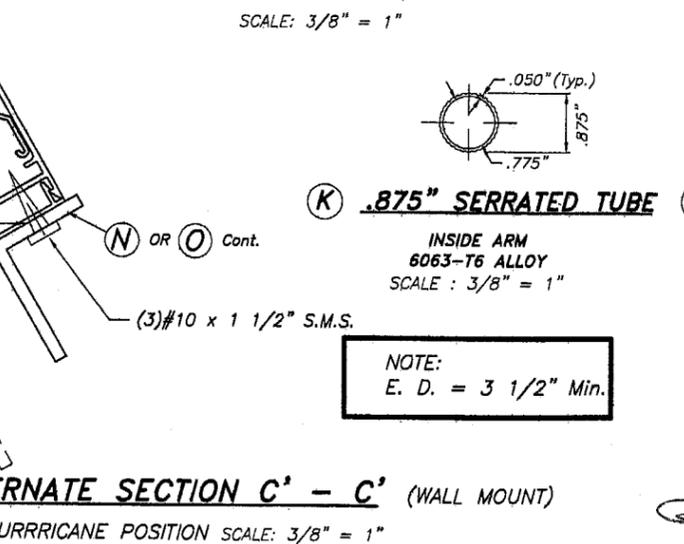
**SECTION C - C (WALL MOUNT)**  
NON HURRICANE POSITION (74 m.p.h. WIND SPEED)  
SCALE: 3/8" = 1"



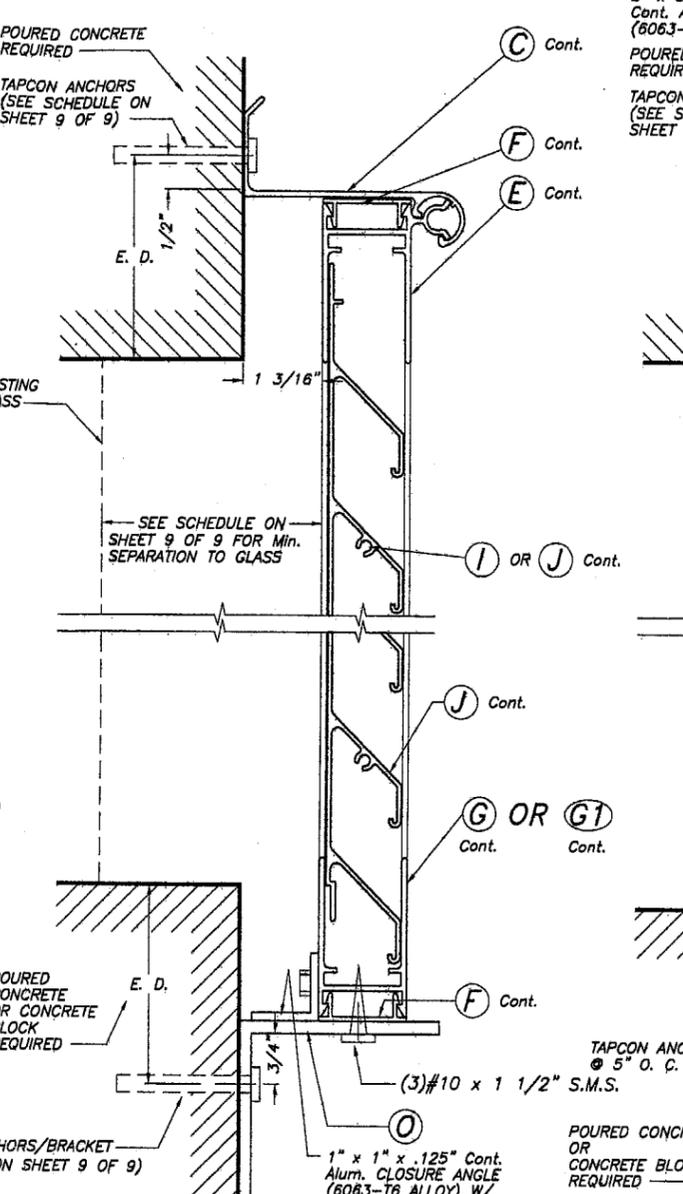
**ALTERNATE SECTION C' - C' (WALL MOUNT)**  
NON HURRICANE POSITION SCALE: 3/8" = 1"



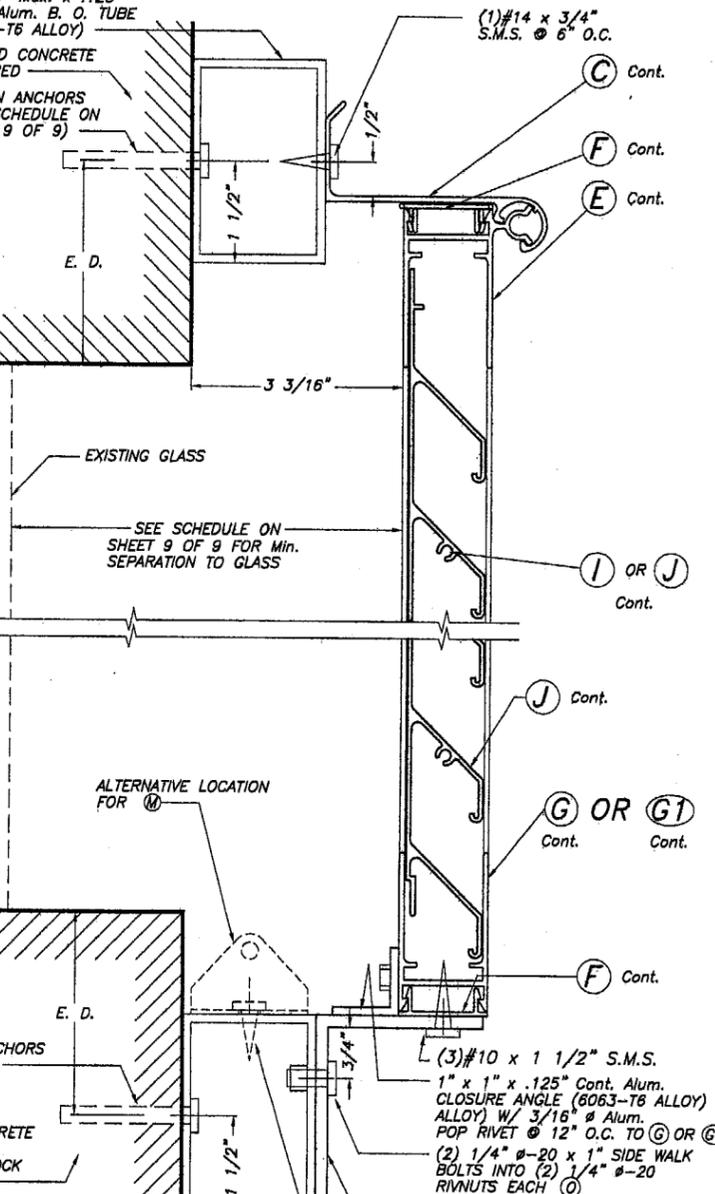
**SECTION C - C (WALL MOUNT)**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



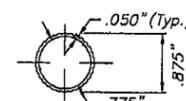
**SECTION D - D (BUILD-OUT)**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



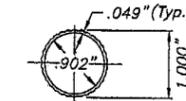
**SECTION E - E (BUILD-OUT)**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



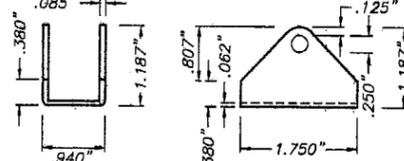
**SECTION E - E (BUILD-OUT)**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



**K .875" SERRATED TUBE**  
INSIDE ARM  
6063-T6 ALLOY  
SCALE: 3/8" = 1"



**L 1" SERRATED TUBE**  
OUTSIDE ARM  
6063-T6 ALLOY  
SCALE: 3/8" = 1"



**M CAMEL BACK HINGE**  
3003-H14 Alum. ALLOY  
SCALE: 3/8" = 1"

NOTE:  
E. D. = 3 1/2" Min.

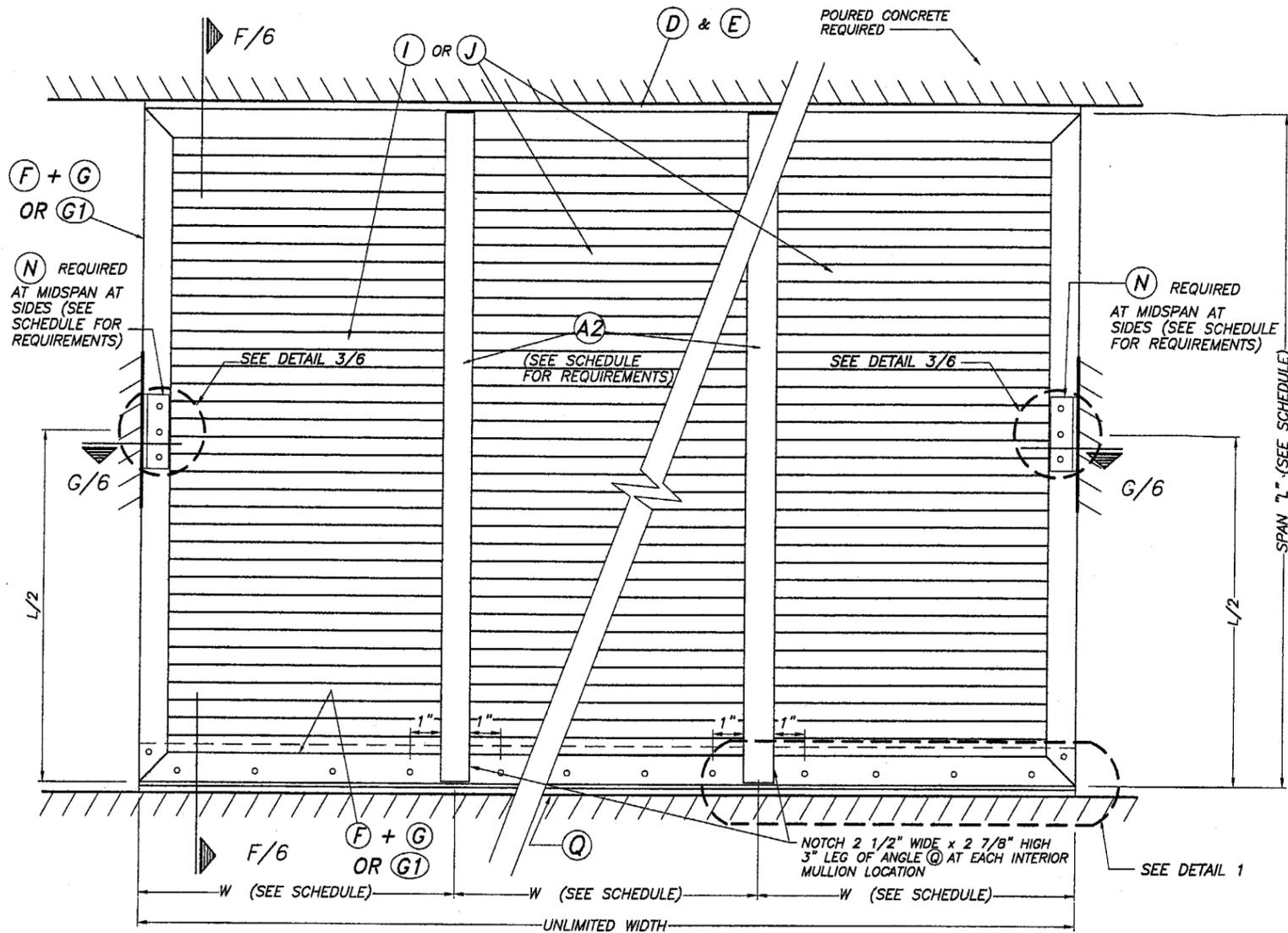
PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No 05-0929.06  
Expiration Date 03/30/2007  
By *Helmut A. Miller*  
Miami Dade Product Control  
Division

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

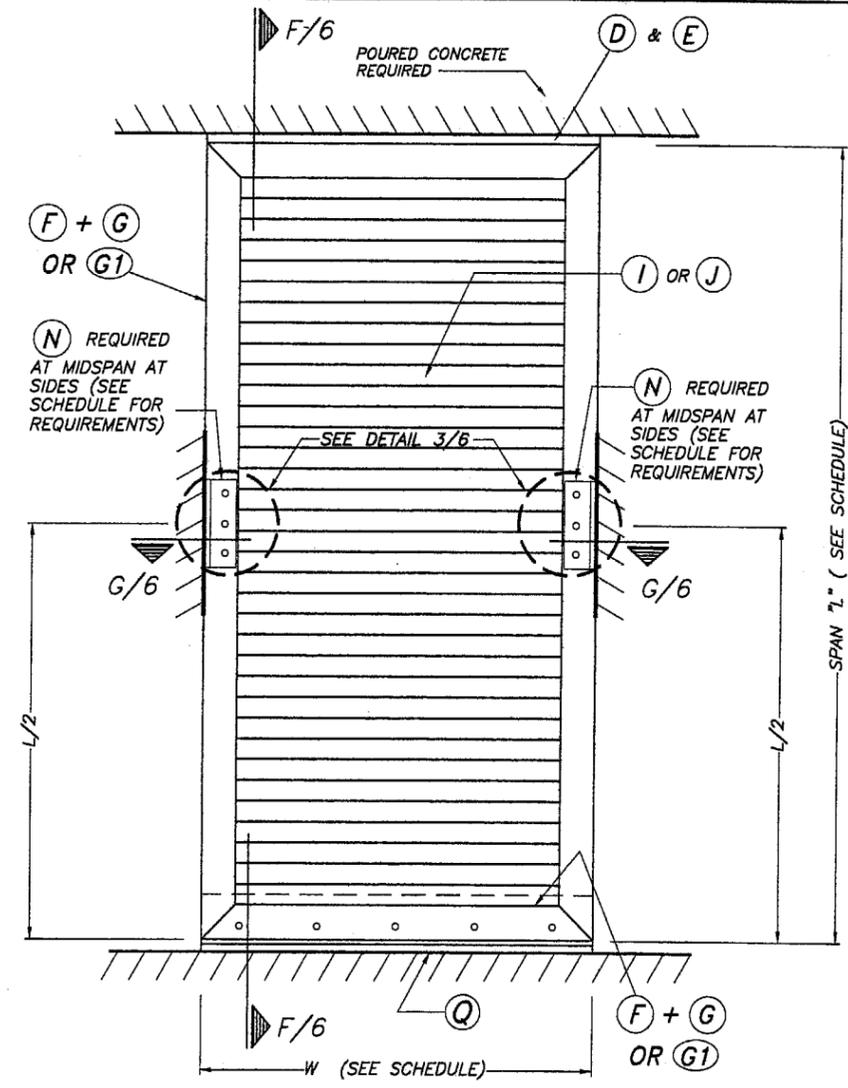
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6325 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
EB-0006719  
WALTER A. TILLIT Jr., P. E.  
FLORIDA Lic. # 44167  
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FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER		DRAWN BY: M.C.V.	
<b>ALUFAB HURRICANE SHUTTERS, INC.</b>		5/25/05 DATE	
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REV. No	DESCRIPTION	DATE	REV. No
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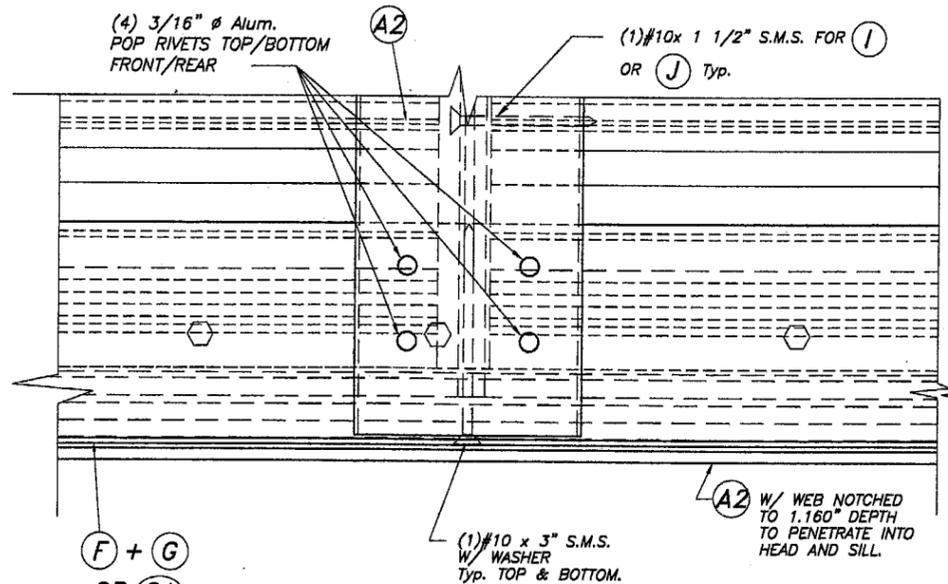
**MULTIPLE UNIT**



**SINGLE UNIT**

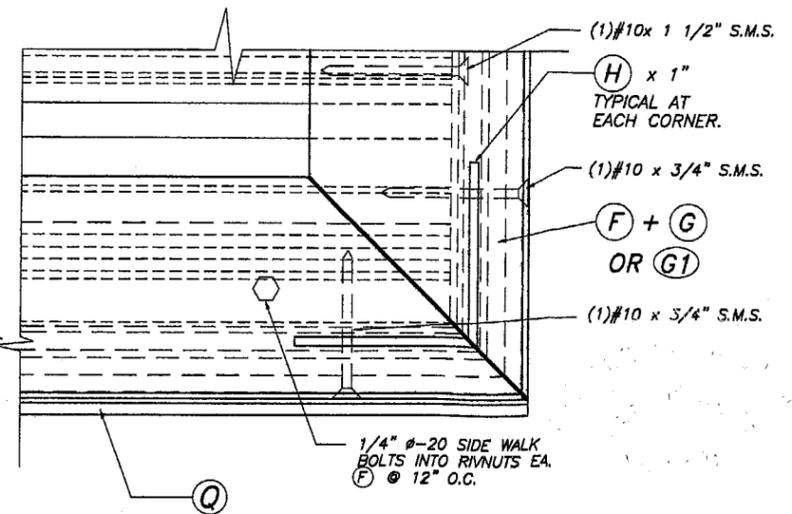
**ELEVATIONS**

N. T. S.



**DETAIL 1**

SCALE: 1/2" = 1"



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 By *Helena A. Miller*  
 Miami Dade Product Control Division

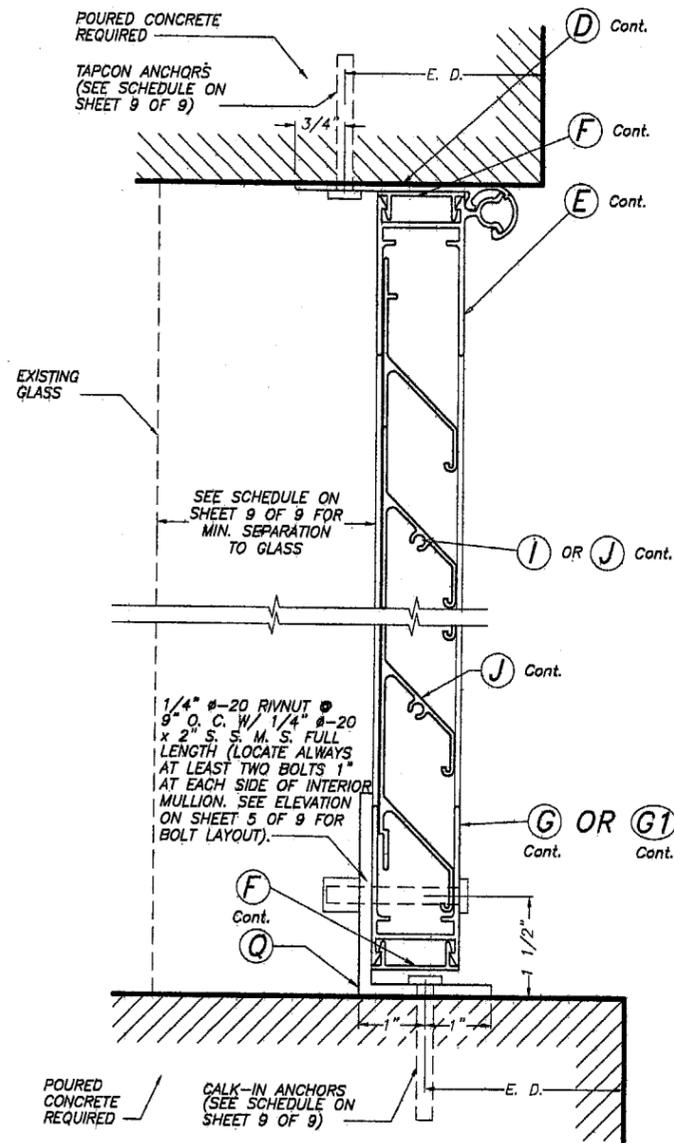
F.B.C. (High Velocity Hurricane Zone)

**TILECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33186  
 Phone: (305)871-1530 Fax: (305)871-1531  
 EB-0006719  
 WALTER A. TILLIT JR., P. E.  
 FLORIDA Lic. # 44167  
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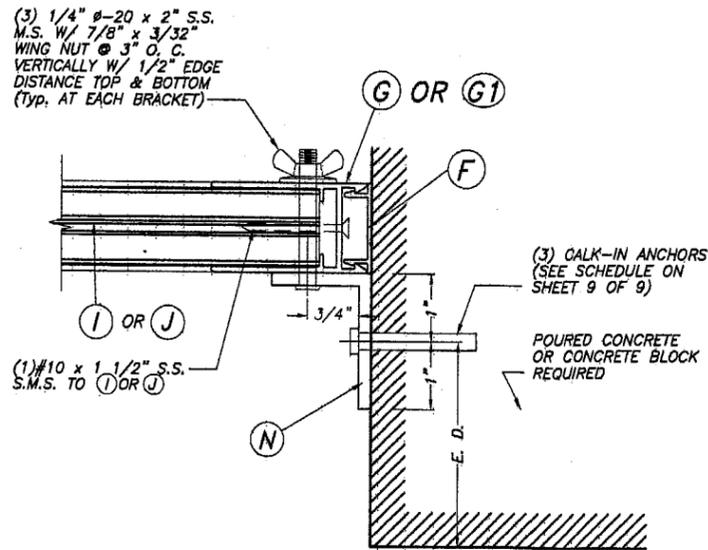
FLORIDA BAHAMA  
 ASSA / EXTRUDED BERTHA BAHAMA SHUTTER  
**ALUFAB HURRICANE SHUTTERS, INC.**  
 13000 N.W. 38th AVENUE  
 OPA LOCKA, FL. 33054

DRAWN BY: M.C.V.	
5/25/05 DATE	
05-133 DRAWING No	
SHEET 5 OF 9	

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-027	5/25/05	3	-	-
2	-	-	4	-	-

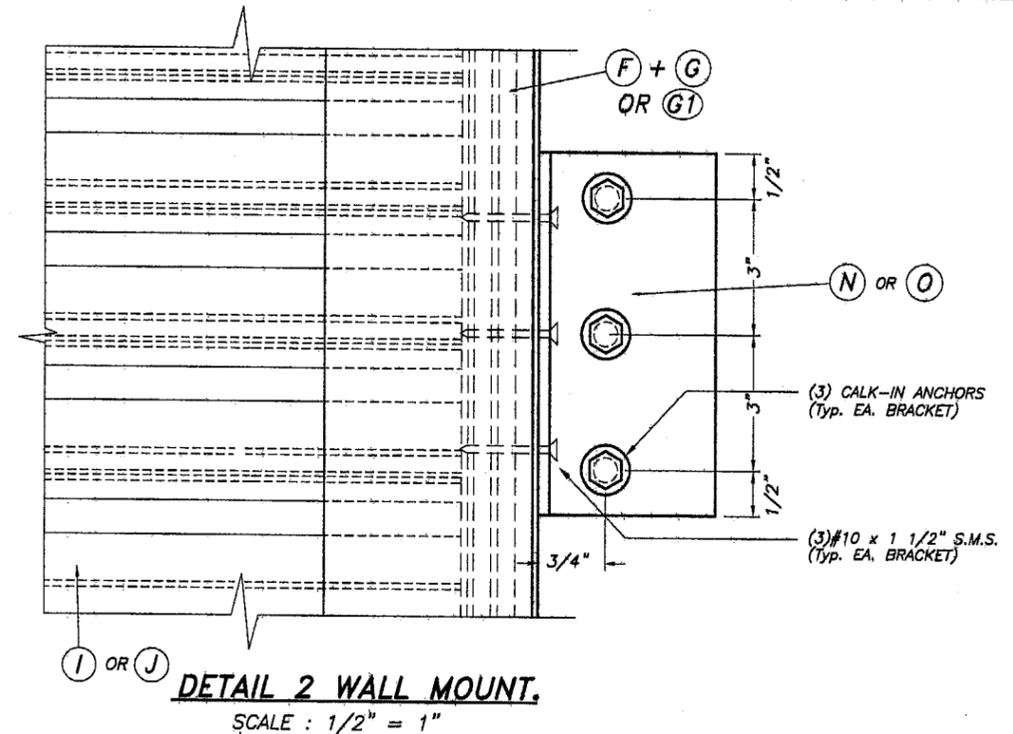


**SECTION F - F** (TRAPPED MOUNT)  
HURRICANE POSITION  
SCALE: 3/8" = 1"

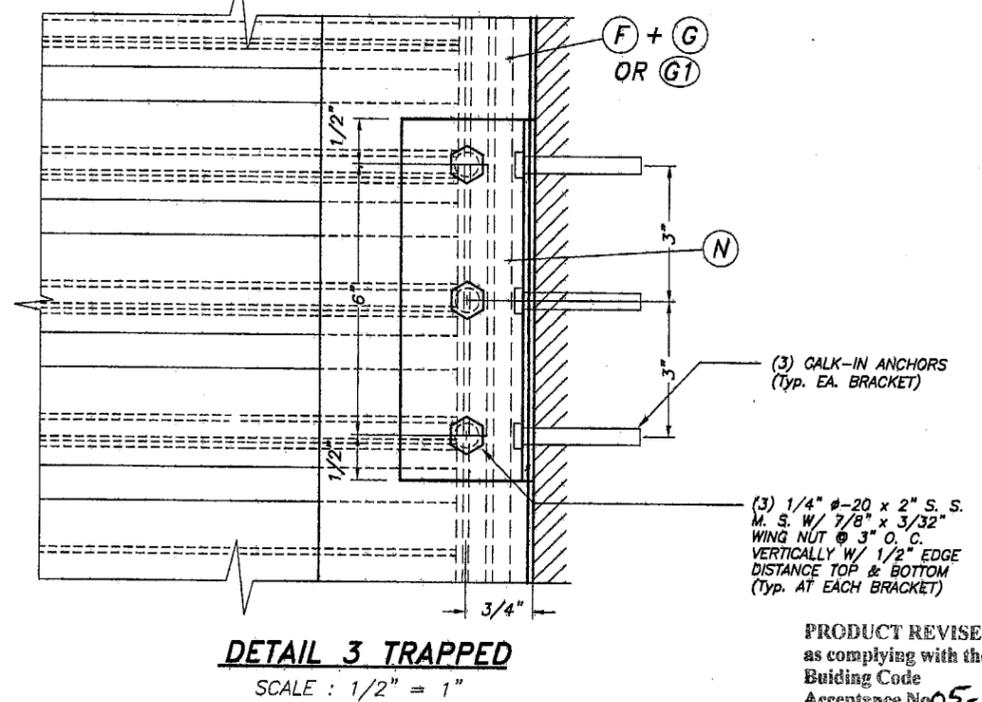


**SECTION G - G**  
(TRAPPED MOUNT)  
HURRICANE POSITION  
SCALE: 3/8" = 1"

NOTE:  
E. D. = 3 1/2" Min.



**DETAIL 2 WALL MOUNT.**  
SCALE: 1/2" = 1"



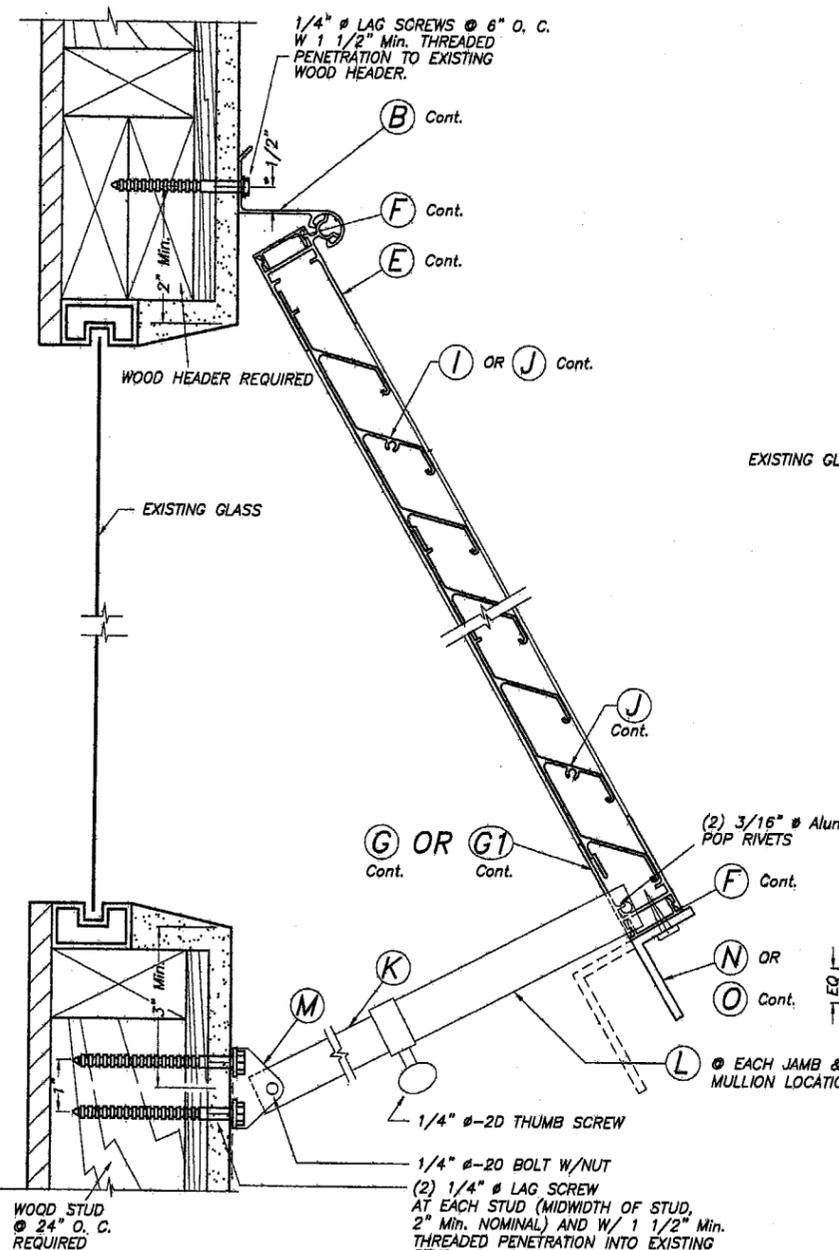
**DETAIL 3 TRAPPED**  
SCALE: 1/2" = 1"

PRODUCT REVISED as complying with the Florida Building Code  
Acceptance No. 05-0929.06  
Expiration Date 03/30/2007  
By *Helene H. Miller*  
Miami Dade Product Control Division

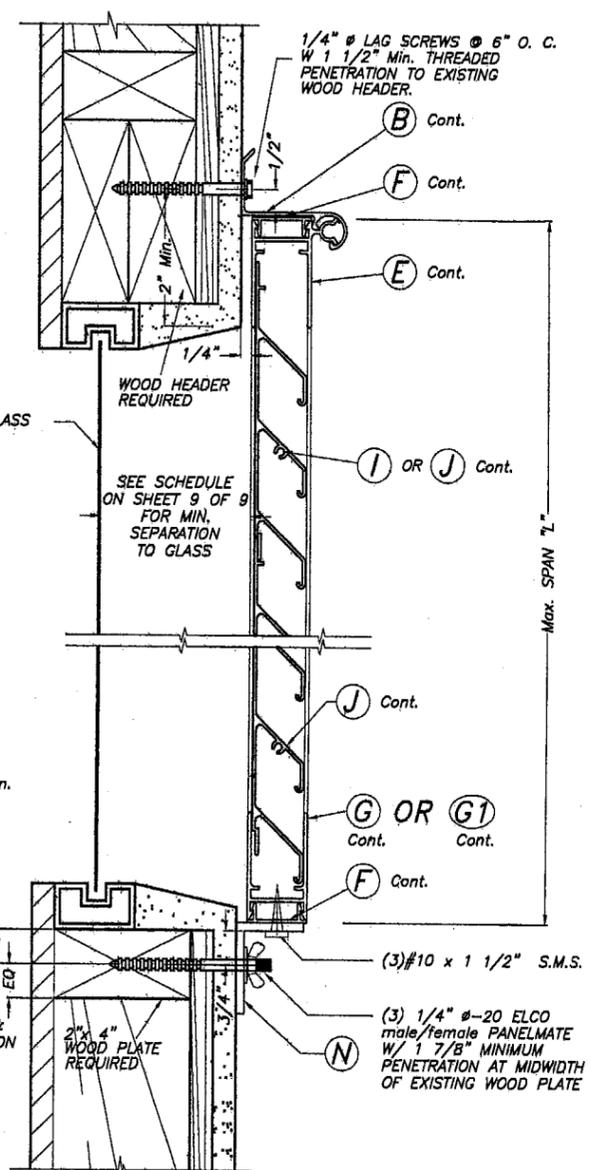
F.B.C. (High Velocity Hurricane Zone)

 <b>TILTECO INC.</b> TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167 © 2005 TILTECO INC.	FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER	DRAWN BY: M.C.V.
	<b>ALUFAB HURRICANE SHUTTERS, INC.</b> 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054	5/25/05 DATE
REV. No. 1 DESCRIPTION OLD 03-027 DATE 5/25/05	REV. No. 3 DESCRIPTION - DATE -	05-133 DRAWING No
REV. No. 2 DESCRIPTION - DATE -	REV. No. 4 DESCRIPTION - DATE -	SHEET 6 OF 9

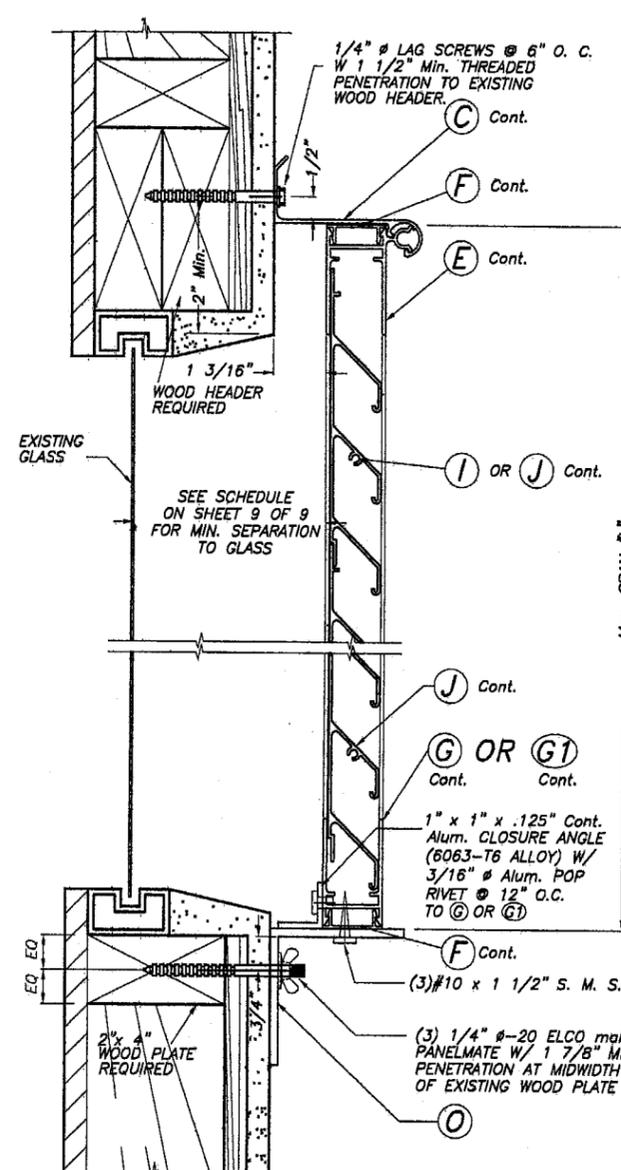
*[Signature]*  
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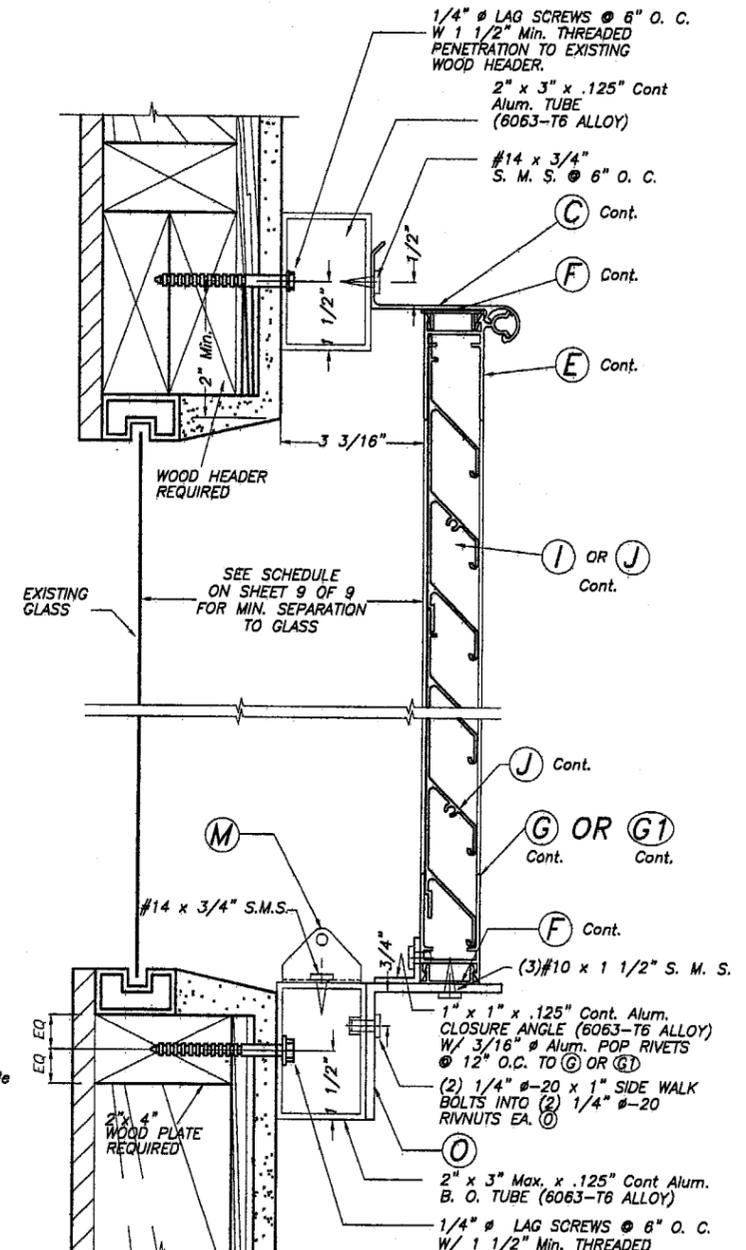
**NON HURRICANE POSITION DETAIL: (74 m.p.h. OR LESS WIND SPEED)**  
SCALE: 3/8" = 1"



**ALTERNATIVE 1**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



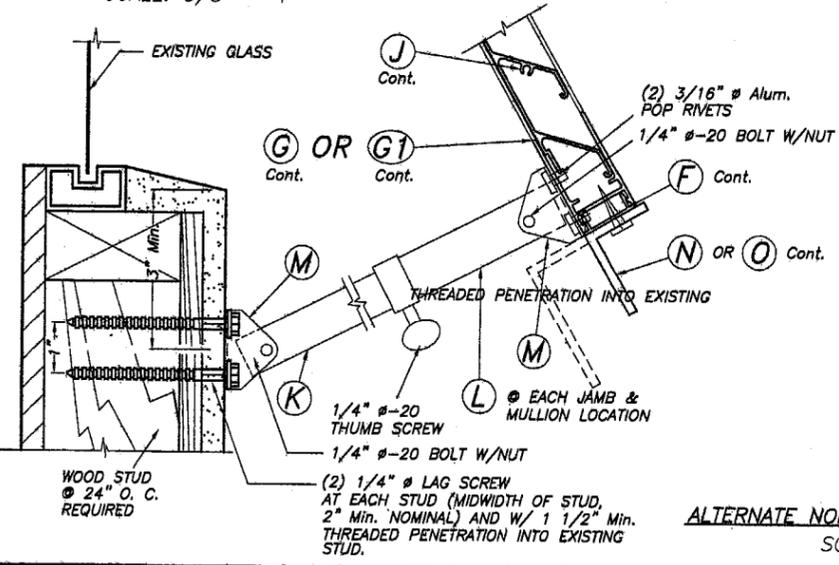
**ALTERNATIVE 2**  
HURRICANE POSITION  
SCALE: 3/8" = 1"



**ALTERNATIVE 3**  
HURRICANE POSITION  
SCALE: 3/8" = 1"

**WALL MOUNTING INSTALLATION & BUILD-OUT**  
**- SECTION A**  
**INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS**

PRODUCT REVISED  
as complying with the Florida  
Building Code  
Acceptance No. **05-0929.06**  
Expiration Date **03/30/2007**  
By *Heather A. Miller*  
Miami Dade Product Control  
Division



**ALTERNATE NON HURRICANE POSITION DETAIL**  
SCALE: 3/8" = 1"

- NOTES :**
- INSTALLATIONS ARE ONLY VALID FOR INSTALLATIONS WITH DESIGN WIND LOADS LESS OR EQUAL THAN +62.0, -75.0 p.s.f. AND Max. SHUTTER SPAN AS PER SCHEDULES ON SHEET 9 OF 9.
  - NEW 2" x 6" P. T. TO BE SOUTHERN PINE No. 2, SURFACED DRY WITH 19% M. M. C. W/ SPECIFIC DENSITY OF 0.55.
  - FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

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**TILECO Inc.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 38th St. Ste. 305, VIRGINIA GARDENS, FLORIDA 33168  
Phone: (305)871-1530 Fax: (305)871-1531  
EB-0006719  
WALTER A. TILLIT Jr., P. E.  
FLORIDA Lic. # 44167  
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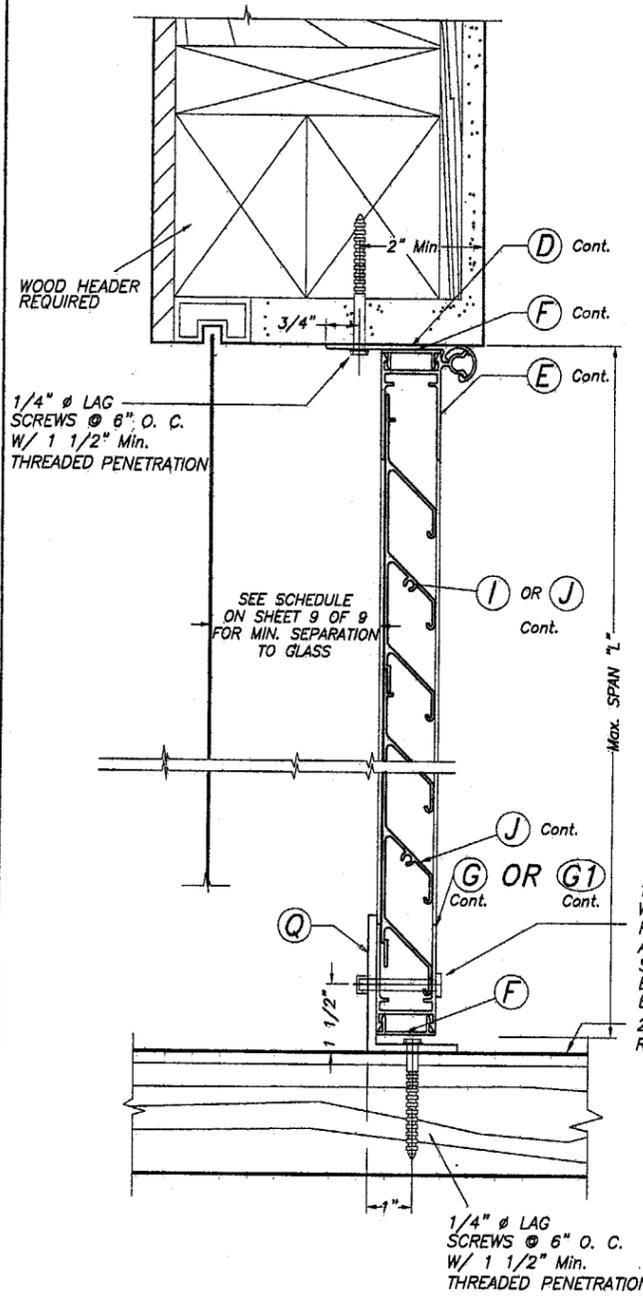
**FLORIDA BAHAMA**  
ASSA / EXTRUDED BERTHA BAHAMA SHUTTER

**ALUFAB HURRICANE SHUTTERS, INC.**  
13000 N.W. 38th AVENUE  
OPA LOCKA, FL. 33054

DRAWN BY: M.C.V.  
5/25/05 DATE  
05-133 DRAWING No  
SHEET 7 OF 9

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-027	5/25/05	3	-	-
2	-	-	4	-	-

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

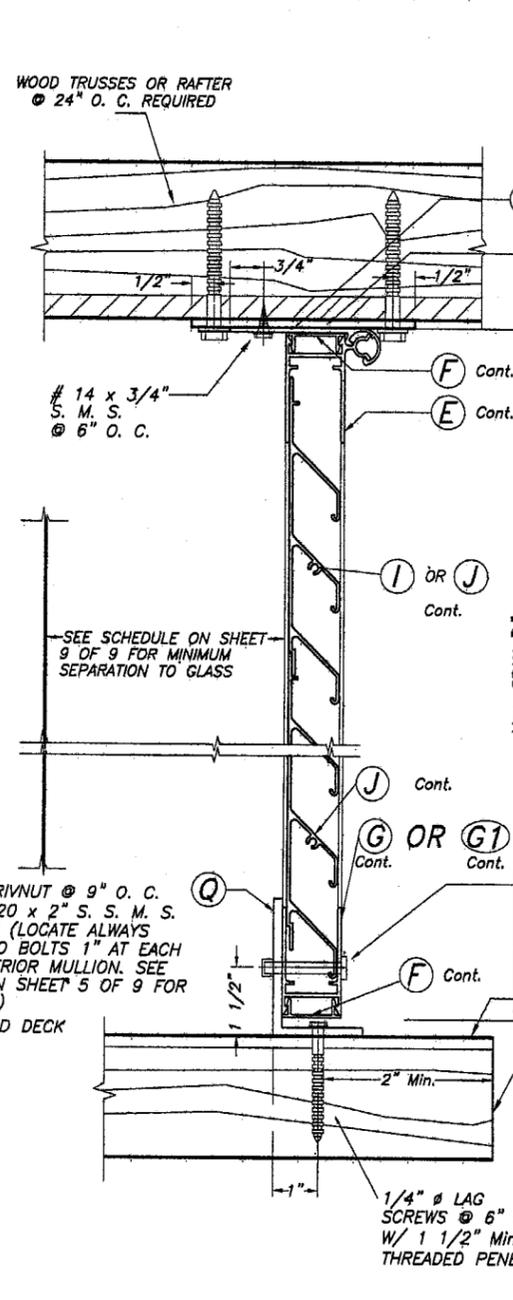


**ALTERNATIVE 4A**

**FLOOR/CEILING MOUNTING INSTALLATION**

**- SECTION A**

SCALE: 1/4" = 1"

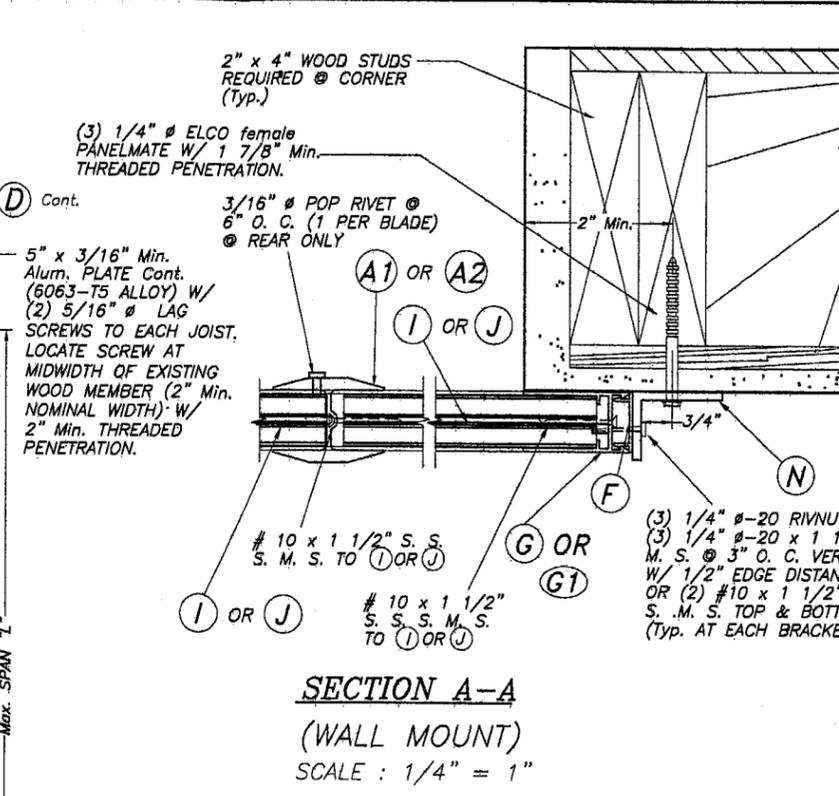


**ALTERNATIVE 4B**

**INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS**

**NOTES :**

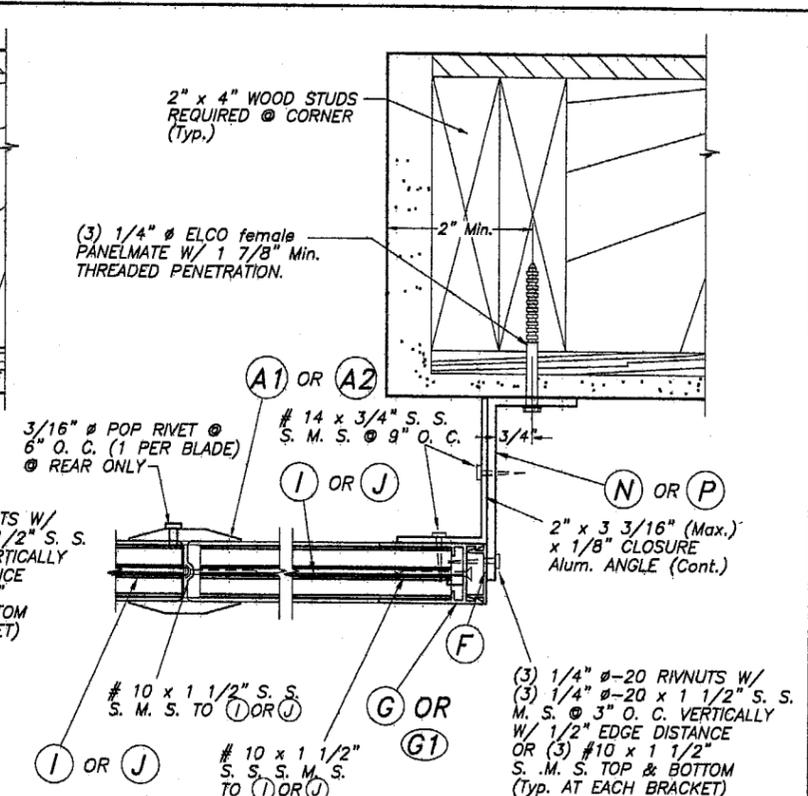
- INSTALLATIONS ARE ONLY VALID FOR INSTALLATIONS WITH DESIGN WIND LOADS LESS OR EQUAL THAN +62.0, -75.0 p.s.f. AND Max. SHUTTER SPAN AS PER SCHEDULES ON SHEET 9 OF 9.
- NEW 2" x 6" P. T. TO BE SOUTHERN PINE No. 2, SURFACED DRY WITH 19 % M. M. C. W/ SPECIFIC DENSITY OF 0.55.
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



**SECTION A-A**

**(WALL MOUNT)**

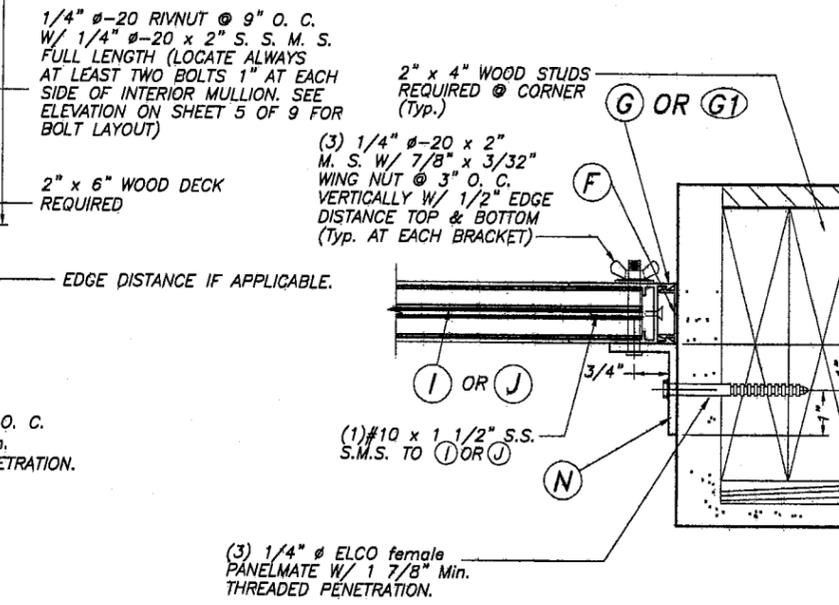
SCALE: 1/4" = 1"



**SECTION B-B**

**(WALL MOUNT)**

SCALE: 1/4" = 1"



**SECTION G-G**

**(FLOOR/CEILING MOUNT)**

SCALE: 1/4" = 1"

**PRODUCT REVISED**  
 as complying with the Florida  
 Building Code  
 Acceptance No **05-0929.06**  
 Expiration Date **03/30/2007**  
 By *Walter A. Tillit Jr.*  
 Miami Dade Product Control  
 Division

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

**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 38th St. Ste. 305, VIRGINIA GARDENS, FLORIDA 33168  
 Phone: (305)871-1530 - Fax: (305)871-1531  
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 WALTER A. TILLIT JR., P. E.  
 FLORIDA Lic. # 44167  
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FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER			DRAWN BY: M.C.V.		
ALUFAB HURRICANE SHUTTERS, INC.			5/25/05 DATE		
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 03-027	5/25/05	3	-	-
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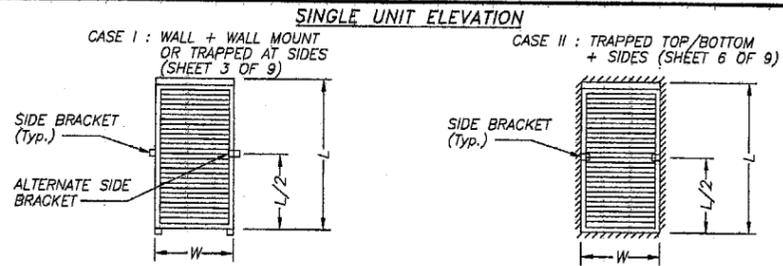
SHEET 8 OF 9

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**SCHEDULE # 1**

**MAXIMUM SINGLE UNIT FOR A CORRESPONDING DESIGN PRESSURE AND MOUNTING TYPE**

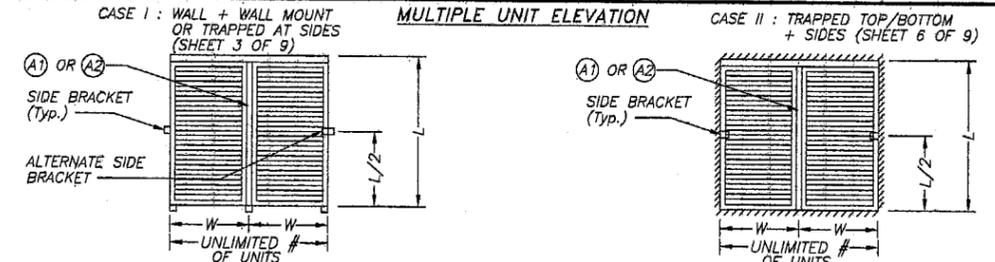
DESIGN PRESSURE RATING (p.s.f.) AND CASE #	MAXIMUM UNIT WIDTH "W" (IN)	MAXIMUM SPAN "L" (IN)		
		W/O SIDE BRACKET	W/ SIDE BRACKET	MINIMUM SEPARATION TO GLASS (IN)
		CASES I & II +56.0, -63.0	42"	52"
CASES I & II +75.0, -100.0	42"	N/A	96"	2 1/8"



**SCHEDULE # 1A**

**MAXIMUM MULTIPLE UNIT FOR A CORRESPONDING DESIGN PRESSURE AND MOUNTING TYPE**

DESIGN PRESSURE RATING (p.s.f.) AND CASE #	MAXIMUM UNIT WIDTH "W" (IN)	MAXIMUM SPAN "L" (IN)			
		W/O SIDE BRACKET	W/ SIDE BRACKET	INTERIOR MULLION TYPE REQUIRED	MINIMUM SEPARATION TO GLASS (IN)
		CASE I +50.0, -43.3	36 1/2"	72 1/2"	N/A
CASE I +62.0, -75.0	36 1/2"	N/A	83"	A2	2 3/8"
CASE II +62.0, -75.0	36 1/2"	N/A	84"	A2	2 3/8"



**SCHEDULE # 2**

LIMITATIONS FOR SINGLE AND MULTIPLE UNITS BAHAMA SHUTTER'S UNIT WIDTH (IN), SPAN L (IN) AND CORRESPONDING MAXIMUM DESIGN PRESSURE (p.s.f.) FOR THE INSTALLATION OF SIDE & SILL BRACKETS INTO CONCRETE & MASONRY BUILDINGS BY MEANS OF (3) 1/4" Ø x 7/8" CALK-IN ANCHORS \*

MAXIMUM NEGATIVE DESIGN PRESSURE RATING (p.s.f.)	SINGLE UNITS				MULTIPLE UNITS			
	SIDE & SILL BRACKETS **							
	TO CONCRETE		TO BLOCK		TO CONCRETE		TO BLOCK	
	Max. "W"	Max. "L"	Max. "W"	Max. "L"	Max. "W"	Max. "L"	Max. "W"	Max. "L"
-55.7	42"	96"	42"	96"	36 1/2"	84"	36"	84"
-65.0	42"	96"	42"	96"	36 1/2"	84"	36"	72"
-75.0	42"	96"	42"	96"	36 1/2"	83"	31"	84"
-83.0	42"	96"	42"	96"	36 1/2"	83"	36 1/2"	62"
-100.0	42"	96"	42"	96"	N/A	N/A	27"	83"
			42"	63"	N/A	N/A	N/A	N/A
			36"	73"	N/A	N/A	N/A	N/A

\* FOR ELCO PANELMATES ((3) 1/4" Ø W/ 1 7/8" PENETRATION) USED AT SILL & SIDE BRACKETS FOR INSTALLATIONS INTO WOOD. SEE SCHEDULES # 1 & # 1A FOR SHUTTER SIZE.

\*\* IN ANY CASE, MAXIMUM "W" & "L" VALUES W/ CORRESPONDING DESIGN LOADS SHALL NOT EXCEED MAXIMUM VALUES INDICATED ON SCHEDULES # 1 & 1A.

**SCHEDULE # 3**

MAXIMUM ANCHOR SPACING AT TOP FEMALE HINGES (B), (C), OR (D) AS WELL AS SILL ANGLE (E) AT BOTTOM (AS APPLICABLE) FOR INSTALLATIONS INTO POURED CONCRETE HEADERS AND SILL \*\*\*

DESIGN PRESSURE RATING (p. s. f.)	SINGLE & MULTIPLE UNITS
	TOP & BOTTOM TO CONCRETE
ALL PRESSURES COVERED IN SCHEDULE # 1 & # 1A	9" O.C. TOP & 7" O.C. BOTTOM.

\*\*\* SEE SHEETS 7 & 8 OF 9 FOR ANCHOR SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

PRODUCT REVISED as complying with the Florida Building Code Acceptance No 05-0929.06 Expiration Date 03/30/2007  
By: *[Signature]*  
Miami Dade Product Control Division

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

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TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FLORIDA 33166  
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