



**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)

**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: ASSA / Extruded Aluminum Bertha Bahama Shutter

APPROVAL DOCUMENT: 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 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 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.

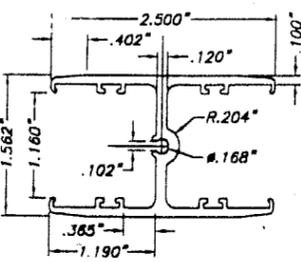
INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA revises NOA # 02-0419.09 & consists of this page 1 as well as approval document mentioned above. The submitted documentation was reviewed by **Helmy A. Makar, P.E.**

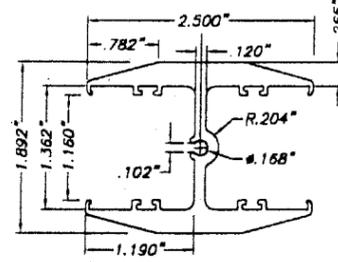
H.M.
07/03/03



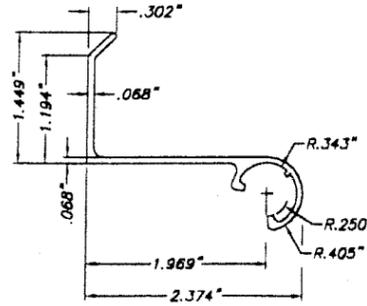
**NOA No 03-0317.06
Expiration Date: 03/30/2007
Approval Date: 07/03/2003
Page 1**



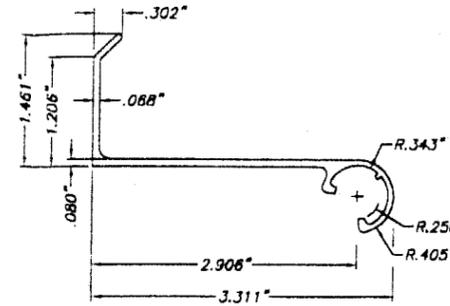
(A1) REGULAR INTERIOR MULLION
6005-T5 Alum. ALLOY
SCALE: 1/2" = 1"



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

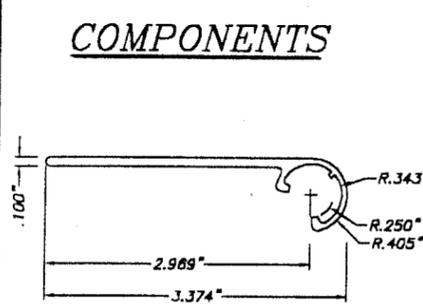


(B) FEMALE HINGE
SCALE: 1/2" = 1"

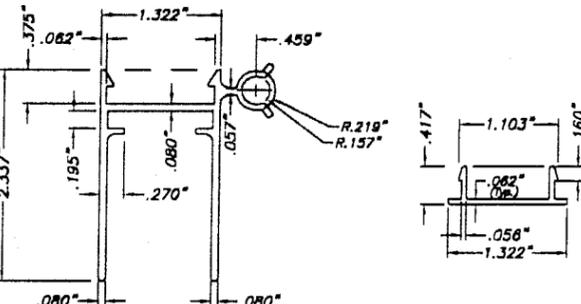


(C) 1" B. O. FEMALE HINGE
SCALE: 1/2" = 1"

COMPONENTS

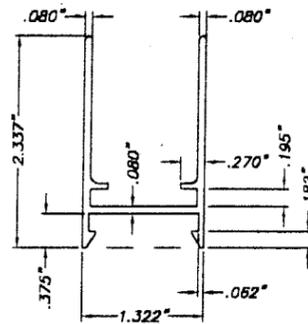


(D) FLAT FEMALE HINGE
SCALE: 1/2" = 1"

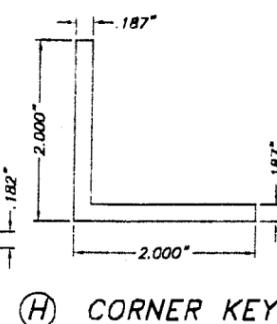


(E) BAHAMA MALE FRAME
SCALE: 1/2" = 1"

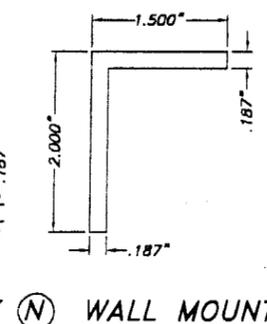
(F) SNAP CAP
SCALE: 1/2" = 1"



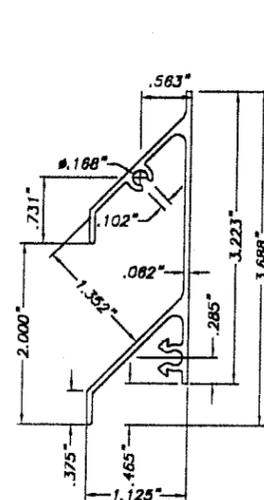
(G) BAHAMA FRAME
SCALE: 1/2" = 1"



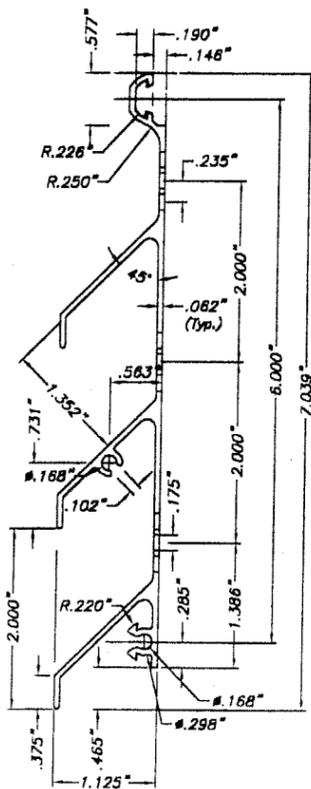
(H) CORNER KEY
1" LONG
SCALE: 1/2" = 1"



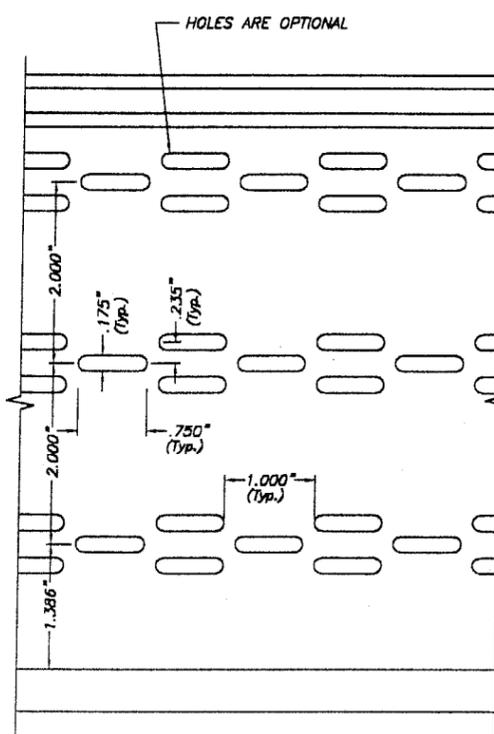
(N) WALL MOUNT Alum. BRACKET
4" LONG
SCALE: 1/2" = 1"



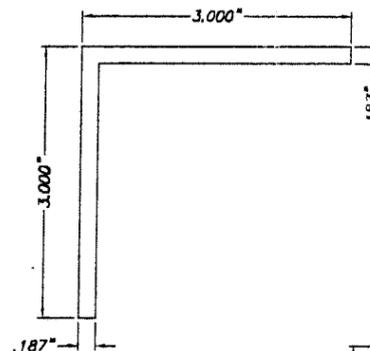
(I) HALF SHUTTER BLADE
SCALE: 1/2" = 1"



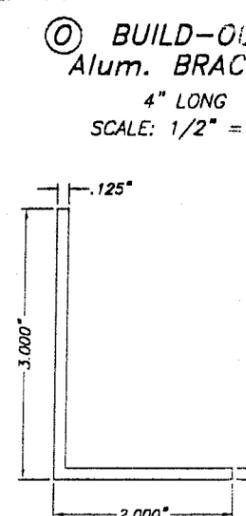
(J) SHUTTER BLADE
SCALE: 1/2" = 1"



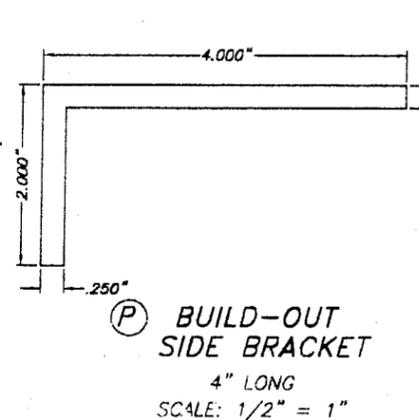
SHUTTER BLADE ELEVATION
SCALE: 1/2" = 1"



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



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



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

GENERAL NOTES:

1. BAHAMA SHUTTER SHOWN ON THIS PRODUCT APPROVAL DOCUMENT (P.A.D.) HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2001 EDITION OF THE FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1619 OF THE ABOVE MENTIONED CODE, FOR A BASIC WIND SPEED OF 146 m.p.h., AND IN ACCORDANCE W/ ASCE 7-98 STANDARD. BAHAMA SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1608.1.4 OF THE ABOVE MENTIONED CODE AS PER ATL TEST REPORT # 0923.01-97 AS PER PA-201, PA-202 & PA-203 STANDARD.

2. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY (UNLESS OTHERWISE NOTED).
3. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 SERIES W/ 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018.
4. ALL ALUMINUM POP RIVETS TO BE 5052 ALUMINUM ALLOY WITH ALUMINUM MANDREL.
5. BOLTS TO BE 2024-T4 ALUMINUM ALLOY GALVANIZED OR STAINLESS STEEL WITH 35 ksi MINIMUM YIELD POINT.
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. BUILDUX OR ELCO TEXTRON
 - 1/4" # x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENING, 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" # -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" # TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDUX OR ELCO TEXTRON
 - 1/4" # x 7/8" CALK-IN ANCHORS AS MANUFACTURED BY POWERS FASTENING, 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" # -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.

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 OF THIS PRODUCT BASED ON THIS PRODUCT APPROVAL PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT.

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

(D) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE PROFESSIONAL OF RECORD (P.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.A.D. PROFESSIONAL OF RECORD, ACTING AS 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 THAT PREPARED IT.

10. SHUTTER'S MANUFACTURER STAMP SHALL BE PLACED ON THE EXPOSED SURFACE OF THE BAHAMA FRAME (A) OR (G). 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.

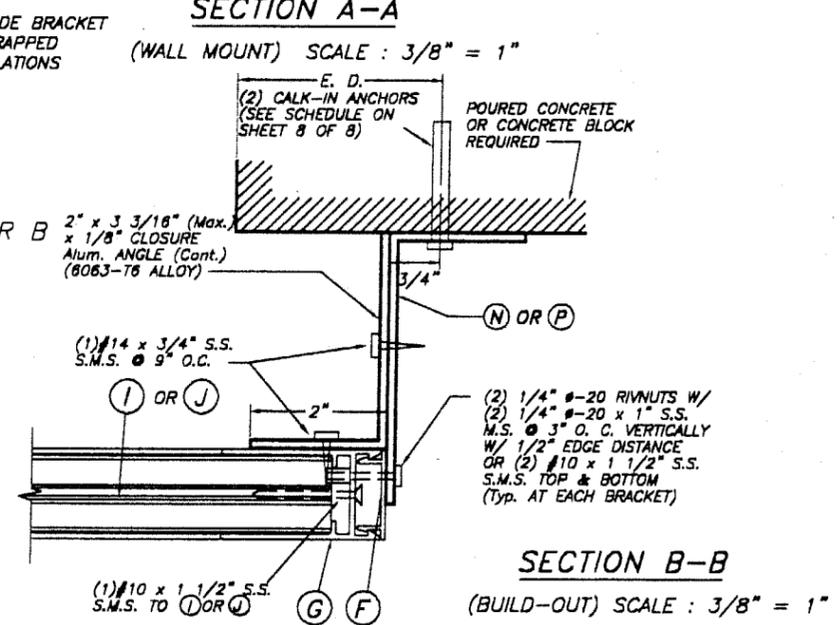
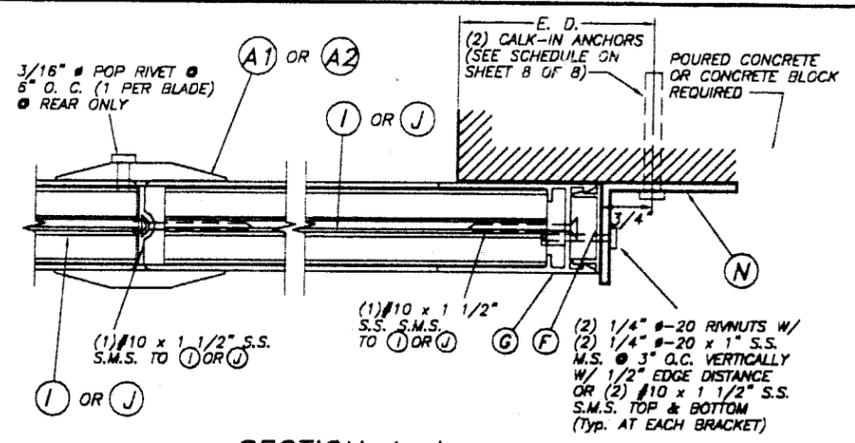
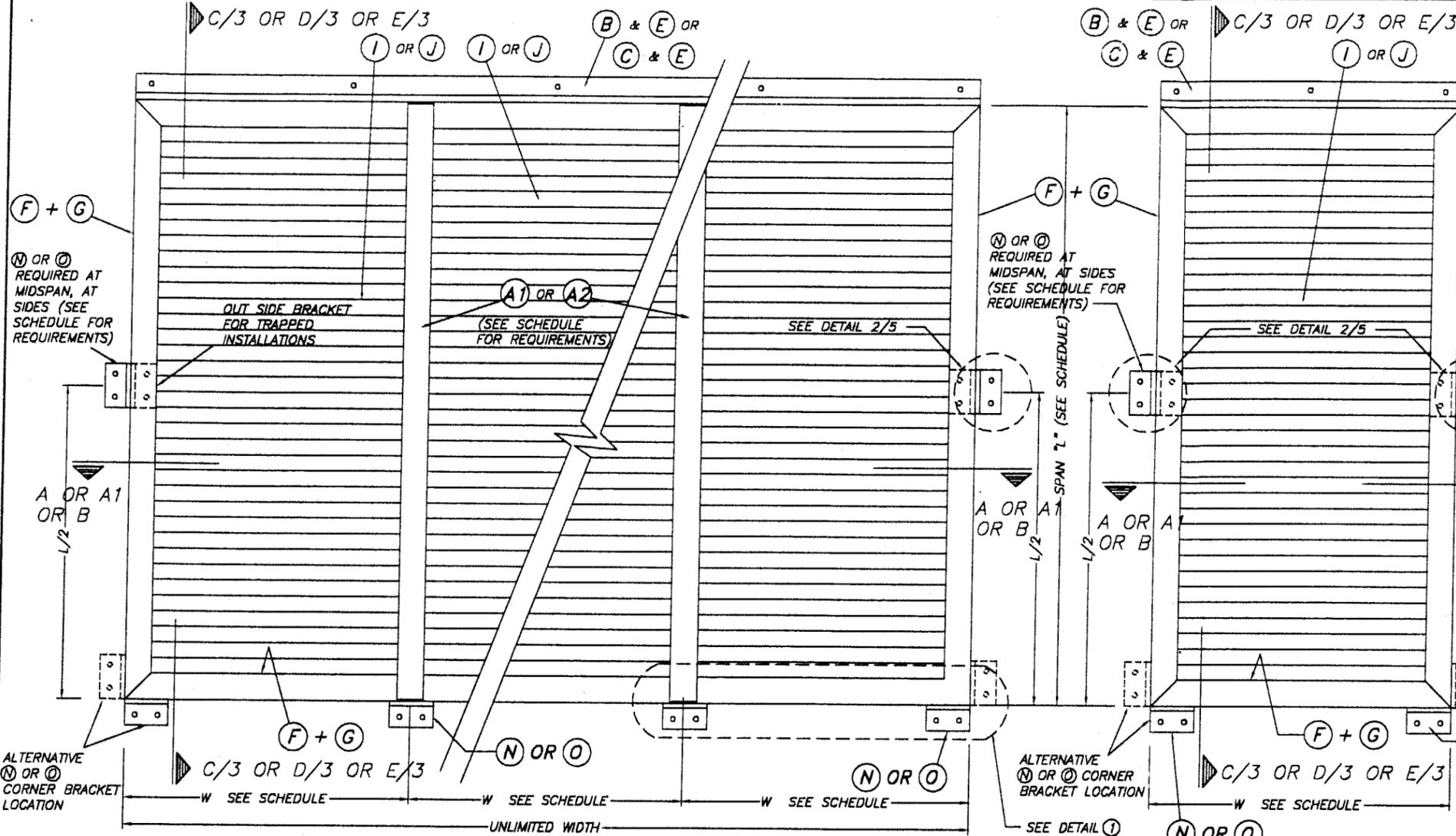
PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 03-0317.06
Expiration Date 03/30/2007
By *Helmut A. Mohr*
Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

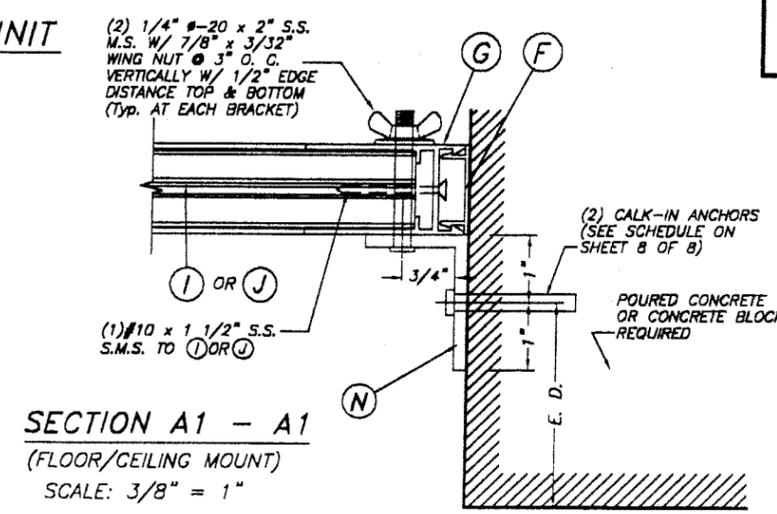
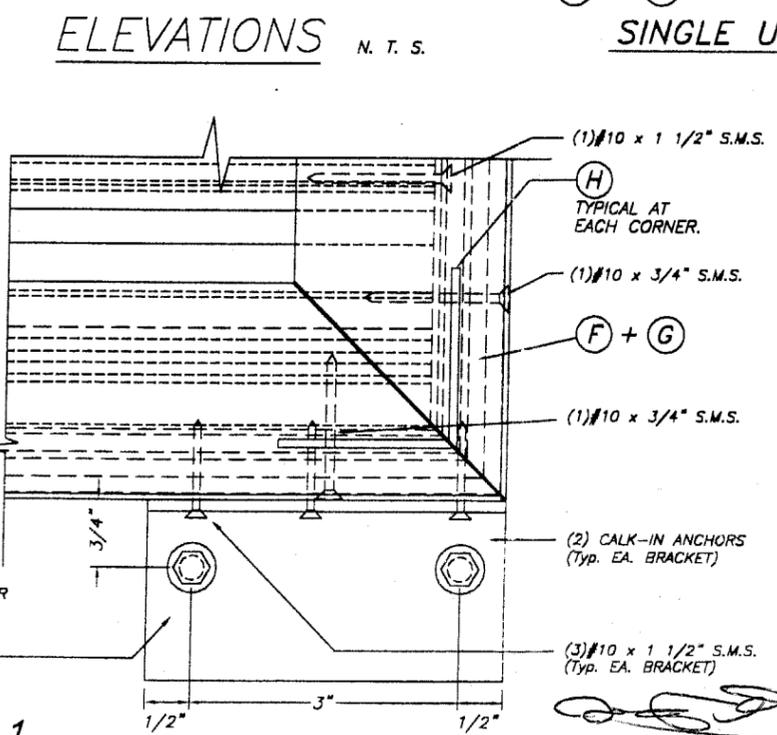
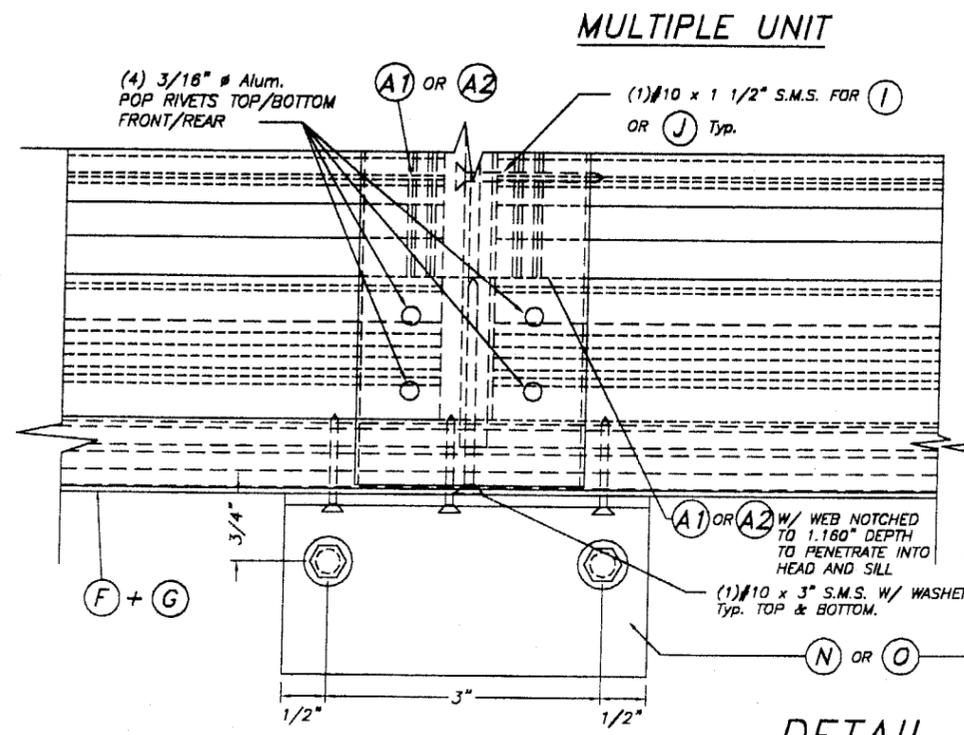
TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6885 N.W. 38th St., Ste. 217, VERO BEACH, FLORIDA 33168
Phone: (305)871-1530 Fax: (305)871-1531
EB-0006719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

| | | |
|---|-------------|----------------------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | AS SHOWN SCALE |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | 2/6/03 DATE |
| | | 03-027 DRAWING No |
| REV. No | DESCRIPTION | DATE |
| 1 | OLD 99-24 | 2/6/03 |
| 2 | | |
| REV. No | DESCRIPTION | DATE |
| 3 | | |
| 4 | | |
| | | SHEET 1 OF 8 |

FEB 12 2003



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



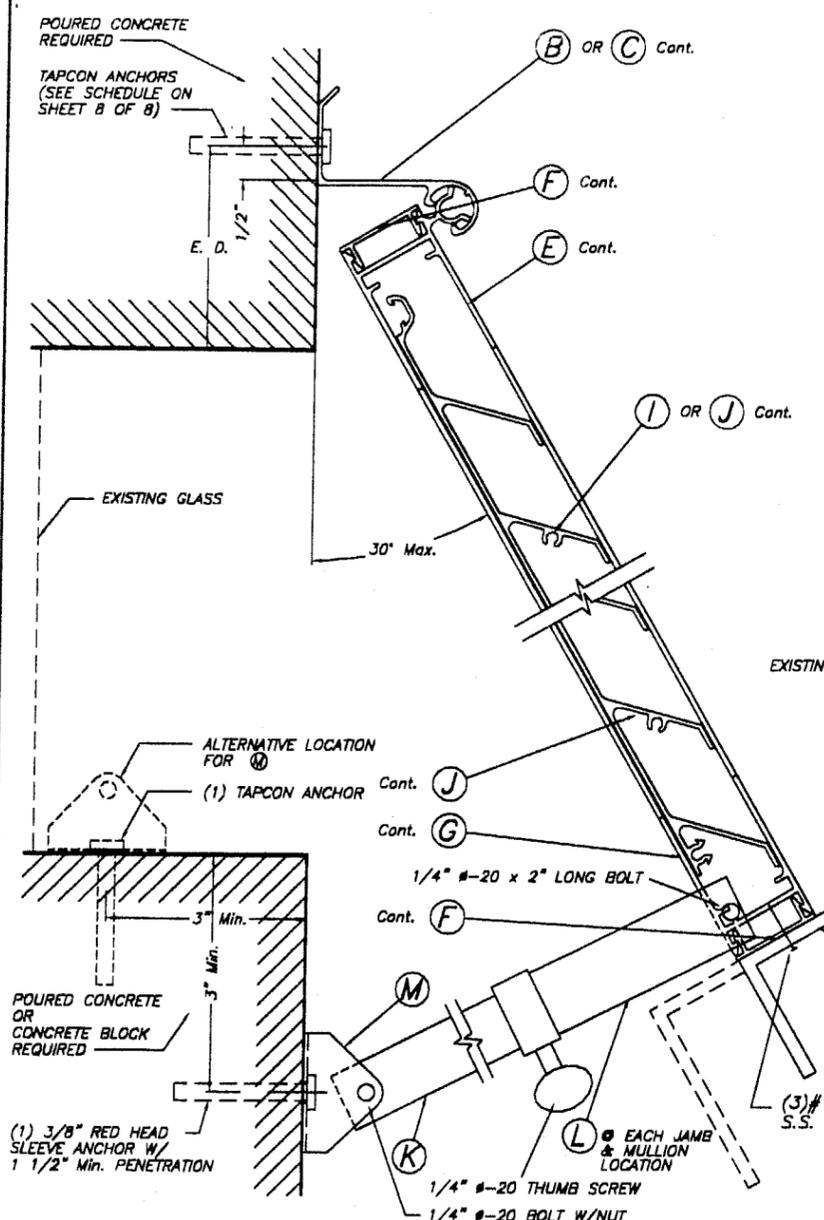
PRODUCT REVISED as complying with the Florida Building Code Acceptance No. 03-0317.06 Expiration Date 03/30/2007 By Helmut A. Miller Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

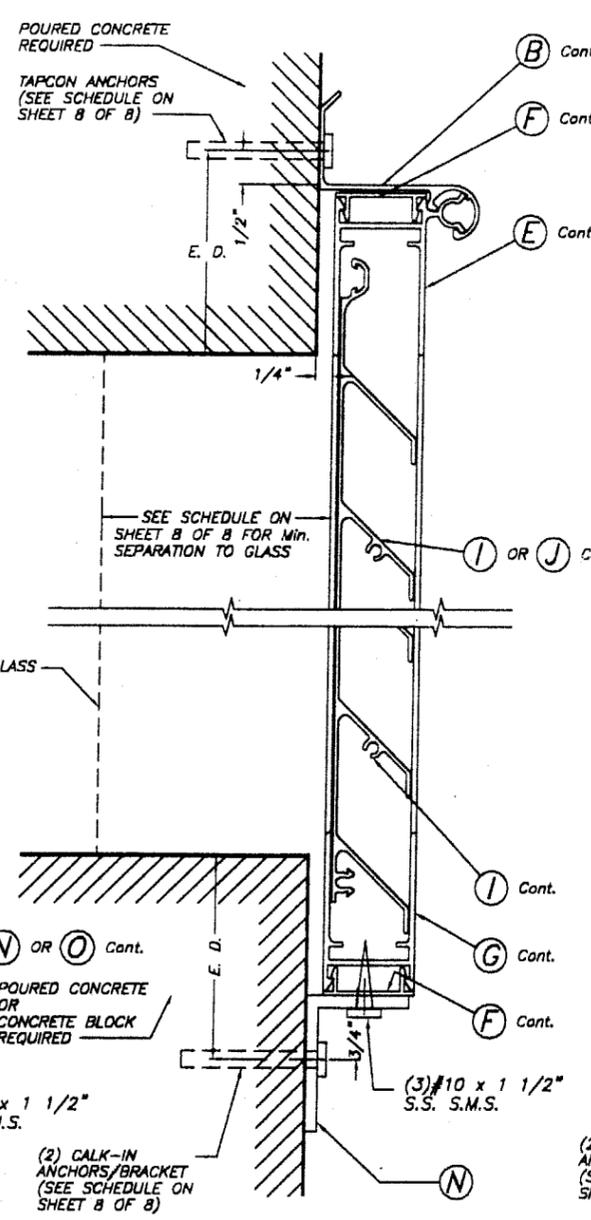
TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33188
Phone: (305)871-1530, Fax: (305)871-1531
EB-0006719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

FEB 12 2003

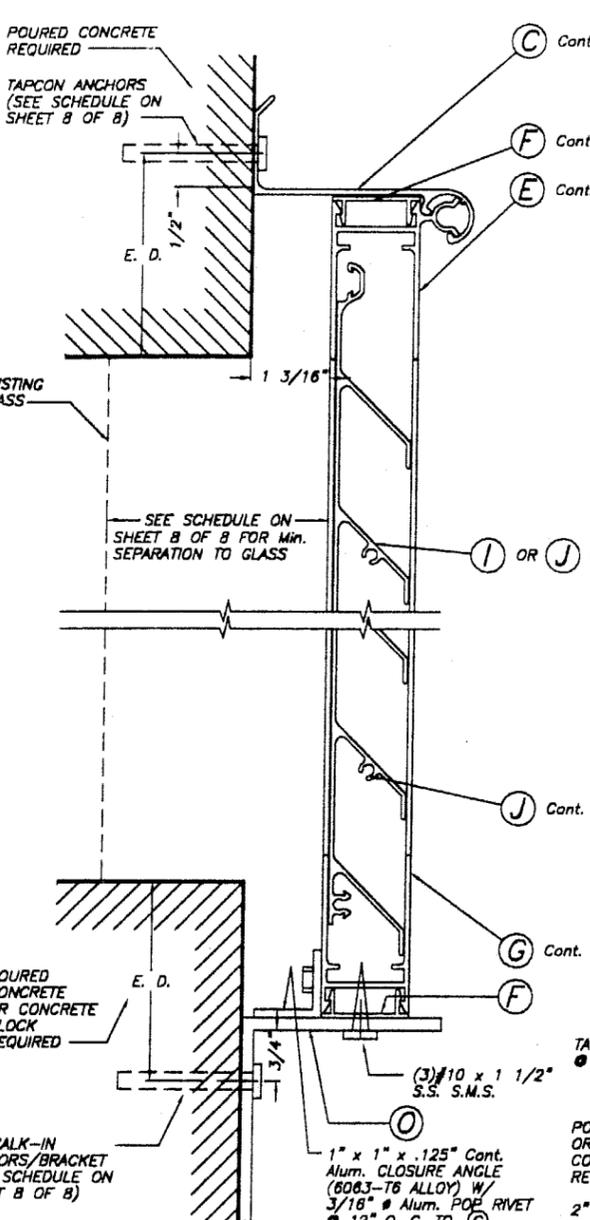
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|---|-------------|----------------------|---------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | AS SHOWN SCALE | |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | 2/6/03 DATE | |
| | | 03-027 DRAWING No | |
| REV. No | DESCRIPTION | DATE | REV. No |
| 1 | OLD 99-24 | 2/6/03 | 3 |
| 2 | - | - | 4 |
| | | SHEET 2 OF 8 | |



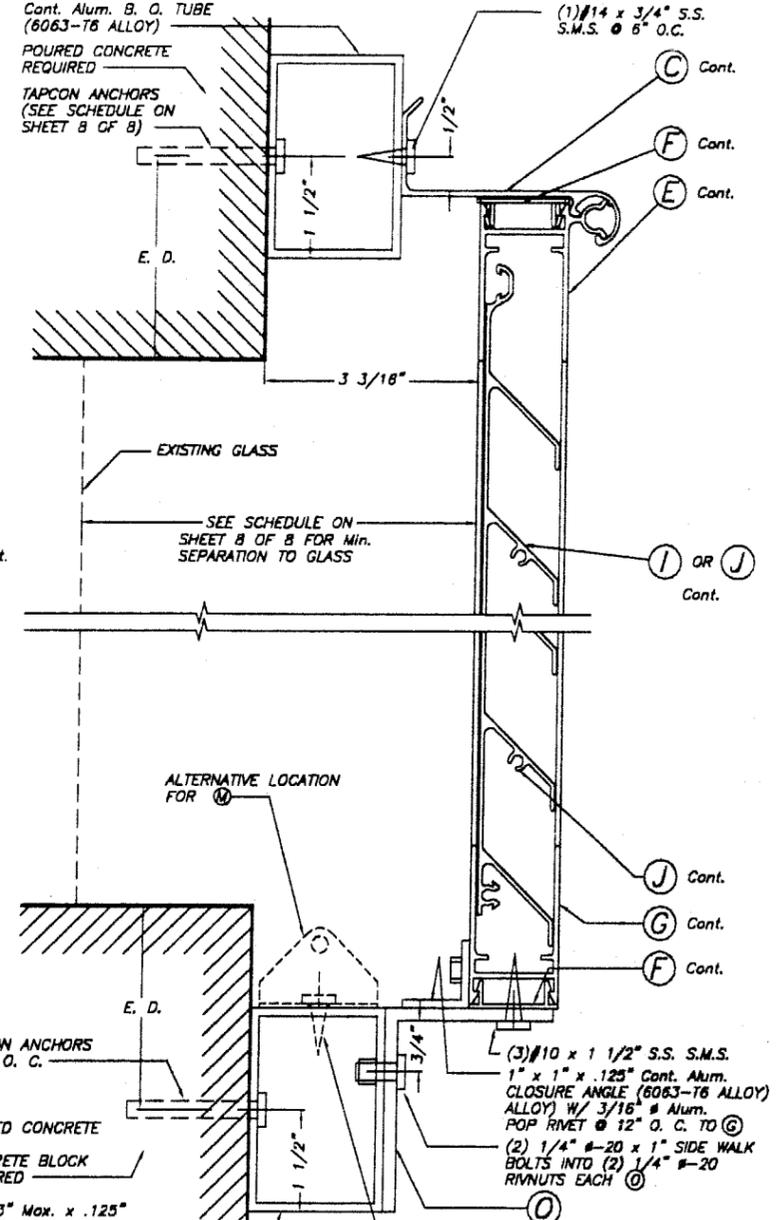
SECTION C - C (WALL MOUNT)
OPEN POSITION (74 m.p.h. WIND SPEED)
SCALE: 3/8" = 1"



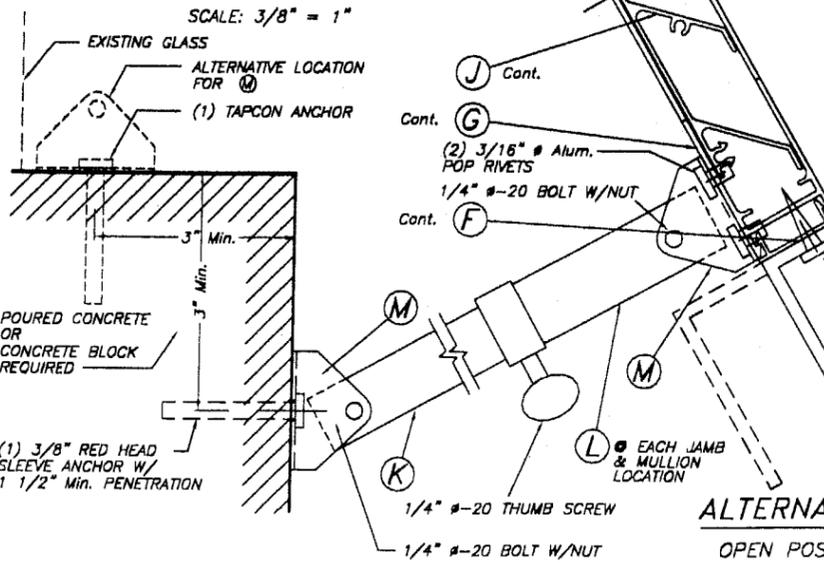
SECTION C - C (WALL MOUNT)
HURRICANE POSITION
SCALE: 3/8" = 1"



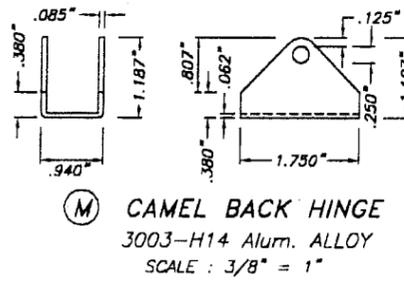
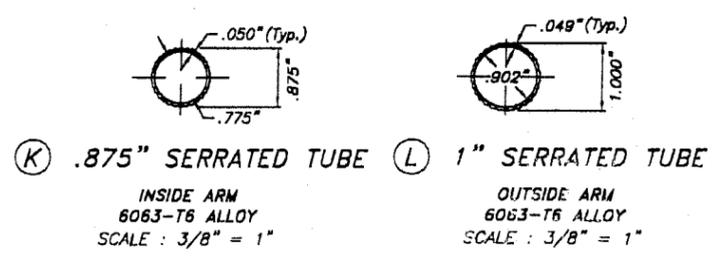
SECTION D - D (BUILD-OUT)
HURRICANE POSITION
SCALE: 3/8" = 1"



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



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



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

FEB 1 2003

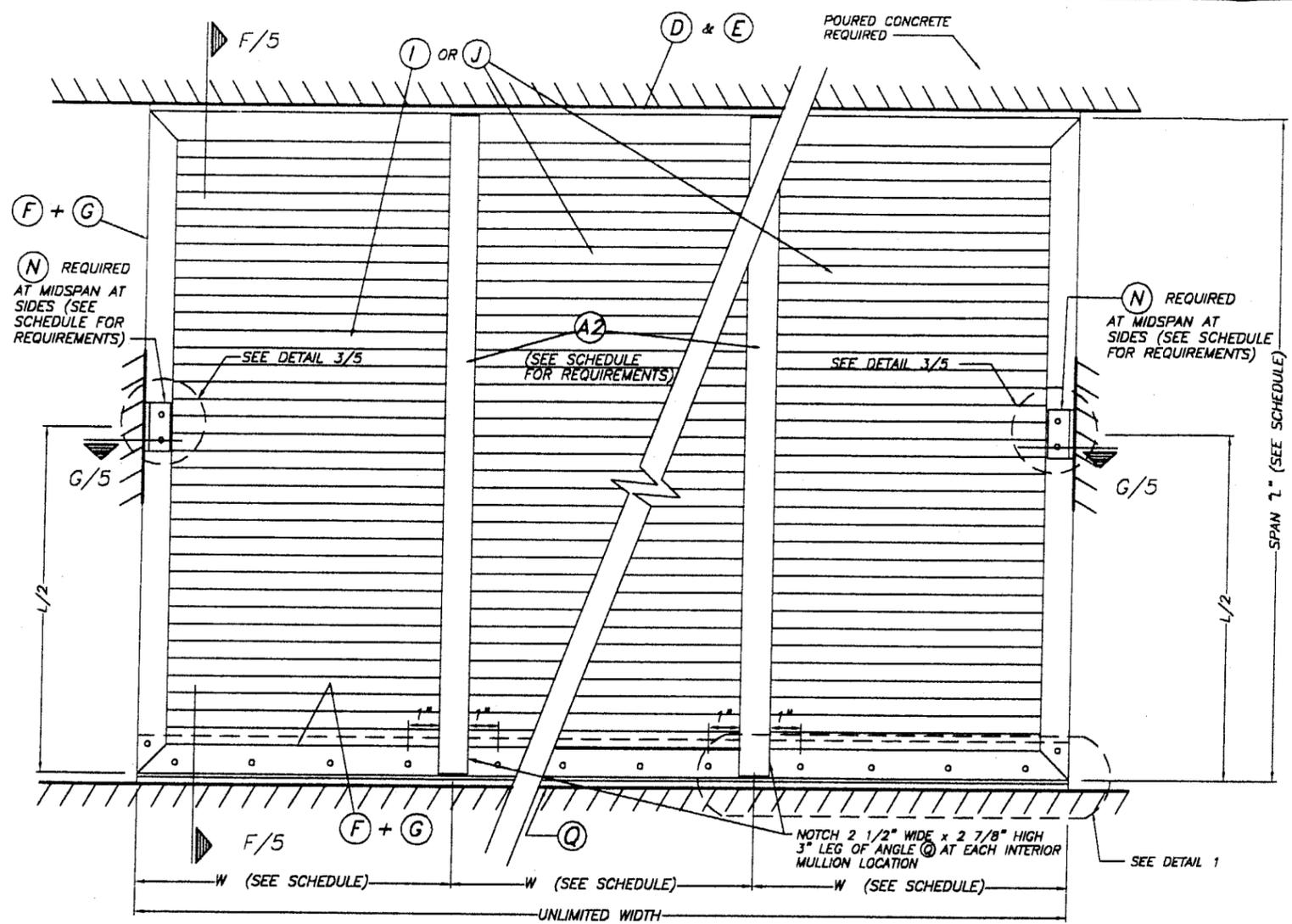
PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 03-0317.06
Expiration Date 03/30/2007
By *Helmut Althoff*
Miami Dade Product Control
Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

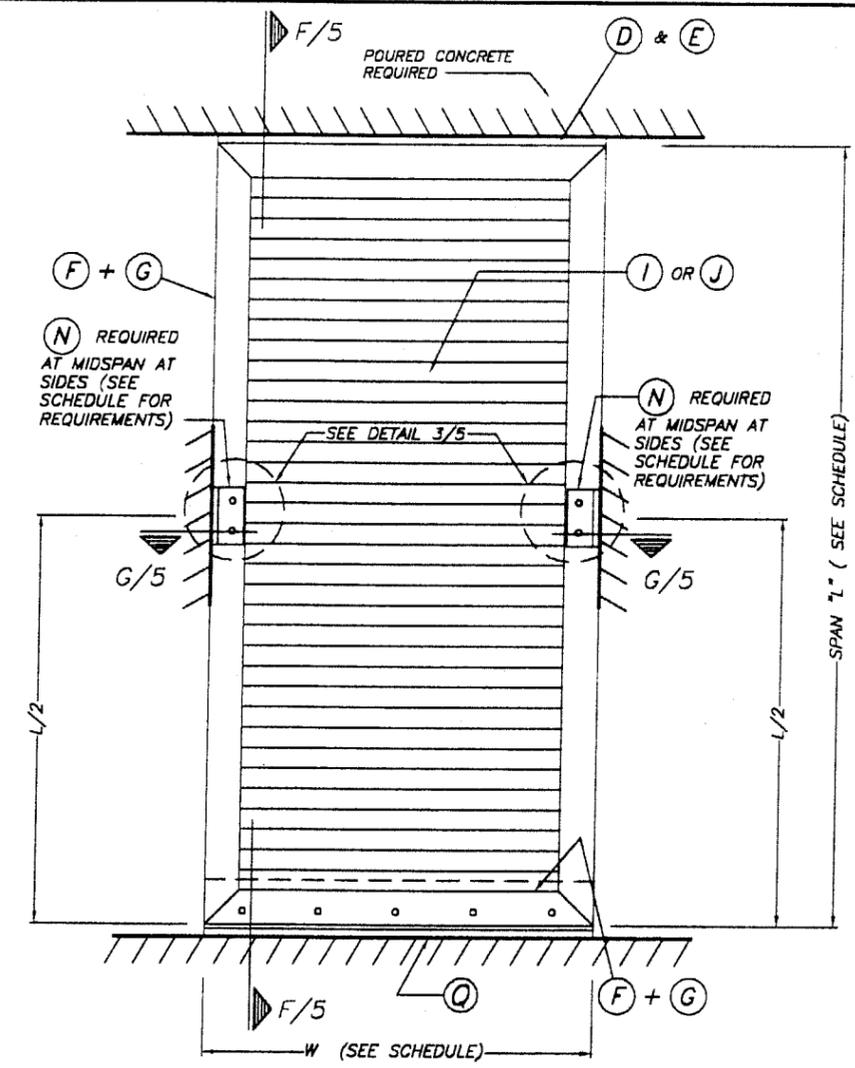
TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6096 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33186
Phone: (305)871-1530 Fax: (305)871-1531
EB-0006719
WALTER A. TILLIT JR., P. E.
FLORIDA Lic. # 44167

| | | | | | |
|--|-------------|--------|----------------------|-------------|------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | | AS SHOWN SCALE | | |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | | 2/6/03 DATE | | |
| | | | 03-027 DRAWING No | | |
| REV. No | DESCRIPTION | DATE | REV. No | DESCRIPTION | DATE |
| 1 | OLD 99-24 | 2/6/03 | 3 | - | - |
| 2 | - | - | 4 | - | - |

SHEET 3 OF 8



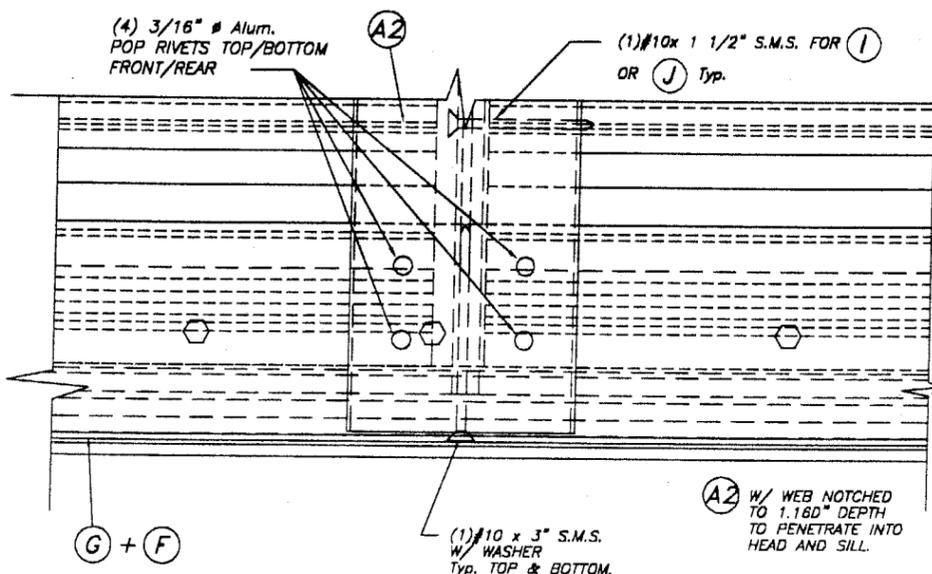
MULTIPLE UNIT



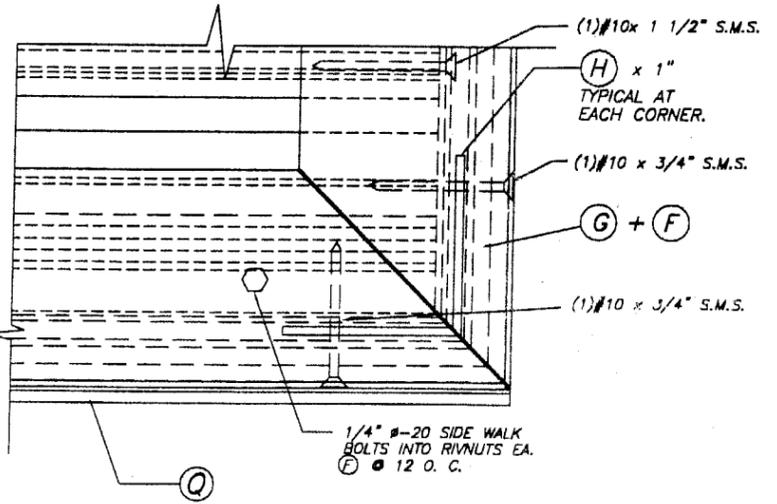
SINGLE UNIT

ELEVATIONS

N. T. S.



DETAIL 1 SCALE: 1/2" = 1"



FEB 12 2003

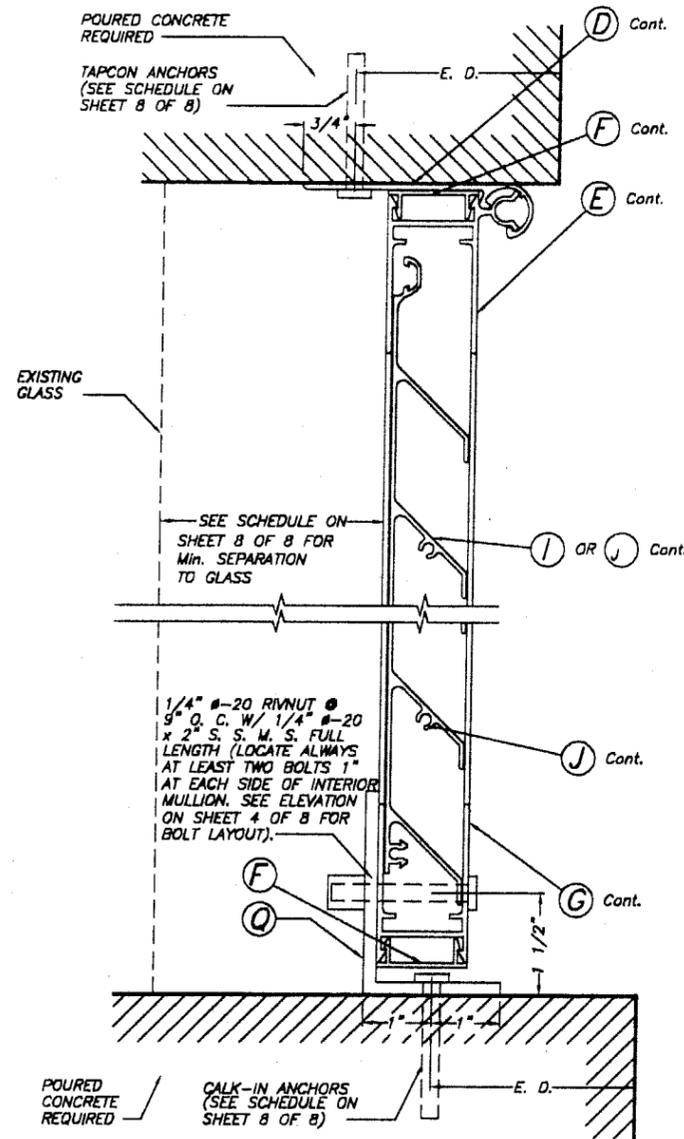
PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No 03-0317-06
 Expiration Date 03/30/2007
 By *Heung A. Mak*
 Miami Dade Product Control
 Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

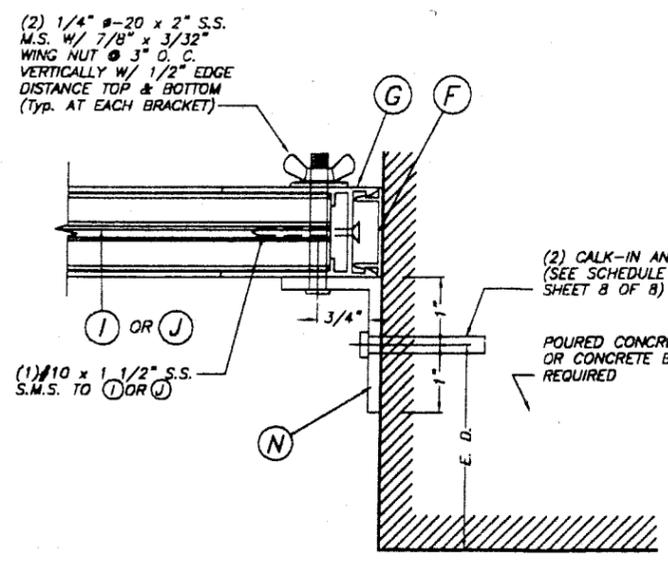
TILECO INC.
 TILLIT TESTING & ENGINEERING COMPANY
 2595 N.W. 36th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33186
 Phone: (305)871-1530 Fax: (305)871-1531
 EB-0006719
 WALTER A. TILLIT Jr., P. E.
 FLORIDA Lic. # 44167

| | | | | | |
|---|-------------|--------|----------------------|-------------|------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | | AS SHOWN SCALE | | |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | | 2/5/03 DATE | | |
| | | | 03-027 DRAWING No | | |
| REV. No | DESCRIPTION | DATE | REV. No | DESCRIPTION | DATE |
| 1 | OLD 98-24 | 2/6/03 | 3 | - | - |
| 2 | - | - | 4 | - | - |

SHEET 4 OF 8

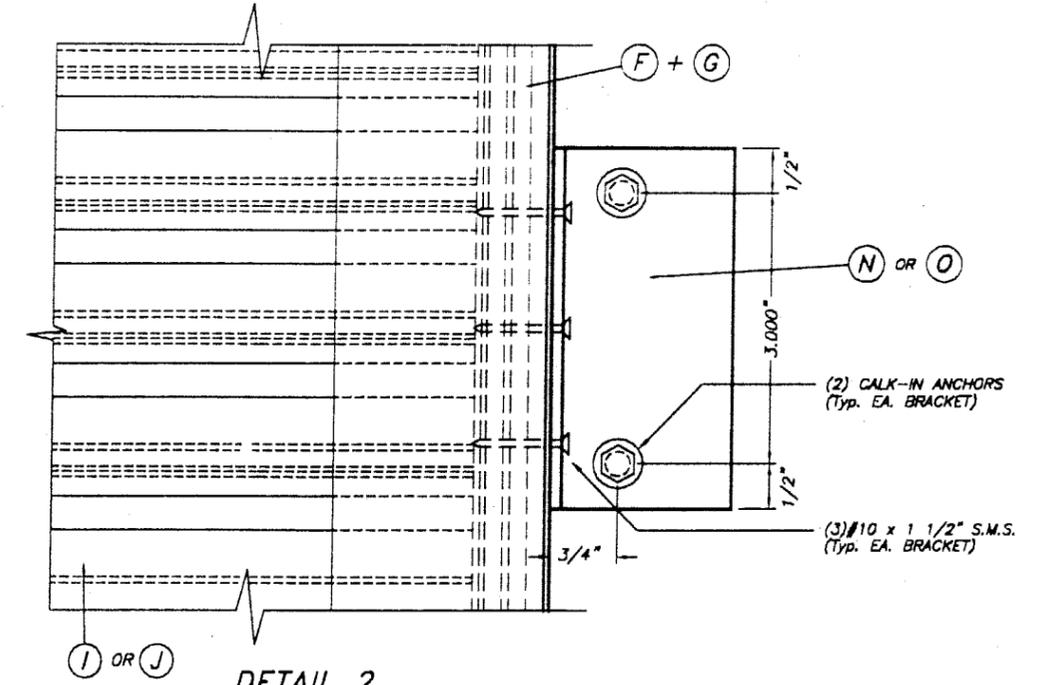


SECTION F - F (FLOOR/CEILING MOUNT)
HURRICANE POSITION
SCALE: 3/8" = 1"

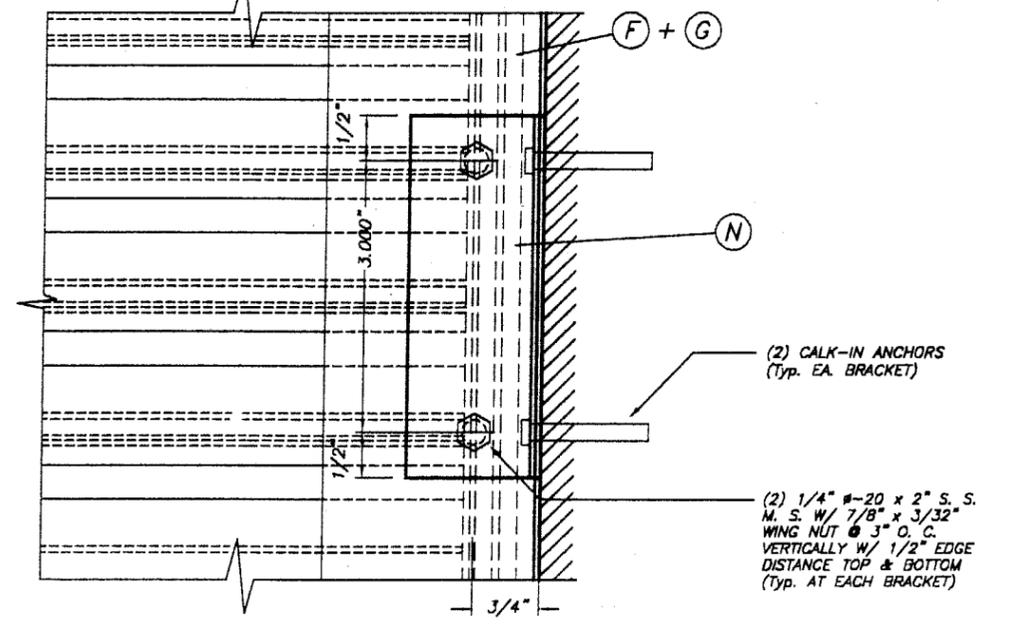


SECTION G - G (FLOOR/CEILING MOUNT)
HURRICANE POSITION
SCALE: 3/8" = 1"

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



DETAIL 2
SCALE: 1/2" = 1"



DETAIL 3
SCALE: 1/2" = 1"

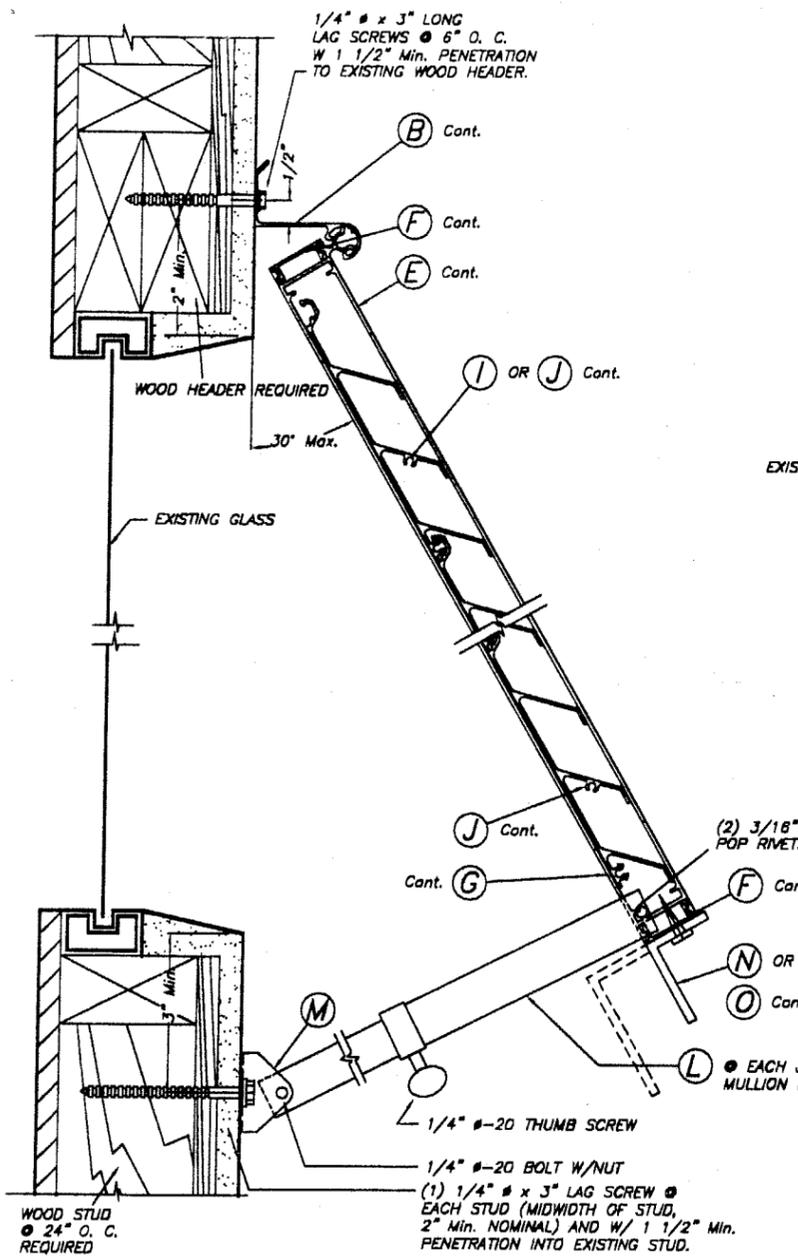
PRODUCT REVISED
 as complying with the Florida Building Code
 Acceptance No 03-0317.06
 Expiration Date 03/30/2007
 By *Heather A. Miller*
 Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

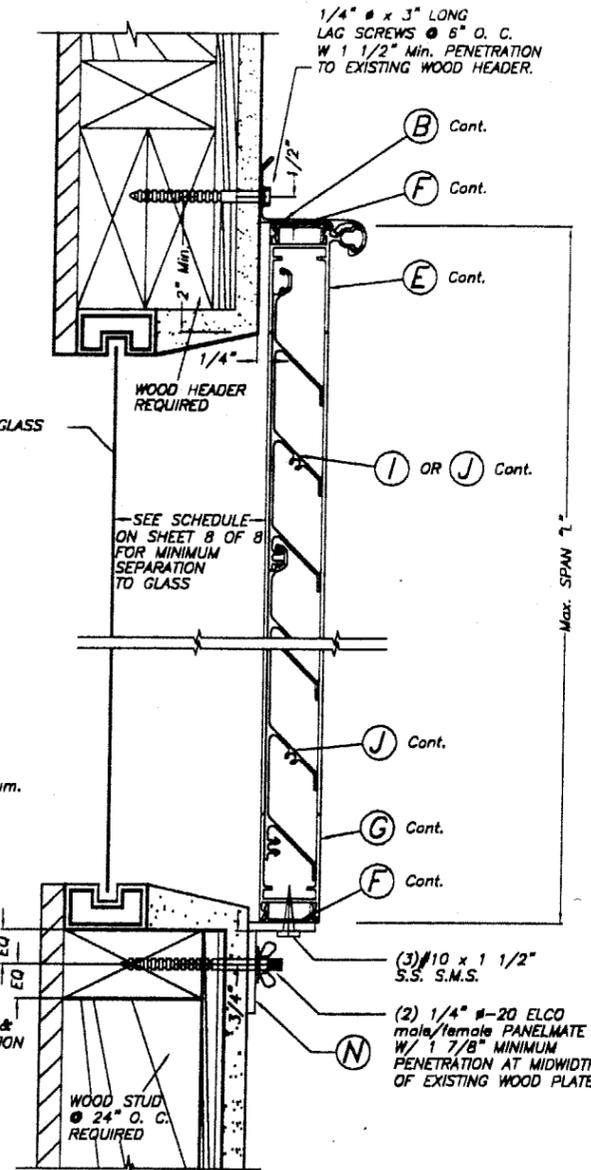
Walter A. Tillit Jr.
FEB 12 2003

TILECO INC.
 TILLIT TESTING & ENGINEERING COMPANY
 6595 N.W. 38th St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
 Phone: (305)871-1530 Fax: (305)871-1531
 EB-0006719
 WALTER A. TILLIT JR., P. E.
 FLORIDA Lic. # 44167

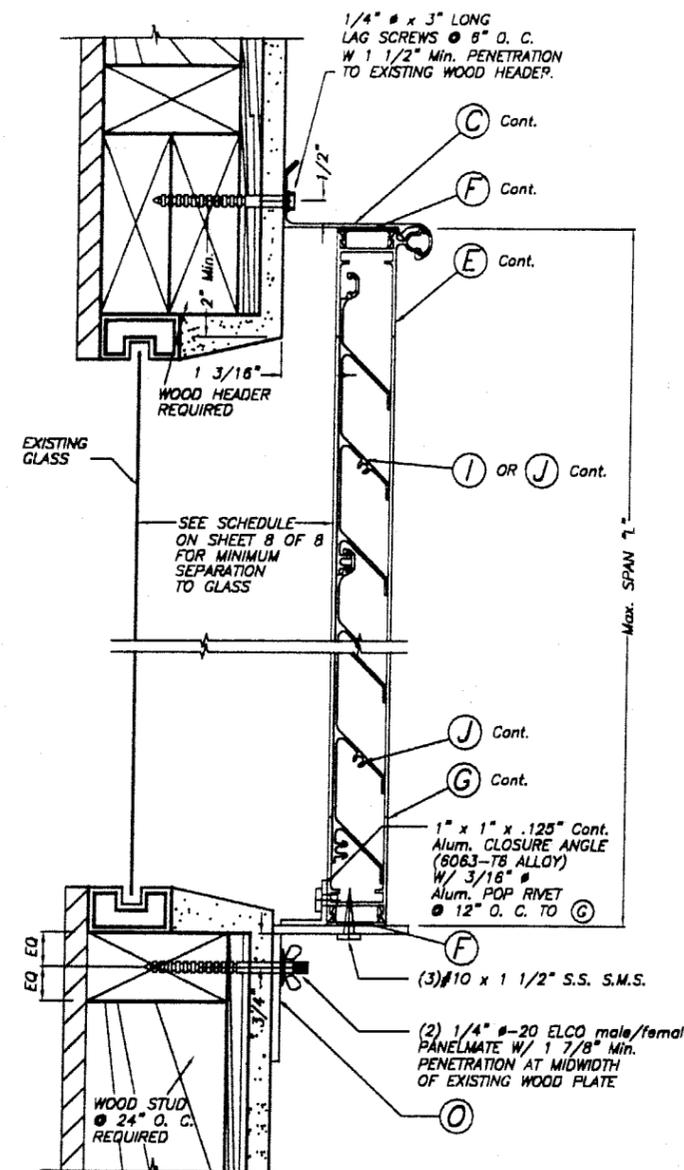
| | | | | | |
|--|--|--|--------------------------------------|--|--|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | | AS SHOWN SCALE | | |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | | 2/6/03 DATE | | |
| REV. No 1 DESCRIPTION OLD 98-24 DATE 2/6/03 | | | REV. No 3 DESCRIPTION - DATE - | | |
| REV. No 2 DESCRIPTION - DATE - | | | REV. No 4 DESCRIPTION - DATE - | | |
| 03-027 DRAWING No | | | SHEET 5 OF 8 | | |



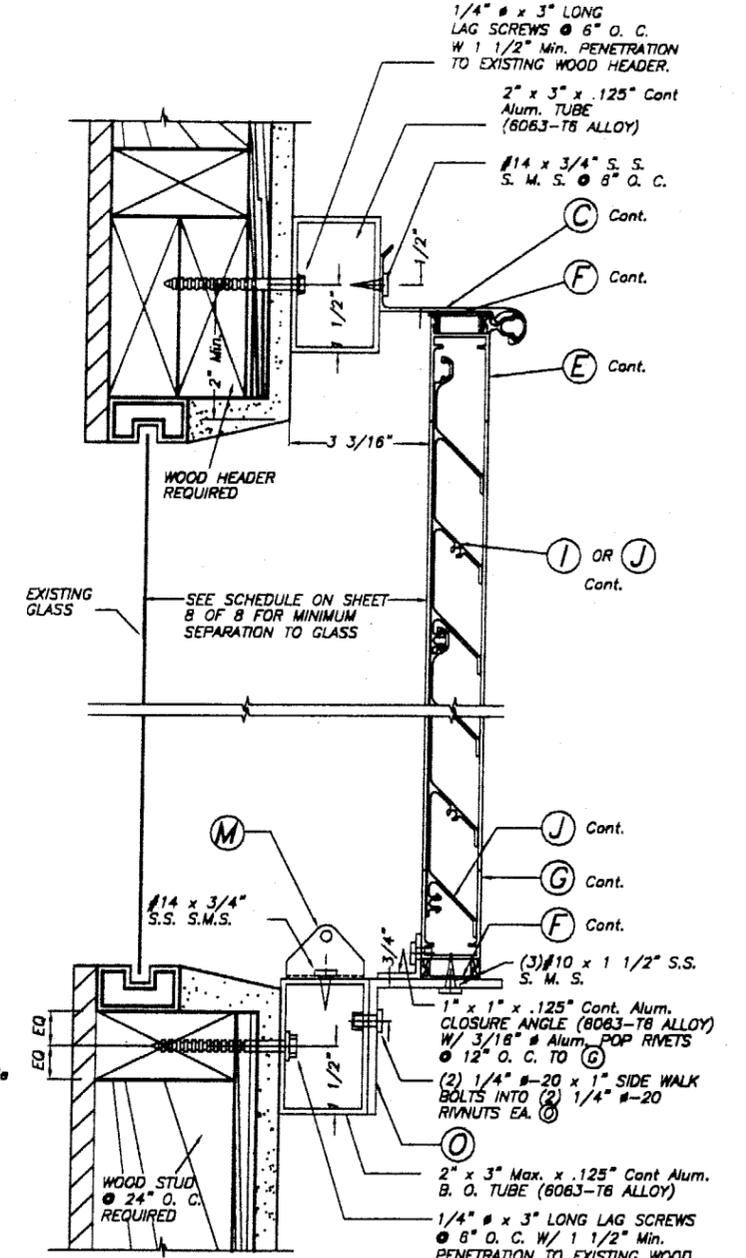
OPEN POSITION DETAIL : (74 m.p.h. OR LESS WIND SPEED)
SCALE: 3/8" = 1"



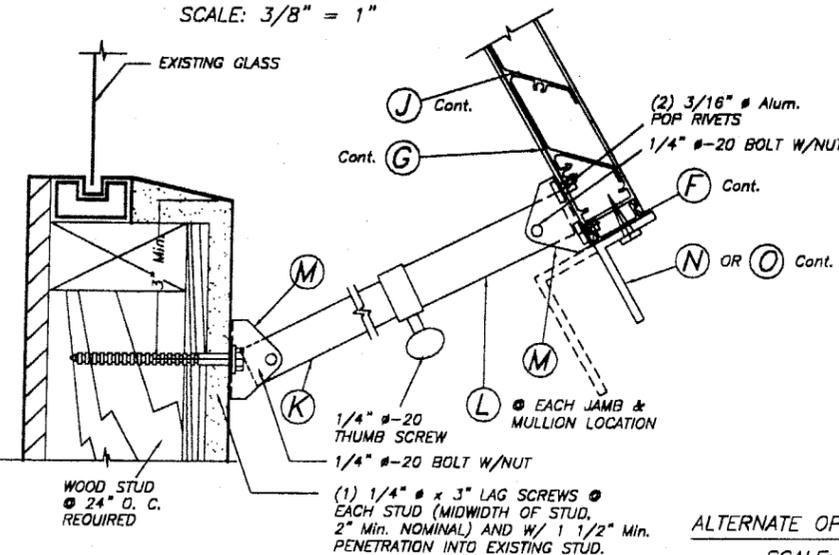
ALTERNATIVE 1
HURRICANE POSITION
SCALE: 3/8" = 1"



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



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



ALTERNATE OPEN POSITION DETAIL
SCALE: 3/8" = 1"

WALL MOUNTING INSTALLATION & BUILD-OUT
- SECTION A
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 B OF B.
- 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.

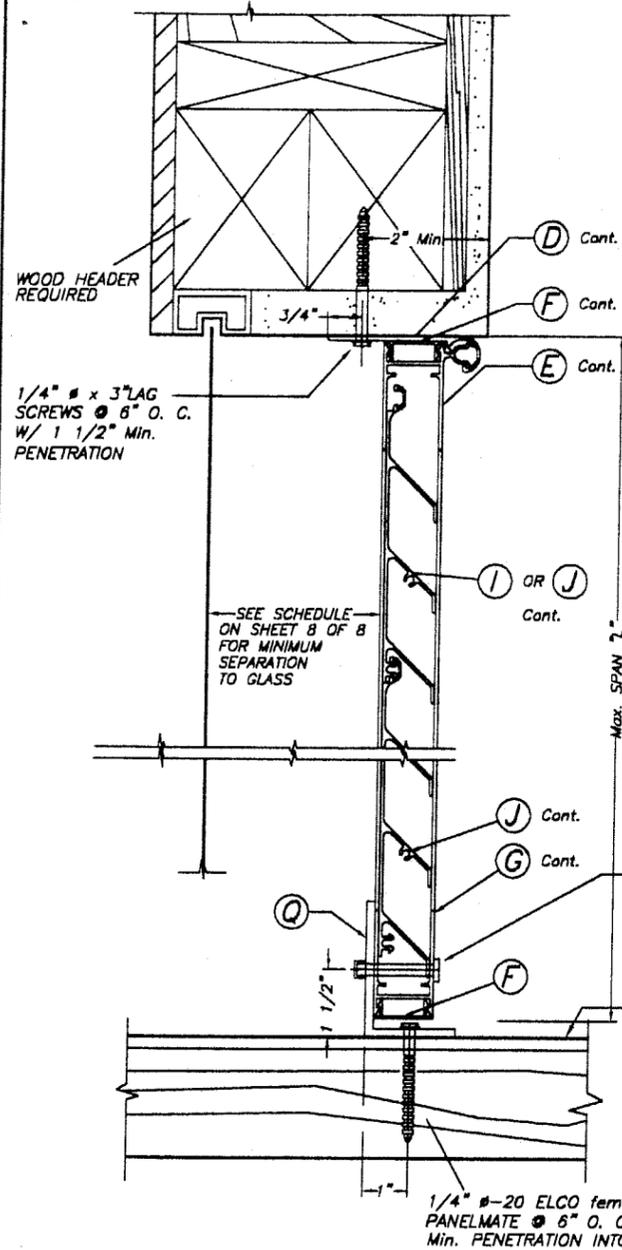
FEB 12 2003

TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
8595 N.W. 38th. St., Ste. 217, VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1830 Fax : (305)871-1531
EB-0006719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

| | | |
|---|-------------|----------------------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | AS SHOWN SCALE |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | 2/8/03 DATE |
| | | 03-027 DRAWING No |
| REV. No | DESCRIPTION | DATE |
| 1 | OLD 99-24 | 2/8/03 |
| 2 | | |
| 3 | | |
| 4 | | |
| | | SHEET 6 OF 8 |

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No 03-0317.06
Expiration Date 03/30/2007
By *Heather A. Miller*
Miami Dade Product Control
Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

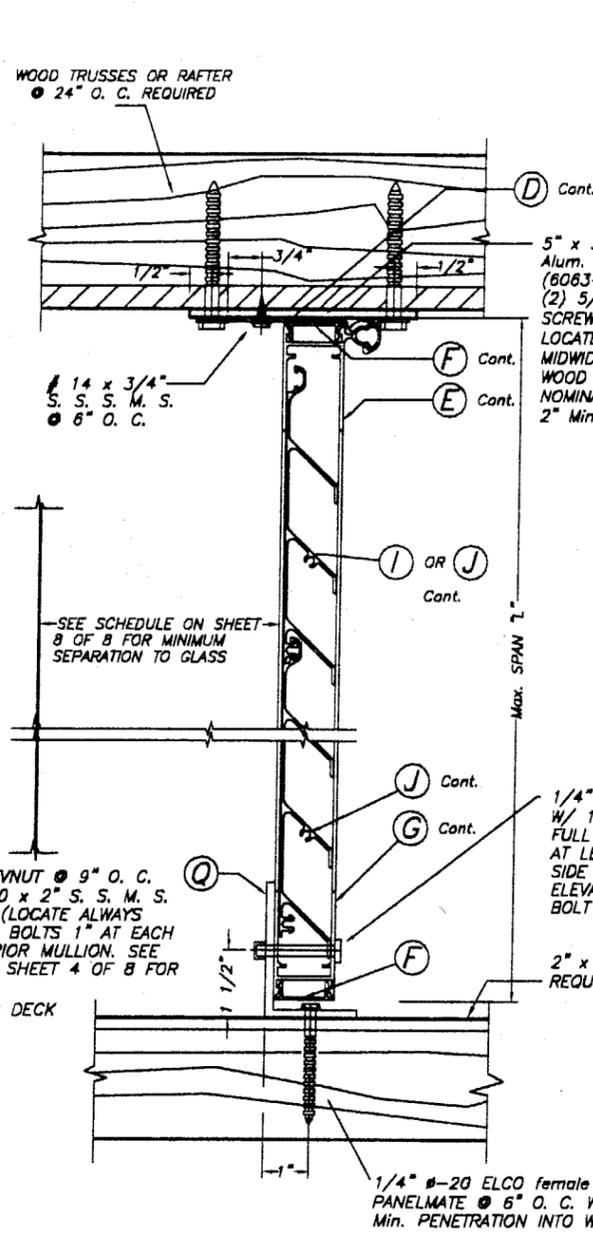


ALTERNATIVE 4A

FLOOR/CEILING MOUNTING INSTALLATION

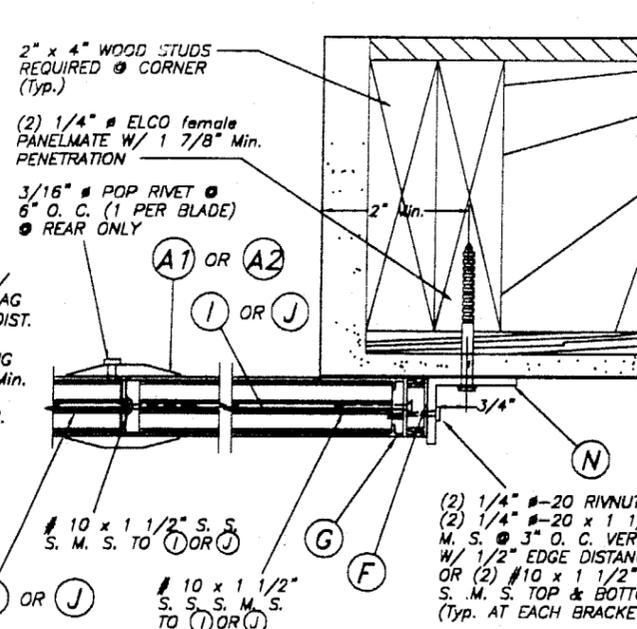
- SECTION A

SCALE: 1/4" = 1"



ALTERNATIVE 4B

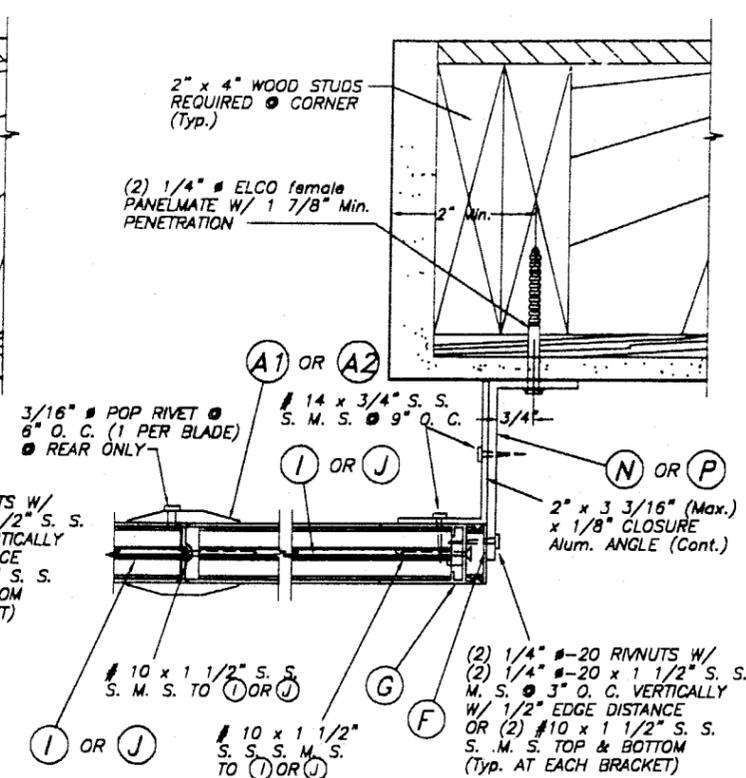
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS



SECTION A-A

(WALL MOUNT)

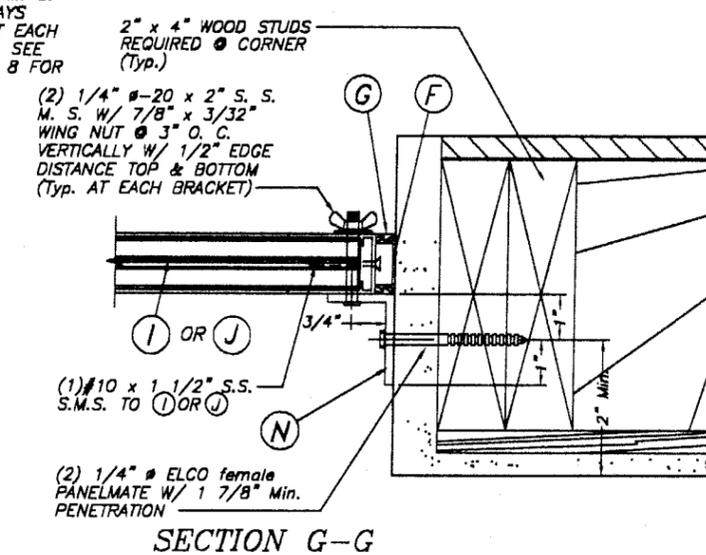
SCALE: 1/4" = 1"



SECTION B-B

(WALL MOUNT)

SCALE: 1/4" = 1"



SECTION G-G

(FLOOR/CEILING MOUNT)

SCALE: 1/4" = 1"

NOTES:

1. 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 8 OF 8.
2. 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.
3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 03-0317-06
 Expiration Date 03/30/2007
 By *Heung A. Makin*
 Miami Dade Product Control
 Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

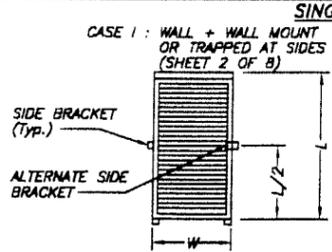
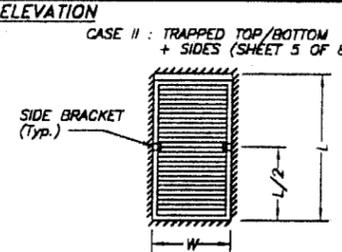
[Signature]
 FEB 1 2003

TILECO INC.
 TILLIT TESTING & ENGINEERING COMPANY
 6595 N.W. 36th St. Ste. 217, VIRGINIA GARDENS, FLORIDA 33168
 Phone: (305)871-1530 Fax: (305)871-1531
 EB-0006719
 WALTER A. TILLIT Jr., P. E.
 FLORIDA Lic. # 44167

| | | | |
|--|-------------|----------------------|---------|
| FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | | AS SHOWN SCALE | |
| ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | | 2/6/03 DATE | |
| | | 03-027 DRAWING No | |
| REV. No | DESCRIPTION | DATE | REV. No |
| 1 | OLD 99-24 | 2/6/03 | 3 |
| 2 | | | 4 |
| | | SHEET 7 OF 8 | |

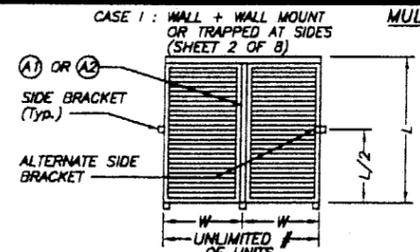
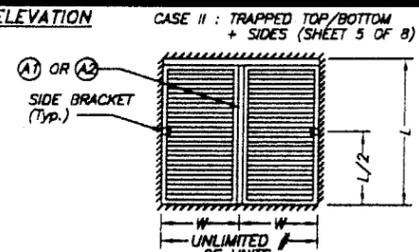
SCHEDULE # 1

MAXIMUM SINGLE UNIT FOR A CORRESPONDING DESIGN PRESSURE AND MOUNTING TYPE

| BAHAMA SHUTTER TYPE | SINGLE UNIT ELEVATION | | | |
|--|---|--|---|----------------------------------|
| | CASE I : WALL + WALL MOUNT OR TRAPPED AT SIDES (SHEET 2 OF 8) | | CASE II : TRAPPED TOP/BOTTOM + SIDES (SHEET 5 OF 8) | |
| |  |  | | |
| 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" | N/A | 3 1/8" |
| 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

| BAHAMA SHUTTER TYPE | MULTIPLE UNIT ELEVATION | | | | |
|--|---|---|-----------------|---|----------------------------------|
| | CASE I : WALL + WALL MOUNT OR TRAPPED AT SIDES (SHEET 2 OF 8) | | | CASE II : TRAPPED TOP/BOTTOM + SIDES (SHEET 5 OF 8) | |
| |  |  | | | |
| 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 | A1 | 2 1/2" |
| 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 (2) 1/4" Ø x 7/8" CALK-IN ANCHORS *

| MAXIMUM NEGATIVE DESIGN PRESSURE RATING (p.s.f.) | SINGLE UNITS | | | | MULTIPLE UNITS | | | |
|--|-------------------------|----------|----------|----------|-------------------------|----------|----------|----------|
| | SIDE & SILL BRACKETS ** | | | | 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" | N/A | N/A | 36 1/2" | 62" |
| -100.0 | 42" | 96" | 42" | 63 | N/A | N/A | 27" | 83" |
| | | | 36" | 73 | N/A | N/A | N/A | N/A |

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. |

*** SEE SHEETS 6 & 7 OF 8 FOR ANCHOR SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

* FOR ELCO PANELMATES ((2) 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.

PRODUCT REVISED
as complying with the Florida Building Code
Acceptance No 03-0317.06
Expiration Date 03/30/2007
By *Helmut A. Miller*
Miami Dade Product Control Division

F.B.C.(H.V.H.Z.)/MIAMI-DADE COUNTY

FEB 12 2003

| | | |
|---|---|-------------------|
|  TILT TESTING & ENGINEERING COMPANY 6585 N.W. 38th St., Ste. 217, MIRAMAR GARDENS, FLORIDA 33186 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167 | FLORIDA BAHAMA ASSA / EXTRUDED BERTHA BAHAMA SHUTTER | AS SHOWN SCALE |
| | ALUFAB HURRICANE SHUTTERS, INC. (ASSA # 107) 13000 N.W. 38th AVENUE OPA LOCKA, FL. 33054 | 2/6/03 DATE |
| REV. No DESCRIPTION DATE REV. No DESCRIPTION DATE 1 OLD 99-24 2/6/03 3 - - - 2 - - - 4 - - - | | 03-027 DRAWING No |
| | | SHEET 8 OF 8 |