



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

**Ocean Shutters Manufacturing, Inc.**  
 1031 S.W. 30<sup>th</sup> Avenue  
 Deerfield Beach, FL 33442

**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: 0.0511”(min.) Aluminum Storm Panels Shutter**

**APPROVAL DOCUMENT:** Drawing No. 05-474, titled 0.0511” Aluminum Storm Panel, sheets 1 through 5 of 5, prepared by Thornton-Tomasetti Group, dated September 19, 2005, last revision #0 dated September 19, 2005, signed and sealed by V. J. Knezevich, 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 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 & renews NOA #02-0410.02** and consists of this page 1, evidence submitted pages E-1 & E-2 as well as approval document mentioned above.

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



*Helmy A. Makar*  
 05/25/2006

**NOA No 05-1115.05**  
**Expiration Date: 08/16/2011**  
**Approval Date: 05/25/2006**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**1. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 01-0516.15**

**A. DRAWINGS:**

1. *Drawing No. 00-393, titled "0.0511" Aluminum Storm Panel", prepared by Knezevich & Associates, Inc., signed and sealed by V. J. Knezevich, P.E., dated April 10, 2001, last revision #1 dated July 18, 2001, sheets 1 through 5 of 5.*

**B. TESTS:**

1. *Test report on: 1) Uniform Static Air Pressure test Loading, per PA 202-94; 2) Large Missile Impact Test, per PA 201-94, and 3) Cyclic Loading Wind Pressure Test, per PA 203-94 of aluminum storm panels, prepared by Construction Testing Corporation, Report No. 00-061, dated 02/28/2001, signed and sealed by Christopher G. Tyson, P.E.*
2. *Test report on Large Missile Impact Test, per PA 201-94 of aluminum storm panels, prepared by Construction Testing Corporation, Report No. 01-009, dated 03/22/2001, signed and sealed by Christopher G. Tyson, P.E. to get less glass separation than test report 00-061. Conservatively, a less thickness "h" header used in this test.*

**C. CALCULATIONS:**

1. *Comparative analysis and anchor calculation, titled 0.050" Aluminum Alloy Storm Panels, dated April 06, 2001, pages 1 through 50 and anchor manufacturers appendix, prepared by Knezevich and Associates Inc., signed and sealed by V.J. Knezevich, P.E.*
2. *Anchor calculation, dated July 18, 2001, 13 pages, prepared by Knezevich and Associates Inc., signed and sealed by V.J. Knezevich, P.E.*

**D. Material certification:**

1. *Mill Certified Inspection Invoice #Test Coil, dated 04/25/01 for Aluminum Alloy 3004-H34 by Amerimet.*
2. *Certified Tensile Test Report No. CTL #0183G, issued by Certified Testing Laboratories dated 02/14/01 for Aluminum sample CTC-00-061, signed and sealed by Ramesh Patel, P.E.*

**2. EVIDENCE SUBMITTED UNDER PREVIOUS APPROVAL # 02-0410.02**

**A. DRAWINGS**

See NOA 01-0516.15

**B. TESTS**

See NOA 01-0516.15



Helmy A. Makar, P.E.  
Product Control Examiner  
NOA No 05-1115.05  
Expiration Date: 08/16/2011  
Approval Date: 05/25/2006

**Ocean Shutters Manufacturing, Inc.**

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**C. CALCULATIONS**  
See NOA 01-0516.15

**D. MATERIAL CERTIFICATIONS**  
See NOA 01-0516.15

**E. STATEMENTS**  
See NOA 01-0516.15

**F. OTHER**  
See NOA 01-0516.15

**3. NEW EVIDENCE SUBMITTED**

**A. DRAWINGS:**

1. *Drawing No. 05-474, titled 0.0511" Aluminum Storm Panel, sheets 1 through 5 of 5, prepared by Thornton-Tomasetti Group, dated September 19, 2005, last revision #0 dated September 19, 2005, signed and sealed by V. J. Knezevich, P.E.*

**B. TESTS:**

1. *None.*

**C. CALCULATIONS:**

1. *Revised anchor calculation with no 4/3 load increase, dated September 16, 2005, pages 1 through 31 of 31 and anchor manufacturers appendix, prepared by Thornton-Tomasetti Group, signed and sealed by V.J. Knezevich, P.E.*

**D. QUALITY ASSURANCE**

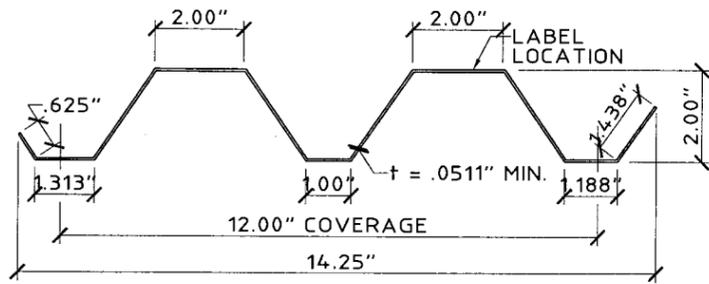
1. *By Miami-Dade County Building Code Compliance Office.*

**E. MATERIAL CERTIFICATION:**

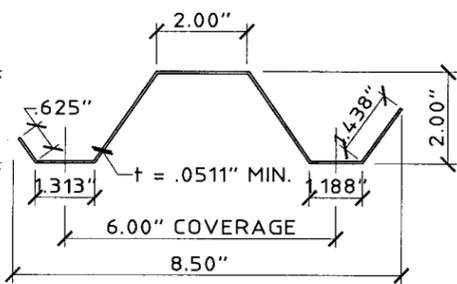
1. *None.*



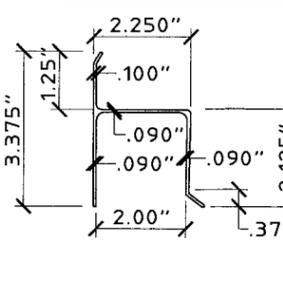
Helmy A. Makar, P.E.  
Product Control Examiner  
NOA No 05-1115.05  
Expiration Date: 08/16/2011  
Approval Date: 05/25/2006



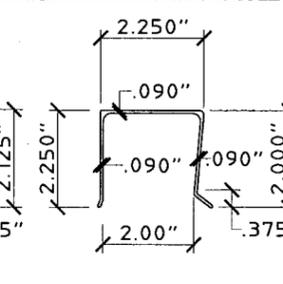
**1 STORM PANEL**  
SCALE: 3" = 1' - 0"



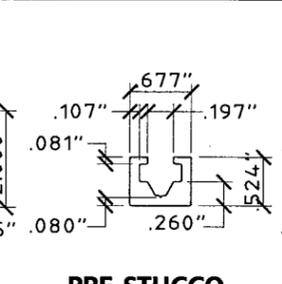
**2 HALF STORM PANEL**  
SCALE: 3" = 1' - 0"



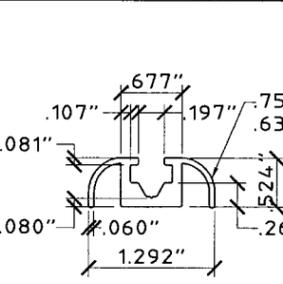
**3 "h" HEADER**  
SCALE: 3" = 1' - 0"



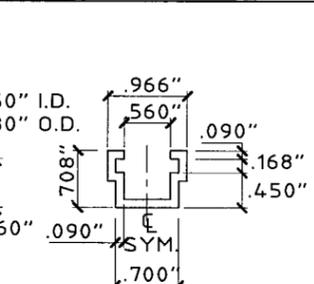
**4 "U" HEADER**  
SCALE: 3" = 1' - 0"



**5 PRE-STUCCO C-TRACK**  
SCALE: HALF SIZE



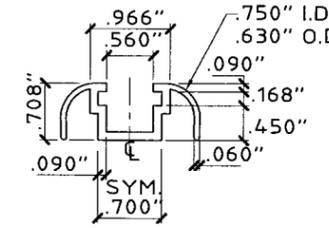
**5a C-TRACK (FINISH)**  
SCALE: HALF SIZE



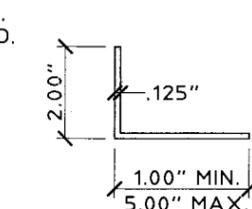
**6 SLIDE TRACK**  
SCALE: HALF SIZE

**GENERAL NOTES:**

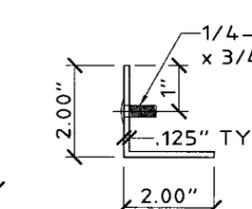
- THESE APPROVAL DOCUMENTS REPRESENT A SHUTTER SYSTEM ANALYZED WITH THE PROVISION SET FOR THE ISSUANCE OF A NOTICE OF ACCEPTANCE (NOA) BY MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION FOR THE HIGH VELOCITY HURRICANE ZONE (HVHZ) OF THE FLORIDA BUILDING CODE 2004, WITH 2005 SUPPLEMENTS.
- NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS PRODUCT. WIND LOAD DURATION FACTOR  $C_d = 1.6$  WAS USED FOR WOOD SCREW DESIGN.
- DETERMINE THE POSITIVE AND NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH ASCE 7-02, A DIRECTIONALITY FACTOR OF  $K_d = 0.85$  SHALL BE USED.
- THESE APPROVAL DOCUMENTS ARE GENERIC AND DO NOT INCLUDE INFORMATION FOR SITE-SPECIFIC APPLICATION OF THIS SHUTTER SYSTEM.
- USE OF THESE APPROVAL DOCUMENTS SHALL COMPLY WITH CHAPTER 61G15-23 OF THE FLORIDA ADMINISTRATIVE CODE.
- THESE APPROVAL DOCUMENTS ARE SUITABLE TO BE APPLIED BY THE CONTRACTOR PROVIDED THE CONTRACTOR DOES NOT DEVIATE FROM THE CONDITIONS DETAILED HEREIN AND THE CONTRACTOR VERIFIES THAT THE EXISTING STRUCTURE DOES NOT DEVIATE IN EITHER FORM OR MATERIAL FROM THE STRUCTURAL SUBSTRATES DETAILED HEREIN.
- ANY MODIFICATIONS OR ADDITIONS TO THESE APPROVAL DOCUMENTS WILL VOID THE APPROVAL DOCUMENTS.
- WHEN THE SITE CONDITIONS DEVIATE FROM THESE APPROVAL DOCUMENTS, THE BUILDING OFFICIAL MAY ELECT ONE OF THE FOLLOWING OPTIONS:
  - REQUIRE THAT SITE SPECIFIC DOCUMENTS BE PREPARED, SIGNED, DATED AND SEALED BY A LICENSED ENGINEER OR REGISTERED ARCHITECT, WHICH DETAIL AND JUSTIFY THE DEVIATION. SAID DOCUMENTS SHALL BE SUBMITTED TO THE PRODUCT ENGINEER FOR REVIEW AS A CONDITION TO THE BUILDING OFFICIAL GRANTING HIS/HER APPROVAL.
  - REQUIRE THAT A ONE-TIME SITE SPECIFIC APPROVAL BE APPLIED FOR AND SECURED FROM THE MIAMI-DADE COUNTY PRODUCT CONTROL DIVISION.
- WHEN THE SITE CONDITION DEVIATIONS OCCUR WITHIN THE HIGH VELOCITY HURRICANE ZONE AREAS ONLY OPTION "B" SHALL BE ACCEPTED BY THE BUILDING OFFICIAL.
- PRODUCT MARKINGS SHALL BE WITHIN 12" OF ONE END OF THE PANEL WITH A MIN. OF ONE MARKING PER PANEL, AND SHALL BE LABELED AS FOLLOWS:  
**OCEAN SHUTTER MFG., INC.**  
**DEERFIELD BEACH, FLORIDA**  
**MIAMI-DADE COUNTY PRODUCT CONTROL APPROVED**
- STORM PANELS SHALL BE 3004-H34 OR 5052-H34 ALUMINUM ALLOY WITH  $F_y = 35,990$  P.S.I., 0.0511" THICK. ALL EXTRUSIONS SHALL BE 6063-T6 ALUMINUM ALLOY, U.O.N.
- ALL BOLTS AND WASHERS SHALL BE GALVANIZED OR STAINLESS STEEL WITH A MINIMUM TENSILE STRENGTH OF 60 K.S.I.
- TOP & BOTTOM DETAILS SHOWN MAY BE INTERCHANGED AS FIELD CONDITIONS DICTATE. PANELS MAY BE MOUNTED HORIZONTALLY WHERE APPLICABLE, EXCEPT FOR "h" AND "U" HEADER MOUNTING CONDITIONS.



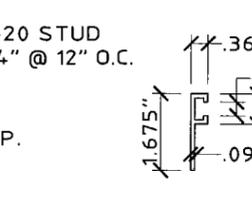
**6a SLIDE TRACK (FINISH)**  
SCALE: HALF SIZE



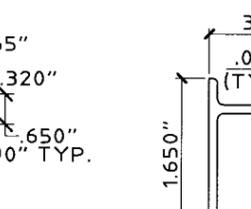
**7 ANGLE**  
SCALE: 3" = 1' - 0"



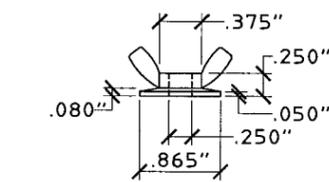
**8 STUD ANGLE**  
SCALE: 3" = 1' - 0"



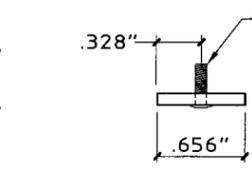
**9 F-TRACK**  
SCALE: 3" = 1' - 0"



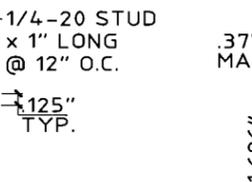
**10 BUILD-OUT F-TRACK**  
SCALE: HALF SIZE



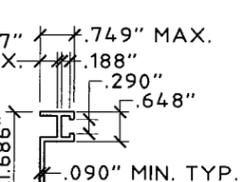
**11 (ZAMAC 3 ALLOY) WASHED WINGNUT**  
SCALE: HALF SIZE



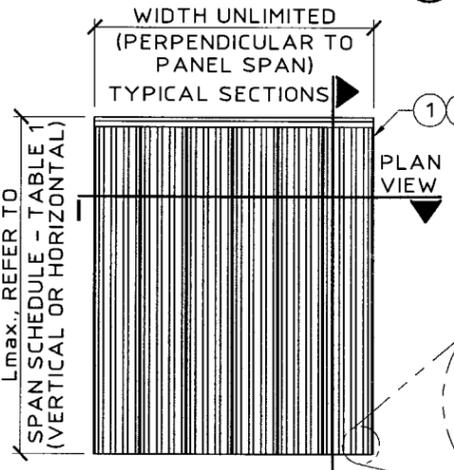
**12 STUDD STRAP (SLIDER, USE WITH 6 OR 6a)**  
SCALE: HALF SIZE



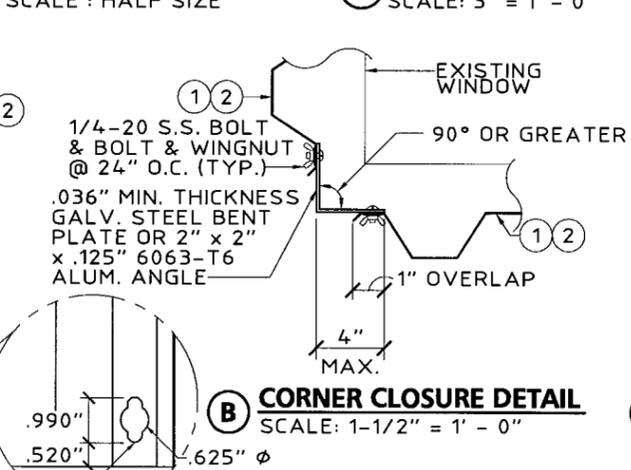
**13 BF-TRACK**  
SCALE: 3" = 1' - 0"



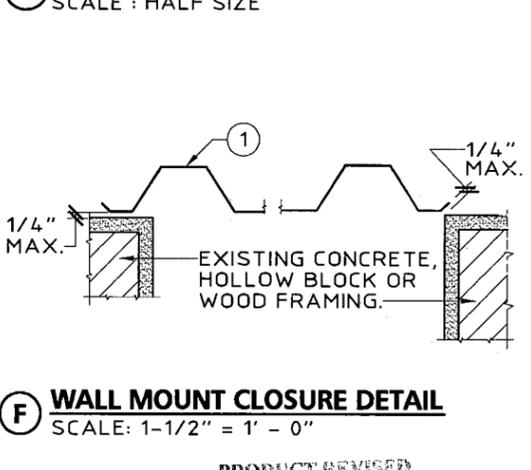
**14 0.09" THICK KEYHOLE WASHER (OPTIONAL)**  
SCALE: HALF SIZE



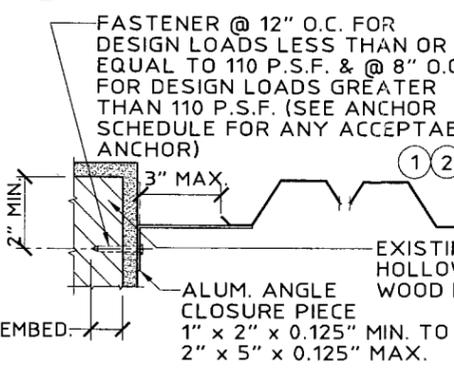
**A PANEL ELEVATION**  
SCALE: 1/4" = 1' - 0"



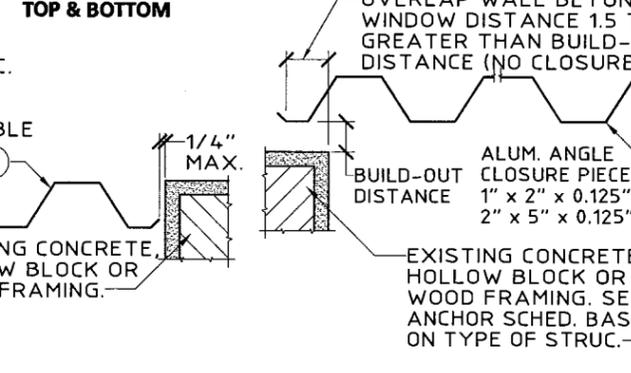
**B CORNER CLOSURE DETAIL**  
SCALE: 1-1/2" = 1' - 0"



**F WALL MOUNT CLOSURE DETAIL**  
SCALE: 1-1/2" = 1' - 0"



**E TRAP MOUNT CLOSURE DETAIL**  
SCALE: 1-1/2" = 1' - 0"



**D BUILD-OUT MOUNT CLOSURE DETAIL**  
SCALE: 1-1/2" = 1' - 0"

PRODUCT REVISED  
 as complying with the Florida  
 Building Code  
 Acceptance No. 05-1115.05  
 Expiration Date 08/16/2011  
 By Helmut A. M...  
 Miami Dade Product Control  
 Division

**Thornton-Tomasetti Group**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519  
 Website: www.TheTTGroup.com

**0.0511" ALUMINUM STORM PANEL**

1031 S.W. 30th Avenue  
 Deerfield Beach, FL 33442  
 Tel: (954) 486-5796  
 Fax: (954) 486-7199

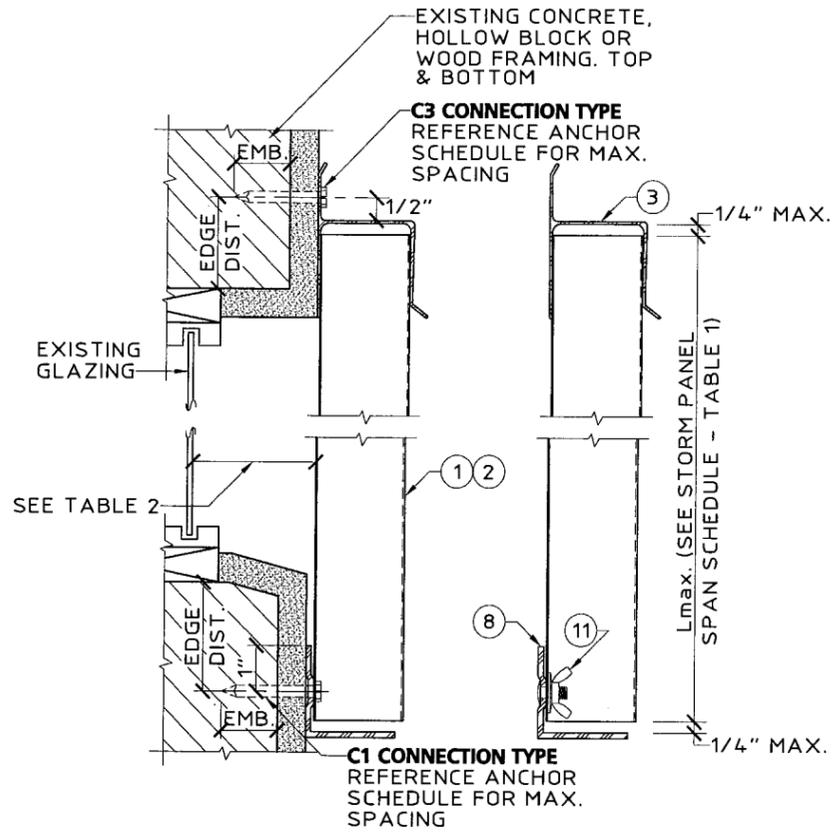
**Ocean Shutter Manufacturing, Inc.**

V.J. Knezevich  
 Professional Engineer  
 FL License No. PC 0010983

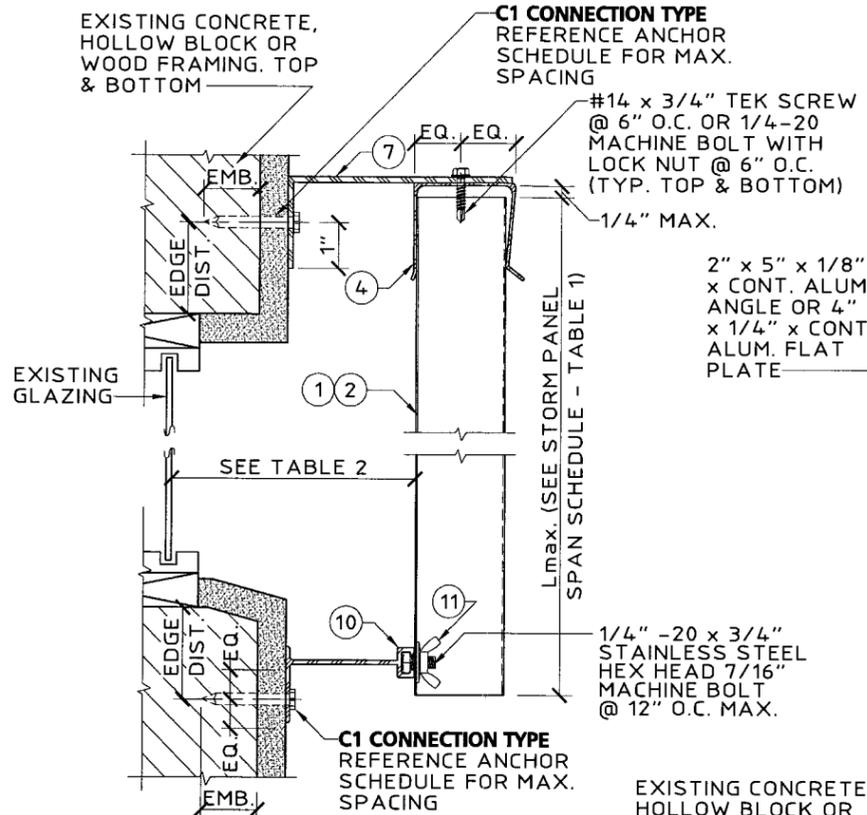
MAY 16 2006

no.	date	by	description
0	09/19/05	NW	PREVIOUSLY DRAWING NO. 00-393
1	02/07/06	NW	OCEAN'S ADDRESS CHANGE ONLY
2	05/16/06	NW	BCC COMMENTS

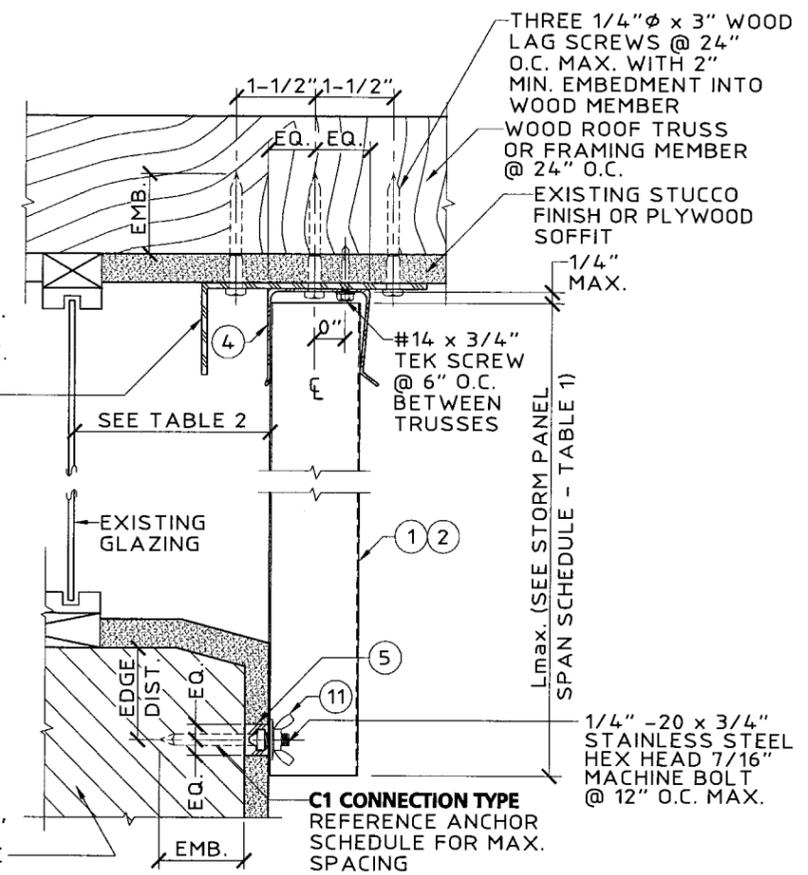
date: 09/19/2005  
 scale: AS NOTED  
 design by: NW  
 checked by: VJK  
 drawing no. 05-474  
 sheet 1 of 5



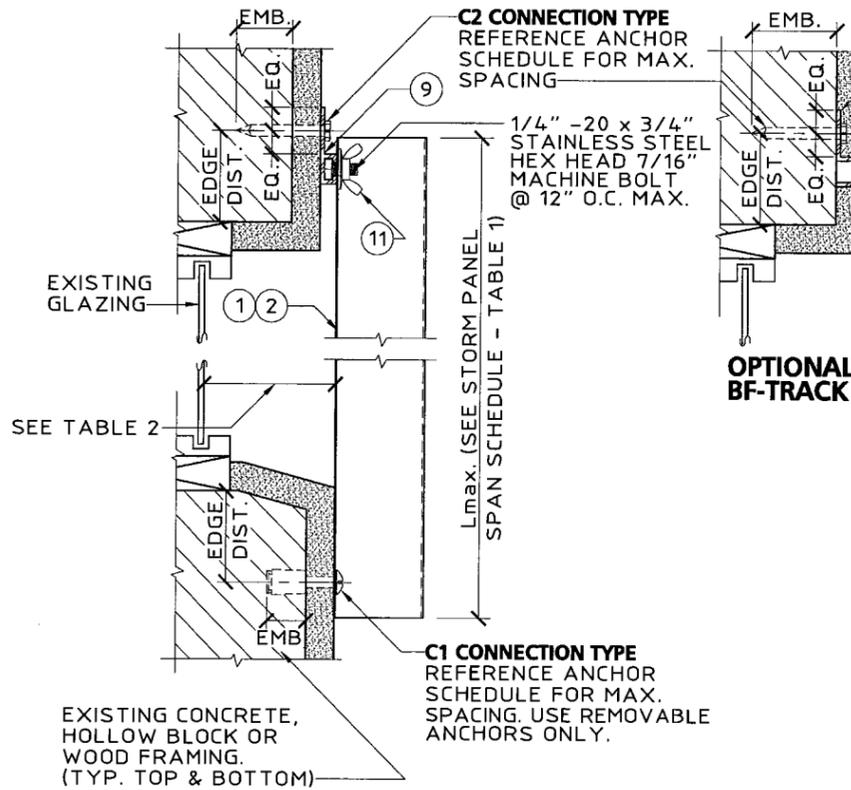
**G WALL MOUNT SECTION**  
SCALE: 3" = 1' - 0"



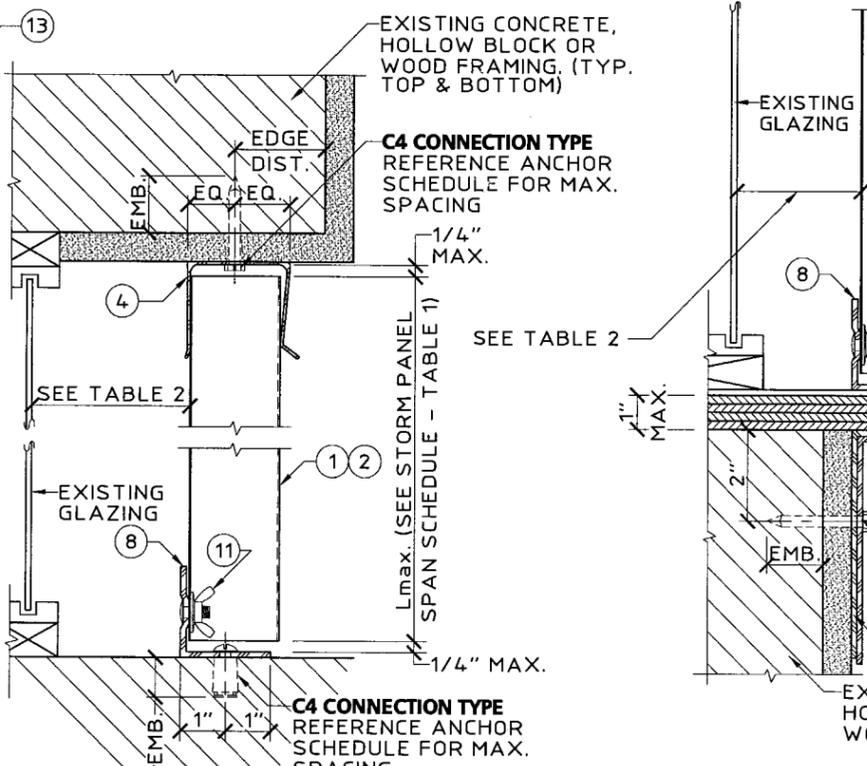
**H BUILD-OUT MOUNT SECTION**  
SCALE: 3" = 1' - 0"



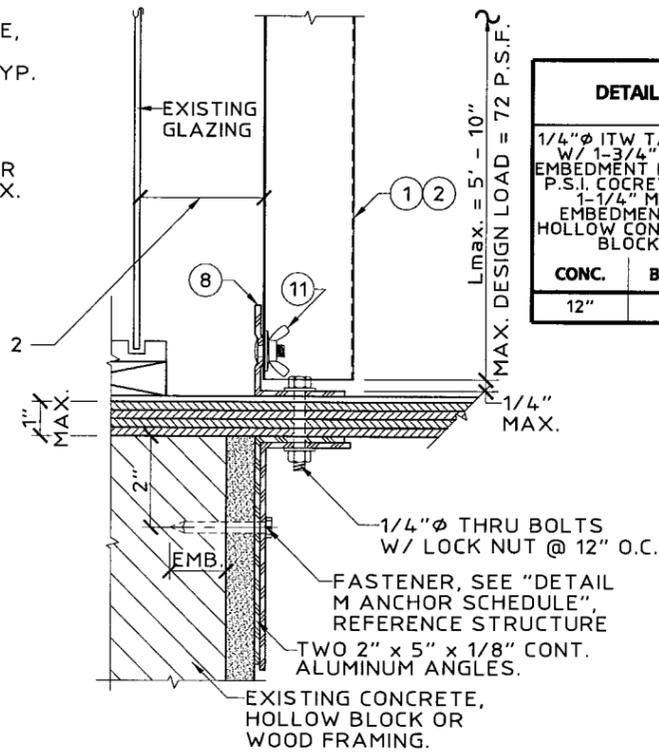
**J CEILING / PRE-STUCCO TRACK**  
SCALE: 3" = 1' - 0"



**K F TRACK/DIRECT MOUNT SECTION**  
SCALE: 3" = 1' - 0"



**L CEILING / FLOOR MOUNT SECTION**  
SCALE: 3" = 1' - 0"



**M PASS THRU SECTION**  
SCALE: 3" = 1' - 0"

**DETAIL M ("PASS THRU" SEC.) ANCHOR SCHEDULE**

CONC.		BLOCK		WOOD
12"	4"	10"	8"	12"

**PRODUCT REVISED**  
as complying with the Florida  
Building Code  
Acceptance No 05-1115.05  
Expiration Date 08/16/2011  
By *Helmut A. Miller*  
Miami Dade Product Control  
Division

**Thornton-Tomasetti Group**  
330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519  
Website: www.TheTTGroup.com

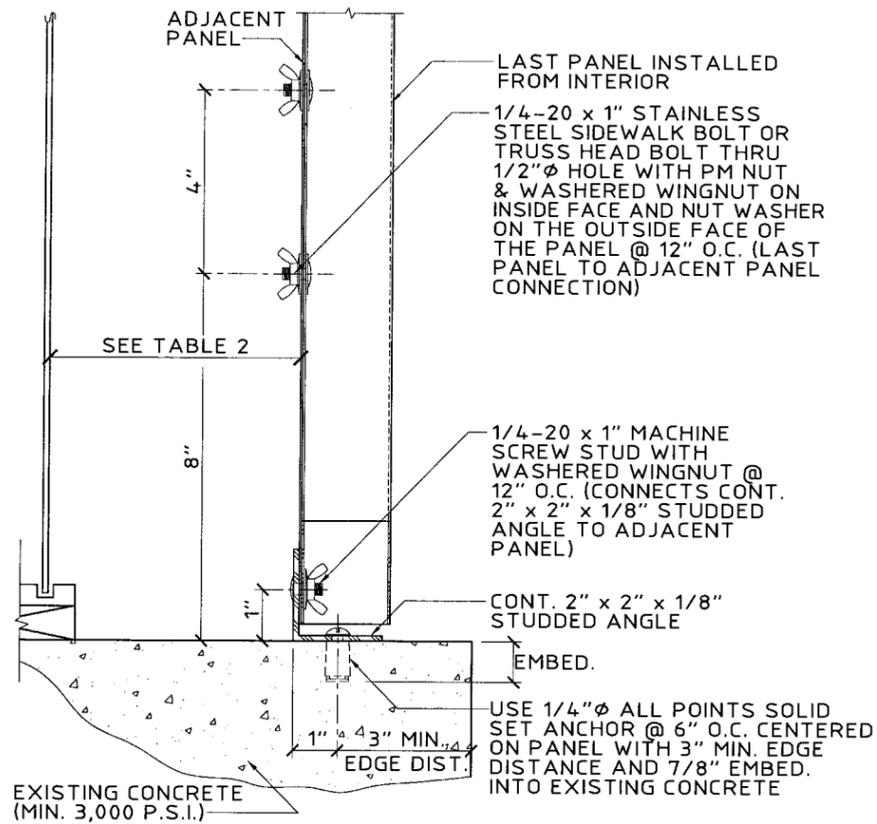
**0.051" ALUMINUM STORM PANEL**  
1031 S.W. 30th Avenue  
Deerfield Beach, FL 33442  
Tel. (954) 489-9797  
Fax. (954) 489-7799  
*Seam Systems*  
MANUFACTURING, INC.

**V.J. Knezevich**  
Professional Engineer  
FL License No. PC010983  
MAY 16 2006

no.	date	by	description
0	09/19/2005	NW	PREVIOUSLY DRAWING NO. 00-393
1	02/07/06	NW	DEAN'S ADDRESS CHANGE ONLY
2	05/16/06	NW	BCCO COMMENTS

revisions

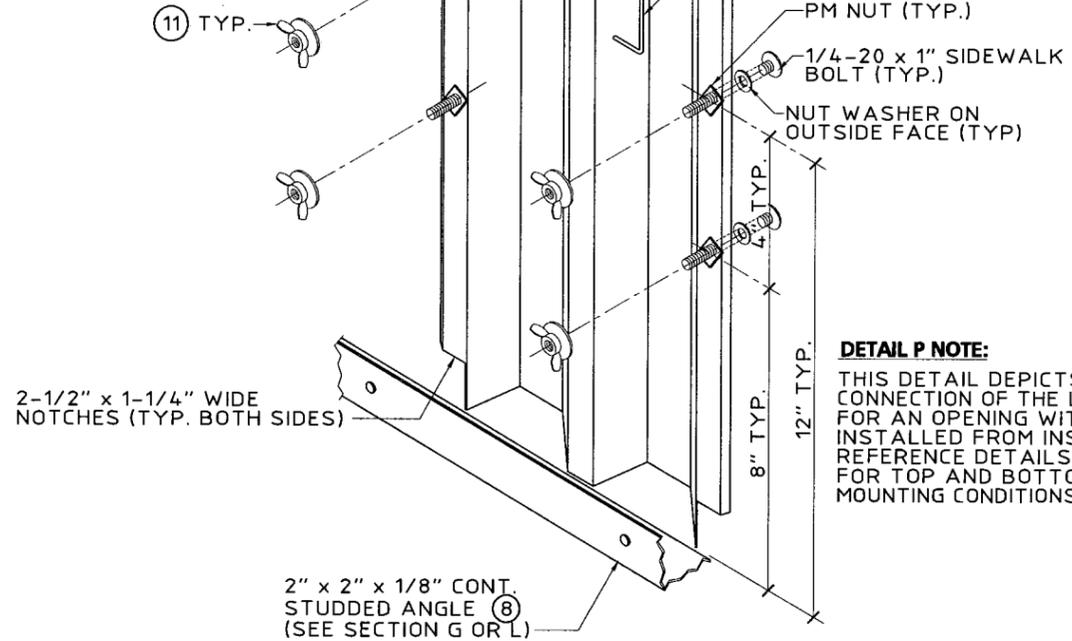
date 09/19/2005  
scale AS NOTED  
design by NW  
checked by VJK  
drawing no. 05-474  
sheet 2 of 5



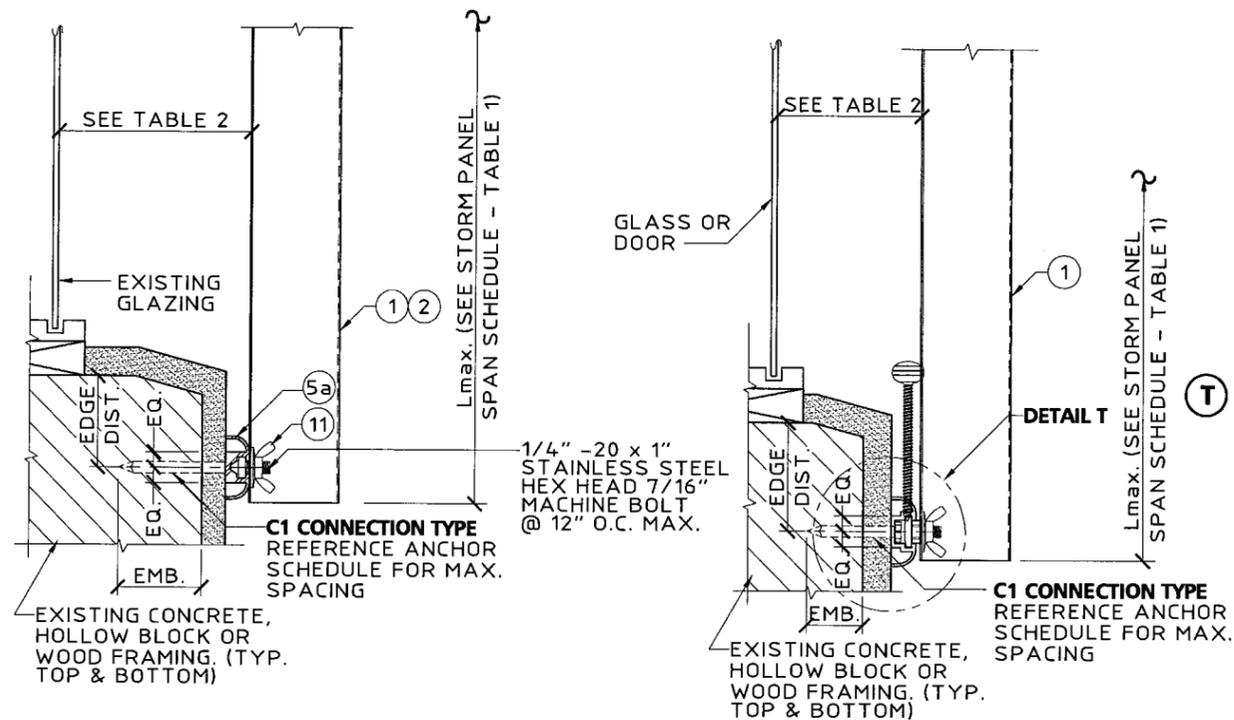
(MAX. PANEL HEIGHT = 8' - 0" AND MAX. DESIGN LOAD = ±62 P.S.F.)

**N** OPTIONAL INTERIOR FASTENING DETAIL  
SCALE: 3" = 1' - 0"

PUNCH 1/2" x 1" HOLES IN ADJACENT PANELS TO RECEIVE THIS BOLT W/ PM NUT. PLACE PANEL OVER EACH ADJACENT PANEL AND FASTEN WINGNUTS FROM THE INSIDE



**P** OPTIONAL INTERIOR FASTENING DETAIL (ISOMETRIC)  
N.T.S.

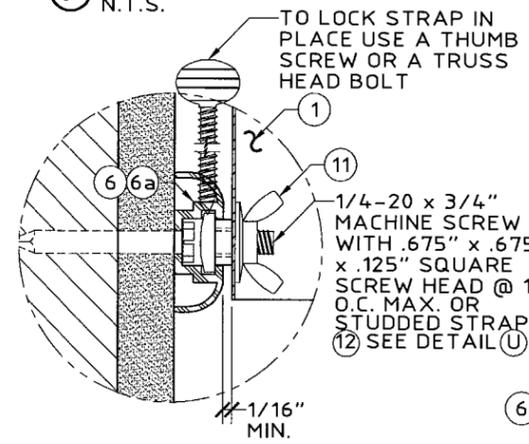


NOTE: USE OF DETAIL SHALL BE IN CONJUNCTION WITH AN "h" HEADER OR "U" HEADER TOP MOUNT

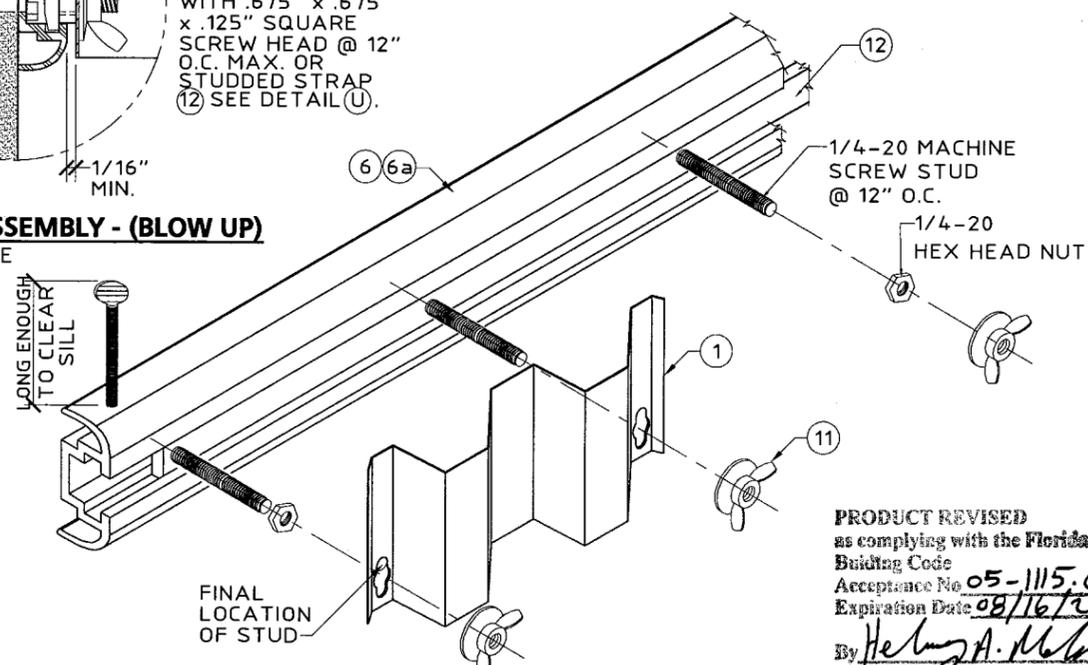
**R** C-TRACK ASSEMBLY - INSIDE CLOSURE  
SCALE: 3" = 1' - 0"

NOTE: USE OF DETAIL SHALL BE IN CONJUNCTION WITH AN "h" HEADER OR "U" HEADER TOP MOUNT

**S** SLIDE TRACK ASSEMBLY - INSIDE MOUNT  
SCALE: 3" = 1' - 0"



**T** SLIDE TRACK ASSEMBLY - (BLOW UP)  
SCALE: HALF SIZE



**U** STUDED STRAP ASSEMBLY (ISOMETRIC VIEW)  
N.T.S.

**DETAIL P NOTE:**

THIS DETAIL DEPICTS THE CONNECTION OF THE LAST PANEL FOR AN OPENING WITH PANELS INSTALLED FROM INSIDE. REFERENCE DETAILS G OR L FOR TOP AND BOTTOM MOUNTING CONDITIONS.

**Thornton-Tomasetti Group**  
 330 N. Andrews Ave., Suite 450 • Ft. Lauderdale, FL 33301  
 Tel. (954) 522-3690 • Fax (954) 522-3691 • COA # 7519  
 Website: www.TheTTGroup.com  
 Copyright © 2006 Thornton-Tomasetti Group, Inc.

**0.051" ALUMINUM STORM PANEL**  
 1081 S.W. 30th Avenue  
 Deerfield Beach, FL 33442  
 Tel: (561) 489-0700  
 Fax: (561) 489-7799  
**Seena Systems**  
 MANUFACTURING, INC.

**V.J. Knezevich**  
 Professional Engineer  
 FL License No. PE 010983  
 MAY 16 2006

no.	date	by	description
0	09/19/05	NW	PREVIOUSLY DRAWING NO. 00-393
1	02/07/06	NW	OCEAN'S ADDRESS CHANGE ONLY
2	05/16/06	NW	BCCO COMMENTS

date 09/19/2005  
 scale AS NOTED  
 design by NW  
 checked by VJK  
 drawing no. 05-474  
 sheet 3 of 5

**PRODUCT REVISED**  
 as complying with the Florida Building Code  
 Acceptance No 05-115.05  
 Expiration Date 08/16/2011  
 By Helmut A. Melzer  
 Miami Dade Product Control Division



