



**Product Approval**  
USER: Public User

[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > **Application Detail**

OFFICE OF THE  
SECRETARY

|  |   |             |
|--|---|-------------|
| FL #   | FL42324   |             |
| Application Type   | New   |             |
| Code Version   | 2023  |             |
| Application Status   | Approved  |             |
| Comments   |   |             |
| Archived   | <input type="checkbox"/>  |             |
| Product Manufacturer   | GIG Windows & Doors   |             |
| Address/Phone/Email  | 290 W 78 Road<br>Hialeah, FL 33014<br>(305) 558-8103<br>tony@generalimpact.com  |             |
| Authorized Signature   | Jose Zuniga<br>tony@generalimpact.com   |             |
| Technical Representative   |   |             |
| Address/Phone/Email  |   |             |
| Quality Assurance Representative                                       |   |             |
| Address/Phone/Email  |   |             |
| Category   | Windows   |             |
| Subcategory  | Fixed   |             |
| Compliance Method  | Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer<br><input type="checkbox"/> Evaluation Report - Hardcopy Received |             |
| Florida Engineer or Architect Name who developed the Evaluation Report | Walter A. Tillit Jr., P.E.  |             |
| Florida License  | PE-44167  |             |
| Quality Assurance Entity   | National Accreditation and Management Institute   |             |
| Quality Assurance Contract Expiration Date                             | 12/31/2026  |             |
| Validated By   | John W. Knezevich, PE<br><input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received   |             |
| Certificate of Independence  | <a href="#">FL42324_R0_COI_COI_Drwg_23-208_GIG_Windows_Doors.pdf</a>  |             |
| Referenced Standard and Year (of Standard)                             | <b>Standard</b>   | <b>Year</b> |
|  | ASTM E1300  | 2009        |
|  | TAS 201   | 1994        |
|  | TAS 202   | 1994        |
|  | TAS 203   | 1994        |
| Equivalence of Product Standards Certified By                          |   |             |
| Sections from the Code   |   |             |

Product Approval Method

Method 1 Option D

Date Submitted

08/17/2023

Date Validated

10/07/2023

Date Pending FBC Approval

10/12/2023

Date Approved

12/13/2023

### Summary of Products

| FL #   | Model, Number or Name                                  | Description   |
|--|--|---|
| 42324.1  | Series 21000 High Impact Fixed Laminated Glass Windows | Window System made of laminated and insulated impact resistant glass retained by aluminum profile frame, wet glazed.  |
| <b>Limits of Use</b><br><b>Approved for use in HVHZ:</b> Yes<br><b>Approved for use outside HVHZ:</b> Yes<br><b>Impact Resistant:</b> Yes<br><b>Design Pressure:</b> +varies/-varies<br><b>Other:</b> Large & Small missile Impact Resistant, see General Notes 1 thru 5 on Sheet 1 of installation drawing. For ASD Pressure ratings, see schedules on sheets 6 thru 8 and 14 thru 16 of installation drawings. |  | <b>Installation Instructions</b><br><a href="#">FL42324_R0_II_PED_Drwg_23-208_GIG_Windows_Doors.pdf</a><br>Verified By: Walter A. Tillit Jr., P.E. PE 44167<br>Created by Independent Third Party: Yes<br><b>Evaluation Reports</b><br><a href="#">FL42324_R0_AE_PER_Drwg_23-208_GIG_Windows_Doors.pdf</a><br>Created by Independent Third Party: Yes |

[Back](#)

[Next](#)

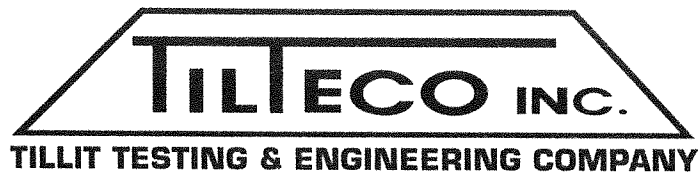
Contact Us :: 2601 Blair Stone Road, Tallahassee FL 32399 Phone: 850-487-1824

The State of Florida is an AA/EEO employer. [Copyright 2007-2013 State of Florida.](#) :: [Privacy Statement](#) :: [Accessibility Statement](#) :: [Refund Statement](#)

Under Florida law, email addresses are public records. If you do not want your e-mail address released in response to a public-records request, do not send electronic mail to this entity. Instead, contact the office by phone or by traditional mail. If you have any questions, please contact 850.487.1395. \*Pursuant to Section 455.275(1), Florida Statutes, effective October 1, 2012, licensees licensed under Chapter 455, F.S. must provide the Department with an email address if they have one. The emails provided may be used for official communication with the licensee. However email addresses are public record. If you do not wish to supply a personal address, please provide the Department with an email address which can be made available to the public. To determine if you are a licensee under Chapter 455, F.S., please click [here](#).

Product Approval Accepts:





WALTER A. TILLIT, JR., P.E.

## CERTIFICATE OF INDEPENDENCE

tilteco@aol.com  
FL P.E. License No. 44167  
FL C.A. License No. 0006719

**Evaluation Report #:** 23-0919.09

**Date:** September 19, 2023

**Product Category:** Windows

**Product Subcategory:** Fixed

**Product Name:** **SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOWS**

**Manufacturer Name:** **GIG WINDOWS & DOORS**  
290 West 78th Road  
Hialeah, FL 33014

**Dear Sir (Madam):**

This is to certify that this Florida Professional Engineer, performing this evaluation does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the reports are being issued.

This is also to certify that this Florida Professional Engineer performing this evaluation does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

**Certificate of Independence prepared by Walter A. Tillit, Jr., P.E. (Florida License No. 44167), President of Tilteco, Inc. (Florida CA-0006719).**

No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

WATma

D:\TILTECO ADMIN RECORDS \ CERTIFICATION OF INDEPENDENCE \ GENERAL IMPACT GLASS & WINDOWS \ SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOW EVALUATION REPORT # 23-0919.09



WALTER A. TILLIT, JR., P.E.

tilteco@aol.com  
FL P.E. License No. 44167  
FL C.A. License No. 0006719

## PRODUCT EVALUATION REPORT

**REPORT No.:** 23-0919.09

**DATE:** September 19, 2023

**PRODUCT CATEGORY:** Windows

**PRODUCT SUB-CATEGORY:** Fixed

**PRODUCT NAME:** **SERIES 21000 HIGH IMPACT FIXED  
LAMINATED GLASS WINDOWS**

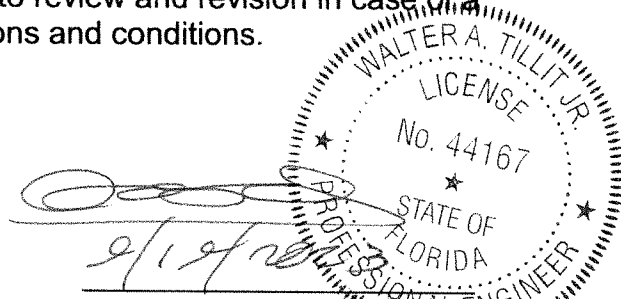
**MANUFACTURER:** **GIG WINDOWS & DOORS**  
290 West 78th Road  
Hialeah, FL 33014

### 1. PURPOSE OF EVALUATION:

This is a Product Evaluation Report issued by **Walter A. Tillit, Jr., P.E.** (System ID # 1906) to **GIG WINDOWS & DOORS**, based on **Rule Chapter No. 61G20-3, Method 1D** of the **Florida Department of Business and Professional Regulation**.

This product is being issued an Evaluation Report as described herein and has been verified for compliance in accordance with the 2023 8<sup>th</sup> Edition of the Florida Building Code, and to verify that the product is for the purpose intended at least equivalent to that required by the Code.

This Product Evaluation Report shall be subject to review and revision in case of a Building Code change that may affect its limitations and conditions.



## **2. EVIDENCE SUBMITTED:**

### **2.1. PRODUCT EVALUATION DOCUMENT (P.E.D.):**

Drawing No. 23-208, titled “**SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOWS**” sheets 1 thru 17 (Including 2A, 4A, 10A, 12A) prepared by **Tilteco, Inc.**; signed and sealed by **Walter A. Tillit, Jr., P.E.**; dated **9/1/2023**. This drawing is an integral part of this Evaluation Report.

### **2.2. TEST REPORTS:**

Impact and Cyclic Tests as per protocol TAS-201, TAS-203, Uniform Static Load as per Protocol TAS 202 per sections 1626 and 1609.1.2, respectively of the Florida Building Code.

Test reports prepared by Fenestration Testing Lab Inc., Report No.6058, signed and sealed by Julio E. Gonzalez, P.E.

### **2.3. STRUCTURAL ENGINEERING CALCULATIONS:**

On Series 21000 high impact fixed laminated glass windows for Maximum Pressure Rating vs. Maximum anchor spacing, maximum width and height, and Maximum Glass Size, based on rational and comparative analysis, in accordance with sections 1604 and 1616 of the Florida Building Code. Calculations prepared by Tilteco, Inc., dated 11/02/2009, signed and sealed by Walter A. Tillit, Jr., P.E. Glass verified per ASTM E-1300-9a, per section 2404.1 of the Florida Building Code

## **3. MISSILE IMPACT RESISTANCE:**

Large Missile Impact resistance is provided per TAS 201 (9 lbs., 50 feet/sec).

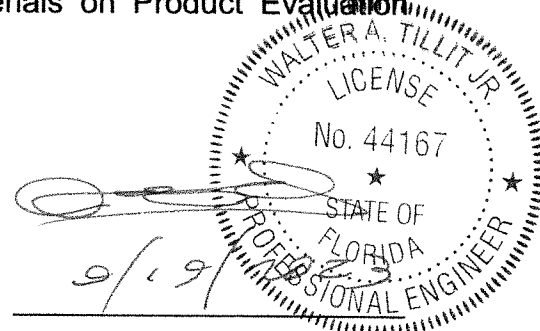
## **4. WIND LOADS RESISTANCE:**

On Series 21000 high impact fixed laminated glass windows has been verified to keep sustain wind pressures. Maximum Glass Panel Dimensions, window dimensions shall be as indicated on Product Evaluation Document (P.E.D.), Drawing No. **23-208**.

## **5. INSTALLATION:**

Installation shall be performed strictly in accordance with General Notes # 3 thru 13, indicated on sheet 1 and details indicated on sheets 3 thru 5 of Product Evaluation Document (P.E.D.), drawing **23-208**.

Gaskets and setting blocks used at installations comply with section 2411.3.4 of the Florida Building Code as specified on Bill of Materials on Product Evaluation Document (P.E.D.), drawing No.**23-208**.



**6. MATERIAL CHARACTERISTICS AND SPECIFICATIONS:**

Shall be strictly in accordance with General Notes and Components indicated on Product Evaluation Document (P.E.D.), **Drawing No. 23-208.**

Anchor specifications shall be as indicated on sheet 1, of Product Evaluation Document (P.E.D.), Drawing No. **23-208.** Max anchor spacing shall be per Product Evaluation Document (P.E.D.), **Drawing No. 23-208.**

**7. LIMITATIONS AND CONDITIONS OF USE:**

7.1. Shall be strictly in compliance with General Notes No. 1 thru 5, indicated on sheet 1 of Product Evaluation Document (P.E.D.), Drawing No. **23-208** prepared by Tilteco, Inc. and signed and sealed by Walter A. Tillit, Jr., P.E.

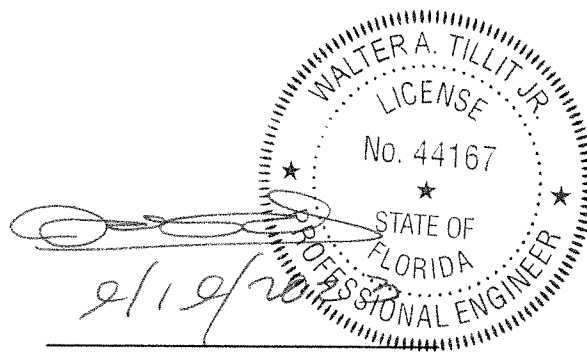
7.2. Product **may** be installed within HIGH VELOCITY HURRICANE ZONES as defined on section 202 of the Florida Building Code and out of it.

7.3. Product shall only be installed into substrates with limitations as indicated on Product Evaluation Document (P.E.D.), drawing No. **23-208.**

Product Evaluation Report prepared by Walter A. Tillit, Jr., P.E. (Florida License No. 44167), President of Tilteco, Inc. (Florida CA-0026719).

WAT\ma

D:\TILTECO ADMIN RECORDS \ P. E. REPORT.23 \ GIG WINDOWS & DOORS \ SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOW\ DRWG #23-208\ REPORT # 23-0919.09



**GENERAL NOTES:**

1. SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOWS, SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAVE BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2023 (8th EDITION) OF THE FLORIDA BUILDING CODE. THESE WINDOWS MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (H.V.H.Z.) OR OUT OF IT (N.H.V.H.Z.). DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTIONS 1620 & 1609 OF THE ABOVE MENTIONED CODE, USING ASCE 7-22 AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON NOTE 2 BELOW.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 7-22 SHALL BE FIRST REDUCED TO A.S.D. DESIGN WIND LOADS BY MULTIPLYING THEM BY 0.6 IN ORDER TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON NOTE 2 BELOW.

IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D., AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS. FASTENERS SPACING IN WOOD HAS BEEN DETERMINED IN ACCORDANCE WITH NDS 2018. THESE WINDOWS' ADEQUACY FOR IMPACT AND WIND RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTIONS 1626 & 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER PROTOCOLS TAS-201, TAS-202, & TAS-203, PER FENESTRATION TESTING LAB REPORT # 6058 AND AS PER SUBMITTED STRUCTURAL CALCULATIONS, PERFORMED AS PER SECTIONS 1616 & 1604 OF THE FLORIDA BUILDING CODE. GLASS VERIFIED PER ASTM E-1300, PER SECTION 2404.1 OF THE FLORIDA BUILDING CODE.

2. MAXIMUM A.S.D. DESIGN PRESSURE RATINGS SHALL BE AS PER SCHEDULES SHOWN ON SHEETS 6, 7, 8 (FOR OPTIONAL SYSTEM #1) & 14, 15, 16 (FOR OPTIONAL SYSTEM #2). CRITERIA FOR ADDRESSING DIFFERENT SHAPES IS AS EXPLAINED ON THIS SHEET (\*).

3. THESE WINDOWS WILL NOT REQUIRE A HURRICANE PROTECTION DEVICE.

4. THESE WINDOWS ARE APPROVED FOR AIR AND WATER INFILTRATION.

5. THESE WINDOWS COMPLY WITH SECTION 2406 OF THE FLORIDA BUILDING CODE.

6. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER. THE THICKNESS OF ALL EXTRUSIONS SHALL BE AS SHOWN ON SHEET 2 (FOR OPTIONAL SYSTEM #1) & 10 (FOR OPTIONAL SYSTEM #2) OF THIS DRAWING. ALL ALUMINUM EXTRUSION IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.

7. ALL SCREWS USED FOR ASSEMBLY CONNECTIONS (METAL TO METAL) TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 AND SECTION 2411.3.3.4 OF THE FLORIDA BUILDING CODE WITH 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH.

8. WOOD BUCKS NOT BY GENERAL IMPACT GLASS & WINDOWS, CORP. WOOD BUCKS MUST BE SOUTHERN PINE WITH G=0.55. AND SHALL COMPLY WITH SECTIONS 2411.3.3.3 & 2411.3.3.4 OF THE FLORIDA BUILDING CODE. MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM AND TRANSFER THEM TO THE BUILDING STRUCTURE.

(8.1) 2 X WOOD BUCKS MUST BE PROPERLY ANCHORED TO EXISTING STRUCTURE TO TRANSFER LOADS TO IT. ANCHORAGE IS INDEPENDENT OF WINDOW FRAME ANCHORAGE. WINDOW FRAME MUST BE SEPARATELY ANCHORED TO 2 X WOOD BUCK FOLLOWING DETAILS ON THIS DRAWING.

(8.2) 1 X WOOD BUCK (OR ANY WOOD BUCK LESS THAN 2X) MUST BE PROPERLY ANCHORED TO EXISTING STRUCTURE TO TRANSFER LOADS TO IT. WINDOW FRAME ANCHOR SHALL BE USE TO ATTACH 1 X WOOD BUCK TO EXISTING STRUCTURE BY DRIVING ANCHOR THRU BOTH WINDOW FRAME & 1 X WOOD BUCK INTO EXISTING STRUCTURE W/ PROPER EMBEDMENT AND EDGE DISTANCE AS SHOWN ON THIS DRAWING.

(8.3) WINDOW FRAME MAY BE DIRECTLY CONNECTED TO EXISTING STRUCTURE WITH NO NEED OF WOOD BUCKS WHEN MASONRY OPENING IS NOT LARGER THAN ACTUAL WINDOW OVERALL DIMENSIONS. HOWEVER, SHIMS (SEE NOTE 10) MAY BE ALLOWED AT WINDOW FRAME ANCHOR LOCATION IF NEEDED.

9. ANCHOR NOTES: SEE SHEET 9 FOR MAXIMUM SPACING. EMBEDMENT AND EDGE DISTANCE ARE BEYOND ANY WALL FINISH.

(A) TO EXISTING POURED CONCRETE: (Min.  $f'_c = 2730$  psi.), MIN. EDGE DISTANCE = 2 1/2".  
- 1/4"Ø ULTRACON 1 1/4" MIN. EMBEDMENT, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS. (COMPONENT 8) FOR OPTIONAL SYSTEM #1 & #2), THRU 1" P.T. WOOD BUCK.

(A) TO EXISTING HOLLOW BLOCK WALL (Min.  $f'_m = 1924$  psi.), MIN. EDGE DISTANCE = 2 1/2".  
- 1/4"Ø ULTRACON 1 1/4" MIN. EMBEDMENT, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS. (COMPONENT 8) FOR OPTIONAL SYSTEM #1 & #2), THRU 1" P.T. WOOD BUCK.

(A) TO EXISTING 2x P.T. WOOD BUCK. (MIN. G = 0.55) MIN. EDGE DISTANCE = 1".  
- 1/4"Ø ULTRACON 1 1/2" MIN. THREADED PENETRATION, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS. (COMPONENT 8) FOR OPTIONAL SYSTEM #1 & #2).

(A) TO EXISTING MIN. 1/8" THICK ALUMINUM TUBE (6063-T5 ALLOY) MIN. EDGE DISTANCE = 1/2".  
- 1/4"Ø-14 TEK SCREW, MIN. 3/4" LONG, AS MANUFACTURED BY ITW BUILDEX, INC. (COMPONENT 8A) FOR OPTIONAL SYSTEM #1 & #2).

(A) TO EXISTING MIN. 12 GAGE (0.106") STEEL MEMBER (ASTM A-500, A-653 OR A-36) MIN. EDGE DISTANCE = 3/8".  
- 1/4"Ø-14 TEK SCREW, MIN. 3/4" LONG, AS MANUFACTURED BY ITW BUILDEX, INC. (COMPONENT 8A) FOR OPTIONAL SYSTEM #1 & #2).

10. PROVIDE 1/4" MAX. LOAD BEARING SHIM SPACE (TYP.).

11. REMAINING COMPONENTS FOR THESE WINDOWS SHALL BE AS INDICATED ON BILL OF MATERIALS ON SHEET 2 (FOR OPTIONAL SYSTEM #1) & SHEET 10 (FOR OPTIONAL SYSTEM #2).

12. WINDOWS' MANUFACTURER LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT PRODUCT IN ACCORDANCE WITH SECTION 1709.5 OF THE FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY UNIT.

13.(A) THIS P.E.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.E.D.

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

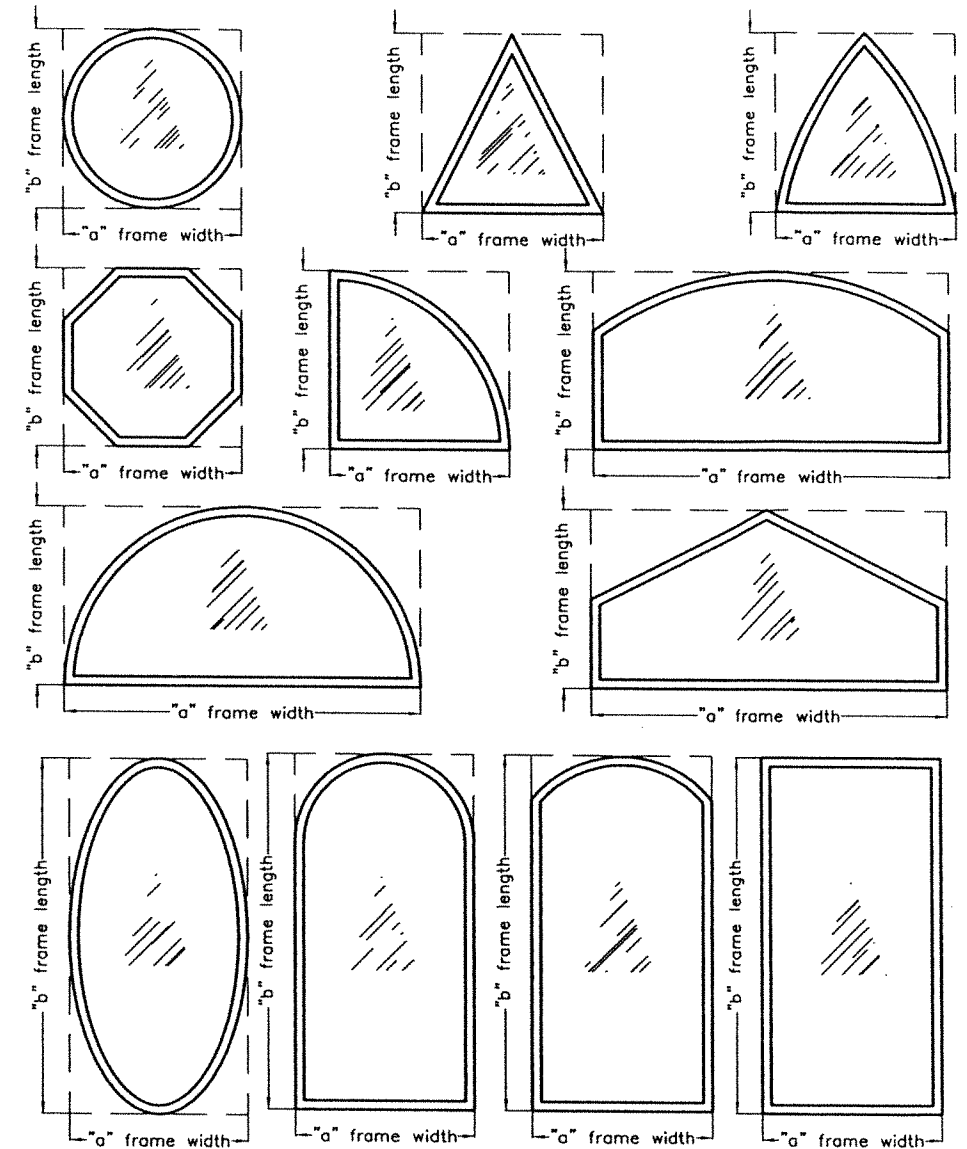
(C) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

(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.E.D. ENGINEER OF RECORD, ACTING AS DELEGATED ENGINEER TO THE P.E.D., SHALL SUBMIT TO THIS LATTER SITE SPECIFIC DRAWING FOR REVIEW.

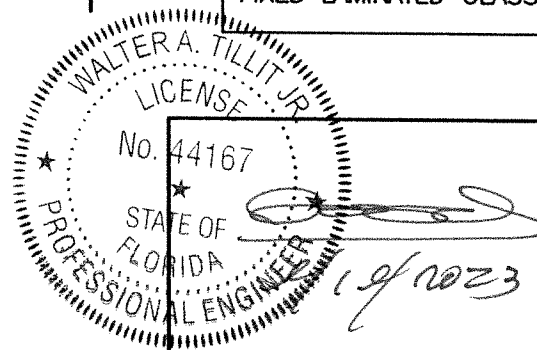
(E) ORIGINAL P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS IN THE STATE OF FLORIDA

**INDEX:**  
SHEETS 1 TRHU 9: OPTIONAL SYSTEM #1  
SHEETS 10 THRU 17: OPTIONAL SYSTEM #2



\* MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf) FOR ALTERNATE SHAPES AS SHOWN ABOVE OR SIMILAR CAN BE DETERMINED BY INSCRIBING FIXED WINDOW SHAPE WITHIN SQUARE "a" x "b" OR RECTANGLE "a" x "b" AS SHOWN IN DOTTED LINES AND OBTAINING MAXIMUM A.S.D. DESIGN PRESSURE RATING (psf) FOR THOSE ALTERNATE SHAPES FROM SCHEDULES ON SHEETS 6, 7 & 8 (FOR OPTIONAL SYSTEM #1) AND SHEETS 14, 15 & 16 (FOR OPTIONAL SYSTEM #2) FOR SERIES 21000 HIGH IMPACT FIXED LAMINATED GLASS WINDOWS.



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

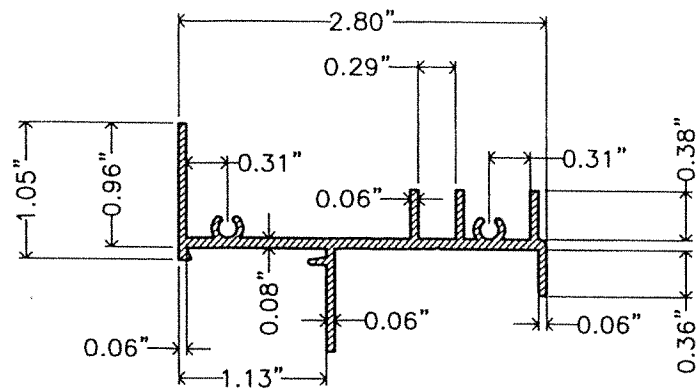
© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT JR., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS

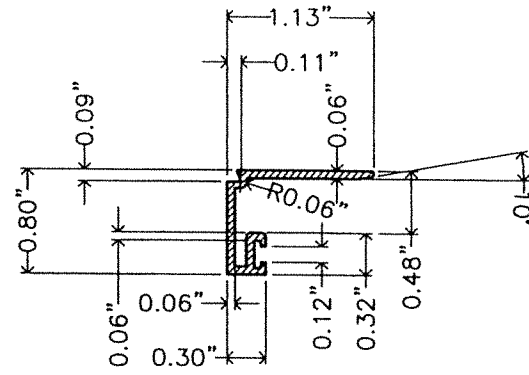
290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY: W.H  
09/01/2023 DATE  
23-208 DRAWING No

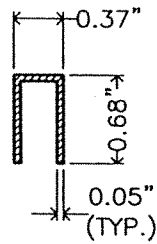
| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |



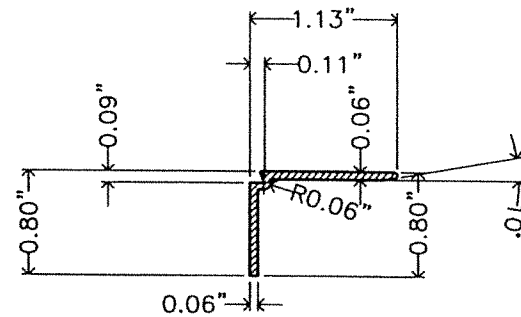
**1** FRAME HEAD & SILL & JAMB  
6063-T6 ALLOY



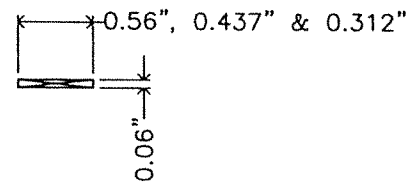
**3** GLAZING BEAD FOR FULLY STRAIGHT FRAME WINDOWS  
6063-T6 ALLOY



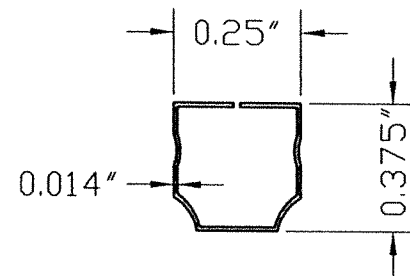
**3A** GLAZING BEAD FOR CURVED AND COMBINATION CURVED & STRAIGHT FRAME WINDOWS  
6063-T6 ALLOY



**3B** GLAZING BEAD FOR STRAIGHT, CURVED AND COMBINATION CURVED & STRAIGHT FRAME WINDOWS ON INSULATED-LAMINATED GLASS  
6063-T6 ALLOY



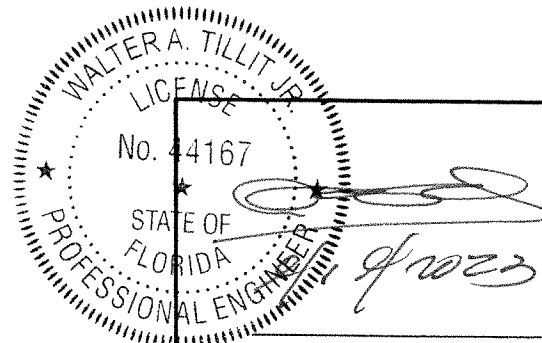
**11** SETTING BLOCK FOR 10, 10A, 10B & 10C



**16** INSULATED GLASS SPACER  
30105-H24 ALLOY

**COMPONENTS  
OPTIONAL SYSTEM #1**

SCALE: N.T.S



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS

290 WEST 78 ROAD  
HIALEAH, FL. 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

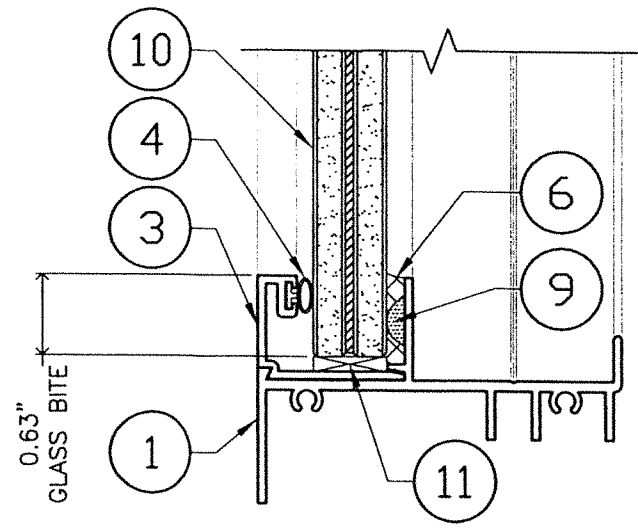
WALTER A. TILLIT JR.  
P.E.

REV. NO. DESCRIPTION DATE REV. NO. DESCRIPTION DATE  
1 OLD 23-155 09/01/23 2

DRAWN BY: W.H  
09/01/2023 DATE  
**23-208**  
DRAWING No

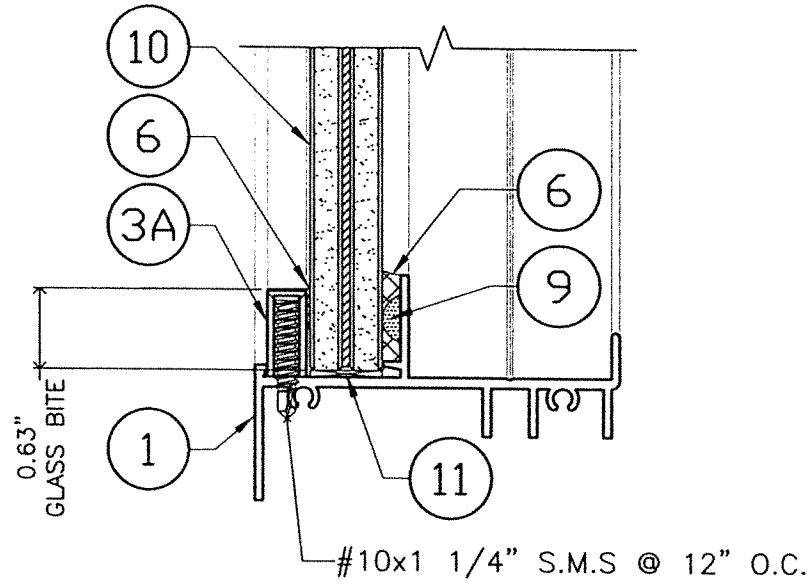
**BILL OF MATERIALS**

| ITEM # | DESCRIPTION  | DIMENSIONS & REMARKS                                     | MATERIAL            |
|--------|--|--|---------------------|
| 1      | FRAME HEAD/SILL & JAMB   | (2) REQUIRED   | 6063-T6             |
| 3      | GLAZING BEAD FOR FULLY STRAIGHT FRAME WINDOWS  | (4) REQUIRED   | 6063-T6             |
| 3A     | GLAZING BEAD FOR CURVED AND COMBINATION CURVED/STRAIGHT FRAME WINDOWS  | (4) REQUIRED   | 6063-T6             |
| 3B     | GLAZING BEAD FOR STRAIGHT, CURVED AND COMBINATION CURVED/STRAIGHT FRAME WINDOWS ON INSULATED-LAMINATED GLASS   | (4) REQUIRED   | 6063-T6             |
| 4      | WEATHER STRIPING, ULTRAFAB E-271   | (4) AT GLAZING BEAD                                      | NEOPRENE            |
| 4A     | WEATHER STRIPING SOLID RUBBER  | (4) AT GLAZING BEAD                                      | NEOPRENE            |
| 4B     | WEATHER STRIPING 0.296" HEIGHT, SCHLEGEL SYSTEM, INC., Q375T190  | (4) AT GLAZING BEAD                                      | NEOPRENE            |
| 5      | CORNER FRAME ASSEMBLY SCREWS   | (2) #8 x 1" PH SMS REQ'D.                                | STEEL               |
| 6      | DOW CORNING 995  | -----  | STRUCTURAL SILICONE |
| 6A     | DOW CORNING 795  | -----  | STRUCTURAL SILICONE |
| 7      | WHITE COLOR SILICONE AT FIXED PANEL FRAME AND FRAME CORNERS.   | ALL AROUND (EXTERIOR)                                    | SEALANT             |
| 8      | 1/4"Ø ULTRACON BY DEWALT, TO POURED CONCRETE, HOLLOW BLOCK OR WOOD WALL REQ'D. (SEE SCHEDULE)  | -----  | CARBON STEEL        |
| 8A     | 1/4"Ø ITW BUILDTEX TEK SCREW TO METAL (SEE SCHEDULE)   | -----  | STEEL               |
| 9      | 0.145" HEIGHT BUMPER SPACER, CUT FROM 3/8"Ø SPHERE, CLEAR 3" FROM CORNERS MAX. AND 12" O.C. (MAX.) AT MID-GLASS BITE ELEVATION   | FRANK LOWE RUBBEL, GASKET TLB-28, CLEAR.                 | SILICONE            |
| 9A     | 0.211" HEIGHT BUMPER SPACER, CUT FROM 3/8"Ø SPHERE, CLEAR 3" FROM CORNERS MAX. AND 12" O.C. (MAX.) AT MID-GLASS BITE ELEVATION   | FRANK LOWE RUBBEL, GASKET FLB-38, CLEAR.                 | SILICONE            |
| 10     | 0.590" (9/16" NOMINAL) LAMINATED GLASS W/ 1/4" H.S. GLASS + 0.090" SENTRYGLAS® INTERLAYER + 1/4" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                     | GLASS               |
| 10A    | 0.484" (7/16" NOMINAL) LAMINATED GLASS W/ 3/16" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 3/16" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                     | GLASS               |
| 10B    | 0.326" (5/16" NOMINAL) LAMINATED GLASS W/ 1/8" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 1/8" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                     | GLASS               |
| 10C    | 0.6875" (11/16" NOMINAL) INSULATED-LAMINATED GLASS W/ 1/8" TEMPERED GLASS OUTBOARD + 1/4" ARGON SPACER + 1/8" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 1/8" H.S. GLASS | INTERLAYER BY: KURARAY AMERICA, INC.                     | GLASS               |
| 10D    | 0.875" (7/8" NOMINAL) INSULATED-LAMINATED GLASS W/ 3/16" TEMPERED GLASS OUTBOARD + 1/4" ARGON SPACER + 3/16" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 3/16" H.S. GLASS | INTERLAYER BY: KURARAY AMERICA, INC.                     | GLASS               |
| 11     | SETTING BLOCK  | 1/16"x9/16" OR 7/16" OR 5/16" FOR 10, 10A, 10B, 10C, 10D | SILICONE            |
| 16     | INSULATED GLASS SPACER   | SEE DETAIL   | 3105-H24 ALLOY      |



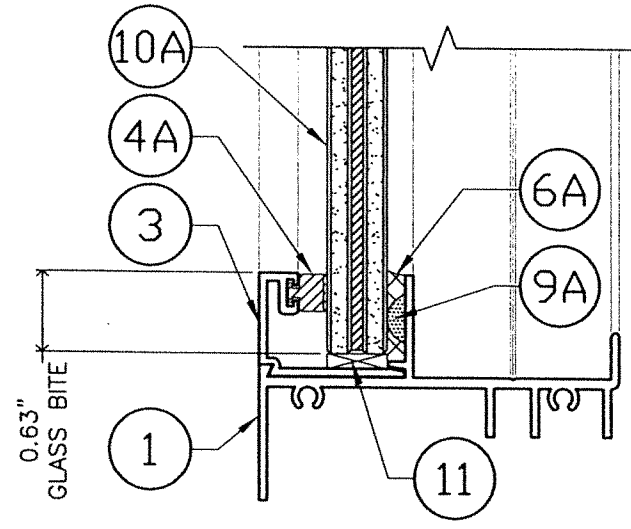
GLAZING DETAIL FOR

10 W/ 3



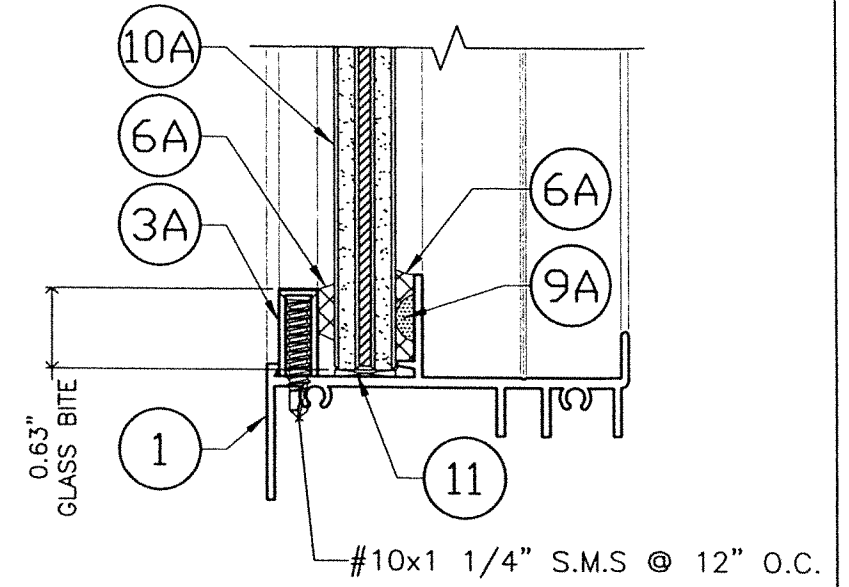
GLAZING DETAIL FOR

10 W/ 3A



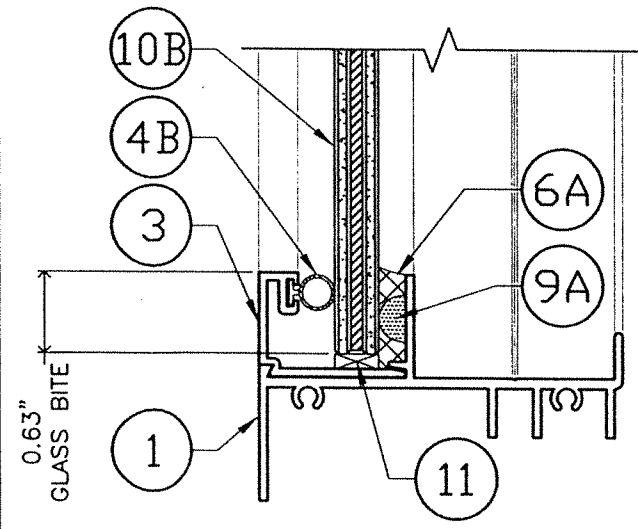
GLAZING DETAIL FOR

10A W/ 3



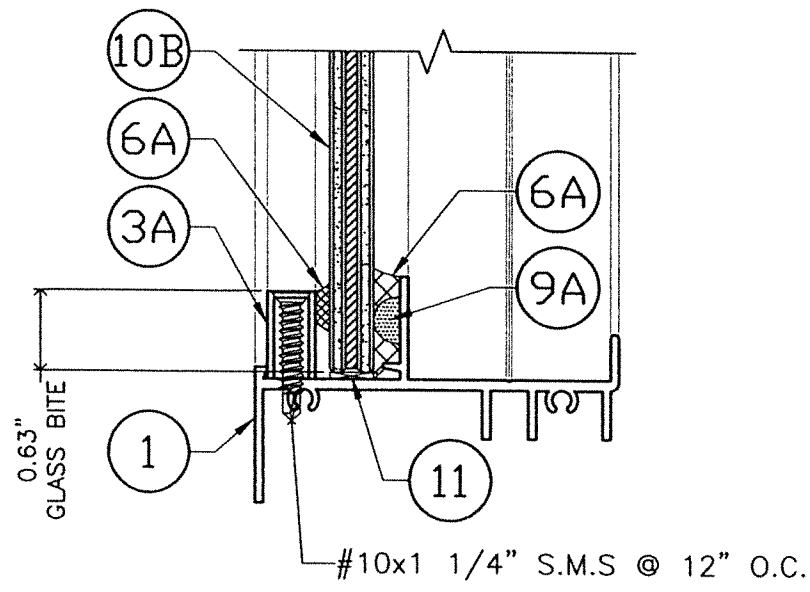
GLAZING DETAIL FOR

10A W/ 3A



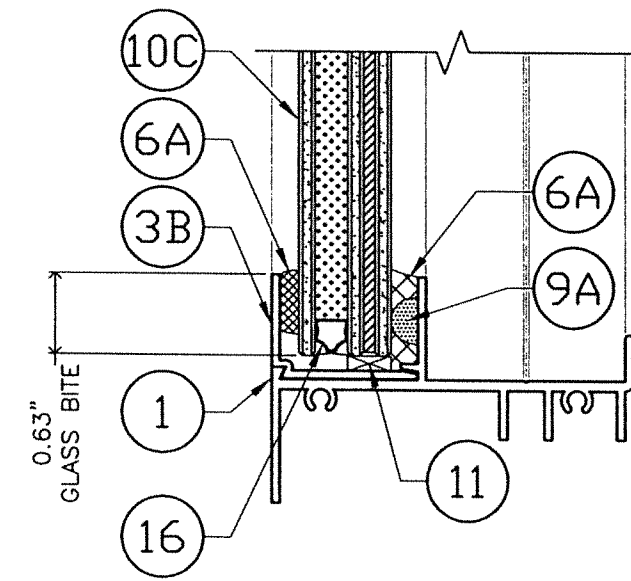
GLAZING DETAIL FOR

10B W/ 3



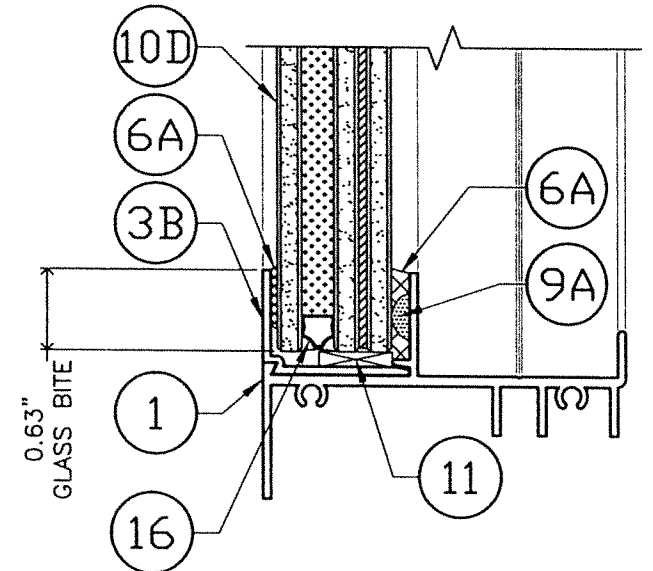
GLAZING DETAIL FOR

10B W/ 3A



GLAZING DETAIL FOR

10C W/ 3B

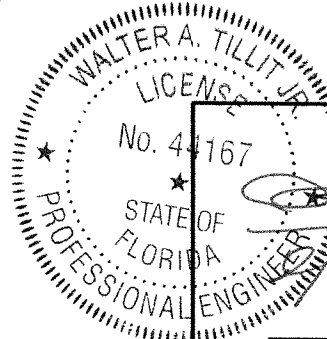


GLAZING DETAIL FOR

10D W/ 3B

# GLAZING DETAILS OPTIONAL SYSTEM #1

SCALE: N.T.S



*[Signature]*  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS

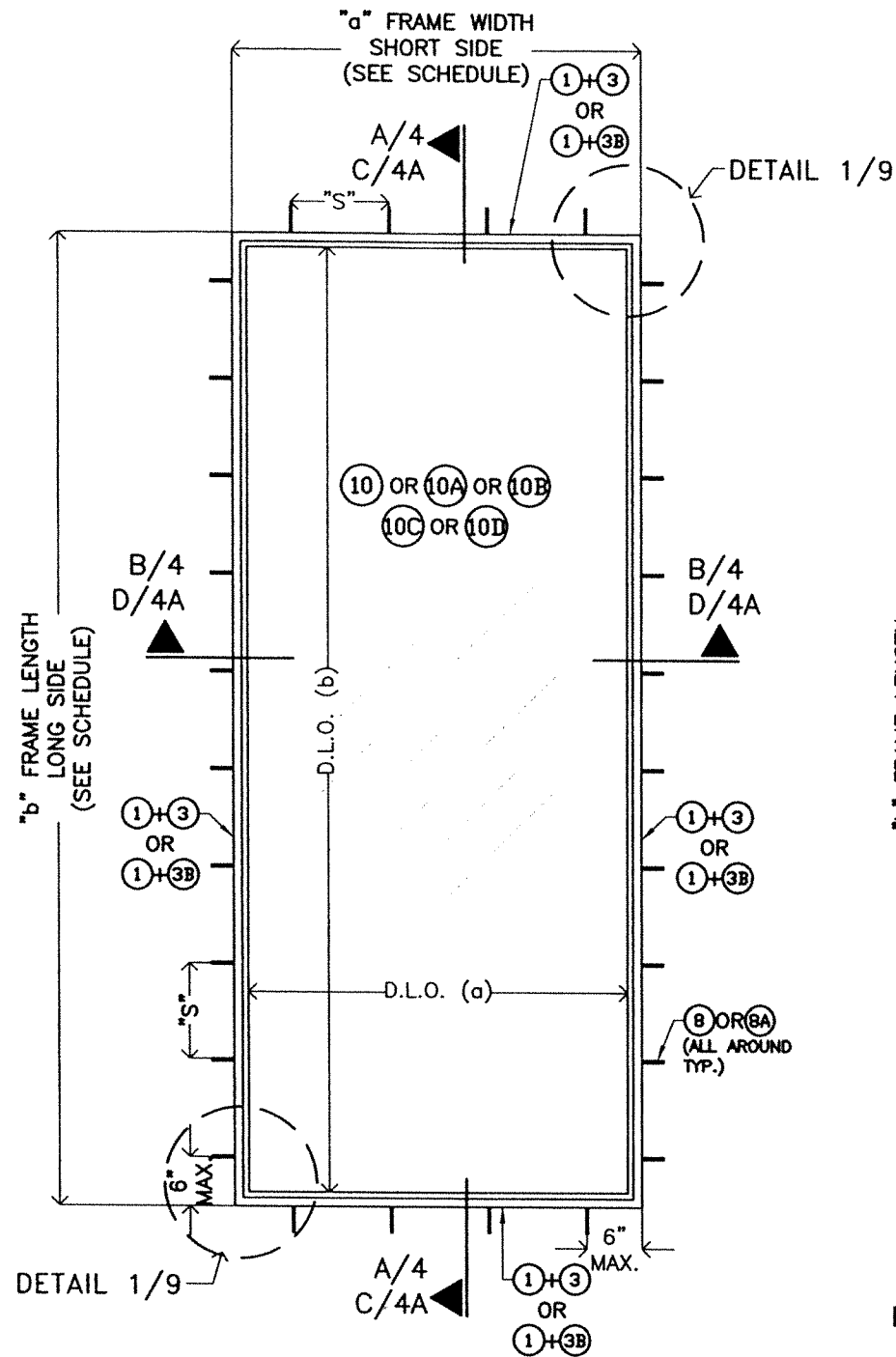
290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY:  
W.H

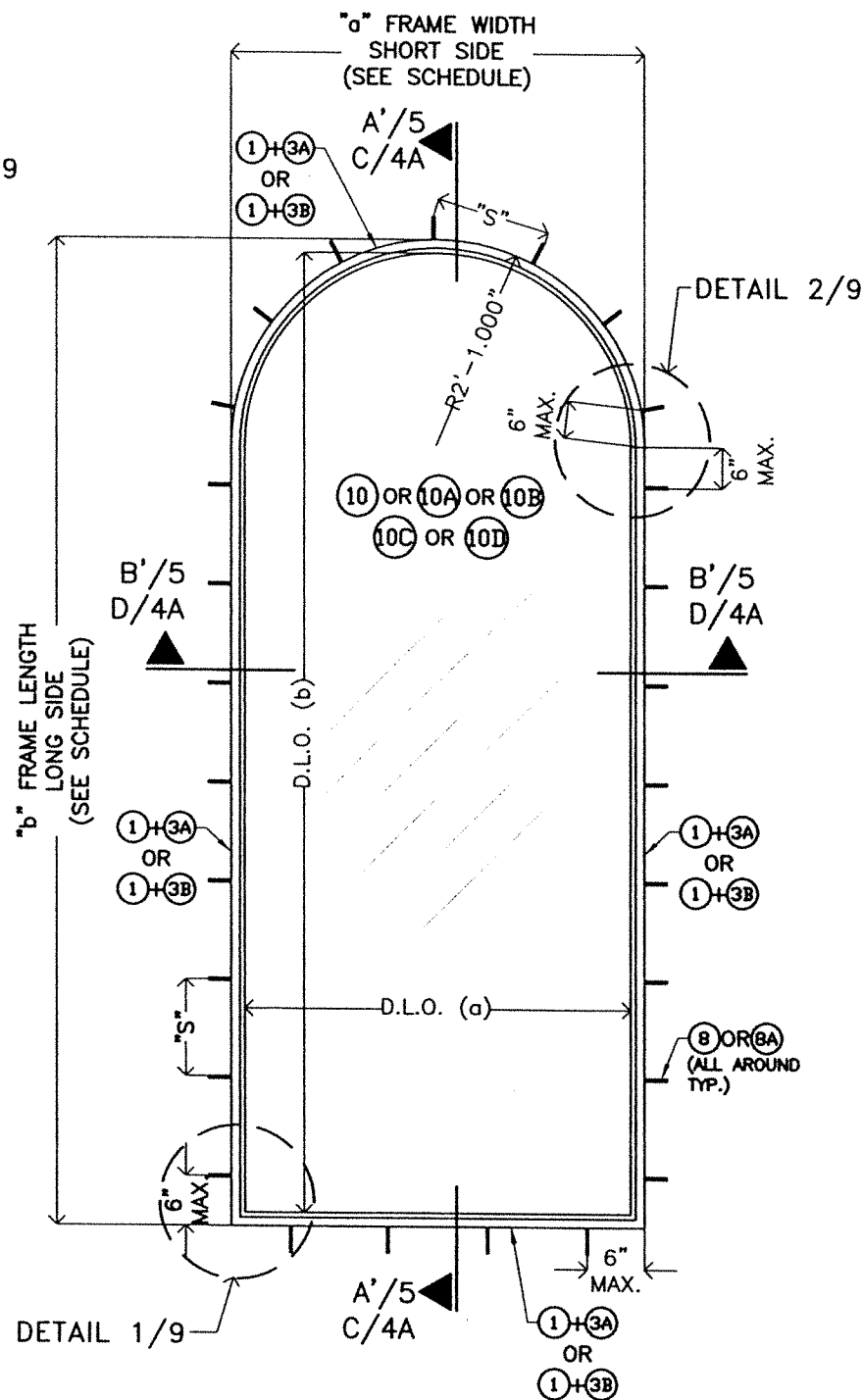
09/01/2023  
DATE

**23-208**  
DRAWING No

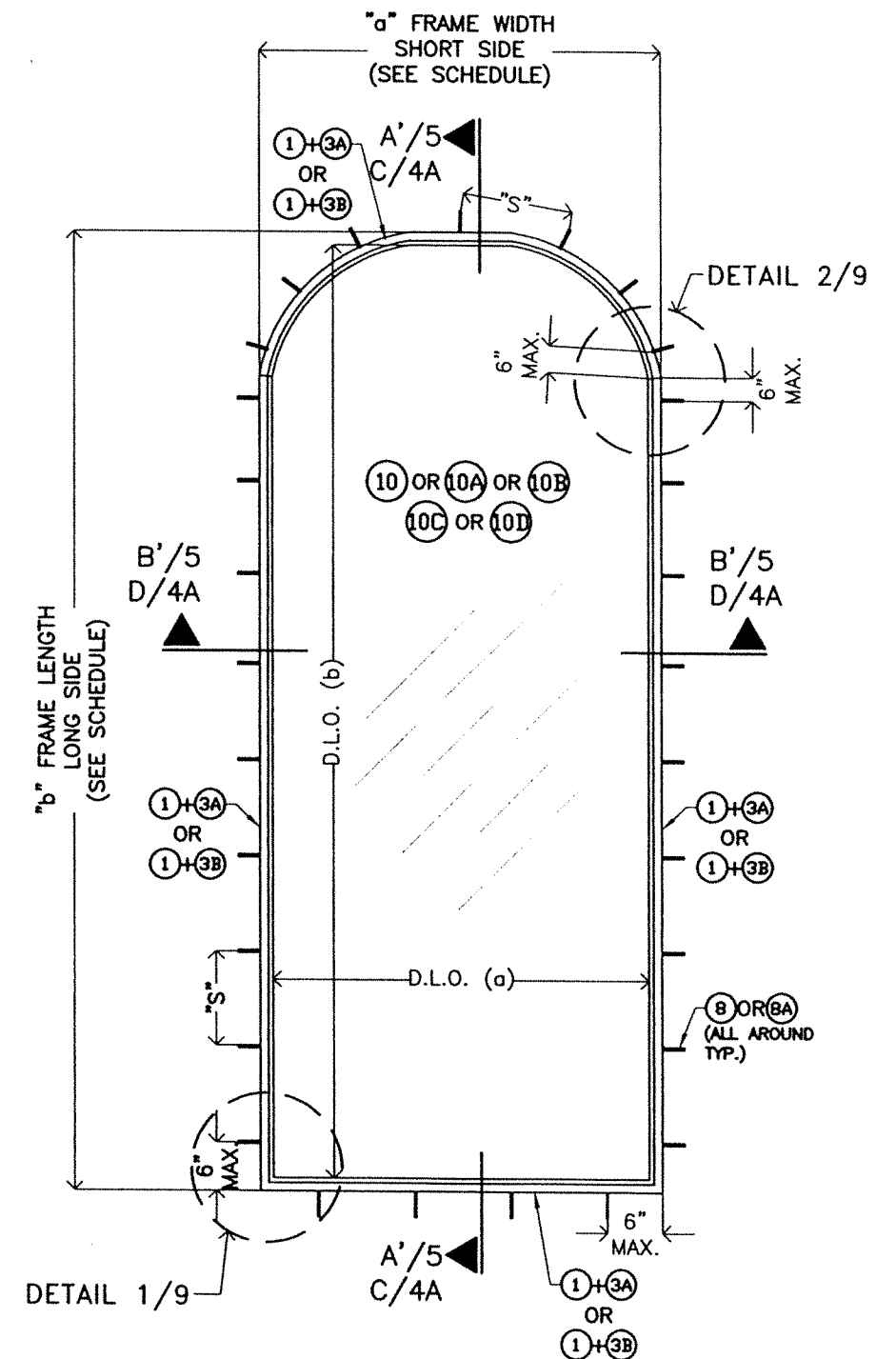
| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |



**CASE 1: RECTANGULAR**  
N.T.S



**CASE 2: HALF ROUND TOP**  
N.T.S



**CASE 3: EYEBROW**  
N.T.S

**TYPICAL EXTERIOR ELEVATIONS FOR SERIES 21000  
HIGH IMPACT FIXED LAMINATED GLASS WINDOW**

(SEE NOTE \* ON SHEET 1)

"S" = MAX. ANCHOR SPACING  
(SEE SCHEDULE ON SHEET 9)

FOR "a" FRAME WIDTH (SHORT SIDE),  
"b" FRAME LENGTH (LONG SIDE) AND  
MAX. D.L.O. (a) AND MAX. D.L.O. (b)  
SEE SCHEDULES ON SHEETS 6, 7 & 8.

**OPTIONAL SYSTEM #1**

WALTER A. TILLIT, JR.  
LICENSE  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
9/2023  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

**SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS**

**GIG WINDOWS & DOORS**

290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

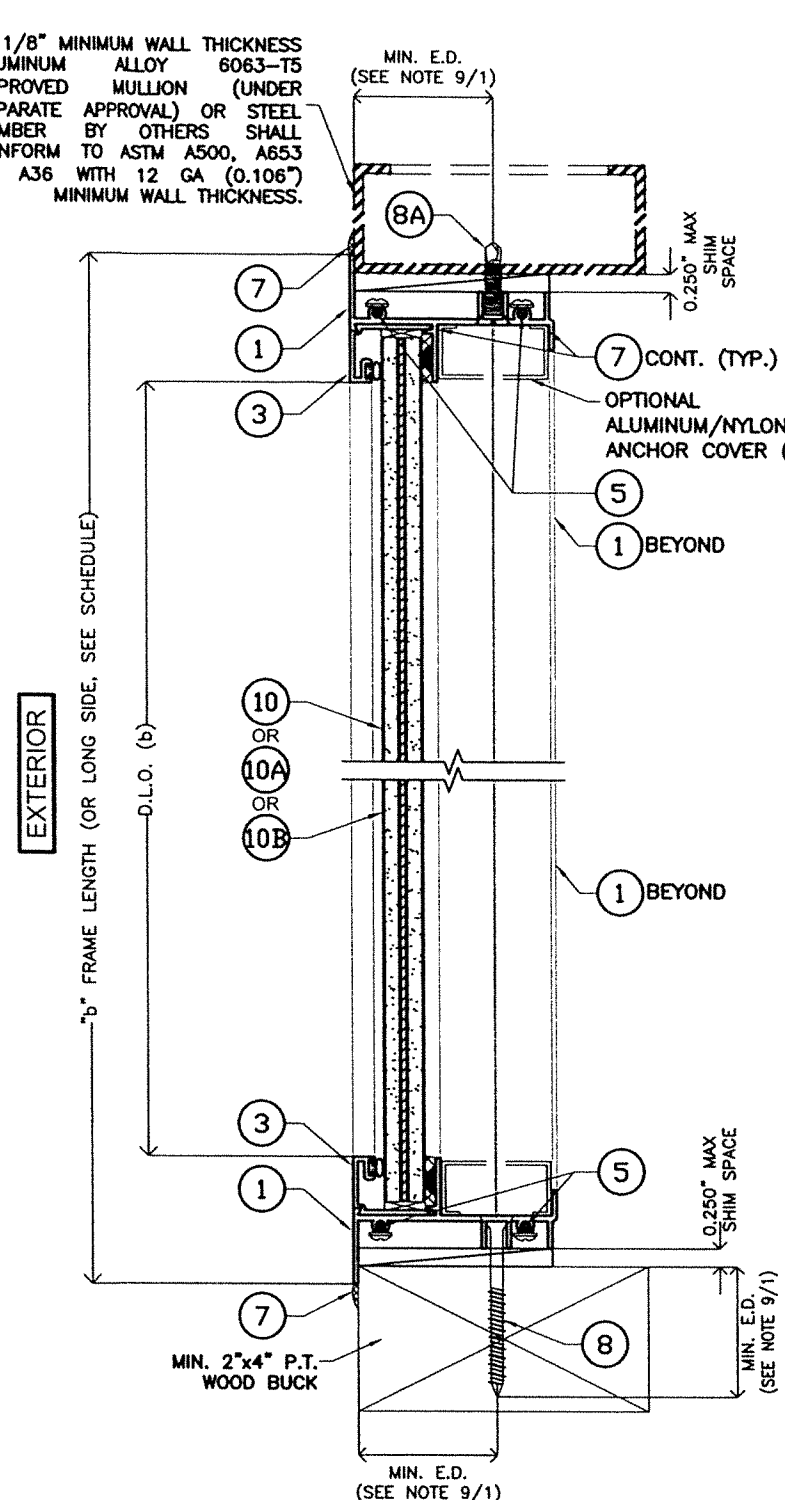
DRAWN BY:  
W.H

09/01/2023  
DATE

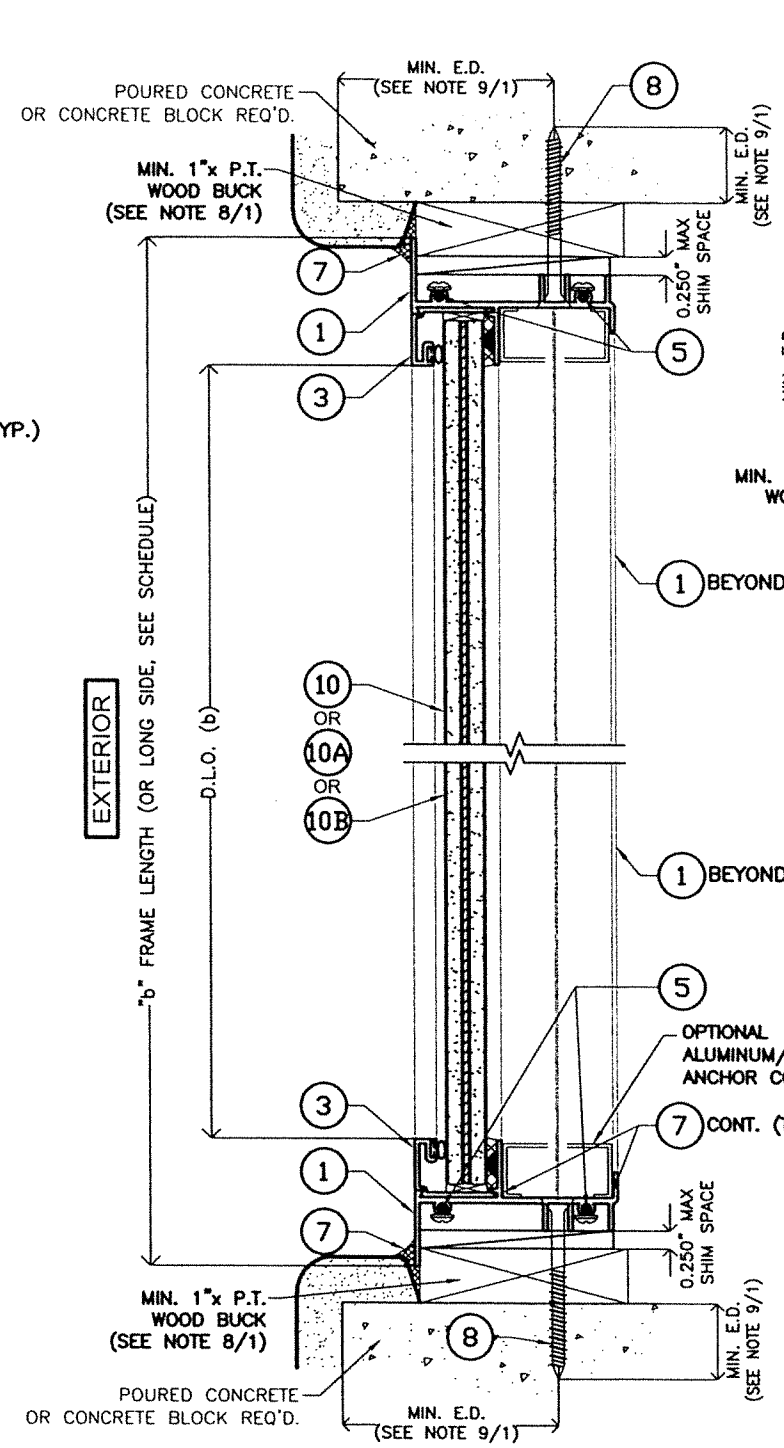
**23-208**  
DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

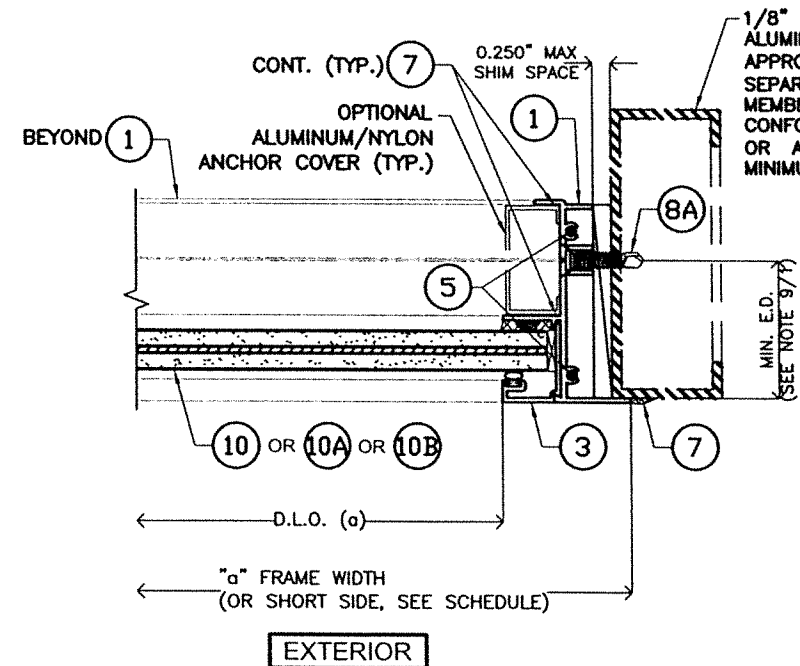
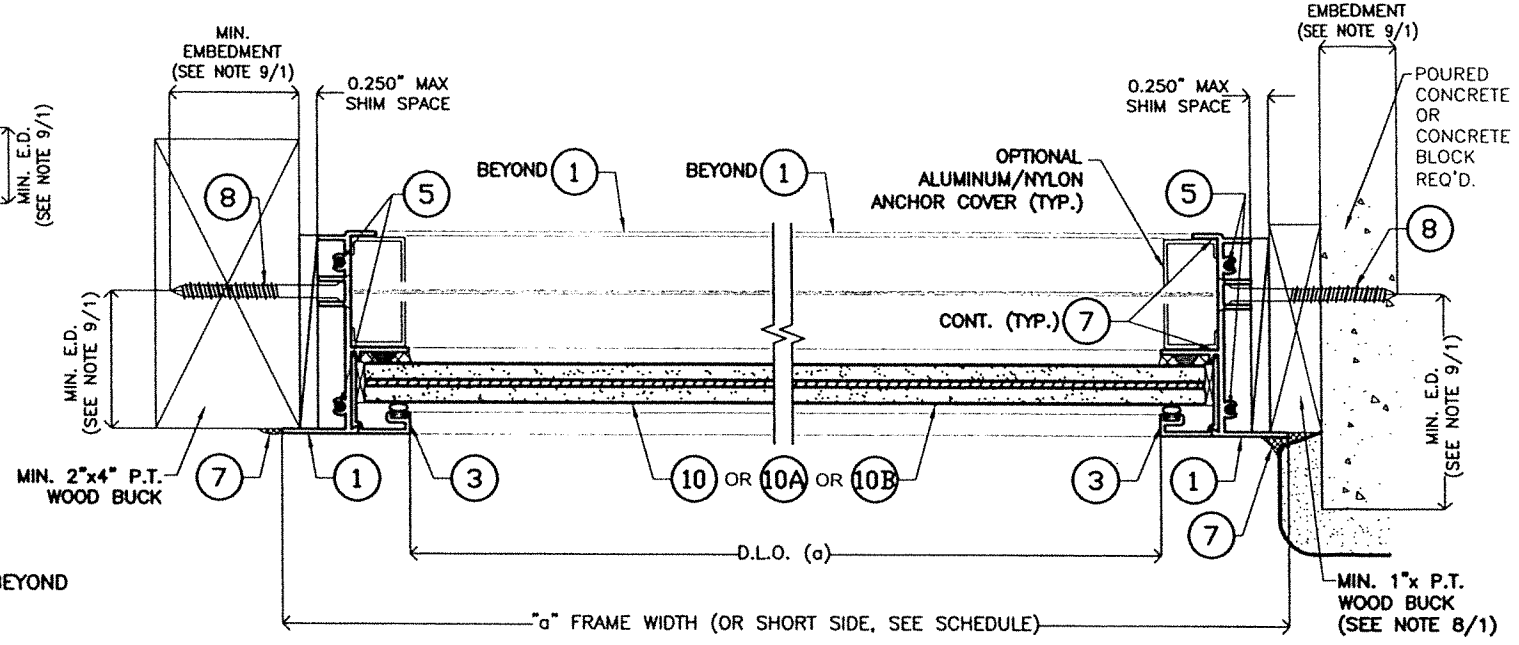
1/8" MINIMUM WALL THICKNESS ALUMINUM ALLOY 6063-T5 APPROVED MULLION (UNDER SEPARATE APPROVAL) OR STEEL MEMBER BY OTHERS SHALL CONFORM TO ASTM A500, A653 OR A36 WITH 12 GA (0.106") MINIMUM WALL THICKNESS.



**SECTION A-A**  
SCALE: N.T.S.



**SECTION B-B**  
SCALE: N.T.S.



**OPTIONAL SYSTEM #1**

WALTER A. TILLIT JR.  
LICENSE  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
1/2/2023  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.

**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT JR., P.E.  
FLORIDA Lic. 44167

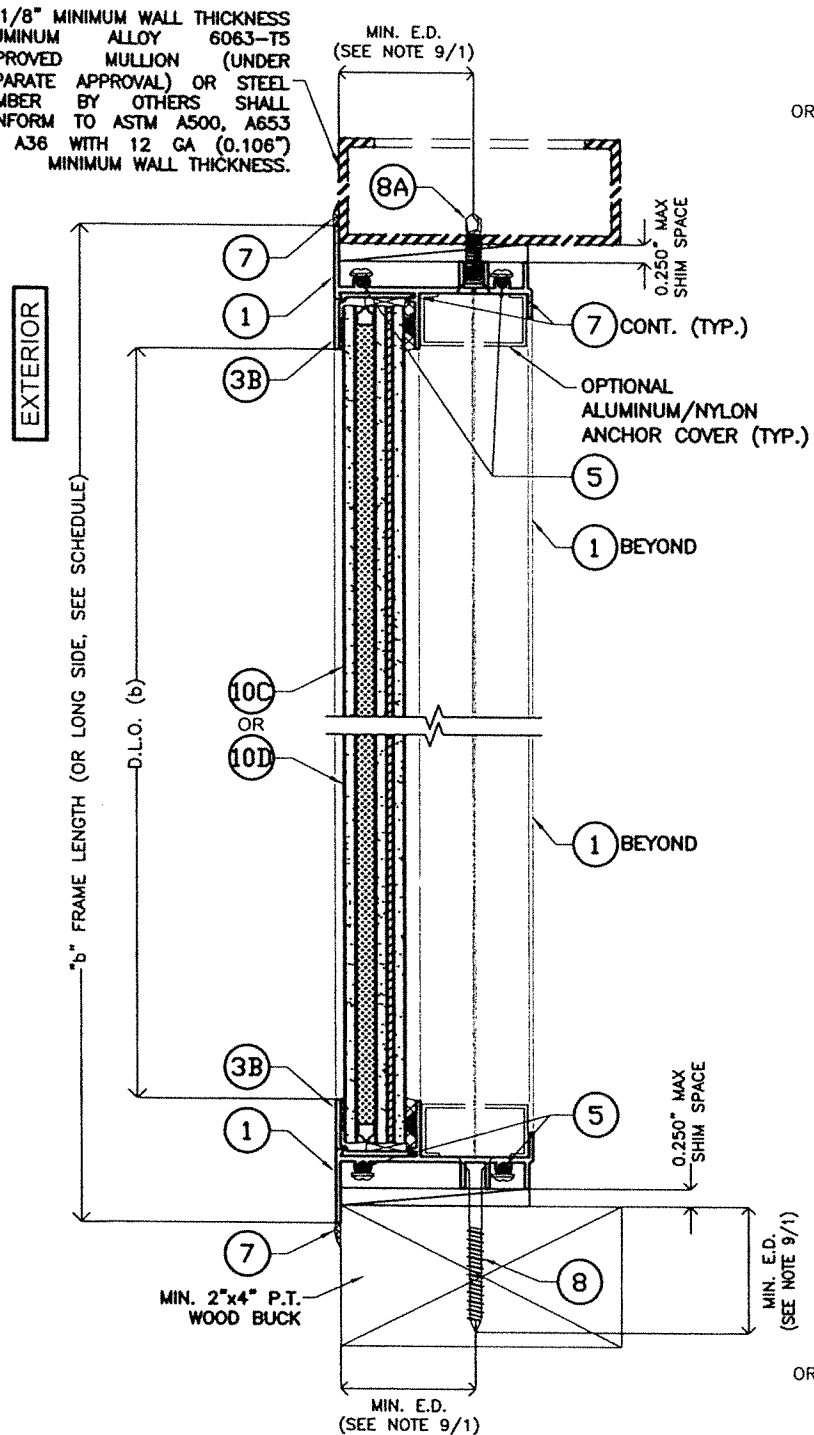
SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS

290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY: W.H.  
09/01/2023 DATE  
23-208 DRAWING No  
SHEET 4 OF 17

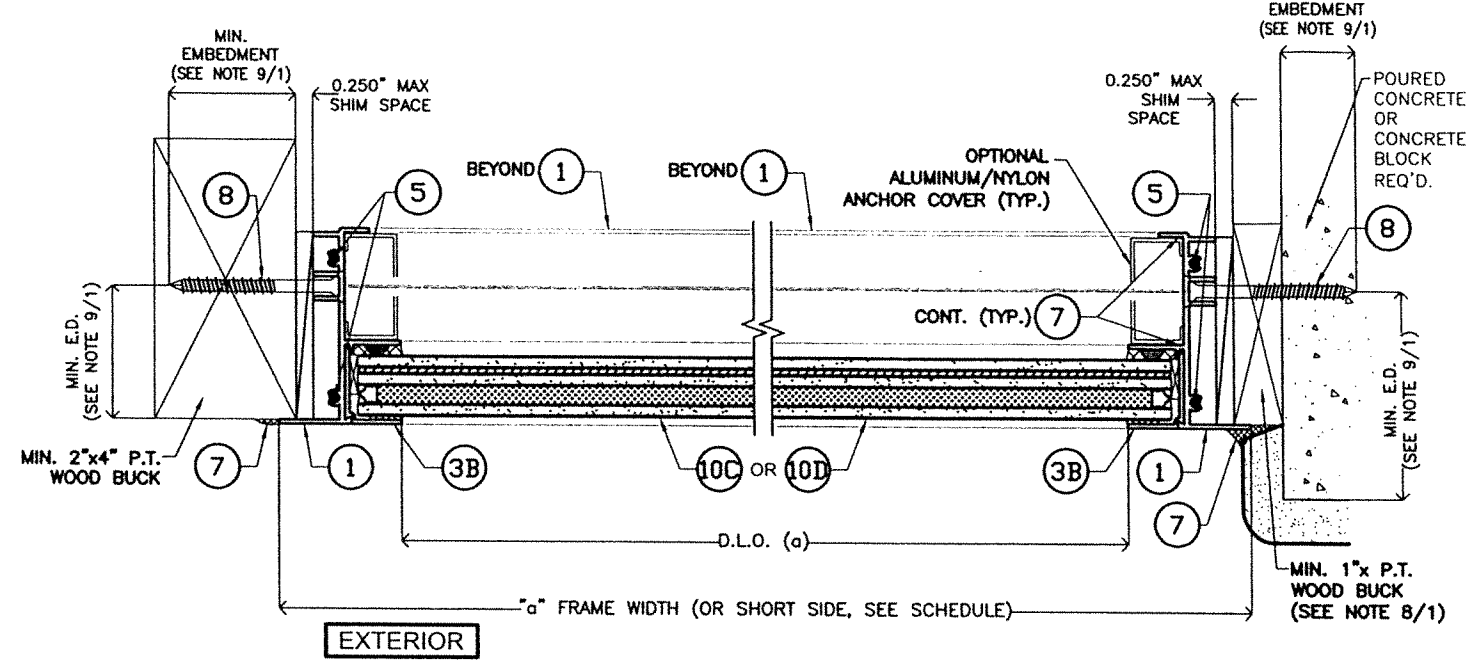
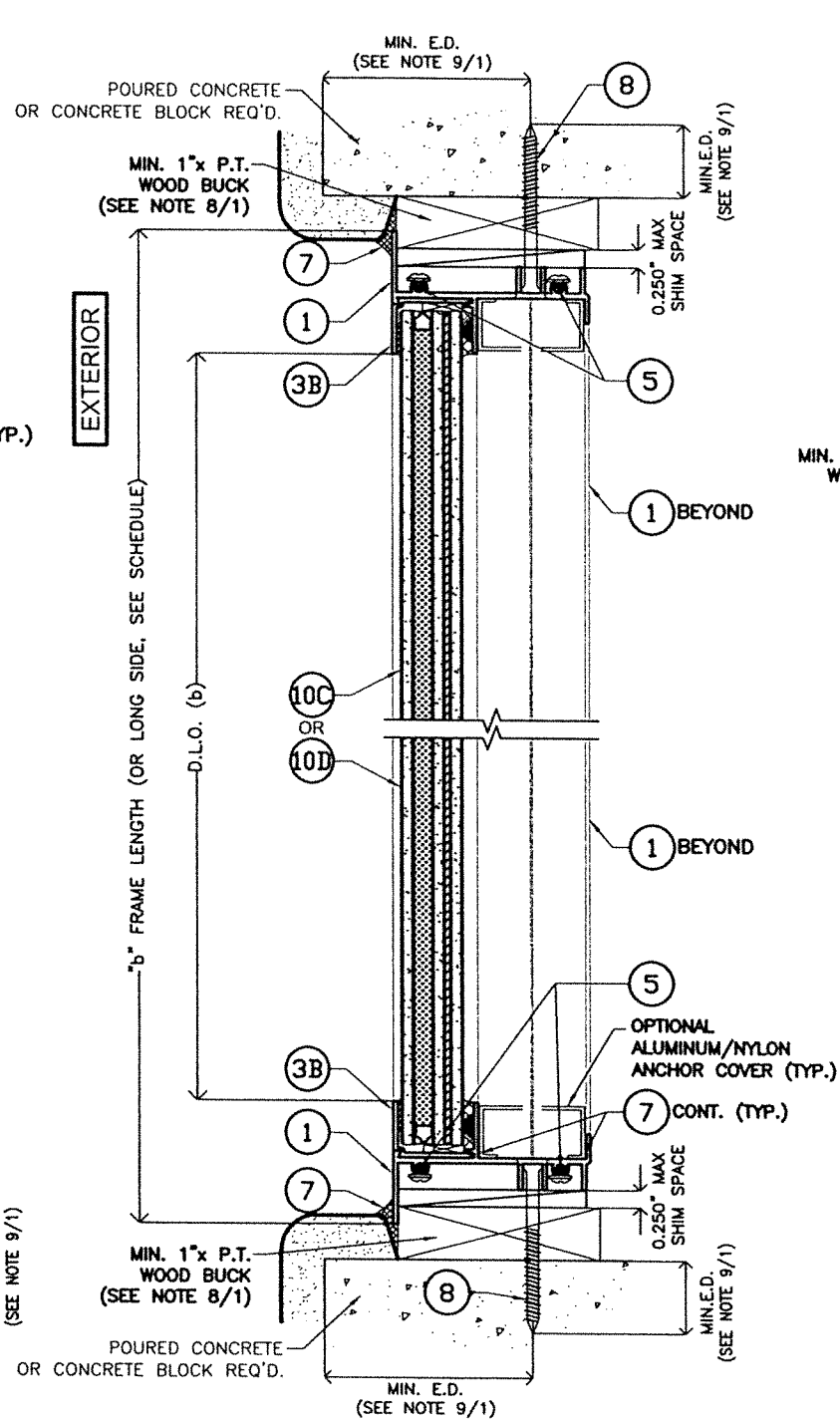
| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

1/8" MINIMUM WALL THICKNESS  
ALUMINUM ALLOY 6063-T5  
APPROVED MULLION (UNDER  
SEPARATE APPROVAL) OR STEEL  
MEMBER BY OTHERS SHALL  
CONFORM TO ASTM A500, A653  
OR A36 WITH 12 GA (0.106")  
MINIMUM WALL THICKNESS.



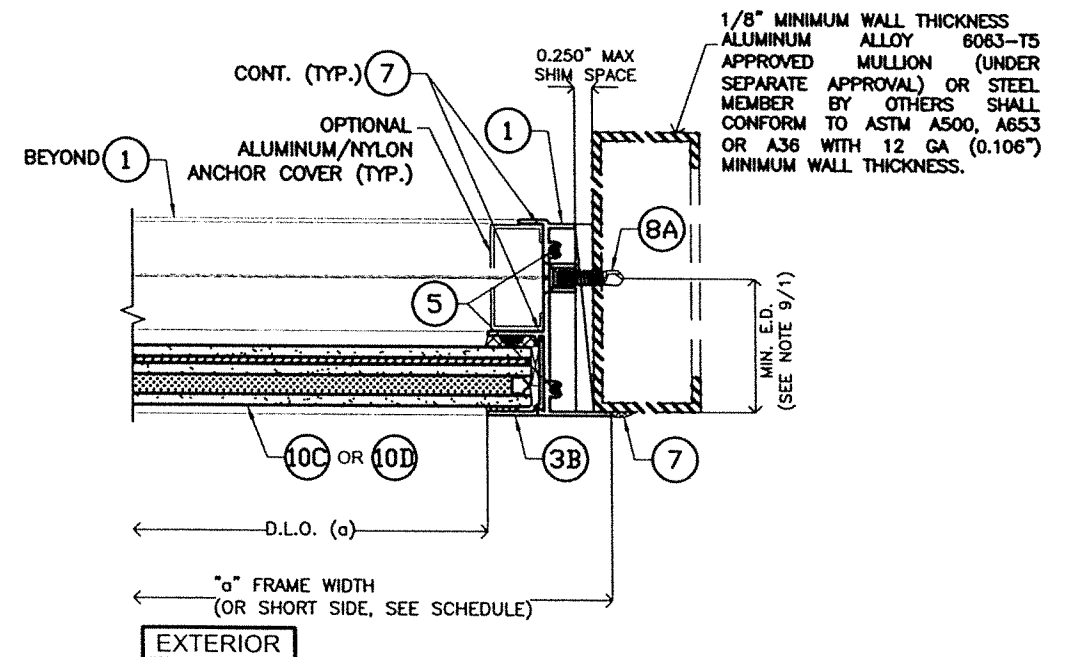
**SECTION C-C**

SCALE: N.T.S.

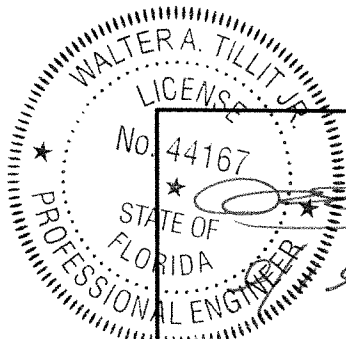


**SECTION D-D**

SCALE: N.T.S.



**OPTIONAL SYSTEM #1**



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.

**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
e-mail: tilteco@ool.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS



290 WEST 78 ROAD  
HIALEAH, FL. 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

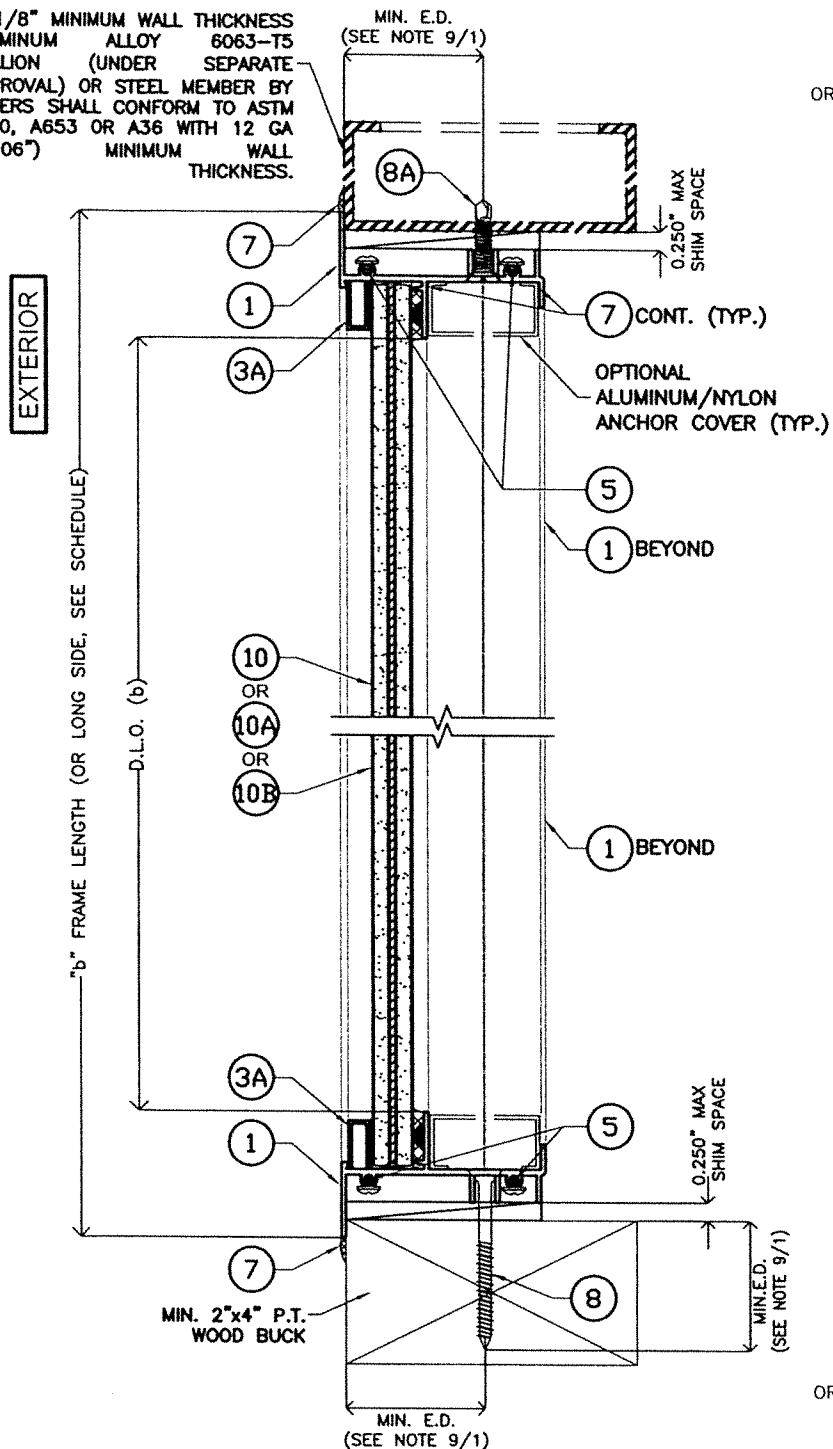
DRAWN BY:  
W.H

09/01/2023  
DATE

**23-208**  
DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

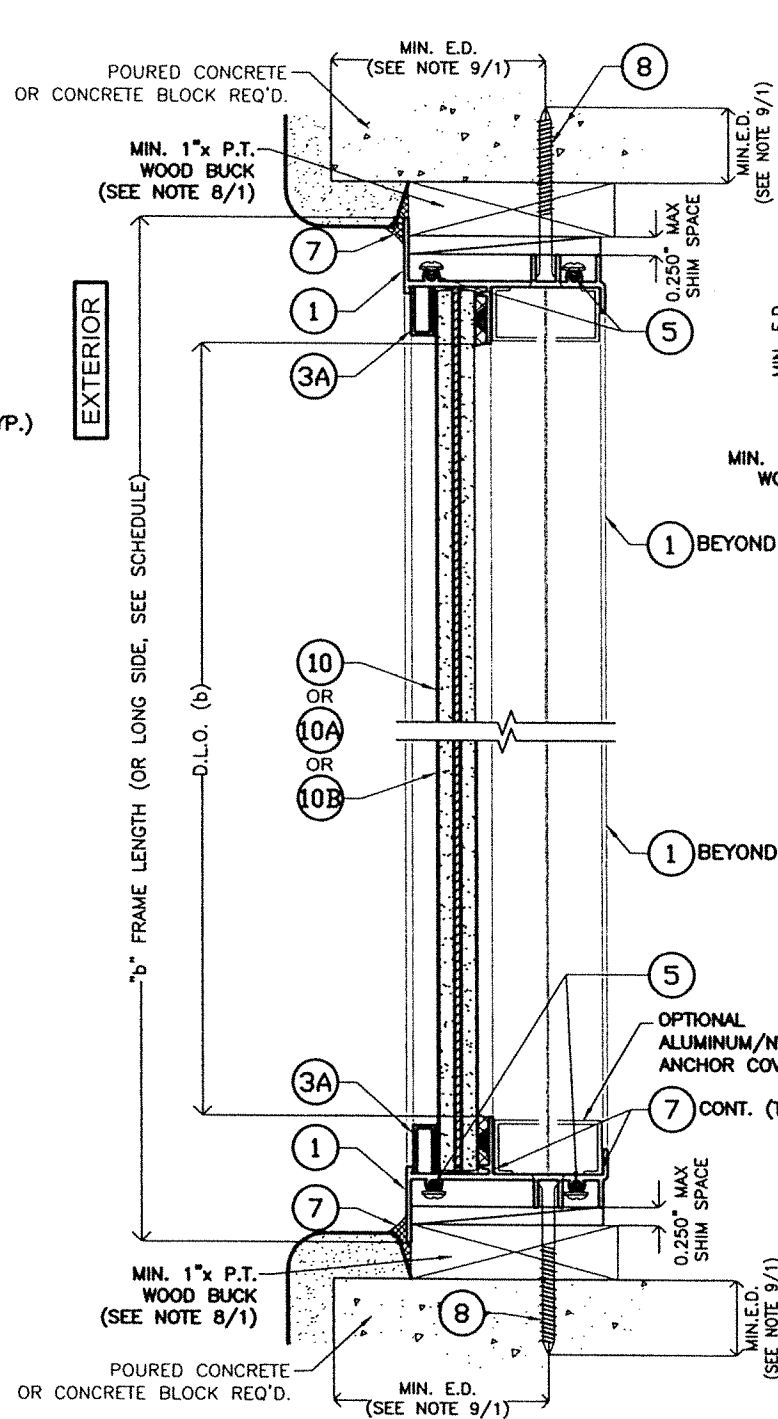
1/8" MINIMUM WALL THICKNESS ALUMINUM ALLOY 6063-T5 MULLION (UNDER SEPARATE APPROVAL) OR STEEL MEMBER BY OTHERS SHALL CONFORM TO ASTM A500, A653 OR A36 WITH 12 GA (0.106") MINIMUM WALL THICKNESS.



**SECTION A'-A'**

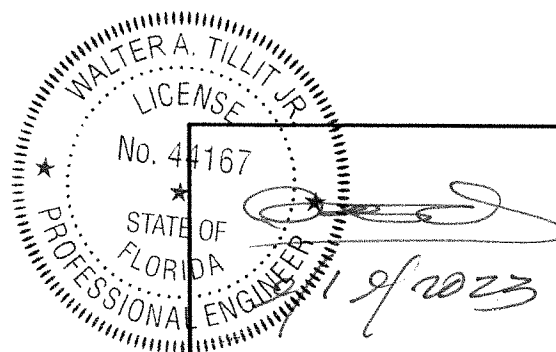
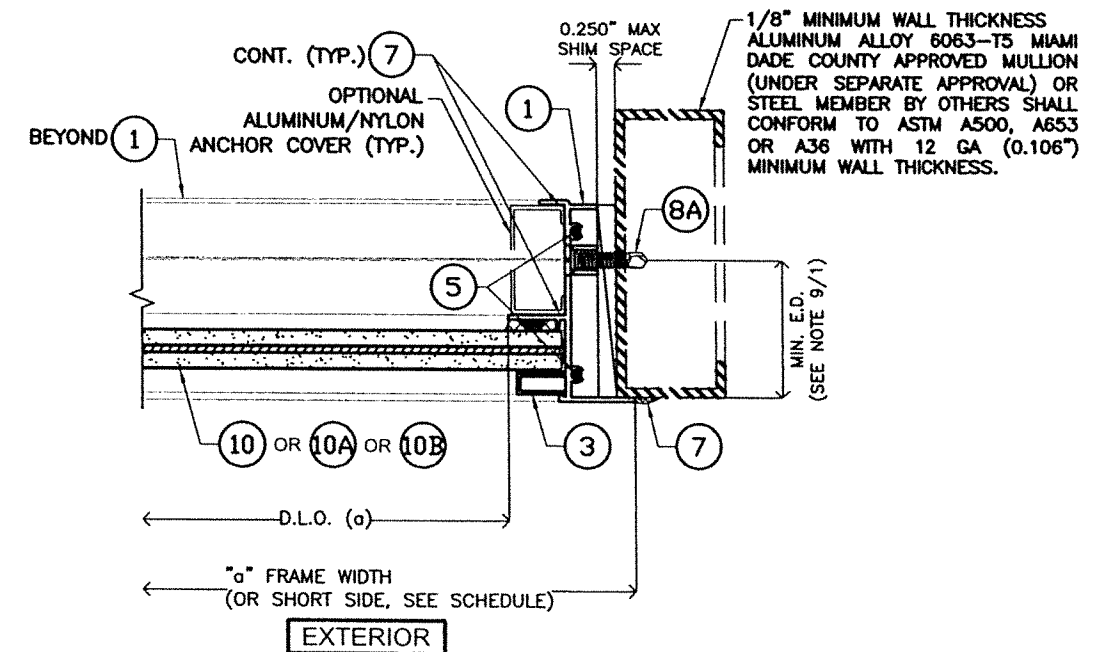
SCALE: N.T.S

**OPTIONAL SYSTEM #1**



**SECTION B'-B'**

SCALE: N.T.S



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.

**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone: (305)871-1530 Fax: (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS



290 WEST 78 ROAD  
 HIALEAH, FL 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

DRAWN BY: W.H

09/01/2023 DATE

23-208 DRAWING No

**MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE**

**RATING "W" SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10)**

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 130     | 154     |
|      | 24'  | 130     | 154     |
|      | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
| 138' | 130  | 154     |         |
| 144' | 130  | 154     |         |
| 150' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 130     | 154     |
|      | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
| 144' | 130  | 154     |         |
| 150' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |
| 186' | 130  | 154     |         |
| 192' | 130  | 154     |         |
| 196' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
|      | 144' | 130     | 154     |
| 150' | 130  | 154     |         |
| 153' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |
| 186' | 130  | 154     |         |
| 192' | 130  | 154     |         |
| 196' | 130  | 154     |         |

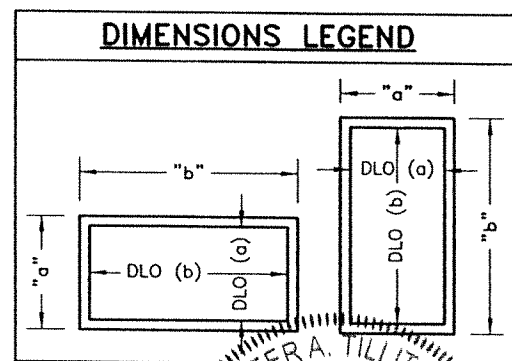
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 36'  | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
|      | 144' | 130     | 154     |
|      | 150' | 130     | 154     |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 166' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |     |
|------|------|---------|---------|-----|
| 42'  | 42'  | 130     | 154     |     |
|      | 48'  | 130     | 154     |     |
|      | 54'  | 130     | 154     |     |
|      | 60'  | 130     | 154     |     |
|      | 66'  | 130     | 154     |     |
|      | 72'  | 130     | 154     |     |
|      | 78'  | 130     | 154     |     |
|      | 84'  | 130     | 154     |     |
|      | 90'  | 130     | 154     |     |
|      | 96'  | 130     | 154     |     |
|      | 102' | 130     | 154     |     |
|      | 108' | 130     | 154     |     |
|      | 114' | 130     | 154     |     |
|      | 120' | 130     | 154     |     |
|      | 126' | 130     | 154     |     |
|      | 132' | 130     | 154     |     |
|      | 138' | 130     | 154     |     |
|      | 142' | 130     | 154     |     |
|      | 48'  | 48'     | 130     | 154 |
|      |      | 54'     | 130     | 154 |
| 60'  |      | 130     | 154     |     |
| 66'  |      | 130     | 154     |     |
| 72'  |      | 130     | 154     |     |
| 78'  |      | 130     | 154     |     |
| 84'  |      | 130     | 154     |     |
| 90'  |      | 130     | 154     |     |
| 95'  |      | 130     | 154     |     |
| 96'  |      | 130     | 154     |     |
| 102' |      | 130     | 154     |     |
| 108' |      | 130     | 154     |     |
| 114' | 130  | 154     |         |     |
| 120' | 130  | 154     |         |     |
| 125' | 130  | 152     |         |     |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 54' | 54'  | 120.3   | 142.5   |
|     | 60'  | 120.3   | 142.5   |
|     | 66'  | 120.3   | 142.5   |
|     | 72'  | 120.3   | 142.5   |
|     | 78'  | 120.3   | 142.5   |
|     | 84'  | 120.3   | 142.5   |
|     | 90'  | 120.3   | 142.5   |
|     | 96'  | 120.3   | 142.5   |
|     | 102' | 120.3   | 142.5   |
|     | 108' | 120.3   | 142.5   |
| 60' | 111' | 120.3   | 139     |
|     | 60'  | 108.3   | 128.3   |
|     | 66'  | 108.3   | 128.3   |
|     | 72'  | 108.3   | 128.3   |
|     | 76'  | 108.3   | 128.3   |
|     | 78'  | 108.3   | 128.3   |
|     | 84'  | 108.3   | 128.3   |
|     | 90'  | 108.3   | 128.3   |
|     | 96'  | 108.3   | 128.3   |
|     | 100' | 108.3   | 128.3   |
| 66' | 66'  | 98.5    | 116.67  |
|     | 72'  | 98.5    | 116.67  |
|     | 78'  | 98.5    | 116.6   |
|     | 84'  | 98.5    | 116.6   |
|     | 90'  | 98.5    | 116.6   |
| 72' | 72'  | 90.3    | 106.9   |
|     | 78'  | 90.3    | 106.9   |
|     | 83'  | 90.3    | 106.9   |

**MAXIMUM DAY LIGHT OPENING (D.L.O.) FOR A GIVEN COMPONENT AT EACH END OF GLASS**

| SIDE  | COMPONENTS ● EACH END OF GLASS | MAX. DAY LIGHT OPENING (D.L.O.) Formula  |
|---|--------------------------------|--|
|   |                                | MAX. D.L.O. (a) (SHORT SIDE)<br>(1)+(3), (1)+(3) OR (1)+(3A), (1)+(3A) OR (1)+(3B), (1)+(3B) |
| MAX. D.L.O. (b) (LONG SIDE)<br>(1)+(3), (1)+(3) OR (1)+(3A), (1)+(3A) OR (1)+(3B), (1)+(3B) | "b"-3.526"                     |  |



WALTER A. TILLIT JR.  
 LICENSE No. 44167  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 P.E. SEAL/SIGNATURE/DATE

**OPTIONAL SYSTEM #1**

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS  
  
 290 WEST 78 ROAD  
 HIALEAH, FL 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

DRAWN BY: W.H  
 09/01/2023 DATE  
**23-208**  
 DRAWING No

**MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE  
RATING "W" SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10A) & (10D)**

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 90      | 90      |
|      | 24'  | 90      | 90      |
|      | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
| 138' | 90   | 90      |         |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 180' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 90      | 90      |
|      | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
|      | 138' | 90      | 90      |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 180' | 90   | 90      |         |
| 186' | 90   | 90      |         |
| 191' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
|      | 138' | 90      | 90      |
|      | 144' | 90      | 90      |
| 150' | 90   | 90      |         |
| 153' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 179' | 90   | 90      |         |

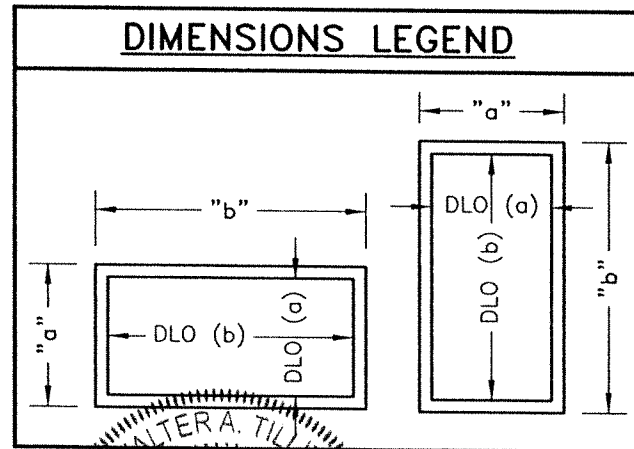
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 36'  | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
|      | 138' | 90      | 90      |
|      | 144' | 90      | 90      |
|      | 150' | 90      | 90      |
| 152' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 42'  | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
| 126' | 90   | 90      |         |
| 130' | 90   | 90      |         |
| 48'  | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 95'  | 90      | 90      |
|      | 96'  | 90      | 90      |
| 102' | 90   | 90      |         |
| 108' | 90   | 90      |         |
| 114' | 90   | 90      |         |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 54' | 54'  | 83.3    | 83.3    |
|     | 60'  | 83.3    | 83.3    |
|     | 66'  | 83.3    | 83.3    |
|     | 72'  | 83.3    | 83.3    |
|     | 78'  | 83.3    | 83.3    |
|     | 84'  | 83.3    | 83.3    |
|     | 90'  | 83.3    | 83.3    |
|     | 96'  | 83.3    | 83.3    |
|     | 101' | 83.3    | 83.3    |
|     | 60'  | 60'     | 75      |
| 66' |      | 75      | 75      |
| 72' |      | 75      | 75      |
| 76' |      | 75      | 75      |
| 78' |      | 75      | 75      |
| 84' |      | 75      | 75      |
| 90' |      | 75      | 75      |
| 66' |      | 66'     | 68.2    |
|     | 72'  | 68.2    | 68.2    |
|     | 76'  | 68.2    | 68.2    |
|     | 78'  | 68.2    | 68.2    |
|     | 83'  | 68.2    | 68.2    |
| 72' | 72'  | 62.5    | 62.5    |
|     | 76'  | 62.5    | 62.5    |

**MAXIMUM DAY LIGHT OPENING (D.L.O.) FOR A GIVEN COMPONENT AT EACH END OF GLASS**

| SIDE                         | COMPONENTS @ EACH END OF GLASS   | MAX. DAY LIGHT OPENING |
|------------------------------|--|------------------------|
|                              |  | (D.L.O.) Formula       |
| MAX. D.L.O. (a) (SHORT SIDE) | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "a"-3.526"             |
| MAX. D.L.O. (b) (LONG SIDE)  | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "b"-3.526"             |



**OPTIONAL SYSTEM #1**

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

WALTER A. TILLIT JR.  
 LICENSE No. 44167  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 P.E. SEAL/SIGNATURE/DATE

© 2023 TILTECO INC.  
  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

|  |             |  |
|--|-------------|--|
| SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS   |             | DRAWN BY:<br>W.H.<br>09/01/2023<br>DATE<br><b>23-208</b><br>DRAWING No |
| 290 WEST 78 ROAD<br>HIALEAH, FL 33014<br>PH: (954)226-5555/(305)558-8103<br>FAX: (305)558-6665<br>www.gigwindows.com |             | SHEET 7 OF 17  |
| REV. NO  | DESCRIPTION |  |
| 1  | OLD 23-155  |  |
| 2  | 09/01/23    |  |

**MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE  
RATING "W" SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10B) & (10C)**

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 75      | 75      |
|      | 24'  | 75      | 75      |
|      | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 75      | 75      |
|      | 132' | 75      | 75      |
| 138' | 75   | 75      |         |
| 144' | 75   | 75      |         |
| 150' | 75   | 75      |         |
| 156' | 75   | 75      |         |
| 162' | 75   | 75      |         |
| 168' | 75   | 75      |         |
| 174' | 75   | 75      |         |
| 180' | 75   | 75      |         |

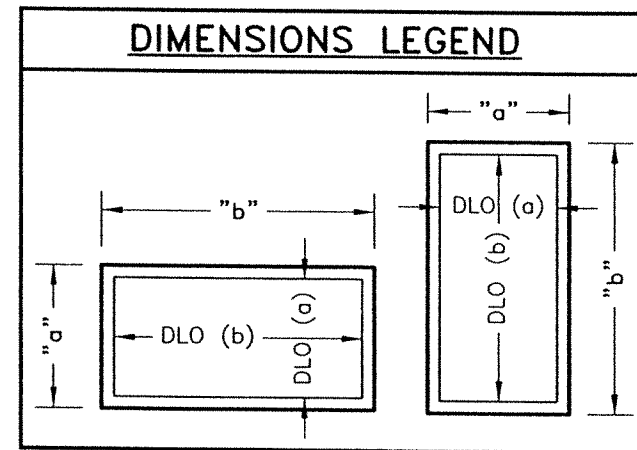
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 75      | 75      |
|      | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 75      | 75      |
|      | 132' | 75      | 75      |
|      | 138' | 75      | 75      |
| 144' | 75   | 75      |         |
| 150' | 75   | 75      |         |
| 156' | 75   | 75      |         |
| 162' | 75   | 75      |         |
| 168' | 75   | 75      |         |
| 174' | 75   | 75      |         |
| 180' | 75   | 75      |         |
| 185' | 75   | 75      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 74      | 74      |
|      | 132' | 72      | 72      |
|      | 138' | 71      | 71      |
|      | 144' | 71      | 71      |
| 148' | 70   | 70      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 36'  | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 74      | 74      |
|      | 102' | 69      | 69      |
|      | 108' | 65      | 65      |
|      | 114' | 62      | 62      |
|      | 120' | 59      | 59      |
| 123' | 58   | 58      |         |

| "a"  | "b" | W psf + | W psf - |
|------|-----|---------|---------|
| 42'  | 42' | 75      | 75      |
|      | 48' | 75      | 75      |
|      | 54' | 75      | 75      |
|      | 60' | 75      | 75      |
|      | 66' | 75      | 75      |
|      | 72' | 75      | 75      |
|      | 78' | 75      | 75      |
|      | 84' | 75      | 75      |
|      | 90' | 75      | 75      |
|      | 96' | 69      | 69      |
| 102' | 63  | 63      |         |
| 105' | 61  | 61      |         |

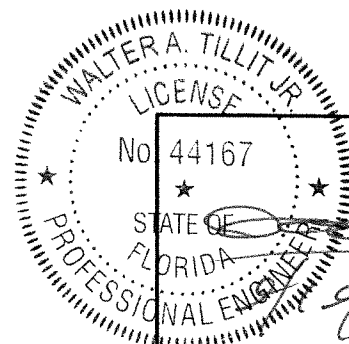
| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 48' | 48'  | 75      | 75      |
|     | 54'  | 75      | 75      |
|     | 60'  | 75      | 75      |
|     | 66'  | 75      | 75      |
|     | 72'  | 75      | 75      |
|     | 78'  | 75      | 75      |
|     | 84'  | 75      | 75      |
|     | 90'  | 70      | 70      |
| 92' | 69   | 69      |         |
| 54' | 54'  | 69.4    | 69.4    |
|     | 60'  | 69.4    | 69.4    |
|     | 66'  | 69.4    | 69.4    |
|     | 72'  | 69.4    | 69.4    |
|     | 78'  | 69.4    | 69.4    |
| 82' | 69.4 | 69.4    |         |
| 60' | 60'  | 62.5    | 62.5    |
|     | 66'  | 62.5    | 62.5    |
|     | 72'  | 62.5    | 62.5    |
|     | 74'  | 62.5    | 62.5    |



**MAXIMUM DAY LIGHT OPENING  
(D.L.O.) FOR A GIVEN COMPONENT  
AT EACH END OF GLASS**

| SIDE                               | COMPONENTS ●<br>EACH END OF GLASS  | MAX. DAY LIGHT OPENING |
|------------------------------------|--|------------------------|
|                                    |  | (D.L.O.) Formula       |
| MAX. D.L.O.<br>(a)<br>(SHORT SIDE) | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "a" - 3.526"           |
| MAX. D.L.O.<br>(b)<br>(LONG SIDE)  | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "b" - 3.526"           |

**OPTIONAL SYSTEM #1**



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS

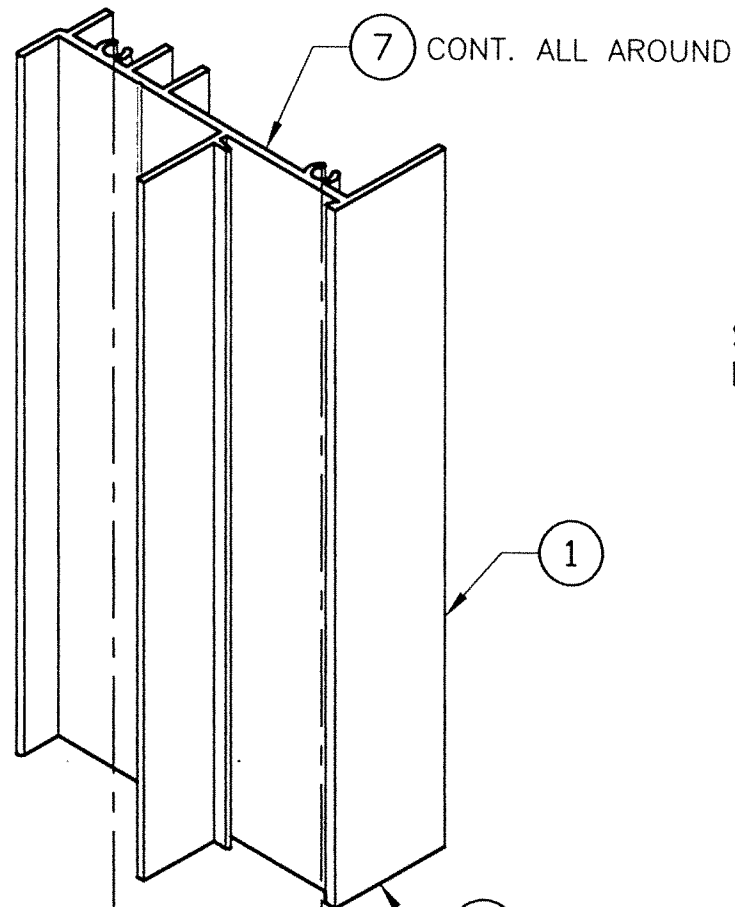
290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY:  
W.H

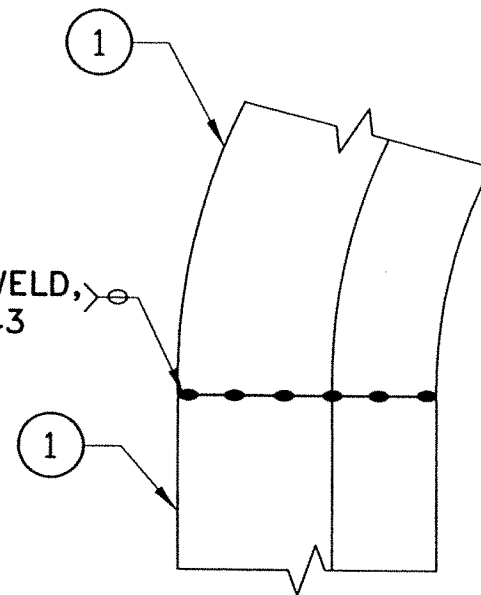
09/01/2023  
DATE

**23-208**  
DRAWING No

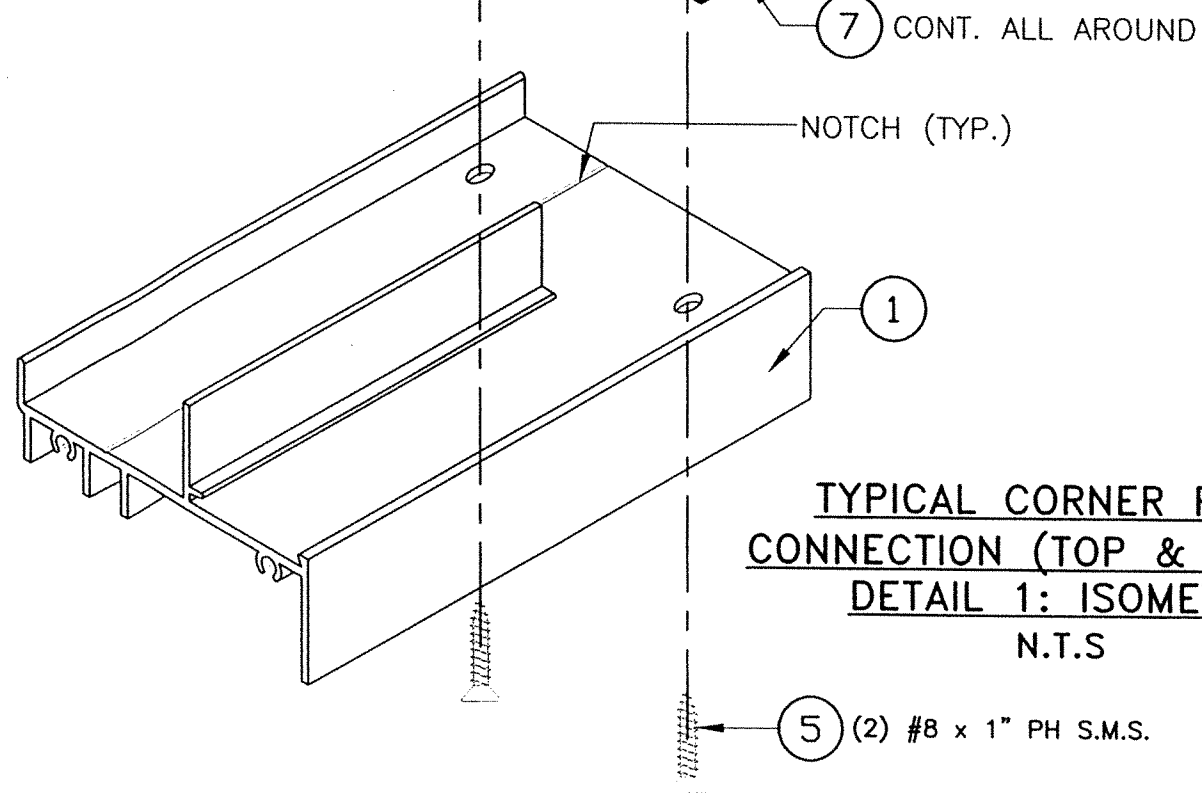
| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |



SPOT WELD,  
ER-4043



**TYPICAL CORNER FRAME  
CONNECTION (TOP)  
DETAIL 2 : ELEVATION  
N.T.S**

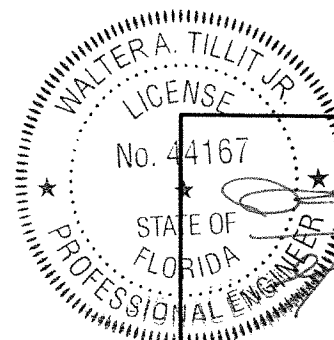


**TYPICAL CORNER FRAME  
CONNECTION (TOP & BOTTOM)  
DETAIL 1: ISOMETRIC  
N.T.S**

**OPTIONAL SYSTEM #1**

**MAXIMUM ANCHOR SPACING SCHEDULE "S"**

| SUBSTRATE                                 | ANCHOR TYPE          | NEGATIVE DESIGN LOAD (psf) | HEAD/SILL   | JAMB         |
|---|----------------------|----------------------------|-------------|--------------|
| CONCRETE OR BLOCK<br>(SEE NOTE 9A & 9B/1) | 1/4"φ ULTRACON (B)   | 75 or less                 | 9" O.C.     | 12" O.C.     |
|   |                      | > 75 up to 90              | 9" O.C.     | 11 1/2" O.C. |
|   |                      | > 90 up to 130             | 8" O.C.     | 8" O.C.      |
|   |                      | > 130 up to 154            | 6 1/2" O.C. | 6 1/2" O.C.  |
| WOOD<br>(SEE NOTE 9C/1)                   | 1/4"φ ULTRACON (B)   | 75 or less                 | 9" O.C.     | 9 1/2" O.C.  |
|   |                      | > 75 up to 90              | 8" O.C.     | 8" O.C.      |
|   |                      | > 90 up to 130             | 5 1/2" O.C. | 5 1/2" O.C.  |
|   |                      | > 130 up to 154            | 4 1/2" O.C. | 4 1/2" O.C.  |
| METAL<br>(SEE NOTE 9D/1 & 9E/1)           | 1/4"φ TEK SCREW (8A) | 75 or less                 | 9" O.C.     | 12" O.C.     |
|   |                      | > 75 up to 90              | 9" O.C.     | 12" O.C.     |
|   |                      | > 90 up to 130             | 8" O.C.     | 8" O.C.      |
|   |                      | > 130 up to 154            | 7" O.C.     | 7" O.C.      |



WALTER A. TILLIT JR.  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

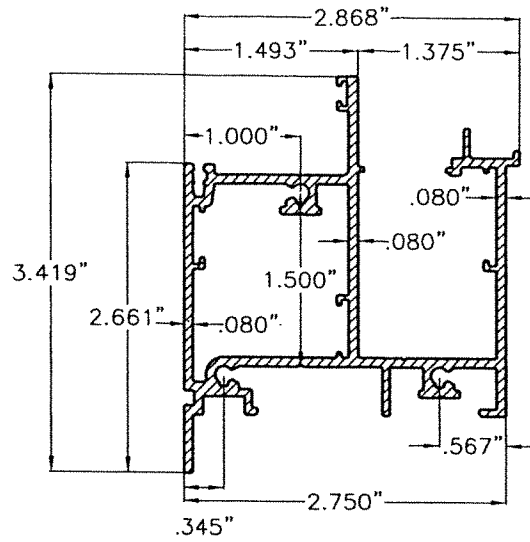
© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

**SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS**

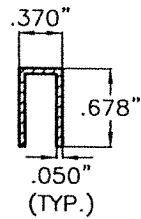
290 WEST 78 ROAD  
HALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY:  
W.H  
09/01/2023  
DATE  
**23-208**  
DRAWING No

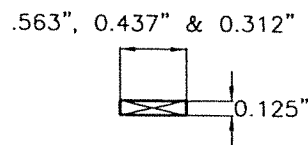
| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |



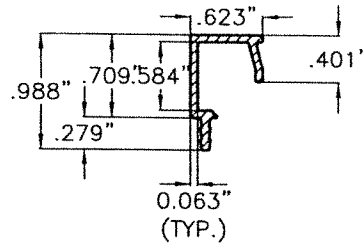
① FRAME HEAD & SILL & JAMB  
6063-T6 ALLOY



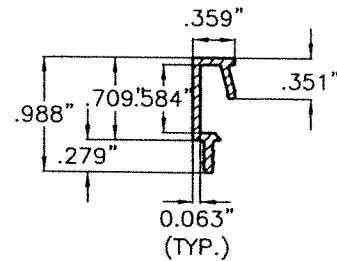
③A GLAZING BEAD FOR CURVED AND COMBINATION CURVED & STRAIGHT FRAME WINDOWS  
6063-T6 ALLOY



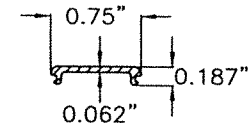
⑪ SETTING BLOCK FOR  
⑩, ⑩A, ⑩B, ⑩C & ⑩D.



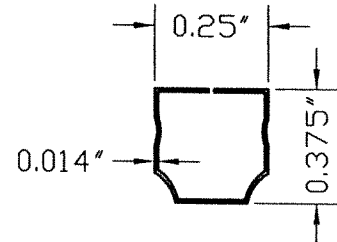
③ GLAZING BEAD FOR FULLY STRAIGHT FRAME WINDOWS  
6063-T6 ALLOY



③B GLAZING BEAD FOR STRAIGHT, CURVED AND COMBINATION CURVED & STRAIGHT FRAME WINDOWS ON INSULATED-LAMINATED GLASS  
6063-T6 ALLOY



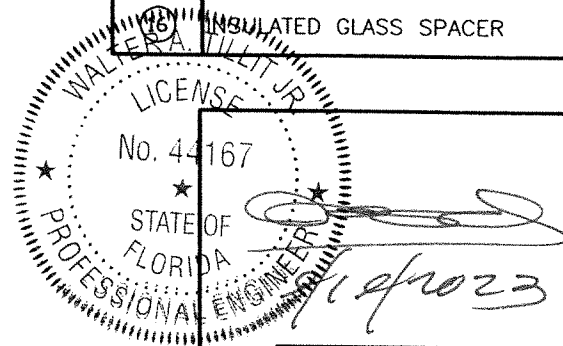
⑫ SCREW COVER



⑬ INSULATED GLASS SPACER  
30105-H24 ALLOY

**COMPONENTS  
OPTIONAL SYSTEM #2**  
SCALE: N.T.S.

| BILL OF MATERIALS |  |   |                     |
|-------------------|--|---|---------------------|
| ITEM #            | DESCRIPTION  | DIMENSIONS & REMARKS                                | MATERIAL            |
| ①                 | FRAME HEAD/SILL & JAMB.  | (2) REQUIRED  | 6063-T6             |
| ③                 | GLAZING BEAD FOR FULLY STRAIGHT FRAME WINDOWS  | (4) REQUIRED  | 6063-T6             |
| ③A                | GLAZING BEAD FOR CURVED AND COMBINATION CURVED/STRAIGHT FRAME WINDOWS  | (4) REQUIRED  | 6063-T6             |
| ③B                | GLAZING BEAD FOR STRAIGHT, CURVED AND COMBINATION CURVED/STRAIGHT FRAME WINDOWS ON INSULATED-LAMINATED GLASS   | (4) REQUIRED  | 6063-T6             |
| ④                 | WEATHER STRIPING, ULTRAFAB E-271   | (4) AT GLAZING BEAD                                 | NEOPRENE            |
| ④A                | WEATHER STRIPING SOLID RUBBER  | (4) AT GLAZING BEAD                                 | NEOPRENE            |
| ④B                | WEATHER STRIPING 0.296" HEIGHT, SCHLEGEL SYSTEM, INC., Q375T190  | (4) AT GLAZING BEAD                                 | NEOPRENE            |
| ⑤                 | CORNER FRAME ASSEMBLY SCREWS   | (2) #8 x 1" PH SMS REQ'D.                           | STEEL               |
| ⑥                 | DOW CORNING 995  | -----   | STRUCTURAL SILICONE |
| ⑥A                | DOW CORNING 795  | -----   | STRUCTURAL SILICONE |
| ⑦                 | WHITE COLOR SILICONE AT FIXED PANEL FRAME AND FRAME CORNERS.   | ALL AROUND (EXTERIOR)                               | SEALANT             |
| ⑧                 | 1/4"Ø ULTRACON BY DEWALT, TO POURED CONCRETE, HOLLOW BLOCK OR WOOD WALL REQ'D. (SEE SCHEDULE)  | -----   | CARBON STEEL        |
| ⑧A                | 1/4"Ø ITW BUILDDEX TEK SCREW TO METAL (SEE SCHEDULE)   | -----   | STEEL               |
| ⑨                 | 0.145" HEIGHT BUMPER SPACER, CUT FROM 3/8"Ø SPHERE, CLEAR 3" FROM CORNERS MAX. AND 12" O.C. (MAX.) AT MID-GLASS BITE ELEVATION   | FRANK LOWE RUBBEL, GASKET TLB-28, CLEAR.            | SILICONE            |
| ⑨A                | 0.211" HEIGHT BUMPER SPACER, CUT FROM 3/8"Ø SPHERE, CLEAR 3" FROM CORNERS MAX. AND 12" O.C. (MAX.) AT MID-GLASS BITE ELEVATION   | FRANK LOWE RUBBEL, GASKET FLB-38, CLEAR.            | SILICONE            |
| ⑩                 | 0.590" (9/16" NOMINAL) LAMINATED GLASS W/ 1/4" H.S. GLASS + 0.090" SENTRYGLAS® INTERLAYER + 1/4" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                | GLASS               |
| ⑩A                | 0.484" (7/16" NOMINAL) LAMINATED GLASS W/ 3/16" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 3/16" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                | GLASS               |
| ⑩B                | 0.326" (5/16" NOMINAL) LAMINATED GLASS W/ 1/8" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 1/8" H.S. GLASS  | INTERLAYER BY: KURARAY AMERICA, INC.                | GLASS               |
| ⑩C                | 0.6875" (11/16" NOMINAL) INSULATED-LAMINATED GLASS W/ 1/8" TEMPERED GLASS OUTBOARD + 1/4" ARGON SPACER + 1/8" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 1/8" H.S. GLASS | INTERLAYER BY: KURARAY AMERICA, INC.                | GLASS               |
| ⑩D                | 0.875" (7/8" NOMINAL) INSULATED-LAMINATED GLASS W/ 3/16" TEMPERED GLASS OUTBOARD + 1/4" ARGON SPACER + 3/16" H.S. GLASS + 0.090" TROSIFOL PVB. INTERLAYER + 3/16" H.S. GLASS | INTERLAYER BY: KURARAY AMERICA, INC.                | GLASS               |
| ⑪                 | SETTING BLOCK  | 1/8"x9/16" OR 7/16" OR 5/16" FOR ⑩, ⑩A, ⑩B, ⑩C & ⑩D | SILICONE            |
| ⑫                 | SCREW COVER  | AS REQUIRED   | 6063-T6             |
| ⑬                 | EQUAL LEG ADAPT.   | (2) REQUIRED  | 6063-T6             |
| ⑭                 | CORNER LOCK 0.050" THK. X 1.7430" X 1.7430" X 0.473"   | SULLIVAN ASSOCIATES                                 | ST. STEEL           |
| ⑮                 | CORNER LOCK 0.058" THK. X 2.75" X 2.75" X 0.84"  | SULLIVAN ASSOCIATES                                 | ST. STEEL           |
| ⑯                 | INSULATED GLASS SPACER   | SEE DETAIL  | 3105-H24 ALLOY      |



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

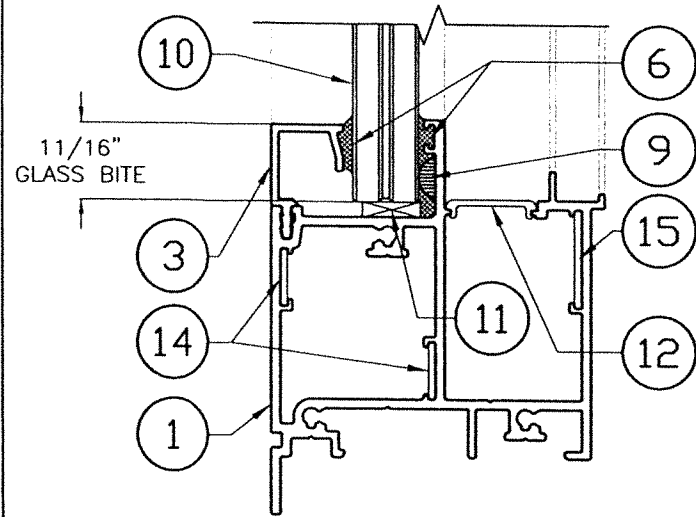
© 2023 TILTECO INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS

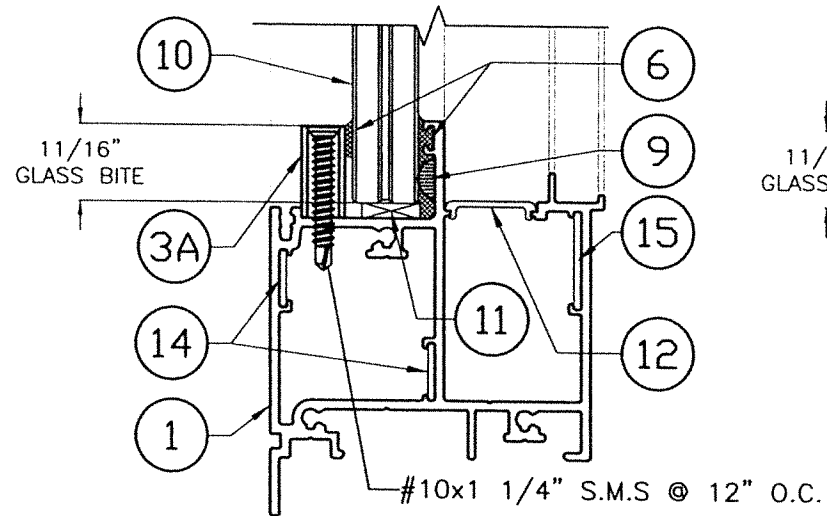
290 WEST 78 ROAD  
 HIALEAH, FL 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

DRAWN BY: W.H  
 09/01/2023 DATE  
 23-208 DRAWING No

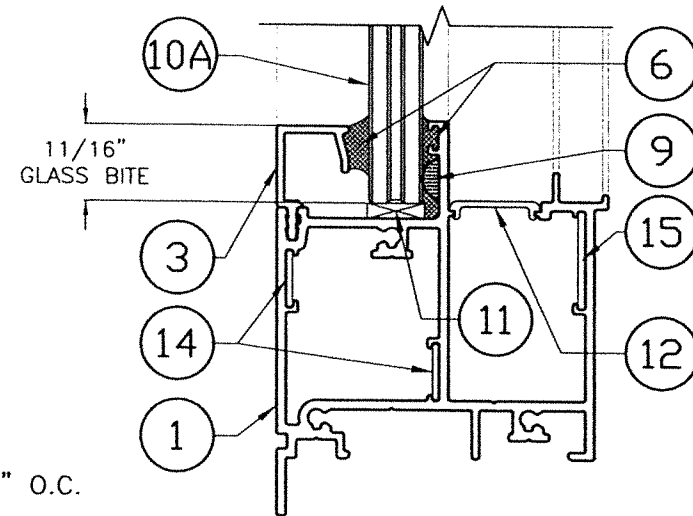
| REV. No | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |



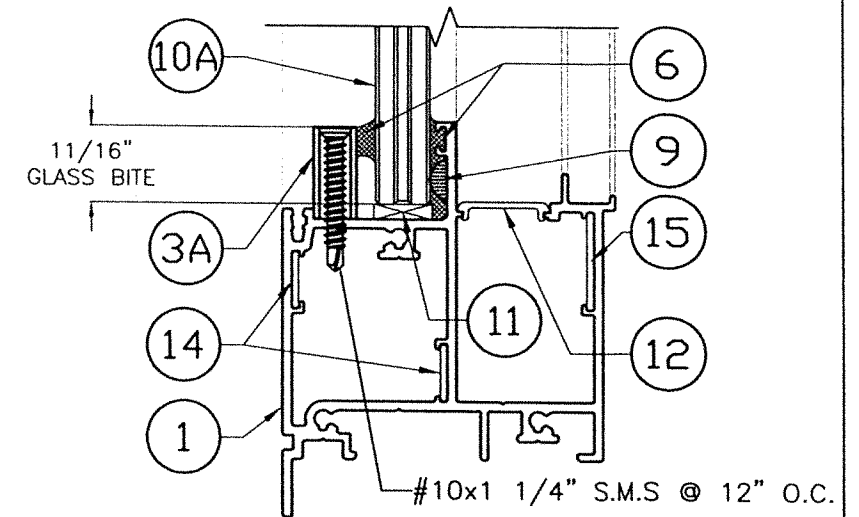
GLAZING DETAIL FOR  
10 W/ 3



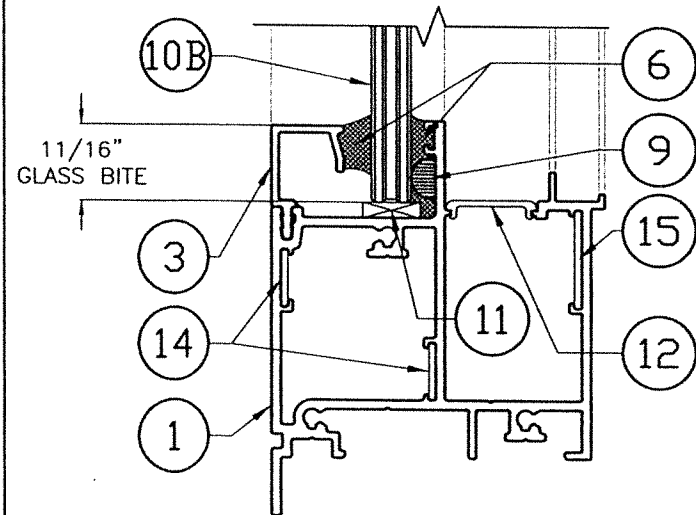
GLAZING DETAIL FOR  
10 W/ 3A



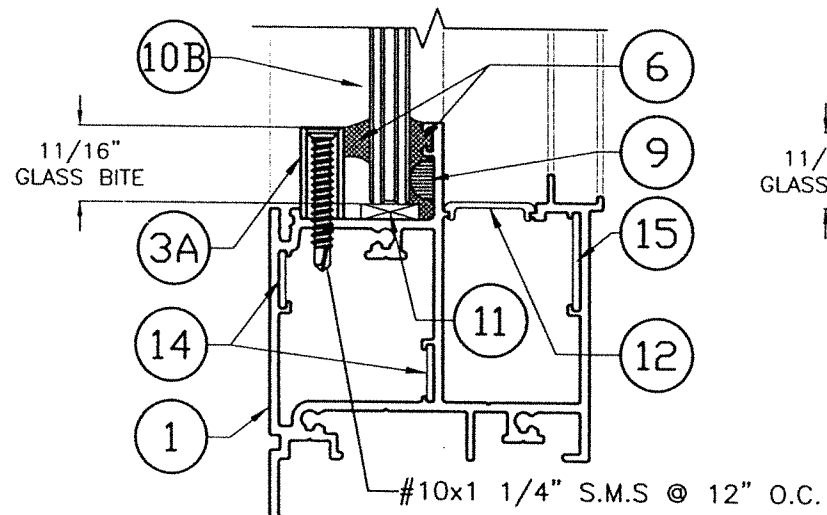
GLAZING DETAIL FOR  
10A W/ 3



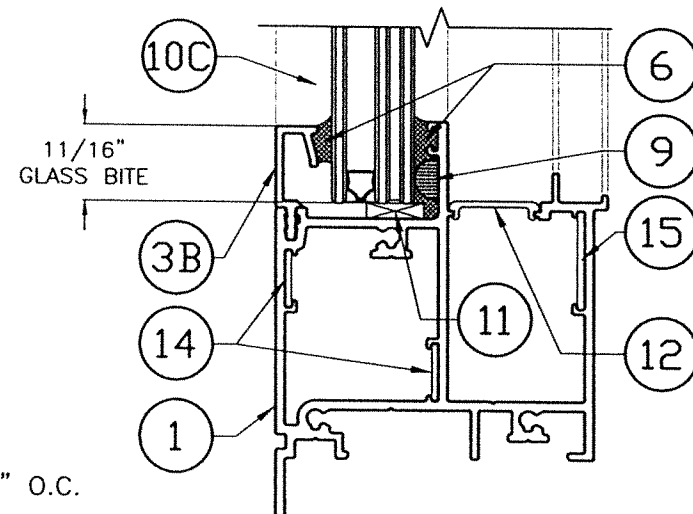
GLAZING DETAIL FOR  
10A W/ 3A



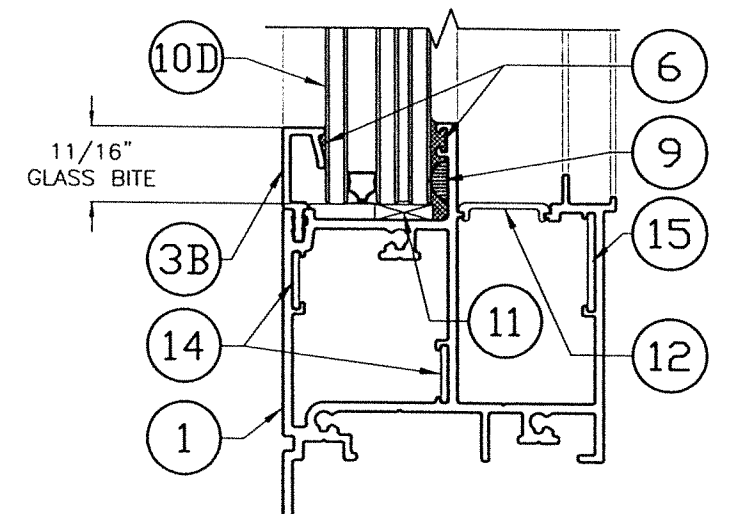
GLAZING DETAIL FOR  
10B W/ 3



GLAZING DETAIL FOR  
10B W/ 3A



GLAZING DETAIL FOR  
10C W/ 3B



GLAZING DETAIL FOR  
10D W/ 3B

# GLAZING DETAILS OPTIONAL SYSTEM #2

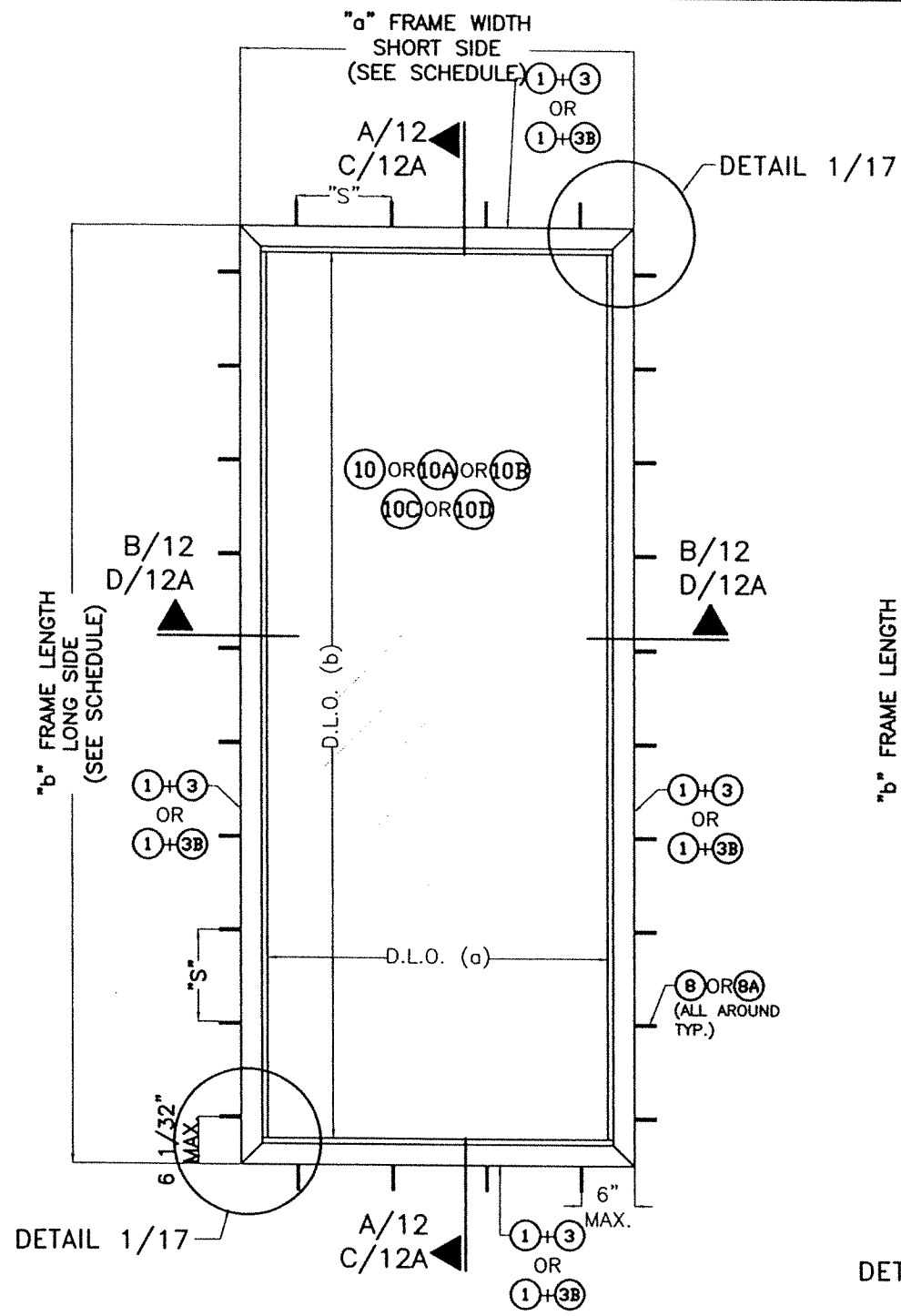
SCALE: N.T.S

WALTER A. TILLIT JR.  
LICENSE  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
*WAT*  
P.E. SEAL/SIGNATURE/DATE

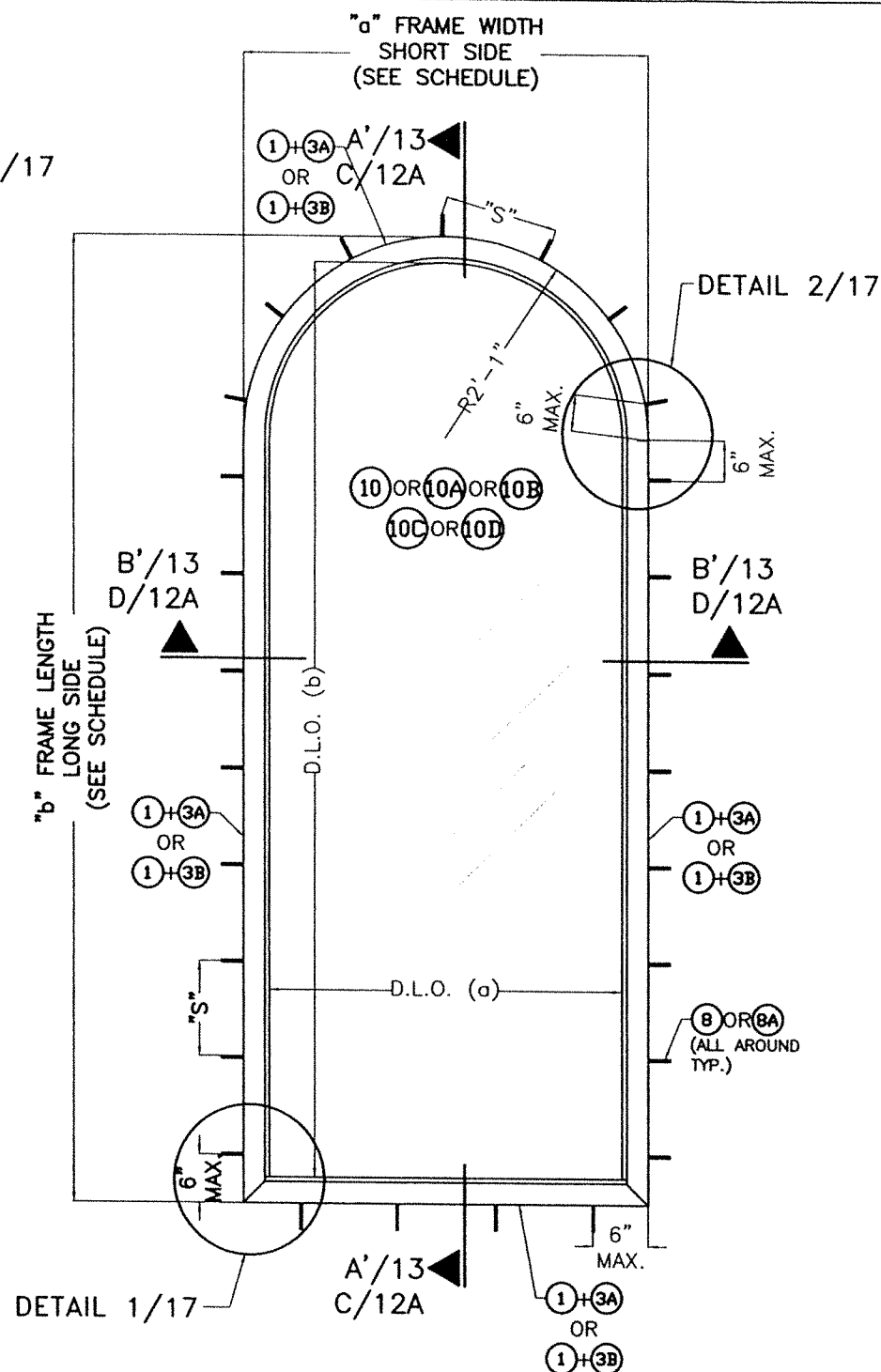
FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT JR., P.E.  
FLORIDA Lic. 44167

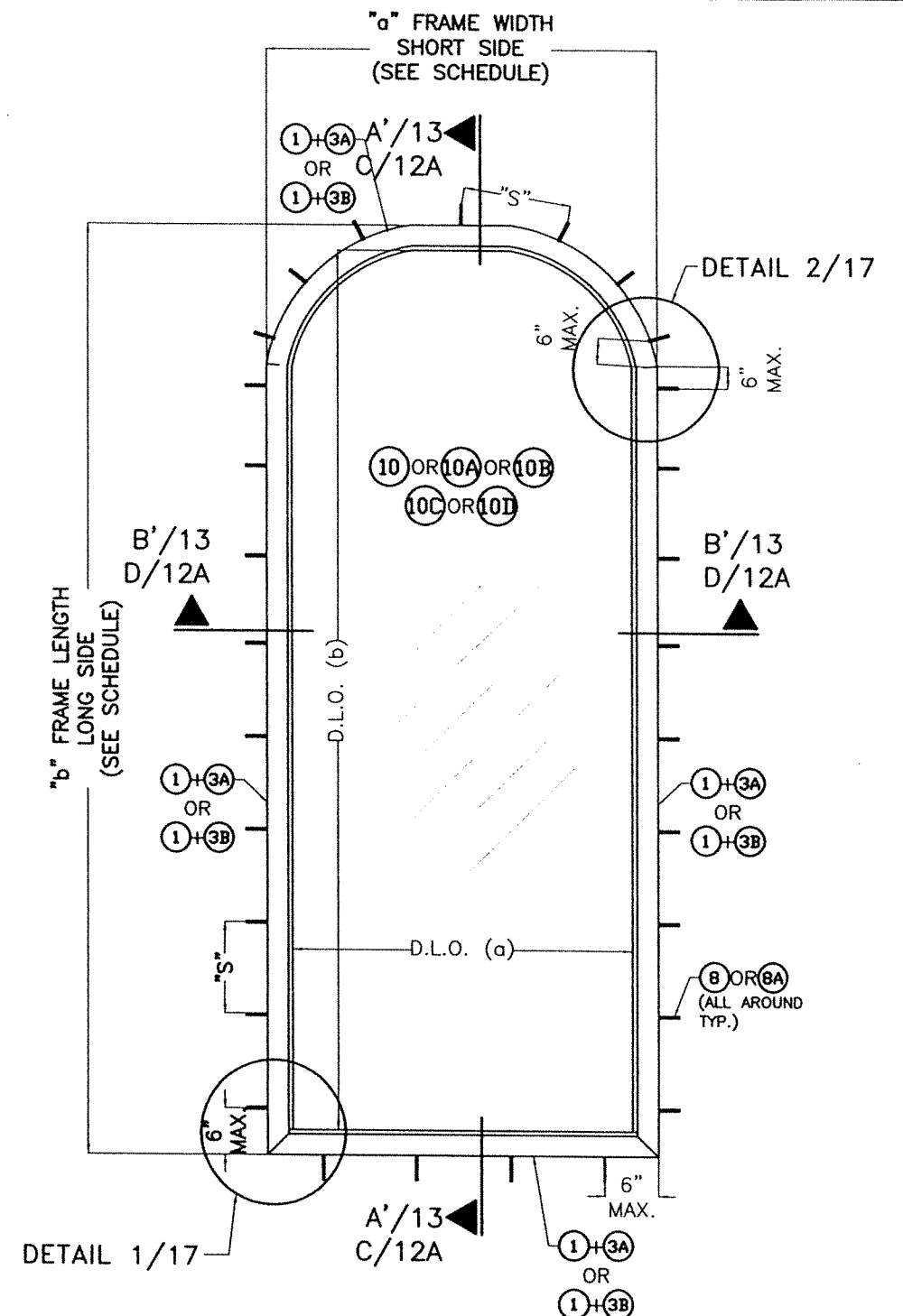
|   |             |          |                      |             |      |
|---|-------------|----------|----------------------|-------------|------|
| SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS  |             |          | DRAWN BY: W.H        |             |      |
| <p>290 WEST 78 ROAD<br/>HIALEAH, FL 33014<br/>PH: (954)226-5555/(305)558-8103<br/>FAX: (305)558-6665<br/>www.gigwindows.com</p> |             |          | 09/01/2023<br>DATE   |             |      |
|   |             |          | 23-208<br>DRAWING No |             |      |
| REV. No   | DESCRIPTION | DATE     | REV. No              | DESCRIPTION | DATE |
| 1   | OLD 23-155  | 09/01/23 | 2                    |             |      |



**CASE 1: RECTANGULAR**  
SCALE: N.T.S



**CASE 2: HALF ROUND TOP**  
SCALE: N.T.S



**CASE 3: EYEBROW**  
SCALE: N.T.S

**TYPICAL EXTERIOR ELEVATIONS FOR SERIES 21000  
HIGH IMPACT FIXED LAMINATED GLASS WINDOW**

(SEE NOTES ON SHEET 1)

"S" = MAX. ANCHOR SPACING  
(SEE SCHEDULE ON SHEET 17)

FOR "a" FRAME WIDTH (SHORT SIDE),  
"b" FRAME LENGTH (LONG SIDE) AND  
MAX. D.L.O. (a) AND MAX. D.L.O. (b)  
SEE SCHEDULES ON SHEETS 14, 15 & 16.

**OPTIONAL SYSTEM #2**

WALTER A. TILLIT, P.E.  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone: (305)871-1530 Fax: (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

**SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS**

**GIG WINDOWS & DOORS**

290 WEST 78 ROAD  
HIALEAH, FL. 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

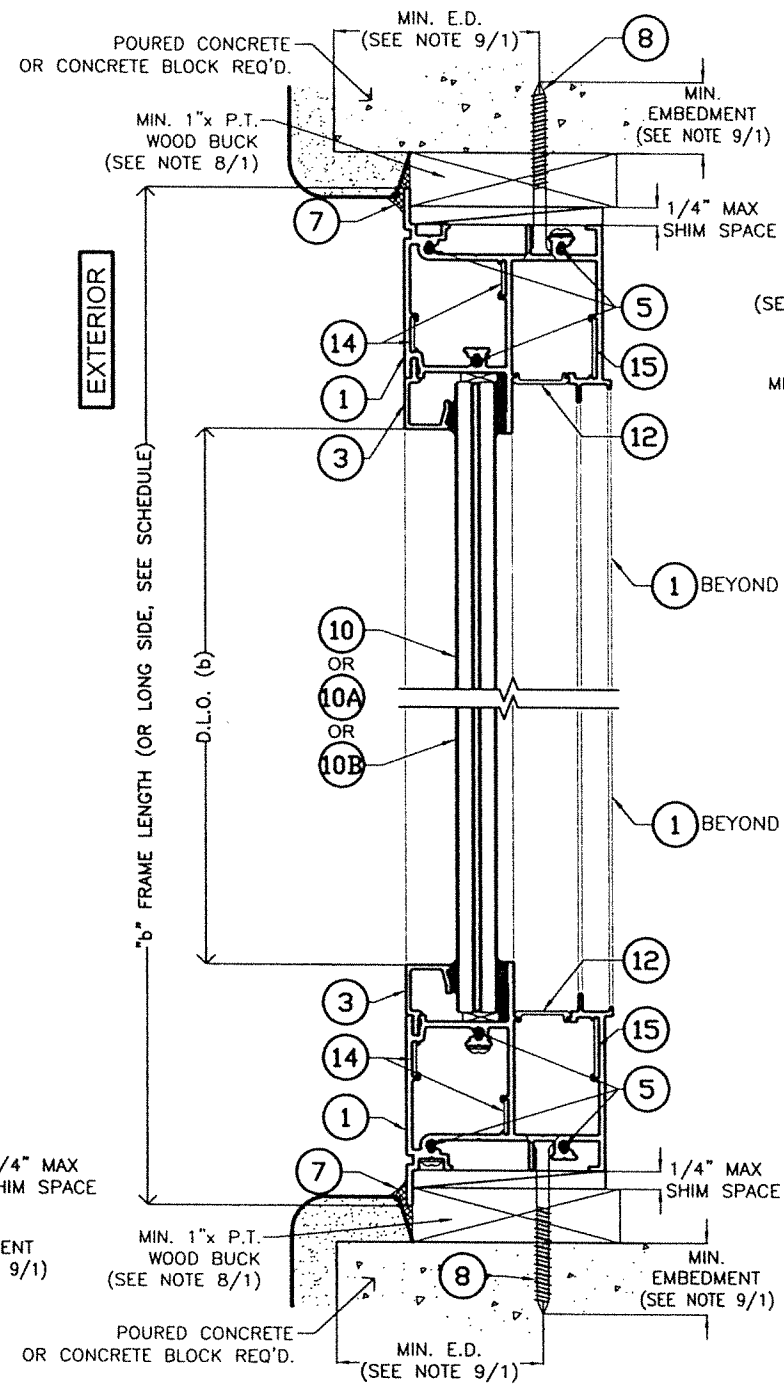
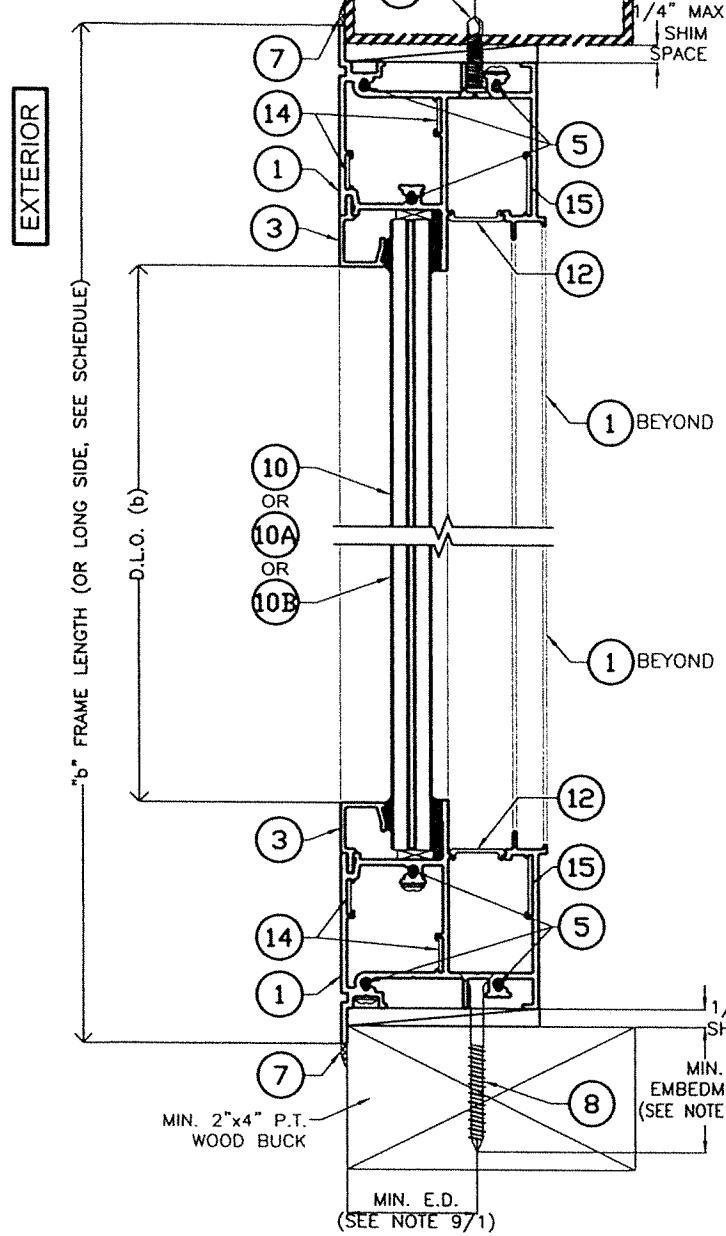
DRAWN BY:  
W.H

09/01/2023  
DATE

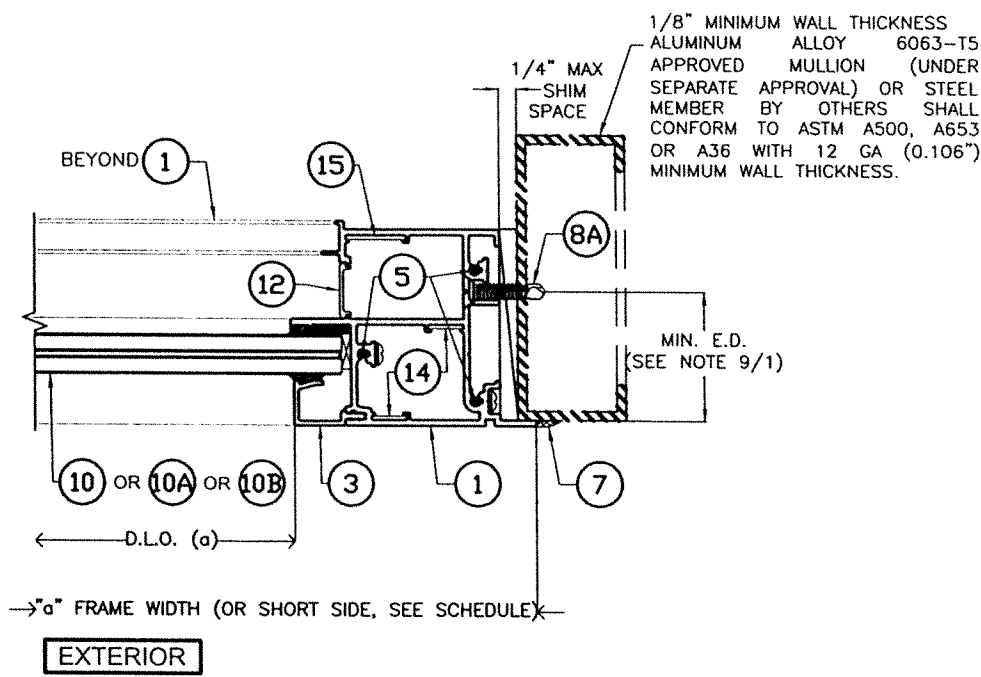
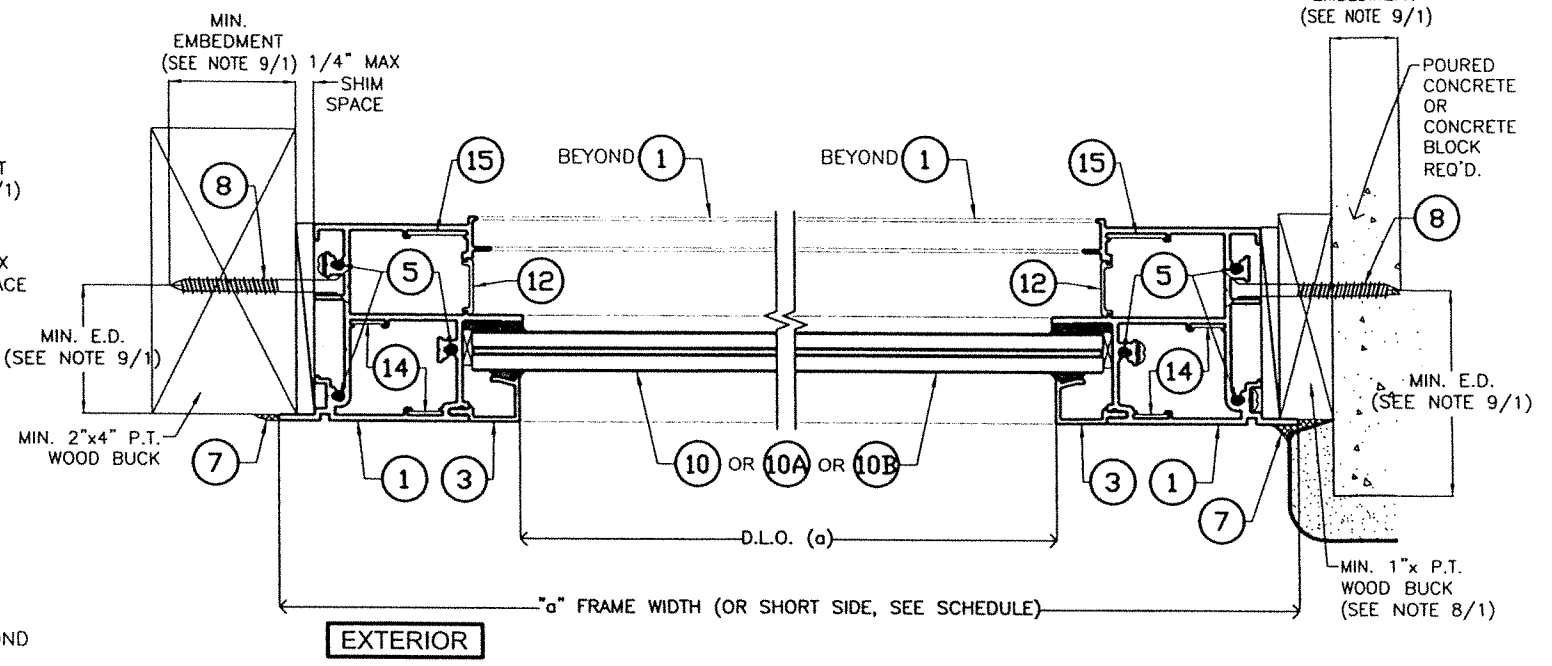
**23-208**  
DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-195  | 09/01/23 | 2       |             |      |

1/8" MINIMUM WALL THICKNESS ALUMINUM ALLOY 6063-T5 APPROVED MULLION (UNDER SEPARATE APPROVAL) OR STEEL MEMBER BY OTHERS SHALL CONFORM TO ASTM A500, A653 OR A36 WITH 12 GA (0.106") MINIMUM WALL THICKNESS.



**SECTION A-A**  
SCALE: N.T.S



**SECTION B-B**  
SCALE: N.T.S

**OPTIONAL SYSTEM #2**

WALTER A. TILLIT JR.  
LICENSE  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
*W.A. Tillit Jr.*  
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

**SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS**

**GIG WINDOWS & DOORS**

290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

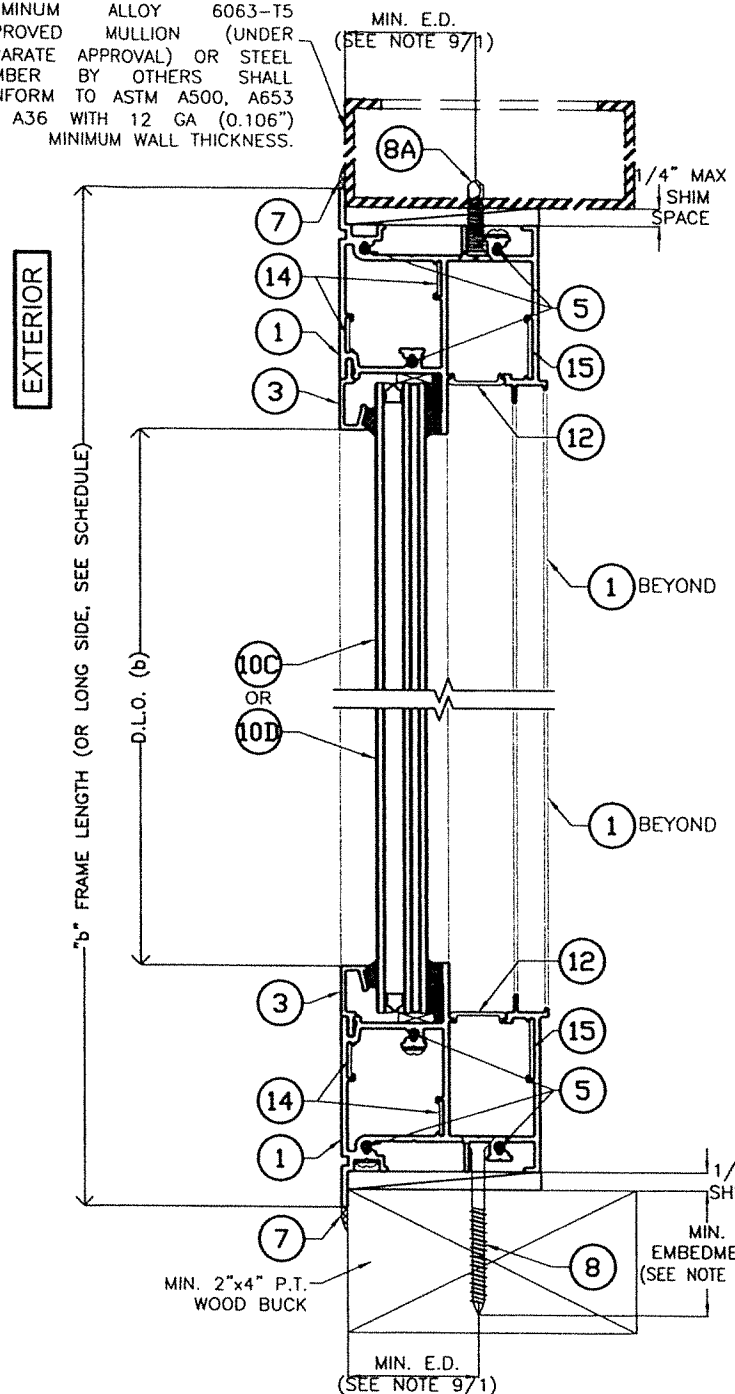
DRAWN BY:  
W.H

09/01/2023  
DATE

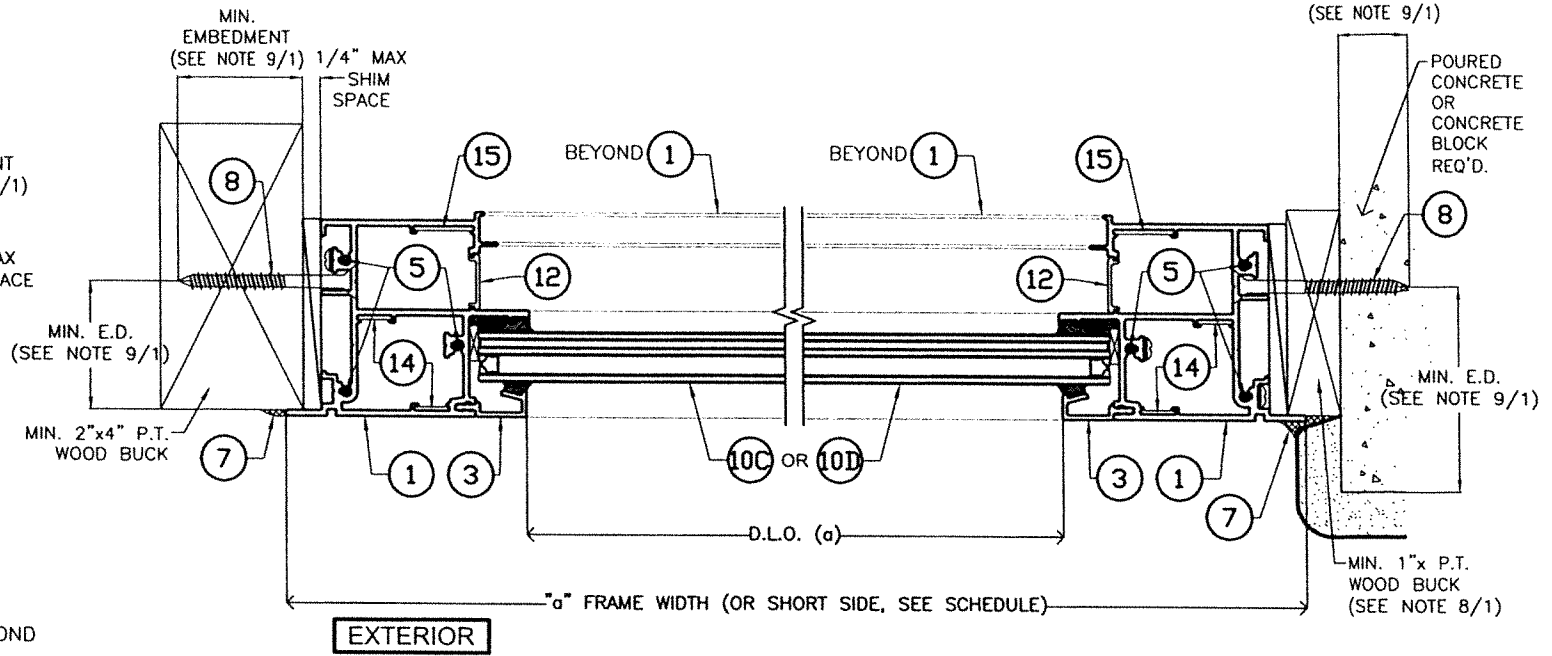
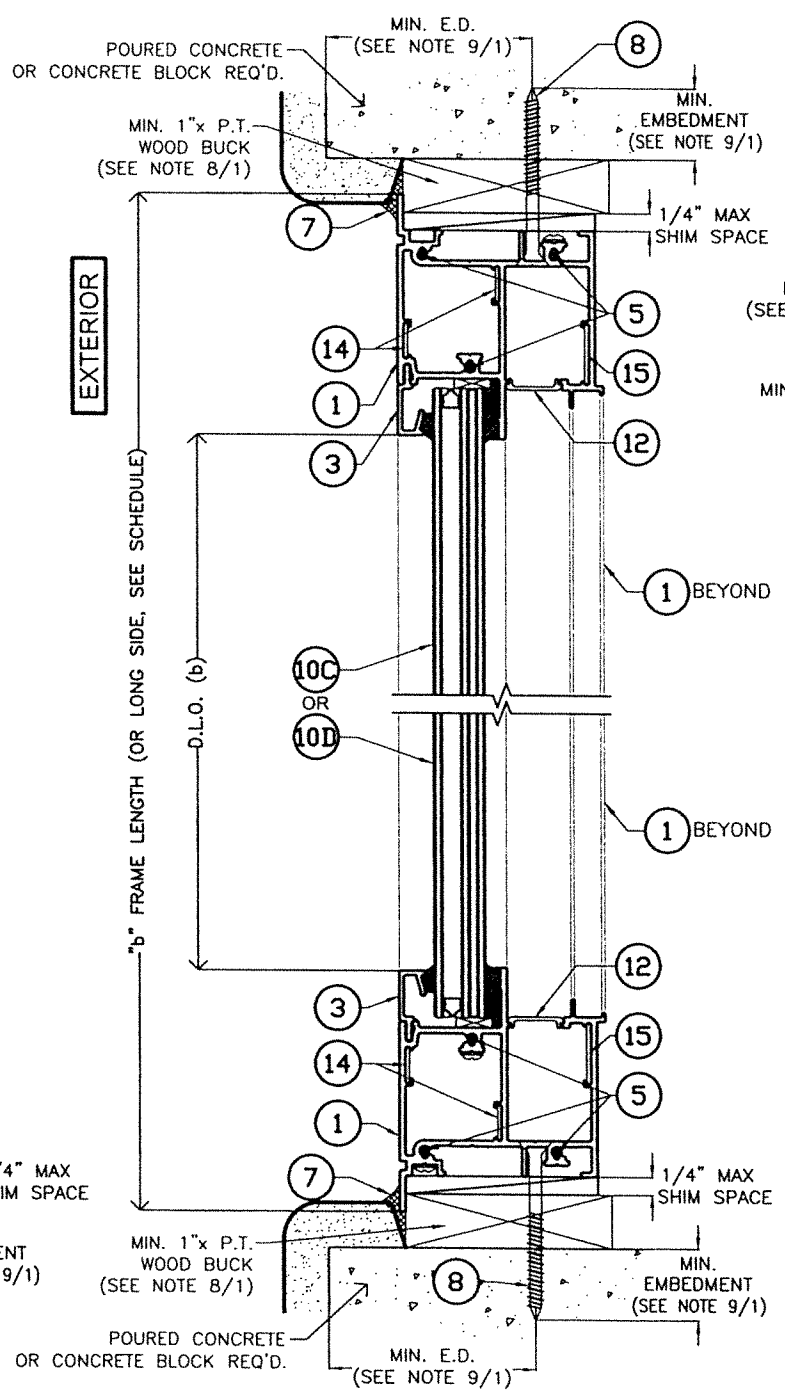
**23-208**  
DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

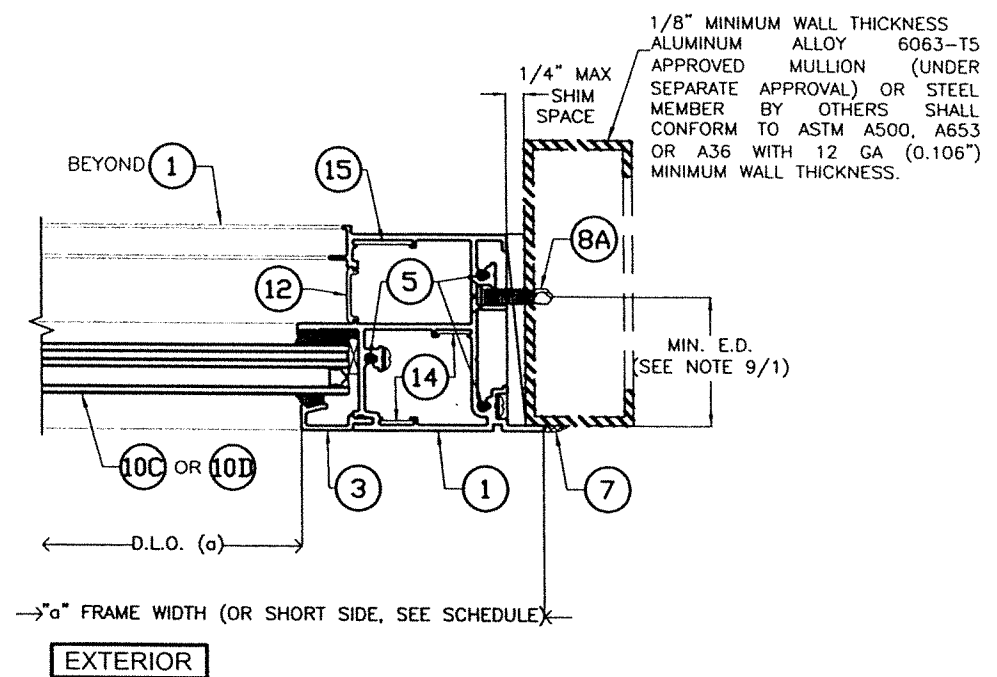
1/8" MINIMUM WALL THICKNESS  
 ALUMINUM ALLOY 6063-T5  
 APPROVED MULLION (UNDER  
 SEPARATE APPROVAL) OR STEEL  
 MEMBER BY OTHERS SHALL  
 CONFORM TO ASTM A500, A653  
 OR A36 WITH 12 GA (0.106")  
 MINIMUM WALL THICKNESS.



**SECTION C-C**  
 SCALE: N.T.S.



**SECTION D-D**  
 SCALE: N.T.S.



**OPTIONAL SYSTEM #2**

WALTER A. TILLIT JR.  
 LICENSE  
 No. 44167  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 09/01/2023  
 P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.

**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone: (305)871-1530 Fax: (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED  
 GLASS WINDOWS

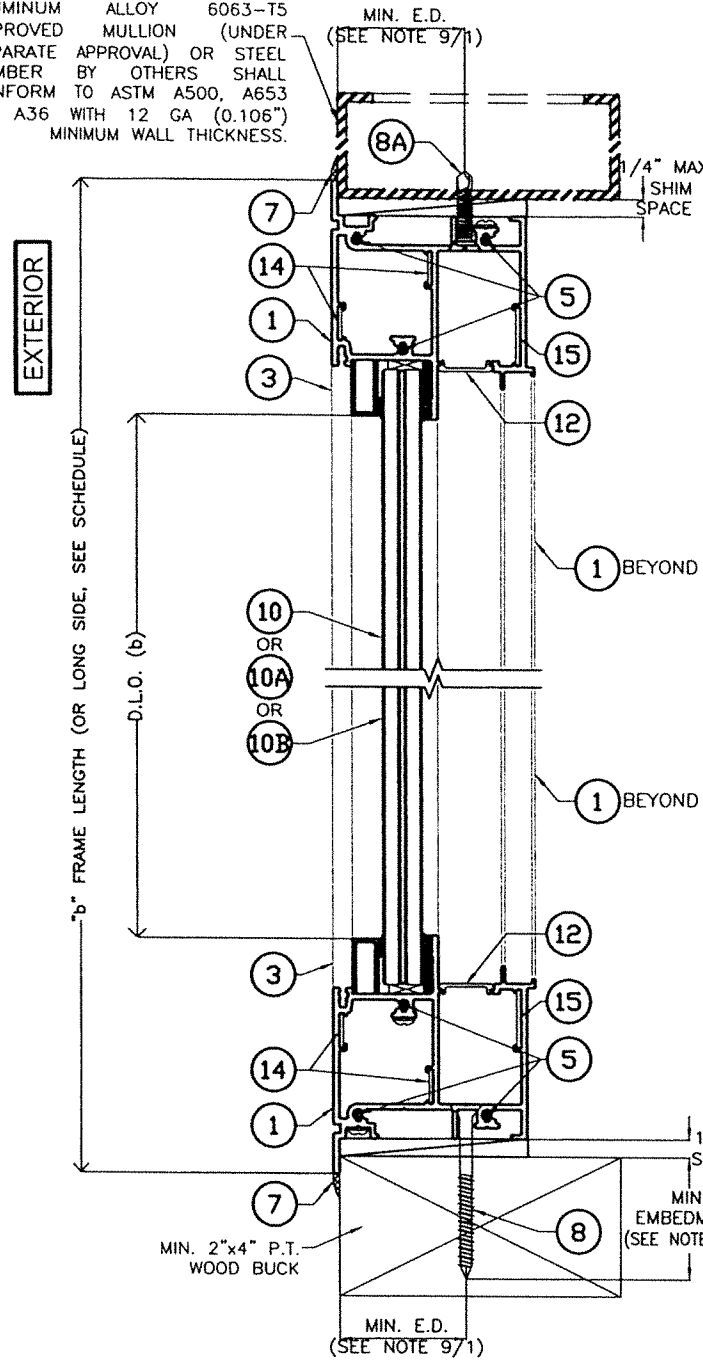
290 WEST 78 ROAD  
 HIALEAH, FL 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

DRAWN BY: W.H  
 09/01/2023 DATE  
 23-208 DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

SHEET 12A OF 17

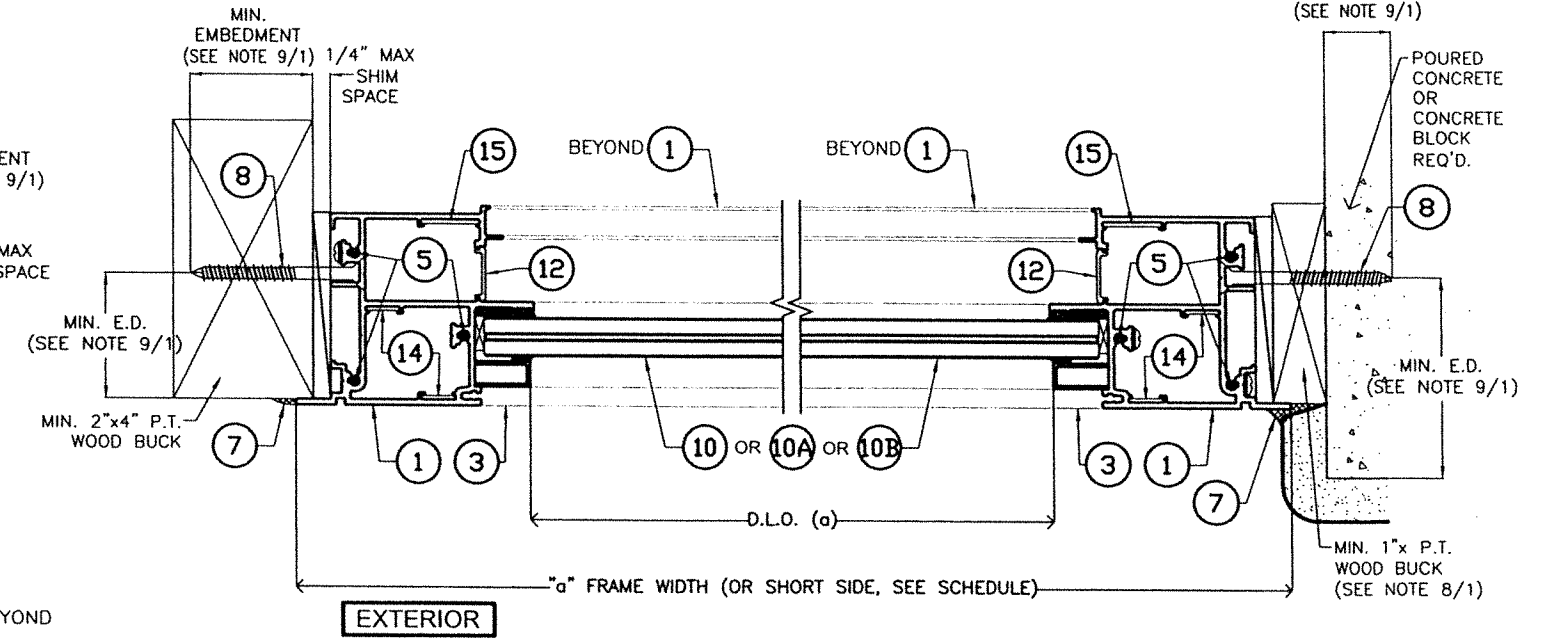
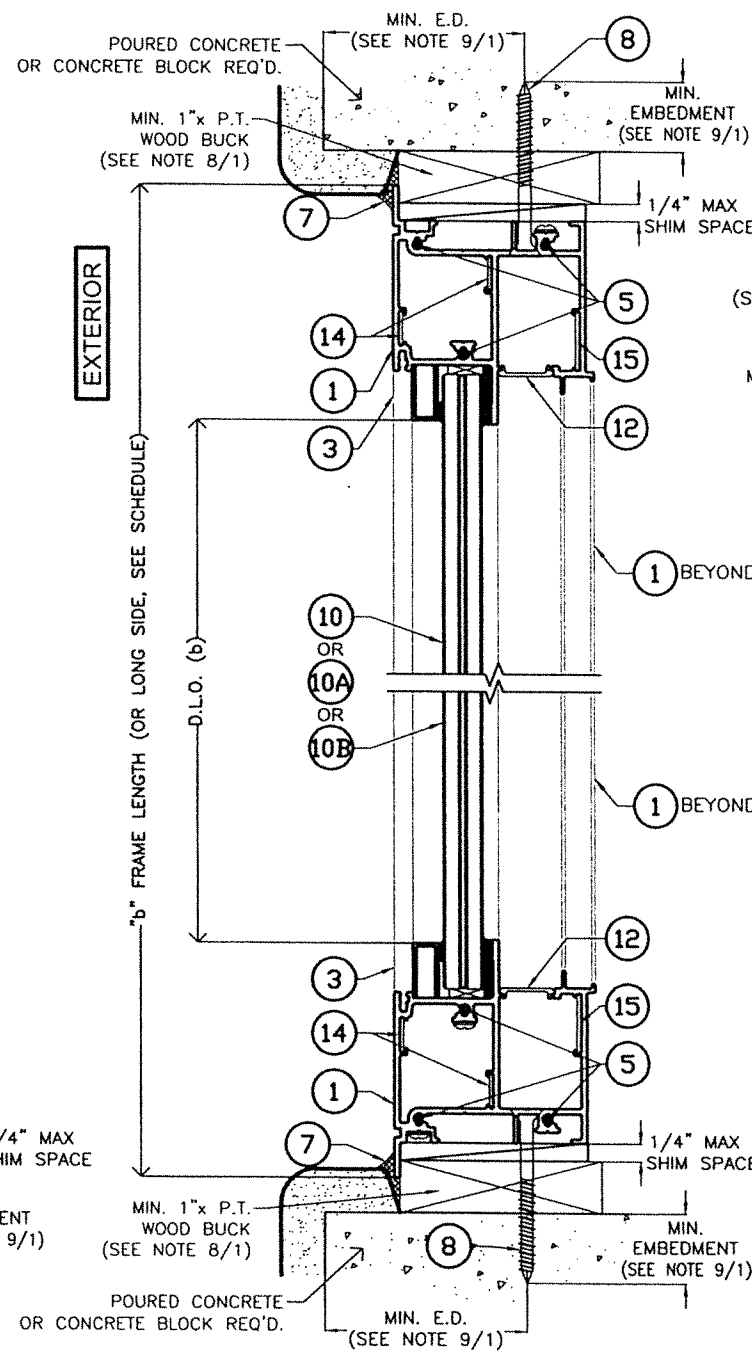
1/8" MINIMUM WALL THICKNESS  
ALUMINUM ALLOY 6063-T5  
APPROVED MULLION (UNDER  
SEPARATE APPROVAL) OR STEEL  
MEMBER BY OTHERS SHALL  
CONFORM TO ASTM A500, A653  
OR A36 WITH 12 GA (0.106")  
MINIMUM WALL THICKNESS.



**SECTION A'-A'**

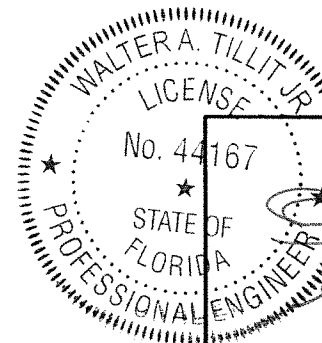
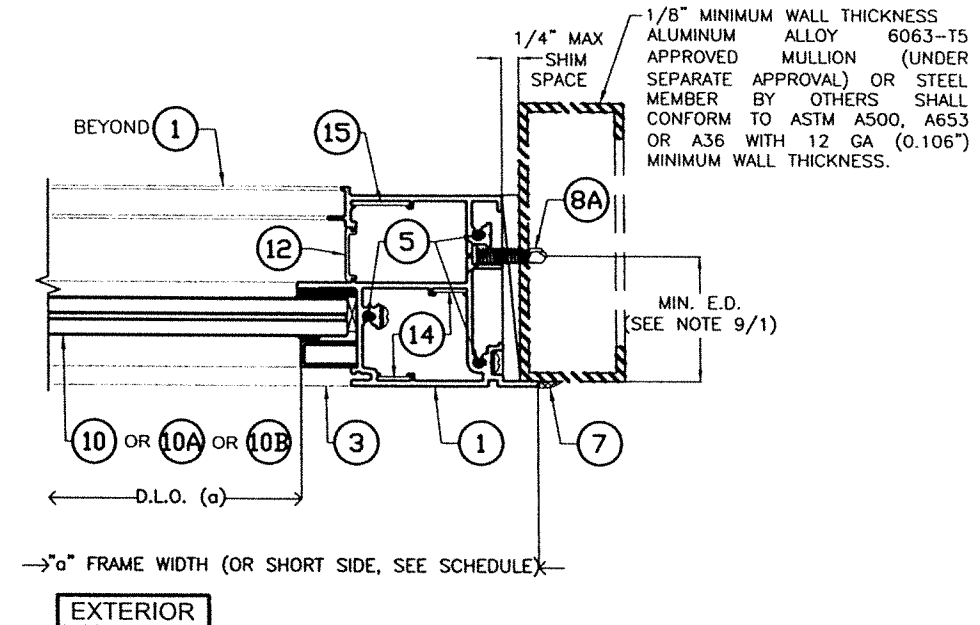
SCALE: N.T.S

**OPTIONAL SYSTEM #2**



**SECTION B'-B'**

SCALE: N.T.S



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.

**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT JR., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED  
GLASS WINDOWS



290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com

DRAWN BY:  
W.H

09/01/2023  
DATE

**23-208**  
DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE RATING "W"

SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10)

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 130     | 154     |
|      | 24'  | 130     | 154     |
|      | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
| 138' | 130  | 154     |         |
| 144' | 130  | 154     |         |
| 150' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |

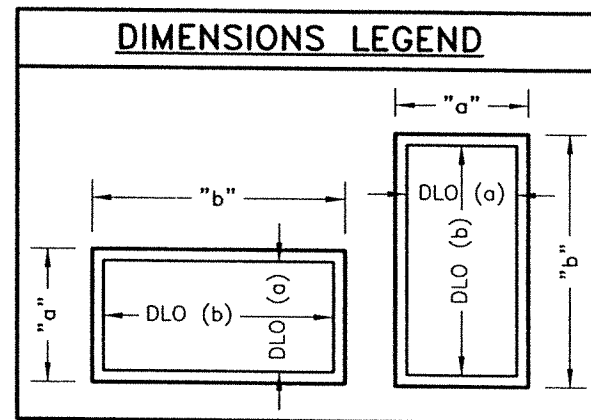
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 130     | 154     |
|      | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
| 144' | 130  | 154     |         |
| 150' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |
| 186' | 130  | 154     |         |
| 192' | 130  | 154     |         |
| 196' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 130     | 154     |
|      | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
|      | 144' | 130     | 154     |
| 150' | 130  | 154     |         |
| 153' | 130  | 154     |         |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 168' | 130  | 154     |         |
| 174' | 130  | 154     |         |
| 180' | 130  | 154     |         |
| 186' | 130  | 154     |         |
| 192' | 130  | 154     |         |
| 196' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 36'  | 36'  | 130     | 154     |
|      | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
|      | 114' | 130     | 154     |
|      | 120' | 130     | 154     |
|      | 126' | 130     | 154     |
|      | 132' | 130     | 154     |
|      | 138' | 130     | 154     |
|      | 144' | 130     | 154     |
|      | 150' | 130     | 154     |
| 156' | 130  | 154     |         |
| 162' | 130  | 154     |         |
| 166' | 130  | 154     |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 42'  | 42'  | 130     | 154     |
|      | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
| 48'  | 48'  | 130     | 154     |
|      | 54'  | 130     | 154     |
|      | 60'  | 130     | 154     |
|      | 66'  | 130     | 154     |
|      | 72'  | 130     | 154     |
|      | 78'  | 130     | 154     |
|      | 84'  | 130     | 154     |
|      | 90'  | 130     | 154     |
|      | 95'  | 130     | 154     |
|      | 96'  | 130     | 154     |
|      | 102' | 130     | 154     |
|      | 108' | 130     | 154     |
| 114' | 130  | 154     |         |
| 120' | 130  | 154     |         |
| 125' | 130  | 152     |         |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 54' | 54'  | 120.3   | 142.5   |
|     | 60'  | 120.3   | 142.5   |
|     | 66'  | 120.3   | 142.5   |
|     | 72'  | 120.3   | 142.5   |
|     | 78'  | 120.3   | 142.5   |
|     | 84'  | 120.3   | 142.5   |
|     | 90'  | 120.3   | 142.5   |
|     | 96'  | 120.3   | 142.5   |
|     | 102' | 120.3   | 142.5   |
|     | 108' | 120.3   | 142.5   |
| 60' | 60'  | 108.3   | 128.3   |
|     | 66'  | 108.3   | 128.3   |
|     | 72'  | 108.3   | 128.3   |
|     | 76'  | 108.3   | 128.3   |
|     | 78'  | 108.3   | 128.3   |
|     | 84'  | 108.3   | 128.3   |
|     | 90'  | 108.3   | 128.3   |
|     | 96'  | 108.3   | 128.3   |
|     | 100' | 108.3   | 128.3   |
|     | 66'  | 66'     | 98.5    |
| 72' |      | 98.5    | 116.67  |
| 78' |      | 98.5    | 116.6   |
| 84' |      | 98.5    | 116.6   |
| 90' |      | 98.5    | 116.6   |
| 72' | 72'  | 90.3    | 106.9   |
|     | 78'  | 90.3    | 106.9   |
|     | 83'  | 90.3    | 106.9   |



MAXIMUM DAY LIGHT OPENING (D.L.O.) FOR A GIVEN COMPONENT AT EACH END OF GLASS

| SIDE                         | COMPONENTS @ EACH END OF GLASS   | MAX. DAY LIGHT OPENING |
|------------------------------|--|------------------------|
|                              |  | (D.L.O.) Formula       |
| MAX. D.L.O. (a) (SHORT SIDE) | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "a"-6.7408"            |
| MAX. D.L.O. (b) (LONG SIDE)  | (1)+(3), (1)+(3)<br>OR<br>(1)+(3A), (1)+(3A)<br>OR<br>(1)+(3B), (1)+(3B) | "b"-6.7408"            |

OPTIONAL SYSTEM #2

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

WALTER A. TILLIT JR.  
LICENSE  
No. 44167  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER  
1/9/2023  
P.E. SEAL/SIGNATURE/DATE

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS  
DRAWN BY: W.H  
09/01/2023 DATE  
23-208 DRAWING No  
290 WEST 78 ROAD HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com  
GIG WINDOWS & DOORS  
REV. NO 1 DESCRIPTION OLD 23-155 DATE 09/01/23 REV. No 2 DESCRIPTION DATE SHEET 14 OF 17

MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE RATING "W"

SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10A) & (10D)

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 90      | 90      |
|      | 24'  | 90      | 90      |
|      | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
| 126' | 90   | 90      |         |
| 132' | 90   | 90      |         |
| 138' | 90   | 90      |         |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 180' | 90   | 90      |         |

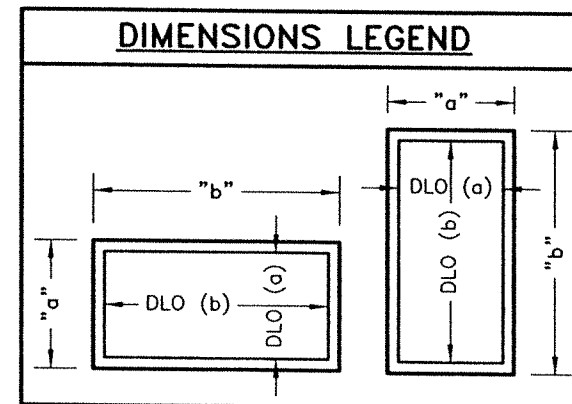
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 90      | 90      |
|      | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
| 132' | 90   | 90      |         |
| 138' | 90   | 90      |         |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 180' | 90   | 90      |         |
| 186' | 90   | 90      |         |
| 191' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 90      | 90      |
|      | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
| 138' | 90   | 90      |         |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 153' | 90   | 90      |         |
| 156' | 90   | 90      |         |
| 162' | 90   | 90      |         |
| 168' | 90   | 90      |         |
| 174' | 90   | 90      |         |
| 179' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 36'  | 36'  | 90      | 90      |
|      | 42'  | 90      | 90      |
|      | 48'  | 90      | 90      |
|      | 54'  | 90      | 90      |
|      | 60'  | 90      | 90      |
|      | 66'  | 90      | 90      |
|      | 72'  | 90      | 90      |
|      | 78'  | 90      | 90      |
|      | 84'  | 90      | 90      |
|      | 90'  | 90      | 90      |
|      | 96'  | 90      | 90      |
|      | 102' | 90      | 90      |
|      | 108' | 90      | 90      |
|      | 114' | 90      | 90      |
|      | 120' | 90      | 90      |
|      | 126' | 90      | 90      |
|      | 132' | 90      | 90      |
|      | 138' | 90      | 90      |
| 144' | 90   | 90      |         |
| 150' | 90   | 90      |         |
| 152' | 90   | 90      |         |

| "a"  | "b"  | W psf + | W psf - |    |
|------|------|---------|---------|----|
| 42'  | 42'  | 90      | 90      |    |
|      | 48'  | 90      | 90      |    |
|      | 54'  | 90      | 90      |    |
|      | 60'  | 90      | 90      |    |
|      | 66'  | 90      | 90      |    |
|      | 72'  | 90      | 90      |    |
|      | 78'  | 90      | 90      |    |
|      | 84'  | 90      | 90      |    |
|      | 90'  | 90      | 90      |    |
|      | 96'  | 90      | 90      |    |
|      | 102' | 90      | 90      |    |
|      | 108' | 90      | 90      |    |
|      | 114' | 90      | 90      |    |
|      | 120' | 90      | 90      |    |
|      | 126' | 90      | 90      |    |
|      | 130' | 90      | 90      |    |
|      | 48'  | 48'     | 90      | 90 |
|      |      | 54'     | 90      | 90 |
| 60'  |      | 90      | 90      |    |
| 66'  |      | 90      | 90      |    |
| 72'  |      | 90      | 90      |    |
| 78'  |      | 90      | 90      |    |
| 84'  |      | 90      | 90      |    |
| 90'  |      | 90      | 90      |    |
| 95'  |      | 90      | 90      |    |
| 96'  |      | 90      | 90      |    |
| 102' |      | 90      | 90      |    |
| 108' |      | 90      | 90      |    |
| 114' |      | 90      | 90      |    |

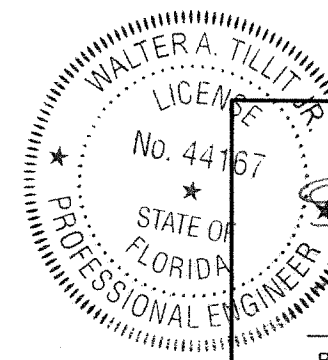
| "a" | "b" | W psf + | W psf - |
|-----|-----|---------|---------|
| 54' | 54' | 83.3    | 83.3    |
|     | 60' | 83.3    | 83.3    |
|     | 66' | 83.3    | 83.3    |
|     | 72' | 83.3    | 83.3    |
|     | 78' | 83.3    | 83.3    |
|     | 84' | 83.3    | 83.3    |
|     | 90' | 83.3    | 83.3    |
|     | 96' | 83.3    | 83.3    |
| 60' | 60' | 75      | 75      |
|     | 66' | 75      | 75      |
|     | 72' | 75      | 75      |
|     | 76' | 75      | 75      |
|     | 78' | 75      | 75      |
|     | 84' | 75      | 75      |
|     | 90' | 75      | 75      |
|     | 66' | 66'     | 68.2    |
| 72' |     | 68.2    | 68.2    |
| 76' |     | 68.2    | 68.2    |
| 78' |     | 68.2    | 68.2    |
| 83' |     | 68.2    | 68.2    |
| 72' | 72' | 62.5    | 62.5    |
|     | 76' | 62.5    | 62.5    |



MAXIMUM DAY LIGHT OPENING (D.L.O.) FOR A GIVEN COMPONENT AT EACH END OF GLASS

| SIDE                         | COMPONENTS @ EACH END OF GLASS                               | MAX. DAY LIGHT OPENING |
|------------------------------|--|------------------------|
|                              |  | (D.L.O.) Formula       |
| MAX. D.L.O. (a) (SHORT SIDE) | (1)+(3), (1)+(3) OR (1)+(3A), (1)+(3A) OR (1)+(3B), (1)+(3B) | "a" - 6.7408"          |
| MAX. D.L.O. (b) (LONG SIDE)  | (1)+(3), (1)+(3) OR (1)+(3A), (1)+(3A) OR (1)+(3B), (1)+(3B) | "b" - 6.7408"          |

OPTIONAL SYSTEM #2



P.E. SEAL/SIGNATURE/DATE  
9/1/2023

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
Phone : (305)871-1530 . Fax : (305)871-1531  
e-mail: tilteco@aol.com  
CA-0006719  
WALTER A. TILLIT Jr., P.E.  
FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS  
DRAWN BY: W.H  
09/01/2023 DATE  
**23-208**  
DRAWING No  
290 WEST 78 ROAD  
HIALEAH, FL 33014  
PH: (954)226-5555/(305)558-8103  
FAX: (305)558-6665  
www.gigwindows.com  
GIG WINDOWS & DOORS  
REV. NO DESCRIPTION DATE REV. No DESCRIPTION DATE  
1 OLD 23-155 09/01/23 2

MAXIMUM FRAME WIDTH "a" AND LENGTH "b" VERSUS DESIGN PRESSURE RATING "W"

SCHEDULE VALID FOR ALL SHAPES WITH GLASS (10B) & (10C)

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 18'  | 18'  | 75      | 75      |
|      | 24'  | 75      | 75      |
|      | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 75      | 75      |
|      | 132' | 75      | 75      |
| 138' | 75   | 75      |         |
| 144' | 75   | 75      |         |
| 150' | 75   | 75      |         |
| 156' | 75   | 75      |         |
| 162' | 75   | 75      |         |
| 168' | 75   | 75      |         |
| 174' | 75   | 75      |         |
| 180' | 75   | 75      |         |

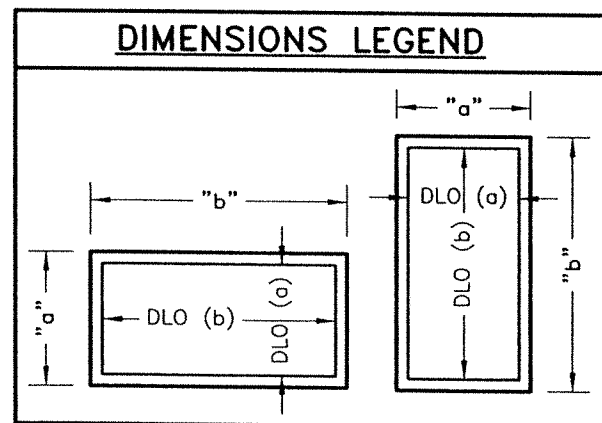
| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 24'  | 24'  | 75      | 75      |
|      | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 75      | 75      |
|      | 132' | 75      | 75      |
|      | 138' | 75      | 75      |
| 144' | 75   | 75      |         |
| 150' | 75   | 75      |         |
| 156' | 75   | 75      |         |
| 162' | 75   | 75      |         |
| 168' | 75   | 75      |         |
| 174' | 75   | 75      |         |
| 180' | 75   | 75      |         |
| 185' | 75   | 75      |         |

| "a"  | "b"  | W psf + | W psf - |
|------|------|---------|---------|
| 30'  | 30'  | 75      | 75      |
|      | 36'  | 75      | 75      |
|      | 42'  | 75      | 75      |
|      | 48'  | 75      | 75      |
|      | 54'  | 75      | 75      |
|      | 60'  | 75      | 75      |
|      | 66'  | 75      | 75      |
|      | 72'  | 75      | 75      |
|      | 78'  | 75      | 75      |
|      | 84'  | 75      | 75      |
|      | 90'  | 75      | 75      |
|      | 96'  | 75      | 75      |
|      | 102' | 75      | 75      |
|      | 108' | 75      | 75      |
|      | 114' | 75      | 75      |
|      | 120' | 75      | 75      |
|      | 126' | 74      | 74      |
|      | 132' | 72      | 72      |
|      | 138' | 71      | 71      |
|      | 144' | 71      | 71      |
| 148' | 70   | 70      |         |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 36' | 36'  | 75      | 75      |
|     | 42'  | 75      | 75      |
|     | 48'  | 75      | 75      |
|     | 54'  | 75      | 75      |
|     | 60'  | 75      | 75      |
|     | 66'  | 75      | 75      |
|     | 72'  | 75      | 75      |
|     | 78'  | 75      | 75      |
|     | 84'  | 75      | 75      |
|     | 90'  | 75      | 75      |
|     | 96'  | 74      | 74      |
|     | 102' | 69      | 69      |
|     | 108' | 65      | 65      |
|     | 114' | 62      | 62      |
|     | 120' | 59      | 59      |
|     | 123' | 58      | 58      |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 42' | 42'  | 75      | 75      |
|     | 48'  | 75      | 75      |
|     | 54'  | 75      | 75      |
|     | 60'  | 75      | 75      |
|     | 66'  | 75      | 75      |
|     | 72'  | 75      | 75      |
|     | 78'  | 75      | 75      |
|     | 84'  | 75      | 75      |
|     | 90'  | 75      | 75      |
|     | 96'  | 69      | 69      |
|     | 102' | 63      | 63      |
|     | 105' | 61      | 61      |

| "a" | "b"  | W psf + | W psf - |
|-----|------|---------|---------|
| 48' | 48'  | 75      | 75      |
|     | 54'  | 75      | 75      |
|     | 60'  | 75      | 75      |
|     | 66'  | 75      | 75      |
|     | 72'  | 75      | 75      |
|     | 78'  | 75      | 75      |
|     | 84'  | 75      | 75      |
|     | 90'  | 70      | 70      |
| 92' | 69   | 69      |         |
| 54' | 54'  | 69.4    | 69.4    |
|     | 60'  | 69.4    | 69.4    |
|     | 66'  | 69.4    | 69.4    |
|     | 72'  | 69.4    | 69.4    |
|     | 78'  | 69.4    | 69.4    |
| 82' | 69.4 | 69.4    |         |
| 60' | 60'  | 62.5    | 62.5    |
|     | 66'  | 62.5    | 62.5    |
|     | 72'  | 62.5    | 62.5    |
|     | 74'  | 62.5    | 62.5    |



OPTIONAL SYSTEM #2

MAXIMUM DAY LIGHT OPENING (D.L.O.) FOR A GIVEN COMPONENT AT EACH END OF GLASS

| SIDE                        | COMPONENTS @ EACH END OF GLASS                               | MAX. DAY LIGHT OPENING (D.L.O.) Formula |
|-----------------------------|--|---|
|                             |  | MAX. D.L.O. (a) (SHORT SIDE)            |
| MAX. D.L.O. (b) (LONG SIDE) | (1)+(3), (1)+(3) OR (1)+(3A), (1)+(3A) OR (1)+(3B), (1)+(3B) | "b" - 6.7408"                           |

WALTER A. TILLIT JR.  
 LICENSE  
 No. 44167  
 STATE OF FLORIDA  
 PROFESSIONAL ENGINEER  
 9/1/2023  
 P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone: (305)871-1530 Fax: (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

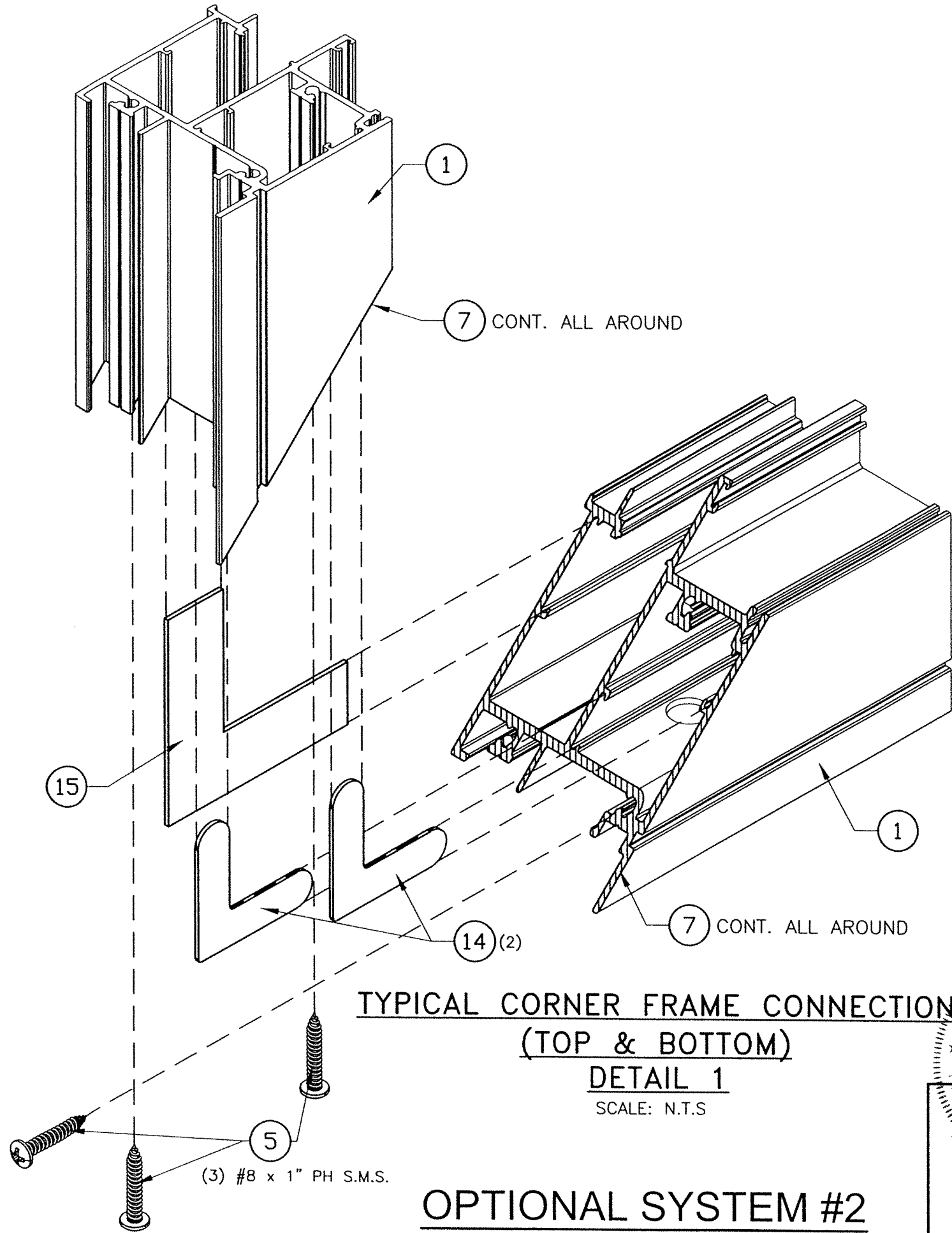
SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS  
  
 290 WEST 78 ROAD  
 HIALEAH, FL. 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

DRAWN BY: W.H  
 09/01/2023 DATE  
**23-208**  
 DRAWING No  
 SHEET 16 OF 17

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |

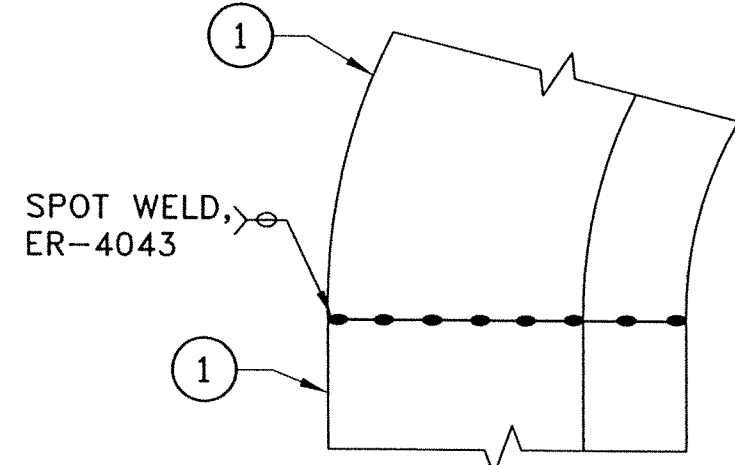
# MAXIMUM ANCHOR SPACING SCHEDULE "S"

| SUBSTRATE                                 | ANCHOR TYPE          | NEGATIVE DESIGN LOAD (psf) | HEAD/SILL   | JAMB         |
|---|----------------------|----------------------------|-------------|--------------|
| CONCRETE OR BLOCK<br>(SEE NOTE 9A & 9B/1) | 1/4"Ø ULTRACON (8)   | 75 or less                 | 9" O.C.     | 12" O.C.     |
|   |                      | > 75 up to 90              | 9" O.C.     | 11 1/2" O.C. |
|   |                      | > 90 up to 130             | 8" O.C.     | 8" O.C.      |
|   |                      | > 130 up to 154            | 6 1/2" O.C. | 6 1/2" O.C.  |
| WOOD<br>(SEE NOTE 9C/1)                   | 1/4"Ø ULTRACON (8)   | 75 or less                 | 9" O.C.     | 9 1/2" O.C.  |
|   |                      | > 75 up to 90              | 8" O.C.     | 8" O.C.      |
|   |                      | > 90 up to 130             | 5 1/2" O.C. | 5 1/2" O.C.  |
|   |                      | > 130 up to 154            | 4 1/2" O.C. | 4 1/2" O.C.  |
| METAL<br>(SEE NOTE 9D/1 & 9E/1)           | 1/4"Ø TEK SCREW (8A) | 75 or less                 | 9" O.C.     | 12" O.C.     |
|   |                      | > 75 up to 90              | 9" O.C.     | 12" O.C.     |
|   |                      | > 90 up to 130             | 8" O.C.     | 8" O.C.      |
|   |                      | > 130 up to 154            | 7" O.C.     | 7" O.C.      |

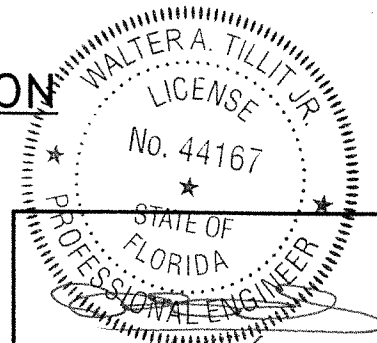


**TYPICAL CORNER FRAME CONNECTION (TOP & BOTTOM) DETAIL 1**  
SCALE: N.T.S.

## OPTIONAL SYSTEM #2



**TYPICAL CORNER FRAME CONNECTION (TOP) DETAIL 2**  
SCALE: N.T.S.



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (High & Non High Velocity Hurricane Zone)

© 2023 TILTECO INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 . Fax : (305)871-1531  
 e-mail: tilteco@aol.com  
 CA-0006719  
 WALTER A. TILLIT Jr., P.E.  
 FLORIDA Lic. 44167

SERIES 21000 HIGH IMPACT FIXED GLASS WINDOWS

290 WEST 78 ROAD  
 HIALEAH, FL 33014  
 PH: (954)226-5555/(305)558-8103  
 FAX: (305)558-6665  
 www.gigwindows.com

DRAWN BY: W.H.  
 09/01/2023 DATE  
**23-208**  
 DRAWING No

| REV. NO | DESCRIPTION | DATE     | REV. No | DESCRIPTION | DATE |
|---------|-------------|----------|---------|-------------|------|
| 1       | OLD 23-155  | 09/01/23 | 2       |             |      |