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Product Approval
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OFFICE OF THE SECRETARY

FL #	FL42522										
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 Hialeah, FL 33014 (305) 558-8103 tony@generalimpact.com										
Authorized Signature	Jose Zuniga tony@generalimpact.com										
Technical Representative											
Address/Phone/Email											
Quality Assurance Representative											
Address/Phone/Email											
Category	Windows										
Subcategory	Single Hung										
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <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	12/31/2025										
Validated By	John W. Knezevich, PE <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received										
Certificate of Independence	FL42522_R0_COI_COI_Drwg_23-217_GIG_Windows_Doors.pdf										
Referenced Standard and Year (of Standard)	<table border="0"> <thead> <tr> <th>Standard</th> <th>Year</th> </tr> </thead> <tbody> <tr> <td>ASTM E1300</td> <td>2009</td> </tr> <tr> <td>TAS 201</td> <td>1994</td> </tr> <tr> <td>TAS 202</td> <td>1994</td> </tr> <tr> <td>TAS 203</td> <td>1994</td> </tr> </tbody> </table>	Standard	Year	ASTM E1300	2009	TAS 201	1994	TAS 202	1994	TAS 203	1994
Standard	Year										
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 10/09/2023
 Date Validated 10/09/2023
 Date Pending FBC Approval 10/12/2023
 Date Approved 12/13/2023

Summary of Products

FL #	Model, Number or Name	Description
42522.1	Series 20000 High Impact Single Hung Window Large Missile Impact Resistant	Window System made of Laminated and Insulated Impact Resistant Glass retained by aluminum profile frame, wet glazed.
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: +varies/-varies Other: Large & Small Missile Impact Resistant, see General Notes No. 1 thru 5, on sheet 1 of installation Drawing No. 23-217. A.S.D. Pressure rating per schedules on installation Drawing No. 23-217. See Section 7 of Evaluation Report for additional Limitations and Conditions of Use.		Installation Instructions FL42522_R0_II_PED_Drwg_23-217_GIG_Windows_Doors.pdf Verified By: Walter A. Tillit Jr., P.E. PE 44167 Created by Independent Third Party: Yes Evaluation Reports FL42522_R0_AE_PER_Drwg_23-217_GIG_Windows_Doors.pdf Created by Independent Third Party: Yes

[Back](#) [Next](#)

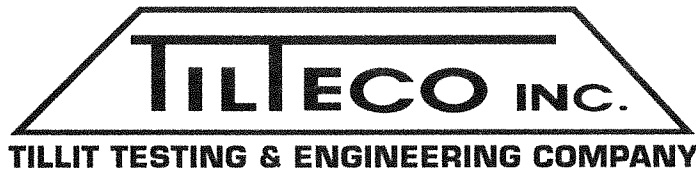
[Contact Us](#) :: [2601 Blair Stone Road, Tallahassee FL 32399](#) Phone: 850-487-1824

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Product Approval Accepts:





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

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

CERTIFICATE OF INDEPENDENCE

Evaluation Report #: 23-0919.08

Date: September 19, 2023

Product Category: Windows

Product Subcategory: Single Hung

Product Name: **SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT**

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.

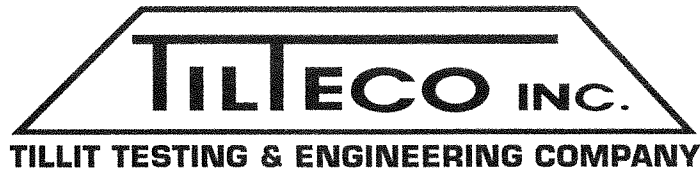
This is also to certify that this Florida Professional Engineer performing this evaluation does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.

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

WALTER A. TILLIT, JR.
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER

WAT/MA

D:\TILTECO ADMON RECORDS \ CERTIFICATION OF INDEPENDENCE \ GENERAL IMPACT GLASS & WINDOWS \ SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT \ EVALUATION REPORT # 23-0919.08



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.: 23-0919.08

DATE: September 19, 2023

PRODUCT CATEGORY: Windows

PRODUCT SUB-CATEGORY: Single Hung

PRODUCT NAME: **SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT**

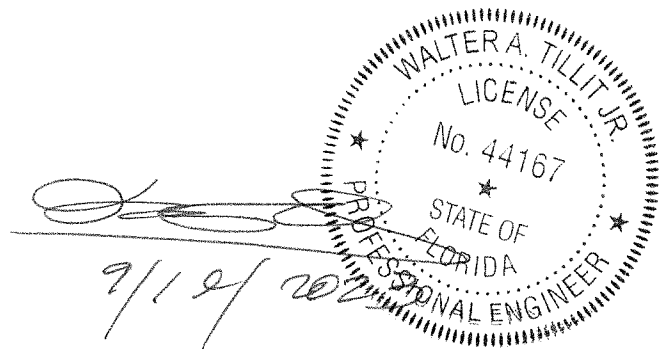
MANUFACTURER: **GIG WINDOWS & DOORS**
290 West 78th Road
Hialeah, FL 33014

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 8th 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. 23-217, titled “**SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT**” sheets 1 thru 10(Includes 2A, 5A, 6A, 7A) prepared by **Tilteco, Inc.**; signed and sealed by **Walter A. Tillit, Jr., P.E.**; dated **09/13/2023**. 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.5807, signed and sealed by Michael R. Wenzel, P.E.

2.3. STRUCTURAL ENGINEERING CALCULATIONS:

On Series 20000 high impact single hung window large missile impact resistant 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 06/04/2015, 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).

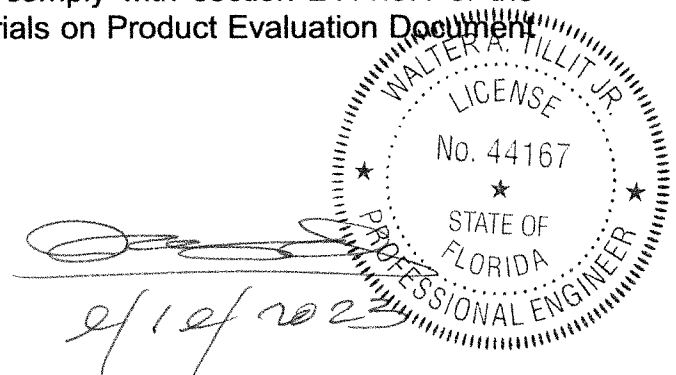
4. WIND LOADS RESISTANCE:

On Series 20000 high impact single hung window large missile impact resistant 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. **23-217**

5. INSTALLATION:

Installation shall be performed strictly in accordance with General Notes # 3 thru 13, indicated on sheet 1 and details indicated on Product Evaluation Document (P.E.D.), drawing No. **23-217**.

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. **23-217**.



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. 23-217.**

Anchor specifications shall be as indicated on sheets 1, of Product Evaluation Document (P.E.D.), Drawing No. **23-217** Anchor spacing as per P.E.D., Drawing No. **23-217.**

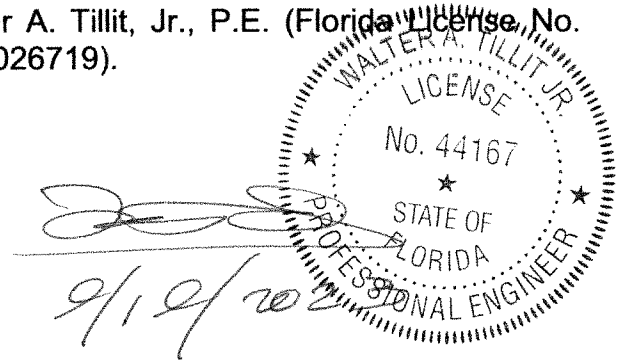
7. LIMITATIONS AND CONDITIONS OF USE:

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. **23-217** 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 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. **23-217.**

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 ADMON RECORDS \ P. E. REPORT.23 \ GIG WINDOWS & DOORS \ SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT\ DRWG # 23-217 \ REPORT # 23-0919.08

GENERAL NOTES:

1. SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT, SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE **2023 (8th EDITION)** OF THE FLORIDA BUILDING CODE. SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT MAY BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (H.V.H.Z) OR OUT OF IT. 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 N.D.S. 2018.

THIS WINDOW'S 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 LABORATORY REPORT # 5807 AND AS PER SUBMITTED STRUCTURAL CALCULATIONS, PERFORMED AS PER SECTIONS **1616 & 1604** OF THE FLORIDA BUILDING CODE. GLASS HAS BEEN VERIFIED PER ASTM E-1300, PER SECTION 2404.1 OF THE FLORIDA BUILDING CODE.

2. **MAXIMUM A.S.D. DESIGN PRESSURE RATINGS FOR THIS WINDOW SHALL BE AS SHOWN ON SHEET 4 (SCHEDULE #1).**

3. **THIS SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT WILL NOT REQUIRE A HURRICANE PROTECTION DEVICE.**

4. **THIS SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT IS APPROVED FOR AIR AND WATER INFILTRATION (SEE SCHEDULE #1 ON SHEET 4).**

5. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY AND TEMPER, WITH Fy= 25.0 ksi MINIMUM. THE THICKNESS OF ALL EXTRUSIONS SHALL BE AS SHOWN ON THIS DRAWING. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.

6. 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 WITH 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTIONS 2411.3.3.3 & 2411.3.3.4.

7. WOOD BUCKS BY OTHERS, MUST BE ANCHORED PROPERLY TO TRANSFER LOADS TO THE BUILDING STRUCTURE. WOOD BUCKS MUST BE SOUTHERN PINE #2, G=0.55. AND SHALL COMPLY WITH SECTIONS 2411.3.3.3 & 2411.3.3.4 OF THE FLORIDA BUILDING CODE.

(7.1) 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.

(7.2) 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 USED TO ATTACH 1X 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.

(7.3) 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 9) MAY BE ALLOWED AT WINDOW FRAME ANCHOR LOCATION IF NEEDED.

8. ANCHOR NOTES: EMBEDMENT AND EDGE DISTANCE ARE BEYOND ANY FINISH.

(A) TO EXISTING POURED CONCRETE: (MIN. f'c = 3192 psi), MIN. EDGE DISTANCE (E.D.) = 2 1/2".
- 1/4"Ø TAPCON ANCHOR W/ 1 1/4" MIN. EMBEDMENT, AS MANUFACTURED BY ITW/BUILDEX, INC. (COMPONENT **(22)**), THRU 1" P.T. WOOD BUCK.

(B) TO EXISTING A.S.T.M. C-90 CONCRETE BLOCK WALL. MIN. EDGE DISTANCE (E.D.) = 2 1/2".
- 1/4"Ø TAPCON ANCHOR W/ 1 1/4" MIN. EMBEDMENT, AS MANUFACTURED BY ITW/BUILDEX, INC. (COMPONENT **(22)**), THRU 1" P.T. WOOD BUCK.

(C) TO EXISTING 2xP.T. WOOD BUCK. MIN. EDGE DISTANCE (E.D.) = 1".
- 1/4"Ø-14 TEK SCREW ANCHORS OR 1/4"Ø TAPCON ANCHORS W/ 1 1/2" MIN. EMBEDMENT, AS MANUFACTURED BY ITW/BUILDEX, INC. (COMPONENT **(23)**).

(D) TO EXISTING MIN. 1/8" THICK ALUMINUM TUBE (6063-T5 ALLOY) MIN. EDGE DISTANCE (E.D.) = 1/2".
- 1/4"Ø-14 TEK SCREW, AS MANUFACTURED BY ITW/BUILDEX, INC. (COMPONENT **(23)**).

(E) TO EXISTING MIN. 12 GAGE STEEL MEMBER (ASTM A-500, A-653 OR A-36) MIN. EDGE DISTANCE (E.D.) = 1/2".
- 1/4"Ø-14 TEK SCREW, AS MANUFACTURED BY ITW/BUILDEX, INC. (COMPONENT **(23)**).

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

10. REMAINING COMPONENTS FOR THIS ALUMINUM SINGLE HUNG WINDOW SYSTEM SHALL BE AS INDICATED ON BILL OF MATERIALS, SHEET 3 OF THIS DRAWING.

11. SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT MANUFACTURER'S LABEL SHALL BE PLACED ON A READILY VISIBLE LOCATION AT PRODUCT IN ACCORDANCE WITH SECTION 1709.9.3 OF THE FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY UNIT. LABEL TO COMPLY WITH SECTION 1709.9.2 OF THE FLORIDA BUILDING CODE.

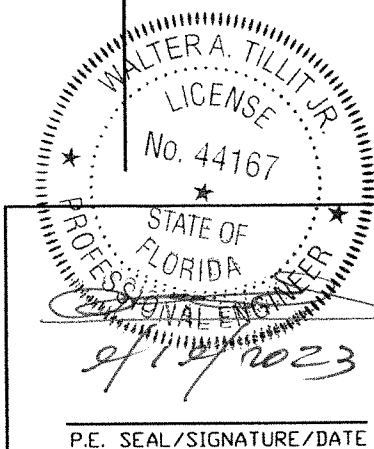
12. (a) THIS P.E.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

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

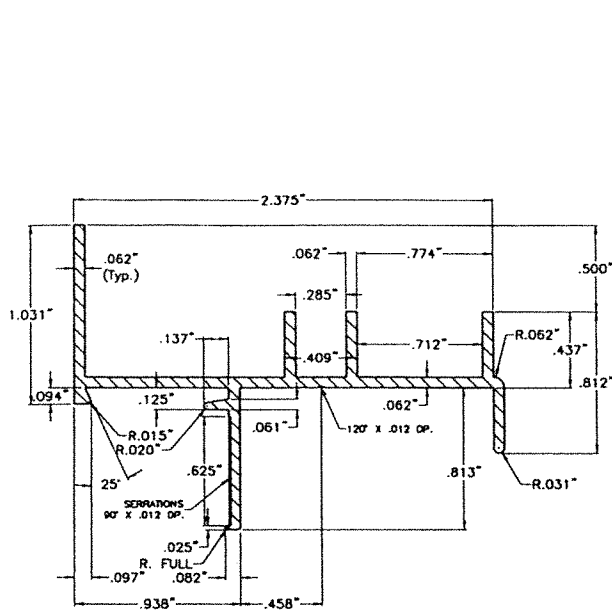
THIS DRAWING SHALL ONLY BE USED TO OBTAIN PERMITS IN THE STATE OF FLORIDA



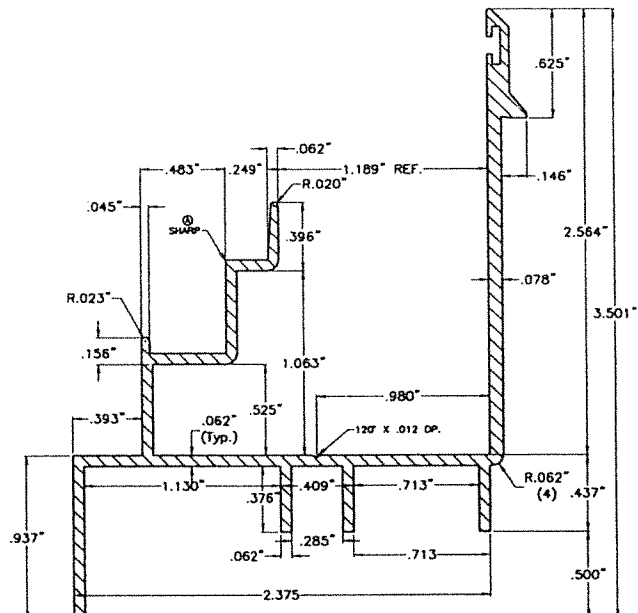
FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

©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
 CA-0006719
 WALTER A. TILLIT Jr. P.E.
 FLORIDA Lic. # 44167

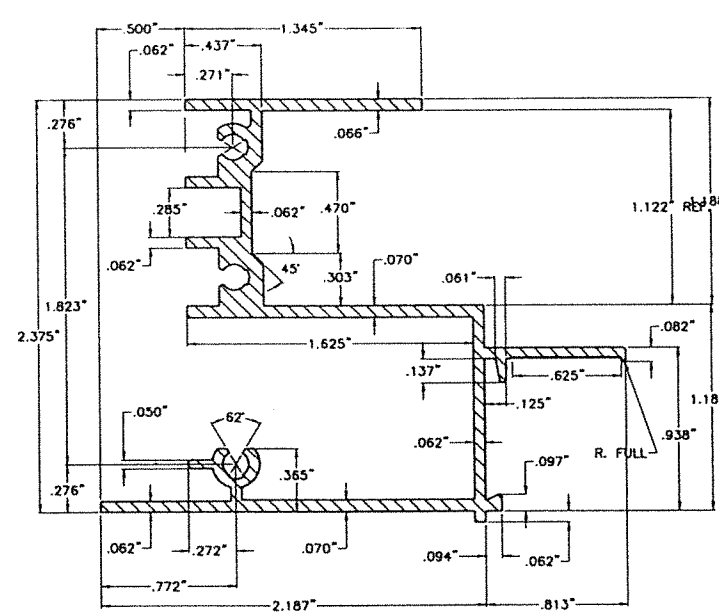
SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT				W.H. DRAWN BY:	
				09/13/2023	
290 WEST 78 ROAD HIALEAH, FL 33014 PH: (954)226-5555/(305)558-8103 FAX: (305)558-6665 www.gigwindows.com				DATE:	
				23-217	
				DRAWING No.	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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2	-	-	4	-	-
SHEET 1 OF 10					



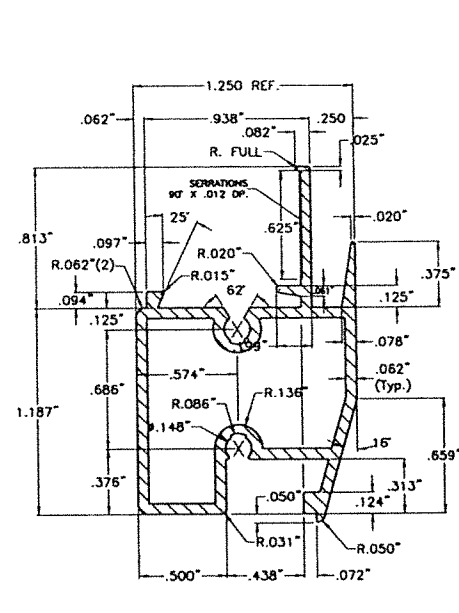
① FRAME HEAD
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



② FRAME SILL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER

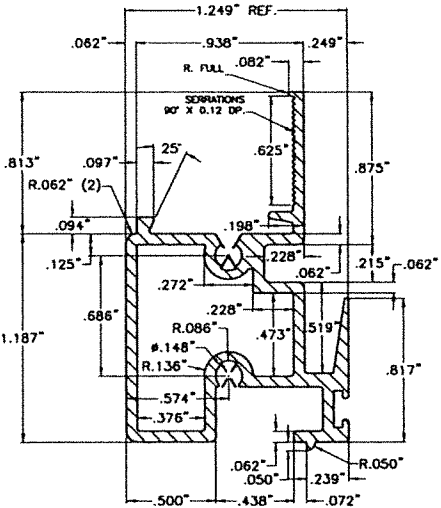


③ FRAME JAMB
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6063-T6 ALLOY & TEMPER

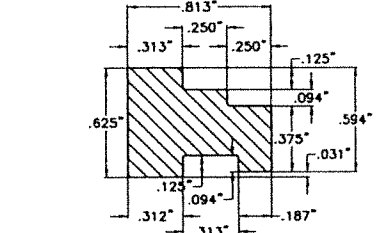


④ FIXED MTG. RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER

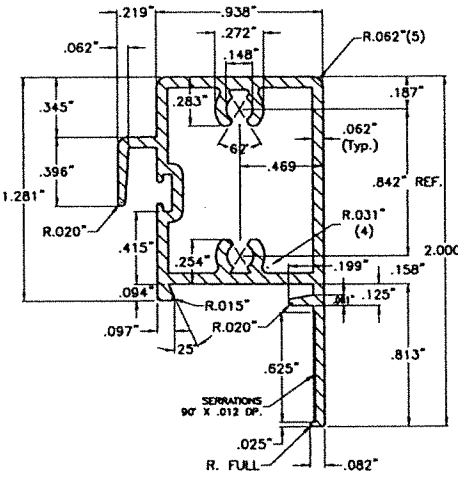
④I ALUM. INSERT BAR FOR ④
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



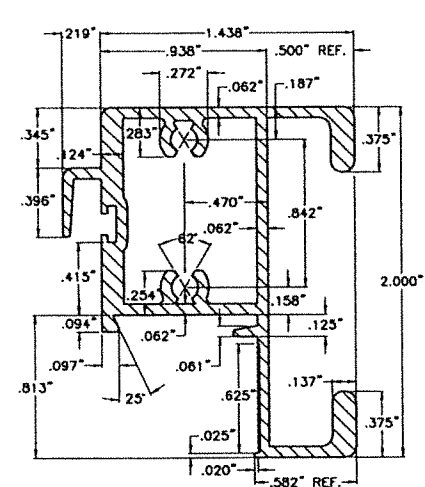
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6063-T6 ALLOY & TEMPER



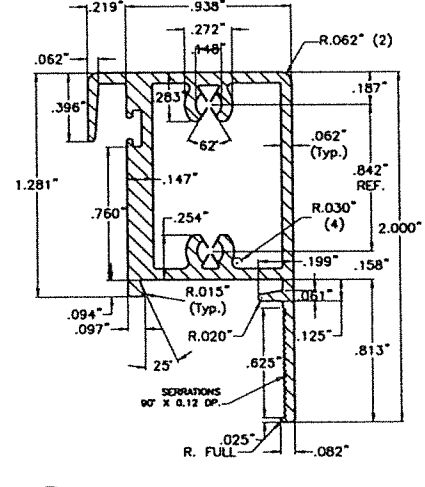
④AI ALUM. INSERT BAR FOR ④A
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



⑤ VENT TOP RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



⑤A H.D. VENT TOP RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



⑤B ALTERNATIVE VENT TOP RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER

⑤AI ALUM. INSERT BAR FOR ⑤A & ⑤B
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER

COMPONENTS

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/19/2023
P.E. SEAL/SIGNATURE/DATE

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TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
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CA-0006719
WALTER A. TILLIT Jr. P.E.
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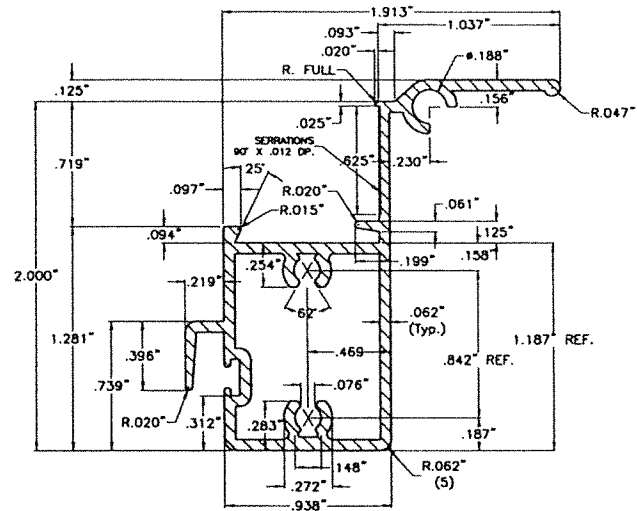
FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT

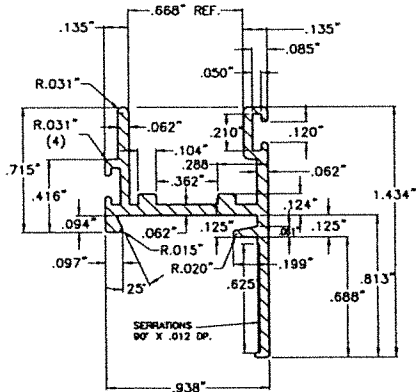
290 WEST 78 ROAD
HALEAH, FL 33014
PH: (954)226-5555/(305)558-8103
FAX: (305)558-6665
www.gigwindows.com

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

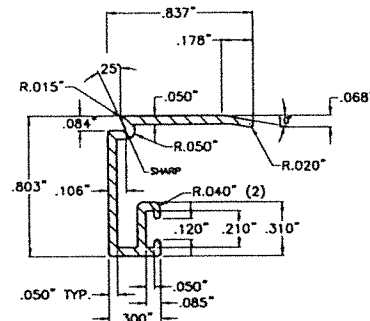
W.H
DRAWN BY:
09/13/2023
DATE:
23-217
DRAWING No.
SHEET 2 OF 10



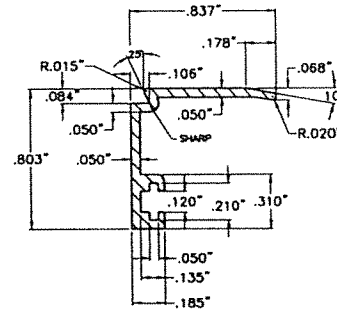
⑥ VENT BOTTOM RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



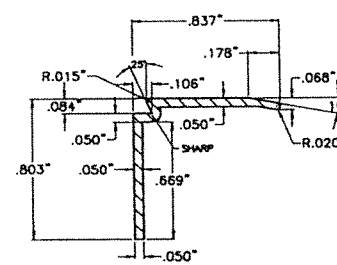
⑦ VENT SIDE RAIL
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



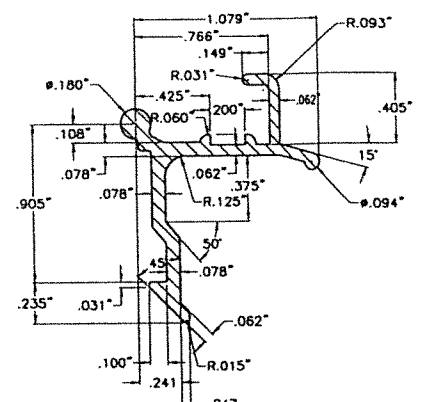
⑧ GLAZING BEAD FOR 5/16" GLASS
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



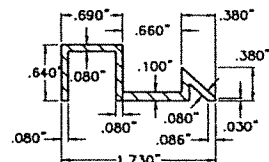
⑧A GLAZING BEAD FOR 7/16" GLASS
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



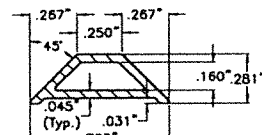
⑧B GLAZING BEAD FOR 11/16" GLASS
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



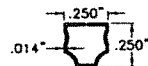
⑨ VENT LATCH
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



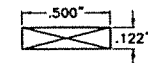
⑬ SASH CAM
SCALE 1/2" = 1"
6063-T6 ALLOY & TEMPER



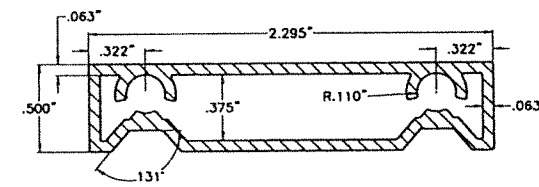
⑭ COLONIAL MUNTIN
SCALE 1" = 1"
6063-T5 ALLOY & TEMPER



⑰ INSULATED GLASS UNIT SPACER
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER



⑱ SETTING BLOCK E.P.D.M.
SCALE 1" = 1"



⑲ EQUAL LEG ADAPT.
SCALE 1" = 1"
6063-T6 ALLOY & TEMPER

COMPONENTS

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

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

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6355 N.W. 36th. St., Ste. 305, VIRGINIA GARDENS, FL 33166
Phone : (305)871-1530 . Fax : (305)871-1531
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW
LARGE MISSILE IMPACT RESISTANT

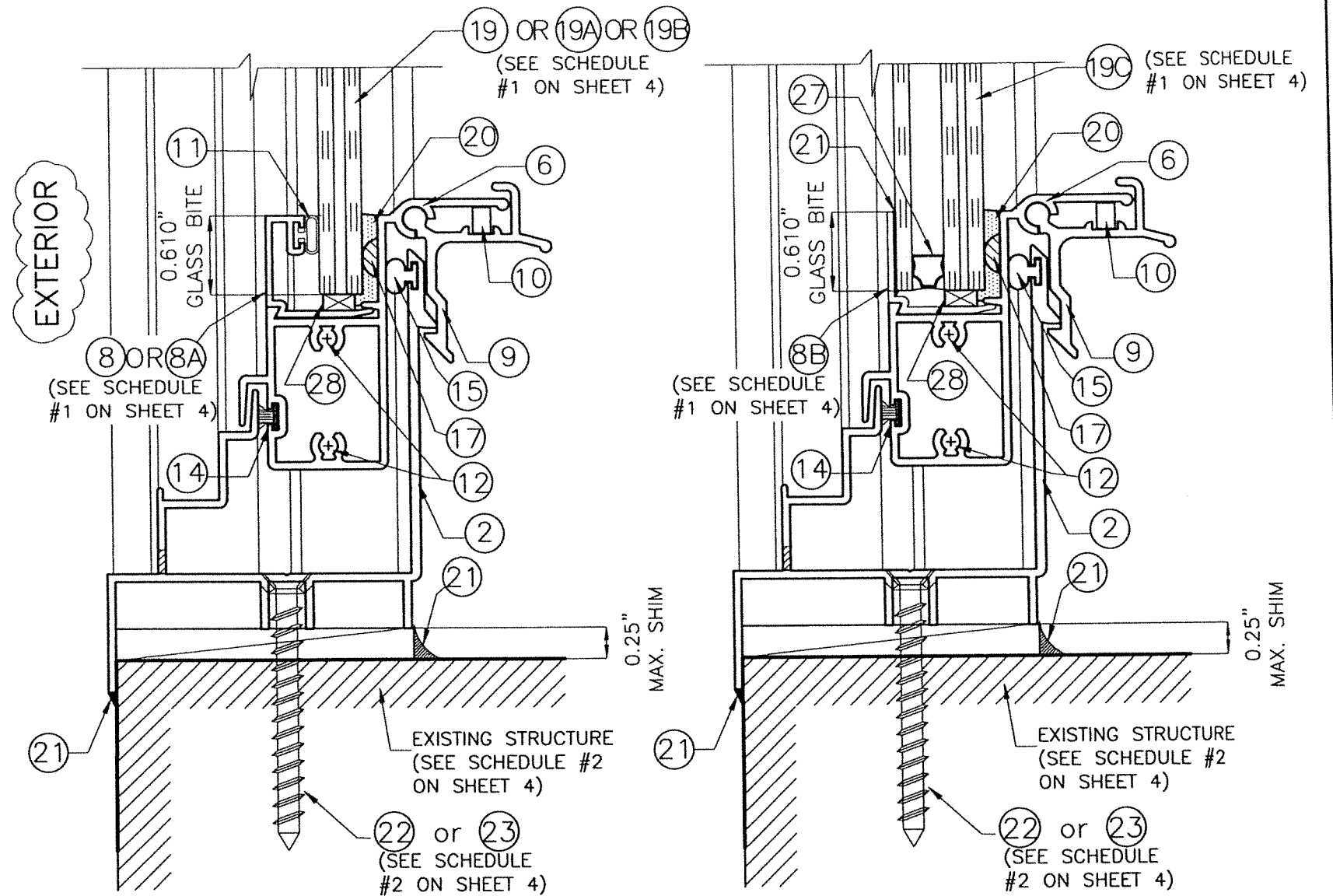
290 WEST 78 ROAD
HALEAH, FL 33014
PH: (954)226-5555/(305)558-8103
FAX: (305)558-6665
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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-222	09/13/23	3	-	-
2	-	-	4	-	-

W.H
DRAWN BY:
09/13/2023
DATE:
23-217
DRAWING No.
SHEET 2A OF 10

BILL OF MATERIALS

ITEM #	DESCRIPTION	MATERIAL
1	FRAME HEAD	6063-T6
2	FRAME SILL	6063-T6
3	FRAME JAMB	6063-T6
4	FIXED MEETING RAIL	6063-T6
4A	ALT. FIXED MEETING RAIL	6063-T6
4I	ALUMINUM INSERT BAR FOR 4	6063-T6
4AI	ALUMINUM INSERT BAR FOR 4A	6063-T6
5	VENT TOP RAIL	6063-T6
5A	H.D VENT TOP RAIL	6063-T6
5B	ALT. VENT TOP RAIL	6063-T6
5AI	ALUMINUM INSERT BAR FOR 5A & 5B	6063-T6
6	VENT BOTTOM RAIL	6063-T6
7	VENT SIDE RAIL	6063-T6
8	GLAZING BEAD FOR 5/16" GLASS	6063-T6
8A	GLAZING BEAD FOR 7/16" GLASS	6063-T6
8B	GLAZING BEAD FOR 11/16" GLASS	6063-T6
9	VENT LATCH @ 6" FROM ENDS	6063-T6
10	LATCH SPRING	ST. STEEL
11	GLAZING BULB VINYL	NEOPRENE
12	FRAME & VENT ASSEMBLY SCREWS, (20) #8 x 1" PH SMS	ST. STEEL
13	SASH CAM	6063-T6
14	VENT WEATHER STRIPPING	-
15	FRAME SILL WEATHER STRIPPING	-
16	BLOCK & TACKLE BALANCE	-
17	BUMPON SPACER, 1/4" DIAMETER HALF SPHERE, CLEAR. 3" FROM CORNERS MAX. AND 12" O.C. (MAX.). AT MID-GLASS BITE ELEVATION, BY FRANK LOWE RUBBEL AND GASKET FLB-28, CLEAR.	SILICONE
18	SASH STOP	-
19	GLASS, 0.326" OVERALL LAMINATED GLASS WITH (1) 1/8" HEAT STRENGTHENED GLASS + A 0.090" BUTACITE PVB INTERLAYER BY KURARAY AMERICA, INC. + (1) 1/8" HEAT STRENGTHENED GLASS	-
19A	GLASS, 0.444" OVERALL LAMINATED GLASS WITH (1) 3/16" HEAT STRENGTHENED GLASS + A 0.090" BUTACITE PVB INTERLAYER BY KURARAY AMERICA, INC. + (1) 3/16" HEAT STRENGTHENED GLASS	-
19B	GLASS, 0.444" OVERALL LAMINATED GLASS WITH (1) 3/16" HEAT STRENGTHENED GLASS + A 0.090" SENTRYGLAS INTERLAYER BY KURARAY AMERICA, INC. + (1) 3/16" HEAT STRENGTHENED GLASS	-
19C	GLASS, 0.6875" OVERALL INSULATED-LAMINATED GLASS WITH (1) 1/8" TEMPERED GLASS OUTBOARD + 1/4" ARGON SPACER + (1) 1/8" HEAT STRENGTHENED GLASS + A 0.090" BUTACITE PVB INTERLAYER BY KURARAY AMERICA, INC. + (1) 1/8" HEAT STRENGTHENED GLASS INBOARD	-
20	DOW CORNING 795	STRUCTURAL SILICONE
21	SEALANT, FIXED PANEL FRAME. FRAME ALL AROUND (EXTERIOR AND INTERIOR), FRAME CORNERS AND VENT CORNERS.	SILICONE
22	ANCHORS, 1/4"Ø TAPCON ANCHOR BY ITW BUILDEX, INC.	STEEL
23	ANCHORS, 1/4"Ø-14 TEK SCREW BY ITW BUILDEX, INC TO WOOD BUCK, ALUMNUM TUBE OR STEEL MEMBER.	STEEL
24	COLONIAL MUNTIN (OPTIONAL)	6063-T5
25	(4) NYLON GUIDES LOCATED AT VENT JAMB STILES AT 4 1/4" AND 35" FROM BOTTOM USING (1) #6 X 1/2" PH SMS.	NYLON
26	(2) NYLON GUIDES LOCATED AT EACH END OF VENT MEETING RAIL USING (2) #8 X 1" PH SMS.	NYLON
27	INSULATED GLASS SPACER	3105-H24 ALUMINUM
28	SETTING BLOCK 0.122"X0.5" (ULTRAFAB)	E.PD.M.
29	EQUAL LEG ADAPT.	6063-T6
30	EQUAL LEG ADAPT. ASSEMBLY SCREWS, #14 x 2-3/4" F.H. SMS	ST. STEEL
31	SASH LOCK WITH (2) #8 x 3/4"	ST. STEEL



GLAZING DETAIL FOR
19, 19A & 19B
(SECTION)
SCALE: N.T.S.

GLAZING DETAIL FOR
19C (SECTION)
SCALE: N.T.S.

P.E. SEAL/SIGNATURE/DATE

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 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL. 33166
 Phone: (305)871-1530 Fax: (305)871-1531
 CA-0006719
 WALTER A. TILLIT Jr. P.E.
 FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT				W.H DRAWN BY:
 290 WEST 78 ROAD HIALEAH, FL. 33014 PH: (954)226-5555/(305)558-8103 FAX: (305)558-6665 www.gigwindows.com				09/13/2023 DATE:
23-217				DRAWING No.
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION
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2	-	-	4	-

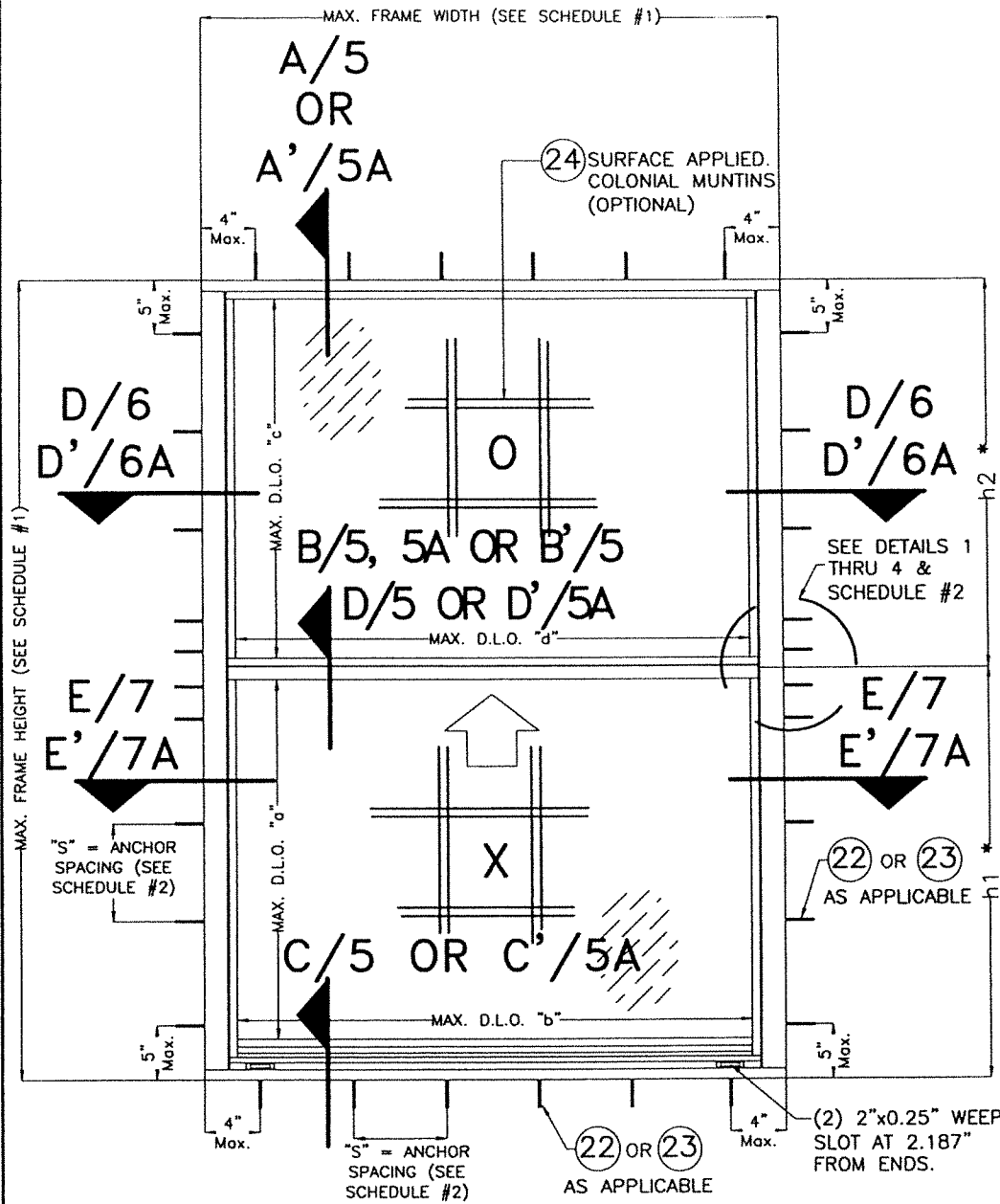
SHEET 3 OF 10

SINGLE HUNG WINDOW SCHEDULE #1

WINDOW CASE #	MAXIMUM A.S.D. DESIGN PRESSURE RATING	MAXIMUM WATER PRESSURE	MAXIMUM FRAME WIDTH	MAXIMUM FRAME HEIGHT	MAXIMUM D.L.O. "a"	MAXIMUM D.L.O. "b"	MAXIMUM D.L.O. "c"	MAXIMUM D.L.O. "d"	REQUIRED GLAZING BEAD	REQUIRED GLASS TYPE (SEE BILL OF MATERIALS)	REQUIRED MEETING RAIL
I	+80.0, -80.0 psf	12.0 psf	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 5/8"	47 1/4"	(8)	(19) OR (19C)	(4) + (5) OR (4A) + (5B)
II	+90.0, -90.0 psf	13.5 psf	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 5/8"	47 1/4"	(8A)	(19A)	(4) + (4I) OR (4A) + (4AI) + (5A) + (5AI) OR (5B) + (5BI)
III	+100.0, -100.0 psf	15.0 psf	44"	74 1/4"	33 1/4"	38 1/8"	33 5/8"	38"	(8A)	(19A)	(4) + (4I) OR (4A) + (4AI) + (5A) + (5AI) OR (5B) + (5BI)
IV	+120.0, -150.0 psf	18.0 psf	53 1/8"	74 1/4"	33 1/4"	47 3/8"	33 3/8"	47 1/4"	(8A)	(19B)	(4) + (4I) OR (4A) + (4AI) + (5A) + (5AI) OR (5B) + (5BI)

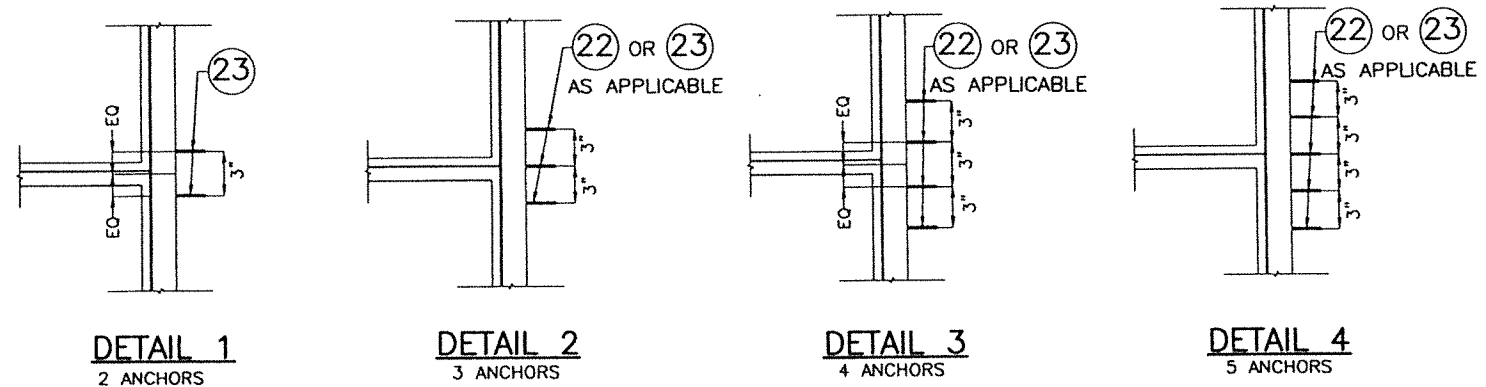
MAXIMUM ANCHOR SPACING SCHEDULE #2

SUBSTRATE	ANCHOR TYPE	A.S.D. DESIGN PRESSURE RATING (psf)	HEAD/SILL	JAMBS	REQUIRED ADDITIONAL CONCENTRATION OF ANCHORS @ MEETING RAIL
CONCRETE	1/4"Ø ITW/BUILDDEX TAPCON ANCHOR (22)	80 OR LESS	13" o.c.	13" o.c.	SEE DETAIL 2 (3 ANCHORS)
		>80 TO 100	10 1/2" o.c.	10 1/2" o.c.	SEE DETAIL 3 (4 ANCHORS)
		>100 TO 150	7" o.c.	7" o.c.	SEE DETAIL 4 (5 ANCHORS)
BLOCK	1/4"Ø ITW/BUILDDEX TAPCON ANCHOR (22)	80 OR LESS	13" o.c.	13" o.c.	SEE DETAIL 2 (3 ANCHORS)
		>80 TO 100	10 1/2" o.c.	10 1/2" o.c.	SEE DETAIL 3 (4 ANCHORS)
		>100 TO 150	7" o.c.	7" o.c.	SEE DETAIL 4 (5 ANCHORS)
WOOD	1/4"Ø-14 ITW/BUILDDEX TEK SCREW (23)	80 OR LESS	15 1/2" o.c.	13" o.c.	SEE DETAIL 2 (3 ANCHORS)
		>80 TO 100	12 1/2" o.c.	12 1/2" o.c.	SEE DETAIL 2 (3 ANCHORS)
		>100 TO 150	8 1/2" o.c.	8 1/2" o.c.	SEE DETAIL 4 (5 ANCHORS)
ALUMINUM TUBE OR STEEL MEMBER	1/4"Ø-14 ITW/BUILDDEX TEK SCREW (23)	80 OR LESS	18 1/2" o.c.	13" o.c.	SEE DETAIL 1 (2 ANCHORS)
		>80 TO 100	14 1/2" o.c.	13" o.c.	SEE DETAIL 2 (3 ANCHORS)
		>100 TO 150	9 1/2" o.c.	9 1/2" o.c.	SEE DETAIL 3 (4 ANCHORS)



TYPICAL EXTERIOR ELEVATION (OX).
SCALE: N.T.S.

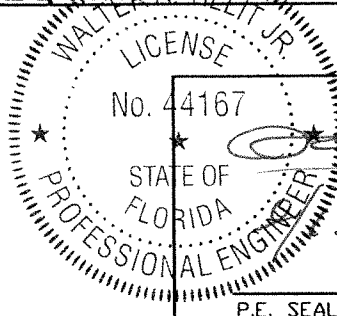
* NOTE: h1 AND h2 MAY BE DIFFERENT FROM EACH OTHER BUT THEY SHALL BE SUCH THAT h1 + h2 DOES NOT EXCEED MAXIMUM FRAME HEIGHT INDICATED ON SCHEDULE #1. ADDITIONALLY, DAYLIGHT OPENINGS CREATED BY h1 AND h2 SHALL BE SUCH THAT MAXIMUM DAYLIGHT OPENINGS "a" AND "c" INDICATED ON SCHEDULE #1 ARE NOT EXCEEDED.



REQUIREMENTS FOR ANCHORS CONCENTRATION AT ENDS OF MEETING RAILS

SCALE: N.T.S.

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)



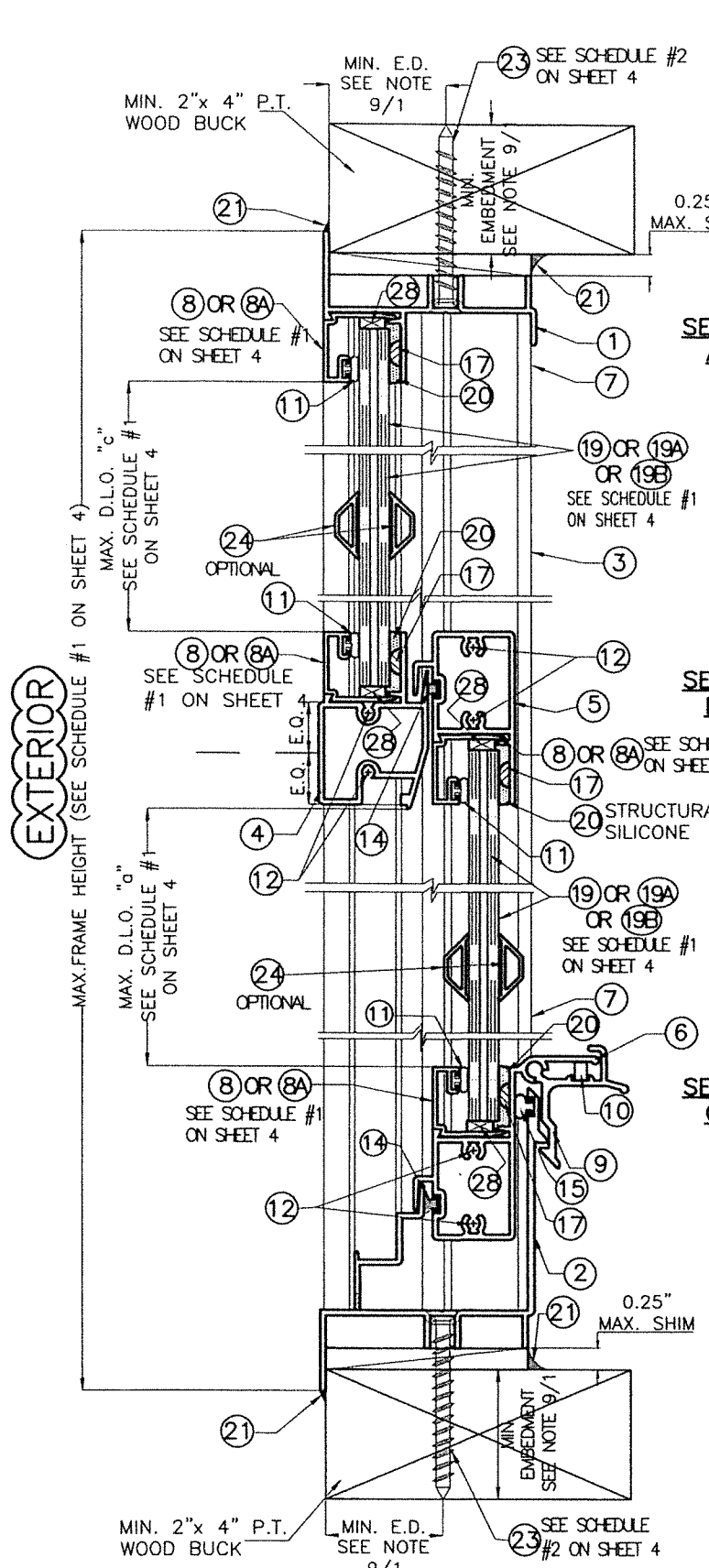
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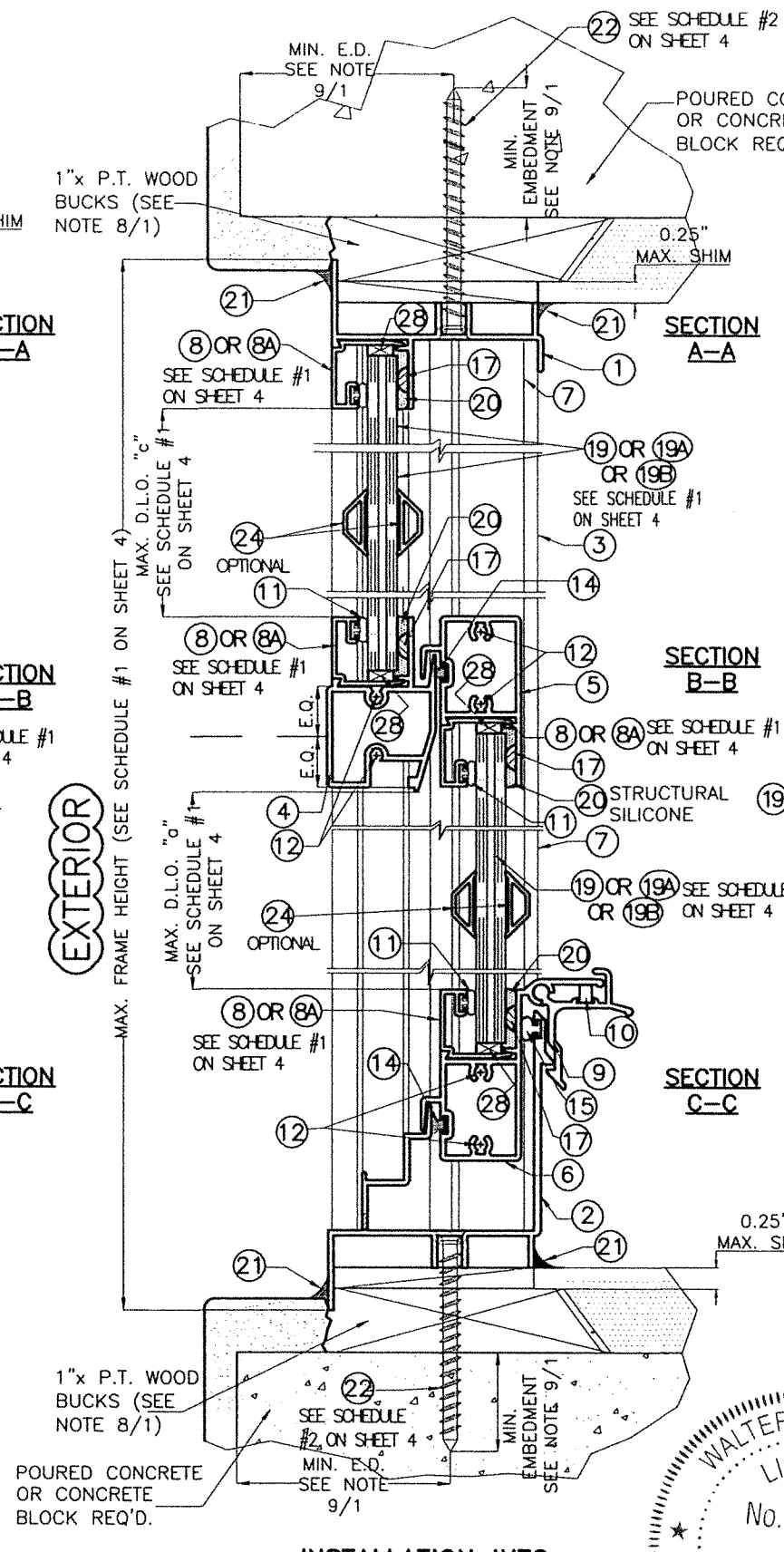
TILTECO INC.

TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33168
Phone: (305)871-1530 Fax: (305)871-1531
CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

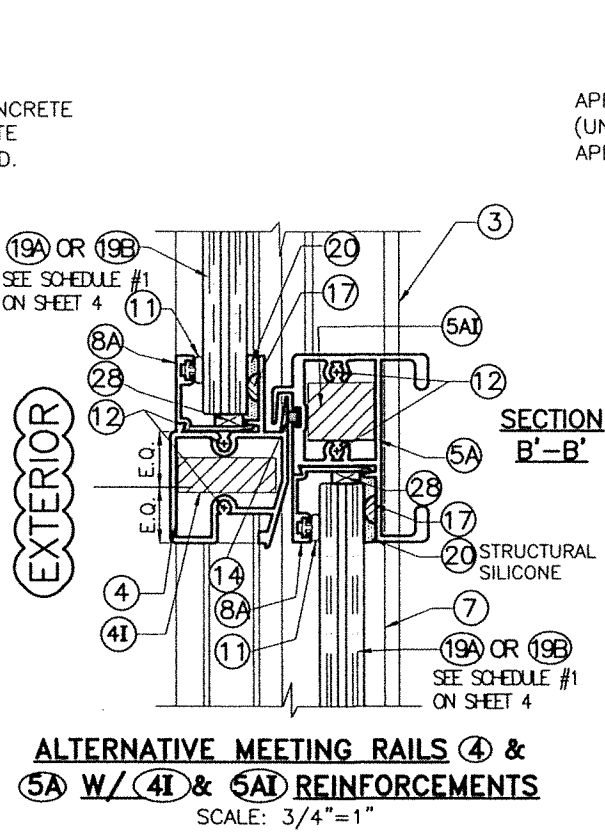
SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT						W.H DRAWN BY:
						09/13/2023 DATE:
290 WEST 78 ROAD HIALEAH, FL 33014 PH: (954)226-5555/(305)558-8103 FAX: (305)558-6665 www.gigwindows.com						23-217 DRAWING No.
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 4 OF 10
1	OLD 20-222	09/13/23	3	-	-	
2	-	-	4	-	-	



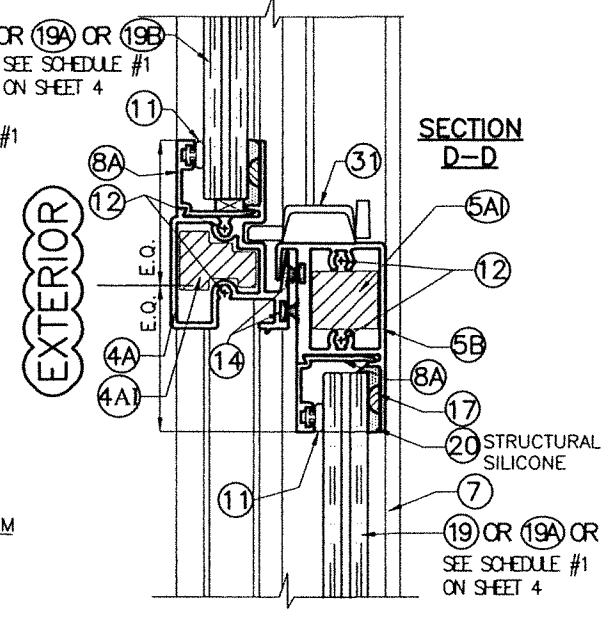
INSTALLATION INTO WOOD
SCALE: 3/4"=1"



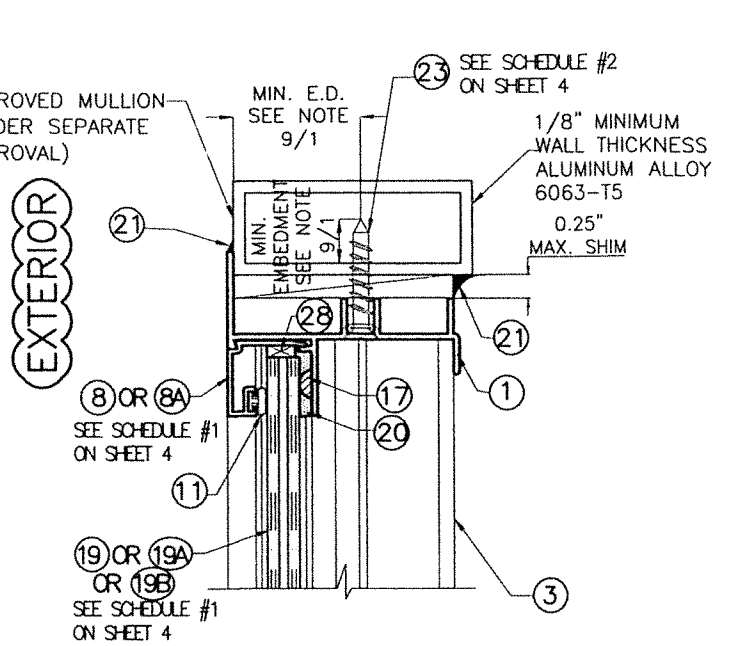
**INSTALLATION INTO
POURED CONCRETE OR
CONCRETE BLOCK**
SCALE: 3/4"=1"



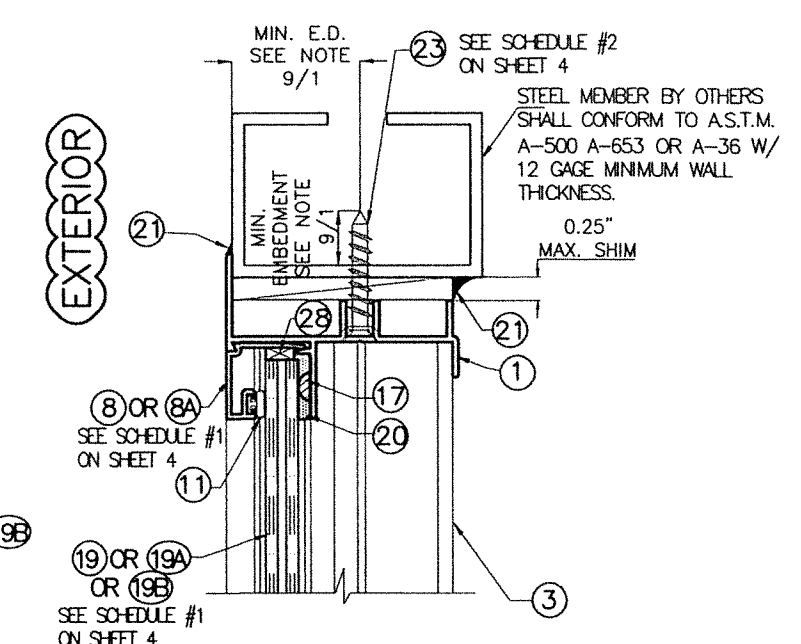
**ALTERNATIVE MEETING RAILS 4 &
5A W/ 4I & 5AI REINFORCEMENTS**
SCALE: 3/4"=1"



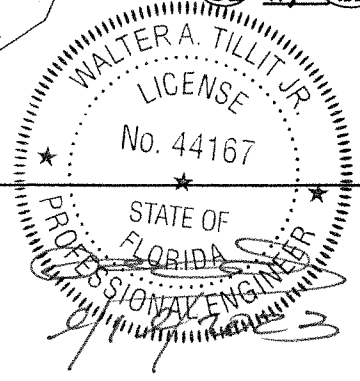
**ALTERNATIVE MEETING RAILS 4A &
5B W/ 4AI & 5AI REINFORCEMENTS**
SCALE: 3/4"=1"



**SECTION A-A (SECTION C-C sim.)
INSTALLATION INTO
ALUMINUM MULLION**
SCALE: 3/4"=1"



**SECTION A-A (SECTION C-C sim.)
INSTALLATION INTO
STEEL MEMBER**
SCALE: 3/4"=1"



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

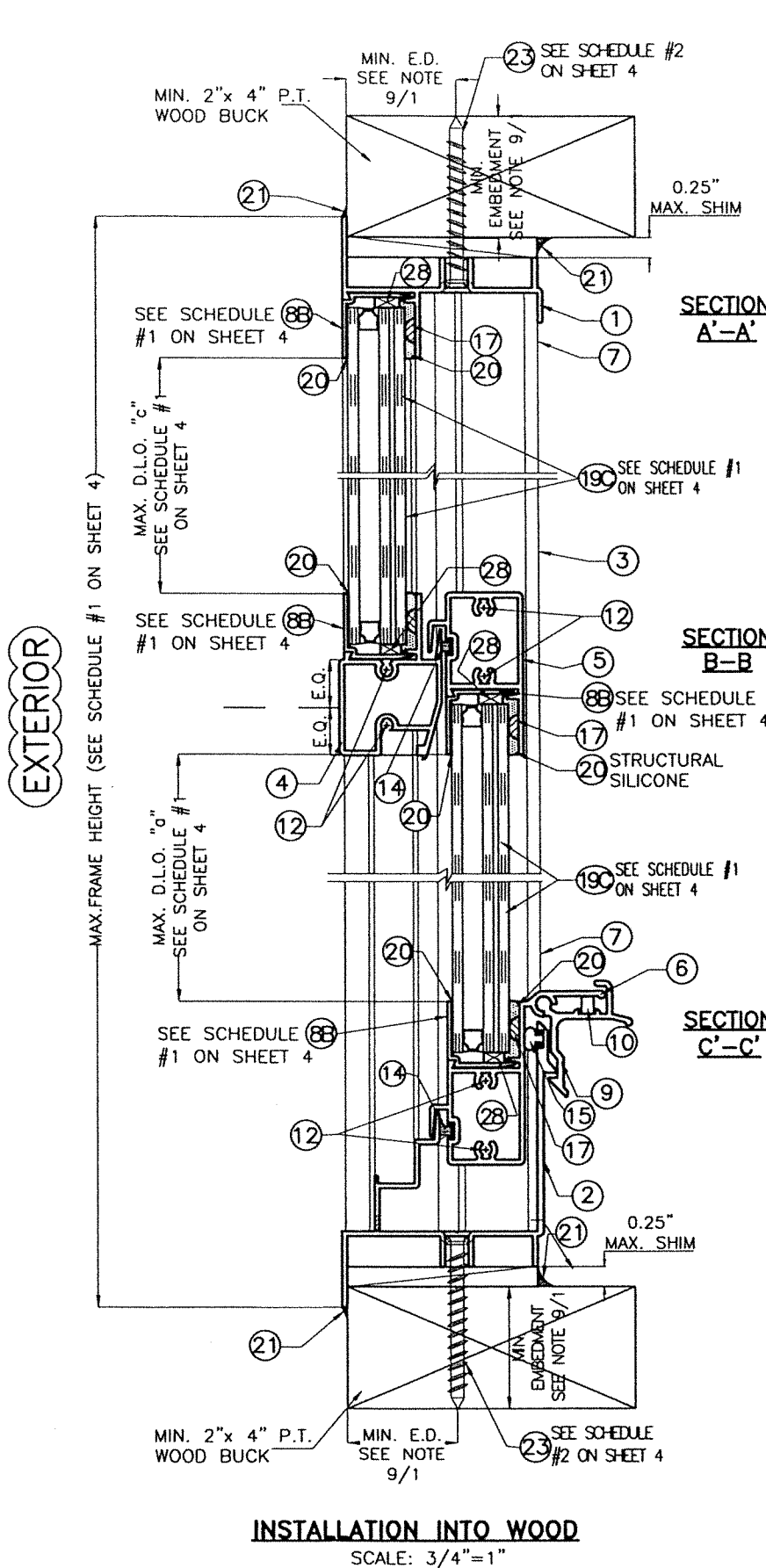
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WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

**SERIES 2000 HIGH IMPACT SINGLE HUNG WINDOW
LARGE MISSILE IMPACT RESISTANT**

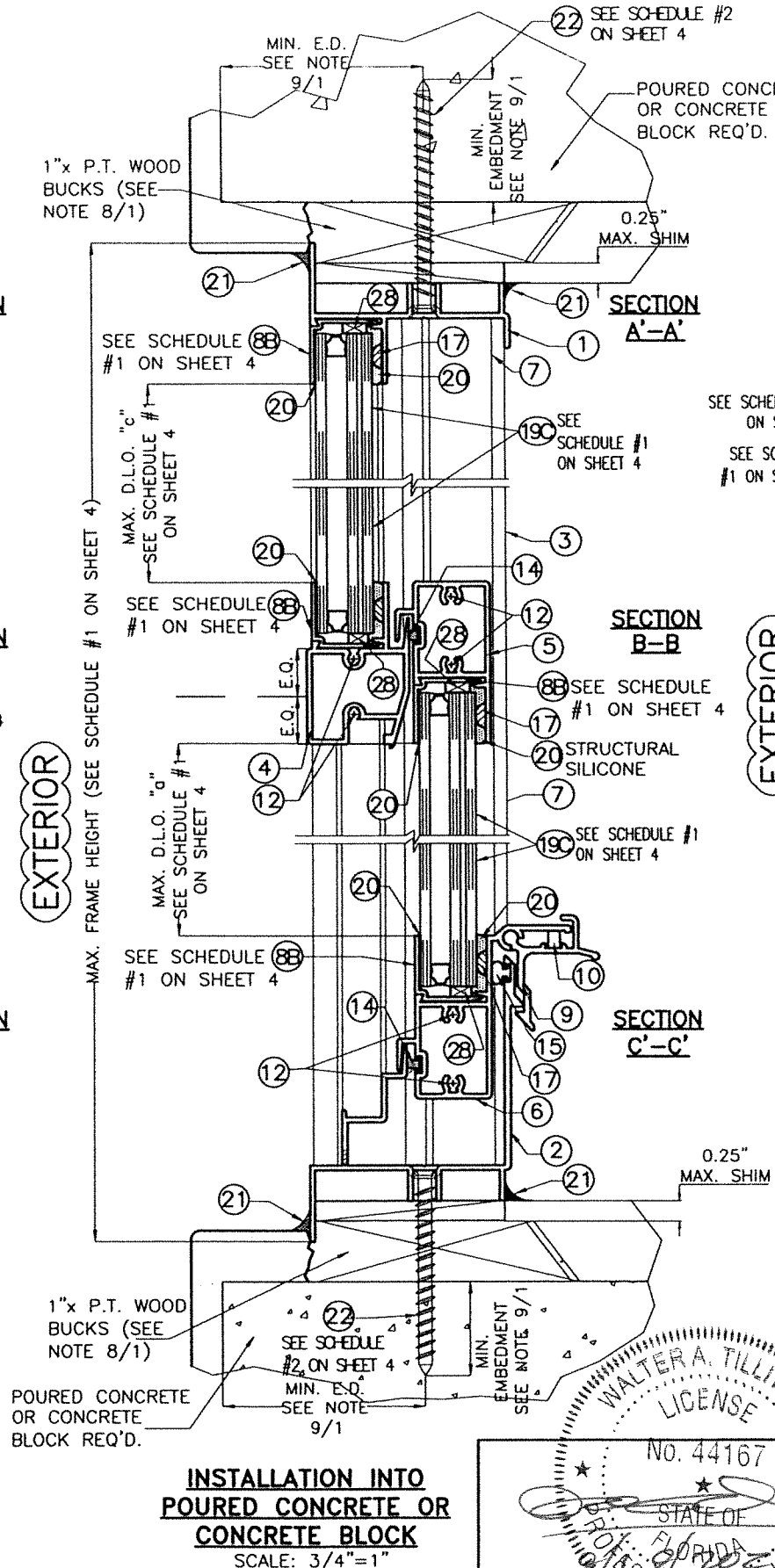
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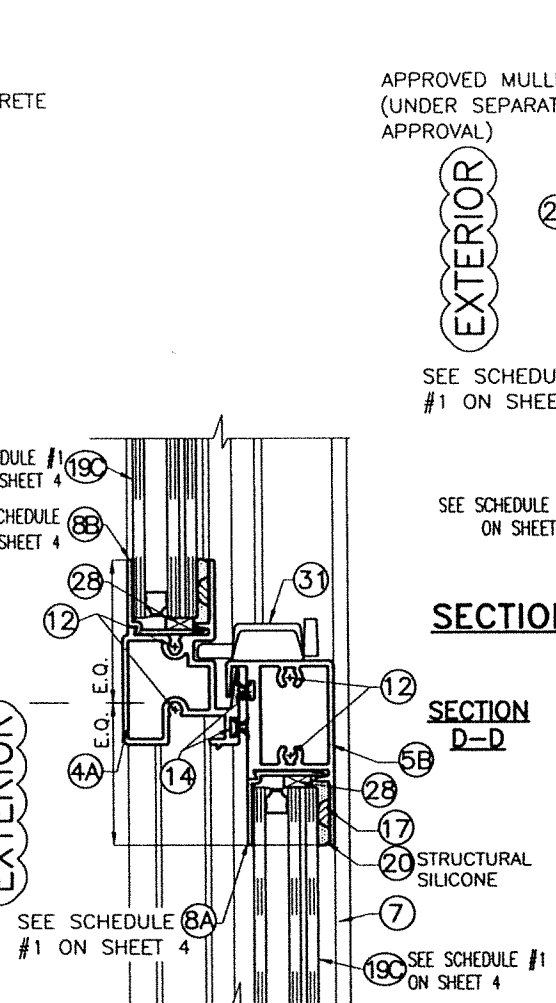
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09/13/2023
DATE:
23-217
DRAWING No.
SHEET 5 OF 10



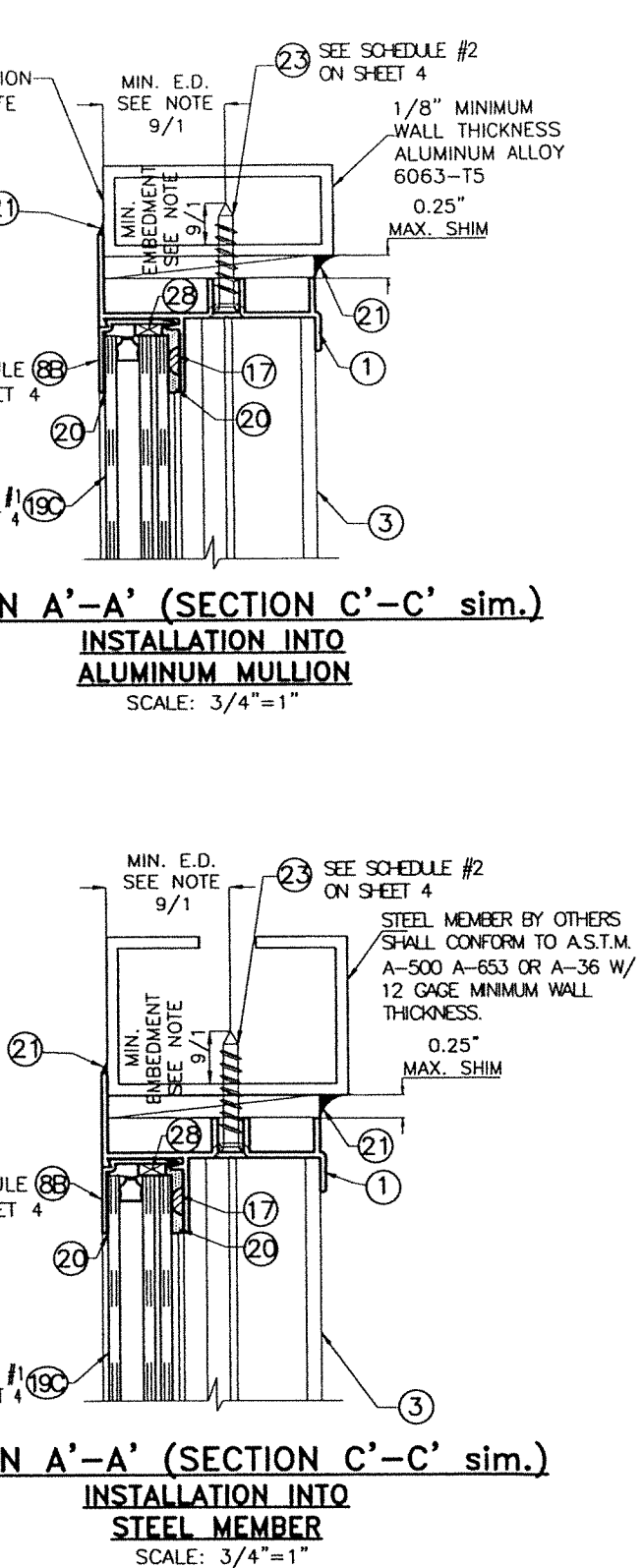
INSTALLATION INTO WOOD
SCALE: 3/4"=1"



INSTALLATION INTO POURED CONCRETE OR CONCRETE BLOCK
SCALE: 3/4"=1"



ALTERNATIVE MEETING RAILS
4A & 5B
SCALE: 3/4"=1"



SECTION A'-A' (SECTION C'-C' sim.)
INSTALLATION INTO ALUMINUM MULLION
SCALE: 3/4"=1"

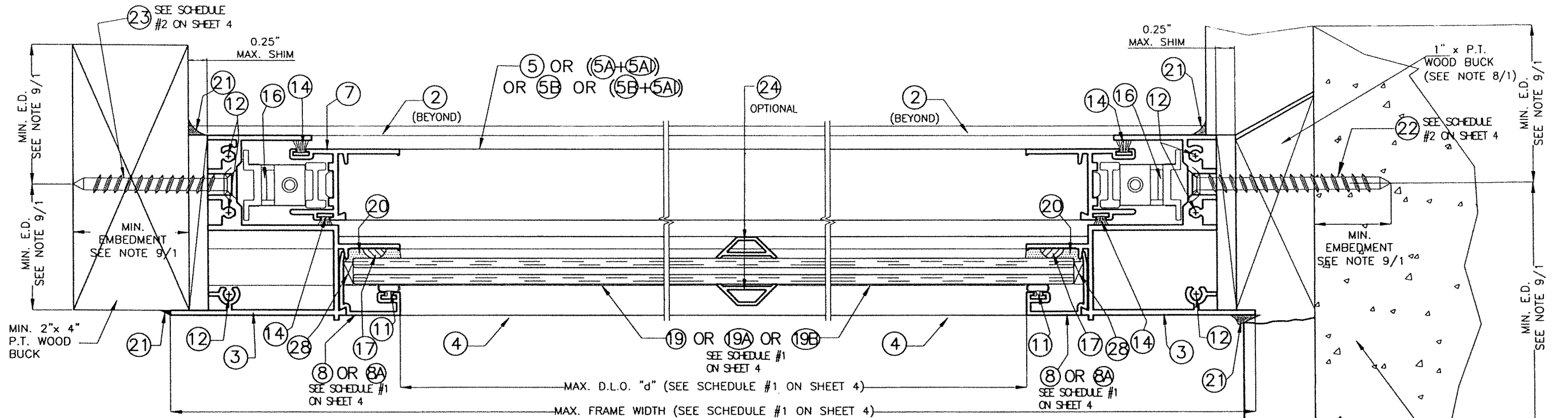
SECTION A'-A' (SECTION C'-C' sim.)
INSTALLATION INTO STEEL MEMBER
SCALE: 3/4"=1"

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

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SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT				W.H DRAWN BY:	
				09/13/2023	
				DATE:	
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DRAWING No.				SHEET 5A OF 10	
REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

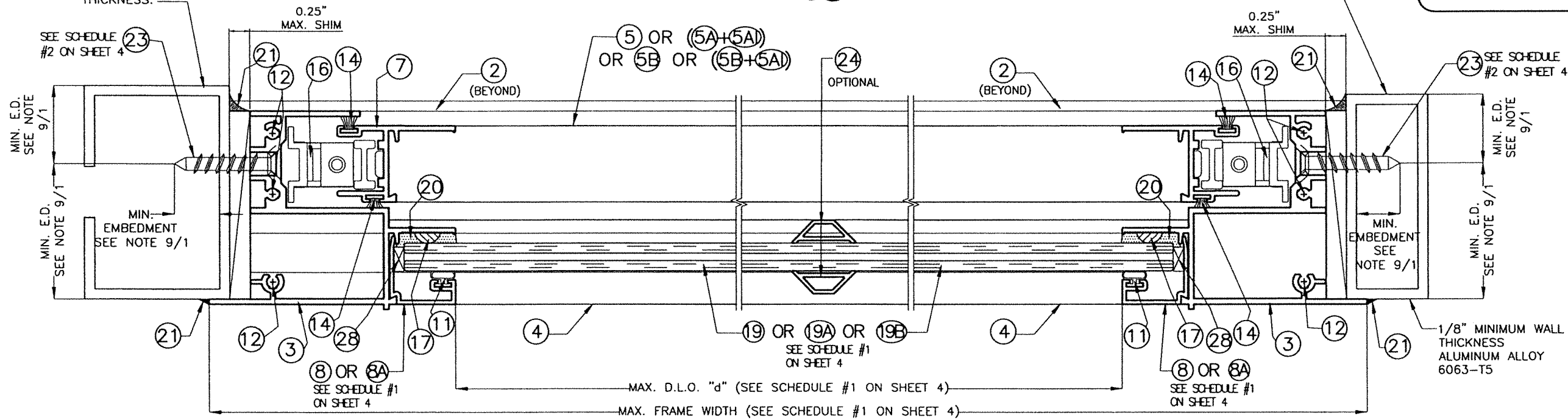


STEEL MEMBER BY OTHERS SHALL CONFORM TO A.S.T.M. A-500 A-653 OR A-36 W/ 12 GAGE MINIMUM WALL THICKNESS.

EXTERIOR

APPROVED MULLION (UNDER SEPARATE APPROVAL)

POURED CONCRETE OR CONCRETE BLOCK WALL REQ'D.



EXTERIOR

1/8" MINIMUM WALL THICKNESS ALUMINUM ALLOY 6063-T5

**SECTIONS D-D
INSTALLATIONS INTO WOOD, POURED CONCRETE,
CONCRETE BLOCK OR METAL.**

SCALE 1/2" = 1"

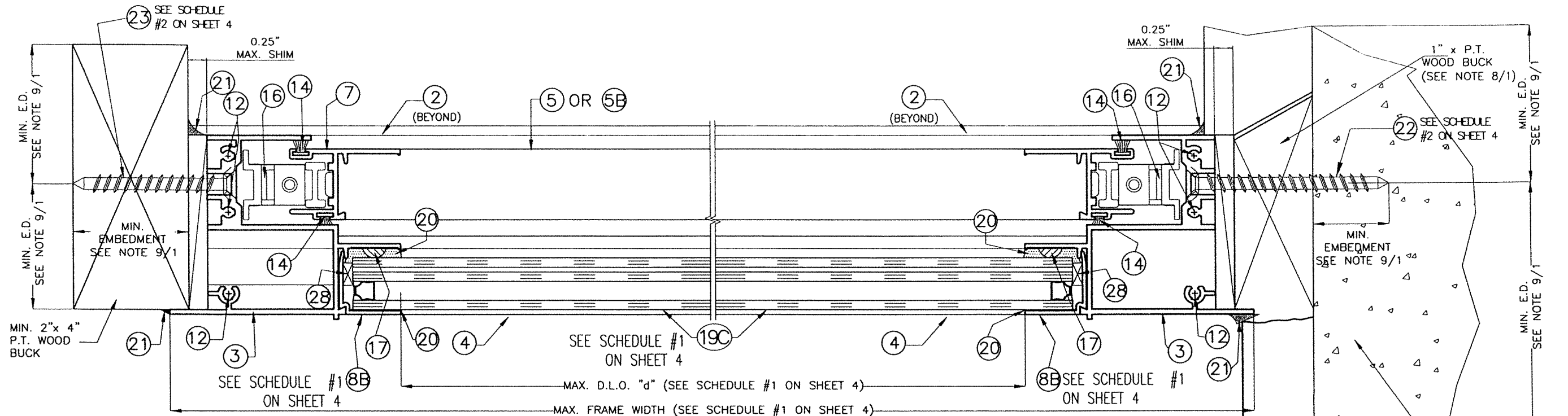
WALTER A. TILLIT JR.
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No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER
9/2023
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				09/13/2023	
				DATE:	
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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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DATE:
23-217
DRAWING No.
SHEET 6 OF 10

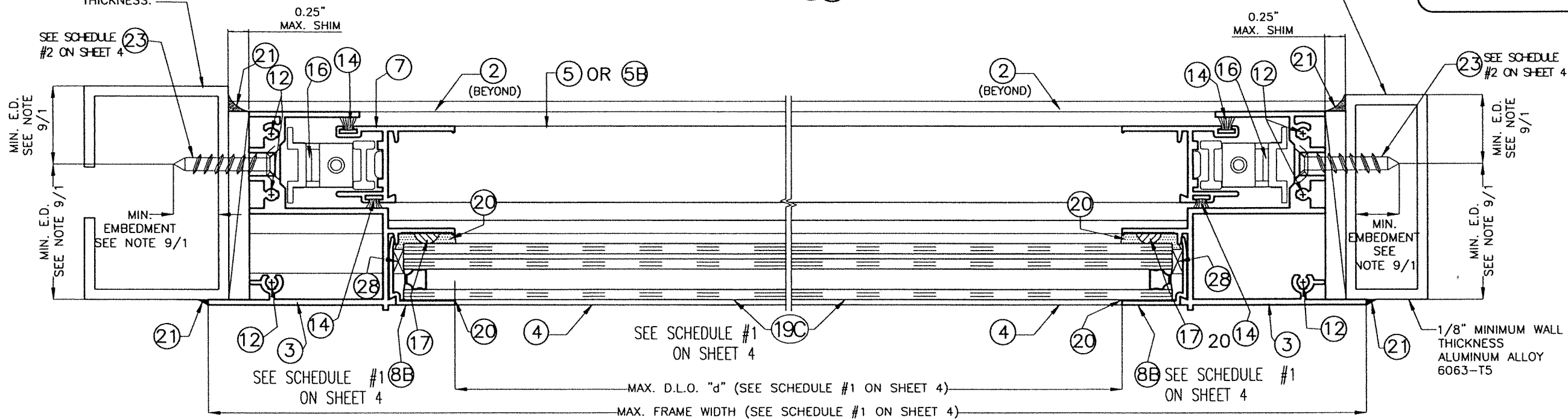


EXTERIOR

STEEL MEMBER BY OTHERS SHALL CONFORM TO A.S.T.M. A-500 A-653 OR A-36 W/ 12 GAGE MINIMUM WALL THICKNESS.

APPROVED MULLION (UNDER SEPARATE APPROVAL)

POURED CONCRETE OR CONCRETE BLOCK WALL REQ'D.



EXTERIOR

**SECTIONS D-D
INSTALLATIONS INTO WOOD, POURED CONCRETE,
CONCRETE BLOCK OR METAL.**

SCALE 1/2" = 1"

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STATE OF FLORIDA
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FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

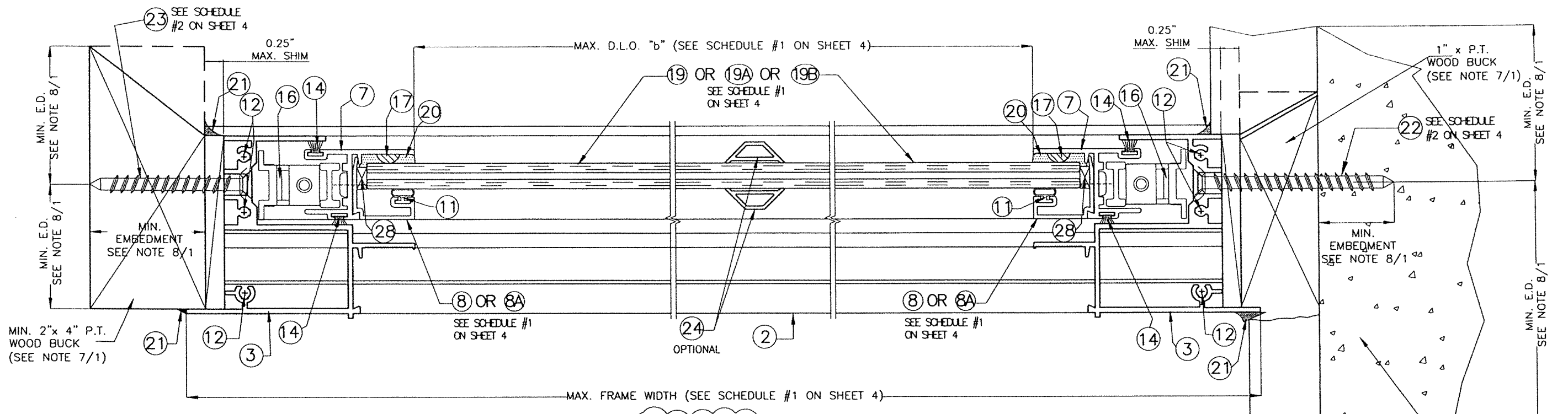
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CA-0006719
WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

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LARGE MISSILE IMPACT RESISTANT**

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HALEAH, FL 33014
PH: (954)226-5555/(305)558-8103
FAX: (305)558-6665
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09/13/2023
DATE:
23-217
DRAWING No.
SHEET 6A OF 10

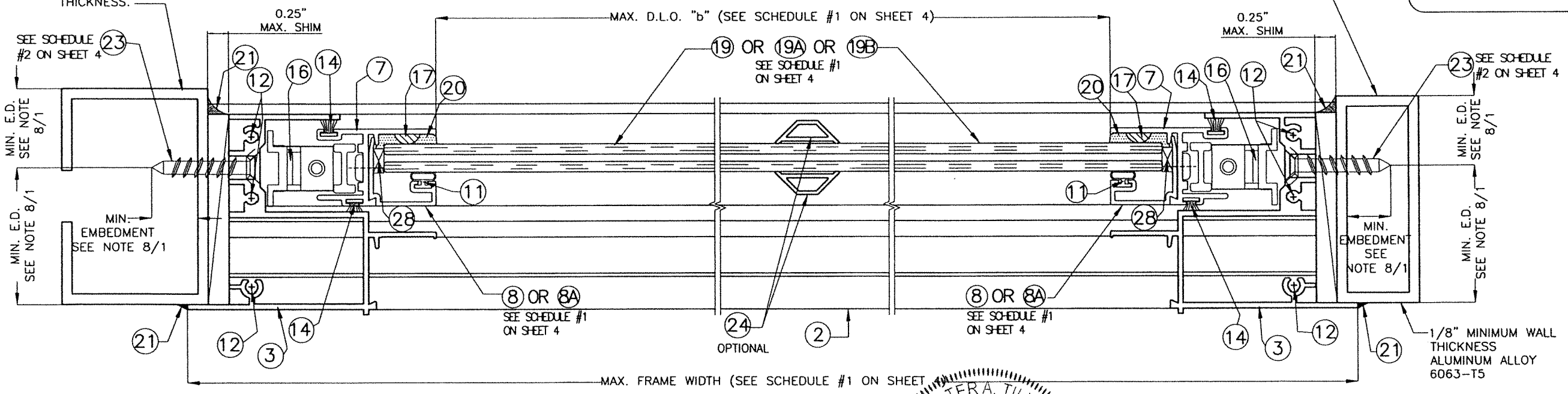
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STEEL MEMBER BY OTHERS SHALL CONFORM TO A.S.T.M. A-500 A-653 OR A-36 W/ 12 GAGE MINIMUM WALL THICKNESS.

APPROVED MULLION (UNDER SEPARATE APPROVAL)

POURED CONCRETE OR CONCRETE BLOCK WALL REQ'D.



SECTIONS E-E
INSTALLATIONS INTO WOOD, POURED CONCRETE,
CONCRETE BLOCK OR METAL.
 SCALE 1/2" = 1"

EXTERIOR

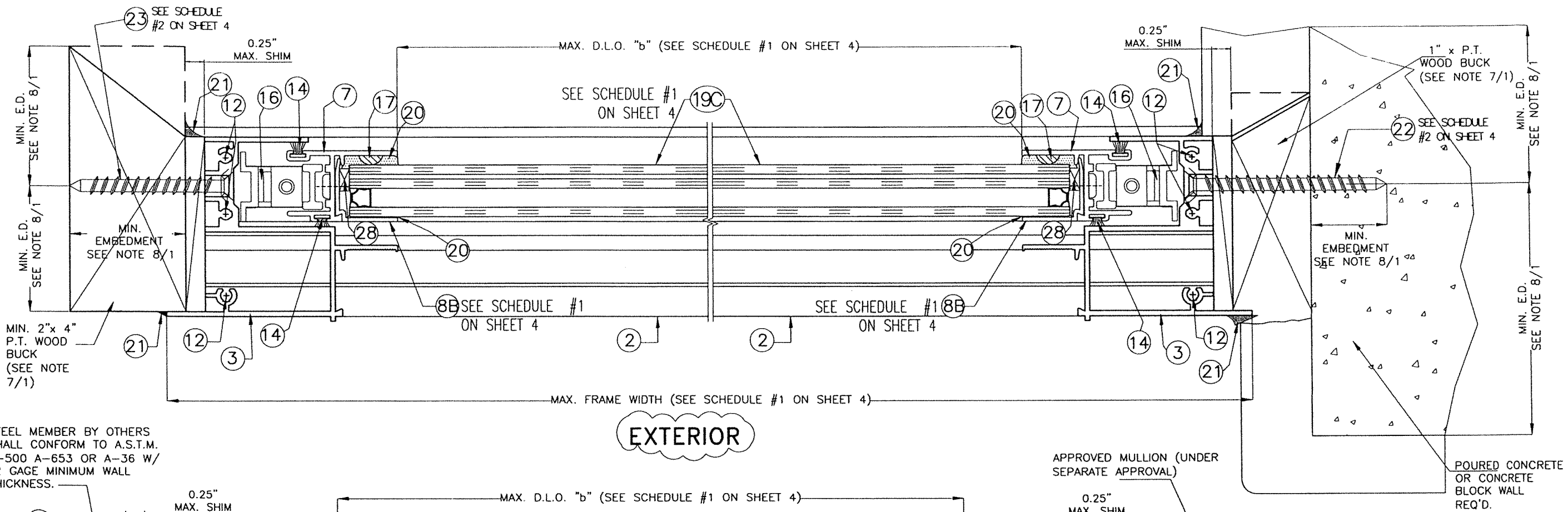
WALTER A. TILLIT JR.
 LICENSE
 No. 44167
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 9/19/2023
 P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

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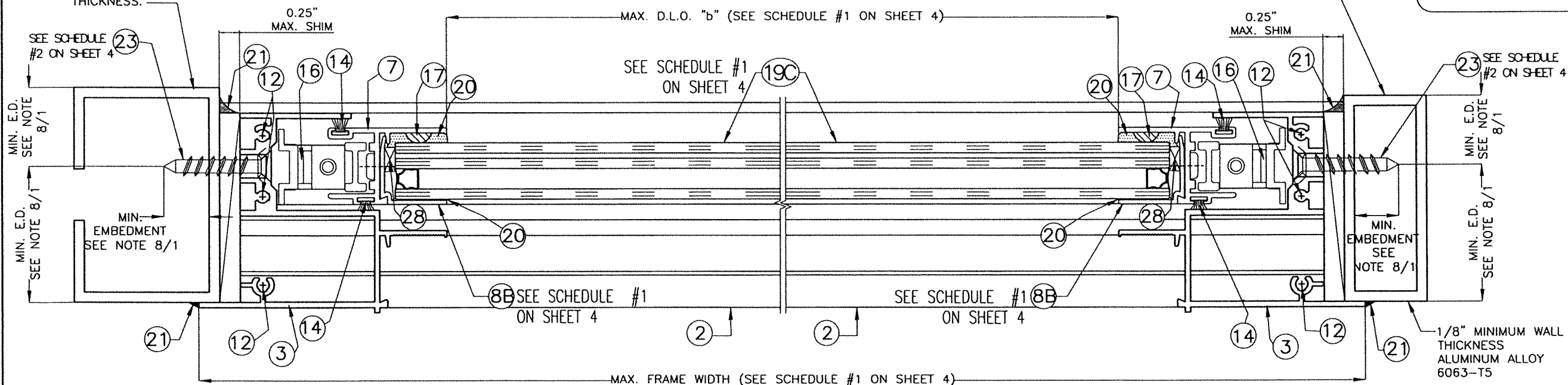
SERIES 20000 HIGH IMPACT SINGLE HUNG WINDOW LARGE MISSILE IMPACT RESISTANT					
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2	-	-	4	-	-

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 DRAWN BY:
 09/13/2023
 DATE:
23-217
 DRAWING No.
 SHEET 7 OF 10



EXTERIOR

STEEL MEMBER BY OTHERS SHALL CONFORM TO A.S.T.M. A-500 A-653 OR A-36 W/ 12 GAGE MINIMUM WALL THICKNESS.



EXTERIOR

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF FLORIDA
PROFESSIONAL ENGINEER

FLORIDA BUILDING CODE (HIGH & NON HIGH VELOCITY HURRICANE ZONE)

SECTIONS E-E
INSTALLATIONS INTO WOOD, POURED CONCRETE,
CONCRETE BLOCK OR METAL.

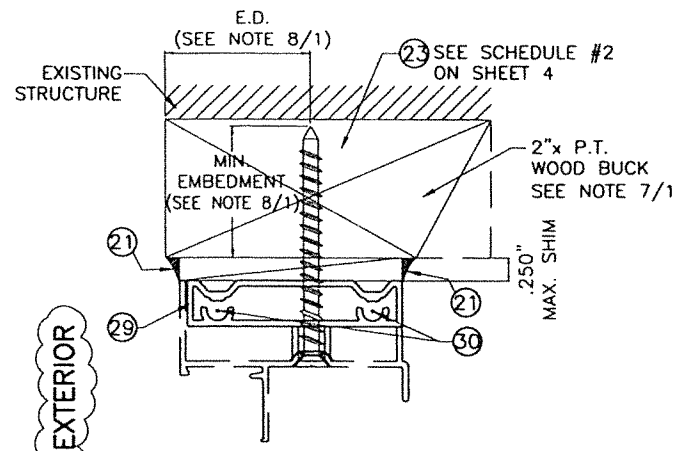
SCALE 1/2" = 1"

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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	09/13/2023 DATE:
1	OLD 20-222	09/13/23	3	-	-	23-217 DRAWING No.
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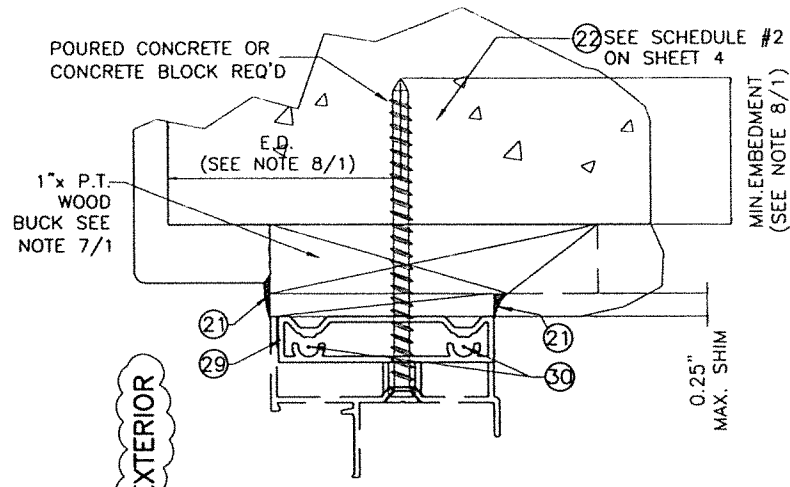
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SHEET 7A OF 10



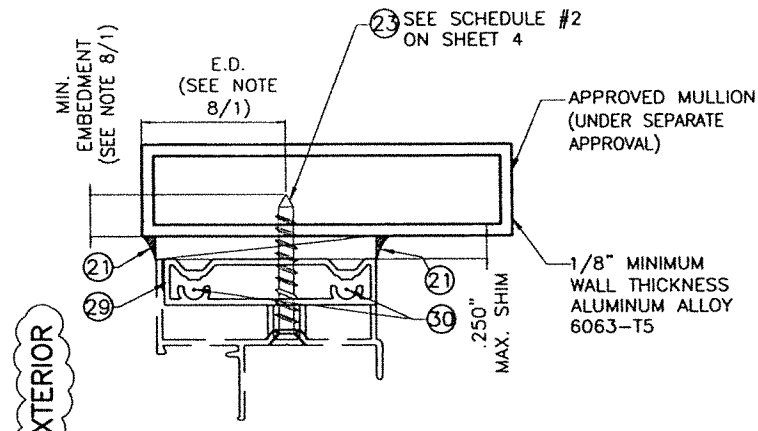
**ALTERNATIVE SECTION
INSTALLATION
TO WOOD**

SCALE: 1/2"=1"



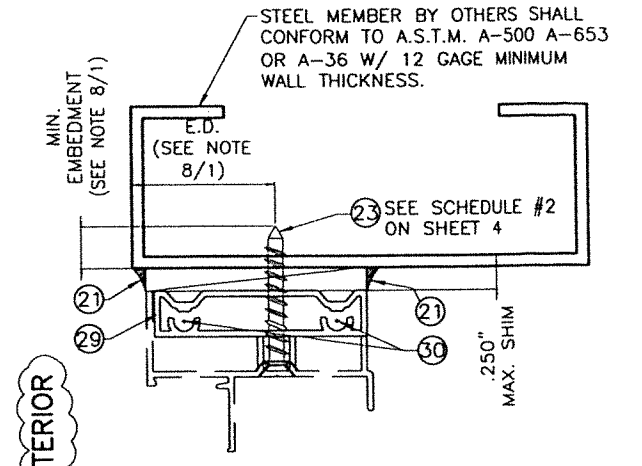
**ALTERNATIVE SECTION
INSTALLATION
TO CONCRETE**

SCALE: 1/2"=1"



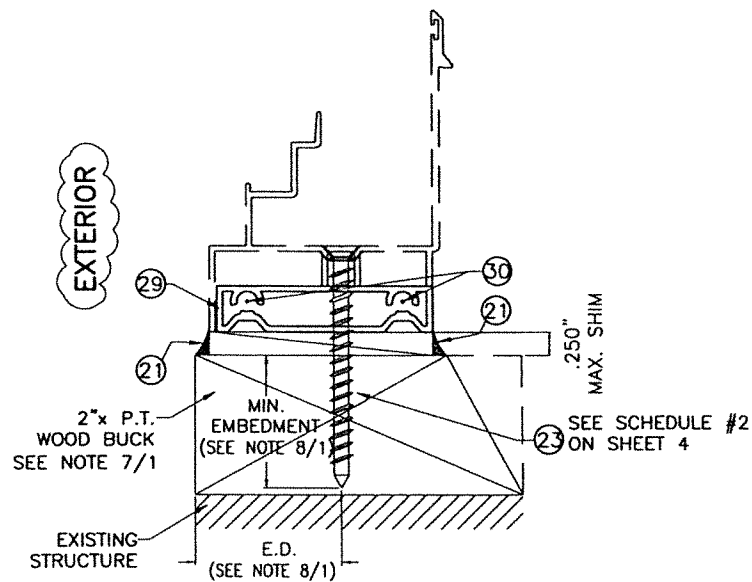
**ALTERNATIVE SECTION
INSTALLATION
TO ALUMINUM**

SCALE: 1/2"=1"



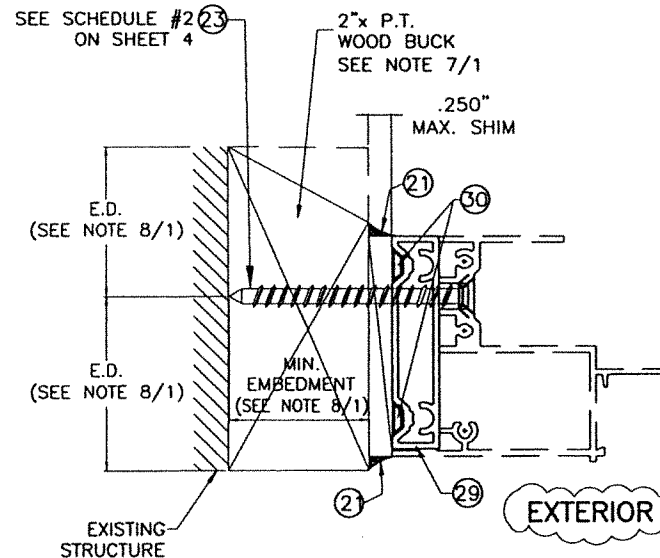
**ALTERNATIVE SECTION
INSTALLATION
TO STEEL MEMBER**

SCALE: 1/2"=1"



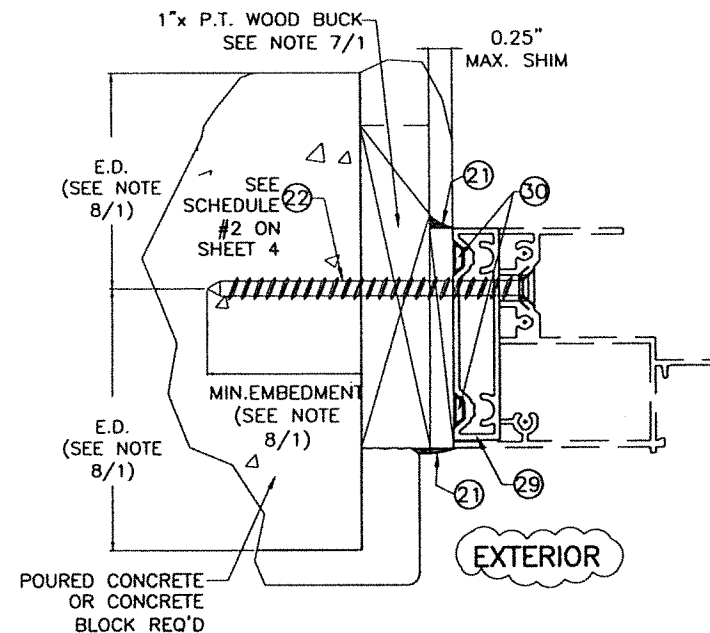
**ALTERNATIVE SECTION
INSTALLATION
TO WOOD**

SCALE: 1/2"=1"



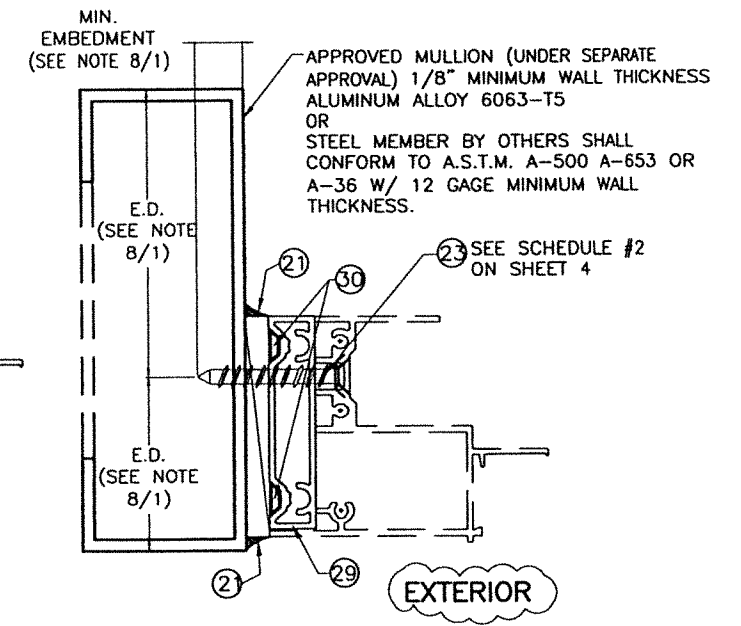
**ALTERNATIVE SECTION
INSTALLATION
TO WOOD**

SCALE: 1/2"=1"



**ALTERNATIVE SECTION
INSTALLATION
TO CONCRETE**

SCALE: 1/2"=1"



**ALTERNATIVE SECTION
INSTALLATION
TO ALUMINUM
OR STEEL MEMBER**

SCALE: 1/2"=1"

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
Walter A. Tillit Jr.
1/4/2023

P.E. SEAL/SIGNATURE/DATE

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WALTER A. TILLIT Jr. P.E.
FLORIDA Lic. # 44167

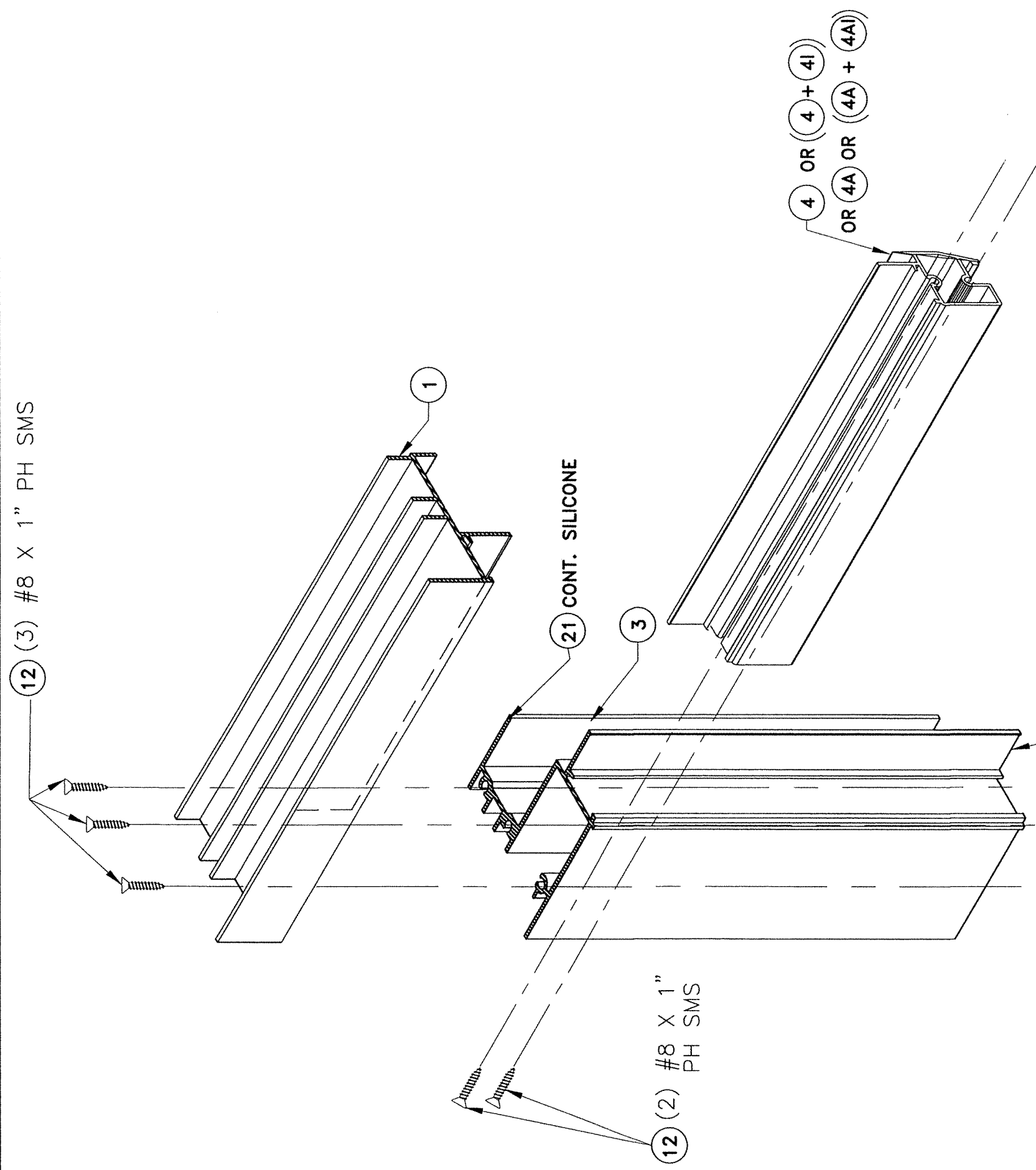
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REV. NO	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-222	09/13/23	3	-	-
2	-	-	4	-	-

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23-217
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SHEET 8 OF 10

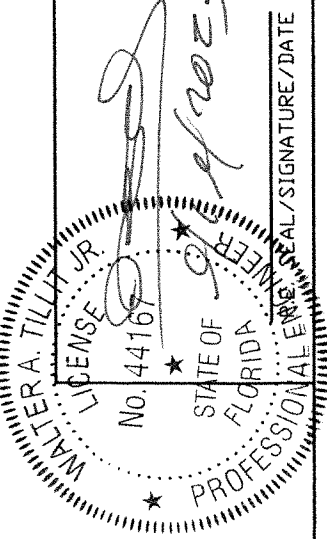
12 (3) #8 X 1" PH SMS



12 (2) #8 X 1" PH SMS

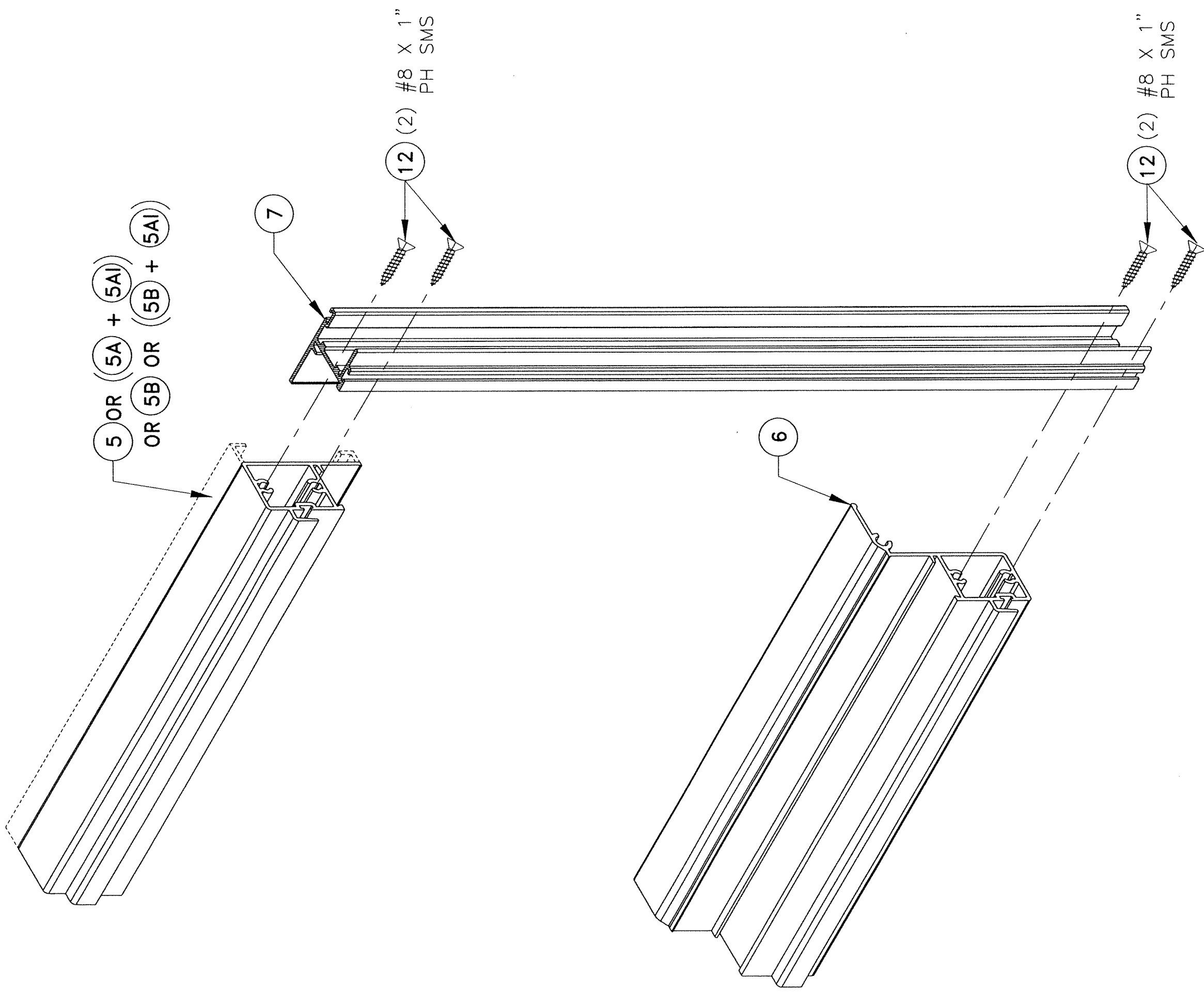
12 (3) #8 X 1" PH SMS

**CORNER CONNECTION AT
FRAME HEAD AND SILL**
SCALE 1/2" = 1"

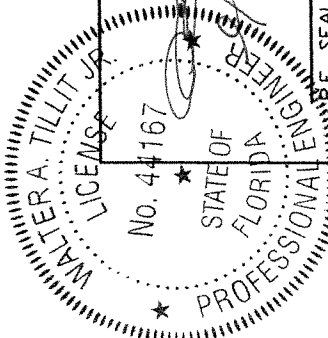


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W.H. DESCRIPTION OLD 20-222 REV. NO. 1 DATE 09/13/23	REV. No. 3 DESCRIPTION DATE	DRAWING No. SHEET 9 OF 10



**CORNER CONNECTION AT
 BOTTOM VENT**
 SCALE 3/4" = 1"



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290 WEST 78 ROAD HALLANDALE, FL 33014 PH: (954)226-3555 / (305)558-8103 FAX: (305)558-6665 www.gigwindows.com	DATE: 09/13/2023 DATE: 09/13/2023	DATE: 09/13/2023
WINDFORMS & GLAZERS DESCRIPTION: OLD 20-222 DATE: 09/13/23 REV. NO. 1 REV. NO. 2 REV. NO. 3 REV. NO. 4	REV. NO. 1 REV. NO. 2 REV. NO. 3 REV. NO. 4	DRAWING No. 23-217 SHEET 10 OF 10