

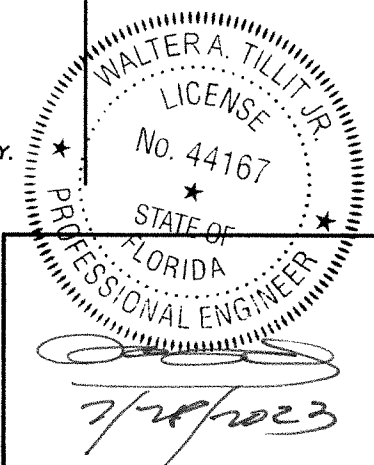
GENERAL NOTES:

1. STORM PANEL 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. THIS STORM PANEL SHALL **NOT** BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE / BROWARD COUNTIES).
- DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE ABOVE MENTIONED CODE, FOR A WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THESE SHUTTERS WILL BE INSTALLED AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$. USING **ASCE 7-22** SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 5, 10 THRU 15.
- 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 SHEETS 5, 10 THRU 15.
- IN ORDER TO VERIFY THAT COMPONENTS AND ANCHORS ON THIS P.E.D. AS TESTED WERE NOT OVER STRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS **NOT** USED IN THEIR ANALYSIS. A DURATION FACTOR $CD=1.60$ WAS USED FOR VERIFICATION OF FASTENERS IN WOOD.
- STORM PANEL'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER ATL REPORTS # 1128.01-00 AND #0610.02-05, AS PER IMPACT TESTING EQUIVALENT TO ASTM E-1996 STANDARD & ASTM E 330-02 STANDARD, LIMITED TO INSTALLATIONS WITHIN WIND ZONES 1, 2 & 3 AS DEFINED BY ASTM E-1996 STANDARD.
2. ALL ALUMINUM SHEET METAL PANELS SHALL HAVE 5052-H32 OR 3004-H34 ALLOY.
3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER UNLESS OTHERWISE NOTED. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2020 ALUMINUM DESIGN MANUAL.
4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 W/ 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA BUILDING CODE SECTION 2411.3.3.4.
5. BOLTS TO BE ASTM A-307 GALVANIZED STEEL OR AISI 304 SERIES STAINLESS STEEL, WITH 35 ksi MINIMUM YIELD STRENGTH.
6. ANCHORS TO WALL SHALL BE AS FOLLOWS: (UNLESS OTHERWISE NOTED)
- (A) TO EXISTING POURED CONCRETE:
- 1/4" $\varnothing$ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDDEX, RESPECTIVELY.
 - 1/4" $\varnothing$ x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY DEWALT, INC. AND ELCO CONSTRUCTION PRODUCTS.
 - 1/4" $\varnothing$ x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.
- NOTES:
- A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON AND ELCO PANELMATE ANCHORS IS 1 3/4";
- A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" $\varnothing$ -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- A.3) MINIMUM EMBEDMENT OF 1/4" $\varnothing$ x 3/4" ALL POINTS SOLID-SET ANCHORS SHALL BE 7/8" INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" $\varnothing$ -20 S.S. MACHINE SCREW USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- A.4) IN CASE THAT PRECAST STONE, PRECAST CONCRETE PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS, ANCHORAGE SHALL BE AS INDICATED ON NOTES A.1) & A.2) ABOVE.
- (B) TO EXISTING CONCRETE BLOCK WALL:
- 1/4" $\varnothing$ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDDEX.
 - 1/4" $\varnothing$ x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY DEWALT, INC. AND ELCO CONSTRUCTION PRODUCTS, RESPECTIVELY.
 - 1/4" $\varnothing$ x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON AND ELCO PANELMATE ANCHORS INTO CONCRETE BLOCK UNIT SHALL BE 1 1/4".
- B.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE CONCRETE BLOCK UNIT. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" $\varnothing$ -20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- B.3) MINIMUM EMBEDMENT OF 1/4" $\varnothing$ x 3/4" ALL POINTS SOLID-SET ANCHORS SHALL BE 7/8" INTO THE CONCRETE BLOCK. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" $\varnothing$ -20 S.S. MACHINE SCREW USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
- B.4) IN CASE THAT PRECAST STONE OR PRECAST CONCRETE PANELS BE FOUND ON THE EXISTING WALL, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH PANELS. ANCHORAGE SHALL BE AS INDICATED ON NOTES IN B.1) AND B.2) ABOVE.
- (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
7. PANELS MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1 THRU 9 (SHEET 3 & 5 OF 15) EXCEPT THAT HEADERS 2, 3 & 4 SHALL NOT BE USED.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, BLOCK OR WOOD FRAME BUILDINGS.
9. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION. CAULK AND SEAL SHUTTER TRACKS ALL AROUND FULL LENGTH.
10. (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 A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.
- (e) THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.
11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT STORM PANEL IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1709.9.2 OF THE FLORIDA BUILDING CODE

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



P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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TILTECO INC.

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

0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)

EASTERN METAL SUPPLY, INC

4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
Phone: (800)432-2204
Fax: (561)209-8380

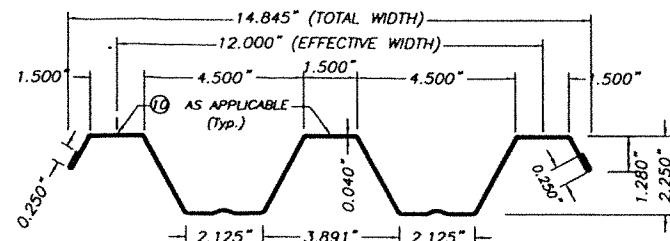
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2	-	-	4	-	-

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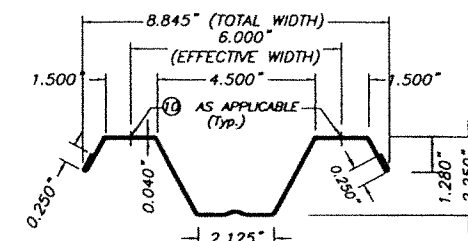
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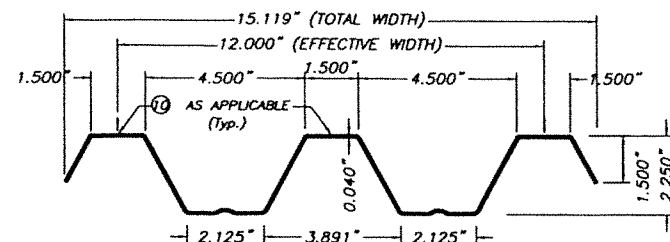
SHEET 1 OF 15



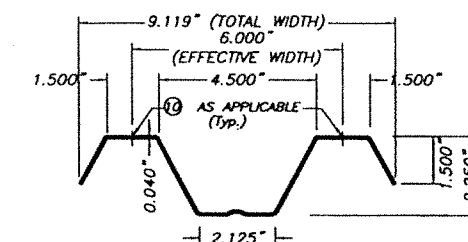
FULL PANEL W/ HEMMED EDGES



HALF PANEL W/ HEMMED EDGES

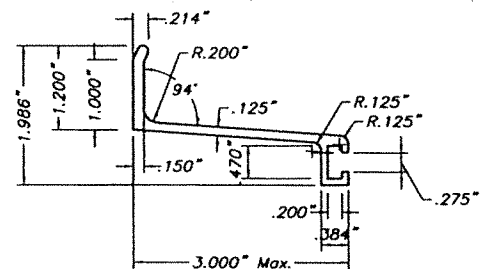


OPTIONAL FULL PANEL W/O HEMMED EDGES

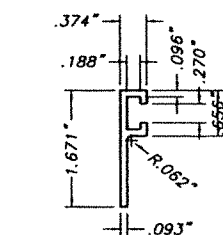


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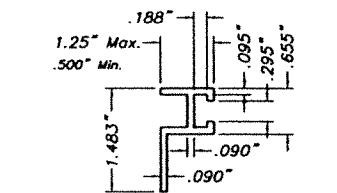
① STORM PANEL
SCALE: 3/16" = 1"



5 3" ANGLE BUILD OUT BRACKET
SCALE: 3/8" = 1"

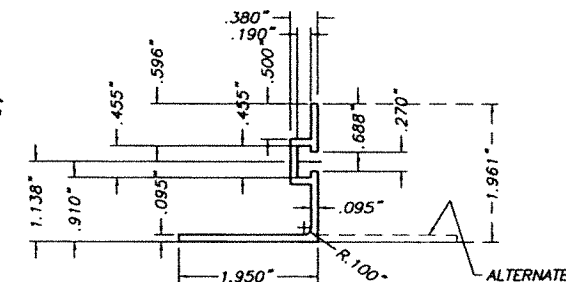


6 3/8" B.O. "F" TRACK
SCALE: 3/8" = 1"



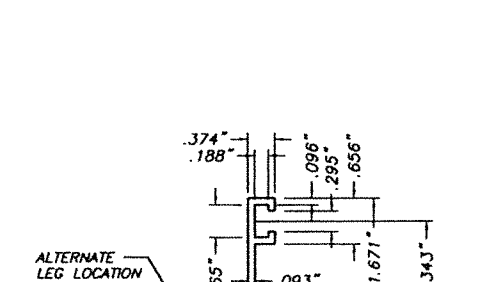
6A 1 1/4" MAX. B.O. "F" TRACK
SCALE: 3/8" = 1"

② "h" HEADER
SCALE: 3/8" = 1"

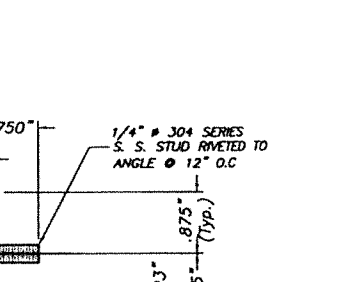


7 REVERSED "F" ANGLE TRACK
SCALE: 3/8" = 1"

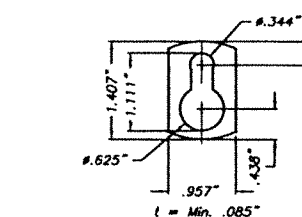
③ 3" Max. "U" BUILD OUT
SCALE: 3/8" = 1"



④ "U" HEADER
SCALE: 3/8" = 1"

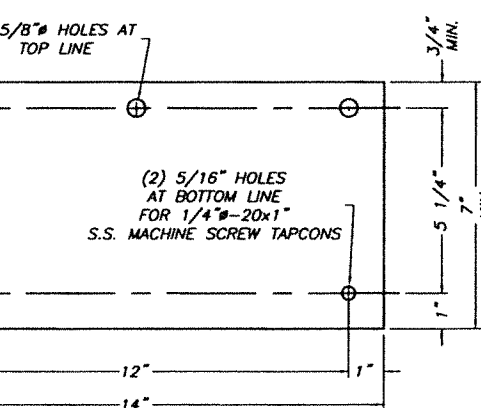


9 2"x2" STUDDED ANGLE
SCALE: 3/8" = 1"

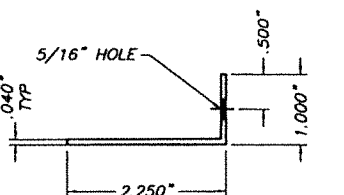


11 KEY HOLE WASHER
3105-H154 Alum. ALLOY
SCALE: 3/8" = 1"

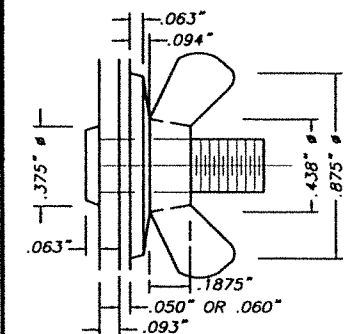
⑧ "F" TRACK ANGLE
SCALE: 3/8" = 1"



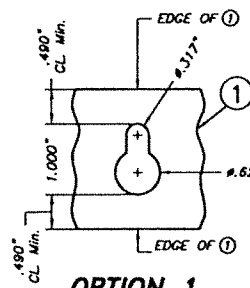
16 3/16"x7"x14" LONG WALL PLATE
SCALE: 3/16" = 1"



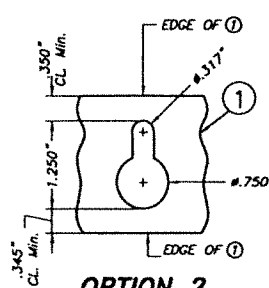
17 2 1/4"x1"x.040" FLASHING ANGLE
SCALE: 3/16" = 1"



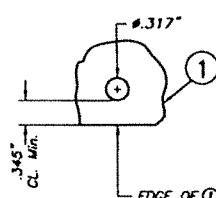
DETAIL 1: STUD W/ DIE CAST ZINC NICKEL PLATED WING NUT



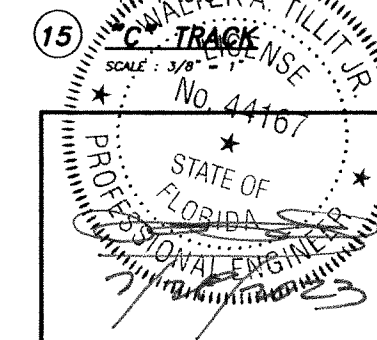
OPTION 1



OPTION 2

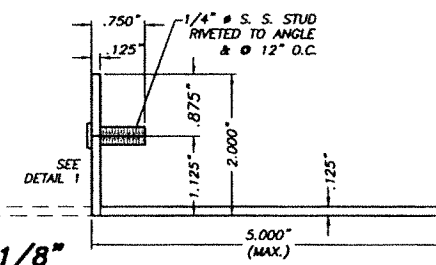


10A ROUND HOLE AT PANEL (OPTION TO 10)



12 MINI WALL 1.75"x0.632" ANGLE WITH STUD
SCALE: 1/2" = 1"

13 2"x5"(MAX.)x1/8" ANGLE WITH STUD
SCALE: 3/8" = 1"



COMPONENTS

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

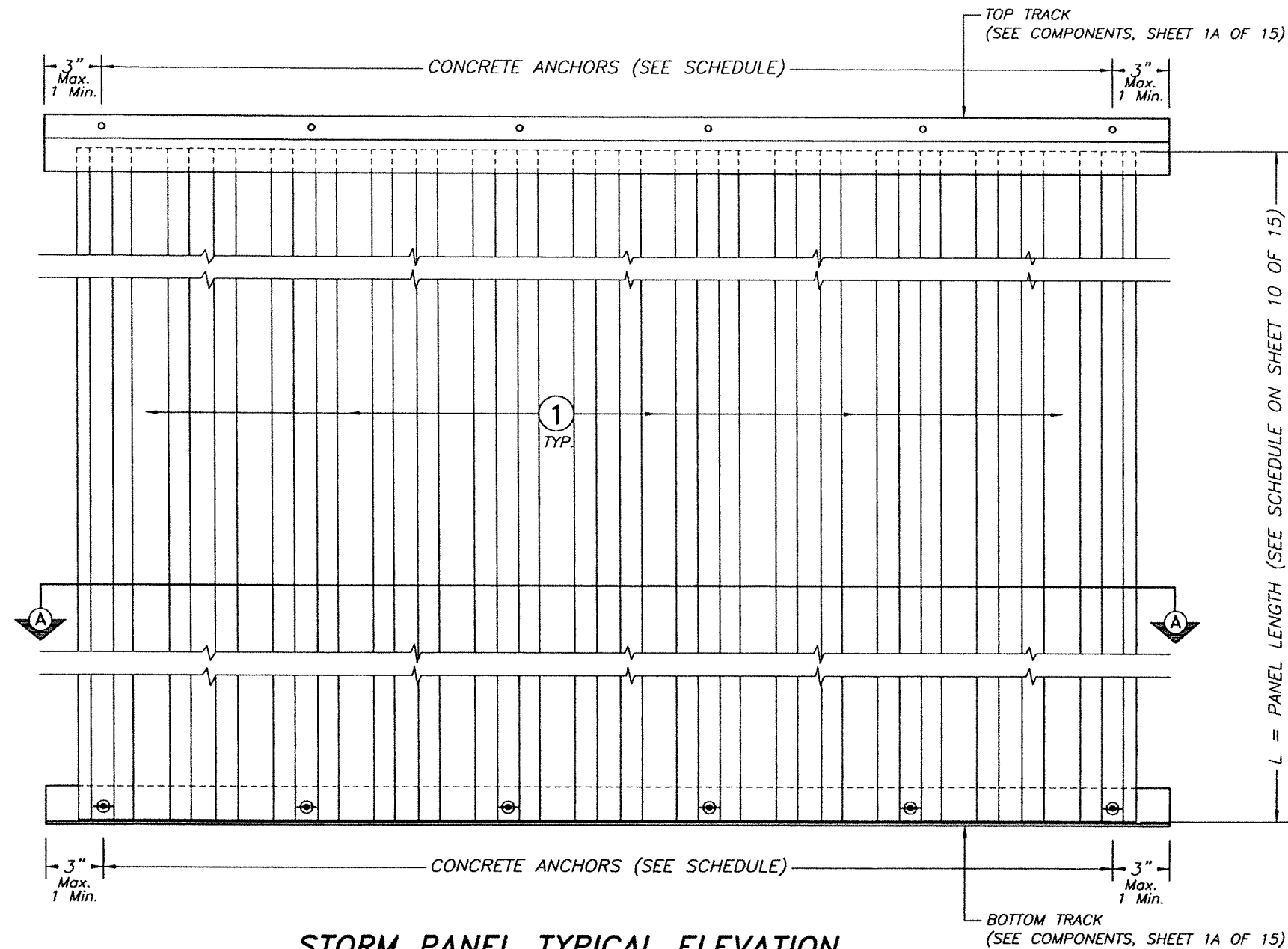
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TILTECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6355 N.W. 36th. St., Ste. 305 VIRGINIA GARDENS, FLORIDA 33166
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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)
EASTERN METAL SUPPLY, INC
4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
Phone: (800)432-2204
Fax: (561)209-8380

Y.M.
DRAWN BY:
7/28/2023
DATE
23-144
DRAWING No
SHEET 1A OF 15

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/28/23	3	-	-
2	-	-	4	-	-

P.E. SEAL/SIGNATURE/DATE



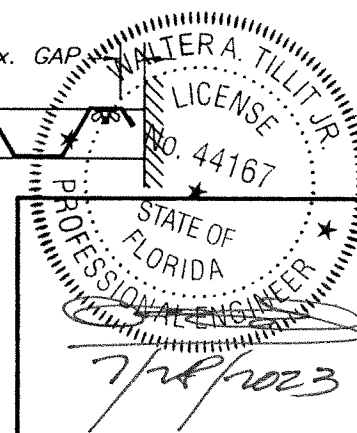
STORM PANEL TYPICAL ELEVATION

SCALE : 1/8" = 1"



SECTION A-A

SCALE : 1/8" = 1"

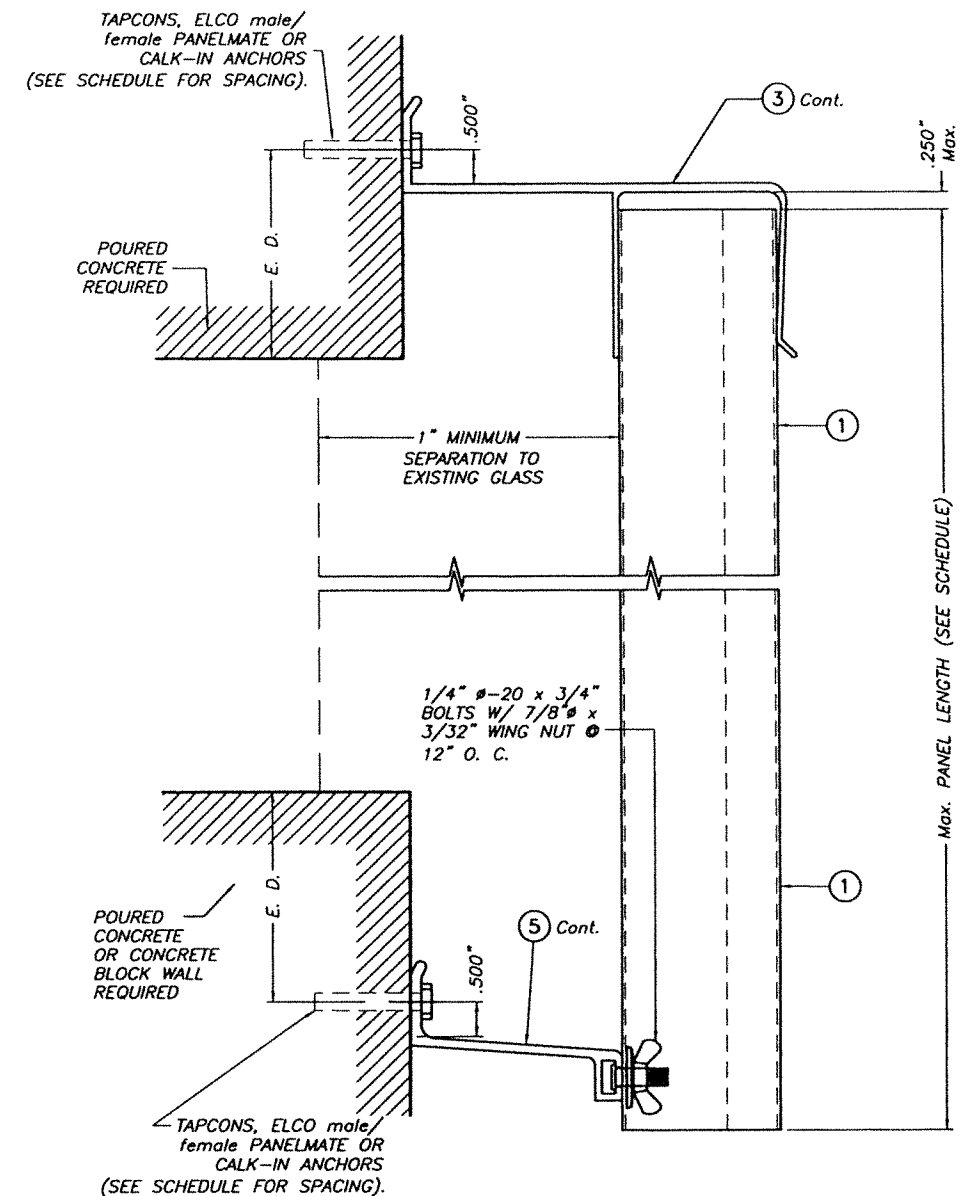
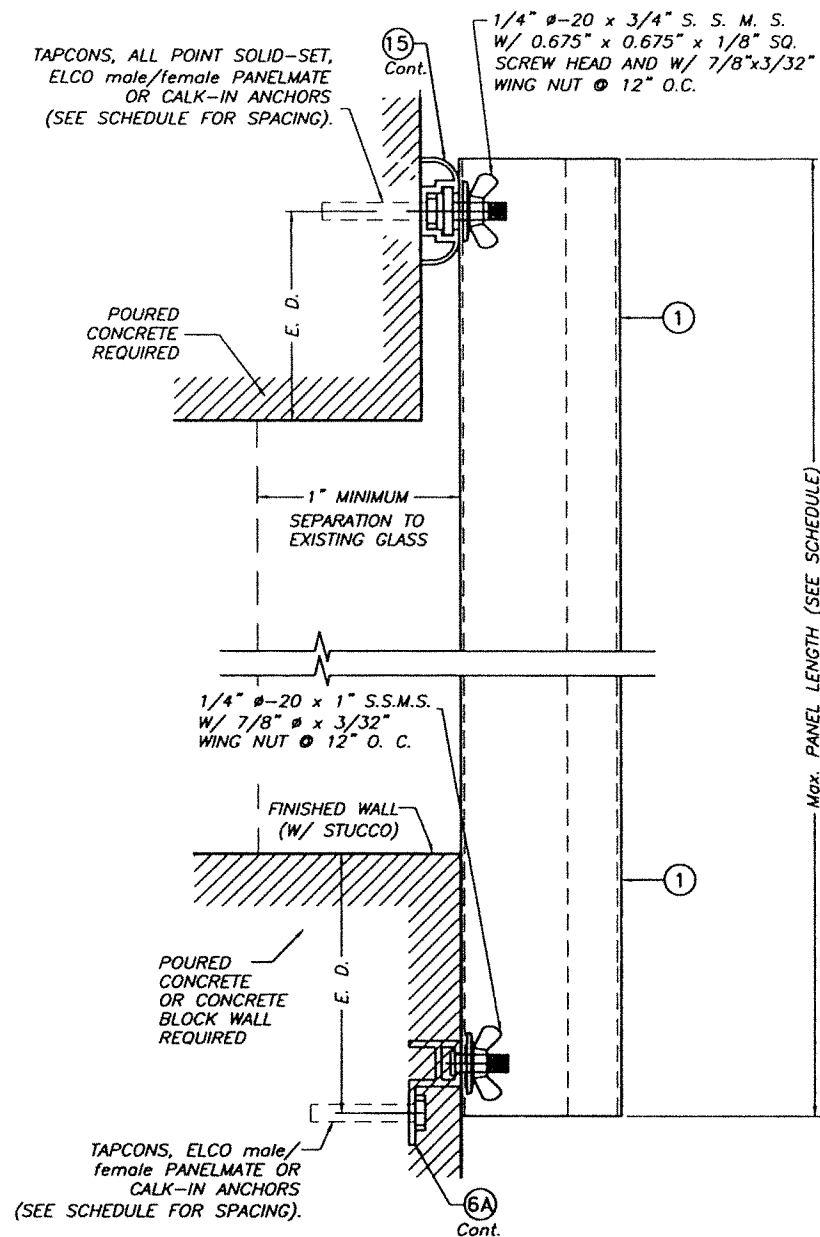
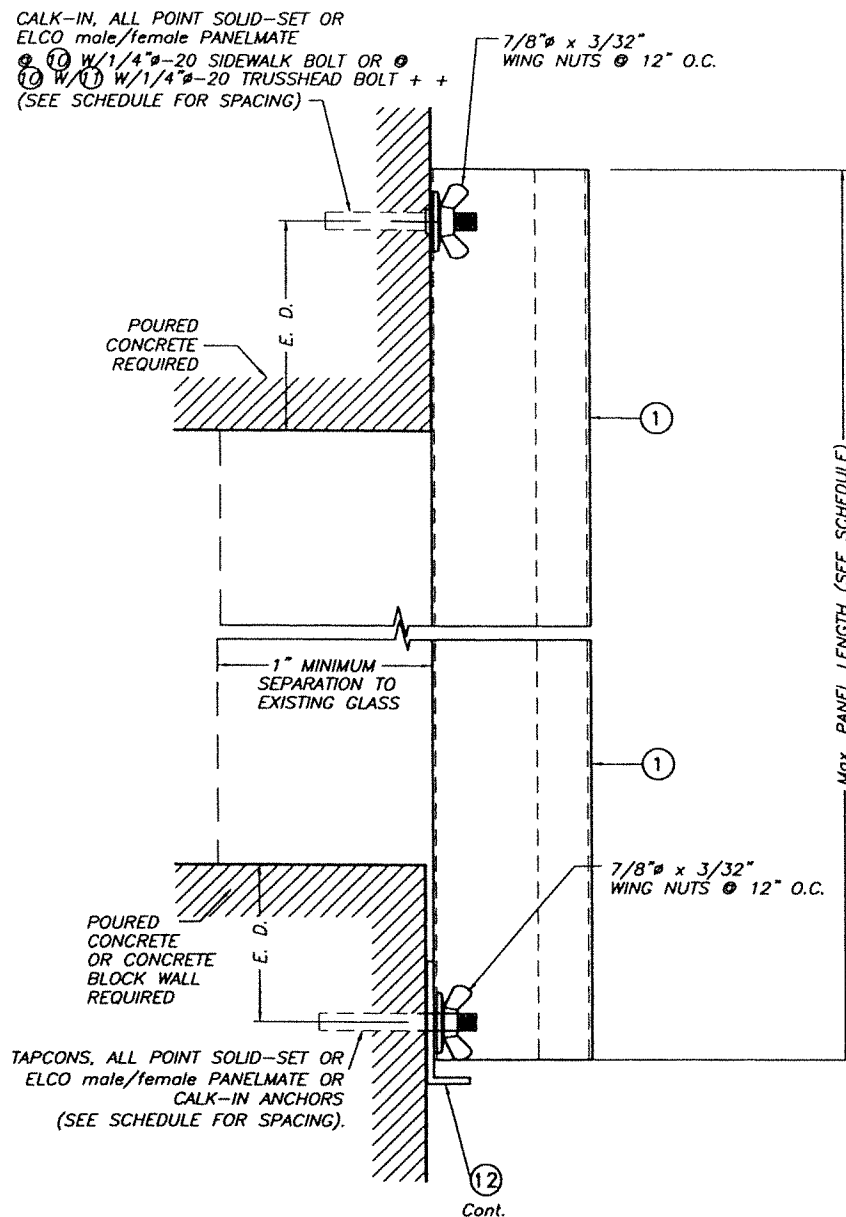


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© 2023 TILTECO, INC. TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305 VIRGINIA GARDENS, FLORIDA 33166 Phone : (305)871-1530 Fax : (305)871-1531 e-mail: tilteco@aol.com CA-0006719 WALTER A. TILLIT Jr., P.E. FLORIDA Lic. # 44167			0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP) EASTERN METAL SUPPLY, INC 4268 WESTROADS DRIVE WEST PALM BEACH, FL 33407 Phone: (800)432-2204 Fax: (561)209-8380			Y.M. DRAWN BY:
						7/28/2023 DATE
						23-144 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	
1	OLD 20-180	7/28/23	3	-	-	
2	-	-	4	-	-	

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/28/23	3	--	--



WALL MOUNTING INSTALLATION **SECTION 4**

SCALE : 3/8" = 1"

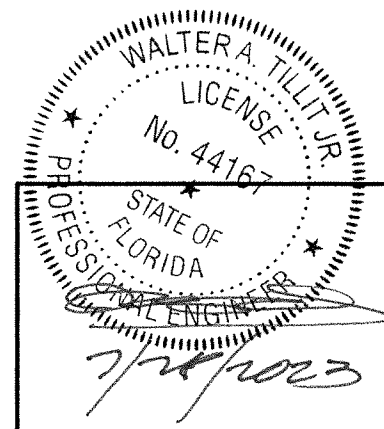
E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEETS 10 OF 15)

NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

+ +
SIDE WALK BOLTS ARE 3/4" #3/32" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)
+ +
TRUSS HEAD BOLTS ARE 1/2" #1/8" THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)

WALL MOUNTING INSTALLATION **SECTION 5**

SCALE : 3/8" = 1"



P.E. SEAL/SIGNATURE/DATE

BUILD OUT INSTALLATION **SECTION 6**

SCALE : 3/8" = 1"

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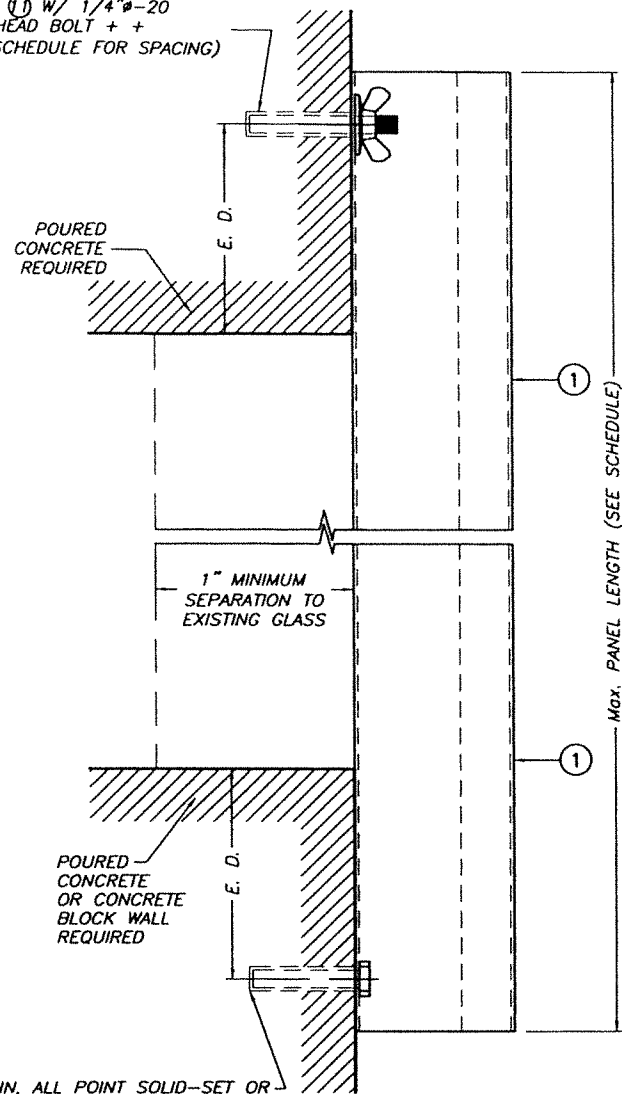
7/28/2023
DATE

23-144
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/28/23	3	-	-
2	-	-	4	-	-

SHEET 4 OF 15

CALK-IN, ALL POINT SOLID-SET OR
ELCO male/female PANELMATE Ⓢ ⑩
W/1/4"-20 SIDEWALK BOLT OR Ⓢ
⑩ W/ ⑩ W/ 1/4"-20
TRUSSHEAD BOLT + +
(SEE SCHEDULE FOR SPACING)



CALK-IN, ALL POINT SOLID-SET OR
ELCO male/female PANELMATE Ⓢ ⑩
W/1/4"-20 SIDEWALK BOLT OR Ⓢ
⑩ W/ ⑩ W/ 1/4"-20
TRUSSHEAD BOLT + +
(SEE SCHEDULE FOR SPACING)

WALL MOUNTING INSTALLATION (D. M.) SECTION 7

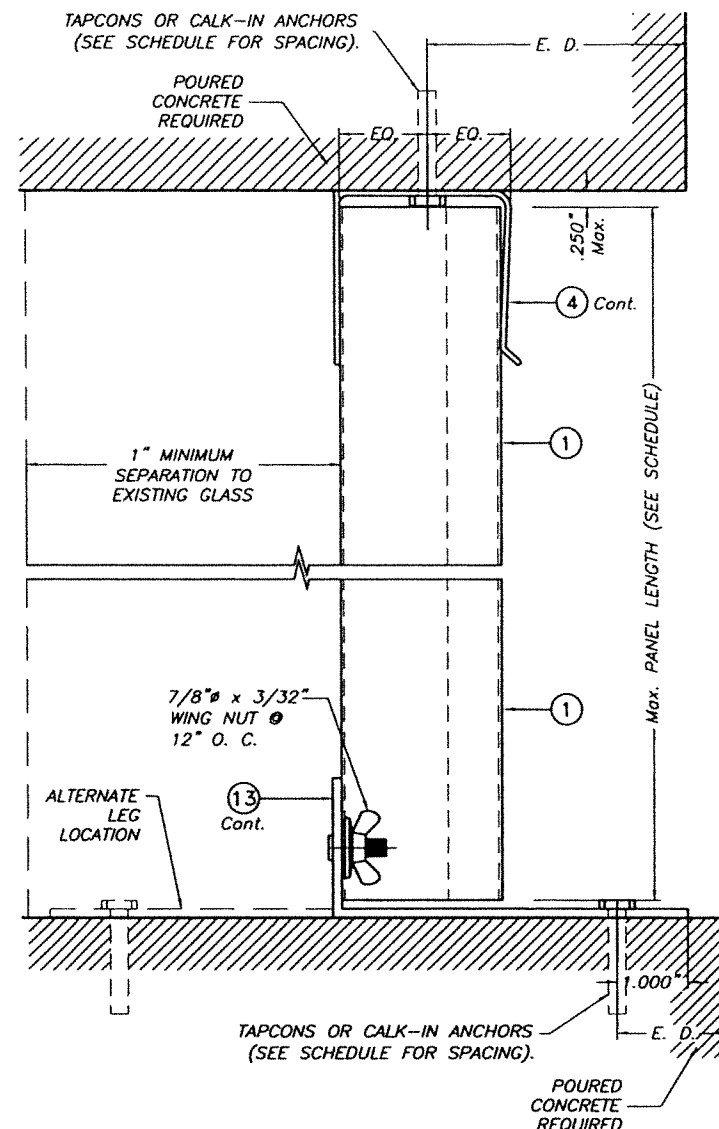
SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEET 10 OF 15)

NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

+ +
SIDE WALK BOLTS ARE 3/4"x3/32"THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)
+ +
TRUSS HEAD BOLTS ARE 1/2"x1/8"THICK
HEAD MACHINE SCREW W/LENGTH
AS PER NOTES A.2 & B.2 (SHEET 1)

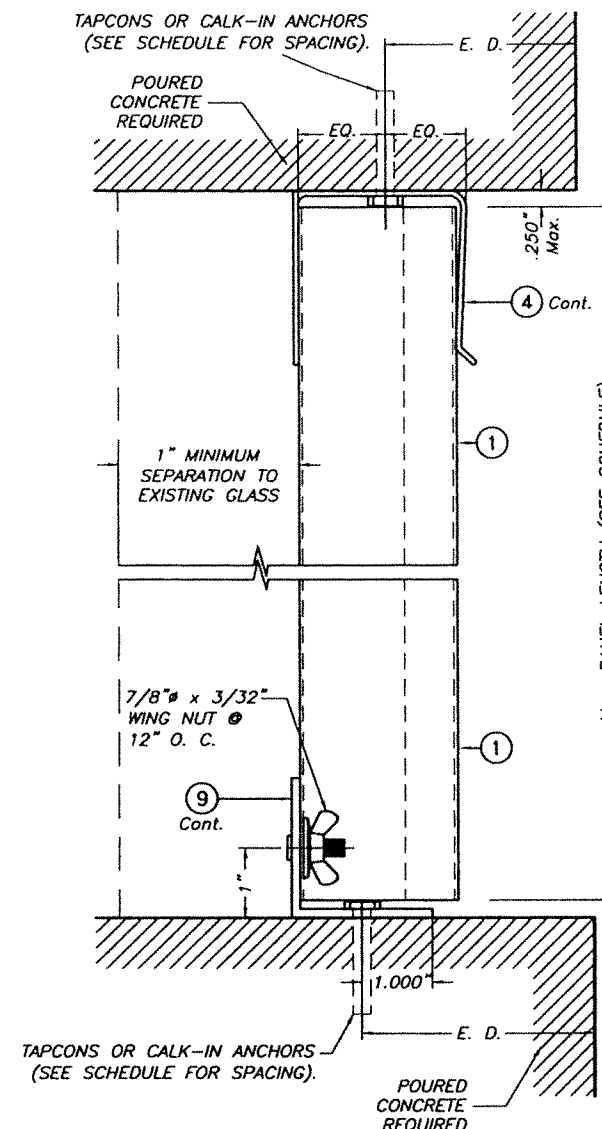
TAPCONS OR CALK-IN ANCHORS
(SEE SCHEDULE FOR SPACING).



CEILING & FLOOR MOUNTING INSTALLATION - SECTION 8

SCALE : 3/8" = 1"

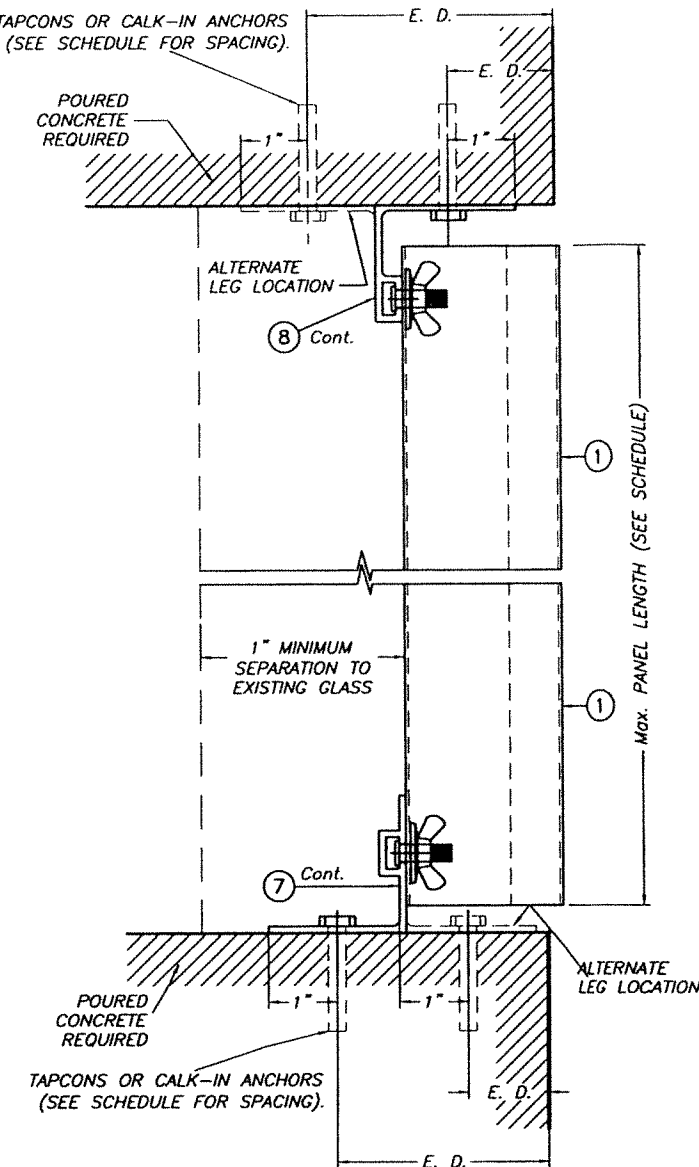
TAPCONS OR CALK-IN ANCHORS
(SEE SCHEDULE FOR SPACING).



ALTERNATE CEILING & FLOOR MOUNTING INSTALLATION - SECTION 8A

SCALE : 3/8" = 1"

TAPCONS OR CALK-IN ANCHORS
(SEE SCHEDULE FOR SPACING).



CEILING & FLOOR MOUNTING INSTALLATION - SECTION 9

SCALE : 3/8" = 1"

ALTERNATE CEILING & FLOOR MOUNTING INSTALLATION - SECTION 8A
VALID ONLY FOR Max. A.S.D DESIGN PRESSURE RATING OF +70, -75
PSF.

WALTER A. TILLIT JR.
LICENSE
No. 44167
STATE OF
FLORIDA
PROFESSIONAL ENGINEER
7/28/2023
P.E. SEAL/SIGNATURE/DATE

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

0.040" BERTHA ALUMINUM STORM PANEL
(2.25" DEEP)

EASTERN METAL SUPPLY, INC

4268 WESTROADS DRIVE
WEST PALM BEACH, FL 33407
Phone: (800)432-2204
Fax: (561)209-8380

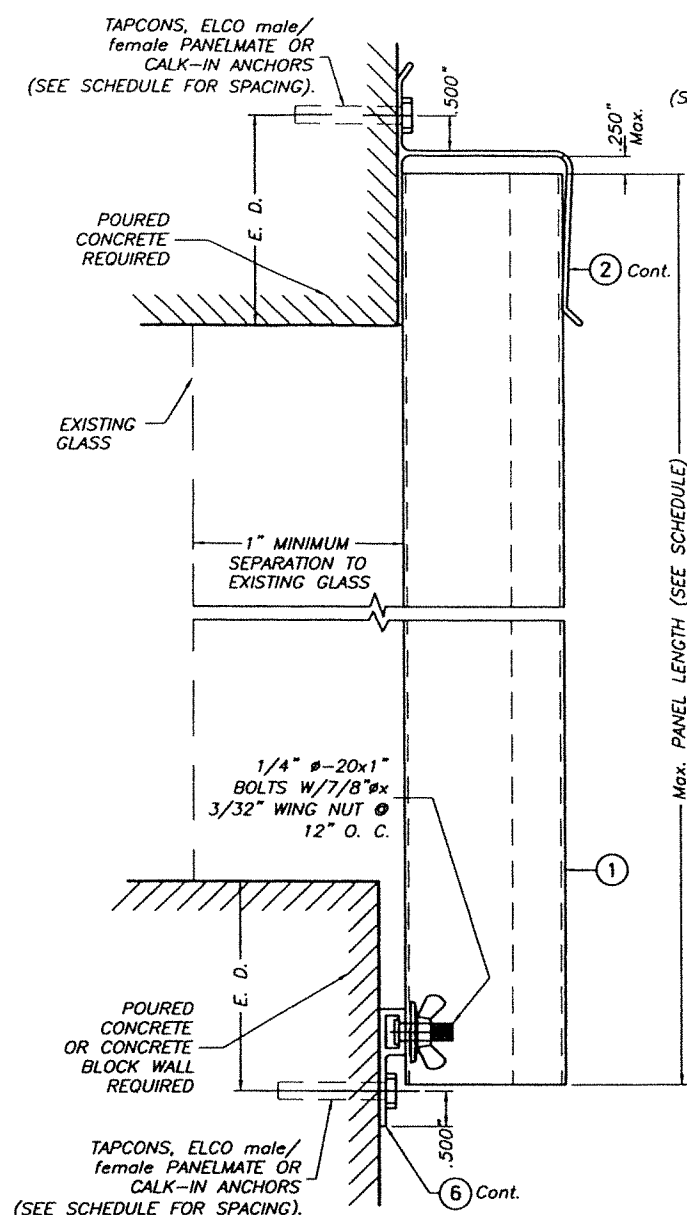
Y.M.
DRAWN BY:

7/28/2023
DATE

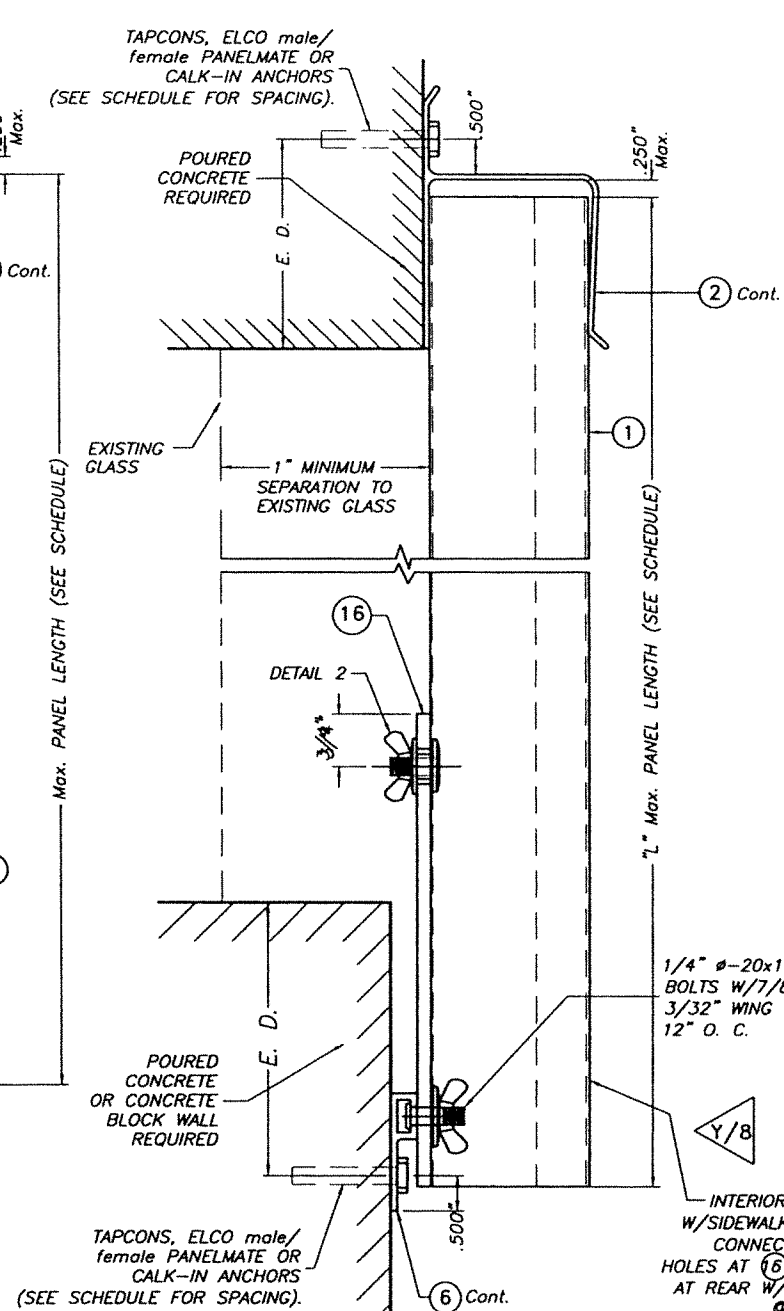
23-144
DRAWING No

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

SHEET 5 OF 15



SECTION 10A

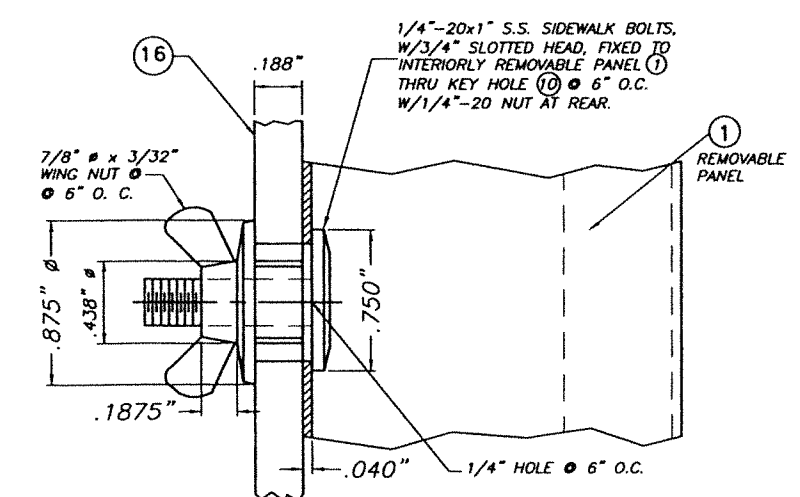


SECTION 10B

WALL MOUNTING INSTALLATIONS

SECTIONS 10

SCALE : 3/8" = 1"

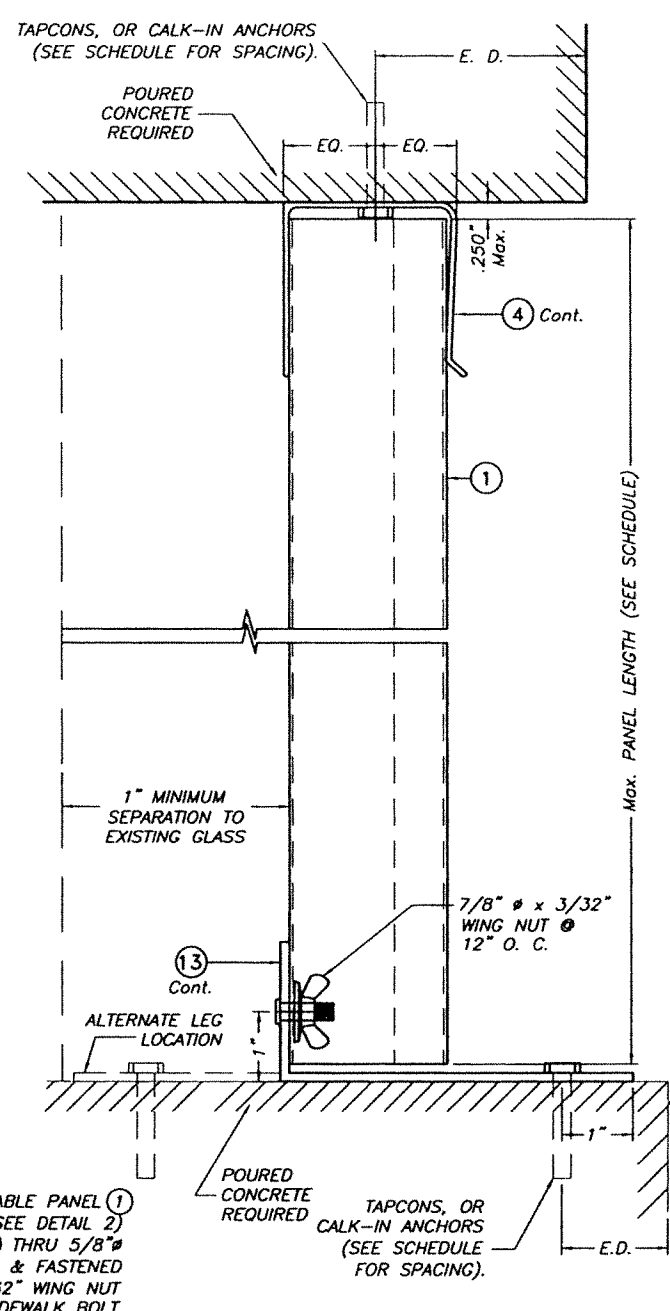


DETAIL 2 - INSTALLATION OF 1/4"x1" SIDEWALK BOLTS & REMOVABLE PANEL

SCALE: 1" = 1"

E. D. = EDGE DISTANCE (SEE SCHEDULE ON SHEET 10 OF 15)

NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

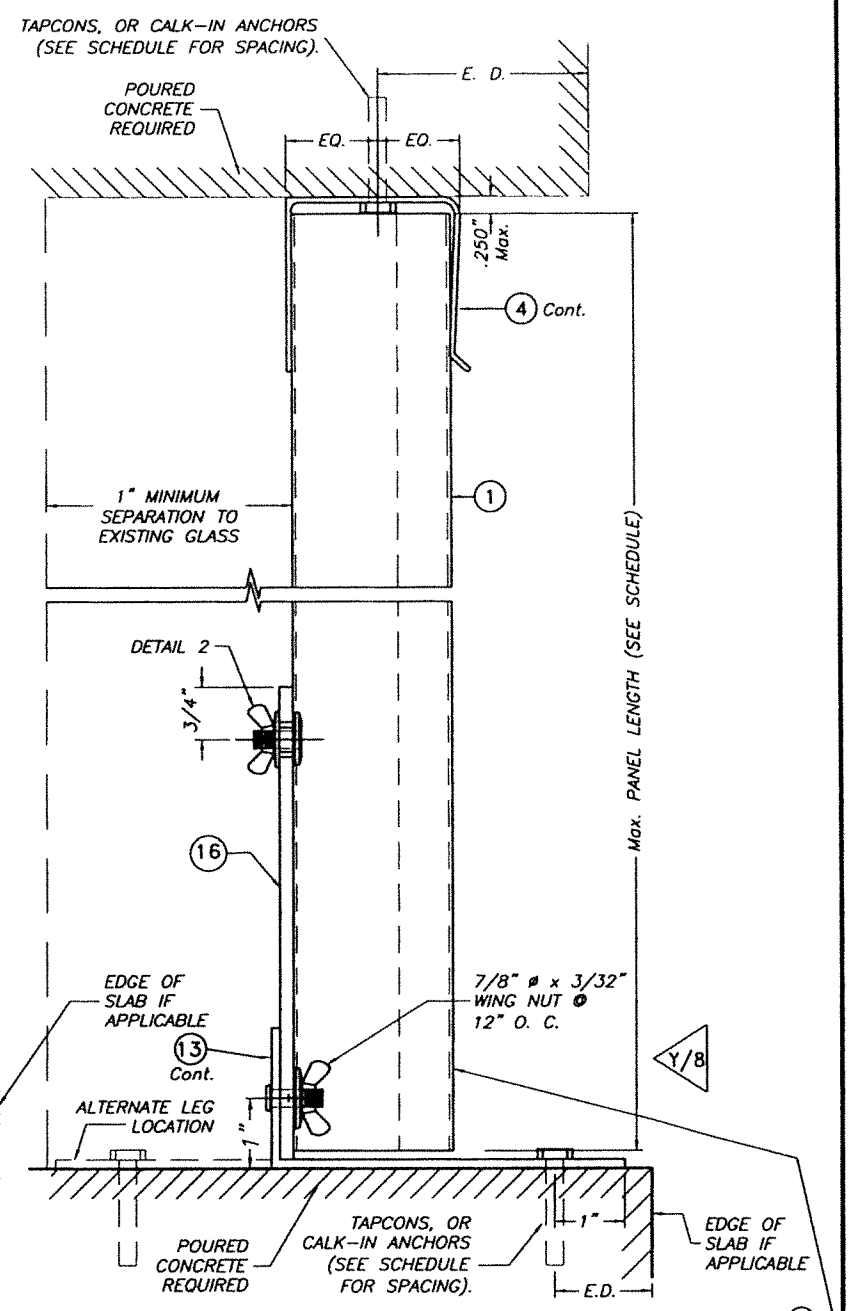


SECTION 11A

CEILING & FLOOR MOUNTING INSTALLATIONS

SECTIONS 11

SCALE : 3/8" = 1"

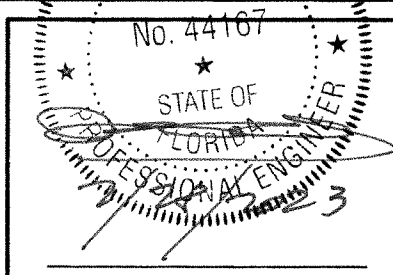


SECTION 11B

INTERIORLY REMOVABLE PANEL 1 W/SIDEWALK BOLTS (SEE DETAIL 2) CONNECTED TO 16 THRU 5/8" HOLES AT 16 6" O.C. & FASTENED AT REAR W/7/8"x3/32" WING NUT EVERY SIDEWALK BOLT.

INSTALLATIONS VALID FOR PANELS 1 USED JOINTLY WITH INTERIORLY REMOVABLE PANELS 1

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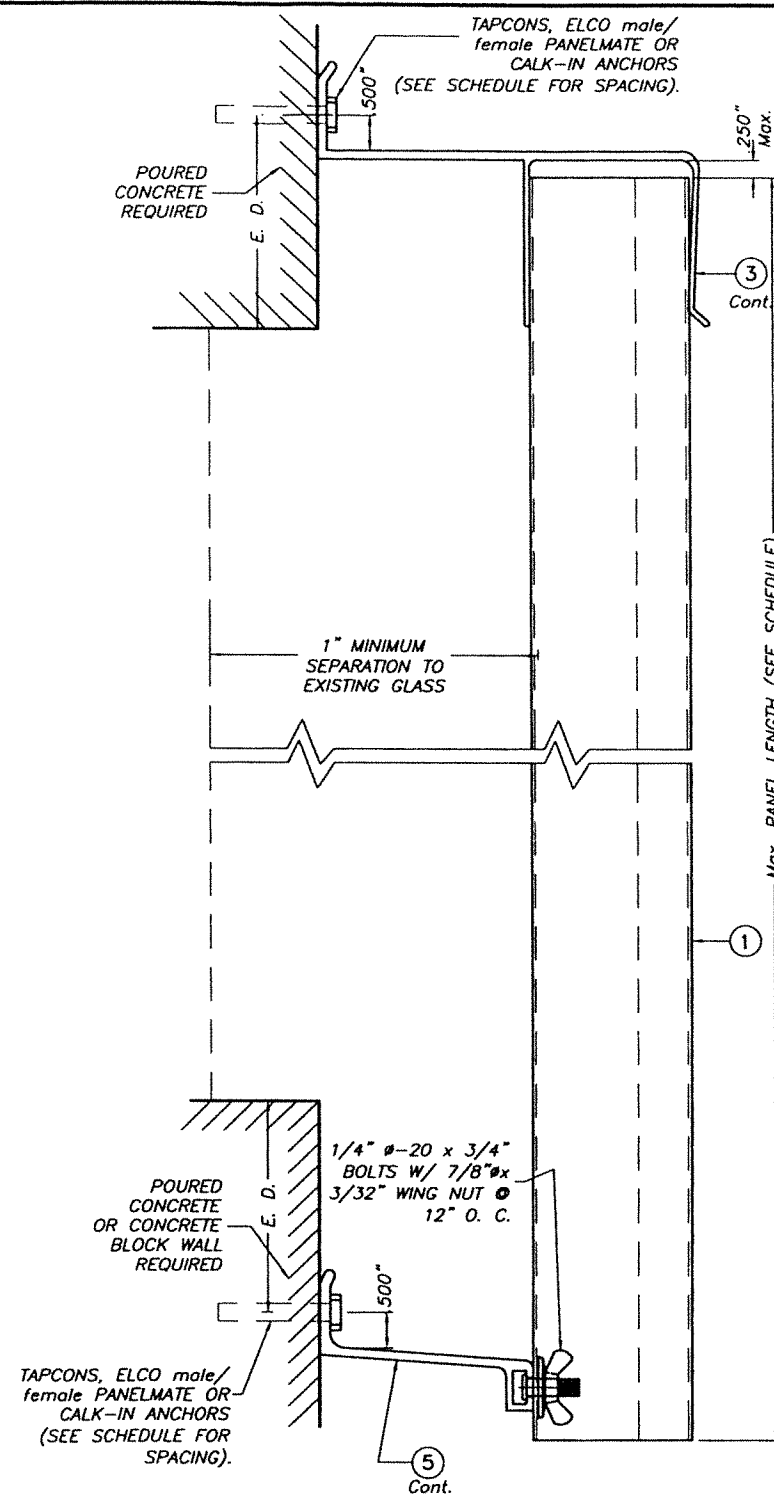
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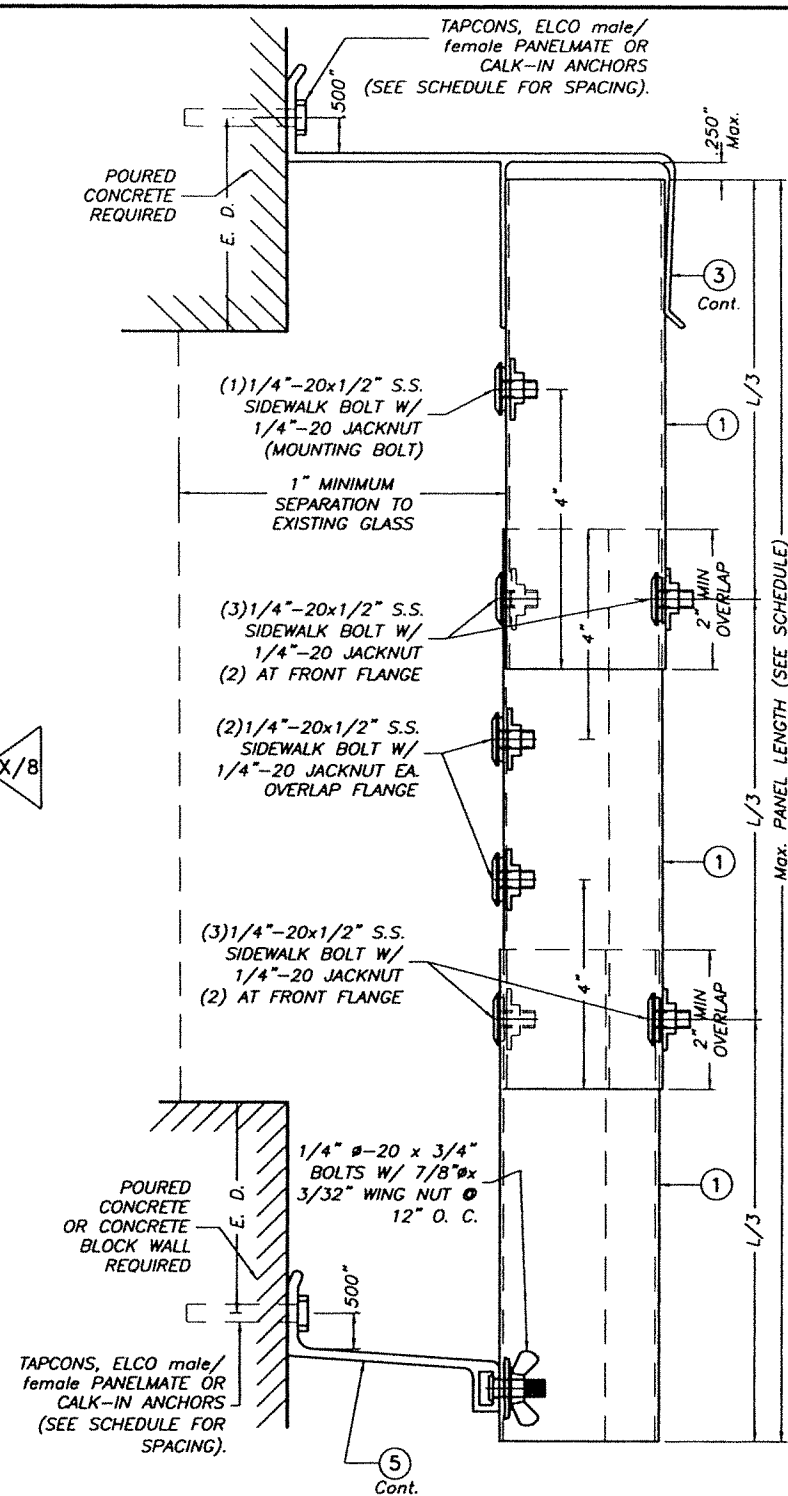
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6355 N.W. 36th St., Ste. 305 VIRGINIA GARDENS, FLORIDA 33166
Phone : (305)871-1530 . Fax : (305)871-1531
e-mail: tilteco@aol.com
CA-0006719
WALTER A. TILLIT Jr., P.E.
FLORIDA Lic. # 44167

0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)						Y.M. DRAWN BY:
EASTERN METAL SUPPLY, INC 4268 WESTROADS DRIVE WEST PALM BEACH, FL 33407 Phone: (800)432-2204 Fax: (561)209-8380						7/28/2023 DATE
						23-144 DRAWING No
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	SHEET 6 OF 15
1	OLD 20-100	7/28/23	3	-	-	
2	-	-	4	-	-	



SECTIONS 12A

X/8

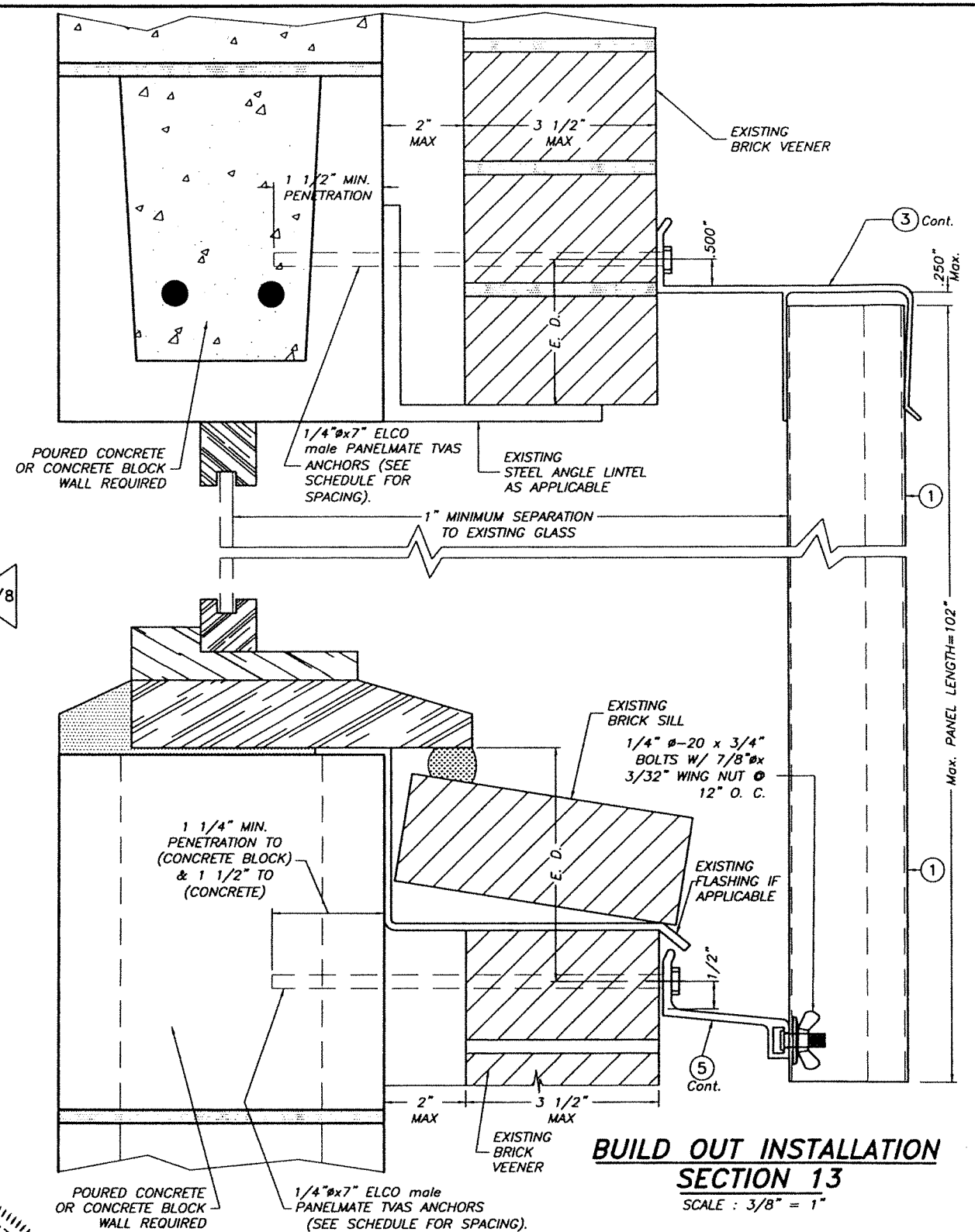


WALL MOUNTING INSTALLATIONS

SECTIONS 12
SCALE : 3/8" = 1"

SECTIONS 12B

X/8

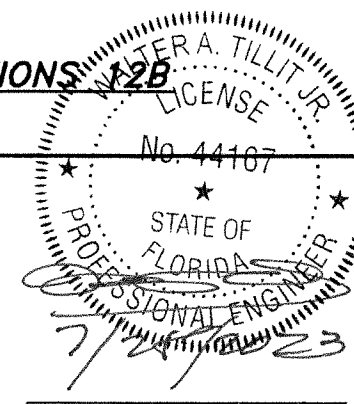


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E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEETS 10 OF 15)

INSTALLATIONS VALID FOR PANELS ① USED JOINTLY WITH INTERIORLY REMOVABLE PANELS ①

NOTE FOR COMBINATION OF SECTIONS :
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



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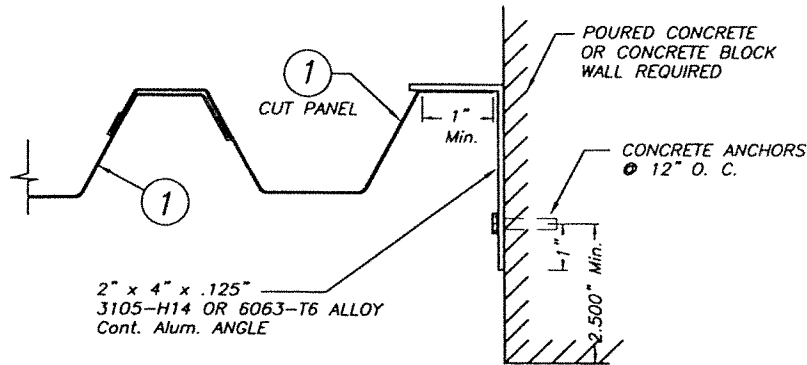
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SHEET 7 OF 15

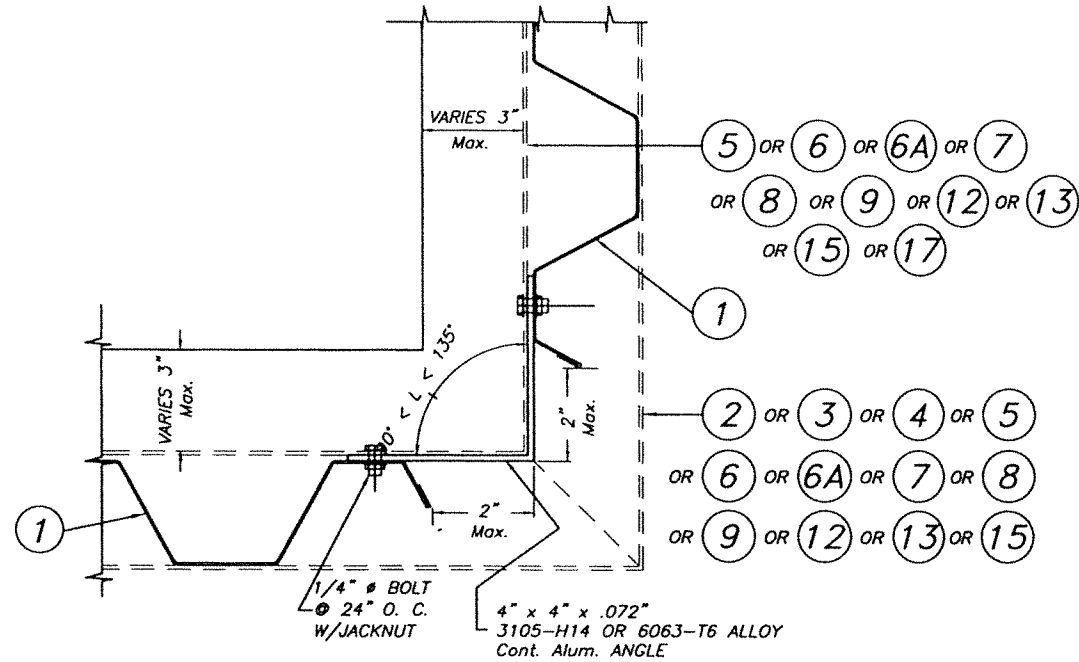
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SHEET 8 OF 15



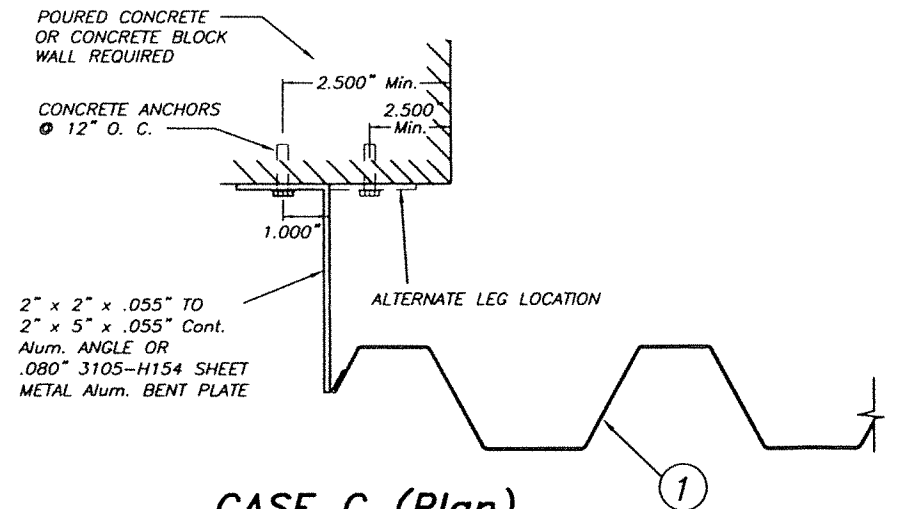
CASE A (Plan)

SCALE: 1/4" = 1"



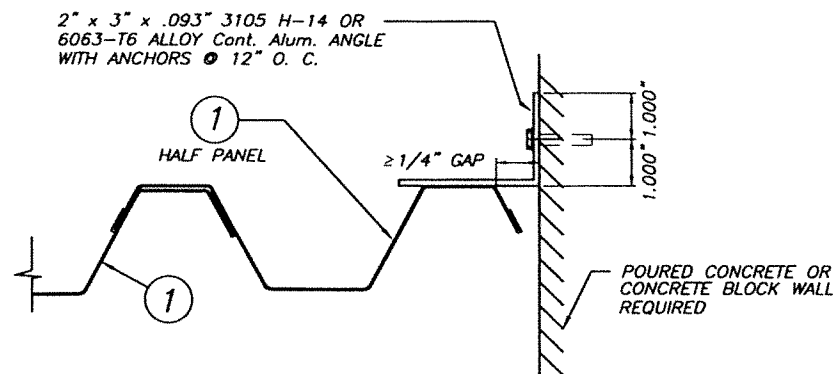
CASE B (Plan)

SCALE: 1/4" = 1"



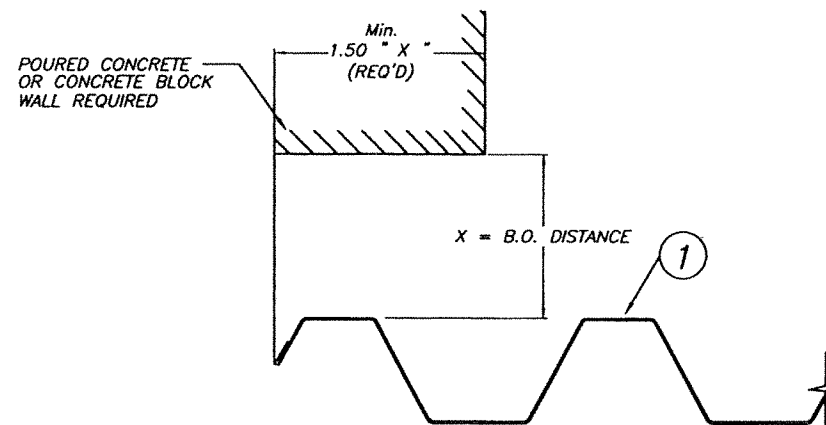
CASE C (Plan)

SCALE: 1/4" = 1"



CASE D (Plan)

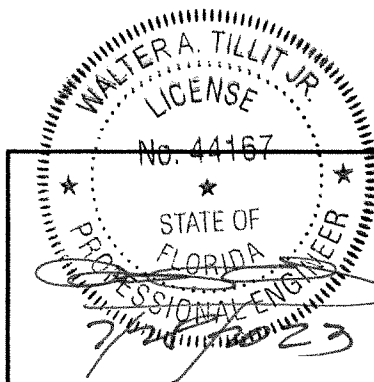
SCALE: 1/4" = 1"



CASE E (Plan) *

SCALE: 1/4" = 1"

END CLOSURES DETAILS



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WALTER A. TILLIT Jr., P.E.
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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)

EASTERN METAL SUPPLY, INC

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WEST PALM BEACH, FL 33407
Phone: (800)432-2204
Fax: (561)209-8380

Y.M.
DRAWN BY:

7/28/2023
DATE

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DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/28/23	3	-	-
2	-	-	4	-	-

SHEET 9 OF 15

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) WITH CORRESPONDING MAXIMUM PANEL LENGTH "L" (ft.) AND CORRESPONDING ANCHOR SPACING "S" (in.) SCHEDULE FOR INSTALLATIONS IN CONCRETE, CONCRETE BLOCK AND WOOD FRAME STRUCTURES *

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.) 0.040" ALUMINUM PANEL ①				Max. ANCHOR SPACING "S" (in.) PANELS ① **
	SECTIONS: 1, 3, 4, 6, 7, 8, 8A†, 9, 11	SECTIONS: 2, 5, 10	SECTION: 12	SECTION: 13	ALL SECTIONS
+25.0, -25.0	12'-0"	12'-0"	11'-9"	8'-6"	12"++
+25.0, -30.0	12'-0"	11'-5"	10'-9"	8'-6"	12"++
+30.0, -35.0	11'-1"	10'-6"	9'-11"	8'-6"	12"++
+35.0, -40.0	10'-5"	9'-10"	9'-4"	8'-6"	12"++
+40.0, -45.0	9'-10"	9'-4"	8'-9"	8'-6"	12"++
+45.0, -50.0	9'-4"	8'-10"	8'-4"	8'-6"	12"++
+50.0, -55.0	8'-10"	8'-5"	7'-11"	-	12"++
+55.0, -60.0	8'-6"	8'-1"	7'-7"	-	12"++
+60.0, -65.0	8'-0"	7'-9"	7'-4"	-	12"++
+65.0, -70.0	7'-5"	7'-5"	7'-0"	-	12"++
+70.0, -75.0	6'-11"	6'-11"	6'-9"	-	12"++
+75.0, -80.0	6'-6"	6'-6"	6'-6"	-	12"
+80.0, -85.0	6'-1"	6'-1"	6'-1"	-	12"
+85.0, -90.0	5'-9"	5'-9"	5'-9"	-	12"
+90.0, -95.0	5'-6"	5'-6"	5'-6"	-	12"
+95.0, -100.0	5'-2"	5'-2"	5'-2"	-	12"
+100.0, -105.0	4'-11"	4'-11"	4'-11"	-	12"
+105.0, -110.0	4'-9"	4'-9"	4'-9"	-	12"
+110.0, -115.0	4'-6"	4'-6"	4'-6"	-	12"
+115.0, -120.0	4'-4"	4'-4"	4'-4"	-	12"
+120.0, -125.0	4'-2"	4'-2"	4'-2"	-	12"
+125.0, -130.0	4'-0"	4'-0"	4'-0"	-	12"

† SECTION 8A IS ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING UP TO +70, -75 PSF.
†† Max. ANCHOR SPACING FOR SECTION 8A SHALL BE 6" O.C.

NOTE: MINIMUM PANEL LENGTH IS 3'-0".

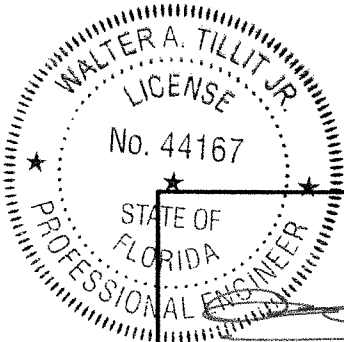
** MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE : Min. E. D. FOR CALK-IN ANCHORS IS 2 1/2"). FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.

ACTUAL E. D.	FACTOR			
	PANELMATES	TAPCON	SOLID-SET	CALK-IN
3"	.86	-	.78	.75
2 1/2"	.71	-	-	.50
2"	.50	-	-	-
1 1/2"	-	.35	-	-

ANCHORS LEGEND

ANCHORS TYPE	ANCHOR MIN. SPACING
TAPCON/PANELMATES	3.0"
CALK-IN	2.5"
SOLID-SET	3.5"

* SEE NOTES ON SHEET 11 THRU 15 OF 15 FOR PANEL LENGTH LIMITATIONS FOR FLOOR/CEILING INSTALLATIONS INTO WOOD FRAME BUILDINGS.



P.E. SEAL/SIGNATURE/DATE

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

0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)

EASTERN METAL SUPPLY, INC

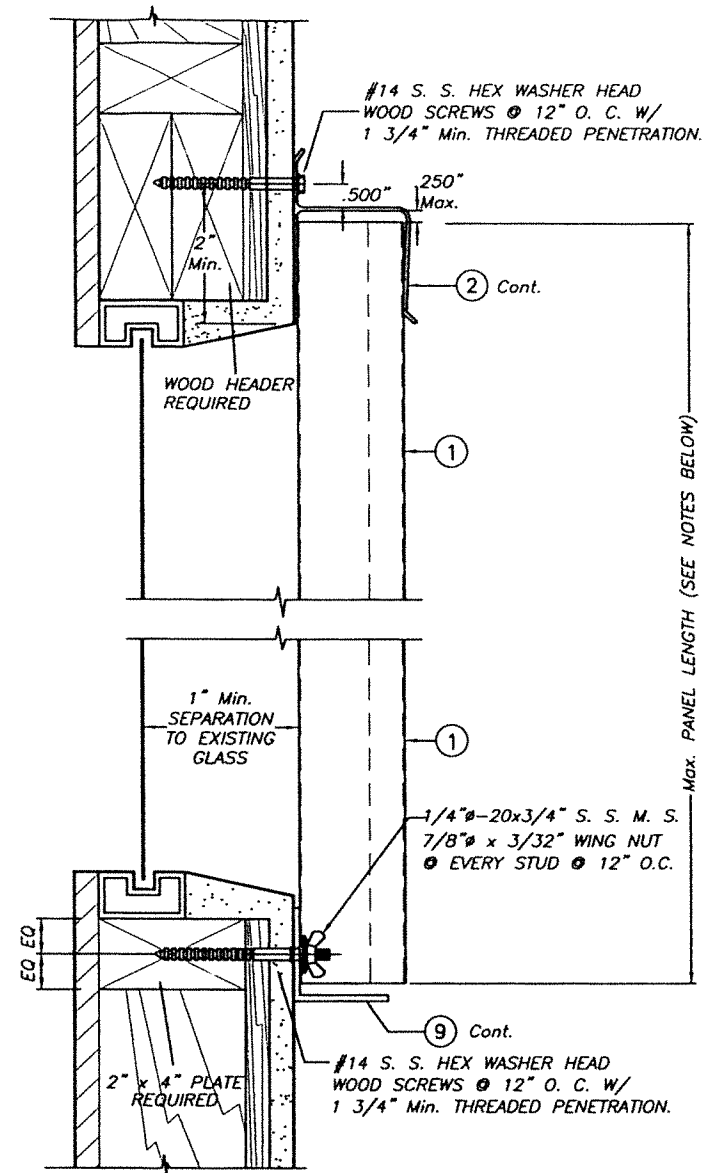
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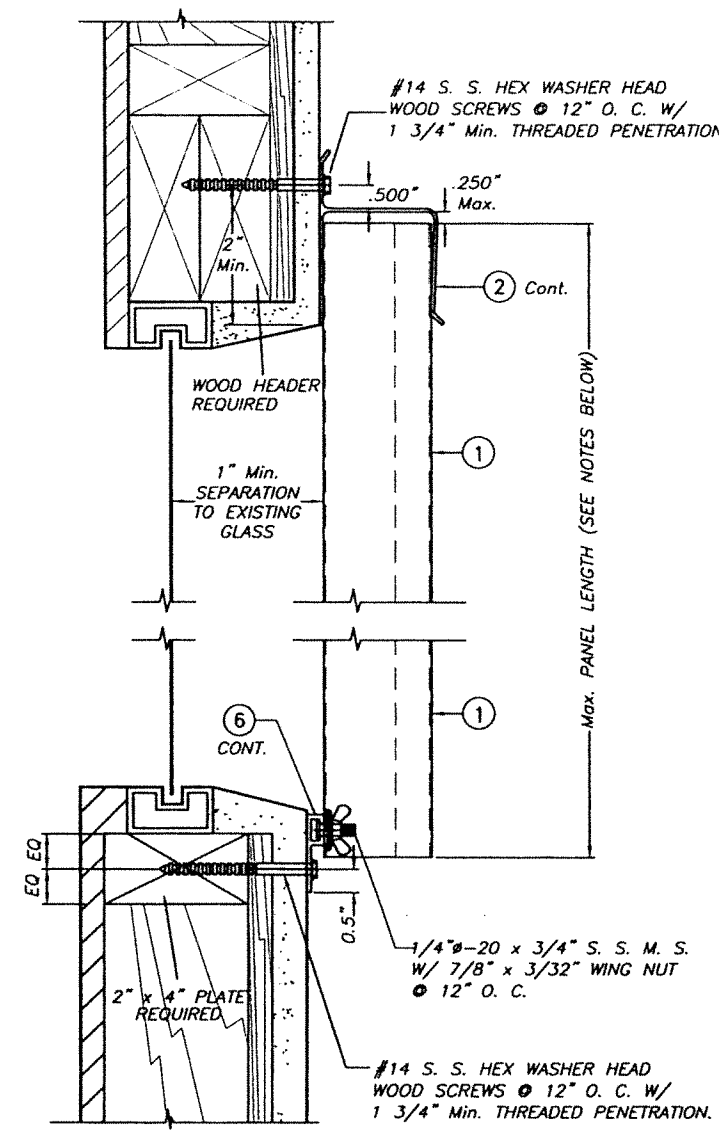
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DATE

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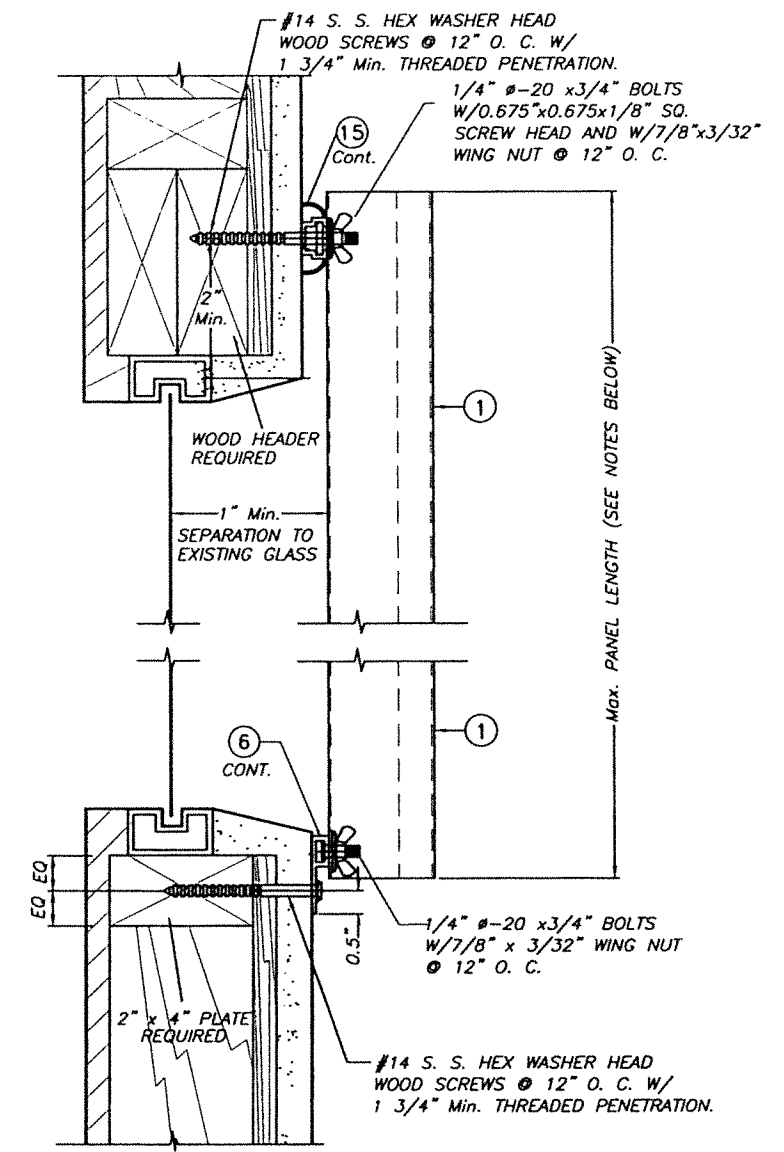
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WALL MOUNTING INSTALLATION
ALTERNATIVE 1 SCALE : 1/4" = 1"



WALL MOUNTING INSTALLATION
ALTERNATIVE 2 SCALE : 1/4" = 1"



WALL MOUNTING INSTALLATION
ALTERNATIVE 3 SCALE : 1/4" = 1"

NOTE FOR COMBINATION OF SECTIONS:
 WALL MOUNTING SECTIONS CAN BE COMBINED
 IN ANY WAY TO SUIT ANY INSTALLATION.

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

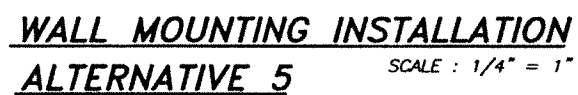
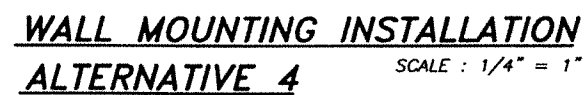
- NOTES:**
1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND Max. PANEL LENGTH AS PER SCHEDULES SHOWN ON SHEET 10 OF 15 EXCEPT THAT PANEL'S LENGTHS FOR FLOOR/CEILING INSTALLATIONS SHALL BE LIMITED TO 109"
 2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

WALTER A. TILLIT JR.
 LICENSE
 No. 44167
 STATE OF FLORIDA
 PROFESSIONAL ENGINEER
 7/28/2023
 P.E. SEAL/SIGNATURE/DATE

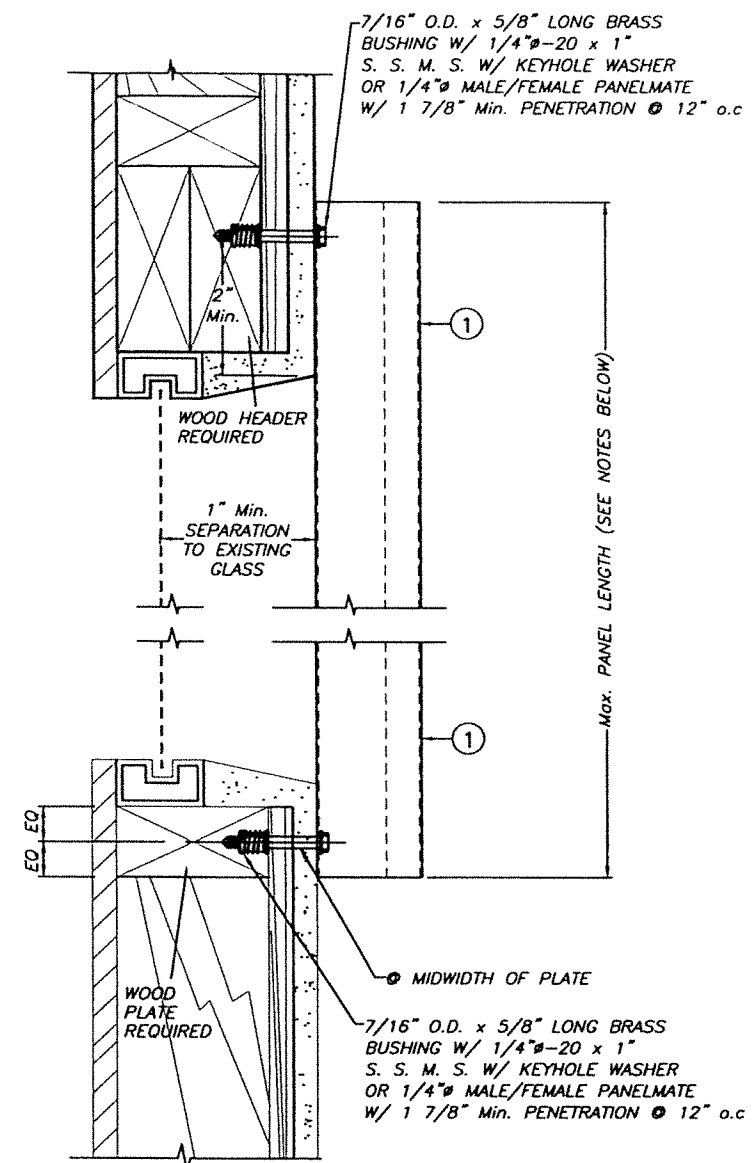
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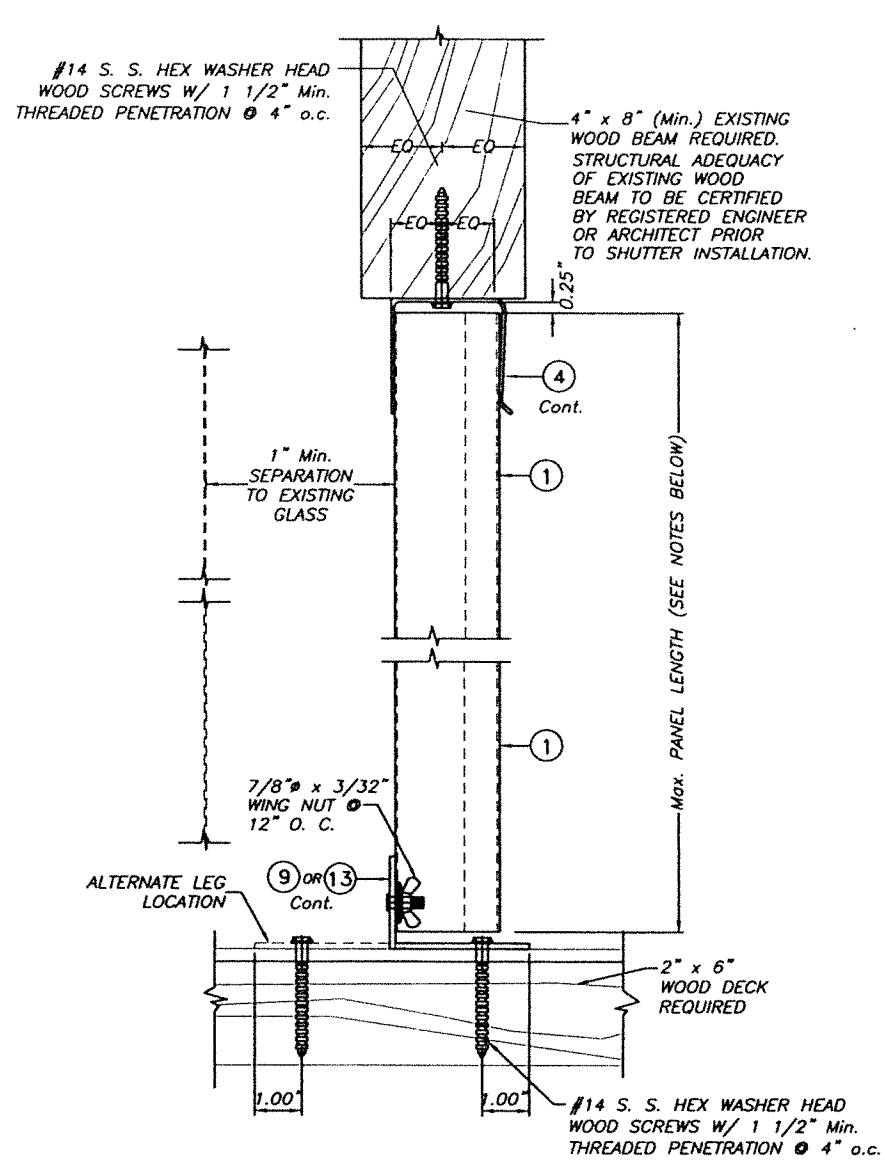
0.040" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)					Y.M. DRAWN BY:
EASTERN METAL SUPPLY, INC					7/28/2023 DATE
4268 WESTROADS DRIVE WEST PALM BEACH, FL 33407 Phone: (800)432-2204 Fax: (561)209-8380					23-144 DRAWING No
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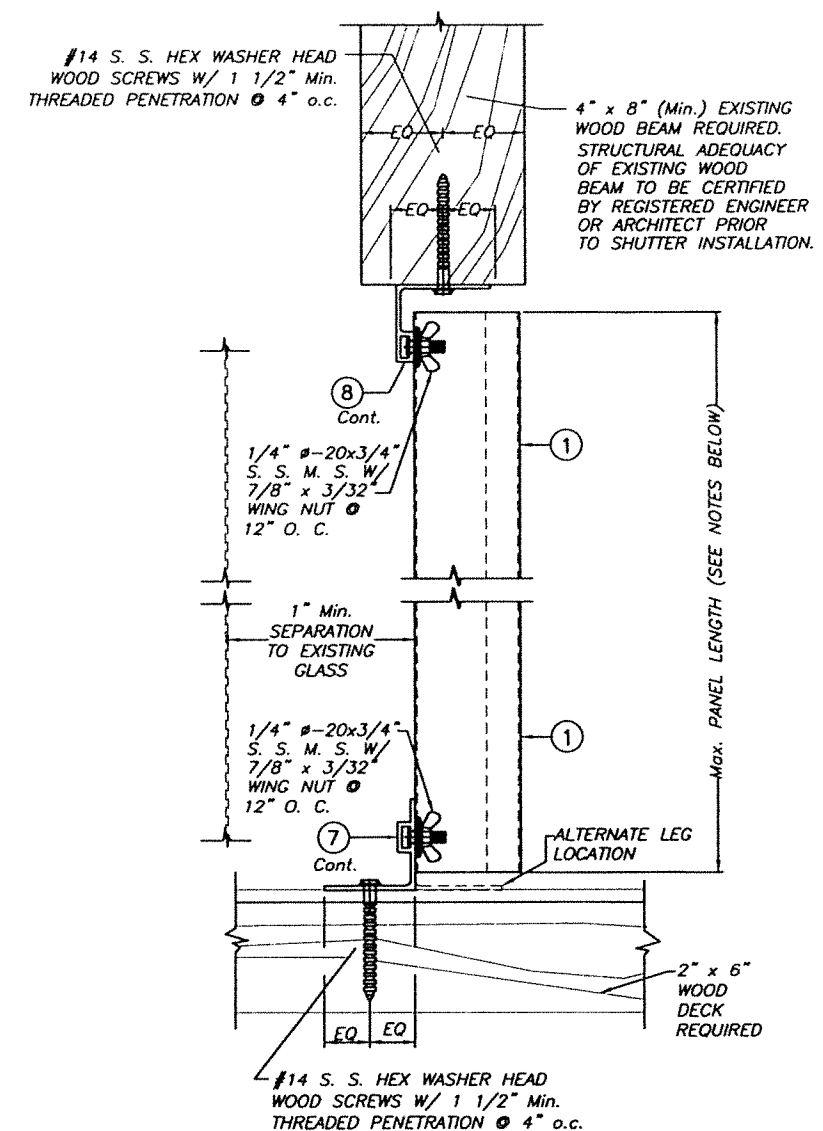
ET 12 OF 15



WALL MOUNTING INSTALLATION (D. M.)
ALTERNATIVE 7 SCALE : 1/4" = 1"



CEILING & FLOOR MOUNTING INSTALLATION
ALTERNATIVE 8 SCALE : 1/4" = 1"



CEILING & FLOOR MOUNTING INSTALLATION
ALTERNATIVE 9 SCALE : 1/4" = 1"

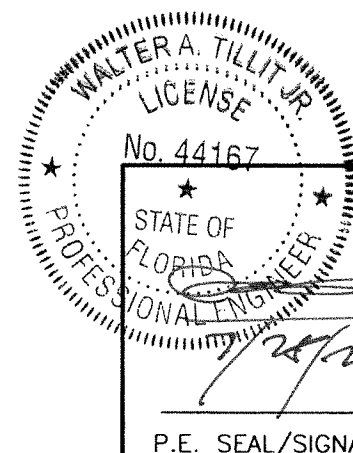
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

NOTE FOR COMBINATION OF SECTIONS:

WALL MOUNTING SECTIONS CAN BE COMBINED
 IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:

1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND Max. PANEL LENGTH AS PER SCHEDULES SHOWN ON SHEET 10 OF 15 EXCEPT THAT PANEL'S LENGTHS FOR FLOOR/CEILING INSTALLATIONS SHALL BE LIMITED TO 109"
2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

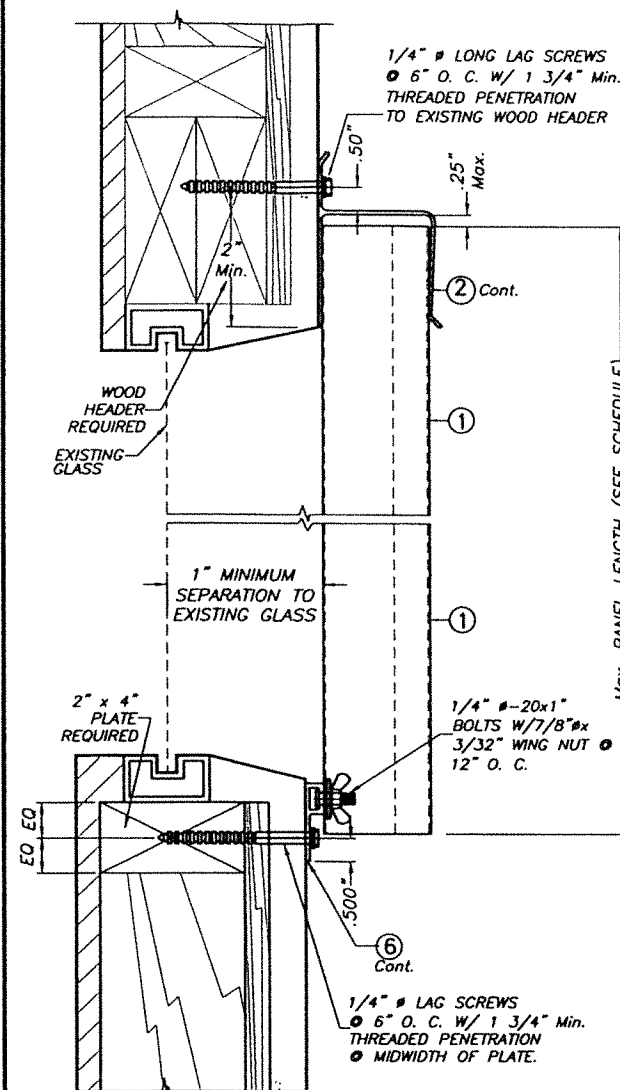
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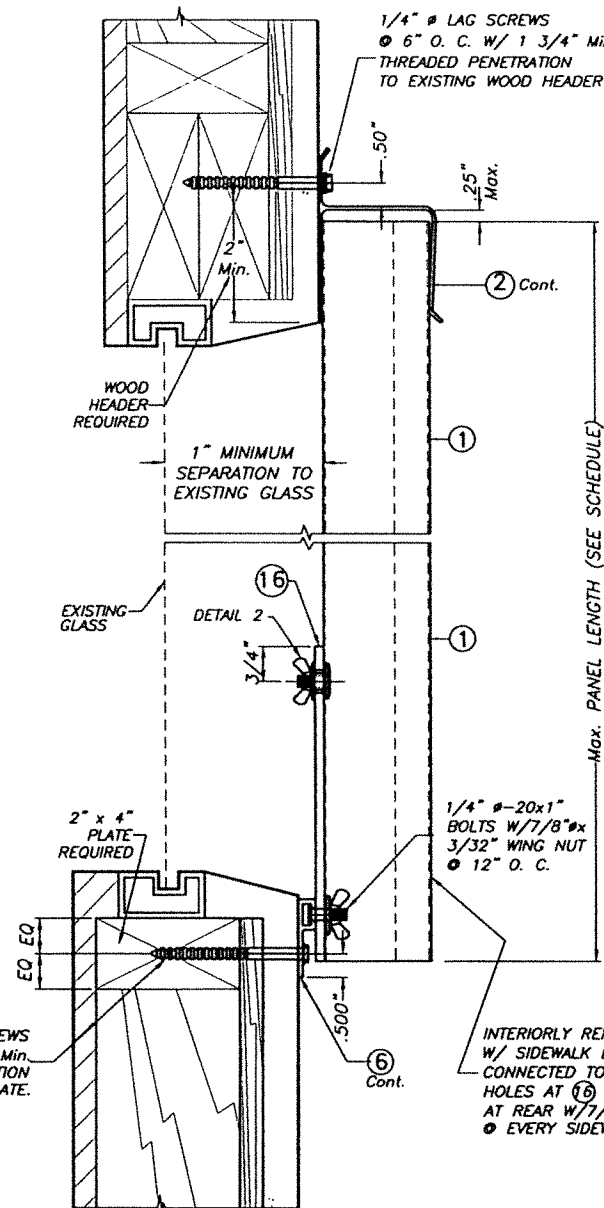
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 SHEET 13 OF 15



ALTERNATIVE 10A

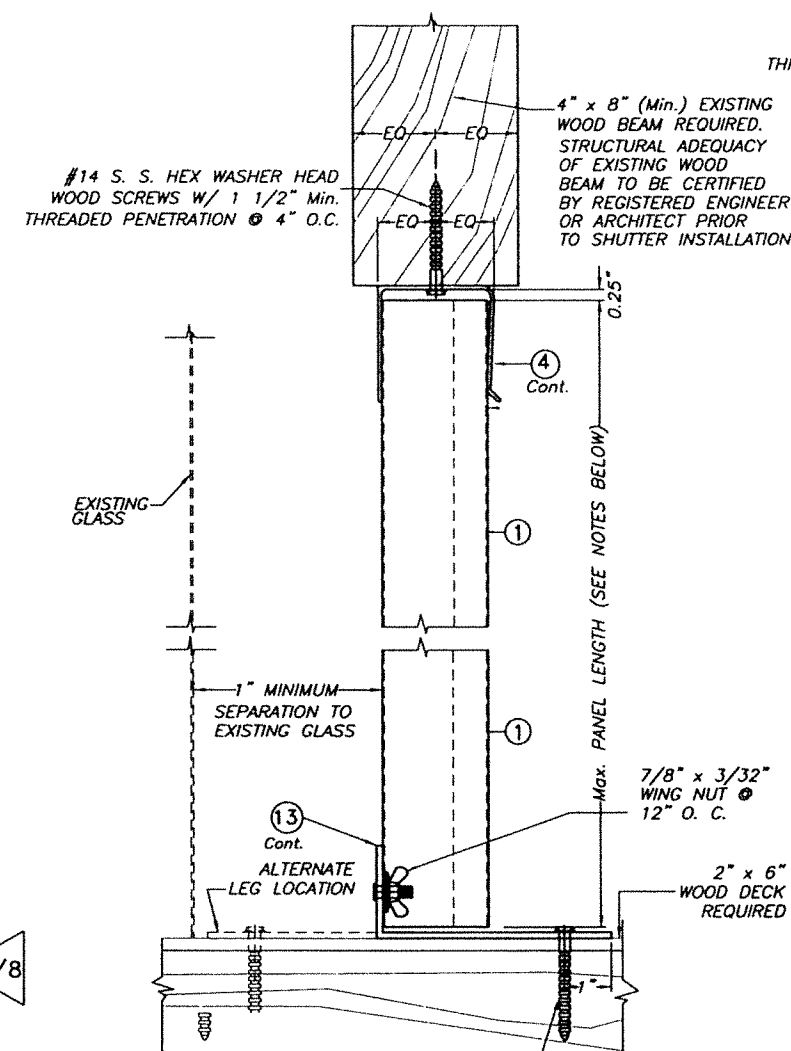
SCALE : 3/8" = 1"

**WALL MOUNTING INSTALLATIONS
SECTIONS 10**

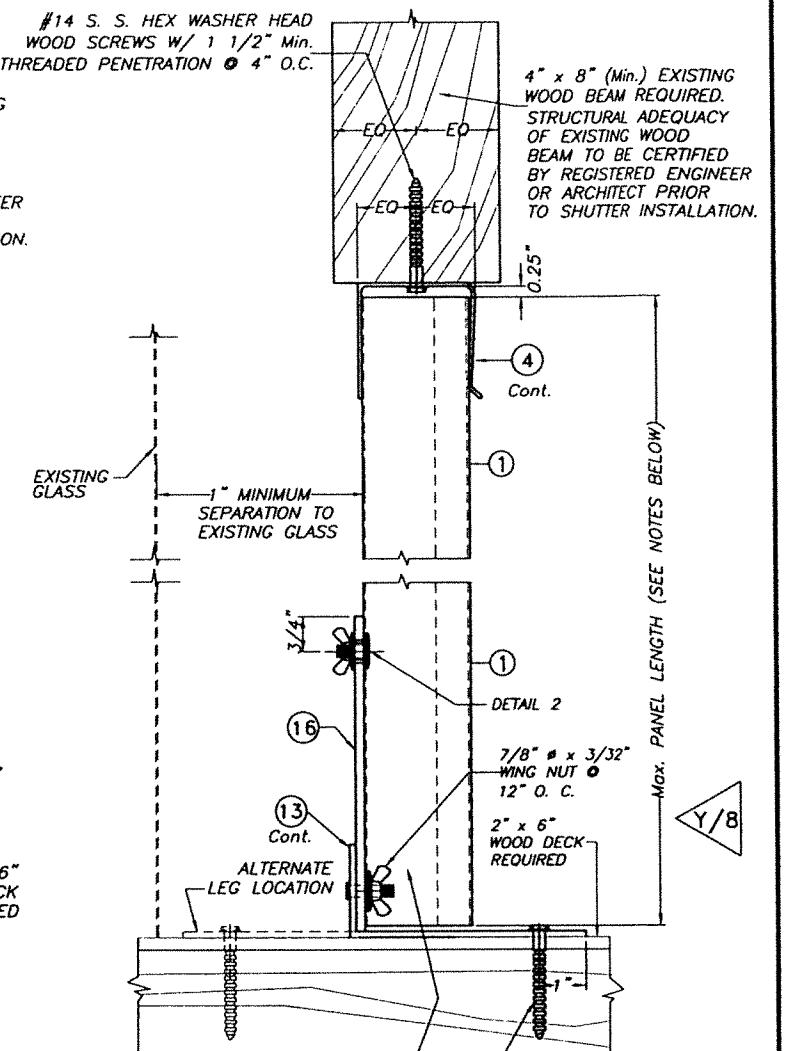


ALTERNATIVE 10B

SCALE : 3/8" = 1"



ALTERNATIVE 11A



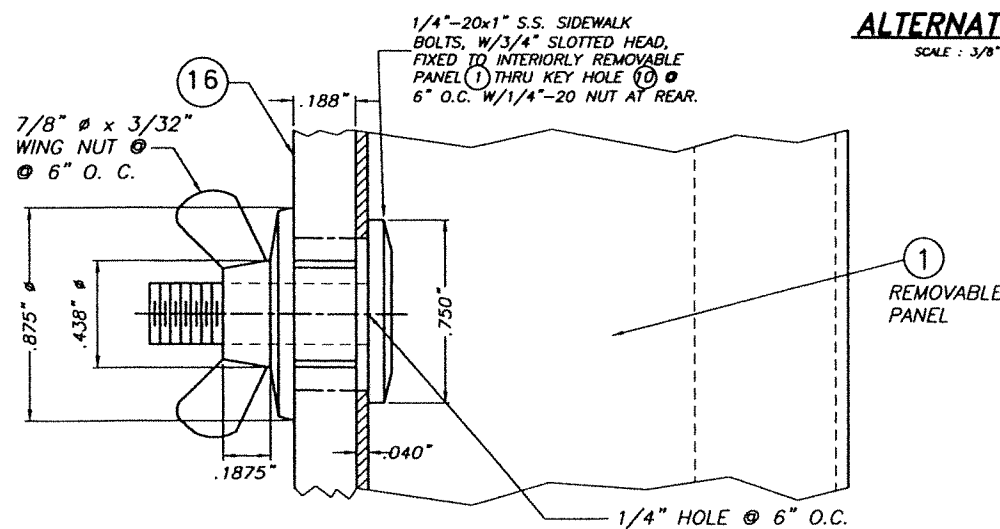
ALTERNATIVE 11B

**CEILING & FLOOR MOUNTING INSTALLATIONS
SECTIONS 11**

SCALE : 1/4" = 1"

**INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS
VALID FOR PANELS ① USED JOINTLY
WITH INTERIORLY REMOVABLE PANELS ①**

NOTE FOR COMBINATION OF SECTIONS:
WALL MOUNTING SECTIONS CAN BE COMBINED
IN ANY WAY TO SUIT AN INSTALLATION.



**DETAIL 2 - INSTALLATION OF 1/4"x1"
SIDEWALK BOLTS @ REMOVABLE PANEL**

NOTES:

- INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND Max. PANEL LENGTH AS PER SCHEDULES SHOWN ON SHEET 10 OF 15 EXCEPT THAT PANEL'S LENGTHS FOR FLOOR/CEILING INSTALLATIONS SHALL BE LIMITED TO 109"
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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P.E. SEAL/SIGNATURE/DATE

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(2.25" DEEP)**

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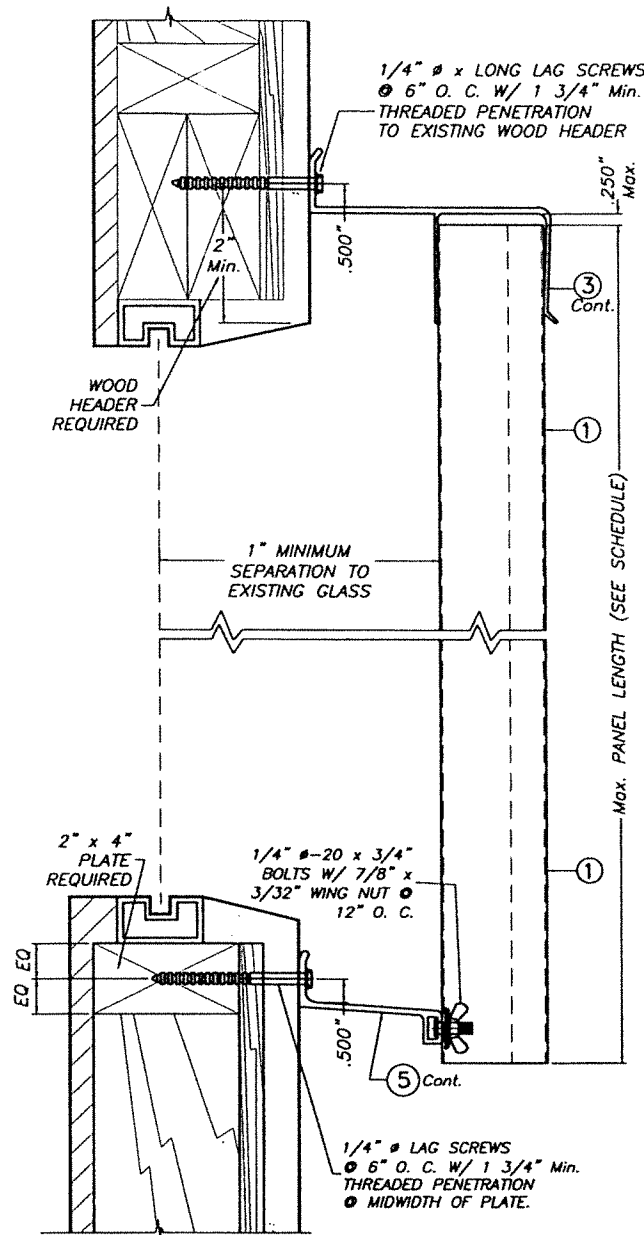
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7/28/2023
DATE

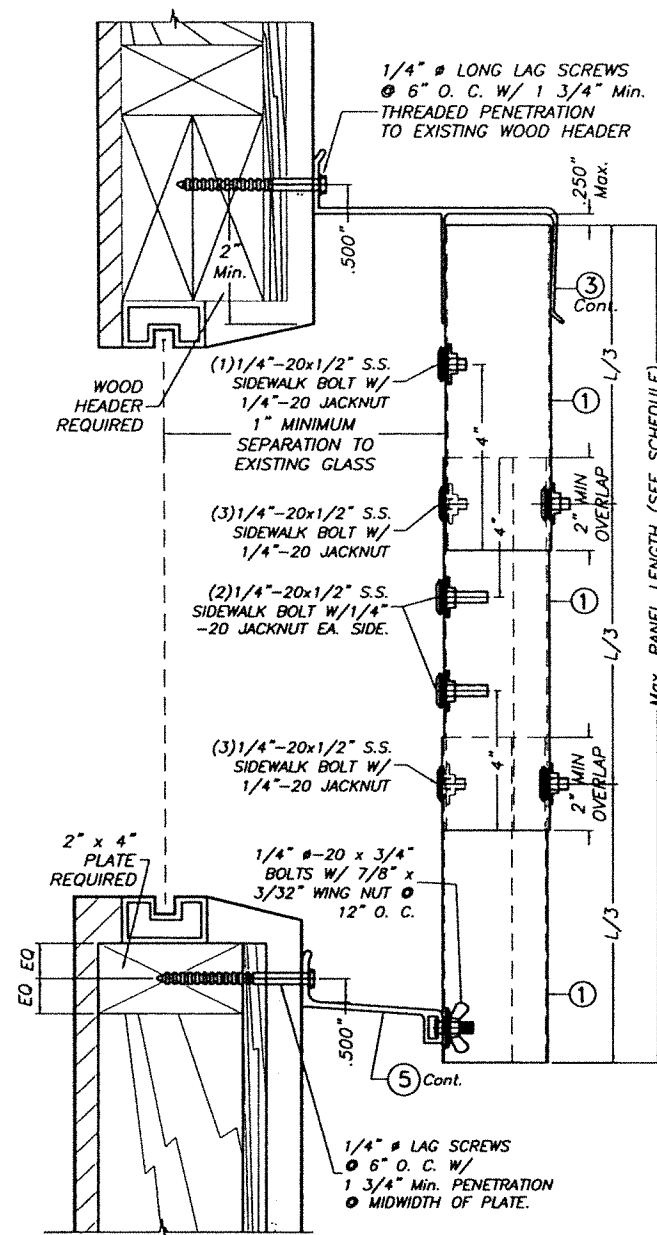
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REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/28/23	3	-	-
2	-	-	4	-	-

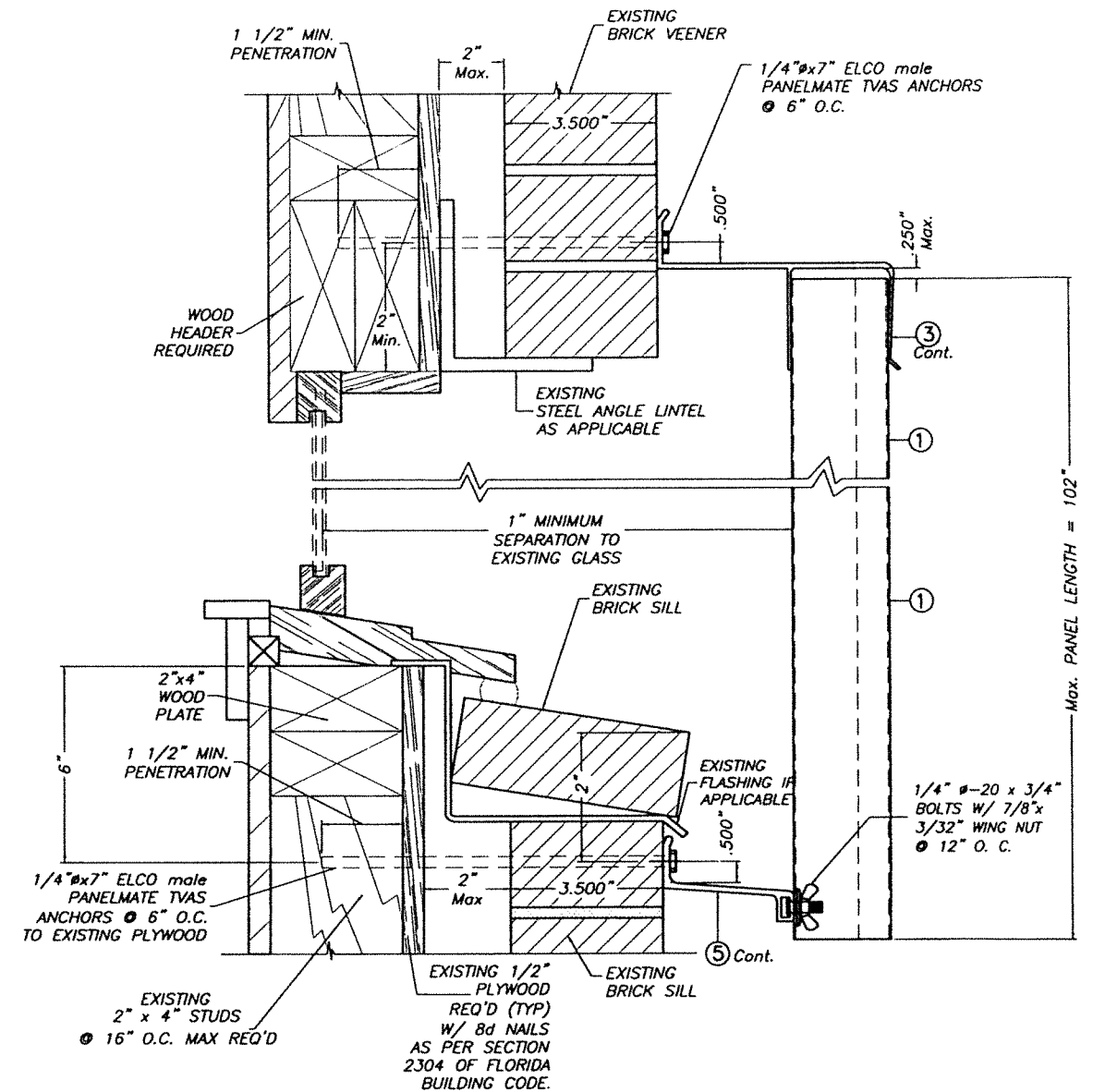
SHEET 14 OF 15



ALTERNATIVE 13A



ALTERNATIVE 13B



ALTERNATIVE 14
BUILD-OUT INSTALLATION
 SCALE : 1/8" = 1"

WALL MOUNTING INSTALLATIONS
 SCALE : 1/8" = 1"

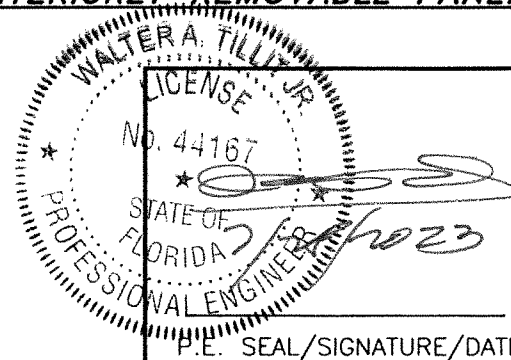
INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS
VALID FOR PANELS (1) USED JOINTLY
WITH INTERIORLY REMOVABLE PANELS (1)

NOTE FOR COMBINATION OF SECTIONS:

WALL MOUNTING SECTIONS CAN BE COMBINED
 IN ANY WAY TO SUIT ANY INSTALLATION.

NOTES:

- INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND Max. PANEL LENGTH AS PER SCHEDULES SHOWN ON SHEET 10 OF 15 EXCEPT THAT PANEL'S LENGTHS FOR FLOOR/CEILING INSTALLATIONS SHALL BE LIMITED TO 109"
- FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



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TILTECO INC.
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 e-mail: tilteco@aol.com
 CA-0006719
 WALTER A. TILLIT Jr., P.E.
 FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

0.040" BERTHA ALUMINUM STORM PANEL
 (2.25" DEEP)

EASTERN METAL SUPPLY, INC

4268 WESTROADS DRIVE
 WEST PALM BEACH, FL 33407
 Phone: (800)432-2204
 Fax: (561)209-8380

Y.M.
 DRAWN BY:

7/28/2023
 DATE

23-144
 DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 20-180	7/20/23	3	-	-
2	-	-	4	-	-

SHEET 15 OF 15