

**GENERAL NOTES:**

1. STORM PANEL SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2010 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 7-10 FOR INSTALLATIONS UNDER 2010 FBC AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 5 THRU 9.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 7-10 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 THRU 9.

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 # 0121.01-98R, # 0329.01-00, # 0525.01-00 AND #0512.01-03 AND #0617.02-04, AS PER SSTD 12-99 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. STORM PANEL COMPONENTS (14) STUDDED PLATE AND (15) SNAP CAP ARE PATENT PENDING.
- 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"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
- 1/4"  $\phi$  CF TAP-GRIP ANCHORS (BERTHA STUD-CON), AS MANUFACTURED BY TRU-FAST CORPORATION.
- 1/4"  $\phi$  ZAMAC NAILIN ANCHORS AS MANUFACTURED BY POWER FASTENERS, INC.
- 1/4"  $\phi$  x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY POWER FASTENERS, INC. AND ELCO CONSTRUCTION PRODUCTS, RESPECTIVELY.
- 1/4"  $\phi$  x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

NOTES:

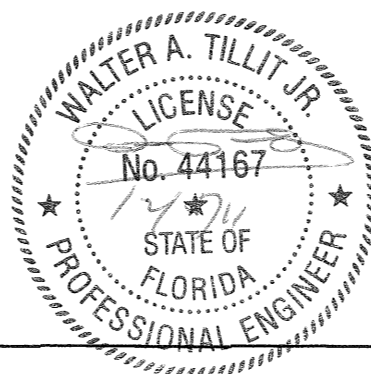
- A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON ANCHORS IS 1 3/4"; FOR ZAMAC NAILIN ANCHORS IS 1 3/8"; FOR ELCO PANELMATE ANCHORS IS 1 3/4" AND FOR CF TAP-GRIP ANCHORS IS 1 1/4".
- A.2) 7/8" CALK-IN ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4"  $\phi$ -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"  $\phi$  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"  $\phi$ -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"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
- 1/4"  $\phi$  CF TAP-GRIP ANCHORS (BERTHA STUD-CON), AS MANUFACTURED BY TRU-FAST CORPORATION.
- 1/4"  $\phi$  ZAMAC NAILIN ANCHORS AS MANUFACTURED BY POWER FASTENERS, INC.
- 1/4"  $\phi$  x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY POWER FASTENERS, INC. AND ELCO CONSTRUCTION PRODUCTS, RESPECTIVELY.
- 1/4"  $\phi$  x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.
- 1/4"  $\phi$  RED HEAD DYNABOLT SLEEVE ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.

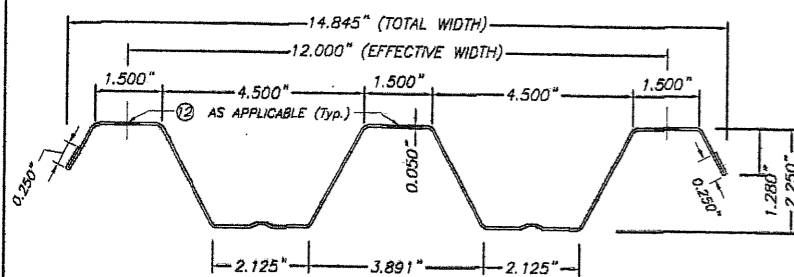
NOTES:

- B.1) MINIMUM EMBEDMENT OF TAPCON, ELCO PANELMATE, AND CF TAP-GRIP ANCHORS INTO CONCRETE BLOCK UNIT SHALL BE 1 1/4"; 1 3/8" FOR ZAMAC NAILIN ANCHORS AND 1 1/8" FOR RED HEAD DYNABOLT SLEEVE ANCHORS
  - 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"  $\phi$ -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"  $\phi$  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"  $\phi$ -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 8 (SHEET 3 & 4 OF 9) EXCEPT THAT HEADERS 3, 4 & 5 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 1715.8.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1715.8.2 OF THE FLORIDA BUILDING CODE.

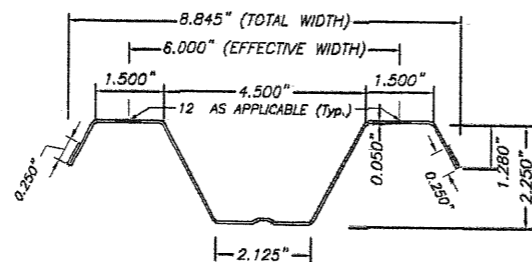


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

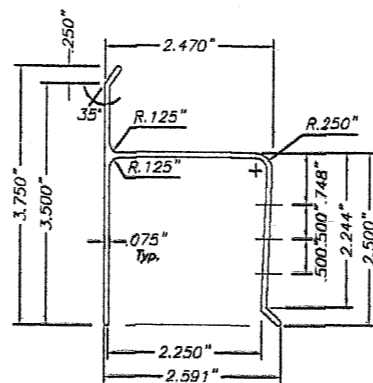
©2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)		L.G./R.E./A.G. DRAWN BY:	
		EASTERN METAL SUPPLY, INC 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (561)209-8263, FAX: (561)841-1716		12/06/11 DATE:	
				11-222 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		
				SHEET 1 OF 9	



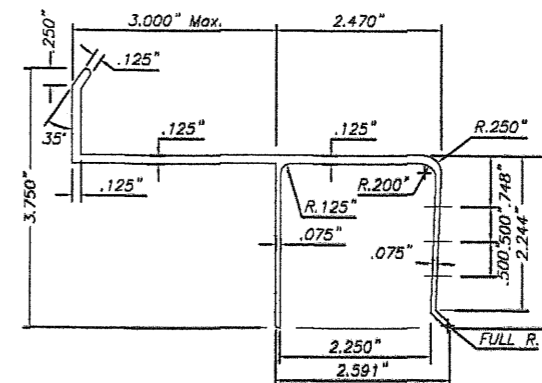
① FULL ALUMINUM PANEL W/ HEMMED EDGES



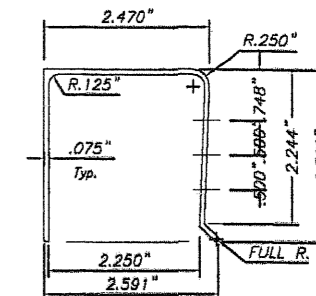
①A HALF ALUMINUM PANEL W/ HEMMED EDGES



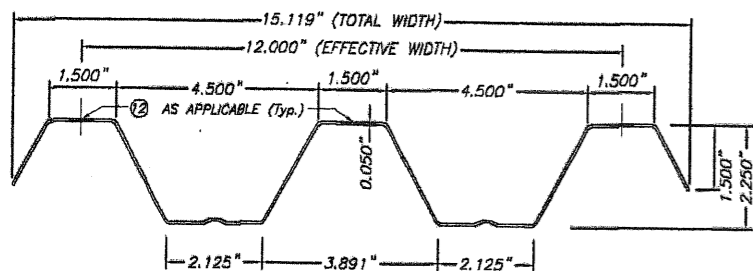
③ "h" HEADER  
SCALE: 3/8" = 1"



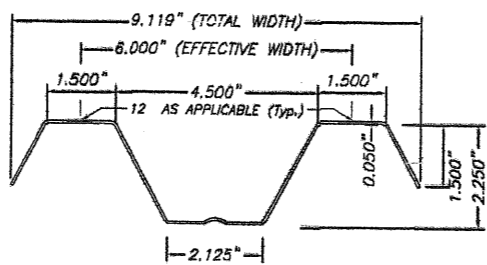
④ 3" Max. "U" BUILD OUT  
SCALE: 1/8" = 1"



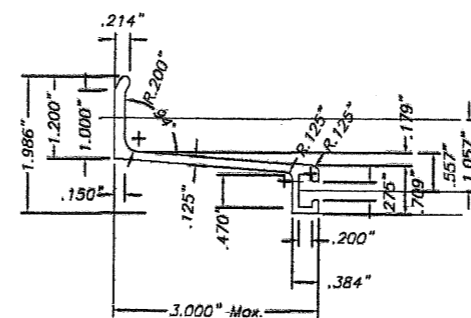
⑤ "U" HEADER  
SCALE: 3/8" = 1"



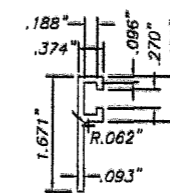
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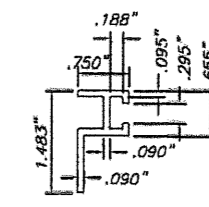
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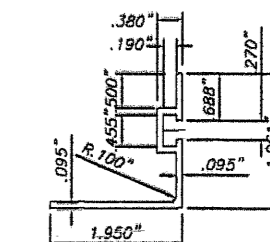
⑥ 3" ANGLE BUILD OUT BRACKET  
SCALE: 3/8" = 1"



⑦ 3/8" B. O. "F" TRACK  
SCALE: 3/8" = 1"

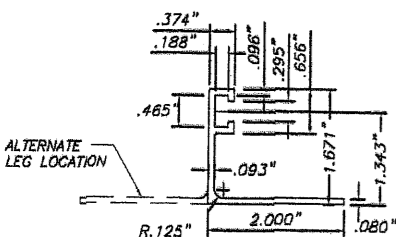


⑦A 3/4" B. O. "F" TRACK  
SCALE: 3/8" = 1"

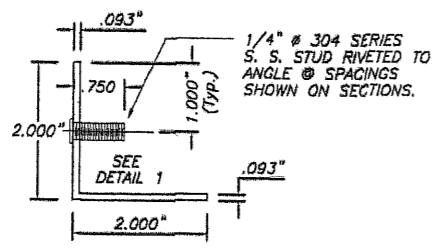


⑧ REVERSED "F" ANGLE TRACK  
SCALE: 3/8" = 1"

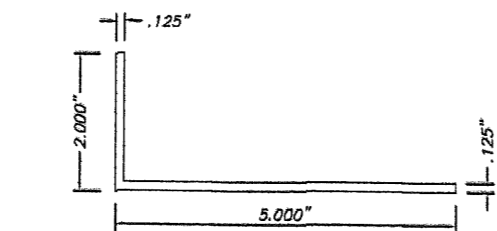
① STORM PANEL  
SCALE: 1/4" = 1"



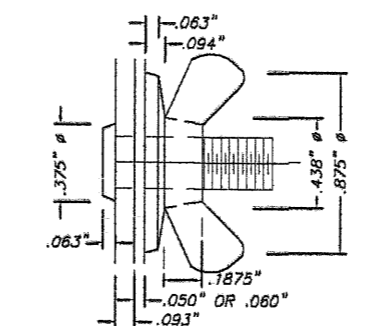
⑨ "F" TRACK ANGLE  
SCALE: 3/8" = 1"



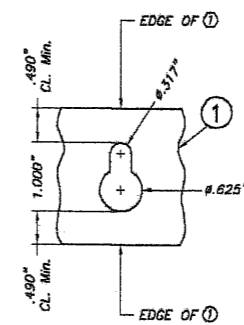
⑩ STUDDED ANGLE  
6063-T5 ALUM. ALLOY  
SCALE: 3/8" = 1"



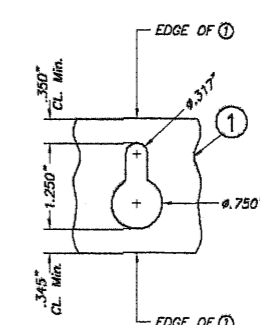
⑪ 2" x 5" (Max.) x .125" ANGLE  
SCALE: 3/8" = 1"



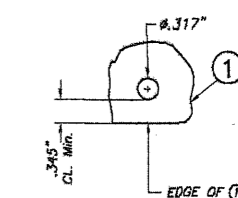
DETAIL 1: STUD W/ DIE CAST ZINC NICKEL PLATED WING NUT



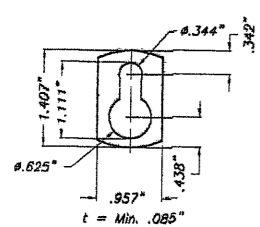
OPTION 1



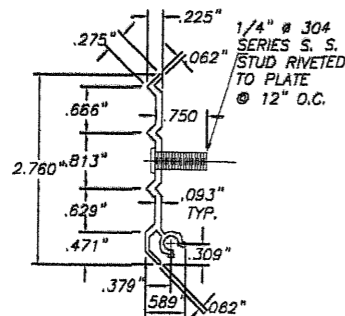
OPTION 2



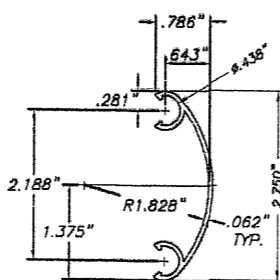
⑫A ROUND HOLE AT PANEL (OPTION TO 12)



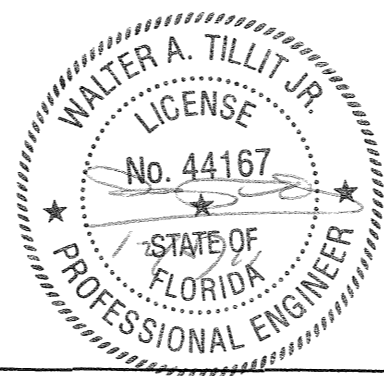
⑬ KEY HOLE WASHER  
3105-H154 ALUM. ALLOY  
SCALE: 3/8" = 1"



⑭ STUDDED PLATE  
6063-T5 ALUM. ALLOY  
SCALE: 1" = 1"

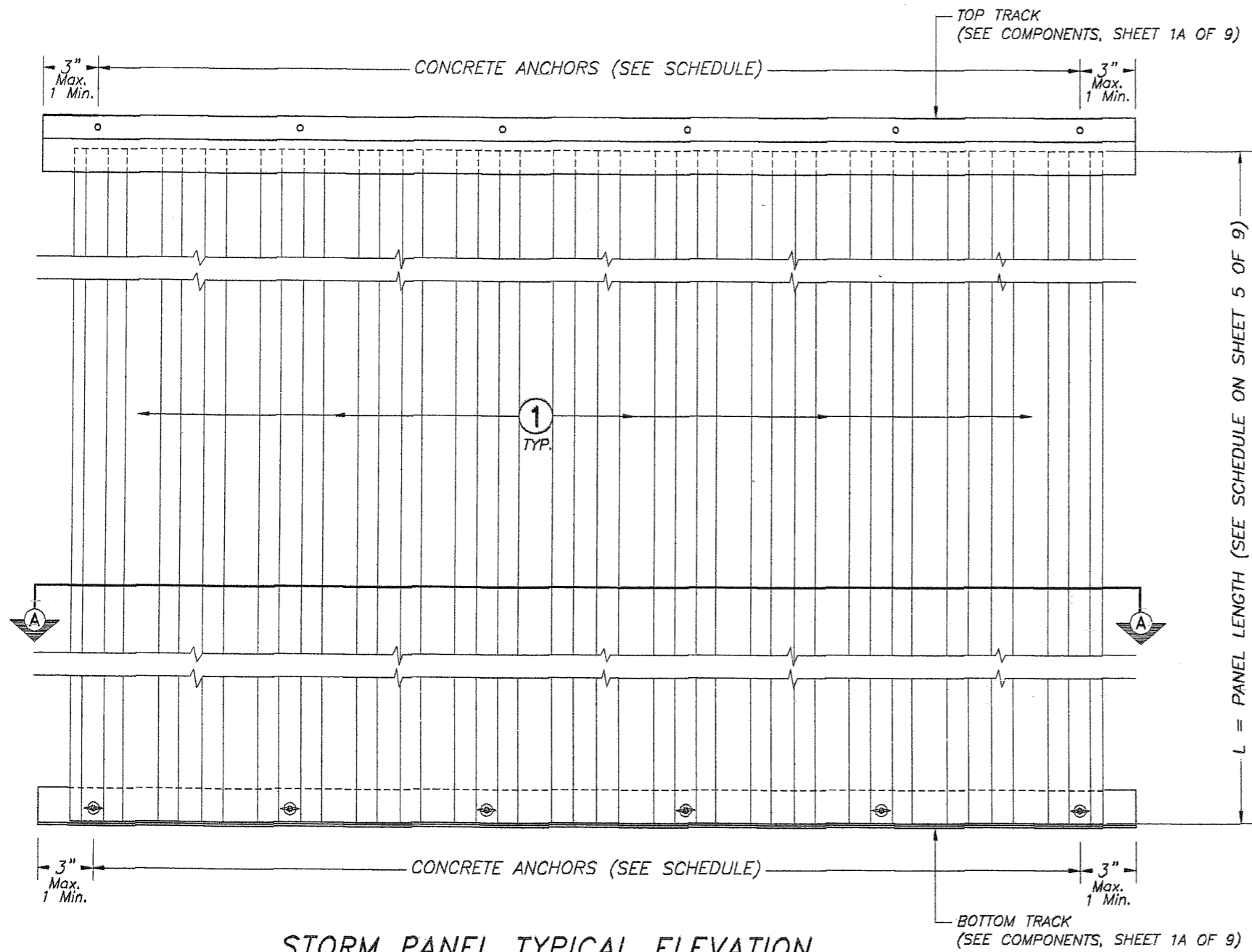


⑮ SNAP CAP  
6063-T5 ALUM. ALLOY  
SCALE: 1" = 1"



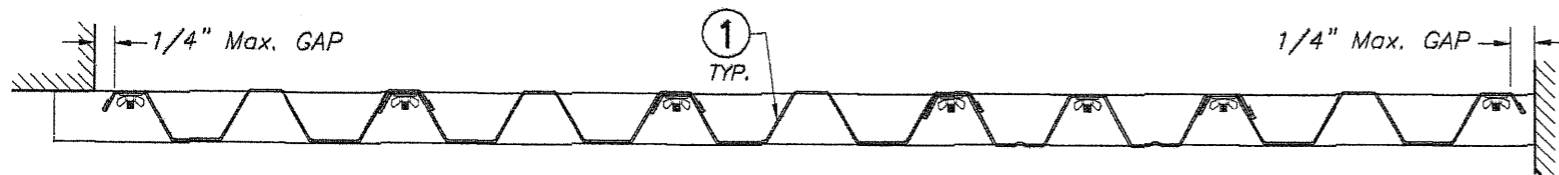
FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

©2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)		L.G./R.E./A.G. DRAWN BY:																			
		<b>EASTERN METAL SUPPLY, INC</b> 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (561)209-8263, FAX: (561)841-1716		12/06/11																			
				DATE:																			
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 303, VIRGINIA GARDENS, FL. 33168 Phone: (305)871-1530, Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT JR. P.E. FLORIDA Lic. # 44167		11-222		DRAWING No																			
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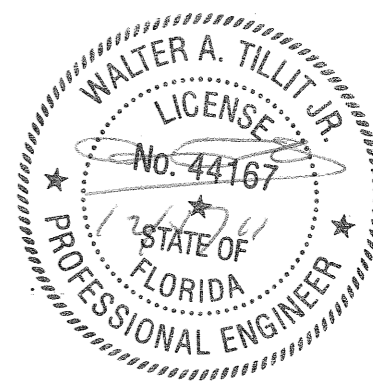
**STORM PANEL TYPICAL ELEVATION**

SCALE : 1/8" = 1"



**SECTION A-A**

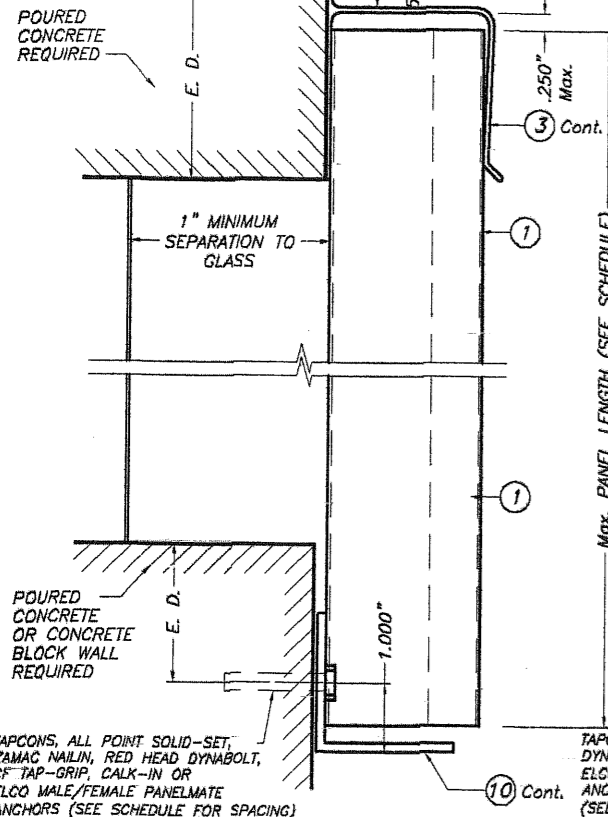
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FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

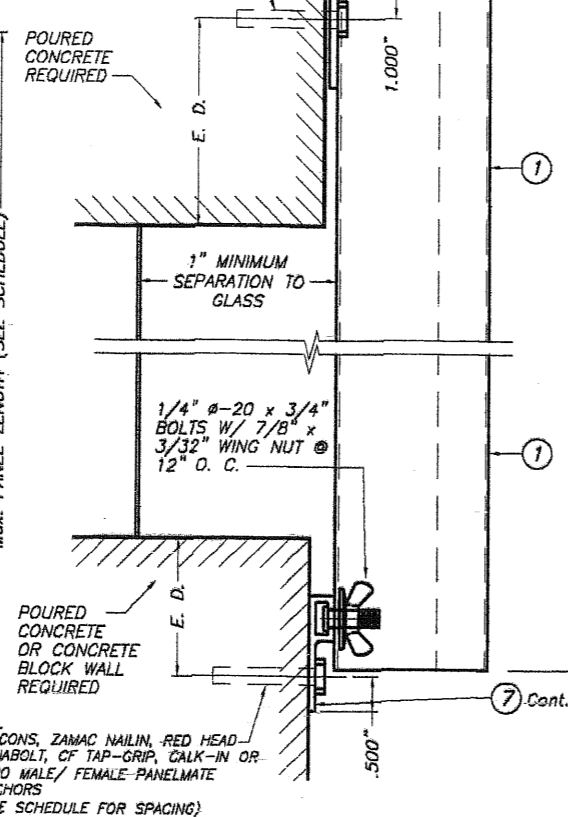
© 2011 TILTECO, INC.		0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)		L.G./R.E./A.G.	
 <small>TILLIT TESTING &amp; ENGINEERING COMPANY          6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166          Phone : (305)871-1530 . Fax : (305)871-1531          EB-0006719          WALTER A. TILLIT Jr. P.E.          FLORIDA Lic. # 44167</small>		EASTERN METAL SUPPLY, INC		DRAWN BY:	
		<small>4268 WEST ROADS DRIVE          WEST PALM BEACH, FL 33407          PHONE: (561)209-8263, FAX: (561)841-1716</small>		12/06/11 DATE:	
		11-222		DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		
				SHEET 2 OF 9	

TAPCONS, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/ FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



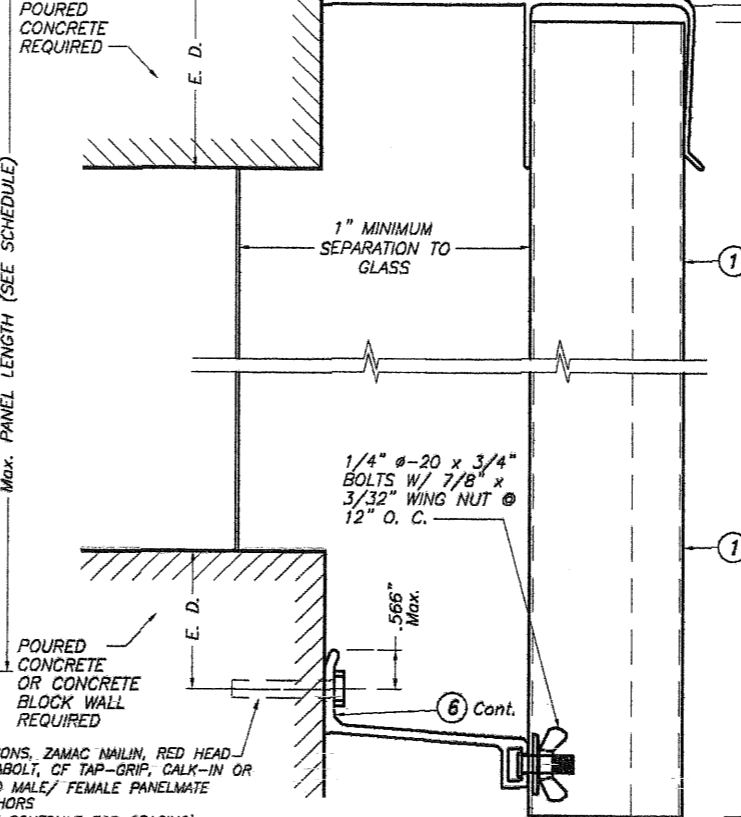
SECTION @ ANCHOR

TAPCONS, ALL POINT SOLID-SET, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



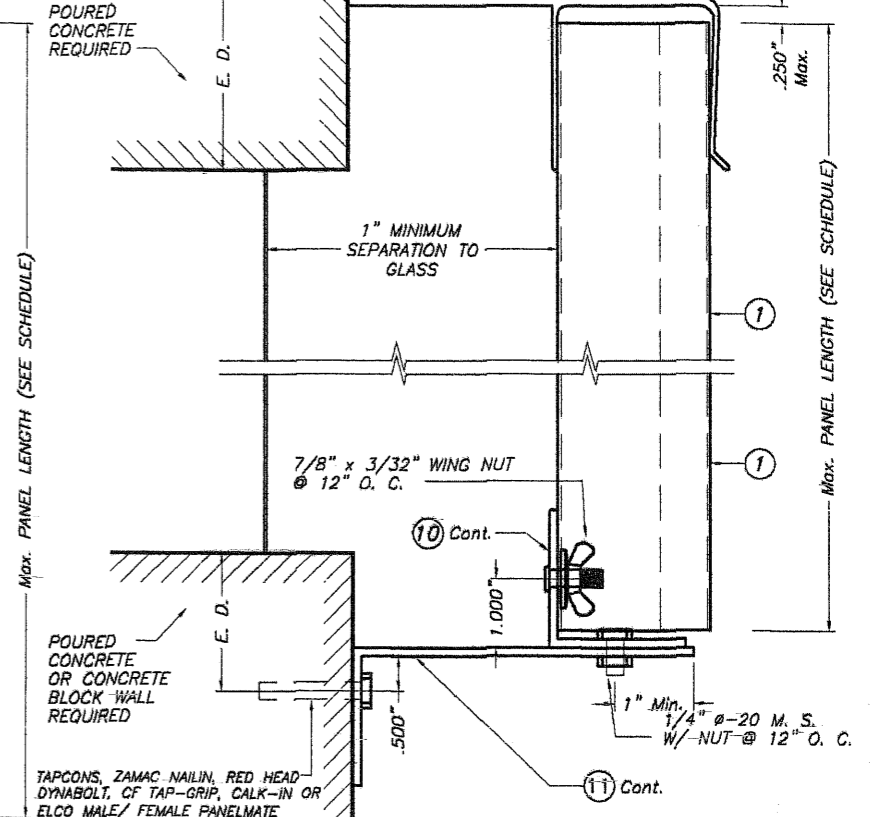
WALL MOUNTING INSTALLATION SECTION 2 SCALE : 3/8" = 1"

TAPCONS, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/ FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



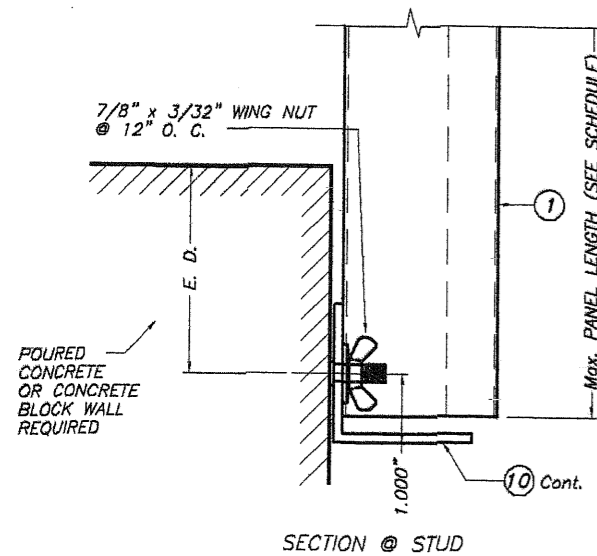
BUILD OUT INSTALLATION SECTION 3 SCALE : 3/8" = 1"

TAPCONS, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/ FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



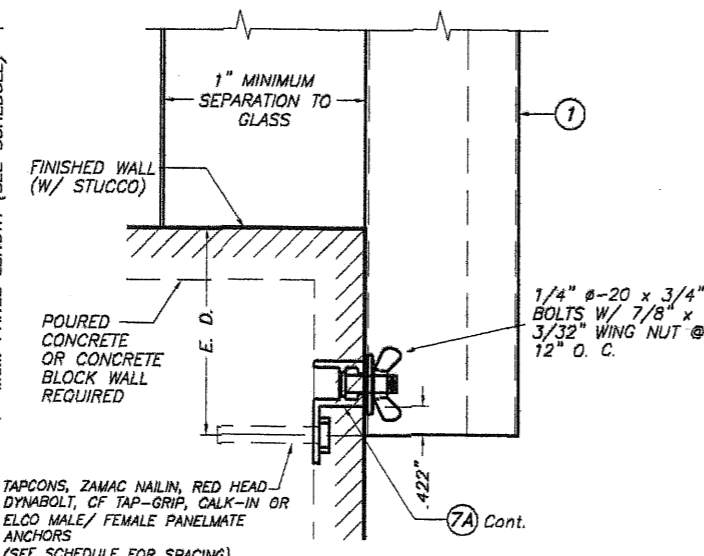
BUILD OUT INSTALLATION SECTION 4 SCALE : 3/8" = 1"

TAPCONS, ALL POINT SOLID-SET, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



SECTION @ STUD

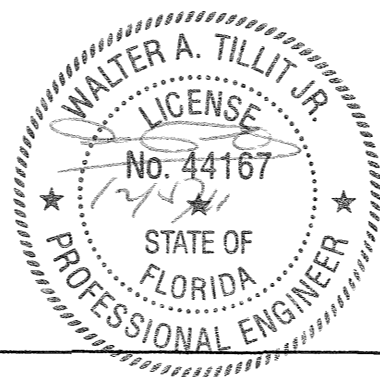
TAPCONS, ZAMAC NAILIN, RED HEAD DYNABOLT, CF TAP-GRIP, CALK-IN OR ELCO MALE/ FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)



WALL MOUNTING INSTALLATION SECTION 2A SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE (SEE SCHEDULE ON SHEETS 6 & 7 OF 9)

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

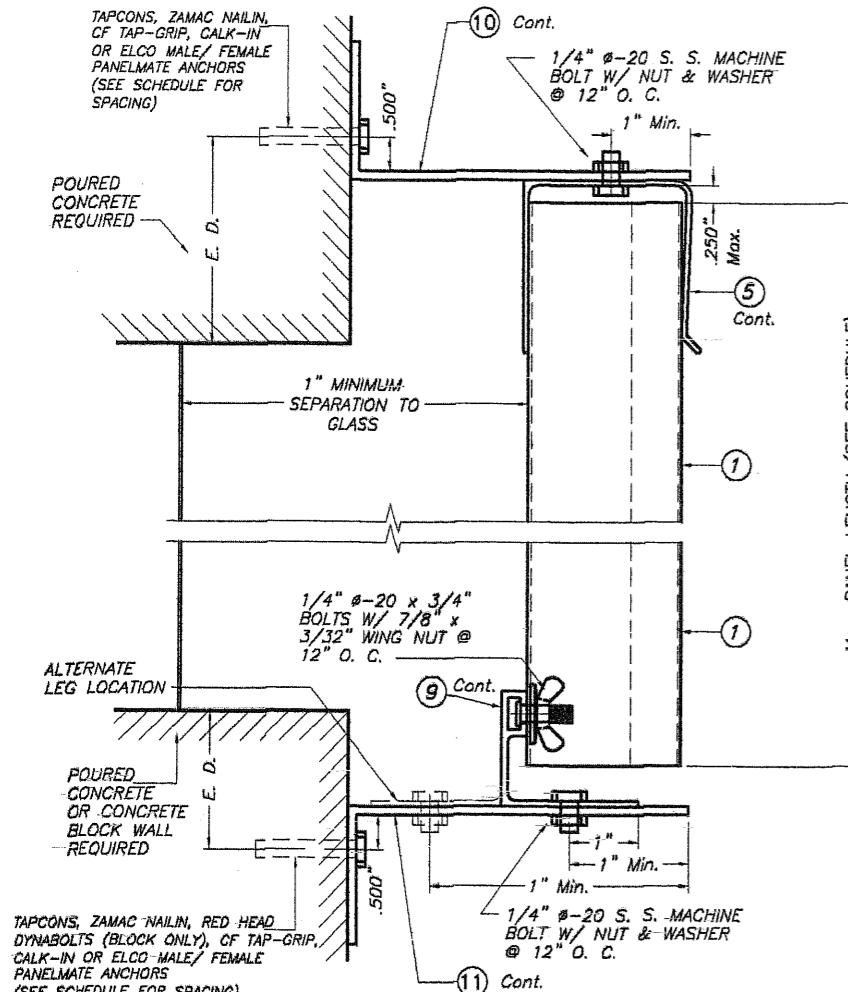


WALL MOUNTING INSTALLATION SECTION 1 SCALE : 3/8" = 1"

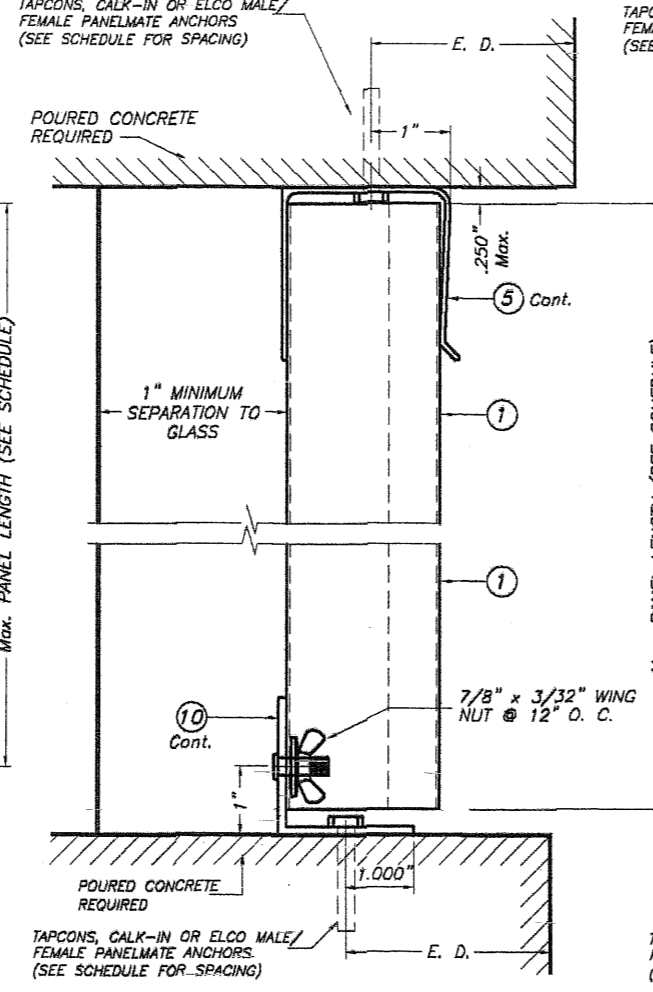
NOTE : DETAIL OF SECTION @ STUD VALID ALSO FOR WALL MOUNTING INSTALLATION - SECTION 2 (TOP)

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

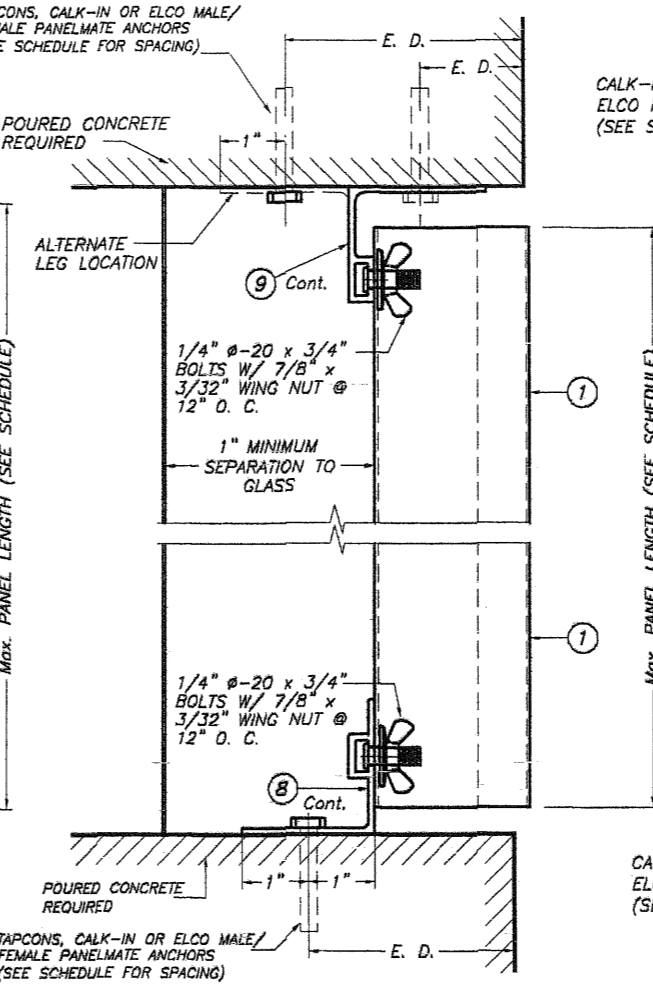
© 2011 TILTECO, INC.		7.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)		L.G./R.E./A.G.	
		<b>EASTERN METAL SUPPLY, INC</b> 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1716		12/06/11	
				DATE:	
		11-222		DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		
				SHEET 3 OF 9	



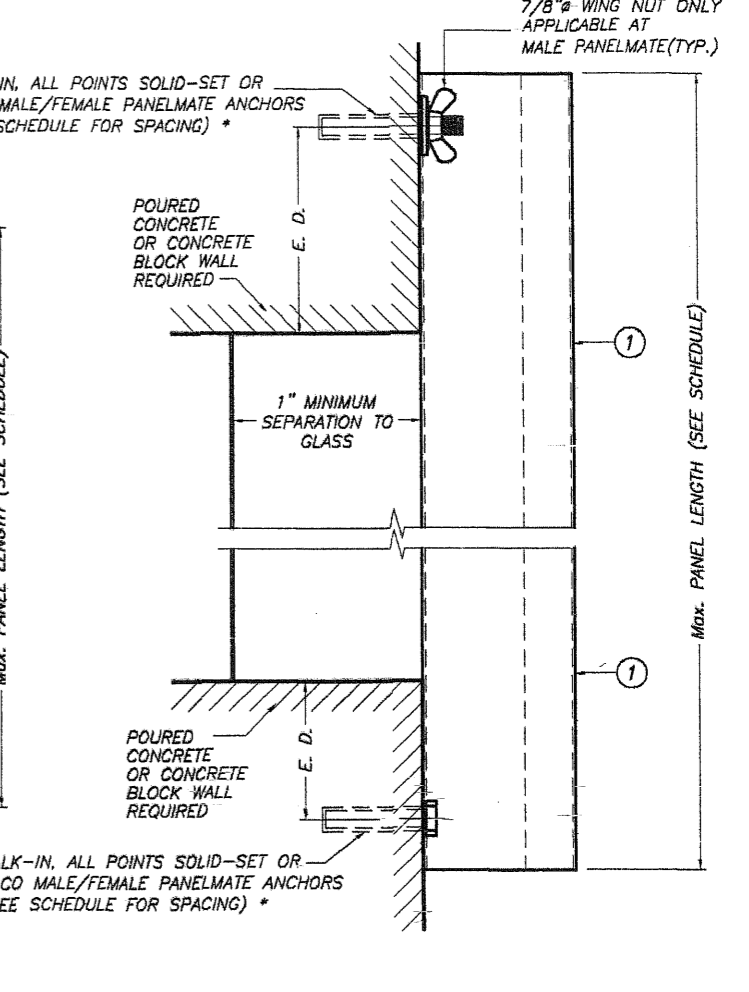
**BUILD OUT INSTALLATION**  
**- SECTION 5** SCALE : 3/8" = 1"



**CEILING & FLOOR MOUNTING**  
**INSTALLATION - SECTION 6**  
 SCALE : 3/8" = 1"



**CEILING & FLOOR MOUNTING**  
**INSTALLATION - SECTION 7**  
 SCALE : 3/8" = 1"



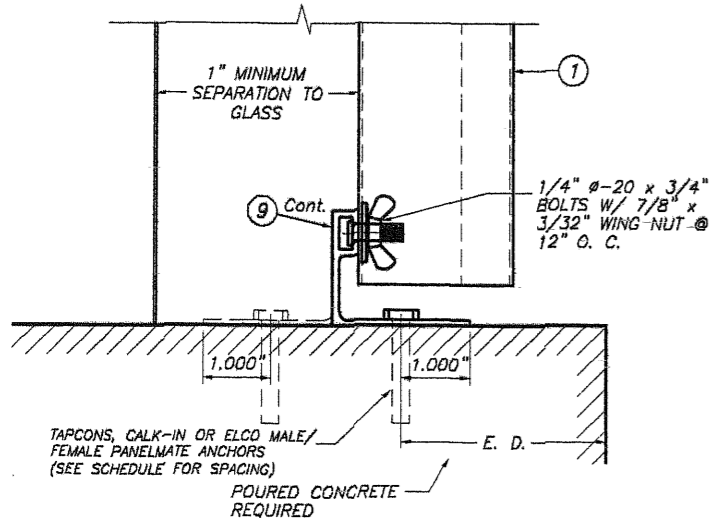
**WALL MOUNTING INSTALLATION (D. M.)**  
**- SECTION 8**  
 SCALE : 3/8" = 1"

TAPCONS, ZAMAC NAILIN, RED HEAD DYNABOLTS (BLOCK ONLY), OF TAP-GRIP, CALK-IN OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)

TAPCONS, CALK-IN OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)

TAPCONS, CALK-IN OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING)

CALK-IN, ALL POINTS SOLID-SET OR ELCO MALE/FEMALE PANELMATE ANCHORS (SEE SCHEDULE FOR SPACING) \*

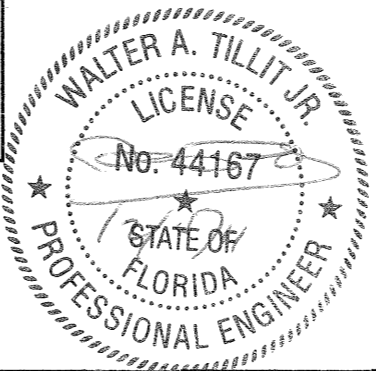


**FLOOR MOUNTING INSTALLATION**  
**- SECTION 5A** SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE (SEE SCHEDULE ON SHEET 6 & 7 OF 9)

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

\* SCREWS USED AT ANCHORS MAY BE 1/4"Ø-20 SIDE WALK BOLT W/ (12) OR 1/4"Ø-20 TRUSS HEAD BOLT W/ (12) & (13).  
 \* SIDE WALK BOLTS ARE 3/4"Øx3/32"THICK HEAD MACHINE SCREW W/ LENGTH AS PER NOTES A.2 & B.2 (SHEET 1).  
 \* TRUSS HEAD BOLTS ARE 1/2"Øx1/8" THICK HEAD MACHINE SCREW W/ LENGTH AS PER NOTES A.2 & B.2 (SHEET 1)



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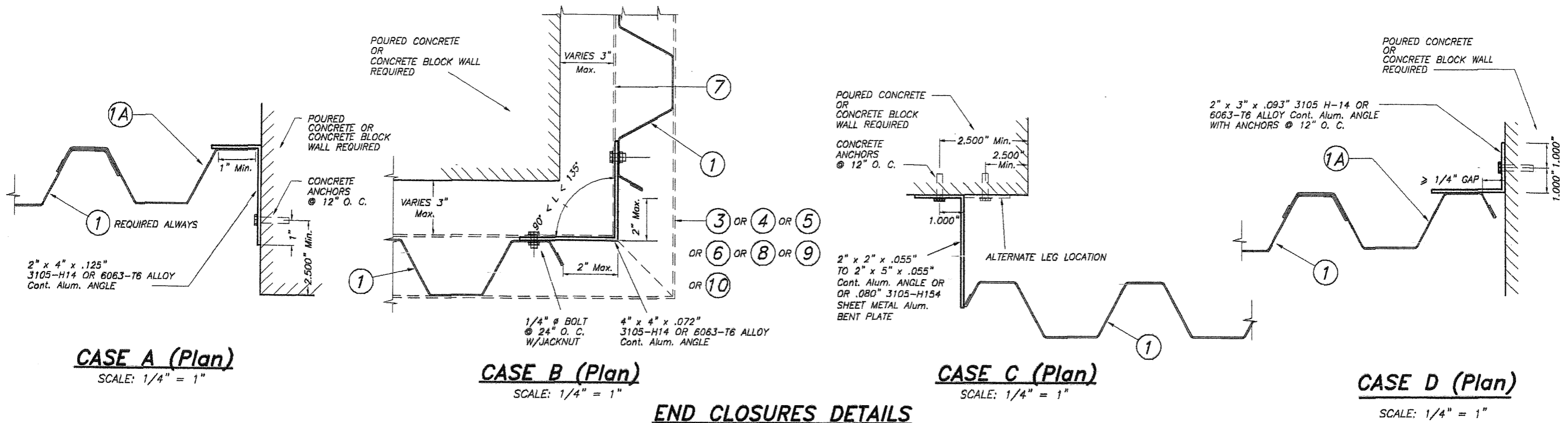
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166  
 Phone : (305)871-1530 Fax : (305)871-1531  
 EB-0006719  
 WALTER A. TILLIT JR. P.E.  
 FLORIDA Lic. # 44167

0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)

**EASTERN METAL SUPPLY, INC**  
 4288 WEST ROADS DRIVE  
 WEST PALM BEACH, FL 33407  
 PHONE: (561)209-8263, FAX: (561)841-1716

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		

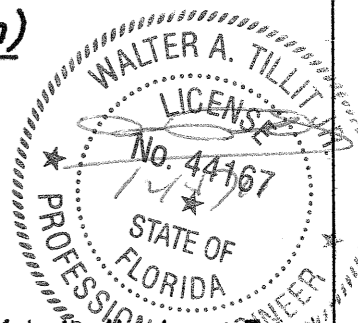
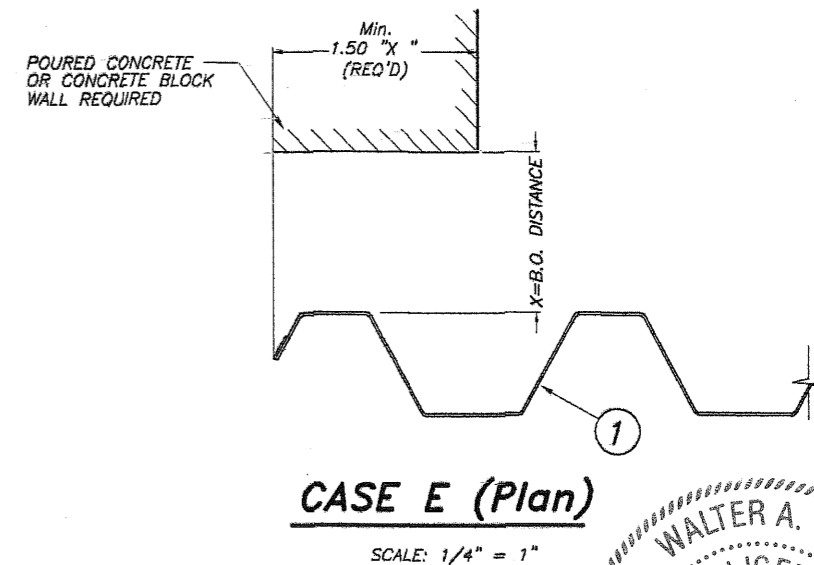
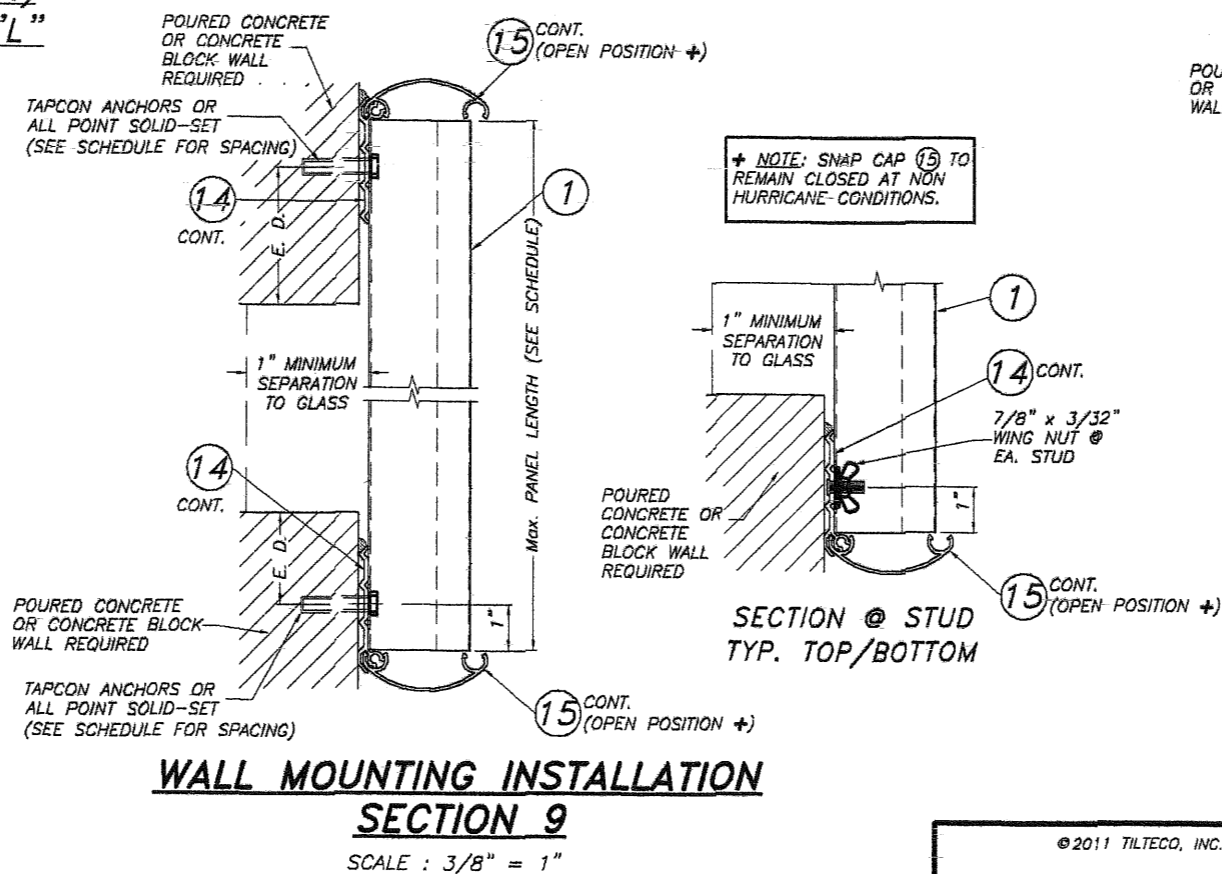
L.G./R.E./A.G. DRAWN BY:  
 12/06/11 DATE:  
 11-222 DRAWING No  
 SHEET 4 OF 9



**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)  
AND CORRESPONDING MAXIMUM PANEL LENGTH "L"  
SCHEDULE FOR A GIVEN PANEL SYSTEM**

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.)		
	MOUNTING W/O "h" HEADER (3)	MOUNTING W/ "h" HEADER (3)	WALL MOUNTING W/ COMPONENT (14) & (15)
+30.0, -30.0	12'-11"	12'-11"	12'-11"
+30.0, -35.0	12'-11"	12'-11"	12'-11"
+35.0, -40.0	12'-0"	12'-0"	12'-0"
+40.0, -45.0	11'-2"	11'-2"	11'-2"
+45.0, -50.0	10'-7"	10'-4"	10'-7"
+50.0, -55.0	10'-0"	9'-4"	10'-0"
+55.0, -60.0	9'-7"	8'-6"	9'-7"
+60.0, -65.0	9'-2"	7'-9"	9'-2"
+65.0, -70.0	8'-9"	7'-2"	8'-9"
+70.0, -75.0	8'-6"	6'-8"	8'-6"
+75.0, -80.0	8'-2"	6'-3"	8'-2"

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



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© 2011 TILTECO, INC.	0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)	L.G./R.E./A.G.
<b>TILTECO INC.</b>	<b>EASTERN METAL SUPPLY, INC</b>	DRAWN BY:
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT JR. P.E. FLORIDA Lic. # 44167	4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1716	12/06/11 DATE:
REV. No. DESCRIPTION DATE REV. No. DESCRIPTION DATE	DRAWING No.	11-222
1 OLD 08-141 12/06/11 3	SHEET 5 OF 9	
2		

THIS SCHEDULE INDICATES REQUIRED ANCHOR SPACING FOR A GIVEN A.S.D. DESIGN LOAD AND PANEL LENGTH. HOWEVER MAXIMUM PANEL LENGTH FOR A GIVEN A.S.D. DESIGN LOAD MUST BE VERIFIED AS PER SCHEDULE ON SHEET 4 OF 8.

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO CONCRETE AND CONCRETE BLOCK STRUCTURES \***

E. D. = EDGE DISTANCE

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **												APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	TAPCONS		ZAMAC NAILIN/ RED HD. DYNABOLT		CALK-IN		SOLID-SET		PANELMATES		CF TAP-GRIP			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+35.0, -40.0 OR LESS	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	1 (TOP)	8'-0" OR LESS
	12"	10"	12" <sup>++</sup>	12"	12"	8"	12"	12"	12"	12"	12"	10 1/2"	1, 9 <sup>+</sup> (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	12"	12"	12"	12"	-	12"	-	2, 9 <sup>+</sup> (TOP)	
	12"	10"	12" <sup>++</sup>	12"	12"	8"	-	-	12"	12"	12"	10 1/2"	2 (BOTTOM)	
	12"	10"	12" <sup>++</sup>	12"	12"	8"	-	-	12"	12"	12"	10 1/2"	2A (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	3 & 4 (TOP)	
	12"	10"	12" <sup>++</sup>	12"	12"	8"	-	-	12"	12"	12"	10 1/2"	3 (BOTTOM)	
	12"	10"	12" <sup>++</sup>	12"	12"	8"	-	-	12"	12"	12"	10 1/2"	4 (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	5 (TOP)	
	12"	10"	12" <sup>++</sup>	12"	12"	8"	-	-	12"	12"	12"	10 1/2"	5 (BOTTOM)	
	12"	-	-	-	12"	-	-	-	12"	-	-	-	6 (TOP)	
	12"	-	-	-	12"	-	-	-	12"	-	-	-	6 (BOTTOM)	
	11"	-	-	-	11"	-	-	-	12"	-	-	-	5A (BOTTOM) 7 (TOP)	
	11"	-	-	-	12"	-	-	-	12"	-	-	-	7 (BOTTOM)	
-	-	-	-	12"	6"	12"	12"	12"	12"	-	-	8 (TOP/BOTTOM)		
+35.0, -40.0 OR LESS	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	1 (TOP)	>8'-0" TO 10'-0"
	12"	8"	12" <sup>++</sup>	12"	12"	6"	12"	12"	12"	12"	12"	8 1/2"	1, 9 <sup>+</sup> (BOTTOM)	
	12"	-	12" <sup>++</sup>	12"	12"	12"	12"	12"	12"	-	12"	-	2, 9 <sup>+</sup> (TOP)	
	12"	8"	12" <sup>++</sup>	12"	12"	6"	-	-	12"	12"	12"	8 1/2"	2 (BOTTOM)	
	12"	8"	12" <sup>++</sup>	12"	12"	6"	-	-	12"	12"	12"	8 1/2"	2A (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	3 & 4 (TOP)	
	12"	8"	12" <sup>++</sup>	12"	12"	6"	-	-	12"	12"	12"	8 1/2"	3 (BOTTOM)	
	12"	8"	12" <sup>++</sup>	12"	12"	6"	-	-	12"	12"	12"	8 1/2"	4 (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	12"	-	5 (TOP)	
	12"	8"	12" <sup>++</sup>	12"	12"	6"	-	-	12"	12"	12"	8 1/2"	5 (BOTTOM)	
	12"	-	-	-	12"	-	-	-	12"	-	-	-	6 (TOP)	
	10"	-	-	-	10"	-	-	-	12"	-	-	-	6 (BOTTOM)	
	9"	-	-	-	9"	-	-	-	12"	-	-	-	5A (BOTTOM) 7 (TOP)	
	9"	-	-	-	9"	-	-	-	12"	-	-	-	7 (BOTTOM)	
-	-	-	-	12"	6"	12"	12"	12"	12"	-	-	8 (TOP/BOTTOM)		

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2" **												APPLICABLE TO SECTIONS # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	TAPCONS		ZAMAC NAILIN/ RED HD. DYNABOLT		CALK-IN		SOLID-SET		PANELMATES		CF TAP-GRIP			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+35.0, -40.0 OR LESS	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	10"	-	1 (TOP)	>10'-0" TO 12'-11"
	12"	6"	12" <sup>++</sup>	12"	12"	5"	12"	12"	12"	12"	11 1/2"	6 1/2"	1, 9 <sup>+</sup> (BOTTOM)	
	12"	6"	11" <sup>++</sup>	-	12"	12"	12"	12"	12"	-	11 1/2"	-	2, 9 <sup>+</sup> (TOP)	
	12"	6"	12" <sup>++</sup>	12"	12"	5"	-	-	12"	12"	11 1/2"	6 1/2"	2 (BOTTOM)	
	12"	6"	12" <sup>++</sup>	12"	12"	5"	-	-	12"	12"	11 1/2"	6 1/2"	2A (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	11 1/2"	-	3 & 4 (TOP)	
	12"	6"	12" <sup>++</sup>	12"	12"	5"	-	-	12"	12"	11 1/2"	6 1/2"	3 (BOTTOM)	
	12"	6"	12" <sup>++</sup>	12"	12"	5"	-	-	12"	12"	11 1/2"	6 1/2"	4 (BOTTOM)	
	12"	-	12" <sup>++</sup>	-	12"	-	-	-	12"	-	11 1/2"	-	5 (TOP)	
	12"	6"	12" <sup>++</sup>	12"	12"	5"	-	-	12"	12"	11 1/2"	6 1/2"	5 (BOTTOM)	
	10"	-	-	-	10"	-	-	-	12"	-	-	-	6 (TOP)	
	8"	-	-	-	8"	-	-	-	11"	-	-	-	6 (BOTTOM)	
	7"	-	-	-	7"	-	-	-	9 1/2"	-	-	-	5A (BOTTOM) 7 (TOP)	
	7"	-	-	-	7"	-	-	-	10"	-	-	-	7 (BOTTOM)	
-	-	-	-	12"	-	12"	12"	12"	12"	-	-	8 (TOP/BOTTOM)		

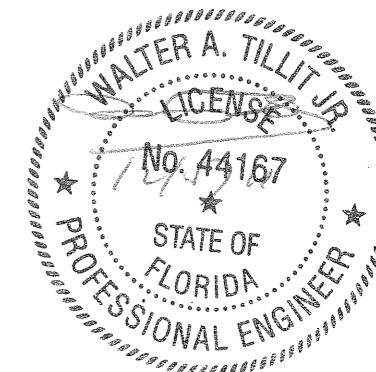
+ ONLY TAPCON ANCHORS OR ALL POINT SOLID-SET ALLOWED FOR MOUNTING SECTION 9.

++ ANCHORS SPACING ONLY VALID FOR ZAMAC NAILIN.

\* SEE SHEET 8 & 9 OF 9 FOR ANCHORS TYPE & SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

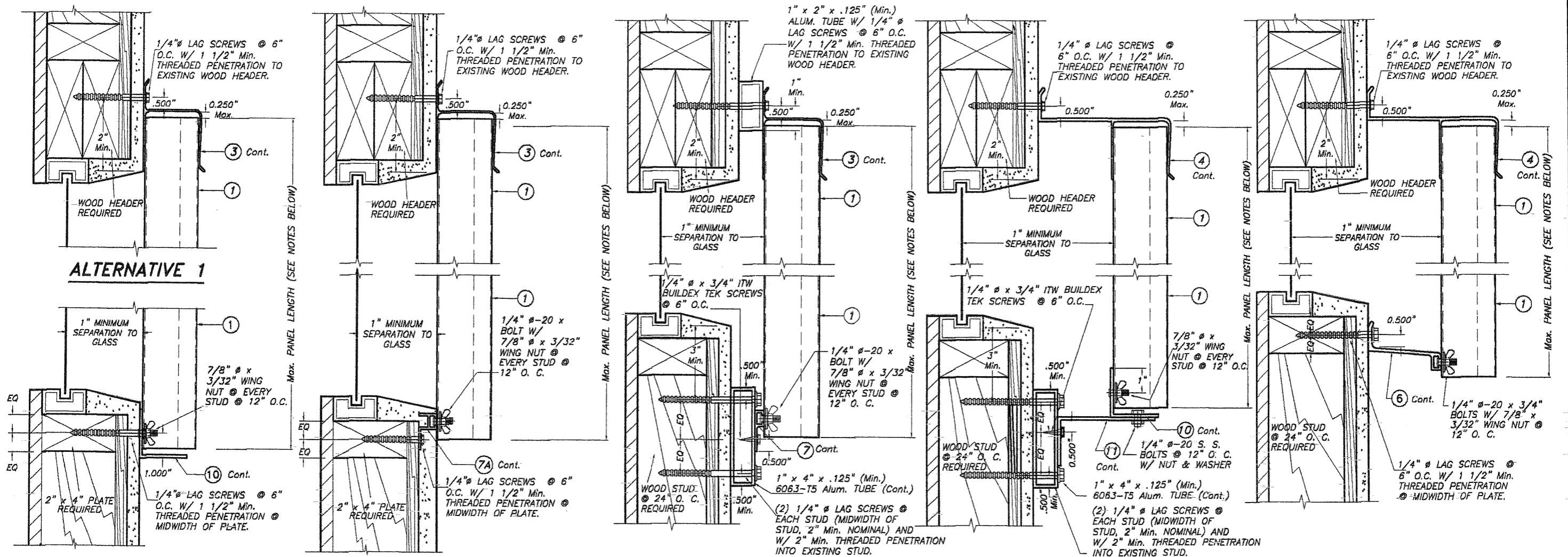
\*\* MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 1/2" EDGE DISTANCE. FOR E. D. LESS THAN 3 1/2", REDUCE ANCHOR SPACING BY MULTIPLYING SPACINGS SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (Min. E. D. FOR CALK-IN ANCHORS & ELCO PANELMATE IS 2 1/2", AND 3 1/2" FOR SOLID-SET ANCHORS).

ACTUAL E. D.	FACTOR				
	TAPCON	ZAMAC NAILIN /DYNABOLT /PANELMATES	CALK-IN	SOLID-SET	CF TAP-GRIP
3"	-	.86	.75	.78	1.00
2 1/2"	-	.71	.50	-	.80
2"	-	.50	-	-	-
1 1/2"	.35	-	-	-	-



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

©2011 TILTECO, INC.	0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)	L.G./R.E./A.G. DRAWN BY:			
<b>TILTECO INC.</b>	<b>EASTERN METAL SUPPLY, INC</b>	12/06/11 DATE:			
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 EB-0006719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167	4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263, FAX: (561)841-1716	11-222 DRAWING No			
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		
					SHEET 6 OF 9



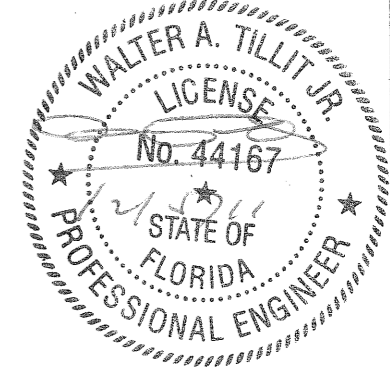
**WALL MOUNTING INSTALLATIONS**  
**SECTIONS A**

SCALE : 1/4" = 1"

**INSTALLATION DETAILS ON**  
**EXISTING WOOD BUILDINGS**

**NOTES:**  
 1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING UP TO +65.0, -72.0 psf AND PANEL'S LENGTHS UP TO 9'-0".  
 2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

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



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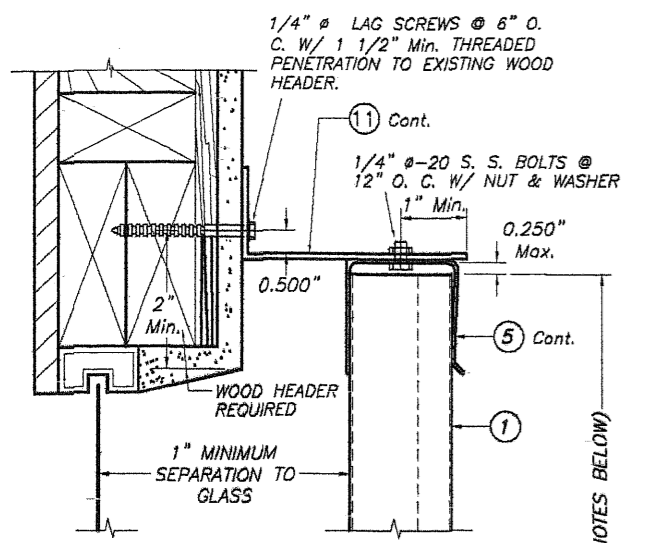
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33168  
 Phone : (305)871-1530, Fax : (305)871-1531  
 EB-006719  
 WALTER A. TILLIT JR. P.E.  
 FLORIDA Lic. # 44167

0.050" BERTHA ALUMINUM STORM PANEL (2.25" DEEP)

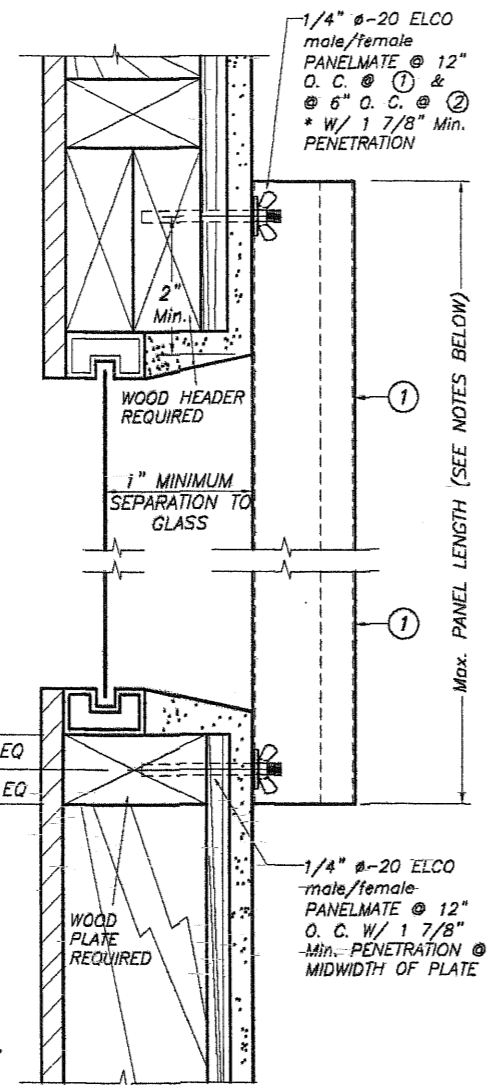
L.G./R.E./A.G.  
 DRAWN BY:  
 12/06/11  
 DATE:  
 11-222  
 DRAWING No  
 SHEET 8 OF 9

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

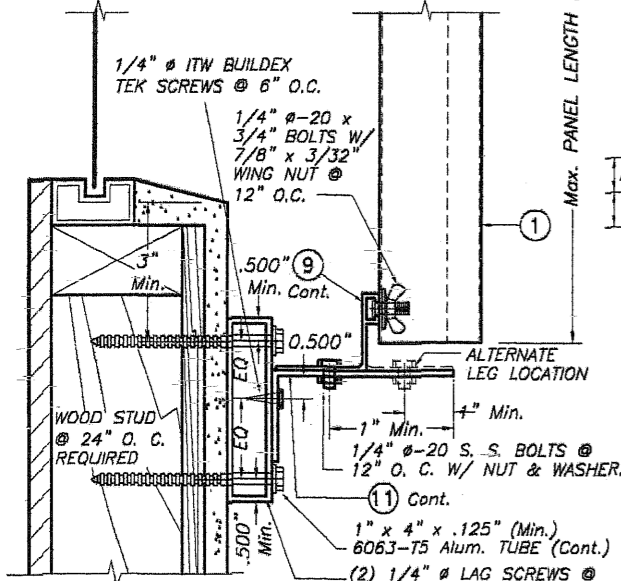




**ALTERNATIVE 8**



**ALTERNATIVE 10**

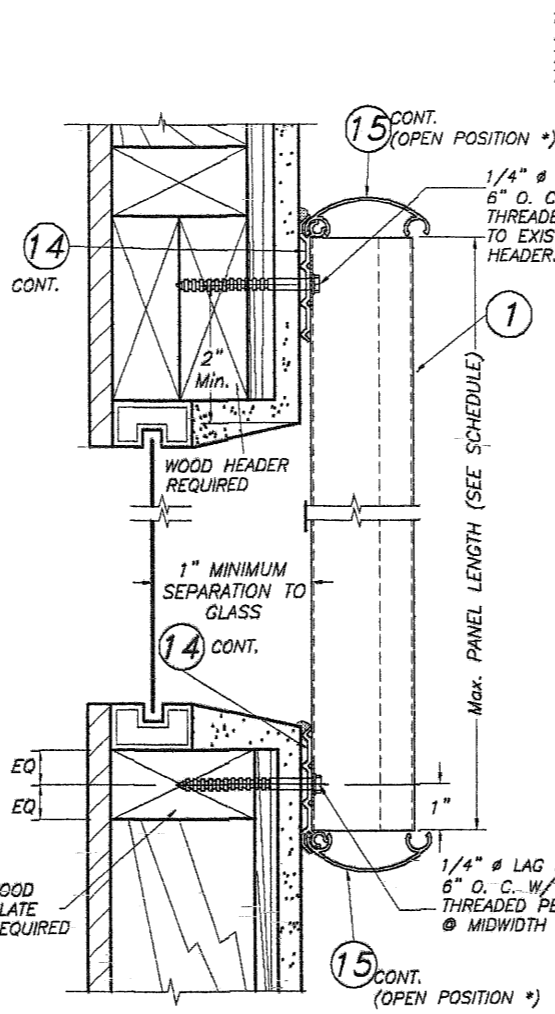


**ALTERNATIVE 9**

**WALL MOUNTING INSTALLATIONS**  
**SECTIONS A** SCALE: 1/4" = 1"

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

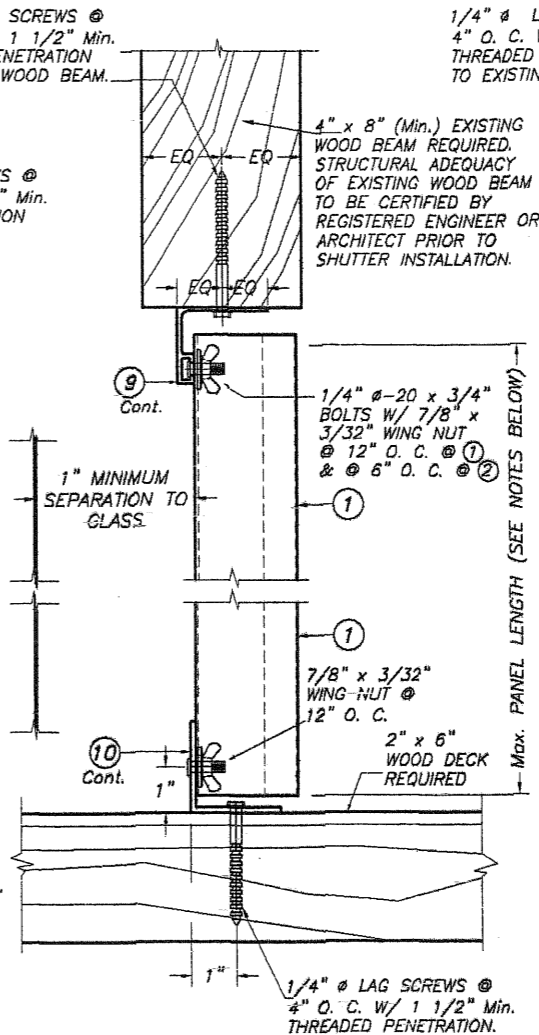
NOTES:  
1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING UP TO +65.0, -72.0 psf AND PANEL'S LENGTHS UP TO 9'-0".  
2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.



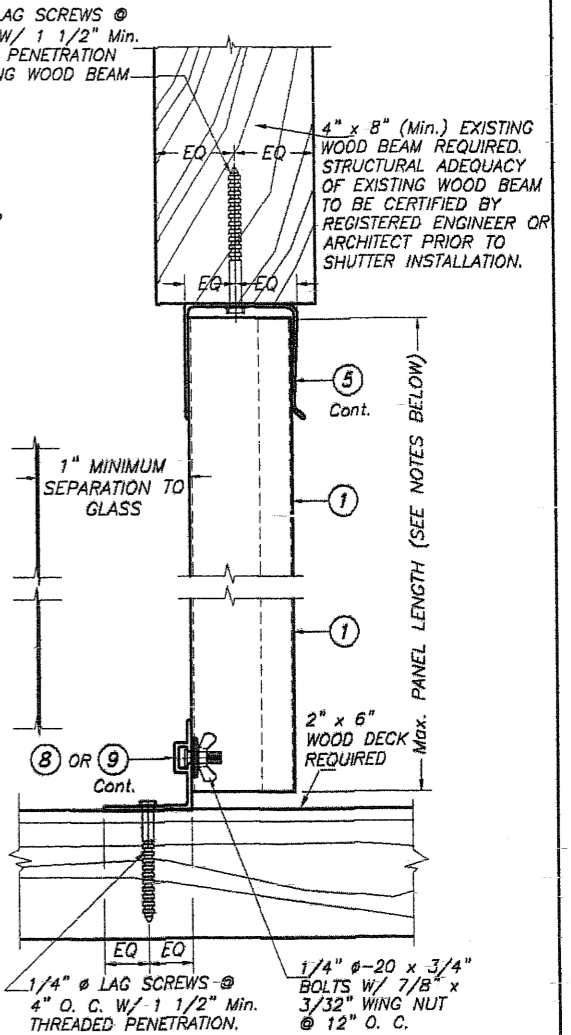
SECTION @ STUD TYP. TOP/BOTTOM  
**ALTERNATIVE 11**

\* NOTE: SNAP CAP (15) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.

**INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS**

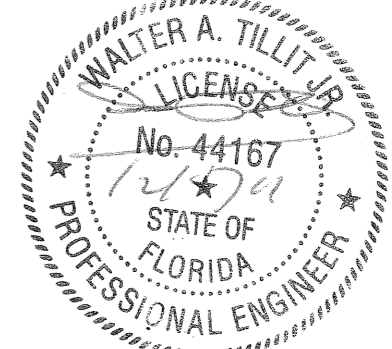


**ALTERNATIVE 1**



**ALTERNATIVE 2**

**CEILING & FLOOR MOUNTING INSTALLATIONS**  
**SECTIONS B** SCALE: 1/4" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

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		<b>EASTERN METAL SUPPLY, INC</b> 4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (561)209-8263, FAX: (561)841-1716		12/06/11 DATE:	
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL. 33186 Phone : (305)871-1530, Fax : (305)871-1531 EB-0006719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		11-222 DRAWING No		11-222 DATE:	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-141	12/06/11	3		
2			4		
					SHEET 9 OF 9