

**GENERAL NOTES:**

1. 24 GAGE BERTHA GALVANIZED STEEL STORM PANEL (2" DEEP) SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2010 FLORIDA BUILDING CODE. THIS 24 GAGE BERTHA GALVANIZED STEEL STORM PANEL (2" DEEP) 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 2, 6 THRU 10. 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 TO COMPARE THESE W/ MAX. (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 2, 6 THRU 10.

24 GAGE BERTHA GALVANIZED STEEL STORM PANEL (2" DEEP) ADEQUACY FOR IMPACT AND CYCLIC RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE, AS PER AMERICAN TESTING LAB OF SOUTH FLORIDA; REPORT # 0304.01-08, AS PER ASTM E 1886-05, ASTM E 1996-02 AND ASTM E 330-02 STANDARDS; AS WELL AS REPORT # 1220.01-05 AS PER ASTM E 1886-02, ASTM E 1996-02 AND ASTM E 330-02 STANDARDS AND REPORT # 0926.01-03 AS PER ASTM E 1886-97, E 1996-02 AND ASTM E 330-02 STANDARDS, QUALIFIED FOR WIND ZONES 1, 2 AND 3, MISSILE TYPE D (BASIC PROTECTION ONLY) AND FOR INSTALLATIONS AT NON ESSENTIAL FACILITIES AS DEFINED BY SECTIONS 6.2.1.1 AND 6.2.1.2 OF ASTM E 1996-02 AND ASTM E 1996-05.

- 2. ALL STEEL SHEET METAL PANELS SHALL HAVE STRUCTURAL QUALITY ASTM A-653, GRADE 80 WITH MIN  $F_y = 106.0$  ksi, WITH G-90 GALVANIZED STEEL DESIGNATION.
- 3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER UNLESS OTHERWISE NOTED. THE THICKNESS OF ALL EXTRUSIONS SHALL BE AS SHOWN ON THIS DRAWING. STORM PANEL COMPONENTS (10) STUDDED SNAP TRACK AND (11) FEMALE COVER 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,  $f'_c = 3192$  psi. MIN.
  - 1/4"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
  - 1/4"  $\phi$  S.G. TAPCONS AS MANUFACTURED BY I.T.W. BUILDEX.
  - 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".
  - A.2) 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 (SIDEWALK BOLT OR TRUSS HEAD) USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
  - A.3) 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.

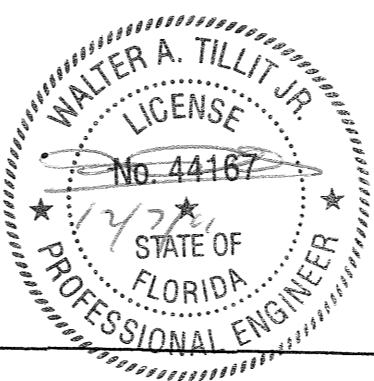
- (B) TO EXISTING CONCRETE BLOCK WALL, ASTM C-90 UNITS:
  - 1/4"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
  - 1/4"  $\phi$  S.G. TAPCONS AS MANUFACTURED BY I.T.W. BUILDEX W/  $f'_m = 1500$  psi. MIN.
  - 1/4"  $\phi$  x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY W/  $f'_m = 1800$  psi. MIN.

- NOTES:
- B.1) MINIMUM EMBEDMENT OF TAPCON INTO CONCRETE BLOCK UNIT SHALL BE 1 1/4".
  - B.2) 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 (SIDEWALK BOLT OR TRUSS HEAD) USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO.
  - B.3) 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 B.1) AND B.2) ABOVE.

- (C) TO EXISTING WOOD FRAME BUILDINGS, WITH SPECIFIC GRAVITY  $G = 0.55$ 
  - 1/4"  $\phi$  TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
  - 1/4"  $\phi$  S.G. TAPCONS AS MANUFACTURED BY I.T.W. BUILDEX.
  - 1/4"  $\phi$  SAMMYS SCREW ANCHORS (SSC) AS MANUFACTURED BY ITW BUILDEX.

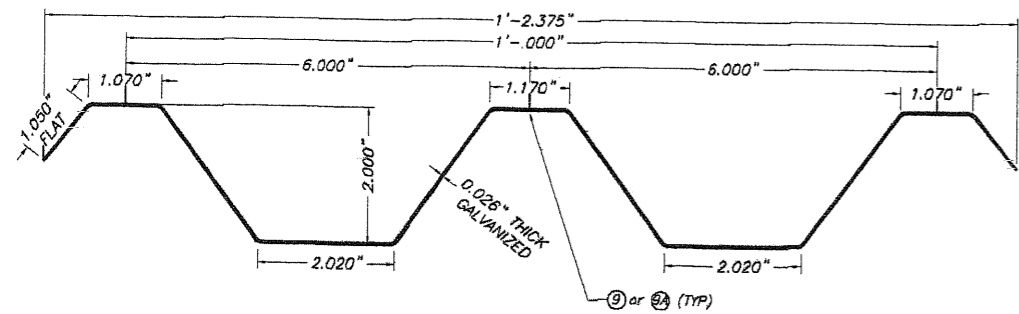
- NOTES:
- C.1) MINIMUM THREADED PENETRATION OF TAPCONS, S.G. OR SAMMYS SCREW ANCHORS (SSC) INTO WOOD UNIT SHALL BE 1 1/2".
  - C.2) ANCHORAGE SHALL BE PERFORMED BEYOND ANY FINISH MATERIAL AT WALL LIKE BRICK VENEER, STUCCO OR ANY OTHER FINISH. ANCHORAGE SHALL BE AS INDICATED ON NOTE C.1) ABOVE.

- (D) 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 5 (SHEETS 4 & 5 FOR CONCRETE/BLOCK SUBSTRATES) AND ALTERNATIVES 1 THRU 6 (SHEETS 8 & 9 FOR WOOD SUBSTRATES) EXCEPT THAT HEADERS 2, 2A, 3 & 4 SHALL NOT BE USED.
- 8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE PANEL IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS PANEL SHALL ONLY BE ATTACHED TO POURED CONCRETE, CONCRETE BLOCK OR WOOD FRAME BUILDINGS.
- 9. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL PANEL 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. 24 GAGE BERTHA GALVANIZED STEEL STORM PANEL (2" DEEP) SHALL COMPLY WITH SPECIFICATIONS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.
- 11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT 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.
- 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) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A PROFESSIONAL ENGINEER OR REGISTERED 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.

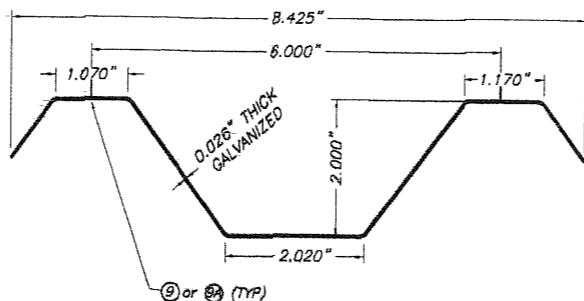


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

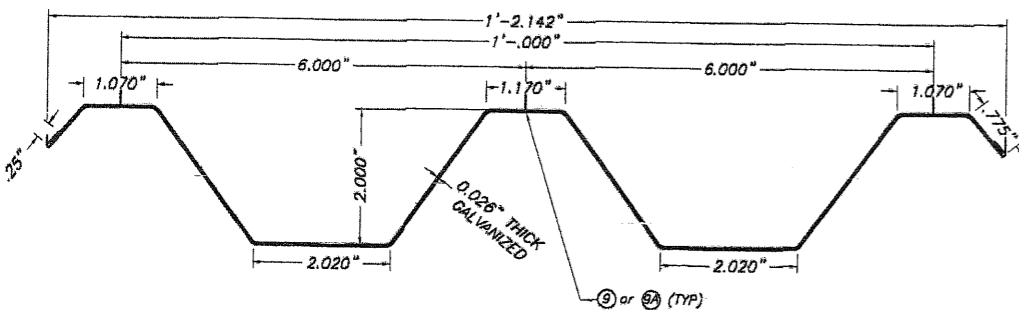
© 2011 TILTECO, INC.		24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G.		
TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33168 Phone: (305)871-1530 • Fax: (305)871-1531 EB-0008719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		EASTERN METAL SUPPLY, INC.		DRAWN BY:		
		4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780		12/06/11 DATE:		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE	11-226 DRAWING No
1	OLD 08-149	12/06/11	3	-	-	
2	-	-	4	-	-	SHEET 1 OF 10



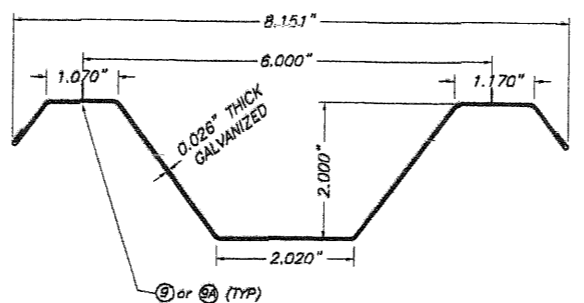
FULL PANEL W/O HEMMED EDGES



HALF PANEL W/O HEMMED EDGES

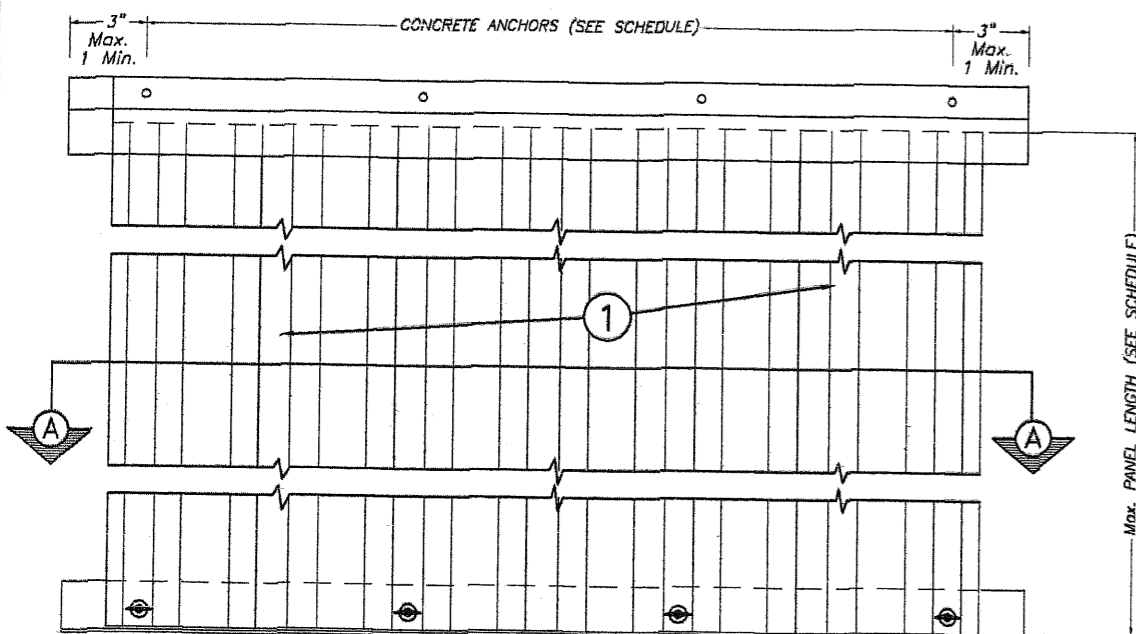


FULL PANEL W/ HEMMED EDGES



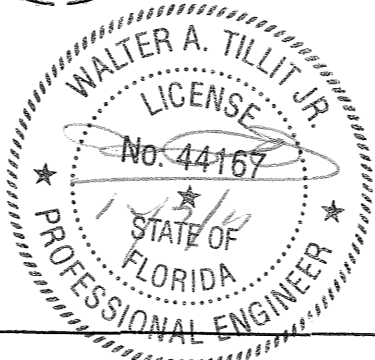
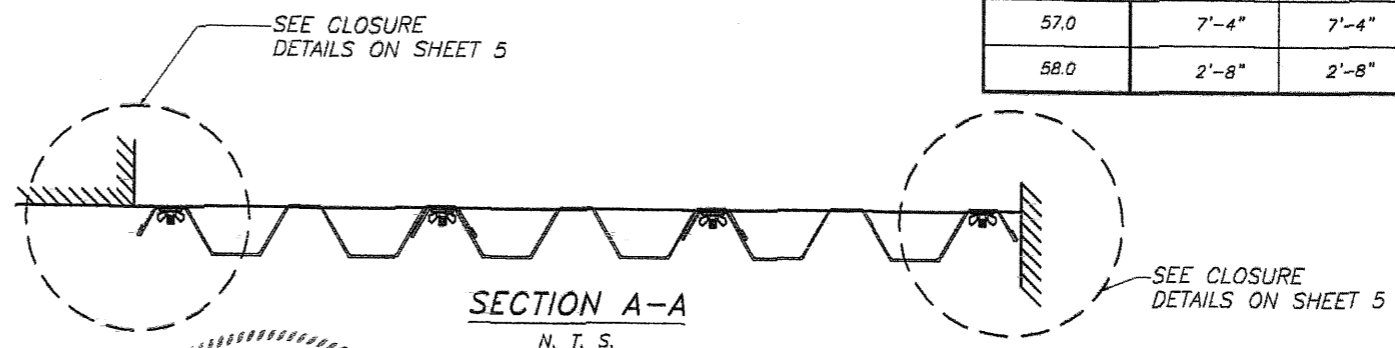
HALF PANEL W/ HEMMED EDGES

① STORM PANEL  
SCALE 3/8" = 1"



STORM PANEL  
TYPICAL ELEVATION

N. T. S.



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

- NOTES:**
- (1) L+: MAXIMUM ALLOWABLE PANEL LENGTH FOR A GIVEN POSITIVE A.S.D. DESIGN LOAD.  
L-: MAX. ALLOWABLE PANEL LENGTH FOR A GIVEN NEGATIVE A.S.D. DESIGN LOAD.
  - (2) PROCEDURE TO DETERMINE MAXIMUM PANEL LENGTH FOR WALL MOUNTINGS OR FLOOR/CEILING:  
GIVEN A POSITIVE A.S.D. DESIGN LOAD, DETERMINE MAXIMUM PANEL LENGTH "L+" FROM SCHEDULE.  
GIVEN A NEGATIVE A.S.D. DESIGN LOAD, DETERMINE MAXIMUM PANEL LENGTH "L-" FROM SCHEDULE.  
FINAL MAXIMUM ALLOWABLE PANEL LENGTH IS EQUAL TO THE MINIMUM DETERMINED PANEL LENGTH BETWEEN "L+" AND "L-".
  - (3) MINIMUM PANEL LENGTH TO BE 48"

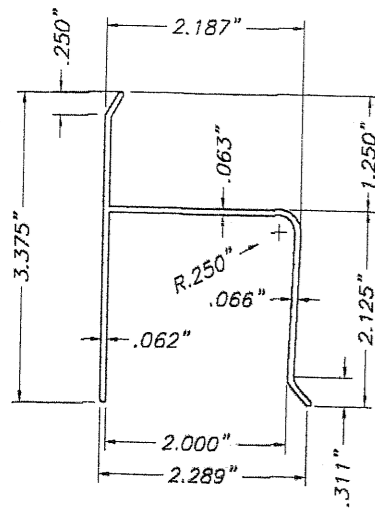
**SCHEDULE # 1**

**VALID FOR POURED CONCRETE, CONCRETE BLOCK AND WOOD SUBSTRATE INSTALLATIONS\***

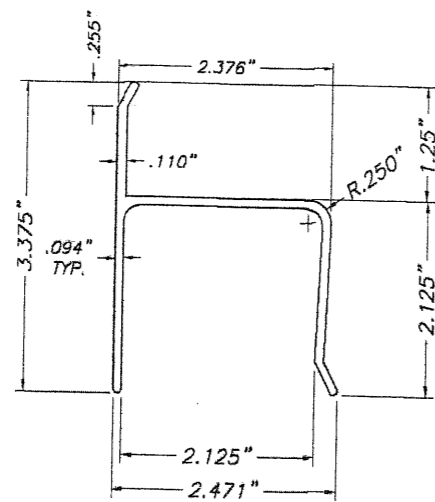
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) (+ or -)	MAXIMUM PANEL LENGTH "L+" OR "L-" (ft.) 0	
	CONCRETE, CONCRETE BLOCK & WOOD INSTALLATIONS	
	Max. PANEL LENGTH L+ (ft.)	Max. PANEL LENGTH L- (ft.)
32.6	9'-10"	9'-10"
34.0	9'-7"	9'-10"
36.0	9'-4"	9'-10"
38.0	9'-1"	9'-10"
40.0	8'-10"	9'-10"
42.0	8'-7"	9'-10"
44.0	8'-5"	9'-8"
46.0	8'-3"	9'-1"
48.0	8'-1"	8'-8"
50.0	7'-11"	8'-4"
52.0	7'-9"	8'-0"
54.0	7'-7"	7'-8"
56.0	7'-5"	7'-5"
57.0	7'-4"	7'-4"
58.0	2'-8"	2'-8"

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

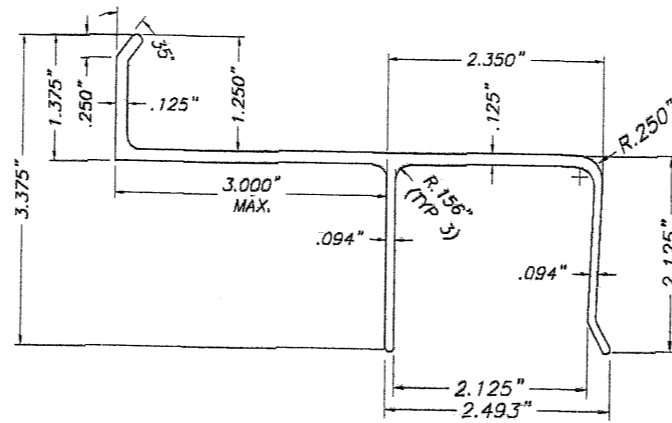
© 2011 TILTECO, INC.		24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G. DRAWN BY:
		<b>EASTERN METAL SUPPLY, INC.</b> 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780		12/06/11 DATE:
				11-226 DRAWING No
TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 36th 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		REV. No. DESCRIPTION DATE 1 OLD 08-149 12/06/11 2 - - -	REV. No. DESCRIPTION DATE 3 - - - 4 - - -	SHEET 2 OF 10



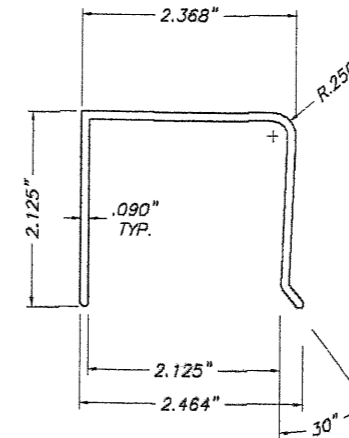
② "h" HEADER



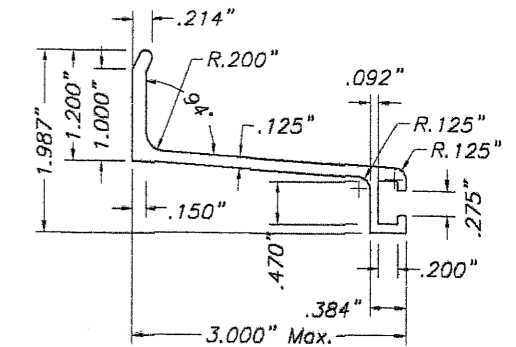
②A "h" HEADER (OPTIONAL)



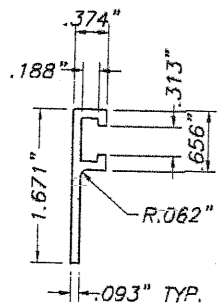
③ BUILD OUT "h" HEADER (3" MAX.)



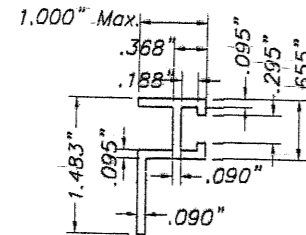
④ "u" HEADER



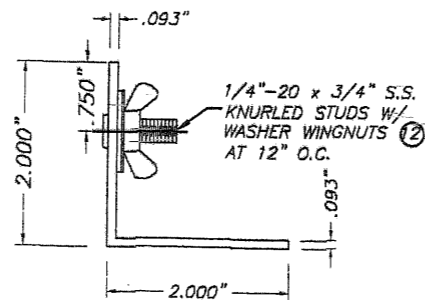
⑤ 3" ANGLE BUILD OUT BRACKET



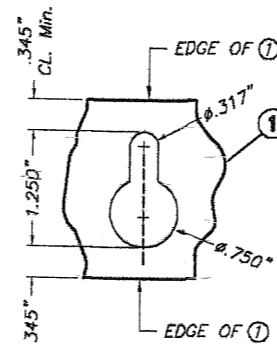
⑥ "f" TRACK



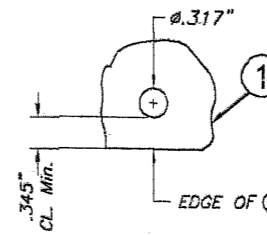
⑦ 1" STUCCO TRACK



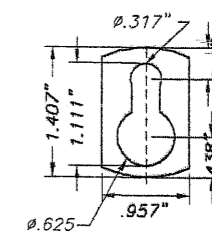
⑧ STUDDED ANGLE



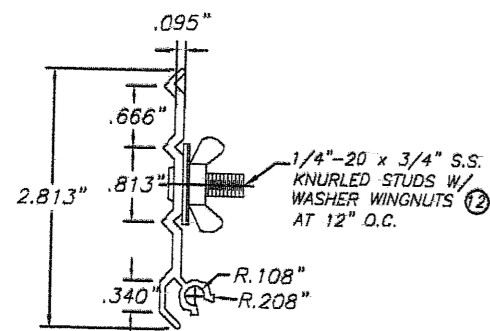
⑨ LARGE KEY HOLE



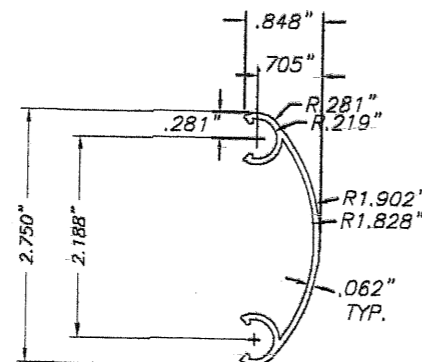
⑨A ROUND HOLE AT PANEL



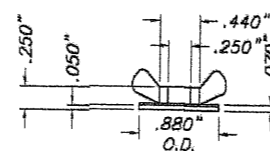
⑨B KEY HOLE WASHER  
3105-H154 ALUM. ALLOY



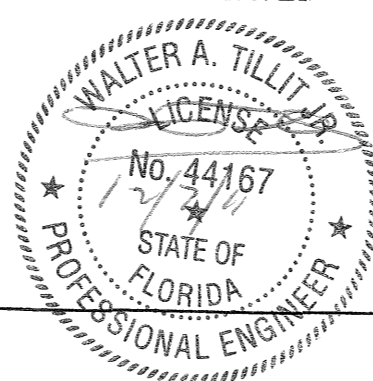
⑩ STUDDED SNAP TRACK



⑪ FEMALE COVER CAP



⑫ WASHERED WING NUT  
DIE CAST (ZINC # 7)  
NICKEL PLATED

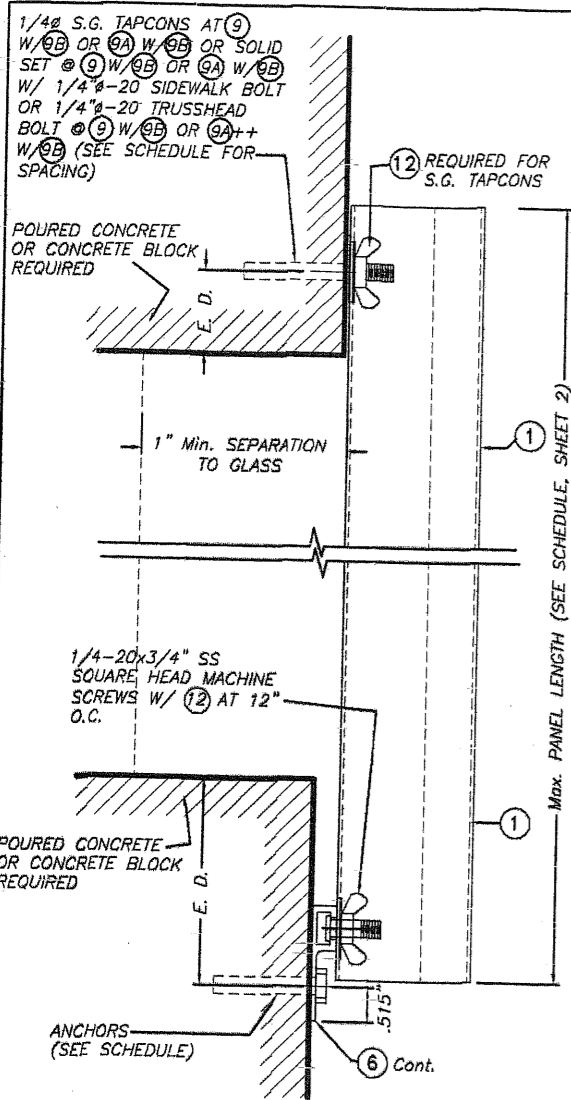


# COMPONENTS

SCALE: 1/2" = 1"

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

© 2011 TILTECO, INC.		24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G. DRAWN BY:	
		<b>EASTERN METAL SUPPLY, INC.</b> 4288 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780		12/06/11 DATE:	
				11-226 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-149	12/06/11	3	-	-
2	-	-	4	-	-



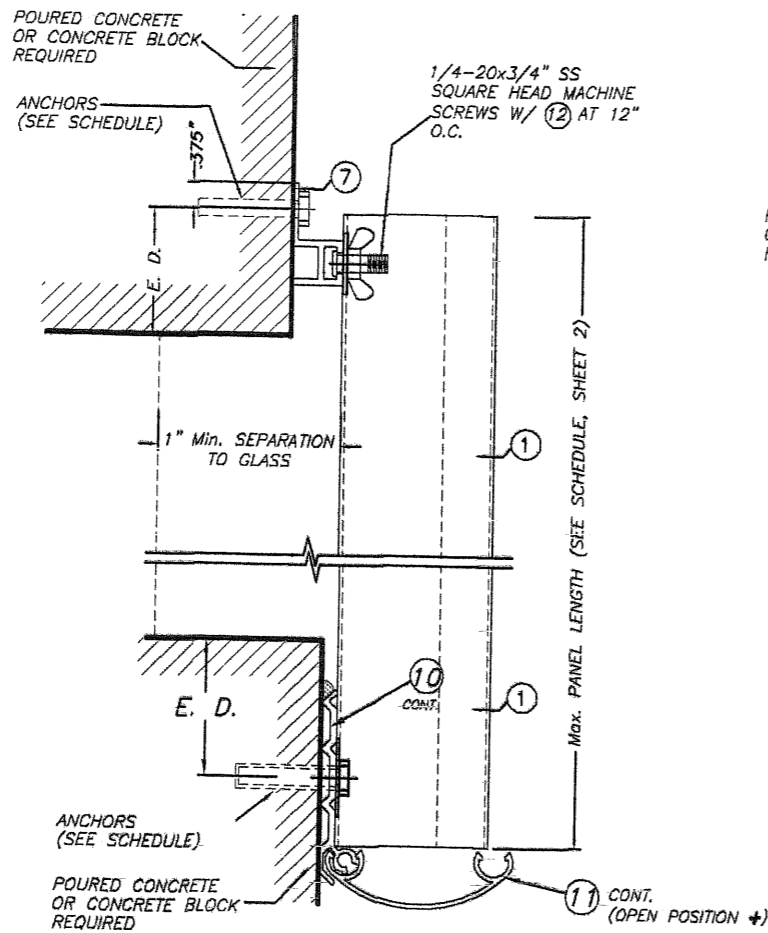
++  
SIDE WALK BOLTS ARE 3/4"x3/32" THICK HEAD MACHINE SCREW W/LENGTH AS PER NOTES A.2 & B.2 (SHEET 1)  
++  
TRUSS HEAD BOLTS ARE 1/2"x1/8" THICK HEAD MACHINE SCREW W/LENGTH AS PER NOTES A.2 & B.2 (SHEET 1)

**SECTION 1**

**WALL MOUNTING INSTALLATION**

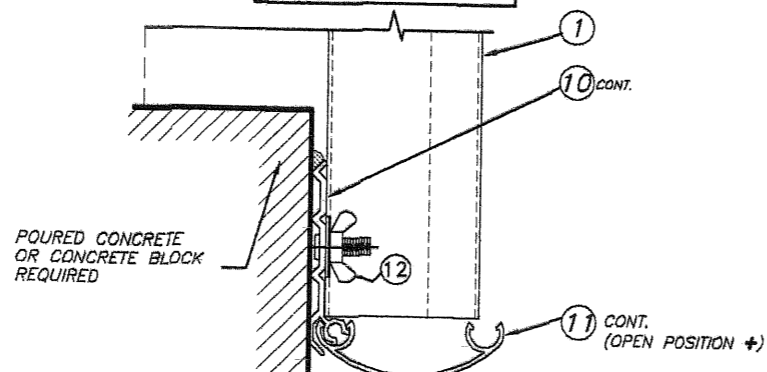
NOTE FOR COMBINATION OF SECTIONS :  
WALL/FLOOR MOUNTING SECTIONS CAN BE COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.

E. D. = EDGE DISTANCE  
(SEE SCHEDULE ON SHEET 7)



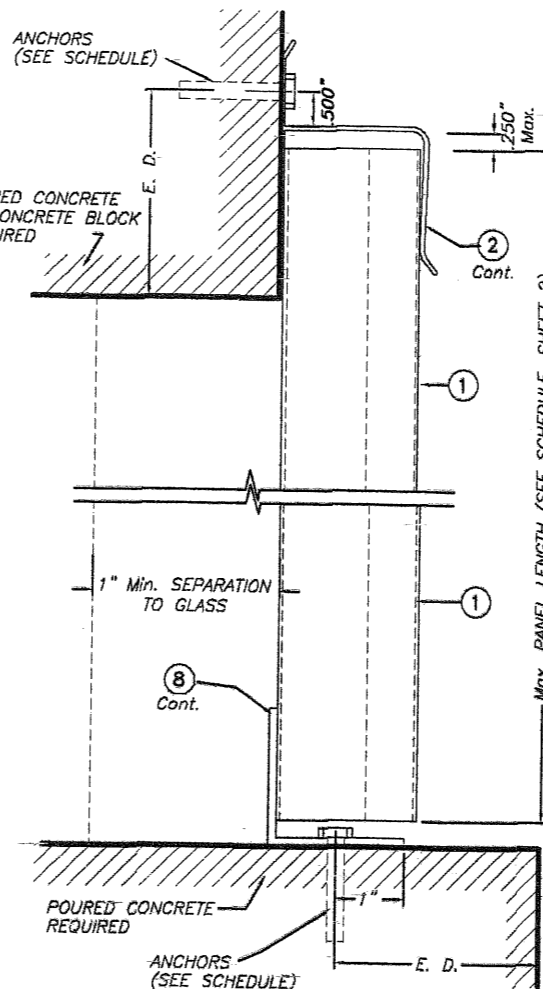
**SECTION @ ANCHOR**

\* NOTE: FEMALE COVER CAP (1) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.

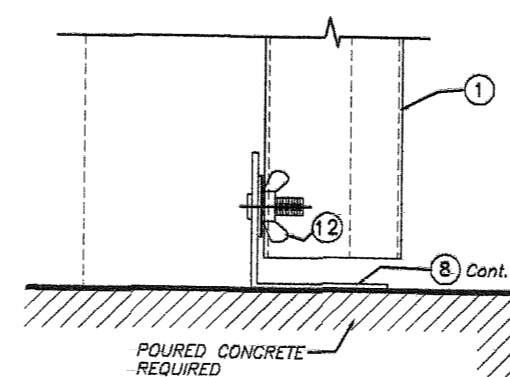


**SECTION @ STUD**

**SECTION 2**

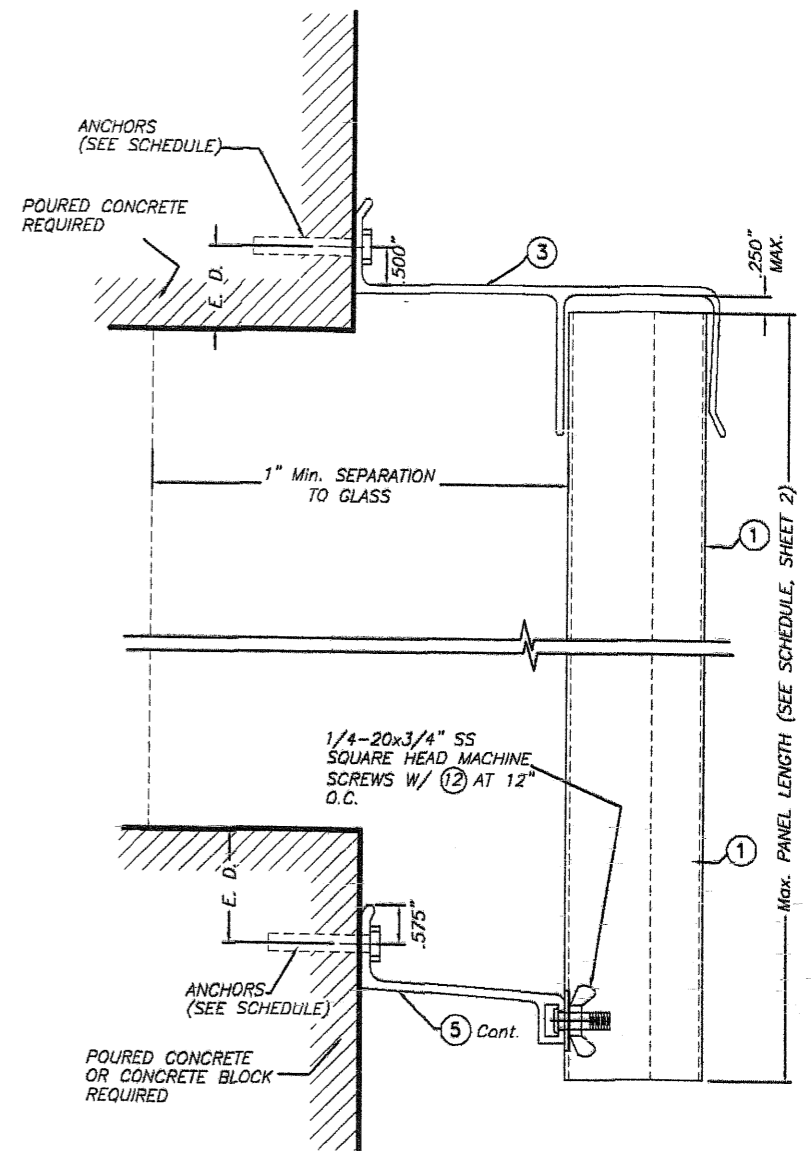


**SECTION @ ANCHOR**

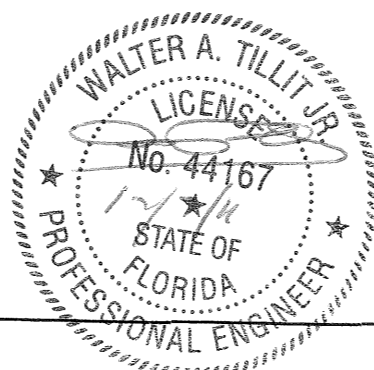


**SECTION @ STUD**

**WALL & FLOOR MOUNTING INSTALLATION SECTION 3**



**BUILD OUT INSTALLATION SECTION 4**



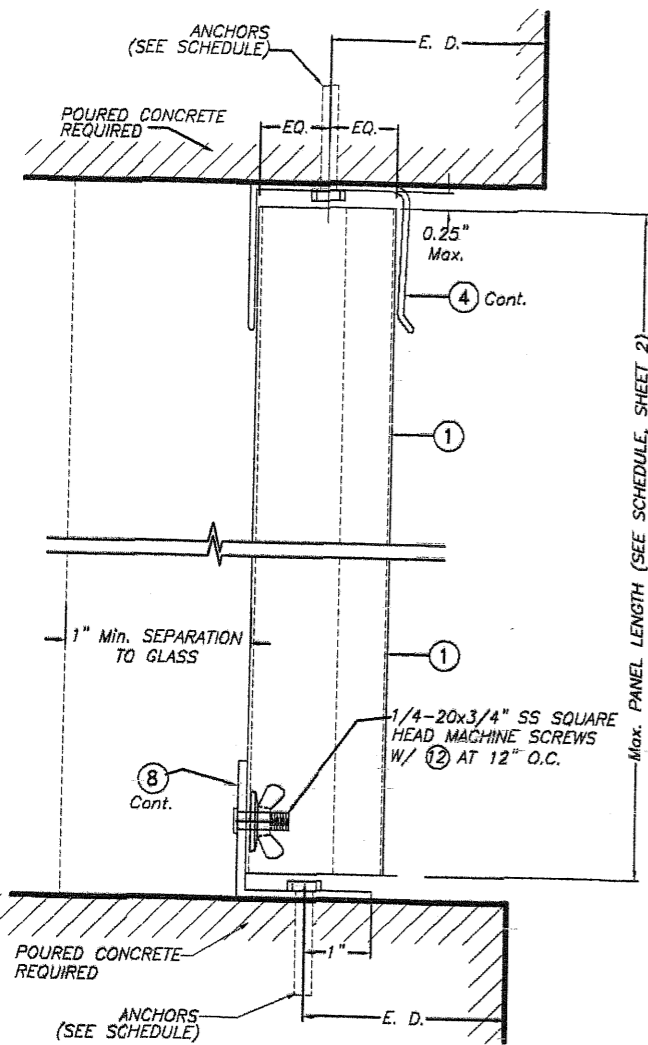
© 2011 TILTECO, INC.

**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  
EB-0006719  
WALTER A. TILLIT JR. P.E.  
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G.			
EASTERN METAL SUPPLY, INC.		DRAWN BY:			
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780		12/06/11 DATE:			
REV. No. DESCRIPTION DATE REV. No. DESCRIPTION DATE		11-226 DRAWING No			
1	OLD 08-149	12/06/11	3	-	-
2	-	-	4	-	-

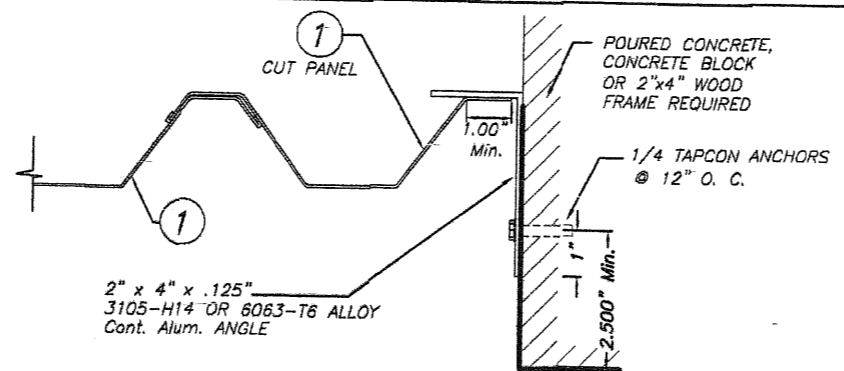


**CEILING & FLOOR MOUNTING  
INSTALLATION - SECTION 5**

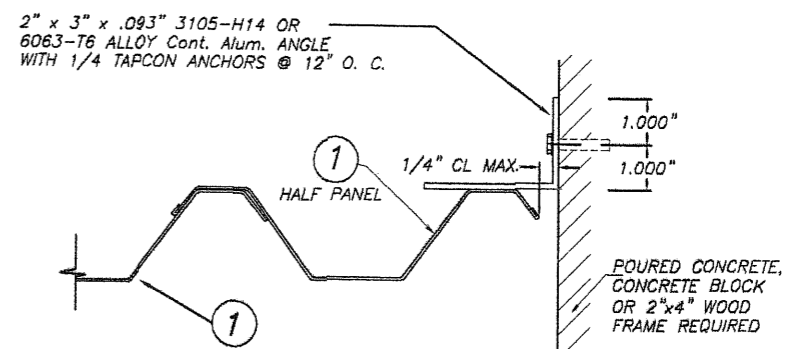
SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE  
(SEE SCHEDULE ON  
SHEET 6)

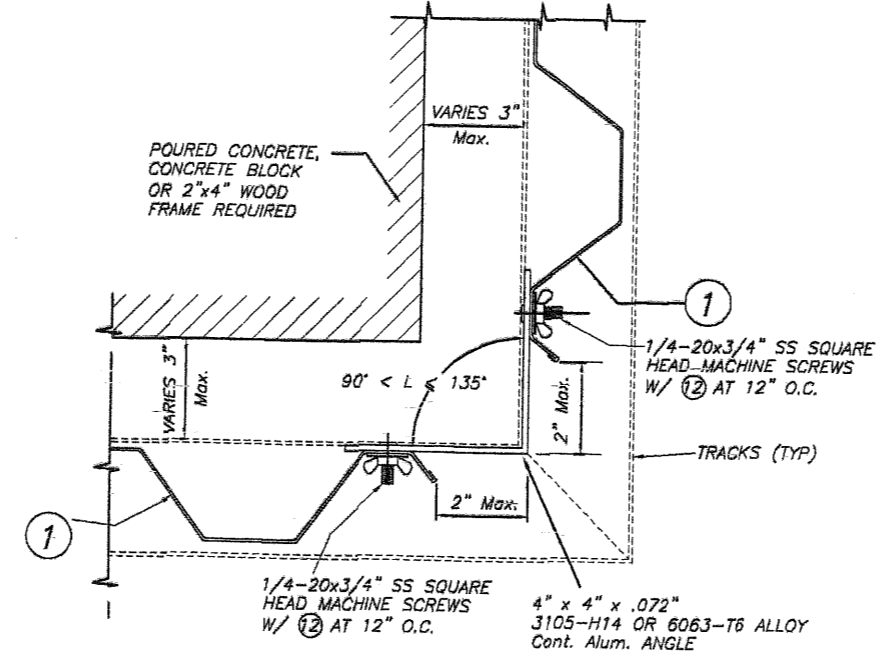
NOTE FOR COMBINATION OF SECTIONS :  
WALL/FLOOR/CEILING MOUNTING SECTIONS CAN BE  
COMBINED IN ANY WAY TO SUIT ANY INSTALLATION.



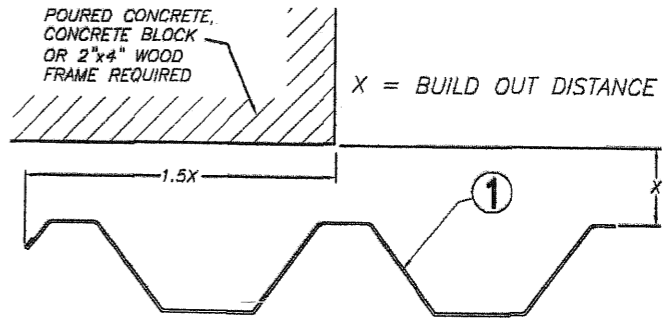
**CASE A (Plan)**



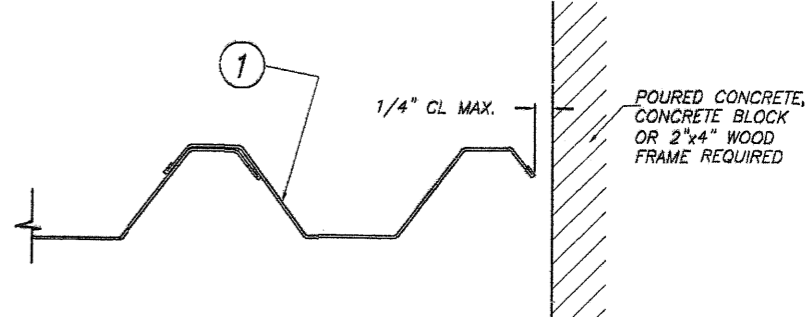
**CASE D (Plan)**



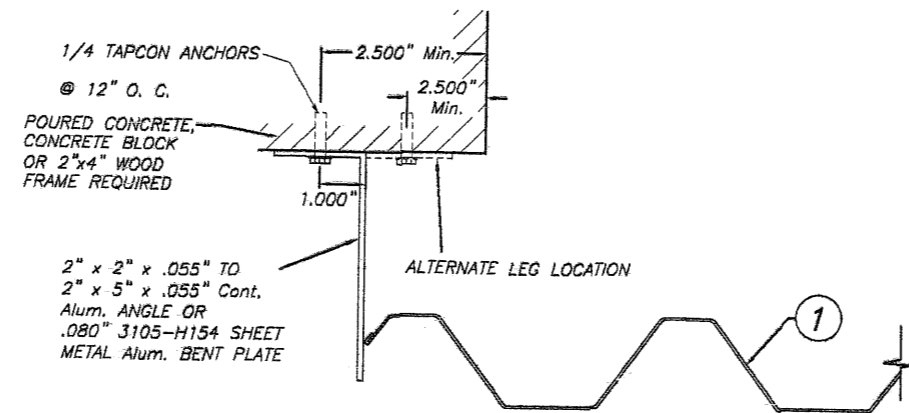
**CASE B (Plan)**



**CASE E (Plan)**



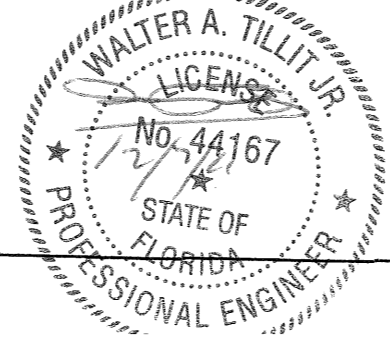
**CASE F (Plan)**



**CASE C (Plan)**

**END CLOSURES DETAILS**

SCALE: 1/4" = 1"



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

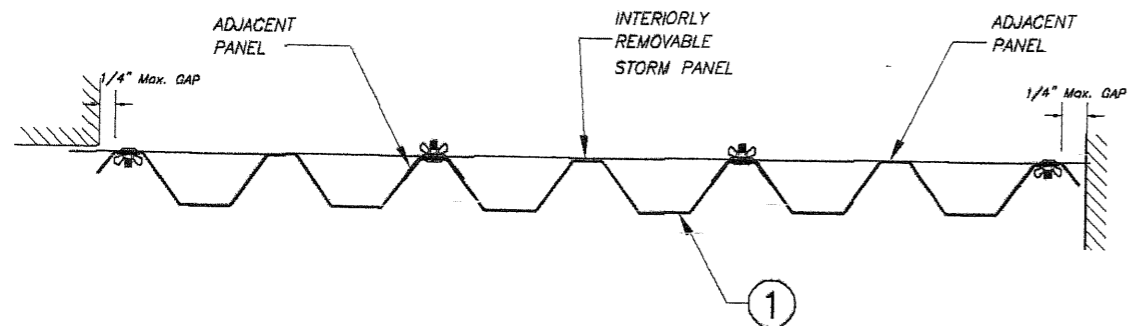
©2011 TILTECO, INC.

**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  
EB-0006719  
WALTER A. TILLIT JR. P.E.  
FLORIDA Lic. # 44167

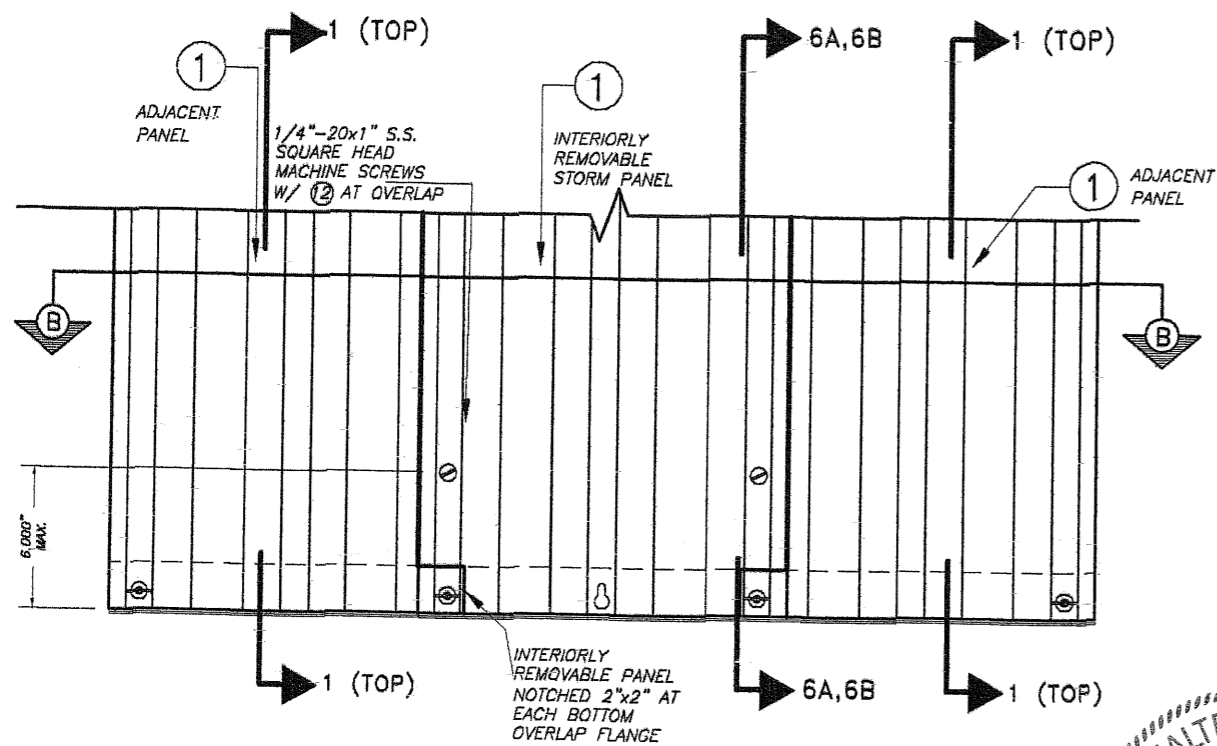
24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G.
EASTERN METAL SUPPLY, INC.		DRAWN BY:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-8061 FAX: (561) 588-4780		12/06/11 DATE:
REV. No. DESCRIPTION DATE REV. No. DESCRIPTION DATE		11-226 DRAWING No
1	OLD 08-149	12/06/11
2		
		SHEET 5 OF 10





**SECTION B-B**

SCALE : N.T.S.



**INTERIORLY REMOVABLE STORM PANEL  
PARTIAL ELEVATION**

SCALE : N.T.S.

++  
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)

**WALL MOUNTING INSTALLATION  
SECTION 6A**

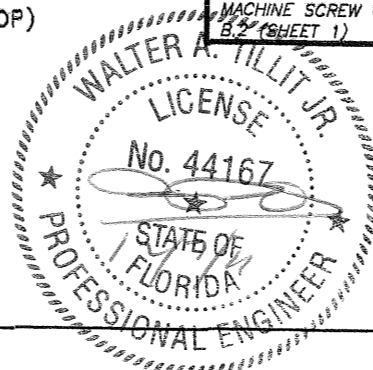
SCALE : 3/8" = 1"

**WALL MOUNTING INSTALLATION  
SECTION 6B**

SCALE : 3/8" = 1"

**INTERIORLY REMOVABLE STORM PANEL SECTIONS**

**MAX. A.S.D. DESIGN PRESSURE RATING = +57.0, -57.0 p.s.f.**



© 2011 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  
EB-0006719  
WALTER A. TILLIT JR. P.E.  
FLORIDA Lic. # 44167

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)		F.S./R.E./A.G. DRAWN BY:
<b>EASTERN METAL SUPPLY, INC.</b>		12/06/11 DATE:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780		11-226 DRAWING No
REV. No	DESCRIPTION	DATE
1	OLD 08-149	12/06/11
2		

SHEET 6 OF 10

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

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.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	N/A	N/A	12"	12"	12"	12"	1 (TOP)	6'-0" OR LESS
	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	2 (TOP)	
	12"	12"	12"	12"	12"	12"	2 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	3 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	3 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	4 (TOP)	
	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	5 (TOP)	
	12"	12"	12"	12"	12"	12"	5 (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.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 UP TO +57.0, -57.0	N/A	N/A	12"	12"	12"	12"	1 (TOP)	> 6'-0" UP TO 7'-4"
	12"	11"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	2 (TOP)	
	12"	12"	12"	12"	12"	12"	2 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	3 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	3 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	4 (TOP)	
	12"	11"	12"	12"	12"	12"	4 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	5 (TOP)	
	12"	12"	12"	12"	12"	12"	5 (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.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 OR LESS	N/A	N/A	12"	12"	12"	12"	1 (TOP)	> 6'-0" UP TO 9'-10"
	12"	11"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	2 (TOP)	
	12"	12"	12"	12"	12"	12"	2 (BOTTOM)	
	12"	11"	12"	12"	12"	12"	3 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	3 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	4 (TOP)	
	12"	11"	12"	12"	12"	12"	4 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	5 (TOP)	
	12"	12"	12"	12"	12"	12"	5 (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.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+58.0, -58.0 OR LESS	N/A	N/A	12"	12"	12"	12"	1 (TOP)	2'-8" OR LESS
	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	2 (TOP)	
	12"	12"	12"	12"	12"	12"	2 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	3 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	3 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	4 (TOP)	
	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	5 (TOP)	
	12"	12"	12"	12"	12"	12"	5 (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.)
	REGULAR TAPCONS		SOLID SET		S.G.TAPCON			
	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY	TO CONCRETE	TO MASONRY		
+40.0, -40.0 UP TO +50.0, -50.0	N/A	N/A	12"	12"	12"	12"	1 (TOP)	6'-0" OR LESS
	12"	12"	12"	12"	12"	12"	1 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	2 (TOP)	
	12"	12"	12"	12"	12"	12"	2 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	3 (TOP)	
	12"	N/A	12"	N/A	12"	N/A	3 (BOTTOM)	
	12"	N/A	12"	N/A	12"	N/A	4 (TOP)	
	12"	12"	12"	12"	12"	12"	4 (BOTTOM)	
	12"	12"	12"	12"	12"	12"	5 (TOP)	
	12"	12"	12"	12"	12"	12"	5 (BOTTOM)	

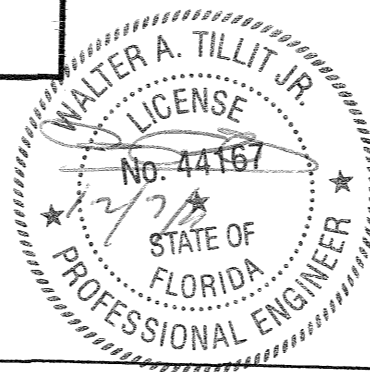
\*\* MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3" EDGE DISTANCE. FOR E. D. LESS THAN 3", REDUCE ANCHOR SPACING BY MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE: Min E. D. FOR SOLIDSET ANCHORS IS 3") FOR THIS OPERATION TO BE POSSIBLE, REDUCED SPACING OBTAINED USING FACTOR SHALL NOT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

ACTUAL E. D.	FACTOR	
	TAPCON (REGULAR OR S.G.)	SOLID SET
3"	.86	.75
2 1/2"	.71	.50
2"	.50	-

**ANCHORS LEGEND**

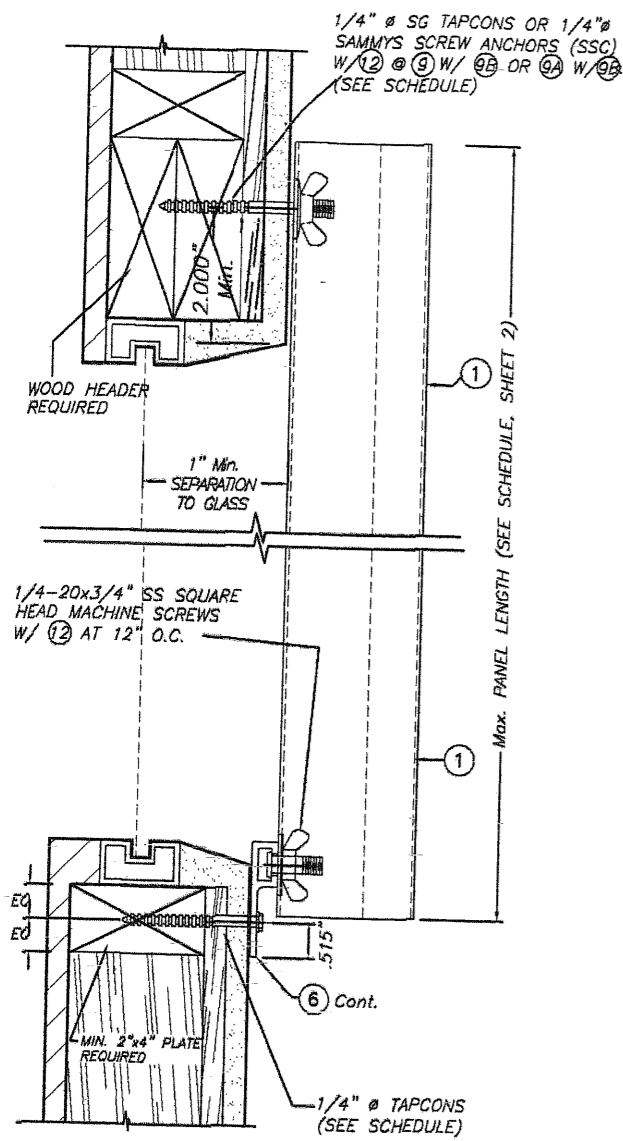
ANCHOR TYPE	Min. ANCHOR SPACING
TAPCON (REGULAR OR S.G.)	3.0"
SOLID SET	2.5"

E. D. = EDGE DISTANCE

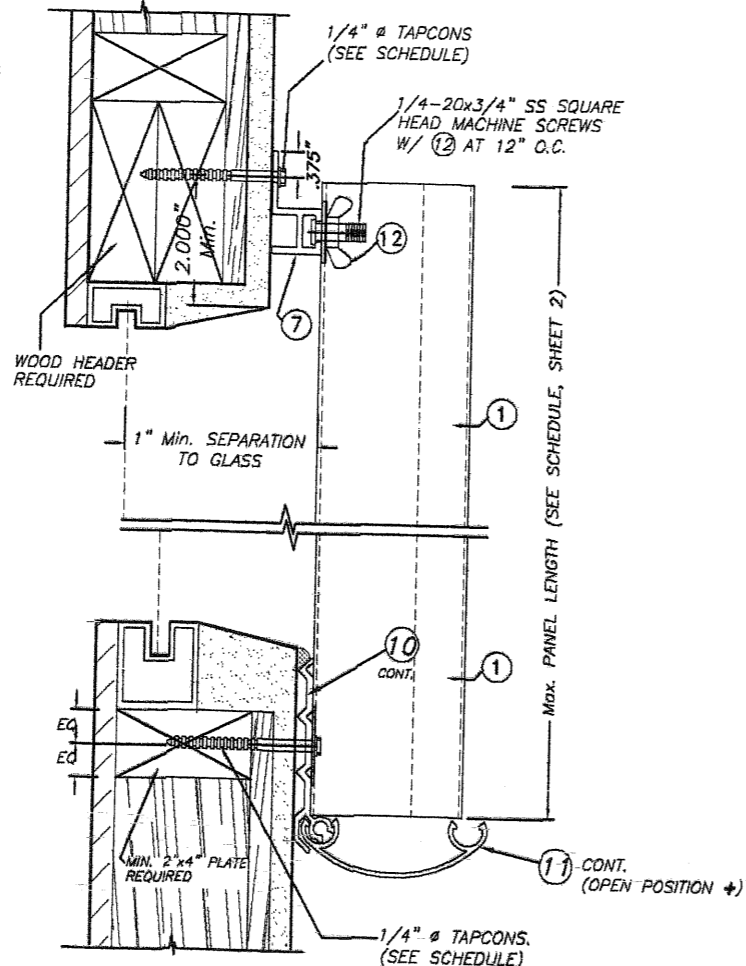


FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

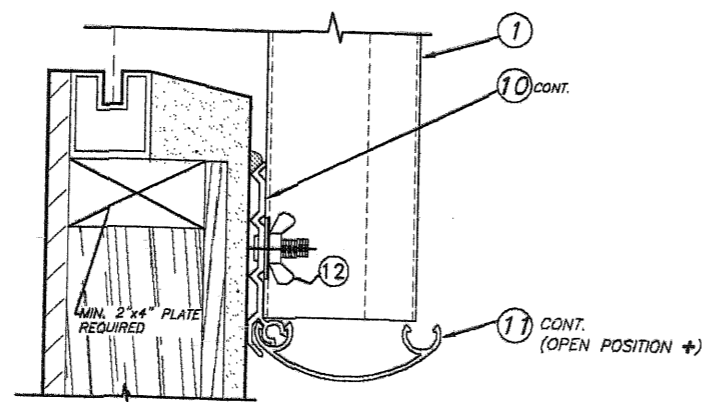
©2011 TILTECO, INC.	24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)	F.S./R.E./A.G. DRAWN BY:
<b>TILTECO INC.</b>	<b>EASTERN METAL SUPPLY, INC.</b>	12/06/11 DATE:
TILLIT TESTING & ENGINEERING COMPANY 8355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531	4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-8061 FAX: (561) 588-4780	11-226 DRAWING No
EB-0006719 WALTER A. TILLIT JR. P.E. FLORIDA Lic. # 44167	REV. No. DESCRIPTION DATE REV. No. DESCRIPTION DATE	SHEET 7 OF 10
	1 OLD 08-149 12/06/11 3 - -	
	2 - - - 4 - -	



**ALTERNATIVE 1**



**SECTION @ ANCHOR**

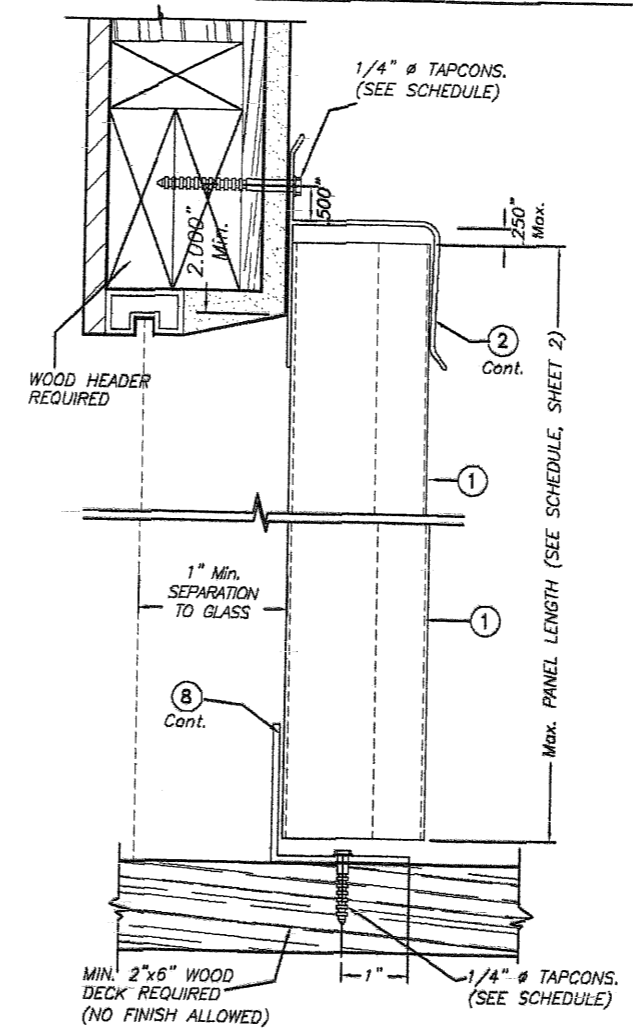


**SECTION @ STUD**

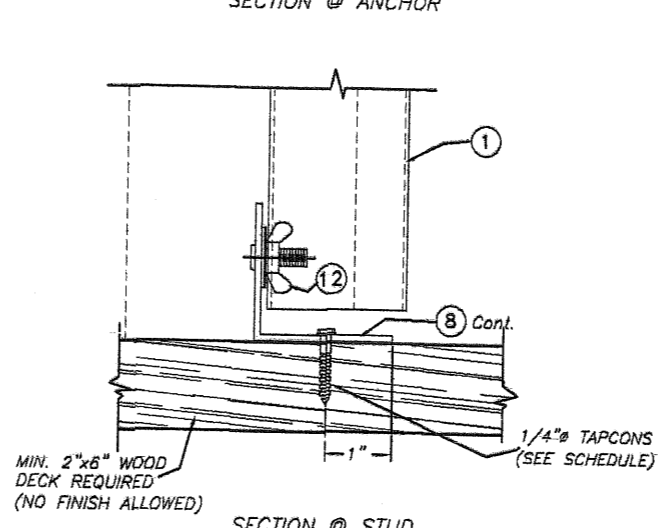
**ALTERNATIVE 2**

NOTE: FEMALE COVER CAP (1) TO REMAIN CLOSED AT NON HURRICANE CONDITIONS.

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

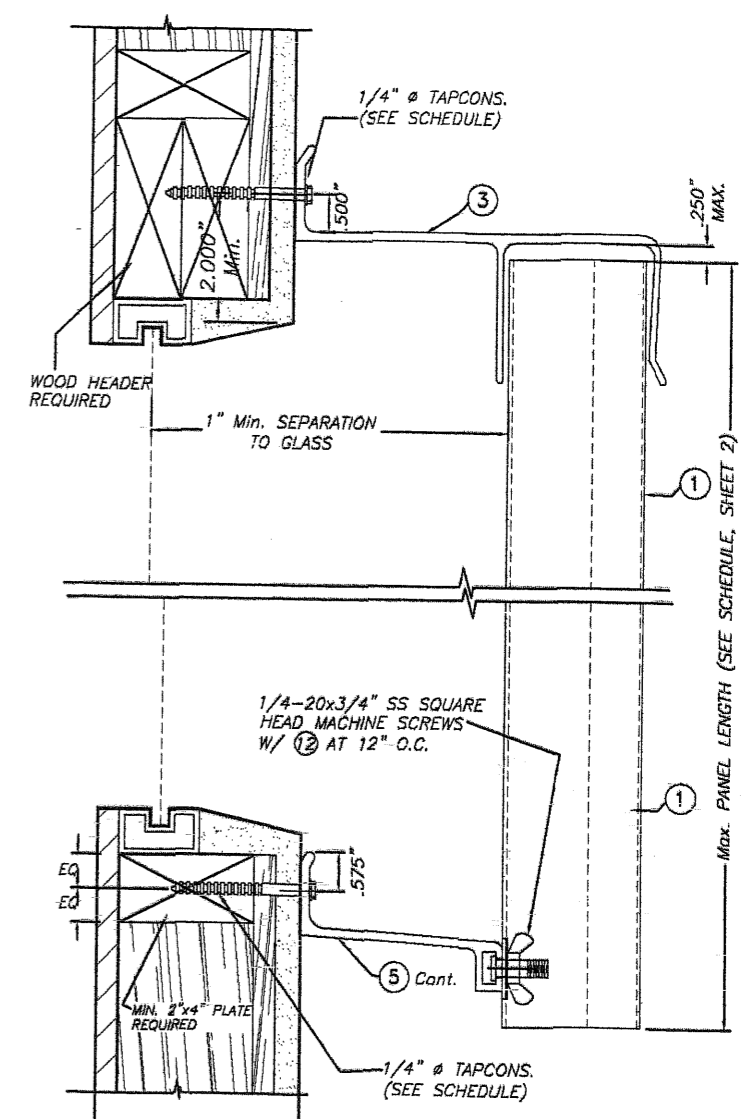


**SECTION @ ANCHOR**

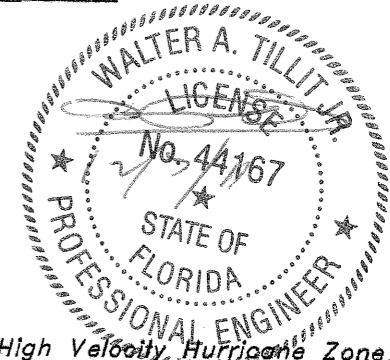


**SECTION @ STUD**

**WALL & FLOOR MOUNTING INSTALLATION ALTERNATIVE 3**



**BUILD OUT INSTALLATION ALTERNATIVE 4**



**NOTES:**  
 1. INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING AND PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)  
 2. SEE ANCHOR SCHEDULE ON SHEET 10.  
 3. FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY (G) OF 0.55 OR EQUAL.

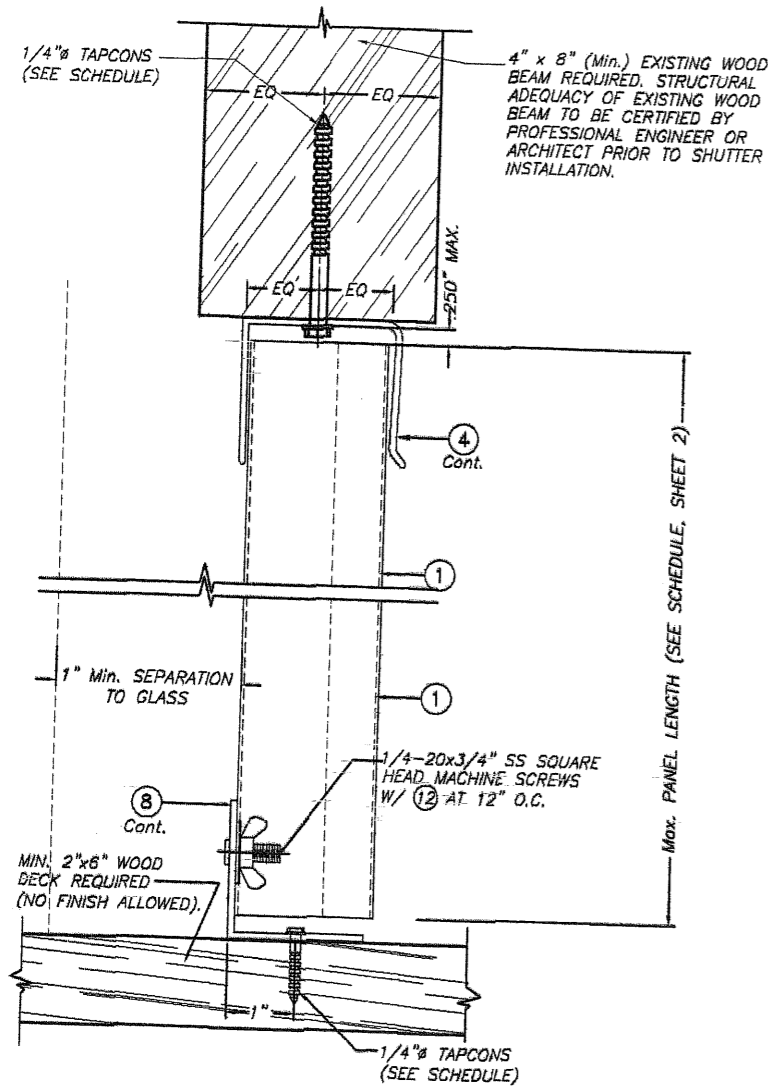
©2011 TILTECO, INC.  
**TILTECO INC.**  
 TILLIT TESTING & ENGINEERING COMPANY  
 6355 N.W. 36th St., Ste. 305, VIRGINIA GARDENS, FL 33168  
 Phone : (305)871-1530 Fax : (305)871-1537  
 EB-0006719  
 WALTER A. TILLIT JR. P.E.  
 FLORIDA Lic. # 44167

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)  
**EASTERN METAL SUPPLY, INC.**  
 4268 WEST ROADS DRIVE  
 WEST PALM BEACH, FL 33407  
 PH: (561) 533-6061 FAX: (561) 588-4780

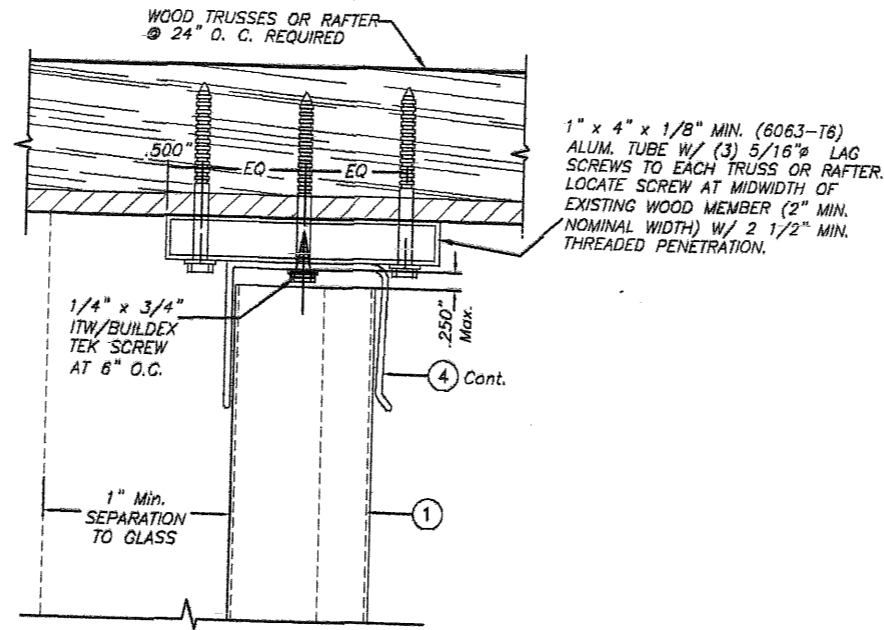
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-149	12/06/11	3	-	-
2	-	-	4	-	-

F.S./R.E./A.G.  
 DRAWN BY:  
 12/06/11  
 DATE:  
 11-226  
 DRAWING No  
 SHEET 8 OF 10

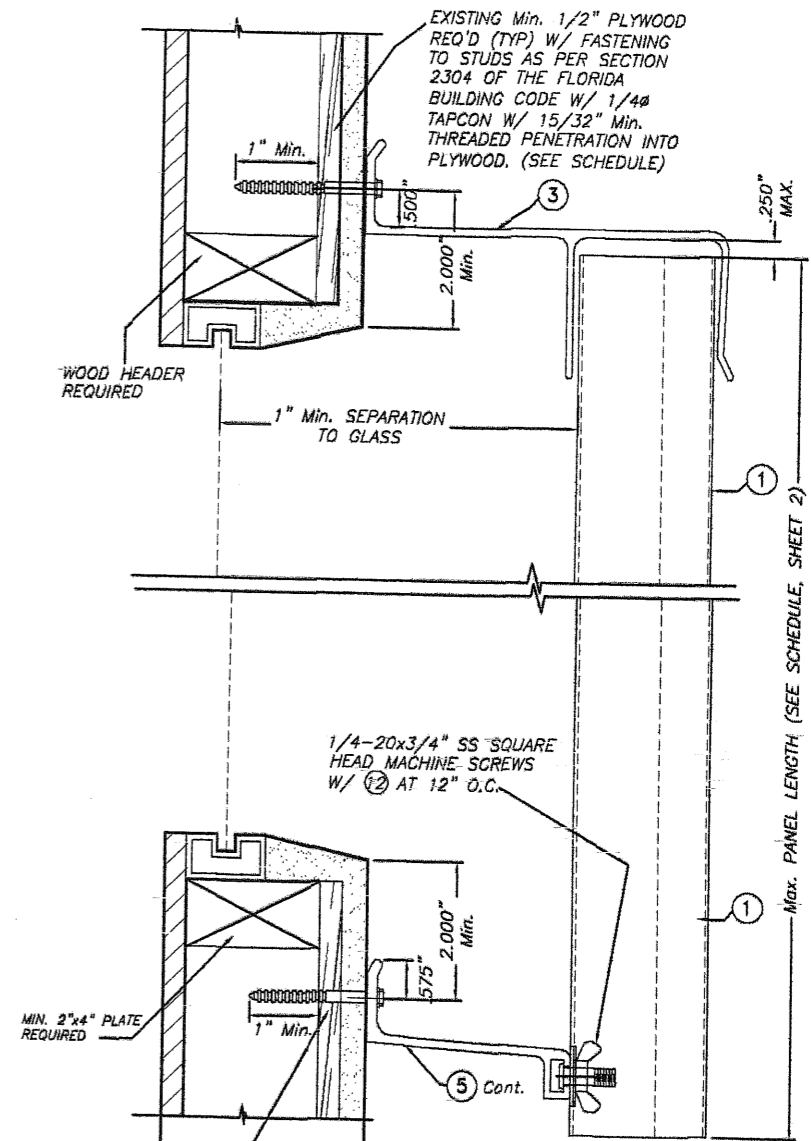




**CEILING & FLOOR MOUNTING INSTALLATION  
ALTERNATIVE 5**



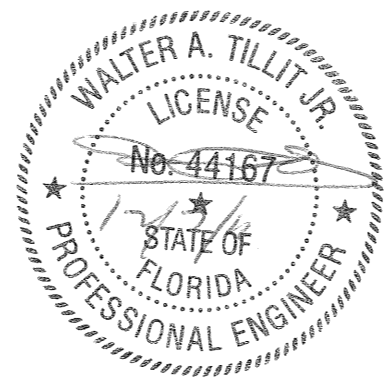
**OPTION TO  
ALTERNATIVE 5  
(TOP)**



**BUILD OUT INSTALLATION  
ALTERNATIVE 6**

**NOTE FOR COMBINATION OF SECTIONS :**  
WALL/FLOOR/CEILING 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 PANEL'S LENGTHS AS PER SCHEDULES ON SHEET 2 (EXCEPT AS NOTED)
  - SEE ANCHOR SCHEDULE ON SHEET 10.
  - FOR NEW WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY (G) OF 0.55 OR EQUAL.



© 2011 TILTECO, INC.

**TILTECO INC.**  
TILLIT TESTING & ENGINEERING COMPANY  
8355 N.W. 36th 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

FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP)

**EASTERN METAL SUPPLY, INC.**  
4268 WEST ROADS DRIVE  
WEST PALM BEACH, FL 33407  
PH: (561) 533-8061 FAX: (561) 588-4780

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-149	12/06/11	3	-	-
2	-	-	4	-	-

F.S./R.E./A.G.  
DRAWN BY:  
12/06/11  
DATE:  
11-226  
DRAWING No  
SHEET 9 OF 10

**MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM ANCHOR SPACING SCHEDULE FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS**

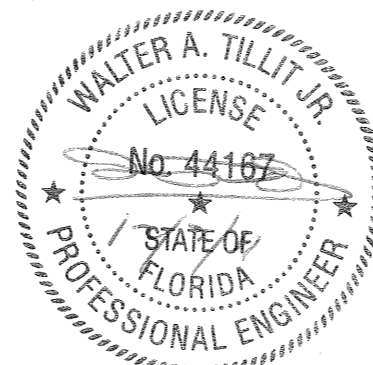
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	SAMMYS SSC		
+40.0, -40.0 OR LESS	N/A	12"	12"	1 (TOP)	6'-0" OR LESS
	12"	12"	N/A	1 (BOTTOM)	
	12"	12"	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	12"	N/A	3 (TOP)	
	12"	12"	N/A	3 (BOTTOM)	
	12"	12"	N/A	4 (TOP)	
	12"	12"	N/A	4 (BOTTOM)	
	11"	11"	N/A	5 (TOP)	
	12"	12"	N/A	5 (BOTTOM)	
	8"	N/A	N/A	6 (TOP)	
	8"	N/A	N/A	6 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	SAMMYS SSC		
+40.0, -40.0 UP TO +57.0, -57.0	N/A	12"	12"	1 (TOP)	> 6'-0" UP TO 7'-4"
	12"	12"	N/A	1 (BOTTOM)	
	12"	12"	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	12"	N/A	3 (TOP)	
	7"	7"	N/A	3 (BOTTOM)	
	12"	12"	N/A	4 (TOP)	
	12"	12"	N/A	4 (BOTTOM)	
	6.5"	6.5"	N/A	5 (TOP)	
	7"	7"	N/A	5 (BOTTOM)	
	8"	N/A	N/A	6 (TOP)	
	6"	N/A	N/A	6 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	SAMMYS SSC		
+40.0, -40.0 OR LESS	N/A	12"	12"	1 (TOP)	> 6'-0" UP TO 9'-10"
	12"	12"	N/A	1 (BOTTOM)	
	12"	12"	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	12"	N/A	3 (TOP)	
	7.5"	7.5"	N/A	3 (BOTTOM)	
	12"	12"	N/A	4 (TOP)	
	12"	12"	N/A	4 (BOTTOM)	
	7"	7"	N/A	5 (TOP)	
	7.5"	7.5"	N/A	5 (BOTTOM)	
	6"	N/A	N/A	6 (TOP)	
	6"	N/A	N/A	6 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	SAMMYS SSC		
+58.0, -58.0 OR LESS	N/A	12"	12"	1 (TOP)	2'-8" OR LESS
	12"	12"	N/A	1 (BOTTOM)	
	12"	12"	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	12"	N/A	3 (TOP)	
	12"	12"	N/A	3 (BOTTOM)	
	12"	12"	N/A	4 (TOP)	
	12"	12"	N/A	4 (BOTTOM)	
	12"	12"	N/A	5 (TOP)	
	12"	12"	N/A	5 (BOTTOM)	
	6"	N/A	N/A	6 (TOP)	
	6"	N/A	N/A	6 (BOTTOM)	

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	WOOD FASTENERS			APPLICABLE TO ALTERNATIVES # & ANY COMBINATION OF THEM	MAXIMUM PANEL LENGTH "L" (ft.)
	REGULAR TAPCONS	S.G.TAPCON	SAMMYS SSC		
+40.0, -40.0 UP TO +50.0, -50.0	N/A	12"	12"	1 (TOP)	6'-0" OR LESS
	12"	12"	N/A	1 (BOTTOM)	
	12"	12"	N/A	2 (TOP)	
	12"	N/A	N/A	2 (BOTTOM)	
	12"	12"	N/A	3 (TOP)	
	10"	10"	N/A	3 (BOTTOM)	
	12"	12"	N/A	4 (TOP)	
	12"	12"	N/A	4 (BOTTOM)	
	9"	9"	N/A	5 (TOP)	
	10"	10"	N/A	5 (BOTTOM)	
	6"	N/A	N/A	6 (TOP)	
	6"	N/A	N/A	6 (BOTTOM)	



FLORIDA BUILDING CODE (Non High Velocity Hurricane Zone)

 TILTECO INC. TILLIT TESTING & ENGINEERING COMPANY 6355 N.W. 38th St., Ste. 305, VIRGINIA GARDENS, FL 33166 Phone: (305)871-1530 Fax: (305)871-1531 EB-0008719 WALTER A. TILLIT Jr. P.E. FLORIDA Lic. # 44167		© 2011 TILTECO, INC. 24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2" DEEP) EASTERN METAL SUPPLY, INC. 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PH: (561) 533-6061 FAX: (561) 588-4780	F.S./R.E./A.G. DRAWN BY: 12/06/11 DATE: 11-226 DRAWING No SHEET 10 OF 10		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	OLD 08-149	12/06/11	3	-	-
2	-	-	4	-	-