

GENERAL NOTES:

1. STORM PANEL SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2018 EDITIONS OF THE INTERNATIONAL BUILDING CODE (I.B.C.) AND INTERNATIONAL RESIDENTIAL CODE. (I.R.C.).

DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1609 OF THE INTERNATIONAL BUILDING CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE THESE SHUTTERS WILL BE INSTALLED AND FOR A DIRECTIONALITY FACTOR $K_d=0.85$, IN ACCORDANCE W/ ASCE 7-16 STANDARD.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 7-16 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 4 THRU 8.

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. FASTENERS SPACING TO WOOD HAS BEEN DETERMINED IN ACCORDANCE WITH N.D.S. 2018.

STORM PANEL'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.2 OF THE INTERNATIONAL BUILDING CODE (I.B.C.). AS PER ATL REPORTS # 0121.01-98R, # 0329.01-00, #0512.01-03 AND 0617.01-04 AS PER MISSILE TYPE D IMPACT TESTING EQUIVALENT TO ASTM E-1996 STANDARD & ASTM E 330 STANDARD, LIMITED TO INSTALLATIONS WITHIN WIND ZONES 1, 2 & 3, BASIC PROTECTION AS DEFINED BY ASTM E-1996 STANDARD.

2. ALL STEEL SHEET METAL PANELS SHALL HAVE STRUCTURAL QUALITY ASTM A-653, GRADE 40, WITH G-60 GALVANIZED STEEL DESIGNATION.

3. ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER UNLESS OTHERWISE NOTED. STORM PANEL COMPONENTS (12) STUDDED PLATE AND (13) SNAP CAP ARE PATENT PENDING. ALL ALUMINUM EXTRUSIONS IN CONTACT WITH DISSIMILAR MATERIALS SHALL COMPLY WITH SECTION III-6 OF THE 2015 ALUMINUM DESIGN MANUAL.

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES AND MEET ASTM A167, OR HOT DIPPED GALVANIZED (AFTER FABRICATION) CARBON STEEL AS PER ASTM A123 OR ASTM A153, OR HOT DIPPED GALVANIZED OR GALVANNEALED (PRIOR TO FABRICATION) AND MEET ASTM A653 WITH 50 ksi YIELD STRENGTH AND 90 ksi TENSILE STRENGTH.

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" ϕ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
- 1/4" ϕ CF TAP-GRIP ANCHORS (BERTHA STUD-CON), AS MANUFACTURED BY TRU-FAST CORPORATION.
- 1/4" ϕ ZAMAC NAILIN ANCHORS AS MANUFACTURED BY DEWALT, INC.
- 1/4" ϕ x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY DEWALT, INC. AND ELCO CONSTRUCTION PRODUCTS, RESPECTIVELY.
- 1/4" ϕ 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" ϕ -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" ϕ 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" ϕ -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" ϕ TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX.
- 1/4" ϕ CF TAP-GRIP ANCHORS (BERTHA STUD-CON), AS MANUFACTURED BY TRU-FAST CORPORATION.
- 1/4" ϕ ZAMAC NAILIN ANCHORS AS MANUFACTURED BY DEWALT, INC.
- 1/4" ϕ x 7/8" CALK-IN ANCHORS OR ELCO male & female "PANELMATE" AS MANUFACTURED BY DEWALT, INC. AND ELCO CONSTRUCTION PRODUCTS, RESPECTIVELY.
- 1/4" ϕ x 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.
- 1/4" ϕ RED HEAD DYNABOLT SLEEVE ANCHORS AS MANUFACTURED BY RED HEAD.

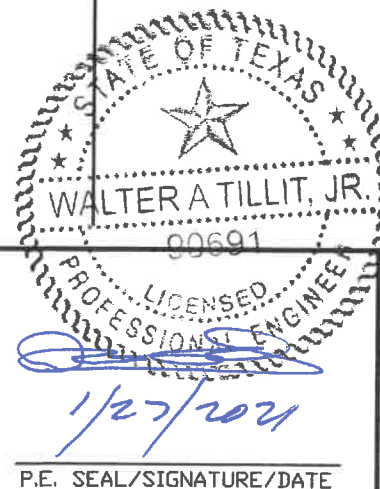
NOTES:

- 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" ϕ -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" ϕ 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" ϕ -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 2 & 3 OF B) 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 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.
- 11. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT STORM PANEL IN ACCORDANCE WITH THE TEXAS DEPARTMENT OF INSURANCE REQUIREMENTS. ONE LABEL SHALL BE PLACED FOR EVERY OPENING.

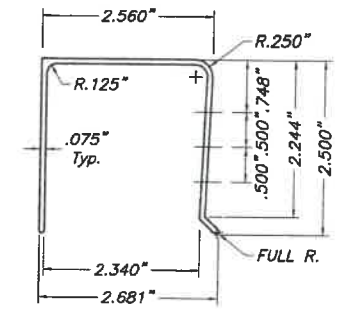
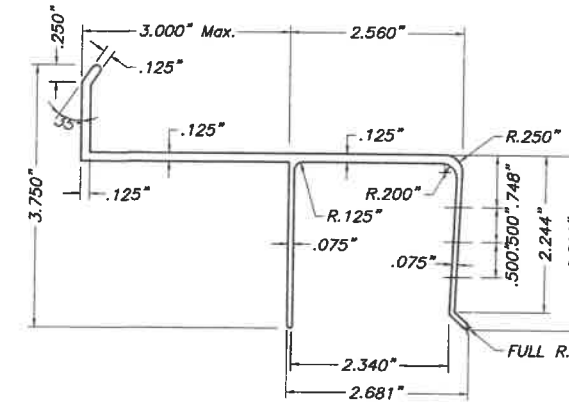
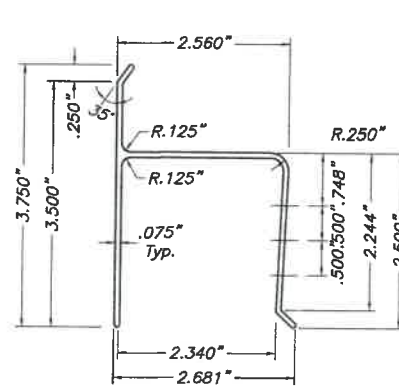
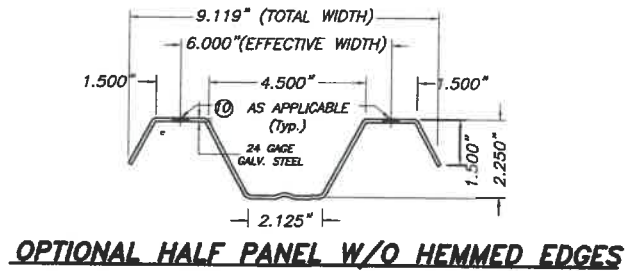
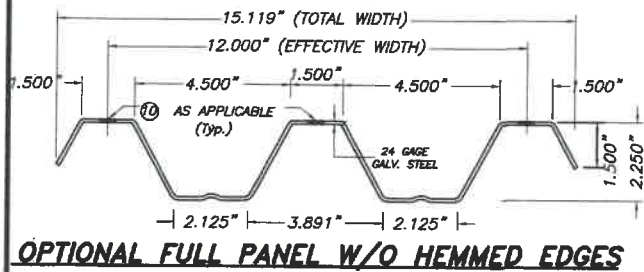
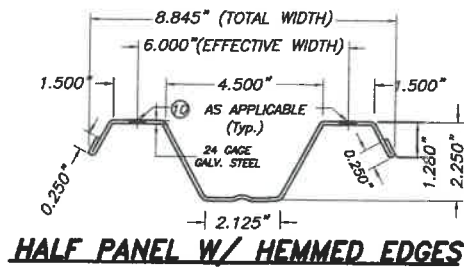
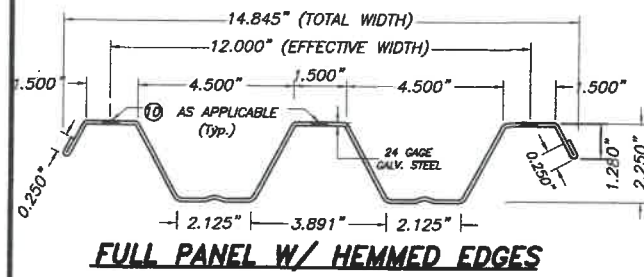
THIS DRAWING SHALL BE USED ONLY TO OBTAIN PERMITS UNDER THE TEXAS DEPARTMENT OF INSURANCE JURISDICTION



WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2018

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)		M.P. DRAWN BY:
EASTERN METAL SUPPLY, INC 4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716		01/21/2021 DATE:
		21-027 DRAWING No
REV. No	DESCRIPTION	DATE
1	-	3
2	-	4
		SHEET 1 OF 8

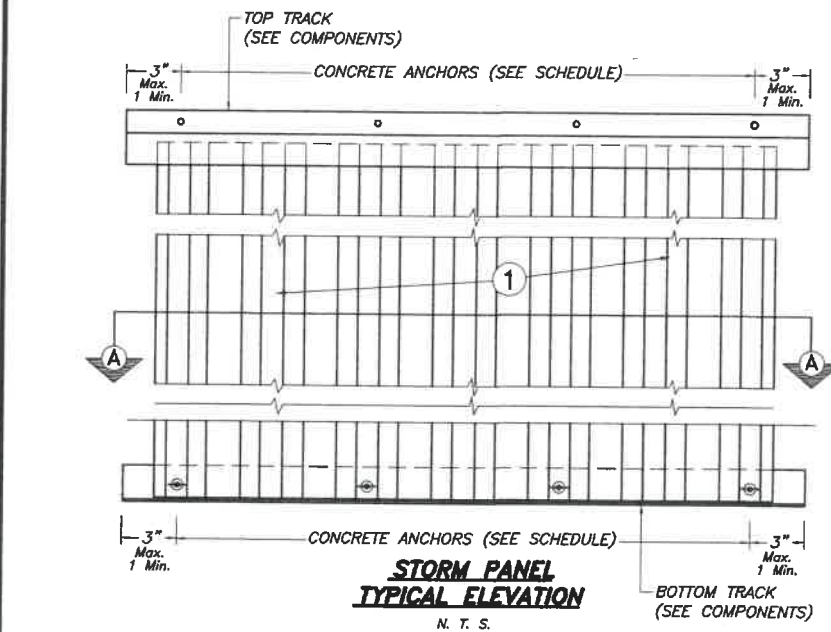


1 **SOLID STORM PANEL**
SCALE : 3/16" = 1"

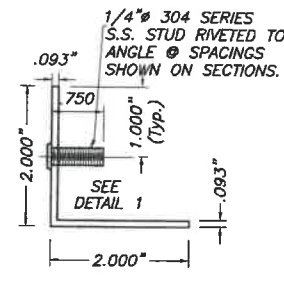
2 **"h" HEADER**
SCALE : 3/8" = 1"

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

4 **"U" HEADER**
SCALE : 3/8" = 1"

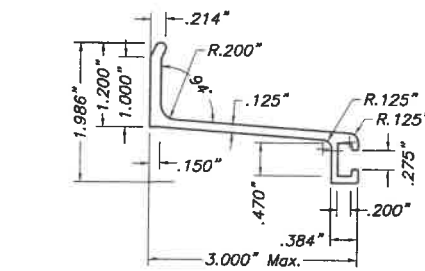


STORM PANEL TYPICAL ELEVATION
N. T. S.

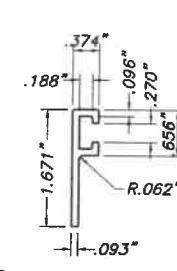


9 **STUDED ANGLE**
6063-T5 Alum. ALLOY
SCALE : 3/8" = 1"

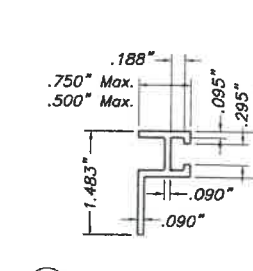
DETAIL 1: STUD W/ DIE CAST ZINC NICKEL PLATED WING NUT



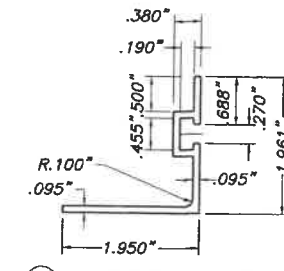
5 **3" ANGLE BUILD OUT BRACKET**
SCALE : 3/8" = 1"



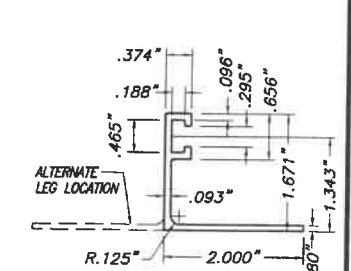
6 **3/8" B. O. "F" TRACK**
SCALE : 3/8" = 1"



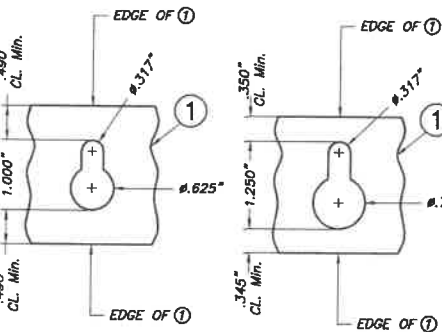
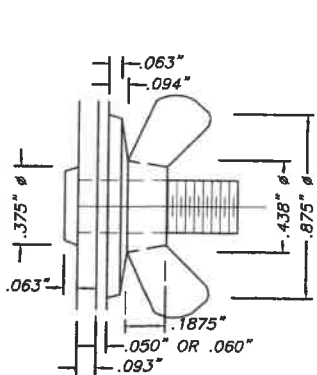
6A **3/4" B. O. "F" TRACK**
SCALE : 3/8" = 1"



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

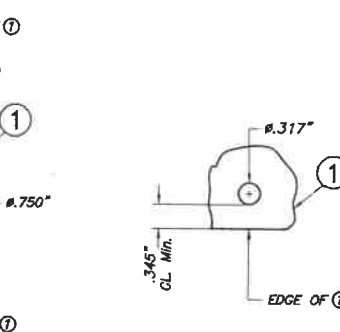


8 **"F" TRACK ANGLE**
SCALE : 3/8" = 1"

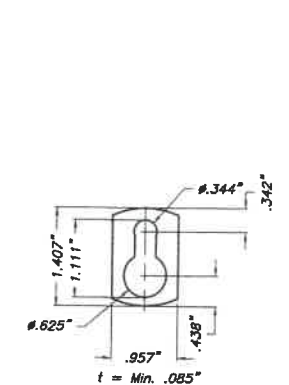


OPTION 1 OPTION 2

10 **KEY HOLE AT PANEL**



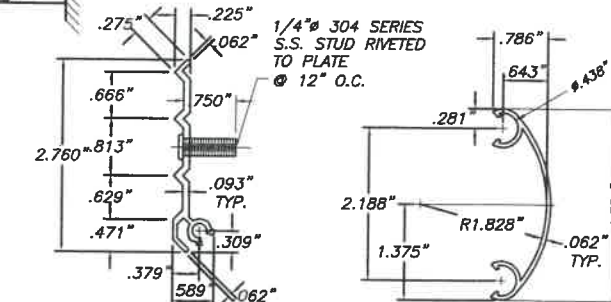
10A **ROUND HOLE AT PANEL (OPTION TO 10)**



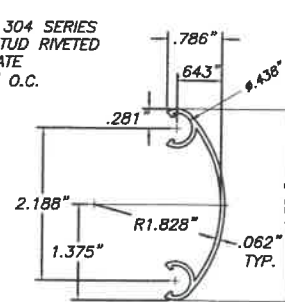
11 **KEY HOLE WASHER**
3105-H154 Alum. ALLOY
SCALE : 3/8" = 1"



SECTION A-A
N. T. S.



12 **STUDED PLATE**
6063-T6 ALLOY
SCALE : 3/8" = 1"



13 **SNAP CAP**
6063-T6 ALLOY
SCALE : 3/8" = 1"

STATE OF TEXAS
WALTER A TILLIT, JR.
90691
LICENSED PROFESSIONAL ENGINEER
1/27/2024
P.E. SEAL/SIGNATURE/DATE

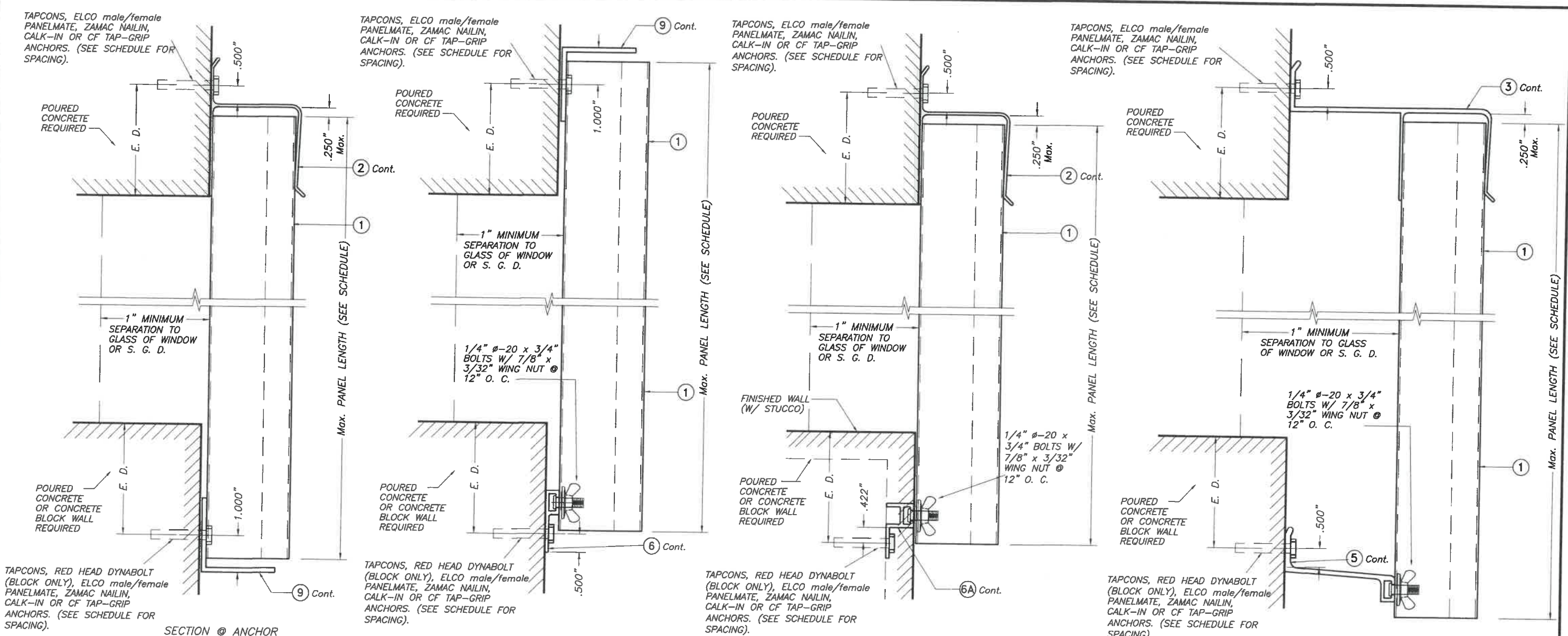
WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
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TEXAS DEPARTMENT OF INSURANCE - 2018

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)
EASTERN METAL SUPPLY, INC
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

M.P
DRAWN BY:
01/21/2021
DATE:
21-027
DRAWING No
SHEET 1A OF 8

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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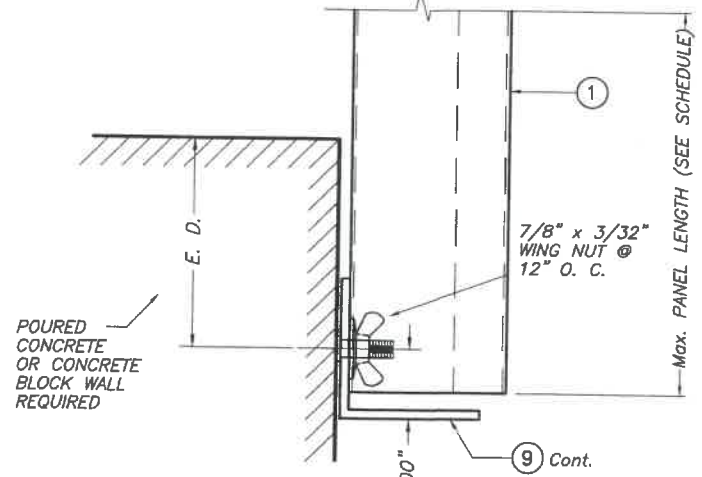


SECTION @ ANCHOR

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

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

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

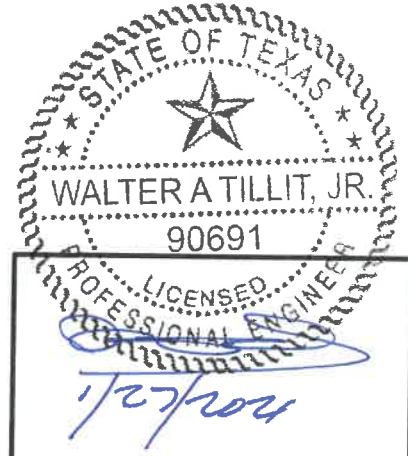


SECTION @ STUD
WALL MOUNTING INSTALLATION
SECTION 1 SCALE : 3/8" = 1"

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

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON SHEETS 5 & 6 OF 8)

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



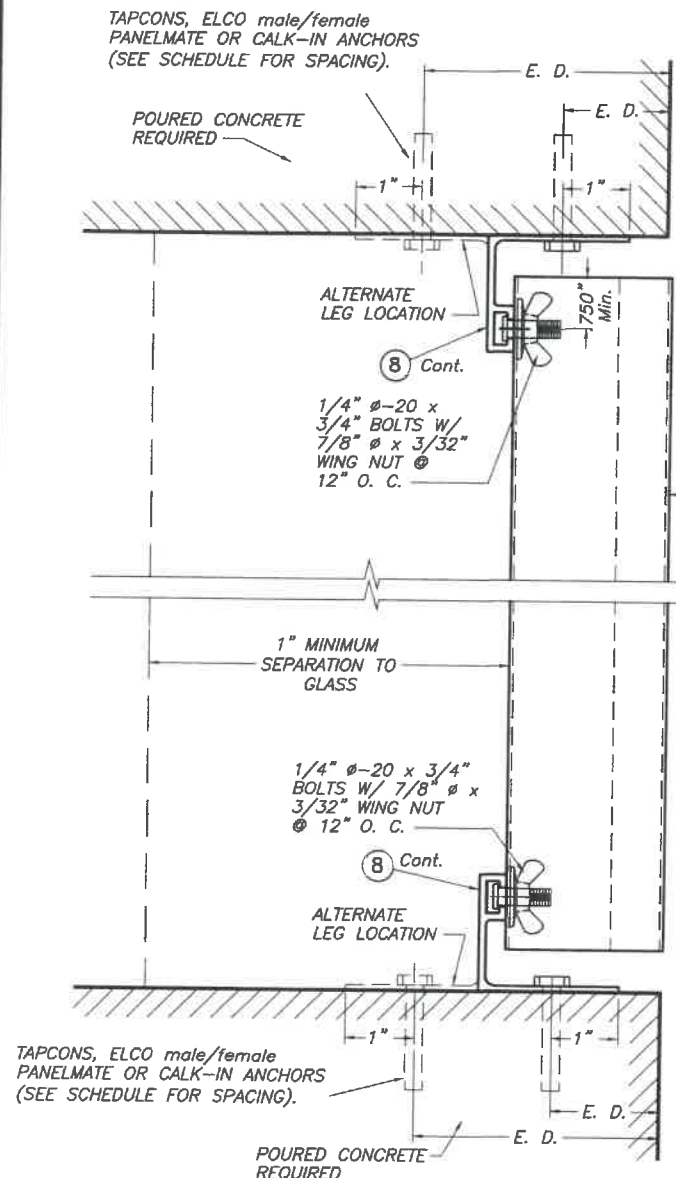
P.E. SEAL/SIGNATURE/DATE

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PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
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TEXAS DEPARTMENT OF INSURANCE - 2018

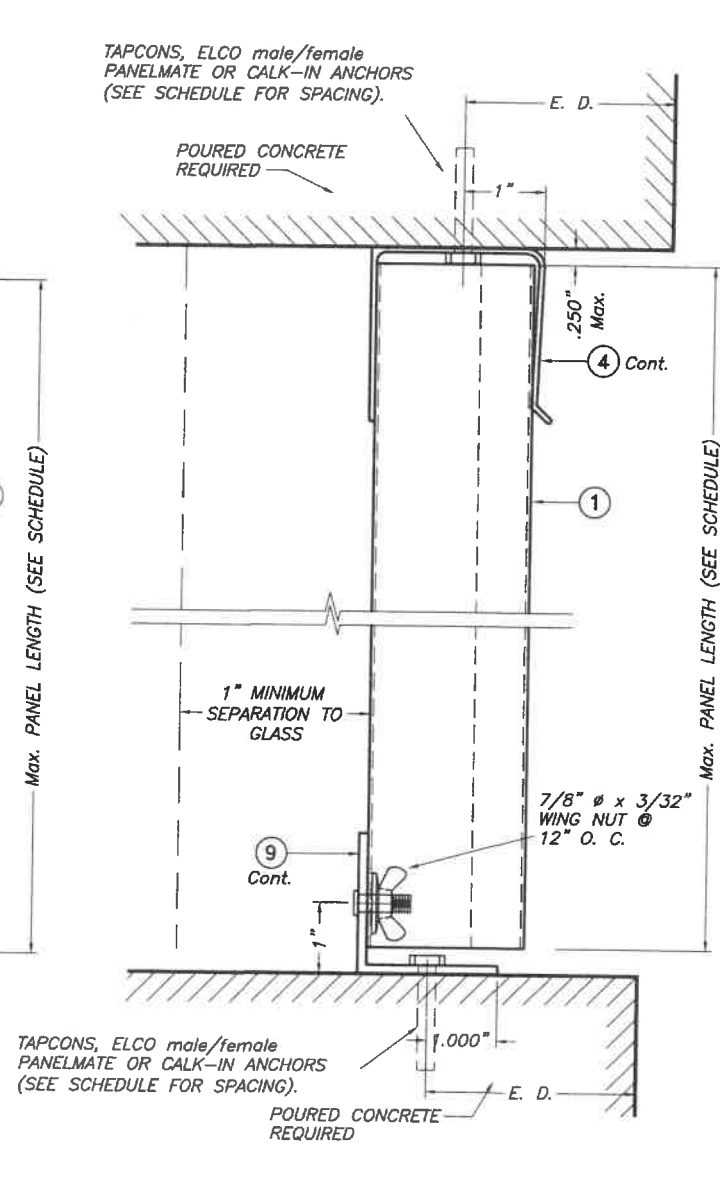
24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)			M.P. DRAWN BY:		
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			21-027 DRAWING No		
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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2	-	-	4	-	-

SHEET 2 OF 8



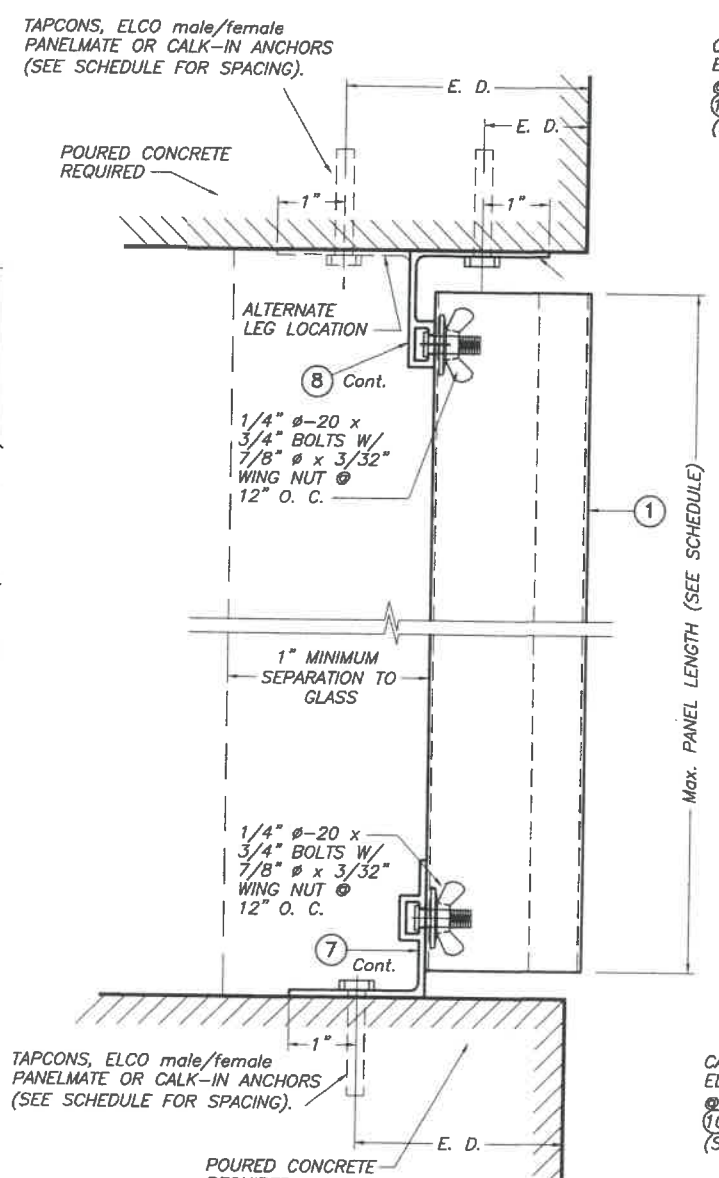
**CEILING & FLOOR MOUNTING
INSTALLATION - SECTION 5**

SCALE : 3/8" = 1"



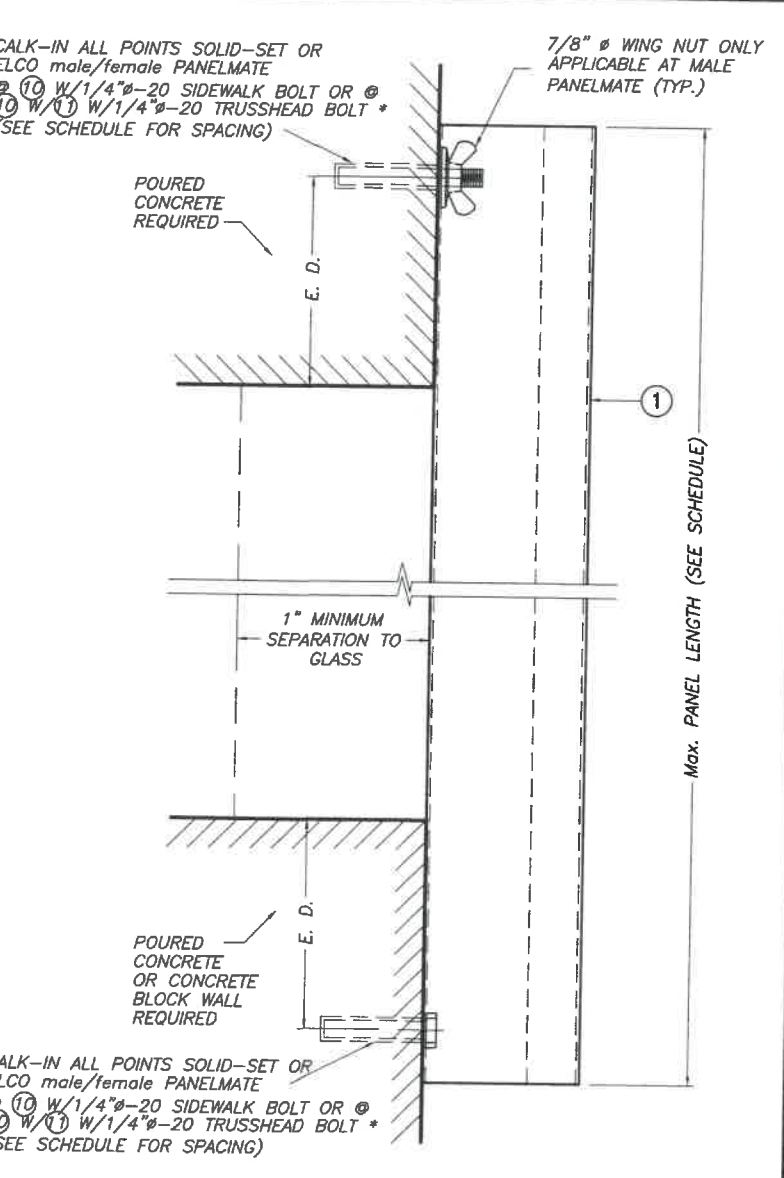
**CEILING & FLOOR MOUNTING
INSTALLATION - SECTION 6**

SCALE : 3/8" = 1"



**CEILING & FLOOR MOUNTING
INSTALLATION - SECTION 7**

SCALE : 3/8" = 1"



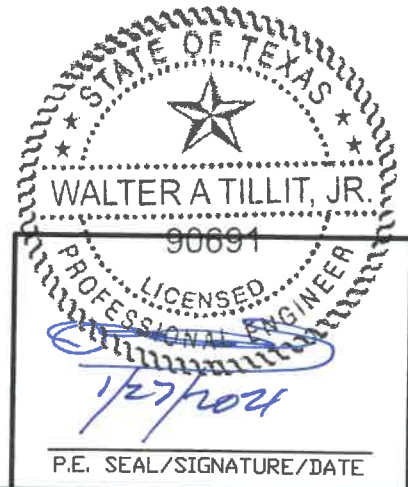
**WALL MOUNTING INSTALLATION (D. M.)
- SECTION 8**

SCALE : 3/8" = 1"

E. D. = EDGE DISTANCE
(SEE SCHEDULE ON
SHEET 5 & 6 OF 8)

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)



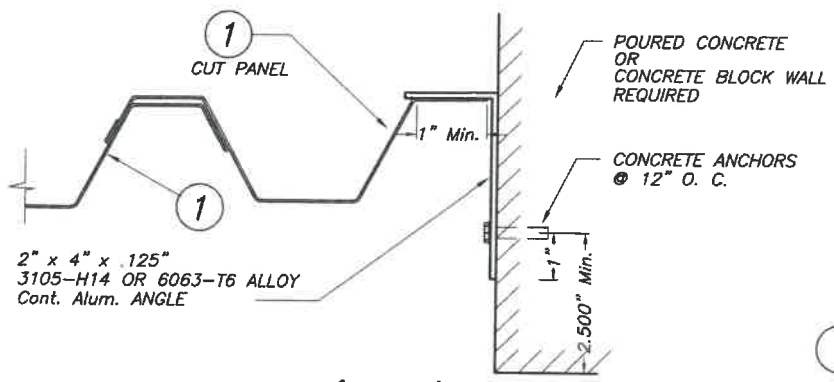
WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
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TEXAS DEPARTMENT OF INSURANCE - 2018					
24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)				M.P. DRAWN BY:	
EASTERN METAL SUPPLY, INC				01/21/2021 DATE:	
4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407 PHONE: (561)209-8263 FAX: (561)841-1716				21-027 DRAWING No	
REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-
SHEET 3 OF 8					

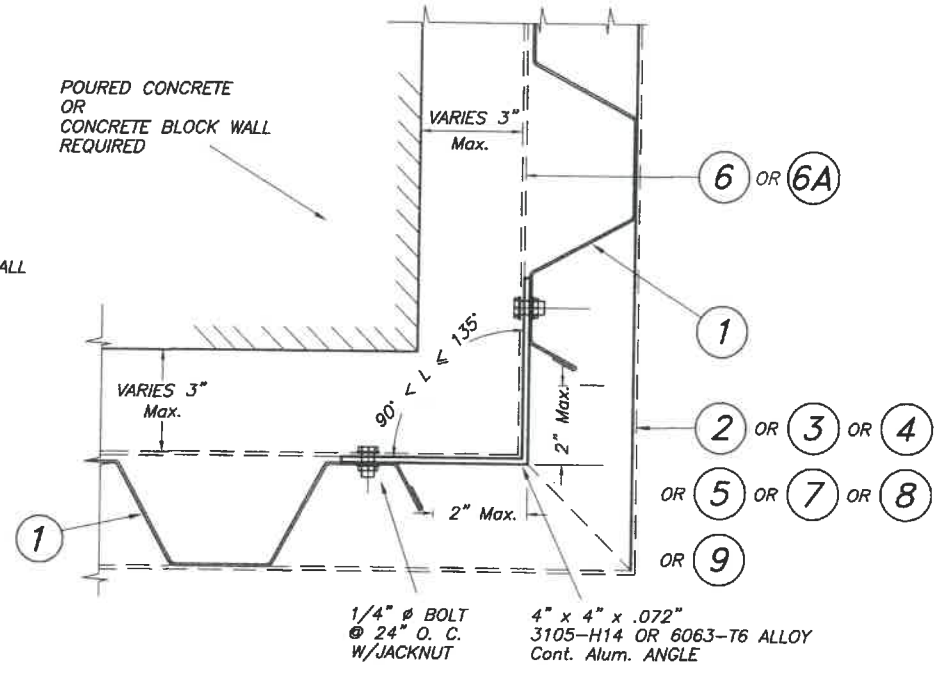
MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.) AND CORRESPONDING MAXIMUM PANEL LENGTH "L" (Ft.) SCHEDULE

MAXIMUM A.S.D. DESIGN PRESSURE RATING (p.s.f.)	Max. PANEL LENGTH L (ft.) 24 GAGE STEEL		
	MOUNTING W/O "h" HEADER (2)	MOUNTING W/ "h" HEADER (2)	MOUNTING W/ COMP. (12) & (13)
+35.0, -40.0	9'-8"	9'-8"	9'-8"
+40.0, -45.0	9'-2"	9'-2"	9'-2"
+45.0, -50.0	8'-9"	8'-9"	8'-9"
+50.0, -55.0	8'-4"	8'-4"	8'-4"
+60.0, -65.0	7'-8"	7'-2"	7'-8"
+70.0, -80.0	7'-2"	6'-3"	7'-2"

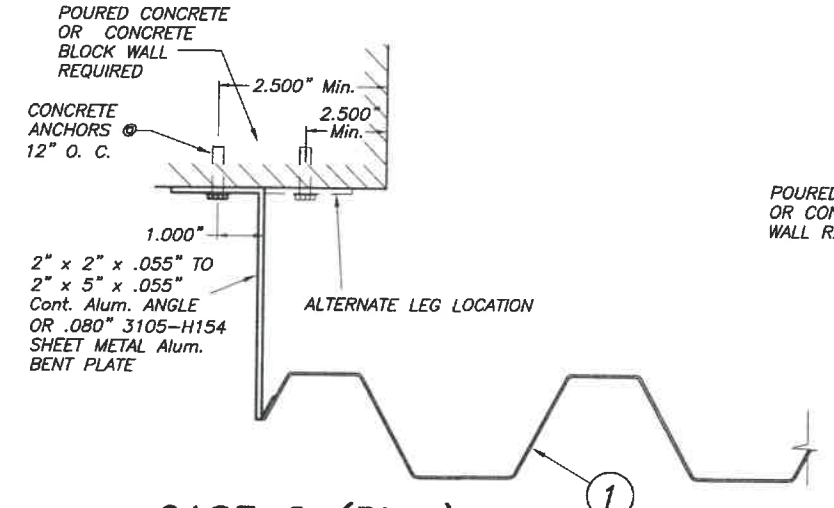
NOTE: MINIMUM PANEL LENGTH IS 3'-0"



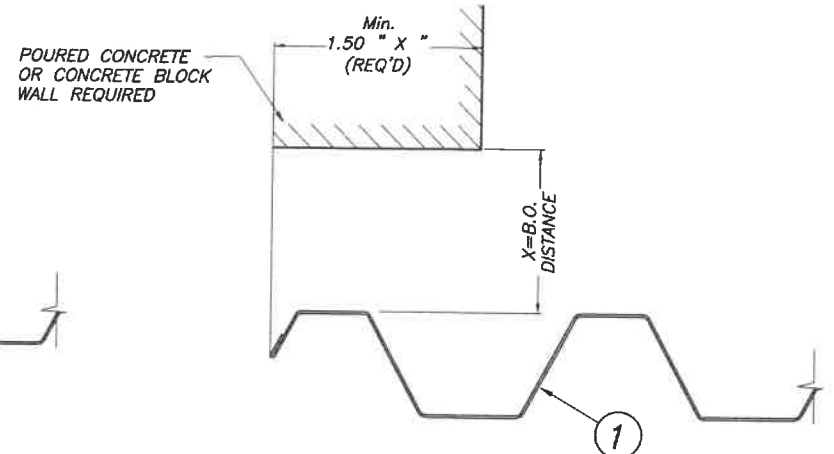
CASE A (Plan)
SCALE: 1/4" = 1"



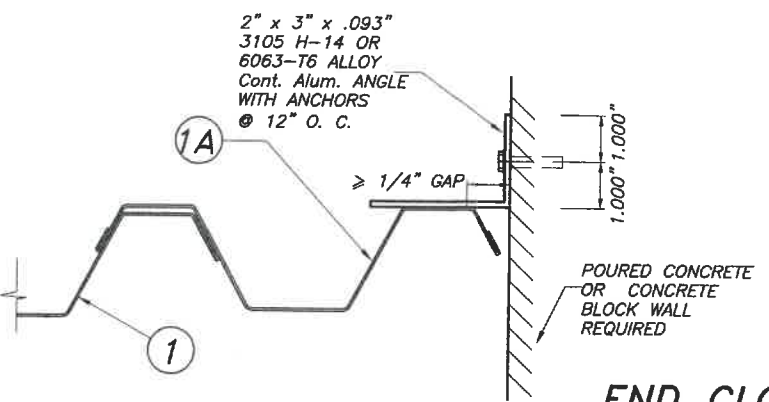
CASE B (Plan)
SCALE: 1/4" = 1"



CASE C (Plan)
SCALE: 1/4" = 1"

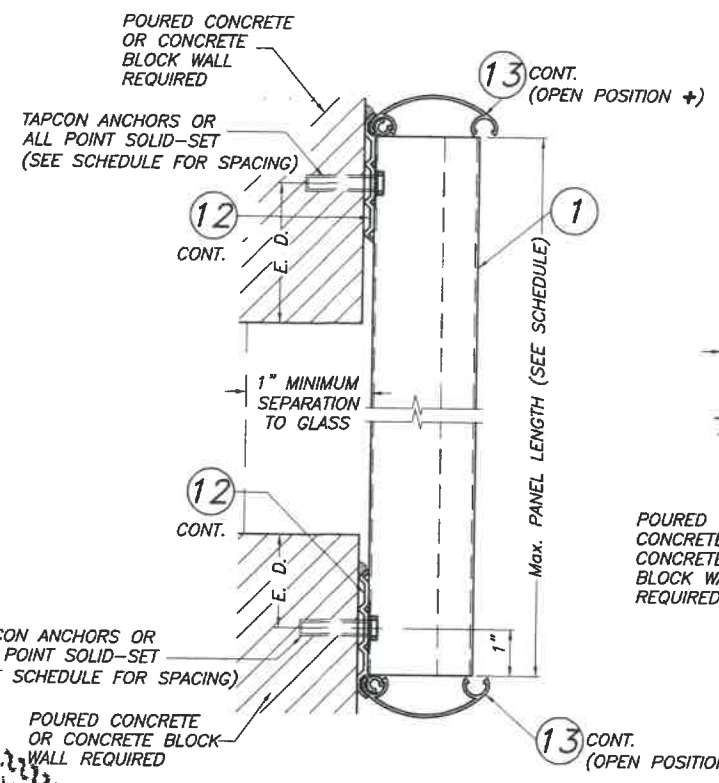


CASE E (Plan)
SCALE: 1/4" = 1"

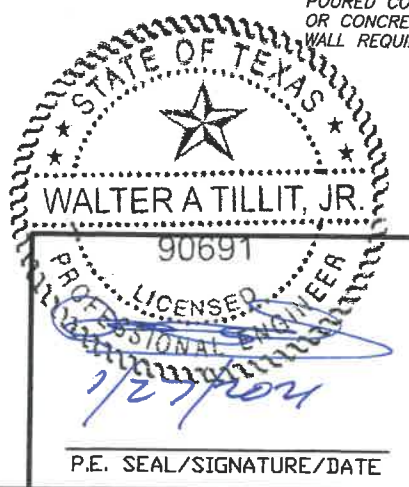
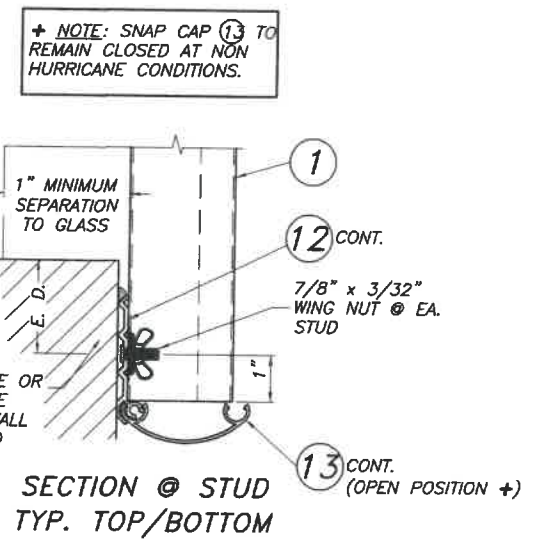


CASE D (Plan)
SCALE: 1/4" = 1"

END CLOSURES DETAILS



WALL MOUNTING INSTALLATION SECTION 9
SCALE: 3/8" = 1"



WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER

6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531

TEXAS LIC. # 90691

FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2018

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)		M.P. DRAWN BY:
EASTERN METAL SUPPLY, INC		01/21/2021 DATE:
4268 WEST ROADS DRIVE WEST PALM BEACH, FL. 33407 PHONE: (561)209-8263 FAX: (561)841-1716		21-027 DRAWING No
REV. No	DESCRIPTION	DATE
1	-	3
2	-	4

SHEET 4 OF 8

THIS SCHEDULE INDICATES REQUIRED ANCHOR SPACING FOR A GIVEN DESIGN LOAD AND PANEL LENGTH. HOWEVER MAXIMUM PANEL LENGTH FOR A GIVEN 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		
+40.0, -45.0 OR LESS	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	1 & 3 (TOP)	8'-0" OR LESS
	12"	9"	12"++	12"	12"	7"	12"	12"	12"	12"	12"	9 1/2"	1, 9 ^t (BOTTOM)	
	12"	-	12"++	-	12"	-	12"	12"	12"	-	12"	-	2, 9 ^t (TOP)	
	12"	9"	12"++	12"	12"	7"	-	-	12"	12"	12"	9 1/2"	2 (BOTTOM)	
	12"	9"	12"++	12"	12"	7"	-	-	12"	12"	12"	9 1/2"	3 (BOTTOM)	
	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	4 (TOP)	
	12"	9"	12"++	12"	12"	7"	-	-	12"	12"	12"	9 1/2"	4 (BOTTOM)	
	9"	-	-	-	10"	-	-	-	12"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	12"	-	-	-	12"	-	-	-	12"	-	-	-	6 (TOP)	
	11"	-	-	-	11"	-	-	-	12"	-	-	-	6 (BOTTOM)	
10"	-	-	-	11"	-	-	-	12"	-	-	-	7 (BOTTOM)		
-	-	-	-	12"	6"	12"	12"	12"	12"	-	-	8 (TOP/BOTTOM)		
+40.0, -45.0 OR LESS	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	1 & 3 (TOP)	>8'-0" TO 9'-8"
	12"	6"	12"++	12"	12"	5"	12"	12"	12"	12"	12"	6 1/2"	1, 9 ^t (BOTTOM)	
	12"	-	12"++	-	12"	-	12"	12"	12"	-	12"	-	2, 9 ^t (TOP)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	6 1/2"	2 (BOTTOM)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	6 1/2"	3 (BOTTOM)	
	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	4 (TOP)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	6 1/2"	4 (BOTTOM)	
	7"	-	-	-	7"	-	-	-	10"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	10"	-	-	-	10"	-	-	-	12"	-	-	-	6 (TOP)	
	8"	-	-	-	8"	-	-	-	11 1/2"	-	-	-	6 (BOTTOM)	
8"	-	-	-	8"	-	-	-	11"	-	-	-	7 (BOTTOM)		
-	-	-	-	12"	-	12"	12"	12"	6"	-	-	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		
>+40.0, -45.0 TO +50.0, -55.0	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	1 & 3 (TOP)	8'-0" OR LESS
	12"	6"	12"++	12"	12"	5"	12"	12"	12"	12"	12"	7"	1, 9 ^t (BOTTOM)	
	12"	-	12"++	-	12"	-	12"	12"	12"	-	12"	-	2, 9 ^t (TOP)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	7"	2 (BOTTOM)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	7"	3 (BOTTOM)	
	12"	-	12"++	-	12"	-	-	-	12"	-	12"	-	4 (TOP)	
	12"	6"	12"++	12"	12"	5"	-	-	12"	12"	12"	7"	4 (BOTTOM)	
	7"	-	-	-	7"	-	-	-	10 1/2"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	10"	-	-	-	10"	-	-	-	12"	-	-	-	6 (TOP)	
	8"	-	-	-	8"	-	-	-	12"	-	-	-	6 (BOTTOM)	
8"	-	-	-	8"	-	-	-	11 1/2"	-	-	-	7 (BOTTOM)		
-	-	-	-	12"	-	12"	12"	12"	6"	-	-	8 (TOP/BOTTOM)		
>+40.0, -45.0 TO +50.0, -55.0	8"	-	7"++	-	8"	-	-	-	12"	-	5 1/2"	-	1 & 3 (TOP)	>8'-0" TO 9'-8"
	12"	5"	11"++	10"	12"	4"	12"	12"	12"	9 1/2"	9"	5"	1, 9 ^t (BOTTOM)	
	12"	-	11"++	-	12"	-	12"	12"	12"	-	9"	-	2, 9 ^t (TOP)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	2 (BOTTOM)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	3 (BOTTOM)	
	12"	-	11"++	-	12"	-	-	-	12"	-	9"	-	4 (TOP)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	4 (BOTTOM)	
	5"	-	-	-	5"	-	-	-	7 1/2"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	8"	-	-	-	7"	-	-	-	10 1/2"	-	-	-	6 (TOP)	
	6"	-	-	-	6"	-	-	-	8 1/2"	-	-	-	6 (BOTTOM)	
6"	-	-	-	6"	-	-	-	8"	-	-	-	7 (BOTTOM)		
-	-	-	-	12"	-	12"	12"	12"	6"	-	-	8 (TOP/BOTTOM)		

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	-	-	-	-

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

++ ANCHORS SPACING ONLY APPLICABLE TO ZAMAC NAILIN ANCHORS

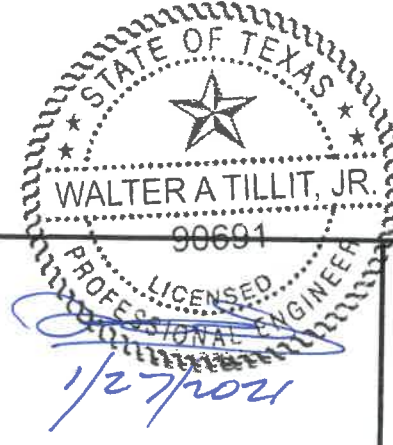
* SEE SHEET 7 & 8 OF 8 FOR ANCHORS TYPE & SPACING FOR INSTALLATIONS INTO WOOD FRAME BUILDINGS.

** 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).

FOR THIS OPERATION TO BE MADE REDUCED SPACINGS RESULTING FROM APPLYING ABOVE FACTORS SHALL NOT RESULT ON SPACINGS LESS THAN 3" FOR ALL ANCHORS (EXCEPT +4.5" FOR RED HD. DYNABOLT ANCHORS).



WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER

6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691

FIRM REGISTRATION # F-13790

TEXAS DEPARTMENT OF INSURANCE - 2018

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)

M.P.
DRAWN BY:

EASTERN METAL SUPPLY, INC
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

DATE: 01/21/2021

21-027
DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-

SHEET 5 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

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

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		
>+50.0,-55.0 TO +70.0,-80.0	8"	-	7"	-	9"	-	-	-	12"	-	6"	-	1 & 3 (TOP)	8'-0" OR LESS
	12"	12"	11"++	10"	12"	4"	12"	12"	12"	9 1/2"	9"	5"	1, 9 ⁺ (BOTTOM)	
	12"	-	11"++	-	12"	-	12"	12"	12"	-	9"	-	2, 9 ⁺ (TOP)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	2 (BOTTOM)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	3 (BOTTOM)	
	12"	-	11"++	-	12"	-	-	-	12"	-	9"	-	4 (TOP)	
	12"	5"	11"++	10"	12"	4"	-	-	12"	9 1/2"	9"	5"	4 (BOTTOM)	
	5"	-	-	-	5"	-	-	-	8"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	8"	-	-	-	8"	-	-	-	10 1/2"	-	-	-	6 (TOP)	
	6"	-	-	-	6"	-	-	-	9"	-	-	-	6 (BOTTOM)	
6"	-	-	-	6"	-	-	-	8 1/2"	-	-	-	7 (BOTTOM)		
-	-	-	-	12"	-	12"	12"	12"	6"	-	-	8 (TOP/BOTTOM)		

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	-	-	-	-

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		
>+50.0,-55.0 TO +70.0,-80.0	6"	-	5"++	-	6"	-	-	-	9 1/2"	-	4"	-	1 & 3 (TOP)	>8'-0" TO 8'-4"
	11"	12"	9"++	8"	11"	3"	12"	12"	12"	8"	7 1/2"	4"	1, 9 ⁺ (BOTTOM)	
	11"	-	9"++	-	11"	-	12"	12"	12"	-	7 1/2"	-	2, 9 ⁺ (TOP)	
	11"	4"	9"++	8"	11"	3"	-	-	12"	8"	7 1/2"	4"	2 (BOTTOM)	
	11"	4"	9"++	8"	11"	3"	-	-	12"	8"	7 1/2"	4"	3 (BOTTOM)	
	11"	-	9"++	-	11"	-	-	-	12"	-	7 1/2"	-	4 (TOP)	
	11"	4"	9"++	8"	11"	3"	-	-	12"	8"	7 1/2"	4"	4 (BOTTOM)	
	4"	-	-	-	4"	-	-	-	6 1/2"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	6"	-	-	-	6"	-	-	-	8 1/2"	-	-	-	6 (TOP)	
	5"	-	-	-	5"	-	-	-	7"	-	-	-	6 (BOTTOM)	
5"	-	-	-	5"	-	-	-	7"	-	-	-	7 (BOTTOM)		
-	-	-	-	6"	-	12"	12"	12"	6"	-	-	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		
>+50.0,-55.0 TO +70.0,-80.0	5"	-	4"++	-	5"	-	-	-	8"	-	3"	-	1 & 3 (TOP)	>8'-4" TO 9'-8"
	10"	3"	8"++	7"	10"	3"	12"	12"	12"	7"	6 1/2"	3 1/2"	1, 9 ⁺ (BOTTOM)	
	10"	-	8"++	-	10"	-	12"	12"	12"	-	6 1/2"	-	2, 9 ⁺ (TOP)	
	10"	3"	8"++	7"	10"	3"	-	-	12"	7"	6 1/2"	3 1/2"	2 (BOTTOM)	
	10"	3"	8"++	7"	10"	3"	-	-	12"	7"	6 1/2"	3 1/2"	3 (BOTTOM)	
	10"	-	8"++	-	10"	-	-	-	12"	-	6 1/2"	-	4 (TOP)	
	10"	3"	8"++	7"	10"	3"	-	-	12"	7"	6 1/2"	3 1/2"	4 (BOTTOM)	
	4"	-	-	-	4"	-	-	-	5 1/2"	-	-	-	5 (TOP/BOTTOM) 7 (TOP)	
	6"	-	-	-	6"	-	-	-	7 1/2"	-	-	-	6 (TOP)	
	5"	-	-	-	5"	-	-	-	6 1/2"	-	-	-	6 (BOTTOM)	
-	-	-	-	6"	-	-	-	6"	-	-	-	7 (BOTTOM)		
-	-	-	-	6"	-	12"	12"	12"	6"	-	-	8 (TOP/BOTTOM)		

- + ONLY TAPCON ANCHORS OR ALL POINT SOLID-SET ALLOWED FOR MOUNTING SECTION 9.
- ++ ANCHORS SPACING ONLY VALID FOR ZAMAC NAILIN ANCHORS.
- * SEE SHEET 7 & 8 OF 8 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). FOR THIS OPERATION TO BE MADE REDUCED SPACINGS RESULTING FROM APPLYING ABOVE FACTORS SHALL NOT RESULT ON SPACINGS LESS THAN 3" FOR ALL ANCHORS (EXCEPT +4.5" FOR RED HD. DYNABOLT ANCHORS).

WALTER A. TILLIT, JR.
 90691
 LICENSED PROFESSIONAL ENGINEER
 P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr. P.E.
 PROFESSIONAL ENGINEER
 6355 N.W. 36 STREET, STE. 305
 VIRGINIA GARDENS, FL 33166
 PHONE (305) 871-1530 FAX (305) 871-1531
 TEXAS LIC. # 90691
 FIRM REGISTRATION # F-13790

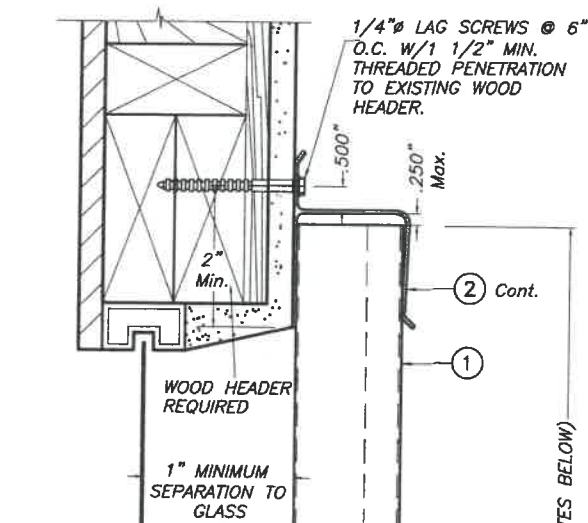
TEXAS DEPARTMENT OF INSURANCE - 2018

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 4268 WEST ROADS DRIVE
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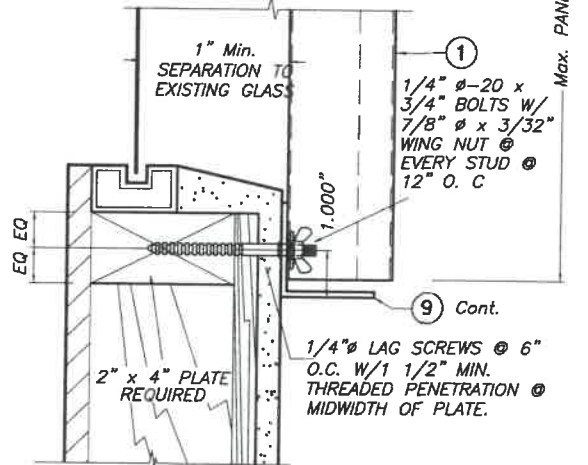
M.P. DRAWN BY:
 01/21/2021 DATE:
21-027
 DRAWING No

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
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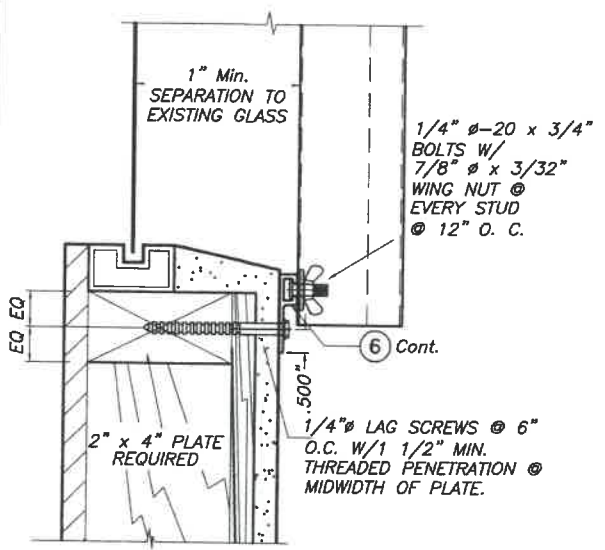
SHEET 6 OF 8



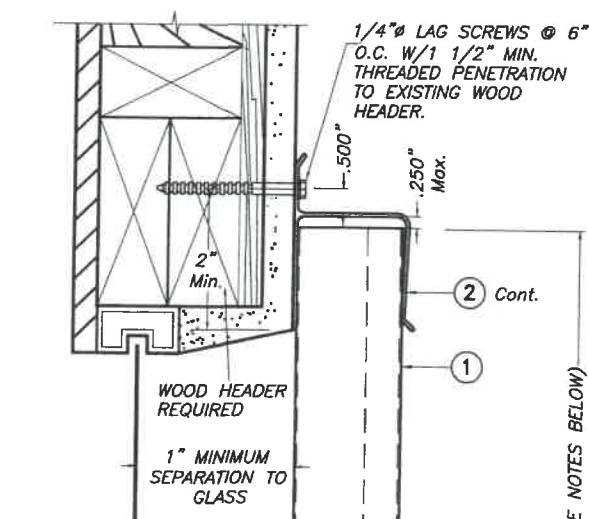
ALTERNATIVE 1



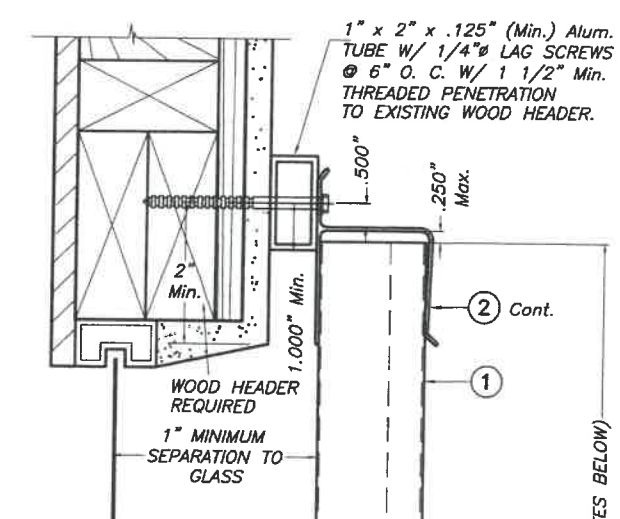
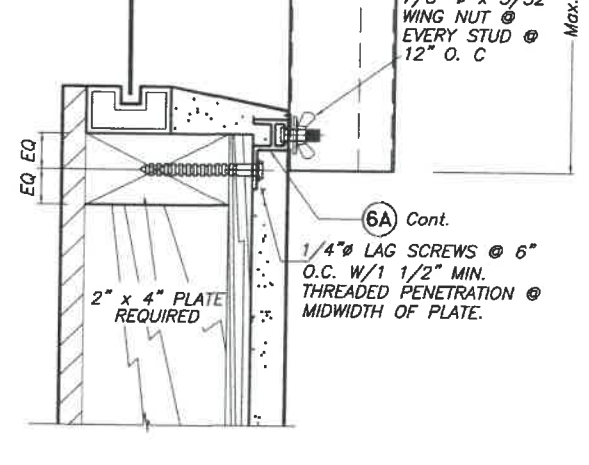
ALTERNATIVE 2



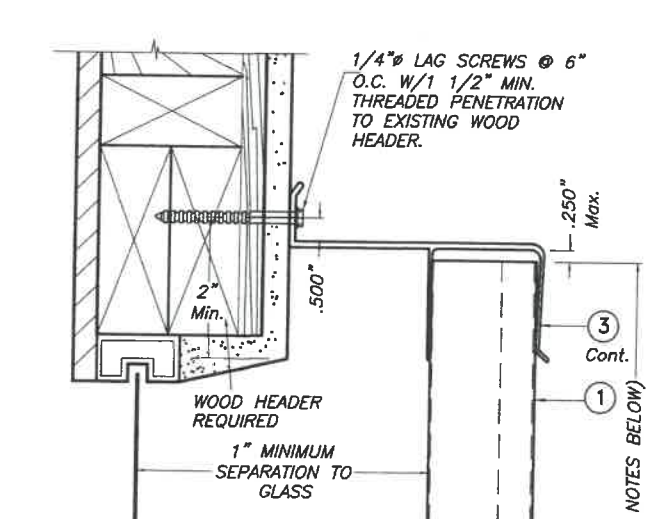
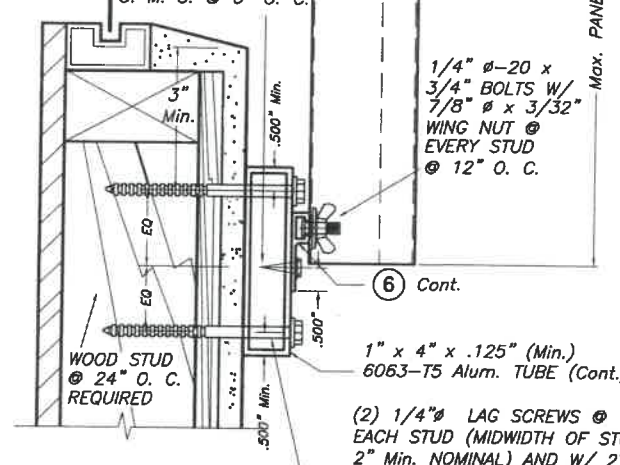
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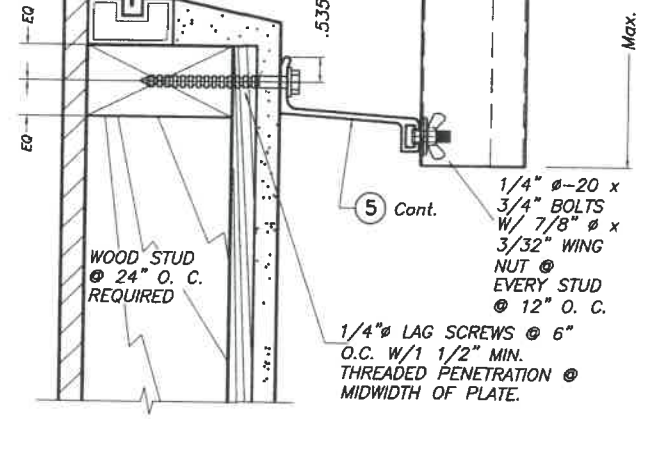
ALTERNATIVE 4



ALTERNATIVE 5



ALTERNATIVE 6



WALL MOUNTING INSTALLATIONS
SECTIONS A

SCALE : 1/4" = 1"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

- NOTES:**
- INSTALLATIONS ARE ONLY VALID FOR MAX. A.S.D. DESIGN PRESSURE RATING UP TO +60.0, -65.0 psf AND PANEL'S LENGTHS UP TO 7'-8" .
 - 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.

STATE OF TEXAS
WALTER A. TILLIT, JR.
9069
LICENSED PROFESSIONAL ENGINEER
P.E. SEAL/SIGNATURE/DATE

WALTER A. TILLIT Jr. P.E.
PROFESSIONAL ENGINEER
6355 N.W. 36 STREET, STE. 305
VIRGINIA GARDENS, FL 33166
PHONE (305) 871-1530 FAX (305) 871-1531
TEXAS LIC. # 90691
FIRM REGISTRATION # F-13790

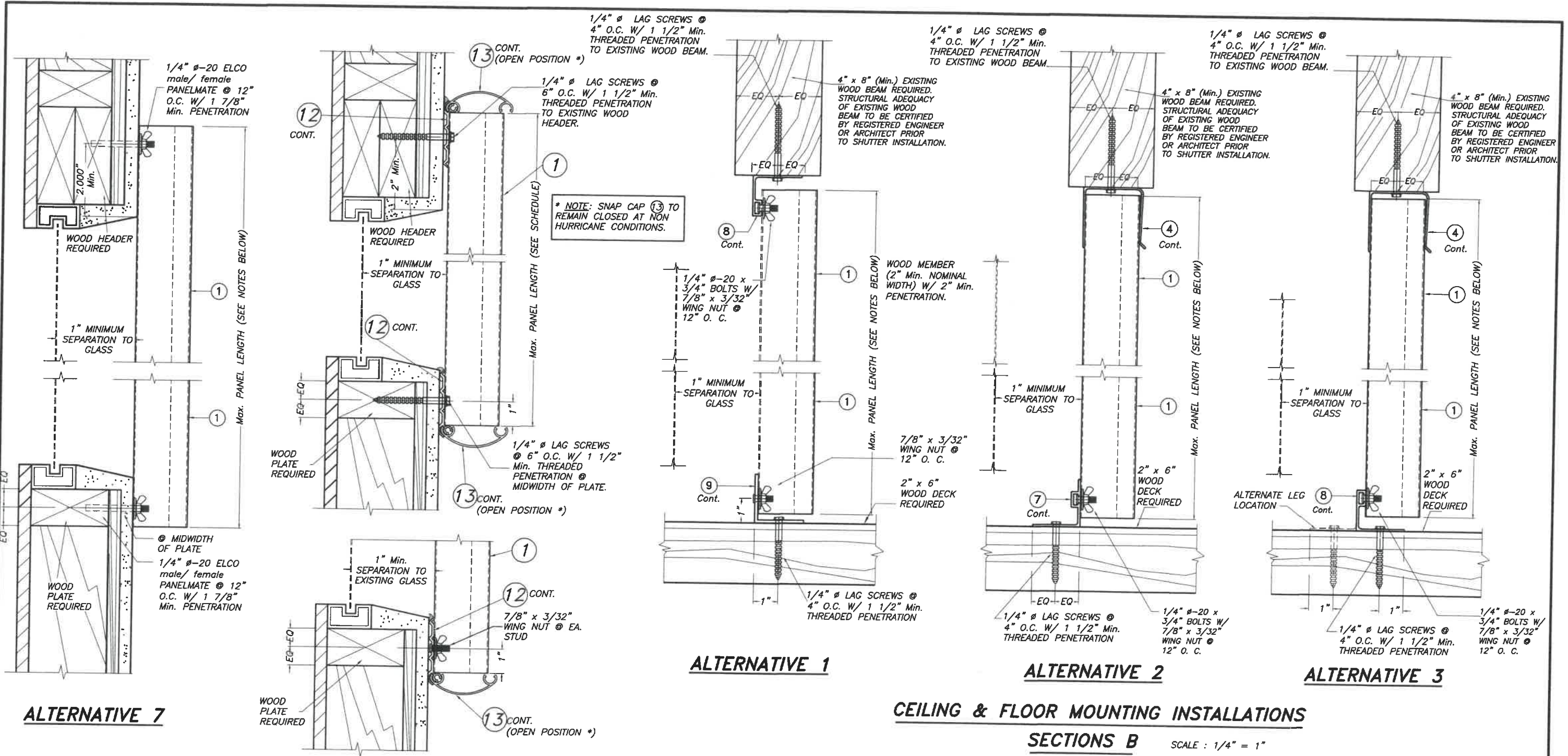
TEXAS DEPARTMENT OF INSURANCE - 2018

24 GAGE GALVANIZED BERTHA STEEL STORM PANEL (2.25" DEEP)

EASTERN METAL SUPPLY, INC
4268 WEST ROADS DRIVE
WEST PALM BEACH, FL 33407
PHONE: (561)209-8263
FAX: (561)841-1716

M.P. DRAWN BY:
01/21/2021 DATE:
21-027 DRAWING No
SHEET 7 OF 8

REV. No	DESCRIPTION	DATE	REV. No	DESCRIPTION	DATE
1	-	-	3	-	-
2	-	-	4	-	-



ALTERNATIVE 7

SECTION © STUD TYP. TOP/BOTTOM ALTERNATIVE 8

WALL MOUNTING INSTALLATION

SECTION A SCALE : 1/4" = 1"

ALTERNATIVE 1

ALTERNATIVE 2

ALTERNATIVE 3

CEILING & FLOOR MOUNTING INSTALLATIONS

SECTIONS B

SCALE : 1/4" = 1"

INSTALLATION DETAILS ON EXISTING WOOD BUILDINGS

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 +60.0, -65.0 psf AND PANEL'S LENGTHS UP TO 7'-8".
 2. FOR WOOD FRAME CONSTRUCTION: WOOD MEMBERS TO BE SOUTHERN PINE No. 2, W/ SPECIFIC DENSITY OF 0.55 OR EQUAL.

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1	-	-
2	-	-

SHEET 8 OF 8