## GENERAL NOTES:

STORM PANEL SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P.E.D.) HAS BEEN VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE 2017 (6th EDITION) OF THE FLORIDA BUILDING CODE.

THIS STORM PANEL SYSTEM SHALL NOT BE INSTALLED AT HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE / BROWARD COUNTY).

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 KG=0.85. USING ASCE 7—10 FOR INSTALLATIONS UNDER 2017 FBC AND SHALL NOT EXCEED THE MAXIMUM (A.S.D.) DESIGN PRESSURE RATINGS INDICATED ON SHEETS 3 & 6.

IN ORDER TO VERIFY THE ABOVE CONDITION, ULTIMATE DESIGN WIND LOADS DETERMINED PER ASCE 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 3 & 6.

STORM PANEL'S ADEQUACY FOR IMPACT AND WIND RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1609.1.2 OF THE ABOVE MENTIONED CODE AS PER ATLSF REPORT # 0615.01—11 & ATL REPORT # 0302.01—10R PER ASTM E 1886 & E 1996, & ASTM E 330—02 STANDARD.

CLEAR BERTHA STORM PANEL SHALL CORRESPONDING MODEL NUMBER: BE EXTRUDED USING ANY OF THE FOLLOWING POLYCARBONATE SOURCES WITH THEIR

GENERAL ELECTRIC PLASTICS	LEXAN 103	
DOWN CHEMICAL	CALIBRE 302 V-6	
CAVESTRO LLC.	MAKROLON POLYCARBONATE SHEETS	SHEETS
MINIMUM PROPERTIES FOR ALL	MINIMUM PROPERTIES FOR ALL OF THE ABOVE POLYCARBONATES ARE AS FOLLOWS:	S FOLLOWS:
TYPICAL PROPERTIES	APPLICABLE STANDARD REFERENCE	RESULT
PHYSICAL:		
SPECIFIC GRAVITY	ASTM D792	1.20 G/CC
MECHANICAL:		
TENSILE YIELD STRENGTH	ASTM D638	8,700 p.s.i.
FLEXURAL STRENGTH AT YIELD	ASTM D790	12,500 p.s.i.
FLEXURAL MODULUS	ASTM D790	340,000 p.s.i.
IMPACT:		
NOTCHED IZOD	ASTM D256	18 FT-lb/in
FIRE BURNING CHARACTERISTICS:	<u>δ</u> :	
SMOKE DENSITY	ASTM D2843	75 (MAX)
RATE OF BURNING	ASTM D635	C-1 CLASS (MAX)
CELE IONITION		E E E E E

ALL ALUMINUM EXTRUSIONS SHALL BE ALUMINUM ASSOCIATION 6063-T6 ALLOY & TEMPER.

ASTM D1929

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- ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 AISI SERIES OR CORROSION RESISTANT COATED 50018 W/ 50 KSI YIELD STRENGTH AND 90 KSI TENSILE STRENGTH & SHALL COMPLY W/ FLORIDA SECTION 2411.3.3.4. CARBON STEEL . AS DIN
- BOLTS TO BE ASTM A 307, GALVANIZED OR AISI 304 SERIES STAINLESS STEEL, WITH 36 KSI MIN. YIELD STRENGTH
- 6 ANCHORS TO WALL SHALL BE AS FOLLOWS: SEE SHEET 2 OF 5 FOR APPLICATIONS.
- B
- TO EXISTING POURED CONCRETE: MIN. f'c = 3 KSI

  -1/4" Ø TAPCON ANCHORS MANUFACTURED BY 1.T.W. BUILDEX OR ELCO CONSTRUCTION PRODUCTS & 1/4" Ø BLUE TAP ANCHORS
  AS MANUFACTURED BY FLORIDA FASTENERS DIRECT, INC.

  -1/4" Ø ELCO MALE "PANELMATE" MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.

  -1/4" Ø X 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.

  -1/2" OD X 2 1/8" ENX312 PANELMATE INSERTS, AS MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.

NOTES:

- A.1) MINIMUM EMBEDMENT INTO POURED CONCRETE OF TAPCON, BLUE TAP ANCHORS AND ELCO PANELMATES IS 3/4".
- A.2) 3/4" SOLID SET ANCHORS SHALL BE ENTIRELY EMBEDDED INTO THE POURED CONCRETE. NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 1/4" Ø—20 SCREWS USED SHALL BE 1 1/2" LONG MINIMUM SHOULD STUCCO EXIST, AND 1" MINIMUM FOR WALLS WITH NO STUCCO. SCREWS SHALL BE 304 SERIES STAINLESS STEEL W/ 3/4" Ø HEAD SIDEWALK BOLTS.
- A.3)MINIMUM EMBEDMENT INTO CONCRETE OF PANELMATE INSERTS IS 1 5/8". NO EMBEDMENT INTO STUCCO SHALL BE PERMITTED. 5/16" Ø —18 304 SERIES STAINLESS STEEL SCREWS USED SHALL PENETRATE 1" MIN. INTO ANCHOR.

- A. 4) IN CASE THAT PRECAST STONE, PRECAST CONCRETE ANCHORS SHALL BE LONG ENOUGH TO REACH THE INDICATED ON NOTES A.1) A.2) & A.3). E PANELS, OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, MAIN STRUCTURE BEHIND SUCH PANELS, ANCHORAGE SHALL BE AS
- (8) TO EXISTING CONCRETE BLOCK WALL: ASTM C-90
  -1/4" Ø TAPCON ANCHORS MANUFACTURED BY I.T.W. BUILDEX OR ELCO CONSTRUCTION PRODUCTS & 1/4" Ø BLUE TAP
  ANCHORS, AS MANUFACTURED BY FLORIDA FASTENERS, INC.
  -1/4" Ø ELCO MALE "PANELMATE" MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS.
- -1/4" Ø ELCO MALE "PANELMATE" MANUFACTURED BY ELCO CONSTRUCTION PRODUCTS. -1/4" Ø X 3/4" ALL POINTS SOLID-SET ANCHORS AS DISTRIBUTED BY ALL POINTS SCREW, BOLT & SPECIALTY COMPANY.
- NOTES: B.1) MINIMUM EMBEDMENT OF TAPCON, BLUE TAP ANCHORS SHALL BE 1 1/4" AND ELCO PANELMATES INTO THE CONCRETE BLOCK UNIT
- B.2) 3/4" SOLID SET ANCHORS SHALL BE ENTERILY 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) 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) & B.2) ABOVE.
- (C) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.
- PANEL MAY ALSO BE INSTALLED HORIZONTALLY FOLLOWING INSTALLATION DETAILS SHOWN ON SECTIONS 1 THRU 4, SHEETS 4 & 5
- STORM PANEL SHALL BE REMOVED AFTER THE HURRICANE AND SHALL BE STORED AND PROPERLY MAINTAINED.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BE ATTACHED TO INSURE PROPER ANCHORAGE. THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO

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- 10. SHUTTER MANUFACTURER'S LABEL SHALL BE LOCATED ON A READILY VISIBLE LOCATION AT STORM PANEL SHUTTER IN ACCORDANCE WITH SECTION 1709.9.3 OF FLORIDA BUILDING CODE. ONE LABEL SHALL BE PLACED FOR EVERY OPENING. LABELING TO COMPLY WITH SECTION 1709.9.2 OF THE FLORIDA BUILDING CODE.
- 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.
- 13. STORM PANEL INSTALLATION SHALL COMPLY WITH SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

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.
- 0 THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.
- 9 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 THAT PREPARED IT. SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD

THIS DRAWING OBTAIN PERMITS

PERMITS

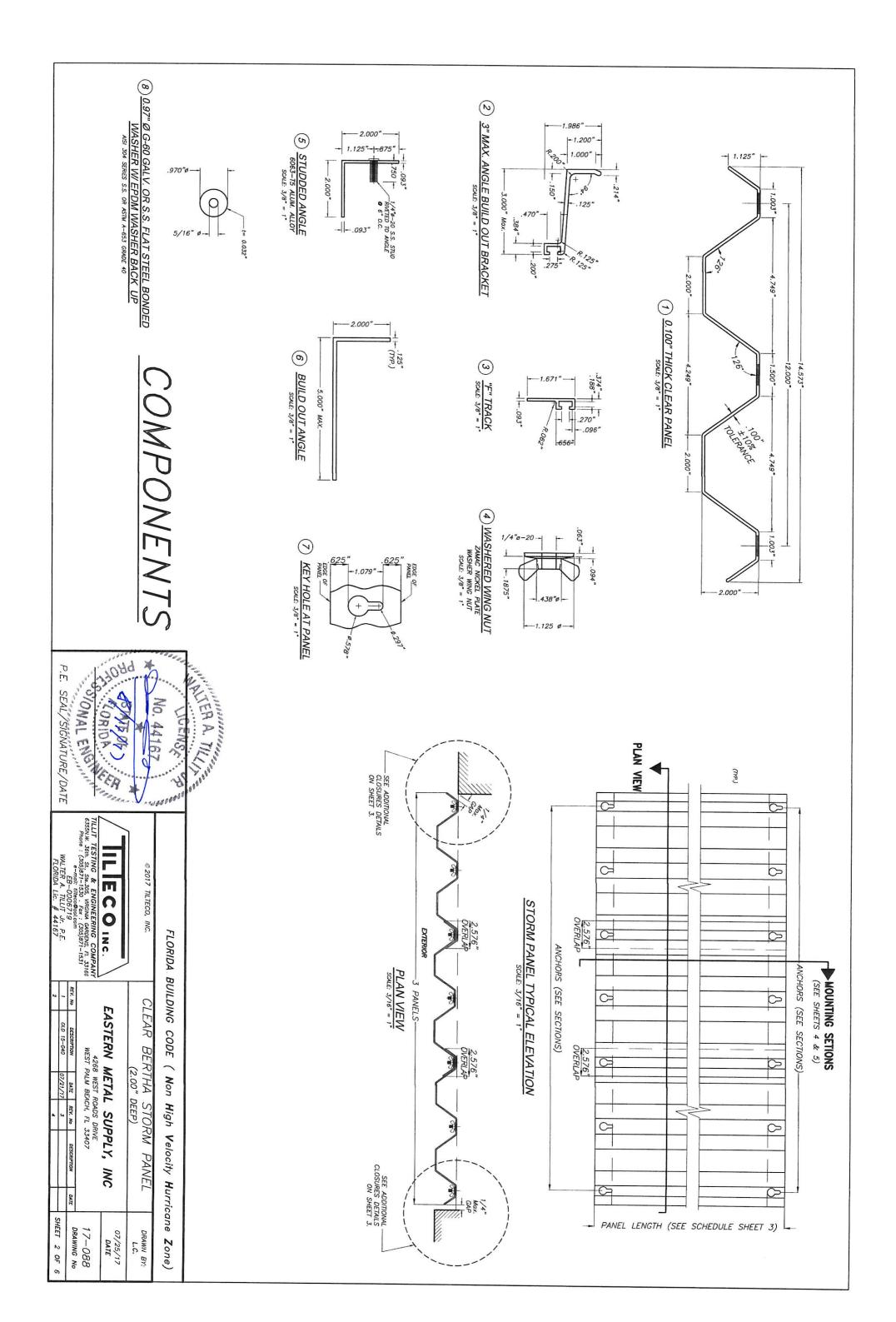
SHALL ONLY BE USED TO S IN THE STATE OF FLORIDA

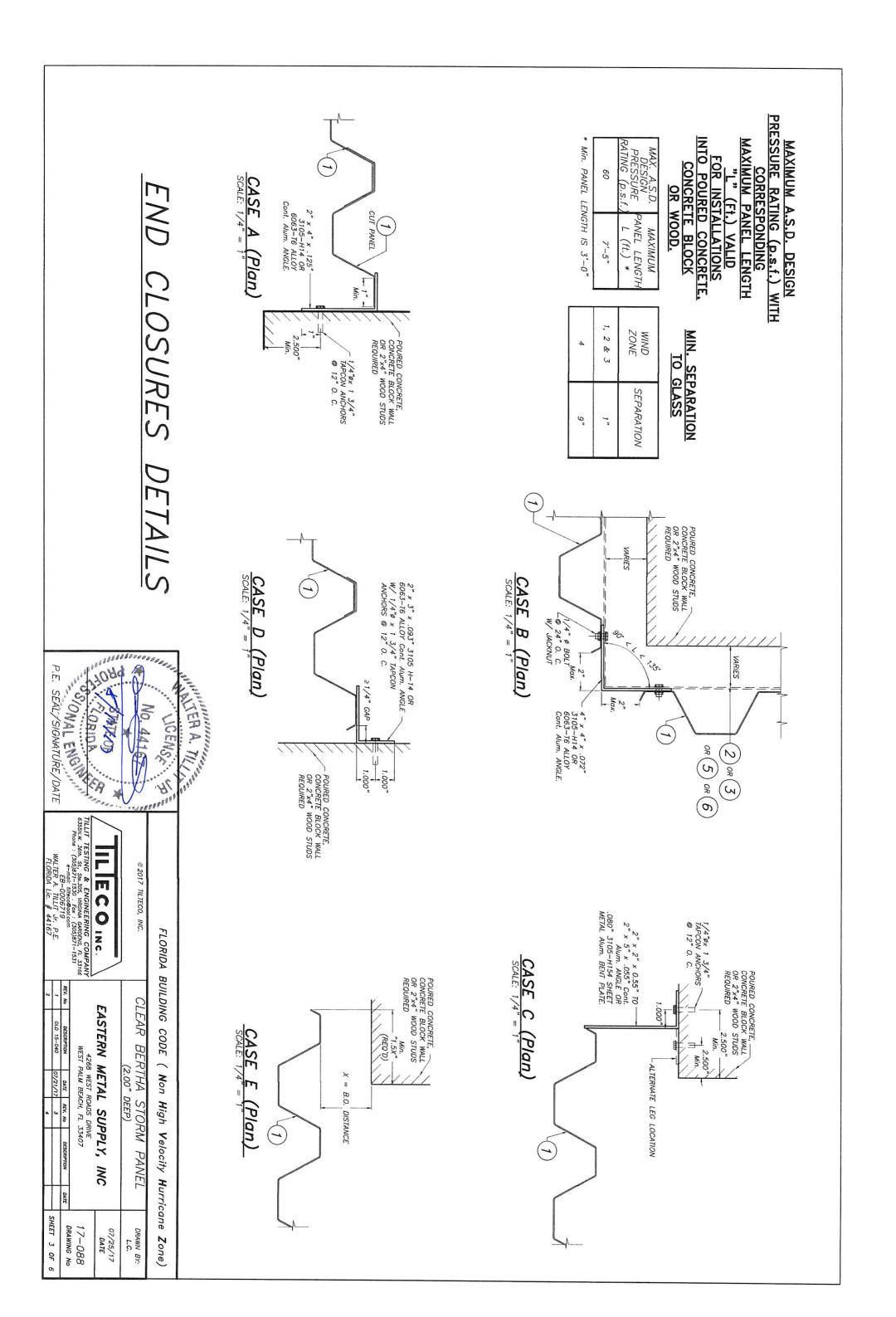
SSONATURE/DATE WARTER A. TILL I PER ENGINEER. 45 6355N.W. 36th. St., Phone : (305) FLORIDA BUIL

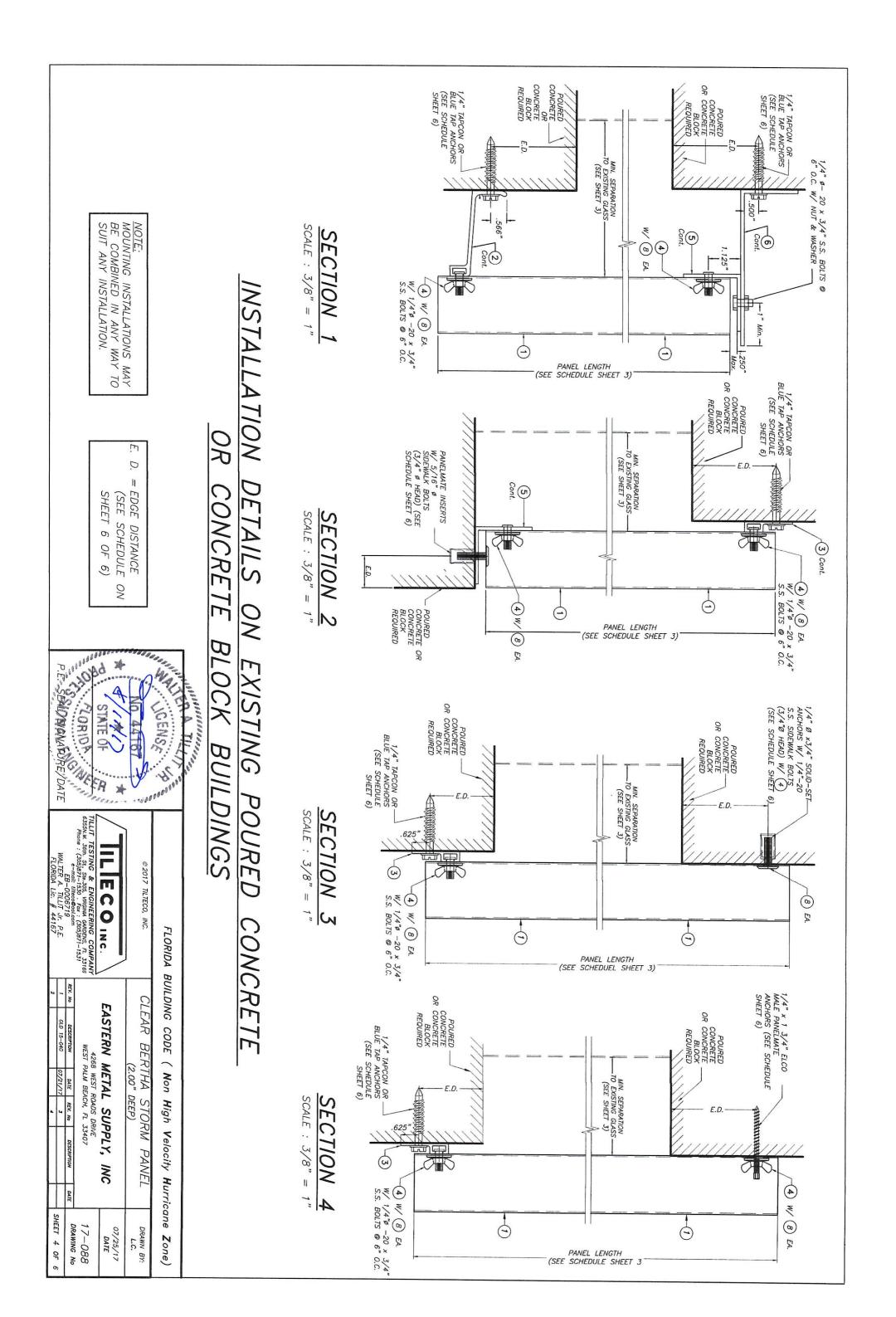
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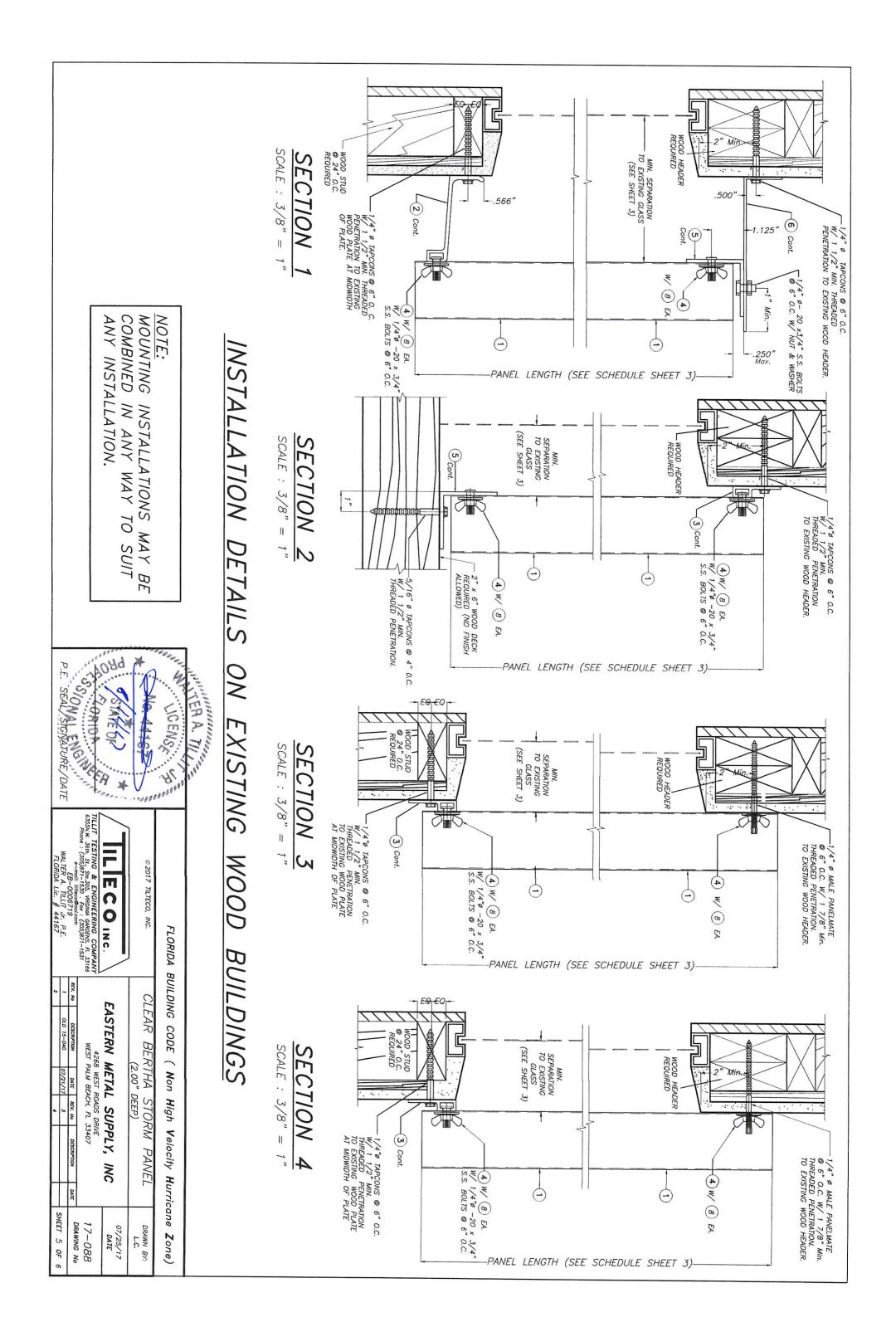
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OBIDA I SE MATES	TER A. TILLIT Jr. P.E.	EB-0006719	VG & ENGINEERING COMPANY Y. Sto. 305, VIRGINIA CARDENS, FI. 33166 5,871-1530 . Fax : (305)871-1531	IECO INC.		© 2017 TILTECO, INC.
,	,	REV. No		Ŀ		22
	OLD 15-040	DESCRIPTION		ASTE		EAR
		PTION	4268 WEST F	RN N	0	BER
2	07/21/17 3	DATE	WEST R	NETAL	(2.00" DEEP,	THA
	3	REV. No	4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407	SUF	DEEP)	STOF
		DESCRIPTION	IVE 13407	EASTERN METAL SUPPLY, INC		CLEAR BERTHA STORM PANEL
		DATE				_
SHEEL OF 6	CHIEFT A DE D	DRAWING NO	17-088	07/25/17 DATE	LC.	DRAWN BY:









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

6" 6"	1	1		LESS 6"	35.0	1 1 0,			10 CONCRETE 10 BLOCK 10 CONCRETE 6" 6" 6"	TAPCONS OR BLUE TAP
1		ì	6"		1	1 1	1 1 1	1 1 1 1	TO BLOCK	TO BLOCK
	1	1	1		4.	4,	4.	4, 1 1 1	TO CONCRETE TO BLOCK	PANELMITES INSERT TO CONCRETE TO BLO
ı	1	1	,		1	1 1	1 1 1	1 1 1 1		
,	6"	-	1		1	1 1	1 1 1	1 1 1	NCRETE	
_	6*	-	ı		ı	1 1	1 1 1	1 1 1	70 BLOCK	TO BLOCK
4 (BOTTOM)	4 (TOP)	з (воттом)	3 (TOP)		2 (ВОПОМ)	2 (TOP) 2 (BOTTOM)	1 (ВОПОМ) 2 (ТОР) 2 (ВОПОМ)	1 (TOP) 1 (BOTTOM) 2 (TOP) 2 (BOTTOM)	ОЕ ПЕМ 1 (ТОР) 1 (ВОПОМ) 2 (ТОР) 2 (ВОПОМ)	2 (ВОПТОМ)  2 (ВОПТОМ)  2 (ВОПТОМ)  2 (ВОПТОМ)
			LESS		6'-0" OR	6'-0" OR	6'-0"	6'-0'	6. 0.R	LENGTH 'L' (ft.)  6'-0"  OR

				0,					(ft.)	PANEI
			+60.0, -60.0	>35.0, -35.0 UP TO				RATING (P.S.T.)	PRESSURE	A.S.D. DESIGN
6"	1	6"	-	1	6,	6,	6,	TO CONCRETE TO BLOCK	TAPCONS O	
6"	ı	6"	1	1	6"	6"	6,		TAPCONS OR BLUE TAP	
ï	12	1	6"	1	1	1	1	TO CONCRETE	SOLI	MAXIMUM
Į	1	ı	6"	ı	1	1	1	TO BLOCK	SOLID SET	ANCHORS SPA
ř	Ü	1	1	4.	1	1	1	TO CONCRETE	PANELMATES INSERT	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2"*
6	-	1	1	1	1	1	1	TO BLOCK	ES INSERT	= 3 1/2"*
1	6"	=	-	~	-	-	1	TO CONCRETE	MALE PA	
1	6"	-	-	-	-	1	-	TO BLOCK	MALE PANELMATES	
4 (ВОТТОМ)	4 (TOP)	з (воттом)	3 (TOP)	2 (воттом)	2 (TOP)	1 (воттом)	1 (TOP)	OF THEM	ANY COMBINATION	APPLICABLE TO
			LESS	6'-0" OR					LENGTH "L" (ft.)	

			LESS	+35.0, -35.0				KATING (p.s.r.) TO	PRESSURE	A S D DESIGN
6"	1	6"	ı	1	6	6.	6"	TO CONCRETE	TAPCONS OR BLUE TAP	
6"	1	6"	1	ı	6"	6"	6"	TO BLOCK	BLUE TAP	
1	1	ï	6"	1	1		ī	TO CONCRETE	SOLI	MAXIMUM
1	1	1	6"	1	1	1	ť	то вгоск	SOLID SET	ANCHORS SPA
T	1	I	1	4"	1	1	15	TO CONCRETE TO BLOCK	PANELMATES INSERT	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2"#
-	1	-	_	_	ū		1	100	ES INSERT	= 3 1/2"*
ı	6"	-	-	E	=	1	1	TO CONCRETE TO BLOCK	MALE PANELMATES	
1	6"		-	r	t	-	1	TO BLOCK	VELMATES	
4 (ВОПОМ)	4 (TOP)	з (воттом)	3 (TOP)	2 (ВОТТОМ)	2 (TOP)	1 (воттом)	1 (TOP)	OF THEM	ANY COMBINATION	APPLICABLE TO
			7'-5"	>6'-0" 70				9	LENGTH "L" (ft.)	

				UP TO +60.0, -60.0	>35.0, -35.0			KATING (p.s.t.)	PRESSURE	A S D DESIGN
6,	t	6,	1	,	6,	6,	9	TO CONCRETE	TAPCONS BLUE TAP	
6"	1	6"	ī	1	6"	6"	6"	TO BLOCK	BLUE TAP	
1	1	1	6"	-	1	-	1	TO CONCRETE	SOLI	MAXIMUM
t	1	1	6"	1	1	1	1	TO BLOCK	SOLID SET	ANCHORS SPA
1	-	1	,	4"	1	1	1	TO CONCRETE TO BLOCK	PANELMAT	MAXIMUM ANCHORS SPACING FOR E. D. = 3 1/2"*
1	1	-	1	1	1	ı	1	то вгоск	PANELMATES INSERT	= 3 1/2"*
1	6"	1	1	1	1	ı	Ĭ	TO CONCRETE	MALE PANELMATES	
1	6*	1	-	-	1	1	1	то вгоск	VELMATES	
4 (воттом)	4 (TOP)	з (воттом)	3 (TOP)	2 (ВОТТОМ)	2 (TOP)	1 (воттом)	1 (TOP)	OF THEM	ANY COMBINATION	APPLICABLE TO
			7'-5"	>6'-0" 70					LENGTH L (ft.)	

OBTAINED USING FACTOR SHALL NOT ANCHOR TYPE AT ANCHORS LEGEND	MULTIPLYING SPACING SHOWN ON FOR SOLID SFT ANCHORS IS 3")	* MAXIMUM ANCHOR SPACINGS ARE INSERTS WHERE E.D.= 4 1/2") FO
OBTAINED USING FACTOR SHALL NOT BE LESS THAN MINIMUM SPACING INDICATED FOR EACH ANCHOR TYPE AT ANCHORS LEGEND.	MULTIPLYING SPACING SHOWN ON SCHEDULE BY THE FOLLOWING FACTORS. (NOTE: Min. E.D. FOR SOLID SET ANCHORS IS 3") FOR THIS OPERATION TO BE POSIBLE REDUCED SPACING	* MAXIMUM ANCHOR SPACINGS ARE VALID FOR 3 $1/2$ " EDGE DISTANCE (EXCEPT FOR PANELMATE INSERTS WHERE E.D. = 4 $1/2$ ") FOR E.D. LESS THAN 3 $1/2$ ", REDUCE ANCHOR SPACING BY
INDICATED FOR EACH	ORS. (NOTE: Min. E.D.	(EXCEPT FOR PANELMATE ANCHOR SPACING BY

	FACTOR		
ACTUAL E. D.	TAPCON, BLUE TAP, MALE PANELMATE	PANELMATE INSERTS	SOLID-SET
4 1/2"	1.00	00.1	1.00
3"	.86	I	.78
2 1/2"	.71	1	1
2"	.50	_	1

## ANCHORS LEGEND

6.	Wal	31666	_				1
The second secon	CENS	A A. THU I Pro-	SOLID-SET	PANELMATE INSERTS	TAPCON, BLUE TAP OR MALE PANELMATE	ANCHOR TYPE	
5	FLORIDA BUILI		3.5"	4.0"	3.0"	Min. ANCHOR SPACING	
	BUILL						

E. D. = EDGE DISTANCE

FLORIDA BUILDING CODE ( Non High Velocity Hurricane Zone)

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ירי סבשר/ טופוארו פאר/ טרור	DE SEAL SOMMTIRE/DATE		ZORIO	STATE OF STATE	+ 1		}
FLORIDA Lic. # 44167	WAITER A TILLIT IN DE	FR-0006719	TILLIT TESTING & ENGINEERING COMPANY 6355N.W. 36th. St., Ste. 305, VRGINIA GARDENS, FI. 33168 Fhone: (305)871-1530 . Fax : (305)871-1531	ILIECO INC.		© 2017 TILTECO, INC.	
2	,	REV. No		М		22	
10 010	OLD 15-040	DESCRIPTION	4268 WEST F	EASTERN METAL SUPPL		CLEAR BERTHA STOR	
0//2//10	21/16/20	3170	WEST I	(ETA)	(2.00" DEEP	THA	
	4	REV. No	4268 WEST ROADS DRIVE WEST PALM BEACH, FL 33407	us 1	DEEP)	ST01	
		DESCRIPTION	RIVE 33407	PPLY, INC		RM PANE	
		DATE					
SHEET 6 OF 6		DRAWING NO	17-088	07/25/17 DATE	L.C.	DRAWN BY:	