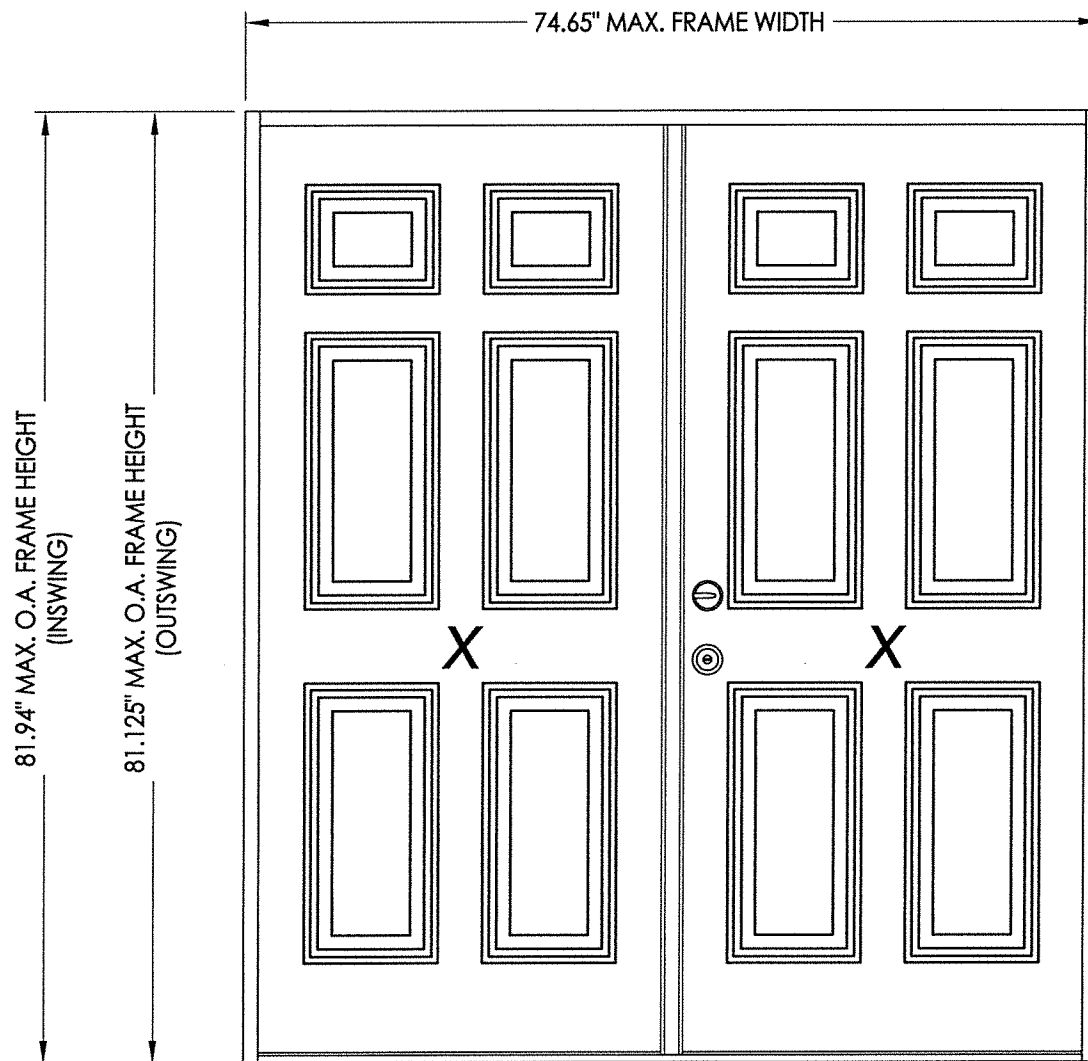




Opaque Steel Door

"NON-IMPACT"

IN SWING / OUT SWING



EVALUATED FOR USE IN THE STATE OF TEXAS

The Opaque Steel Door system described herein complies with the 2018 International Residential Code (IRC), Sections R301 & R609 and the 2018 International Building Code (IBC), Sections 1404.13, 1609, 1709.5, 2403 and 2404 subject to the following conditions:

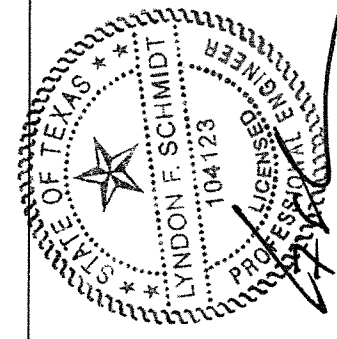
1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. When used in areas requiring wind-borne debris protection this product is required to be protected with an impact resistant covering that complies with Section R301.2.1.2 of the IRC and Section 1609.2 of the IBC.
3. Allowable design pressure requirements must be equal to or less than the design pressure rating shown in the design pressure chart, sheet 1 of this drawing.
4. Conditions not covered by this drawing are subject to further engineering analysis.

TABLE OF CONTENTS

SHEET #	DESCRIPTION
1	Typical elevations, design pressures & general notes
2	Astragal details
3	Door panel details
4	Horizontal & vertical cross sections
5	Vertical cross sections
6	Frame anchoring

MODEL	DESIGN PRESSURE (PSF) w/ PINE FRAME & FATBOY PINE MULLIONS		DESIGN PRESSURE (PSF) w/ "FusionFrame" FRAME & MULLIONS	
	POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
IN SWING	+50.0	-55.0	+50.0	-50.0
OUT SWING	+60.0	-60.0	+50.0	-50.0

SEE SHEET 5 FOR THRESHOLD DESIGN PRESSURE LIMITATIONS



Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Vairico FL 33595
Phone No.: 813.659.9197
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: ENDURA
PART OR ASSEMBLY:
TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS
1	11/20/19	ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE

DATE: 11/05/18

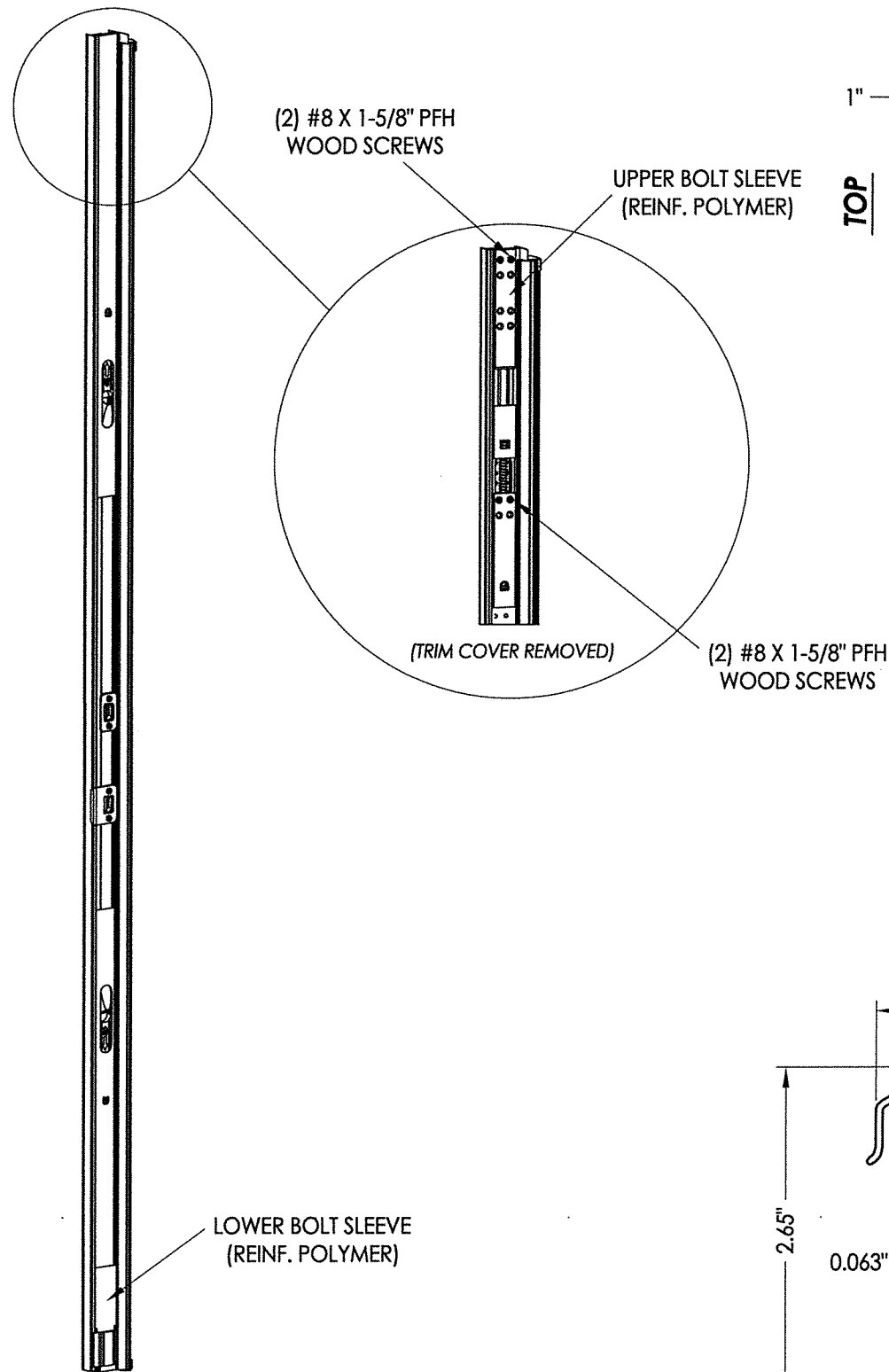
SCALE: N.T.S.

DWG. BY: JK

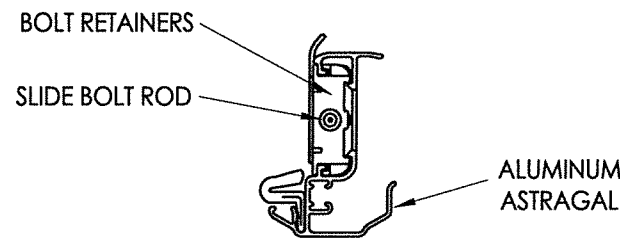
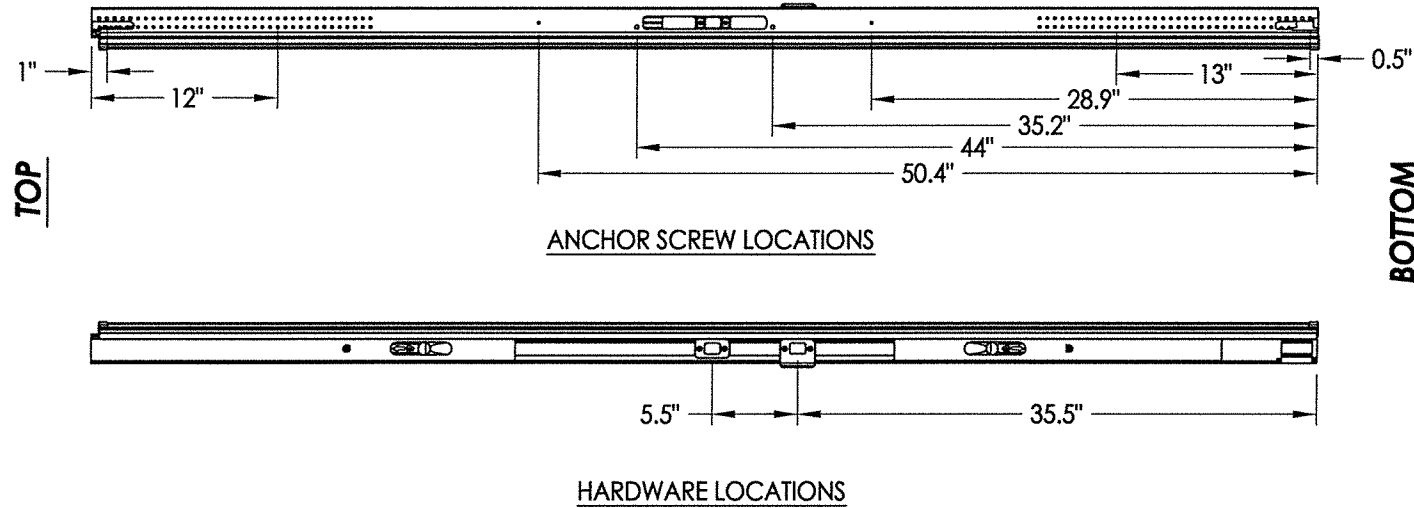
CHK. BY: LFS

DRAWING NO.: TX-4896

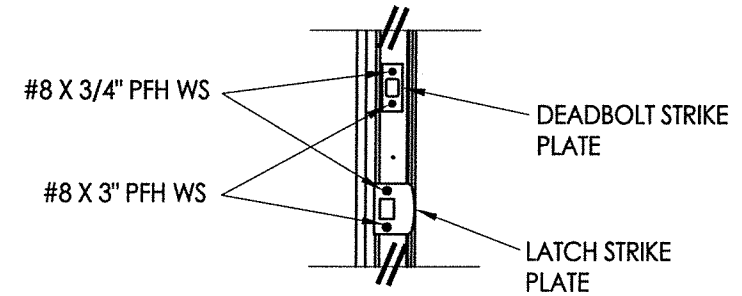
SHEET 1 OF 6



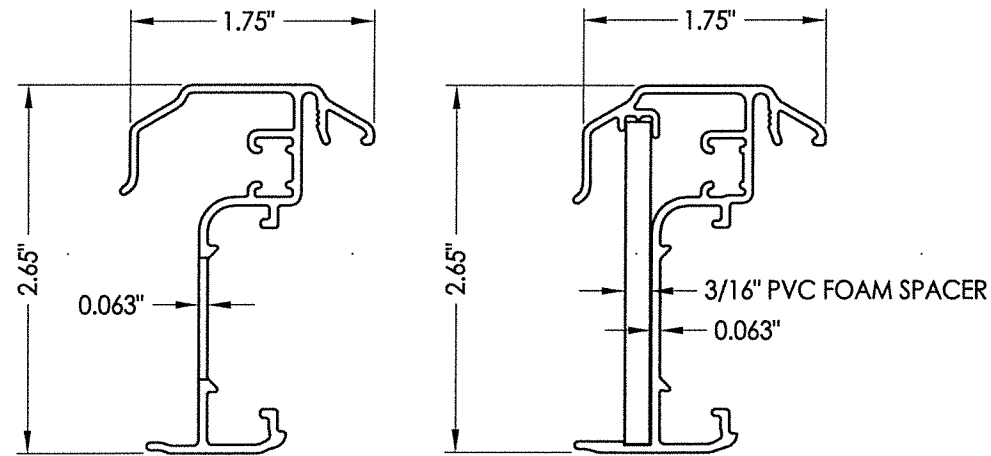
ULTIMATE/ULTIMATE COMPATIBLE HURRICANE ASTRAGAL



ALUMINUM ASTRAGAL ASSEMBLY



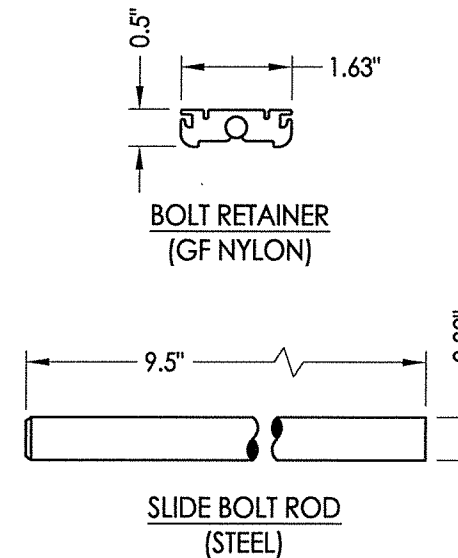
LATCH & DEADBOLT DETAIL



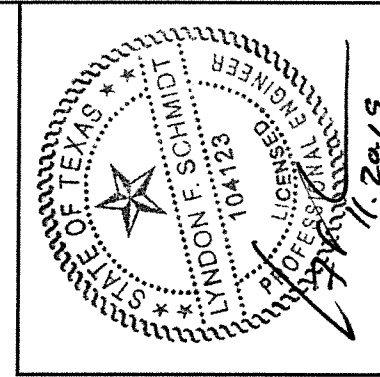
ULTIMATE HURRICANE ASTRAGAL

ULTIMATE COMPATIBLE* HURRICANE ASTRAGAL (OPTIONAL)

ASTRAGAL SECTIONS



*NOTE: INCREASE THE MAXIMUM FRAME WIDTH BY 3/16" TO ACCOMODATE THE OPTIONAL ULTIMATE COMPATIBLE HURRICANE ASTRAGAL WHEN USED.



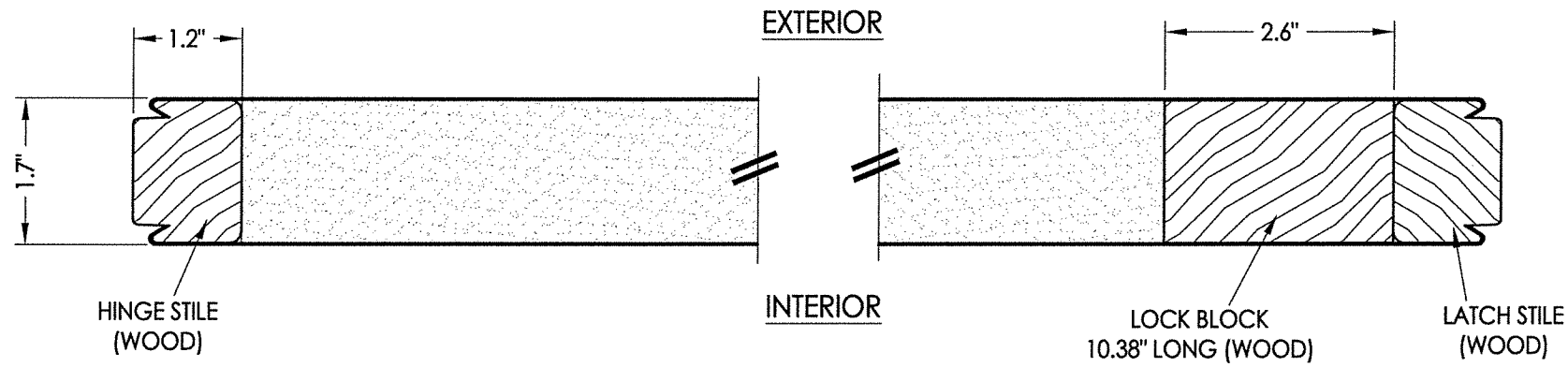
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197

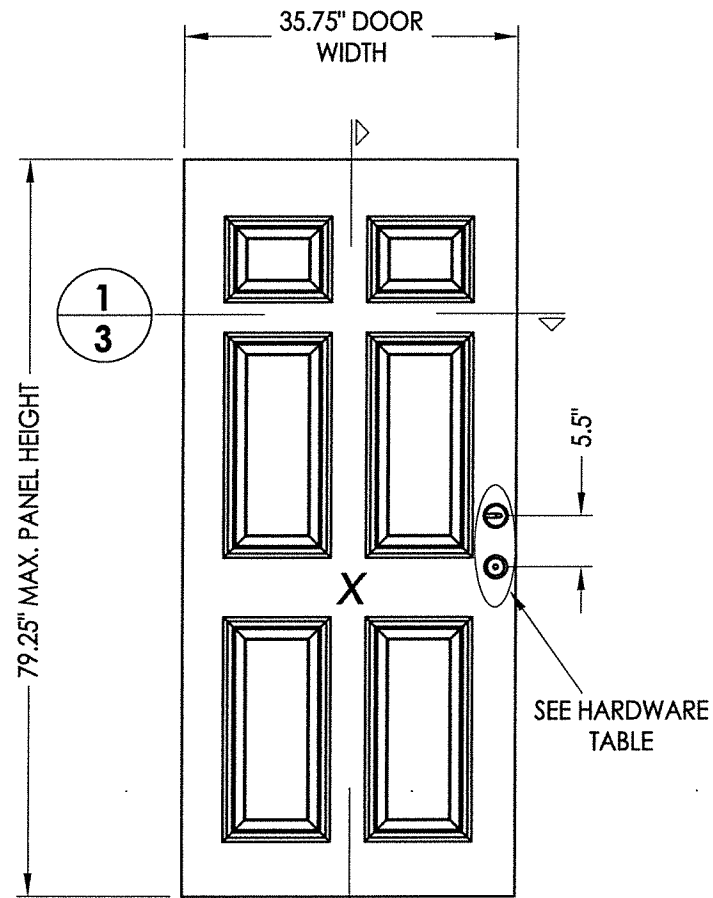
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	ENDURA	
PART OR ASSEMBLY:	ASTRAGAL DETAILS	
NO.	DATE	BY
1	11/20/19	LFS
ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE		
REVISIONS		
DATE:	11/05/18	
SCALE:	N.T.S.	
DWG. BY:	JK	
CHK. BY:	LFS	
DRAWING NO.:	TX-4896	
SHEET	2	OF 6

R:\Clients\Endura PERMANENT\B - Texas Dept of Ins\TDI - DR-1012 Opaque Therma-Tru ST door XX (LK, DB) (4896-4897)\C - Drawings\TX-4896-97.dwg, 1-3



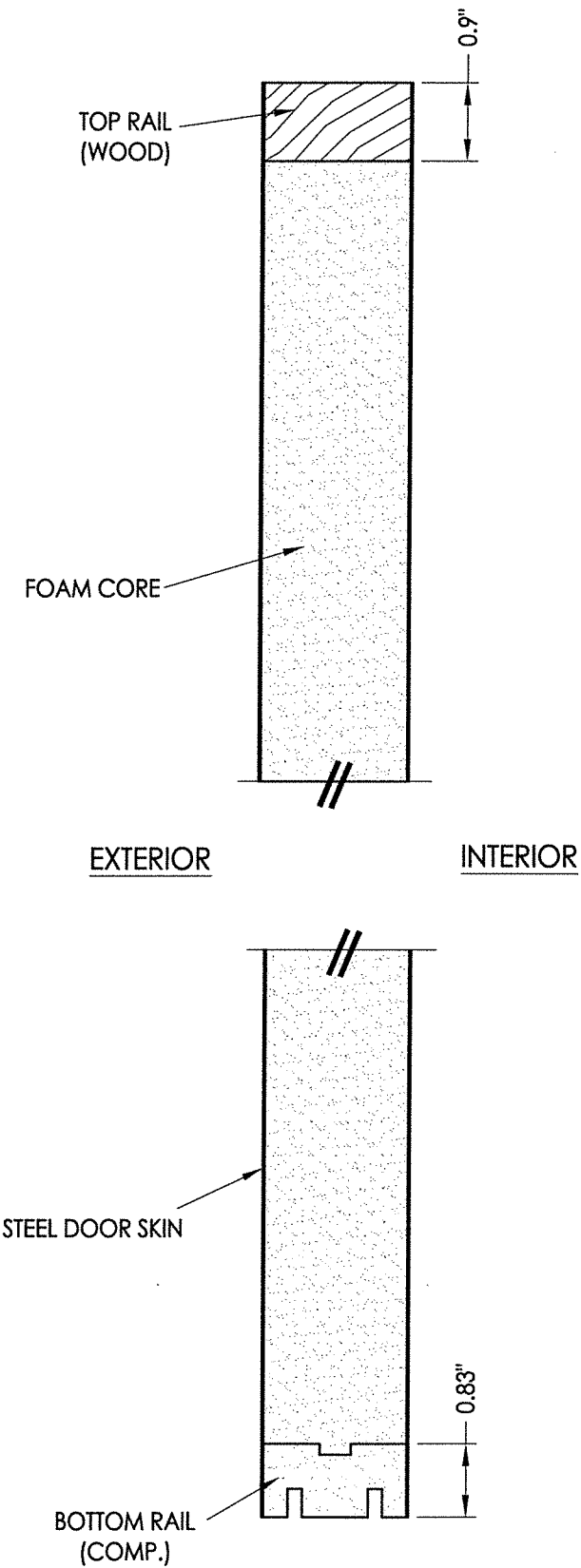
1
3 HORIZONTAL CROSS SECTION



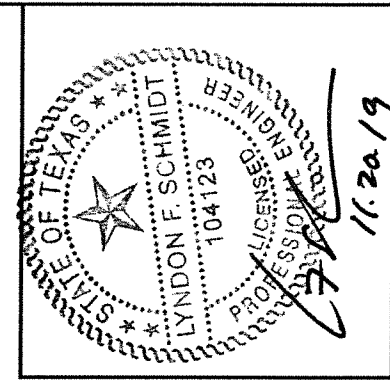
2
3 DOOR PANEL
Therma-Tru
Steel (wood Edge)

HARDWARE TABLE	
MANUFACTURER	MODEL
KWIKSET	LATCH: KWIKSET SIGNATURE SERIES (991) DEADBOLT: KWIKSET SIGNATURE SERIES (980/985)

DOOR SKIN: 24GA. STEEL (0.022" MIN. THICKNESS)
CORE MATERIAL: POLYURETHANE FOAM (1.9 PCF MIN.)



2
3 VERTICAL CROSS SECTION



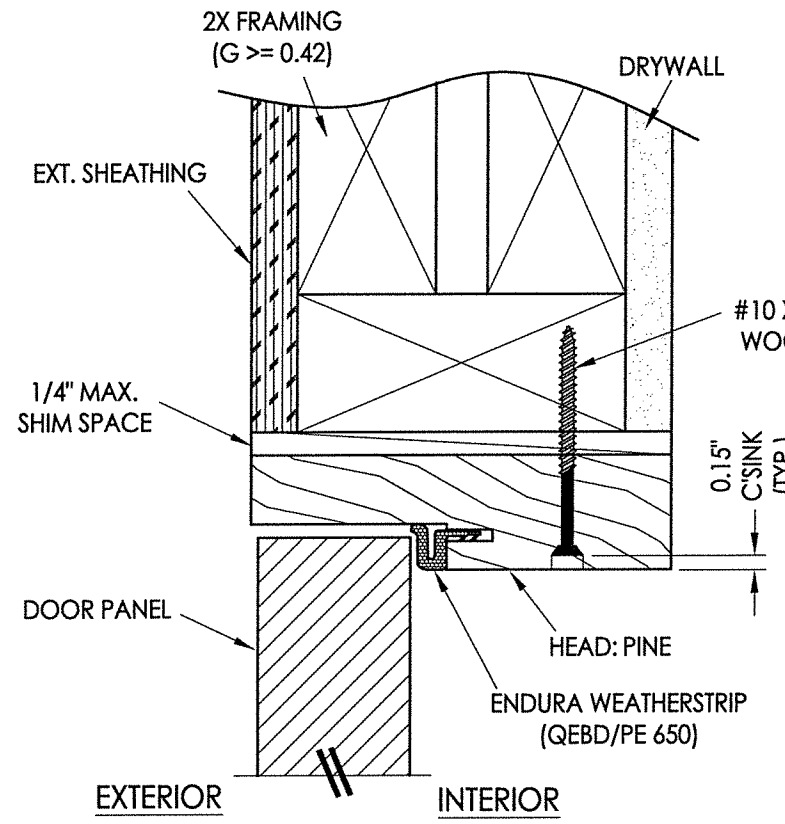
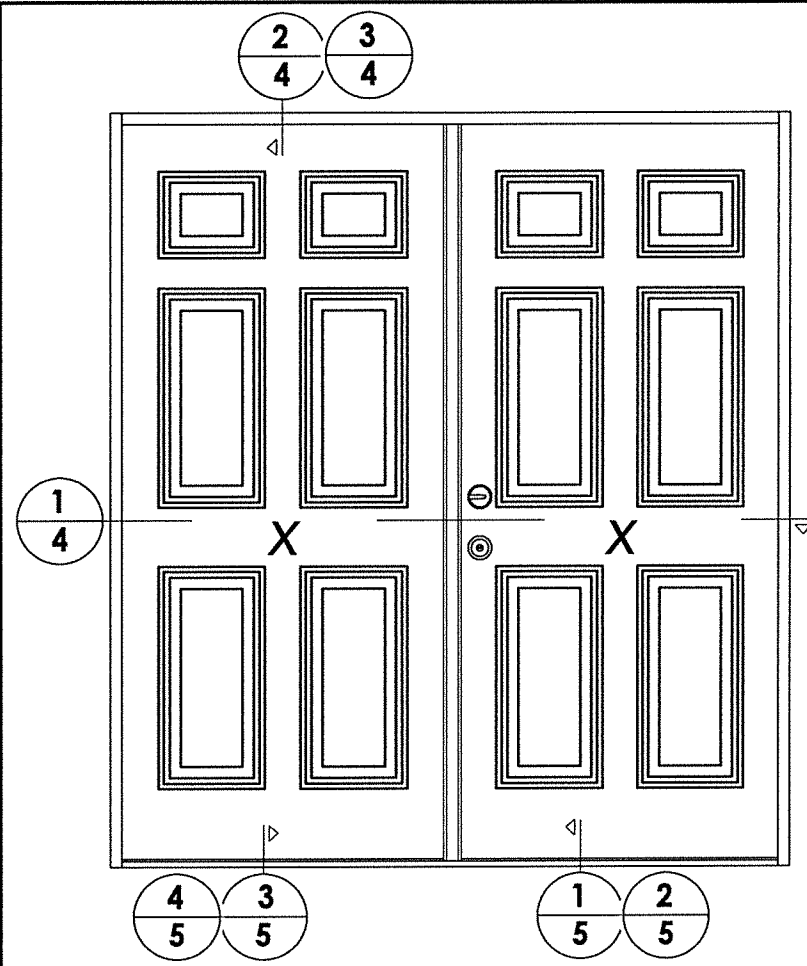
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

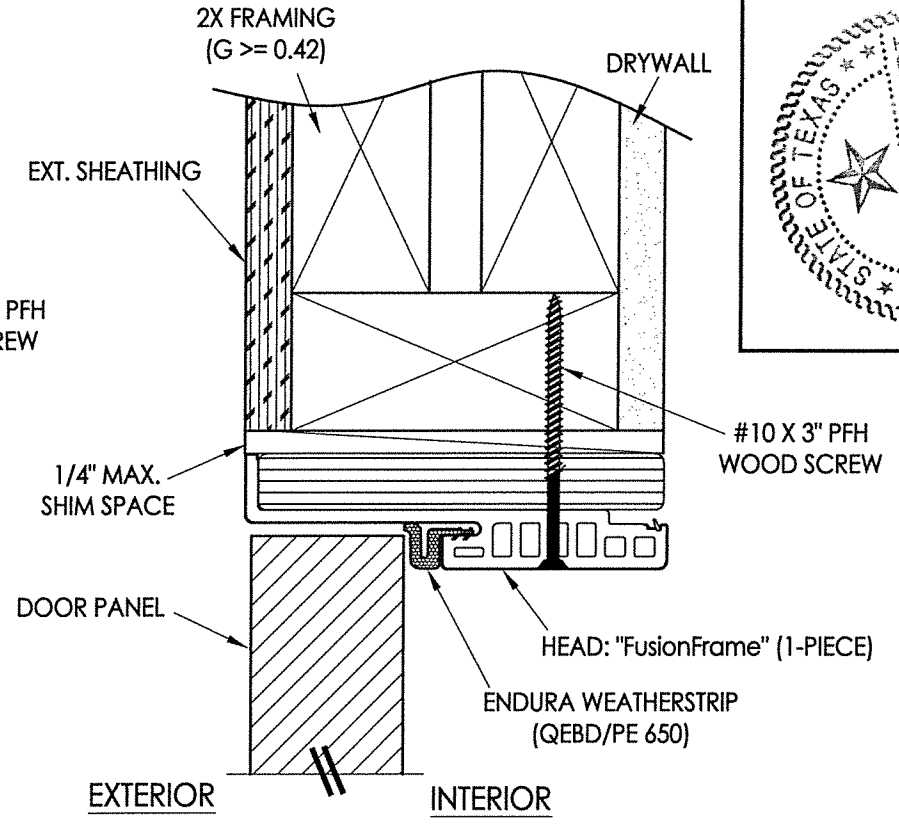
PRODUCT:	ENDURA
PART OR ASSEMBLY:	DOOR PANEL DETAILS

NO.	DATE	BY	REVISIONS
1	11/20/19	LFS	ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE

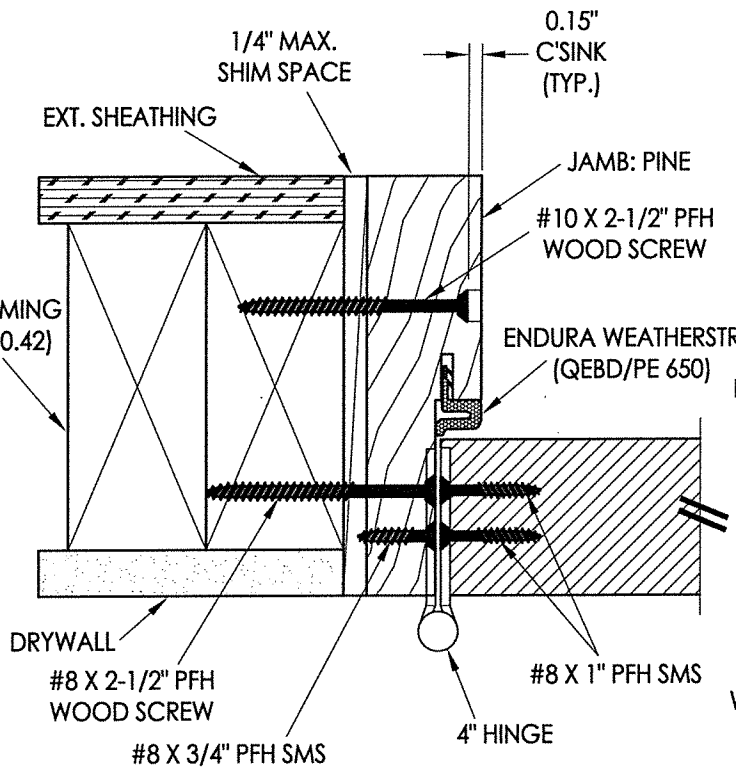
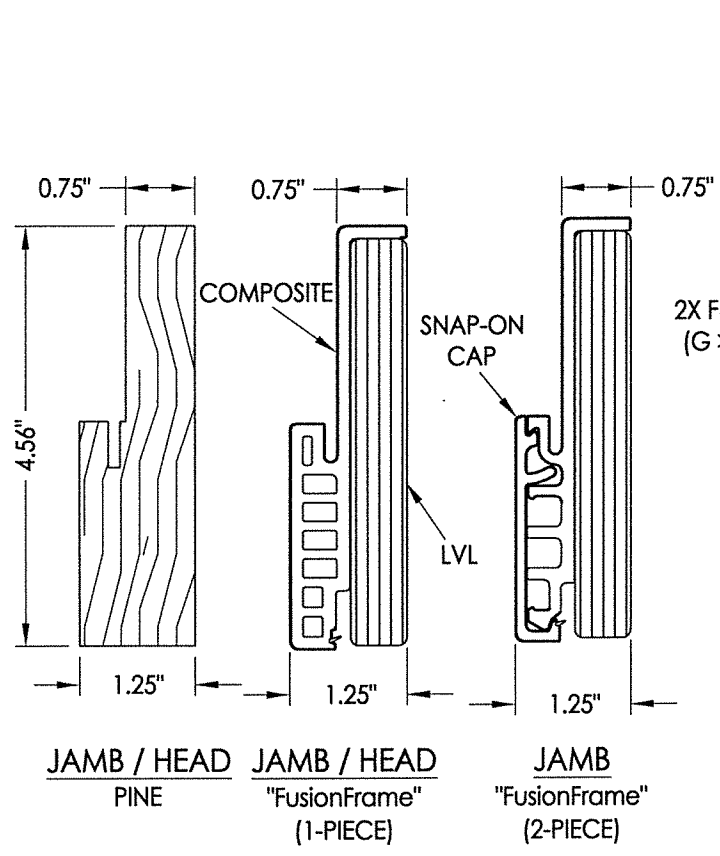
DATE:	11/05/18
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4896
SHEET	3 OF 6



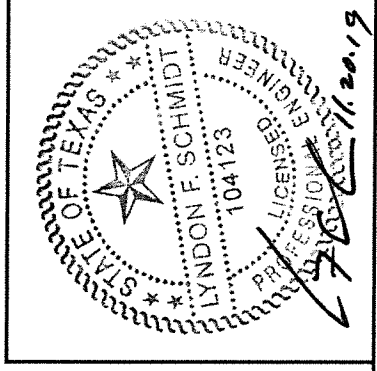
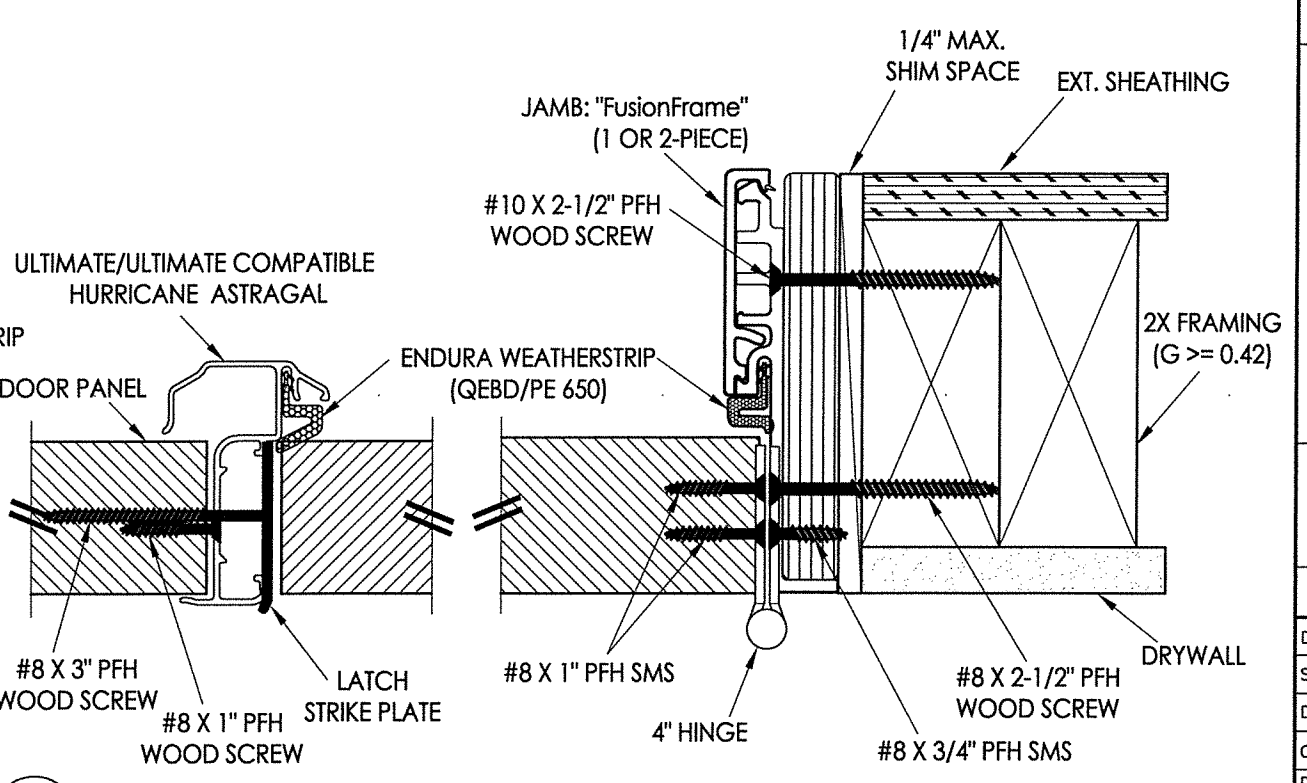
2 VERTICAL CROSS SECTION
4 Outswing shown - inswing also approved



3 VERTICAL CROSS SECTION
4 Outswing shown - inswing also approved



1 HORIZONTAL CROSS SECTION
4 Inswing shown - Outswing also approved



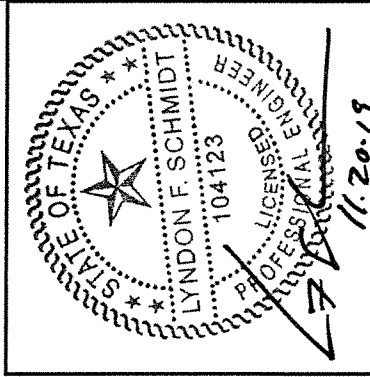
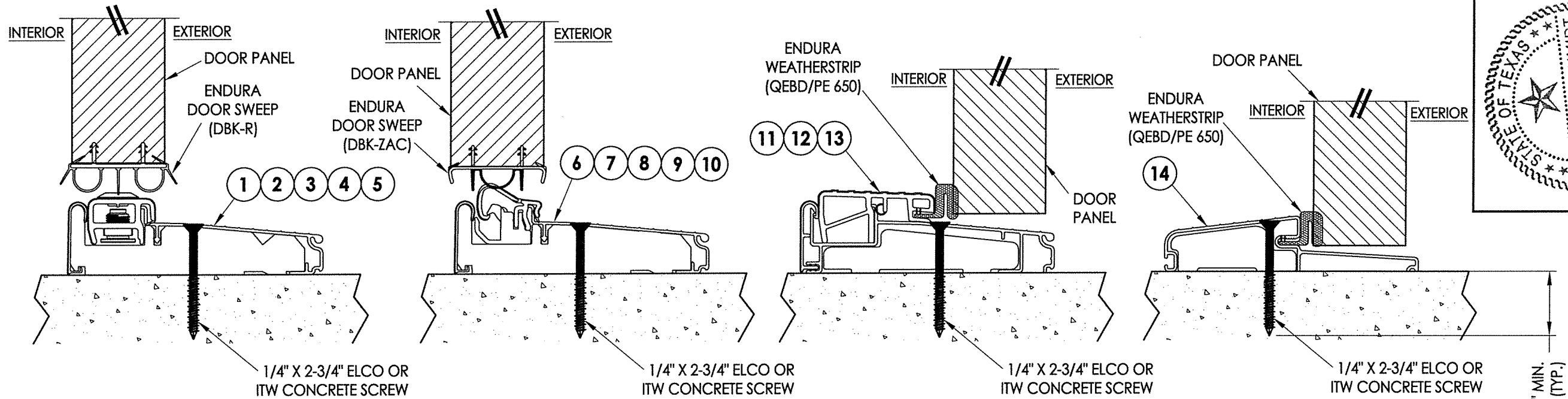
Documents Prepared By: Lyndon F. Schmidt, P.E.
 TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
 P.O. Box 230 Valrico FL 33595
 Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	ENDURA		
PART OR ASSEMBLY:	HORIZONTAL & VERTICAL CROSS SECTIONS		
NO.	DATE	BY	REVISIONS
1	11/20/19	LFS	ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE
DATE: 11/05/18		SCALE: N.T.S.	
DWG. BY: JK		CHK. BY: LFS	
DRAWING NO.: TX-4896		SHEET 4 OF 6	

R:\Clients\Endura PERMANENT\B - Texas Dept of Ins\TDI - DR-1012 Opaque Thermo-Tru ST door XX (L.K. DB) (4896-4897)\C - Drawings\TX-4896-97.dwg, 1-5



Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

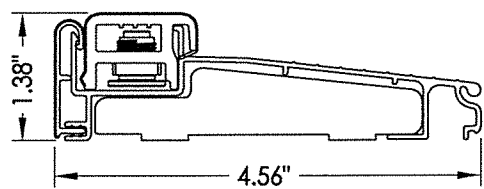
1 VERTICAL CROSS SECTION
5 Inswing Adjustable Threshold

2 VERTICAL CROSS SECTION
5 Inswing Articulating Threshold w/ Pin Capture

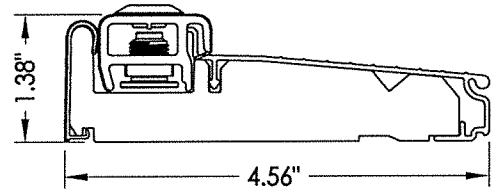
3 VERTICAL CROSS SECTION
5 Outswing Bump Threshold

4 VERTICAL CROSS SECTION
5 Outswing Bump Threshold

1-1/4" MIN.
EMB. (TYP.)

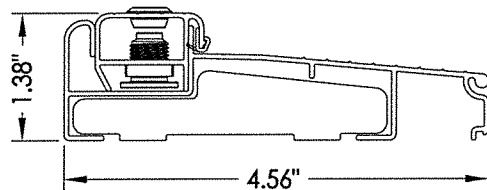


1 INSWING ADJUSTABLE THRESHOLD
ZAIL4565

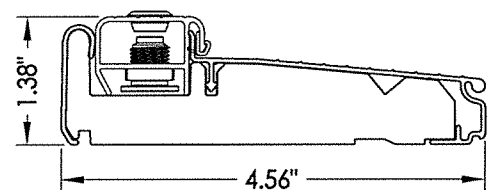


2 INSWING ADJUSTABLE THRESHOLD
ZAI4565FN

MAX. DESIGN PRESSURE = ±50 PSF

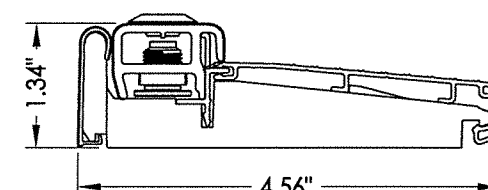


3 INSWING ADJUSTABLE THRESHOLD
ZAILAA4565



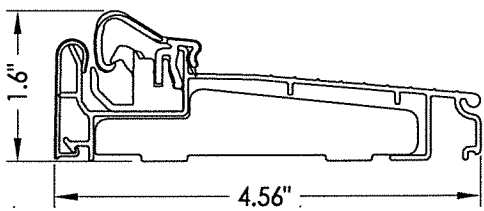
4 INSWING ADJUSTABLE THRESHOLD
ZAIAA4565FN

MAX. DESIGN PRESSURE = ±50 PSF



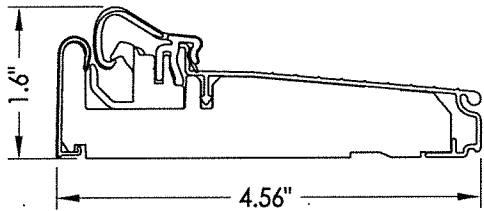
5 INSWING ADJUSTABLE THRESHOLD
ZAI4565RDS

MAX. DESIGN PRESSURE = ±50 PSF



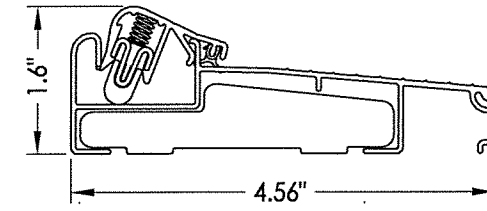
6 INSWING ARTICULATING THRESHOLD
ZACLA565

MAX. DESIGN PRESSURE = ±50 PSF



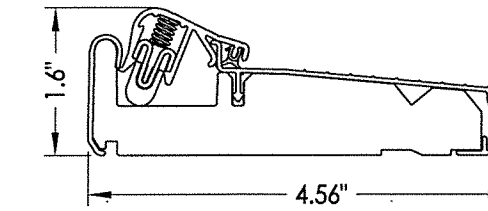
7 INSWING ARTICULATING THRESHOLD
ZAC4565FN

MAX. DESIGN PRESSURE = +45/-50 PSF



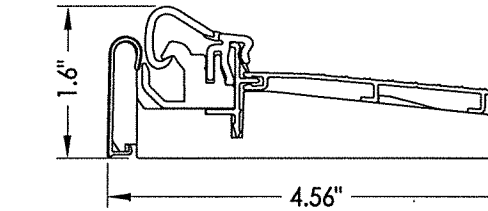
8 INSWING ARTICULATING THRESHOLD
ZACLAA4565

MAX. DESIGN PRESSURE = ±50 PSF



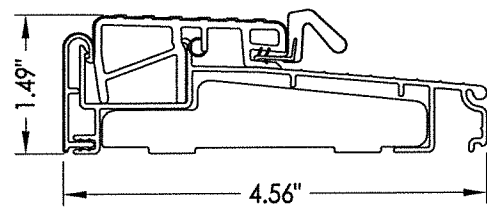
9 INSWING ARTICULATING THRESHOLD
ZACAA4565FN

MAX. DESIGN PRESSURE = +45/-50 PSF

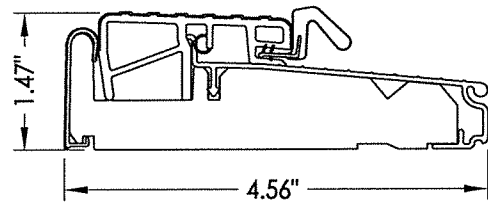


10 INSWING ARTICULATING THRESHOLD
ZAC4565RDS

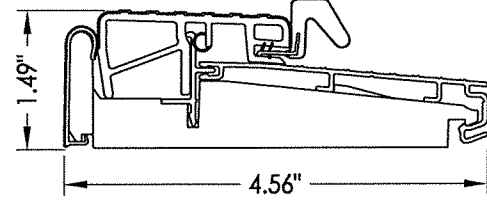
MAX. DESIGN PRESSURE = ±45 PSF



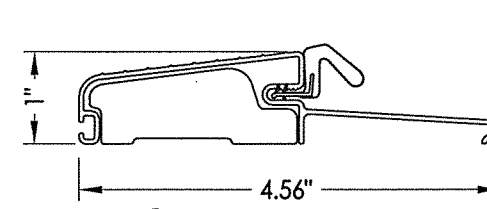
11 OUTSWING THRESHOLD
ZOBL4565



12 OUTSWING THRESHOLD
ZOB4565FN

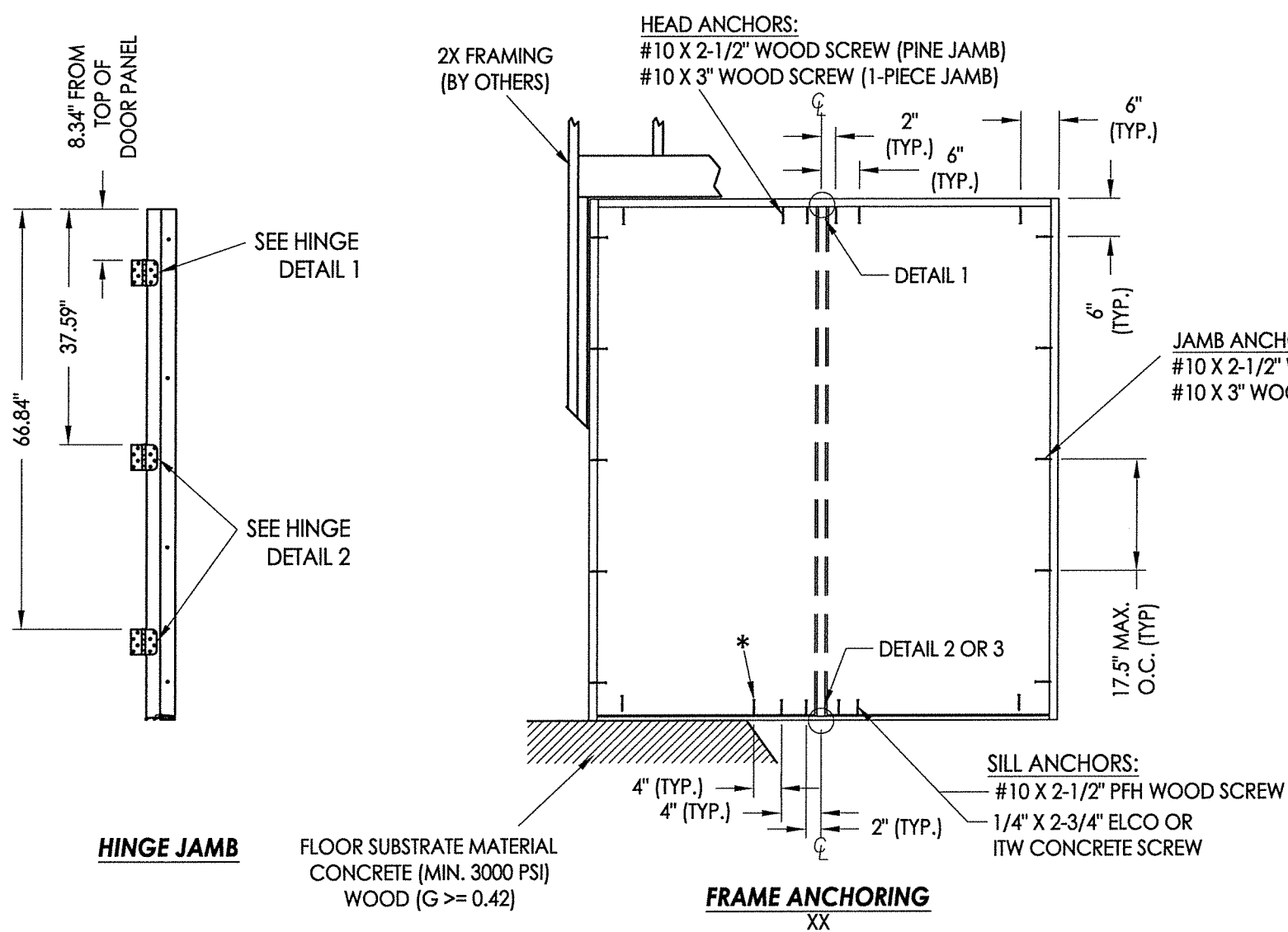


13 OUTSWING THRESHOLD
ZOB4565RDS



14 OUTSWING THRESHOLD
FOB4566

PRODUCT:		ENDURA	
PART OR ASSEMBLY:		VERTICAL CROSS SECTIONS	
NO.	DATE	BY	REVISIONS
1	11/20/19	LFS	ADD "FusionFrame" OPTION & UPDATE TO 2018 IBC/IRC CODE
DATE: 11/05/18			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4896			
SHEET 5 OF 6			



*NOTE: This anchor required for D.P. > 45 PSF.

JAMB NOTES:

THE PINE OR "FusionFrame" 1-PIECE JAMB MAY BE INSTALLED @ THE HEAD OR SIDE JAMB.
 THE FusionFrame" 2-PIECE JAMB MAY BE INSTALLED @ THE SIDE JAMBS ONLY.

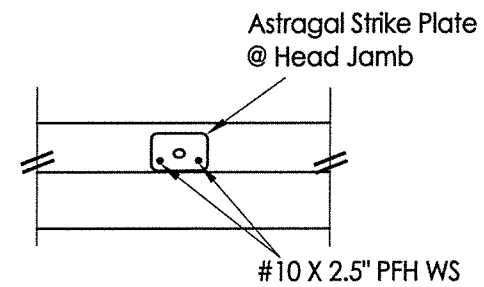
CONCRETE ANCHOR NOTES:

- Concrete anchor locations at the corners may be adjusted to maintain the min. edge distance to mortar joints.
- Concrete anchor locations noted as "MAX. ON CENTER" must be adjusted to maintain the min. edge distance to mortar joints, additional concrete anchors may be required to ensure the "MAX. ON CENTER" dimension are not exceeded.
- Concrete anchor table:

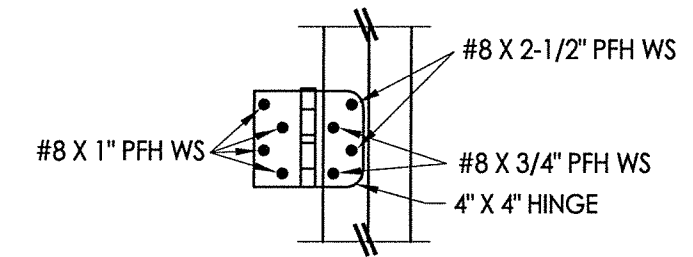
ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	3/16"	1-3/4"	3"	1-1/2"
ITW TAPCON®	1/4"	1-3/4"	1-1/2"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	4"

WOOD SCREW INSTALLATION NOTES:

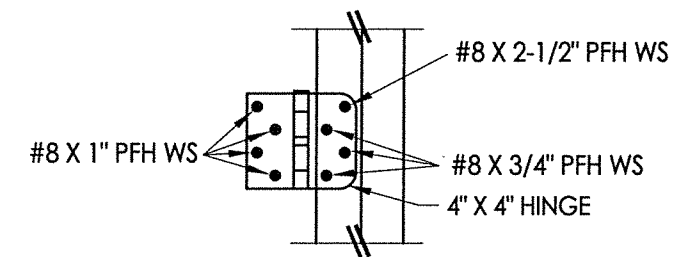
- Maintain a minimum 5/8" edge distance, 1" end distance, & 1" o.c. spacing of wood screws to prevent the splitting of wood.



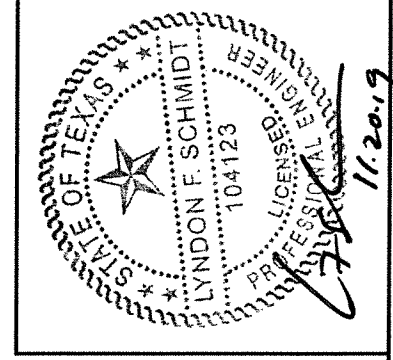
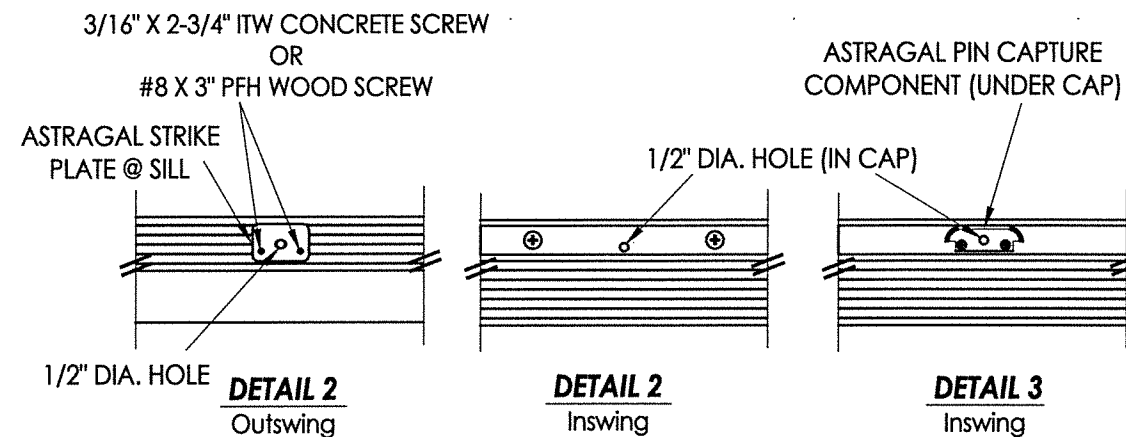
DETAIL 1



HINGE DETAIL 1



HINGE DETAIL 2



Documents Prepared By: Lyndon F. Schmidt, P.E.
 TEXAS P.E. #104123

RW BUILDING CONSULTANTS, INC.
 P.O. Box 230 Valrico FL 33595
 Phone No.: 813.659.9197

TEXAS BOARD OF PROFESSIONAL ENGINEERS
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT:	ENDURA
PART OR ASSEMBLY:	FRAME ANCHORING
DATE:	11/05/18
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4896
SHEET	6 OF 6