

# STEVE'S AND SONS

203 Humble Ave.  
San Antonio, TX 78225

## Opaque Fiberglass Double Door w/ or w/out Sidelites INSWING / OUTSWING "IMPACT"

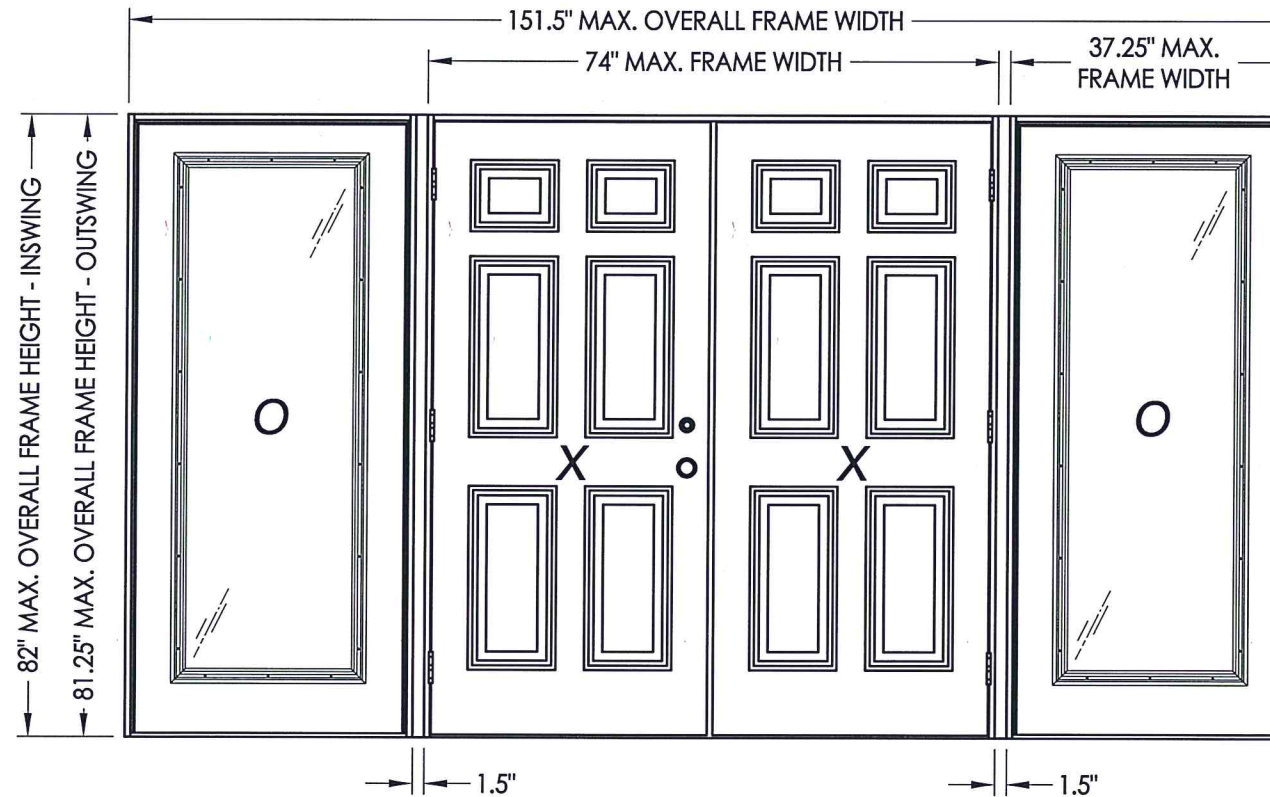
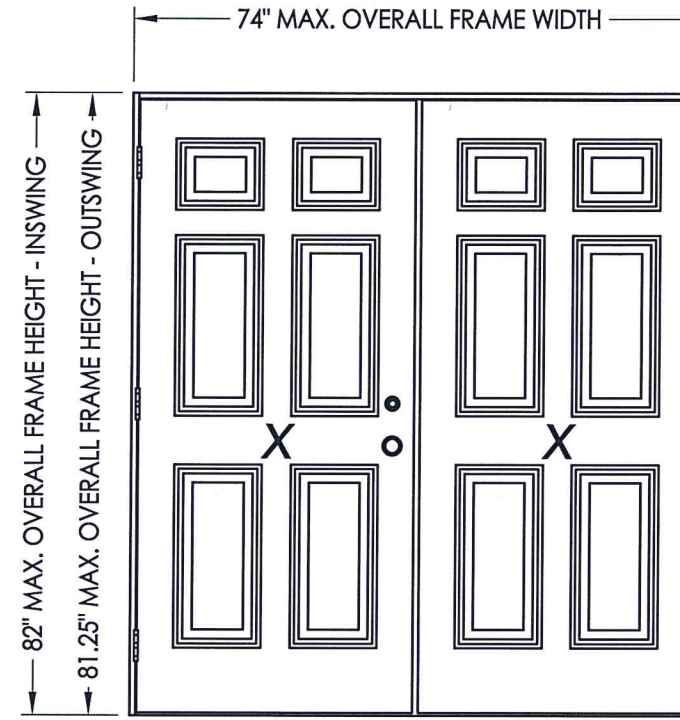
### EVALUATED FOR USE IN THE STATE OF TEXAS

The Fiberglass 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:

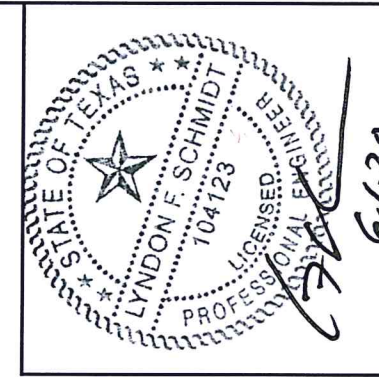
1. Anchors shall be as listed and spaced as shown in the details. Anchor embedment to base material shall be beyond wall dressing or stucco.
2. This system has been tested and evaluated as a large missile impact protective system for installation in areas that require wind borne debris protection. This product meets missile level "D" as defined in ASTM E 1996.
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.

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2	Door panel details
3	Sidelite panel & glazing details
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5	Horizontal cross sections
6	Vertical cross sections
7	Vertical cross sections
8	Frame anchoring
9	Frame anchoring
10	Astragal details
11	Components and bill of materials



CONFIGURATION	MAX. FRAME DIMENSION	MAX. SIDELITE D.L.O. DIMENSION	GLASS TYPE	DESIGN PRESSURE (PSF) INSWING		DESIGN PRESSURE (PSF) OUTSWING	
				POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
XX	74.0" x 82.0"	N/A	N/A	+50.0	-55.0	+50.0	-50.0
OXXO	151.5" x 82.0"	20.63" x 62.75"	G1	+50.0	-55.0	+50.0	-50.0



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

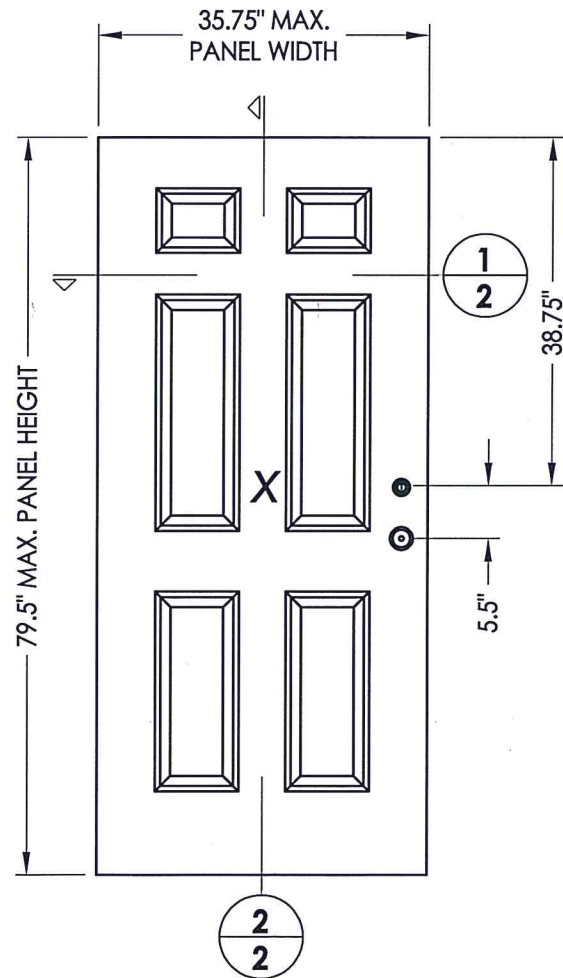
**RW** BUILDING CONSULTANTS, INC.  
P.O. Box 230 Valrico FL, 33595  
Phone No.: 813.689.9197  
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVE'S AND SONS FIBERGLASS DOOR  
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IRC/IBC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change

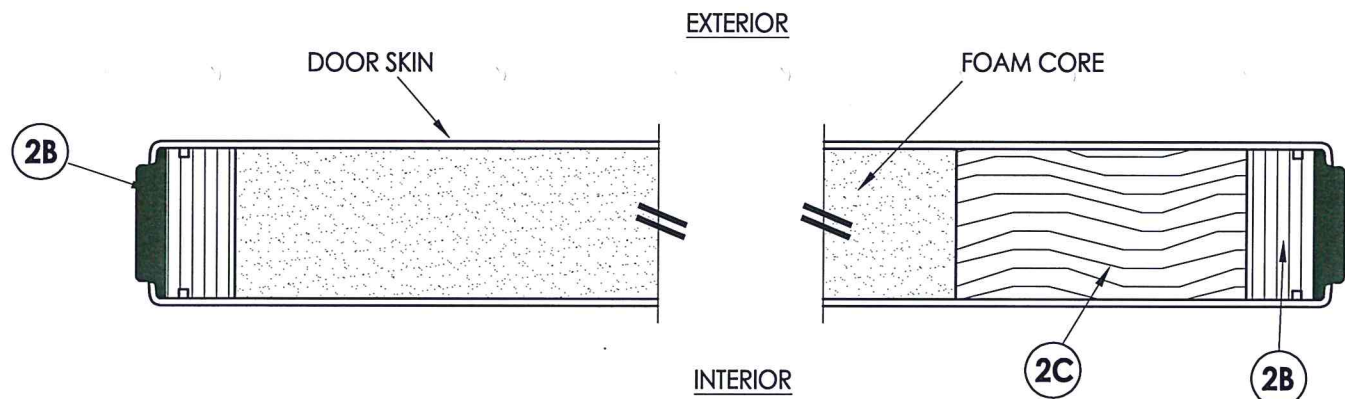
DATE: 04/13/10  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4085  
SHEET 1 OF 11



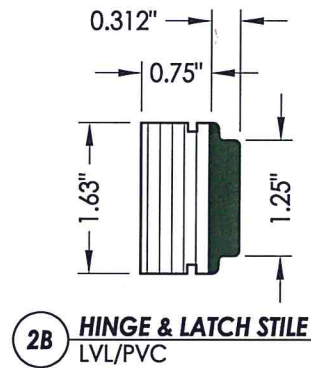


**40 DOOR PANEL**

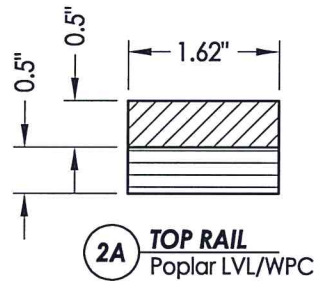
FIBERGLASS DOOR SKIN: MIN. 0.079" THK.  
CORE MATERIAL: EPS FOAM (POLYSTYRENE)



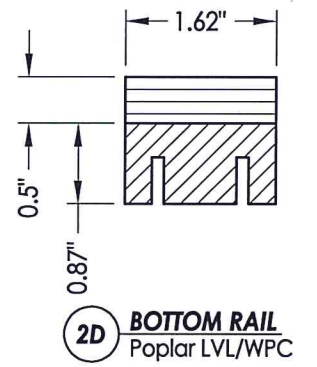
**1 HORIZONTAL CROSS SECTION**



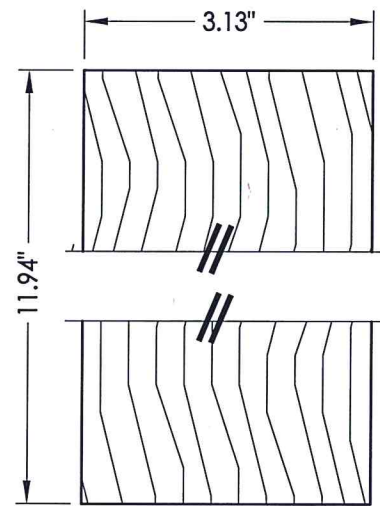
**2B HINGE & LATCH STILE**  
LVL/PVC



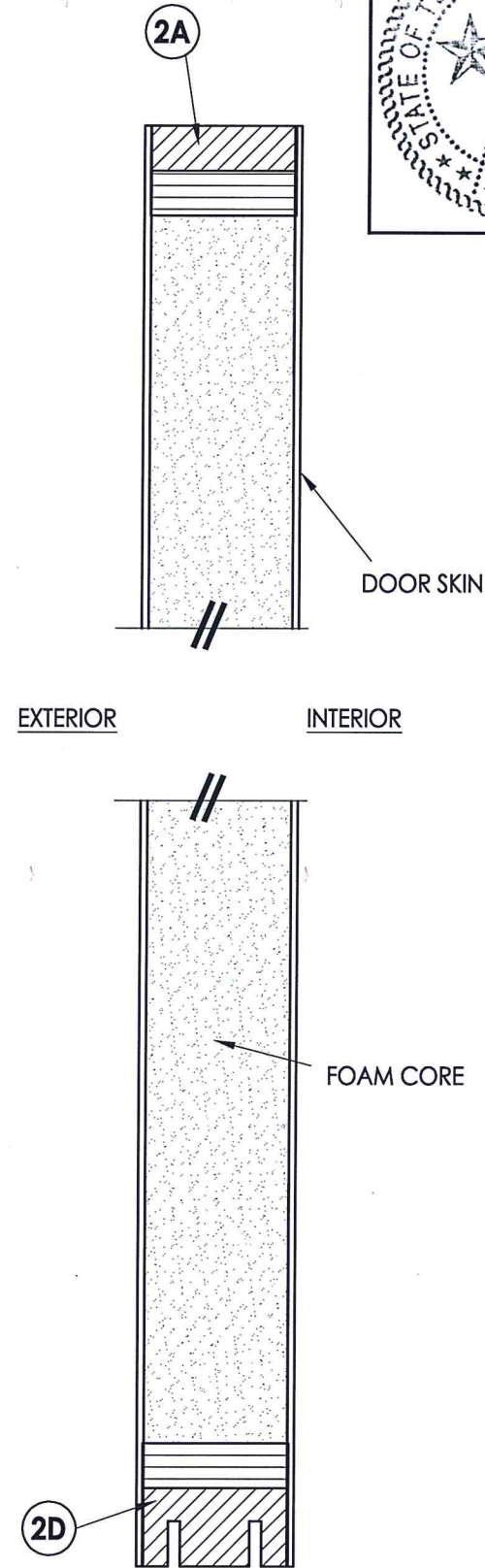
**2A TOP RAIL**  
Poplar LVL/WPC



**2D BOTTOM RAIL**  
Poplar LVL/WPC



**2C LOCK BLOCK**  
Wood (S.G. >= 0.42)



**2 VERTICAL CROSS SECTION**



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PRODUCT: STEVES AND SONS  
FIBERGLASS DOOR

PART OR ASSEMBLY:  
DOOR PANEL DETAILS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change
		BY

DATE: 04/13/10

SCALE: N.T.S.

DWG. BY: JK

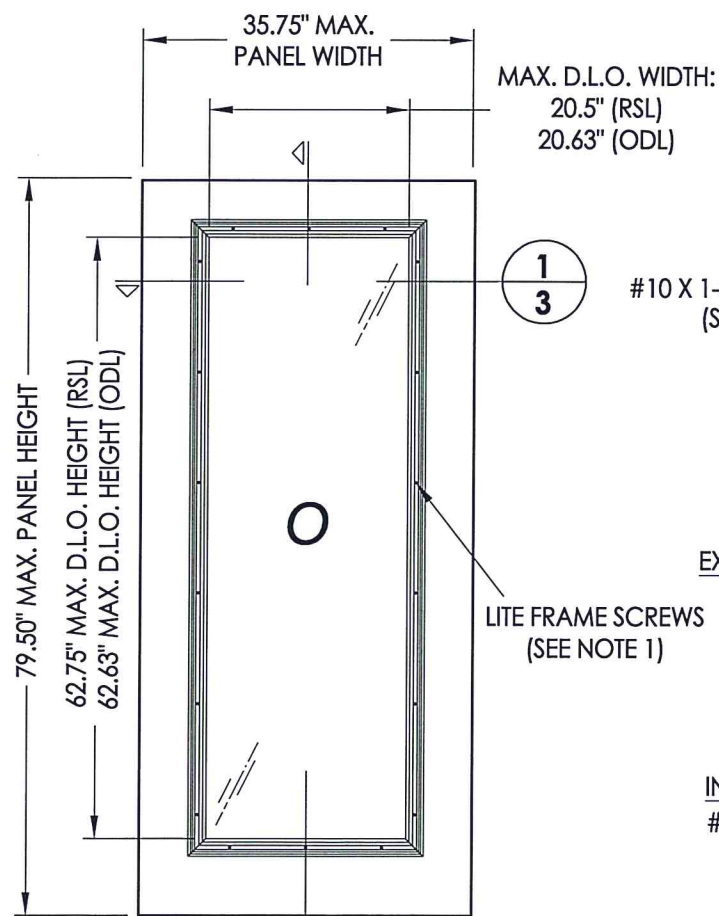
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DRAWING NO.:

TX-4085

SHEET 2 OF 11

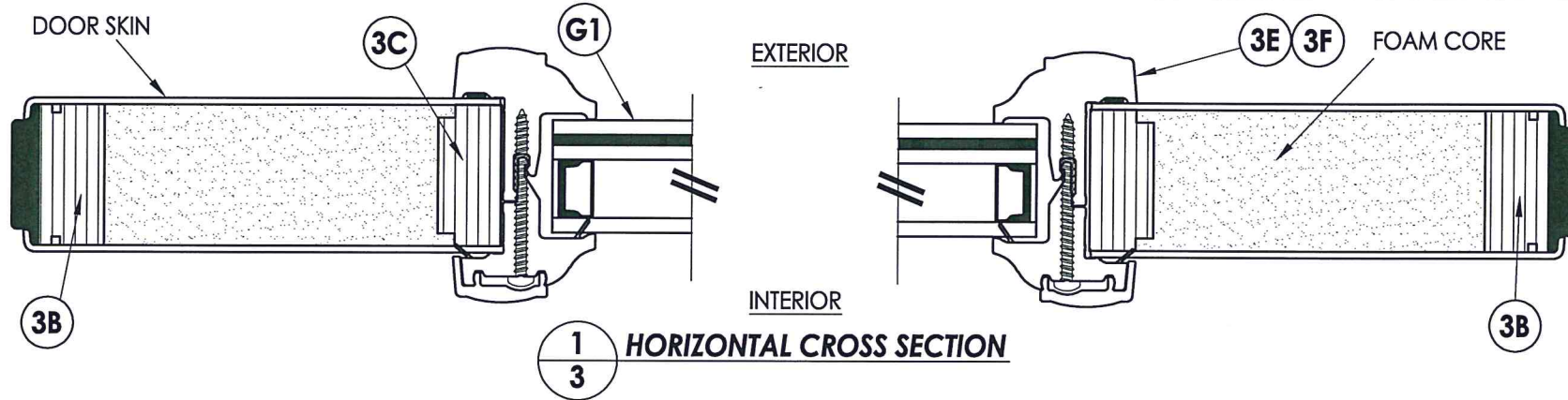




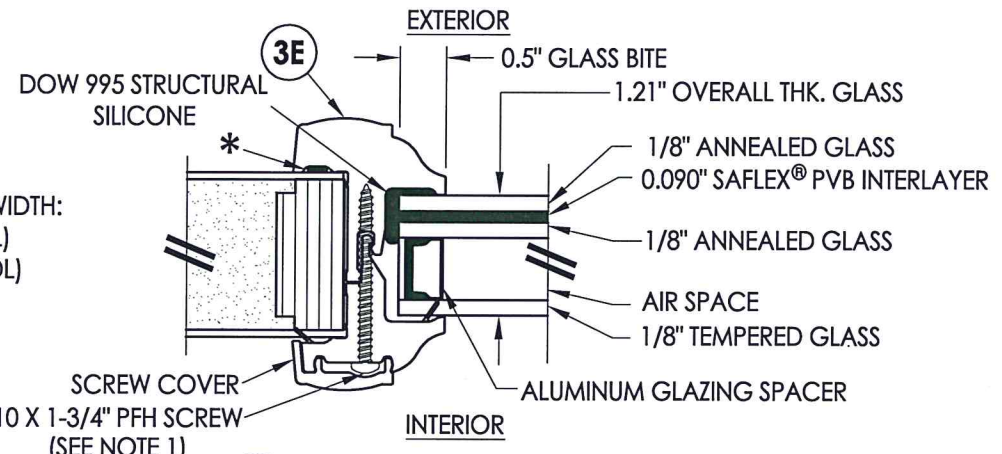
**50 SIDELITE PANEL**

FIBERGLASS DOOR SKIN: MIN. 0.079\"/>

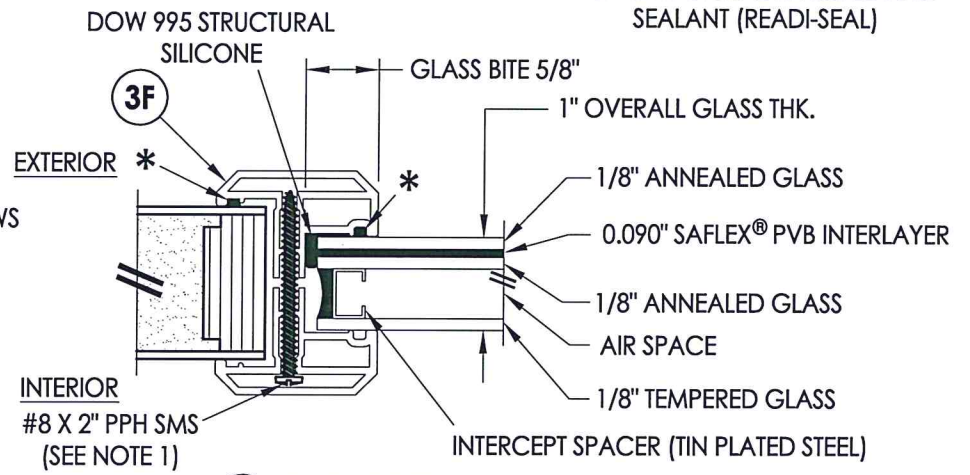
NOTE:  
 1. Spacing for lite frame screws is as follows:  
 Sides: 4.5\"/>



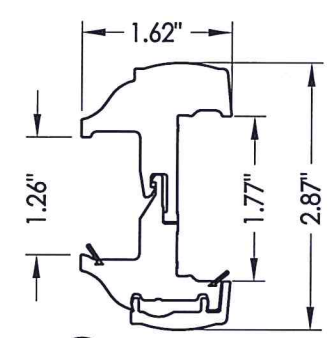
**1 HORIZONTAL CROSS SECTION**



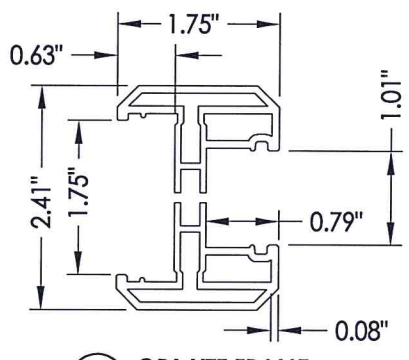
**G1 GLAZING DETAIL**  
RSL Lite Frame



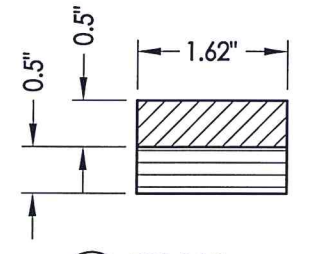
**G2 GLAZING DETAIL**  
ODL Lite Frame



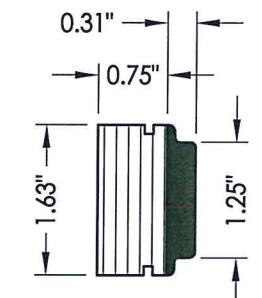
**3E RSL LITE FRAME**  
PVC



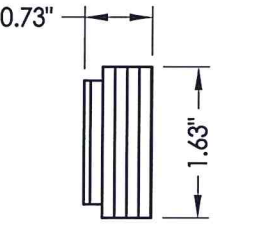
**3F OD LITE FRAME**  
Aluminum



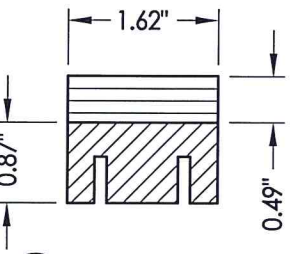
**3A TOP RAIL**  
Poplar LVL/WPC



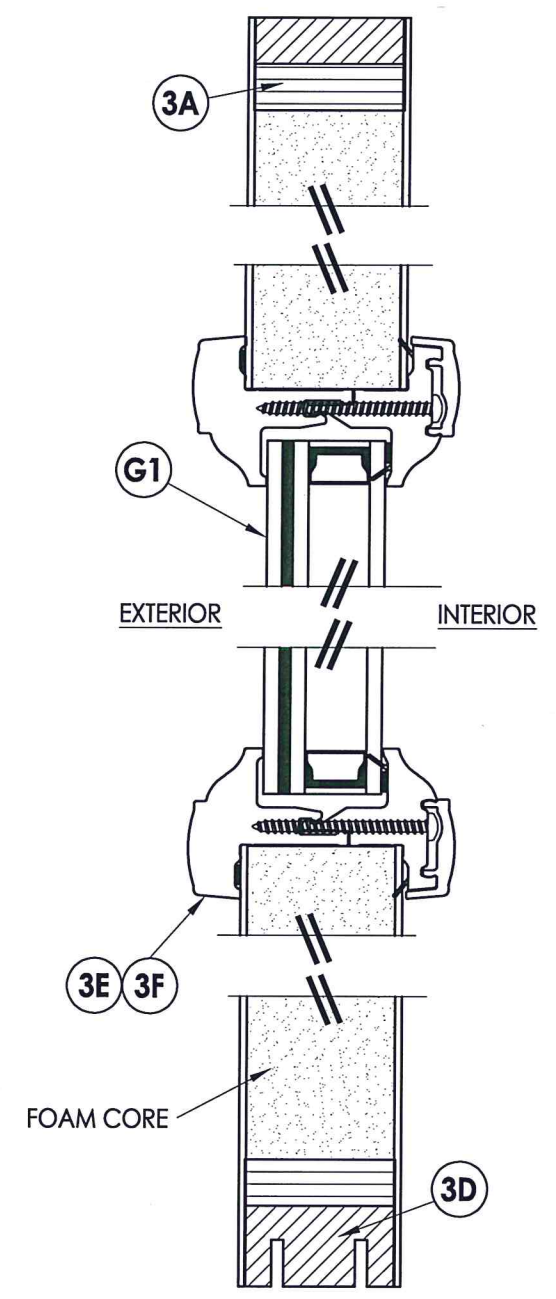
**3B HINGE & LATCH STILE**  
LVL/PVC



**3C LITE OPENING**  
LVL Reinforcement



**3D BOTTOM RAIL**  
Poplar LVL/WPC



**2 VERTICAL CROSS SECTION**



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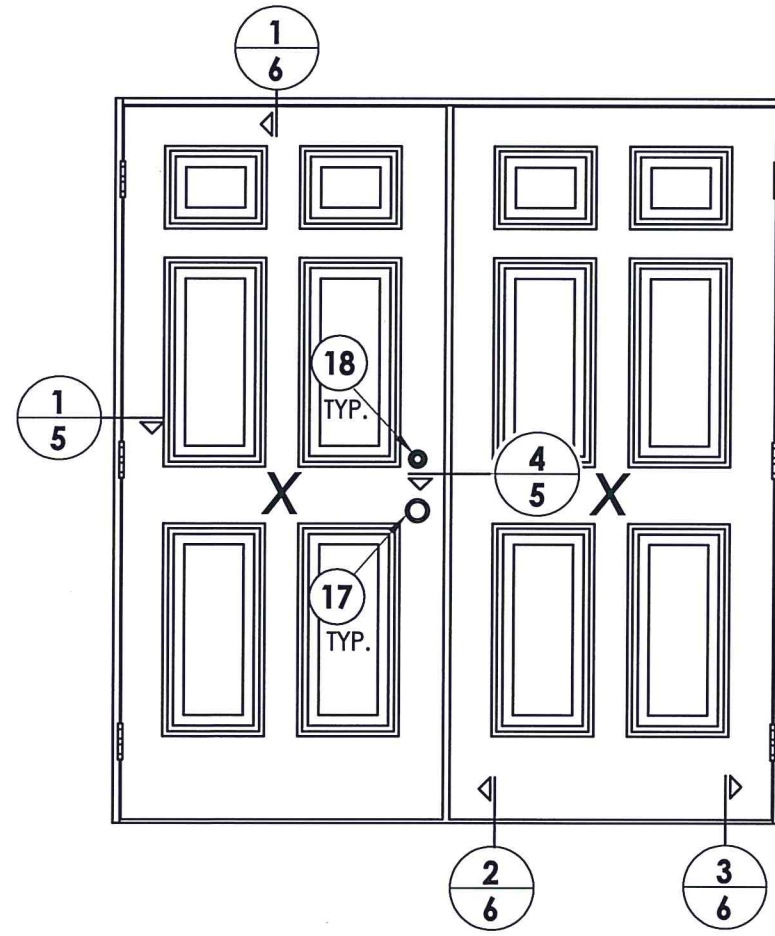
PRODUCT: STEVES AND SONS FIBERGLASS DOOR

PART OR ASSEMBLY: SIDELITE PANEL & GLAZING DETAILS

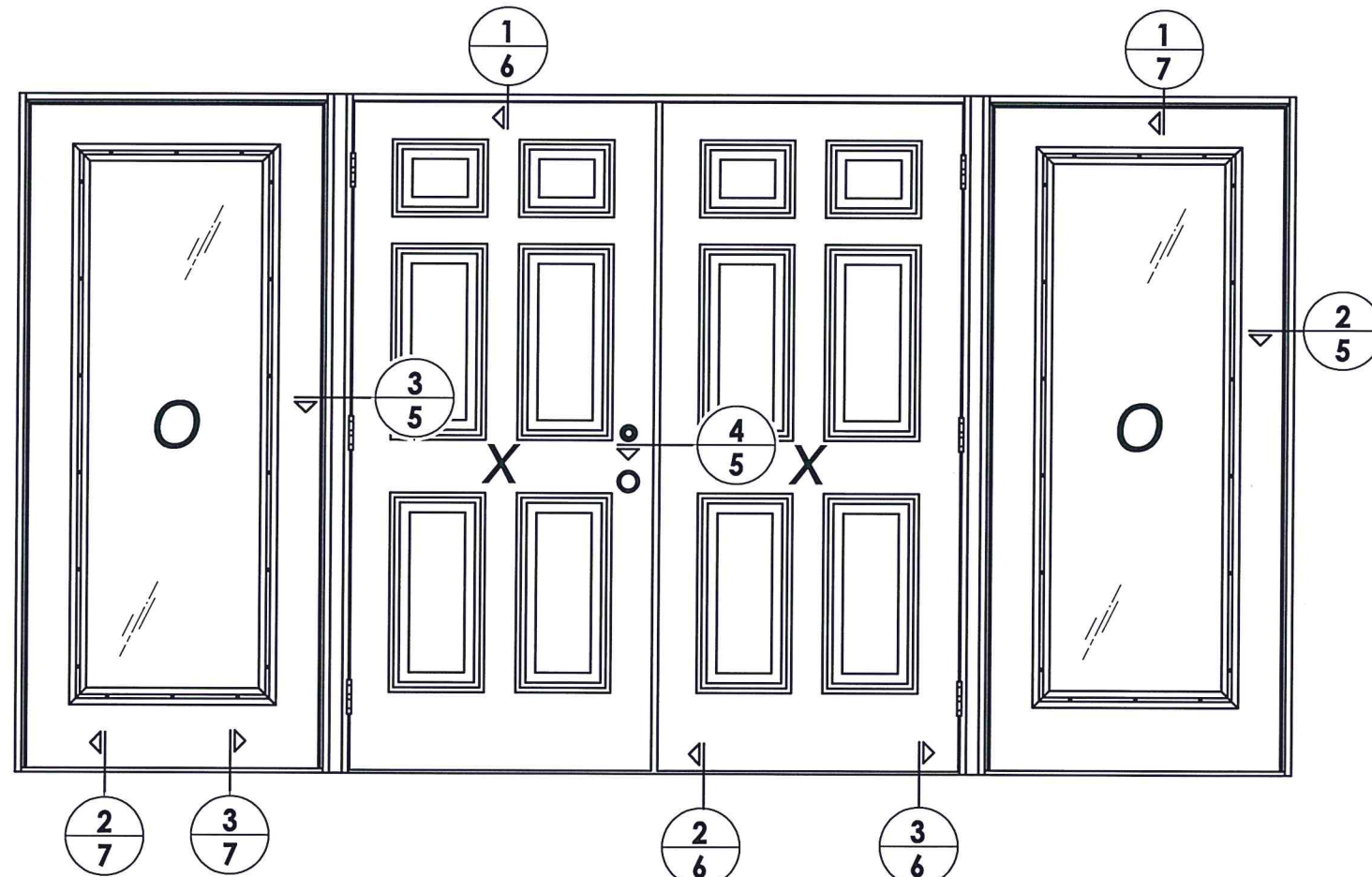
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1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4085  
 SHEET 3 OF 11



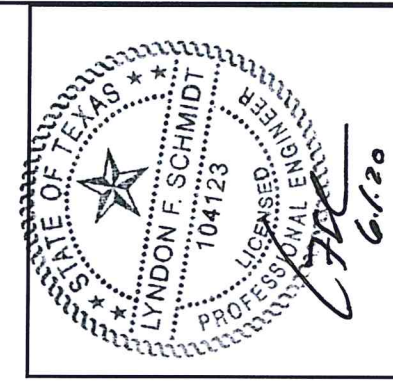


ELEVATION (XX)



ELEVATION (OXXO)

HARDWARE CHART		
MANUFACTURER	MODEL	ITEM #
KWIKSET	LOCK: 200	17
	DEADBOLT: 600	18



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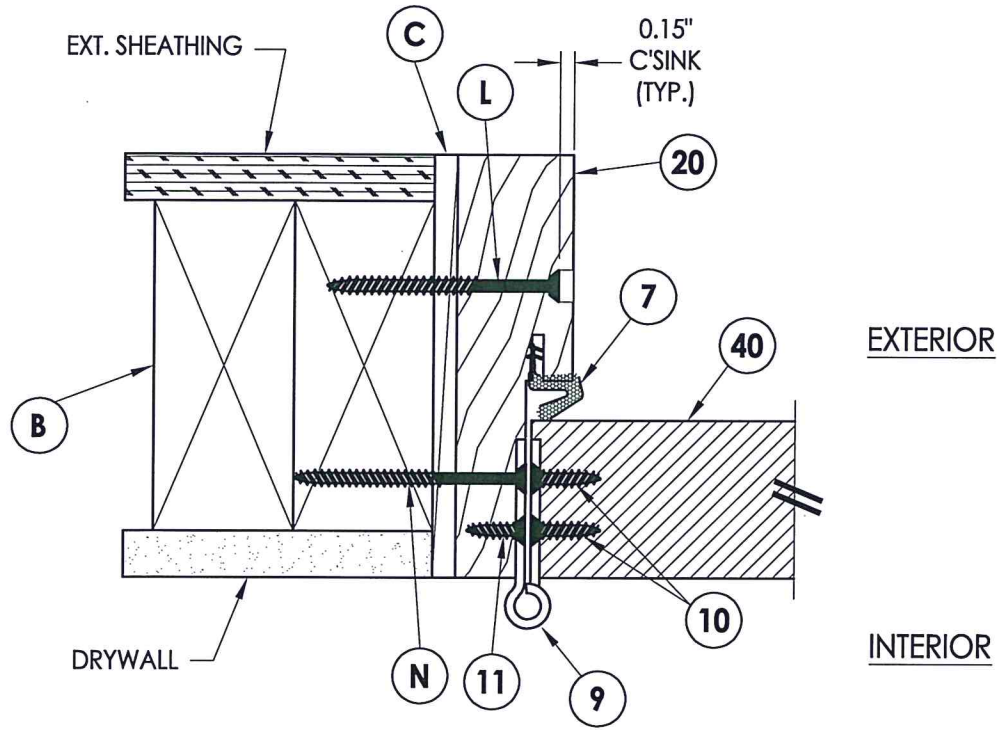
PRODUCT: STEVES AND SONS  
 FIBERGLASS DOOR

PART OR ASSEMBLY:  
 ELEVATIONS

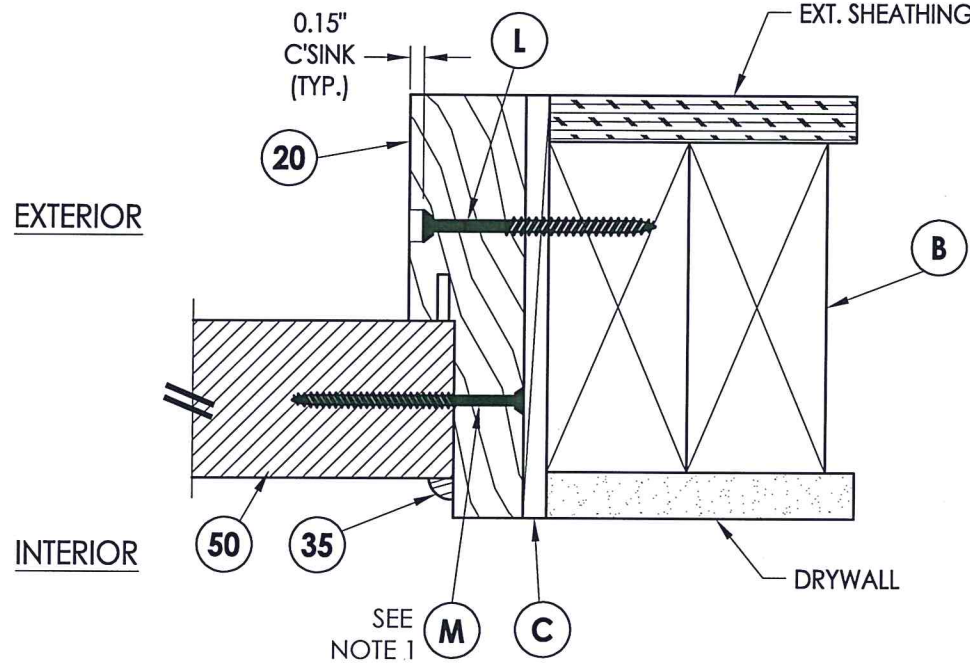
NO.	DATE	REVISIONS
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1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4085  
 SHEET 4 OF 11

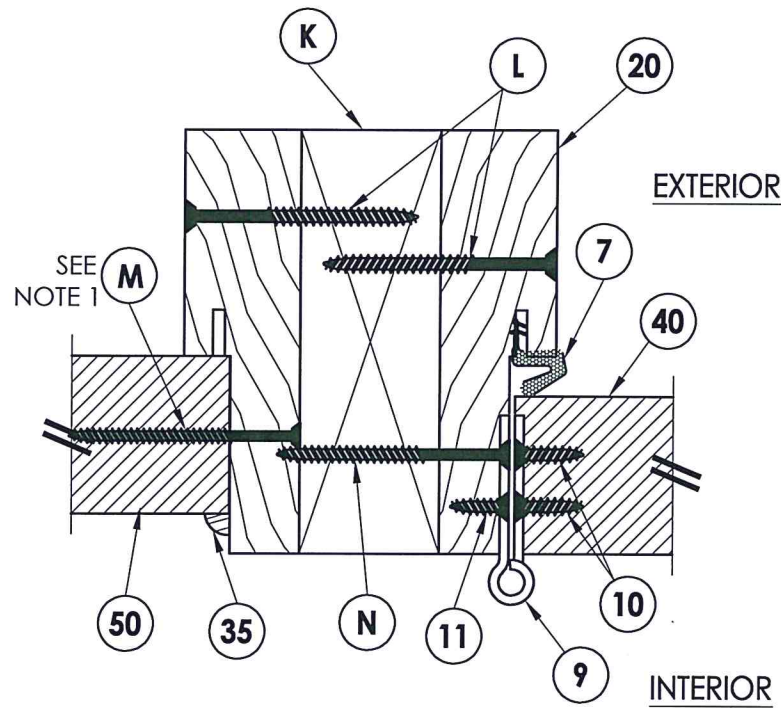




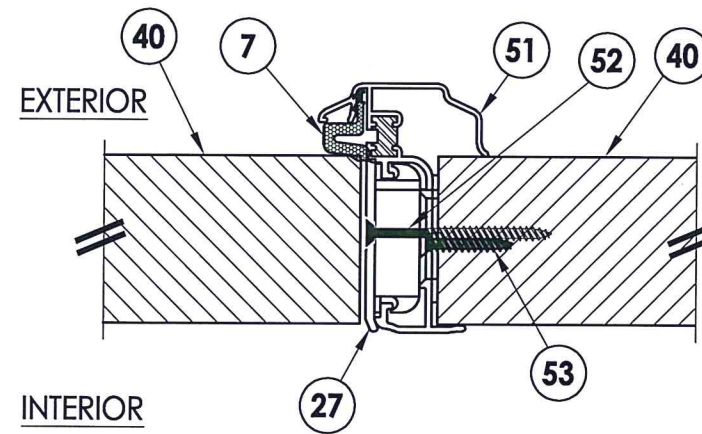
**1** **HORIZONTAL CROSS SECTION**  
**5** Inswing shown - outswing also approved



**2** **HORIZONTAL CROSS SECTION**  
**5** Inswing shown - outswing also approved

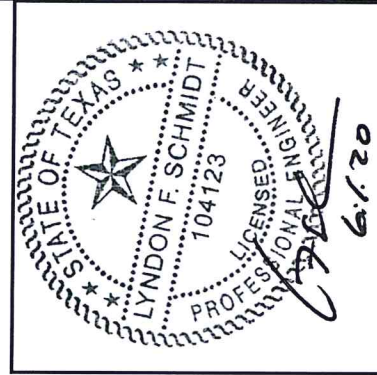


**3** **HORIZONTAL CROSS SECTION**  
**5** Inswing shown - outswing also approved



**4** **HORIZONTAL CROSS SECTION**  
**5** Inswing shown - outswing also approved

NOTE:  
 1. Sidelite ass'y fasteners located 6" from each end and 6 more screws equally spaced between (8 screws total per jamb).



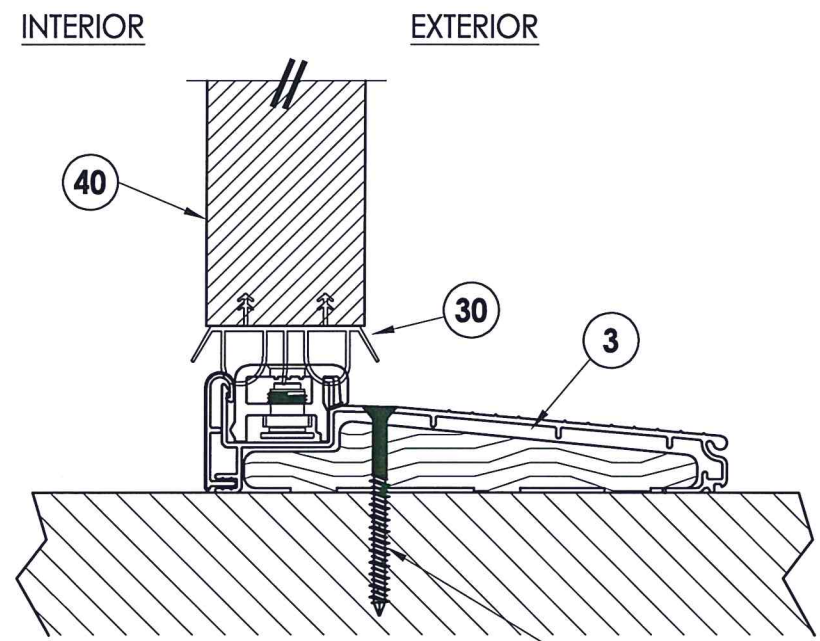
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PRODUCT: STEVES AND SONS  
 FIBERGLASS DOOR  
 PART OR ASSEMBLY:  
 HORIZONTAL CROSS SECTIONS

NO.	DATE	REVISIONS
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1	7/21/15	Manuf./Product Name Change

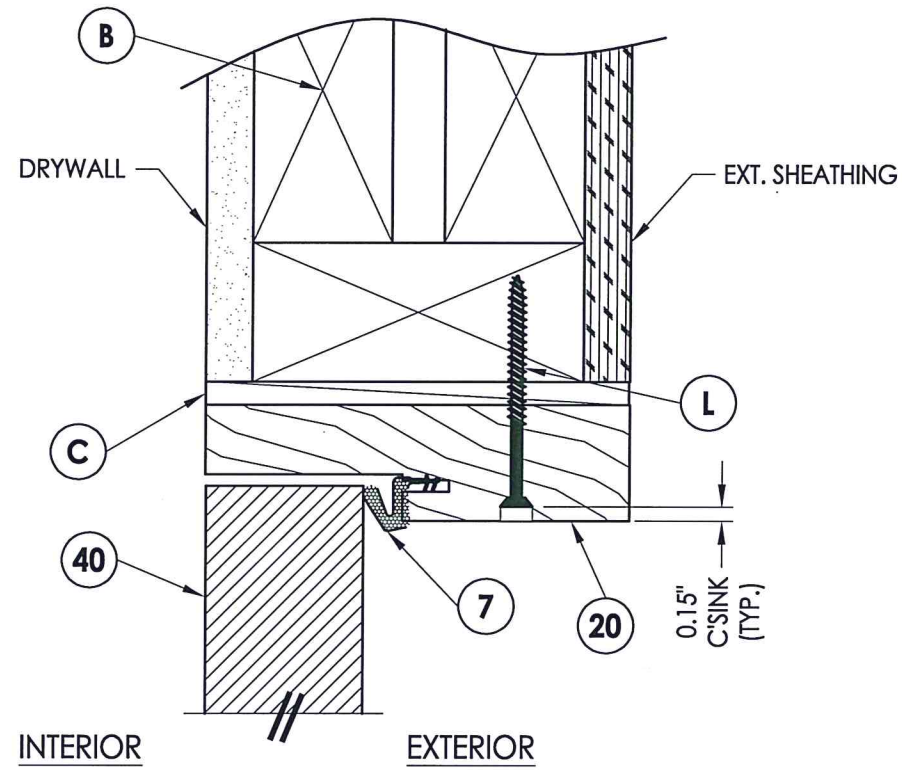
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 DRAWING NO.: TX-4085  
 SHEET 5 OF 11



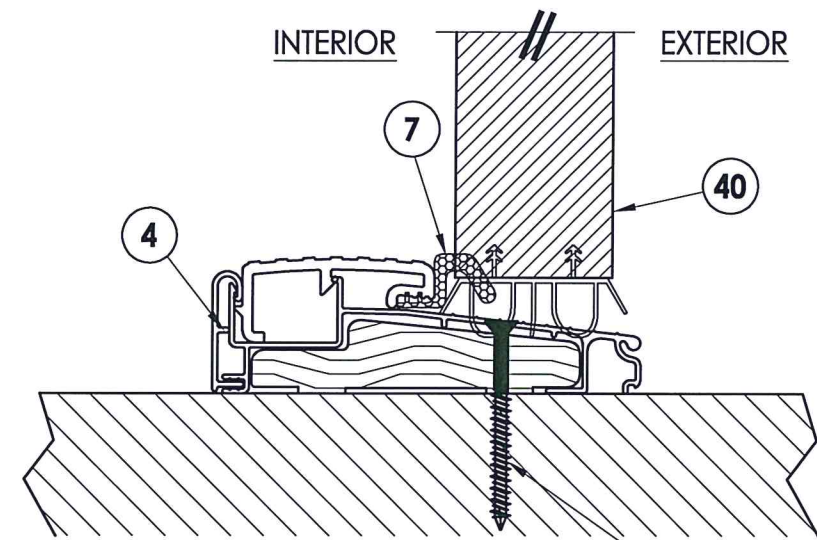


**J** WOOD  
**P** CONCRETE

**2 VERTICAL CROSS SECTION**  
6 Inswing configuration

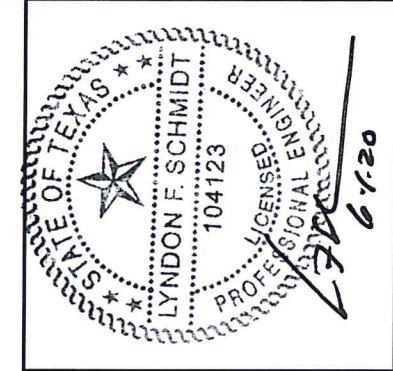


**1 VERTICAL CROSS SECTION**  
6 Inswing shown - outswing also approved



**J** WOOD  
**P** CONCRETE

**3 VERTICAL CROSS SECTION**  
6 Outswing configuration



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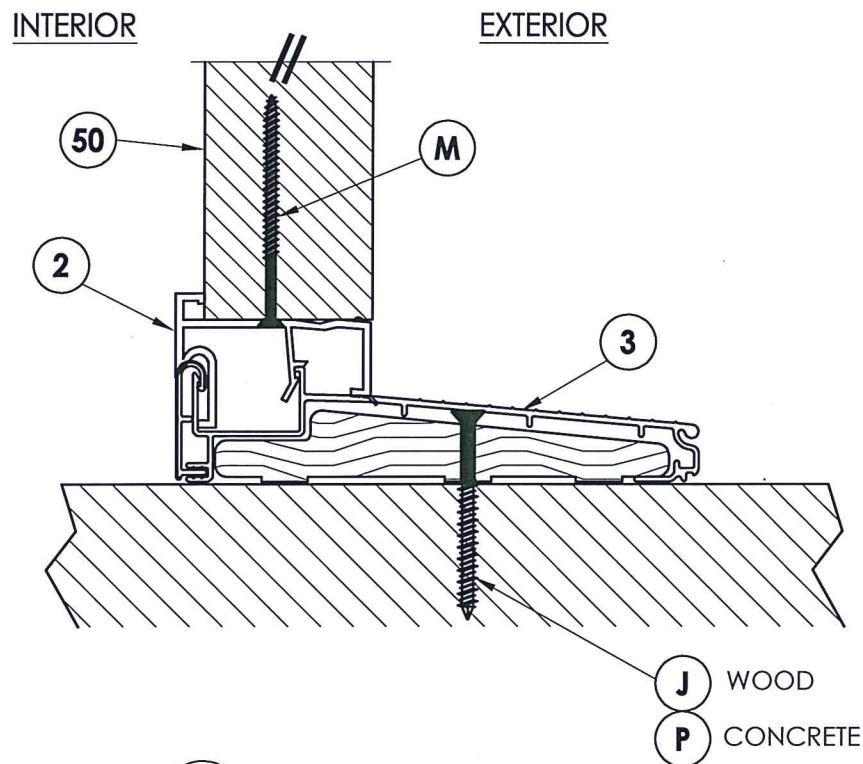
TEXAS BOARD OF PROFESSIONAL ENGINEERS  
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVES AND SONS FIBERGLASS DOOR  
PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

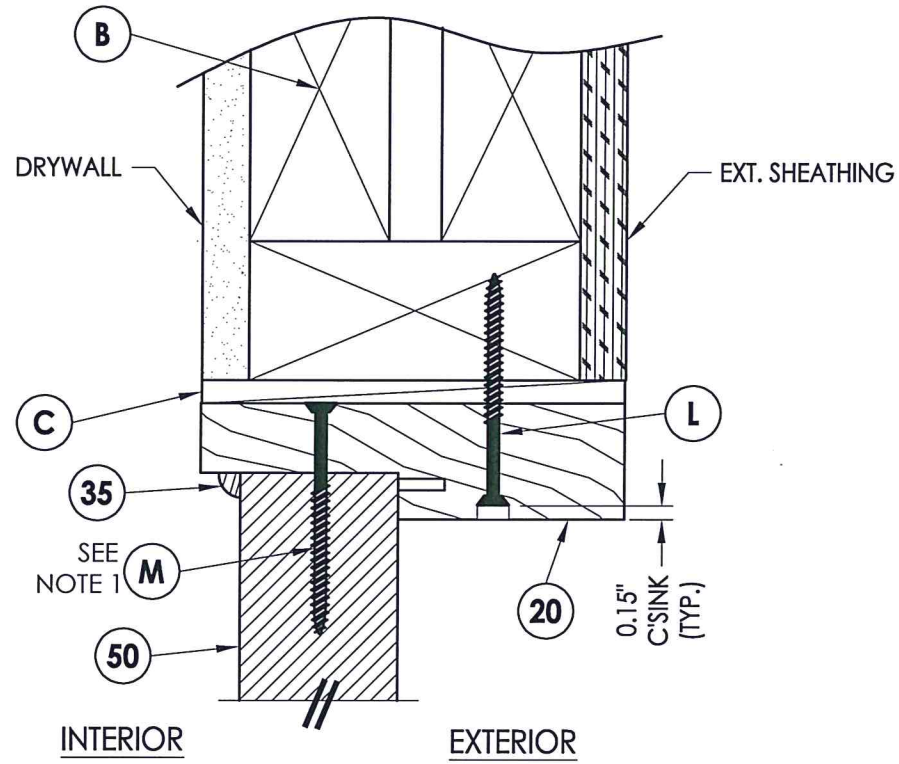
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2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4085  
SHEET 6 OF 11

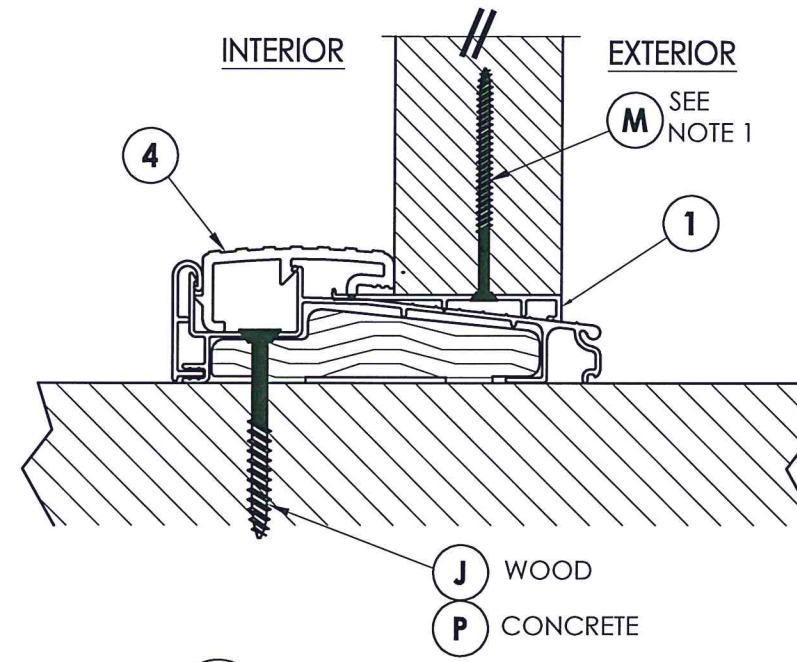




**2** VERTICAL CROSS SECTION  
**7** Inswing configuration



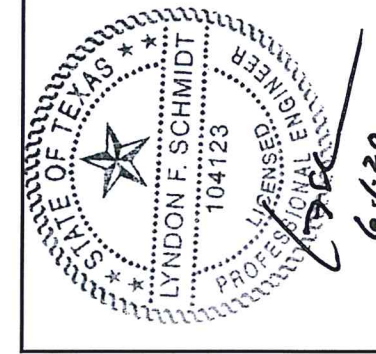
**1** VERTICAL CROSS SECTION  
**7** Inswing shown - outswing also approved



**3** VERTICAL CROSS SECTION  
**7** Outswing configuration

**NOTE:**

1. Screws thru head and sill jamb located 3" from each end and on center line.



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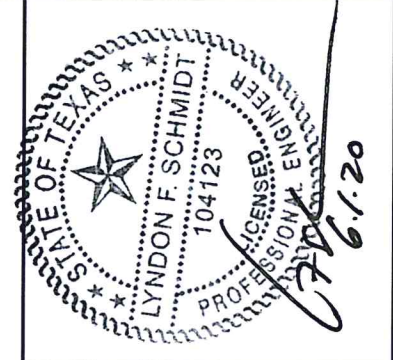
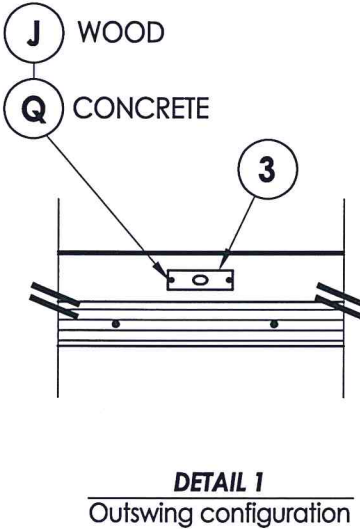
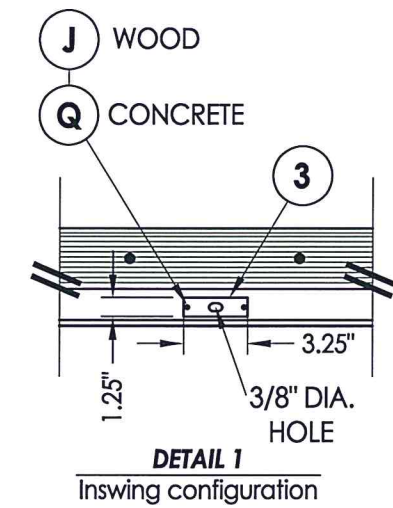
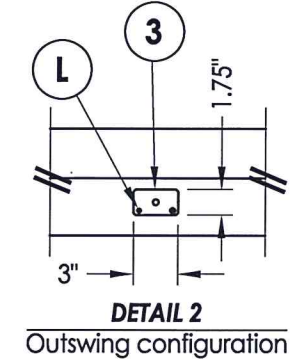
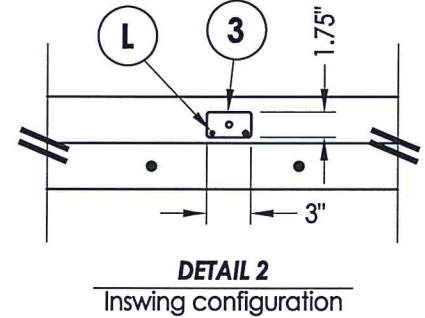
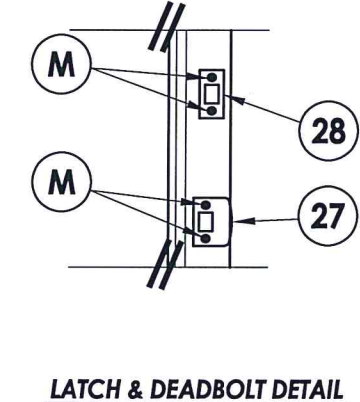
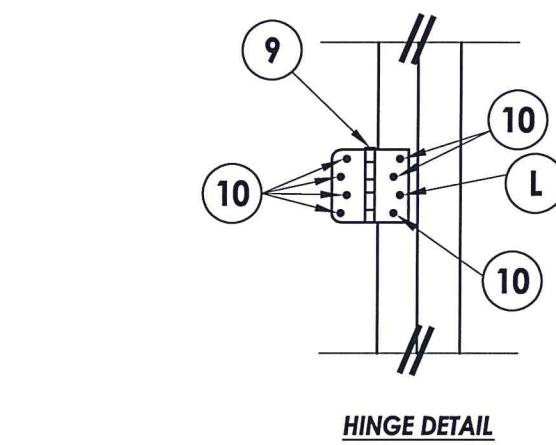
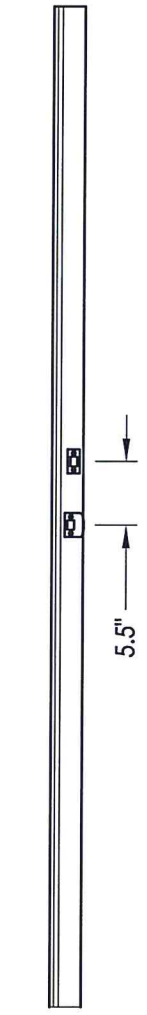
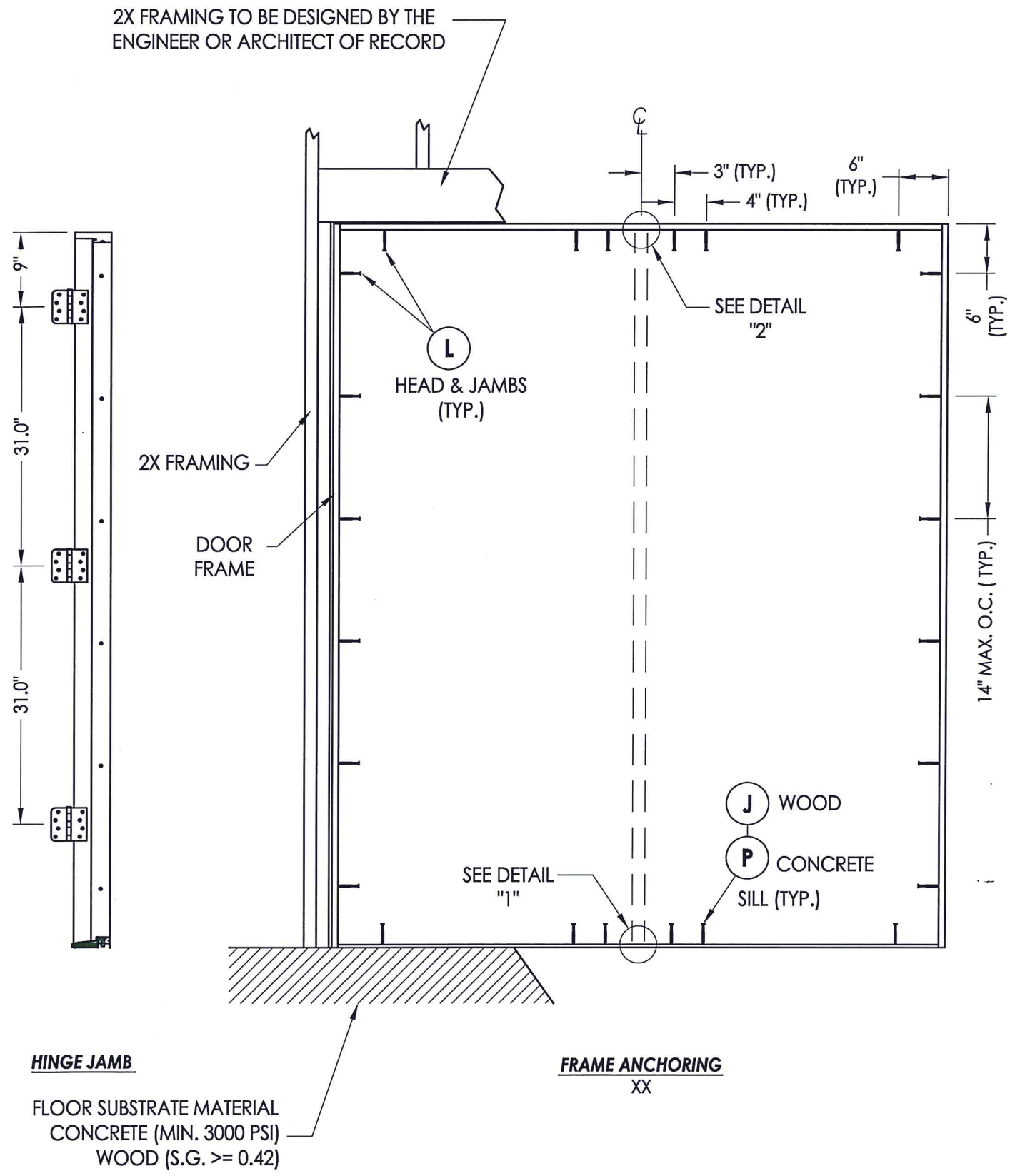
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 Phone No.: 813.659.9197  
 TEXAS BOARD OF PROFESSIONAL ENGINEERS  
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: STEVES AND SONS FIBERGLASS DOOR  
 PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4085  
 SHEET 7 OF 11





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

PRODUCT: STEVES AND SONS FIBERGLASS DOOR

PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS	BY
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME	LFS
1	7/21/15	Manuf./Product Name Change	LFS

DATE: 04/13/10

SCALE: N.T.S.

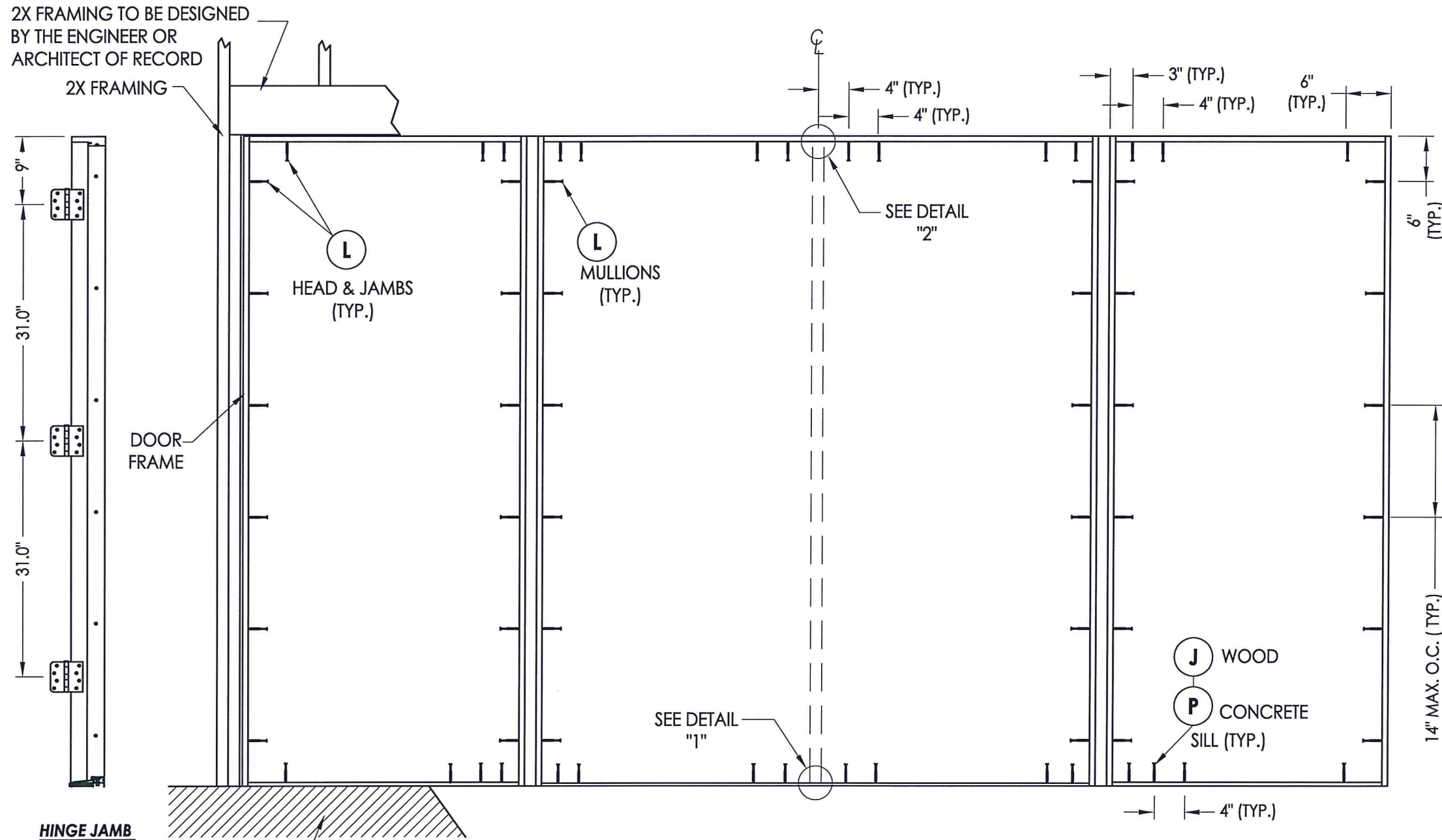
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CHK. BY: LFS

DRAWING NO.: TX-4085

SHEET 8 OF 11

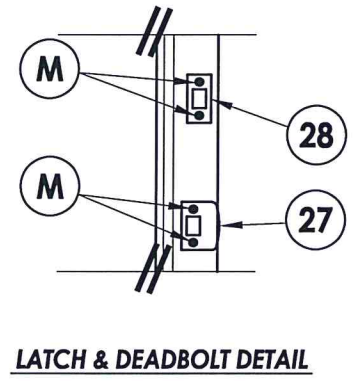




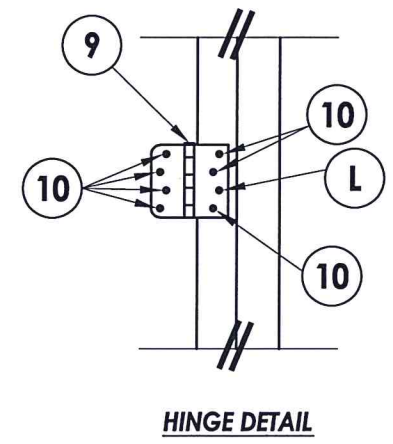
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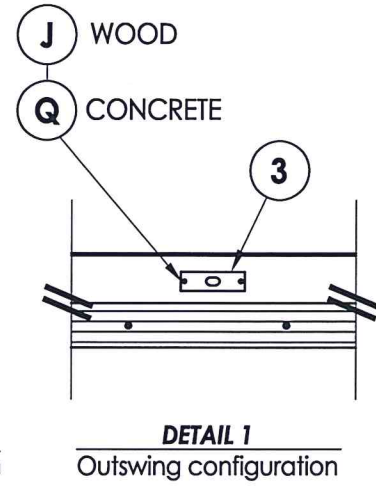
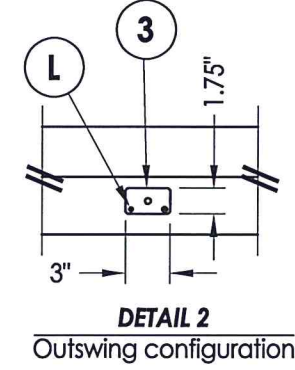
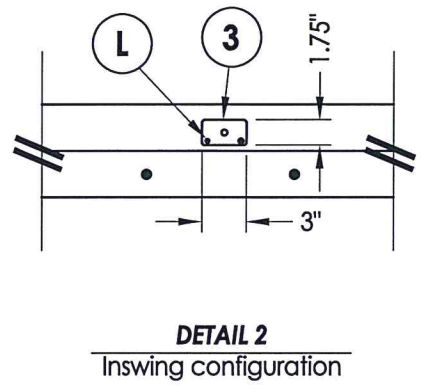
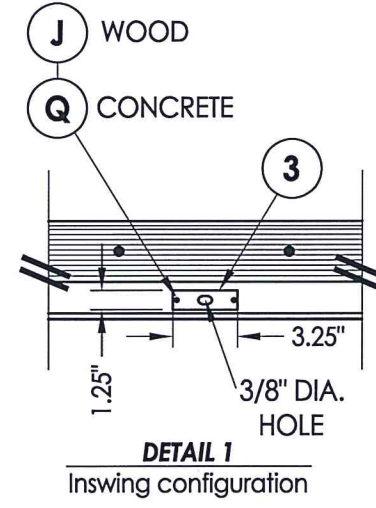


**ASTRAGAL**



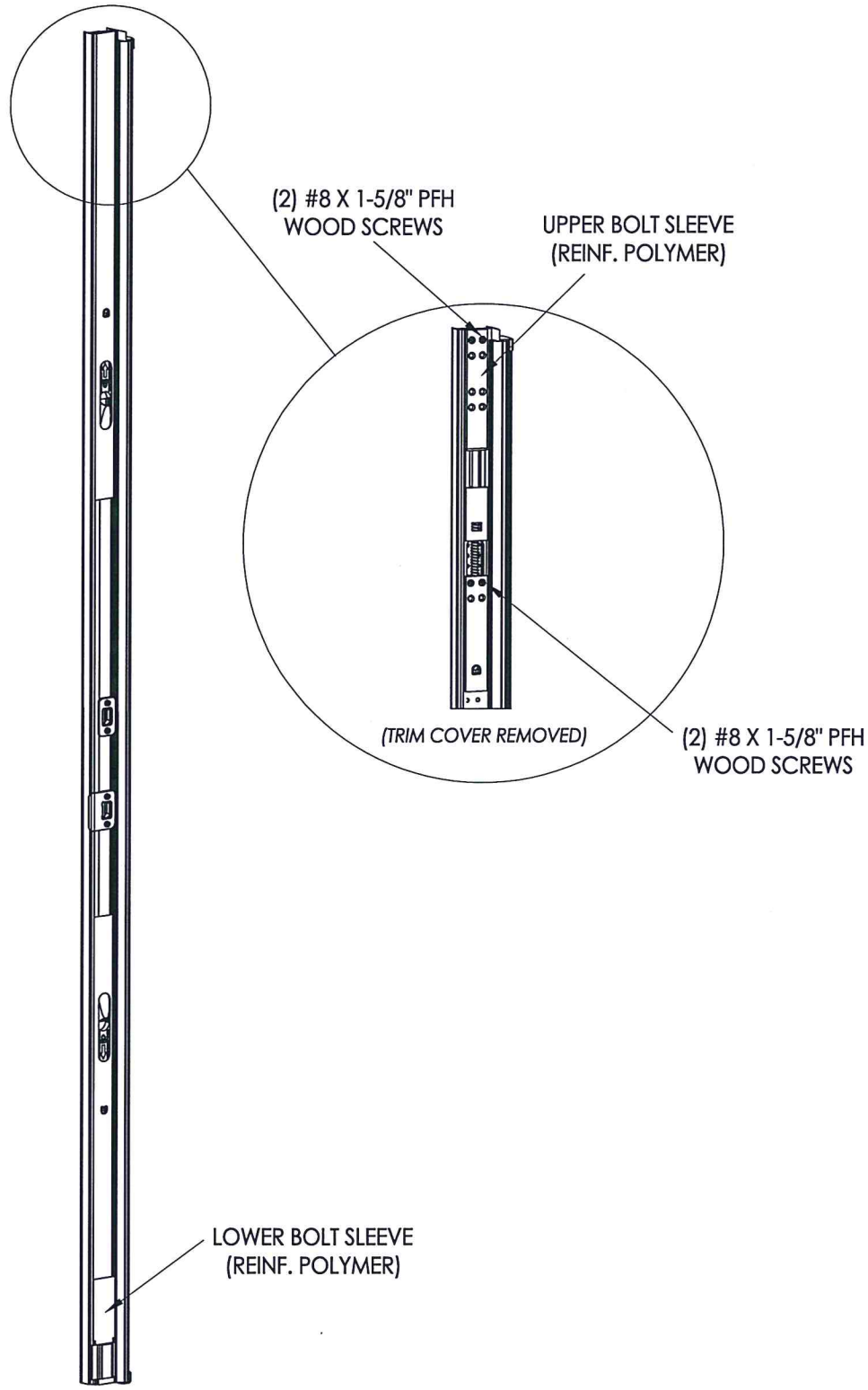
**FRAME ANCHORING OXXO**

FLOOR SUBSTRATE MATERIAL  
CONCRETE (MIN. 3000 PSI)  
WOOD (S.G. >= 0.42)

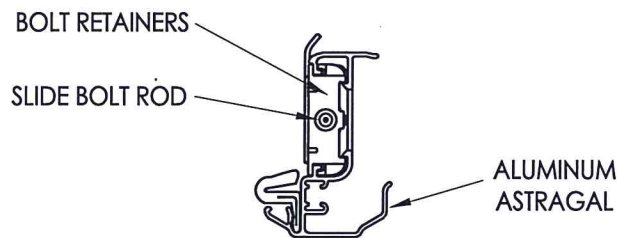
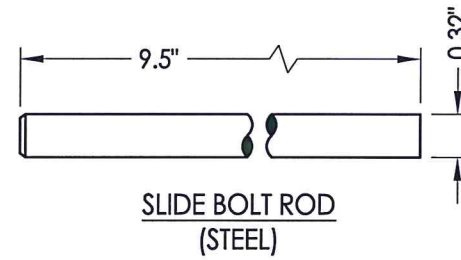
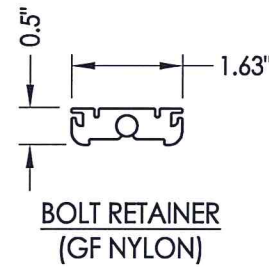
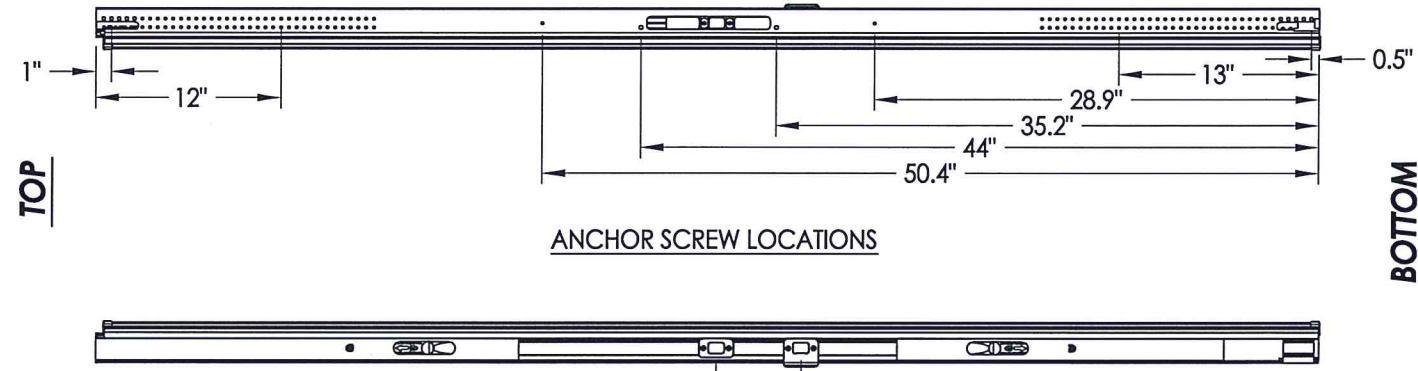


PRODUCT:		STEVES AND SONS FIBERGLASS DOOR	
PART OR ASSEMBLY:		FRAME ANCHORING	
NO.	DATE	BY	REVISIONS
2	5/28/20	LFS	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME Manuf./Product Name Change
1	7/21/15	LFS	
DATE: 04/13/10			
SCALE: N.T.S.			
DWG. BY: JK			
CHK. BY: LFS			
DRAWING NO.: TX-4085			
SHEET 9 OF 11			

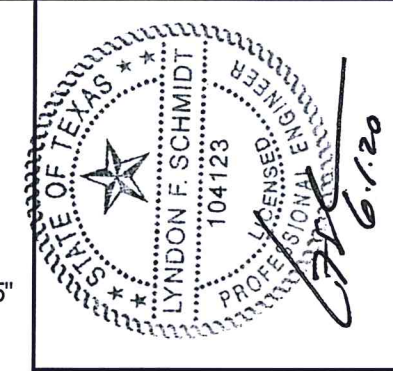
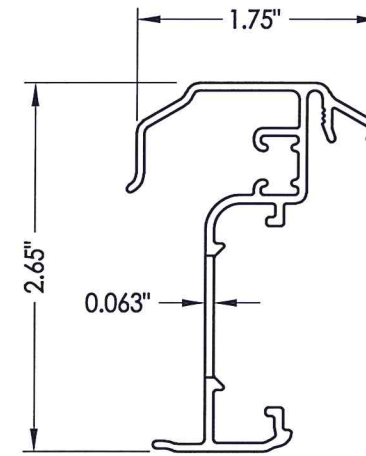




**ULTIMATE HURRICANE ASTRAGAL**



**ALUMINUM ASTRAGAL ASSEMBLY**



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: STEVES AND SONS STEEL DOOR

PART OR ASSEMBLY: ENDURA ASTRAGAL DETAILS

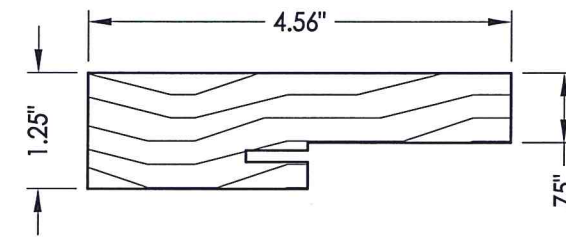
NO.	DATE	Manuf./Product Name Change	BY
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME	LFS
1	7/21/15	Manuf./Product Name Change	LFS

REVISIONS

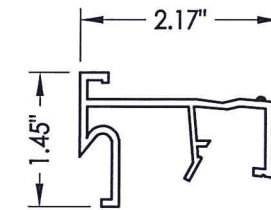
DATE: 04/13/10  
 SCALE: N.T.S.  
 DWG. BY: JK  
 CHK. BY: LFS  
 DRAWING NO.: TX-4085  
 SHEET 10 of 11



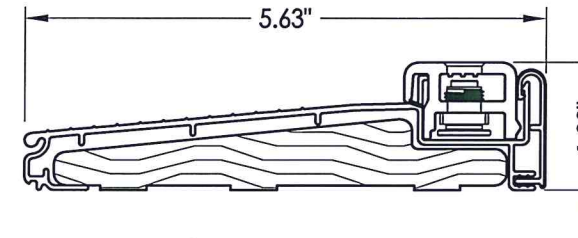
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2X FRAMING (SG >= 0.42)	WOOD
C	1/4" MAX. SHIM SPACE	-
J	#10 X 3" PFH WOOD SCREW	STEEL
K	2X REINFORCEMENT (CLEAR PINE SG >= 0.42)	WOOD
L	#10 X 2-1/2" PFH WOOD SCREW (1.15" MIN. EMBEDMENT)	STEEL
M	#8 X 2-1/2" PFH WOOD SCREW	STEEL
N	#9 X 2-1/2" PFH WOOD SCREW	STEEL
P	1/4" PFH ELCO OR ITW CONCRETE SCREW (1-3/4" MIN. EMB.)	STEEL
Q	3/16" PFH ITW CONCRETE SCREW (1-3/4" MIN. EMB.)	STEEL
1	SIDELITE SPACER -OUTSWING	-
2	SIDELITE SPACER -INSWING	-
3	INSWING THRESHOLD ALUMINUM W/ COMPOSITE SUBSTRATE	ALUM/COMP.
4	OUTSWING THRESHOLD ALUMINUM W/ COMPOSITE SUBSTRATE	ALUM/COMP.
5	#10 X 2-1/2" PFH SCREW	STEEL
7	WEATHERSTRIP BY Q-LON	FOAM
9	4" HINGE	STEEL
10	#9 X 1" PFH WOOD SCREW	STEEL
11	#9 X 5/8" PFH WOOD SCREW	STEEL
20	JAMB FINGER - JOINT - PINE (SG >= 0.42)	WOOD
27	LATCH STRIKE PLATE	STEEL
28	DEADBOLT PLATE	STEEL
30	DOOR SWEEP	PVC
35	QUARTER ROUND	WOOD
40	DOOR PANEL - SEE DOOR PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
50	SIDELITE PANEL - SEE SIDELITE PANEL DETAIL SHEET FOR CONSTRUCTION DETAILS	-
51	ASTRAGAL BY ENDURA	ALUM
52	#8 x 2-1/4" PFH WOOD SCREW	STEEL
53	#8 x 1" PFH WOOD SCREW	STEEL
56	ASTRAGAL STRIKE PLATE	STEEL



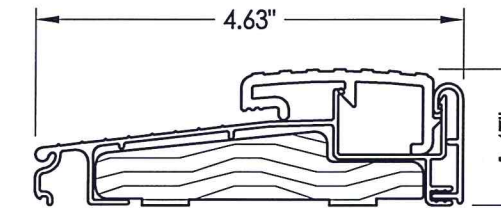
20 HEAD & SIDE Jamb



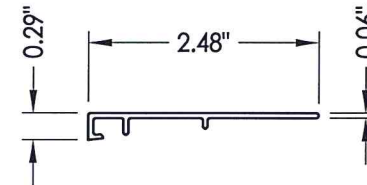
2 SIDELITE SPACER Inswing



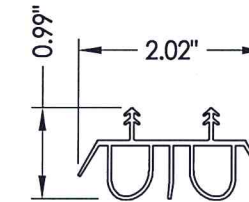
3 INSWING THRESHOLD



4 OUTSWING THRESHOLD



1 SIDELITE SPACER Outswing



30 SWEEP



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

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Phone No.: 813.659.9197

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

PRODUCT: STEVES AND SONS FIBERGLASS DOOR  
PART OR ASSEMBLY: COMPONENTS AND B.O.M.

NO.	DATE	REVISIONS
2	5/28/20	UPDATE TO 2018 IBC/IRC CODE AND REVISE IMPACT LITE FRAME
1	7/21/15	Manuf./Product Name Change

DATE: 04/13/10  
SCALE: N.T.S.  
DWG. BY: JK  
CHK. BY: LFS  
DRAWING NO.: TX-4085  
SHEET 11 OF 11

**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"
	1/4"	1-3/4"	1-1/2"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	4"