



6605 Flotilla Street
City of Commerce
CA 90040

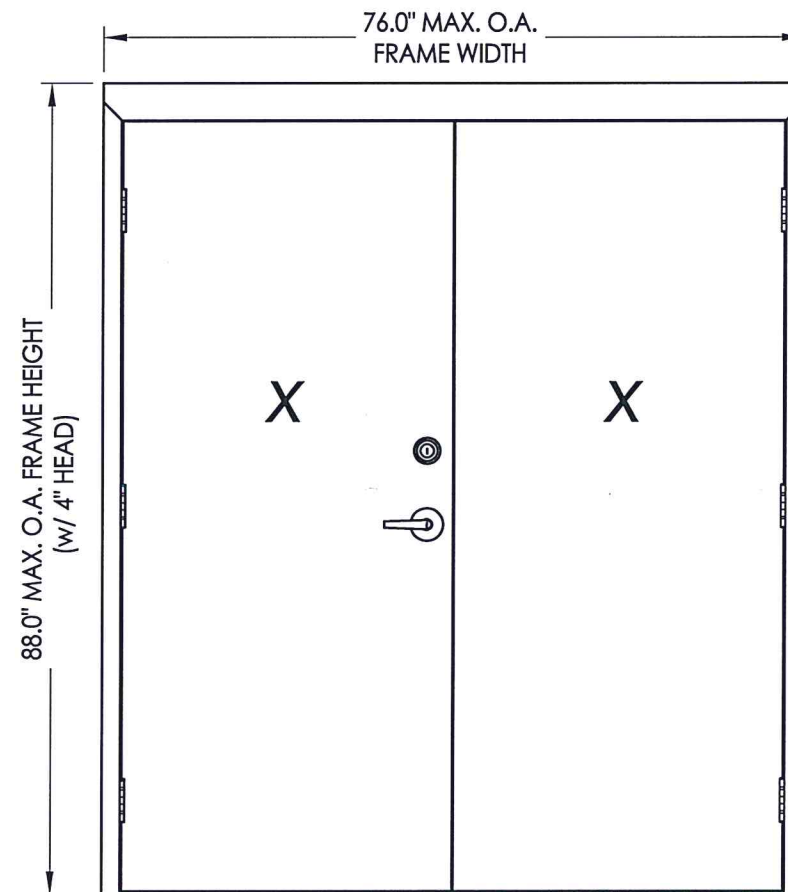


DKS SERIES 1800 STEEL COMMERCIAL DOUBLE DOOR IN SWING / OUT SWING "IMPACT"

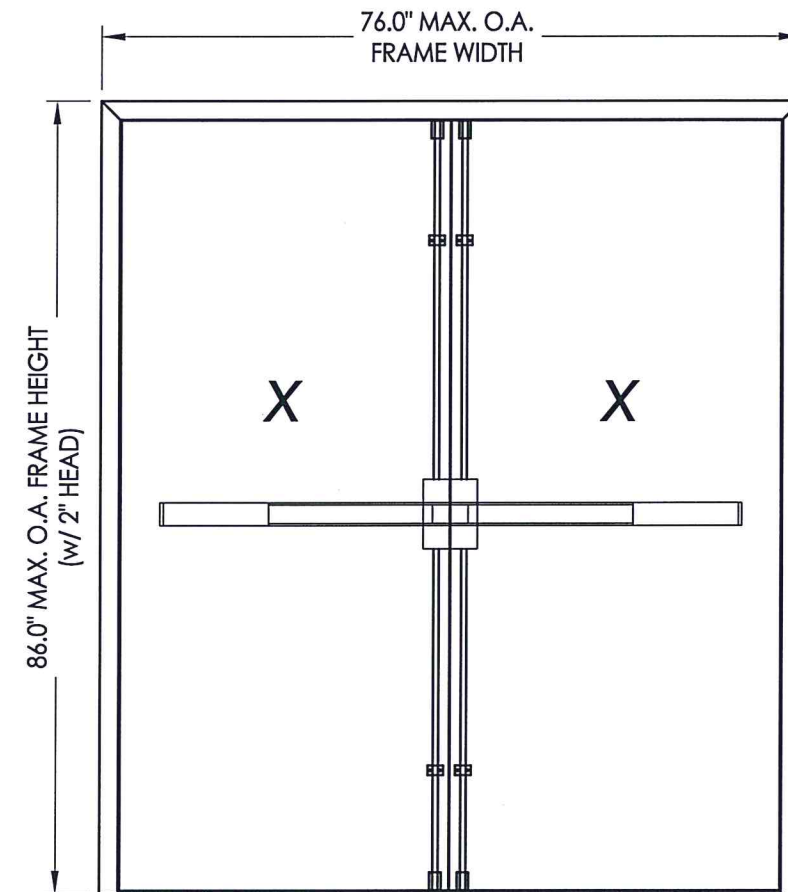
EVALUATED FOR USE IN THE STATE OF TEXAS

The 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, the opaque door does not require impact protection while the sidelites are 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.



161 Latch & Deadbolt
"Pioneer SL/CSL Series" Latch
"T300 Series" Deadbolt



Panic Bar Exit Device w/ Vertical Rods
"7700-V Series"

TABLE OF CONTENTS	
SHEET#	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Door panel details
3	Door panel details
4	Horizontal cross sections
5	Vertical cross sections
6	Frame anchoring
7	Frame anchoring
8	Components
9	Bill of materials and components

MAX FRAME DIMENSION	LOCK TYPE	DESIGN PRESSURE (PSF) INSWING		DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE	POSITIVE	NEGATIVE
76.0" x 88.0"	161 LATCH & DEADBOLT "Pioneer SL/CSL & T300 Series"	+55.0	-55.0	+55.0	-55.0
76.0" x 88.0"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS "7700-V Series"	N/A	N/A	+70.0	-70.0

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

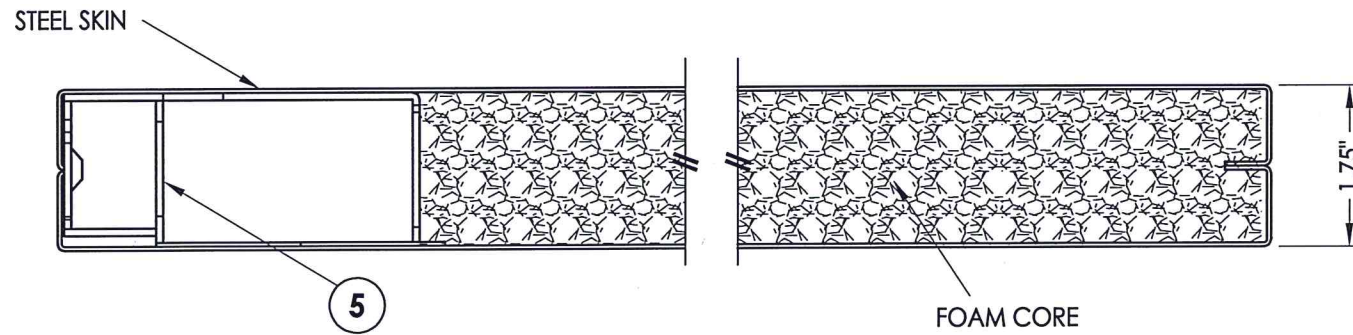
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR

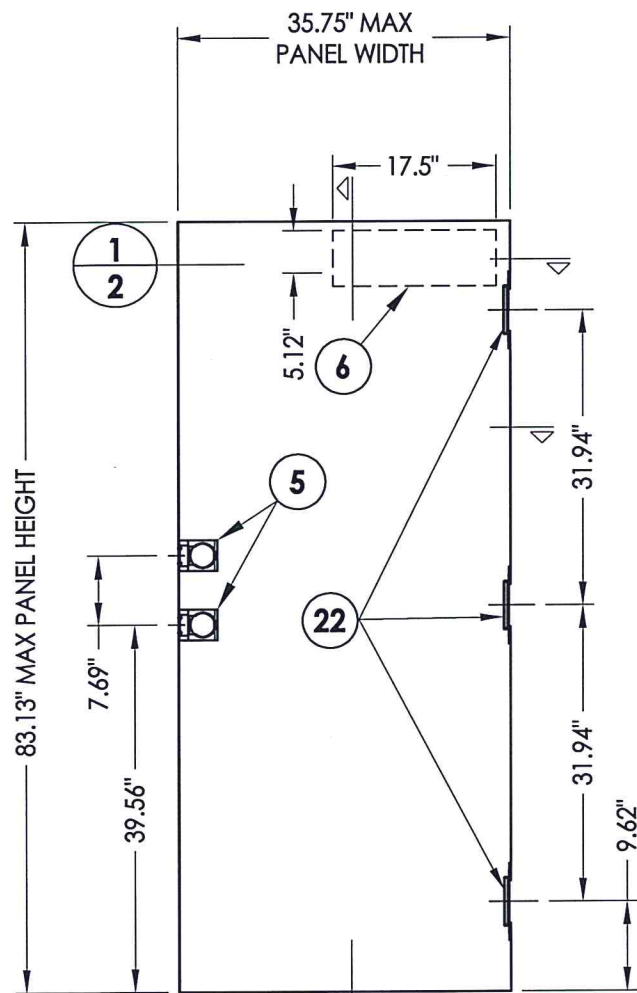
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE

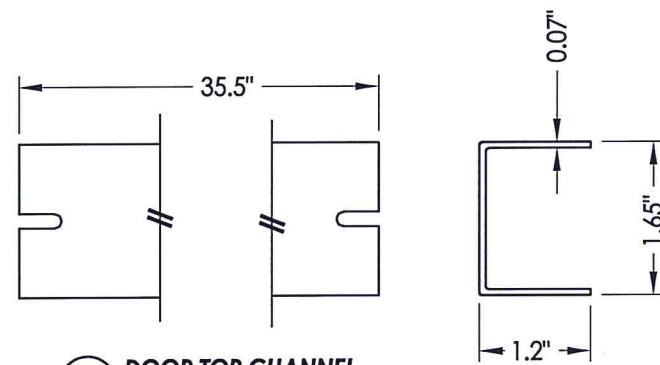
DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 1 OF 9



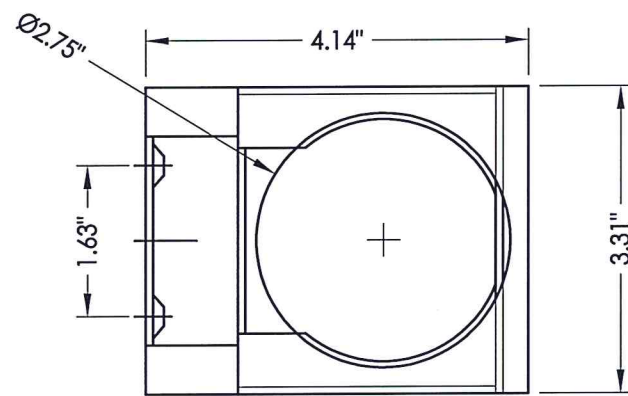
1
2 **HORIZONTAL CROSS SECTION**



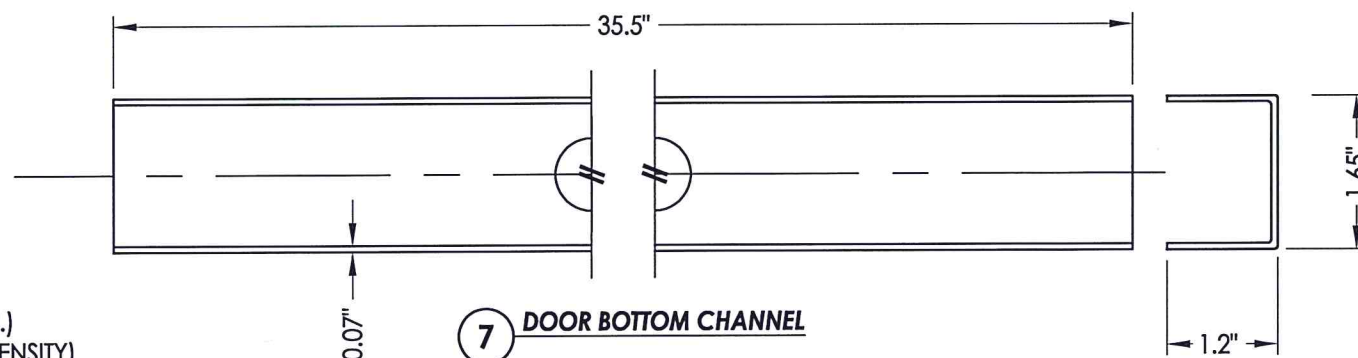
1 **CAL-ROYAL DOOR PANEL**
Active door



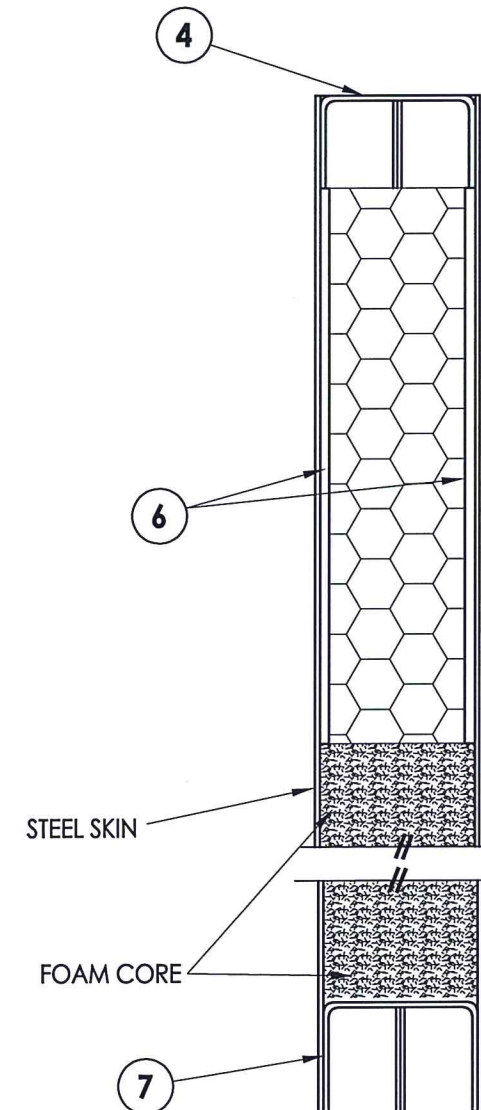
4 **DOOR TOP CHANNEL**



5 **STEEL LOCK BOX REINFORCEMENT**
161 Lock prep only

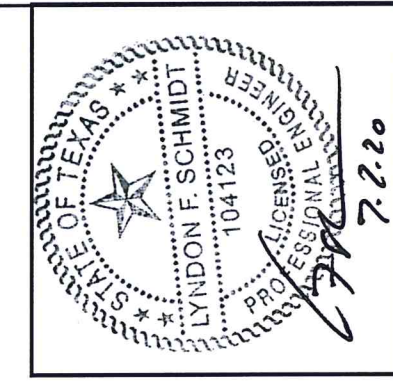


7 **DOOR BOTTOM CHANNEL**



2
2 **VERTICAL CROSS SECTION**

STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.
STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)
CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)



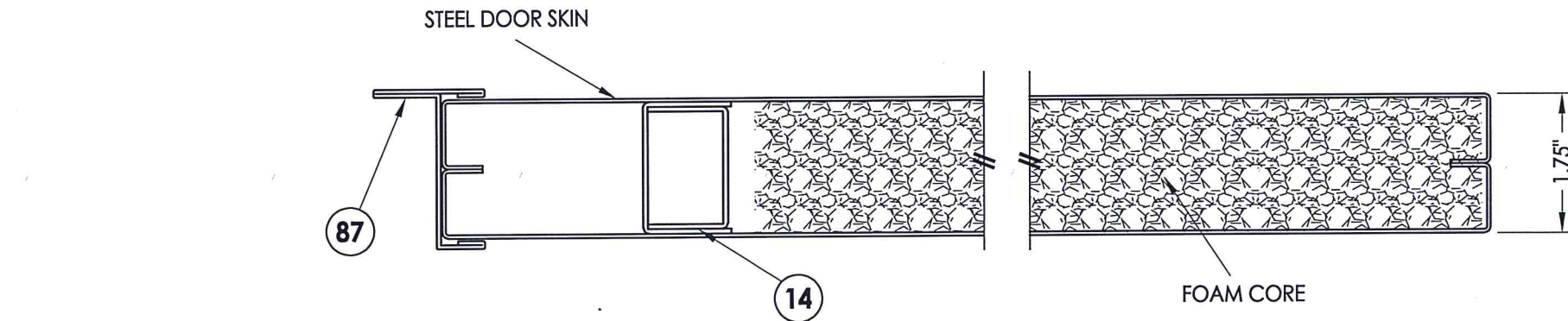
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

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

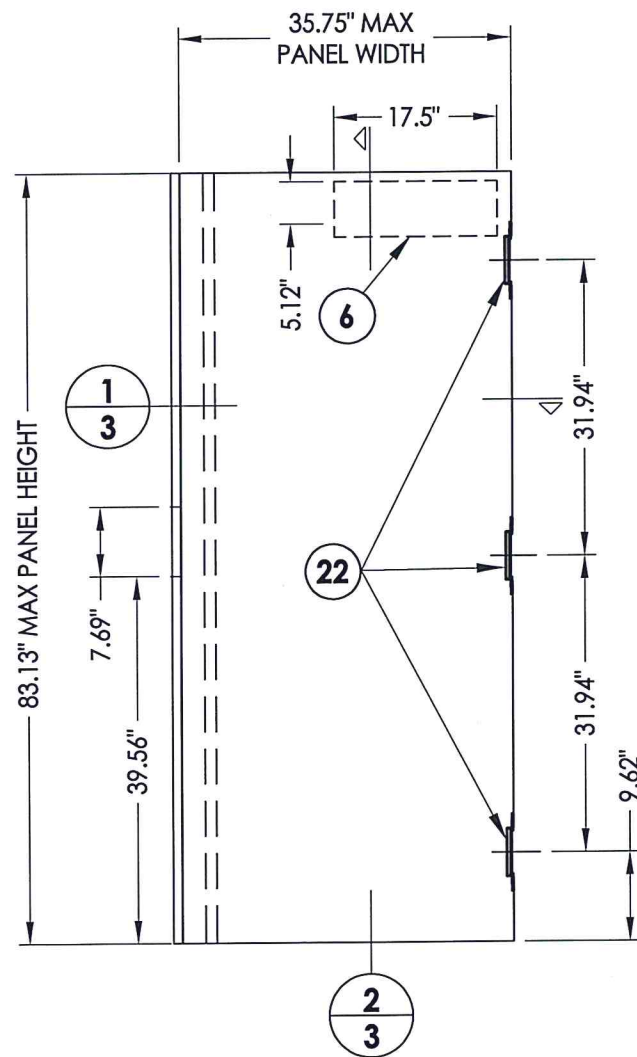
PRODUCT:	CAL-ROYAL
	STEEL COMMERCIAL DOOR
PART OR ASSEMBLY:	DOOR PANEL DETAILS

NO.	DATE	DESCRIPTION	LFS	BY
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE		
REVISIONS				

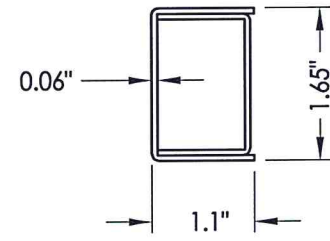
DATE:	10/1/14
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4485
SHEET	2 of 9



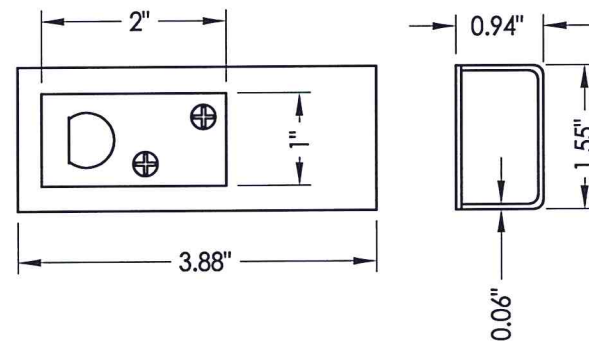
1
3 HORIZONTAL CROSS SECTION



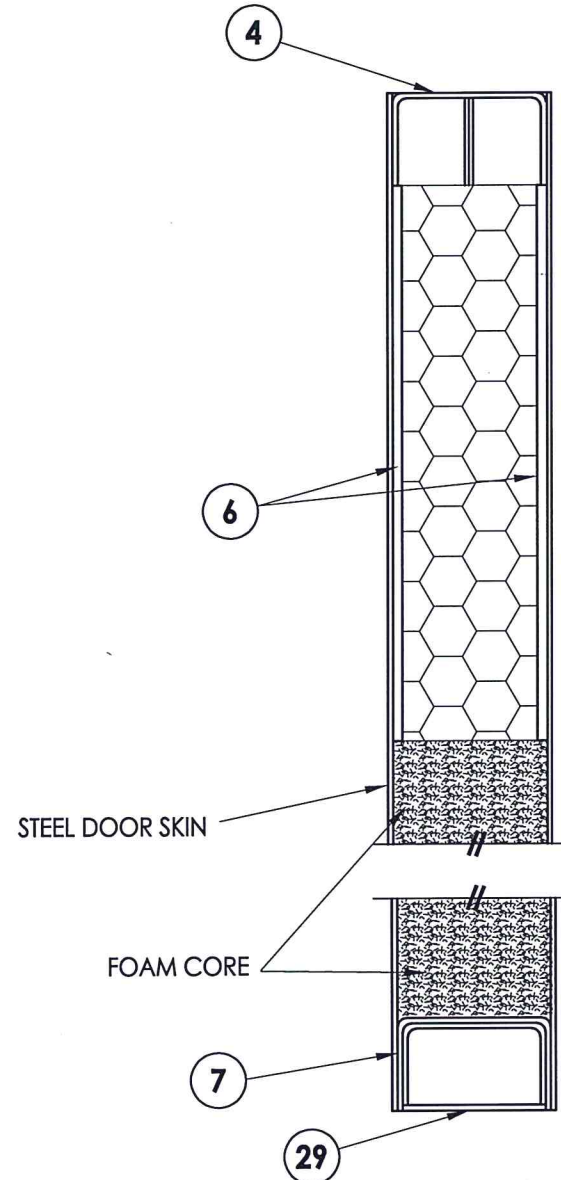
2
3 CAL-ROYAL DOOR PANEL
Inactive Door



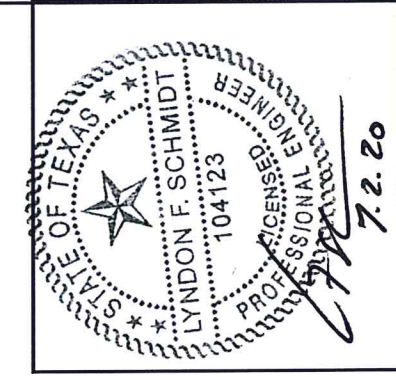
14 STILE REINFORCEMENT



29 DOOR BOTTOM REINFORCEMENT
w/ Strike Plate



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 Vairico FL. 33595
Phone No.: 813.659.9197

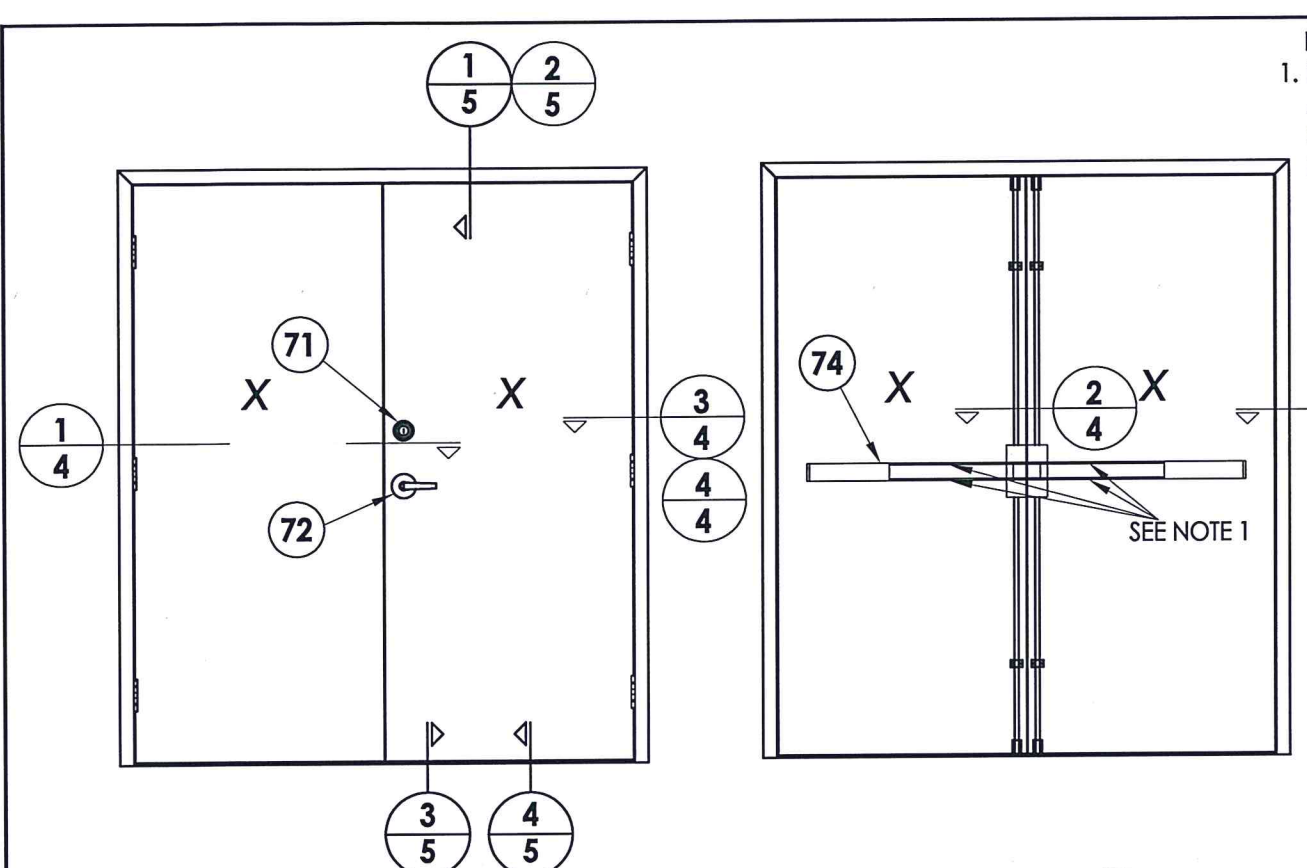
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL
STEEL COMMERCIAL DOOR

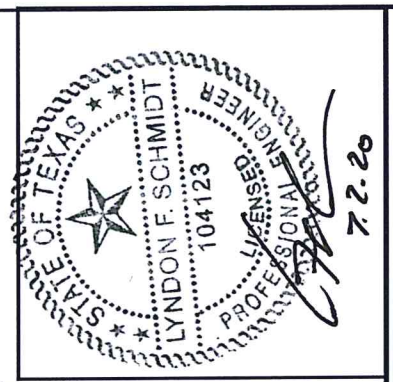
PART OR ASSEMBLY:
DOOR PANEL DETAILS

NO.	DATE	DESCRIPTION	BY
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE	LFS

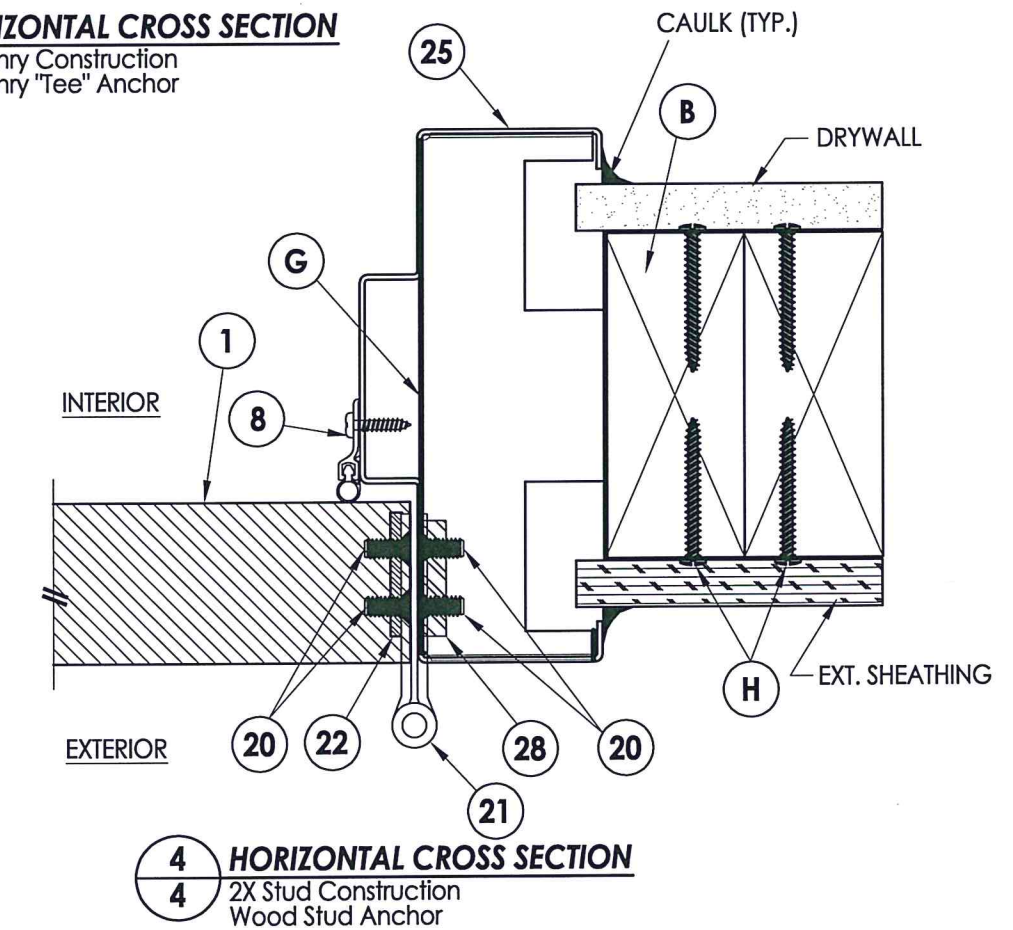
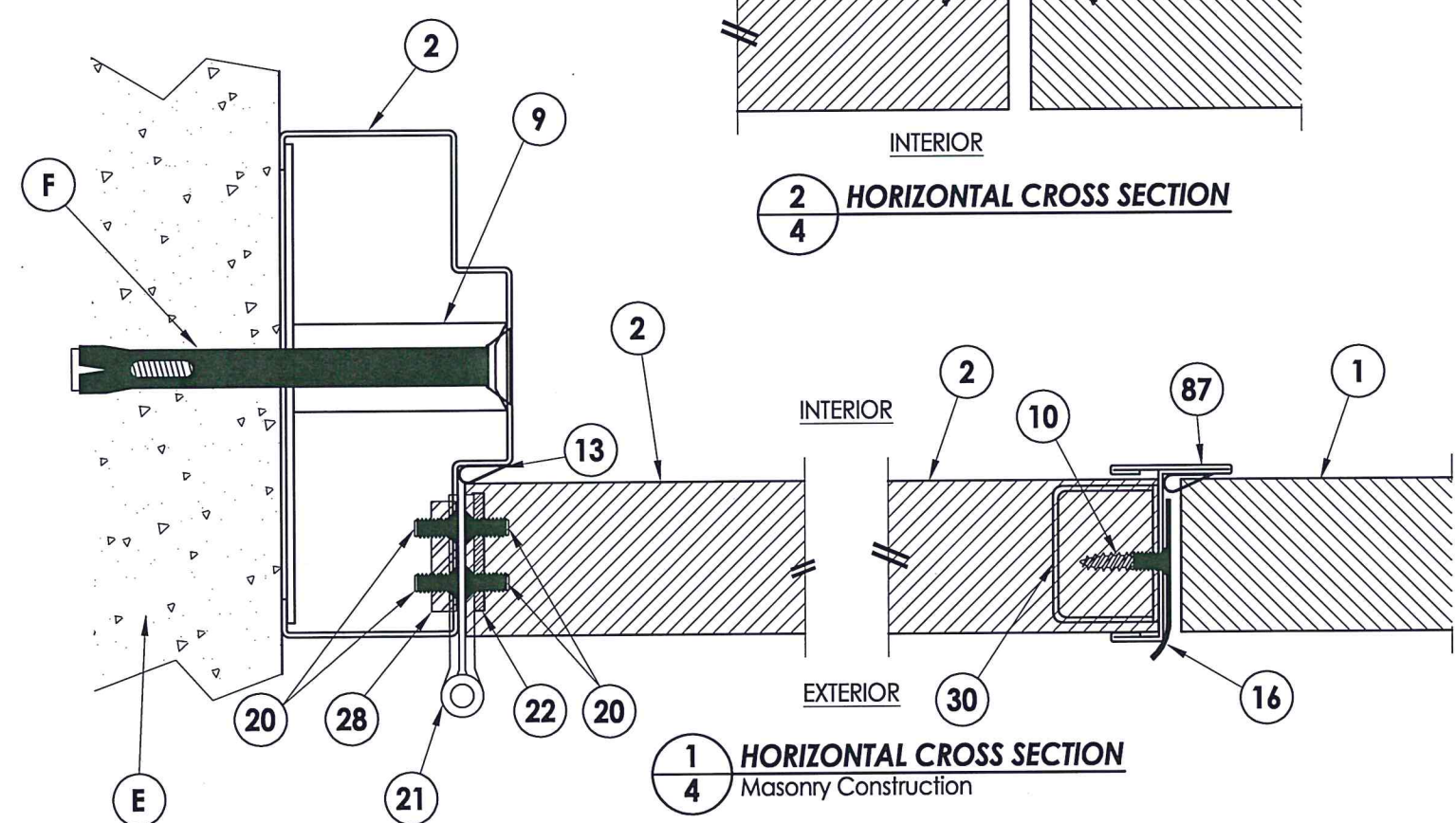
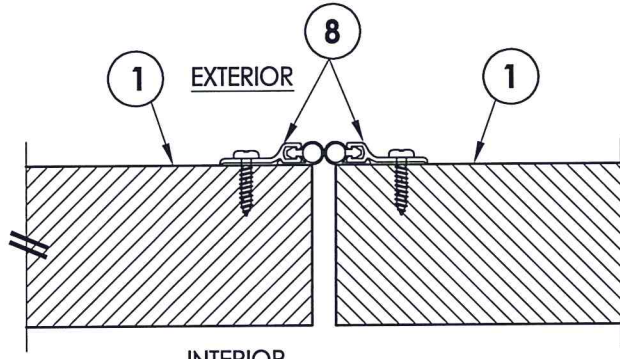
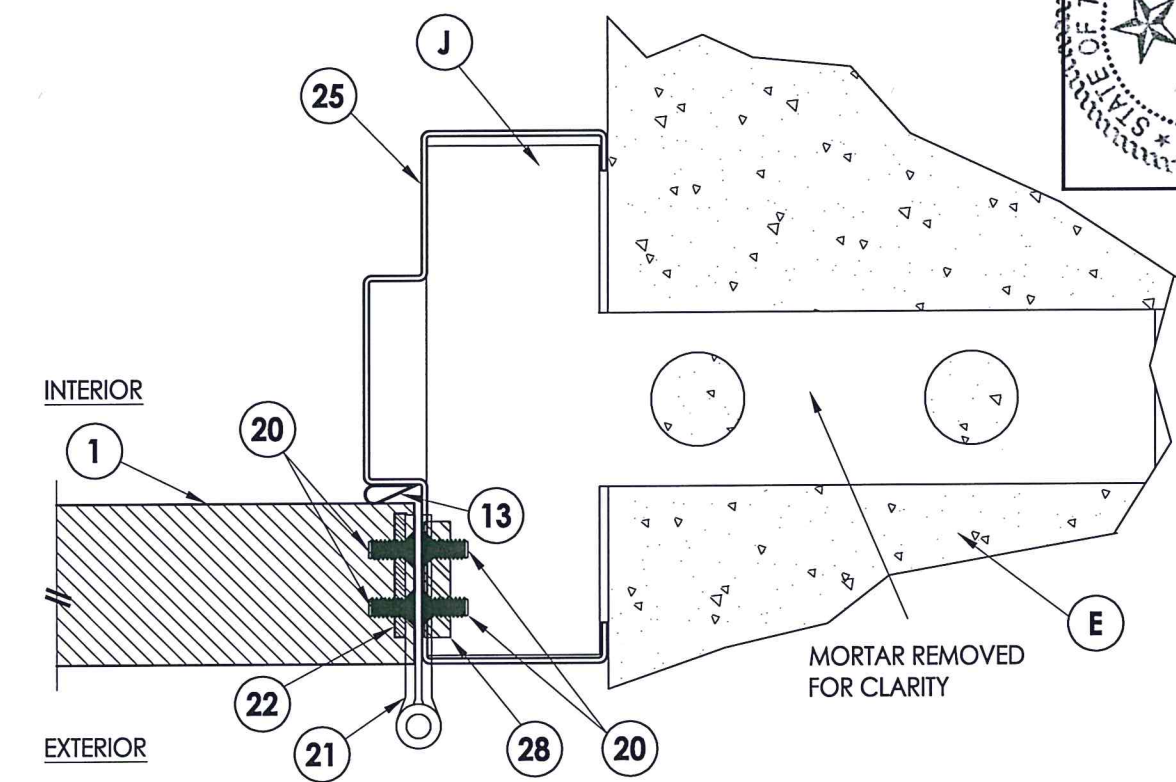
DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 3 OF 9



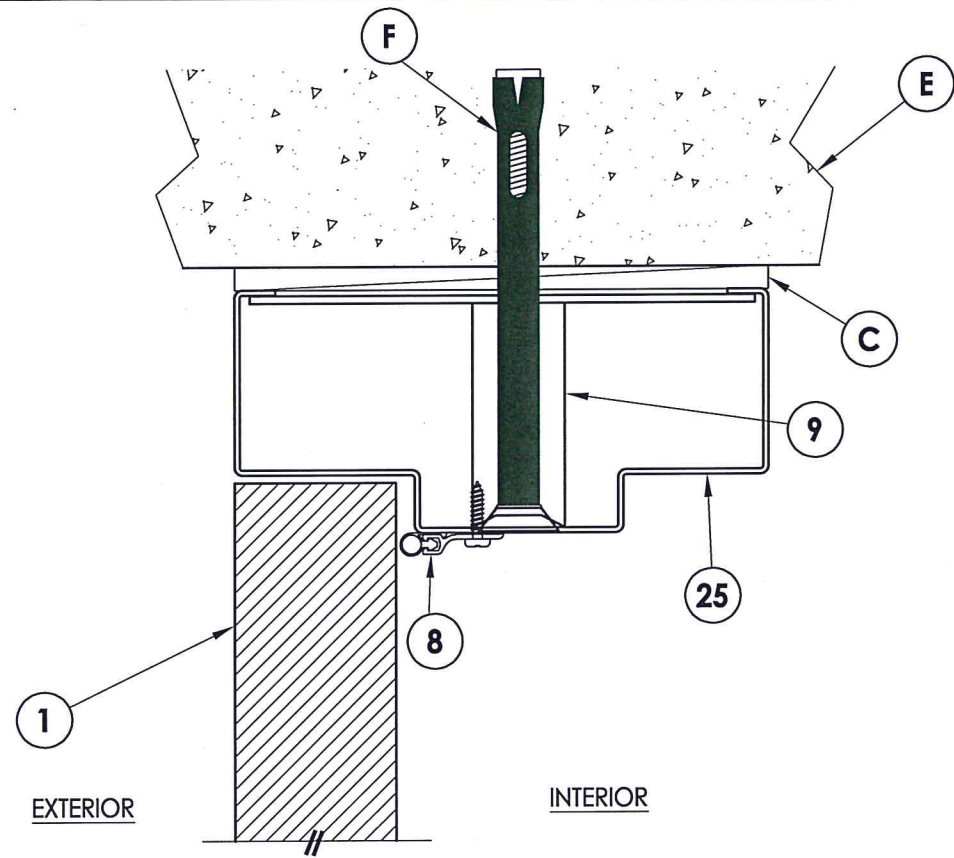
NOTE:
 1. PANIC BAR SET SCREWS (#12-24 x 5/16") MUST BE ACTIVATED TO ACHIEVE IMPACT RATING. LOCATE ONE SCREW AT TOP AND BOTTOM AT CENTER OF EACH PUSH RAIL OR LOCATE ONE SCREW AT EACH END OF EACH BAR.



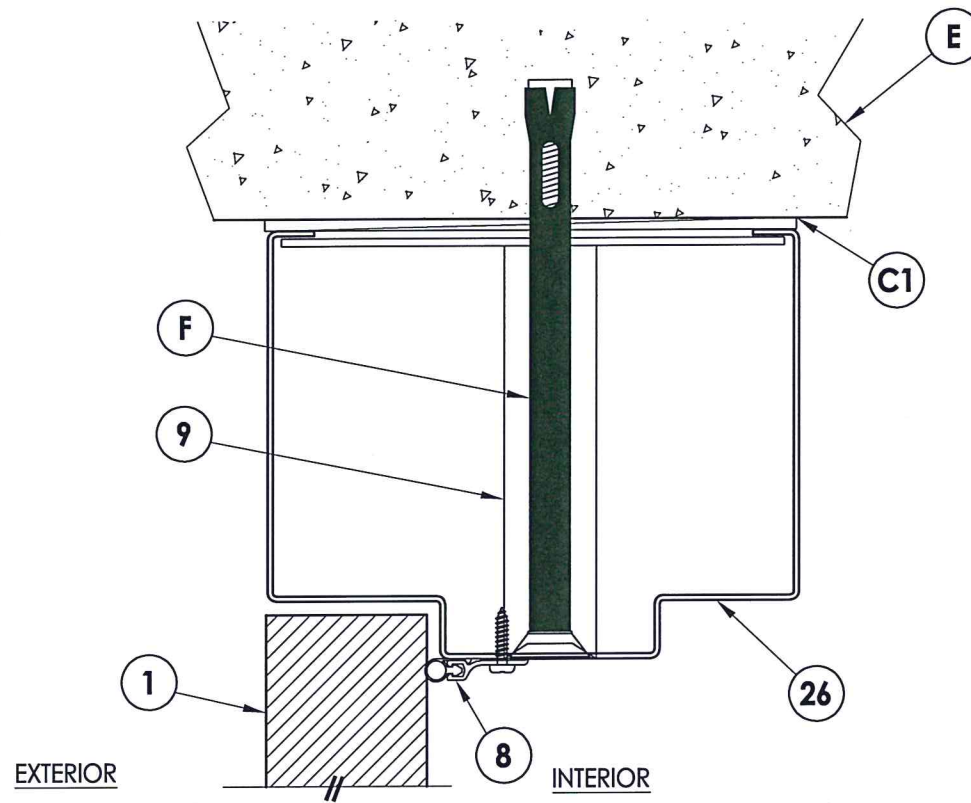
Documents Prepared By: Lyndon F. Schmidt, P.E. TEXAS P.E. #104123
 RW BUILDING CONSULTANTS, INC. P.O. Box 230 Valrico FL 33595 Phone No.: 813.659.9197
 TEXAS BOARD OF PROFESSIONAL ENGINEERS CERTIFICATE OF REGISTRATION # F-11852



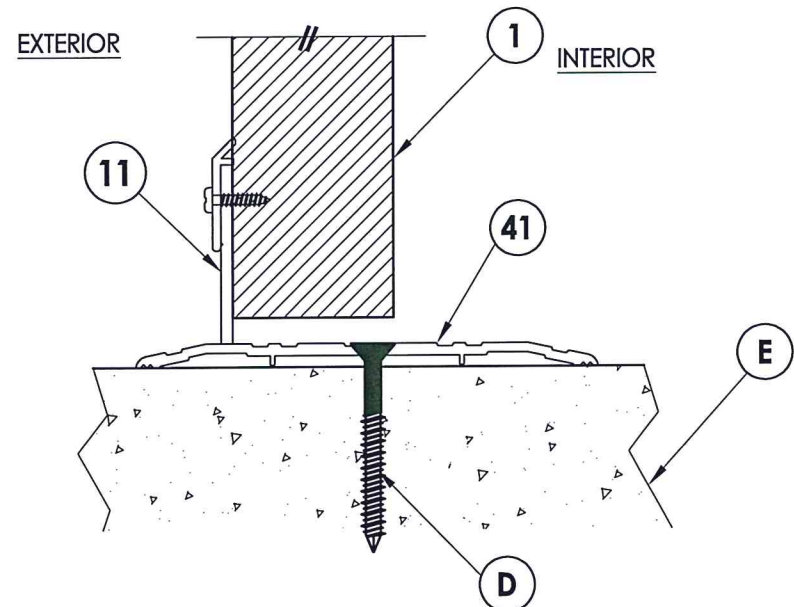
PRODUCT:	CAL-ROYAL STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY:	HORIZONTAL CROSS SECTIONS	
DATE:	10/1/14	
SCALE:	N.T.S.	
DWG. BY:	JK	
CHK. BY:	LFS	
DRAWING NO.:	TX-4485	
SHEET	4 OF 9	
NO.	DATE	REVISIONS
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE
		LFS BY



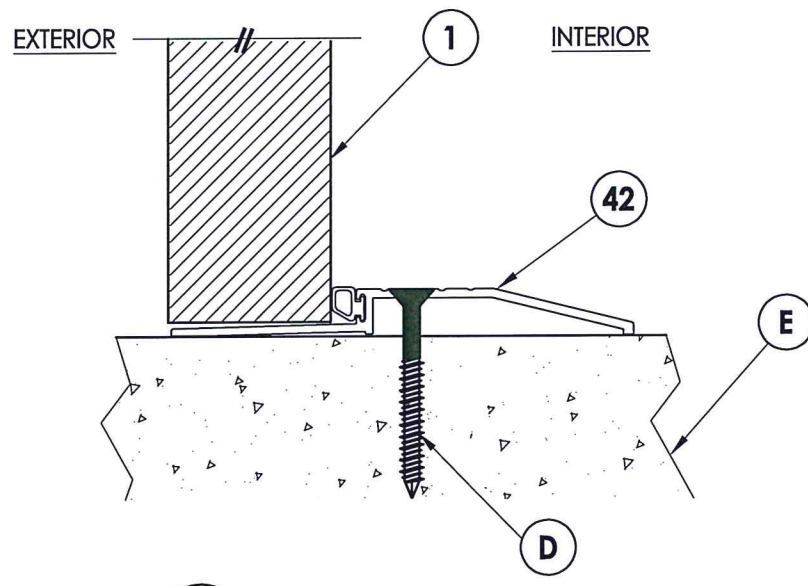
1 VERTICAL CROSS SECTION
5 Outswing configuration - Inswing also approved



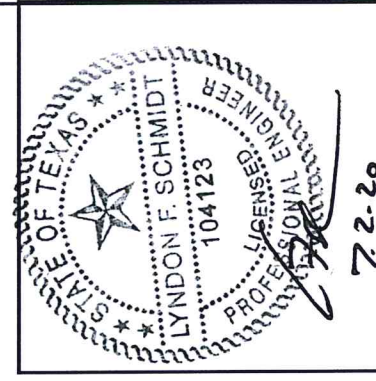
2 VERTICAL CROSS SECTION
5 Outswing configuration - Inswing also approved



3 VERTICAL CROSS SECTION
5 Inswing configuration



4 VERTICAL CROSS SECTION
5 Outswing configuration



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

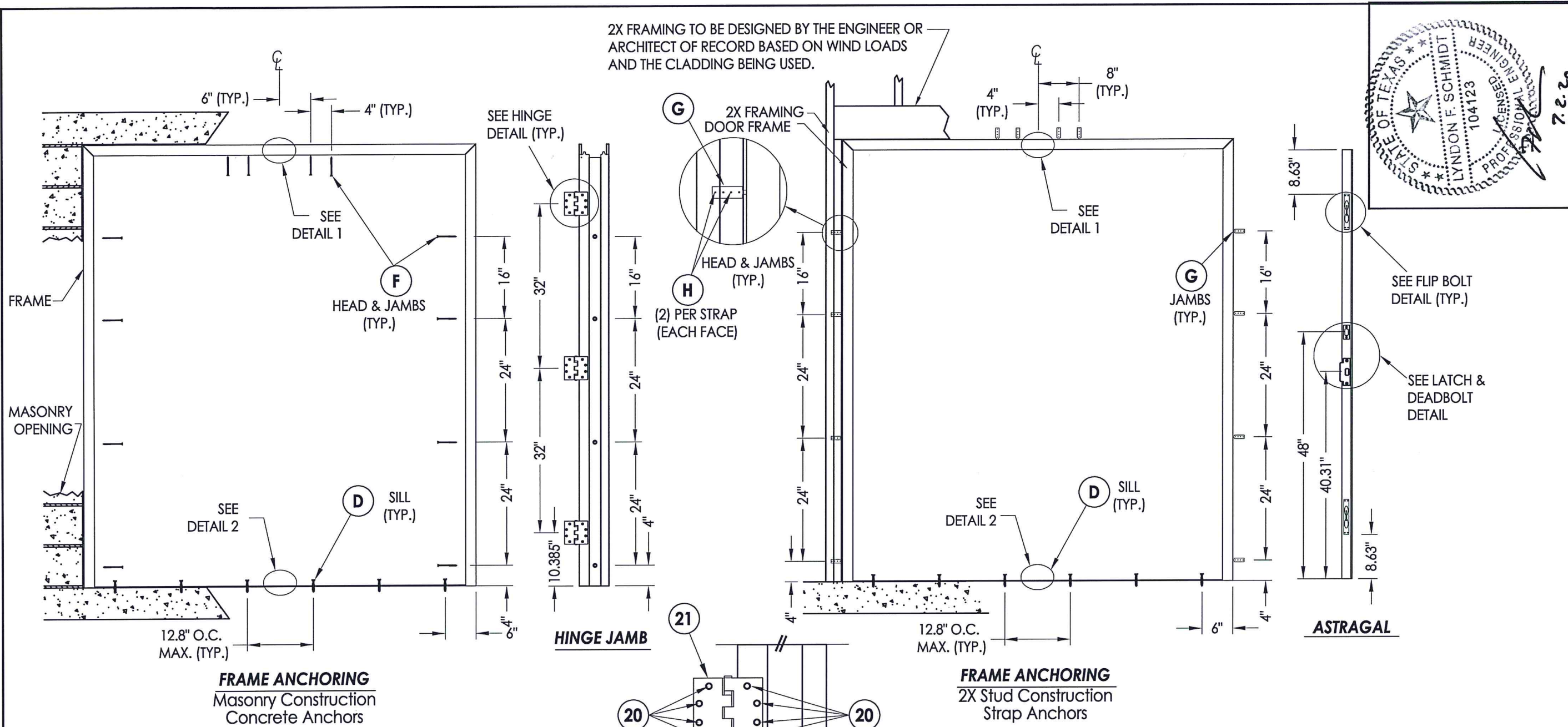
TEXAS BOARD OF PROFESSIONAL ENGINEERS
 CERTIFICATE OF REGISTRATION # F-11852

PRODUCT: CAL-ROYAL
 STEEL COMMERCIAL DOOR
 PART OR ASSEMBLY: VERTICAL CROSS SECTIONS

NO.	DATE	DESCRIPTION	BY
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE	LFS

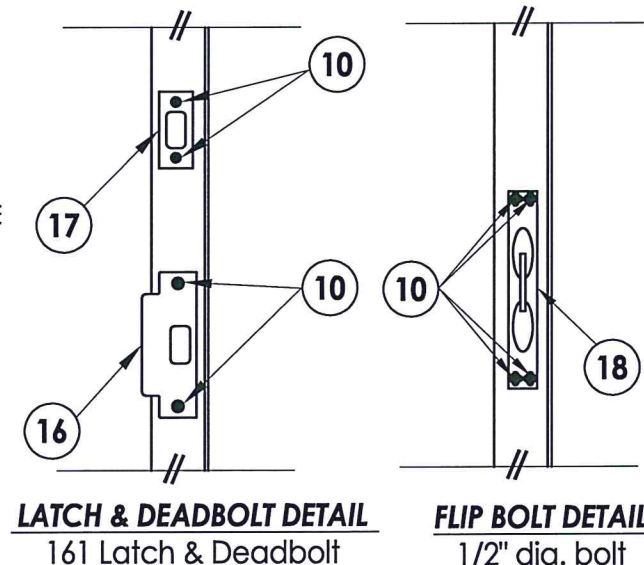
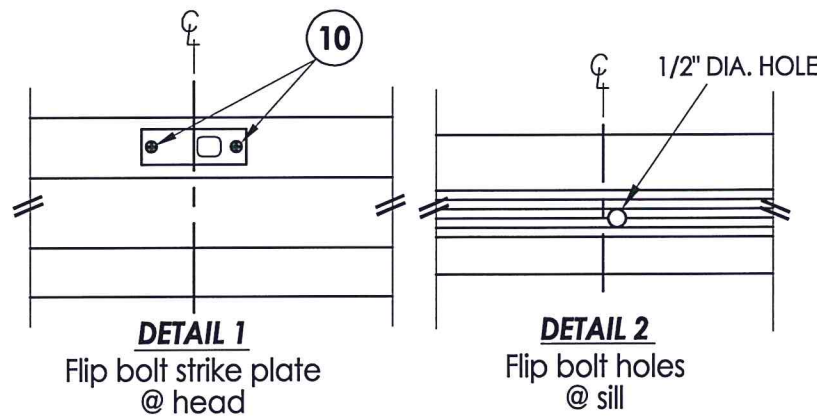
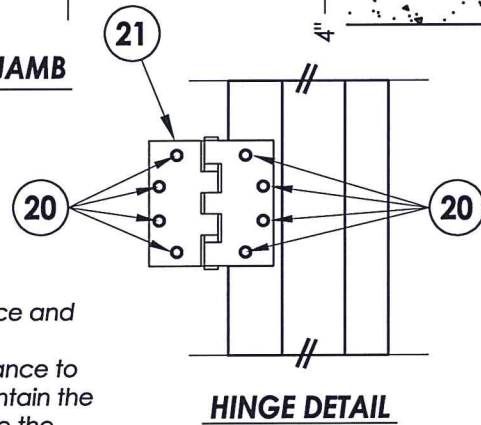
DATE: 10/1/14
 SCALE: N.T.S.
 DWG. BY: JK
 CHK. BY: LFS
 DRAWING NO.: TX-4485
 SHEET 5 OF 9

2X FRAMING TO BE DESIGNED BY THE ENGINEER OR ARCHITECT OF RECORD BASED ON WIND LOADS AND THE CLADDING BEING USED.



FRAME ANCHORING
Masonry Construction
Concrete Anchors

FRAME ANCHORING
2X Stud Construction
Strap Anchors



CONCRETE ANCHOR NOTES:

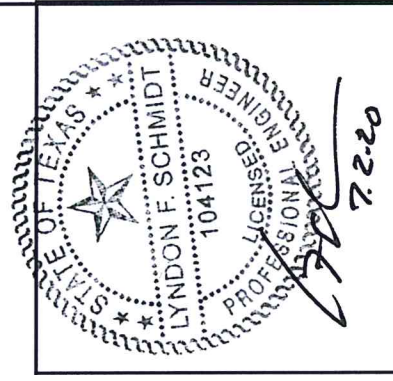
1. Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
2. Concrete screw locations at the corners may be adjusted to maintain the minimum edge distance to mortar joints. If concrete screw locations noted as "MAX. ON CENTER" must be adjusted to maintain the minimum edge distance to mortar joints, additional concrete screws may be required to ensure the maximum on center dimension is not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-3/4"	2-1/2"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	4"
DYNABOLT SLEEVE ANCHOR	3/8"	1-1/2"	2-1/4"	4-1/2"

4. Embedment may be through 1-1/4" face shell of hollow block.

Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123
7.2.20
R.W. 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:	CAL-ROYAL STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY:	FRAME ANCHORING	
DATE:	10/1/14	
SCALE:	N.T.S.	
DWG. BY:	JK	
CHK. BY:	LFS	
DRAWING NO.:	TX-4485	
SHEET	6 OF 9	
NO.	DATE	DESCRIPTION
1	7/02/20	UPDATE TO 2018 IBC/IRC CODE
		LFS
		BY
		REVISIONS

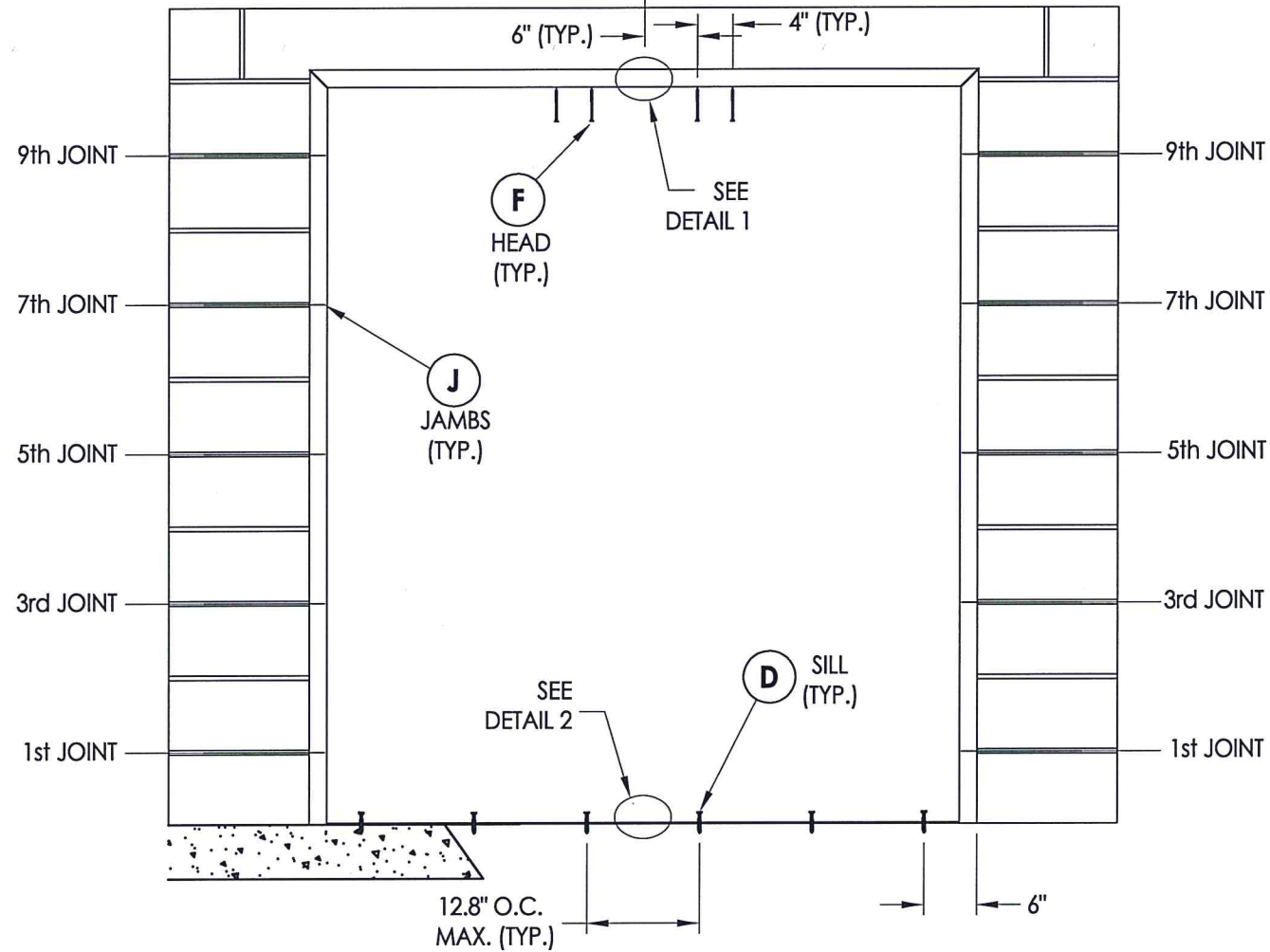
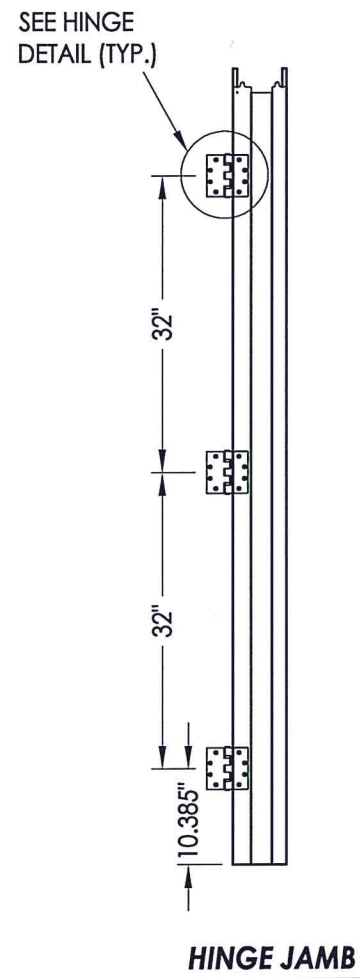


Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

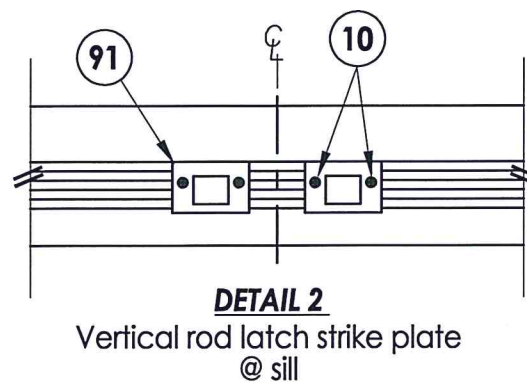
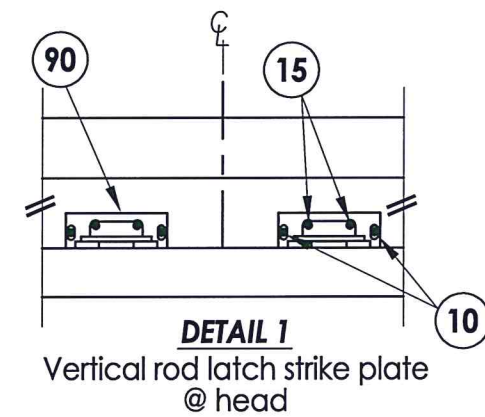
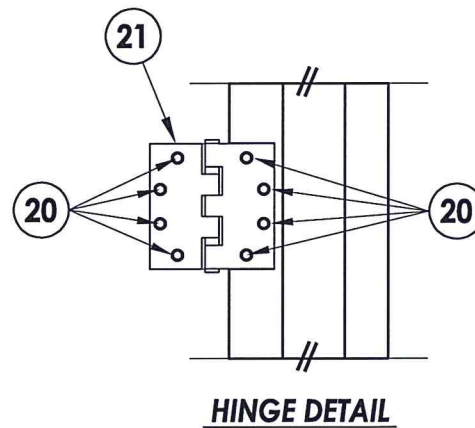
RW BUILDING CONSULTANTS, INC.
P.O. Box 230 Valrico FL 33595
Phone No.: 813.659.9197

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

MASONRY "TEE" ANCHOR LOCATIONS (5) TOTAL PER JAMB
(JOINTS MEASURED FROM BOTTOM)



FRAME ANCHORING
Masonry Construction
Masonry "Tee" Anchors

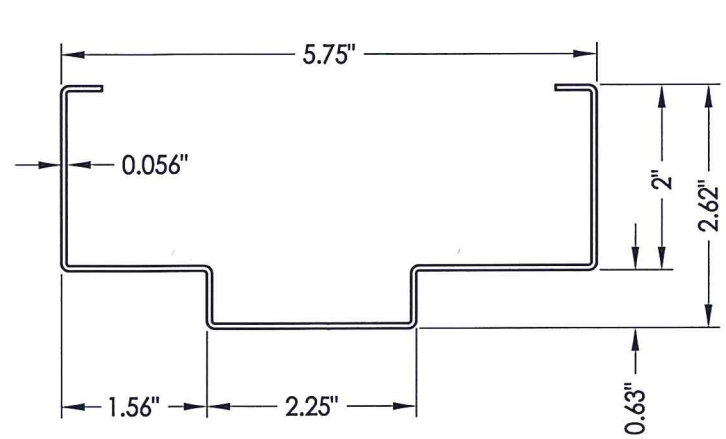


CONCRETE ANCHOR NOTES:

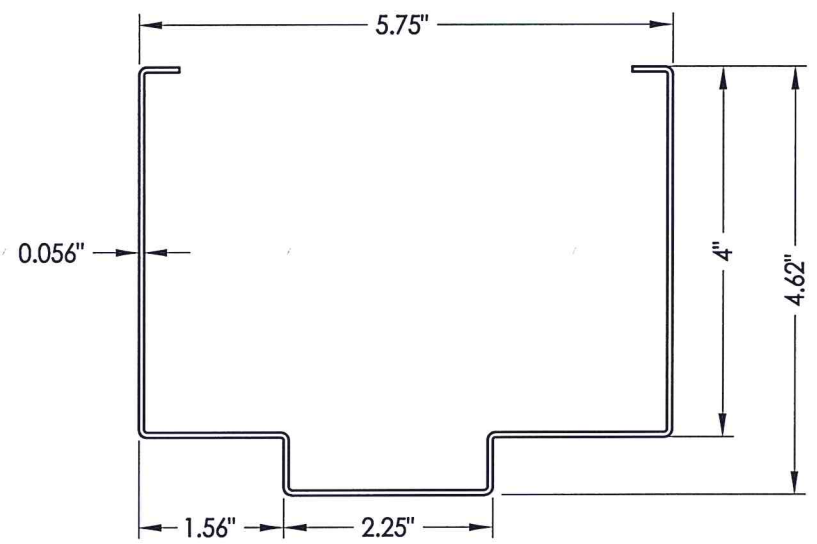
1. Substitution of equal concrete screws from a different supplier may have different edge distance and center distance requirements.
2. Concrete screw locations at the corners may be adjusted to maintain the minimum edge distance to mortar joints. If concrete screw locations noted as "MAX. ON CENTER" must be adjusted to maintain the minimum edge distance to mortar joints, additional concrete screws may be required to ensure the maximum on center dimension is not exceeded.
3. Concrete anchor table:

ANCHOR TYPE	ANCHOR SIZE	MIN. EMBEDMENT	MIN. CLEARANCE TO MASONRY EDGE	MIN. CLEARANCE TO ADJACENT ANCHOR
ITW TAPCON®	1/4"	1-3/4"	2-1/2"	4"
ELCO ULTRACON®	1/4"	1-3/4"	1"	4"
DYNABOLT SLEEVE ANCHOR	3/8"	1-1/2"	2-1/4"	4-1/2"

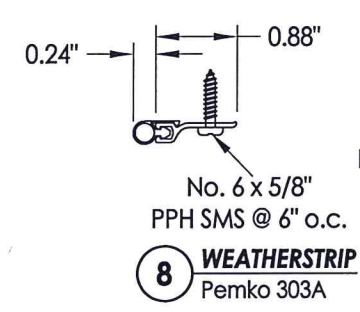
PRODUCT:	CAL-ROYAL COMMERCIAL DOOR
PART OR ASSEMBLY:	STEEL COMMERCIAL DOOR
DATE:	10/1/14
SCALE:	N.T.S.
DWG. BY:	JK
CHK. BY:	LFS
DRAWING NO.:	TX-4485
SHEET	7 OF 9



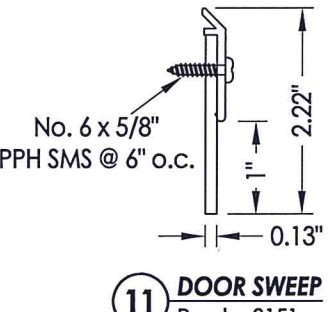
26 HOLLOW METAL FRAME
2" HEAD



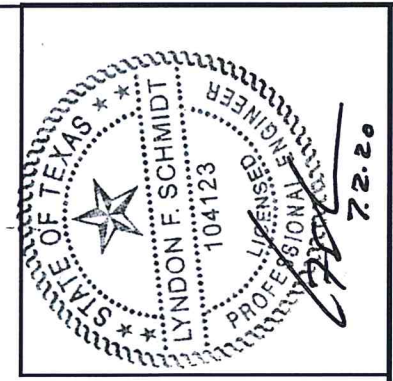
26 HOLLOW METAL FRAME
4" HEAD



8 WEATHERSTRIP
Pemko 303A



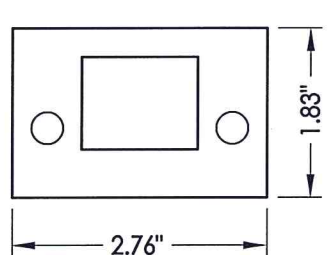
11 DOOR SWEEP
Pemko 3151



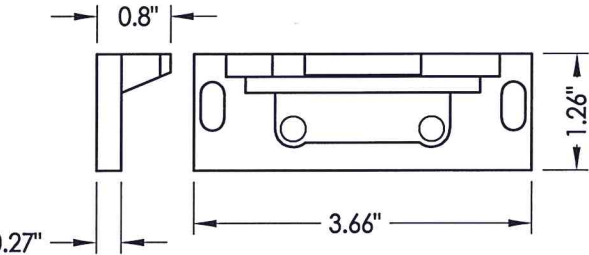
Documents Prepared By: Lyndon F. Schmidt, P.E.
TEXAS P.E. #104123

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

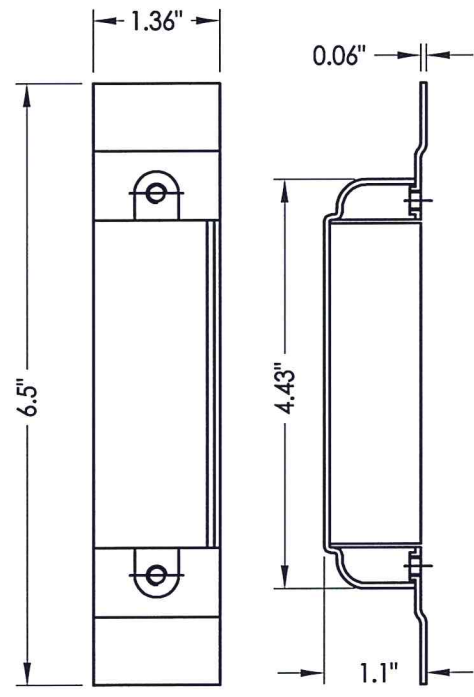
TEXAS BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF REGISTRATION # F-11852



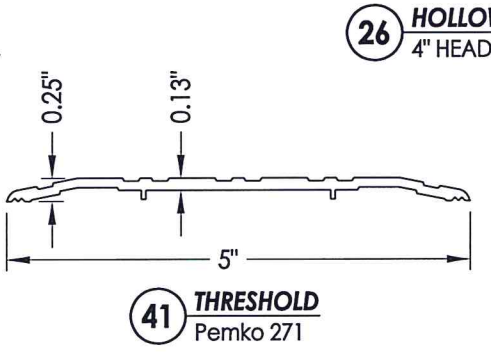
91 VERTICAL ROD LATCH STRIKE PLATE
@ Sill



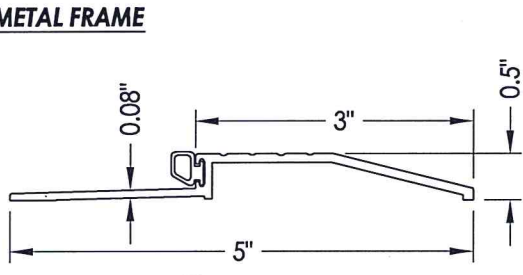
90 VERTICAL ROD LATCH STRIKE PLATE
@ Head



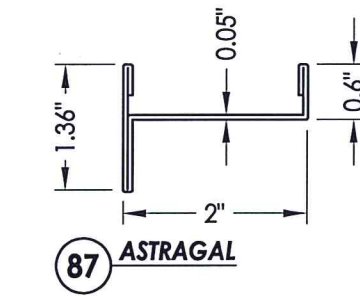
30 DOOR LATCH REINFORCEMENT



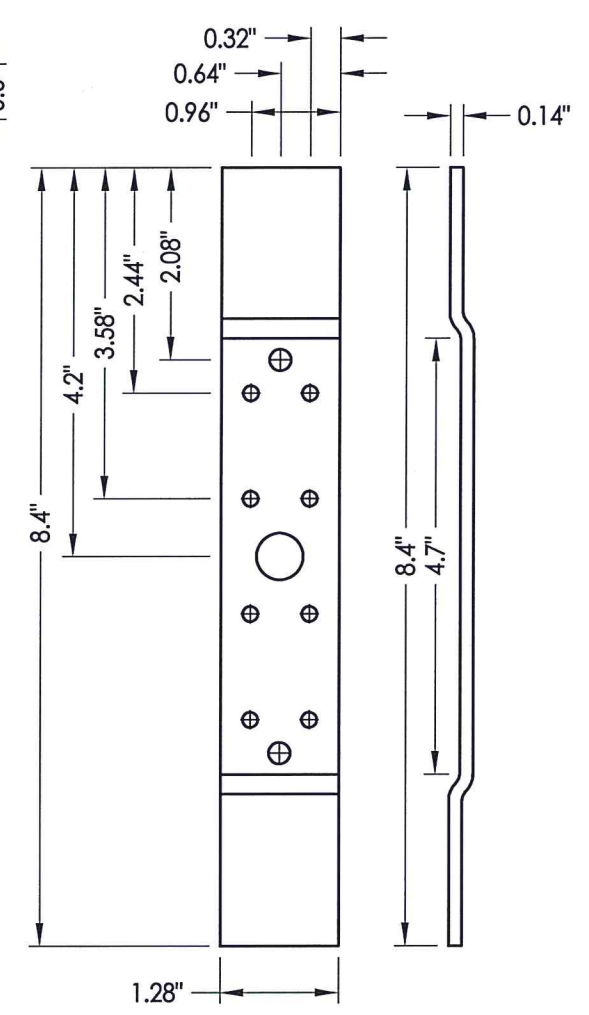
41 THRESHOLD
Pemko 271



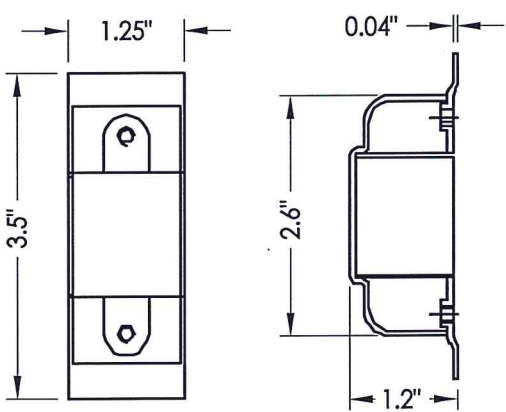
42 THRESHOLD
Pemko 2001P



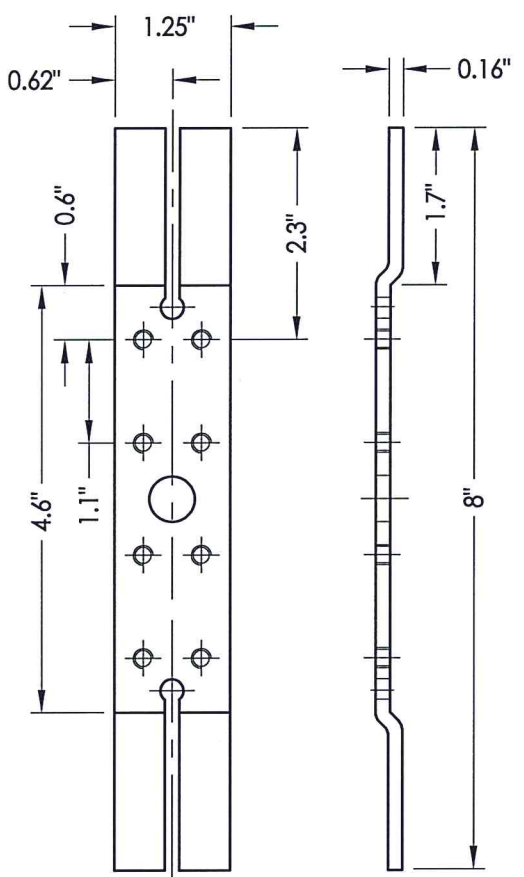
87 ASTRAGAL



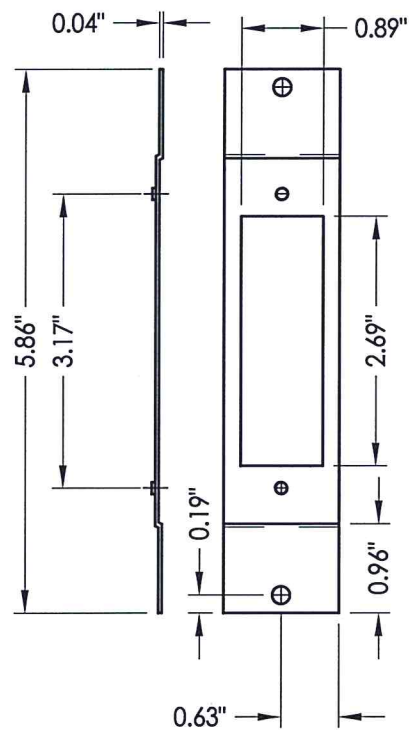
28 FRAME HINGE REINFORCEMENT



31 DOOR DEADBOLT REINFORCEMENT



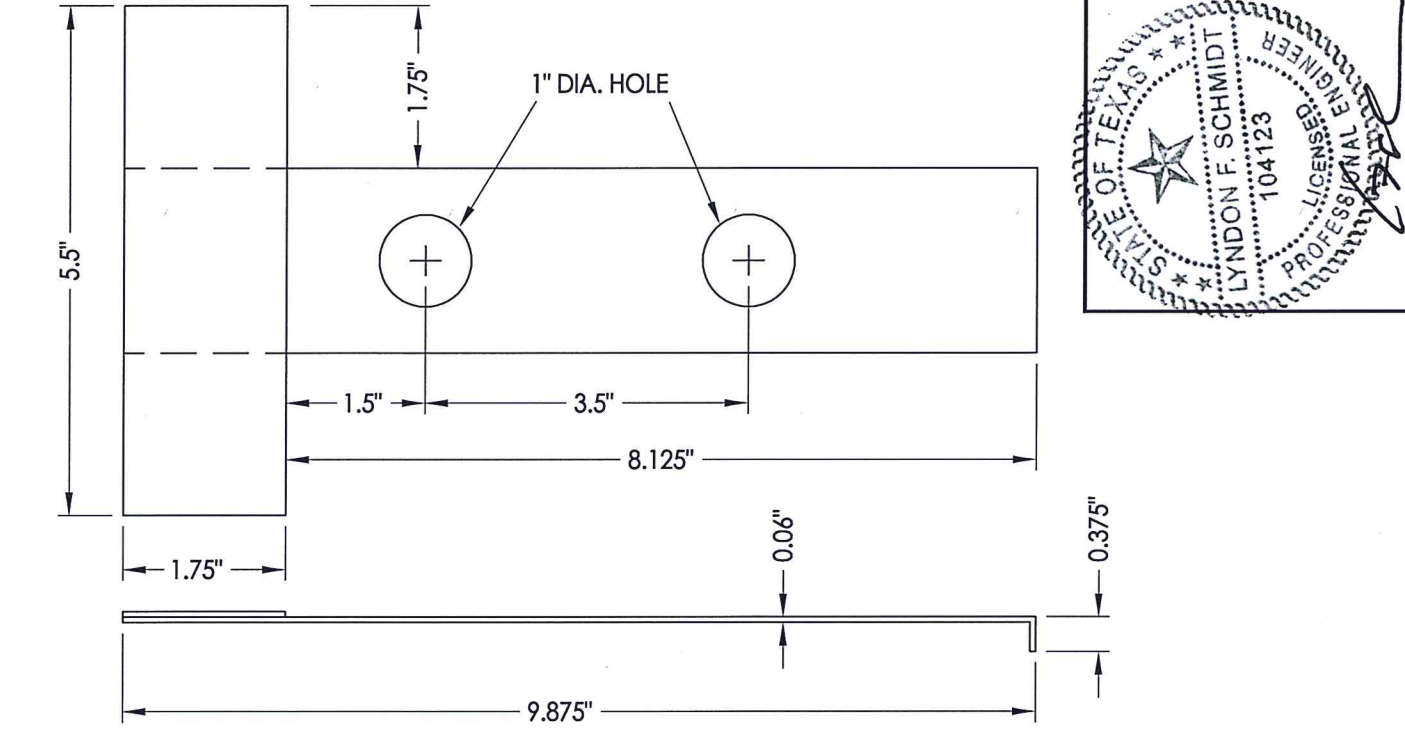
22 DOOR HINGE REINFORCEMENT



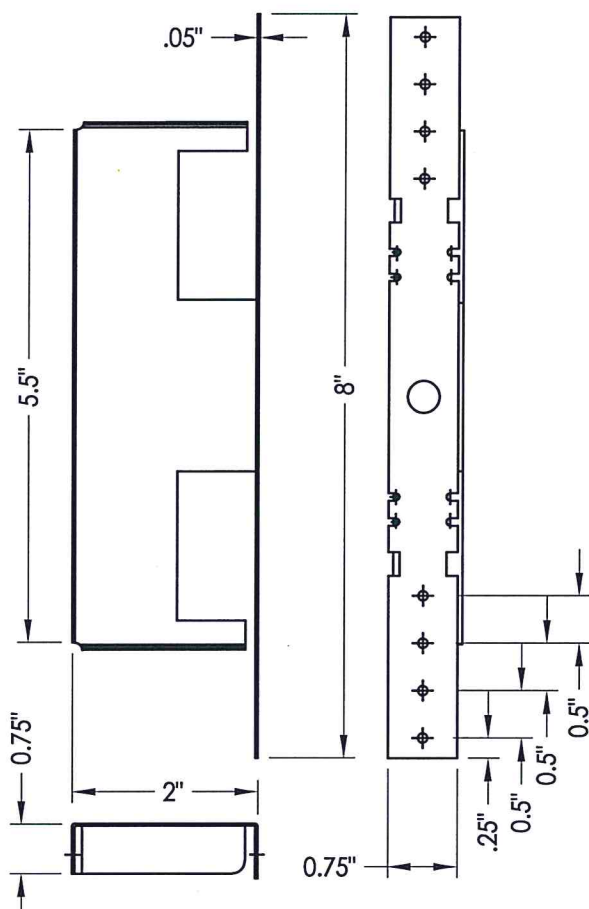
27 FRAME LATCH STRIKE REINFORCEMENT

PRODUCT: CAL-ROYAL STEEL COMMERCIAL DOOR	
PART OR ASSEMBLY: COMPONENTS	
NO.	DATE
1	7/02/20
UPDATE TO 2018 IBC/IRC CODE	
LFS	BY
REVISIONS	
DATE: 10/1/14	
SCALE: N.T.S.	
DWG. BY: JK	
CHK. BY: LFS	
DRAWING NO.: TX-4485	
SHEET 8 OF 9	

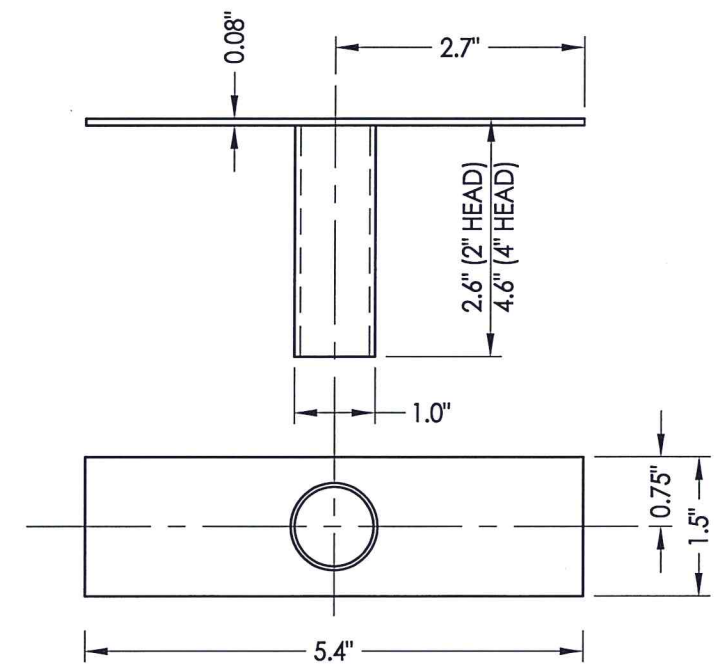
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
B	2 X 4 FRAMING (SG >= 0.42)	-
C	1/4" MAX. SHIM SPACE	-
C1	1/8" MAX. SHIM SPACE	-
D	1/4" X 2-3/4" PFH ELCO OR ITW CONCRETE SCREW	STEEL
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	3/8" PFH ITW DYNABOLT SLEEVE ANCHOR	STEEL
G	WOOD STRAP ANCHOR	STEEL
H	#8 X 1-1/2" PH WOOD SCREW	STEEL
J	MASONRY "TEE" ANCHOR	STEEL
1	CAL-ROYAL DOOR PANEL (ACTIVE DOOR)	-
2	CAL-ROYAL DOOR PANEL (INACTIVE DOOR)	-
4	DOOR TOP CHANNEL	STEEL
5	LOCK BOX REINFORCEMENT	STEEL
6	CLOSER REINFORCEMENT (11 gauge)	STEEL
7	DOOR BOTTOM CHANNEL	STEEL
8	WEATHERSTRIP - PEMKO 303A	NEOPRENE
9	TUBE ANCHOR	STEEL
10	#12-24 X 1" COMBINATION MACHINE / WOOD SCREW	STEEL
11	DOOR SWEEP - PEMKO 3151	PVC
13	WEATHERSTRIP - COMPRESSION BULB 1/4" X 1/2" (PEMKO S88)	NEOPRENE
14	STILE REINFORCEMENT	STEEL
15	#8-24 X 3/4" COMBINATION MACHINE / WOOD SCREW	STEEL
16	ANSI LATCH STRIKE	STEEL
17	DEAD BOLT STRIKE	STEEL
18	FLIP BOLT - CAL- ROYAL	-
20	#12-24 X 1/2" PFH MACHINE SCREW	STEEL
21	4-1/2" X 4-1/2" X 0.125" TEMPLATE HINGE	STEEL
22	DOOR HINGE REINFORCEMENT	STEEL
25	HOLLOW FRAME 2"	STEEL
26	HOLLOW FRAME 4" HEAD	STEEL
27	FRAME LATCH STRIKE REINFORCEMENT	STEEL
28	FRAME HINGE REINFORCEMENT	STEEL
29	DOOR BOTTOM REINFORCEMENT w/ STRIKE PLATE	STEEL
30	DOOR LATCH REINFORCEMENT	STEEL
31	DOOR DEADBOLT REINFORCEMENT	STEEL
41	INSWING THRESHOLD - PEMKO 271	ALUM
42	OUTSWING THRESHOLD - PEMKO 2001P	ALUM
71	CAL-ROYAL PIONEER SL/CSL SERIES CYLINDRICAL LOCK	-
72	CAL-ROYAL T300 SERIES DEADBOLT	-
74	CAL-ROYAL 7700-V SERIES VERTICAL ROD EXIT DEVICE	-
87	ASTRAGAL	STEEL
90	VERTICAL ROD LATCH STRIKE PLATE @ HEAD	STEEL
91	VERTICAL ROD LATCH STRIKE PLATE @ SILL	STEEL



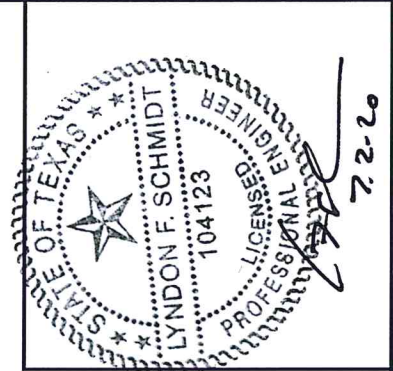
J MASONRY 'TEE' ANCHOR



G WOOD STRAP ANCHOR



9 TUBE ANCHOR



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: CAL-ROYAL STEEL COMMERCIAL DOOR

PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

NO.	DATE	UPDATE TO 2018 IBC/IRC CODE	LFS	BY
1	7/02/20			

REVISIONS

DATE: 10/1/14
SCALE: N.T.S.
DWG. BY: JK
CHK. BY: LFS
DRAWING NO.: TX-4485
SHEET 9 OF 9