

# R W Building Consultants, Inc.

Consulting and Engineering Services for the Building Industry

P.O. Box 230 Valrico, FL 33595 Phone 813.659.9197

Florida Board of Professional Engineers Registry License No. 9813

<b>Product Evaluation Report</b>	<b>Report No.:</b> FL-41130.8
	<b>Date:</b> July 1, 2023

Product Category	Sub Category	Manufacturer	Product Name
Exterior Doors	Swinging Exterior Door Assemblies	DKS Steel Door & Frame Systems, Inc. 2142 Tubeway Ave. Commerce, CA 90040 (323) 888-7763	DKS Series 1800 Steel Commercial Double Door Outswing "Impact"

**Scope:** This is a Product Evaluation report issued by R W Building Consultants, Inc. and Lyndon F. Schmidt, P.E. for DKS Steel Door & Frame Systems, Inc. based on Rule Chapter No. 61G20-3, Method 1D of the State of Florida Product Approval, Department of Business & Professional Regulation.

RW Building Consultants and Lyndon F. Schmidt, P.E. do not have nor will acquire financial interest in the company manufacturing or distributing the product or in any other entity involved in the approval process of the product named herein.

**Limitations:**

- This product has been evaluated and is in compliance with the 8th Edition (2023) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
- Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
- When used in the "HVHZ" this product complies with section 1626 of the Florida Building Code and does not require an impact resistant covering.
- When used in areas outside of the "HVHZ" requiring wind borne debris protection this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.
- Site conditions that deviate from the details of drawing FL-41130.8 require further engineering analysis by a licensed engineer or registered architect.
- This product does not meet the water infiltration requirements for the "HVHZ" and shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.
- When used in the "HVHZ", steel must be protected as specified in FBC Section 2222.6.
- See drawing FL-41130.8 for size and design pressure limitations..

**Supporting Documents:**

- |   |  |   |  |
|---|--|---|--|
| 1. <b>Test Report No.</b><br>TEL 01821092<br>ITS 3053378  | <b>Test Standard</b><br>TAS 201, 202 & 203-94<br>UL 10C - 09 | <b>Testing Laboratory</b><br>Testing Evaluation Lab., Inc.<br>Intertek Testing Services | <b>Signed by</b><br>William Shelton, P.E.<br>Mike Van Geyn |
| 2. <b>Drawing No.</b><br>No. FL-41130.8   | <b>Prepared by</b><br>RW Building Consultants, Inc. (#9813)  |   | <b>Signed &amp; Sealed by</b><br>Lyndon F. Schmidt, P.E.   |
| 3. <b>Calculations</b><br>Anchoring   | <b>Prepared by</b><br>RW Building Consultants, Inc. (#9813)  |   | <b>Signed &amp; Sealed by</b><br>Lyndon F. Schmidt, P.E.   |
| 4. <b>Quality Assurance</b><br>Certificate of Participation issued by National Accreditation and Management Institute, certifying that DKS Steel Door & Frame Systems, Inc. is manufacturing products within a quality assurance program that complies with ISO/IEC 17020 and Guide 53. |  | Digitally signed by Lyndon F Schmidt<br>Date: 2023.07.19 09:17:44 -04'00'               |  |

LYNDON F. SCHMIDT, State of Florida, Professional Engineer, License No. 43409  
 This item has been digitally signed and sealed by L. F. Schmidt on 7-19-23.  
 Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.  
**THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA**



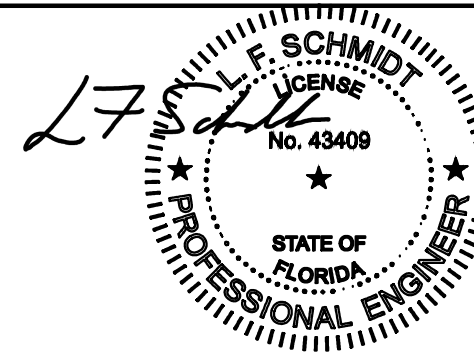
STEEL DOOR & FRAME SYSTEMS, INC.

# DKS SERIES 1800 STEEL COMMERCIAL DOUBLE DOOR OUTSWING "IMPACT"

GENERAL NOTES

1. This product has been evaluated and is in compliance with the 8th Edition (2023) Florida Building Code (FBC) structural requirements including the "High Velocity Hurricane Zone" (HVHZ).
2. Product anchors shall be as listed and spaced as shown on details. Anchor embedment to base material shall be beyond wall dressing or stucco.
3. When used in the "HVHZ" this product complies with Section 1626 of the Florida Building Code and does not require an impact resistant covering.
4. When used in areas outside of the "HVHZ" requiring wind borne debris protection, this product complies with FBC Sections 1609.1.2 & R301.2.1.2 and does not require an impact resistant covering. This product meets missile level "D" and includes Wind Zone 4 as defined in ASTM E 1996 and FBC Sections 1609.1.2.2 & R301.2.1.2.1.
5. Site conditions that deviate from the details of this drawing require further engineering analysis by a licensed engineer or registered architect.
6. This product does not meet the water infiltration requirements for the "HVHZ" and shall be installed only in non-habitable areas or at habitable locations protected by an overhang or canopy such that the angle between the edge of canopy or overhang to sill is less than 45 degrees.
7. When used in the "HVHZ", steel must be protected as specified in FBC Section 2222.6

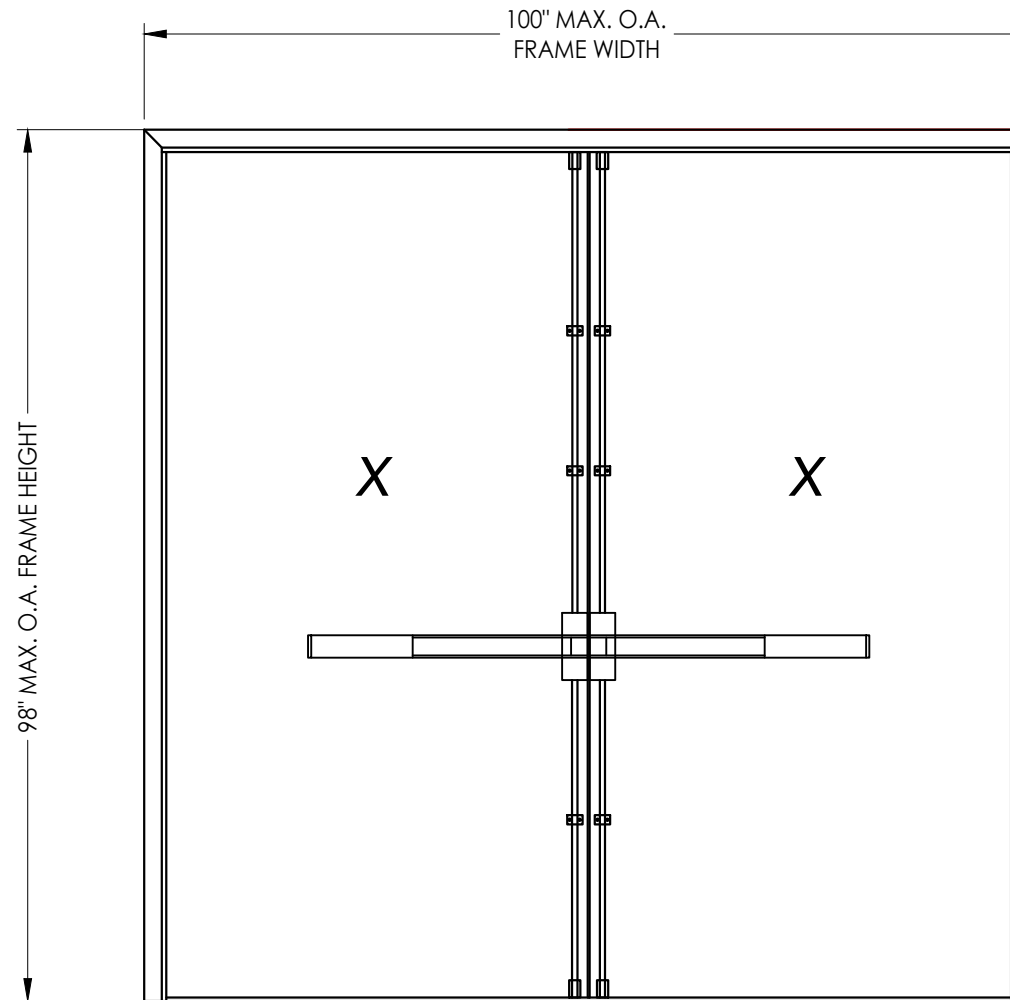
TABLE OF CONTENTS	
SHEET#	DESCRIPTION
1	Typical elevation, design pressures & general notes
2	Door panel details
3	Horizontal cross sections
4	Vertical cross sections
5	Frame anchoring
6	Frame anchoring
7	Bill of materials and components



Digitally signed by Lyndon F Schmidt  
Date: 2023.07.19 09:04:47 -04'00'

This item has been digitally signed and sealed by L. F. Schmidt, P.E. on the date adjacent to the seal. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

THIS PRODUCT APPROVAL IS VALID ONLY FOR THE STATE OF FLORIDA



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

MAX FRAME DIMENSION	LOCK TYPE	DESIGN PRESSURE (PSF) OUTSWING	
		POSITIVE	NEGATIVE
100.0" x 98.0"	PANIC BAR EXIT DEVICE w/ VERTICAL RODS "7700-V Series"	+50.0	-50.0

Documents Prepared By:  
Lyndon F. Schmidt  
P.E. No. 43409

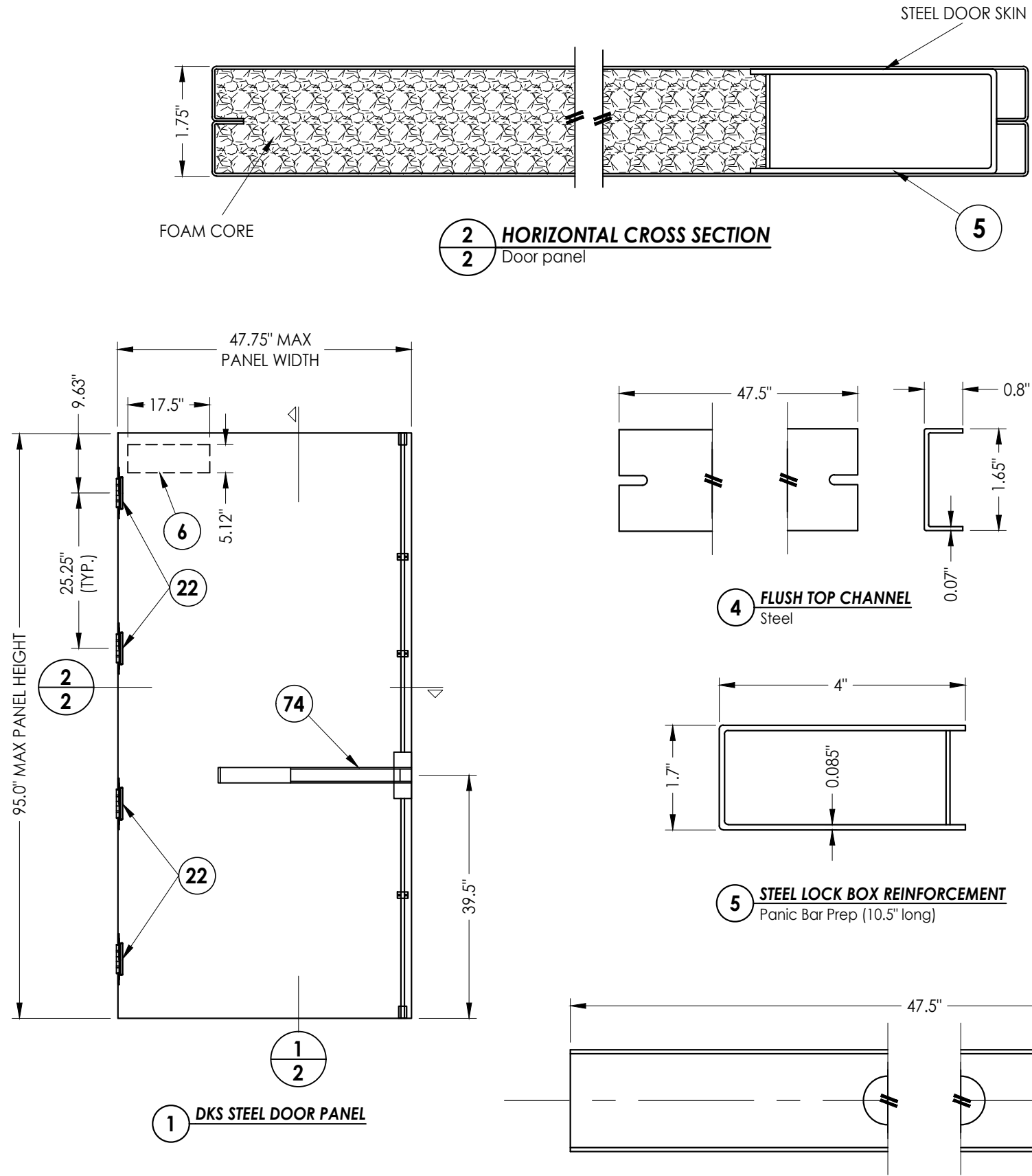
BUILDING CONSULTANTS, INC.  
P.O. Box 230, Vairico, FL 33595  
Phone No.: 813.659.9197  
FBPE Registry No. 9813

PRODUCT: DKS STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: TYPICAL ELEVATION, DESIGN PRESSURES & GENERAL NOTES

NO.	DATE	REVISIONS
1	7/01/23	UPDATE TO 8TH ED. (2023) FBC

DATE: 3/21/22  
SCALE: N.T.S.  
DWG. BY: LFS  
CHK. BY: RW  
DRAWING NO.: FL-41130.8  
SHEET 1 OF 7

Z:\2023 FBC Drawings\DKS Steel Door & Frames Systems\FL-41130 R1\FL-41130.7-8.dwg



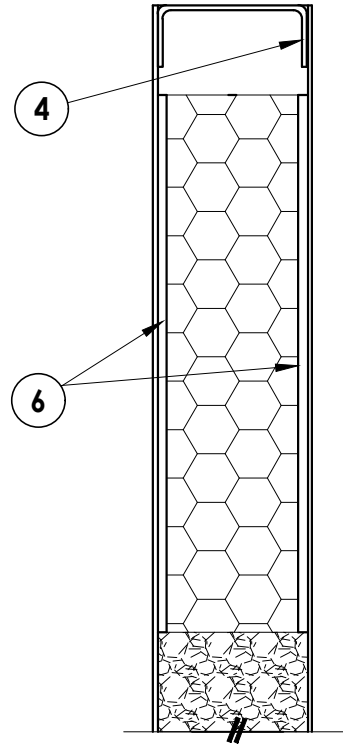
STEEL DOOR SKIN (18 GA.): MIN. 0.045" THK.  
 STEEL GRADE: ASTM A1008 GALV. STEEL (Fy = 33,000 PSI MIN.)  
 CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0 PCF MIN. DENSITY)

**2 HORIZONTAL CROSS SECTION**  
 2 Door panel

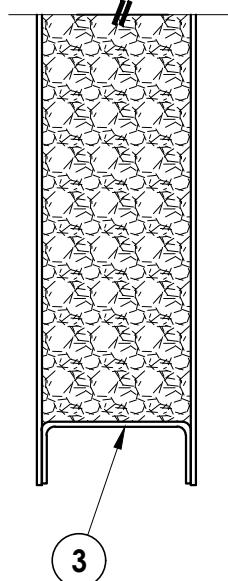
**4 FLUSH TOP CHANNEL**  
 Steel

**5 STEEL LOCK BOX REINFORCEMENT**  
 Panic Bar Prep (10.5" long)

**3 BOTTOM CHANNEL**  
 Steel



**1 VERTICAL CROSS SECTION**  
 2 Door panel



Documents Prepared By:  
 Lyndon F. Schmidt  
 P.E. No. 43409

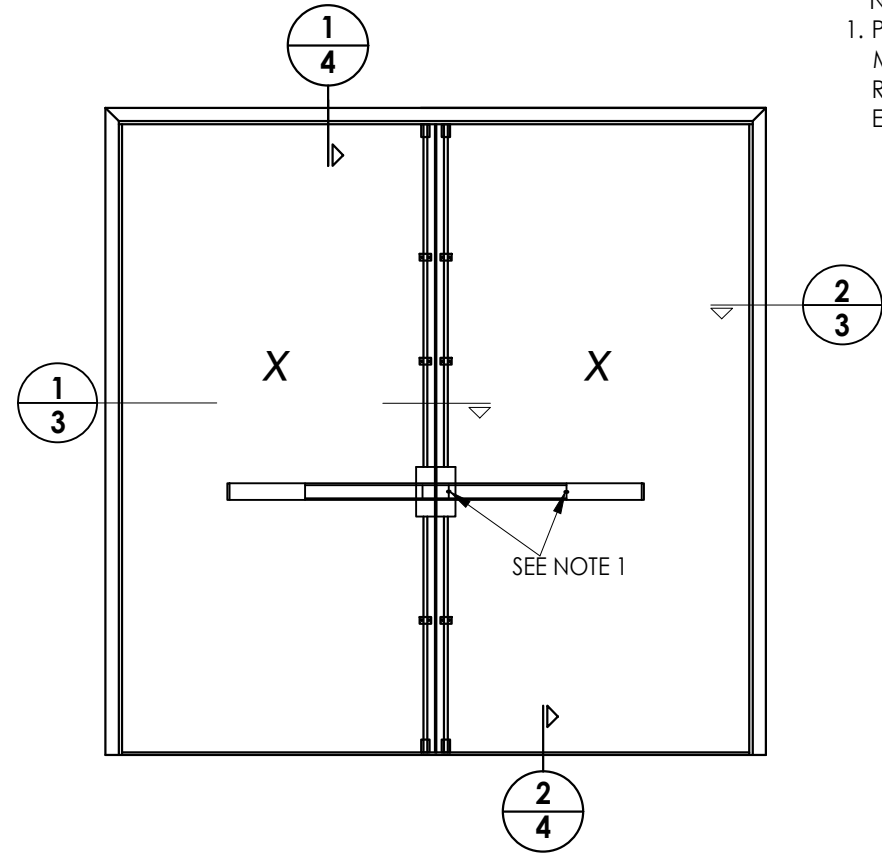
**RW** BUILDING CONSULTANTS, INC.  
 P.O. Box 230, Valrico, FL 33595  
 Phone No.: 813.659.9197  
 FBPE Registry No. 9813

PRODUCT: DKS  
 STEEL COMMERCIAL DOOR

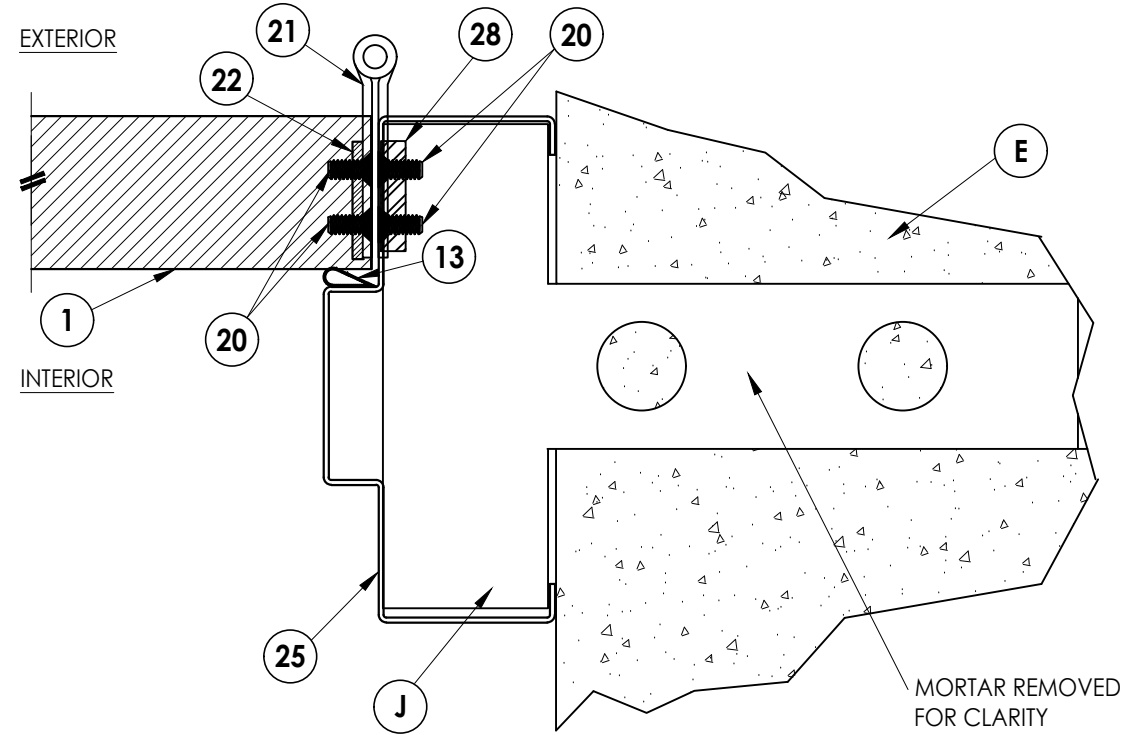
PART OR ASSEMBLY:  
 DOOR PANEL DETAILS

NO.	DATE	BY	REVISIONS
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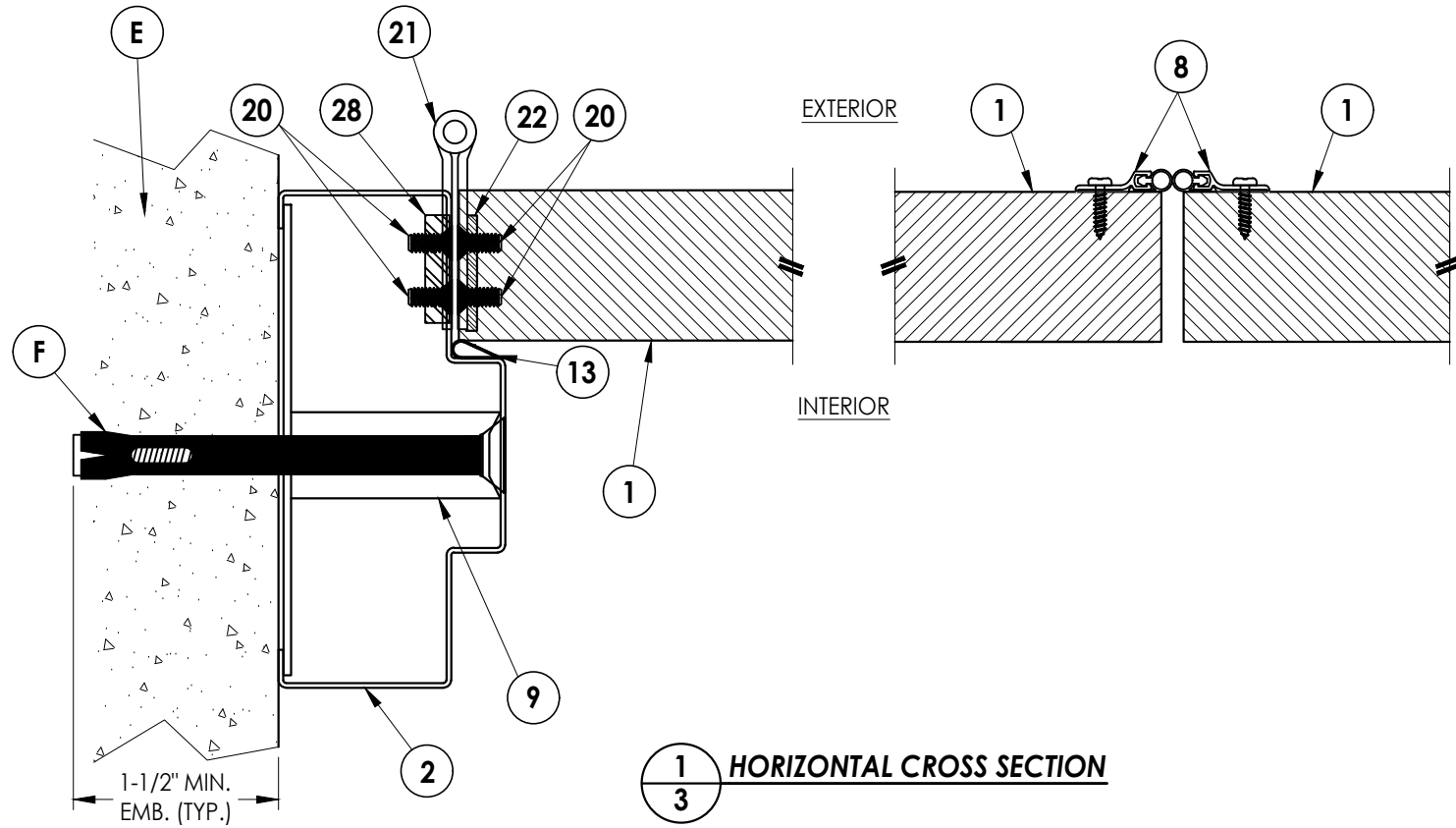
DATE: 3/21/22  
 SCALE: N.T.S.  
 DWG. BY: LFS  
 CHK. BY: RW  
 DRAWING NO.: FL-41130.8  
 SHEET 2 OF 7



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



**2 HORIZONTAL CROSS SECTION**  
 3 Masonry Construction  
 Masonry "Tee" Anchor



**1 HORIZONTAL CROSS SECTION**

Documents Prepared By:  
 Lyndon F. Schmidt  
 P.E. No. 43409

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 Phone No.: 813.659.9197  
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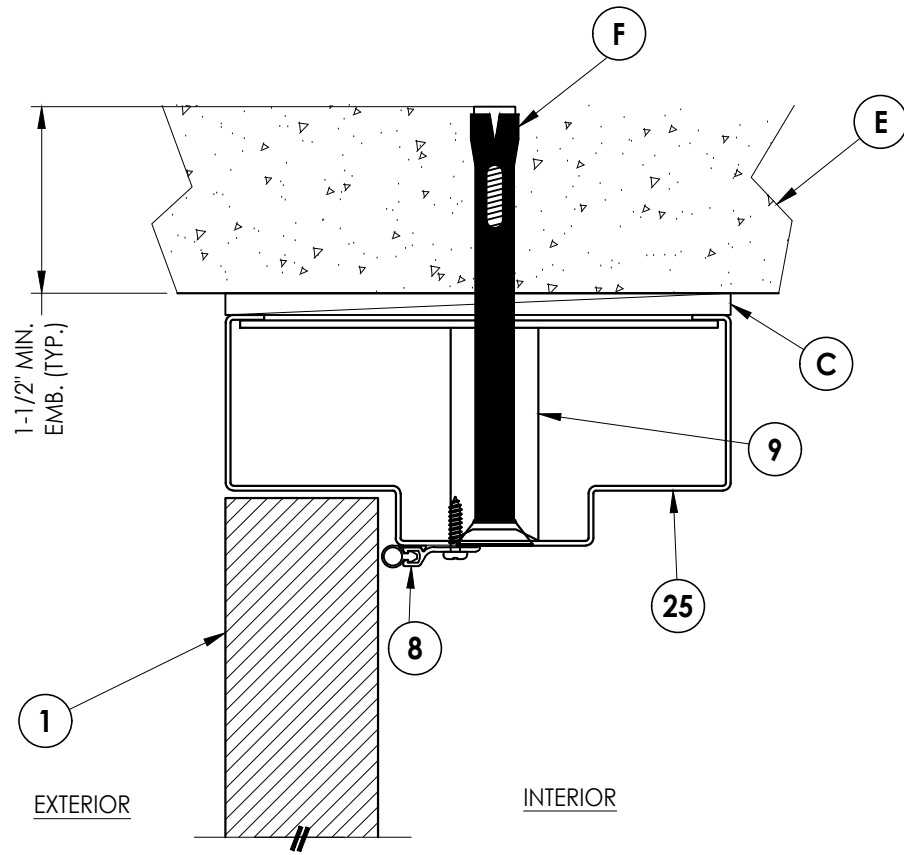
PRODUCT:  
 DKS  
 STEEL COMMERCIAL DOOR

PART OR ASSEMBLY:  
 HORIZONTAL  
 CROSS SECTIONS

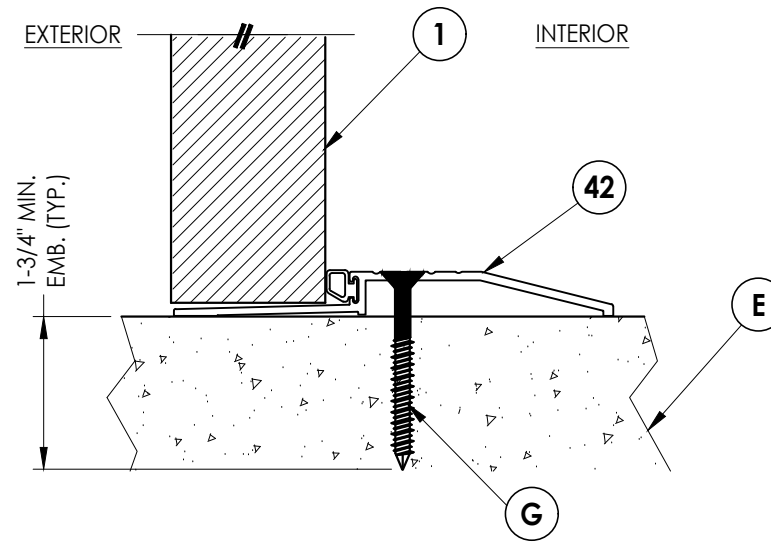
NO.	DATE	BY
1	7/01/23	LFS
UPDATE TO 8TH ED. (2023) FBC		

REVISIONS

DATE: 3/21/22  
 SCALE: N.T.S.  
 DWG. BY: LFS  
 CHK. BY: RW  
 DRAWING NO.: FL-41130.8  
 SHEET 3 OF 7



**1**  
**4** VERTICAL CROSS SECTION



**2**  
**4** VERTICAL CROSS SECTION  
Outswing configuration

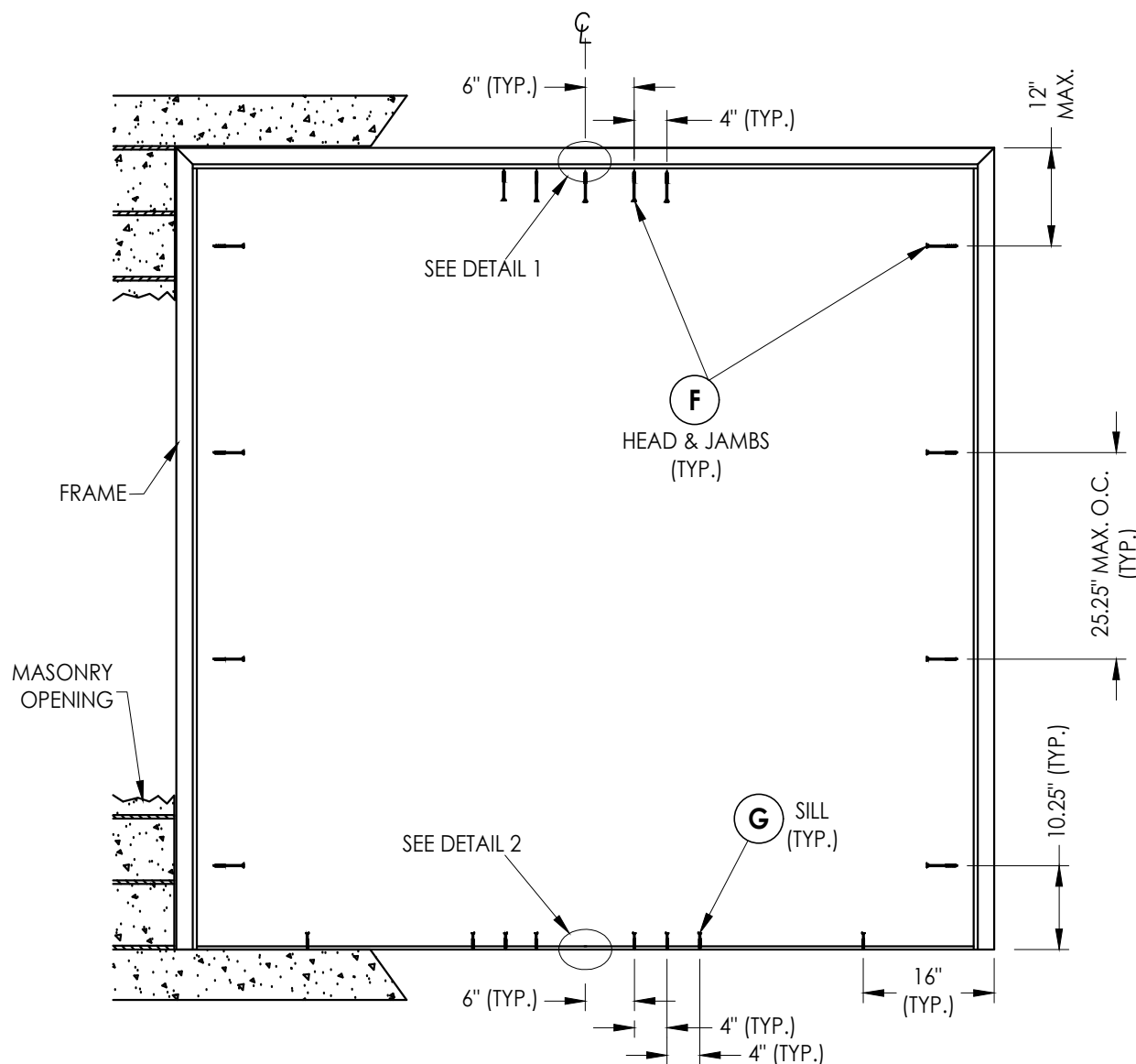
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 CHK. BY: RW  
 DRAWING NO.: FL-41130.8  
 SHEET 4 OF 7

NO.	DATE	REVISIONS	BY
1	7/01/23	UPDATE TO 8TH ED. (2023)	FBC

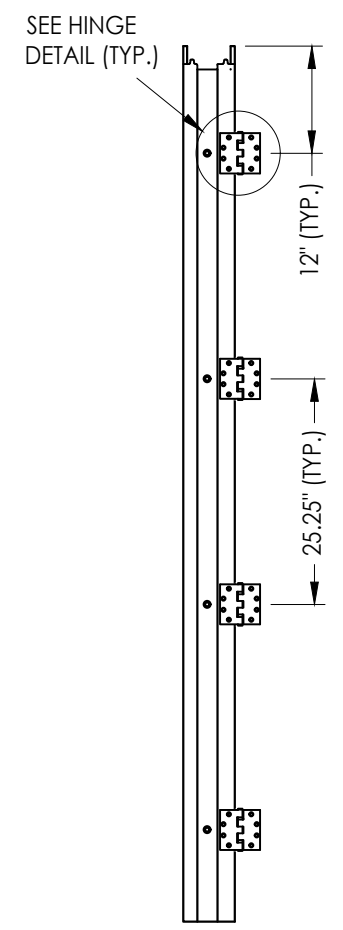
PRODUCT:  
 DKS  
 STEEL COMMERCIAL DOOR  
 PART OR ASSEMBLY:  
 VERTICAL CROSS SECTIONS

Documents Prepared By:  
 Lyndon F. Schmidt  
 P.E. No. 43409

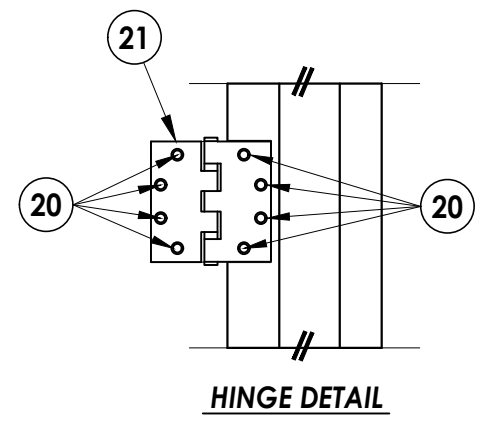
*RW*  
 BUILDING CONSULTANTS, INC.  
 P.O. Box 230, Valrico, FL 33595  
 Phone No.: 813.659.9197  
 FBPE Registry No. 9813



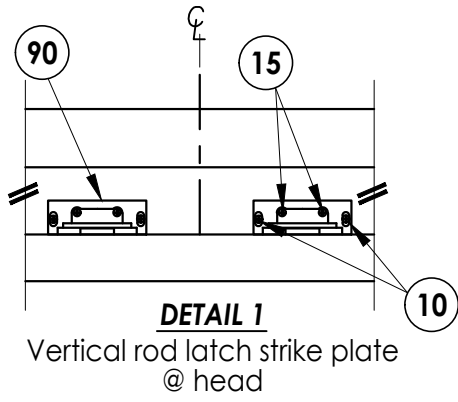
**FRAME ANCHORING**  
Masonry Construction  
Concrete Anchors



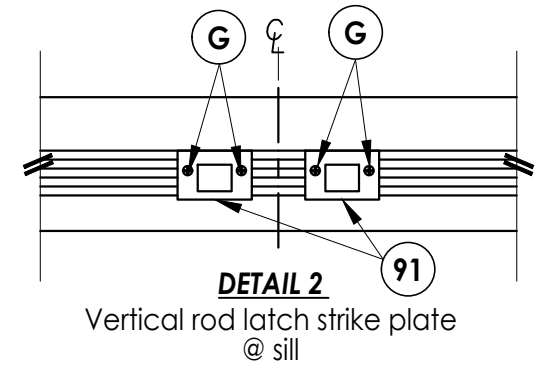
**HINGE JAMB**



**HINGE DETAIL**



**DETAIL 1**  
Vertical rod latch strike plate  
@ head



**DETAIL 2**  
Vertical rod latch strike plate  
@ sill

**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"	2"
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:  
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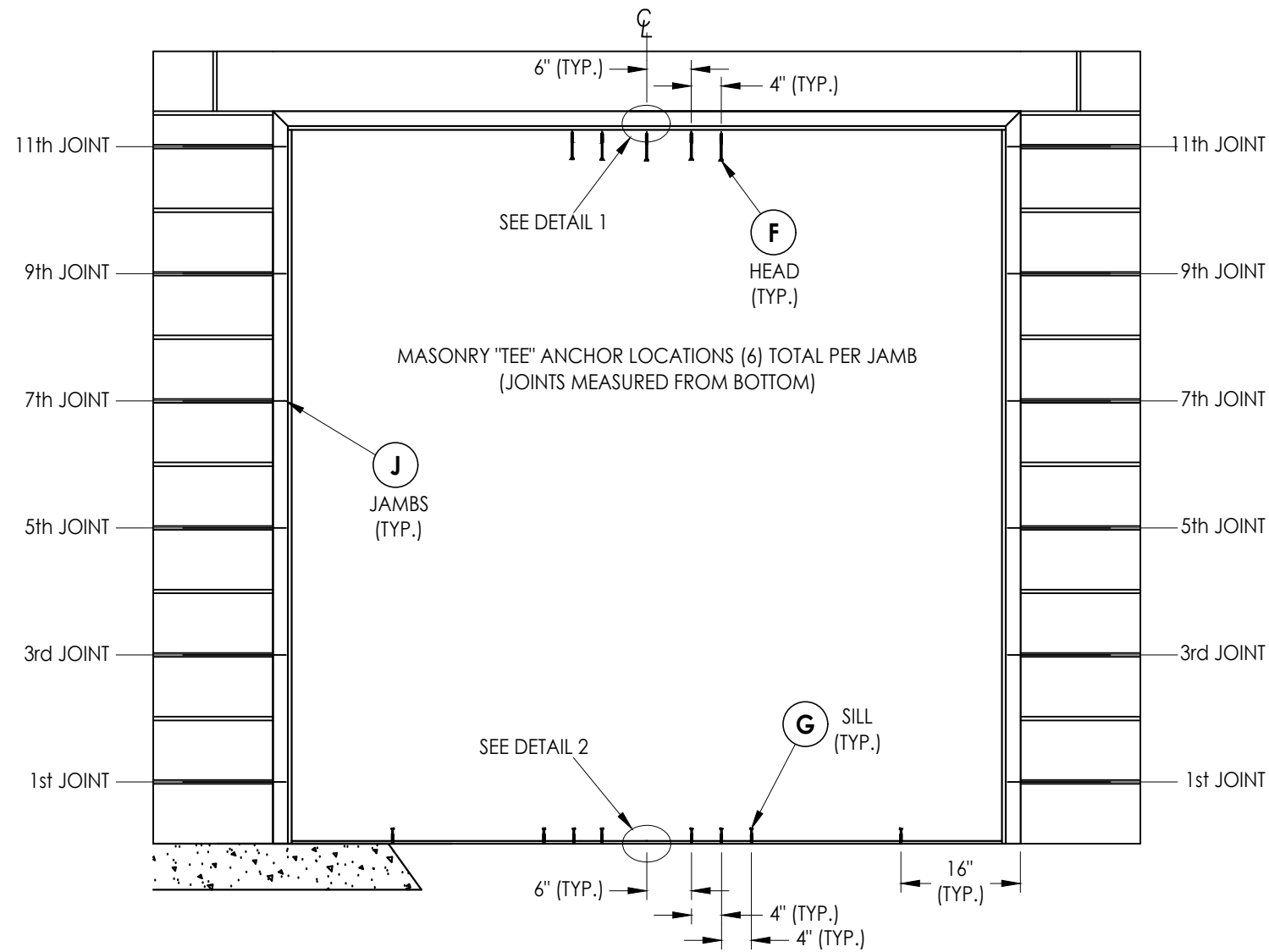
**RW** BUILDING CONSULTANTS, INC.  
P.O. Box 230, Valrico, FL 33595  
Phone No.: 813.659.9197  
FBPE Registry No. 9813

PRODUCT: DKS STEEL COMMERCIAL DOOR

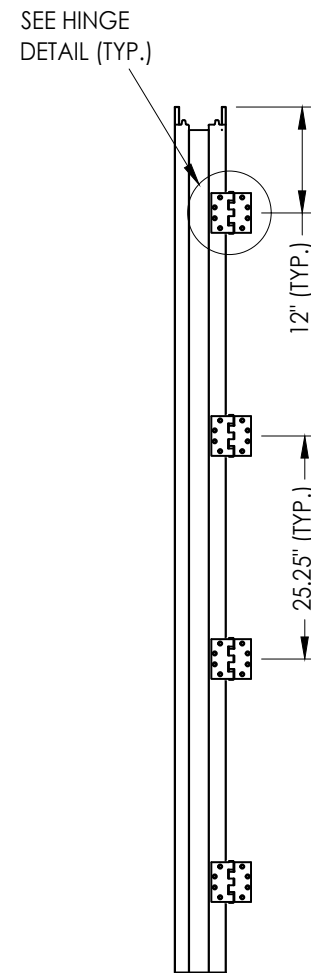
PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	REVISIONS	BY
1	7/01/23	UPDATE TO 8TH ED. (2023) FBC	LFS

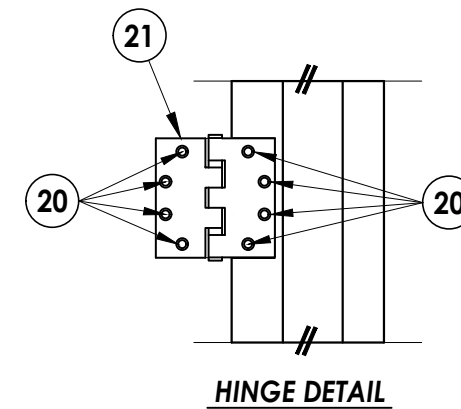
DATE: 3/21/22  
SCALE: N.T.S.  
DWG. BY: LFS  
CHK. BY: RW  
DRAWING NO.: FL-41130.8  
SHEET 5 OF 7



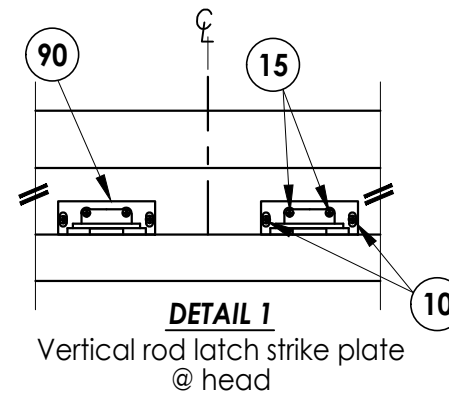
**FRAME ANCHORING**  
Masonry Construction  
Masonry "Tee" Anchors



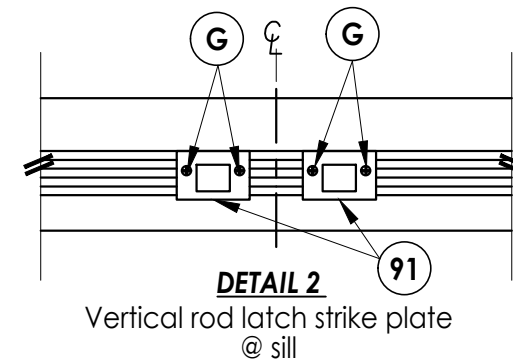
**HINGE JAMB**



**HINGE DETAIL**



**DETAIL 1**  
Vertical rod latch strike plate  
@ head



**DETAIL 2**  
Vertical rod latch strike plate  
@ sill

**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"	2"
DYNABOLT SLEEVE ANCHOR	3/8"	1-1/2"	2-1/4"	4-1/2"

Documents Prepared By:  
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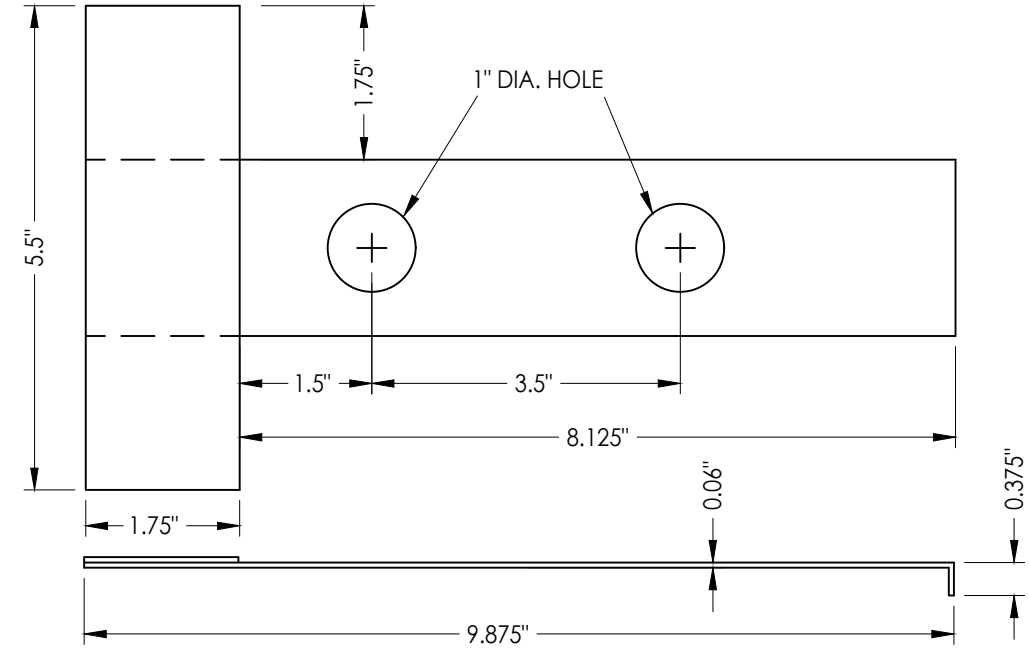
PRODUCT: DKS STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: FRAME ANCHORING

NO.	DATE	BY	REVISIONS
1	7/01/23	LFS	UPDATE TO 8TH ED. (2023) FBC

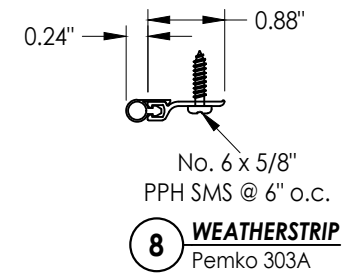
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SCALE: N.T.S.  
DWG. BY: LFS  
CHK. BY: RW  
DRAWING NO.: FL-41130.8  
SHEET 6 OF 7

Z:\2023 FBC Drawings\DKS Steel Door & Frames Systems\FL-41130 R1\FL-41130.7-8.dwg

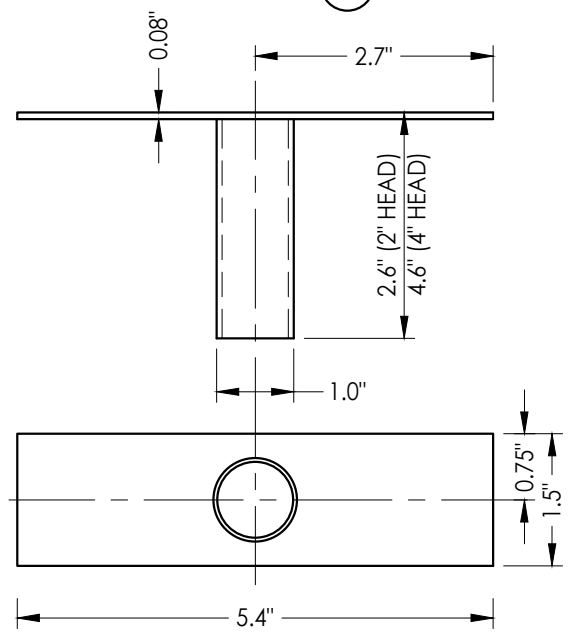
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIAL
C	1/4" MAX. SHIM SPACE	-
E	MASONRY - 3,000 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK CONFORMING TO ASTM C90	CONCRETE
F	3/8" PFH ITW DYNABOLT SLEEVE ANCHOR	STEEL
G	1/4" X 2-1/4" ITW PFH CONCRETE SCREW	STEEL
J	MASONRY "TEE" ANCHOR	STEEL
1	DKS DOOR PANEL	-
3	DOOR BOTTOM CHANNEL	STEEL
4	DOOR TOP CHANNEL	STEEL
5	LOCK BOX REINFORCEMENT	STEEL
6	CLOSER REINFORCEMENT (11 GA.)	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
15	#8-24 X 3/4" COMBINATION MACHINE / WOOD SCREW	STEEL
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
28	FRAME HINGE REINFORCEMENT	STEEL
29	DOOR BOTTOM REINFORCEMENT w/ STRIKE PLATE	STEEL
42	OUTSWING THRESHOLD - PEMKO 2001P	ALUM
74	CAL-ROYAL 7700-V SERIES VERTICAL ROD EXIT DEVICE	-
90	VERTICAL ROD LATCH STRIKE PLATE @ HEAD	STEEL
91	VERTICAL ROD LATCH STRIKE PLATE @ SILL	STEEL



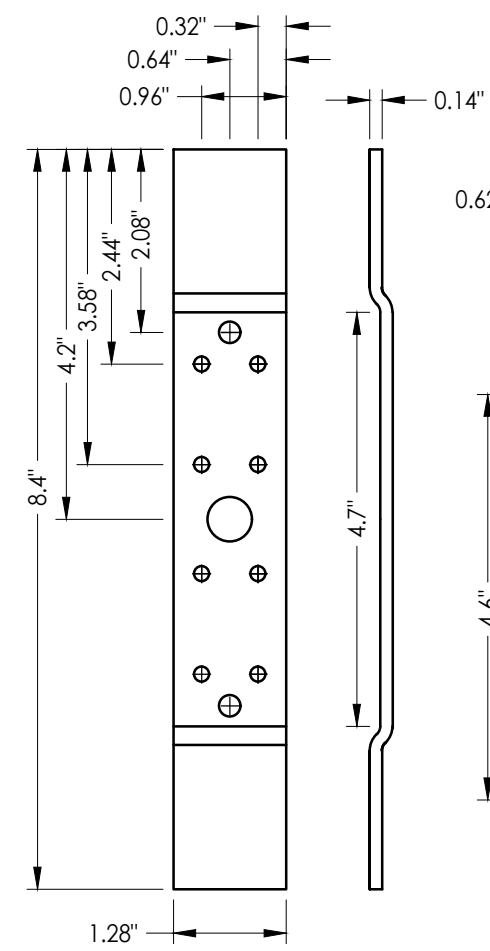
**J MASONRY 'TEE' ANCHOR**



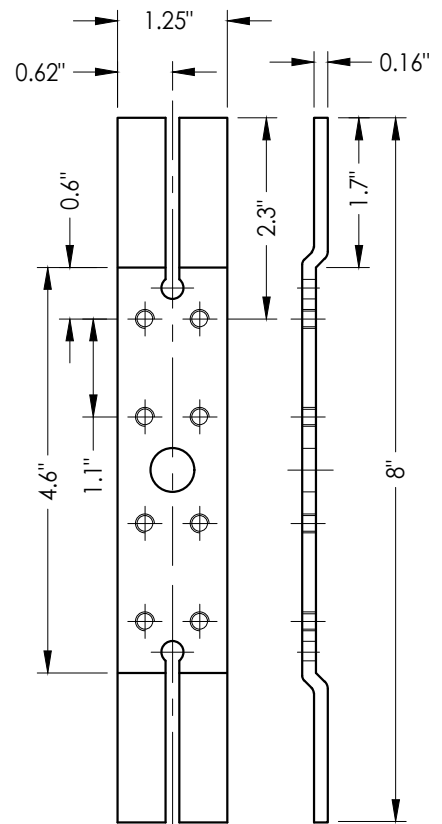
**8 WEATHERSTRIP**  
Pemko 303A



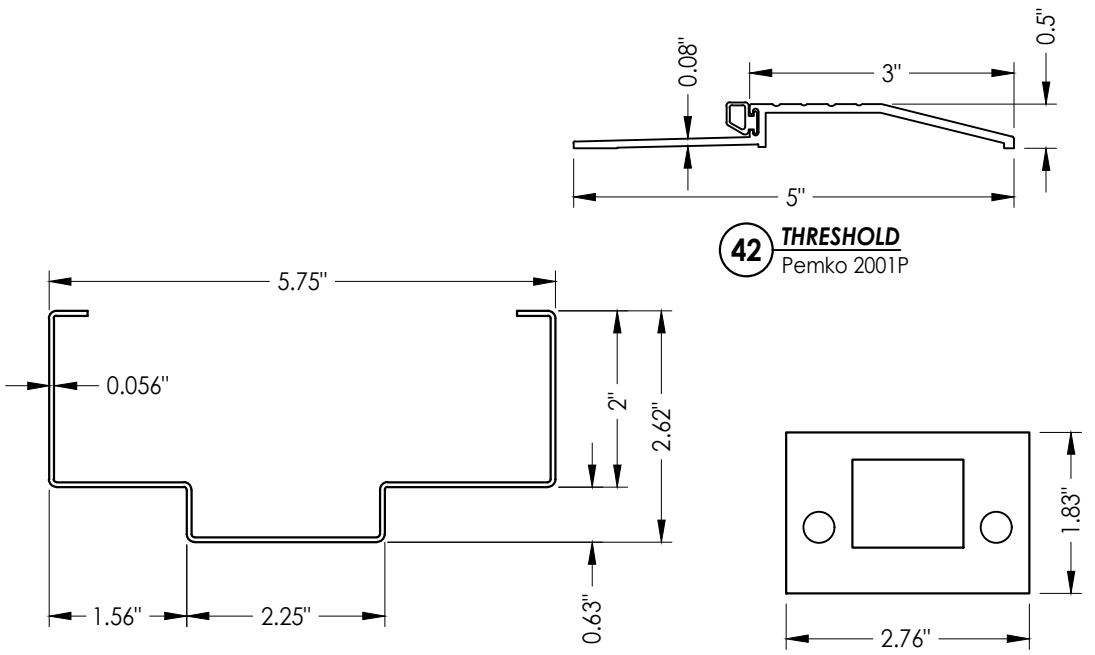
**9 TUBE ANCHOR**



**28 FRAME HINGE REINFORCEMENT**



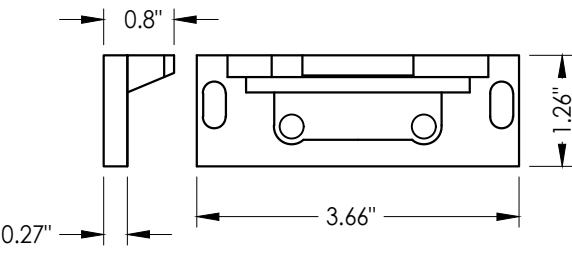
**22 DOOR HINGE REINFORCEMENT**



**25 HOLLOW METAL FRAME**

**42 THRESHOLD**  
Pemko 2001P

**91 VERTICAL ROD LATCH STRIKE PLATE**  
@ Sill



**90 VERTICAL ROD LATCH STRIKE PLATE**  
@ Head

Documents Prepared By:  
Lyndon F. Schmidt  
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PRODUCT: DKS STEEL COMMERCIAL DOOR  
PART OR ASSEMBLY: BILL OF MATERIALS AND COMPONENTS

NO.	DATE	REVISIONS
1	7/01/23	UPDATE TO 8TH ED. (2023) FBC

DATE: 3/21/22  
SCALE: N.T.S.  
DWG. BY: LFS  
CHK. BY: RW  
DRAWING NO.: FL-41130.8  
SHEET 7 OF 7

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