

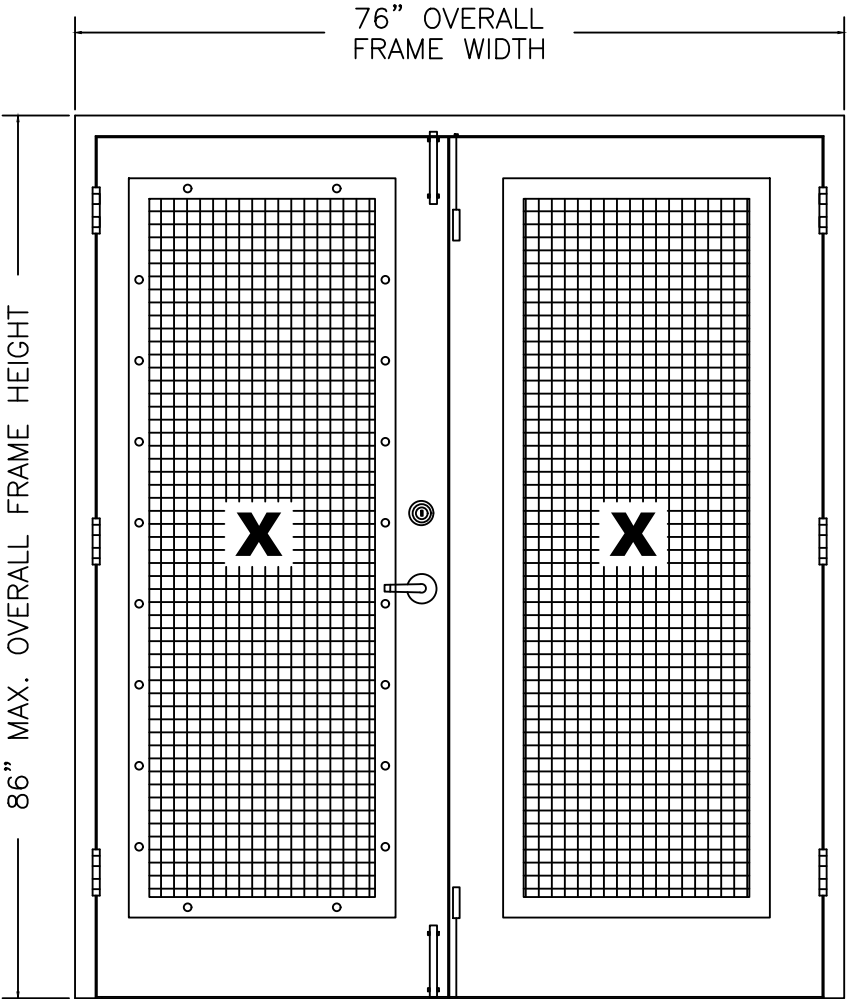


2501 Northchase Parkway SE
Wilmington, NC 28405
Phone: (910) 452-1845
Fax: (910) 452-1848

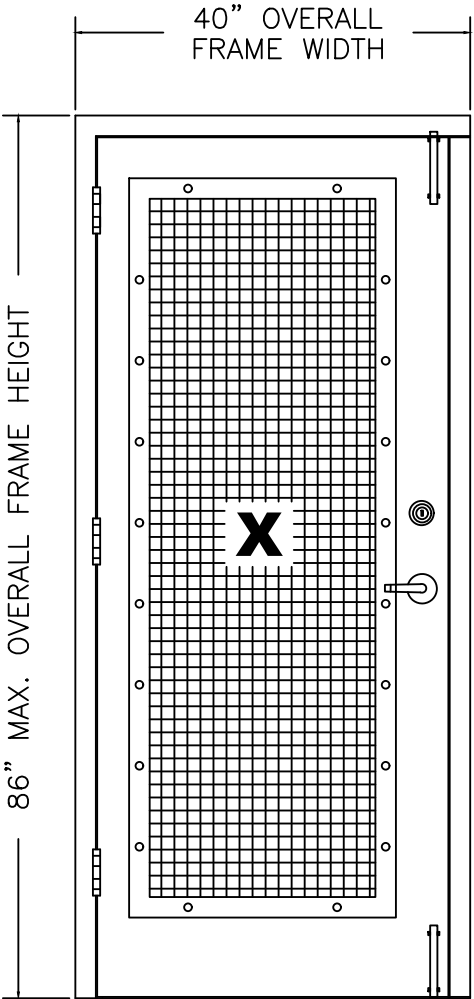
SERIES LOUVERED / GLAZED STEEL DOOR OUTSWING, IMPACT (X, XX)

GENERAL NOTES

1. THIS PRODUCT HAS BEEN EVALUATED AND IS IN COMPLIANCE WITH THE 7TH EDITION (2020) FLORIDA BUILDING CODE (FBC) REQUIREMENTS EXCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ) AND HAS BEEN EVALUATED TO THE FOLLOWING.
1.1. ASTM E330-02
1.2. ASTM E1886-02
1.3. ASTM E1996-02
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 AREAS REQUIRING WIND BORNE DEBRIS PROTECTION THIS PRODUCT COMPLIES WITH SECTION 1609.1.2 OF THE FBC AND DOES NOT REQUIRE AN IMPACT RESISTANT COVERING THIS PRODUCT MEETS MISSILE LEVEL "D" AND INCLUDES WIND ZONE 4 AS DEFINED IN ASTM E1996 AND SECTION 1609.1.2.2 OF THE FBC.
4. THIS PRODUCT DOES NOT MEET THE WATER INFILTRATION REQUIREMENTS OF THE FBC AND SHALL BE INSTALLED ONLY IN NON-HABITABLE AREAS OR AT HABITABLE LOCATIONS PROTECTED BY AN OVERHANG OR CANOPY SUCH THAT THE OVERHANG RATIO (OH) = OH LENGTH / OH HEIGHT IS EQUAL TO OR GREATER THAN 1.
5. SITE CONDITIONS THAT DEVIATE FROM THE DETAILS OF THIS DRAWING REQUIRE FURTHER ENGINEERING ANALYSIS BY A LICENSED ENGINEER OR REGISTERED ARCHITECT.
6. SEE MIAMI-DADE NOA NO. 20-1211.03 FOR CARPENTER CO. PREFORMED BLOCK TYPE EPS INSULATION COMPONENT APPROVAL.
7. SEE MIAMI-DADE NOA NO. 20-0622.07 FOR OLDCASTLE BUILDING ENVELOPE, INC. STORMGLASS GLASS INTERLAYER COMPONENT APPROVAL.
8. POWER TRANSFER PREPS, DOOR POSITION SWITCH AND ELECTRICAL HINGE PREPS ARE ALLOWED AS LONG AS THE STRUCTURAL INTEGRITY OF THE DOOR PANEL IS NOT AFFECTED.



1 STEEL DOOR (LOUVERED)



2 STEEL DOOR (LOUVERED)

TABLE OF CONTENTS	
SHEET #	DESCRIPTION
1	LOUVERED STEEL DOOR TYP ELEVATIONS, DESIGN PRESSURES & GENERAL NOTES
2	GLAZED STEEL DOOR TYP ELEVATIONS, DESIGN PRESSURES & GENERAL NOTES
3	LOUVERED STEEL DOOR PANEL DETAILS
4	GLAZED STEEL DOOR PANEL DETAILS
5	ELEVATIONS
6 & 7	HORIZONTAL CROSS SECTIONS
8	HORIZONTAL & VERTICAL CROSS SECTIONS
9 TO 11	ANCHORING DETAILS
12	COMPONENTS
13	BILL OF MATERIALS & COMPONENTS

DOOR TYPES	MAXIMUM OVERALL DIMENSION		DESIGN PRESSURE (PSF) *	
	DOOR FRAME	OPERABLE PANEL	POSITIVE	NEGATIVE
DOUBLE DOOR LOUVERED	76" x 86"	35.8125" x 83.5"	+55	-55
SINGLE DOOR LOUVERED	40" x 86"	35.8125" x 83.5"	+65	-70
WIND ZONE 4, MISSILE LEVEL D IMPACT RATED				
* SEE SHEET 3 FOR HARDWARE SELECTIONS AND ADDITIONAL DESIGN PRESSURE LIMITATIONS				

PROJECT # 420-1002

HMF EXPRESS

2501 NORTHCHASE PARKWAY SE

WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT

TYP. ELEVATIONS, DESIGN PRESSURES AND GENERAL NOTES

DATE: 2/27/19

DRAWING NO: HMF-0004

SHEET: 1 OF 13

DRAWN BY: DAS

SCALE: N.T.S.

REV: A

8/4/21

UPDATE TO 2020 FBC

DESCRIPTION

RJA

DATE

BY

Robert J. Amoruso, P.E.
Florida P.E. No. 49752

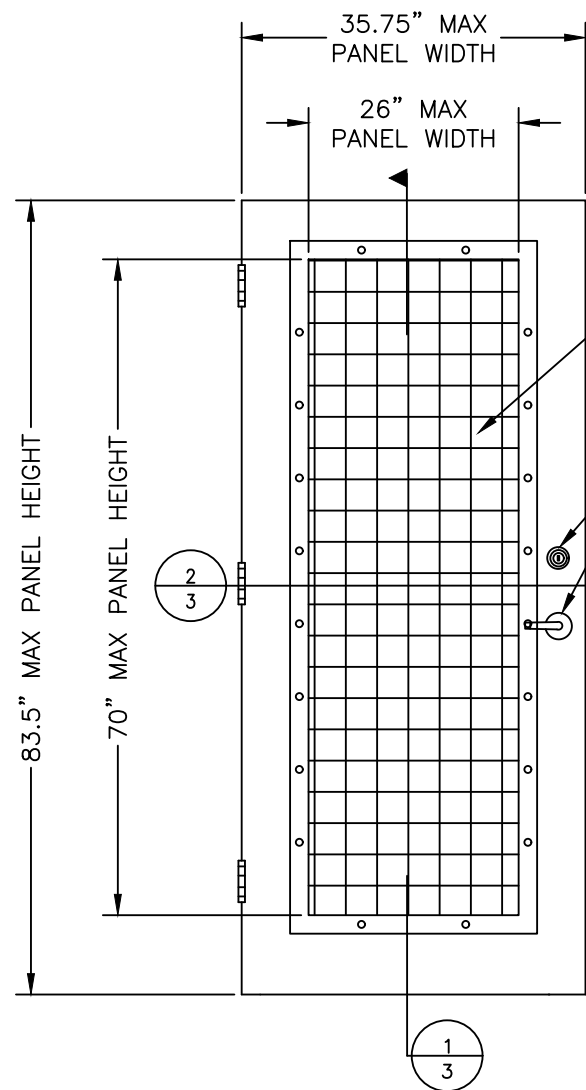
PROFESSIONAL ENGINEER

STATE OF FLORIDA

Robert J. Amoruso

No 49752

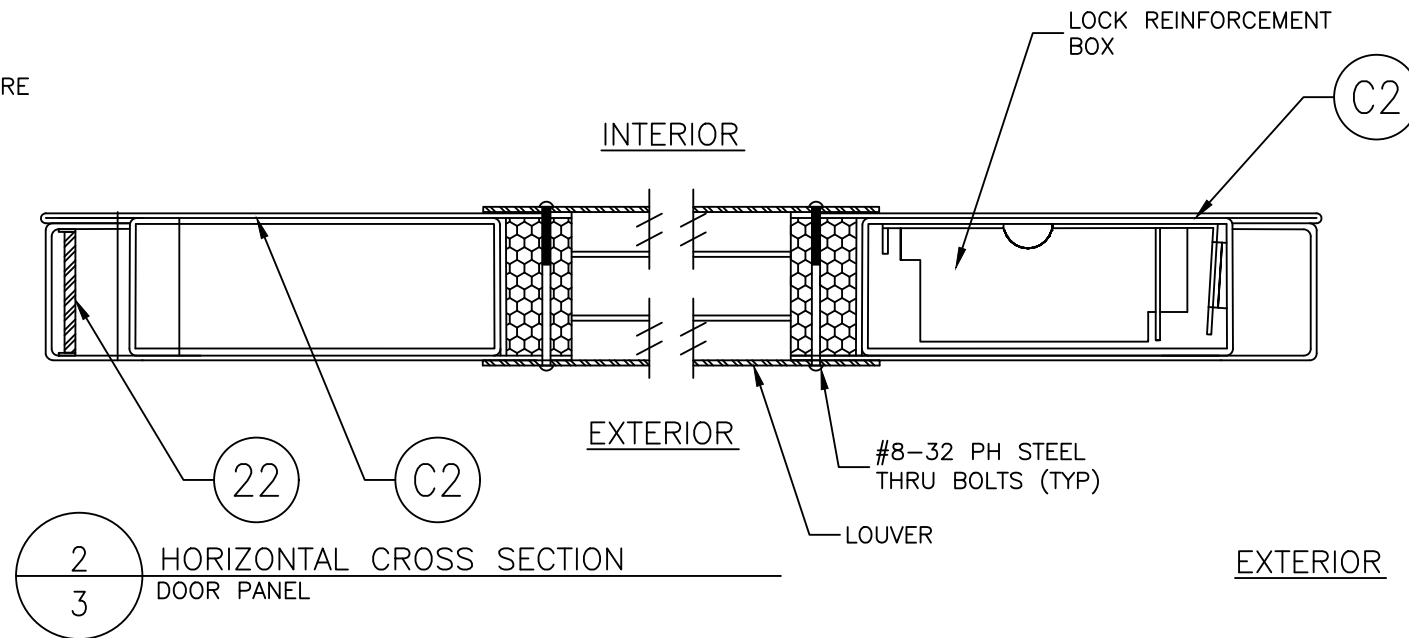
8/15/24



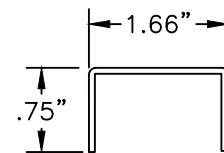
1 LOUVERED STEEL DOOR PANEL

PLSL LOUVER W/ SECURITY GRILLE
 12GA. COLD ROLLED STEEL FRAME & SECURITY GRILLE
 FACE PLATE (WITH 3/16" SQ. HOLES ON 1" CENTERS).
 18GA. COLD ROLLED STEEL LOUVER BLADES.

SEE
HARDWARE
CHART

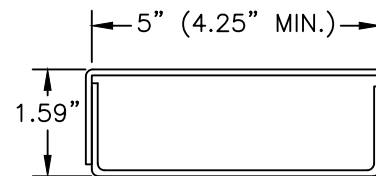


2
3 HORIZONTAL CROSS SECTION
DOOR PANEL

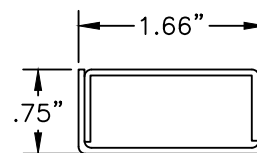


CHANNELS: 16 GA.
(MIN. 0.058" THK.)

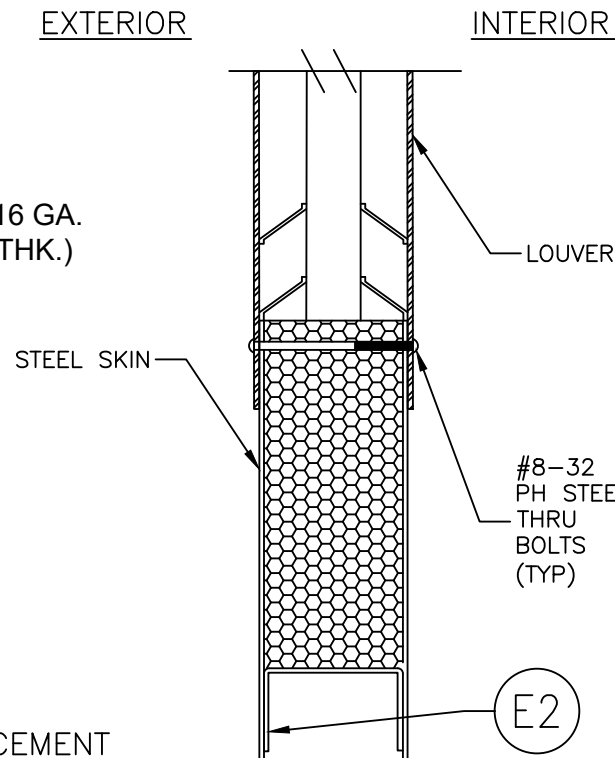
E2 BOTTOM CHANNEL
A60 GALV. STEEL



C2 BOX CHANNEL REINFORCEMENT
A60 GALV. STEEL



B2 TOP CHANNEL
A60 GALV. STEEL



1
3 VERTICAL CROSS SECTION
DOOR PANEL

STEEL DOOR SKIN: 16 GA. A60 GALV.
(MIN. 0.058" THK.)
 CORE MATERIAL: EPS FOAM
(POLYSTYRENE - 1.0PCF MIN. DENSITY)

HARDWARD CHART			
X OR XX DOOR	MANUFACTURER	MODEL	DESIGN PRESSURE (PSF)
X	SCHLAGE	LOCK: D-SERIES	+65/-70
XX (W/SURFACE BOLTS)	SCHLAGE	LOCK: D-SERIES	+/-55
X	SCHLAGE	SCHLAGE GRADE 1 L9000 MORTISE LOCK SERIES WITH ASA STRIKE (4-7/8")	+/-60
XX (W/SURFACE BOLTS)	SCHLAGE	SCHLAGE GRADE 1 L9000 MORTISE LOCK SERIES WITH ASA (4-7/8") STRIKE AND SURFACE BOLTS	+/-55
X	VON DUPRIN	VON DUPRIN GRADE 1 RIM EXIT X RIM EXIT NO. 98/99 SERIES	+65/-70
XX	VON DUPRIN	VON DUPRIN SVR EXIT DEVICES AT BOTH DOORS, GRADE 1, NO. 9827/9927 SERIES	+/-55
XX	VON DUPRIN	VON DUPRIN GRADE 1 RIM EXIT X RIM EXIT NO. 98/99 SERIES WITH HH9954 HARDWARE MULLION	+/-55

PROJECT # 420-1002

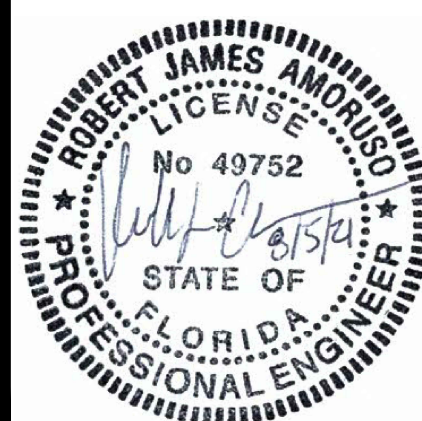
HMF EXPRESS
 2501 NORTHCHASE PARKWAY SE
 WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
 LOUVERED STEEL DOOR PANEL DETAILS

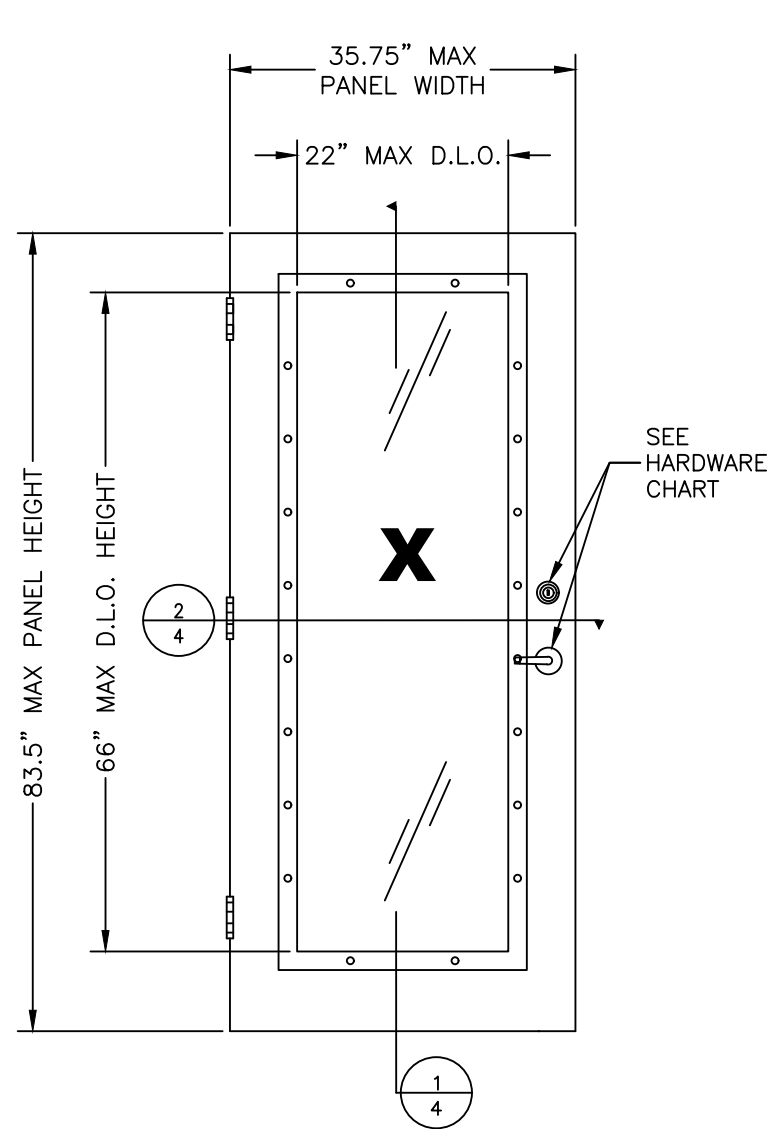
DRAWN BY:	DAS	DATE:	2/27/19
SCALE:	N.T.S.	DRAWING NO:	HMF0004
REV:	A	SHEET:	3 OF 13

PREPARED BY:
 PTC PRODUCT DESIGN GROUP, LLC
 PO BOX 520775
 LONGWOOD, FLORIDA 32752
 Phone: 321.690.1788
 Fax: 321.690.1789
 Email: info@ptc-corp.com

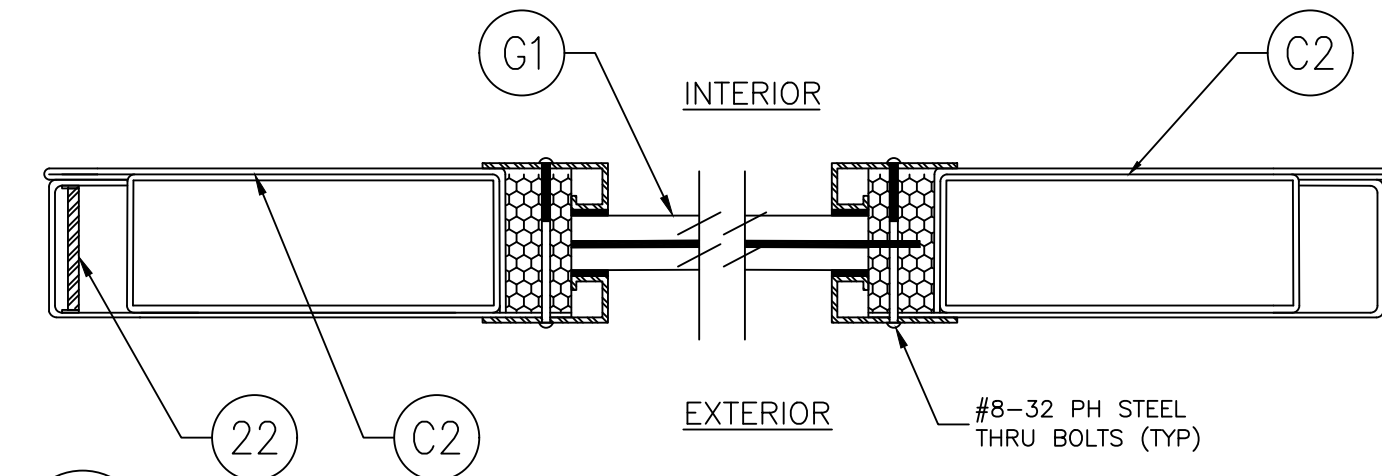
Robert J. Amoruso, P.E.
 Florida P.E. No. 49752



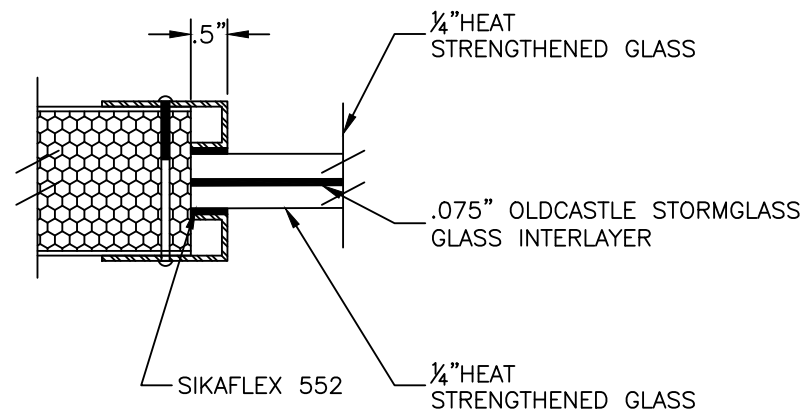
REV	DESCRIPTION	DATE	BY
A	UPDATE TO 2020 FBC	8/4/21	RJA



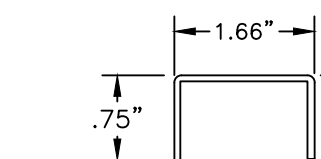
1 GLAZED STEEL DOOR PANEL



2
4 HORIZONTAL CROSS SECTION DOOR PANEL

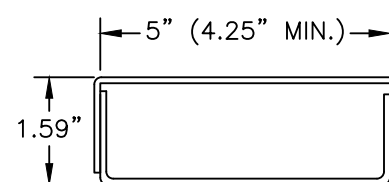


G1 GLAZING DETAIL

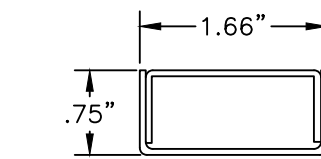


E2 BOTTOM CHANNEL A60 GALV. STEEL

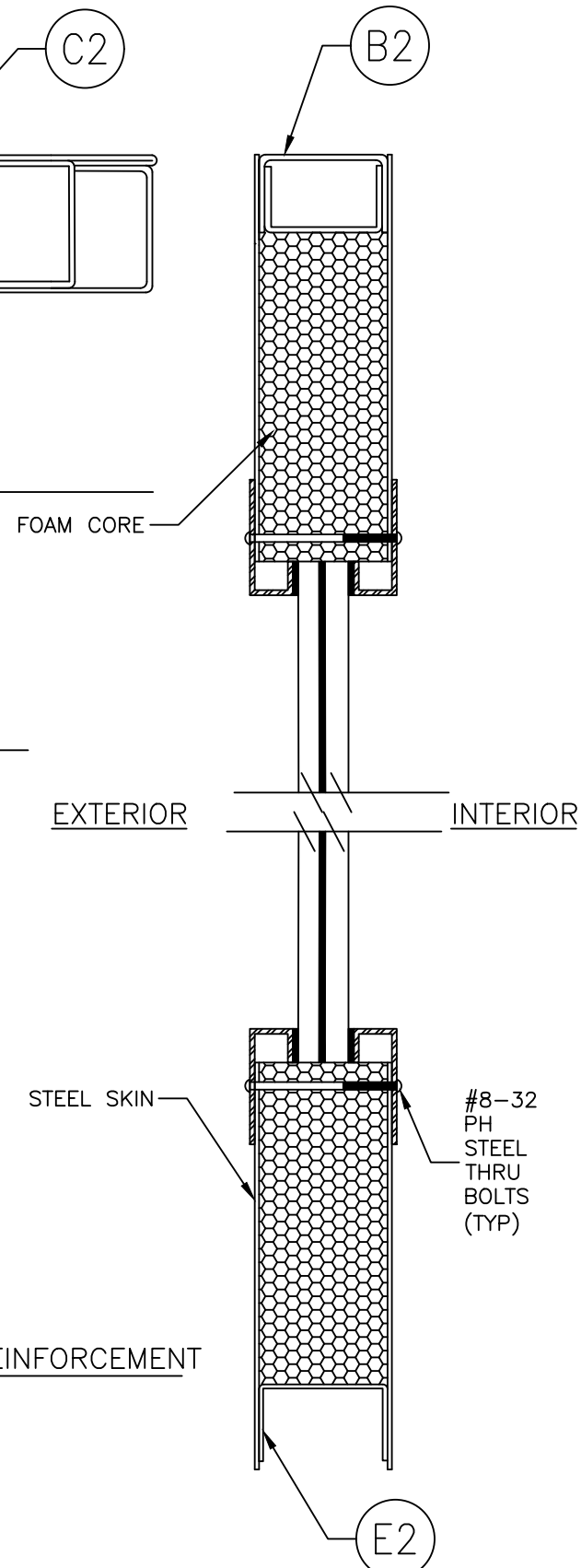
CHANNELS: 16 GA. (MIN. 0.058" THK.)



C2 BOX CHANNEL REINFORCEMENT A60 GALV. STEEL



B2 TOP CHANNEL A60 GALV. STEEL



1
4 VERTICAL CROSS SECTION DOOR PANEL

STEEL DOOR SKIN: 16 GA. A60 GALV. (MIN. 0.058" THK.)

CORE MATERIAL: EPS FOAM (POLYSTYRENE - 1.0PCF MIN. DENSITY)

HARDWARD CHART			
X OR XX DOOR	MANUFACTURER	MODEL	DESIGN PRESSURE (PSF)
X	SCHLAGE	LOCK: D-SERIES	+65/-70
XX (W/SURFACE BOLTS)	SCHLAGE	LOCK: D-SERIES	+/-55
X	SCHLAGE	SCHLAGE GRADE 1 L9000 MORTISE LOCK SERIES WITH ASA STRIKE (4-7/8")	+/-60
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X	VON DUPRIN	VON DUPRIN GRADE 1 RIM EXIT X RIM EXIT NO. 98/99 SERIES	+65/-70
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XX	VON DUPRIN	VON DUPRIN GRADE 1 RIM EXIT X RIM EXIT NO. 98/99 SERIES WITH HH9954 HARDWARE MULLION	+/-55

PROJECT # 420-1002

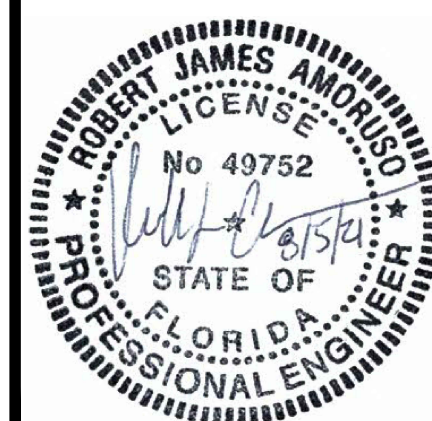
HMF EXPRESS
2501 NORTHCHASE PARKWAY SE
WILMINGTON, NC 28405

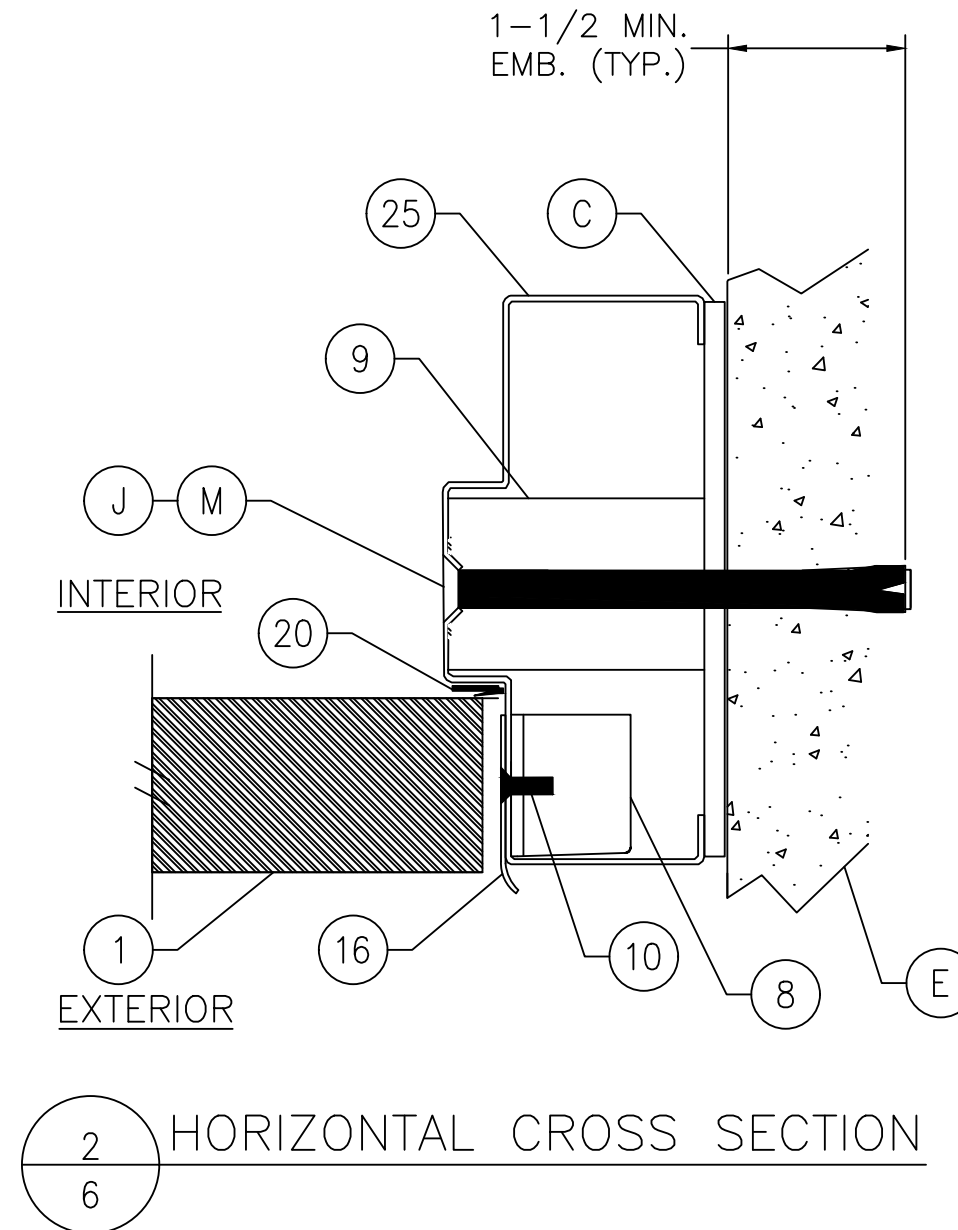
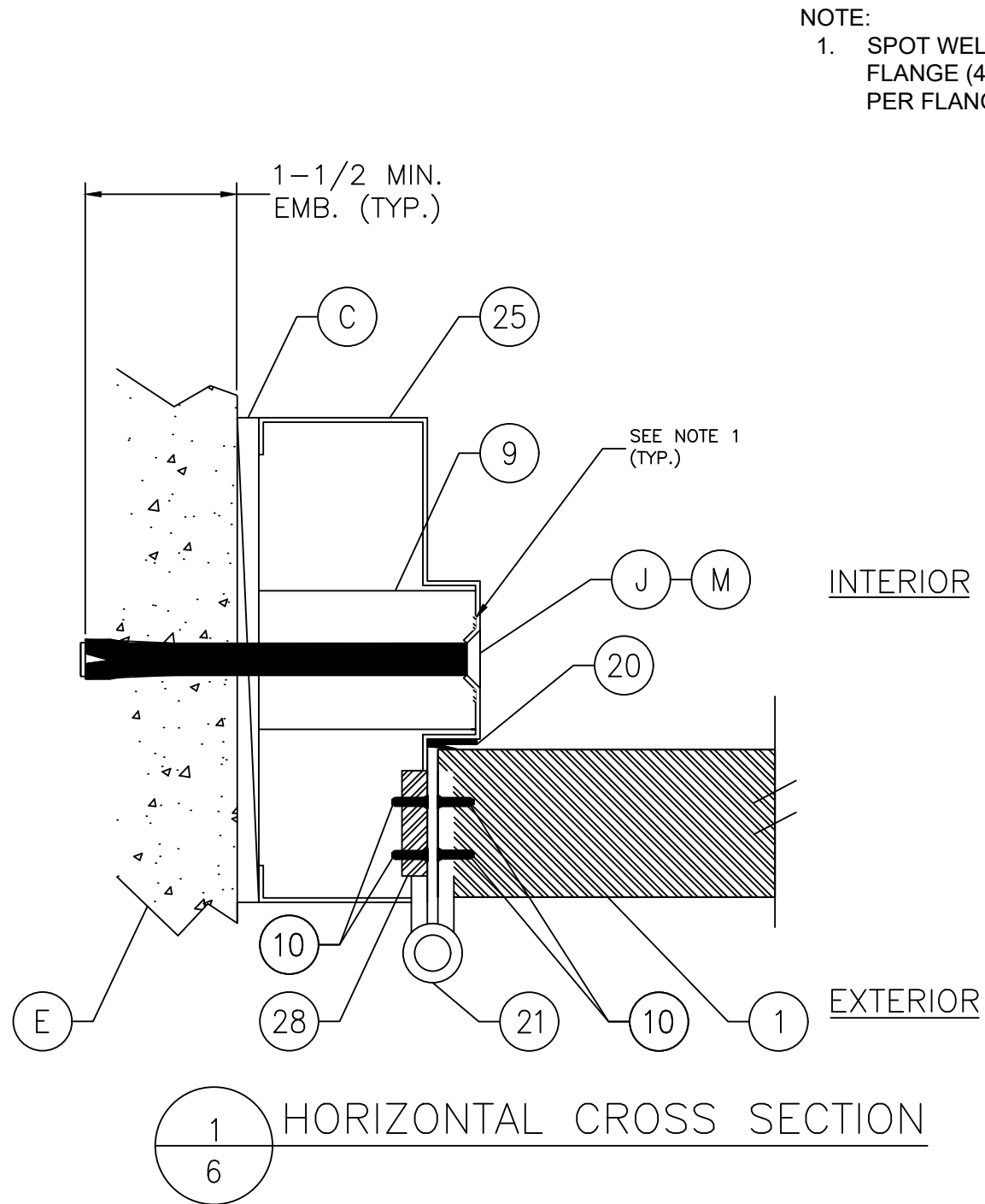
SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
GLAZED STEEL DOOR PANEL DETAILS

DRAWN BY:	DAS	DATE:	2/27/19
SCALE:	N.T.S.	DRAWING NO:	HMF0004
REV:	A	SHEET:	4 OF 13

REV	DESCRIPTION	DATE	BY
A	UPDATE TO 2020 FBC	8/4/21	RJA

Robert J. Amoruso, P.E.
Florida P.E. No. 49752





PROJECT # 420-1002

HMF EXPRESS
2501 NORTHCASE PARKWAY SE
WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
HORIZONTAL CROSS SECTIONS

DATE: 2/27/19
DRAWING NO: HMF0004
SHEET: 6 OF 13
REV: A

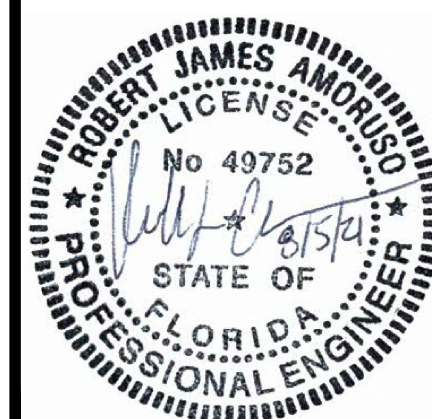
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REV

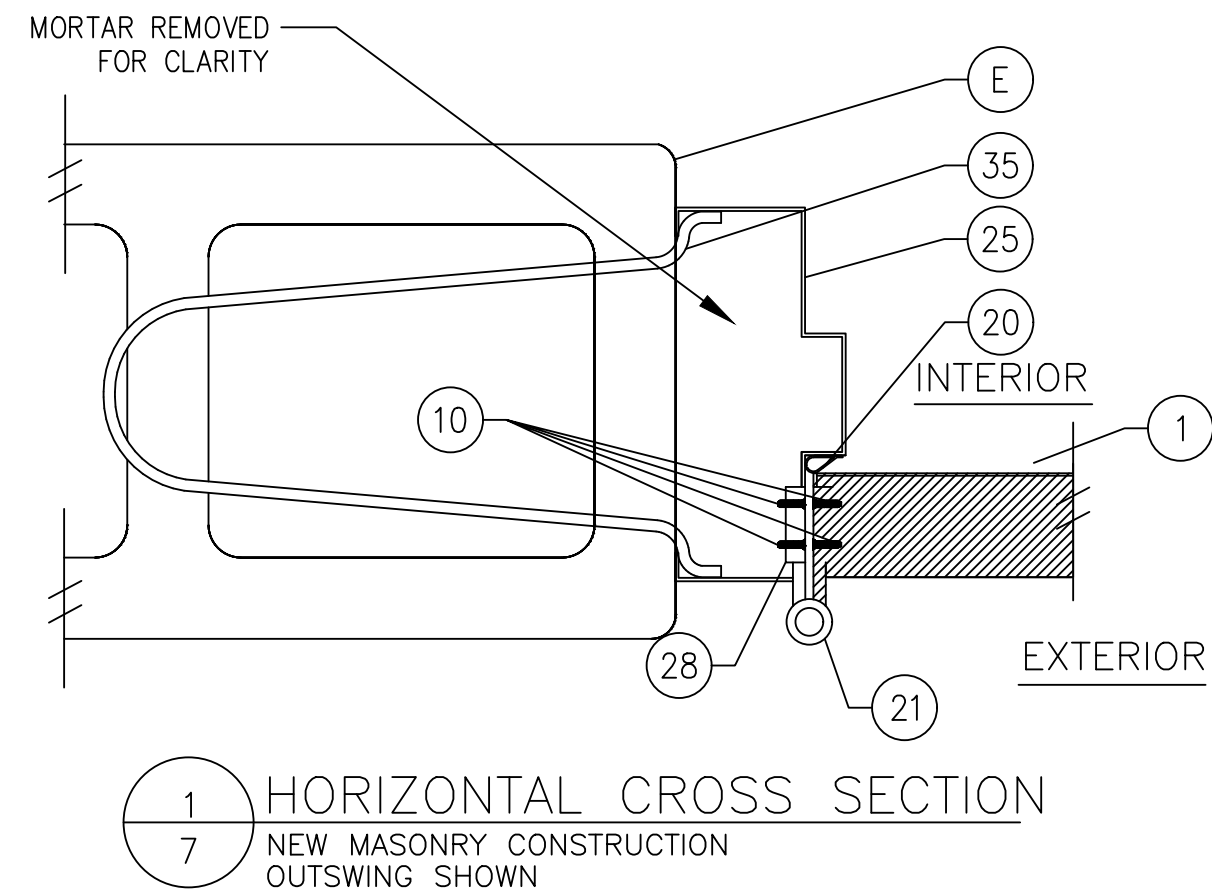
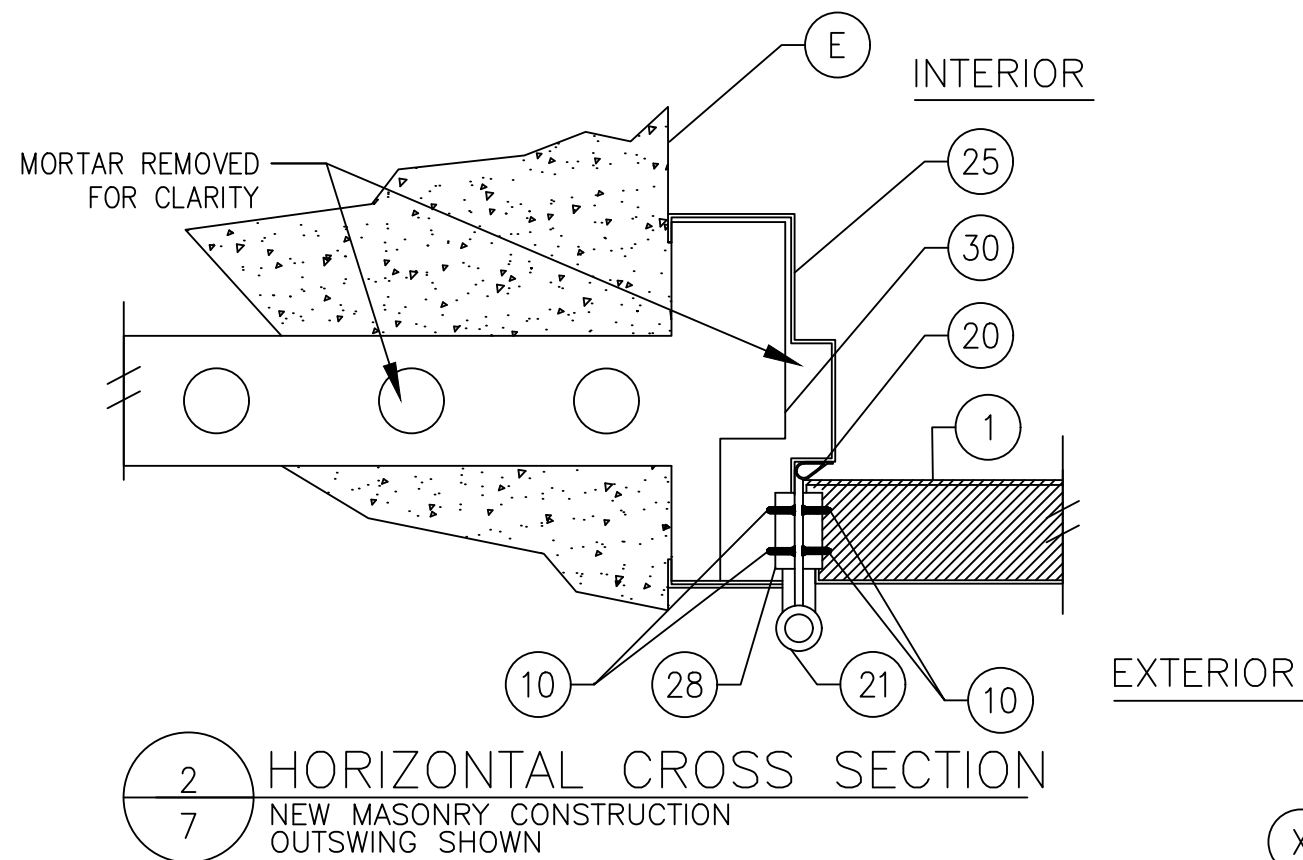
BY
RJA

DATE
8/4/21

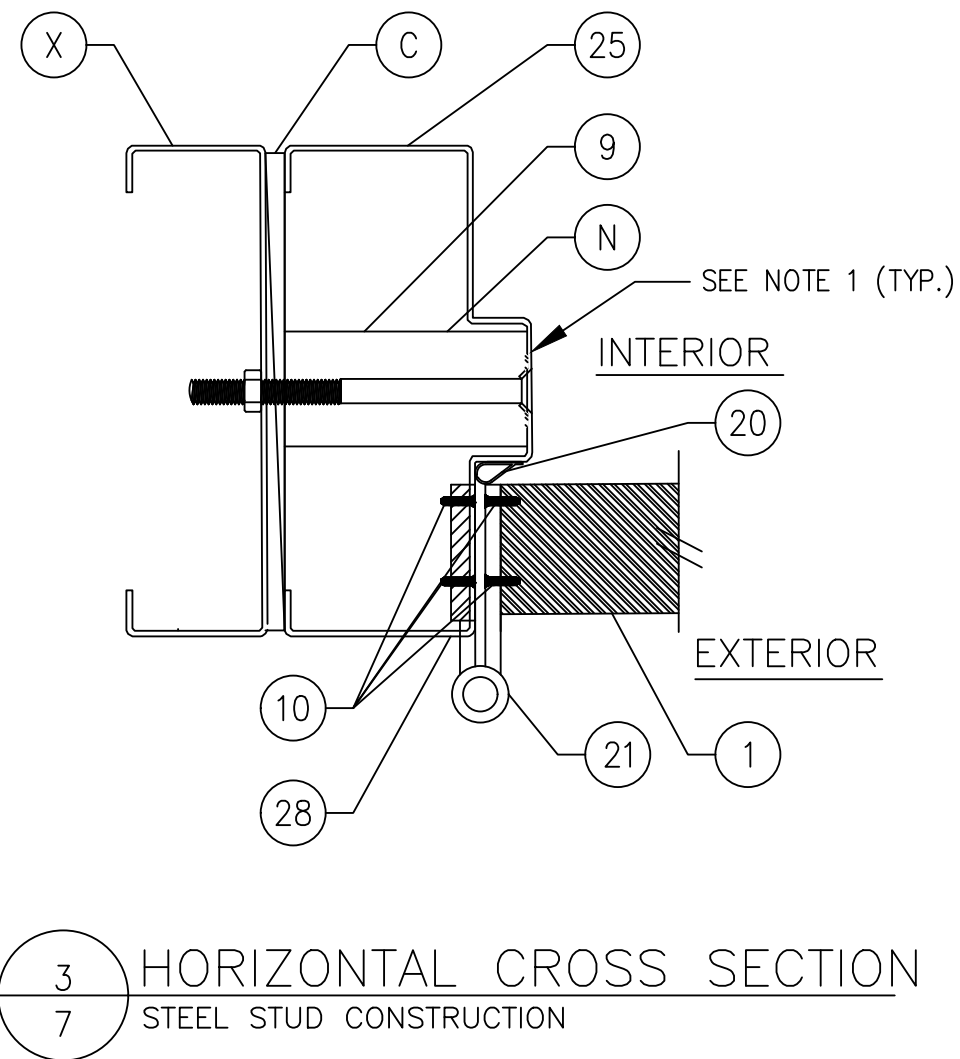
UPDATE TO 2020 FBC
A

Robert J. Amoruso, P.E.
Florida P.E. No. 49752





NOTE:
1. SPOT WELD ANCHOR BRACKET TO FRAME. 2 WELDS PER FLANGE (4 TOTAL PER BRACKET). ALTERNATIVELY MIG WELD, 1 PER FLANGE (2 TOTAL PER BRACKET).



PROJECT # 420-1002

HMF EXPRESS
2501 NORTHCHASE PARKWAY SE
WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
HORIZONTAL CROSS SECTIONS

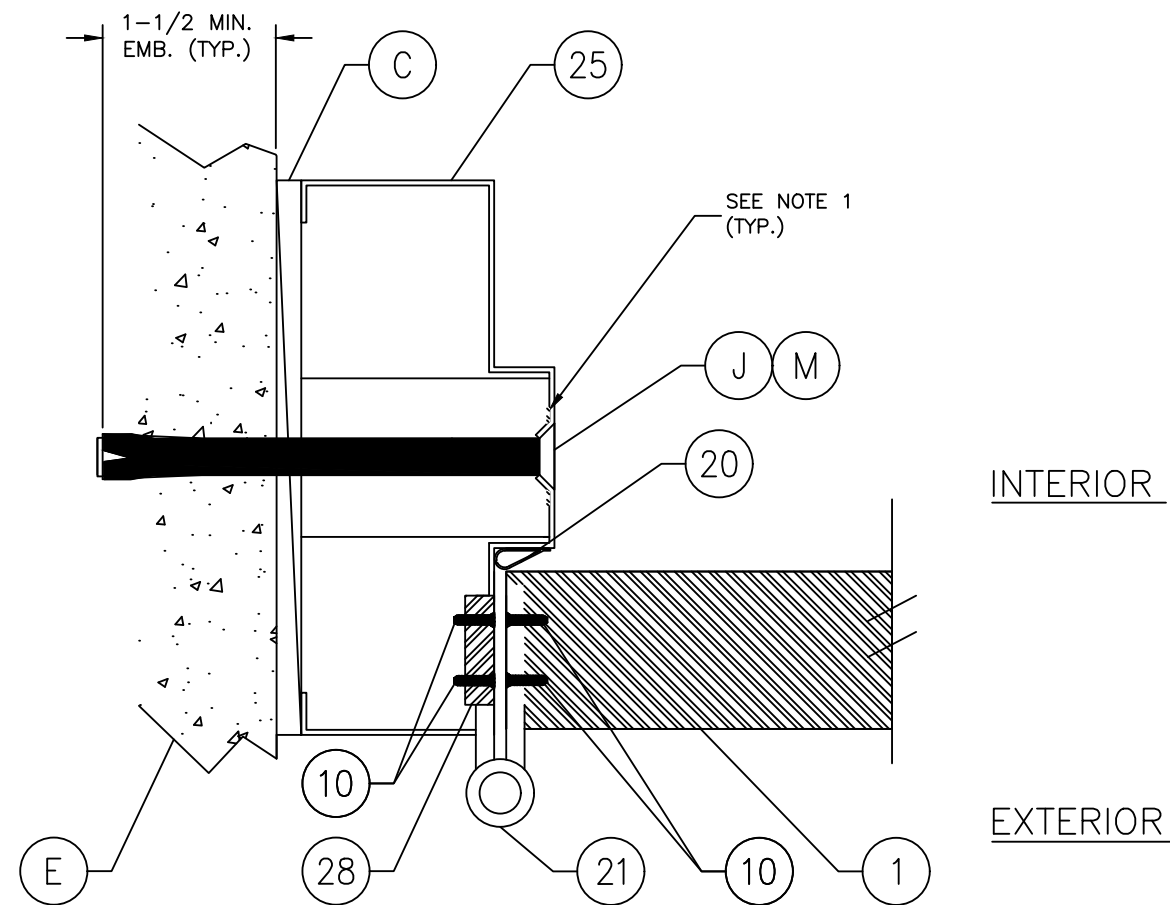
PREPARED BY: PTC
PO BOX 520775
LONGWOOD, FLORIDA 32752
FBPE CA NO 23355

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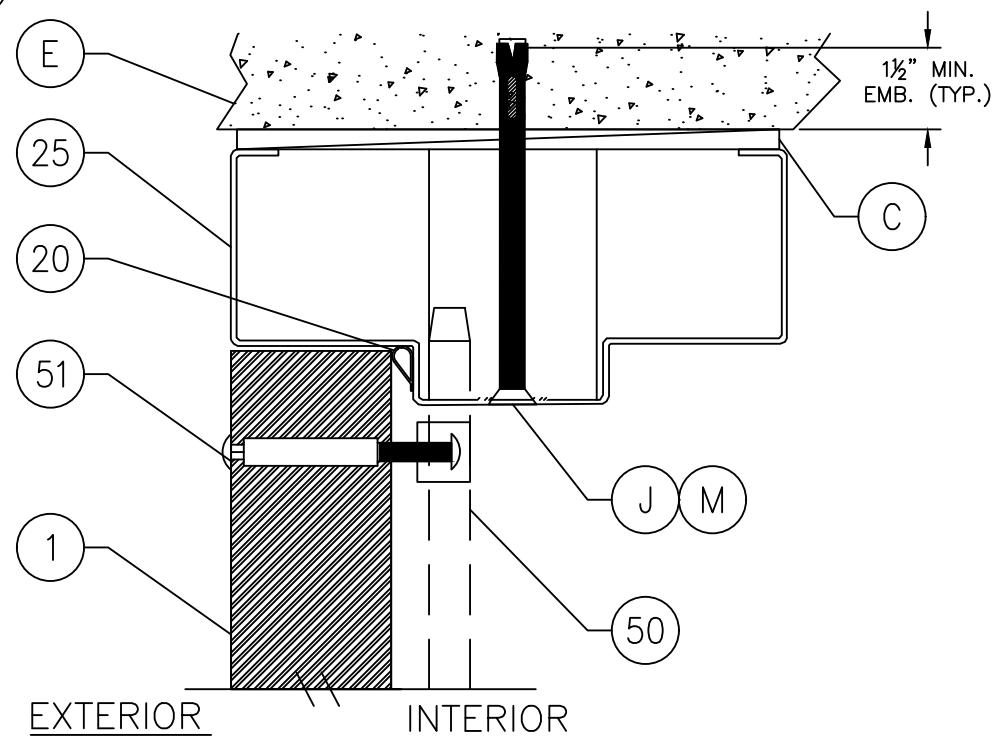
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DRAWING NO: HMF0004
SHEET: 7 OF 13

Robert J. Amoruso, P.E.
Florida P.E. No. 49752



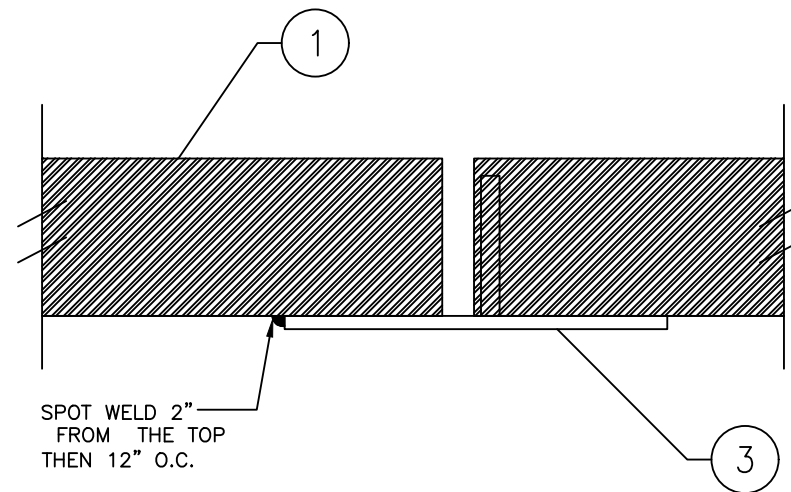


1
8 HORIZONTAL CROSS SECTION

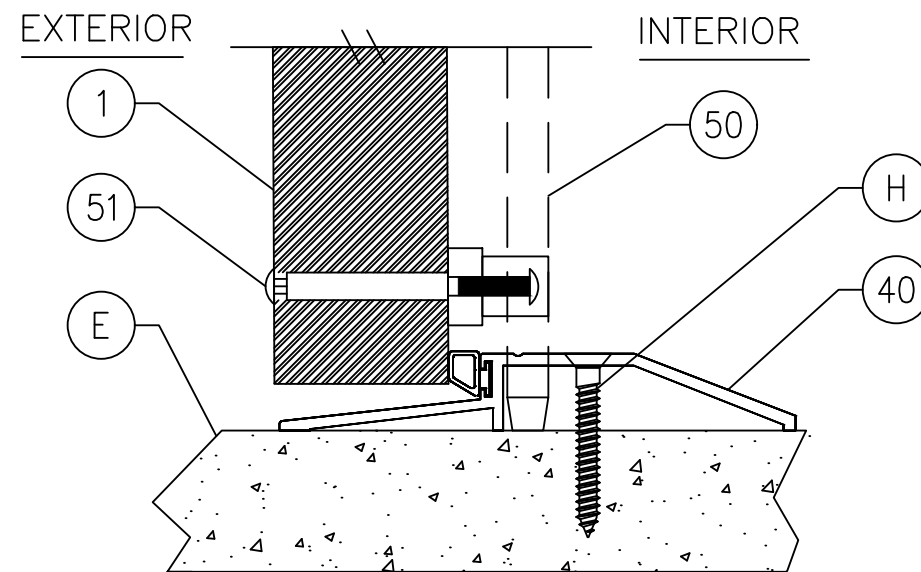


3
8 VERTICAL CROSS SECTION

NOTE:
1. SPOT WELD ANCHOR BRACKET TO FRAME. 2 WELDS PER FLANGE (4 TOTAL PER BRACKET). ALTERNATIVELY MIG WELD, 1 PER FLANGE (2 TOTAL PER BRACKET).



2
8 HORIZONTAL CROSS SECTION



4
8 VERTICAL CROSS SECTION

PROJECT # 420-1002

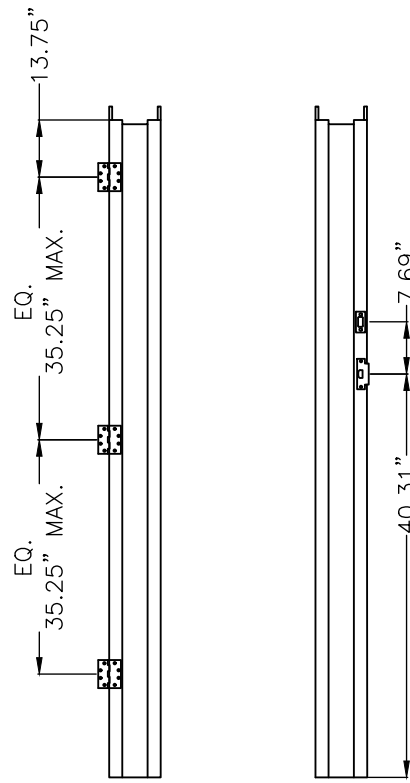
HMF EXPRESS
2501 NORTHCHASE PARKWAY SE
WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
HORIZONTAL & VERTICAL CROSS SECTIONS

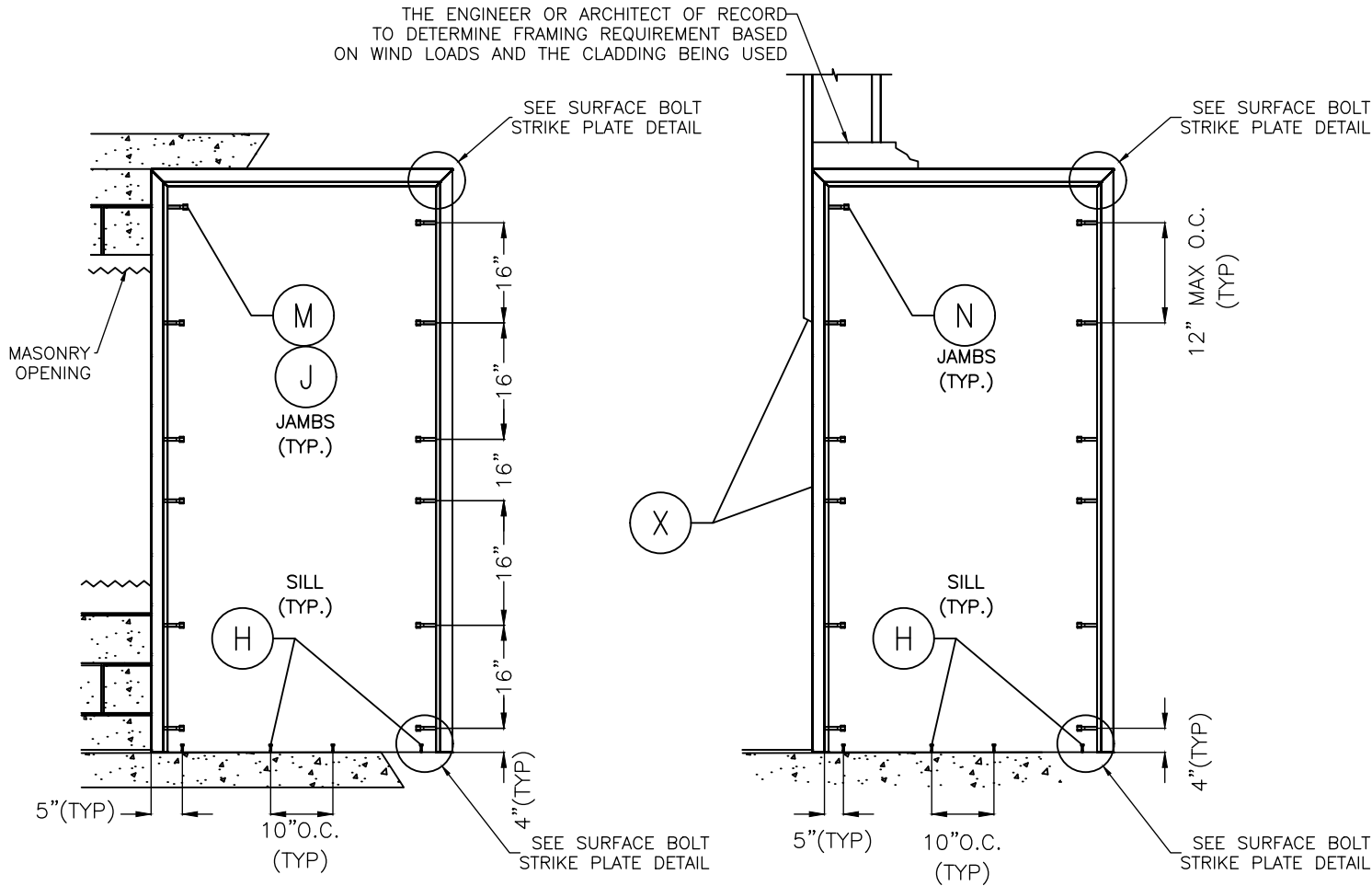
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DRAWN BY:	DAS	SCALE:	N.T.S.	REV:	A
PREPARED BY:	PTC	DATE:	8/15/24	DESCRIPTION	REV

Robert J. Amoruso, P.E.
Florida P.E. No. 49752



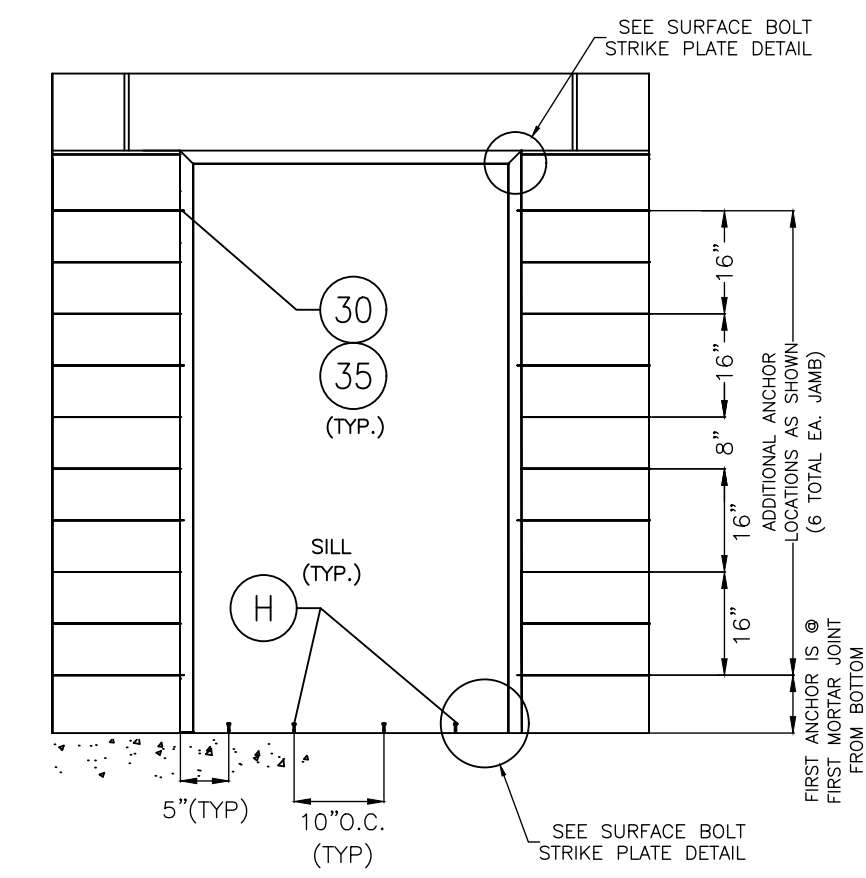


HINGE JAMB STRIKE JAMB



FRAME ANCHORING
MASONRY CONSTRUCTION
CONCRETE ANCHORS
SHOWN WITH 4" HEAD (2" HEAD SIMILAR)

FRAME ANCHORING
STEEL STUD CONSTRUCTION



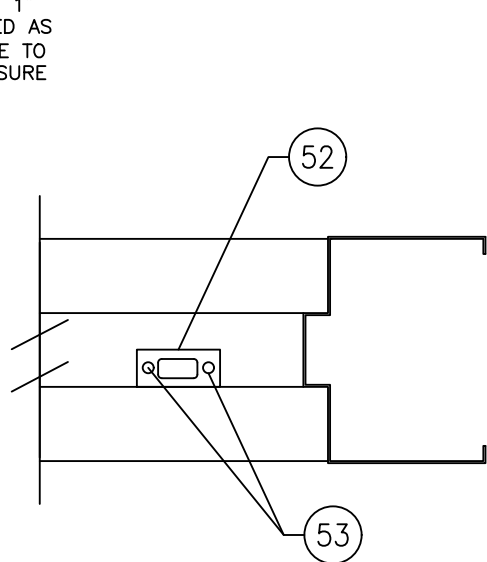
FRAME ANCHORING
MASONRY CONSTRUCTION
CONCRETE ANCHORS

CONCRETE ANCHOR NOTES:

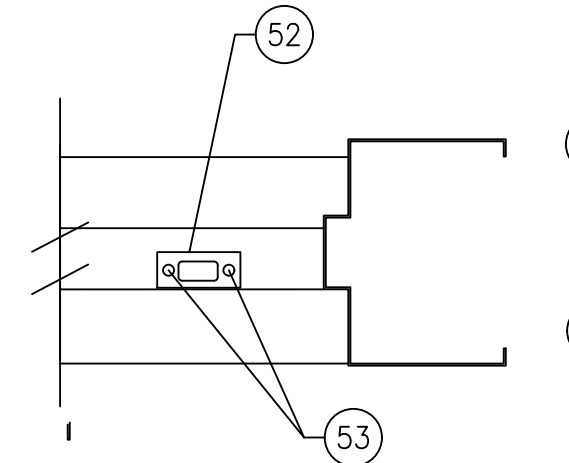
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2. CONCRETE ANCHOR TABLE:

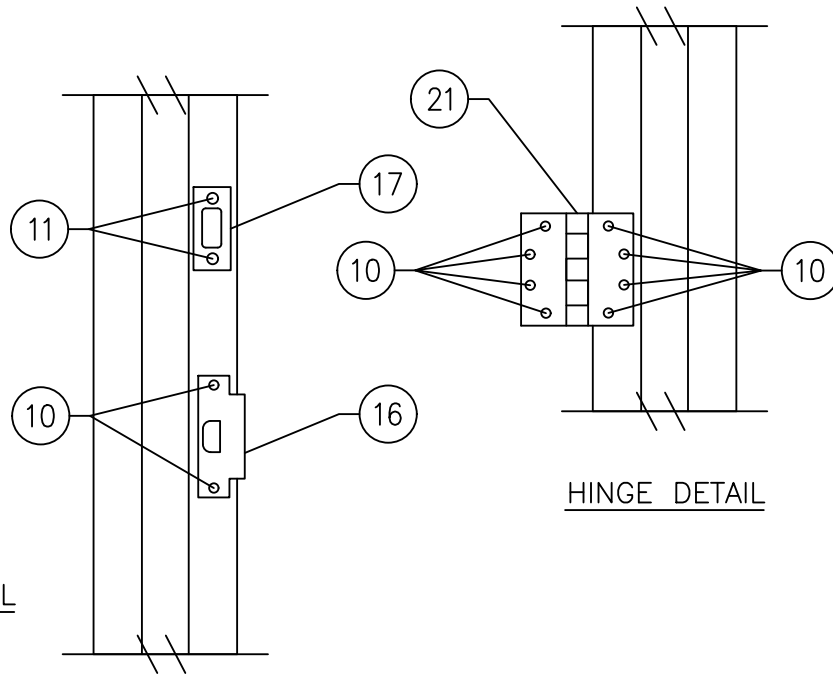
ANCHOR TYPE	ANCHOR LOCATION (AS APPLICABLE)	ANCHOR SIZE	MANUFACTURER	MIN. EDGE DISTANCE	MIN. EMBEDMENT
CONCRETE ANCHOR SCREW	HEAD/JAMBS	3/8"	LDT TAPCON (ITW BUILDDEX)	3"	1-1/2"
	SILL	1/4"	TAPCON (ITW BUILDDEX) ULTRACON CRETE FLEX (ELCO)	2-1/2"	1-1/4"
			TAPPER+ (POWERS)	2-1/2"	1-3/4"
CONCRETE SLEEVE ANCHOR	HEAD/JAMBS	3/8"	DYNABOLT SLEEVE ANCHOR (ITW REDHEAD)	2-1/4"	1-1/2"



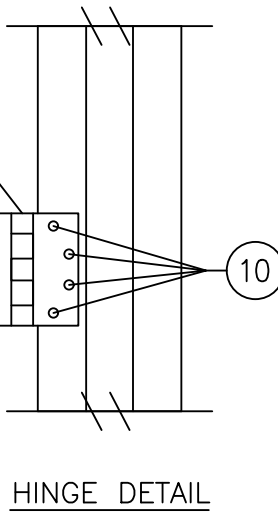
SURFACE BOLT STRIKE PLATE @ HEAD



SURFACE BOLT STRIKE PLATE @ SILL



STRIKE DETAIL



HINGE DETAIL

PROJECT # 420-1002

HMF EXPRESS

2501 NORTHCHASE PARKWAY SE

WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT ANCHORING DETAILS

PREPARED BY: PTC

DATE: 2/27/19

DRAWING NO: HMF-0004

SCALE: N.T.S.

REV: A

SHEET: 9 OF 13

PROJECT # 420-1002

PROJECT # 420-1002

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PROJECT # 420-1002

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PROJECT # 420-1002

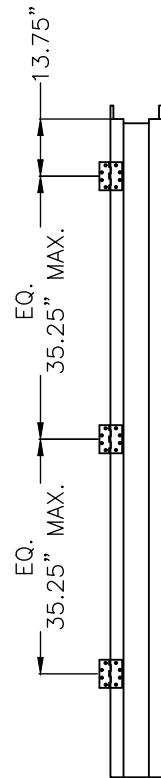
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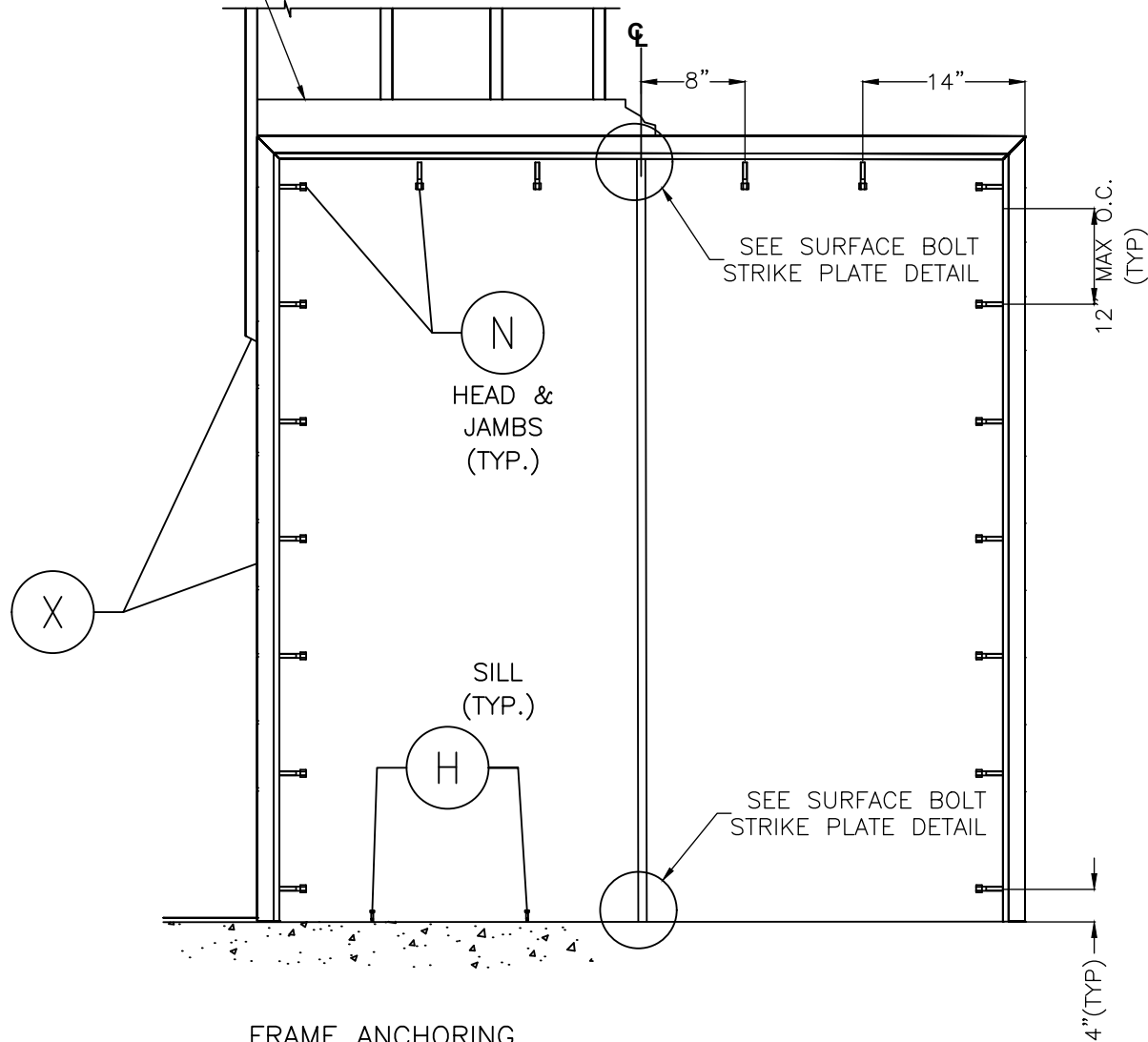
Robert J. Amoruso, P.E.
Florida P.E. No. 49752



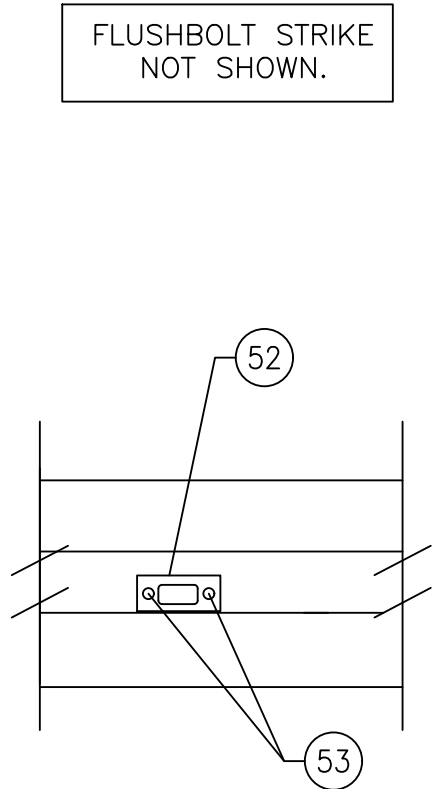
THE ENGINEER OR ARCHITECT OF RECORD
TO DETERMINE FRAMING REQUIREMENT BASED
ON WIND LOADS AND THE CLADDING BEING USED



HINGE JAMB



FRAME ANCHORING
STEEL STUD
SHOWN WITH 4" HEAD (2" HEAD SIMILAR)



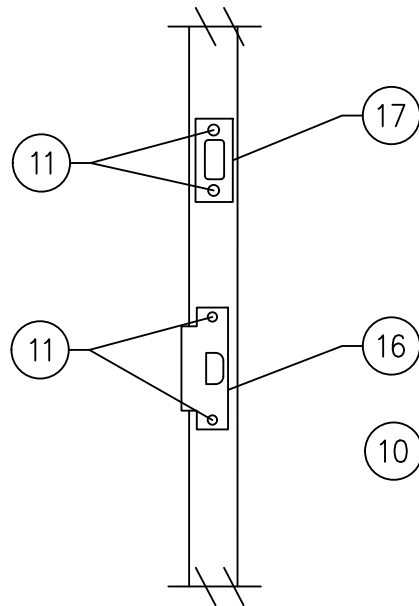
SURFACE BOLT STRIKE PLATE @ SILL

CONCRETE ANCHOR NOTES:

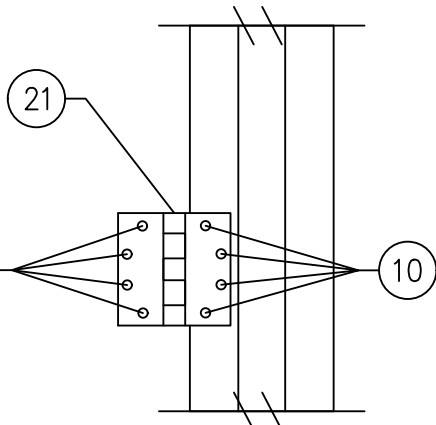
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2. CONCRETE ANCHOR TABLE:

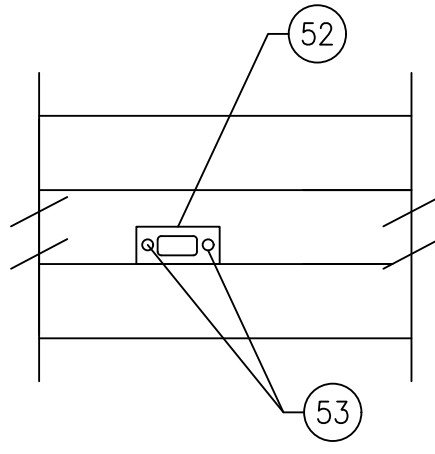
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	SILL	1/4"	TAPCON (ITW BUILDEX) ULTRAON CRETE FLEX (ELCO)	2-1/2"	1-1/4"
			TAPPER+ (POWERS)	2-1/2"	1-3/4"
CONCRETE SLEEVE ANCHOR	HEAD/JAMBS	3/8"	DYNABOLT SLEEVE ANCHOR (ITW REDHEAD)	2-1/4"	1-1/2"



STRIKE DETAIL



HINGE DETAIL



SURFACE BOLT STRIKE PLATE @ HEAD

PROJECT # 420-1002

HMF EXPRESS
2501 NORTHCASE PARKWAY SE
WILMINGTON, NC 28405

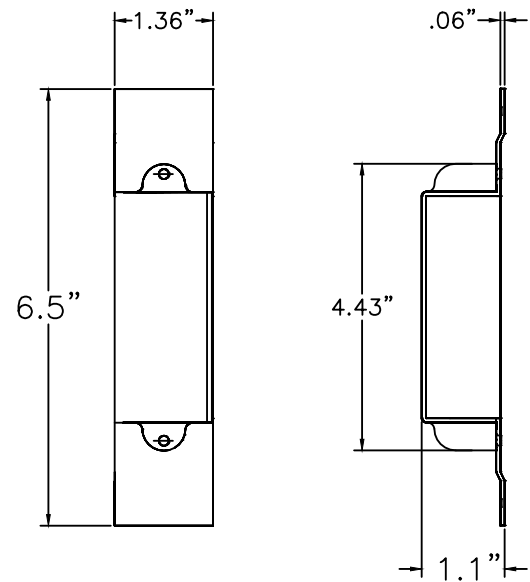
SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
ANCHORING DETAILS

DRAWN BY:	DAS	DATE:	2/27/19
SCALE:	N.T.S.	DRAWING NO:	HMF0004
REV:	A	SHEET:	11 OF 13

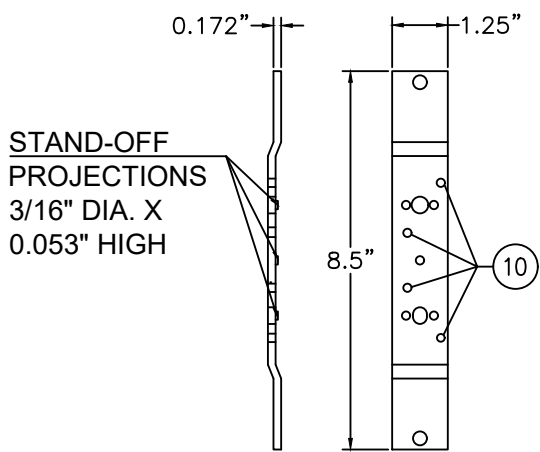
PREPARED BY:
PFC
PTC PRODUCT DESIGN GROUP, LLC
PO BOX 520775
LONGWOOD, FLORIDA 32752
Phone: 321.690.1788
Fax: 321.690.1789
Email: info@pfc-corp.com
PFC CA NO.23355

Robert J. Amoruso, P.E.
Florida P.E. No. 49752

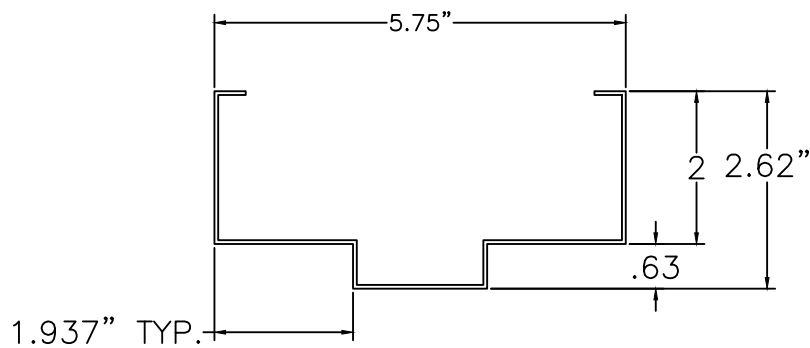




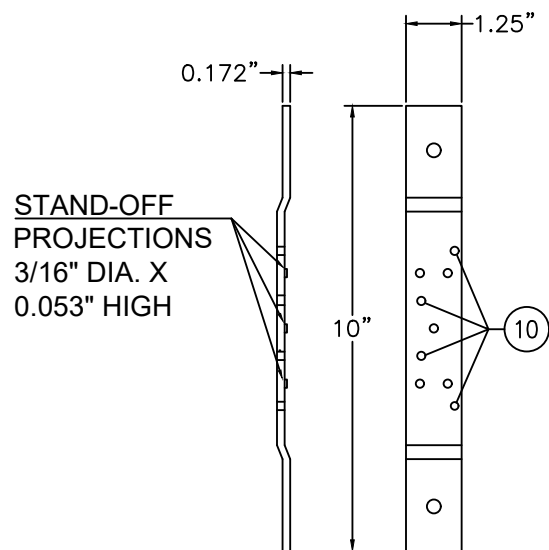
8 DUST BOX



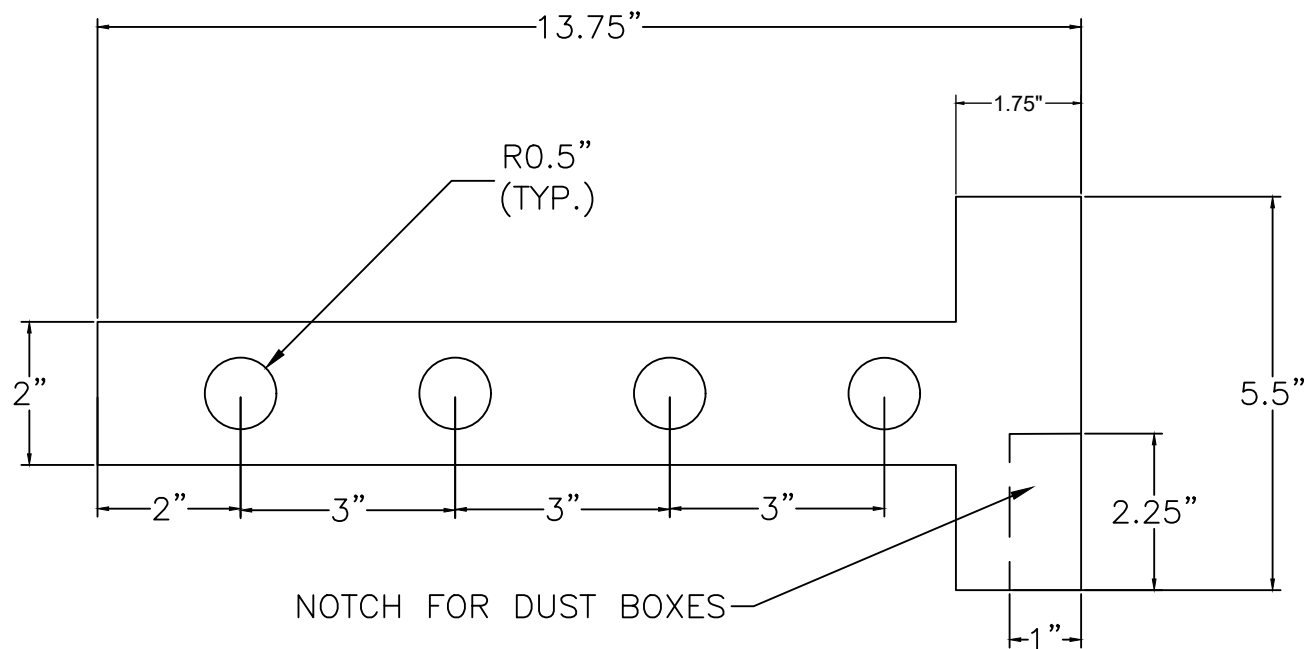
22 DOOR HINGE REINFORCEMENT
7 GAUGE STEEL



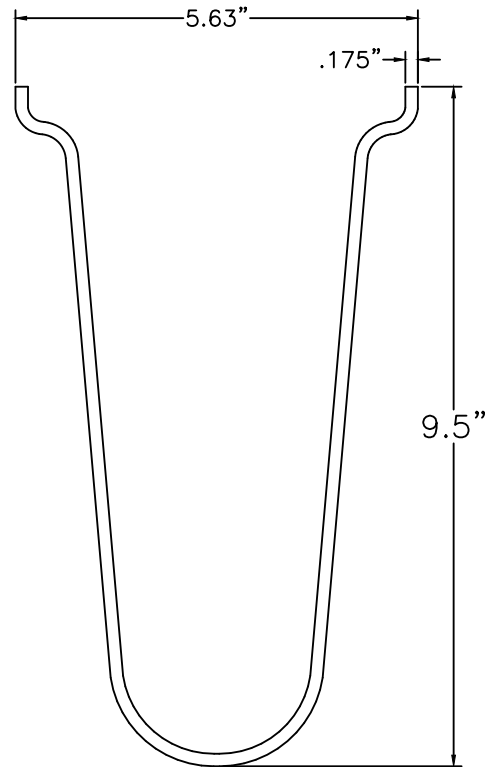
25 HOLLOW METAL FRAME
2" JAMB



28 FRAME HINGE REINFORCEMENT
7 GAUGE STEEL



30 "T" ANCHOR
16 GA. (0.058" THK. MIN.)



35 WIRE ANCHOR

PROJECT # 420-1002

HMF EXPRESS
2501 NORTHCHASE PARKWAY SE
WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
COMPONENTS

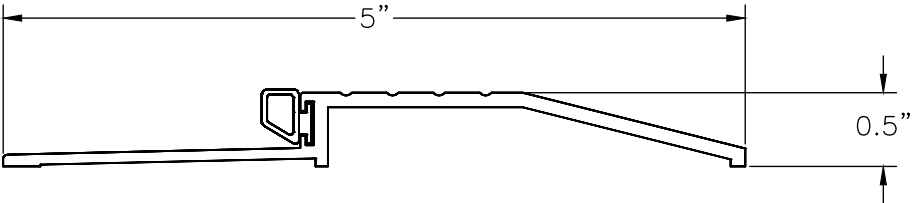
DRAWN BY:	DAS	DATE:	2/27/19
SCALE:	N.T.S.	DRAWING NO:	HMF0004
REV:	A	SHEET:	12 OF 13

PREPARED BY: **PDC**
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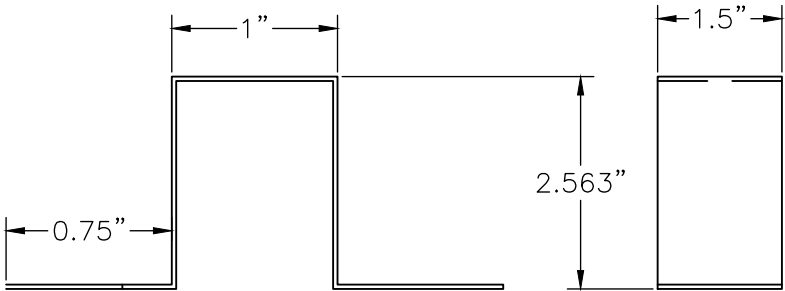
Robert J. Amoruso, P.E.
Florida P.E. No. 49752



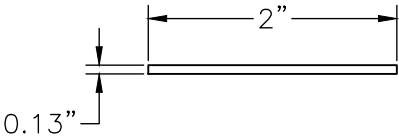
BILL OF MATERIALS		
ITEM #	DESCRIPTION	MATERIALS
C	¼" MAX. SHIM SPACE	—
D	¼" X 2¾" ELCO OR ITW CONCRETE SCREW	STEEL
E	MASONRY — 2,500 PSI MIN. CONCRETE CONFORMING TO ACI 301 OR HOLLOW BLOCK (GROUT FILLED) CONFORMING TO ASTM C90	CONCRETE
H	¼" DIA. PFH CONCRETE SCREW (SEE ANCHOR TABLE ON SHEET 9 THRU 11)	STEEL
J	¾" DIA. PFH DYNABOLT SLEEVE ANCHOR (SEE ANCHOR TABLE ON SHEET 9 THRU 11)	STEEL
M	¾" DIA. LDT TAPCON CONCRETE SCREW (SEE ANCHOR TABLE ON SHEET 9 THRU 11)	STEEL
N	¾" X 5" BOLT (ASTM A307) W/NUT AND WASHER	STEEL
X	STEEL STUD (14GA., Fu = 50ksi, Fy = 33ksi	STEEL
1	STEEL DOOR PANEL	—
2	GLAZING BEAD	STEEL
3	DOOR STOP	STEEL
8	DUST BOX	STEEL
9	ANCHOR BRACKET	STEEL
10	#12–24 X ½" PFH MACHINE SCREW	STEEL
11	#8 X ¾" COMBINATION WOOD / MACHINE SCREW	STEEL
16	ANSI LATCH STRIKE	STEEL
17	DEADBOLT STRIKE	STEEL
19	DEADBOLT STRIKE REINFORCEMENT	STEEL
20	WEATHERSTRIP (PEMKO 303A)	NEOPRENE
21	4½" X 4½" HINGE	STEEL
22	DOOR HINGE REINFORCEMENT	STEEL
24	MULLION — 16GA. (0.058"THK)	STEEL
25	HOLLOW FRAME (2" JAMB)—16 GA. (0.058"THK)	STEEL
26	HOLLOW FRAME (2" HEAD)—16 GA. (0.058"THK)	STEEL
28	FRAME HINGE REINFORCEMENT	STEEL
30	MASONARY "T" ANCHOR	STEEL
35	WIRE ANCHOR	STEEL
40	THRESHOLD (NATIONAL GUARD 950)	ALUMINIUM
50	ROCKWOOD SURFACE BOLTS (580)	STEEL
51	¼"X 2–1/2" PPH MS	STEEL
52	SURFACE BOLT STRIKE PLATE	STEEL
53	#12 X ⅝" FH SCREW	STEEL



40 THRESHOLD



9 ANCHOR BRACKET



3 DOOR STOP

PROJECT # 420-1002

HMF EXPRESS
2501 NORTHCHASE PARKWAY SE
WILMINGTON, NC 28405

SERIES LOUVERED / GLAZED STEEL DOOR, OUTSWING, IMPACT
BILL OF MATERIALS, COMPONENTS & GLAZING DETAIL

DRAWN BY:	DATE:	DRAWING NO:	SHEET:
DAS	2/27/19	HMF0004	13 OF 13
SCALE:			
N.T.S.			
REV:			
A			

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