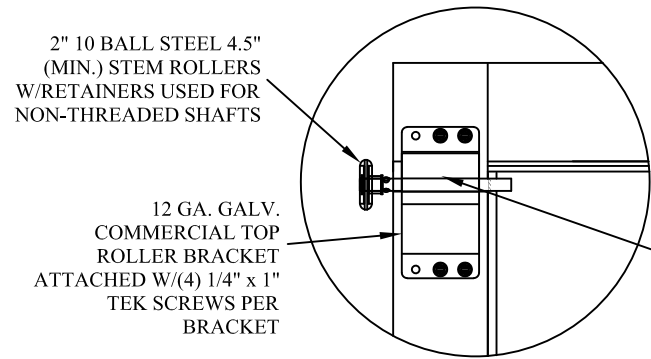
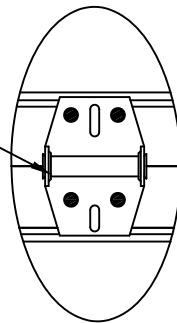




TYPICAL TOP FIXTURES
N.T.S.

1

14GA. MIN. CENTER
HINGE ATTACHED
W/ (4) 1/4" x 1" TEK
SCREWS (SEE TABLE 1
PAGE 3 FOR SPACING)



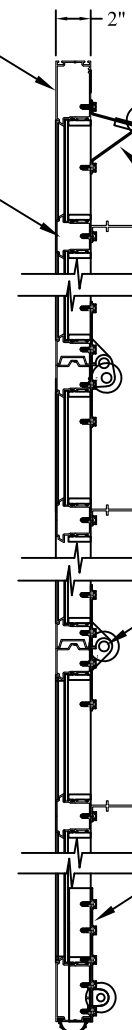
TYPICAL CENTER HINGE
N.T.S.

2

6063 T6 ALUMINUM .080" WALL
THICKNESS TOP AND BOTTOM
RAIL ANODIZED OR POWDER
COAT FINISH

6063 T6 ALUMINUM .075" WALL
THICKNESS INTERMEDIATE
RAIL ANODIZED OR POWDER
COAT FINISH

(1) 12 GA. (MIN.) GALV. COMMERCIAL TOP
ROLLER BRACKET ATTACHED WITH (4)
1/4" x 1" TEK SCREWS PER BRACKET
ADJUSTABLE SLIDE BRACKET IS
ASSEMBLED WITH (2) 5/16" x 3/4"
CARRIAGE BOLTS & NUT PER BRACKET



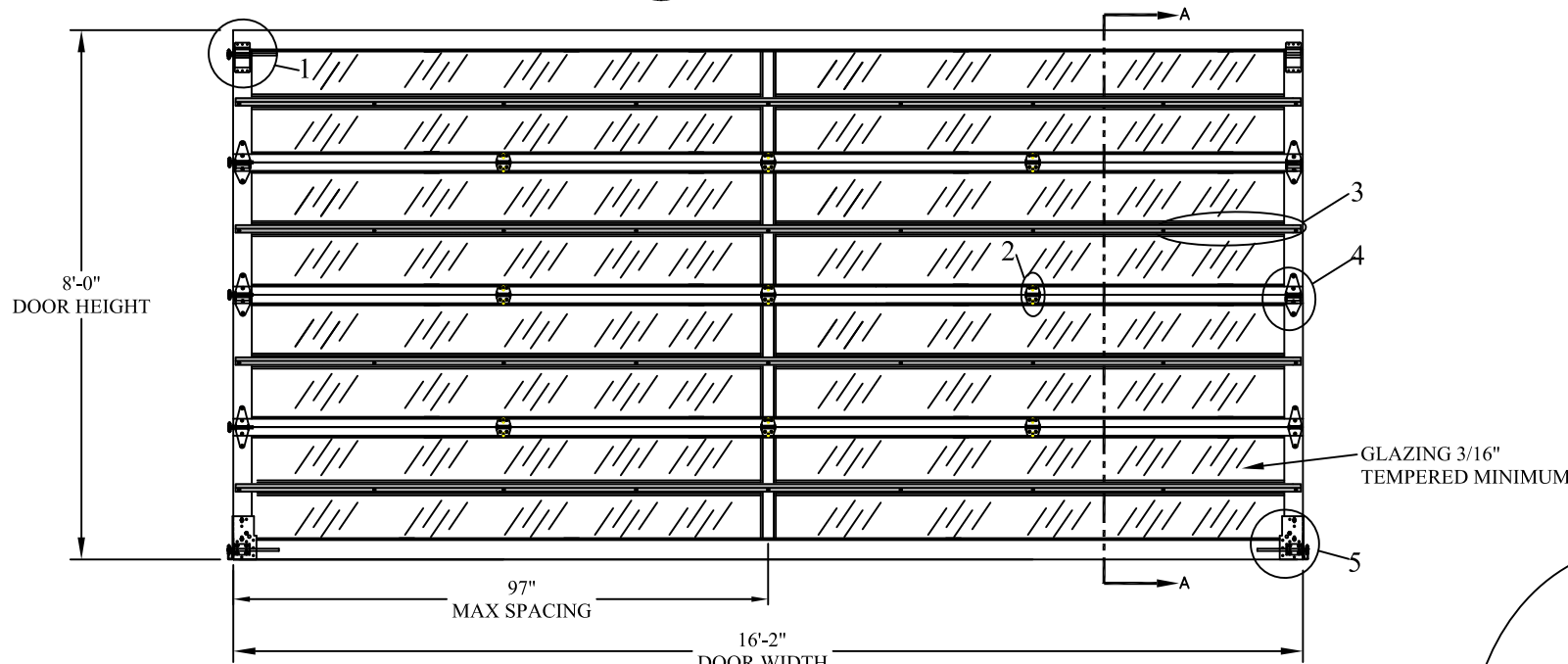
ALUMINUM SECTION
PROFILE
N.T.S.

EXTRUDED ALUMINUM STRUT
ATTACHED W/ (1) 1/4" x 1" TEK
SCREWS AT EACH END STILE THEN
24" MAX ON CENTER



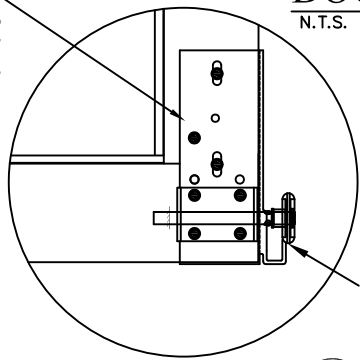
TYPICAL EXTRUDED ALUMINUM STRUT
N.T.S.

3



DOOR INTERIOR ELEVATION
N.T.S.

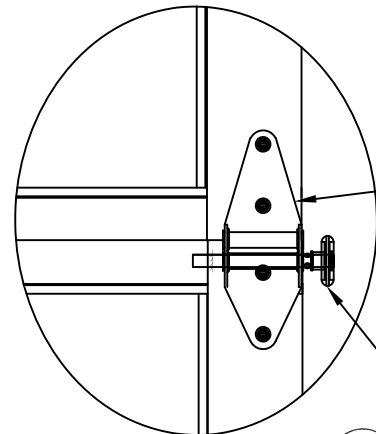
BOTTOM BRACKET
11 GA. ATTACHED
W/(7) 1/4" X 1"
TEX SCREWS



TYPICAL BOTTOM BRACKET
N.T.S.

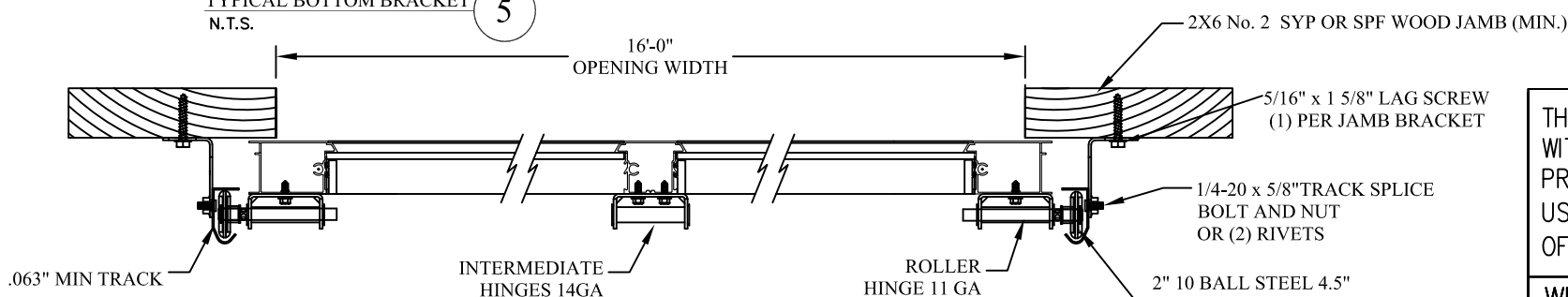
5

11 GA. MIN. END HINGE
ATTACHED W/ (4) 1/4"
x 1" TEK SCREWS EACH



TYPICAL END HINGE
N.T.S.

4



2" BRACKET MOUNT TO WOOD JAMB DETAIL
N.T.S.

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN DASMA 108. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-22 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS):

WIND SPEED (MPH)	169	153	146	139	133
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY

MAX SIZE
16'2 x 24'

DESIGN LOADS
+23.5 PSF
-26.7 PSF

TEST LOADS
+35.3 PSF
-40.1 PSF

THOMAS L. SHELMERDINE
LICENSE
No. 48579
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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DN: c=US, o=North Carolina, dnQualifier=A01410D000001856487A7B100125CE2, cn=Thomas L. Shelmerdine
Date: 2023.10.06 08:54:05 -04'00'

Thomas L. Shelmerdine
Structural Solutions, PA (FL Firm #29412)
dba Structural Solutions of North Carolina, Inc.
5921-G W. Friendly Ave., Greensboro, NC 27410

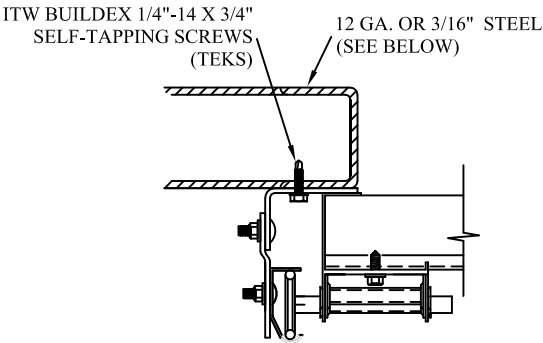
FL

Amarr

AMARR 3582
AMARR HORIZON

SIZE B	DRAWN BY DLJ	DATE 08/24/21	DRAWING NUMBER IBC-3816-130-63
CHECKED BY RLR	DATE 08/24/21	AMARR COMPANY 165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105	SHEET 1 OF 3

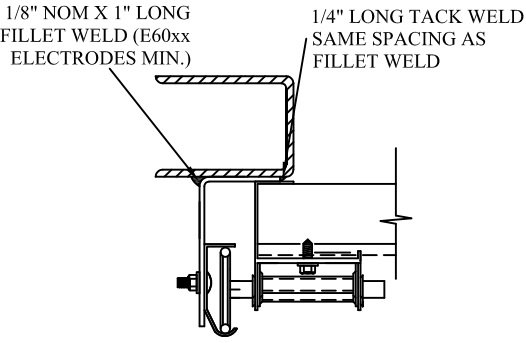
TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



CLIP STYLE REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

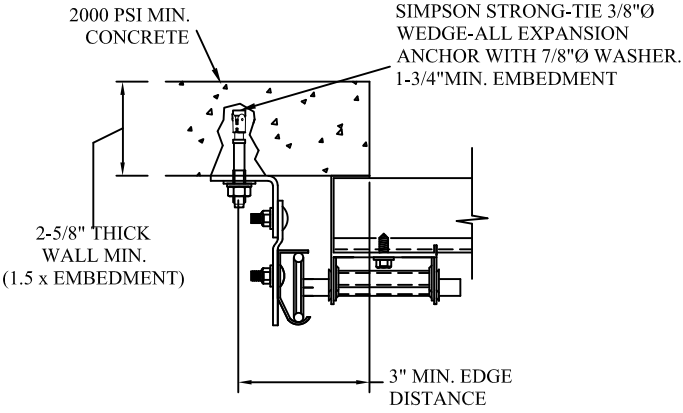
12 GA. STEEL FRAMING
232 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS
AND 14" O.C.
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING
569 LBS./SCREW ALLOWABLE LOAD - 6" FROM ENDS
AND 24" O.C.
REFER TO NOTES: 1, 2 AND 5



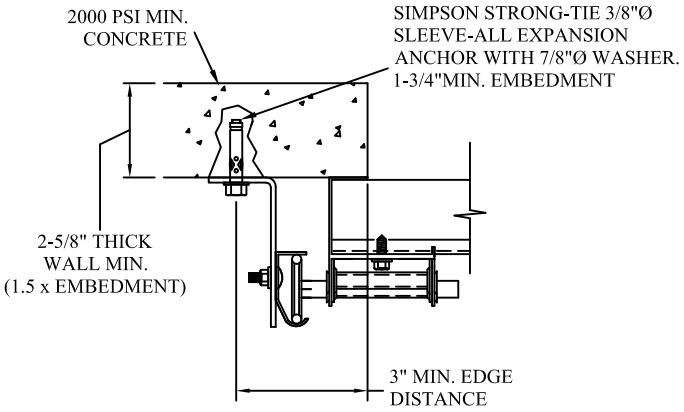
REVERSE ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED
ANGLE MOUNT AVAILABLE

STEEL FRAMING 12GA OR BETTER
1590 LBS./IN. ALLOWABLE LOAD - 6"
FROM ENDS AND 24" O.C.
REFER TO NOTES: 1, 2, 5, 6, 7, 8 AND 9



CLIP STYLE CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, REVERSE AND TAPERED ANGLE MOUNT
AVAILABLE

2000 PSI CONCRETE OR GREATER
351 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6"
FROM ENDS AND 22" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5



CONTINUOUS ANGLE MOUNT SHOWN
BRACKET, CONTINUOUS AND TAPERED ANGLE
MOUNT AVAILABLE

2000 PSI CONCRETE OR GREATER
336 LBS./EXPANSION ANCHOR ALLOWABLE LOAD - 6"
FROM ENDS AND 20" O.C.
REFER TO NOTES: 1, 2, 3, 4 AND 5

SPECIFICATIONS AND NOTES

1. ALL THE LOAD FROM THE DOOR IS TRANSFERRED TO THE VERTICAL TRACK, FROM THE TRACK THE LOAD IS TRANSFERRED TO THE VERTICAL JAMBS. THE HORIZONTAL JAMB OR HEADER RECEIVES NO PORTION OF THE LOAD TRANSFERRED FROM THE DOOR.
2. EACH VERTICAL JAMBS RECEIVES MAXIMUM DESIGN LOADS OF: +190.0 LBS/FT & -215.8 LBS/FT
3. DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
4. DOOR SECTIONS SHALL BE 6063 T6 ALUMINUM .075"/.080" WALL THICKNESS (TYP.) ANODIZED OR POWDER COAT FINISH
6. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.
7. REFER TO TABLE 3 ON PAGE 3 FOR STRUT SCHEDULE

WOOD JAMB ATTACHMENT TO STRUCTURE (OPTIONAL)

2 X 6 VERTICAL JAMB ATTACHMENT TO WOOD FRAME STRUCTURE

5/16" X 3" LAG SCREWS STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/2" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO 2,000 PSI CONCRETE

HILTI KWIK BOLT 3/8" X 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 1/2" EMBEDMENT)
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS
THEN 22" O.C. (1 1/4" EMBEDMENT)
ITW/RAMSET REDHEAD (TRU-BOLT) 3/8" X 4" STARTING 6" FROM ENDS
THEN 24" O.C. (2 1/2" EMBEDMENT)

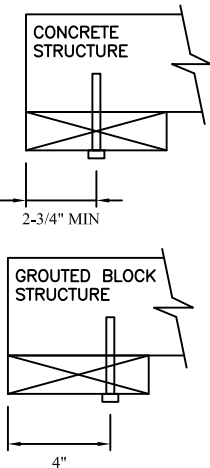
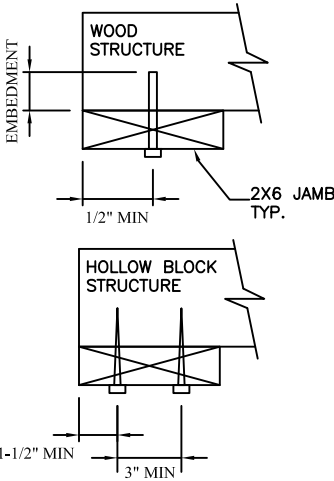
2 X 6 VERTICAL JAMB ATTACHMENT TO HOLLOW C-90 BLOCK

SIMPSON 1/4" X 3" TITEN SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART)
AT 16" O.C. (1 1/2" EMBEDMENT)
HILTI 1/4" X 2-3/4" KWIK-CON II+ SCREWS STARTING 6" FROM ENDS,
USE PAIRS OF FASTENERS (3" APART) AT 16" O.C. (1 1/4" EMBEDMENT)

2 X 6 VERTICAL JAMB ATTACHMENT TO GROUTED C-90 BLOCK (2000 PSI GROUT)

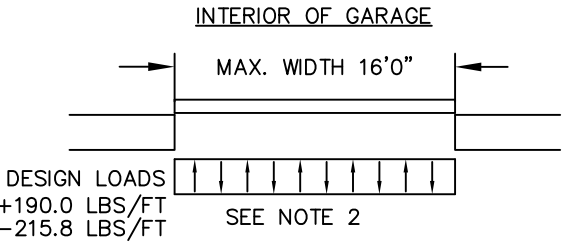
HILTI SLEEVE ANCHOR 3/8" X 2-3/4" STARTING 6" FROM ENDS
THEN 24" O.C. (1 1/4" EMBEDMENT)
(OR, USE FASTENERS FOR HOLLOW C-90 BLOCK)

*LAGS AND BOLTS CAN BE COUNTERSUNK TO PROVIDE A FLUSH MOUNTING SURFACE.
*PREPARATION OF WOOD JAMBS BY OTHERS



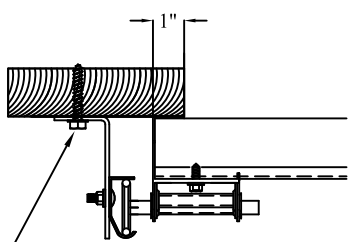
NOTES:

1. ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
2. FIRST (BOTTOM) ANCHOR STARTING AT NO MORE THAN HALF OF THE MAXIMUM ON-CENTER DISTANCE. HIGHEST ANCHOR INSTALLED AT LEAST AS HIGH AS THE DOOR OPENING.
3. MIN. EGDE DISTANCE OF 3" REQUIRED.
4. USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
5. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS IN ADDITION TO OTHER LOADS.
6. MOST GARAGE DOOR TRACK IS GALVANIZED STEEL. USE ALL NECESSARY PRECAUTIONS WHEN WELDING GALVANIZED STEEL.
7. ALL WELDS SHOULD BE PERFORMED BY A CERTIFIED WELDER OR INSPECTED BY A CERTIFIED WELDING INSPECTOR TO VERIFY THE INTEGRITY OF THE WELD.
8. FILLET WELDS TO HAVE A STRAIGHT OR CONVEX FACE SURFACE.
9. TACK WELD TOE OF ANGLE AT SAME SPACING TO PREVENT ROTATION OF TRACK ANGLE.



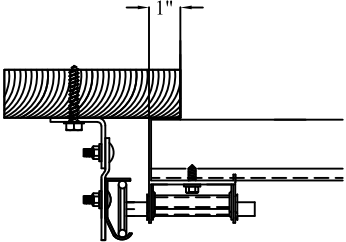
TRACK CONNECTION TO WOOD JAMB OPTIONS

FOR LAG SCREWS & BRACKET SPACING SEE PAGE 2 FOR TRACK CONFIGURATION DETAIL

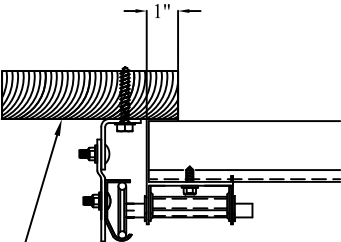


BRACKET MOUNT

5/16" x 1 5/8" LAG SCREW (1) PER
JAMB BRACKET (1-1/2" EMBEDMENT
MINIMUM) (TYP.)



CONTINUOUS ANGLE MOUNT



REVERSE ANGLE MOUNT

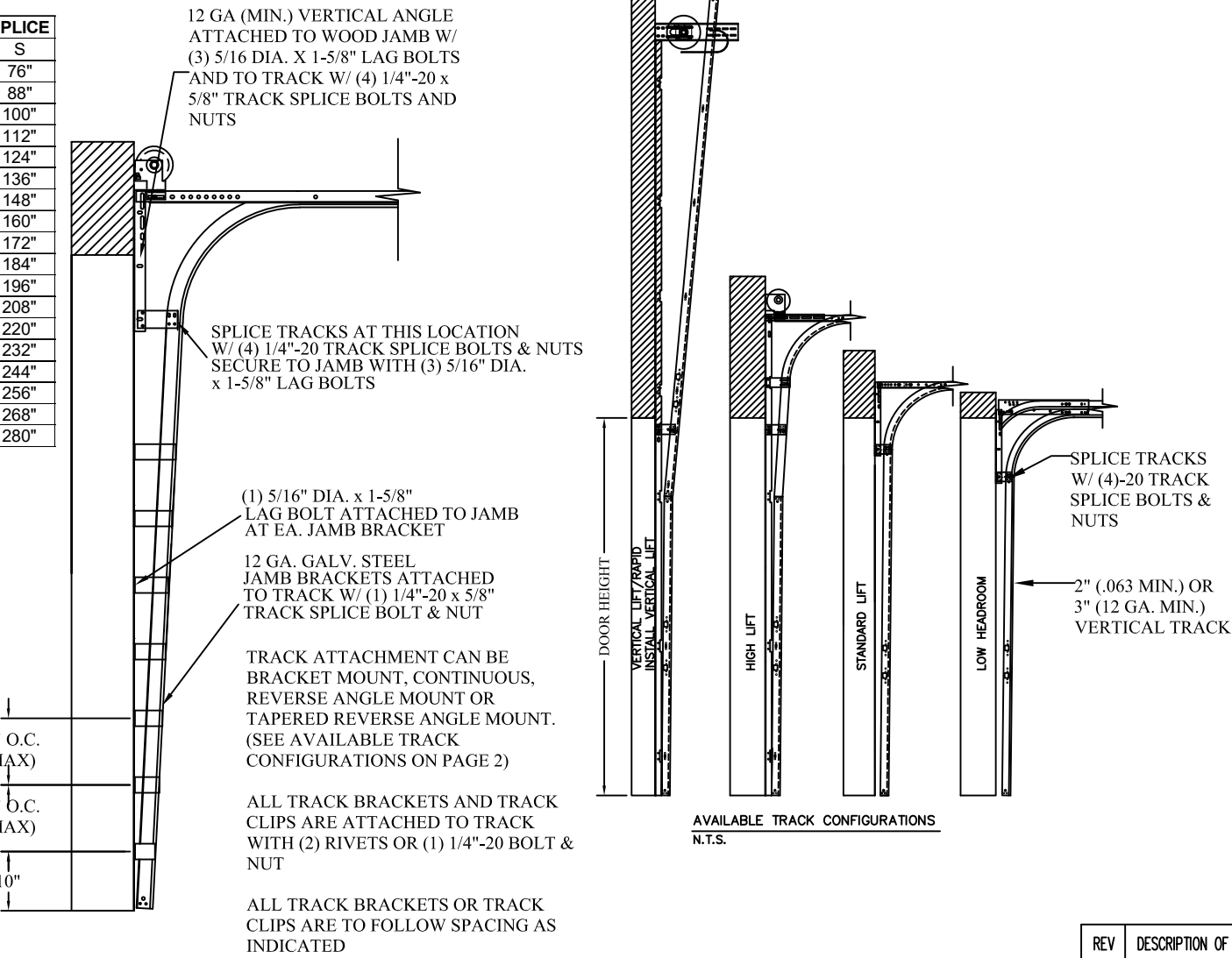
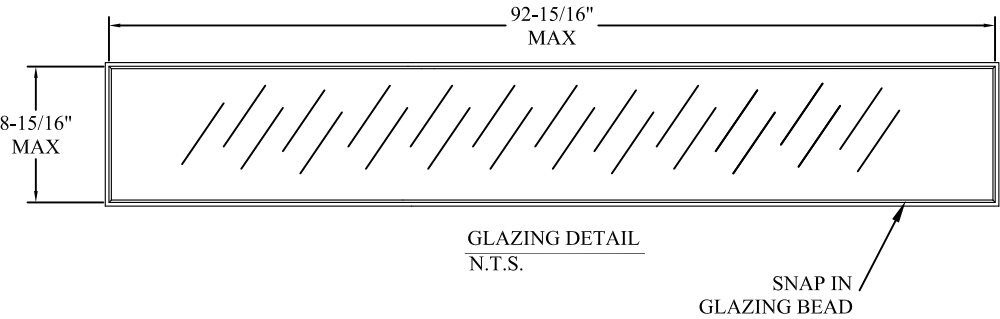
2x6 WOOD JAMB SYP OR SPF
(NO.2) OR BETTER (TYP.)

REV	DESCRIPTION OF REVISIONS	DATE	BY		
MAX SIZE 16'2 x 24' DESIGN LOADS +23.5 PSF -26.7 PSF TEST LOADS +35.3 PSF -40.1 PSF		THOMAS L. SHELMERDINE LICENSE No. 48579 See Digital Signature STATE OF FLORIDA PROFESSIONAL ENGINEER This document has been digitally signed & sealed by Thomas L. Shelmerdine, PE on the date shown. Printed copies of this document are not considered signed & sealed, and the signature must be verified on any electronic copies. Thomas L. Shelmerdine, PE (FL PE #0048579) Structural Solutions, PA (FL Firm #29412) dba Structural Solutions of North Carolina, Inc. 5921-G W. Friendly Ave., Greensboro, NC 27410 FL			
Amarr					
AMARR 3582 AMARR HORIZON					
SIZE	DRAWN BY	DLJ	DATE	08/24/21	DRAWING NUMBER
B	CHECKED BY	RLR	DATE	08/24/21	IBC-3816-130-63
AMARR COMPANY					SHEET 2 OF 3
165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105					

TABLE 2

DOOR HEIGHT	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	SPLICE
7"	10"	22"	34"	46"	58"																		76"
8"	10"	22"	34"	46"	58"	70"																	88"
9"	10"	22"	34"	46"	58"	70"	82"																100"
10'	10"	22"	34"	46"	58"	70"	82"	94"															112"
11'	10"	22"	34"	46"	58"	70"	82"	94"	106"														124"
12'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"													136"
13'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"												148"
14'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"											160"
15'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"										172"
16'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"									184"
17'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"								196"
18'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"							208"
19'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"						220"
20'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"					232"
21'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"				244"
22'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"			256"
23'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"		268"
24'	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"	262"	280"

ALL TRACK AND ATTACHMENT SPACING +/-2" ALLOWED WITH SYP OR SPF NO. 2 OR BETTER ONLY



TRACK CONFIGURATION FOR UP TO 24' TALL DOORS
SEE TABLE 2

TABLE 1

Section Width		Center Hinge Locations (Measured from Left Edge)			Tested Door Ht.		Other Common Door Heights Contact Engineering for Additional Heights															
					8'		10'		12'		14'		16'		18'		9'		7'			
					MAX SEC.HT		MAX SEC.HT		MAX SEC.HT		MAX SEC.HT		MAX SEC.HT		MAX SEC.HT		MAX SEC.HT		MAX SEC.HT			
					25		25.188		25.313		25.438		25.5		25.563		28		28.625			
					Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed		Max Design Loads Allowed			
(ft)	(in)	1st (in)	2nd (in)	3rd (in)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)	Positive (PSF)	Negative (PSF)		
14'	4"	44"	86"	128"	26.5	30.1	26.3	29.8	26.1	29.7	26.0	29.5	25.9	29.5	25.9	29.4	23.6	26.8	23.1	26.2		
14	6	45	87	129	26.2	29.7	26.0	29.4	25.8	29.3	25.7	29.1	25.6	29.1	25.6	29.0	23.3	26.5	22.8	25.9		
14'	8"	46"	88"	130"	25.9	29.4	25.7	29.1	25.5	29.0	25.4	28.8	25.3	28.8	25.3	28.7	23.1	26.2	22.6	25.6		
14	10	47	89	131	25.6	29.1	25.4	28.8	25.2	28.7	25.1	28.5	25.0	28.5	25.0	28.4	22.8	25.9	22.3	25.4		
15'	0"	48"	90"	132"	25.3	28.7	25.1	28.4	24.9	28.3	24.8	28.2	24.8	28.1	24.7	28.0	22.5	25.6	22.0	25.0		
15'	2"	49"	91"	133"	25.0	28.4	24.8	28.1	24.6	28.0	24.5	27.9	24.5	27.8	24.4	27.7	22.3	25.3	21.8	24.8		
15'	4"	50"	92"	134"	24.7	28.1	24.5	27.8	24.3	27.7	24.2	27.6	24.2	27.5	24.1	27.4	22.0	25.0	21.5	24.5		
15	6	51	93	135	24.5	27.8	24.3	27.5	24.1	27.4	24.0	27.3	24.0	27.2	23.9	27.1	21.8	24.8	21.3	24.2		
15'	8"	52"	94"	136"	24.2	27.5	24.0	27.2	23.9	27.1	23.7	27.0	23.7	26.9	23.6	26.8	21.6	24.5	21.1	24.0		
15	10	53	95	137	23.9	27.2	23.7	26.9	23.6	26.8	23.4	26.7	23.4	26.6	23.3	26.6	21.3	24.2	20.8	23.7		
16'	0"	48"	96"	144"	23.7	26.9	23.5	26.6	23.4	26.5	23.2	26.4	23.2	26.3	23.1	26.3	21.1	24.0	20.6	23.4		
16'	2"	49"	97"	145"	23.5	26.7	23.3	26.5	23.2	26.3	23.0	26.2	23.0	26.1	22.9	26.1	20.9	23.8	20.5	23.3		

TABLE 3

SECTION	
12TH	3 3/8" AL
11TH	3 3/8" AL
10TH	3 3/8" AL
9TH	3 3/8" AL
8TH	3 3/8" AL
7TH	3 3/8" AL
6TH	3 3/8" AL
5TH	3 3/8" AL
4TH	3 3/8" AL
3RD	3 3/8" AL
2ND	3 3/8" AL
BOTTOM	3 3/8" AL

REVDESCRIPTION OF REVISIONSDATEBY

MAX SIZE
16'2 x 24'

DESIGN LOADS
+23.5 PSF
-26.7 PSF

TEST LOADS
+35.3 PSF
-40.1 PSF

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No. 48579
See Digital Signature
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PROFESSIONAL ENGINEER

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FL

Amarr

AMARR 3582
AMARR HORIZON

SIZEB

DRAWN BYDLJ

CHECKED BYRLR

DATE08/24/21

DATE08/24/21

DRAWING NUMBER

IBC-3816-130-63

AMARR COMPANY

165 CARRIAGE COURT WINSTON-SALEM, N.C. 27105

SHEET 3 OF 3