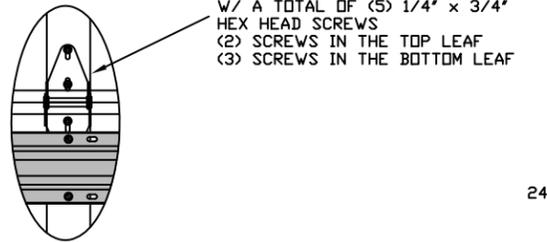


TYPICAL TOP FIXTURES  
N.T.S.

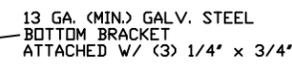
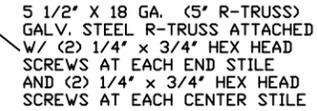
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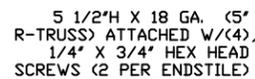
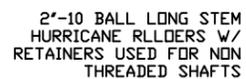
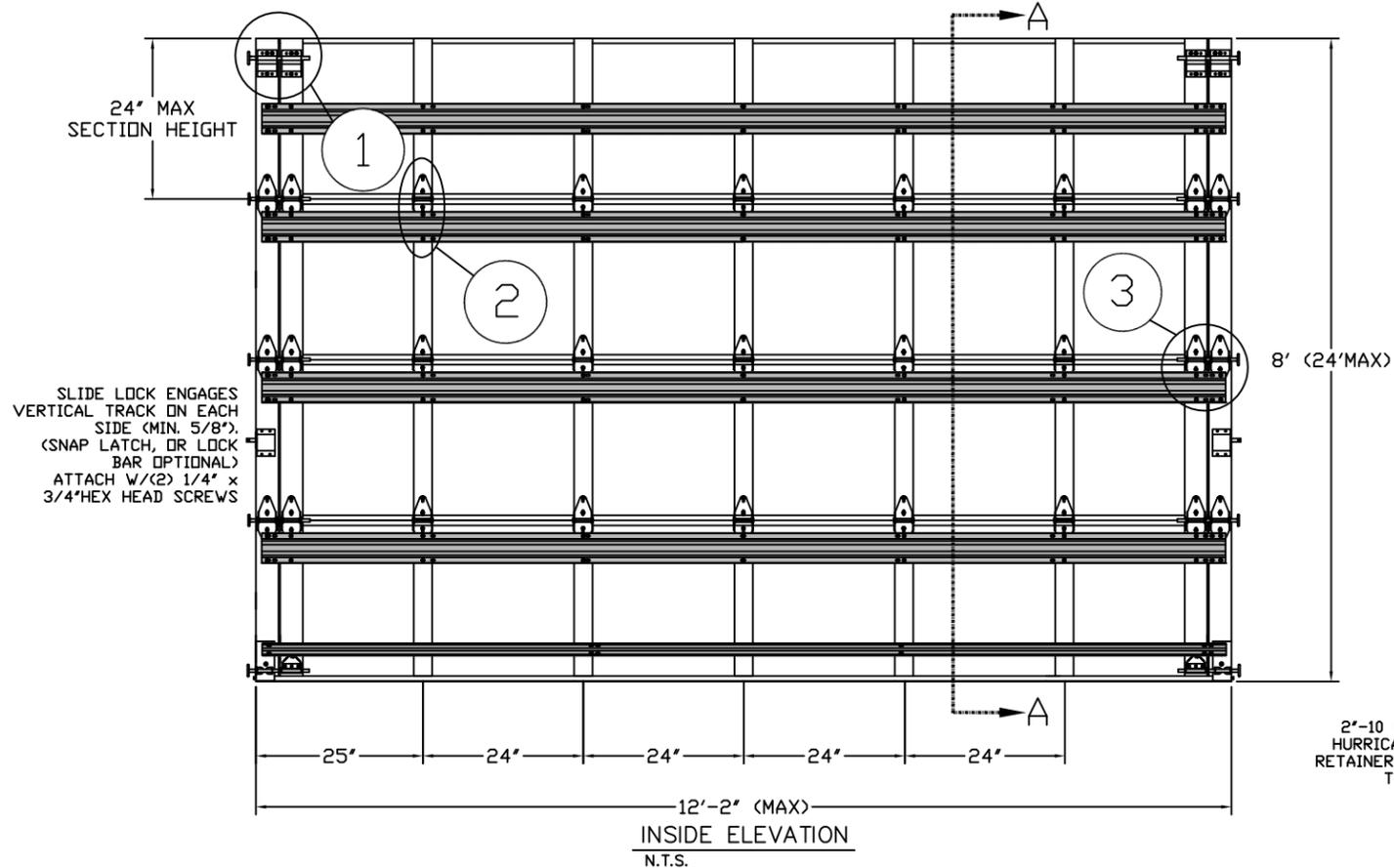
TYPICAL CENTER HINGE  
N.T.S.

2

24 GA. (.022" MIN) OR 20 GA PREPAINTED STEEL

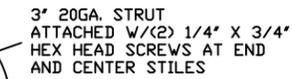
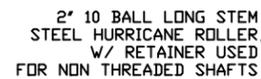
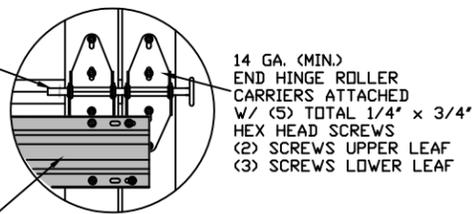


SECTION A-A (SIDE VIEW)



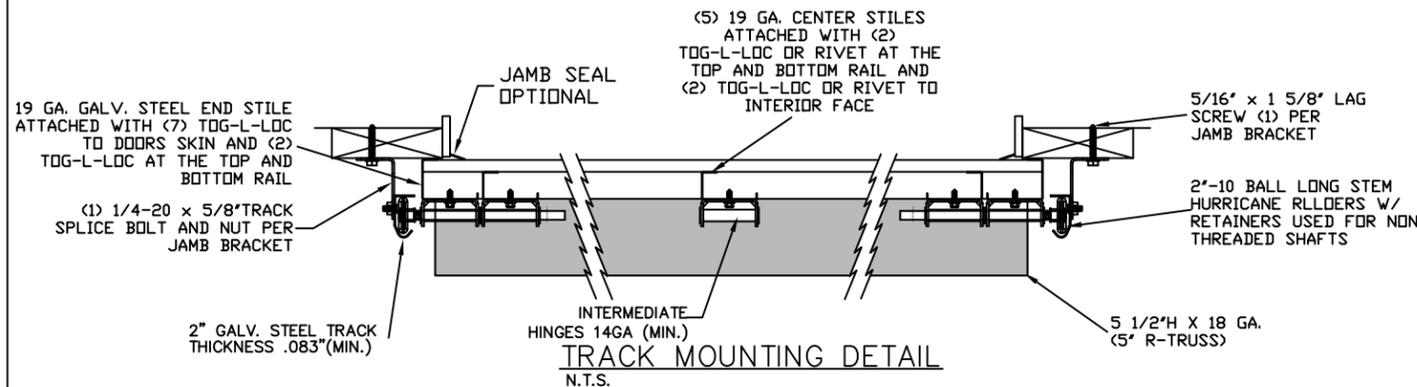
TYPICAL END HINGE  
N.T.S.

3



TYPICAL BOTTOM BRACKET  
N.T.S.

4



# LARGE MISSILE IMPACT RESISTANCE

THE METHOD OF TESTING WAS IN SUBSTANTIAL CONFORMANCE WITH THE PROCEDURES DESCRIBED IN ASTM E330, ANSI/DASMA 108-02, FLA. BUILDING CODE PROTOCOLS TAS 201, 202, 203 WIND LOAD DESIGN CRITERIA, ASTM E 1886, ASTM E 1996-05 AND ASTM F588-04. THE PRESSURES SHOWN ON THE DRAWINGS WERE CALCULATED USING ASCE 7-98/02/05 WITH THE FOLLOWING PARAMETERS (5 FEET OF DOOR WIDTH IN END ZONE, ROOF SLOPE 10° OR LESS):

WIND SPEED (MPH)	185	168	160	153	146
EXPOSURE LEVEL	B	C	C	D	D
MEAN ROOF HEIGHT	30'	15'	25'	15'	25'

REV	DESCRIPTION OF REVISIONS	DATE	BY
A	ADD TITLE BLOCK TO PAGE 2	7/3/07	BHG
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C	UPDATED WJATS, TCDDTS, ADDED ASCE MPH DETAIL	11/29/11	RLR

MAX SIZE  
12'2" x 24'  
DESIGN LOADS  
+50.0 PSF  
-56.0 PSF  
LARGE MISSILE  
IMPACT  
RESISTANCE



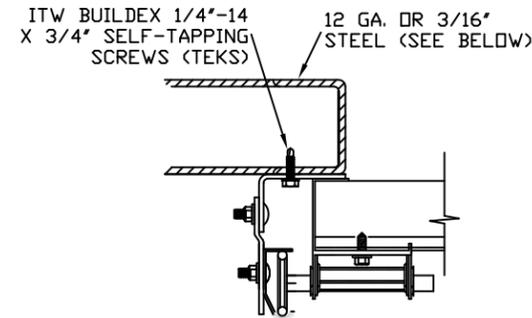
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MODEL 2400 (24 GA)  
MODEL 2000 (20 GA)

SIZE	DRAWN BY	BHG	DATE	03/07/07	DRAWING NUMBER
B	CHECKED BY	SKW	DATE	04/10/07	IBC-2412-188-26-1
ENGINEER: THOMAS L. SHELMERDINE P.E. LIC. No. 0048579					SHEET 1 OF 3

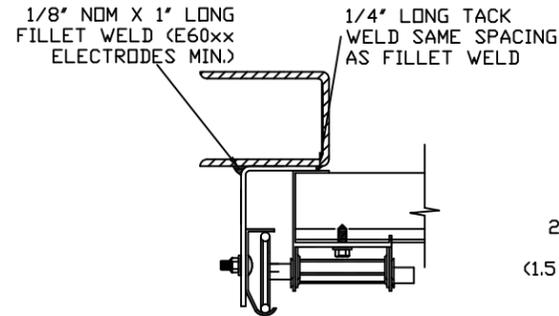
# TRACK CONNECTION DIRECTLY TO STRUCTURE OPTIONS



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

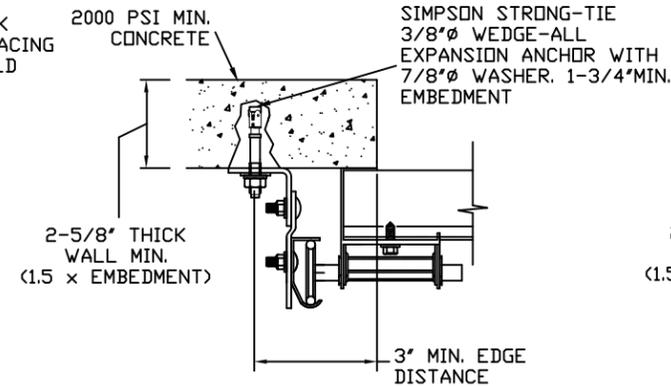
12 GA. STEEL FRAMING  
232 LBS./SCREW ALLOWABLE LOAD - 6'  
FROM ENDS AND 9' O.C.  
REFER TO NOTES: 1, 2 AND 5

3/16" STEEL FRAMING  
569 LBS./SCREW ALLOWABLE LOAD - 6'  
FROM ENDS AND 18' O.C.  
REFER TO NOTES: 1, 2 AND 5



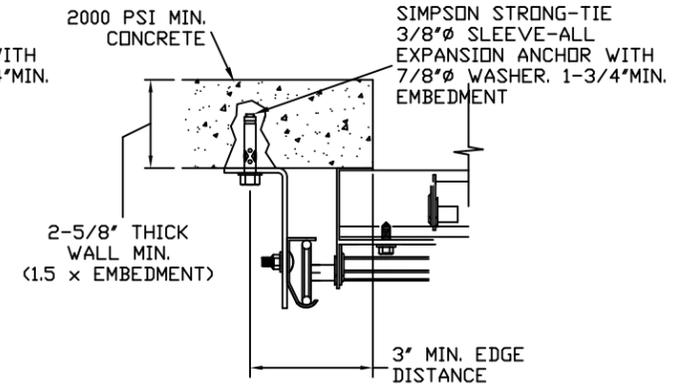
REVERSE ANGLE MOUNT SHOWN  
BRACKET, CONTINUOUS AND  
TAPERED ANGLE MOUNT AVAILABLE

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 12' O.C.  
REFER TO NOTES: 1, 2, 3, 4 AND 5



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

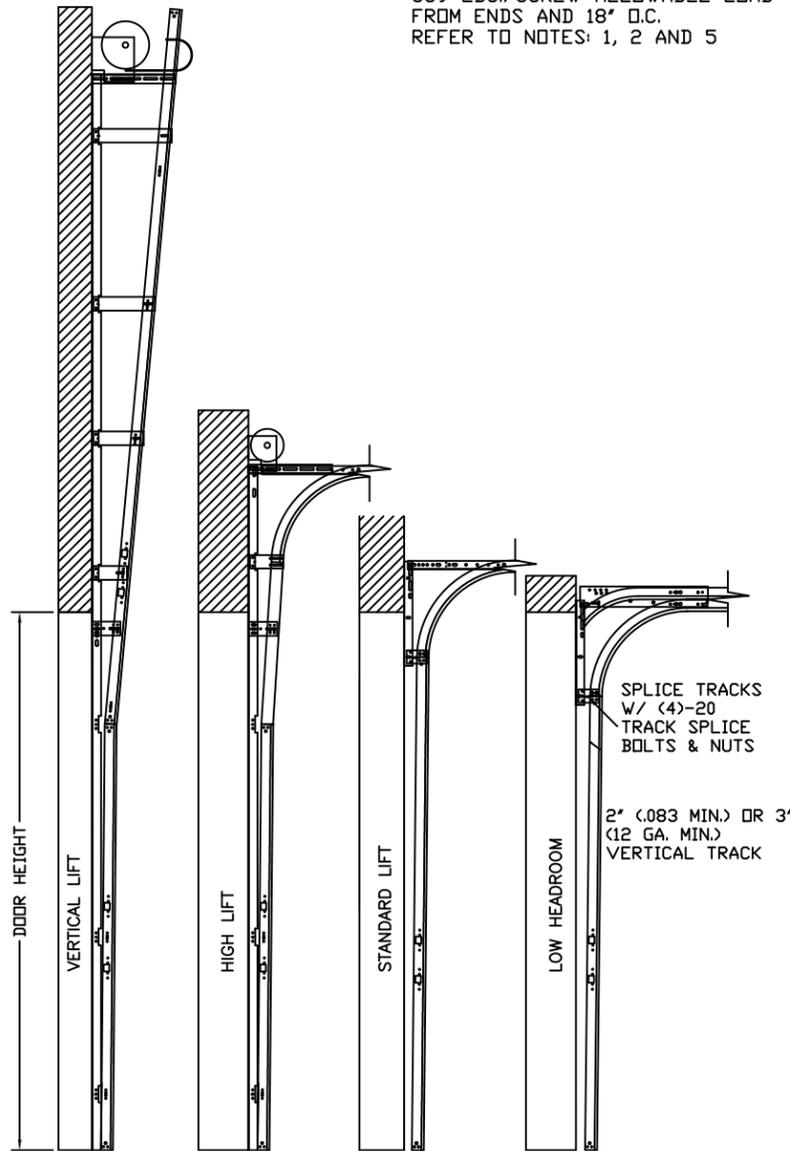
2000 PSI CONCRETE OR GREATER  
336 LBS./EXPANSION ANCHOR ALLOWABLE  
LOAD - 6' FROM ENDS AND 12' O.C.  
REFER TO NOTES: 1, 2, 3, 4 AND 5

### NOTES:

- ANCHORS TO BE EVENLY SPACED BETWEEN THE HEADER AND FLOOR.
- 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.
- MIN. EDGE DISTANCE OF 3' REQUIRED.
- USE WASHERS PROVIDED BY THE ANCHOR MANUFACTURER.
- SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER FOR WIND LOADS IN ADDITION TO OTHER LOADS.
- MOST GARAGE DOOR TRACK IS GALVANIZED STEEL. USE ALL NECESSARY PRECAUTIONS WHEN WELDING GALVANIZED STEEL.
- ALL WELDS SHOULD BE PERFORMED BY A CERTIFIED WELDER OR INSPECTED BY A CERTIFIED WELDING INSPECTOR TO VERIFY THE INTEGRITY OF THE WELD.
- FILLET WELDS TO HAVE A STRAIGHT OR CONVEX FACE SURFACE.
- TACK WELD TOE OF ANGLE AT SAME SPACING TO PREVENT ROTATION OF TRACK ANGLE.

TABLE 1

DOOR HEIGHT	TRACK ATTACHMENT																			SPLICE S					
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S		T	U	V	W	
7'	3.5"	10"	22"	34"	46"	58"																			76"
8'	3.5"	10"	22"	34"	46"	58"	70"																		88"
9'	3.5"	10"	22"	34"	46"	58"	70"	82"																	100"
10'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"																112"
11'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"															124"
12'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"														136"
13'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"													148"
14'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"												160"
15'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"											172"
16'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"										184"
17'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"									196"
18'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"								208"
19'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"							220"
20'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"						232"
21'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"					244"
22'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"				256"
23'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"			268"
24'	3.5"	10"	22"	34"	46"	58"	70"	82"	94"	106"	118"	130"	142"	154"	166"	178"	190"	202"	214"	226"	238"	250"	262"		280"



AVAILABLE TRACK CONFIGURATIONS  
N.T.S.

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C	UPDATED WJATS, TCDDTS, ADDED ASCE MPH DETAIL	11/29/11	RLR

MAX SIZE  
12'2 x 24'  
DESIGN LOADS  
+50.0 PSF  
-56.0 PSF

LARGE MISSILE  
IMPACT  
RESISTANCE



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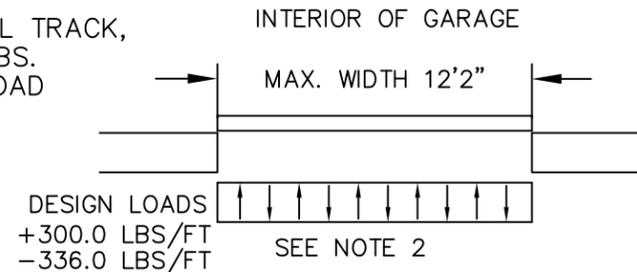
MODEL 2400 (24 GA)  
MODEL 2000 (20 GA)

SIZE	DRAWN BY	BHG	DATE	03/07/07	DRAWING NUMBER
B	CHECKED BY	SKW	DATE	04/10/07	IBC-2412-188-26-1

ENGINEER: THOMAS L. SHELMEERDINE P.E. LIC. No. 0048579 SHEET 2 OF 3

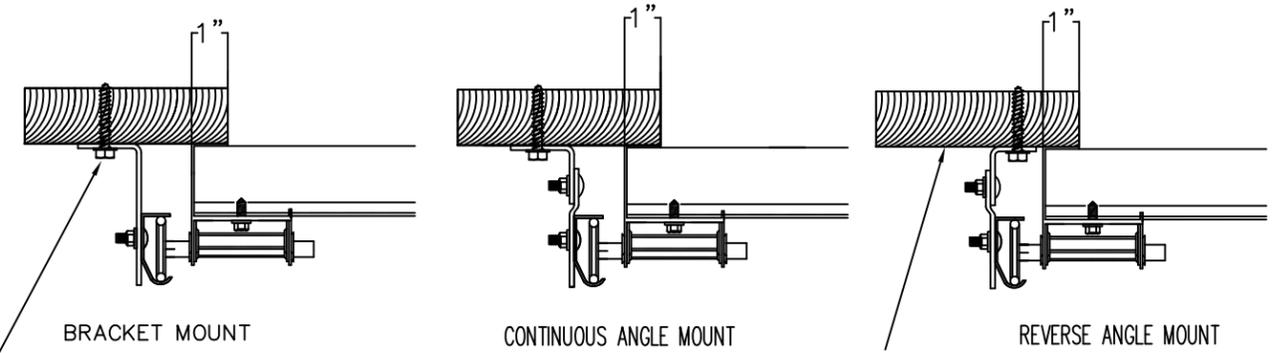
**SPECIFICATIONS AND NOTES**

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: +300.0 LBS/FT & -336.0 LBS/FT
3. DOOR AND HARDWARE WILL BE DESIGNED, MANUFACTURED AND INSTALLED WITH STANDARDS AS SET FORTH BY DASMA.
4. DOOR SECTIONS SHALL BE 24 GA. (.022) MIN. EXTERIOR SKIN ROLLED FORMED, W/ BAKED ON POLYESTER FINISH
5. DOORS UP TO 24'0" HIGH USE (1) 5 1/2" R-TRUSS PER SECTION AND (1) 3" 20GA STRUT ON BOTTOM SECTION
6. SUPPORTING STRUCTURAL ELEMENTS SHALL BE DESIGNED BY A REGISTRED PROFESSIONAL ENGINEER FOR WIND LOADS INDICATED ON THIS DRAWING IN ADDITION TO OTHER LOADINGS.



**TRACK CONNECTION TO WOOD JAMB OPTIONS**

FOR LAG SCREWS & BRACKET SPACING SEE TABLE 1



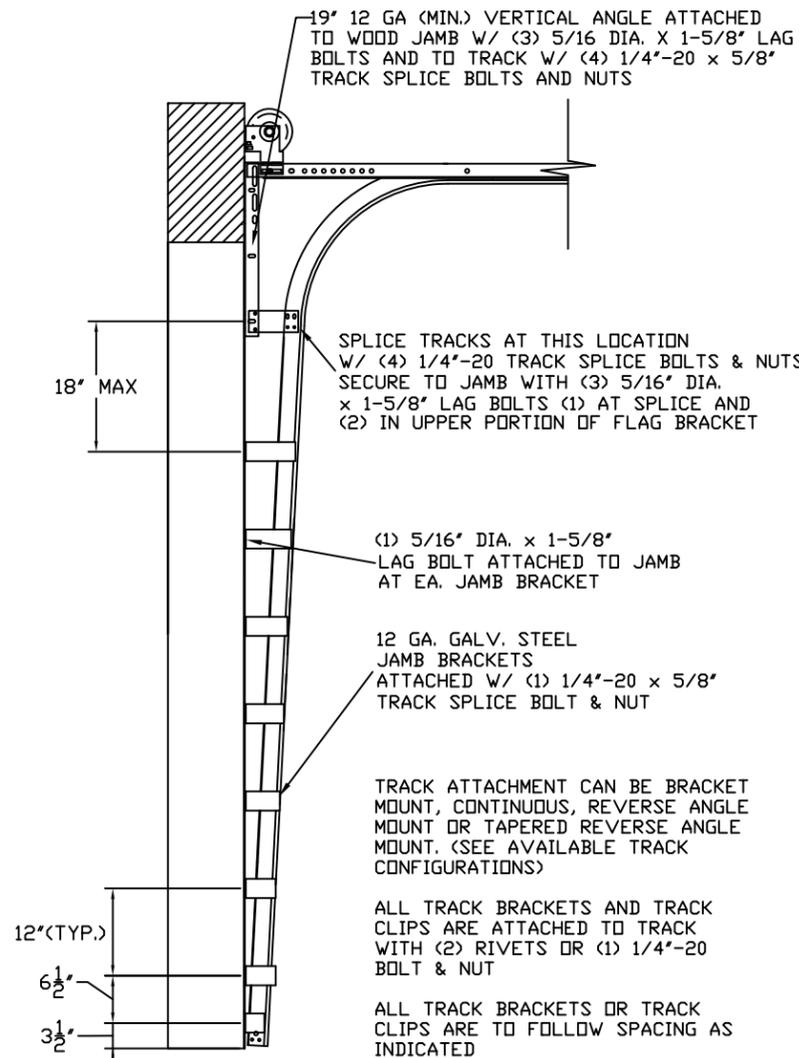
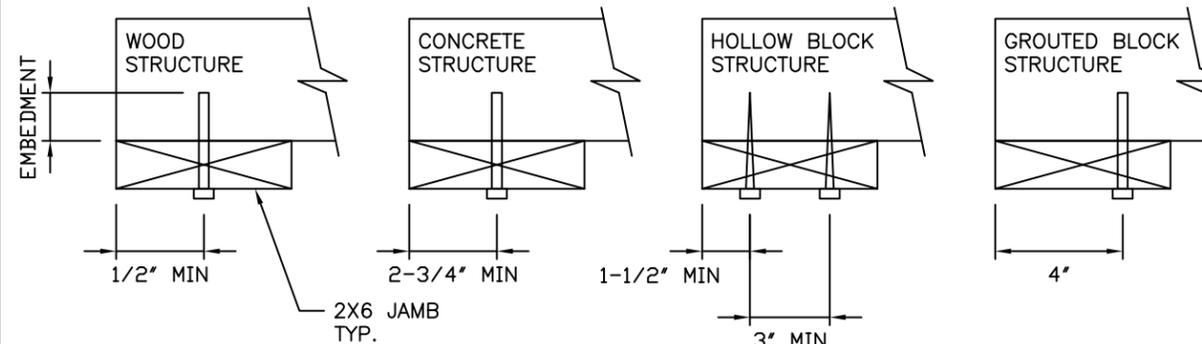
5/16" x 1 5/8" LAG SCREW (1) PER JAMB BRACKET (1-1/2" EMBEDMENT MINIMUM) (TYP.)

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

**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 16" 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 14" 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 8" 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 8" 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 16" 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



TRACK CONFIGURATION FOR 6' UP TO 24' TALL DOORS

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C	UPDATED WJATS, TCOTS, ADDED ASCE MPH DETAIL	11/29/11	RLR

MAX SIZE  
12'2" x 24'  
DESIGN LOADS  
+50.0 PSF  
-56.0 PSF  
LARGE MISSILE  
IMPACT  
RESISTANCE



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**MODEL 2400 (24 GA)**  
**MODEL 2000 (20 GA)**

SIZE	DRAWN BY	BHG	DATE	03/07/07	DRAWING NUMBER
B	CHECKED BY	SKW	DATE	04/10/07	IBC-2412-188-26-1
ENGINEER: THOMAS L. SHELMERDINE P.E. LIC. No. 0048579					SHEET 3 OF 3