

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

NOTES:

1. THE PRODUCT SHOWN HEREIN IS DESIGNED AND MANUFACTURED TO COMPLY WITH REQUIREMENTS OF THE FLORIDA BUILDING CODE.
2. WOOD FRAMING, METAL FRAMING AND MASONRY OPENING TO BE DESIGNED AND ANCHORED TO PROPERLY TRANSFER ALL LOADS TO STRUCTURE. FRAMING AND MASONRY OPENING IS THE RESPONSIBILITY OF THE ARCHITECT OR ENGINEER OF RECORD.
3. WIND LOAD DURATION FACTOR Cd=1.6 WAS USED FOR WOOD ANCHOR CALCULATIONS.
4. DOOR PANEL MADE OUT OF 25GA GALVANIZED SHEET STEEL.
5. PANELS TO BE INSULATED USING 1” MOLDED POLYSTYRENE FOAM INSULATION.
6. UNITS MUST BE GLAZED PER ASTM E1300.
7. APPROVED IMPACT PROTECTIVE SYSTEM IS REQUIRED FOR THIS PRODUCT IN WIND BORNE DEBRIS REGIONS.
8. FOR ANCHORING BRACKETS INTO WOOD FRAMING OR 2X BUCK USE #5/16 LAG SCREW SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE A 1 1/2” MINIMUM EMBEDMENT INTO SUBSTRATE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
9. FOR ANCHORING BRACKETS INTO MASONRY/CONCRETE USE 5/16” ELCO ULTRACON WITH SUFFICIENT LENGTH TO ACHIEVE A 1 3/4” MINIMUM EMBEDMENT INTO SUBSTRATE WITH 3 1/8” MINIMUM EDGE DISTANCE. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
10. FOR ANCHORING BRACKETS INTO METAL STRUCTURE USE #1/4 SMS OR SELF DRILLING SCREWS WITH SUFFICIENT LENGTH TO ACHIEVE 3 THREADS MINIMUM BEYOND STRUCTURE INTERIOR WALL. LOCATE ANCHORS AS SHOWN IN ELEVATIONS AND INSTALLATION DETAILS.
11. ALL FASTENERS TO BE CORROSION RESISTANT.
12. INSTALLATION ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH ANCHOR MANUFACTURER’S INSTALLATION INSTRUCTIONS AND ANCHORS SHALL NOT BE USED IN SUBSTRATES WITH STRENGTHS LESS THAN THE MINIMUM STRENGTH SPECIFIED BELOW:

A. WOOD: MINIMUM SPECIFIC GRAVITY OF G=0.42

B. CONCRETE: MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI.

C. MASONRY: GROUT/FILLED BLOCK PER ASTM C90 WITH Fm=2,000PSI MINIMUM.

D. METAL STRUCTURE: STEEL 14GA (.075”) FY=33KSI/FU=52KSI

SIGNED: 05/10/2023

TABLE OF CONTENTS	
SHEET NO.	DESCRIPTION
1	NOTES
2 – 6	ELEVATIONS AND CHARTS
7 – 9	INSTALLATION DETAILS
10	COMPONENTS

SAFE-WAY DOORS

3814 E. US 30
WARSAW, IN. 46580

140C CHOICE INSULATED, RAISED PANEL
SECTIONAL GARAGE DOOR, NON-IMPACT
NOTES

DRAWN:
R.L.

DWG NO.
08-03951

REV
-

SCALE NTS

DATE 05/10/23

SHEET 1 OF 7

L. ROBERTO LOMAS P.E.

400 S. PALM AVE, INDIALANTIC, FL 32903

434-688-0609 rllomas@lrlomaspe.com

LUIS R. LOMAS

LICENS. M. S.

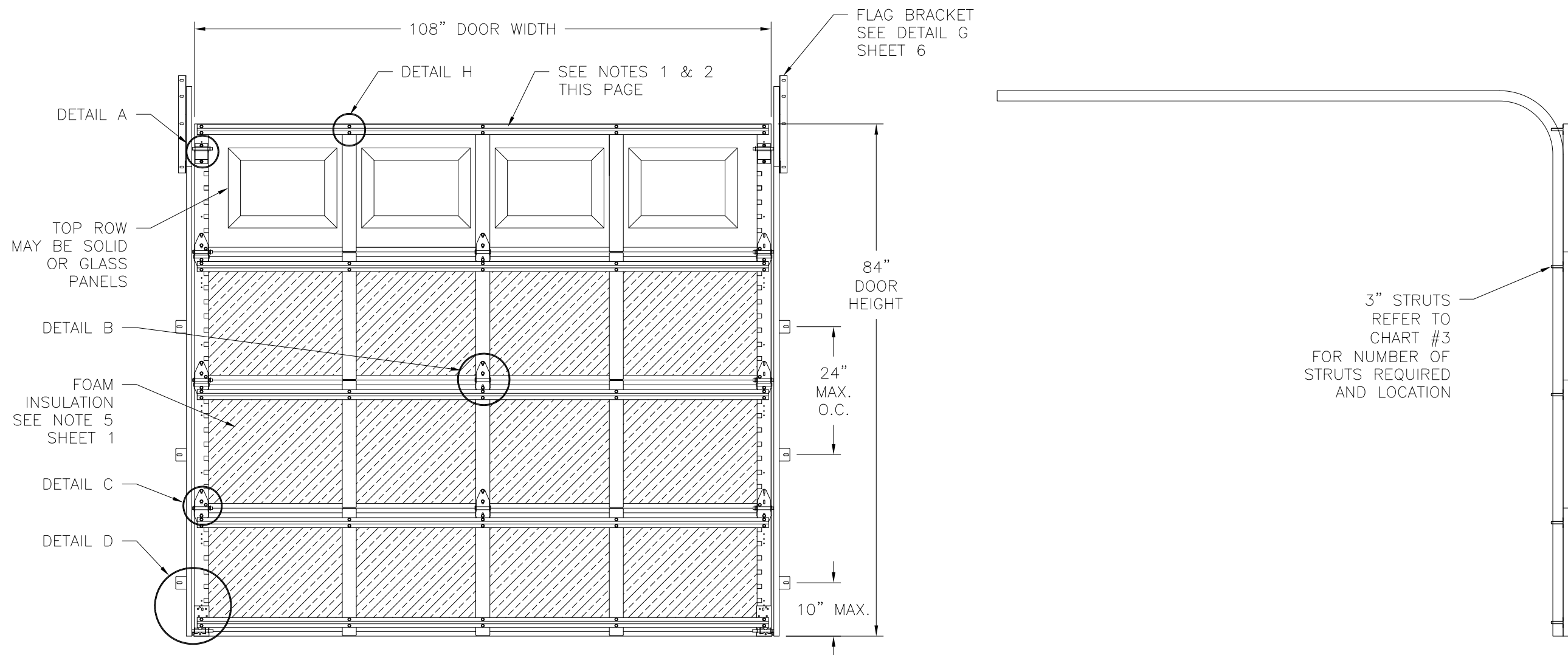
No. 62514

STATE OF FLORIDA

PROFESSIONAL ENGINEER

Luis R. Lomas P.E.
FL No.: 62514

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



140C CHOICE SERIES GARAGE DOOR
 OPAQUE SHOWN, GLAZED SIMILAR
 INTERIOR VIEW
 FOR RATINGS, NUMBER OF JAMB BRACKETS AND STRUTS REQUIRED SEE SHEET 3

- NOTES:
- LOCATE STRUTS AT BOTTOM PANEL 2" FROM PANEL TOP AND BOTTOM EDGES.
 - LOCATE STRUTS AT OTHER PANELS 2" FROM PANEL TOP EDGE.
 - LOCATE OTHER STRUTS EQUALLY SPACED

SAFE-WAY DOORS

3814 E. US 30
WARSAW, IN. 46580

140C CHOICE INSULATED, RAISED PANEL
SECTIONAL GARAGE DOOR, NON-IMPACT
ELEVATION

DRAWN: R.L.

DWG NO. 08-03951

REV -

SCALE NTS

DATE 05/10/23

SHEET 2 OF 7

L. ROBERTO LOMAS P.E.

400 S. PALM AVE, INDIALANTIC, FL 32903

434-688-0609 rllomas@lrlomaspe.com

SIGNED: 05/10/2023

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FL No.: 62514

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Chart #1
Rating Design Pressure, see note below

Door Height (ft)	Door width (ft)																																					
	9.0		9.5		10.0		10.5		11.0		11.5		12.0		12.5		13.0		13.5		14.0		14.5		15.0		15.5		16.0		16.5		17.0		17.5		18.0	
	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg	Pos	Neg
7.0	23.9	26.1	23.8	26.0	23.8	25.9	23.7	25.9	23.6	25.8	23.6	25.7	23.5	25.7	23.4	25.6	23.3	25.5	23.3	25.5	23.2	25.4	23.1	25.3	23.1	25.3	23.0	25.2	22.9	25.1	22.8	25.1	22.8	25.0	22.7	24.9	22.6	24.9
7.5	23.8	26.0	23.7	25.9	23.7	25.8	23.6	25.8	23.5	25.7	23.4	25.6	23.4	25.5	23.3	25.5	23.2	25.4	23.1	25.3	23.1	25.3	23.0	25.2	22.9	25.1	22.8	25.0	22.7	25.0	22.7	24.9	22.6	24.8	22.5	24.7	22.4	24.7
8.0	23.7	25.9	23.6	25.8	23.6	25.7	23.5	25.7	23.4	25.6	23.3	25.5	23.2	25.4	23.2	25.4	23.1	25.3	23.0	25.2	22.9	25.1	22.8	25.0	22.7	25.0	22.7	24.9	22.6	24.8	22.5	24.7	22.4	24.7	22.3	24.6	22.3	24.5
8.5	23.6	25.8	23.6	25.7	23.5	25.6	23.4	25.6	23.3	25.5	23.2	25.4	23.1	25.3	23.0	25.2	22.9	25.2	22.9	25.1	22.8	25.0	22.7	24.9	22.6	24.8	22.5	24.7	22.4	24.7	22.3	24.6	22.2	24.5	22.2	24.4	22.1	24.3
9.0	23.5	25.7	23.5	25.6	23.4	25.5	23.3	25.5	23.2	25.4	23.1	25.3	23.0	25.2	22.9	25.1	22.8	25.0	22.7	24.9	22.6	24.9	22.5	24.8	22.4	24.7	22.4	24.6	22.3	24.5	22.2	24.4	22.1	24.3	22.0	24.2	21.9	24.2
9.5	23.5	25.6	23.4	25.5	23.3	25.5	23.2	25.4	23.1	25.3	23.0	25.2	22.9	25.1	22.8	25.0	22.7	24.9	22.6	24.8	22.5	24.7	22.4	24.6	22.3	24.5	22.2	24.4	22.1	24.3	22.0	24.3	21.9	24.2	21.8	24.1	21.7	24.0
10.0	23.4	25.5	23.3	25.5	23.2	25.4	23.1	25.3	23.0	25.2	22.9	25.1	22.7	25.0	22.6	24.9	22.5	24.8	22.4	24.7	22.3	24.6	22.2	24.5	22.1	24.4	22.0	24.3	21.9	24.2	21.8	24.1	21.7	24.0	21.6	23.9	21.5	23.8
10.5	23.3	25.5	23.2	25.4	23.1	25.3	22.9	25.2	22.8	25.1	22.7	25.0	22.6	24.9	22.5	24.7	22.4	24.6	22.3	24.5	22.2	24.4	22.1	24.3	22.0	24.2	21.9	24.1	21.8	24.0	21.7	23.9	21.6	23.8	21.4	23.7	21.3	23.6
11.0	23.2	25.4	23.1	25.3	23.0	25.2	22.8	25.1	22.7	24.9	22.6	24.8	22.5	24.7	22.4	24.6	22.3	24.5	22.2	24.4	22.1	24.3	21.9	24.2	21.8	24.1	21.7	24.0	21.6	23.9	21.5	23.8	21.4	23.7	21.3	23.6	21.2	23.5
11.5	23.1	25.3	23.0	25.2	22.9	25.1	22.7	25.0	22.6	24.8	22.5	24.7	22.4	24.6	22.3	24.5	22.1	24.4	22.0	24.3	21.9	24.2	21.8	24.1	21.7	23.9	21.6	23.8	21.4	23.7	21.3	23.6	21.2	23.5	21.1	23.4	21.0	23.3
12.0	23.0	25.2	22.9	25.1	22.7	25.0	22.6	24.9	22.5	24.7	22.4	24.6	22.3	24.5	22.1	24.4	22.0	24.3	21.9	24.2	21.8	24.0	21.6	23.9	21.5	23.8	21.4	23.7	21.3	23.6	21.2	23.5	21.0	23.3	20.9	23.2	20.8	23.1
12.5	22.9	25.1	22.8	25.0	22.6	24.9	22.5	24.7	22.4	24.6	22.3	24.5	22.1	24.4	22.0	24.3	21.9	24.1	21.8	24.0	21.6	23.9	21.5	23.8	21.4	23.7	21.2	23.5	21.1	23.4	21.0	23.3	20.9	23.2	20.7	23.0	20.6	22.9
13.0	22.8	25.0	22.7	24.9	22.5	24.8	22.4	24.6	22.3	24.5	22.1	24.4	22.0	24.3	21.9	24.1	21.7	24.0	21.6	23.9	21.5	23.8	21.3	23.6	21.2	23.5	21.1	23.4	20.9	23.3	20.8	23.1	20.7	23.0	20.6	22.9	20.4	22.8
13.5	22.7	24.9	22.6	24.8	22.4	24.7	22.3	24.5	22.2	24.4	22.0	24.3	21.9	24.2	21.8	24.0	21.6	23.9	21.5	23.8	21.3	23.6	21.2	23.5	21.1	23.4	20.9	23.2	20.8	23.1	20.6	23.0	20.5	22.8	20.4	22.7	20.2	22.6
14.0	22.6	24.9	22.5	24.7	22.3	24.6	22.2	24.4	22.1	24.3	21.9	24.2	21.8	24.0	21.6	23.9	21.5	23.8	21.3	23.6	21.2	23.5	21.1	23.4	20.9	23.2	20.8	23.1	20.6	22.9	20.5	22.8	20.3	22.7	20.2	22.5	20.0	22.4

Ratings meet required design pressure ASD at 140 mph wind speed, 25ft mean roof height, exposure C and 0 to 10 angle roof (based on table 1609.6)

Chart #2

Number of jamb brackets required																			
Door Height (ft)	Door width (ft)																		
	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
7.0	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	6	6
7.5	4	4	4	4	4	4	4	4	4	5	5	5	5	5	5	6	6	6	6
8.0	4	4	4	4	4	4	4	5	5	5	5	5	5	6	6	6	6	6	7
8.5	4	4	4	4	4	4	5	5	5	5	5	6	6	6	6	6	7	7	7
9.0	5	5	5	5	5	5	5	5	5	6	6	6	6	6	7	7	7	7	7
9.5	5	5	5	5	5	5	5	5	6	6	6	6	6	7	7	7	7	7	8
10.0	5	5	5	5	5	5	5	6	6	6	6	7	7	7	7	7	8	8	8
10.5	5	5	5	5	5	6	6	6	6	6	7	7	7	7	8	8	8	8	8
11.0	6	6	6	6	6	6	6	6	7	7	7	7	7	8	8	8	8	9	9
11.5	6	6	6	6	6	6	6	7	7	7	7	8	8	8	8	8	9	9	9
12.0	6	6	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	9
12.5	6	6	6	6	6	7	7	7	7	8	8	8	8	9	9	9	9	10	10
13.0	7	7	7	7	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10
13.5	7	7	7	7	7	7	7	8	8	8	8	9	9	9	9	10	10	10	10
14.0	7	7	7	7	7	7	8	8	8	8	9	9	9	10	10	10	10	11	11

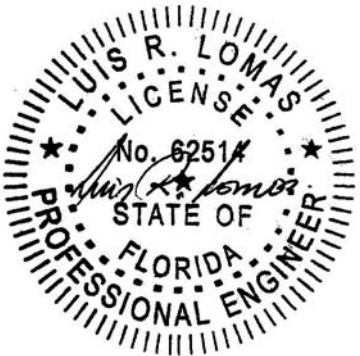
Chart #3

Number of struts required (struts are galvanized steel 20gauge, 80ksi)																			
Door Height (ft)	Door width (ft)																		
	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	16.5	17.0	17.5	18.0
7.0	3	3	3	3	3	3	3	4	4	4	4	5	5	5	6	6	7	7	8
7.5	3	3	3	3	3	3	4	4	4	4	5	5	5	6	6	6	7	7	8
8.0	3	3	3	3	3	3	4	4	4	4	5	5	5	6	6	7	7	8	8
8.5	3	3	3	3	3	4	4	4	4	4	5	5	6	6	7	7	8	8	9
9.0	3	3	3	3	4	4	4	4	4	4	5	5	6	6	6	7	7	8	9
9.5	3	3	3	3	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9
10.0	3	3	3	4	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9
10.5	3	3	3	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	10
11.0	3	3	4	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	10
11.5	3	3	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	9	10
12.0	3	4	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	10	11
12.5	3	4	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	10	11
13.0	3	4	4	4	4	5	5	5	5	6	6	7	7	8	8	9	10	10	11
13.5	4	4	4	4	4	5	5	5	6	6	7	7	8	8	9	10	10	11	12
14.0	4	4	4	4	5	5	5	5	6	6	7	7	8	9	9	10	11	12	12

Locate struts as follows: (1) at top of door 3" max from top. (1) at bottom of door 3" max from bottom. The rest of struts to be located equally through the door.

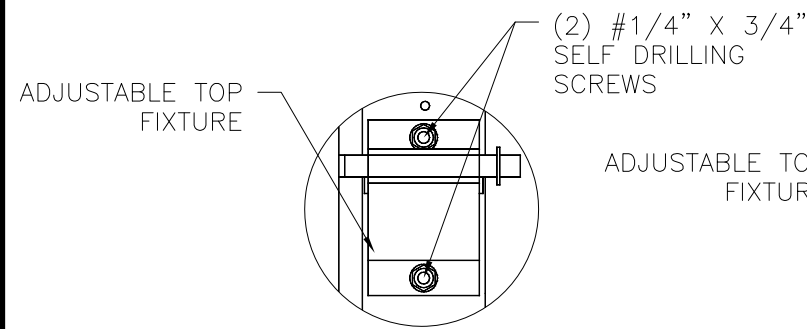
SIGNED: 05/10/2023

SAFE-WAY DOORS 3814 E. US 30 WARSAW, IN. 46580		
140C CHOICE INSULATED, RAISED PANEL SECTIONAL GARAGE DOOR, NON-IMPACT CHARTS		
DRAWN: R.L.	DWG NO. 08-03951	REV —
SCALE NTS	DATE 05/10/23	SHEET 3 OF 7
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@rlomaspe.com		



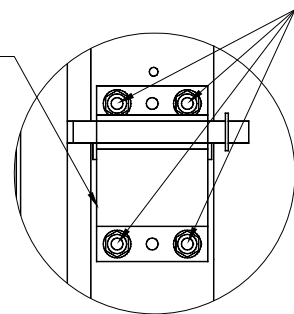
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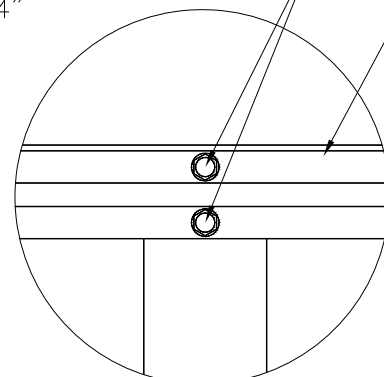
DETAIL A
TOP FIXTURE

ADJUSTABLE TOP
FIXTURE



DETAIL E
TOP FIXTURE

(2) #1/4" X 3/4"
SELF DRILLING
SCREWS



DETAIL H
STEEL STRUT

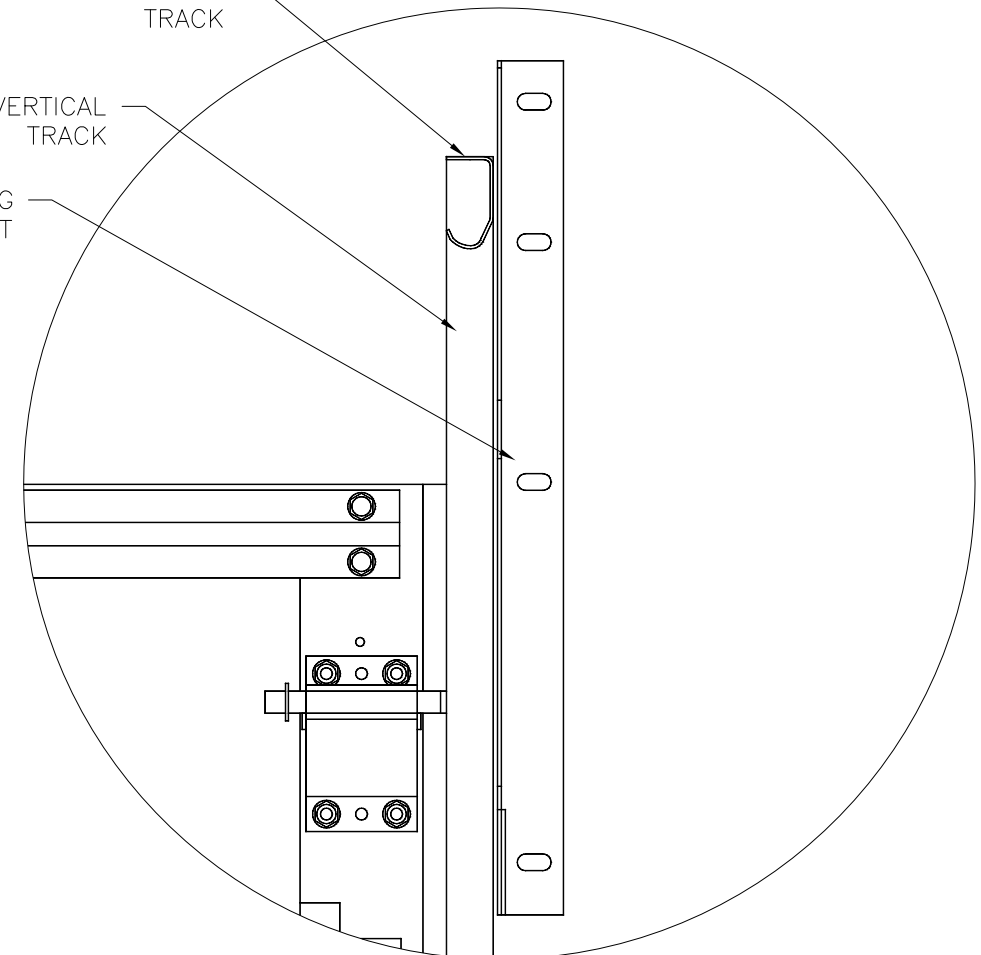
1/4" X 3/4"
SELF DRILLING SCREWS

GALVANIZED
STEEL STRUT

HORIZONTAL
TRACK

VERTICAL
TRACK

FLAG
BRACKET

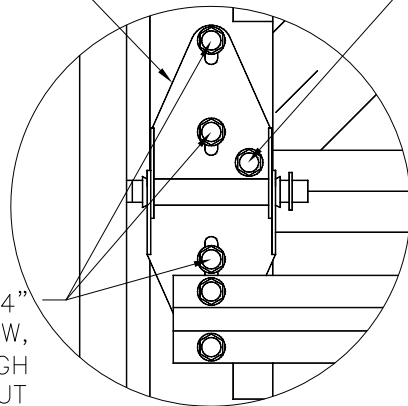


DETAIL G
FLAG BRACKET

END HINGE

DRILL THRU HINGE
TO INSTALL SCREW
INTO DOOR SECTION

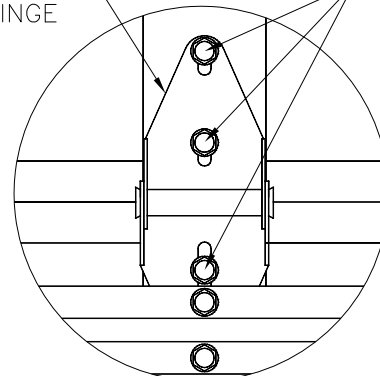
(6) 1/4" X 3/4"
SELF DRILLING SCREW,
(2) INSTALLED THROUGH
STRUT



DETAIL C
END HINGE

CENTER
HINGE

(4) 1/4" X 3/4"
SELF DRILLING
SCREWS



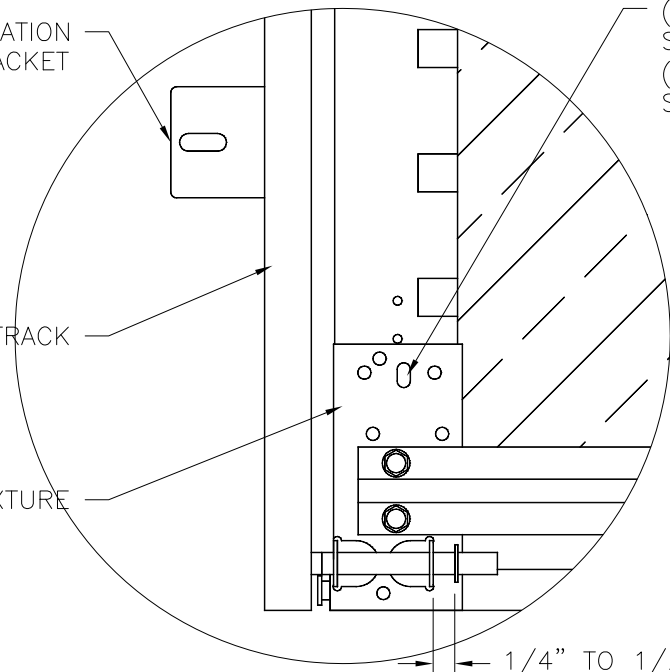
DETAIL B
CENTER HINGE

INSTALLATION
BRACKET

(4) 1/4" X 3/4"
SELF DRILLING SCREWS
(2) INSTALLED THROUGH
STRUT

VERTICAL TRACK

BOTTOM FIXTURE

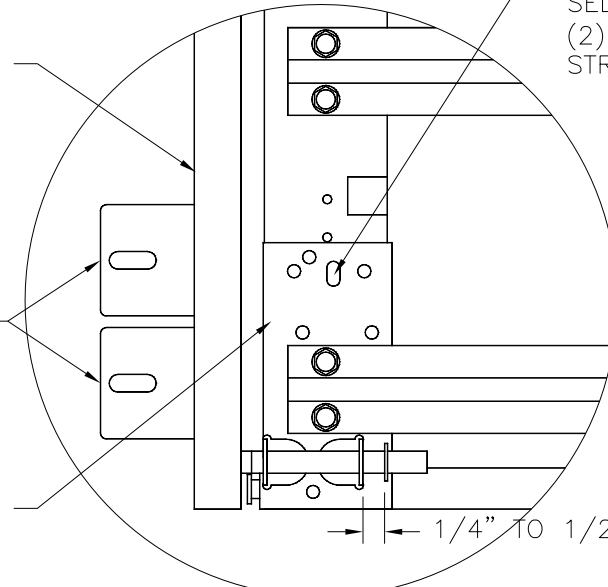


DETAIL D
BOTTOM FIXTURE

VERTICAL TRACK

INSTALLATION
BRACKET

BOTTOM FIXTURE

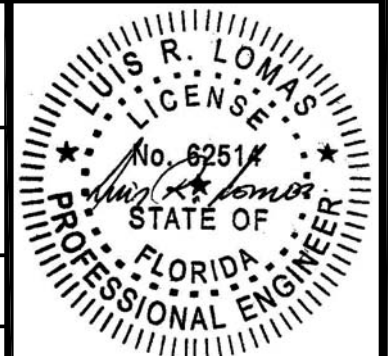


DETAIL F
BOTTOM FIXTURE

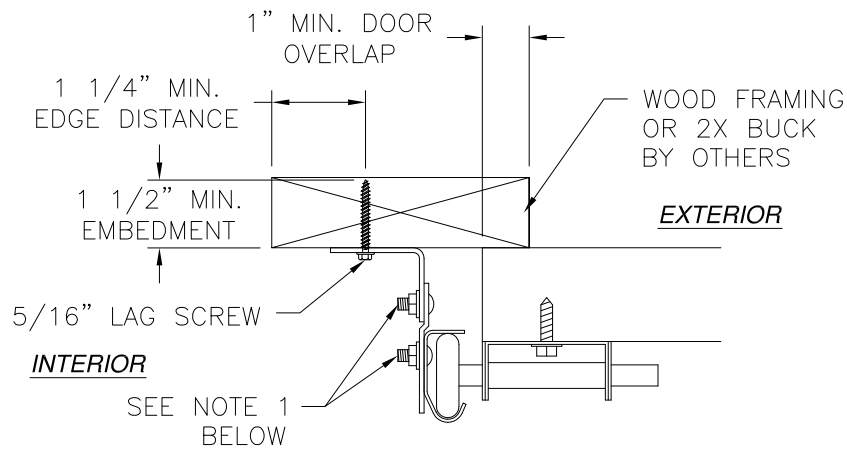
(4) 1/4" X 3/4"
SELF DRILLING SCREWS
(2) INSTALLED THROUGH
STRUT

SAFE-WAY DOORS 3814 E. US 30 WARSAW, IN. 46580		
140C CHOICE INSULATED, RAISED PANEL SECTIONAL GARAGE DOOR, NON-IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-03951	REV -
SCALE NTS	DATE 05/10/23	SHEET 4 OF 7
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

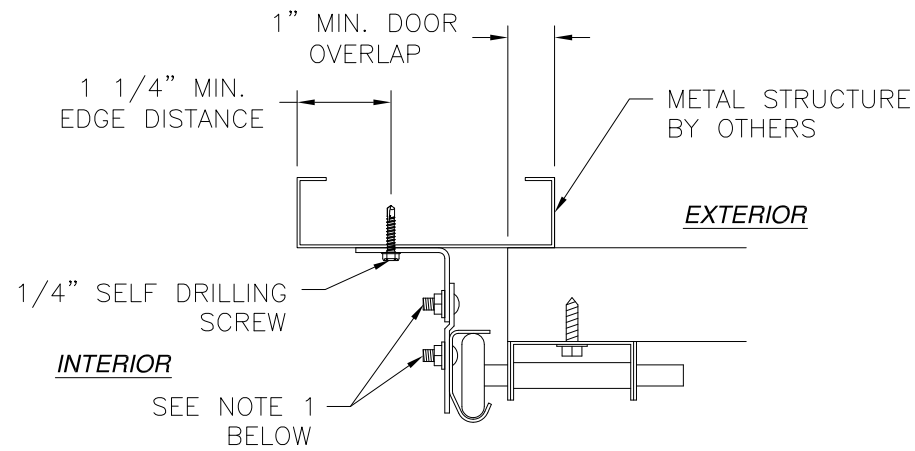
SIGNED: 05/10/2023



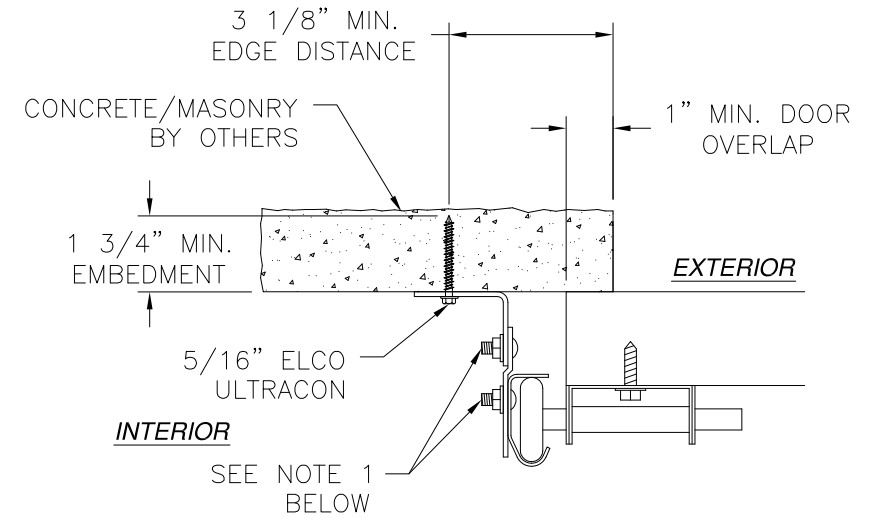
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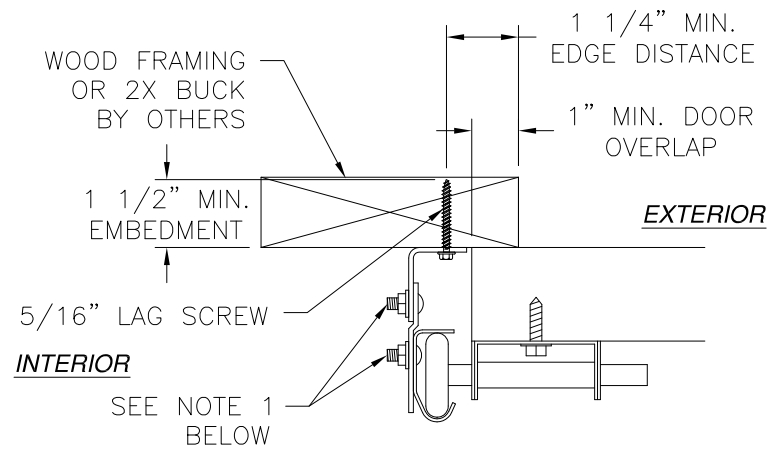
ANGLE MOUNT INSTALLATION
WOOD FRAMING OR 2X BUCK INSTALLATION



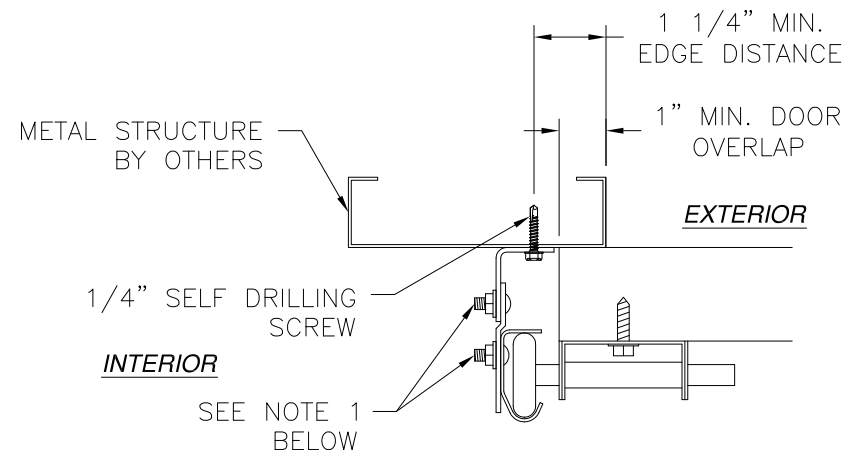
ANGLE MOUNT INSTALLATION
METAL STRUCTURE INSTALLATION



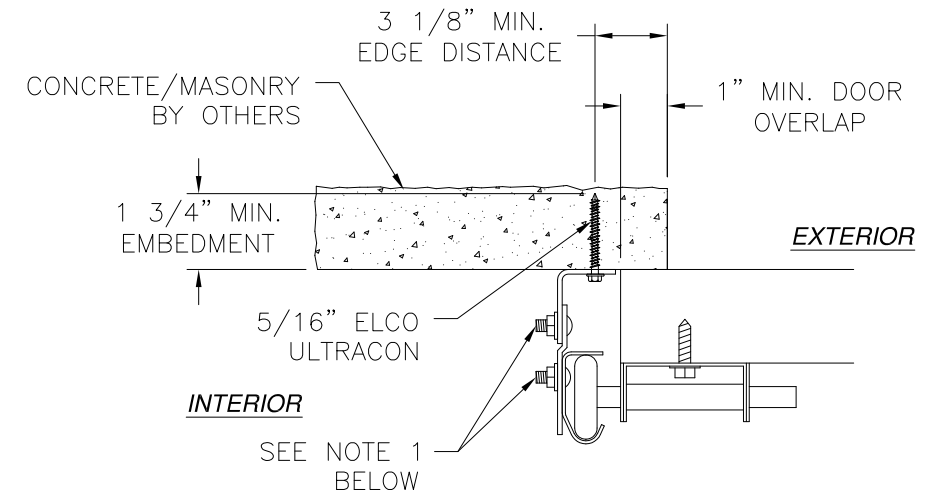
ANGLE MOUNT INSTALLATION
CONCRETE/MASONRY INSTALLATION



REVERSE ANGLE MOUNT INSTALLATION
WOOD FRAMING OR 2X BUCK INSTALLATION



REVERSE ANGLE MOUNT INSTALLATION
METAL STRUCTURE INSTALLATION



REVERSE ANGLE MOUNT INSTALLATION
CONCRETE/MASONRY INSTALLATION

- NOTES:
1. ATACH ANGLE MOUNT TO TRACK USING
(2) 1/4\" BOLT WITH WASHER AND NUT

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

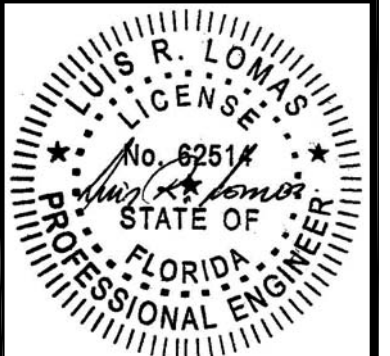
SAFE-WAY DOORS
3814 E. US 30
WARSAW, IN. 46580

140C CHOICE INSULATED, RAISED PANEL
SECTIONAL GARAGE DOOR, NON-IMPACT
INSTALLATION DETAILS

DRAWN: R.L.	DWG NO. 08-03951	REV -
SCALE NTS	DATE 05/10/23	SHEET 5 OF 7

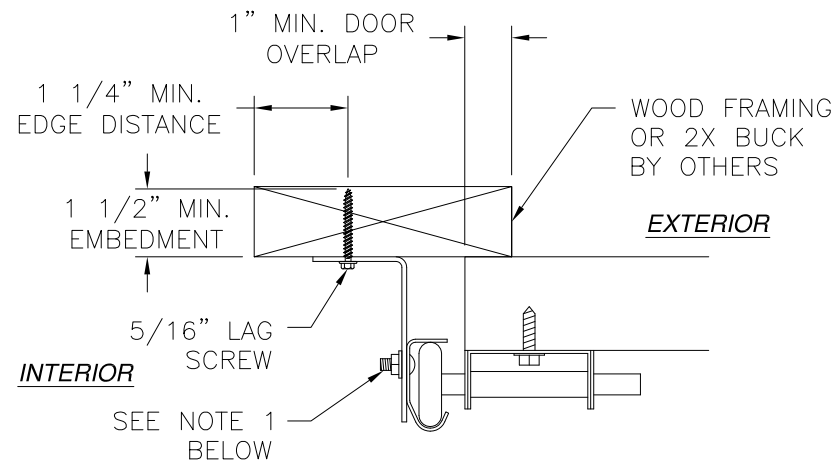
L. ROBERTO LOMAS P.E.
400 S. PALM AVE, INDIALANTIC, FL 32903
434-688-0609 rllomas@lrlomaspe.com

SIGNED: 05/10/2023

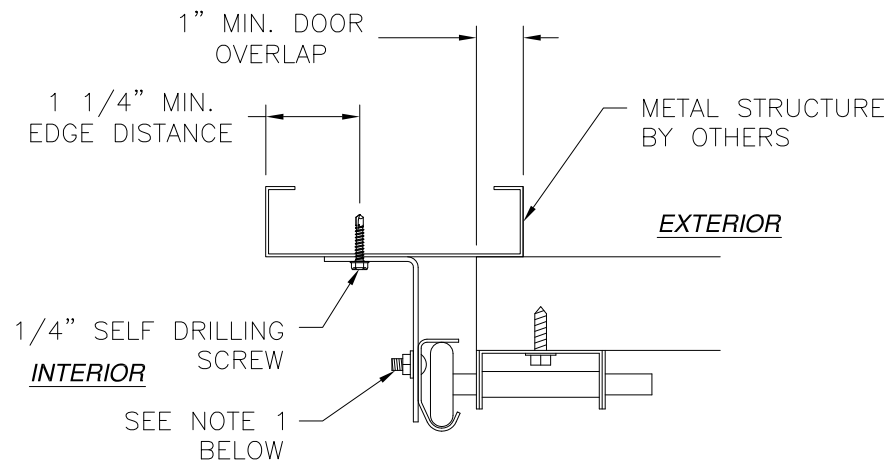


Luis R. Lomas P.E.
FL No.: 62514

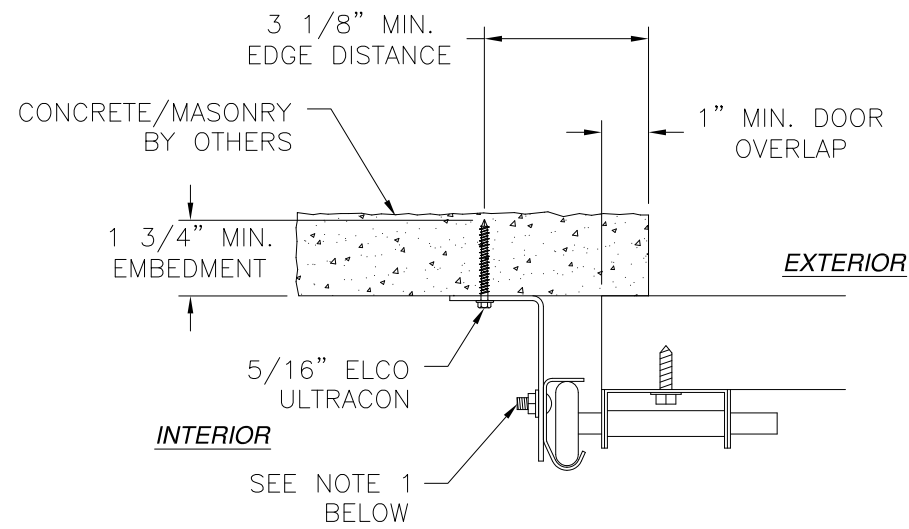
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



BRACKET MOUNT INSTALLATION
WOOD FRAMING OR 2X BUCK INSTALLATION



BRACKET MOUNT INSTALLATION
METAL STRUCTURE INSTALLATION



BRACKET MOUNT INSTALLATION
CONCRETE/MASONRY INSTALLATION

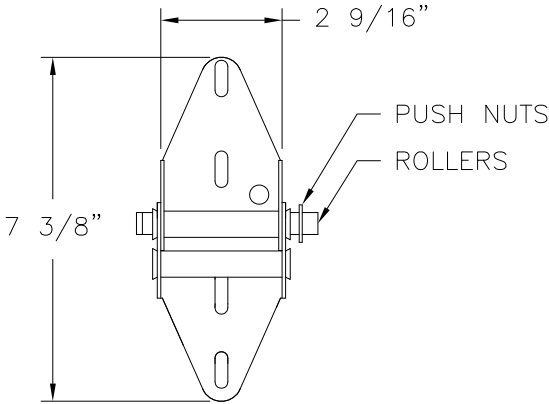
- NOTES:**
1. ATACH BRACKET MOUNT TO TRACK USING
(1) 1/4" BOLT WITH WASHER AND NUT

SIGNED: 05/10/2023

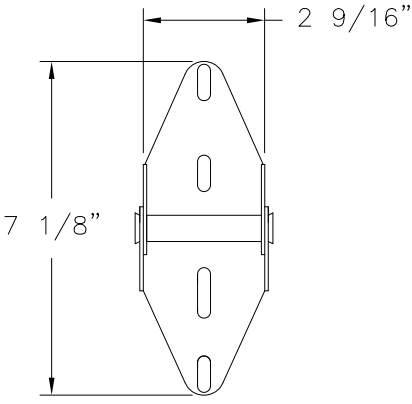
SAFE-WAY DOORS 3814 E. US 30 WARSAW, IN. 46580		
140C CHOICE INSULATED, RAISED PANEL SECTIONAL GARAGE DOOR, NON-IMPACT INSTALLATION DETAILS		
DRAWN: R.L.	DWG NO. 08-03951	REV -
SCALE NTS	DATE 05/10/23	SHEET 6 OF 7
L. ROBERTO LOMAS P.E. 400 S. PALM AVE, INDIALANTIC, FL 32903 434-688-0609 rllomas@lrlomaspe.com		

Luis R. Lomas P.E.
FL No.: 62514

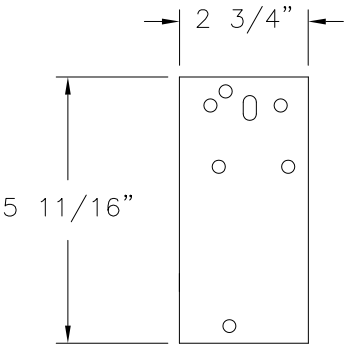
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



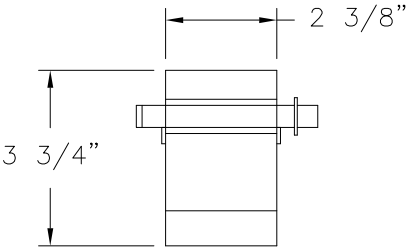
END HINGE W/ROLLER
14 GA GALVANIZED STEEL



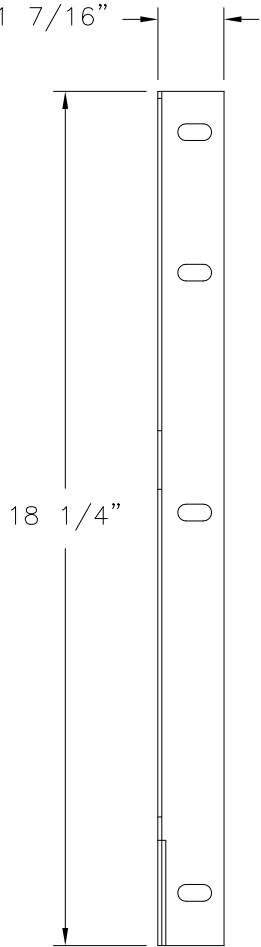
CENTER HINGE
14 GA GALVANIZED STEEL



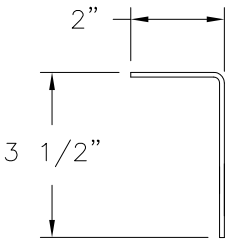
BOTTOM FIXTURE
12GA GALVANIZED STEEL



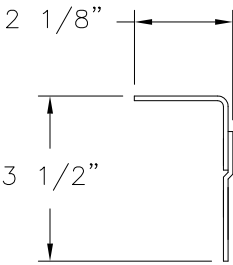
TOP FIXTURE
12GA GALVANIZED STEEL



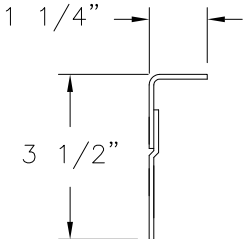
FLAG BRACKET
12 GA GALVANIZED STEEL



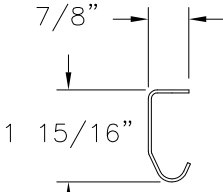
BRACKET MOUNT
12 GA GALVANIZED STEEL



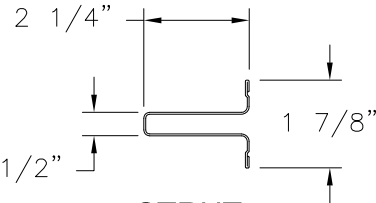
ANGLE MOUNT
12 GA GALVANIZED STEEL



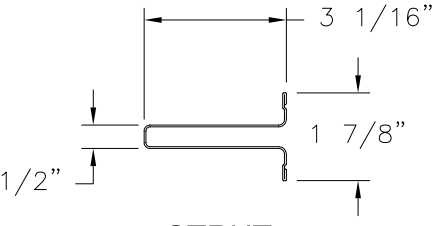
REVERSE ANGLE MOUNT
12 GA GALVANIZED STEEL



TRACK
14 GA GALVANIZED STEEL



STRUT
20 GA GALVANIZED STEEL



STRUT
20 GA 80K GALVANIZED STEEL

SAFE-WAY DOORS

3814 E. US 30
WARSAW, IN. 46580

140C CHOICE INSULATED, RAISED PANEL
SECTIONAL GARAGE DOOR, NON-IMPACT
COMPONENTS

DRAWN:
R.L.

DWG NO.
08-03951

REV
-

SCALE
NTS

DATE
05/10/23

SHEET
7 OF 7

L. ROBERTO LOMAS P.E.
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