Engineering Evaluation Report # 9995LM-061724

Prepared by:
A. Lynn Miller, P.E.
1070 Technology Dr.
N. Venice, FL 34275
(941) 480-1600
Registration Number: #29296

Manufacturer:
WinDoor Inc.
104 Triple Diamond Blvd
N Venice, FL 34275

Product Description:
Series GD9995A Impact-resistant, Aluminum Garage Door, (LM & SM); FL# 40730

Compliance:
The above-mentioned product has been evaluated for compliance with the requirements of the Florida Department of Business and Professional Regulation for Statewide Acceptance per Rule 61 G20-3.005 method 1(d). The product listed herein complies with requirements of the current Florida Building Code.

This product has been evaluated and is in compliance with the current Florida Building Code, including the “High Velocity Hurricane Zone” (HVHZ).

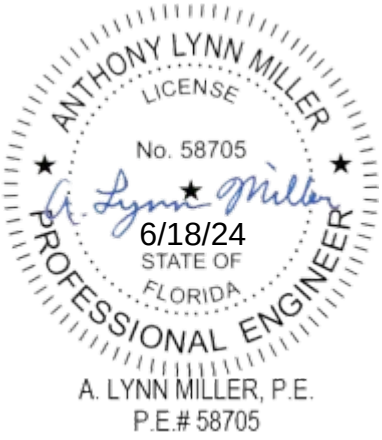
Supporting Technical Documentation:
1. Approval document: drawing number GD-9995A-FPA, Rev. B, signed and sealed by A. Lynn Miller, P.E.
2. Test Report Nos. FTL 20-1090, 21-1116A-1, NOK-0061 & 21-1116B-1, signed and sealed by Idalmis Ortega, P.E. Fenestration Testing Laboratories, Nokomis, FL 34275

TAS 201-94 Large Missile Impact Test
TAS 202-94 Uniform Static Air Pressure Test
TAS 203-94 Cyclic Pressure Loading Test

3. Calculations, signed and sealed by A. Lynn Miller, P.E., dated 6/14/21 & 8/11/21

4. Miami-Dade RER Product Control Section NOA’s; Trosifol PVB Interlayer by Kuraray America, Inc.

Limitations and Conditions of use:
• Units must be glazed per ASTM E1300-09, refer to approval document for glazing details.
• This product is rated to be used in the HVHZ.
• This product is impact resistant and does not require impact protection in wind borne debris regions.
• Panel material to be extruded Aluminum.
• Units must be installed in accordance with approval document, GD-9995A-FPA.



GENERAL NOTES: SERIES GDWRSA LARGE & SMALL MISSILE IMPACT-RESISTANT, ALUMINUM, SECTIONAL, ORAQUE AND/OR GLASED GARAGE DOOR

1) THIS PRODUCT HAS BEEN DESIGNED & TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE.

2) SHUTTERS ARE NOT REQUIRED WHEN USED IN WIND-BORNE DEBRIS REGIONS.

3) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO. USE ANCHORS OF SUFFICIENT LENGTH TO ACHIEVE THE EMBEDMENT SHOWN ON TABLE 1, THIS SHEET.

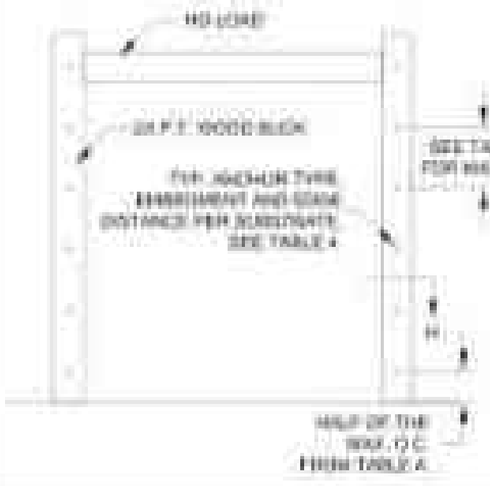
4) DESIGN PRESSURES
DESIGN LOADS BASED ON STRUCTURAL TEST PRESSURE, FRAME ANALYSIS AND GLASS PER ASTM E1300.

5) THE ANCHORAGE METHODS SHOWN HAVE BEEN DESIGNED TO RESIST THE WINDLOADS CORRESPONDING TO THE REQUIRED DESIGN PRESSURE. THE 33-1/3% STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE 1.6 LOAD DURATION FACTOR WAS USED FOR THE EVALUATION OF ANCHORS INTO WOOD. ANCHORS THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

OPENING WIDTH = SECTION WIDTH - 2.00
EACH SIDE TO OVERLAP BY MIN. 1"

OPENING HEIGHT = STACK HEIGHT - 0.75
TOP TO OVERLAP BY MIN. 3/4"

2X P.T. WOOD BUCK TO SUBSTRATE ATTACHMENT:

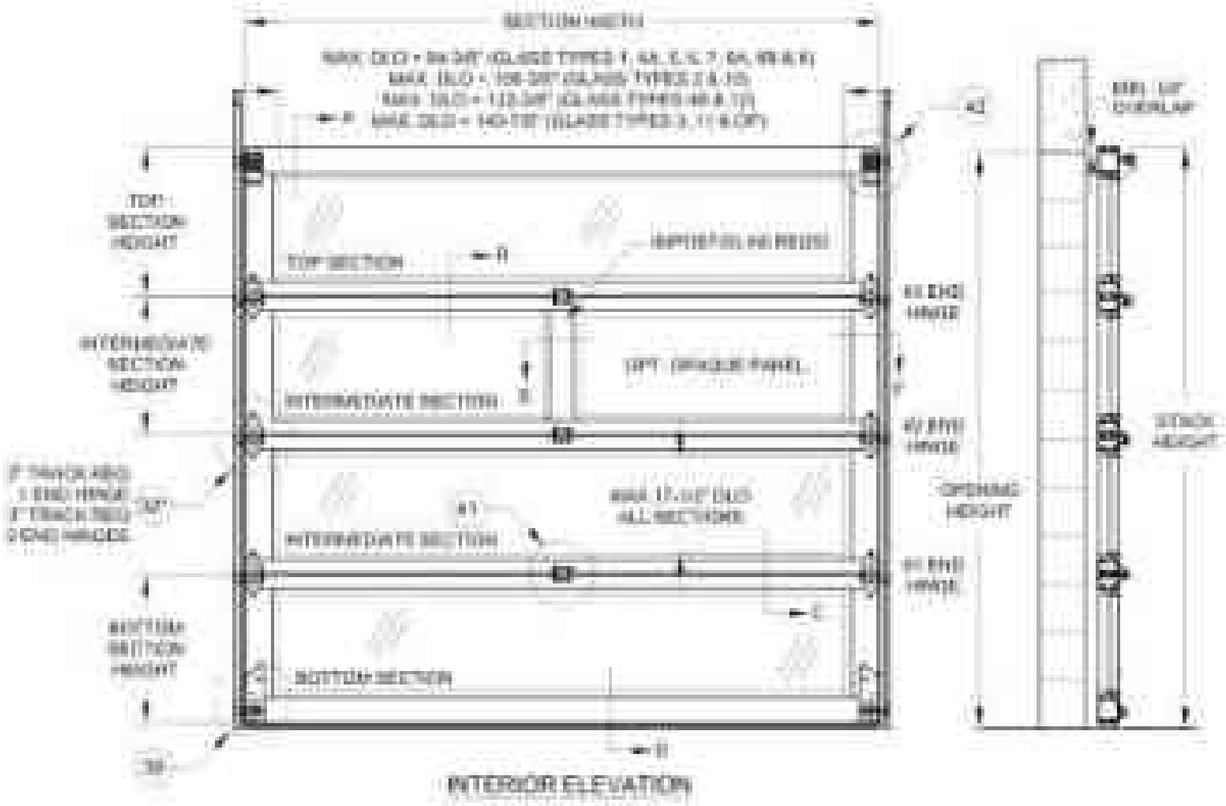


1) WOOD BUCK IS OPTIONAL. SEE SHEET 5 FOR DETAILS.

2) THE HORIZONTAL TRACK RECEIVES NO WINDLOAD, BUT ATTACHMENT TO THE CEILING JOISTS MUST BE ABLE TO WITHSTAND THE WEIGHT OF THE DOOR. ENGINEERING BY OTHERS.

3) GENERAL NOTES FOR DOOR ANCHORAGE ALSO APPLY TO BUCK ANCHORAGE.

FLORIDA PRODUCT APPROVAL #####.#



INTERIOR ELEVATION

TABLE 1

Design Pressure, psf, up to 144" Opening Width
(For Opening Widths over 144", see Note 5 Below)

Opening Height	Stack Height	Minimum # of Sections	Opening Width		
			108"	132"	144"
84"	84-3/8"	4	+55.0/-65.0	+55.0/-65.0	+55.0/-65.0
96"	96-3/8"		+52.5/-65.0	+55.0/-65.0	+55.0/-65.0
108"	108-3/8"		+50.0/-65.0	+52.5/-65.0	+55.0/-65.0
120"	120-3/8"	5	+55.0/-65.0	+55.0/-65.0	+55.0/-65.0
132"	132-3/8"		+55.0/-65.0	+54.0/-65.0	+55.0/-65.0
144"	144-3/8"	6	+55.0/-65.0	+55.0/-65.0	+55.0/-65.0
156"	156-3/8"		+55.0/-65.0	+54.0/-65.0	+55.0/-65.0
168"	170-3/8"	7	+55.0/-65.0	+54.0/-65.0	+55.0/-65.0
180"	182-3/8"	8	+48.0/-65.0	+55.0/-65.0	+55.0/-65.0
192"	194-3/8"		+52.5/-65.0	+54.0/-65.0	+55.0/-65.0
204"	206-3/8"	9	+55.0/-65.0	+55.0/-65.0	+55.0/-65.0
216"	218-3/8"		+51.0/-65.0	+54.0/-65.0	+55.0/-65.0

1) FOR SIZES NOT SHOWN, ROUND UP TO THE NEXT AVAILABLE WIDTH OR HEIGHT DIMENSION.

FOR DOORS WITH EITHER A TOTAL WEIGHT OF OVER 800 LBS OR A SECTION WIDTH OVER 192", A 3" TRACK SYSTEM IS REQUIRED. OTHERWISE A 2" TRACK SYSTEM IS ACCEPTABLE.

DESIGN PRESSURE RATING
GDWRS SEE TABLES 1 & 2
IMPACT RATING
RATED FOR LARGE & SMALL MISSILE IMPACT RESISTANCE

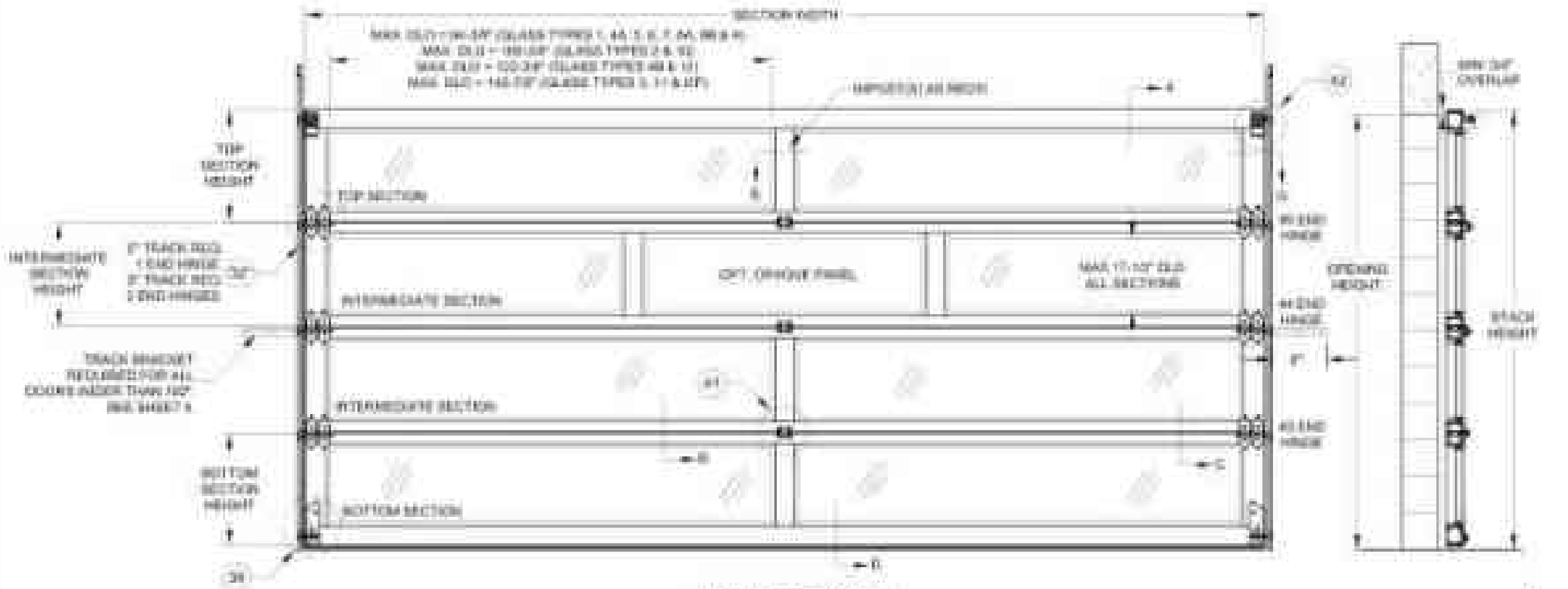
10	10/23/23	W-GDWRSA-GD
9	10/23/23	W-GDWRSA-GD
8	10/23/23	W-GDWRSA-GD
7	10/23/23	W-GDWRSA-GD
6	10/23/23	W-GDWRSA-GD
5	10/23/23	W-GDWRSA-GD
4	10/23/23	W-GDWRSA-GD
3	10/23/23	W-GDWRSA-GD
2	10/23/23	W-GDWRSA-GD
1	10/23/23	W-GDWRSA-GD
REVISION #	DATE	DRAWING NUMBER

WINDOOR®

OVERHEAD SECTIONAL GARAGE DOOR
GEN. NOTES UP TO 12' ELEV. OP.

GDWRSA | 1 OF 6

BRIAN LYNN MILLER
LICENSE
No. 66708
STATE OF FLORIDA
PROFESSIONAL ENGINEER



INTERIOR ELEVATION

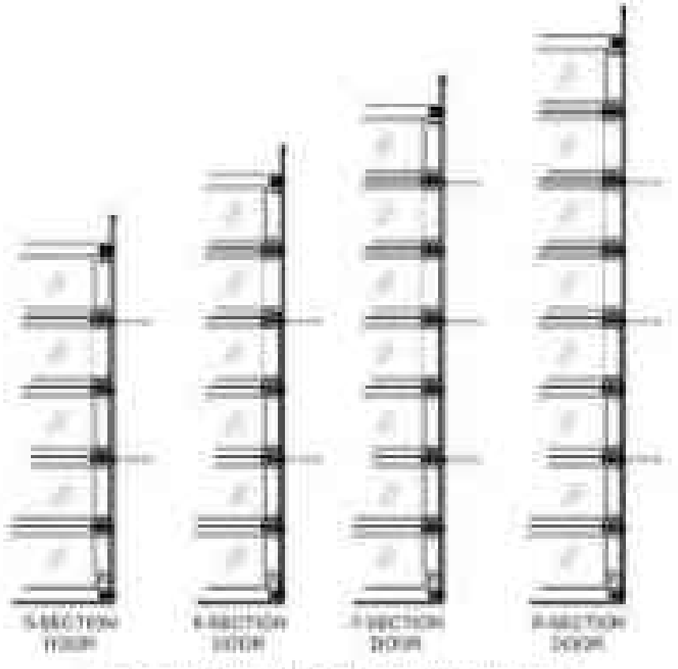
Design Pressure, psf, up to 216" Opening Width

Opening Height	Stack Height	Minimum # of Sections	Opening Width			Bracket(s)
			120"	192"	216"	
84"	84-3/4"	4	+40.0/-50.0	+40.0/-50.0	+40.0/-50.0	(1)
96"	96-3/4"		+40.0/-50.0	+44.2/-48.1	+36.1/-48.4	(1)
97-3/4"	98-1/8"		+40.0/-50.0	+40.0/-50.0	+36.8/-45.8	(1)
98-1/8"	108-1/8"		+40.0/-50.0	+39.8/-50.0	+36.0/-45.0	(1)
108"	108-1/8"	5	+40.0/-50.0	+44.2/-48.1	+36.1/-48.4	(2)
120"	120-3/8"		+40.0/-50.0	+40.0/-50.0	+36.8/-45.8	(2)
132"	132-3/4"	6	+40.0/-50.0	+44.2/-48.1	+36.1/-48.4	(2)
144"	144-3/4"		+40.0/-50.0	+40.0/-50.0	+36.8/-45.8	(2)
156"	156-3/4"	7	+40.0/-50.0	+44.2/-48.1	+36.1/-48.4	(2)
168"	168-3/4"		+40.0/-50.0	+40.0/-50.0	+36.8/-45.8	(2)
180"	180-3/4"	8	+40.0/-50.0	+44.2/-48.1	+36.1/-48.4	(3)
192"	192-3/4"		+40.0/-50.0	+39.8/-50.0	+36.0/-45.0	(3)
204"	204-3/4"	9	+40.0/-50.0	+44.2/-48.1		N/A
216"	216-3/4"		+40.0/-50.0	+39.8/-50.0		N/A

FOR WIDTHS OVER 192", SPECIAL ANCHOR CONDITIONS APPLY. SEE TABLE 4.

TRACK BRACKETS REQUIRED FOR WIDTHS OVER 192". QUANTITY SHOWN IS PER SIDE.

FOR DOORS WITH EITHER A TOTAL WEIGHT OF OVER 800 LBS OR A SECTION WIDTH OVER 192", A 3" TRACK SYSTEM IS REQUIRED, OTHERWISE A 2" TRACK SYSTEM IS ACCEPTABLE.



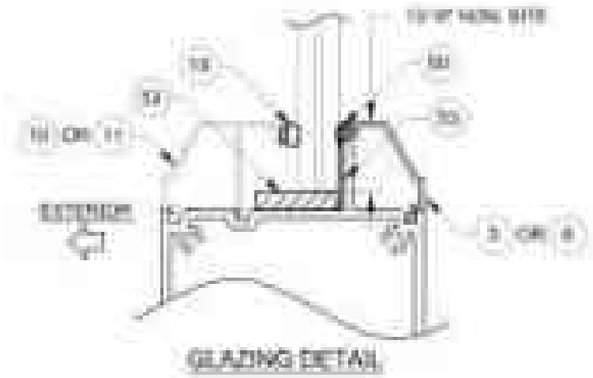
TRACK BRACKET LOCATIONS (IF NEEDED)

REVISIONS	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
DATE:	
SCALE:	
JOB NO.	
SHEET	2 OF 6
DOOR SIZE	

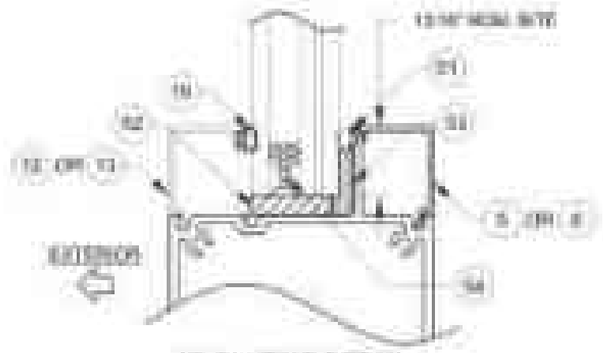
WINDOOR

OVERHEAD SECTIONAL GARAGE DOOR, LLC

OVER 12' ELEVATION OF



GLAZING DETAIL



IG GLAZING DETAIL

Glass Type	Description (Listed from Exterior to Interior)
1	1/4" AN / .060" PVB / 1/4" AN
2	3/16" AN / .060" PVB / 3/16" AN
3	1/4" TP / .060" PVB / 3.7mm ATG
4A	1/4" TP / .060" PVB / 3.7mm ATG
4B	5/16" TP / .090" PVB / 4.7mm ATG
5	1" IG / 1/8" TP CAP / AIRSPACE / 1/4" AN / .060" PVB / 1/4" AN
6	1" IG / 1/4" TP CAP / AIRSPACE / 3/16" AN / .060" PVB / 1/4" AN
7	1" IG / 1/8" TP CAP / AIRSPACE / 3/16" HS / .060" PVB / 1/4" TP
8A	1" IG / 1/8" TP CAP / AIRSPACE / 1/4" TP / .090" PVB / 3.7mm ATG
8B	1" IG / 1/8" TP CAP / AIRSPACE / 5/16" TP / .090" PVB / 4.7mm ATG
9	1" IG / 3/16" TP CAP / AIRSPACE / 1/8" AN / .060" PVB / 1/8" AN
10	1" IG / 1/4" TP CAP / AIRSPACE / 3/16" AN / .090" PVB / 3/16" TP
11	1" IG / 1/4" TP CAP / AIRSPACE / 3/16" HS / .090" PVB / 3/16" TP
12	1" IG / 1/4" TP CAP / AIRSPACE / 3/16" TP / .090" PVB / 3/16" TP
OP	0.060" Mono Opaque Panel

AN = ANNEALED
HS = HEAT STRENGTHENED
TP = TEMPERED
PVB = .030" TROSIFOL PVB INTERLAYER BY KURARAY AMERICA, INC.



GLASS TYPE 1



GLASS TYPE 2



GLASS TYPE 3



GLASS TYPE 4A (1/8")
GLASS TYPE 4B (3/16")



OPAQUE PANEL (OP)



GLASS TYPE 5



GLASS TYPE 6



GLASS TYPE 7



GLASS TYPE 8A (1/8")
GLASS TYPE 8B (3/16")

EXTERIOR
INTERIOR



GLASS TYPE 9



GLASS TYPE 10



GLASS TYPE 11



GLASS TYPE 12

NO.	REVISION	BY	DATE
1	REVISED PER ENGINEER COMMENTS		07/31/2020

WINDOOR

OVERHEAD SECTIONAL GARAGE DOOR, LIFT HANDLE

GLAZING DETAILS, GLASS TYPES

SCALE: AS NOTED

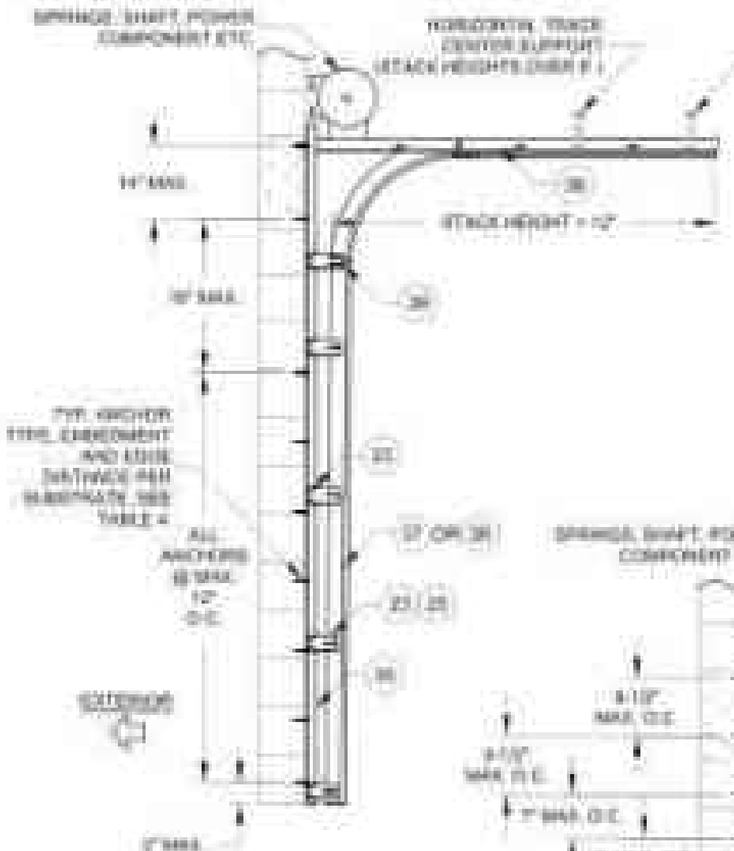
DRAWN BY: KL

CHECKED BY: MW

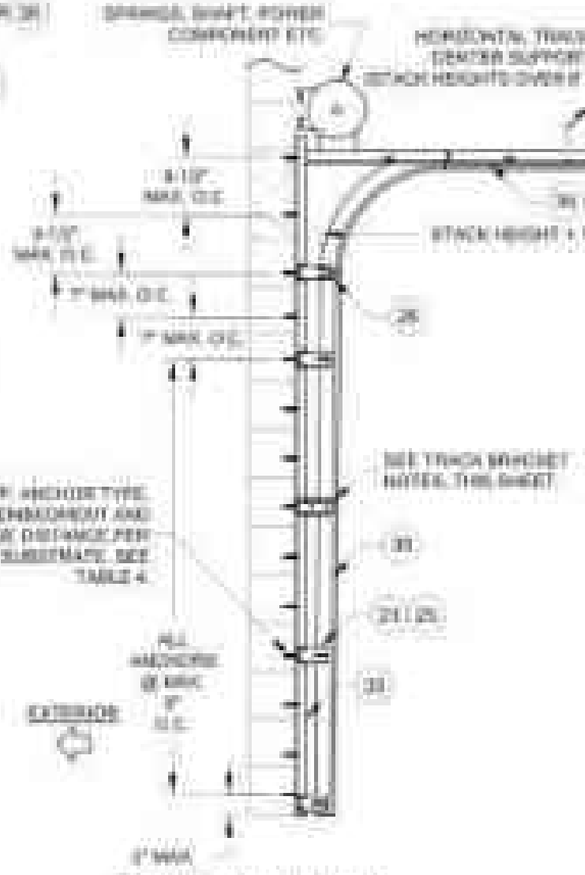
DATE: 07/31/2020

3 OF 6





2" OR 3" TRACK INSTALLATION PATTERN FOR OPENING WIDTHS OF 192" AND LESS



3" TRACK INSTALLATION PATTERN FOR OPENING WIDTHS OVER 192"

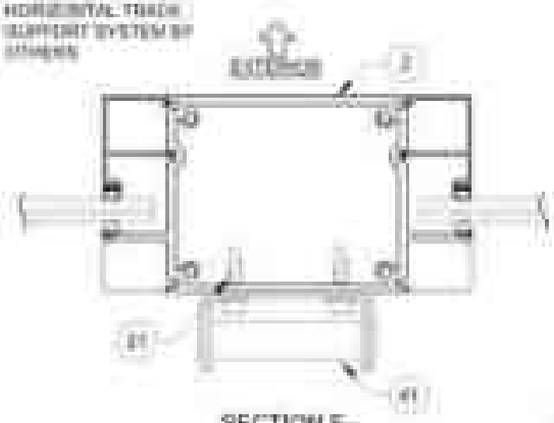
TRACK BRACKET NOTES:

1) EQUALLY-SPACED TRACK ANGLE BRACKET REQUIRED FOR ALL DOORS WIDER THAN 192".

2) INSTALL BRACKET TO SUBSTRATE WITH (2) INSTALLATION ANCHORS.

3) INSTALL BRACKET TO TRACK AND ADJUSTABLE TAB WITH (2) 1/4" NUTS AND BOLTS.





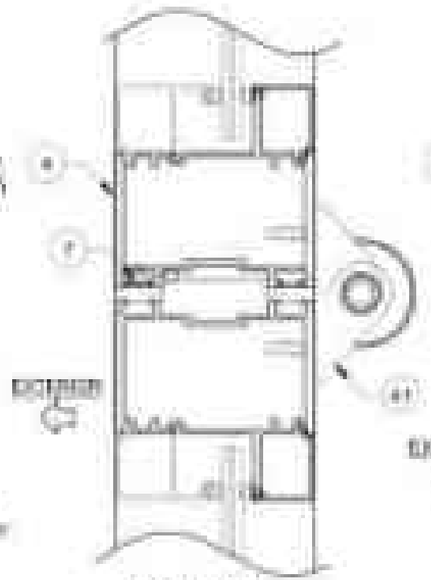




Table 4

Anchor	Substrate	Minimum Edge Distance	Minimum Embedment	Max. O.C. for 2X Buck Attachment
#14 SMS (CE)	Steel (A36)	3/8"	1/8"	N/A
5/16" SMS (CE) *	Steel (A36)	3/8"	1/8"	N/A
1/4" x min. 1-3/4" Lag Screw	Southern Pine (SG = .55)	1"	1-1/2"	N/A
3/8" x min. 1-3/4" Lag Screw *	Southern Pine (SG = .55)	1-1/2"	1-1/2"	N/A
1/4" Ultracon®	Concrete (min. 3.0 ksi)	2-1/2"	1-3/4"	14-3/8"
	Grouted CMU (ASTM C-90)	2-1/2"	1-3/4"	12"
3/8" DeWalt Power-Stud+ SD1 *	Concrete (min. 3.0 ksi)	4"	1-5/8"	13-5/8"
	Grouted CMU (ASTM C-90)	4"	2-3/8"	14-5/8
3/8" Hilti HUS-H & HIS Sleeve Anchor *	Concrete (min. 2.0 ksi)	1-1/2"	1-1/4"	14-3/4"
	Grouted CMU (ASTM C-90)	4"	1-1/4"	14-1/4"

1) USE ONLY SUBSTRATE APPROPRIATE ANCHORS TELLOW/TABLE/SHEET. EDGE DISTANCE AND SUBSTRATE REQUIREMENTS PER TABLE 3, SHEET 2. ANY INSTALLATION OPTION SHOWN (with (S) USED. ALL ANCHOR HEAD TYPES ARE ALLOWED.

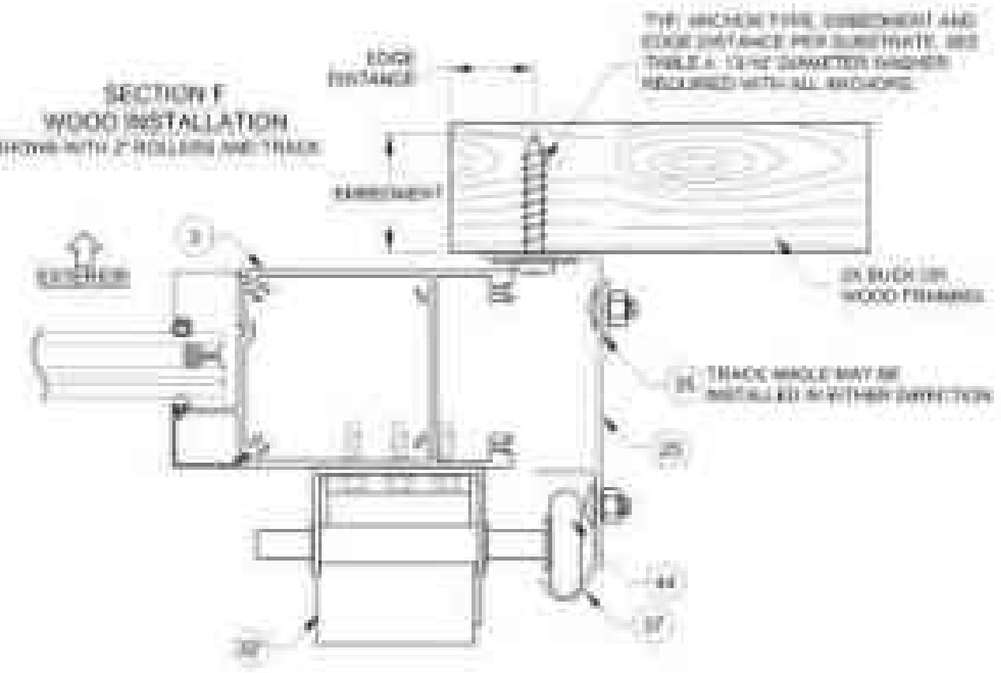
2) ALL WOOD BUCKS LESS THAN 1-1/2" THICK ARE TO BE CONSIDERED 1X INSTALLATIONS. 1X WOOD BUCKS ARE OPTIONAL. UNIT MAY BE INSTALLED DIRECTLY TO SUBSTRATE. WOOD BUCKS DEPICTED AS 2X ARE 1-1/2" THICK OR GREATER.

* REQUIRED FOR DOOR OPENING WIDTHS OVER 192"

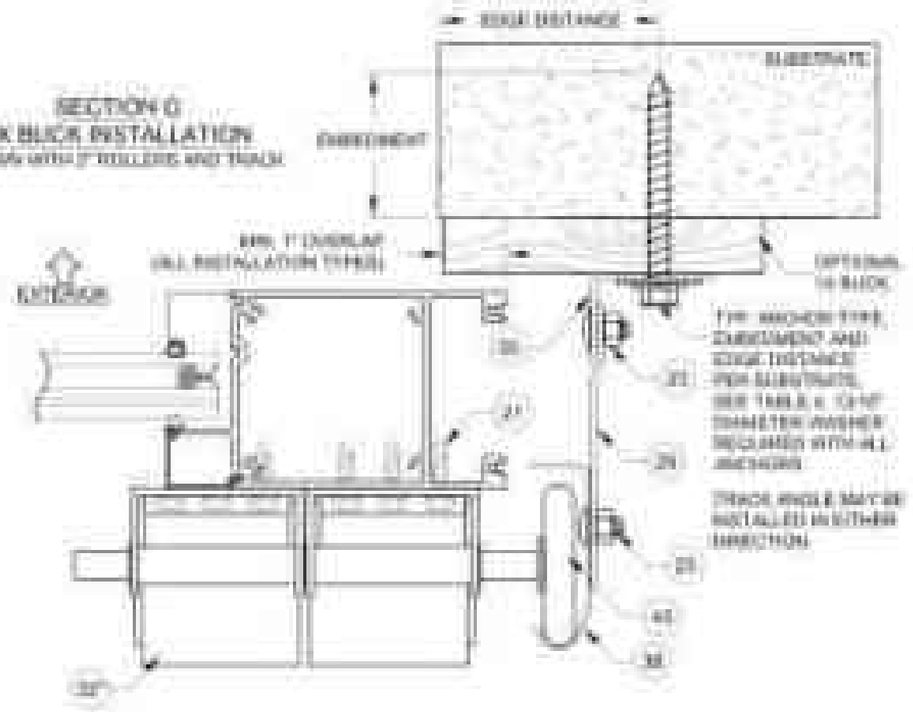
WINDOOR	
PROJECT	WINDOOR
DRAWN BY	
CHECKED BY	
DATE	
SCALE	
OVERHEAD SECTIONAL GARAGE DOOR	
TRACK ANCHORS, X-SECTIONS	
SHEET	4 OF 6
DRAWING	

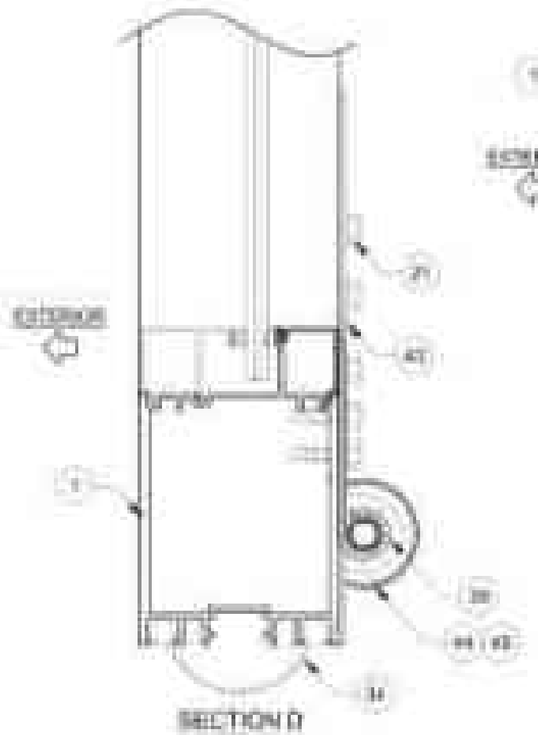


SECTION F
WOOD INSTALLATION
SHOWN WITH 2" ROLLERS AND TRACK

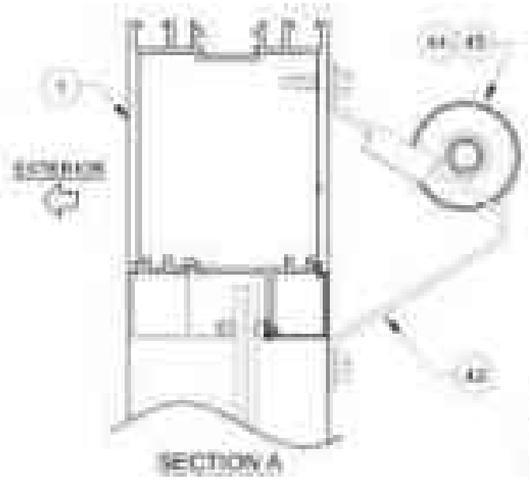


SECTION G
1X BUCK INSTALLATION
SHOWN WITH 2" ROLLERS AND TRACK





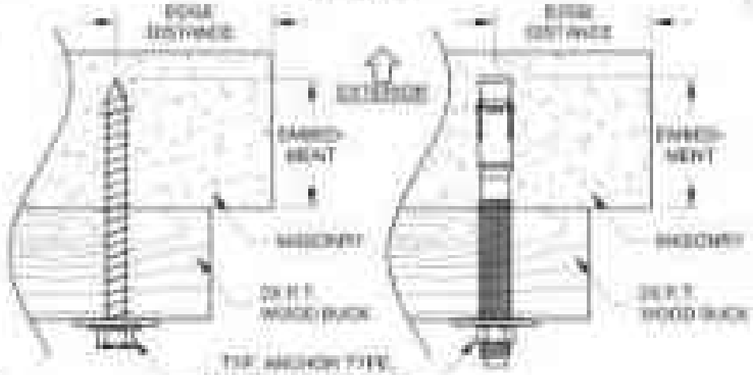
SECTION D



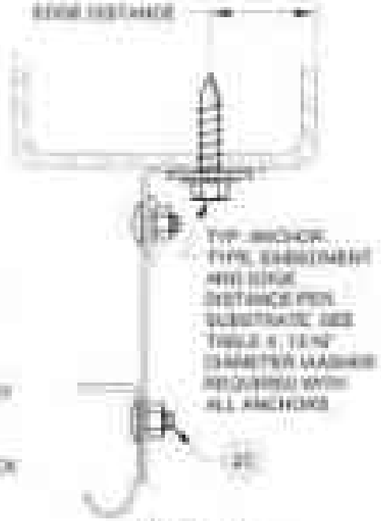
SECTION A

NOTE:
1) SECTION 2" OR 3" TRACK ROLLER MAY BE USED FOR ANY INSTALLATION TYPE SHOWN.
2) GLASS, GLAZING BEADS ETC. MAY VARY FROM SHOWN.
3) CUTTER SEAL IF USED, BY OTHERS.

SECTION H
TYP. 2X BUCK INSTALLATION
OPTIONAL



TYP. ANCHOR TYPE, EMBEDMENT AND EDGE DISTANCE PER SUBSTRATE. SEE TABLE 4. 12/16" DIAMETER WASHER REQUIRED WITH ALL ANCHORS



SECTION F
METAL INSTALLATION
SHOWN WITH 2" TRACK.
ANGLE MAY BE REVERSED FROM SHOWN

REVISIONS	
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	

WINDOOR®

OVERHEAD SECTIONAL GARAGE DOORS

INSTALL DETAILS, K-SECTIONS

SCALE: NTS | SHEET: 6 OF 6 | DRAWING: 6DR99A

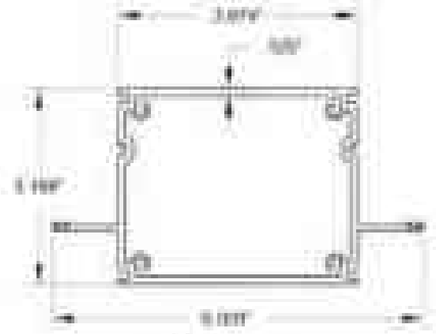
PREPARED BY & SEAL:
MICHAEL LYNN MILLER
LICENSE
No. 59708
STATE OF FLORIDA
PROFESSIONAL ENGINEER
M. LYNN MILLER, P.E.
P.E. # 59708

TABLE 1

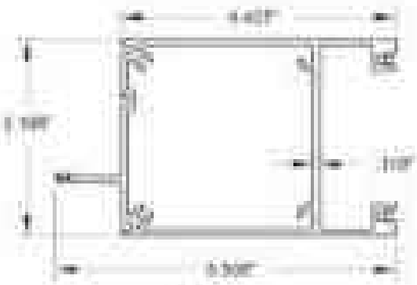
ITEM	PDT PART#	DESCRIPTION	MATERIALS
1	21030	Top Section Wide Rail	Extd Al
2	21040	Intermed	Extd Al
3	21020	Stile	Extd Al
4	21010	Rail	Extd Al
5	21070	Brushed Astrm Cover	Extd Al
6	21015	Square Meeting Corner	Extd Al
7	21030	Trim Section Cover	Vinyl
8	21021	Astragal Guide	Extd Al
9	21017	Retainer Bead	Extd Al
10	21014	Retainer Bead	Extd Al
11	21015	10 Beveled Bead	Extd Al
12	21012	45 Square Bead	Extd Al
13		Reinforcing Plate Reinforcing	Al/Ga
14		1/4" x 3/4" Hardwood DAVE	SS
15	21021	Assembly Screw, #10 x 1-1/2" PH SMS	SS
16		1/4" Bed Jamb Weld w/ 1/4" Rabbet	Extd Al
17		Adjustable Tab	Galv. Steel
18		Adjustable Splice Tab	Galv. Steel
19	99910-1HN	#1 Strap Hinge	Galv. Steel
20	99910-1HNL	#2 Strap Hinge	Galv. Steel
21	21030	Bottom Seal, Qty. = 30	Vinyl
22		Vertical Track Angle	Steel
23		Horizontal Track Angle	Steel
24		2" Roller Track	Galv. Steel
25		3" Roller Track	Galv. Steel
26	99910-1HN	LH Bottom Corner Bracket	Galv. Steel
27	99910-1HNL	RH Bottom Corner Bracket (not shown)	Galv. Steel
28	99910-1HNL	Intermediate Half Hinge	Galv. Steel
29	99910-1HNL	Flat Picture Window Plate	Galv. Steel
30	99910-1HNL	2" Roller	Nylon
31	99910-1HNL	3" Roller	Nylon
32	21040	Bead Gc. Leg Vinyl. Dim. T.B.	Flex. Vinyl
33	21040	Large Gc. Leg Vinyl. Dim. (1.19)	Flex. Vinyl
34		Setting Block .3 STP	EPDM
35	99910-	Dart 70T/GB3 in RG2 TYP.	S-Nylone
36	99910-	#2 Spacer	Alloy



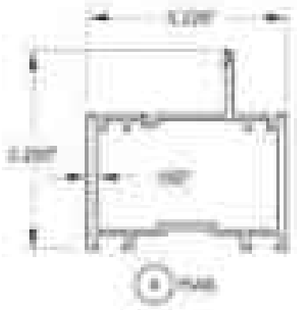
1 TOP/BOTTOM WIDE RAIL



2 RAIL/INT



3 STILE



4 RAIL



5 BEVEL INT COVER



6 SQUARE INT COVER



7 PILE GROOVE COVER



8 ALIGNMENT GUIDE



10 BEVEL BEAD



11 SQUARE BEAD



12 45 BEVEL BEAD



13 45 SQUARE BEAD


14 #1 END HINGE


15 END HINGE

* END HINGES TO ARRIVE SLIGHTLY DEPENDING ON HEIGHT ALIGNMENT REQUIREMENTS.


16 INTERMEDIATE (HALF) HINGE



17 BOTTOM SEAL


18 LH BOTTOM CORNER BRACKET (RH SHOWN)



20 VERTICAL TRACK ANGLE



21 HORIZONTAL TRACK ANGLE



22 2" ROLLER TRACK



23 3" ROLLER TRACK


42 TOP FIXTURE W/ ROLLER PLATE


44 2" ROLLER


45 3" ROLLER

18 LH BOTTOM CORNER BRACKET (RH SHOWN)

REVISED	
DRAWN	
CHECKED	

WINDOOR

OVERHEAD SECTIONAL GARAGE DOOR

BILL OF MATERIAL PARTS & EXT

SCALE: NONE | SHEET 8 OF 16 | DRAWING NO.

PREPARED BY: [illegible]

