



Product Approval
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FL # FL40096-R3
Application Type Revision
Code Version 2023
Application Status Approved

Comments
Archived ☐

Product Manufacturer Eco Window Systems
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Authorized Signature Jens Rosowski
jrosowski@pgtindustries.com

Technical Representative Lynn Miller, P.E.
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lmiller@pgtindustries.com

Quality Assurance Representative
Address/Phone/Email

Category Windows
Subcategory Single Hung

Compliance Method Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer
☐ Evaluation Report - Hardcopy Received

Florida Engineer or Architect Name who developed the Evaluation Report A. Lynn Miller, P.E.
Florida License PE-58705
Quality Assurance Entity Keystone Certifications, Inc.
Quality Assurance Contract Expiration Date 12/31/2032
Validated By Steven M. Urich, PE
☒ Validation Checklist - Hardcopy Received

Certificate of Independence [FL40096_R3_COI_Cert of Independence.pdf](#)

Referenced Standard and Year (of Standard)	Standard	Year
	TAS 201, 202 & 203	1994

Equivalence of Product Standards
Certified By

Sections from the Code

Product Approval Method

Method 1 Option D

Date Submitted 10/13/2023
 Date Validated 10/13/2023
 Date Pending FBC Approval 10/22/2023
 Date Approved 12/13/2023

Summary of Products

FL #	Model, Number or Name	Description
40096.1	Eco-Guard Series 100 Single Hung	Small Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH100SM-FPA REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH100SMI ENG EVAL REV A.pdf Created by Independent Third Party: No
40096.2	Eco-Guard Series 100 Single Hung	Large Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH100LM-FPA REV B.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH100LMI ENG EVAL REV B.pdf Created by Independent Third Party: No
40096.3	Eco-Guard Series 50 Single Hung	Large Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH50FPA-LMI REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH50LMI ENG EVAL REV A.pdf Created by Independent Third Party: No
40096.4	Eco-Guard Series 50 Single Hung	Non-Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH50FPA-NI REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH50NI ENG EVAL REV A.pdf Created by Independent Third Party: No
40096.5	Series 150 Single Hung	Large Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH150FPA - LMI REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: Yes Evaluation Reports FL40096_R3_AE_ECO_SH150LMI ENG EVAL REV A.pdf Created by Independent Third Party: Yes
40096.6	Series 150 Single Hung	Small Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A		Installation Instructions FL40096_R3_II_SH150FPA - SMI REV A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports

Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		FL40096_R3_AE_ECO_SH150SMI_ENG_EVAL_REV_A.pdf Created by Independent Third Party: No
40096.7	Series 155 Single Hung	Large Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH155FPA - LMI_REV_A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH155LMI_ENG_EVAL_REV_A.pdf Created by Independent Third Party: No
40096.8	Series 155 Single Hung	Small Missile Impact Resistant, Aluminum Single Hung Window
Limits of Use Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: Yes Design Pressure: N/A Other: Please see the enclosed documents for product performance information, anchorage details, and anchor type, size, and spacing information.		Installation Instructions FL40096_R3_II_SH155FPA - SMI_REV_A.pdf Verified By: A. Lynn Miller, P.E. PE-58705 Created by Independent Third Party: No Evaluation Reports FL40096_R3_AE_ECO_SH155SMI_ENG_EVAL_REV_A.pdf Created by Independent Third Party: No

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Product Approval Accepts:



Design Load Capacity - PSF											
5/16" Lami Glass		Window Height (in.)									
		26" (4)		38-3/8" (4)		50-5/8" (5)		63" (6)		76" (8)	
Window Width (in.)	19-1/8"	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0
	26-1/2"	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0
	37"	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0
	44"	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0
	53-1/8"	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0	+55.0	-60.0		

NUMBER IN PARENTHESIS INDICATE NUMBER OF ANCHORS PER JAMB.

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

ECO-GUARD SERIES-50

ALUMINUM SINGLE HUNG WINDOW

DESIGN LOAD RATINGS FOR THESE WINDOWS TO BE AS PER CHARTS SHOWN ABOVE.

APPROVAL APPLIES TO SINGLE UNITS OR SIDE BY SIDE COMBINATIONS OF S.H./S.H. OR SINGLE HUNG WITH OTHER WINDOW TYPES IN MODULES OF TWO OR MORE WINDOWS USING F.B.C. APPROVED MULLIONS IN BETWEEN. LOWER DESIGN PRESSURE FROM WINDOWS OR MULLION APPROVAL WILL APPLY TO ENTIRE SYSTEM.

THIS PRODUCT HAS BEEN DESIGNED AND TESTED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE INCLUDING HIGH VELOCITY HURRICANE ZONE (HVHZ).

1BY OR 2BY WOOD BUCKS & BUCK FASTENERS BY OTHERS, MUST BE DESIGNED AND INSTALLED ADEQUATELY TO TRANSFER APPLIED PRODUCT LOADS TO THE BUILDING STRUCTURE

ANCHORS SHALL BE CORROSION RESISTANT, SPACED AS SHOWN ON DETAILS AND INSTALLED PER MANUF'S INSTRUCTIONS. SPECIFIED EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL DRESSING OR STUCCO.

A LOAD DURATION INCREASE IS USED IN DESIGN OF ANCHORS INTO WOOD ONLY.

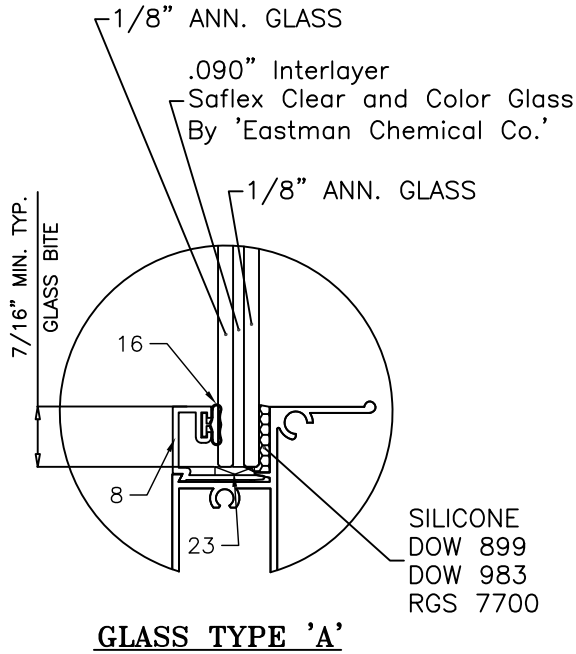
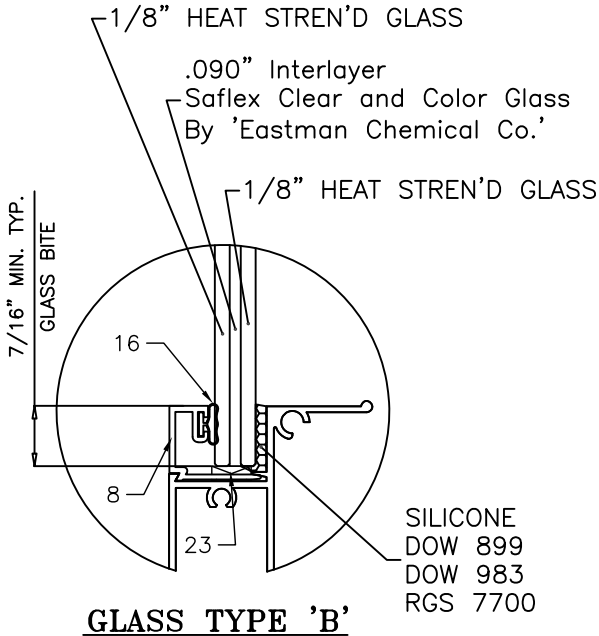
ALL SHIMS TO BE HIGH IMPACT, NON-METALLIC AND NON-COMPRESSIBLE.

MATERIALS INCLUDING BUT NOT LIMITED TO STEEL/METAL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BLDG. CODE & ADOPTED STANDARDS.

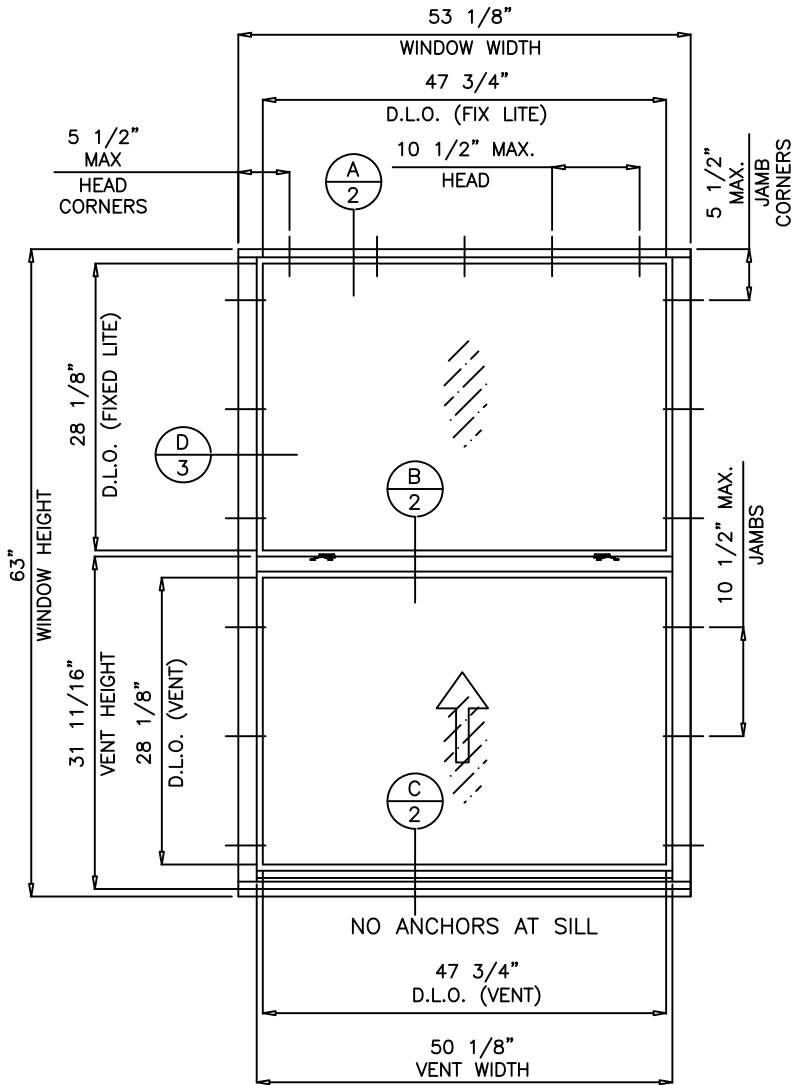
THIS PRODUCT APPROVAL IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT, i.e. LIFE SAFETY OF THIS PRODUCT, ADEQUACY OF STRUCTURE RECEIVING THIS PRODUCT AND SEALING AROUND OPENING FOR WATER INFILTRATION RESISTANCE ETC. CONDITIONS NOT SHOWN IN THIS DRAWING ARE TO BE ANALYZED SEPARATELY, AND TO BE REVIEWED BY BUILDING OFFICIAL

DESIGN LOAD SHOWN ARE BASED ON 'ALLOWABLE STRESS DESIGN (ASD)'.

NOTE:
GLASS CAPACITIES ON THIS SHEET ARE BASED
ON ASTM E1300-09 (3 SEC. GUSTS).



GLAZING DETAIL

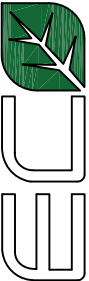


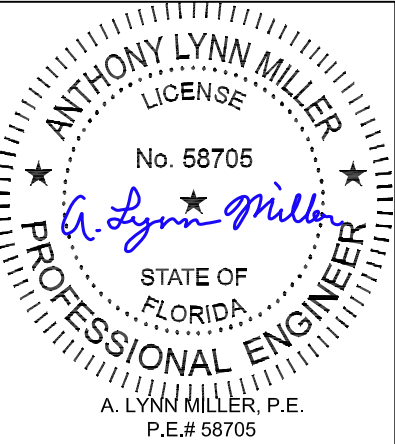
TYPICAL ELEVATION

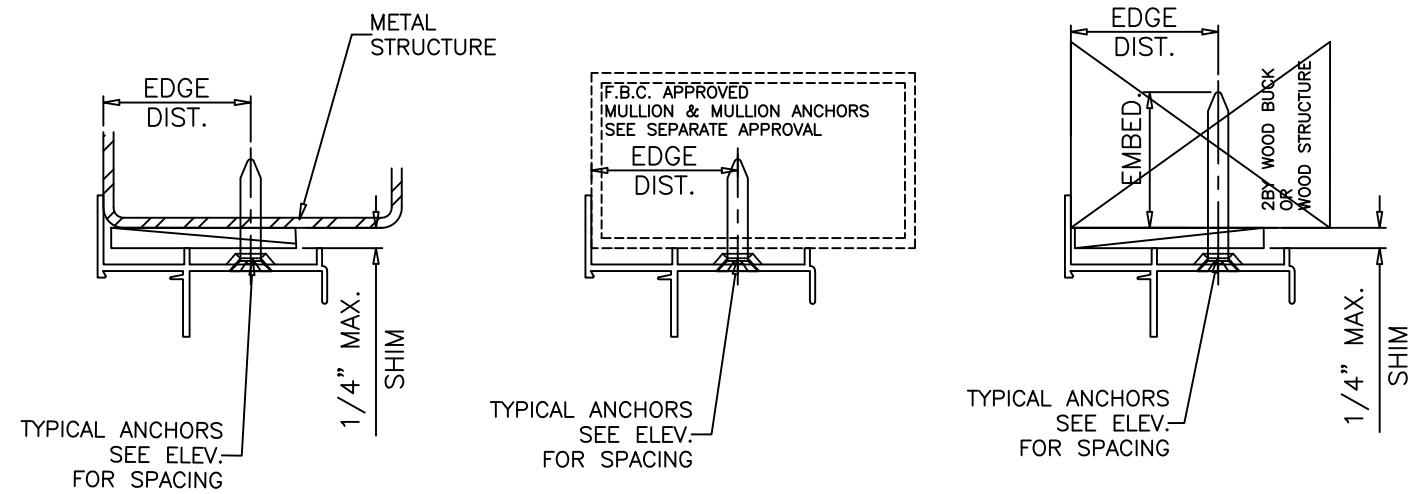
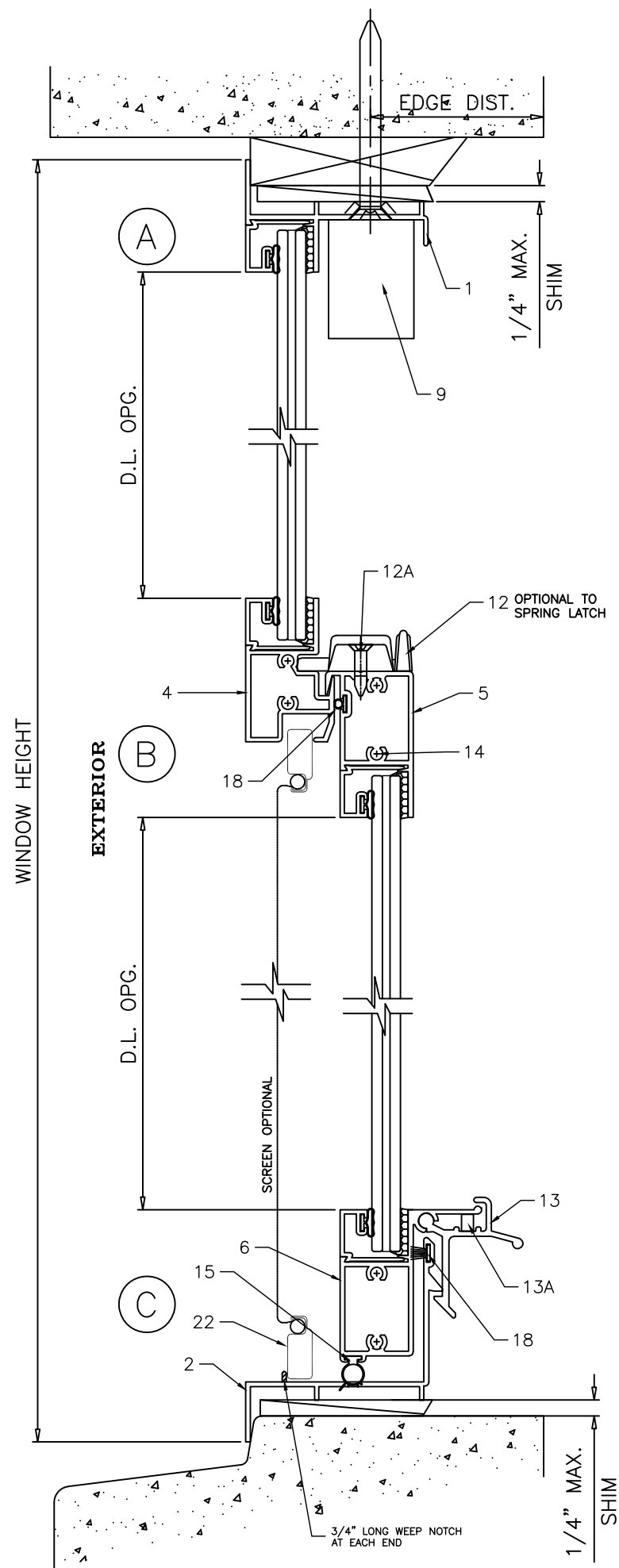
TESTED UNITS

THESE WINDOWS ARE RATED FOR LARGE AND SMALL MISSILE IMPACT. SHUTTERS ARE NOT REQUIRED.

ADDED EQUAL
LEG ADAPTER &
GLASS TYPE B;
REVISED TABLE
FORMAT, ADDED
DP TABLE
ROUNDING AND
ANCHOR HEAD
TYPE NOTES,
REMOVED
SILICONE AND
BACKSTOP ON
INSTALL DETAIL

				PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600			
ECO WINDOW SYSTEMS, LLC. 8502 N.W. 80th ST. MEDLEY, FL 33166 TEL. (305) 885-5299 FAX. (305) 885-5902				REGISTRATION #29296			
ECO-GUARD SERIES-50 ALUM SINGLE HUNG WDW (L.M.I.)				6/5/2022			
GENERAL NOTES, ELEVATIONS, & DP CHART				HONG C.			
SERIES 50		1 OF 5		SH50FPA-LMI			
				A			



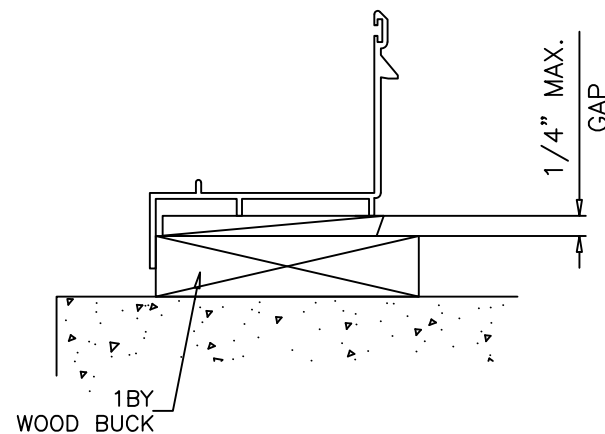


WOOD BUCKS AND METAL STRUCTURE NOT BY 'ECO WDW.'
MUST SUSTAIN LOADS IMPOSED BY GLAZING SYSTEM
AND TRANSFER THEM TO THE BUILDING STRUCTURE.

TYPICAL ANCHORS: SEE ELEV. FOR SPACING

Anchor Type	Frame Member	Substrate	Min. Edge Distance	Min. Embedment or Metal Thickness
1/4" ITW Tapcon or DeWalt UltraCon+	Head/Jambs	Southern Pine (SG = 0.55)	1"	1-1/2"
	Head/Jambs	Thru 1BY Buck into Concrete (min. 3 ksi)	2-1/2"	1-1/4"
	Jambs	Thru 1BY Buck into Hollow or Filled Block (ASTM C90, min. 2 ksi)	2-1/2"	1-1/4"
	Head/Jambs	Concrete (min. 3 ksi)	2-1/2"	1-1/4"
	Jambs	Hollow or Filled Block (ASTM C90, min. 2 ksi)	2-1/2"	1-1/4"
1/4" Teks or Self Drilling Screws (Gr. 5)	Head/Jambs	Aluminum 1/8" Thk. Min. (6063-T5)	3/4"	(3) Threads min. beyond metal thickness
	Head/Jambs	Steel 1/8" Thk. Min. (min. 36 ksi)	3/4"	(3) Threads min. beyond metal thickness
#14 SMS or Self Drilling Screws (Gr. 2)	All	F.B.C. Approved Mullions	3/4"	(3) Threads min. beyond metal thickness
	Head/Jambs	Aluminum 1/8" Thk. Min. (6063-T5) (No Shim Space)	3/4"	(3) Threads min. beyond metal thickness
	Head/Jambs	Steel 1/8" Thk. Min. (min. 36 ksi) (No Shim Space)	3/4"	(3) Threads min. beyond metal thickness

1. STEEL IN CONTACT WITH ALUMINUM TO BE PLATED OR PAINTED
2. ALL ANCHOR HEAD TYPES ARE ACCEPTABLE

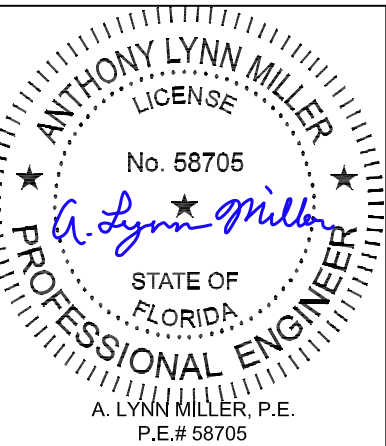


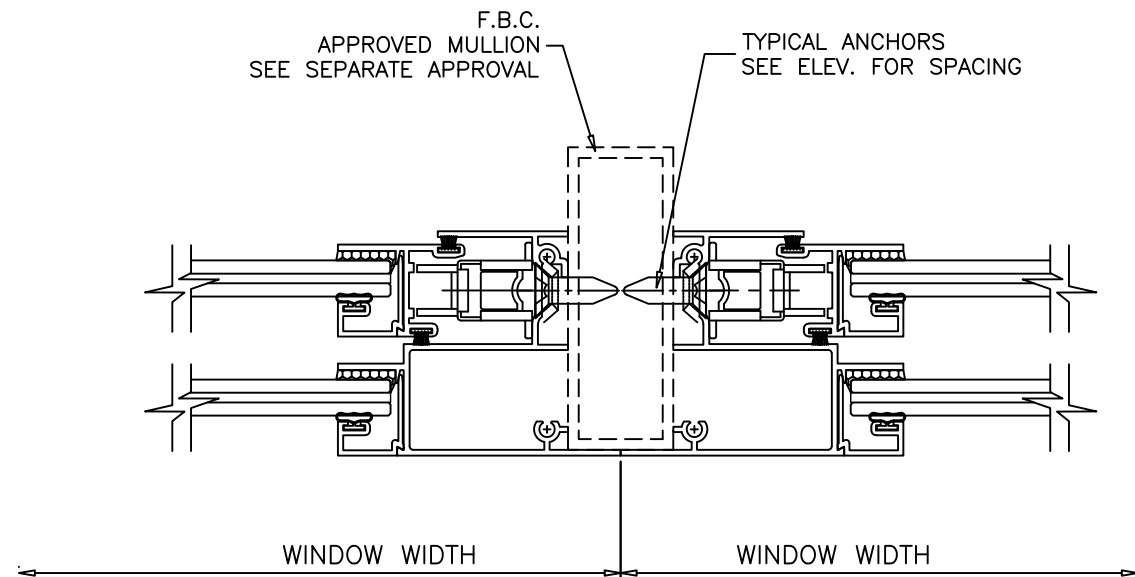
SEALANT:

ALL JOINT AND FRAME CONNECTIONS SEALED WITH JOINT SEALER.

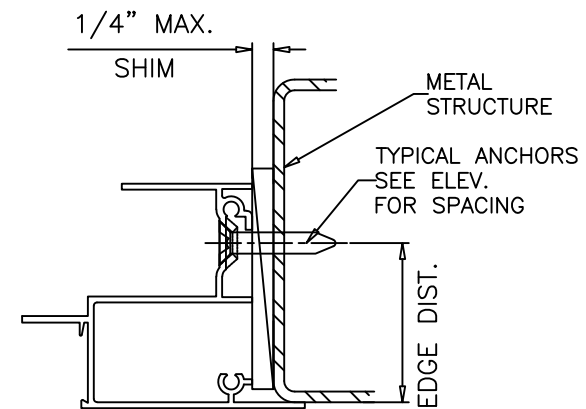
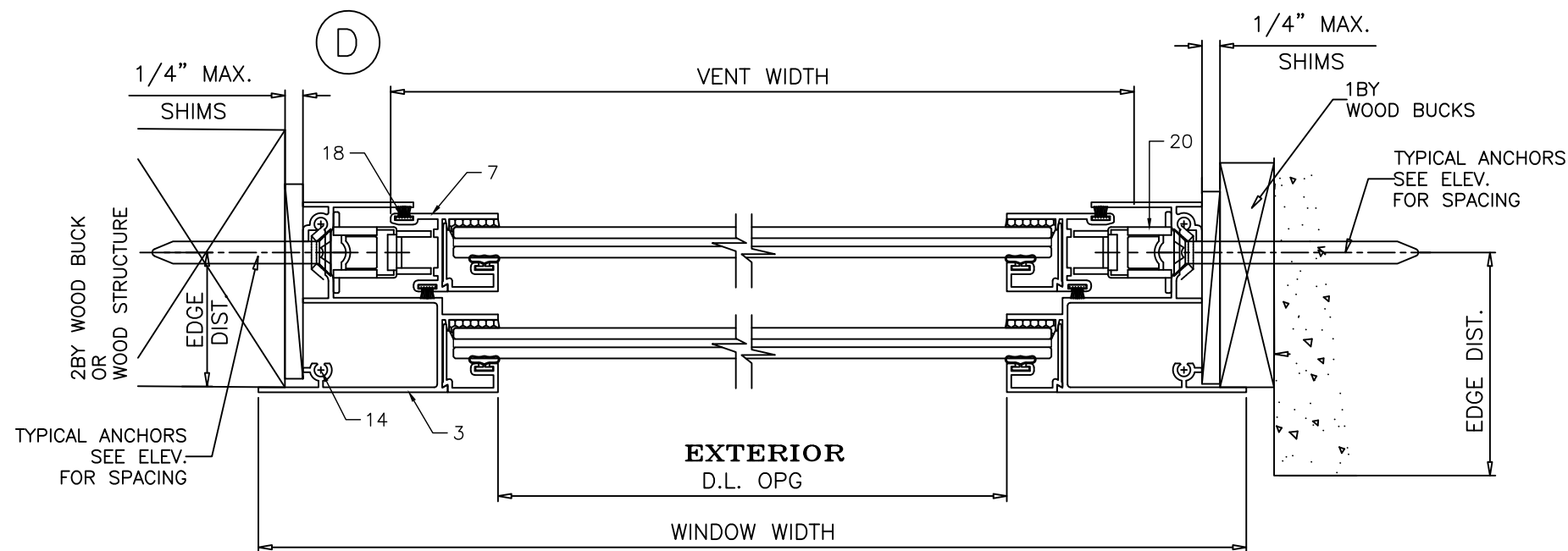
ADDED EQUAL
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ROUNDING AND
ANCHOR HEAD
TYPE NOTES,
REMOVED
SILICONE AND
BACKSTOP ON
INSTALL DETAIL

 windows systems	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296		6/5/2022
ECO WINDOW SYSTEMS, LLC. 8502 N.W. 80th ST. MEDLEY, FL 33166 TEL. (305) 885-5299 FAX. (305) 885-5902			ECO-GUARD SERIES-50 ALUM SINGLE HUNG WDW (L.M.I.)		
VERTICAL SECTIONS & ANCHOR SPECIFICATIONS		HONG C.			
SERIES 50	2 OF 5	SH50FPA-LMI			
		A			



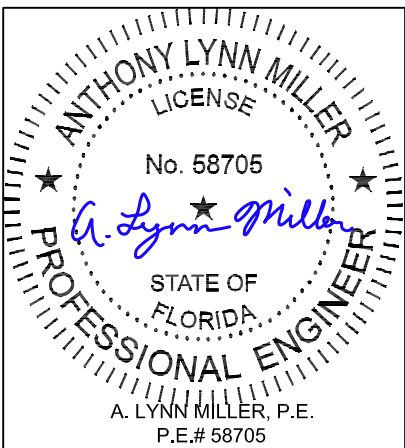


ITEM #	PART #	REQD.	DESCRIPTION	MATERIAL	MANF./SUPPLIER/REMARKS
1	E51	1	FRAME HEAD	6063 - T6	—
2	E52	1	FRAME SILL	6063 - T6	—
3	E53	2	FRAME JAMB	6063 - T6	—
4	E54	1	FIXED MTG. RAIL	6063 - T6	—
5	E55	1	VENT TOP RAIL	6063 - T6	—
6	E56	1	VENT BOTTOM RAIL	6063 - T6	—
7	E57	2	VENT SIDE RAIL	6063 - T6	—
8	E58	AS REQD.	GLAZING BEAD (5/16" LAM. GLASS)	6063 - T6	—
9	E59	2 / VENT	SASH STOP	6063 - T6	—
12	SL203P	2 / VENT	SWEEP LATCH	ZAMAK	SULLIVAN & ASSOC.
12A	#8 X 5/8"	2 / LATCH	LATCH INST. SCREWS	ST. STEEL	FH SMS
13	FY-113	2 / VENT	SPRING LOADED LATCH	6063 - T6	ALTERNATE TO SWEEP LATCH
13A	—	1 / LATCH	LATCH SPRING	ST. STEEL	—
14	#8 X 1"	AS REQD.	FRAME & VENT ASSEMBLY SCREWS	CRS	PH SMS
15	E207	AS REQD.	BOTTOM RAIL SEAL - SERIES 101	NEOPRENE	ULTRAFAB
16	E203	AS REQD.	GLAZING BEAD BULB	SANTOPRENE	ULTRAFAB
18	W23181	AS REQD.	FIN SEAL W'STRIPPING	—	ULTRAFAB
20	—	2 / VENT	BLOCK AND TACKLE BALANCE	—	—
21	E60	2 / VENT	SASH CAM	NYLON	—
22	—	1	5/16" BOX SCREEN	—	OPTIONAL
23	—	2 / LITE	SETTING BLOCK	EPDM	DUROMETER 85±5 SHORE A
24	E060	—	FLUSH FRAME ADAPTER	6063 - T6	OPTIONAL

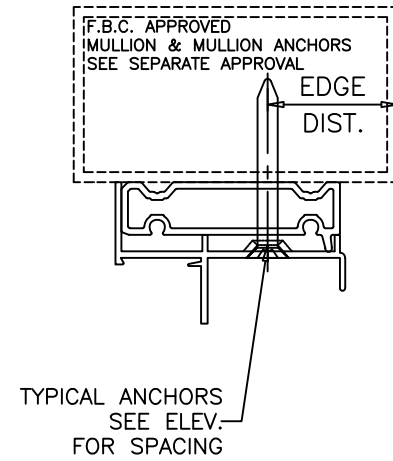
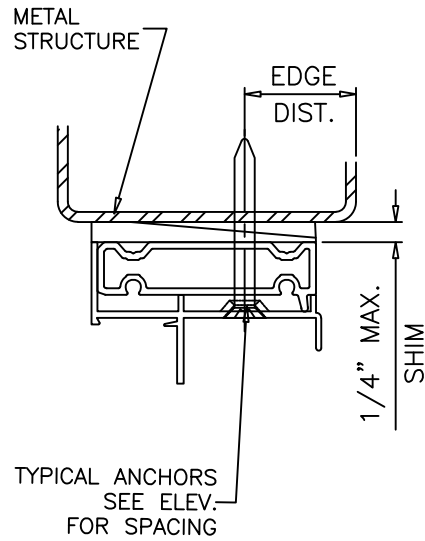
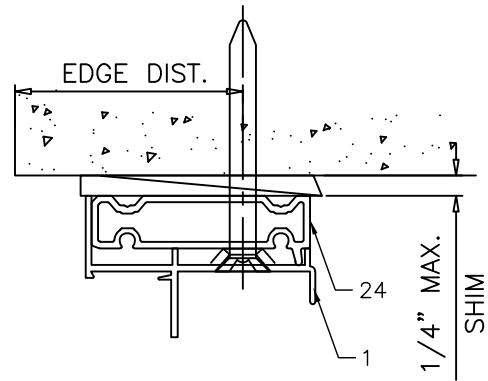


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LEG ADAPTER &
GLASS TYPE B;
REVISED TABLE
FORMAT, ADDED
DP TABLE
ROUNDING AND
ANCHOR HEAD
TYPE NOTES,
REMOVED
SILICONE AND
BACKSTOP ON
INSTALL DETAIL

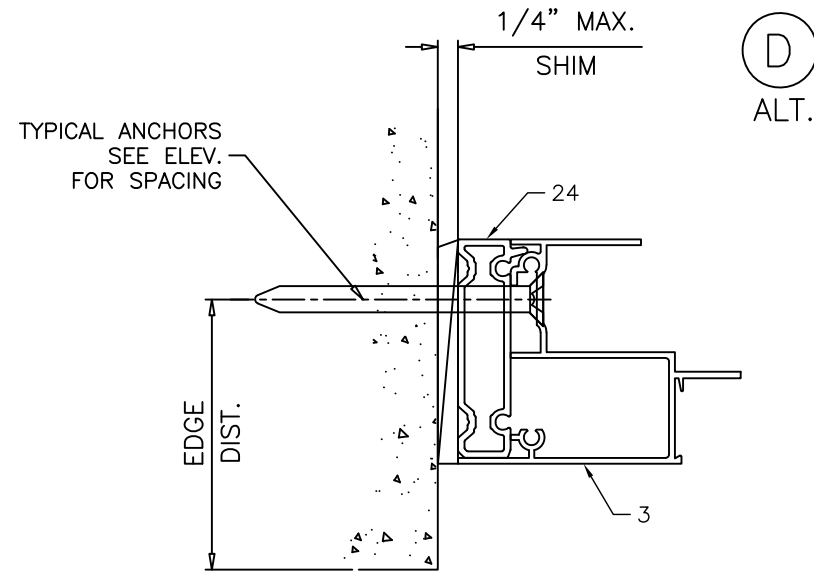
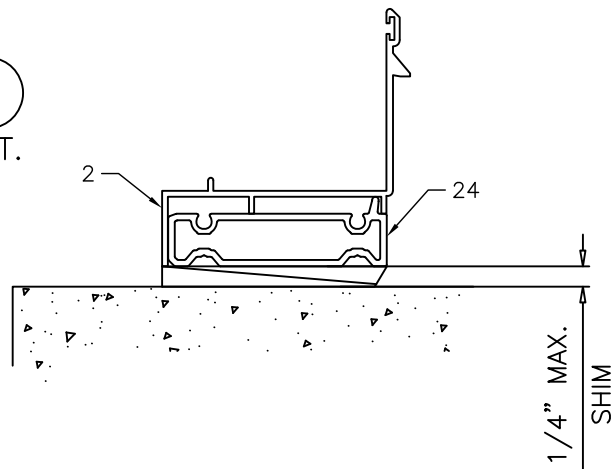
 ECO WINDOW SYSTEMS, LLC. 8502 N.W. 80th ST. MEDLEY, FL 33166 TEL. (305) 885-5299 FAX. (305) 885-5902	PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600				REGISTRATION #29296		6/5/2022		
	ECO-GUARD SERIES-50 ALUM SINGLE HUNG WDW (L.M.I.)							HONG C.	
	HORIZONTAL SECTION DETAILS & BOM								
	SERIES 50		3 OF 5		SH50FPA-LMI			A	



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ALT.



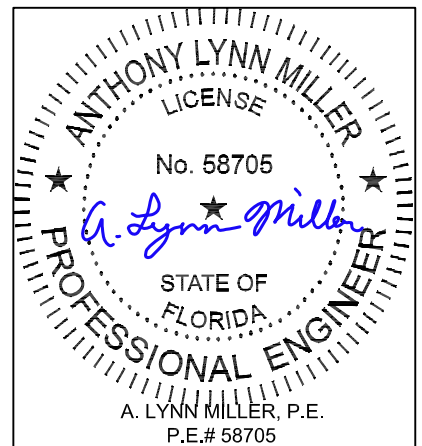
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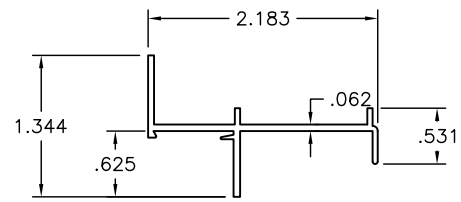


INSTALLATION DETAILS WITH FLUSH FRAME ADAPTER

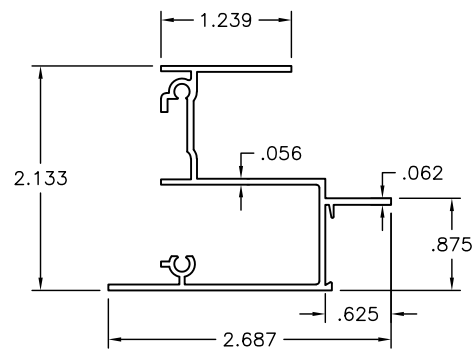
ADDED EQUAL
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REVISED TABLE
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PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296		6/5/2022	
ECO WINDOW SYSTEMS, LLC. 8602 N.W. 80th ST. MEDLEY, FL 33166 TEL. (305) 885-5299 FAX. (305) 885-5902		ECO-GUARD SERIES-50 ALUM SINGLE HUNG WDW (L.M.I.)		HONG C.	
FLUSH FRAME ADAPTER INSTALLATION		SERIES 50		4 OF 5	
SH50FPA-LMI		A			

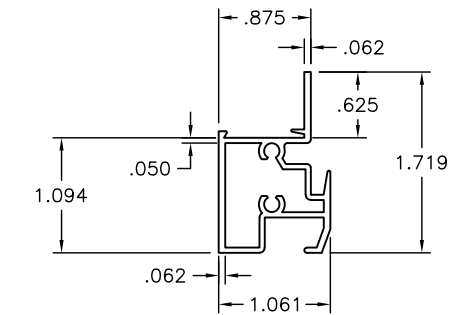




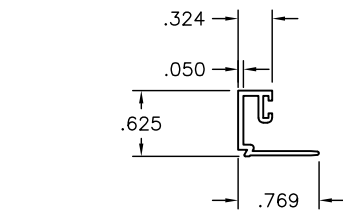
1 FRAME HEAD



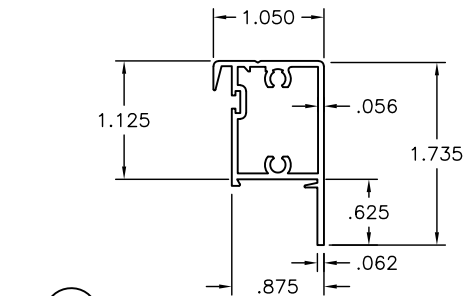
3 FRAME JAMB



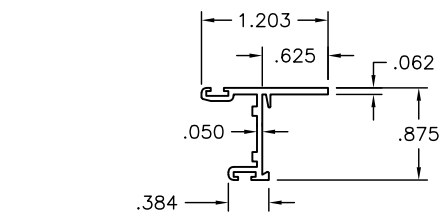
4 FIX. MEETING RAIL



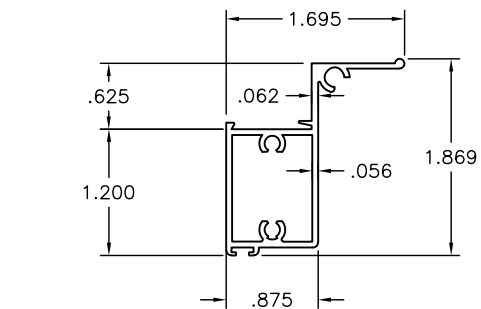
8 GLAZING BEAD
(1/8" MONOLITHIC GLASS)



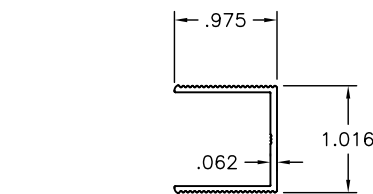
5 VENT TOP RAIL



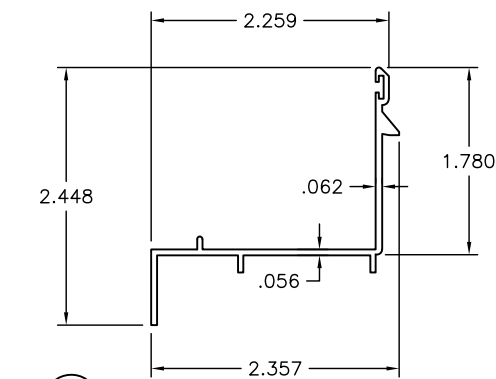
7 VENT SIDE RAIL



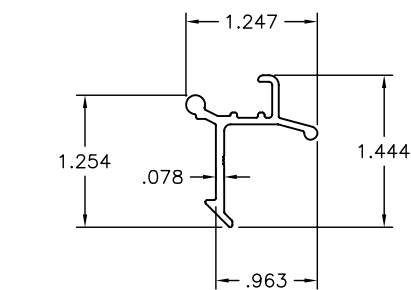
6 VENT BOTTOM RAIL



9 SASH STOP

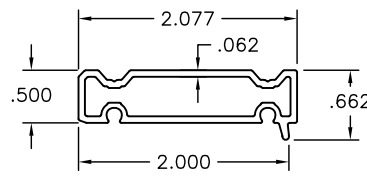


2 FRAME SILL



13 SPRING LOADED LATCH

24 FLUSH FRAME ADAPTER



FRAME TOP CORNER

FRAME MEETING RAIL

VENT BOTTOM CORNER

FRAME BOTTOM CORNER

VENT BOTTOM CORNER

ADDED EQUAL
LEG ADAPTER &
GLASS TYPE B,
REVISED TABLE
FORMAT, ADDED
DP TABLE
ROUNDING AND
ANCHOR HEAD
TYPE NOTES,
REMOVED
SILICONE AND
BACKSTOP ON
INSTALL DETAIL

PREPARED BY A. LYNN MILLER 1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600		REGISTRATION #29296		6/5/2022	
ECO WINDOW SYSTEMS, LLC. 8602 N.W. 80th ST. MEDLEY, FL 33166 TEL: (305) 885-5299 FAX: (305) 885-5902		ECO-GUARD SERIES-50 ALUM SINGLE HUNG WDW (L.M.I.)		HONG C.	
EXTRUSION PROFILES & CORNER ASSEMBLIES		SERIES 50		5 OF 5	
SH50FPA-LMI		A			

