Engineering Evaluation Report # CA5540-20200909

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

Manufacturer:
PGT Industries, Inc.
1070 Technology Drive
North Venice, FL 34275

Product Description:
CA5540 Series Impact-Resistant Vinyl Casement Window, (LMI), FL-29702

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 the 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 CA5540 LAMI, signed and sealed by A. Lynn Miller, P.E.
2. Test Report No.: FTL-8139, FTL 19-9037 & 20-2107.1-4, signed and sealed by Idalmis Ortega, P.E.
Fenestration Testing Laboratories, Medley, FL 33166

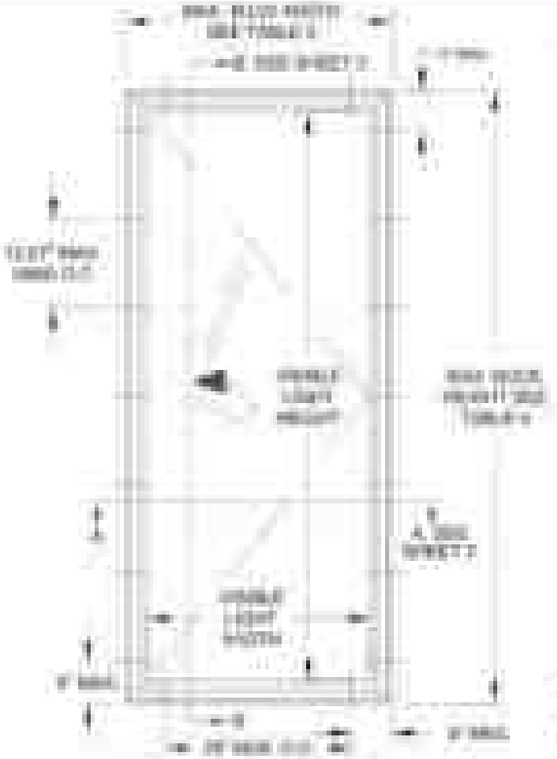
TAS 201-94 Large Missile Impact Test
TAS 202-94 Uniform Static Air Pressure Test
TAS 203-94 Cyclic Pressure Loading Test

3. Calculations, signed and sealed by A. Lynn Miller, P.E., dated 04/16/15& 03/25/20.

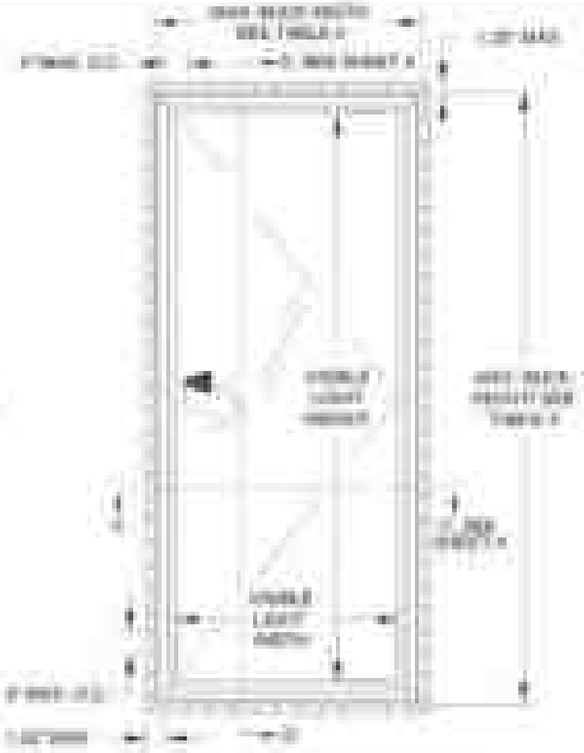
4. Miami-Dade RER Product Control Section NOA’s; PVB Interlayer by Kuraray America, Inc.

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.
• Frame and sash material to be extruded Vinyl.
• Units must be installed in accordance with approval document, CA5540 LAMI.

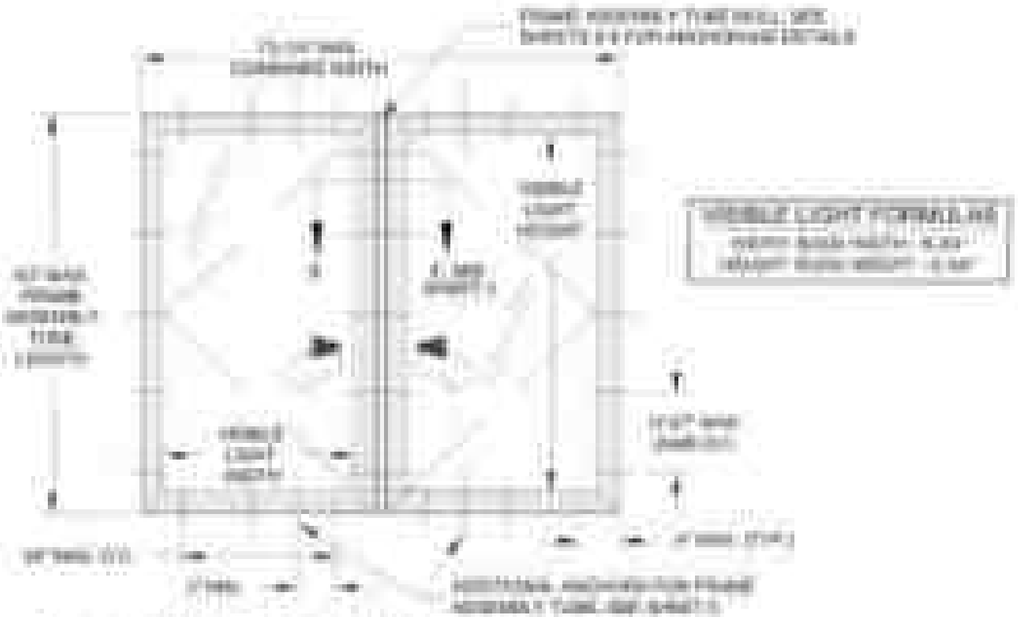




TYP. EQUAL LEG BOX & FLANGE FRAME ANCHORAGE



TYP. INTEGRAL FIN & J-CHANNEL FRAME ANCHORAGE



TYP. S.S EQUAL LEG BOX & FLANGE FRAME ANCHORAGE

IMPACT RATING	DESIGN PRESSURE RATING
LARGE & SMALL MISSILE IMPACT RESISTANT	+65.0/-70.0 PSF

SERIES 5340 IMPACT RESISTANT, VINYL CASEMENT WINDOW

1) THIS PRODUCT WAS TESTED AND IS DESIGNED & MANUFACTURED TO COMPLY WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE, INCLUDING THE HIGH VELOCITY HURRICANE ZONE (HVHZ).

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

3) MATERIALS USED FOR ANCHOR EVALUATION WERE SOUTHERN PINE, NORTH DAK CONCRETE MASONRY UNITS AND CONCRETE WITH MIN. 6,000 PSI STRENGTH.

4) ALL WOOD BUCKS LESS THAN 1 1/2" THICK ARE TO BE CONSIDERED A SHIM APPLICATION. TO ENSURE SQUARE AND OPENING OF UNIT IS INSTALLED DIRECTLY TO SUBSTRATE, WOOD BUCKS EXPECTED TO BE 1 1/2" THICK OR GREATER. IN PART 2) BUCK DIMENSIONS SHALL BE VERIFIED AND SECURED TO PROPERLY TRANSFER LOADS TO THE STRUCTURE. WOOD BUCK DESIGN AND INSTALLATION IS THE RESPONSIBILITY OF THE ENGINEER (S) OR ARCHITECT OF RECORD (AOR).

5) ANCHOR EMBEDMENT TO BASE MATERIAL SHALL BE BEYOND WALL FINISHES OR STUCCO. USE WASHERS OF SUFFICIENT SIZE TO FILL OVERSIZED HOLES. INSTALLATION ANCHORS SHALL BE CORROSION RESISTANT. ANCHOR SPACING SHALL BE AS SHOWN ON THE APPROVED DRAWINGS. METHOD OF INSTALLATION SHALL BE DONE BY OTHERS WHO SHALL ENSURE THE QUALITY OF THESE INSTRUCTIONS.

6) SHIM SIZE AND REQUIRED AT EACH ANCHOR LOCATION WHERE THE PRODUCT IS NOT FLUSH TO THE SUBSTRATE. USE SHIMS CAPABLE OF TRANSFERRING APPLIED LOADS. WHEN SHIMS ARE REQUIRED BY OTHERS, IT IS THE RESPONSIBILITY OF THE ENGINEER OF RECORD (EOR) OR THE AOR TO ENSURE THAT THE WINDOW OR DOOR ASSEMBLY IS ADEQUATELY ANCHORED TO RESIST LOADS IMPOSED ON THEM BY THE WINDOW.

7) DESIGN PRESSURES:
A. NEGATIVE DESIGN LOADS BASED ON STRUCTURALLY TESTED PRESSURE. SHIMS ARE USED AS REQUIRED PER NOTE 6.
B. POSITIVE DESIGN LOADS BASED ON NOMINAL TEST PRESSURE. SHIMS ARE USED AS REQUIRED PER NOTE 6.
C. DESIGN LOADS ARE BASED ON ALLOWABLE STRESS DESIGN (ASD).

8) THE ANCHORAGE METHODS AND PRESSURES WERE DESIGNED AND SELECTED TO RESIST THE ANALYSIS CORresponding TO THE REQUIRED DESIGN PRESSURE. THE ALLOWABLE STRESS INCREASE HAS NOT BEEN USED IN THE DESIGN OF THIS PRODUCT. THE ALLOWABLE STRESS INCREASE MAY BE USED FOR THE EVALUATION OF ANCHORS WITH USES ANALYSIS THAT COMPLIES WITH CONFORMS WITH OTHER GENERALLY ACCEPTED ENGINEERING STANDARDS. ALL ANCHORING MATERIALS SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE FOR CORROSION RESISTANCE.

9) ANCHORAGE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE REQUIREMENTS OF THE FLORIDA BUILDING CODE AND SHALL BE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

10) PERFORMANCE TEST REPORTS PTL #1234, #1234, #1234 (T.O.) & PTL #1234 (R) & (T.O.) PERFORMED IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440-11 NAFS STANDARD/SPECIFICATION FOR WINDOWS, DOORS AND UNIT SKYLIGHTS FOR ENTRANCE DOOR, R5, TEST SIZE, DESIGN PRESSURE, IMPACT, OPERABLE, FIXED AND OPERATOR FOR WOOD CONSTRUCTION. WINDOW/PATIO DOOR & CURTAIN WALL DESIGN MANUAL.

11) ALUMINUM REINFORCEMENT MANUFACTURED BY NORTHEAST WINDOWS, INC.

12) APPLICABLE ENERGY REQUIREMENTS TO BE REVIEWED BY BUILDING OFFICIAL.

13) FRAME FLANGES OR INTEGRAL FINS MUST BE TRIMMED AS NEEDED TO CREATE AN EQUAL LEG FRAME.

GENERAL NOTES & DESCRIPTION	1
FRAME, GLASS & ANCHOR OPTIONS	2
INSTALLATION - FLANGE & EQUAL LEG	3
INSTALLATION - INTEGRAL FIN & J-CHANNEL	4
FRAME ASSEMBLY TABLE	5-6
GLAZING SPECIFICATIONS	7
HARDWARE	8
NOTE & ASSEMBLY	9

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A GROUP OF AUTH BRANDS
1070 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

VINYL CASEMENT WINDOW (LMI)				08/04/15
GLASS/ANCHORS/FRAME OPTIONS				/ ROSSMAN
UPDATED TITLE BLOCK - JR - 10/10/22				
CA-5340	NOA	1 OF 9	CASEMENT	E



TABLE 1: GLAZING/GLASS TYPES

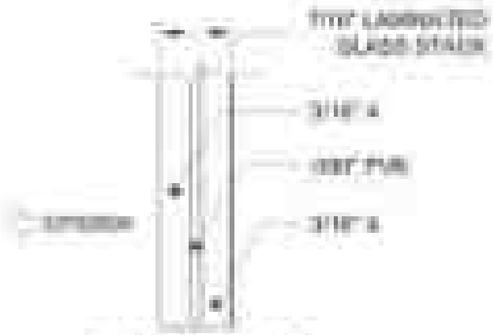
Glass Type	Description	Tables #	Sheet #
1	[illegible]	4	5
2	[illegible]	4	5

"G" = GRADE SLIDE
"F" = [illegible]
"SYP" = [illegible]
BY KOMFAST WINDOWS, INC.

TABLE 2: [illegible]

Symbol	Number	Description	Min. Edge Distance	Min. Embedment
A	[illegible]	[illegible]	[illegible]	[illegible]
B	[illegible]	[illegible]	[illegible]	[illegible]
C	[illegible]	[illegible]	[illegible]	[illegible]
D	[illegible]	[illegible]	[illegible]	[illegible]

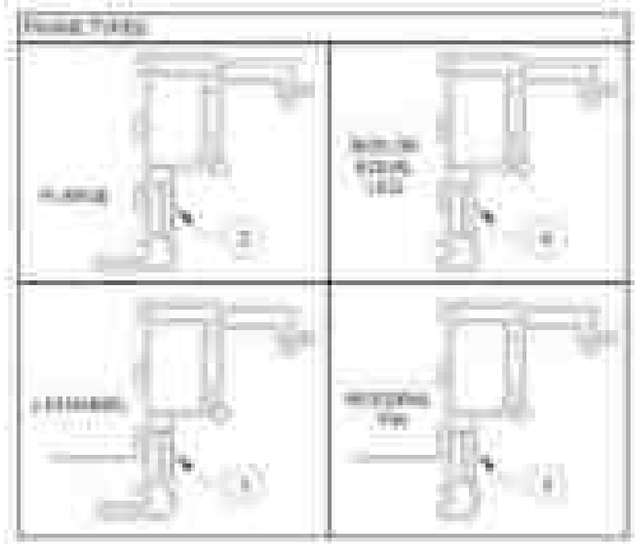
SEE SHEET 5 FOR ADDITIONAL INFORMATION
TAPERED HOLE MAY BE USED FOR COUNTERSINK APPLICATIONS
ALL HEAD TYPES APPLICABLE



GLASS TYPE 1



GLASS TYPE 2





TYP. GLAZING DETAIL

TABLE 3: ANCHORS AND ALLOY PARTS [illegible]

Group	Anchor	Substrate	Min. Edge Distance	Min. Embedment
A	[illegible]	[illegible]	[illegible]	[illegible]

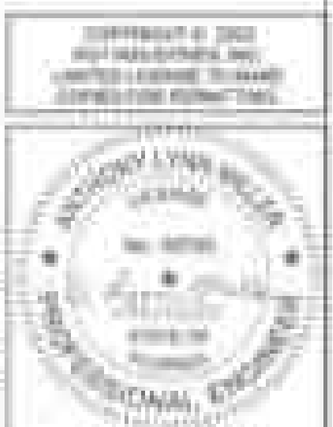
SEE SHEET 5 FOR ADDITIONAL INFORMATION AS REQUIRED

NOTES:
USE ONLY SUBSTRATES APPROPRIATE AS NOTED IN TABLES 2 & 3 THIS SHEET. FOLLOW EMBEDMENT AND EDGE DISTANCE NOTES. ANY INSTALLATION NOT AS SHOWN MAY BE USED ON ANY SIDE OF THE WINDOW.

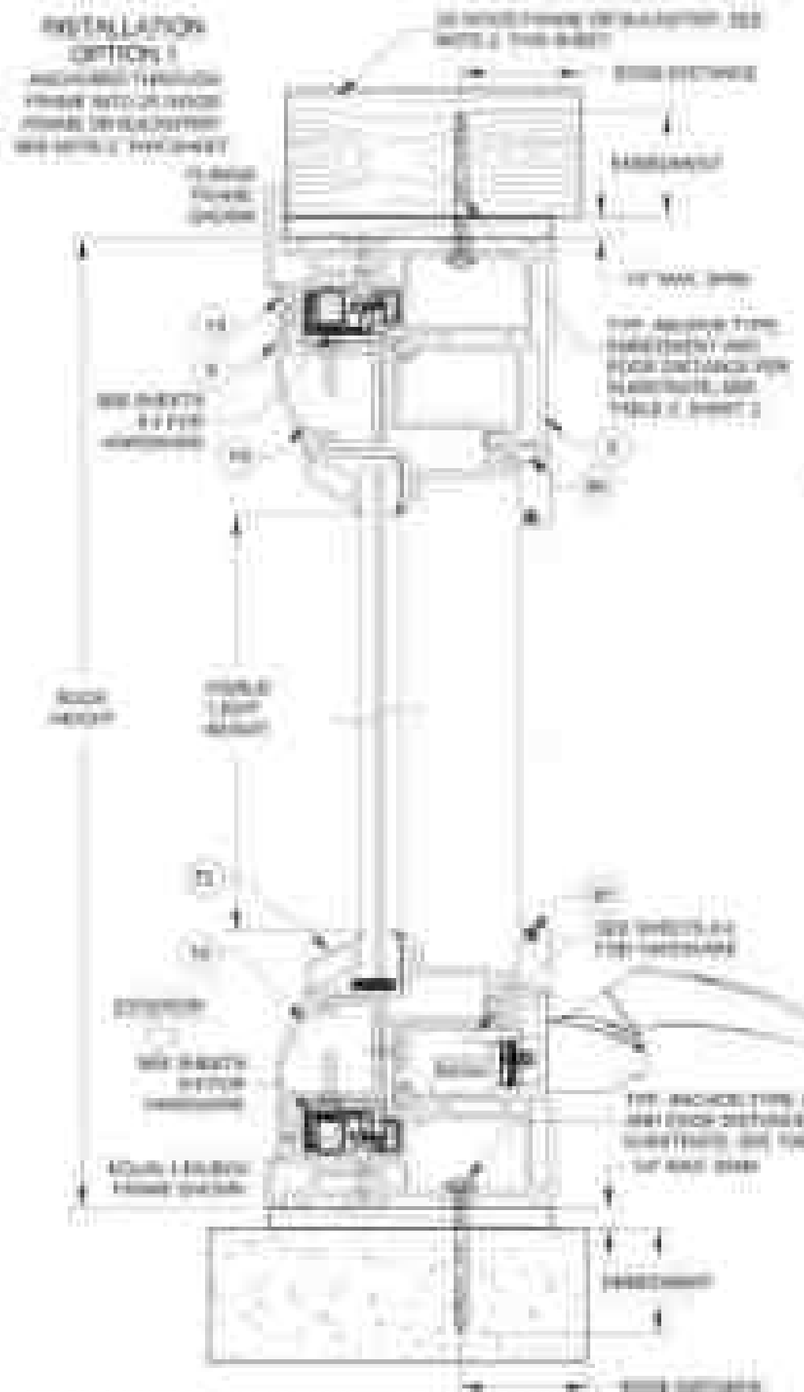
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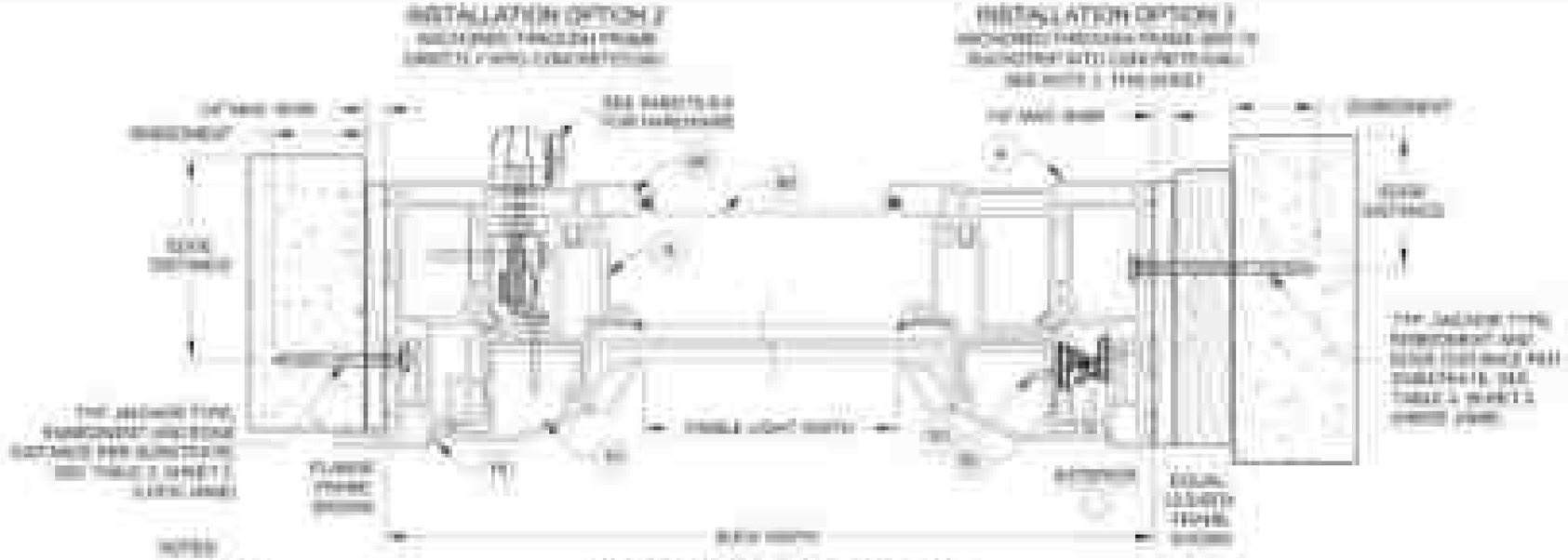
VINYL CASEMENT WINDOW (LM)				06/06/19
GLASS/HARDWARE/FRAME OPTIONS				/ ROSEWIN
CA 10461	NTS	2 OF 9	CASMD-LAM	B



INSTALLATION OPTION 1

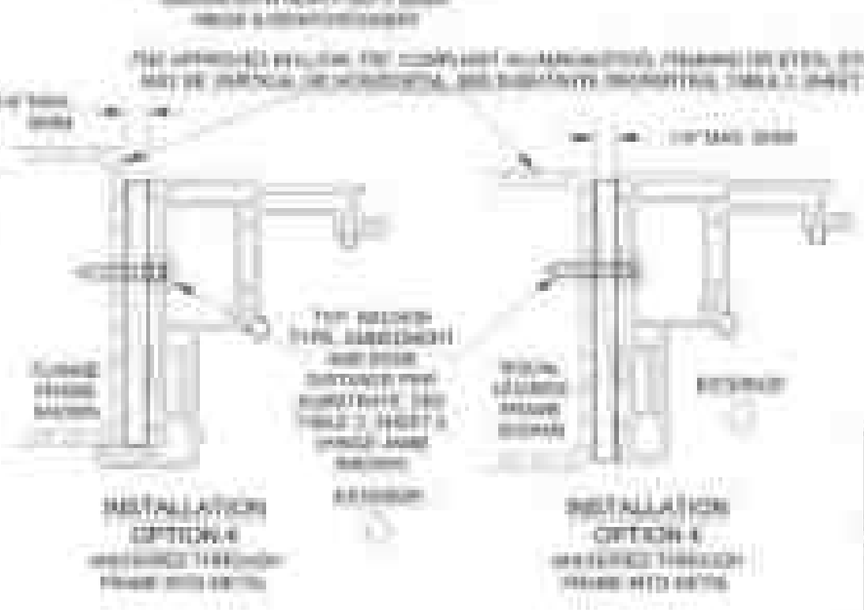


INSTALLATION OPTION 2



INSTALLATION OPTION 3

HORIZONTAL SECTION A-A



INSTALLATION OPTION 4

INSTALLATION OPTION 2

VERTICAL SECTION B-B

VISIBLE LIGHT FORMULAS

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VINYL CASEMENT WINDOW (LWC)				SERIES 15
FLANGE & EQUAL LEG BLOCK FRAMES				/ ROSEWIND
CA 10462	NTS	2 OF 3	CASEMENT	B

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INSTALLATION OPTION B

INSTALLATION OPTION B

INSTALLATION OPTION B

HORIZONTAL SECTION C-C

VERTICAL SECTION D-D

INSTALLATION OPTION C

INSTALLATION OPTION A

INSTALLATION OPTION E

VISIBLE LIGHT FORMULAS

1975 TECHNOLOGY DRIVE
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VINYL CASEMENT WINDOW (LM)

JOHNNIE B INTEGRAL FIN FRAMES / ROSEMAN

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ILLUSTRATION OF CASEMENT-TO-CASEMENT (X-X)

(EQUAL LEG BOX FRAME WITH IDENTICAL PRODUCTS COMBINED)

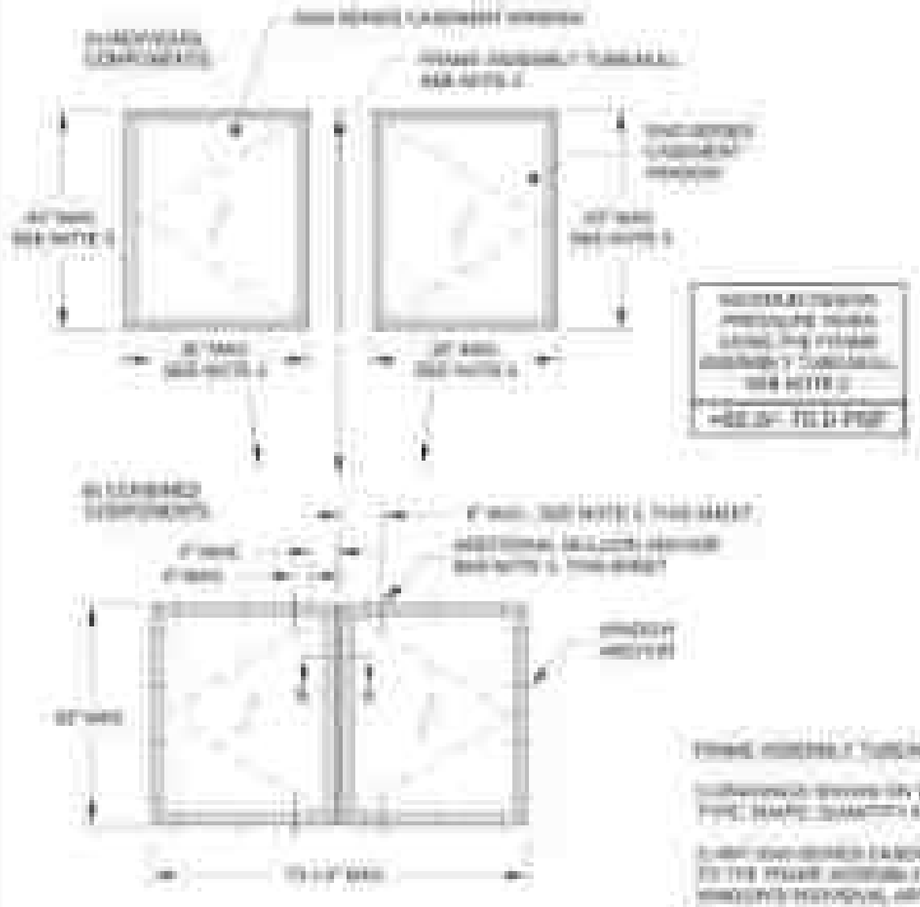
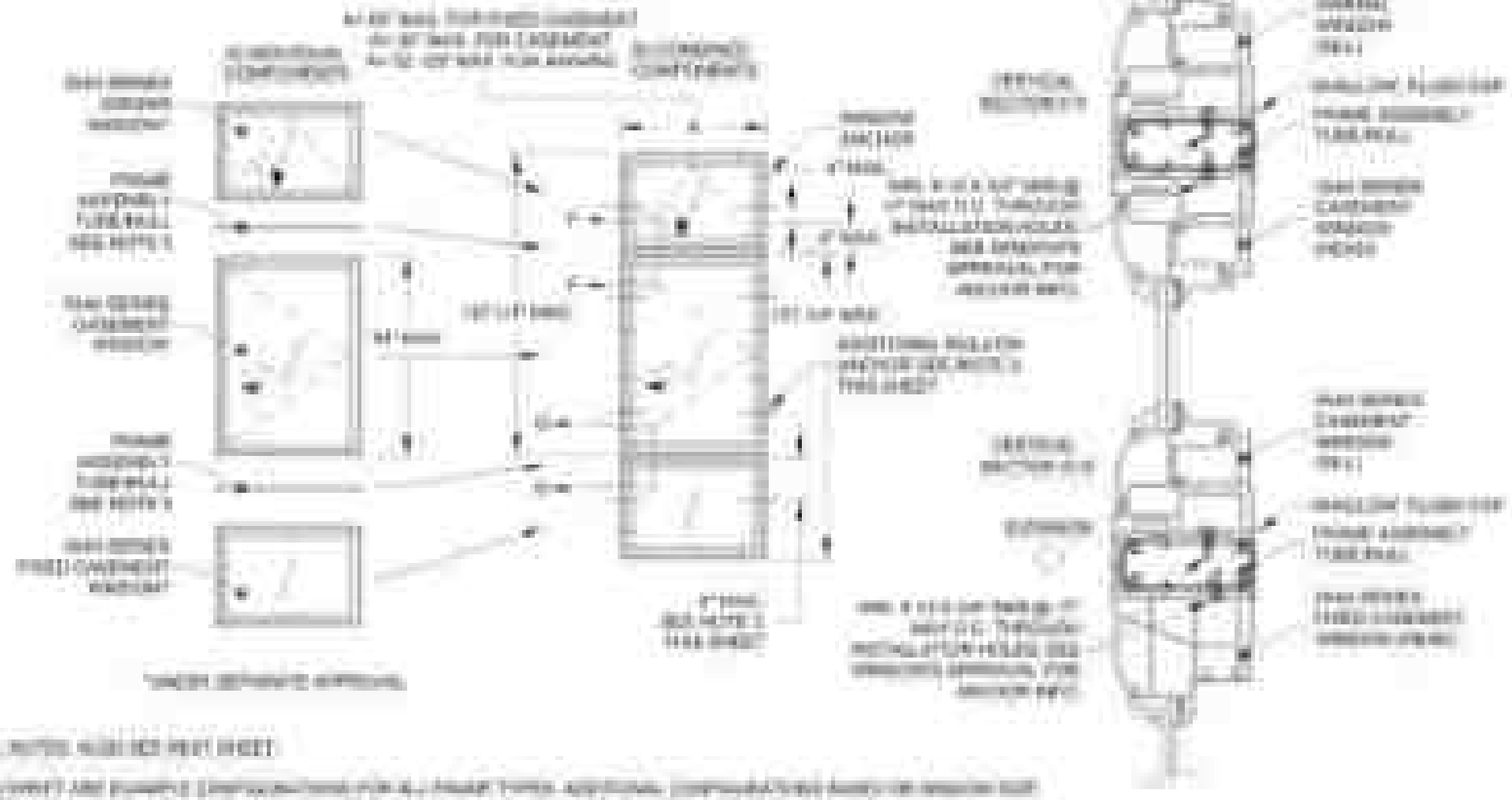
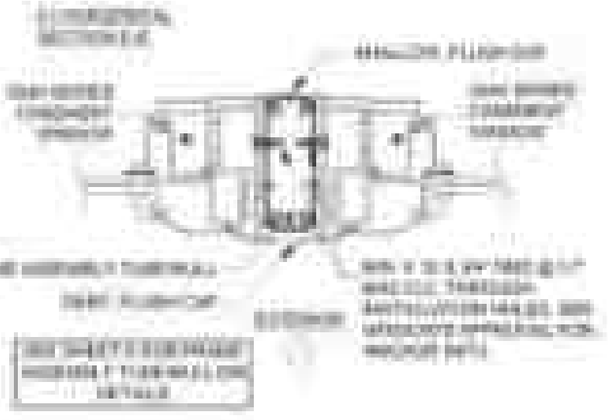


ILLUSTRATION OF AWNING-TO-CASEMENT-TO-FIXED CASEMENT (XOO)

(EQUAL LEG FRAME WITH DIFFERENT SAID SERIES PRODUCTS COMBINED)



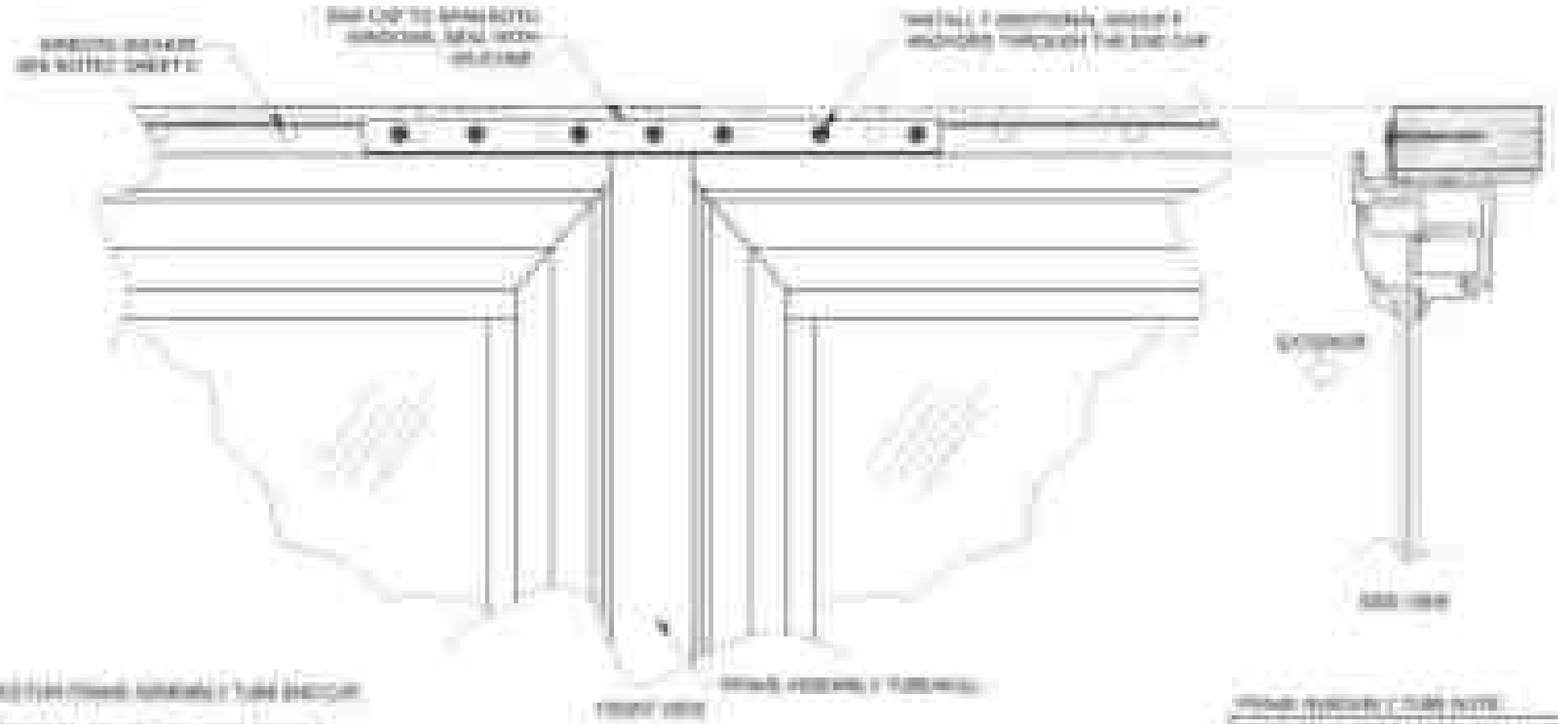
FRAME ASSEMBLY TUBE/RAIL NOTES: AS SEE SHT PER SHEET

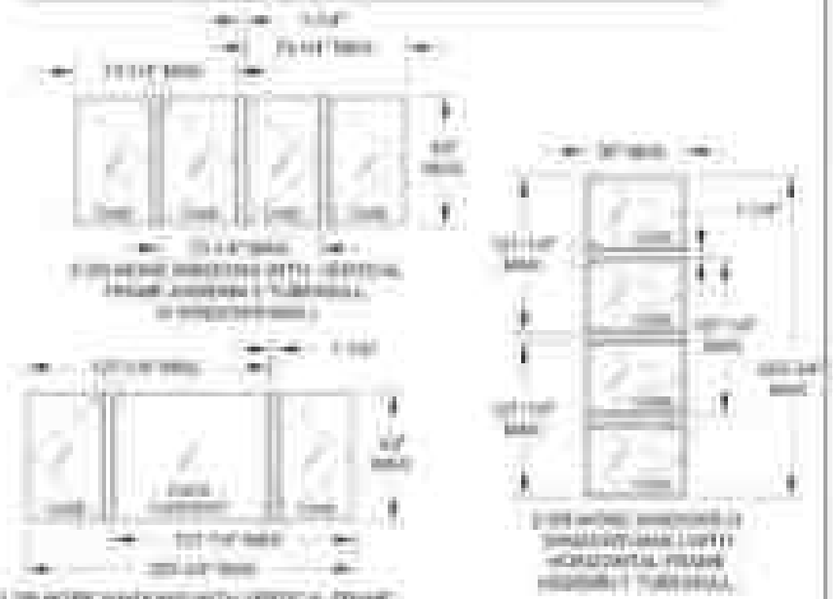


PGT	VINYL CASEMENT WINDOW (LWC)			06/04/19
1070 TECHNOLOGY DRIVE N. VENICE, FL 34275 (941) 480-1600	FRAME ASSEMBLY TUBE DETAILS A			/ WOODWIN
CA. NUMB	NOTE	S OF S	CASING LAMB	E

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ILLUSTRATION OF END CAP USE WITH FIN AND J-CHANNEL FRAMES

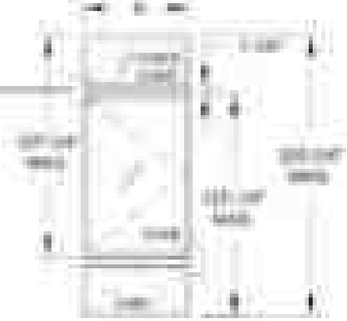












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VINYL CASEMENT WINDOW (LWC)					DESIGN 19
FRAME ASSEMBLY TUBE DETAILS B					/ ROSEWIND
CA-10460	NTS	6 OF 9	-	CASSADI LAMA	B

TABLE 1

Window Design Pressure (in psf)

Design Pressure	Test Size															
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NOTES:

1) SEE DETAIL FOR ADDITIONAL INFORMATION

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

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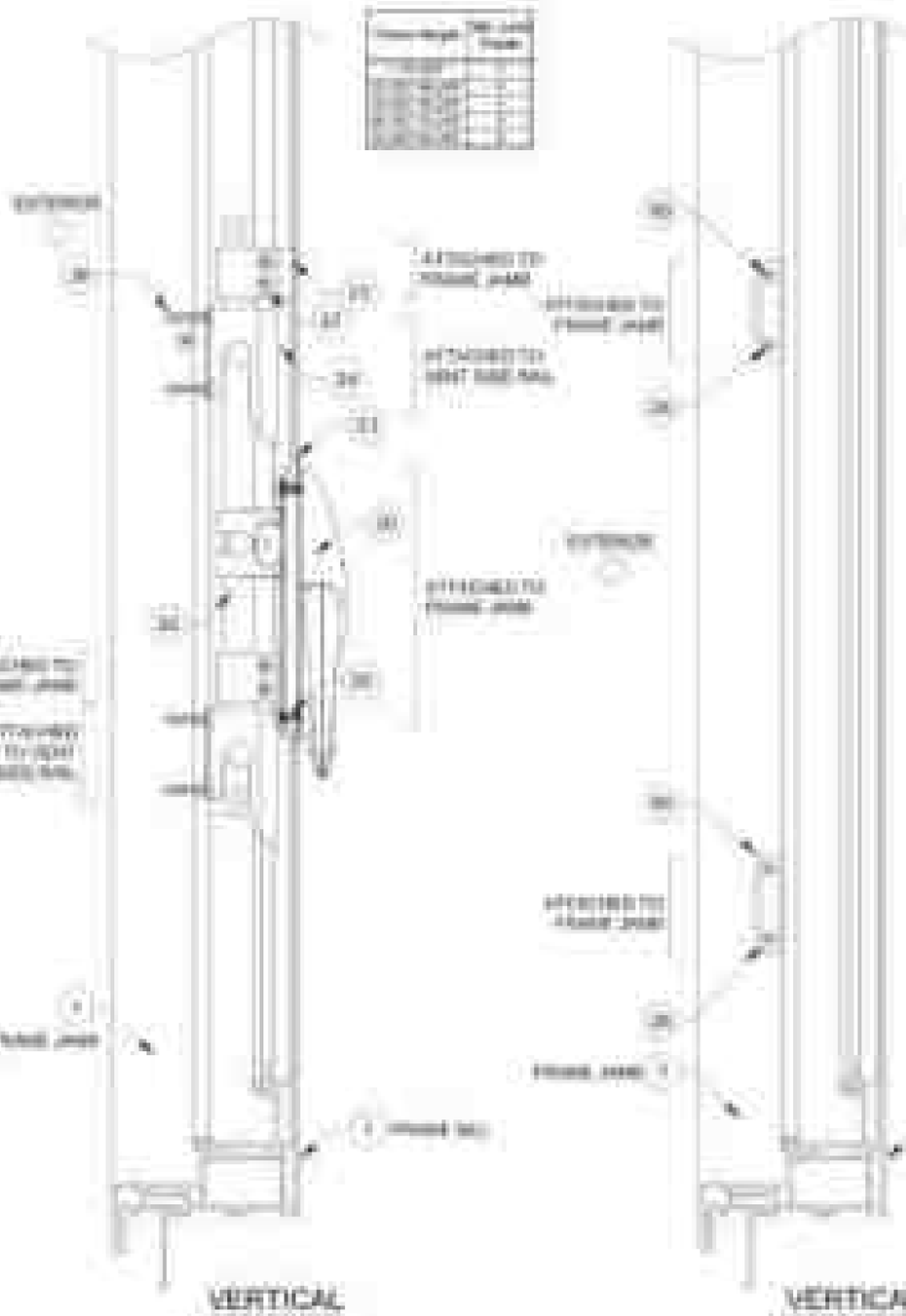
VINYL CASEMENT WINDOW (LC)

DESIGN PRESSURES

CA-10462 | NTS | 7 OF 9 | CASEMENT | E

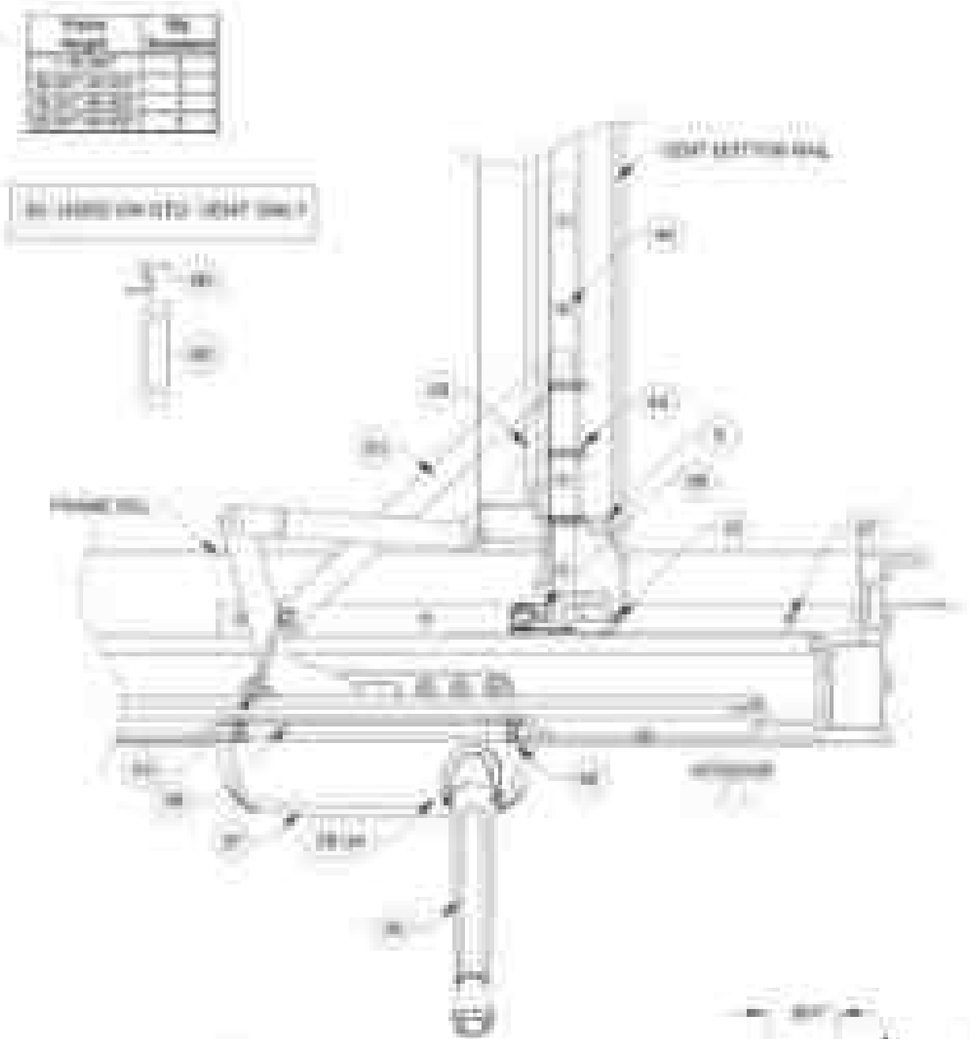
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FLORIDA LICENSED
PROFESSIONAL ENGINEER



VERTICAL HARDWARE
LOCK JAMB

VERTICAL HARDWARE
HINGE JAMB



HORIZONTAL HARDWARE SECTION



NOTES:
1) SOME PARTS/FITTINGS NOT SHOWN FOR CLARITY.
2) SCREWS & FASTENERS SHOWN, POINT OF DRIVE/TORQUE TYPES APPLY.

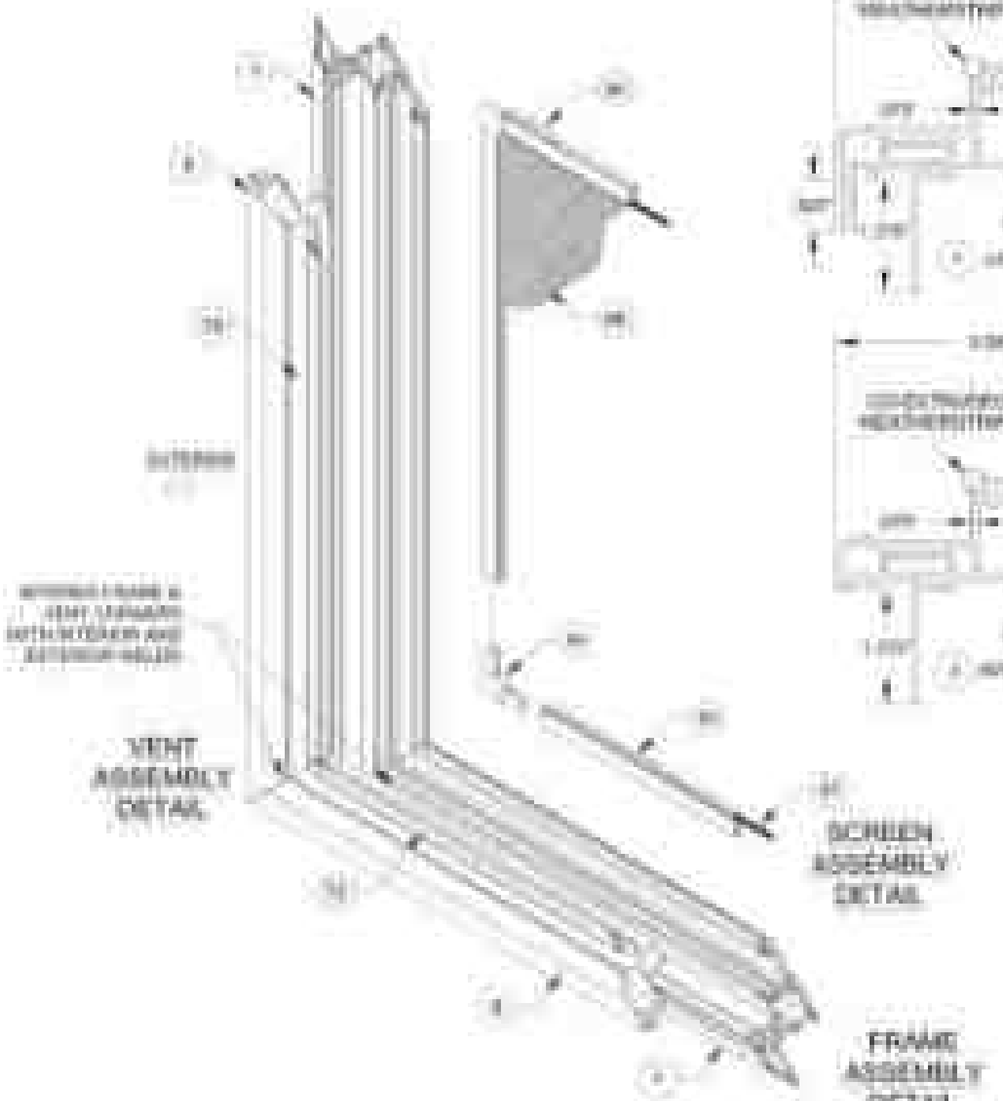
GREAT LAKES WINDOW
1975 TECHNOLOGY DRIVE
N. VENICE, FL 34275
(941) 480-1600

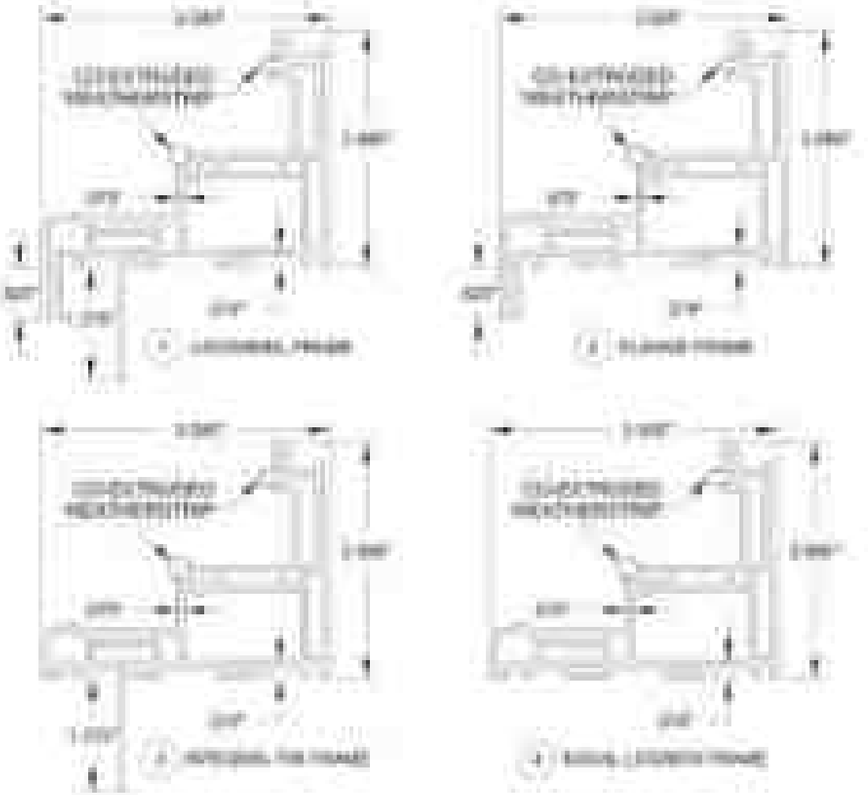
VINYL CASEMENT WINDOW (LWC)		DRAWN BY:
HARDWARE		J. ROSCHMAN
CA: 62480	NOTE:	SCALE: 6" = 1'-0"
CASTAR LAMA		6

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ITEM #	PART	DESCRIPTION	MATERIAL
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NOTES

1) [illegible]

2) [illegible]

3) [illegible]

4) [illegible]

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(941) 480-1600

VINYL CASEMENT WINDOW (LWC) | (WDMA) TS

BOW & ASSEMBLY | / ROSEWIN

CA-10480 | NTS | 8 OF 8 | CASSAD LAMA | E

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[illegible]