GENERAL NOTES:

1. THESE WINDOW SYSTEMS HAVE BEEN TESTED, ANALYZED & APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN IN THE "ALLOWABLE DESIGN PRESSURE TABLE(S).

2. OPENINGS, BUCKING & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER WIND LOADS TO THE STRUCTURE.

3. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & SHALL NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS. SPECIFIED ANCHOR EMBED TO BASE MATERIAL SHALL BE BEYOND WALL FINISH OR STUCCO.

4. THE DETAILS & SPECIFICATIONS SHOWN HEREIN REPRESENT THE PRODUCTS TESTED & PROPOSED FOR WATER, AIR, IMPACT, CYCLIC & UNIFORM STATIC AIR PRESSURE TESTING IN CONFORMANCE WITH ASTM E330, E283, E331, F588, E1886 & E1996 FOR LARGE MISSILE IMPACT WINDOWS.

5. THESE WINDOW SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH AND MEET THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE (IBC).

6. WHEN GLAZED FOR SMALL MISSILE IMPACT, THESE WINDOWS MAY NOT BE INSTALLED AT ELEVATIONS BELOW 30 FT. ABOVE GRADE OR AT ANY CODE DESIGNATED LARGE MISSILE IMPACT LOCATION WITHOUT AN APPROVED SHUTTER.

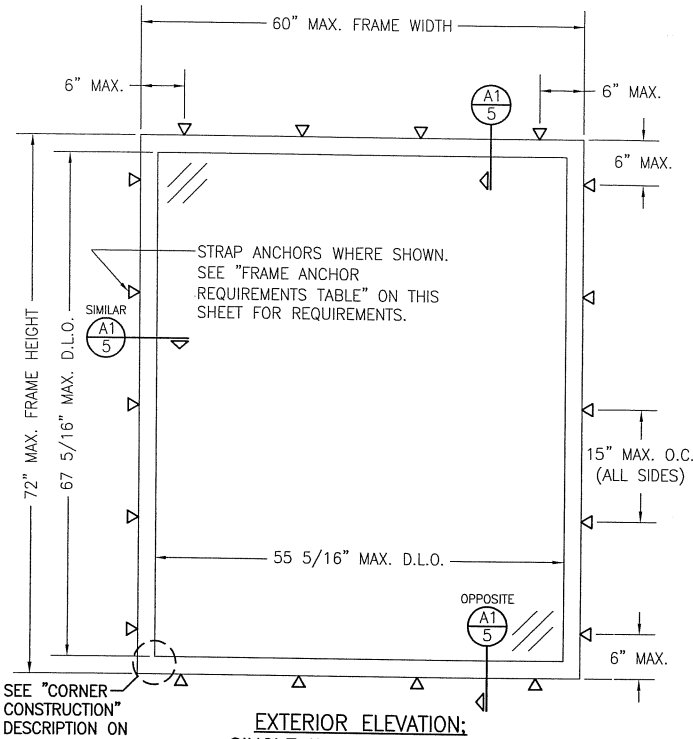
7. WHEN LARGE MISSILE IMPACT GLAZED, IMPACT SHUTTERS ARE NOT REQUIRED WITH THESE WINDOWS.

8. ALL ANCHORS SECURING WINDOW FRAME TO PRESSURE TREATED BUCKS OR WOOD FRAMING SHALL BE CAPABLE OF RESISTING CORROSION CAUSED BY THE PRESSURE TREATING CHEMICALS IN THE WOOD.

9. DETERMINE THE POSITIVE & NEGATIVE DESIGN LOADS TO USE WHEN REFERENCING THESE DOCUMENTS IN ACCORDANCE WITH THE GOVERNING CODE AND GOVERNING WIND VELOCITY. FOR WIND LOAD CALCULATIONS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, A DIRECTIONALITY FACTOR OF KD = 0.85 MAY BE APPLIED PER THE ASCE-7 STANDARD.

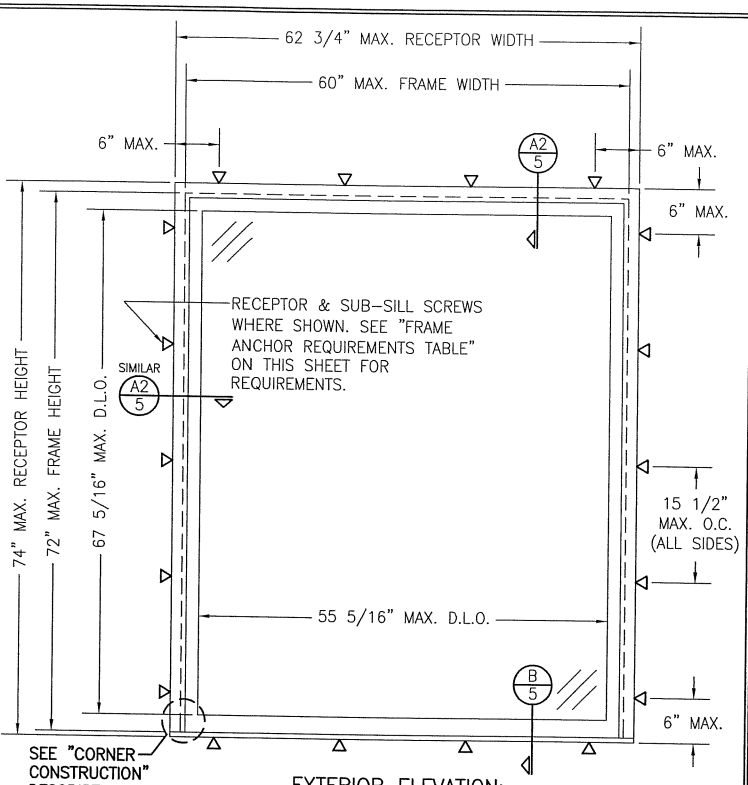
10. NO INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE CERTIFICATION OF THIS PRODUCT. WIND LOAD DURATION FACTOR CD = 1.6 WAS USED FOR WOOD SCREW ANALYSIS ONLY.

11. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL BE SEPARATED OR COATED AS REQUIRED TO AVOID CORROSION OF EITHER MATERIAL.



EXTERIOR ELEVATION: SINGLE WINDOW MOUNTED WITH STRAP ANCHORS

SCALE: 3/4" = 1'-0"



EXTERIOR ELEVATION: SINGLE WINDOW MOUNTED WITH RECEPTOR & SUB-SULL

SCALE: 3/4" = 1'-0"

EVALUATION OF THIS PRODUCT IS BASED ON APPLICABLE STANDARDS AND/OR INFORMATION & RESULTS FROM APPLICABLE TEST REPORTS. THE BUILDING CODE VERSION CONSIDERED WITH THIS EVALUATION WAS THAT IN FORCE AT THE TIME OF THE EVALUATION. IN THE EVENT OF CODE VERSION CHANGES/UPDATES OR IN THE EVENT THAT NEW OR ADDITIONAL TESTING IS COMPLETED ON THIS PRODUCT, PRIOR TO STATING CODE COMPLIANCE, THE MANUFACTURER SHALL CONFIRM WITH THE EVALUATION ENGINEER OF RECORD THAT EVERYTHING SPECIFIED HERE-IN IS CURRENT WITH ALL CURRENT TESTING, CODES AND APPLICABLE STANDARDS.

NOTE: FOR USE OF MID-RAIL(S) WITH THESE WINDOWS, SEE ELEVATIONS ON SHEET 2 & 3

FRAME ANCHOR REQUIREMENTS TABLE

STRAP ANCHOR, RECEPTOR, SUB-SILL & MULLION CLIP SCREWS

OPENING TYPE (SUBSTRATE)	STRAP/RECEPTOR/SUB-SILL/MULLION CLIP TO OPENING FASTENER TYPE	MINIMUM EMBED	MINIMUM EDGE DIST.
MIN. 2X_ WOOD FRAME OR BUCK (MIN. GR. 3 & G=0.55)	NO. 12 SMS OR WOOD SCREW	1 3/8"	3/4"
MIN. 18 GA. 33 KSI METAL STUD	NO. 12 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 1/8" THK A36 STEEL	NO. 12 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. 0.100" THK 6063-T5 ALUM.	NO. 12 GR. 5 SELF TAP/DRILL SCREW	FULL	1/2"
MIN. C-90 CMU	(1) 1/4" CONCRETE SCREW	1 1/4"	2"
MIN. 2500 PSI CONCRETE	(1) 1/4" CONCRETE SCREW	1 1/2"	2"

(1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, ITW RAMSET/RED HEAD TAPCONS OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.).

ALLOWABLE DESIGN PRESSURE (SINGLE WINDOWS)

SEE TABLE ON SHEET 4

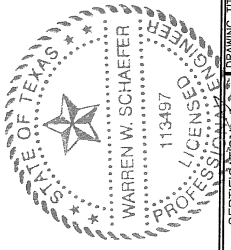
CORNER CONSTRUCTION:

SASH FRAME: MITERED, JOINED TOGETHER WITH 2 CORNER KEYS (ITEM #17), SECURED WITH (2) M5X20 SCREWS PER CORNER KEY AND SEALED WITH DOW 1199 SEALANT.

RECEPTOR: MITERED, JOINED TOGETHER WITH A CORNER KEY (ITEM #18), SECURED WITH (2) M5X20 SCREWS PER CORNER KEY AND SEALED WITH DOW 1199 SEALANT.

RECEPTOR TO SUB-SILL: RECEPTORS ARE COPED & BUTTED TO THE SUB-SILL AND SEALED WITH DOW 1199 SEALANT.

MID-RAIL: COPED, JOINED TOGETHER WITH 2 BRACKETS (ITEM #19), SECURED WITH (1) M5X20 SCREW PER BRACKET AND SEALED WITH DOW 1199 SEALANT.



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WARREN W. SCHAEFER, P.E.
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THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=16	DATE: 01/28/13

NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE: AA900 FIXED WINDOWS (SMALL & LARGE MISSLE IMPACT)

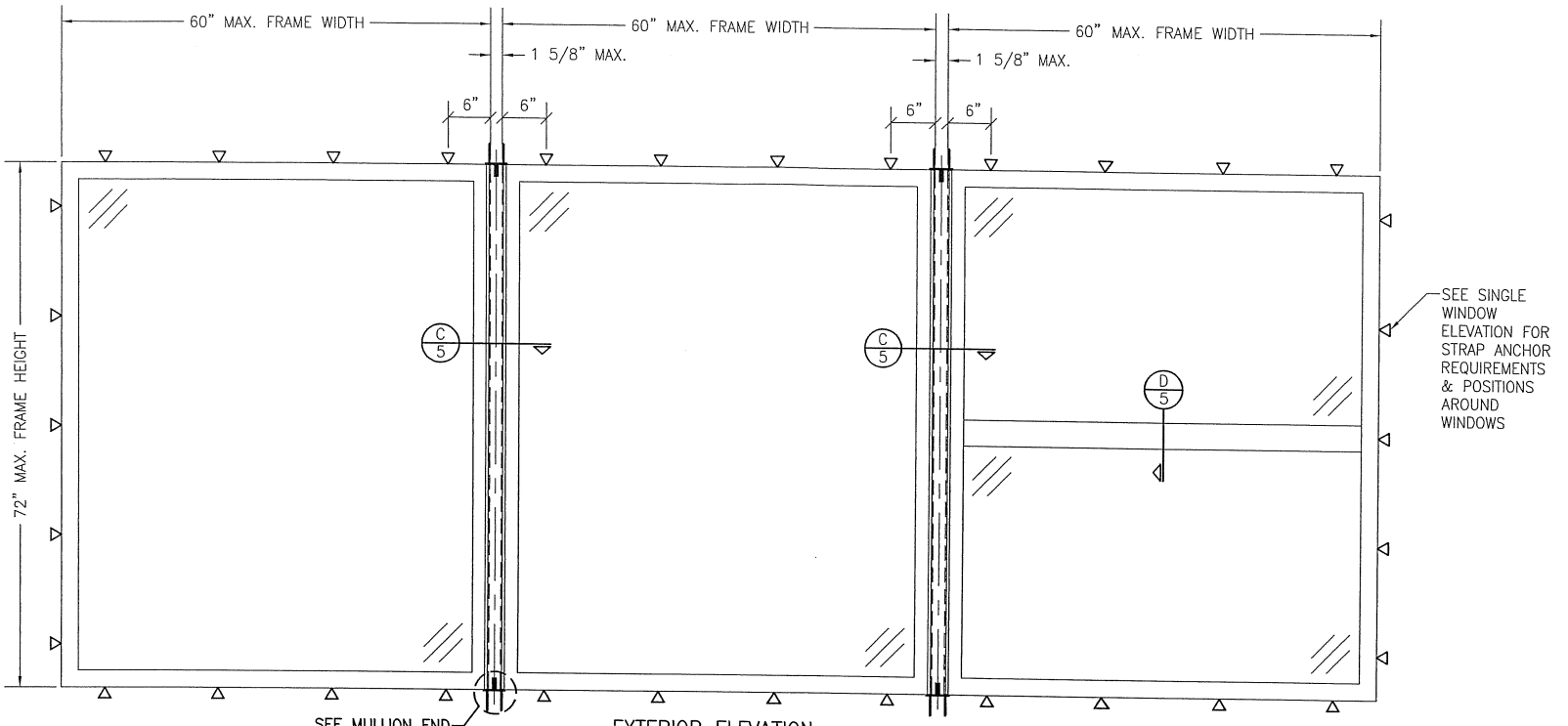
JOB INFORMATION: KAWNEER COMPANY, INC. 555 GUTHRIDGE COURT NORCROSS, GA 30092 770-449-5555

CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (REG. NO. F-14980) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424

CERTIFICATION

DRAWING NO. 1689T REV.

SHEET NO. 1 OF 6



EXTERIOR ELEVATION;
MULTIPLE FIXED WINDOWS WITH STRAP ANCHORS
SCALE: 3/4" = 1'-0"

ALLOWABLE DESIGN PRESSURE (MULLED WINDOWS)
(1) +/-90 PSF
NOTE: 1. ALLOWABLE UNIT PRESSURE SHALL BE THE LESSER OF THE PRESSURE SHOWN IN THIS TABLE & THAT SPECIFIED FOR THE INDIVIDUAL WINDOW.

MULTIPLE UNIT NOTES:

1. FOR ALL DETAIL NOT SHOWN, SEE SINGLE WINDOW ELEVATIONS.
2. THERE IS NO LIMIT ON THE NUMBER OF WINDOWS THAT MAY BE COMBINED HORIZONTALLY INTO ONE OPENING PROVIDING THE OPENING IS DESIGNED TO SUPPORT ALL LOADS TRANSFERED FROM THE WINDOWS & THEIR MULLIONS.

STATE OF TEXAS
WARREN W. SCHAEFER
113497
LICENSED PROFESSIONAL ENGINEER

NOV 25 2013

WARREN W. SCHAEFER, P.E.
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PLOT: 1=16 | DATE: 01/28/13

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DRAWING TITLE
AA900 FIXED WINDOWS (SMALL & LARGE MISSLE IMPACT)

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NORCROSS, GA 30092
770-449-5555

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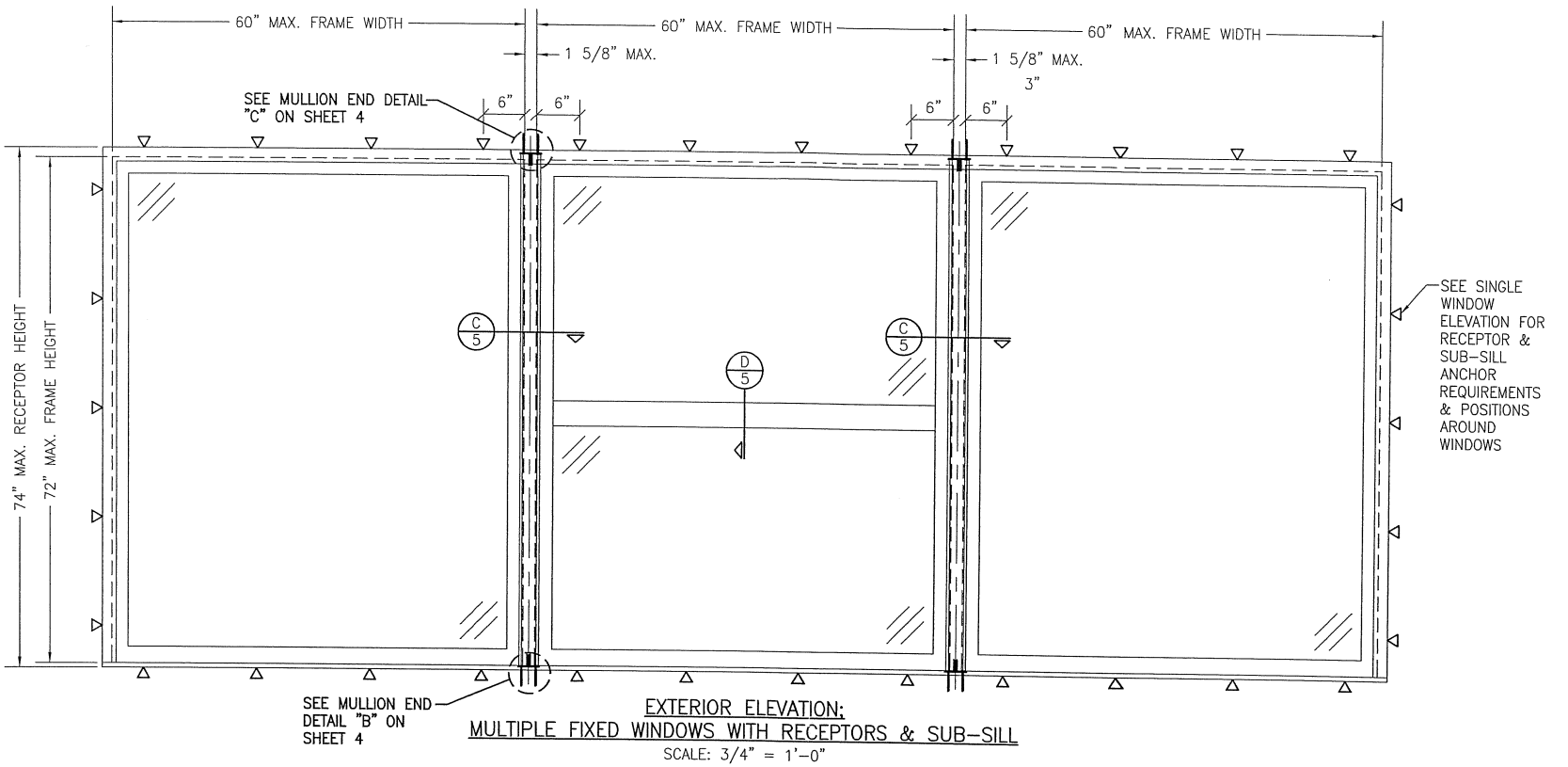
CERTIFICATION

DRAWING NO. 1689T | REV.
SHEET NO. 2 OF 6



EXTERIOR ELEVATION:
MULTIPLE FIXED WINDOWS WITH RECEPTORS & SUB-SILL
SCALE: 3/4" = 1'-0"

ALLOWABLE DESIGN PRESSURE (MULLED WINDOWS)
(1) +/-90 PSF
NOTE: 1. ALLOWABLE UNIT PRESSURE SHALL BE THE LESSER OF THE PRESSURE SHOWN IN THIS TABLE & THAT SPECIFIED FOR THE INDIVIDUAL WINDOW.

MULTIPLE UNIT NOTES FOR WINDOWS INSTALLED WITHOUT RECEPTORS:

1. FOR ALL DETAIL NOT SHOWN, SEE SINGLE WINDOW ELEVATIONS.
2. THERE IS NO LIMIT ON THE NUMBER OF WINDOWS THAT MAY BE COMBINED HORIZONTALLY INTO ONE OPENING PROVIDING THE OPENING IS DESIGNED TO SUPPORT ALL LOADS TRANSFERED FROM THE WINDOWS & THEIR MULLIONS.

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DRAWING TITLE
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JOB INFORMATION:
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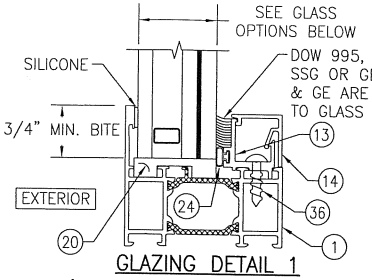
CERTIFICATION

DRAWING NO. 1689T | REV.
SHEET NO. 3 OF 6

ALLOWABLE SINGLE WINDOW PRESSURE TABLE

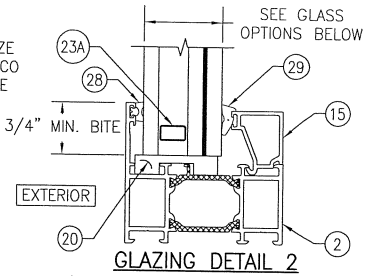
MAXIMUM FRAME HEIGHT (IN.)	MAXIMUM FRAME WIDTH (IN.)	ALLOWABLE PRESSURE (+/−PSF)			
		GLASS OPTION 1−4	GLASS OPTION 5	GLASS OPTION 6	GLASS OPTION 7 & 8
72	60	90	N/A	70	90
	30	90	90	70	90

1. SEE GLAZING DETAILS FOR GLASS OPTIONS.
2. "N/A" DESIGNATES A SIZE NOT APPLICABLE TO THAT GLASS OPTION.



GLAZING DETAIL 1
(L.M.I. GLASS WET GLAZED)
OPTIONS 1−5

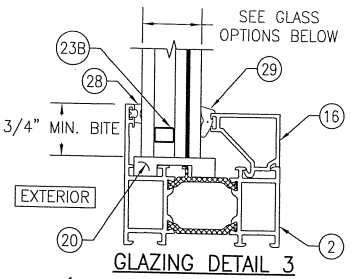
GLASS OPTION 1: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.075" SOLUTIA SAFLEX CP/1/4" H.S. INTERIOR)
GLASS OPTION 2: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.090" SOLUTIA SAFLEX HP/1/4" H.S. INTERIOR)
GLASS OPTION 3: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.090" DUPONT BUTACITE PVB/1/4" H.S. INTERIOR)
GLASS OPTION 4: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.090" DUPONT SG/1/4" H.S. INTERIOR)
GLASS OPTION 5: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.120" CYTEC UVEKOL S/1/4" H.S. INTERIOR)



GLAZING DETAIL 2
(L.M.I. GLASS DRY GLAZED)
OPTION 6

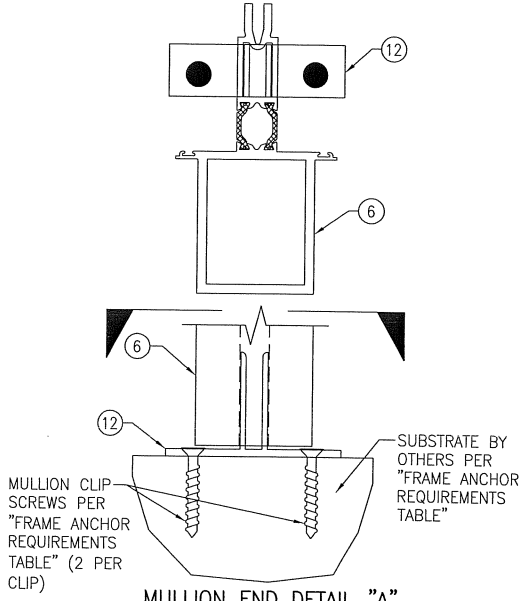
GLASS OPTION 6: 1 5/16" LAMINATED I.G. (1/4" TEMPERED; 1/2" AIR SPACER; 1/4" H.S./0.090" DUPONT SG/1/4" H.S. INTERIOR)

L.M.I. = LARGE MISSILE IMPACT
S.M.I. = SMALL MISSILE IMPACT

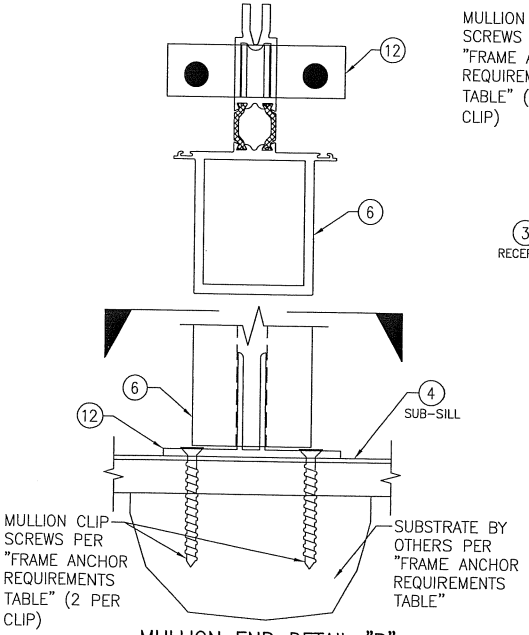


GLAZING DETAIL 3
(S.M.I. GLASS DRY GLAZED)
OPTION 7 & 8

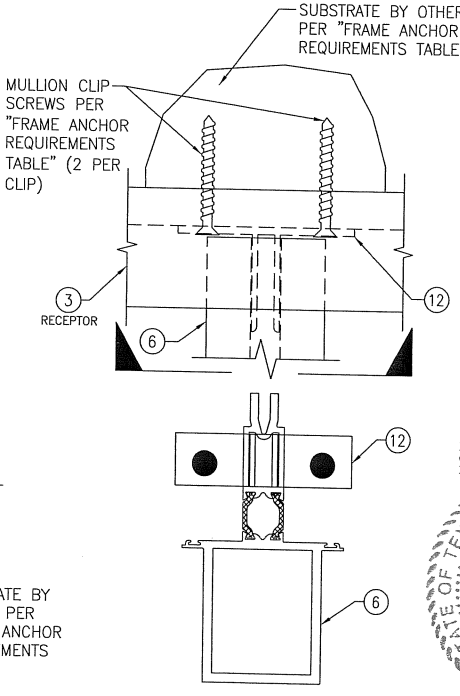
GLASS OPTION 7: 1" LAMINATED I.G. (3/16" TEMPERED; 3/8" AIR SPACER; 3/16" H.S./0.060" SOLUTIA SAFLEX/3/16" H.S. INTERIOR)
GLASS OPTION 8: 1" LAMINATED I.G. (3/16" TEMPERED; 3/8" AIR SPACER; 3/16" H.S./0.060" DUPONT BUTACITE "ST" PVB/3/16" H.S. INTERIOR)



MULLION END DETAIL "A"
(WINDOW FRAMES NOT SHOWN FOR CLARITY)



MULLION END DETAIL "B"
(WINDOW FRAMES NOT SHOWN FOR CLARITY)



MULLION END DETAIL "C"
(WINDOW FRAMES NOT SHOWN FOR CLARITY)

DRAWN BY: W.R.M.	CHECKED BY: W.W.S.
PLOT: 1=2	DATE: 01/28/13

NO.	REVISION DESCRIPTION	BY	DATE

JOB INFORMATION:
KAWNEER COMPANY, INC.
555 GUTHRIDGE COURT
NORCROSS, GA 30092
770-449-5555

DRAWING TITLE
AA900 FIXED WINDOWS (SMALL & LARGE MISSLE IMPACT)

CONSULTANTS
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7480 150TH COURT NORTH
PALM BEACH GARDENS, FL 33418
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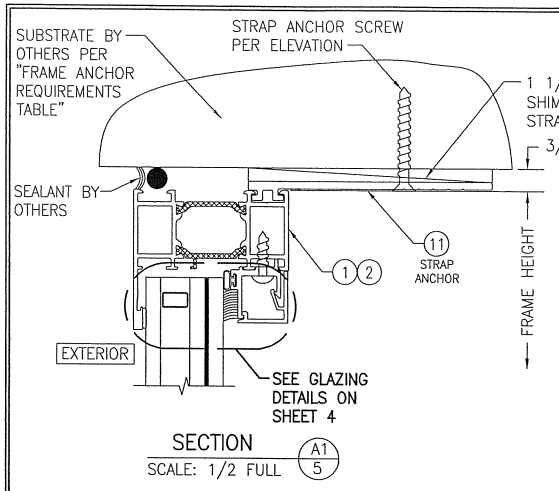
NOV 25 2013

CERTIFICATION
STATE OF TEXAS
WARREN W. SCHAEFER
113497
PROFESSIONAL ENGINEER
WARREN W. SCHAEFER, P.E.
P.E. NO. 113497

DRAWING NO. 16897 REV.
SHEET NO. 4 OF 6



SECTION A1 5
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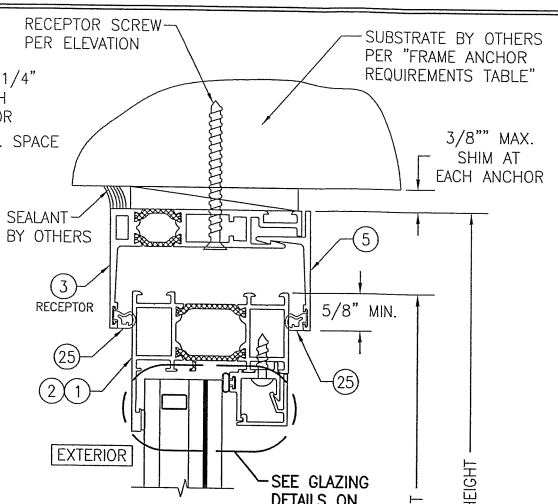

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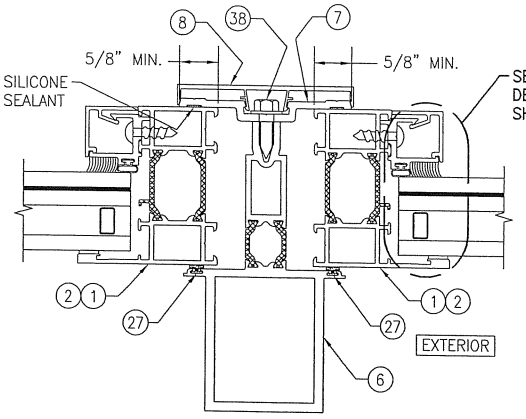

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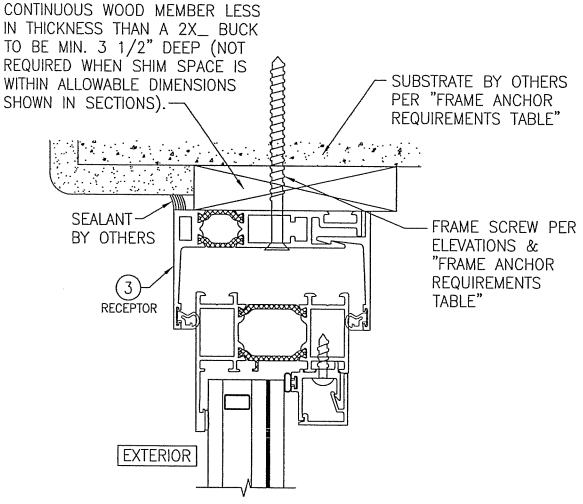
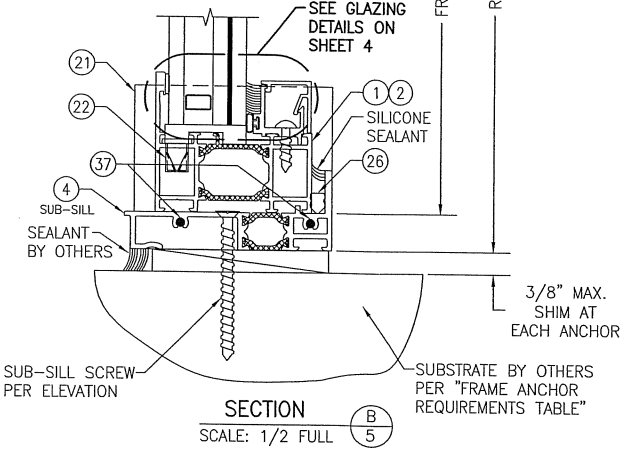


OPTIONAL DIRECT MOUNT DETAIL TO SUBSTRATE WITH SPACER
(HEAD SECTION SHOWN; SILL & SIDES ARE INSTALLED THE SAME)
(FOR DETAIL NOT SHOWN, SEE OTHER SECTIONS)



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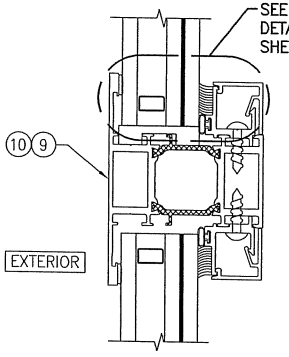

SECTION D 5
SCALE: 1/2 FULL

STATE OF TEXAS WARREN W. SCHAEFER 113497 LICENSED PROFESSIONAL ENGINEER

NO.	REVISION DESCRIPTION	BY	DATE

DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 01/28/13

DRAWING TITLE
AA900 FIXED WINDOWS (SMALL & LARGE MISSLE IMPACT)

JOB INFORMATION:
KAWNEER COMPANY, INC.
555 GUTHRIDGE COURT
NORCROSS, GA 30092
770-449-5555

CONSULTANTS
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CERTIFICATION
NOV 25 2013
WARREN W. SCHAEFER, P.E.
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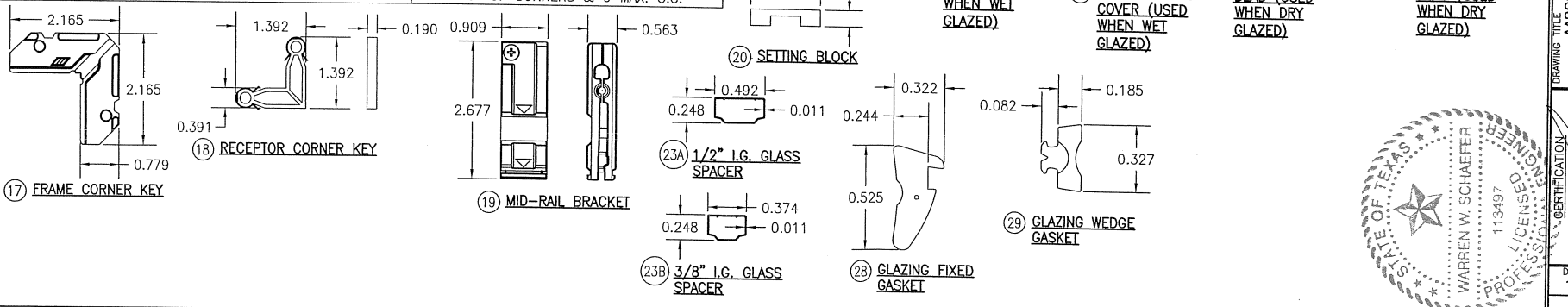
DRAWING NO. 1689T | REV.
SHEET NO. 5 OF 6

ITEM #	ITEM DESCRIPTION	MANUFACTURER/NOTES
	PARTS	
1	FRAME (USED WHEN WET GLAZED)	6063–T6 ALUMINUM
2	FRAME (USED WHEN DRY GLAZED)	6063–T6 ALUMINUM
3	RECEPTOR	6063–T6 ALUMINUM
4	SUB–SILL	6063–T6 ALUMINUM
5	RECEPTOR STOP	6063–T6 ALUMINUM
6	HD MULLION	6063–T6 ALUMINUM
7	PRESSURE PLATE	6063–T6 ALUMINUM
8	PRESSURE PLATE COVER	6063–T6 ALUMINUM
9	MID–RAIL (USED WHEN WET GLAZED)	6063–T6 ALUMINUM
10	MID–RAIL (USED WHEN DRY GLAZED)	6063–T6 ALUMINUM
11	HEAVY DUTY STRAP ANCHOR	6063–T6 ALUMINUM
12	MULLION CLIP	6063–T6 ALUMINUM
13	L.M.I. GLAZING BEAD (USED WHEN WET GLAZED)	6063–T6 ALUMINUM
14	GLAZING BEAD COVER (USED WHEN WET GLAZED)	6063–T6 ALUMINUM
15	L.M.I. GLAZING BEAD (USED WHEN DRY GLAZED)	6063–T6 ALUMINUM
16	S.M.I. GLAZING BEAD (USED WHEN DRY GLAZED)	6063–T6 ALUMINUM
17	FRAME CORNER KEY	CAST ALUMINUM
18	RECEPTOR CORNER KEY	CAST ZINC/CARBON STEEL
19	MID–RAIL BRACKET	CAST ALUMINUM
20	SETTING BLOCK	EPDM (QTY. AS REQUIRED)
21	3.35" X 2.75" X 0.063" SUB–SILL END DAM PLATE	5052 H32 ALUMINUM
22	WEEP CHECK VALVE KAWNEER #225536	WITHIN 3" OF END & AT MID–SPAN
23A	1/2" I.G. GLASS SPACER	3005 OR 3105 ALUMINUM
23B	3/8" I.G. GLASS SPACER	3005 OR 3105 ALUMINUM
	SEALS & SEALANTS	
24	BULB GASKET	POLYPROPYLENE
25	WEATHERING GASKET	FLEXIBLE PVC BY KRP
26	SEALANT SPACER	SCR–900 BY TREMCO
27	WEATHERING GASKET	POLYPROPYLENE VISTAPLEX
28	FIXED GASKET (70 +/– 5 EPDM RUBBER)	TREMCO TR–14651E
29	WEDGE GASKET (85 DUROMETER EPDM SPONGE)	EPG PART NUMBER 6508–02–00
30	DEBRIDGING/THERMAL BREAK	TECATHERM–66–GF
31	DEBRIDGING/THERMAL BREAK	TECATHERM–66–GF
32	DEBRIDGING/THERMAL BREAK	TECATHERM–66–GF
	FASTENERS	
36	NO. 10 X 3/4" PHTF S.S. SCREW	WITHIN 3" OF CORNERS & 18 MAX. O.C.
37	NO. 8 X 1 1/4" PHTF S.S. SCREW	2 PER END INTO SCREW SPLINE
38	1/4" X 3/4" HHTF SCREW	WITHIN 3" OF CORNERS & 9 MAX. O.C.



DRAWN BY: W.R.M. | CHECKED BY: W.W.S.
PLOT: 1=2 | DATE: 01/28/13

NO.	REVISION DESCRIPTION	BY	DATE

DRAWING TITLE
AA900 FIXED WINDOWS (SMALL & LARGE MISSLE IMPACT)

JOB INFORMATION:
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CERTIFICATION
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STATE OF TEXAS · WARREN W. SCHAEFER · 113497 · LICENSED PROFESSIONAL ENGINEER

DRAWING NO. 1689T | REV.
SHEET NO. 6 OF 6