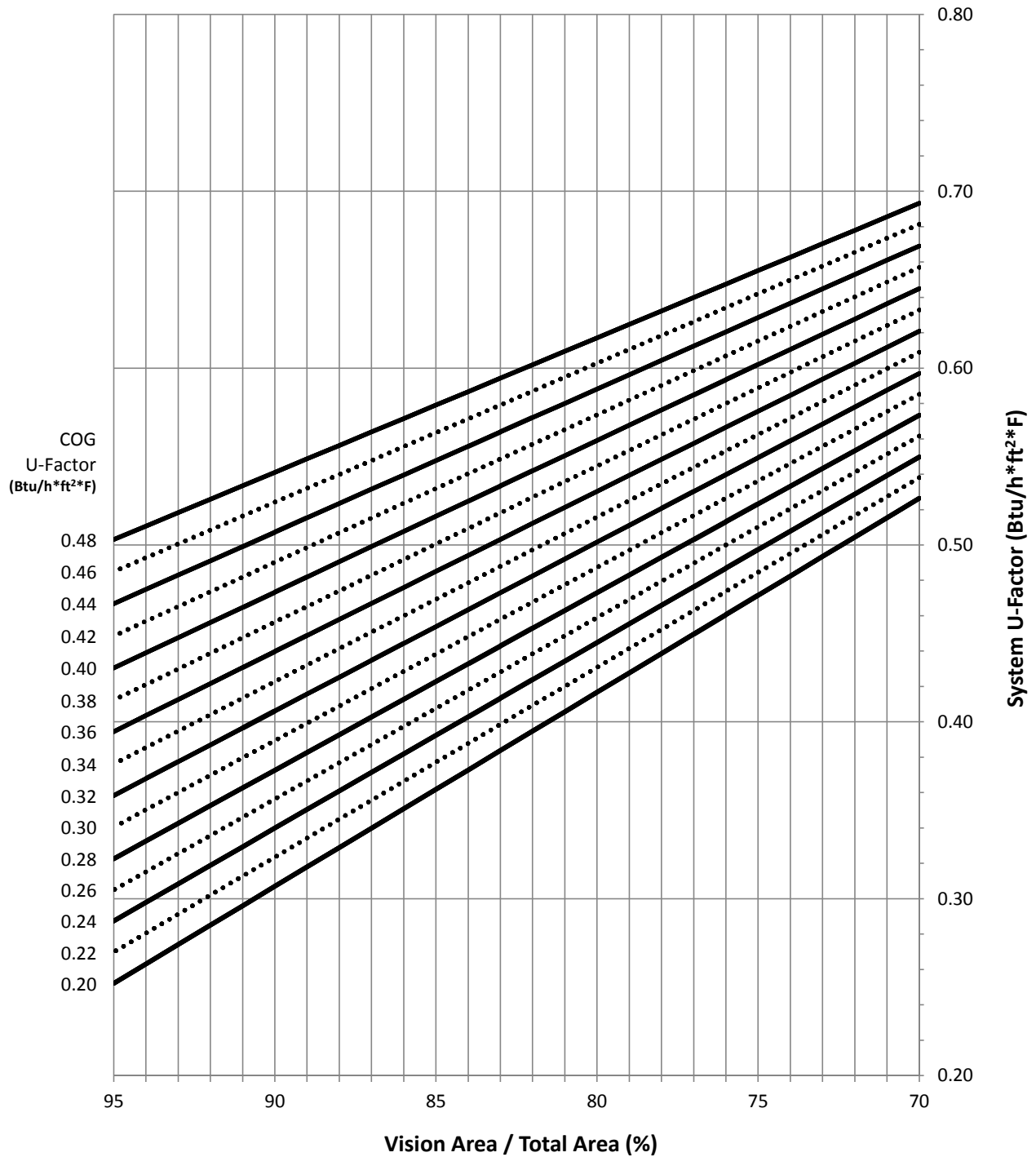
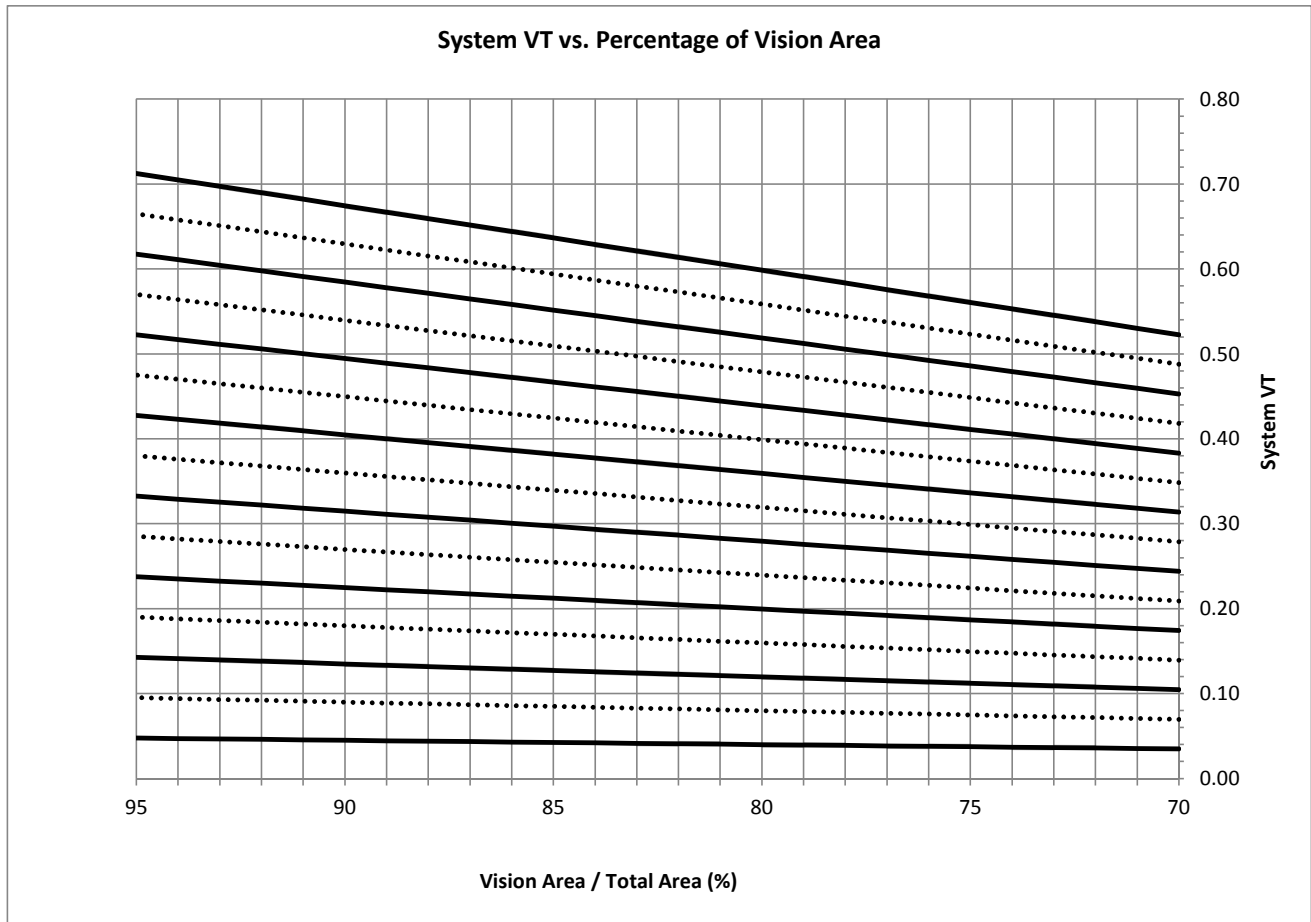
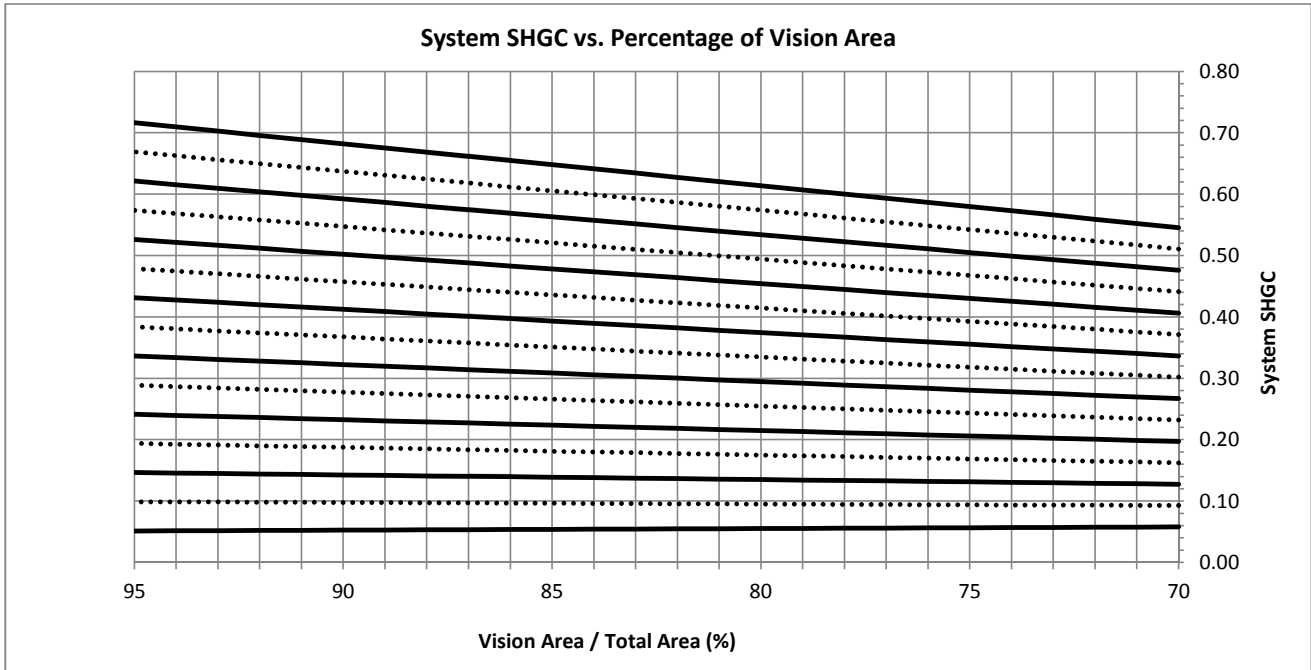


- 1.0 Product Manufacturer:** Coral Architectural Products
3010 Rice Mine Road
Tuscaloosa, AL 35406
- 2.0 Product Model:** FL300T Storefront
- 3.0 Operator Type:** Glazed Wall Window Wall O-O
- 4.0 Simulations Performed:** Thermal simulations were performed in accordance with AAMA 507-07, *Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems Installed in Commercial Buildings*, using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, and current versions of NFRC 100-2010 and NFRC 200-2010.
- 5.0 Framing Type:** Painted thermally broken aluminum (AT) all members. Due to proximity of walls of mullion and filler, verticals modeled with thermally improved (AU) interior boundary condition.
- 6.0 Sash Type:** N/A
- 7.0 Grilles:** N/A
- 8.0 Weatherstripping:** N/A
- 9.0 Hardware:** N/A
- 10.0 Edge-of-Glass Construction:** Glazed in pockets with interior and exterior EPDM gaskets.
- 11.0 I.G. Spacer Type:** Generic aluminum box spacer, with 0.01" PIB primary seals between spacer and glass, and .181" depth silicone secondary sealant, was utilized for all simulations.
- 12.0 Grouping:** Grouping per NFRC 100 Section 4.2.4 was performed on the following items:
- Frame: the Standard Vertical and Heavy Vertical were grouped. The Heavy Vertical with the higher whole-product heat loss was used as the group leader for all simulations.
- 13.0 Simulation Software:** Simulations were performed using NFRC-approved simulation programs WINDOW6.3 and THERM6.3, in accordance with current versions of NFRC 100-2010, NFRC 200-2010, and NFRC 500-2010.
- 14.0 Drawings:** This report is incomplete if not accompanied by component and assembly drawings of the indicated product, provided by Coral, totaling 5 pages, bearing the initialed stamp of Turner Engineering & Consulting, Inc.
- 15.0 Simulation Results:** Please see the following charts and tables.

System U-Factor vs. Percentage of Vision Area





Size-Specific U-Factor (Btu/h-ft²-F) Matrix: NFRC Standard Size (78.740" x 78.740")

Glazing Option	Center-of-Glass U-Factor	Overall U-Factor
1	0.48	0.55
2	0.46	0.54
3	0.44	0.52
4	0.42	0.51
5	0.40	0.49
6	0.38	0.47
7	0.36	0.46
8	0.34	0.44
9	0.32	0.43
10	0.30	0.41
11	0.28	0.39
12	0.26	0.38
13	0.24	0.36
14	0.22	0.35
15	0.20	0.33

Size-Specific SHGC Matrix:
NFRC Standard Size (78.740" x 78.740")

Center-of-Glass SHGC	Overall SHGC
0.75	0.67
0.70	0.63
0.65	0.58
0.60	0.54
0.55	0.49
0.50	0.45
0.45	0.41
0.40	0.36
0.35	0.32
0.30	0.27
0.25	0.23
0.20	0.19
0.15	0.14
0.10	0.10
0.05	0.05

Size-Specific VT Matrix:
NFRC Standard Size (78.740" x 78.740")

Center-of-Glass VT	Overall VT
0.75	0.66
0.70	0.62
0.65	0.57
0.60	0.53
0.55	0.49
0.50	0.44
0.45	0.40
0.40	0.35
0.35	0.31
0.30	0.26
0.25	0.22
0.20	0.18
0.15	0.13
0.10	0.09
0.05	0.04

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.3% Vision Area)	95% Vision Area
1	0.48	44.0	L Head	2.2058	0.8537	0.5031	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.4007	0.5000	0.4858	0.4678	0.4656
			L Sill	2.5178	0.9822	0.4977	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8537	0.5031	0.69	0.55	0.50
			R Jamb	1.2058	1.3787	0.5089			
			R Sill	2.5178	0.9822	0.4977			
			Int. Vert.	2.4115	1.3897	0.5044			
2	0.46	45.0	L Head	2.2058	0.8532	0.4893	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.4002	0.4864	0.4653	0.4488	0.4460
			L Sill	2.5178	0.9819	0.4841	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8532	0.4893	0.68	0.54	0.48
			R Jamb	1.2058	1.3782	0.4954			
			R Sill	2.5178	0.9819	0.4841			
			Int. Vert.	2.4115	1.3892	0.4909			
3	0.44	46.1	L Head	2.2058	0.8523	0.4751	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3994	0.4722	0.4448	0.4298	0.4266
			L Sill	2.5178	0.9814	0.4700	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8523	0.4751	0.67	0.52	0.47
			R Jamb	1.2058	1.3773	0.4813			
			R Sill	2.5178	0.9814	0.4700			
			Int. Vert.	2.4115	1.3884	0.4768			
4	0.42	47.1	L Head	2.2058	0.8515	0.4610	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3986	0.4583	0.4245	0.4106	0.4069
			L Sill	2.5178	0.9809	0.4560	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8515	0.4610	0.66	0.51	0.45
			R Jamb	1.2058	1.3766	0.4673			
			R Sill	2.5178	0.9809	0.4560			
			Int. Vert.	2.4115	1.3876	0.4628			
5	0.40	48.1	L Head	2.2058	0.8507	0.4470	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3979	0.4443	0.4040	0.3915	0.3875
			L Sill	2.5178	0.9805	0.4421	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8507	0.4470	0.64	0.49	0.43
			R Jamb	1.2058	1.3758	0.4534			
			R Sill	2.5178	0.9805	0.4421			
			Int. Vert.	2.4115	1.3868	0.4489			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

Glazing Option	NFRC COG U-Factor (Btu/h-ft2-F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft2-F)	Edge U-Factor (Btu/h-ft2-F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.3% Vision Area)	95% Vision Area
6	0.38	49.2	L Head	2.2058	0.8500	0.4330	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3972	0.4305	0.3837	0.3722	0.3679
			L Sill	2.5178	0.9800	0.4282	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8500	0.4330	0.63	0.47	0.41
			R Jamb	1.2058	1.3751	0.4396			
			R Sill	2.5178	0.9800	0.4282			
			Int. Vert.	2.4115	1.3861	0.4350			
7	0.36	50.2	L Head	2.2058	0.8493	0.4191	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3966	0.4167	0.3632	0.3532	0.3488
			L Sill	2.5178	0.9796	0.4145	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8493	0.4191	0.62	0.46	0.39
			R Jamb	1.2058	1.3744	0.4257			
			R Sill	2.5178	0.9796	0.4145			
			Int. Vert.	2.4115	1.3855	0.4212			
8	0.34	51.3	L Head	2.2058	0.8486	0.4053	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3960	0.4029	0.3430	0.3337	0.3291
			L Sill	2.5178	0.9792	0.4008	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8486	0.4053	0.61	0.44	0.38
			R Jamb	1.2058	1.3738	0.4120			
			R Sill	2.5178	0.9792	0.4008			
			Int. Vert.	2.4115	1.3849	0.4075			
9	0.32	52.3	L Head	2.2058	0.8479	0.3916	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3955	0.3892	0.3226	0.3145	0.3099
			L Sill	2.5178	0.9789	0.3871	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8479	0.3916	0.60	0.43	0.36
			R Jamb	1.2058	1.3731	0.3984			
			R Sill	2.5178	0.9789	0.3871			
			Int. Vert.	2.4115	1.3843	0.3938			
10	0.30	53.4	L Head	2.2058	0.8471	0.3779	COG U-factors (Btu/h-ft2-F) *		
			L Jamb	1.2058	1.3950	0.3756	0.3023	0.2952	0.2907
			L Sill	2.5178	0.9785	0.3736	Total Product U-factors (Btu/h-ft2-F)		
			R Head	2.2058	0.8471	0.3779	0.59	0.41	0.34
			R Jamb	1.2058	1.3726	0.3849			
			R Sill	2.5178	0.9785	0.3736			
			Int. Vert.	2.4115	1.3838	0.3802			

* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

Glazing Option	NFRC COG U-Factor (Btu/h-ft ² -F) *	NFRC COG Temperature (F) *	Frame Section	Frame Width (in.)	Frame U-factor (Btu/h-ft ² -F)	Edge U-Factor (Btu/h-ft ² -F)	Size Specific Data **		
							70% Vision Area	NFRC 100 Standard Size (88.3% Vision Area)	95% Vision Area
11	0.28	54.4	L Head	2.2058	0.8465	0.3643	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2058	1.3945	0.3621	0.2820	0.2758	0.2713
			L Sill	2.5178	0.9782	0.3601	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2058	0.8465	0.3643	0.57	0.39	0.32
			R Jamb	1.2058	1.3721	0.3714			
			R Sill	2.5178	0.9782	0.3601			
			Int. Vert.	2.4115	1.3833	0.3667			
12	0.26	55.5	L Head	2.2058	0.8459	0.3508	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2058	1.3941	0.3486	0.2617	0.2565	0.2524
			L Sill	2.5178	0.9779	0.3466	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2058	0.8459	0.3508	0.56	0.38	0.30
			R Jamb	1.2058	1.3716	0.3579			
			R Sill	2.5178	0.9779	0.3466			
			Int. Vert.	2.4115	1.3829	0.3533			
13	0.24	56.5	L Head	2.2058	0.8453	0.3373	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2058	1.3937	0.3352	0.2414	0.2370	0.2336
			L Sill	2.5178	0.9776	0.3332	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2058	0.8453	0.3373	0.55	0.36	0.29
			R Jamb	1.2058	1.3711	0.3444			
			R Sill	2.5178	0.9776	0.3332			
			Int. Vert.	2.4115	1.3824	0.3398			
14	0.22	57.6	L Head	2.2058	0.8448	0.3238	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2058	1.3934	0.3217	0.2212	0.2175	0.2146
			L Sill	2.5178	0.9774	0.3199	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2058	0.8448	0.3238	0.54	0.35	0.27
			R Jamb	1.2058	1.3707	0.3311			
			R Sill	2.5178	0.9774	0.3199			
			Int. Vert.	2.4115	1.3821	0.3264			
15	0.20	58.7	L Head	2.2058	0.8443	0.3103	COG U-factors (Btu/h-ft ² -F) *		
			L Jamb	1.2058	1.3933	0.3082	0.2010	0.1979	0.1956
			L Sill	2.5178	0.9772	0.3065	Total Product U-factors (Btu/h-ft ² -F)		
			R Head	2.2058	0.8443	0.3103	0.53	0.33	0.25
			R Jamb	1.2058	1.3705	0.3176			
			R Sill	2.5178	0.9772	0.3065			
			Int. Vert.	2.4115	1.3819	0.3129			

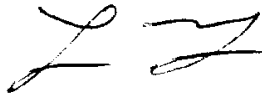
* NFRC COG U-factor and Temperature are calculated at the standard NFRC size of 1 meter glazing height. The Size Specific COG U-factors are calculated at the actual product height.

** All product sizes and areas calculated using NFRC centerline approach on verticals.

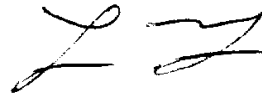
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17.0 Simulator: Lucas A. Turner, P.E.

18.0 Simulator in Responsible Charge: Lucas A. Turner, P.E., attests to the technical accuracy and content of this report.



Simulator Signature



Simulator in Responsible Charge Signature

Drawing Appendix

**Following drawings and data provided
by Client, totaling 5 pages**

FL300T AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS

INDEX TO DRAWINGS	
1	INDEX TO DRAWINGS AND NOTES
2	STANDARD FRAMING ELEVATION
3	STANDARD FRAMING DETAILS
4	BILL OF MATERIALS
5	DIE DRAWINGS

	The information on this page, unless otherwise noted, is representative of the materials and profiles used in modeling performed for Report: CAP-030513-01
Initials: <i>ZZ</i>	

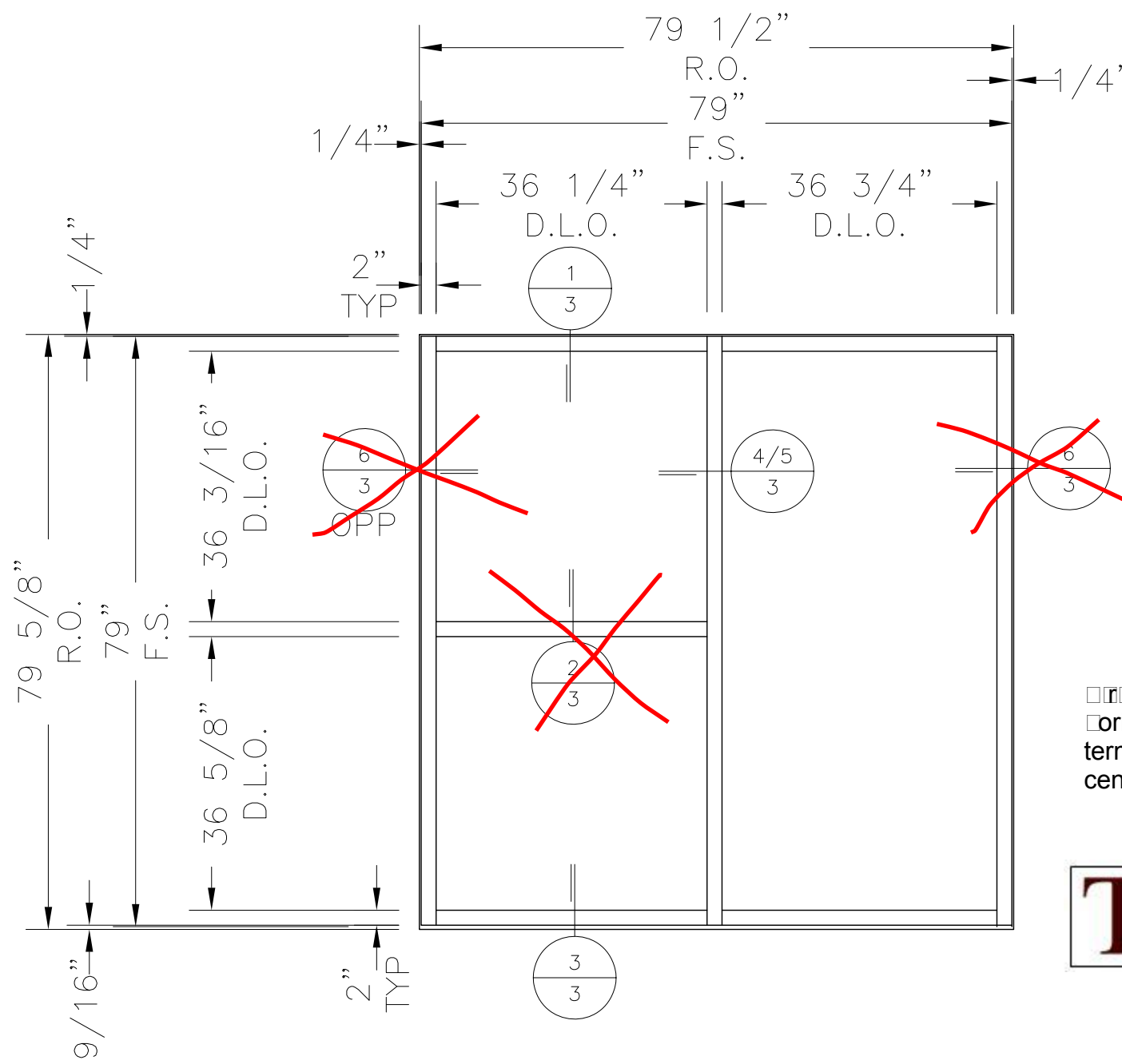
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Coral Architectural Products
 3010 RICE MINE ROAD, TUSCALOOSA, AL 35408
 PHONE: 800-772-7737 FAX: 800-255-7320

FL300T AAMA 507 THERMAL
 SIMULATION NFRC CMAST
 SUBMITTAL DRAWINGS
 INDEX TO DRAWINGS AND NOTES

DATE	2/27/2013	
DRAWN	CHECKED	APPROVED
<i>MJ</i>	<i>WS</i>	<i>WS</i>
PROJECT NO.	AAMA FL300T	
DRAWING NO.	FL300T-507	
SHEET	1 OF 5	



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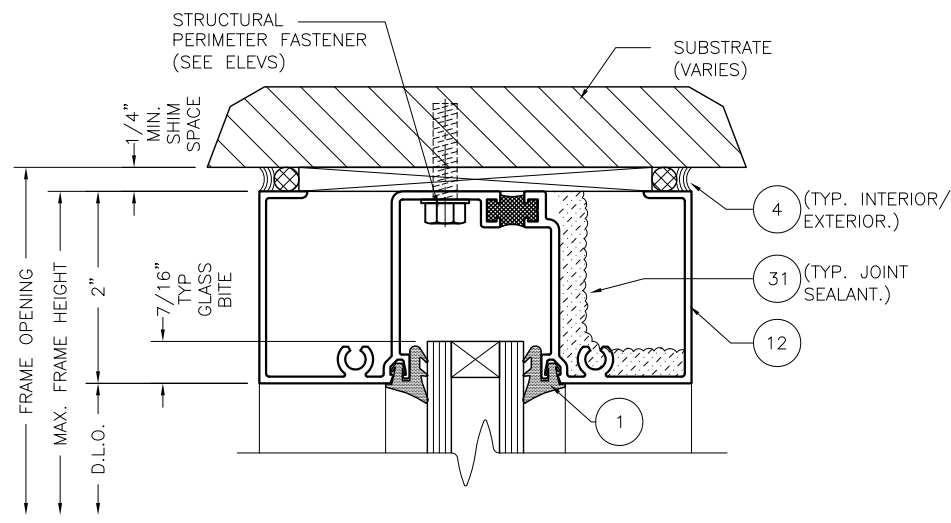
TYPICAL ELEVATION FOR FL300T AAMA 507 THERMAL SIMULATION NFRC CMAST

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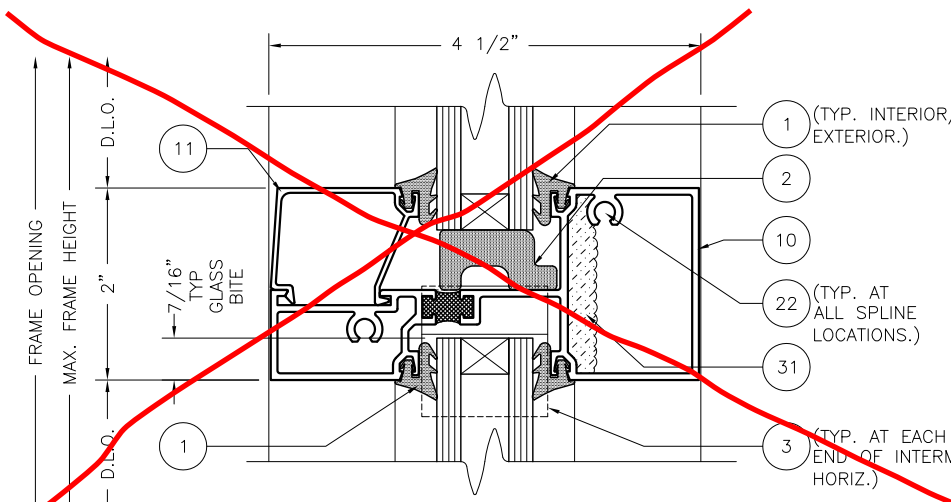
Coral
Architectural Products
3010 RICE MINE ROAD, TUSCALOOSA, AL 35406
PHONE: 800-772-7737 FAX: 800-443-6261

FL300T AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS
FRAMING ELEVATION

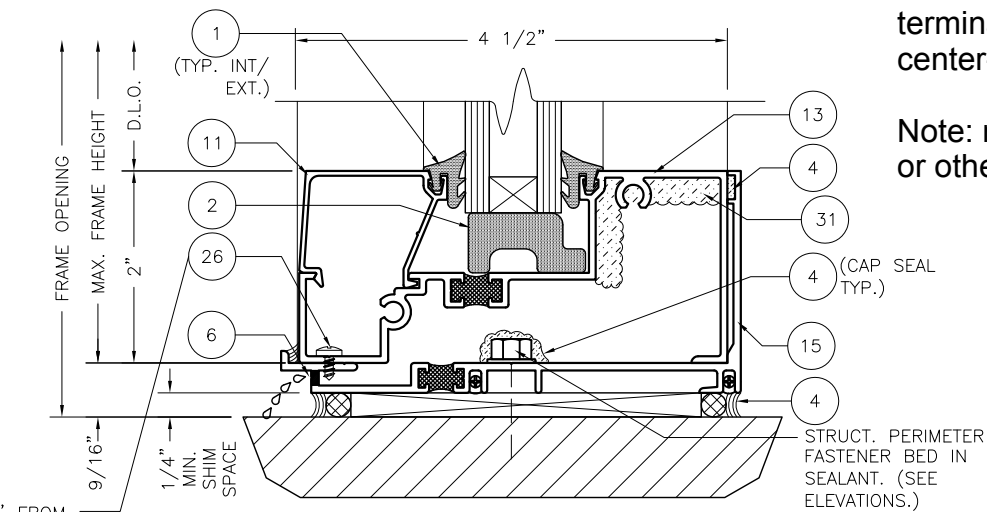
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PROJECT NO.	AAMA FL300T		
DRAWING NO.	FL300T-507		
SHEET	2 OF 5		



1 - STANDARD HEAD
1:2



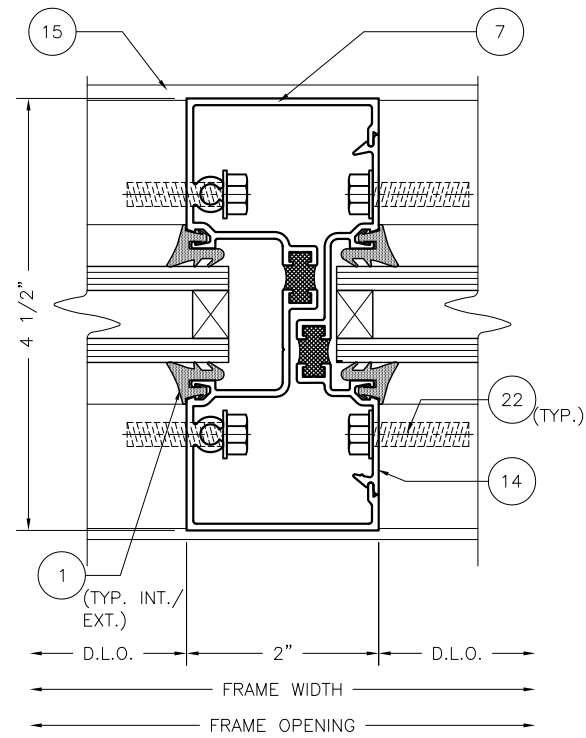
~~**2 - STANDARD HORIZONTAL**~~
~~1:2~~



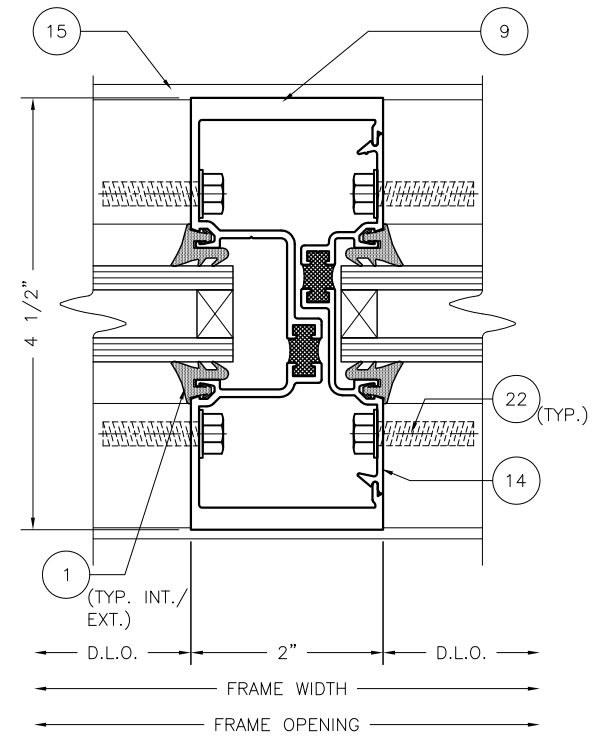
3 - STANDARD SILL
1:2

Intermediate horizontals not included in O-O configuration; terminal jambs not included because NFRC center-line approach used with verticals.

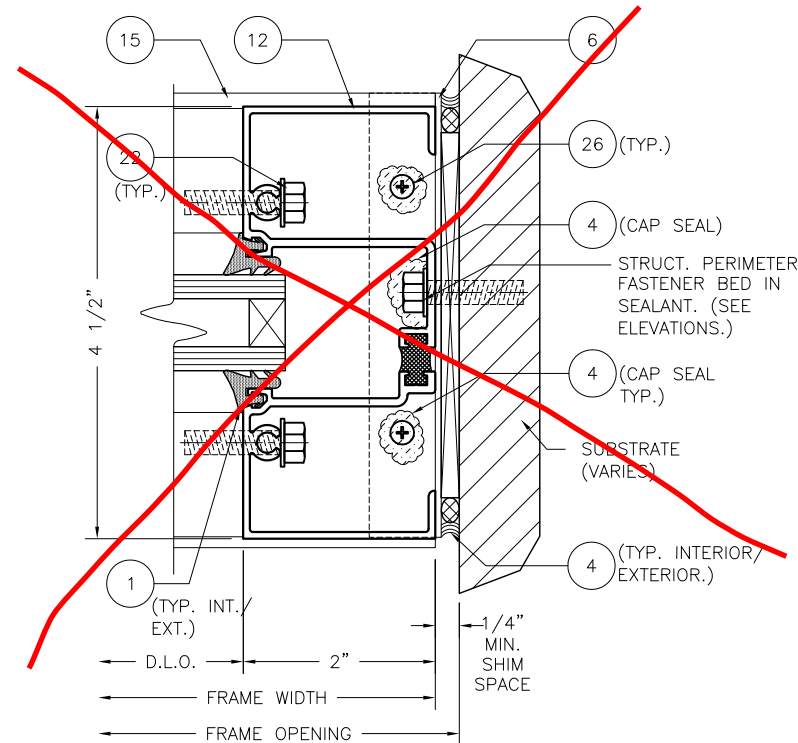
Note: no hardware, fasteners, setting blocks, or other discontinuous parts were modeled.



4 - STANDARD VERTICAL
1:2



5 - HEAVY VERTICAL
1:2



~~**6 - STANDARD JAMB**~~
~~1:2~~
~~RIGHT HAND SHOWN~~

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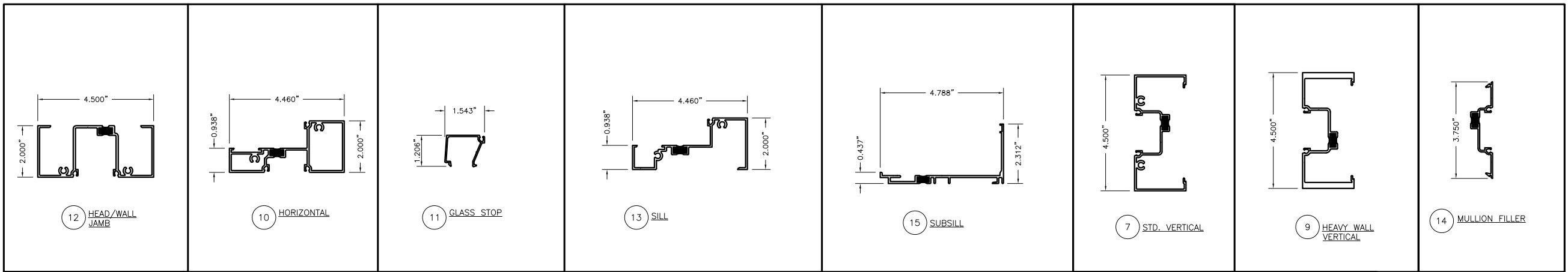
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FL300T AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS
STANDARD FRAMING DETAILS

DATE	2/27/2013		
DRAWN	CHECKED	APPROVED	
MJ	WS	WS	
PROJECT NO.	AAMA FL300T		
DRAWING NO.	FL300T-507		
SHEET	3 OF 5		

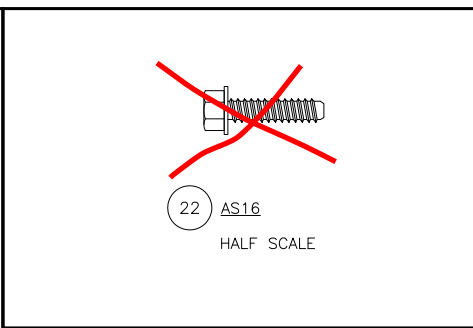
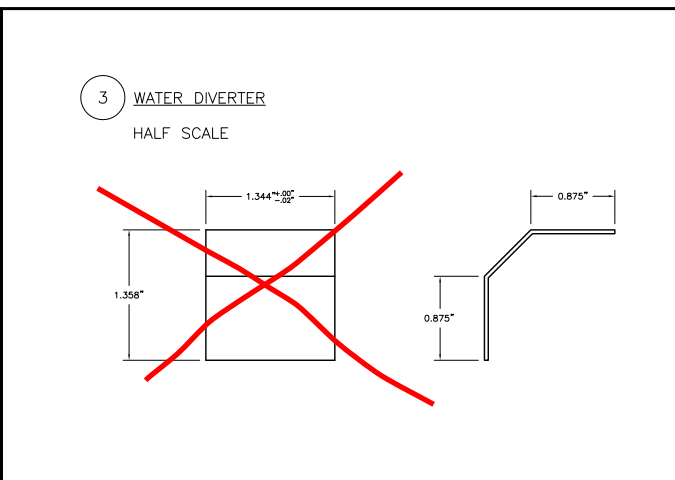
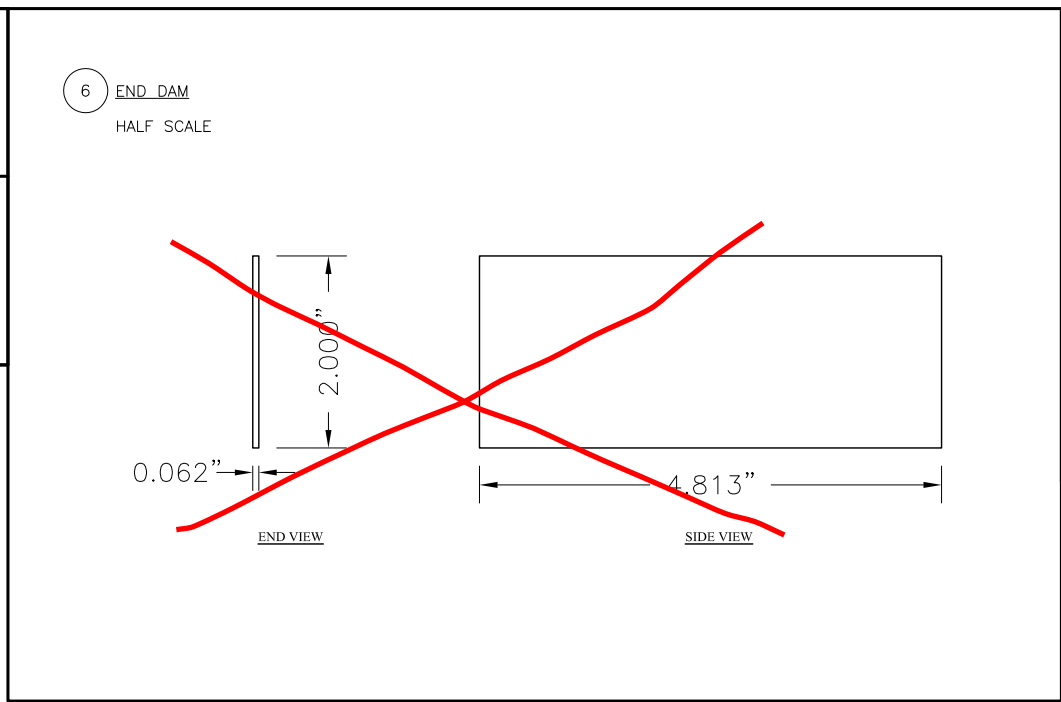
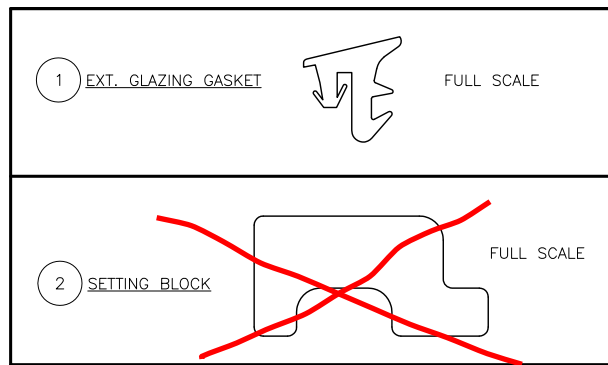


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ENGINEERING & CONSULTING, INC.

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Coral
Architectural Products
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PHONE: 800-772-7737 FAX: 800-443-6261

FL300T AAMA 507 THERMAL SIMULATION NFRC CMAST SUBMITTAL DRAWINGS
DIE DRAWING

DATE	2/27/2013		
DRAWN	CHECKED	APPROVED	
MJ	WS	WS	
PROJECT NO.	AAMA FL300T		
DRAWING NO.	FL300T-507		
SHEET	5 OF 5		