



Project Summary
Entire House
Gazebo Heating & Cooling

Job: 2002-34-Qzl
 Date: June 15, 2002
 By: WAW

394 Main Street, Santa Fe, NM 99999-9999 Phone: 800-555-2121 Fax: 999-555-2121 Email: jsmith@gazebo.com Web: www.gazebohtg.dg.com

Project Information

For: Mr. and Mrs. Henry Wagner
 3 Mockingbird Way, Santa Fe, NM 99999-9999
 Phone: 555-111-1212

Notes: 3 bedrooms
 Radial duct system
 Heat pump
 Winter humidification

Design Information

Weather: Santa Fe CO, NM, US

Winter Design Conditions

Outside db 10 °F
 Inside db 70 °F
 Design TD 60 °F

Summer Design Conditions

Outside db 88 °F
 Inside db 75 °F
 Design TD 13 °F
 Daily range H
 Relative humidity 45 %
 Moisture difference -15 gr/lb

Heating Summary

Structure 20424 Btuh
 Ducts 14266 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Humidification 0 Btuh
 Piping 0 Btuh
 Equipment load 34690 Btuh

Sensible Cooling Equipment Load Sizing

Structure 10126 Btuh
 Ducts 11033 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.93
 Equipment sensible load 19678 Btuh

Infiltration

Method Simplified
 Construction quality Average
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure 417 Btuh
 Ducts 155 Btuh
 Central vent (0 cfm)
 (none) 0 Btuh
 Equipment latent load 572 Btuh

	Heating	Cooling
Area (ft ²)	1750	1750
Volume (ft ³)	14000	14000
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	89	47

Equipment Total Load (Sen+Lat) 20251 Btuh
 Req. total capacity at 0.70 SHR 2.3 ton

Heating Equipment Summary

Make
 Trade
 Model
 AHRI ref

Efficiency 80 AFUE
 Heating input 0 Btuh
 Heating output 0 Btuh
 Temperature rise 0 °F
 Actual air flow 988 cfm
 Air flow factor 0.028 cfm/Btuh
 Static pressure 0 in H2O
 Space thermostat

Cooling Equipment Summary

Make
 Trade
 Cond
 Coil
 AHRI ref
 Efficiency 0 SEER
 Sensible cooling 0 Btuh
 Latent cooling 0 Btuh
 Total cooling 0 Btuh
 Actual air flow 988 cfm
 Air flow factor 0.047 cfm/Btuh
 Static pressure 0 in H2O
 Load sensible heat ratio 0.97

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



Project Information

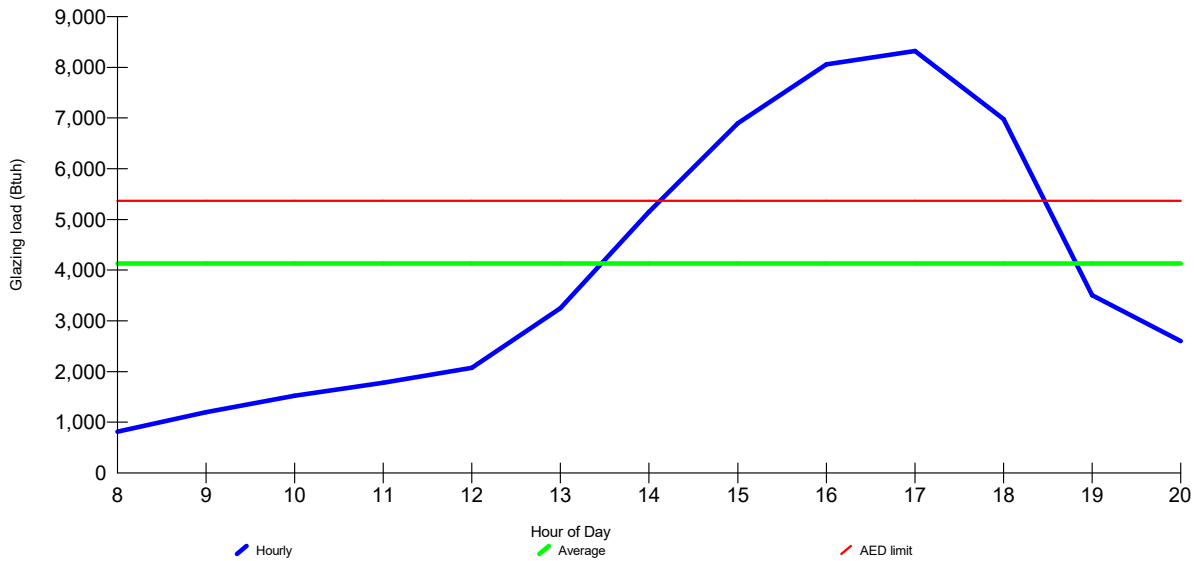
For: Mr. and Mrs. Henry Wagner
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Design Conditions

Location:		Indoor:	Heating	Cooling
Santa Fe CO, NM, US		Indoor temperature (°F)	70	75
Elevation: 6345 ft		Design TD (°F)	60	13
Latitude: 36°N		Relative humidity (%)	20	45
		Moisture difference (gr/lb)	18.2	-15.3
Outdoor:	Heating	Cooling		
Dry bulb (°F)	10	88		
Daily range (°F)	-	28 (H)		
Wet bulb (°F)	-	61		
Wind speed (mph)	15.0	7.5		
		Infiltration:		

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 101.6%.

House does not have adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 2954 Btuh (PGF - 1.3*AFG)

Right-J® Worksheet
Entire House
Gazebo Heating & Cooling

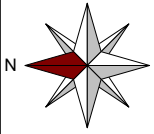
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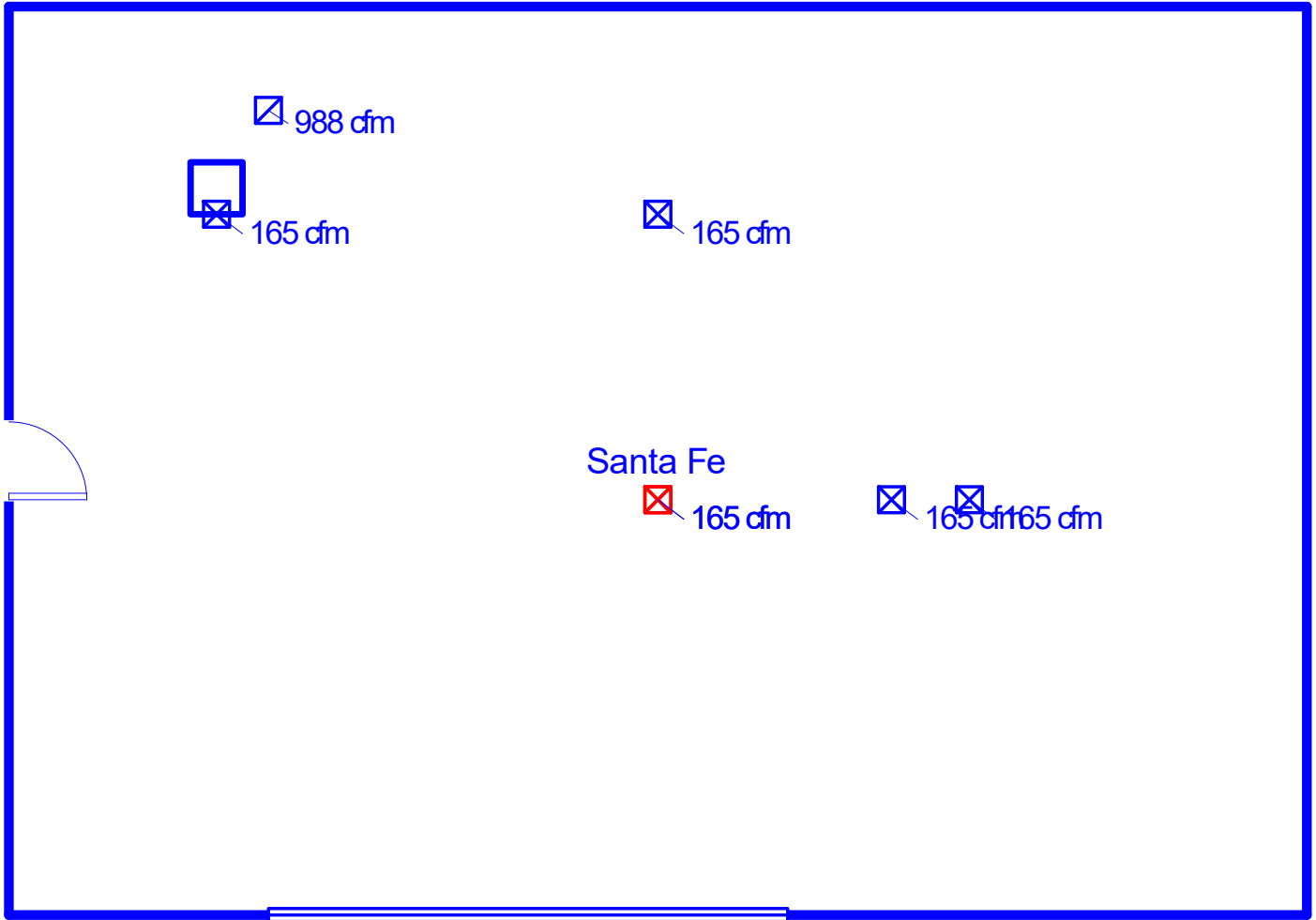
1 Room name				Entire House				Santa Fe						
2 Exposed wall				170.0 ft				170.0 ft						
3 Room height				8.0 ft				8.0 ft						
4 Room dimensions				1750.0 ft²				50.0 x 35.0 ft						
5 Room area				1750.0 ft²				1750.0 ft²						
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area (ft²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12C-2bw	0.081	n	4.86	0.44	280	259	1259	113	280	259	1259	113
	L	11G0	0.540	n	32.40	11.07	21	21	680	232	21	21	680	232
	W	12C-2bw	0.081	e	4.86	0.44	400	400	1944	175	400	400	1944	175
	W	12C-2bw	0.081	s	4.86	0.44	280	280	1361	122	280	280	1361	122
11	W	12C-2bw	0.081	w	4.86	0.44	400	320	1555	140	400	320	1555	140
	L	1E-c2fw	0.560	w	33.60	15.95	80	0	2688	1276	80	0	2688	1276
	C	16B-30ad	0.032	-	1.92	1.41	1750	1750	3360	2464	1750	1750	3360	2464
	F	22B-5tpl	0.289	-	17.34	0.00	1750	170	2948	0	1750	170	2948	0
6	c) AED excursion									2954				2954
	Envelope loss/gain								15795	7478			15795	7478
12	a) Infiltration								4629	528			4629	528
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			4			920	4			920
			Appliances/other							1200				1200
	Subtotal (lines 6 to 13)								20424	10126			20424	10126
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								20424	10126			20424	10126
15	Duct loads						70%	109%	14266	11033	70%	109%	14266	11033
	Total room load								34690	21159			34690	21159
	Air required (cfm)								988	988			988	988

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





Sheet 1



Job #: 2002-34-Qz1
Performed by WAW for:
Mr. and Mrs. Henry Wagner
3 Mockingbird Way
Santa Fe, NM99999-9999
Phone: 555-111-1212

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Duct System Summary

Entire House

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	Heating	Cooling
External static pressure	0 in H2O	0 in H2O
Pressure losses	0 in H2O	0 in H2O
Available static pressure	0 in H2O	0 in H2O
Supply / return available pressure	0.000 / 0.000 in H2O	0.000 / 0.000 in H2O
Lowest friction rate	0 in/100ft	0 in/100ft
Actual air flow	988 cfm	988 cfm
Total effective length (TEL)		0 ft

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Santa Fe	c 3529	165	165	0	0	0x0	ShMt	0	0	
Santa Fe-A	c 3527	165	165	0	0	0x0	ShMt	0	0	
Santa Fe-B	c 3527	165	165	0	0	0x0	ShMt	0	0	
Santa Fe-C	c 3527	165	165	0	0	0x0	ShMt	0	0	
Santa Fe-D	c 3527	165	165	0	0	0x0	ShMt	0	0	
Santa Fe-E	c 3527	165	165	0	0	0x0	ShMt	0	0	

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	988	988	0	0	0	0	0x 0		ShMt	