



Load Short Form
Entire House
High Country Heating

Job: Park Place
 Date: 12/18/18
 By: Vince Byram

P.O. Box 627, Rigby, Idaho 83442 Phone: 208-745-8056 Fax: 208-745-4329 Email: highcountryph@yahoo.com

Project Information

For: Vantage Pointe Homes

Design Information

	Htg	Clg		Infiltration	
Outside db (°F)	-6	89	Method		Simplified
Inside db (°F)	70	75	Construction quality		Semi-tight
Design TD (°F)	76	14	Fireplaces		0
Daily range	-	H			
Inside humidity (%)	50	50			
Moisture difference (gr/lb)	62	-31			

HEATING EQUIPMENT

Make	Goodman Mfg.
Trade	GOODMAN
Model	GMSS960603BN
AHRI ref	7365096
Efficiency	96.1 AFUE
Heating input	60000 Btuh
Heating output	58000 Btuh
Temperature rise	66 °F
Actual air flow	950 cfm
Air flow factor	0.038 cfm/Btuh
Static pressure	0.70 in H2O
Space thermostat	

COOLING EQUIPMENT

Make	Amana
Trade	AMANA DISTINCTIONS
Cond	GSX130181C*
Coil	CA*F1824
AHRI ref	3873380
Efficiency	11.6 EER, 14 SEER
Sensible cooling	12600 Btuh
Latent cooling	5400 Btuh
Total cooling	18000 Btuh
Actual air flow	1050 cfm
Air flow factor	0.138 cfm/Btuh
Static pressure	0.70 in H2O
Load sensible heat ratio	1.00

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Room1	90	1222	366	46	50
Room2	270	2797	546	105	75
Room3	47	487	88	18	12
Room4	146	2263	699	85	96
Room5	165	1813	908	68	125
Room6	101	1561	211	59	29
Room7	841	7728	3696	290	509
Room8	238	1567	122	59	17
Room9	65	267	0	10	0
Room10	252	1482	123	56	17
Room11	650	2717	596	102	82
Room13	196	1423	263	53	36
Room14	24	0	0	0	0

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



Entire House	d	3084	25326	7618	950	1050
Other equip loads			9691	815		
Equip. @ 0.94 RSM				7927		
Latent cooling				0		
TOTALS		3084	35018	7927	950	1050

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



Project Information

For: Vantage Pointe Homes

Design Conditions

Location:

Idaho Falls, ID, US
 Elevation: 4741 ft
 Latitude: 44°N

Outdoor:

Drybulb (°F)
 Daily range (°F)
 Wet bulb (°F)
 Wind speed (mph)

Heating

-6
 -
 -
 15.0

Cooling

89
 34 (H)
 60
 7.5

Indoor:

Indoor temperature (°F)
 Design TD (°F)
 Relative humidity (%)
 Moisture difference (gr/lb)

Heating

70
 76
 50
 61.5

Cooling

75
 14
 50
 -31.5

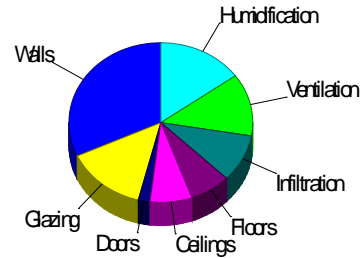
Infiltration:

Method
 Construction quality
 Fireplaces

Simplified
 Semi-tight
 0

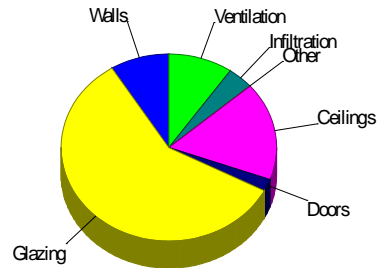
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.1	11155	31.9
Glazing	22.8	4970	14.2
Doors	11.4	718	2.1
Ceilings	1.5	2585	7.4
Floors	1.7	2534	7.2
Infiltration	1.9	3363	9.6
Ducts		0	0
Piping		0	0
Humidification		5266	15.0
Ventilation		4425	12.6
Adjustments		0	0
Total		35018	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.3	747	8.9
Glazing	22.6	4934	58.5
Doors	2.8	175	2.1
Ceilings	0.8	1428	16.9
Floors	0.0	7	0.1
Infiltration	0.2	326	3.9
Ducts		0	0
Ventilation		815	9.7
Internal gains		0	0
Blower		0	0
Adjustments		0	0
Total		8433	100.0



Latent Cooling Load = 0 Btuh
 Overall U-value = 0.047 Btuh/ft²-°F

Data entries checked.



Component Constructions
Entire House
High Country Heating

Job: Park Place
Date: 12/18/18
By: Vince Byram

P.O. Box 627, Rigby, Idaho 83442 Phone: 208-745-8056 Fax: 208-745-4329 Email: highcountryph@yahoo.com

Project Information

For: Vantage Pointe Homes

Design Conditions

Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N			Indoor: Indoor temperature (°F) Design TD (°F) Relative humidity (%) Moisture difference (gr/lb)	Heating 70 76 50 61.5	Cooling 75 14 50 -31.5
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating -6 - - 15.0	Cooling 89 34 (H) 60 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Semi-tight 0	

Construction descriptions

	Or	Area ft²	U-value Btuh/ft²-°F	Insul R ft²-°F/Btuh	Htg HTM Btuh/ft²	Loss Btuh	Clg HTM Btuh/ft²	Gain Btuh
Walls								
12E-0sw: Frm wall, vnl ext, 3/8" wood shth, r-19 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	16	0.068	19.0	5.17	83	0.64	10
	e	81	0.068	19.0	5.17	419	0.64	52
	s	16	0.068	19.0	5.17	83	0.64	10
	all	113	0.068	19.0	5.17	584	0.64	72
12F-0sw: Frm wall, vnl ext, 3/8" wood shth, r-21 cav ins, 1/2" gypsum board int fnsh, 2"x6" wood frm, 16" o.c. stud	n	377	0.065	21.0	4.94	1862	0.47	179
	e	257	0.065	21.0	4.94	1270	0.47	122
	s	432	0.065	21.0	4.94	2134	0.47	205
	w	356	0.065	21.0	4.94	1759	0.47	169
	all	1422	0.065	21.0	4.94	7025	0.47	675
15B19-0wc-8: Bg wall, heavy dry or light damp soil, 2"x4" wood int frm, concrete wall, r-19 cav ins, 8" thk, 1/2" gypsum board int fnsh	n	344	0.040	19.0	2.83	975	0	0
	e	244	0.040	19.0	2.86	698	0	0
	s	252	0.040	19.0	2.90	731	0	0
	w	376	0.040	19.0	3.04	1143	0	0
	all	1216	0.040	19.0	2.92	3547	0	0

Partitions
(none)

Windows

61C: 61C; 50% outdoor insect screen; 1.6 ft overhang (1 ft window ht, 2 ft sep.); 6.67 ft head ht	n	4	0.300	0	22.8	91	9.08	36
61C: 61C; 50% outdoor insect screen; 1.6 ft overhang (5 ft window ht, 2 ft sep.); 6.67 ft head ht	n	30	0.300	0	22.8	684	9.08	272
	e	15	0.300	0	22.8	342	29.9	448
	e	25	0.300	0	22.8	570	29.9	747
	w	45	0.300	0	22.8	1026	29.9	1345
	w	25	0.300	0	22.8	570	29.9	747
	all	140	0.300	0	22.8	3192	25.4	3560
61C: 61C; 50% outdoor insect screen; 1.6 ft overhang (4 ft window ht, 2 ft sep.); 6.67 ft head ht	n	32	0.300	0	22.8	730	9.25	296
	e	20	0.300	0	22.8	456	30.7	615
	s	16	0.300	0	22.8	365	14.3	229
	all	68	0.300	0	22.8	1550	16.8	1140
61C: 61C; 50% outdoor insect screen; 1.6 ft overhang (3 ft window ht, 2 ft sep.); 6.67 ft head ht	w	6	0.300	0	22.8	137	29.9	179



Doors

metal: Door, mtl pur core type	n	21	0.150	10.5	11.4	239	2.78	58
	e	42	0.150	10.5	11.4	479	2.78	117
	all	63	0.150	10.5	11.4	718	2.78	175

Ceilings

16B-38ad: Attic ceiling, asphalt shingles roof mat, r-38 ceil ins, 5/8" gypsum board int fnsh		24	0.026	38.0	1.98	47	1.09	26
Attic ceiling, asphalt shingles roof mat, r-50 ceil ins, 1/2" gypsum board int fnsh		11	0.020	60.0	1.52	16	0.84	9
Attic ceiling, asphalt shingles roof mat, r-60 ceil ins, 1/2" gypsum board int fnsh		1659	0.020	60.0	1.52	2521	0.84	1393

Floors

19A-30bscp: Part floor, carpet flr fnsh, r-30 ins, frm flr, 12" thkns, 3/4" wood int fnsh		18	0.034	30.0	2.17	40	0.40	7
21A-28c: Bg floor, heavy dry or light damp soil, 6.5' depth, carpet flr fnsh		1401	0.022	0	1.67	2342	0	0
		91	0.022	0	1.67	152	0	0
	all	1492	0.022	0	1.67	2495	0	0



Project Summary
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Project Information

For: Vantage Pointe Homes

Notes:

Design Information

Weather: Idaho Falls, ID, US

Winter Design Conditions

Outside db -6 °F
 Inside db 70 °F
 Design TD 76 °F

Summer Design Conditions

Outside db 89 °F
 Inside db 75 °F
 Design TD 14 °F
 Daily range H
 Relative humidity 50 %
 Moisture difference -31 gr/lb

Heating Summary

Structure 25326 Btuh
 Ducts 0 Btuh
 Central vent (63 cfm) 4425 Btuh
 Outside air
 Humidification 5266 Btuh
 Piping 0 Btuh
 Equipment load 35018 Btuh

Sensible Cooling Equipment Load Sizing

Structure 7618 Btuh
 Ducts 0 Btuh
 Central vent (63 cfm) 815 Btuh
 Outside air
 Blower 0 Btuh
 Use manufacturer's data n
 Rate/swing multiplier 0.94
 Equipment sensible load 7927 Btuh

Infiltration

Method Simplified
 Construction quality Semi-tight
 Fireplaces 0

Latent Cooling Equipment Load Sizing

Structure -453 Btuh
 Ducts 0 Btuh
 Central vent (63 cfm) -1133 Btuh
 Outside air
 Equipment latent load 0 Btuh

	Heating	Cooling
Area (ft ²)	3084	3084
Volume (ft ³)	15122	15122
Air changes/hour	0.19	0.10
Equiv. AVF (cfm)	48	25

Equipment Total Load (Sen+Lat) 7927 Btuh
 Req. total capacity at 0.70 SHR 0.9 ton

Heating Equipment Summary

Make Goodman Mfg.
 Trade GOODMAN
 Model GMSS960603BN
 AHRI ref 7365096

Efficiency 96.1 AFUE
 Heating input 60000 Btuh
 Heating output 58000 Btuh
 Temperature rise 66 °F
 Actual air flow 950 cfm
 Air flow factor 0.038 cfm/Btuh
 Static pressure 0.70 in H2O
 Space thermostat

Cooling Equipment Summary

Make Amana
 Trade AMANA DISTINCTIONS
 Cond GSX130181C*
 Coil CA*F1824
 AHRI ref 3873380

Efficiency 11.6 EER, 14 SEER
 Sensible cooling 12600 Btuh
 Latent cooling 5400 Btuh
 Total cooling 18000 Btuh
 Actual air flow 1050 cfm
 Air flow factor 0.138 cfm/Btuh
 Static pressure 0.70 in H2O
 Load sensible heat ratio 1.00

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



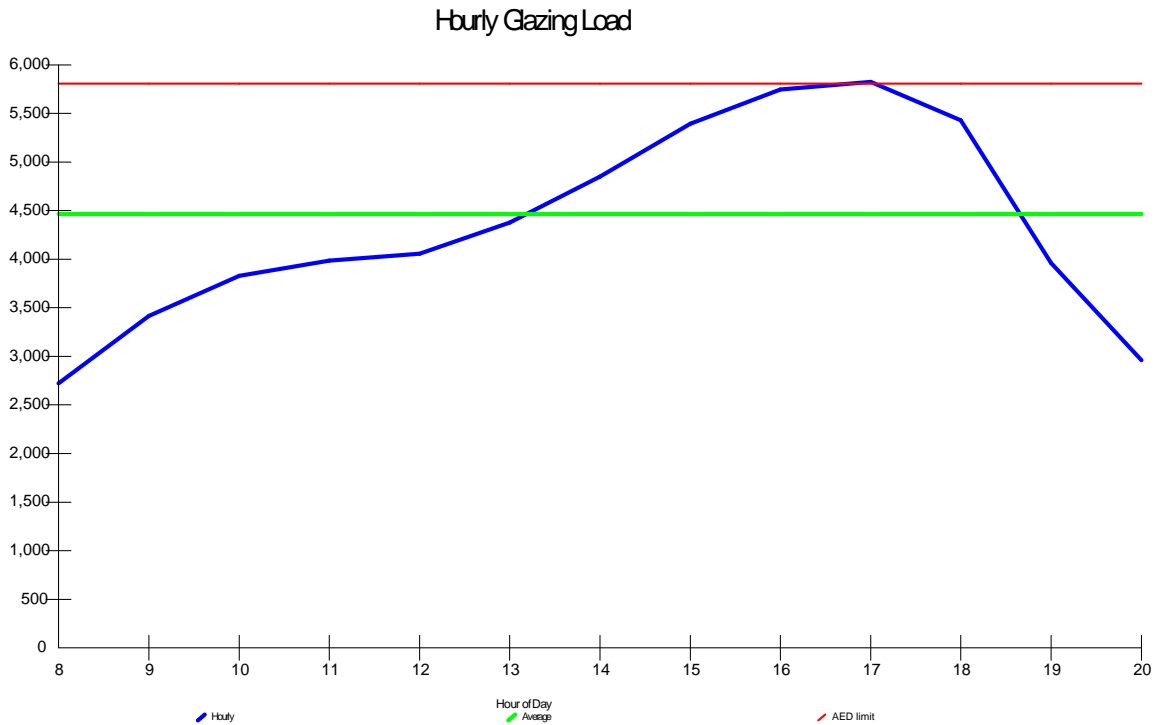
Project Information

For: Vantage Pointe Homes

Design Conditions

<p>Location: Idaho Falls, ID, US Elevation: 4741 ft Latitude: 44°N</p> <p>Outdoor:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 30%;">Dry bulb (°F)</td> <td style="width: 20%;">-6</td> <td style="width: 20%;">89</td> </tr> <tr> <td>Daily range (°F)</td> <td>-</td> <td>34 (H)</td> </tr> <tr> <td>Wet bulb (°F)</td> <td>-</td> <td>60</td> </tr> <tr> <td>Wind speed (mph)</td> <td>15.0</td> <td>7.5</td> </tr> </table>	Dry bulb (°F)	-6	89	Daily range (°F)	-	34 (H)	Wet bulb (°F)	-	60	Wind speed (mph)	15.0	7.5	<p>Indoor:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Indoor temperature (°F)</td> <td style="width: 20%;">70</td> <td style="width: 20%;">75</td> </tr> <tr> <td>Design TD (°F)</td> <td>76</td> <td>14</td> </tr> <tr> <td>Relative humidity (%)</td> <td>50</td> <td>50</td> </tr> <tr> <td>Moisture difference (gr/lb)</td> <td>61.5</td> <td>-31.5</td> </tr> </table> <p>Infiltration:</p>	Indoor temperature (°F)	70	75	Design TD (°F)	76	14	Relative humidity (%)	50	50	Moisture difference (gr/lb)	61.5	-31.5
Dry bulb (°F)	-6	89																							
Daily range (°F)	-	34 (H)																							
Wet bulb (°F)	-	60																							
Wind speed (mph)	15.0	7.5																							
Indoor temperature (°F)	70	75																							
Design TD (°F)	76	14																							
Relative humidity (%)	50	50																							
Moisture difference (gr/lb)	61.5	-31.5																							

Test for Adequate Exposure Diversity



Maximum hourly glazing load exceeds average by 30.4%.

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

AED excursion: 18 Btuh (PFG - 1.3*AFG)

P.O. Box 627, Rigby, Idaho 83442 Phone: 208-745-8056 Fax: 208-745-4329 Email: highcountryph@yahoo.com

		Entire House		Room1										
1	Room name	356.5 ft		15.5 ft										
2	Exposed wall	8.5 ft		9.0 ft										
3	Room height	d		heat/cool										
4	Room dimensions			9.5 x 9.5 ft										
5	Room area	3083.9 ft²		90.3 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	12E-0sw	0.068	n	5.17	0.64	16	16	83	10	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	432	377	1862	179	0	0	0	0
	G	61C	0.300	n	22.80	9.08	4	0	91	36	0	0	0	0
	G	61C	0.300	n	22.80	9.08	30	0	684	272	0	0	0	0
	D	metal	0.150	n	11.40	2.78	21	21	239	58	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	376	344	975	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	32	0	730	296	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	96	81	419	52	0	0	0	0
	G	61C	0.300	e	22.80	29.89	15	0	342	448	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	324	257	1270	122	0	0	0	0
	G	61C	0.300	e	22.80	29.89	25	0	570	747	0	0	0	0
	D	metal	0.150	e	11.40	2.78	42	42	479	117	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	264	244	698	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	20	0	456	615	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	16	16	83	10	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	432	432	2134	205	54	54	267	26
	W	15B19-0wc-8	0.069	s	2.90	0.00	268	252	731	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	16	5	365	229	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	432	356	1759	169	86	80	393	38
	G	61C	0.300	w	22.80	29.89	6	0	137	179	6	0	137	179
	G	61C	0.300	w	22.80	29.89	45	0	1026	1345	0	0	0	0
	G	61C	0.300	w	22.80	29.89	25	0	570	747	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	376	376	1143	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	24	24	47	26	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	11	11	16	9	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	1659	1659	2521	1393	90	90	137	76
	F	19A-30bscp	0.034	-	2.17	0.40	18	18	40	7	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	1401	1401	2342	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	91	91	152	0	12	12	20	0
6	c) AED excursion									18				21
	Envelope loss/gain								21963	7292			954	340
12	a) Infiltration								3363	326			268	26
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0	0			0	0
	Subtotal (lines 6 to 13)								25326	7618			1222	366
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								25326	7618			1222	366
15	Duct loads						0%	0%	0	0	-0%	0%	0	0
	Total room load								25326	7618			1222	366
	Air required (cfm)								950	1050			46	50

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

Right-J® Worksheet

Entire House

High Country Heating

Job: Park Place
 Date: 12/18/18
 By: Vince Byram

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1		Room name				Room2		Room3						
2		Exposed wall				29.5 ft		5.5 ft						
3		Room height				9.0 ft		9.0 ft						
4		Room dimensions				1.0 x 269.8 ft		8.5 x 5.5 ft						
5		Room area				269.8 ft ²		46.8 ft ²						
	Ty	Construction number	U-value (Btuh/ft ² -°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	216	186	919	88	50	46	225	22
	G	61C	0.300	n	22.80	9.08	0	0	0	0	4	0	91	36
	G	61C	0.300	n	22.80	9.08	30	0	684	272	0	0	0	0
	D	metal	0.150	n	11.40	2.78	0	0	0	0	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	D	metal	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	s	2.90	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	50	50	245	23	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	270	270	410	227	47	47	71	39
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	17	17	28	0	3	3	5	0
6	c) AED excursion													-18
	Envelope loss/gain								2286	496			392	79
12	a) Infiltration								511	50			95	9
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								2797	546			487	88
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2797	546			487	88
15	Duct loads								0	0			0	0
	Total room load								2797	546			487	88
	Air required (cfm)								105	75			18	12

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



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		Room4 12.5 ft 9.0 ft 1.0 x 145.6 ft 145.6 ft ²						Room5 18.0 ft 9.0 ft 1.0 x 164.6 ft 164.6 ft ²						
	Ty	Construction number	U-value (Btuh/ft ² -°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	113	113	556	53	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	D	metal	0.150	n	11.40	2.78	0	0	0	0	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	108	83	410	39
	G	61C	0.300	e	22.80	29.89	0	0	0	0	25	0	570	747
	D	metal	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	54	54	267	26
	W	15B19-0wc-8	0.069	s	2.90	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	146	146	221	122	165	165	250	138
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	6	6	10	0	3	3	5	0
6	c) AED excursion													
	Envelope loss/gain								788	142			1502	878
12	a) Infiltration								216	21			312	30
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								1004	163			1813	908
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								1259	536			0	0
14	Subtotal								2263	699			1813	908
15	Duct loads								-0%	0%			0	0
	Total room load								2263	699			1813	908
	Air required (cfm)								85	96			68	125

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		Room6 20.5 ft						Room7 78.5 ft						
		9.0 ft 15.5 x 6.5 ft heat/cool						9.0 ft 1.0 x 841.1 ft heat/cool						
		100.8 ft ²						841.1 ft ²						
	Ty	Construction number	U-value (Btuh/ft ² -°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	54	33	163	16
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
11	D	metal	0.150	n	11.40	2.78	0	0	0	0	21	21	239	58
	W	15B19-0wc-8	0.069	n	2.83	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	126	105	519	50	90	69	341	33
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	D	metal	0.150	e	11.40	2.78	21	21	239	58	21	21	239	58
	W	15B19-0wc-8	0.069	e	2.86	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	59	59	289	28	266	266	1312	126
	W	15B19-0wc-8	0.069	s	2.90	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	297	227	1121	108
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	45	0	1026	1345
	G	61C	0.300	w	22.80	29.89	0	0	0	0	25	0	570	747
	W	15B19-0wc-8	0.069	w	3.04	0.00	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	101	101	153	85	841	841	1279	707
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	3	3	5	0	47	47	78	0
6	c) AED excursion													367
	Envelope loss/gain								1206	176			6368	3564
12	a) Infiltration								355	34			1359	132
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								1561	211			7728	3696
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1561	211			7728	3696
15	Duct loads								-0%	0%			0	0
	Total room load								1561	211			7728	3696
	Air required (cfm)								59	29			290	509

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1		Room name				Room8				Room9				
2		Exposed wall				36.5 ft				6.5 ft				
3		Room height				8.0 ft				8.0 ft				
4		Room dimensions				14.0 x 17.0 ft				10.0 x 6.5 ft				
5		Room area				238.0 ft ²				65.0 ft ²				
	Ty	Construction number	U-value (Btuh/ft ² ·°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	D	metal	0.150	n	11.40	2.78	0	0	0	0	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	136	120	330	0	52	52	158	0
	G	61C	0.300	n	22.80	9.25	16	0	365	148	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	D	metal	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	s	2.90	0.00	44	44	134	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	112	112	340	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	238	238	398	0	65	65	109	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-26				0
	Envelope loss/gain								1567	122			267	0
12	a) Infiltration								0	0			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								1567	122			267	0
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1567	122			267	0
15	Duct loads								0	0	-0%	0%	0	0
	Total room load								1567	122			267	0
	Air required (cfm)								59	17			10	0

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						Room10 32.0 ft 8.0 ft 14.0 x 18.0 ft heat/cool 252.0 ft ²				Room11 52.0 ft 8.0 ft 1.0 x 650.0 ft heat/cool 650.0 ft ²				
	Ty	Construction number	U-value (Btuh/ft ² -°F)	Or	HTM (Btuh/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	D	metal	0.150	n	11.40	2.78	0	0	0	0	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	144	128	354	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	16	0	365	148	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	D	metal	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	112	112	340	0	152	132	357	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	20	0	456	615
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	s	2.90	0.00	0	0	0	0	112	112	340	0
	G	61C	0.300	s	22.80	14.34	0	0	0	0	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	0	0	0	0	152	152	462	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	1	1	2	1	9	9	14	8
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	252	252	421	0	650	650	1087	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-26
	Envelope loss/gain								1482	123			2717	596
12	a) Infiltration								0	0			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0		0	0			0	0
			Appliances/other						0				0	0
	Subtotal (lines 6 to 13)								1482	123			2717	596
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1482	123			2717	596
15	Duct loads								0	0			0	0
	Total room load								1482	123			2717	596
	Air required (cfm)								56	17			102	82

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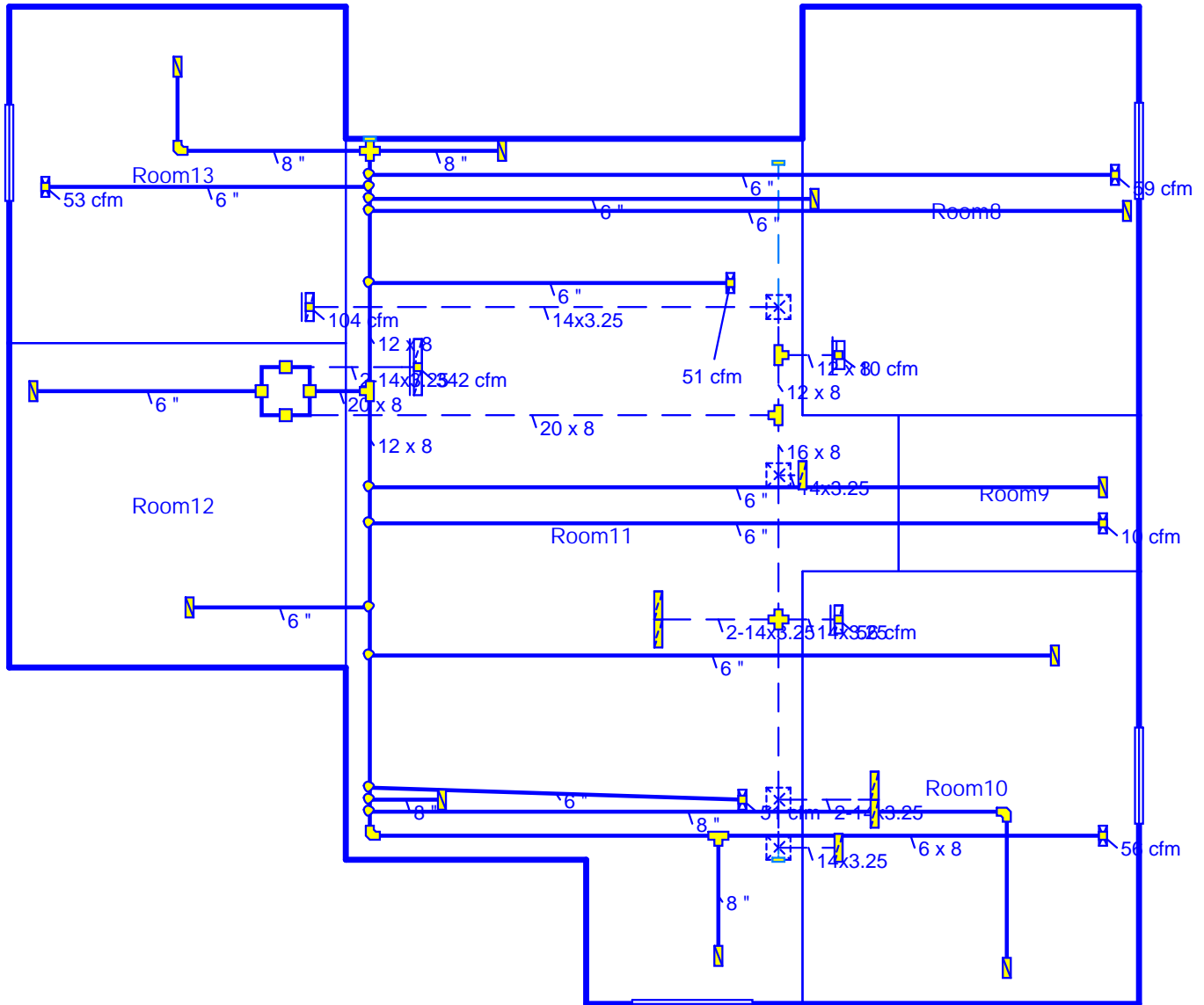
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						Room13 33.5 ft				Room14 16.0 ft				
						8.0 ft		heat/cool		8.0 ft		heat/cool		
						14.0 x 14.0 ft				12.0 x 2.0 ft				
						196.0 ft²				24.0 ft²				
	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (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	12E-0sw	0.068	n	5.17	0.64	0	0	0	0	16	16	83	10
	W	12F-0sw	0.065	n	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	G	61C	0.300	n	22.80	9.08	0	0	0	0	0	0	0	0
	D	metal	0.150	n	11.40	2.78	0	0	0	0	0	0	0	0
11	W	15B19-0wc-8	0.069	n	2.83	0.00	44	44	134	0	0	0	0	0
	G	61C	0.300	n	22.80	9.25	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	5.17	0.64	0	0	0	0	96	81	419	52
	G	61C	0.300	e	22.80	29.89	0	0	0	0	15	0	342	448
	W	12F-0sw	0.065	e	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	29.89	0	0	0	0	0	0	0	0
	D	metal	0.150	e	11.40	2.78	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	e	2.86	0.00	0	0	0	0	0	0	0	0
	G	61C	0.300	e	22.80	30.73	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	5.17	0.64	0	0	0	0	16	16	83	10
	W	12F-0sw	0.065	s	4.94	0.47	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	s	2.90	0.00	112	96	257	0	0	0	0	0
	G	61C	0.300	s	22.80	14.34	16	5	365	229	0	0	0	0
	W	12F-0sw	0.065	w	4.94	0.47	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	G	61C	0.300	w	22.80	29.89	0	0	0	0	0	0	0	0
	W	15B19-0wc-8	0.069	w	3.04	0.00	112	112	340	0	0	0	0	0
	C	16B-38ad	0.026	-	1.98	1.09	0	0	0	0	24	24	47	26
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	C	Attic ceiling, aspha	0.020	-	1.52	0.84	0	0	0	0	0	0	0	0
	F	19A-30bscp	0.034	-	2.17	0.40	0	0	0	0	18	18	40	7
	F	21A-28c	0.022	-	1.67	0.00	196	196	328	167	0	0	0	0
	F	21A-28c	0.022	-	1.67	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									33				-42
	Envelope loss/gain								1423	263			1013	513
12	a) Infiltration								0	0			246	24
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		0			0	0				0
			Appliances/other						0					0
	Subtotal (lines 6 to 13)								1423	263			1259	536
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			-1259	-536
14	Subtotal								1423	263			0	0
15	Duct loads								0	0			0	0
	Total room load								1423	263			0	0
	Air required (cfm)								53	36			0	0

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



Basement



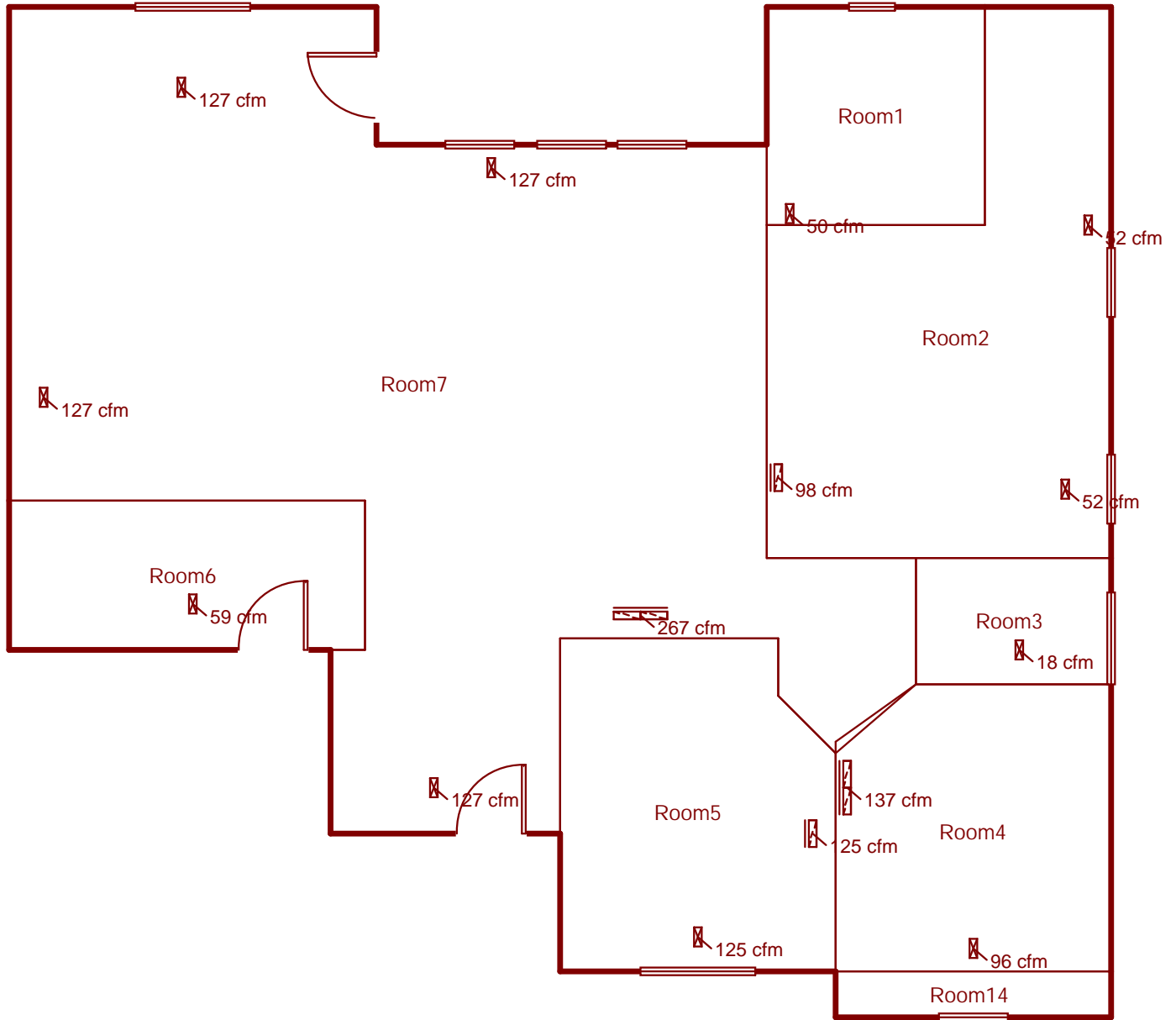
Job #: Park Place
Performed by Vince Byram for:
Vantage Pointe Homes

High Country Heating
P.O. Box 627
Rigby, Idaho 83442
Phone: 208-745-8056 Fax: 208-745-4329
highcountryph@yahoo.com

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Main



Job #: Park Place
Performed by Vince Byram for:
Vantage Pointe Homes

High Country Heating

P.O. Box 627
Rigby, Idaho 83442
Phone: 208-745-8056 Fax: 208-745-4329
highcountryph@yahoo.com

Scale: 1 : 84

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Duct System Summary

Entire House

High Country Heating

Job: Park Place
 Date: 12/18/18
 By: Vince Byram

P.O. Box 627, Rigby, Idaho 83442 Phone: 208-745-8056 Fax: 208-745-4329 Email: highcountryph@yahoo.com

Project Information

For: Vantage Pointe Homes

	Heating	Cooling
External static pressure	0.70 in H2O	0.70 in H2O
Pressure losses	0.34 in H2O	0.34 in H2O
Available static pressure	0.36 in H2O	0.36 in H2O
Supply / return available pressure	0.209 / 0.151 in H2O	0.209 / 0.151 in H2O
Lowest friction rate	0.055 in/100ft	0.055 in/100ft
Actual air flow	950 cfm	1050 cfm
Total effective length (TEL)	653 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
Room1	c 366	46	50	0.059	6.0	0x0	ShMt	29.0	325.0	st5
Room10	h 1482	56	17	0.061	5.2	8x6	ShMt	51.5	290.0	st4
Room11	h 1358	51	41	0.058	6.0	0x0	ShMt	22.0	340.0	st5
Room11-A	h 1358	51	41	0.058	6.0	0x0	ShMt	34.5	325.0	st4
Room13	h 1423	53	36	0.061	6.0	0x0	ShMt	24.5	315.0	st5
Room2	h 1398	52	38	0.055	6.0	0x0	ShMt	37.0	340.0	st4
Room2-A	h 1398	52	38	0.056	6.0	0x0	ShMt	41.5	330.0	st5
Room3	h 487	18	12	0.056	6.0	0x0	ShMt	42.0	330.0	st4
Room4	c 699	85	96	0.055	8.0	0x0	ShMt	53.0	325.0	st4
Room5	c 908	68	125	0.063	8.0	0x0	ShMt	40.5	290.0	st4
Room6	h 1561	59	29	0.058	6.0	0x0	ShMt	19.0	340.0	st4
Room7	c 924	72	127	0.067	8.0	0x0	ShMt	18.0	295.0	st5
Room7-A	c 924	72	127	0.062	8.0	0x0	ShMt	22.5	315.0	st4
Room7-B	c 924	72	127	0.062	8.0	0x0	ShMt	24.0	315.0	st5
Room7-C	c 924	72	127	0.168	6.0	0x0	ShMt	9.5	115.0	
Room8	h 1567	59	17	0.060	6.0	0x0	ShMt	42.5	305.0	st5
Room9	h 267	10	0	0.055	6.0	0x0	ShMt	38.5	340.0	st4

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st5	Peak AVF	406	437	0.056	655	11.3	8 x 12	ShtMetl	st1
st4	Peak AVF	471	486	0.055	729	11.9	8 x 12	ShtMetl	st1
st1	Peak AVF	878	923	0.055	830	15.1	8 x 20	ShtMetl	

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
rb6	0x0	137	134	225.5	0.067	217	7.1	2-3.25x14	2-10x18	SJSp	rt2
rb7	0x0	68	125	226.0	0.067	396	6.9	3.25x14	10x9	SJSp	rt2
rb8	0x0	163	267	199.0	0.076	422	8.9	2-3.25x14	2-10x18	SJSp	rt2
rb1	0x0	98	88	189.0	0.080	311	6.1	3.25x14	10x9	SJSp	rt2
rb4	0x0	56	17	196.5	0.077	176	4.9	3.25x14	10x9	SJSp	rt2
rb3	0x0	10	0	245.5	0.062	15	2.7	8x 12		ShMt	rt3
rb5	0x0	104	77	274.5	0.055	330	6.7	3.25x14	10x9	SJSp	rt3
rb2	0x0	313	342	75.5	0.200	541	8.0	2-3.25x14	2-10x18	SJSp	

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt2	Peak AVF	522	631	0.067	710	12.6	8 x 16	ShtMetl	rt1
rt3	Peak AVF	114	77	0.055	172	6.9	8 x 12	ShtMetl	rt1
rt1	Peak AVF	637	708	0.055	637	13.6	8 x 20	ShtMetl	