Building Analysis
Entire House
Energy Vanguard

Job: JS Matt Potter
Date: Jun 10, 2022
By: Jeffrey Sauls
Plan: 22063 Rev0

533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

Project Information

For: Matt Potter
3325 Corner Canyon Rd, Erda, UT 84074
Phone: 218-590-5711

Design Conditions

Location:
Salt Lake City Intl, UT, US
Elevation: 4225 ft
Latitude: 41°N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	14	95
Daily range (°F)	-	25 (M)
Wet bulb (°F)	-	62
Wind speed (mph)	15.0	7.5

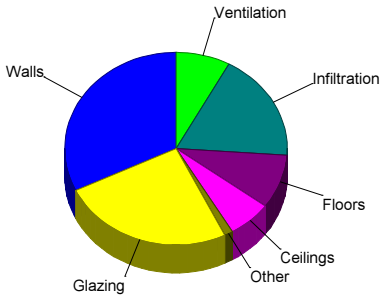
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	70	75
Design TD (°F)	56	20
Relative humidity (%)	50	50
Moisture difference (gr/lb)	53.4	-32.3

Infiltration:

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 2.0 / 1089 cfm

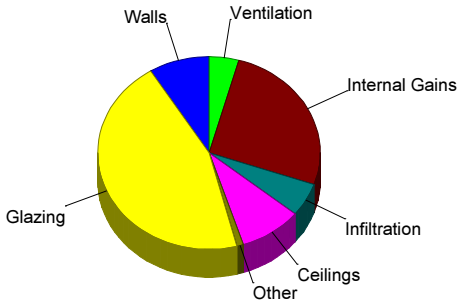
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	2.8	9748	32.1
Glazing	14.6	7603	25.1
Doors	9.5	380	1.3
Ceilings	0.9	1930	6.4
Floors	1.4	2759	9.1
Infiltration	2.0	5508	18.2
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		2395	7.9
Adjustments		0	
Total		**30323**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	0.5	1766	8.8
Glazing	17.4	9102	45.3
Doors	5.0	200	1.0
Ceilings	0.9	1829	9.1
Floors	0	0	0
Infiltration	0.4	1114	5.5
Ducts		0	0
Ventilation		879	4.4
Internal gains		5220	26.0
Blower		0	0
Adjustments		0	
Total		**20110**	**100.0**



Latent Cooling Load = 0 Btuh
Overall U-value = 0.045 Btuh/ft²-°F

ERROR: negative wall area in 0 Game - check windows.

Load Short Form
Entire House
Energy Vanguard

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Phone: 218-590-5711

Design Information

	Htg	Clg
Outside db (°F)	14	95
Inside db (°F)	70	75
Design TD (°F)	56	20
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	53	-32

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 2.0 / 1089 cfm

HEATING EQUIPMENT

Make	n/a		
Trade	n/a		
Model	n/a		
AHRI ref	n/a		
Efficiency		n/a	
Heating input			
Heating output		0	Btuh
Temperature rise		0	°F
Actual air flow		0	cfm
Air flow factor		0	cfm/Btuh
Static pressure		0	in H2O
Space thermostat		n/a	

COOLING EQUIPMENT

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

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
0AH1 Lower	2044	15757	7857	587	587
1AH1 Main	2044	12171	11374	587	587
Entire House	4087	27928	19231	1173	1173
Other equip loads		2395	879		
Equip. @ 1.00 RSM			20190		
Latent cooling			0		
TOTALS	4087	30323	20190	1173	1173

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

Right-J® Worksheet
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533 W. Howard Ave., Suite E, Decatur, GA 30030 Phone: (404) 267-1839 Email: hvac@energyvanguard.com Web: www.energyvanguard.com

		Entire House	0AH1 Lower
1	Room name	Entire House	0AH1 Lower
2	Exposed wall	407.0 ft	203.5 ft
3	Room height	10.0 ft	10.5 ft
4	Room dimensions		
5	Room area	4087.1 ft²	2043.6 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Entire House Area (ft²) or perimeter (ft) Gross	Entire House N/P/S	Entire House Load (Btuh) Heat	Entire House Load (Btuh) Cool	0AH1 Lower Area (ft²) or perimeter (ft) Gross	0AH1 Lower N/P/S	0AH1 Lower Load (Btuh) Heat	0AH1 Lower Load (Btuh) Cool
6	W	15B15-0wc-10	0.088	n	2.18	0.00	165	145	317	0	165	145	317	0
.	G	U26 S25	0.260	n	14.46	9.10	10	0	145	91	10	0	145	91
.	G	U26 S29	0.260	n	14.46	9.79	10	0	145	98	10	0	145	98
.	W	15B15-0wc-2	0.088	n	4.71	1.00	168	168	791	169	168	168	791	169
11	W	15B15-0wc-4	0.088	n	4.34	0.79	175	155	671	123	175	155	671	123
	G	U26 S25	0.260	n	14.46	9.10	10	0	145	91	10	0	145	91
	G	U26 S29	0.260	n	14.46	9.79	10	0	145	98	10	0	145	98
	W	15B15-0wc-8	0.088	n	3.16	0.28	42	42	133	12	42	42	133	12
	W	R40 double 2x4 12in	0.021	n	1.17	0.32	432	402	469	130	0	0	0	0
	G	U26 S25	0.260	n	14.46	9.10	30	0	434	273	0	0	0	0
	W	15B15-0wc-10	0.088	e	2.51	0.06	18	18	46	1	18	18	46	1
	W	15B15-0wc-4	0.088	e	4.40	0.84	173	173	762	145	173	173	762	145
	W	15B15-0wc-8	0.088	e	3.16	0.28	205	205	646	57	205	205	646	57
	W	R40 double 2x4 12in	0.021	e	1.17	0.32	528	405	472	131	0	0	0	0
	G	U25 S13	0.250	e	13.90	4.79	20	20	279	96	0	0	0	0
	G	U26 S25	0.260	e	14.46	25.96	52	0	752	1350	0	0	0	0
	G	U26 S25	0.260	e	14.46	13.91	20	14	289	278	0	0	0	0
	G	U26 S29	0.260	e	14.46	29.35	21	0	304	616	0	0	0	0
	G	U27 S32	0.270	e	15.01	32.08	10	0	150	321	0	0	0	0
	W	15B15-0wc-2	0.088	s	4.63	0.93	147	102	472	95	147	102	472	95
	G	U26 S25	0.260	s	14.46	9.10	30	30	434	273	30	30	434	273
	G	U26 S29	0.260	s	14.46	9.79	15	15	217	147	15	15	217	147
	W	15B15-0wc-8	0.088	s	3.16	0.28	291	291	920	81	291	291	920	81
	W	R40 double 2x4 12in	0.021	s	1.17	0.32	196	151	176	49	0	0	0	0
	G	U26 S25	0.260	s	14.46	9.10	15	15	217	137	0	0	0	0
	G	U26 S29	0.260	s	14.46	9.79	30	30	434	294	0	0	0	0
	W	15B15-0wc-10	0.088	w	2.51	0.06	18	18	46	1	18	18	46	1
	W	15B15-0wc-2	0.088	w	4.68	0.98	533	463	2168	453	533	463	2168	453
	G	U26 S25	0.260	w	14.46	25.96	10	0	145	260	10	0	145	260
	G	U26 S25	0.260	w	14.46	9.10	25	25	361	228	25	25	361	228
	G	U26 S29	0.260	w	14.46	9.79	25	25	361	245	25	25	361	245
	G	U26 S29	0.260	w	14.46	29.35	10	0	145	294	10	0	145	294
	W	15B15-0wc-8	0.088	w	7.00	0.00	17	-14	-95	0	17	-14	-95	0
	G	U26 S25	0.260	w	14.46	9.10	10	10	145	91	10	10	145	91
	G	U27 S18	0.270	w	15.01	5.65	20	20	302	114	20	20	302	114
	W	R40 double 2x4 12in	0.021	w	1.17	0.32	526	387	451	125	0	0	0	0
	G	U26 S25	0.260	w	14.46	25.96	10	0	145	260	0	0	0	0
	G	U26 S25	0.260	w	14.46	9.10	15	15	217	137	0	0	0	0
	G	U26 S29	0.260	w	14.46	9.79	30	30	434	294	0	0	0	0
	G	U27 S18	0.270	w	15.01	5.65	20	20	302	114	0	0	0	0
	G	U27 S32	0.270	w	15.01	32.08	8	0	120	257	0	0	0	0
	G	U27 S32	0.270	w	15.01	10.50	56	56	841	588	0	0	0	0
	P	15B15-0wc-8	0.088	-	4.89	0.72	234	214	1045	154	234	214	1045	154
	D	Door U17	0.170	n	9.45	4.96	20	20	190	100	20	20	190	100
	P	R40 double 2x4 12in	0.022	-	1.20	0.19	236	216	259	42	0	0	0	0
	D	Door U17	0.170	n	9.45	4.96	20	20	190	100	0	0	0	0
	C	R-60 Vent Attic Shin	0.017	-	0.94	0.89	2063	2063	1930	1829	0	0	0	0
	F	21B-32w	0.014	-	0.78	0.00	751	751	585	0	751	751	585	0
	F	22D-15wpm	0.298	-	16.57	0.00	1293	131	2175	0	1293	131	2175	0

6	c) AED excursion									2061				1465
	Envelope loss/gain								22420	12897			13558	4883
12	a) Infiltration								5508	1114			2199	445
	b) Room ventilation								0	0			0	0
13	Internal gains:	Occupants @	230				4			920	1			230
		Appliances/other								4300				2300
	Subtotal (lines 6 to 13)								27928	19231			15757	7857
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								27928	19231			15757	7857
15	Duct loads						0%	0%	0	0	0%	0%	0	0
	Total room load								27928	19231			15757	7857
	Air required (cfm)								1173	1173			587	587

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

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1	Room name	1AH1 Main
2	Exposed wall	203.5 ft
3	Room height	9.5 ft
4	Room dimensions	
5	Room area	2043.6 ft²

	Ty	Construction number	U-value (Btuh/ft²-°F)	Or	HTM (Btuh/ft²) Heat	HTM (Btuh/ft²) Cool	Area (ft²) or perimeter (ft) Gross	N/P/S	Load (Btuh) Heat	Load (Btuh) Cool	Area or perimeter Gross	N/P/S	Load Heat	Load Cool
6	W	15B15-0wc-10	0.088	n	2.18	0.00	0	0	0	0				
.	├──G	U26 S25	0.260	n	14.46	9.10	0	0	0	0				
.	└──G	U26 S29	0.260	n	14.46	9.79	0	0	0	0				
.	W	15B15-0wc-2	0.088	n	4.71	1.00	0	0	0	0				
11	W	15B15-0wc-4	0.088	n	4.34	0.79	0	0	0	0				
	├──G	U26 S25	0.260	n	14.46	9.10	0	0	0	0				
	└──G	U26 S29	0.260	n	14.46	9.79	0	0	0	0				
	W	15B15-0wc-8	0.088	n	3.16	0.28	0	0	0	0				
	W	R40 double 2x4 12in	0.021	n	1.17	0.32	432	402	469	130				
	└──G	U26 S25	0.260	n	14.46	9.10	30	0	434	273				
	W	15B15-0wc-10	0.088	e	2.51	0.06	0	0	0	0				
	W	15B15-0wc-4	0.088	e	4.40	0.84	0	0	0	0				
	W	15B15-0wc-8	0.088	e	3.16	0.28	0	0	0	0				
	W	R40 double 2x4 12in	0.021	e	1.17	0.32	528	405	472	131				
	├──G	U25 S13	0.250	e	13.90	4.79	20	20	279	96				
	├──G	U26 S25	0.260	e	14.46	25.96	52	0	752	1350				
	├──G	U26 S25	0.260	e	14.46	13.91	20	14	289	278				
	├──G	U26 S29	0.260	e	14.46	29.35	21	0	304	616				
	└──G	U27 S32	0.270	e	15.01	32.08	10	0	150	321				
	W	15B15-0wc-2	0.088	s	4.63	0.93	0	0	0	0				
	├──G	U26 S25	0.260	s	14.46	9.10	0	0	0	0				
	└──G	U26 S29	0.260	s	14.46	9.79	0	0	0	0				
	W	15B15-0wc-8	0.088	s	3.16	0.28	0	0	0	0				
	W	R40 double 2x4 12in	0.021	s	1.17	0.32	196	151	176	49				
	├──G	U26 S25	0.260	s	14.46	9.10	15	15	217	137				
	└──G	U26 S29	0.260	s	14.46	9.79	30	30	434	294				
	W	15B15-0wc-10	0.088	w	2.51	0.06	0	0	0	0				
	W	15B15-0wc-2	0.088	w	4.68	0.98	0	0	0	0				
	├──G	U26 S25	0.260	w	14.46	25.96	0	0	0	0				
	├──G	U26 S25	0.260	w	14.46	9.10	0	0	0	0				
	├──G	U26 S29	0.260	w	14.46	9.79	0	0	0	0				
	└──G	U26 S29	0.260	w	14.46	29.35	0	0	0	0				
	W	15B15-0wc-8	0.088	w	7.00	0.00	0	0	0	0				
	├──G	U26 S25	0.260	w	14.46	9.10	0	0	0	0				
	└──G	U27 S18	0.270	w	15.01	5.65	0	0	0	0				
	W	R40 double 2x4 12in	0.021	w	1.17	0.32	526	387	451	125				
	├──G	U26 S25	0.260	w	14.46	25.96	10	0	145	260				
	├──G	U26 S25	0.260	w	14.46	9.10	15	15	217	137				
	├──G	U26 S29	0.260	w	14.46	9.79	30	30	434	294				
	├──G	U27 S18	0.270	w	15.01	5.65	20	20	302	114				
	├──G	U27 S32	0.270	w	15.01	32.08	8	0	120	257				
	└──G	U27 S32	0.270	w	15.01	10.50	56	56	841	588				
	P	15B15-0wc-8	0.088	-	4.89	0.72	0	0	0	0				
	└──D	Door U17	0.170	n	9.45	4.96	0	0	0	0				
	P	R40 double 2x4 12in	0.022	-	1.20	0.19	236	216	259	42				
	└──D	Door U17	0.170	n	9.45	4.96	20	20	190	100				
	C	R-60 Vent Attic Shin	0.017	-	0.94	0.89	2063	2063	1930	1829				
	F	21B-32w	0.014	-	0.78	0.00	0	0	0	0				
	F	22D-15wpm	0.298	-	16.57	0.00	0	0	0	0				

6	c) AED excursion					596	
	Envelope loss/gain				8862	8014	
12	a) Infiltration				3309	670	
	b) Room ventilation				0	0	
13	Internal gains:	Occupants @ 230	3			690	
		Appliances/other				2000	
	Subtotal (lines 6 to 13)				12171	11374	
	Less external load				0	0	
	Less transfer				0	0	
	Redistribution				0	0	
14	Subtotal				12171	11374	
15	Duct loads		0%	0%	0	0	
	Total room load				12171	11374	
	Air required (cfm)				587	587	

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