

DEPARTMENT OF INSPECTIONS,
 LICENSES & PERMITS
 3430 COURT HOUSE DRIVE
 ELLICOTT CITY, MD 21043
 PERMITS (410) 313-2455
 INSPECTIONS (410) 313-1850

HOWARD COUNTY
 RESIDENTIAL
 HEATING-VENTILATION-AIR
 CONDITIONING AND
 REFRIGERATION PERMIT
 APPLICATION

HVACR PERMIT # M19000978
 BUILDING PERMIT #

BUILDING ADDRESS: SUITE/APT:
2850 Glenwood Springs Dr.
Glenwood, MD 21738
 SUBDIVISION:
 CENSUS TRACT: SECTION: AREA:
 LOT: TAX MAP: PARCEL:
 BLOCK: ZONE:
 PROPERTY ID: MAP COORDINATES:
04-346653
 TYPE OF IMPROVEMENTS: USE:

OWNERS NAME: Dennis + Margaret Smith
 ADDRESS: 2850 Glenwood Springs Dr.
 CITY: Glenwood
 STATE: Maryland ZIP CODE: 21738
 HOME PHONE: (443) 768-8800 WORK PHONE:

	<u>CHECK ONE</u>	<u>HOW MANY</u>	
SINGLE FAMILY DWELLING	<input checked="" type="checkbox"/>	<u>1</u>	ZONE
SINGLE FAMILY TOWNHOUSE	<input type="checkbox"/>	___	ZONES
MULTI-FAMILY / HOTEL/MOTEL	<input type="checkbox"/>	___	ROOMS
ASSISTED LIVING HOMES (16 OR FEWER RESIDENTS)	<input type="checkbox"/>	___	ROOMS

COMPANY NAME: Ground Loop Heating & Air Cond., Inc.
 LICENSEE NAME: Michael E. Cullum
 ADDRESS: 1701 Whiteford Road
 CITY: Darlington
 STATE: MD ZIP CODE: 21034
 PHONE: 410-836-1706 HVACR LICENSE NO: 6539

*We are using existing loops and adding (1) loop pump.

New

- Heating and Air Conditioning
- Heating System Only
- Other Work (Describe):
- Geo Thermal System
- Ductless Mini Splits
- Thru The Wall Systems

Replacement

- Heating
- Air Conditioning
- Heating and Air Conditioning

EQUIPMENT:
WATER FURNACE 2 TON
NDV026

Additions and Alterations

- Heating
- Air Conditioning
- Heating and Air Conditioning

Replacement Geo Thermal Systems are not required; However, if a tax credit is being sought a permit is required

Zones
 Permit Fee = # of Zones x \$40 = 40.00
 Technology Fee (10% of Permit Fee) = 4.00
 Plus Application Fee 50.00
 Total Fees Due = 94.00

Rooms
 Permit Fee = # of Rooms x \$80 = _____
 Technology Fee (10% of Permit Fee) = _____
 Plus Application Fee \$50 50.00
 Total Fees Due = _____

I HAVE CAREFULLY EXAMINED AND READ THIS APPLICATION AND KNOW IT IS TRUE AND CORRECT. THE WORK DESCRIBED HEREIN WILL BE PERFORMED BY A STATE HVACR LICENSED PERSON(S), AND ALL WORK WILL BE PERFORMED IN COMPLIANCE WITH APPLICABLE CODES AND STANDARDS OF HOWARD COUNTY THE STATE OF MARYLAND.

Michael Cullum 11-6-2019
 SIGNATURE OF LICENSEE DATE

MICHAEL CULLUM
 PRINT NAME OF LICENSEE

admin@groundloop.com
 Email Address

Make check payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

Word doc: T:\Updated Forms\hvac application
 Rev:10.2009

Validation
 Check Number: 25924
 Cash: _____
 Receipt Number: 598491

* interior work with *
 addition of loop pump
 NO WELL DRILLING

Approved Septic System Plan
 Howard County Health Department
 RECEIVED

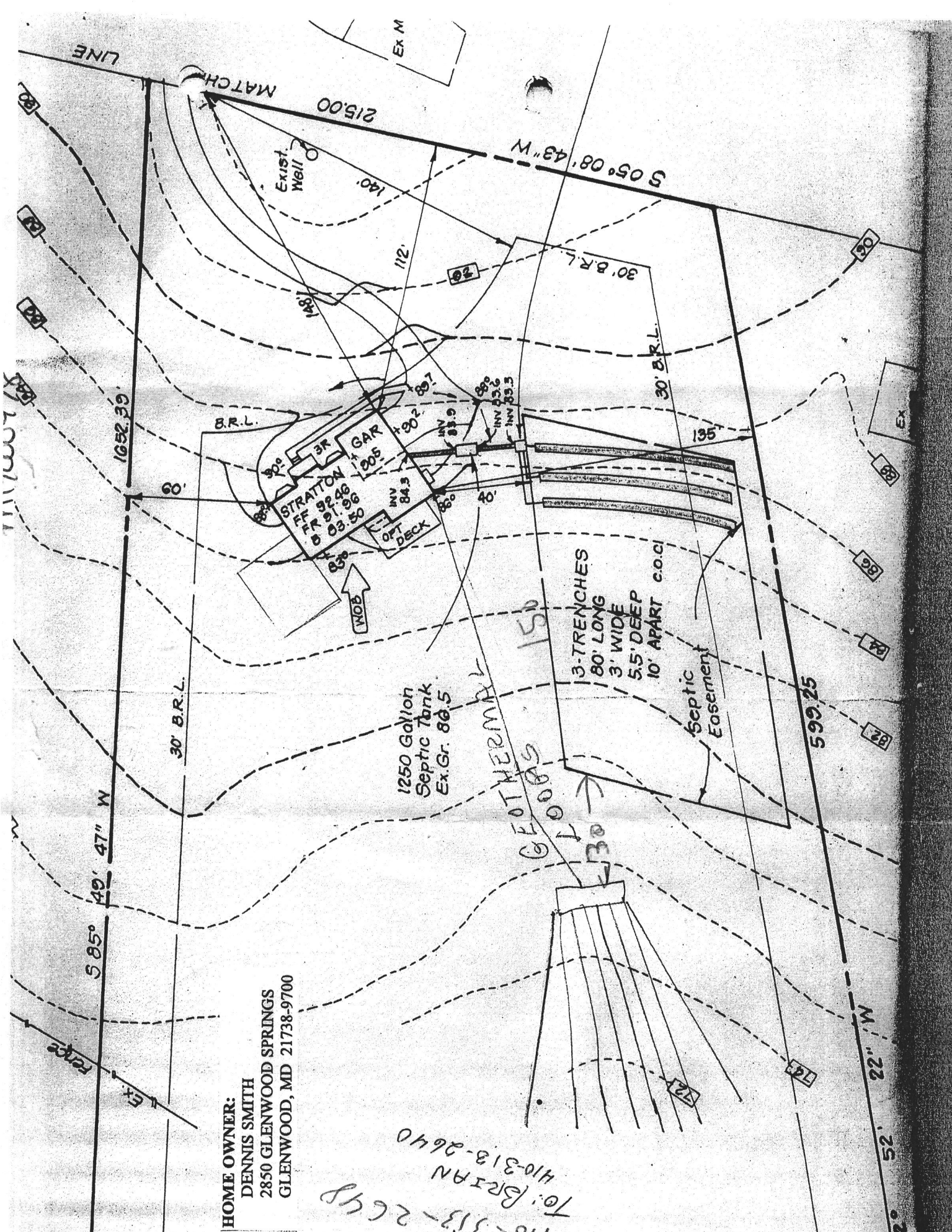
NOV 13 2019

LICENSES & PERMITS
 DIVISION

WELLS

m19000978

We installed the original system in 2010. Customer anticipated adding on to the system so we installed extra loop at that time. No additional loops will be drilled at this time - only adding a loop pump.



HOME OWNER:
 DENNIS SMITH
 2850 GLENWOOD SPRINGS
 GLENWOOD, MD 21738-9700

410-313-2648
 To: BRIAN
 410-313-2640

1250 Gallon
 Septic Tank
 Ex. Gr. 86.5

3 TRENCHES
 80' LONG
 3' WIDE
 5.5' DEEP
 10' APART c.o.c.

Septic
 Easement

GEOTHERMAL
 150
 6000

599.25

LINE

MATCH

215.00

S 05° 08' 43" W

1652.39

S 85° 49' 47" W

5 85°

30' B.R.L.

B.R.L.

30' B.R.L.

30' B.R.L.

599.25

S 22° W

52'

12°

112'

76'

148'

202'

80.7

83.9

84.3

86.0

88.0

89.6

91.3

93.0

94.7

96.4

98.1

99.8

101.5

103.2

104.9

106.6

108.3

110.0

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Load Short Form Entire House

M19000978

Job:
Date: May 15, 2014
By:

Project Information

For: Dennis Smith

Design Information

	Htg	Clg		Infiltration	
Outside db (°F)	12	94	Method		Simplified
Inside db (°F)	72	70	Construction quality		Average
Design TD (°F)	60	24	Fireplaces		
Daily range	-	M			0
Inside humidity (%)	30	50			
Moisture difference (gr/lb)	27	47			

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)
Upper Level (Rest of House)	1562	28530	20173	1022	1022
Master	4316	47629	26332	1605	1605
	1404	16668	7528	459	459
Entire House	7282	92827	54033	3085	3085
Other equip loads		0	0		
Equip. @ 1.00 RSM			54033		
Latent cooling			10863		
TOTALS	7282	92827	64896	3085	3085

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

Project Information

For: Dennis Smith

Design Conditions

Location:

Baltimore, MD, US
Elevation: 154 ft
Latitude: 39°N

Outdoor:

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

	Heating	Cooling
	12	94
	-	19 (M)
	-	75
	15.0	7.5

Indoor:

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

	Heating	Cooling
	72	70
	60	24
	30	50
	26.8	47.0

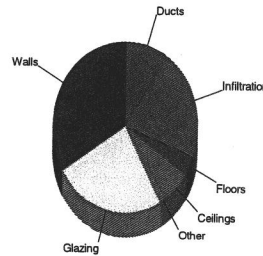
Infiltration:

Method
Construction quality
Fireplaces

Simplified
Average
0

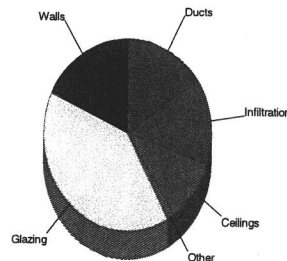
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	5.5	31115	33.5
Glazing	34.5	22918	24.7
Doors	23.3	1304	1.4
Ceilings	2.0	5805	6.3
Floors	1.2	3415	3.7
Infiltration	3.7	19442	20.9
Ducts		8828	9.5
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		92827	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.7	9889	18.3
Glazing	32.3	21448	39.7
Doors	13.9	781	1.4
Ceilings	2.0	5761	10.7
Floors	0	0	0
Infiltration	1.5	7685	14.2
Ducts		8468	15.7
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
Total		54033	100.0



Latent Cooling Load = 10863 Btuh
Overall U-value = 0.085 Btuh/ft²-°F

Data entries checked.



Component Constructions Entire House

Job:
Date: May 15, 2014
By:

Project Information

For: Dennis Smith

Design Conditions

Location:		Indoor:		Heating	Cooling
Baltimore, MD, US		Indoor temperature (°F)		72	70
Elevation:	154 ft	Design TD (°F)		60	24
Latitude:	39°N	Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		26.8	47.0
Dry bulb (°F)		Heating	Cooling		
Daily range (°F)		12	94		
Wet bulb (°F)		-	19 (M)		
Wind speed (mph)		15.0	7.5		
		Infiltration:		Simplified	
		Method		Average	
		Construction quality		0	
		Fireplaces			

Construction descriptions

	Or	Area ft²	U-value Btu/h/ft²·°F	Insul R ft²·°F/Btuh	Htg HTM Btu/h/ft²	Loss Btuh	Clg HTM Btu/h/ft²	Gain Btuh
Walls								
12B-0bw: Fm wall, brk 4" ext, 3/8" wood shth, r-11 cav ins, 1/2" gypsum board int fnsh, 2"x4" wood frm, 16" o.c. stud								
	n	847	0.097	11.0	5.79	4905	2.13	1803
	e	756	0.097	11.0	5.79	4378	2.13	1610
	s	940	0.097	11.0	5.79	5443	2.13	2001
	w	767	0.097	11.0	5.79	4442	2.13	1633
	all	3310	0.097	11.0	5.79	19168	2.13	7047
15A11-0ocw-4: Bg wall, heavy damp soil, empty core, 2"x4" wood int frm, concrete block wall, r-11 cav ins, 10" thk, 1/2" gypsum board int fnsh								
	n	597	0.064	0	4.90	2926	1.05	626
	e	522	0.064	0	5.11	2670	1.26	656
	s	720	0.064	0	5.11	3682	1.26	904
	w	522	0.064	0	5.11	2670	1.26	656
	all	2361	0.064	0	5.06	11948	1.20	2842
Partitions								
(none)								
Windows								
10B-c: 2 glazing, clr outr, air gas, clad wd frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht								
	n	35	0.600	0	35.8	1254	15.2	533
	n	222	0.570	0	34.0	7554	24.4	5406
	n	35	0.600	0	35.8	1254	15.2	533
	e	56	0.600	0	35.8	2006	35.7	2000
	e	38	0.570	0	34.0	1293	66.4	2523
	s	108	0.570	0	34.0	3675	35.9	3874
	w	35	0.600	0	35.8	1254	35.7	1250
	w	48	0.570	0	34.0	1633	66.4	3187
	all	577	0.570	0	34.5	19923	33.5	19305
1D-c2ow: 2 glazing, clr outr, air gas, wd frm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht								
	n	88	0.570	0	34.0	2995	24.4	2143
Doors								
11D0: Door, wd sc type								
	s	56	0.390	0	23.3	1304	13.9	781
Ceilings								
16B-28ad: Attic ceiling, asphalt shingles roof mat, r-28 ceil ins, 1/2" gypsum board int fnsh								
		2860	0.034	28.0	2.03	5805	2.01	5761

Floors

21A-32t: Bg floor, heavy damp soil, 4' depth

2860 0.020 0 1.19 3415 0 0



Project Information

For: Dennis Smith

Notes:

Design Information

Weather: Baltimore, MD, US

Winter Design Conditions

Outside db 12 °F
Inside db 72 °F
Design TD 60 °F

Summer Design Conditions

Outside db 94 °F
Inside db 70 °F
Design TD 24 °F
Daily range M
Relative humidity 50 %
Moisture difference 47 gr/lb

Heating Summary

Structure 83999 Btuh
Ducts 8828 Btuh
Central vent (0 cfm) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 92827 Btuh

Sensible Cooling Equipment Load Sizing

Structure 45565 Btuh
Ducts 8468 Btuh
Central vent (0 cfm) 0 Btuh
Blower 0 Btuh
Use manufacturer's data
Rate/swing multiplier 1.00^y
Equipment sensible load 54033 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft²)	7282	7282
Volume (ft³)	52536	52536
Air changes/hour	0.34	0.34
Equiv. AVF (cfm)	298	298

Latent Cooling Equipment Load Sizing

Structure 9467 Btuh
Ducts 1396 Btuh
Central vent (0 cfm) 0 Btuh
Equipment latent load 10863 Btuh
Equipment total load 64896 Btuh
Req. total capacity at 0.70 SHR 6.4 ton

Heating Equipment Summary

Make n/a
Trade n/a
Model n/a
AHRI ref n/a
Efficiency n/a
Heating input n/a
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 Summary

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

Bold/italic values have been manually overridden

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

Project Information

For: Dennis Smith

Design Conditions

Location:

Baltimore, MD, US
Elevation: 154 ft
Latitude: 39°N

Outdoor:

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

Heating

12
-
15.0

Cooling

94
19 (M)
75
7.5

Indoor:

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

Heating

72
60
30
26.8

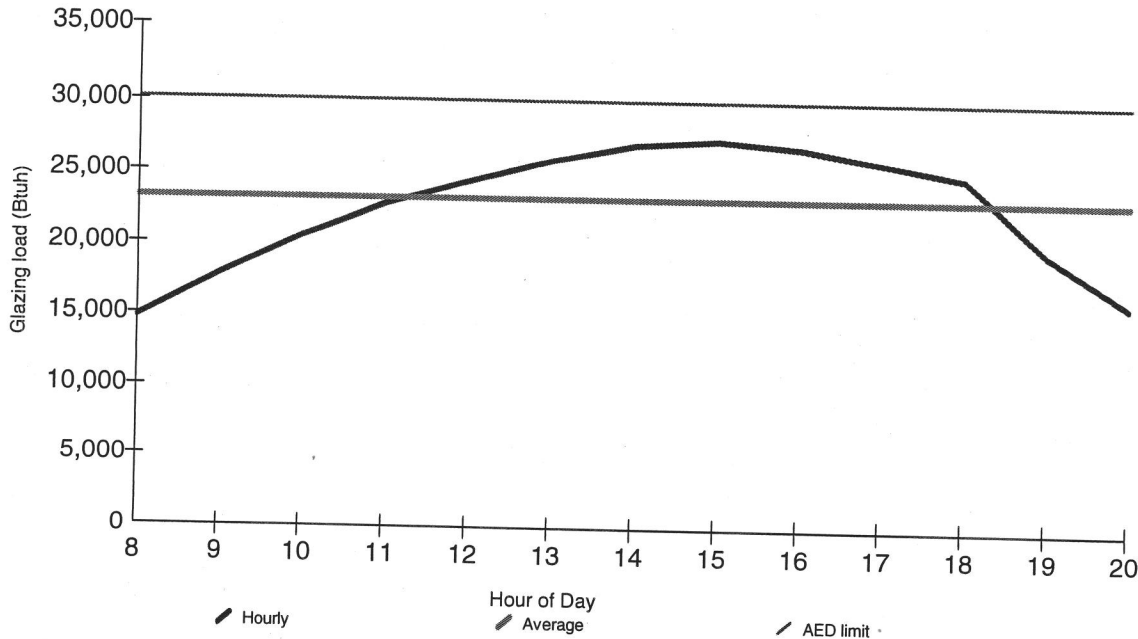
Cooling

70
24
50
47.0

Infiltration:

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 18.4%.

House has adequate exposure diversity (AED), based on AED limit of 30%.

AED excursion: 0 Btuh

Right-J® Worksheet Entire House

Job:
Date: May 15, 2014
By:

1 2 3 4 5	Room name		Entire House				Upper Level								
	Exposed wall		730.0 ft				178.0 ft								
	Room height		8.8 ft				8.0 ft								
Room dimensions		7282.0 ft²				1562.0 ft²									
Room area															
6	Ty	Construction number	U-value (Btu/h/ft²·°F)	Or	HTM (Btu/h/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)		
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool	
6	W	12B-0bw	0.097	n	5.79	2.13	1104	847							
	G	10B-c	0.600	n	35.82	15.23	35	0	1254	533	384	336	1946	715	
	G	1D-c2oc	0.570	n	34.03	24.35	35	0	1254	533	0	0	0	0	
11	W	15A11-0ocw-4	0.103	n	4.90	1.05	222	0	7554	5406	48	0	1633	1169	
	G	10B-c	0.600	n	35.82	15.23	35	0	1254	533	0	0	0	0	
	G	1D-c2ow	0.570	n	34.03	24.35	88	0	2995	2143	0	0	0	0	
	W	12B-0bw	0.097	e	5.79	2.13	850	756	4378	1610	0	0	0	0	
	G	10B-c	0.600	e	35.82	35.72	56	0	2006	2000	328	316	1830	673	
	G	1D-c2oc	0.570	e	34.03	66.39	38	0	1293	2523	0	0	0	0	
	W	15A11-0ocw-4	0.103	s	5.11	1.26	522	522	2670	656	12	0	408	797	
	W	12B-0bw	0.097	s	5.79	2.13	1104	940	5443	2001	0	0	0	0	
	G	1D-c2oc	0.570	s	34.03	35.87	108	0	3675	3874	384	336	1946	715	
	D	11D0	0.390	s	23.28	13.94	56	56	1304	781	48	0	1633	1722	
	W	15A11-0ocw-4	0.103	s	5.11	1.26	720	720	3682	904	0	0	0	0	
	W	12B-0bw	0.097	w	5.79	2.13	850	767	4442	1633	0	0	0	0	
	G	10B-c	0.600	w	35.82	35.72	35	0	1254	1250	328	328	1899	698	
	G	1D-c2oc	0.570	w	34.03	66.39	48	0	1633	3187	0	0	0	0	
	W	15A11-0ocw-4	0.103	w	5.11	1.26	522	522	2670	656	0	0	0	0	
	C	16B-28ad	0.034	-	2.03	2.01	2860	2860	5805	5761	0	0	0	0	
	F	21A-32t	0.020	-	1.19	0.00	2860	2860	3415	0	1562	1562	3171	3147	
6	c) AED excursion														
	Envelope loss/gain								64557	37880			14467	9636	
12	a) Infiltration								19442	7685			5235	2070	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230					0	0	0	0	0	0	
			Appliances/other						0	0	0	0	0	0	
	Subtotal (lines 6 to 13)								83999	45565			19702	11706	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								83999	45565			19702	11706	
15	Duct loads							11%	19%	8828	8468	45%	72%	8828	8468
	Total room load								92827	54033			28530	20173	
	Air required (cfm)								3085	3085			1022	1022	

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

Right-J® Worksheet Entire House

Job:
Date: May 15, 2014
By:

1 2 3 4 5	Room name		(Rest of House)						Master					
	Exposed wall		9.0 ft						9.0 ft					
	Room height		380.0 ft						172.0 ft					
Room dimensions		4316.0 ft²						1404.0 ft²						
Room area														
6	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	12B-0bw	0.097	n	5.79	2.13	558	373	2160	794	162	138	799	294
	G	10B-c	0.600	n	35.82	15.23	35	0	1254	533	0	0	0	0
	G	1D-c2oc	0.570	n	34.03	24.35	150	0	5104	3653	24	0	817	584
11	W	15A11-0ocw-4	0.103	n	4.90	1.05	558	459	2245	477	162	138	681	149
	G	10B-c	0.600	n	35.82	15.23	35	0	1254	533	0	0	0	0
	G	1D-c2ow	0.570	n	34.03	24.35	64	0	2178	1558	24	0	817	584
	W	12B-0bw	0.097	e	5.79	2.13	171	132	764	281	351	308	1784	656
	G	10B-c	0.600	e	35.82	35.72	21	0	752	750	35	0	1254	1250
	G	1D-c2oc	0.570	e	34.03	66.39	18	0	613	1195	8	0	272	531
	W	15A11-0ocw-4	0.103	e	5.11	1.26	171	171	875	215	351	351	1795	441
	W	12B-0bw	0.097	s	5.79	2.13	558	454	2629	967	162	150	869	319
	G	1D-c2oc	0.570	s	34.03	35.87	48	0	1633	1722	12	0	408	430
	D	11D0	0.390	s	23.28	13.94	56	56	1304	781	0	0	0	0
	W	15A11-0ocw-4	0.103	s	5.11	1.26	558	558	2854	701	162	162	829	203
	W	12B-0bw	0.097	w	5.79	2.13	423	340	1969	724	99	99	573	211
	G	10B-c	0.600	w	35.82	35.72	35	0	1254	1250	0	0	0	0
	G	1D-c2oc	0.570	w	34.03	66.39	48	0	1633	3187	0	0	0	0
	W	15A11-0ocw-4	0.103	w	5.11	1.26	423	423	2163	531	99	99	506	124
	C	16B-28ad	0.034	-	2.03	2.01	1298	1298	2635	2615	0	0	0	0
	F	21A-32t	0.020	-	1.19	0.00	2158	2158	2577	0	702	702	838	0
6	c) AED excursion									0				0
	Envelope loss/gain								37849	22466			12241	5778
12	a) Infiltration								9780	3866			4427	1750
	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)								47629	26332			16668	7528
14	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
	Subtotal								47629	26332			16668	7528
15	Duct loads						0%	0%	0	0	0%	0%	0	0
	Total room load								47629	26332			16668	7528
	Air required (cfm)								1605	1605			459	459

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

Project Information

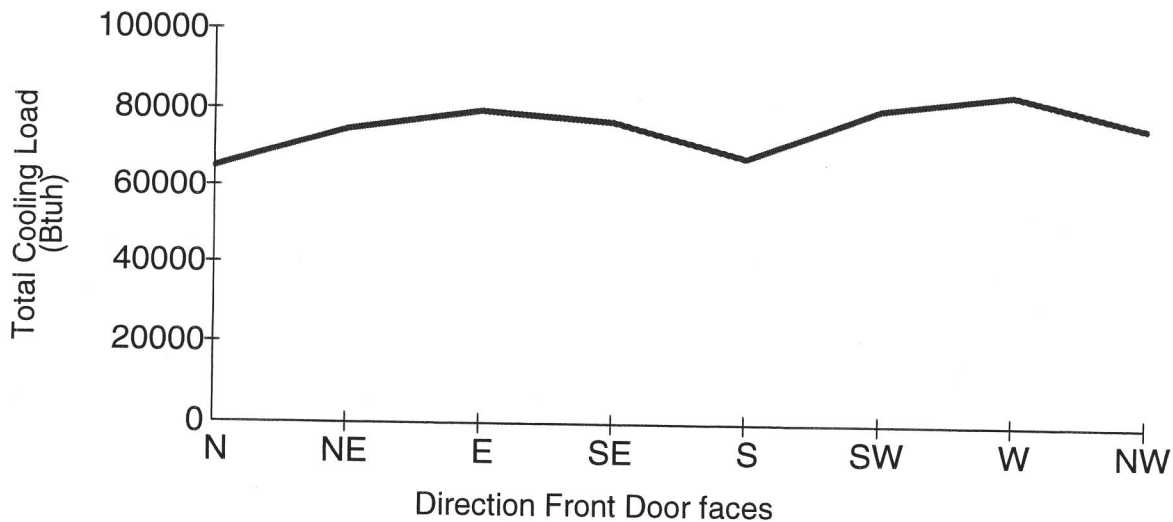
For: Dennis Smith

Design Conditions

Location:		Indoor:		Heating	Cooling
Baltimore, MD, US		Indoor temperature (°F)		72	70
Elevation: 154 ft		Design TD (°F)		60	24
Latitude: 39°N		Relative humidity (%)		30	50
Outdoor:		Moisture difference (gr/lb)		26.8	47.0
	Heating	Cooling	Infiltration:		
Dry bulb (°F)	12	94			
Daily range (°F)	-	19 (M)			
Wet bulb (°F)	-	75			
Wind speed (mph)	15.0	7.5			

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	54033	63861	68576	65957	56736	69397	73449	65197
Latent Load (Btuh)	10863	11019	11097	11019	10863	11025	11095	11019
Total Load (Btuh)	64896	74880	79672	76976	67599	80422	84544	76216
Heating AVF (cfm)	3085	3667	3947	3795	3257	4016	4271	3844
Cooling AVF (cfm)	3085	3667	3947	3795	3257	4016	4271	3844

Building Orientation Cooling Load



Current Orientation: Front Door faces North
 Highest Cooling Load: Front Door faces West

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



Load Multizone Summary Report

Job:
Date: May 15, 2014
By:

Infiltration Summary

ZONE NAME	Heating				Cooling			
	Volume ft ³	ACH	AVF cfm	HTM Btuh/ft ²	Volume ft ³	ACH	AVF cfm	HTM Btuh/ft ²
Upper Level (Rest of House)	12496	0.38	80	3.7	12496	0.38	80	1.5
Master	30212	0.30	150	3.7	30212	0.30	150	1.5
	9828	0.41	68	3.7	9828	0.41	68	1.5
Entire House	52536	0.34	298	3.7	52536	0.34	298	1.5

Load and AVF Summary

ROOM NAME	Area ft ²	Htg load Btuh	Clg load Btuh	Htg AVF cfm	Clg AVF cfm
2nd fl	1562	28530	20173	1022	1022
Upper Level	1562	28530	20173	1022	1022
Base	2158	17638	5396	594	329
1st fl	2158	29991	20936	1011	1276
(Rest of House)	4316	47629	26332	1605	1605
Master Suite	702	9621	5401	265	329
Library	702	7047	2127	194	130
Master	1404	16668	7528	459	459
Entire House	7282	92827	54033	3085	3085

Bold/italic values have been manually overridden



Loads for Multiple Orientations Entire House

Job:
Date: May 15, 2014
By:

Project Information

For: Dennis Smith

Design Conditions

Location:

Baltimore, MD, US
Elevation: 154 ft
Latitude: 39°N

Outdoor:

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

Heating

12
-
-
15.0

Cooling

94
19 (M)
75
7.5

Indoor:

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

Heating

72
60
30
26.8

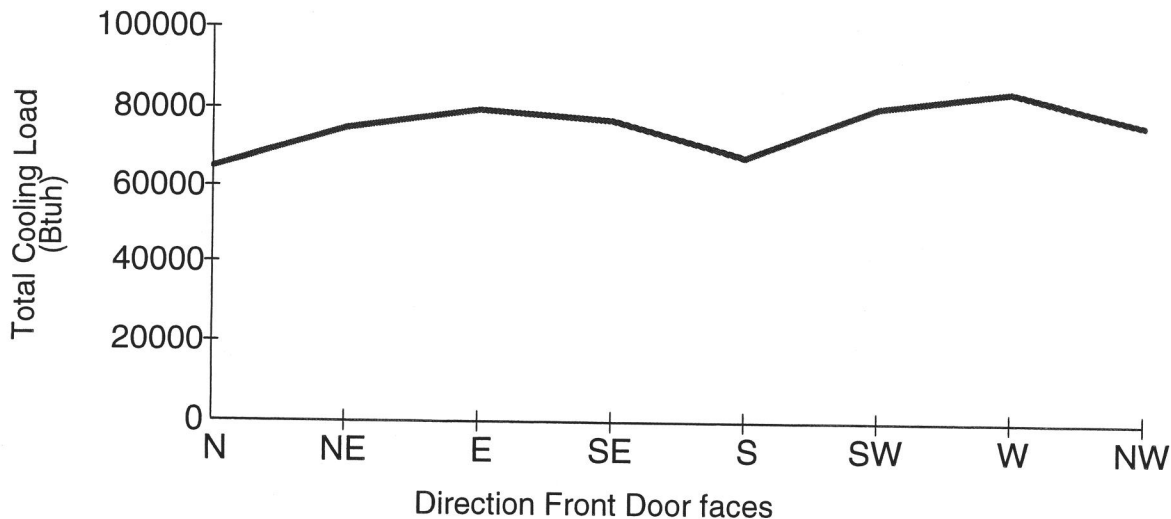
Cooling

70
24
50
47.0

Infiltration:

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	54033	63861	68576	65957	56736	69397	73449	65197
Latent Load (Btuh)	10863	11019	11097	11019	10863	11025	11095	11019
Total Load (Btuh)	64896	74880	79672	76976	67599	80422	84544	76216
Heating AVF (cfm)	3085	3667	3947	3795	3257	4016	4271	3844
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Building Orientation Cooling Load



Current Orientation: Front Door faces North
Highest Cooling Load: Front Door faces West

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