

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 # M180003912
 BUILDING PERMIT #

BUILDING ADDRESS: SUITE/APT:
15845 OLD FREDERICK RD
 SUBDIVISION:
 CENSUS TRACT: SECTION: AREA:
 LOT: TAX MAP: 7 PARCEL: 0393
 BLOCK: ZONE:
 PROPERTY ID: MAP COORDINATES:
04-327209
 TYPE OF IMPROVEMENTS: USE: RES.

OWNERS NAME: SIVAM RAMALINGAM
 ADDRESS: 15845 OLD FREDERICK ROAD
 CITY: WOODBINE
 STATE: MD ZIP CODE: 21797
 HOME PHONE: 850-320-4895 WORK PHONE:

<u>CHECK ONE</u>	<u>HOW MANY</u>
SINGLE FAMILY DWELLING <input checked="" type="checkbox"/>	<u>1</u> ZONES
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

- New
 Heating and Air Conditioning
 Geo Thermal System
 Heating System Only
 Ductless Mini Splits
 Other Work (Describe):
 Thru The Wall Systems
- Replacement
 Heating
 Air Conditioning
 Heating and Air Conditioning
- EQUIPMENT:
WATER FURNACE 5 TON
NDV064
- 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 =
 Technology Fee (10% of Permit Fee) =
 Plus Application Fee
 Total Fees Due =

40.00
4.00
550.00
94.00

Rooms

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

 \$50.00

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
 SIGNATURE OF LICENSEE

4-23-18
 DATE

MICHAEL CULLUM
 PRINT NAME OF LICENSEE

linda @ ground loop . com
 Email Address

Make check payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

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

Validation

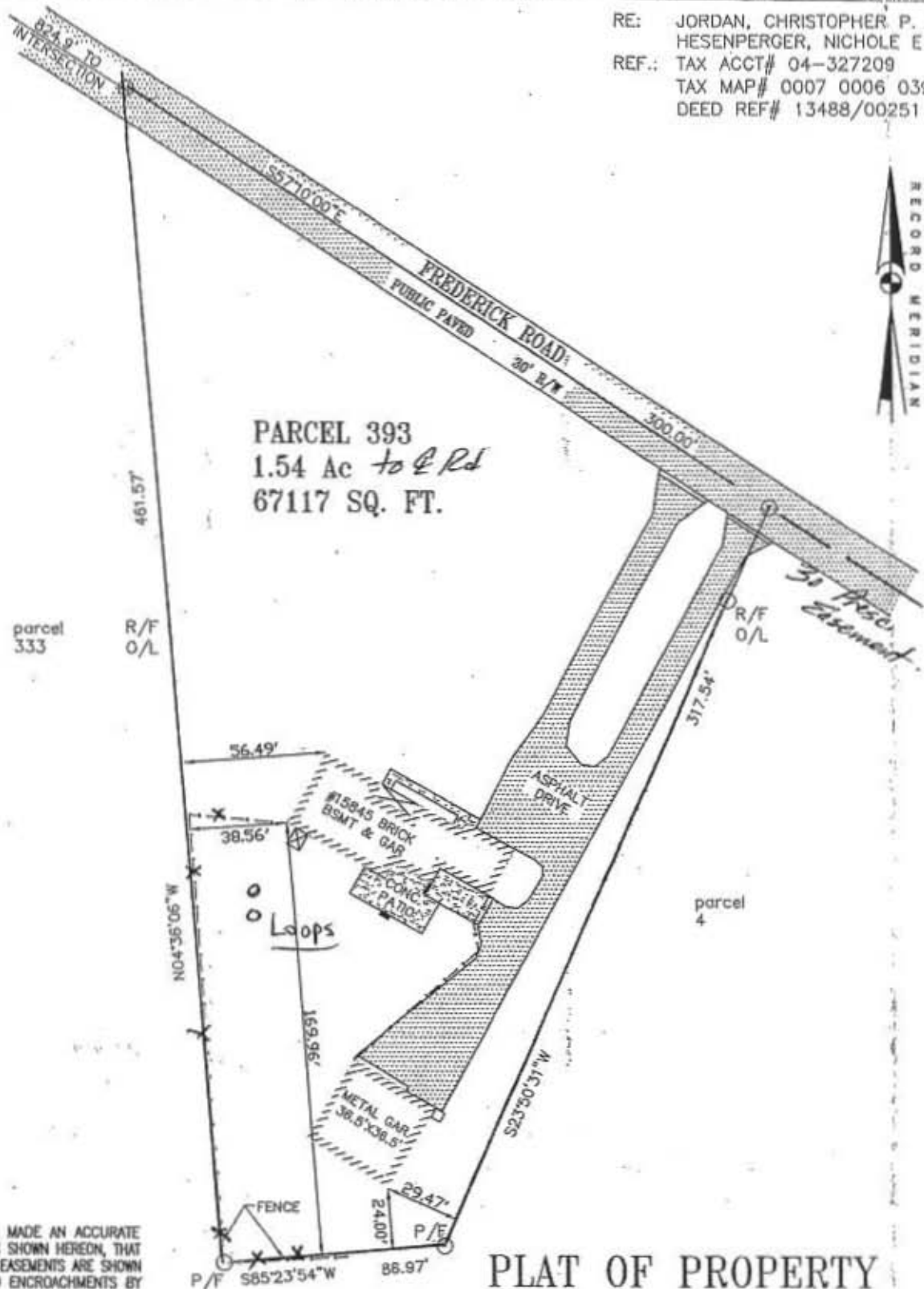
Check Number: 24873
 Cash:
 Receipt Number: 532754

Approved: [Signature] Plan
 Howard County Health Department

[Signature] 5/18/18
 Signature Date
WELLS & SERVICE

M18000392

RE: JORDAN, CHRISTOPHER P. &
HESENPERGER, NICHOLE E
REF.: TAX ACCT# 04-327209
TAX MAP# 0007 0006 0393
DEED REF# 13488/00251



parcel 333 R/F O/L

parcel 4

CERTIFICATION
THIS IS TO CERTIFY THAT WE MADE AN ACCURATE FIELD SURVEY OF THE PREMISES SHOWN HEREON, THAT ALL IMPROVEMENTS AND VISIBLE EASEMENTS ARE SHOWN HEREON, THAT THERE ARE NO ENCROACHMENTS BY IMPROVEMENTS EITHER FROM ADJOINING PREMISES, OR FROM SUBJECT PREMISES UPON ADJOINING PREMISES, OTHER THAN AS SHOWN HEREON.

NOTES:
TITLE BINDER NOT PROVIDED.
WATERS OF THE UNITED STATES ARE NOT DESIGNATED BY THIS SURVEY.
WETLANDS AND SUBAQUEOUS AREA OF WETLANDS MAY BE SUBJECT TO THE FEE RIGHTS OF THE STATE OF MARYLAND. THESE AREAS HAVE NO SPECIFIC JUDICIAL DETERMINATION OF TITLE AND NO OPINION OF TITLE IS AVAILABLE AS OF DATE OF SURVEY.

THIS PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DESIGNATED BY THE SECRETARY OF HOUSING & URBAN DEVELOPMENT. (PREMISES



PLAT OF PROPERTY
SITUATED ON THE SOUTH
LINE OF FREDERICK ROAD
AND 824.9 FEET EAST OF
OLD WOODBINE ROAD
4th DISTRICT
HOWARD COUNTY, MARYLAND
SEPTEMBER 12, 2012 SCALE 1"=60'

COUNTY

M1800392



**Load Short Form
Entire House**

Job:
Date: May 15, 2014
By:

Project Information

For: Sivam Ramalingam

Design Information

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

HEATING EQUIPMENT

Make
Trade
Model
AHRI ref

Efficiency 80 AFUE
Heating input 0 Btuh
Heating output 0 Btuh
Temperature rise 0 °F
Actual air flow 1395 cfm
Air flow factor 0.038 cfm/Btuh
Static pressure 0 in H2O
Space thermostat

COOLING EQUIPMENT

Make
Trade
Cond
Coil
AHRI ref
Efficiency 0 SEER
Sensible cooling 0 Btuh
Latent cooling 0 Btuh
Total cooling 0 Btuh
Actual air flow 1395 cfm
Air flow factor 0.055 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.91

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Room1	1566	6862	887	260	49
Room2	1522	29941	24362	1135	1346
Entire House	3088	36803	25249	1395	1395
Other equip loads		0	0		
Equip. @ 1.00 RSM			25249		
Latent cooling			2418		
TOTALS	3088	36803	27667	1395	1395

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

Project Information

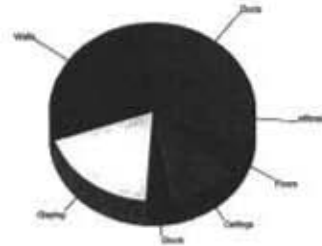
For: Sivam Ramalingam

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:	Heating	Cooling	Moisture difference (gr/lb)	26.8	47.0
Dry bulb (°F)	12	94	Infiltration:		
Daily range (°F)	-	19 (M)	Method	Simplified	
Wet bulb (°F)	-	75	Construction quality	Average	
Wind speed (mph)	15.0	7.5	Fireplaces	0	

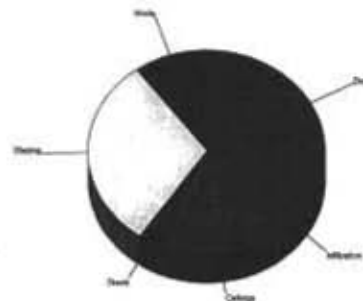
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	4.3	11134	30.3
Glazing	34.0	6863	18.6
Doors	23.3	1480	4.0
Ceilings	2.5	3843	10.4
Floors	1.2	1870	5.1
Infiltration	2.7	3976	10.8
Ducts		7637	20.8
Piping		0	0
Humidification		0	0
Ventilation		0	0
Adjustments		0	0
Total		36803	100.0



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	1.0	2535	10.0
Glazing	38.1	7678	30.4
Doors	13.9	887	3.5
Ceilings	2.5	3953	15.7
Floors	0	0	0
Infiltration	1.1	1572	6.2
Ducts		8625	34.2
Ventilation		0	0
Internal gains		0	0
Blower		0	0
Adjustments		0	0
Total		25249	100.0



Latent Cooling Load = 2418 Btuh
Overall U-value = 0.071 Btuh/ft²·°F

Data entries checked.

Project Information

For: Sivam Ramalingam

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	Method	Simplified	
Daily range (°F)	-	19 (M)	Construction quality	Average	
Wet bulb (°F)	-	75	Fireplaces	0	
Wind speed (mph)	15.0	7.5			

Construction descriptions	Or	Area sq	U-value Btu/h ² /°F	Insul R R ² /Btu/h	Htg HTM Btu/h ²	Loss Btu/h	Cig HTM Btu/h ²	Gain Btu/h
Walls								
12B-0bw: Fm wall, brk 4" ext, 3/8" wood shth, r-11 cav ins, 1/2" gypsum board intfnsh, 2"x4" wood fm, 16" o.c. stud	n	370	0.097	11.0	5.79	2143	2.13	788
	e	248	0.097	11.0	5.79	1438	2.13	529
	s	345	0.097	11.0	5.79	1996	2.13	734
	w	228	0.097	11.0	5.79	1318	2.13	485
	all	1191	0.097	11.0	5.79	6896	2.13	2535
15B11-0wc-8: Bg wall, heavy damp soil, 2"x4" wood intfm, concrete wall, r-11 cav ins, 8" thk, 1/2" gypsum board intfnsh	n	456	0.051	11.0	3.04	1388	0	0
	e	240	0.051	11.0	3.04	731	0	0
	s	456	0.051	11.0	3.04	1388	0	0
	w	240	0.051	11.0	3.04	731	0	0
	all	1392	0.051	11.0	3.04	4238	0	0
Partitions								
(none)								
Windows								
1D-c2ow: 2 glazing, clr out, air gas, wd fm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	86	0.570	0	34.0	2926	24.4	2094
	e	24	0.570	0	34.0	805	66.4	1571
	s	69	0.570	0	34.0	2337	35.9	2463
	w	23	0.570	0	34.0	794	66.4	1549
	all	202	0.570	0	34.0	6863	38.1	7678
Doors								
11D0: Door, wd sc type	s	43	0.390	0	23.3	991	13.9	594
	w	21	0.390	0	23.3	489	13.9	293
	all	64	0.390	0	23.3	1480	13.9	887
Ceilings								
16B-28ad: A5c ceiling, asphalt shingles roof mat, r-28 cell ins, 1/2" gypsum board intfnsh		1522	0.034	28.0	2.03	3089	2.01	3066
17A-0xd: Flat ceiling, tar and gravel roof mat, 80 lb/ft ³ concrete deck, 8" thkns		44	0.287	0	17.1	754	20.2	887
Floors								
21A-32c: Bg floor, heavy damp soil, 8' depth, carpet flr fnsh		1566	0.020	0	1.19	1870	0	0

Project Information

For: Sivam Ramalingam

Design Conditions

Location: Baltimore, MD, US Elevation: 154 ft Latitude: 39°N			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
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 12 - - 15.0	Cooling 94 19 (M) 75 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

	Or	Area ft²	U-value Btu/h²°F	Insul R ft²·h/Btu	Htg HTM Btu/h²	Loss Btu/h	Clg HTM Btu/h²	Gain Btu/h
Walls								
15B11-0wc-8: Bg wall, heavy damp soil, 2"x4" wood int frm, concrete wall, r-11 cav ins, 8" thk, 1/2" gypsum board int frsh								
	n	456	0.051	11.0	3.04	1388	0	0
	e	240	0.051	11.0	3.04	731	0	0
	s	456	0.051	11.0	3.04	1388	0	0
	w	240	0.051	11.0	3.04	731	0	0
	all	1392	0.051	11.0	3.04	4238	0	0
Partitions (none)								
Windows (none)								
Doors (none)								
Ceilings								
17A-0xd: Flat ceiling, tar and gravel roof mat, 80 lb/ft² concrete deck, 8" thkns								
		44	0.287	0	17.1	754	20.2	887
Floors								
21A-32c: Bg floor, heavy damp soil, 8' depth, carpet flr frsh								
		1566	0.020	0	1.19	1870	0	0

Project Information

For: Sivam Ramalingam

Design Conditions

Location: Baltimore, MD, US Elevation: 154 ft Latitude: 39°N			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
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 12 - - 15.0	Cooling 94 19 (M) 75 7.5	Infiltration: Method Construction quality Fireplaces	Simplified Average 0	

Construction descriptions

Construction descriptions	Or	Area ft²	U-value Btu/ft²°F	Insul R ft²·h/Btu	Htg HTM Btu/h	Loss Btu/h	Clg HTM Btu/h	Gain Btu/h
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 fm, 16" o.c. stud	n	370	0.097	11.0	5.79	2143	2.13	788
	e	248	0.097	11.0	5.79	1438	2.13	529
	s	345	0.097	11.0	5.79	1996	2.13	734
	w	228	0.097	11.0	5.79	1318	2.13	485
	all	1191	0.097	11.0	5.79	6896	2.13	2535
Partitions (none)								
Windows								
1D-c2ow: 2 glazing, clr out, air gas, wd fm mat, clr innr, 1/4" gap, 1/4" thk; 6.67 ft head ht	n	86	0.570	0	34.0	2926	24.4	2094
	e	24	0.570	0	34.0	805	66.4	1571
	s	69	0.570	0	34.0	2337	35.9	2463
	w	23	0.570	0	34.0	794	66.4	1549
	all	202	0.570	0	34.0	6863	38.1	7678
Doors								
11D0: Door, wd sc lype	s	43	0.390	0	23.3	991	13.9	594
	w	21	0.390	0	23.3	489	13.9	293
	all	64	0.390	0	23.3	1480	13.9	887
Ceilings								
16B-28ad: Attic ceiling, asphalt shingles roof mat, r-28 ceil ins, 1/2" gypsum board int fnsh		1522	0.034	28.0	2.03	3089	2.01	3066
Floors (none)								

Project Information

For: Sivam Ramalingam

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 29166 Btuh
Ducts 7637 Btuh
Central vent (0 cfm) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 36803 Btuh

Sensible Cooling Equipment Load Sizing

Structure 16624 Btuh
Ducts 8625 Btuh
Central vent (0 cfm) 0 Btuh
Blower 0 Btuh
Use manufacturer's data y
Rate/swing multiplier 1.00
Equipment sensible load 25249 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 0

	Heating	Cooling
Area (ft ²)	3088	3088
Volume (ft ³)	12176	12176
Air changes/hour	0.30	0.30
Equiv. AVF (cfm)	61	61

Latent Cooling Equipment Load Sizing

Structure 1936 Btuh
Ducts 482 Btuh
Central vent (0 cfm) 0 Btuh
Equipment latent load 2418 Btuh
Equipment total load 27667 Btuh
Req. total capacity at 0.70 SHR 3.0 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 1395 cfm
Air flow factor 0.038 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 1395 cfm
Air flow factor 0.055 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.91

Bold/italic values have been manually overridden

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

Project Information

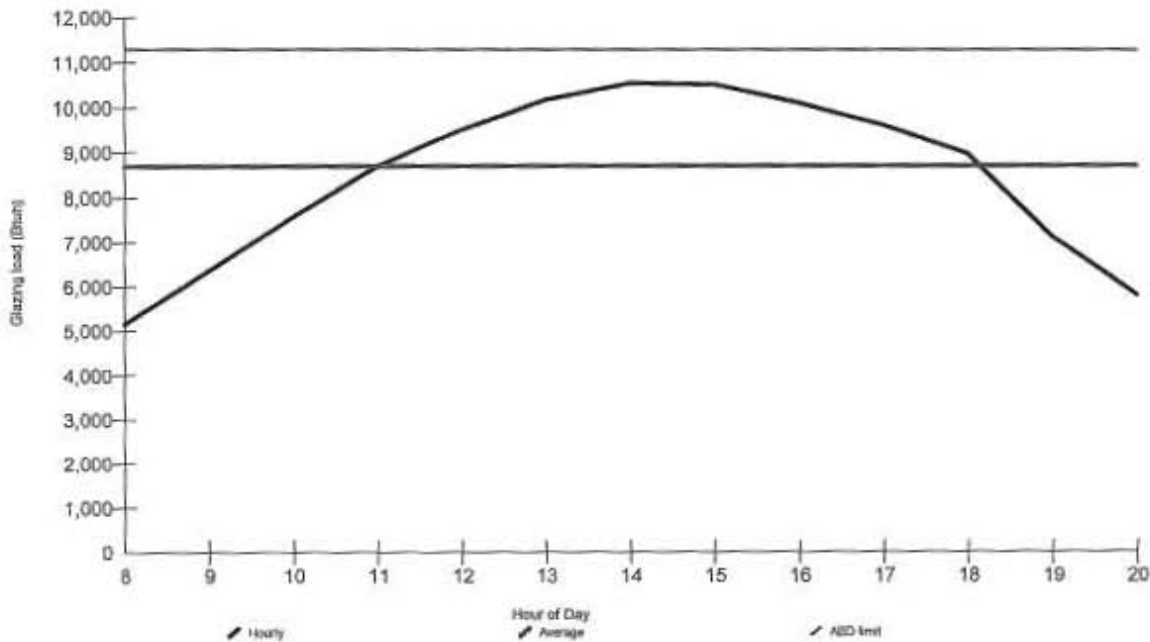
For: Sivam Ramalingam

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		

Test for Adequate Exposure Diversity

Hourly Glazing Load



Maximum hourly glazing load exceeds average by 21.3%.

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

AED excursion: 0 Btuh

1 Room name		Entire House		Room1										
2 Exposed wall		356.0 ft		174.0 ft										
3 Room height		8.0 ft		8.0 ft										
4 Room dimensions		3088.0 ft²		1.0 x 1566.0 ft										
5 Room area		3088.0 ft²		1566.0 ft²										
6 Ty	Construction number	U-value (Btu/ft²-F)	Or	HTM (Btu/ft²)		Area (ft²) or perimeter (ft)		Load (Btu/h)		Area (ft²) or perimeter (ft)		Load (Btu/h)		
				Heat	Cool	Gross	NPS	Heat	Cool	Gross	NPS	Heat	Cool	
6	W	12B-0bw	0.097	n	5.79	2.13	456	370	2143	788	0	0	0	0
	-	1D-c2ow	0.570	n	34.03	24.35	86	0	2926	2094	0	0	0	0
	W	15B11-0wo-8	0.099	n	3.04	0.00	456	456	1388	0	456	456	1388	0
	W	12B-0bw	0.097	e	5.79	2.13	272	248	1438	529	0	0	0	0
11	W	1D-c2ow	0.570	e	34.03	66.39	24	0	805	1571	0	0	0	0
	W	15B11-0wo-8	0.099	e	3.04	0.00	240	240	731	0	240	240	731	0
	W	12B-0bw	0.097	s	5.79	2.13	456	345	1996	734	0	0	0	0
	W	1D-c2ow	0.570	s	34.03	35.87	69	0	2337	2483	0	0	0	0
	D	11D0	0.390	s	23.28	13.94	43	43	991	594	0	0	0	0
	W	15B11-0wo-8	0.099	s	3.04	0.00	456	456	1388	0	456	456	1388	0
	W	12B-0bw	0.097	w	5.79	2.13	272	228	1318	485	0	0	0	0
	W	1D-c2ow	0.570	w	34.03	66.39	23	0	794	1549	0	0	0	0
	D	11D0	0.390	w	23.28	13.94	21	21	489	293	0	0	0	0
	W	15B11-0wo-8	0.099	w	3.04	0.00	240	240	731	0	240	240	731	0
	C	16B-2Bad	0.034	-	2.03	2.01	1522	1522	3088	3088	0	0	0	0
	C	17A-0wd	0.287	-	17.13	20.16	44	44	754	887	44	44	754	887
	F	21A-32c	0.020	-	1.19	0.00	1566	1566	1870	0	1566	1566	1870	0
8	c)AED excursion									0			0	
	Envelope loss/gain								25190	15053			6862	887
12	a) Infiltration								3976	1572			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)								29166	16624			6862	887
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								29166	16624			6862	887
15	Duct loads						26%	52%	7637	8925	-0%	0%	0	0
	Total room load								36803	25249			6862	887
	Air required (dm)								1395	1395			280	49

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

						Room2								
1	Room name					182.0 ft								
2	Exposed wall					8.0 ft		heat/cool						
3	Room height					1.0		x 1522.0 ft						
4	Room dimensions													
5	Room area					1522.0 sq								
	Ty	Construction number	U-value (Btu/ft ² ·F)	Or	HTM (Btu/ft ²)		Area (ft ²) or perimeter (ft)		Load (Btu/h)		Area or perimeter		Load	
					Heat	Cool	Gross	NPIS	Heat	Cool	Gross	NPIS	Heat	Cool
6	W	12B-0bw	0.097	n	5.79	2.13	456	370	2143	788				
	W	1D-c2ow	0.570	n	34.03	24.35	86	0	2926	2094				
	W	15B11-0wo-8	0.099	n	3.04	0.00	0	0	0	0				
	W	12B-0bw	0.097	e	5.79	2.13	272	248	1438	529				
11	W	1D-c2ow	0.570	e	34.03	66.39	24	0	805	1571				
	W	15B11-0wo-8	0.099	e	3.04	0.00	0	0	0	0				
	W	12B-0bw	0.097	s	5.79	2.13	456	345	1966	734				
	W	1D-c2ow	0.570	s	34.03	35.87	69	0	2337	2463				
	W	11D0	0.390	s	23.28	13.94	43	43	991	594				
	W	15B11-0wo-8	0.099	s	3.04	0.00	0	0	0	0				
	W	12B-0bw	0.097	w	5.79	2.13	272	228	1318	485				
	W	1D-c2ow	0.570	w	34.03	66.39	23	0	794	1549				
	W	11D0	0.390	w	23.28	13.94	21	21	489	293				
	W	15B11-0wo-8	0.099	w	3.04	0.00	0	0	0	0				
	C	16B-28ad	0.034	-	2.03	2.01	1522	1522	3089	3066				
	C	17A-0xd	0.287	-	17.13	20.16	0	0	0	0				
	F	21A-32c	0.020	-	1.19	0.00	0	0	0	0				
6	c)AED excursion									0				
	Envelope loss/gain								18328	14165				
12	a) Infiltration								3976	1572				
	b) Room ventilation								0	0				
13	Internal gains		Occupants @ Appliances/other		230		0			0				
	Subtotal (lines 6 to 13)								22304	15737				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								22304	15737				
15	Duct loads						34%	55%	7637	8625				
	Total room load								29941	24362				
	Air required (cfm)								1135	1346				

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

Project Information

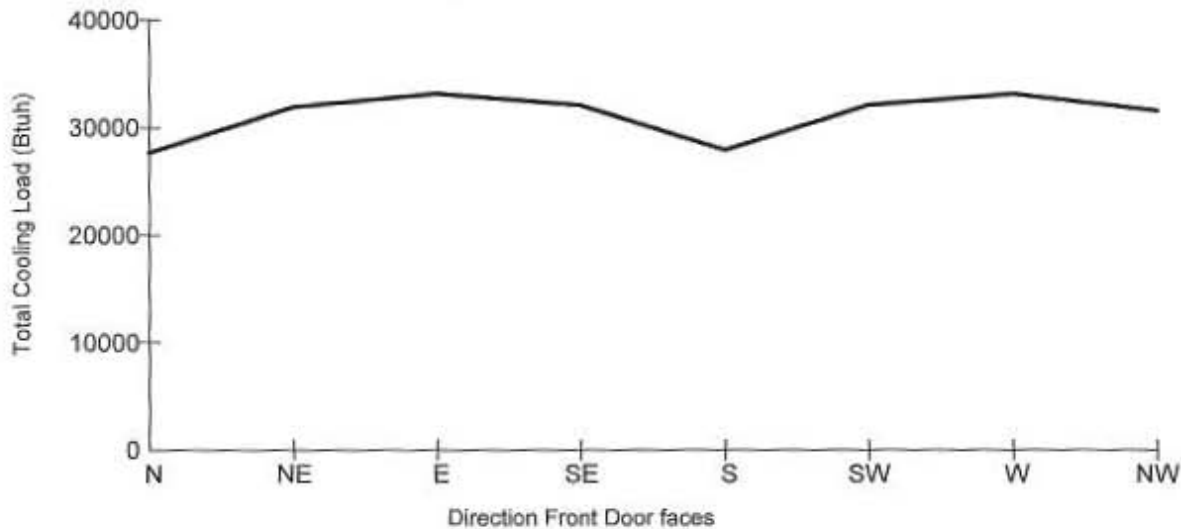
For: Sivam Ramalingam

Design Conditions

Location: Baltimore, MD, US Elevation: 154 ft Latitude: 39°N			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
Outdoor: Dry bulb (°F) Daily range (°F) Wet bulb (°F) Wind speed (mph)	Heating 12 - - 15.0	Cooling 94 19 (M) 75 7.5	Infiltration:		

Front Door	North	Northeast	East	Southeast	South	Southwest	West	Northwest
Sensible Load (Btuh)	25249	29405	30665	29580	25472	29612	30661	29119
Latent Load (Btuh)	2418	2497	2504	2498	2419	2498	2504	2476
Total Load (Btuh)	27667	31902	33168	32078	27891	32109	33164	31595
Heating AVF (cfm)	1395	1635	1709	1647	1410	1647	1709	1619
Cooling AVF (cfm)	1395	1635	1709	1647	1410	1647	1709	1619

Building Orientation Cooling Load



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

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

Project Information

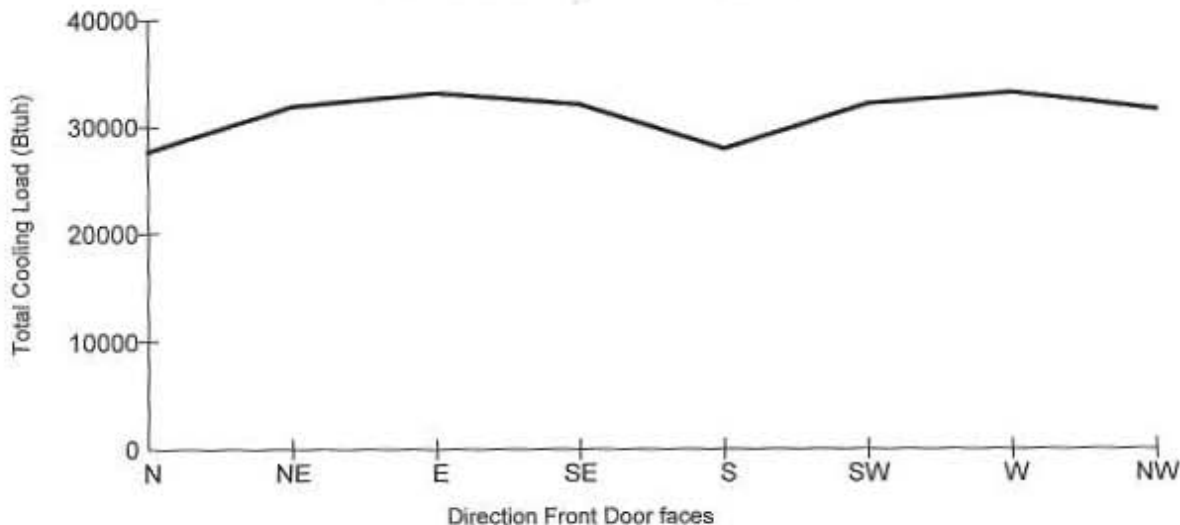
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