

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 # <u>m18000246</u> BUILDING PERMIT #
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BUILDING ADDRESS: 5253 Talbots Landing SUBDIVISION: 0000 CENSUS TRACT: LOT: BLOCK: PROPERTY ID: 169076 MAP COORDINATES: TYPE OF IMPROVEMENTS:	SUITE/APT: SECTION: TAX MAP: ZONE: AREA: PARCEL: 0700 USE:	OWNERS NAME: Ernesto Ricourt ADDRESS: 5253 Talbots Landing Ellicott City, MD 21043 CITY: STATE: ZIP CODE: HOME PHONE: WORK PHONE:															
<table border="1"> <thead> <tr> <th></th> <th><u>CHECK ONE</u></th> <th><u>HOW MANY</u></th> </tr> </thead> <tbody> <tr> <td>SINGLE FAMILY DWELLING</td> <td><input type="checkbox"/></td> <td><u>1</u> ZONES</td> </tr> <tr> <td>SINGLE FAMILY TOWNHOUSE</td> <td><input type="checkbox"/></td> <td>___ ZONES</td> </tr> <tr> <td>MULTI-FAMILY / HOTEL/MOTEL</td> <td><input type="checkbox"/></td> <td>___ ROOMS</td> </tr> <tr> <td>ASSISTED LIVING HOMES (16 OR FEWER RESIDENTS)</td> <td><input type="checkbox"/></td> <td>___ ROOMS</td> </tr> </tbody> </table>			<u>CHECK ONE</u>	<u>HOW MANY</u>	SINGLE FAMILY DWELLING	<input 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: Tri-State Home Services LLC LICENSEE NAME: Steven Norwood ADDRESS: 82A Wormans Mill Road CITY: Frederick STATE: MD ZIP CODE: 21701 PHONE: 301-624-5970 HVACR LICENSE NO: 4551
	<u>CHECK ONE</u>	<u>HOW MANY</u>															
SINGLE FAMILY DWELLING	<input type="checkbox"/>	<u>1</u> ZONES															
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New <input checked="" type="checkbox"/> Heating and Air Conditioning <input checked="" type="checkbox"/> Geo Thermal System Replacement <input type="checkbox"/> Heating <input type="checkbox"/> Air Conditioning <input type="checkbox"/> Heating and Air Conditioning	<input type="checkbox"/> Heating System Only <input type="checkbox"/> Ductless Mini Splits	<input type="checkbox"/> Other Work (Describe): <input type="checkbox"/> Thru The Wall Systems
Additions and Alterations <input type="checkbox"/> Heating <input type="checkbox"/> Air Conditioning <input type="checkbox"/> 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 =	<u>40</u> <u>\$50.00</u> <u>94.00</u>	Rooms Permit Fee = # of Rooms x \$80 = Technology Fee (10% of Permit Fee) = Plus Application Fee \$50 Total Fees Due =	_____ <u>\$50.00</u> _____
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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.

SIGNATURE OF LICENSEE
 Steven Norwood
 PRINT NAME OF LICENSEE
 lisa.spielman@tristatehomeservices.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: <u>3027</u> Cash: _____ Permit Number: <u>528154</u>

4/3/18 Approved Signature
 Howard County Health Department
 Signature

RECEIVED
 Date
 4/20/18 APR 24 2018

LICENSES & PERMITS
 DIVISION

Climate Master
3 TON - CTEV 03 BGDD2CRTS
Heat Pump

w/ 10 Kw Heater

Geo

1118000246

Ricourt
HVAC Load Calculations

for

Ricourt
5253 Talbots Landing
Ellicott City, MD

Prepared By:

Steven Norwood - MD HVAC 4551
Tri-State Home Services
1560-F Tilco Drive
Frederick, MD 21704
301-624-5970
Tuesday, April 3, 2018



Project Report

General Project Information

Project Title: Ricourt
Designed By: B
Project Date: Tuesday, January 17, 2017
Client Name: Ricourt
Client Address: 5253 Talbots Landing
Client City: Ellicott City, MD
Company Name: Tri-State Home Services
Company Representative: Steven Norwood - MD HVAC 4551
Company Address: 1560-F Tilco Drive
Company City: Frederick, MD 21704
Company Phone: 301-624-5970
Company Fax: 301-624-5978
Company E-Mail Address: SNorwood@t-shs.com
Company Website: www.Tri-StateHomeServices.com

Design Data

Reference City: Baltimore, Maryland
Building Orientation: Front door faces North
Daily Temperature Range: Medium
Latitude: 39 Degrees
Elevation: 148 ft.
Altitude Factor: 0.995

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	13	11.86	n/a	n/a	70	n/a
Summer:	91	75	48%	50%	75	41

Check Figures

Total Building Supply CFM:	1,200	CFM Per Square ft.:	0.352
Square ft. of Room Area:	3,413	Square ft. Per Ton:	1,410
Volume (ft³):	24,588		

Building Loads

Total Heating Required Including Ventilation Air:	36,974 Btuh	36,974 MBH
Total Sensible Gain:	24,636 Btuh	85 %
Total Latent Gain:	4,409 Btuh	15 %
Total Cooling Required Including Ventilation Air:	29,045 Btuh	2.42 Tons (Based On Sensible + Latent)

Notes

Rhvac is an ACCA approved Manual J and Manual D computer program.
Calculations are performed per ACCA Manual J 8th Edition, Version 2, and ACCA Manual D.
All computed results are estimates as building use and weather may vary.
Be sure to select a unit that meets both sensible and latent loads according to the manufacturer's performance data at your design conditions.

Load Preview Report

Scope	Net Ton	ft. /Ton	Area	Sens Gain	Lat Gain	Net Gain	Sens Loss	Sys Htg CFM	Sys Clg CFM	Sys Act CFM	Duct Size
Building	2.42	1,410	3,413	24,636	4,409	29,045	36,974	1,200	1,200	1,200	
System 1	2.42	1,410	3,413	24,636	4,409	29,045	36,974	1,200	1,200	1,200	18x12
Supply Duct Latent					336	336					
Return Duct				717	223	940	641				
Zone 1 - Clg: 61%, Htg: 65%			2,298	16,795	2,902	19,697	23,641	781	768	768	
1-Family			398	5,354	1,242	6,596	5,395	178	245	245	7.7
2-Foyer			154	1,827	96	1,923	1,823	60	83	83	7
3-Dining			193	2,261	217	2,478	2,397	79	103	103	6
4-Kitchen			213	2,386	554	2,940	1,473	49	109	109	7
5-Breakfast			159	967	80	1,047	1,398	46	44	44	7
6-Basement			1,117	1,828	533	2,361	8,666	286	84	84	Not MDD 1-5
14-Mudroom			65	2,172	180	2,352	2,487	82	99	99	7
Zone 2 - Clg: 39%, Htg: 35%			1,115	10,514	948	11,462	12,692	419	480	480	
7-Master Bedroom			254	3,924	223	4,147	3,316	110	179	179	7
8-Master Bath			121	685	153	838	1,726	57	31	31	6
9-WC			60	165	45	210	470	16	8	8	4
10-Storage			155	466	56	522	836	28	21	21	6
11-Bedroom 2			199	2,781	197	2,978	2,753	91	127	127	7
12-Bedroom 3			192	1,267	195	1,462	2,463	81	58	58	6
13-Hall Bath			134	1,225	79	1,304	1,129	37	56	56	6

Sum of room airflows may be greater than system airflow because
 system has multiple zones.



Total Building Summary Loads

Component Description	Area Quan	Sen Loss	Lat Gain	Sen Gain	Total Gain
4A-6-o: Glazing-Double pane low-e (e = 0.20 or less), high performance, operable window, e=0.05 on surface 2, any frame, u-value 0.33, SHGC 0.33	275.4	5,177	0	7,826	7,826
4A-1v-o: Glazing-Double pane low-e (e = 0.20 or less), operable window, e=0.20 on surface 2, vinyl frame, translucent color roller shade with 25% coverage, u-value 0.47, SHGC 0.49	13.3	358	0	484	484
4A-6-o: Glazing-Double pane low-e (e = 0.20 or less), high performance, operable window, e=0.05 on surface 2, any frame, light color drapes with medium weave with 25% coverage, u-value 0.33, SHGC 0.33	94.1	1,768	0	2,100	2,100
11G: Door-Wood - Panel	40	1,232	0	584	584
12F-0sw: Wall-Frame, R-21 insulation in 2 x 6 stud cavity, no board insulation, siding finish, wood studs	2040.1	7,561	0	2,162	2,162
15B11-0w-4: Wall-Basement, framing with R-11 sill to floor in 2 x 4 cavity, core, no board insulation, plus interior finish, wood studs, 4' floor depth	1127.6	5,218	0	719	719
16B-50: Roof/Ceiling-Under Attic with Insulation on Attic Floor (also use for Knee Walls and Partition Ceilings), Vented Attic, No Radiant Barrier, Dark Asphalt Shingles or Dark Metal, Tar and Gravel or Membrane, R-50 insulation	1180.5	1,347	0	1,203	1,203
20P-19: Floor-Over open crawl space or garage, Passive, R-19 blanket insulation, any cover	65	185	0	36	36
Subtotals for structure:		22,846	0	15,114	15,114
People:	6		1,200	1,380	2,580
Equipment:			0	2,400	2,400
Lighting:	0			0	0
Ductwork:		6,023	559	3,355	3,914
Infiltration: Winter CFM: 130, Summer CFM: 96		8,105	2,650	1,682	4,332
Ventilation: Winter CFM: 0, Summer CFM: 0		0	0	0	0
Exhaust: Winter CFM: 80, Summer CFM: 80					
AED Excursion:		0	0	705	705
Total Building Load Totals:		36,974	4,409	24,636	29,045

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