

M10000473

2/2/2010

8282667

001

CONSUMER INFORMATION NOTES:

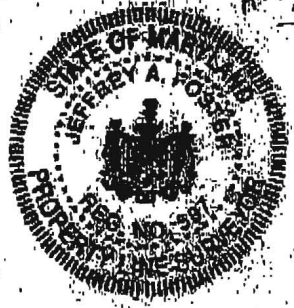
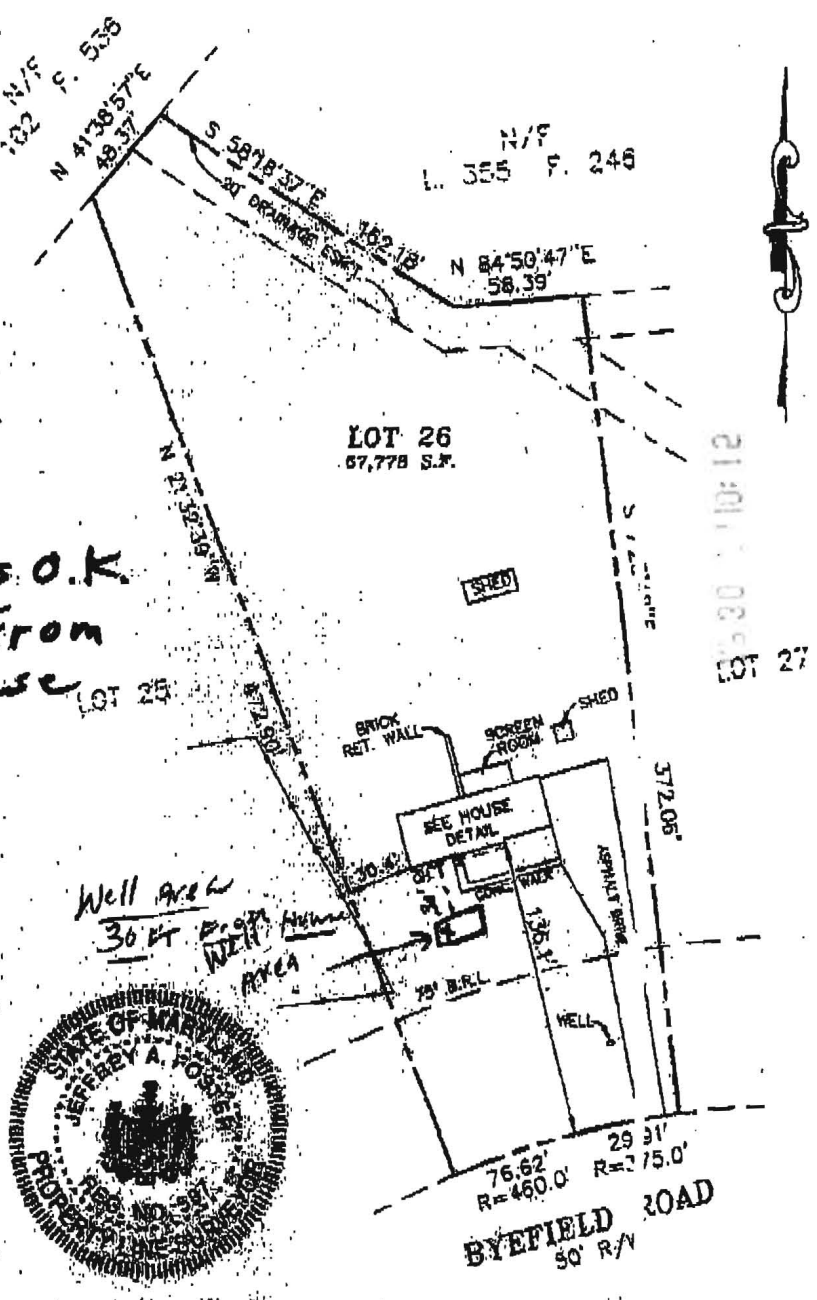
1. This plat is to be used only as a consumer insofar as it is required by a lender or a title insurance company or its agent with contemplated transfer, financing or re-financing.
2. This plat should be relied upon for the establishment or location of fences, garages, buildings, or other improvements.
3. This plat provides for the accurate identification of property boundary lines, but such identification is not intended for the transfer of title or securing financing or re-financing.
4. Flood zone information is taken from available sources and is subject to interpretation of originator.

WE HAVE
 RECORDED THIS
 PLAT TO ACCEPT
 THE LOCATION
 OF THE
 WELL HEREIN
 SHOWN
 [Signature]

Notes

1. Flood zone information is taken from U.D. panel No. 2400.
2. Setback lines are shown to the principal lines are shown. The level of accuracy taken to plus or minus or that.

Looks O.K.
 30' From
 House



HE LOCK HILL
 HOWARD COUNTY, MARYLAND

SURVEYOR'S CERTIFICATE THIS PLAT AND LOCATION HAS BEEN MADE UPON THE BASIS OF FIELD RESEARCH PURSUANT TO THE PROVISIONS OF THE SURVEYING ACT OF 1906. EXISTING STRUCTURES SHOWN HAVE BEEN LOCATED BASED UPON MEASUREMENTS FROM PROPERTY MARKERS FOUND OR FROM EVIDENCE OF LINES OF APPARENT OCCUPANCY.	REFERENCE: PLAT BK. 17 PLAT NO. 25		Snyder & Associates SURVEYORS - ENGINEERS LAND PLANNING CONSULTANTS 2 Professional Dr. S. Suite 218 Gaithersburg, Md. 20878 301/948-5100, Fax: 301/948-1288
	LIBER POLK		DATE OF LOCATIONS 8-18-2008

Jeffery A. Foster
 [Signature]

100

04/28/2010 11:02 FAX 3018292667

M10000473



Project Summary

Entire House

Rowan Heating & A/C INC.

Job: 3399
Date: April 26, 2010
By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

Project Information

For: Reed Residence

Notes:

Design Information

Weather: Baltimore BWI AP, MD, US

Winter Design Conditions

Outside db	4 °F
Inside db	70 °F
Design TD	66 °F

Summer Design Conditions

Outside db	93 °F
Inside db	75 °F
Design TD	18 °F
Daily range	M
Relative humidity	50 %
Moisture difference	35 gr/lb

Heating Summary

Structure	39724 Btuh
Ducts	5968 Btuh
Central vent (77 cfm)	5532 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	51224 Btuh

Sensible Cooling Equipment Load Sizing

Structure	22578 Btuh
Ducts	5339 Btuh
Central vent (77 cfm)	1526 Btuh
Blower	0 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	2 (Semi-tight)

	Heating	Cooling
Area (ft²)	3300	3300
Volume (ft³)	23100	23100
Air changes/hour	0.30	0.13
Equiv. AVF (cfm)	116	50

Use manufacturer's data	n
Rate/swing multiplier	0.98
Equipment sensible load	28913 Btuh

Latent Cooling Equipment Load Sizing

Structure	2186 Btuh
Ducts	611 Btuh
Central vent (77 cfm)	1815 Btuh
Equipment latent load	4612 Btuh

Equipment total load	33524 Btuh
Req. total capacity at 0.70 SHR	3.4 ton

Heating Equipment Summary

Make	
Trade	
Model	
GAMA ID	
Efficiency	80 AFUE
Heating input	0 Btuh
Heating output	0 Btuh
Temperature rise	0 °F
Actual air flow	1214 cfm
Air flow factor	0.027 cfm/Btuh
Static pressure	0 in H2O
Space thermostat	

Cooling Equipment Summary

Make	
Trade	
Cond	
Coil	
ARI ref no.	
Efficiency	0 SEER
Sensible cooling	0 Btuh
Latent cooling	0 Btuh
Total cooling	0 Btuh
Actual air flow	1214 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.86

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

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>m10000473</u> BUILDING PERMIT #
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BUILDING ADDRESS: <u>12938 Byefield Dr.</u> SUITE/APT: SUBDIVISION: CENSUS TRACT: SECTION: AREA: LOT: TAX MAP: PARCEL: BLOCK: ZONE: PROPERTY ID: MAP COORDINATES: TYPE OF IMPROVEMENTS: USE:	OWNERS NAME: <u>Michael Hill</u> ADDRESS: <u>12938 Byefield Dr.</u> CITY: <u>Highland</u> STATE: <u>MD</u> ZIP CODE: <u>20777</u> HOME PHONE: <u>301-854-1289</u> WORK PHONE:
--	---

	CHECK ONE	HOW MANY	
SINGLE FAMILY DWELLING	<input checked="" type="checkbox"/>	<u>1</u> ZONES	COMPANY NAME: <u>Rowan Heating & A/C</u>
SINGLE FAMILY TOWNHOUSE	<input type="checkbox"/>	___ ZONES	LICENSEE NAME: <u>James Rowan</u>
MULTI-FAMILY / HOTEL/MOTEL	<input type="checkbox"/>	___ ROOMS	ADDRESS: <u>12459 Route 216</u>
ASSISTED LIVING HOMES (16 OR FEWER RESIDENTS)	<input type="checkbox"/>	___ ROOMS	CITY: <u>Highland</u> STATE: <u>MD</u> ZIP CODE: <u>20777</u> PHONE: <u>410-531-0008</u> HVACR LICENSE NO: <u>2569</u>

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

Additions and Alterations

Heating

Air Conditioning

Heating and Air Conditioning

Permit 5/19/2010
Wells Drilled

****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 = <u>40</u> Technology Fee (10% of Permit Fee) = <u>4</u> Plus Application Fee <u>\$50.00</u> Total Fees Due = <u>\$94.00</u>	Rooms <u>to Issue MP</u> Permit Fee = # of Rooms x \$80 = <u>133</u> Technology Fee (10% of Permit Fee) = <u>13.3</u> Plus Application Fee \$50 <u>133</u> Total Fees Due = <u>\$50.00</u>
--	--

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.

James A. Rowan 4/28/10
 SIGNATURE OF LICENSEE DATE

James A. Rowan
 PRINT NAME OF LICENSEE

Jim@RowanHVAC.com
 Email Address

Validation	
Check Number:	<u>17799</u>
Cash:	
Receipt Number:	<u>203889</u>

WE CERTIFY THAT IF WE HAVE VIEWED THIS HOUSE LOCATION AND THAT I/WE ACCEPT THE LOCATION OF THE IMPROVEMENTS SHOWN HEREIN

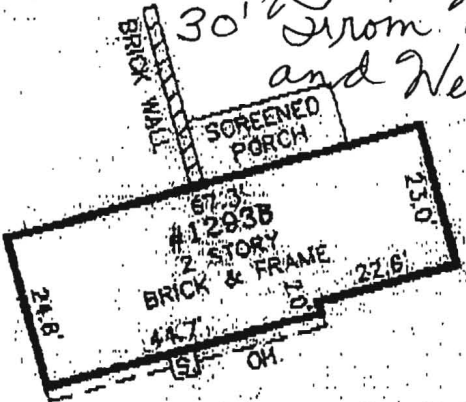
[Signature]
[Signature]

one "C" per H.U.D. panel
 044-0037B

distances as shown to the structure from property are approximate. The level of accuracy for this drawing should be no greater than minus 1 Foot.

2/2/2010 $1'' = 60'$

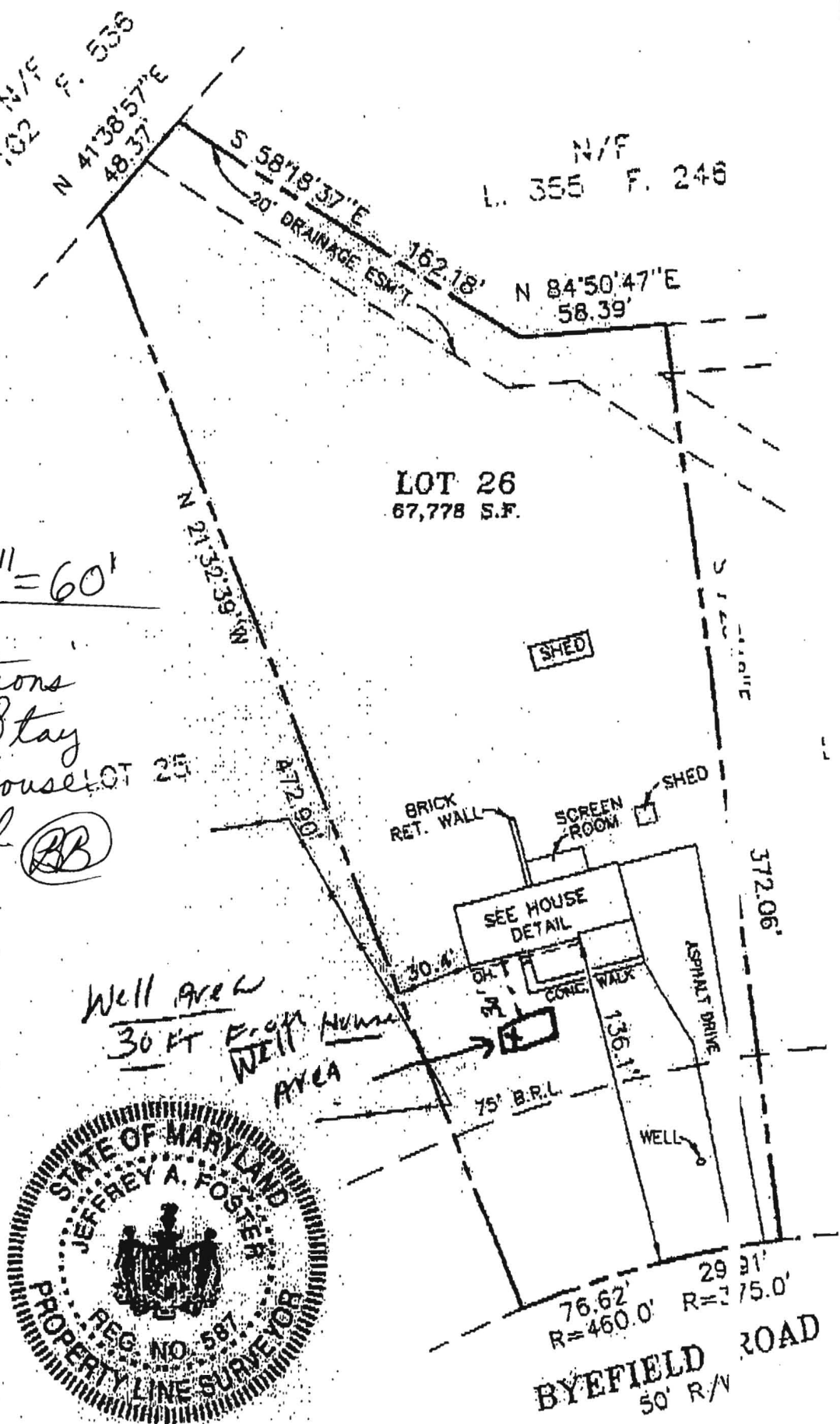
Borehole Locations
 O.K. Must Stay
 30' from House and Well (BB)



HOUSE DETAIL
 SCALE 1" = 40'



LOCATION DRAWING
 LOT 26
 RESUBDIVISION
 WLOCK HILL
 RD COUNTY, MARYLAND



FOR'S CERTIFICATE
 INFORMATION SHOWN HEREON HAS BEEN BASED ON THE RESULTS OF A FIELD INSPECTION OF THE DEED OR PLAT OF RECORD, EXISTING

REFERENCES
 PLAT BK. 17



SNIDER & ASSOCIATES
 SURVEYORS - ENGINEERS
 LAND PLANNING CONSULTANTS
 2 Professional Drive, Suite

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1 Room name		Entire House						Basement						
2 Exposed wall		458.0 ft						138.0 ft						
3 Ceiling height		8.4 ft						8.0 ft						
4 Room dimensions		3806.0 ft²						44.0 x 25.0 ft						
5 Room area		3806.0 ft²						1100.0 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	12C-0sw	0.091	ne	4.51	1.73	946	795	3586	1375	0	0	0	0
		4A3-2ov	0.470	ne	31.02	34.13	130	0	4029	4434	0	0	0	0
		11P0	0.290	ne	19.14	8.79	21	21	402	185	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	352	352	1870	265	352	352	1870	265
	W	12C-0sw	0.091	se	6.01	2.30	425	378	2270	870	0	0	0	0
		4A3-2ov	0.470	se	31.02	40.63	47	0	1461	1914	0	0	0	0
	W	15B11-0wc-4	0.099	se	5.20	0.68	200	183	948	124	200	183	948	124
		4A3-2ov	0.470	se	31.02	40.63	18	0	543	711	18	0	543	711
	W	12C-0sw	0.091	sw	4.58	1.76	946	836	3834	1470	0	0	0	0
		4A3-2ov	0.470	sw	31.02	40.63	70	0	2156	2824	0	0	0	0
		4A3-2ovd	0.470	sw	31.02	40.63	40	0	1247	1634	0	0	0	0
	W	15B11-0wc-4	0.099	sw	5.18	0.67	352	318	1645	213	352	318	1645	213
		4A3-2ov	0.470	sw	31.02	40.63	14	0	419	549	14	0	419	549
		11P0	0.290	sw	19.14	8.79	21	21	402	185	21	21	402	185
	W	12C-0sw	0.091	nw	3.08	1.18	425	425	1309	502	0	0	0	0
	W	15B11-0wc-4	0.099	nw	5.31	0.75	200	200	1063	150	200	200	1063	150
	P	12C-0sw	0.091	-	6.01	1.40	207	207	1243	290	0	0	0	0
	C	16B-38ad	0.026	-	1.18	0.96	1606	1606	1888	1539	0	0	0	0
	F	19A-0bscp	0.295	-	0.00	0.00	506	506	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.92	0.00	1100	1100	1016	0	1100	1100	1016	0
6	c) AED excursion									0				-106
	Envelope loss/gain								31331	19231			7906	2091
12	a) Infiltration								8393	996			1722	204
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230	5					1150	0			0
			Appliances @	1200	1					1200	0			0
	Subtotal (lines 6 to 13)								39724	22578			9627	2295
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								39724	22578			9627	2295
15	Duct loads						15%	24%	5968	5339	0%	0%	0	0
	Total room load								45692	27917			9627	2295
	Air required (cfm)								1214	1214			256	100

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Bed Rm 3	198	4205	2971	112	129
Bed Rm 2	178	2345	1844	62	80
Hall	102	246	217	7	9
Entire House	3806	45692	27917	1214	1214
Other equip loads		5532	1526		
Equip. @ 0.98 RSM			28913		
Latent cooling			4612		
TOTALS	3806	51224	33524	1214	1214

JUL 30 09:10:12

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.



wrightsoft

Right-Suite® Universal 7.1.14 RSU06491

2010-Apr-26 18:19:13

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Page 2

Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mnis.com

				Dining Rm 23.0 ft				Living Rm 33.0 ft							
				9.0 ft		12.0 x 11.0 ft		9.0 ft		19.0 x 14.0 ft					
				heat/cool				heat/cool							
				132.0 ft²				266.0 ft²							
1	Room name	Exposed wall	Ceiling height	Room dimensions	Room area	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	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	171	140	840	322	
	G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	31	0	968	1065	
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	se	5.31	0.75	0	0	0	0	0	0	0	0	
11	W	12C-0sw	0.091	se	6.01	2.30	99	65	393	151	126	126	757	290	
	G	4A3-2ov	0.470	se	31.02	40.63	34	0	1042	1365	0	0	0	0	
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	sw	4.58	1.76	108	77	461	177	0	0	0	0	
	G	4A3-2ov	0.470	sw	31.02	40.63	31	0	968	1268	0	0	0	0	
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	rw	3.08	1.18	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	rw	5.31	0.75	0	0	0	0	0	0	0	0	
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0	
	C	16B-38ad	0.026	-	1.18	0.96	0	0	0	0	0	0	0	0	
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion									-134				-64	
	Envelope loss/gain									2864	2826			2564	1613
12	a) Infiltration									646	77			926	110
	b) Room ventilation									0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0	0
			Appliances @	1200			0			0	0			0	0
	Subtotal (lines 6 to 13)									3510	2903			3491	1723
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									0	0			0	0
14	Subtotal									3510	2903			3491	1723
15	Duct loads						0%	0%		0	0		0%	0	0
	Total room load									3510	2903			3491	1723
	Airrequired (cfm)									93	126			93	75

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

				Kitchen 8.0 ft 9.0 ft heat/cool 88.0 ft ² 8.0 x 11.0 ft				Breakfast Area 8.0 ft 9.0 ft heat/cool 88.0 ft ² 8.0 x 11.0 ft						
6	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
11	W	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	0	0	0	0
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.58	1.76	72	66	394	151	72	32	191	73
	G	4A3-2ov	0.470	sw	31.02	40.63	6	0	199	260	0	0	0	0
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	40	0	1247	1634
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.08	1.18	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0
C	16B-38ad	0.026	-	1.18	0.96	0	0	0	0	0	0	0	0	
F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion								20				501	
	Envelope loss/gain							593	431			1438	2208	
12	a) Infiltration							225	27			225	27	
	b) Room ventilation							0	0			0	0	
13	Internal gains:		Occupants @	230	0				0	0			0	
			Appliances @	1200	1				1200	0			0	
	Subtotal (lines 6 to 13)							817	1657			1663	2234	
	Less external load							0	0			0	0	
	Less transfer							0	0			0	0	
	Redistribution							0	0			0	0	
14	Subtotal							817	1657			1663	2234	
15	Duct loads				0%	0%		0	0	0%	0%	0	0	
	Total room load							817	1657			1663	2234	
	Air required (cfm)							22	72			44	97	

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Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, HighLand, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

		Powder		Laundry											
		5.0 ft		11.0 ft											
		heat/cool		heat/cool											
		9.0 ft		9.0 ft											
		5.0 x 7.0 ft		11.0 x 7.0 ft											
		35.0 ft²		77.0 ft²											
1	Room name	Exposed wall	Ceiling height	Room dimensions	Room area										
2	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	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	0	0	0	0	
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0	
11	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	sw	4.58	1.76	45	45	270	104	99	93	556	213	
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	6	0	199	260	
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0	
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0	
	W	12C-0sw	0.091	nw	3.08	1.18	0	0	0	0	0	0	0	0	
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0	
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	63	63	378	88	
	C	16B-38ad	0.026	-	1.18	0.96	0	0	0	0	0	0	0	0	
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion														66
	Envelope loss/gain								270	98			1133	627	
12	a) Infiltration								140	17			309	37	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230		0				0	0			0	
			Appliances @	1200		0				0	0			0	
	Subtotal (lines 6 to 13)								411	115			1442	664	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								411	115			1442	664	
15	Duct loads							0%	0%	0	0	0%	0%	0	0
	Total room load								411	115			1442	664	
	Air required (cfm)								11	5			38	29	

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, HighLand, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1 Room name				Family Rm 18.0 ft				Foyer 9.0 ft							
2 Exposed wall				9.0 ft heat/cool				9.0 ft heat/cool							
3 Ceiling height				16.0 x 18.0 ft				9.0 x 14.0 ft							
4 Room dimensions				288.0 ft²				126.0 ft²							
5 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	12C-0sw	0.091	ne	4.51	1.73	144	113	677	260	81	60	360	138	
	G	4A3-2ov	0.470	ne	31.02	34.13	31	0	968	1065	0	0	0	0	
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	21	21	402	185	
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0	
	11	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	0
		G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
		W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
		G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
		W	12C-0sw	0.091	sw	4.58	1.76	0	0	0	0	0	0	0	0
		G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
		G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
W		15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0	
G		4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
D		11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0	
W		12C-0sw	0.091	nw	3.08	1.18	18	18	108	41	0	0	0	0	
W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0		
P	12C-0sw	0.091	-	6.01	1.40	144	144	865	202	0	0	0	0		
C	16B-38ad	0.026	-	1.18	0.96	0	0	0	0	0	0	0	0		
F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0		
F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0		
6	c) AED excursion									-57				-16	
Envelope loss/gain									2618	1511			762	307	
12	a) Infiltration								505	60			253	30	
	b) Room ventilation								0	0			0	0	
13	Internal gains		Occupants @	230		0				0	0			0	
			Appliances @	1200		0				0	0			0	
Subtotal (lines 6 to 13)									3124	1571			1015	337	
Less external load									0	0			0	0	
Less transfer									0	0			0	0	
Redistribution									0	0			0	0	
14	Subtotal								3124	1571			1015	337	
15	Duct loads					0%	0%		0	0	0%	0%	0	0	
Total room load									3124	1571			1015	337	
Air required (cfm)									83	68			27	15	

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1		Room name		Garage				Bed Rm 4						
2		Exposed wall		67.0 ft				26.0 ft						
3		Ceiling height		9.0 ft uncondit.				8.0 ft heat/cool						
4		Room dimensions		22.0 x 23.0 ft				1.0 x 147.0 ft						
5		Room area		506.0 ft²				147.0 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	12C-0sw	0.091	ne	4.51	1.73	198	198	0	0	0	0	0	0
		4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	0	0	0	0
		11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	104	91	544	208
	W	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	14	0	419	549
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
	W	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.58	1.76	198	198	0	0	104	91	544	208
	W	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	14	0	419	549
	W	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0
	W	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	W	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.08	1.18	207	207	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.18	0.96	506	506	0	0	147	147	252	206
	F	19A-0bscp	0.295	-	0.00	0.00	506	506	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				-89
	Envelope loss/gain									0	0			2177 1630
12	a) Infiltration									0	0			649 77
	b) Room ventilation									0	0			0 0
13	Internal gains:		Occupants @	230			0				1			230
			Appliances @	1200			0				0			0
	Subtotal (lines 6 to 13)									0	0			2826 1937
	Less external load									0	0			0 0
	Less transfer									0	0			0 0
	Redistribution									0	0			0 0
14	Subtotal									0	0			2826 1937
15	Duct loads						0%	0%		0	0	41%	59%	1153 1139
	Total room load									0	0			3979 3076
	Air required (cfm)									0	0			106 134

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Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1 Room name				Bath Rm 2				Master Bath Rm								
2 Exposed wall				8.0 ft		9.0 ft		8.0 ft		8.0 ft						
3 Ceiling height				1.0		x		57.0 ft		1.0		x		50.0 ft		
4 Room dimensions				57.0 ft²				50.0 ft²								
5 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	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	0	0	0	0		
		G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	0	0	0		
		D	11PD	0.290	ne	19.14	8.79	0	0	0	0	0	0	0		
	11	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0		
			G	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	
			D	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	
		W	G	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	
			G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	
			D	12C-0sw	0.091	sw	4.58	1.76	72	66	396	152	64	58	348	134
		W	G	4A3-2ov	0.470	sw	31.02	40.63	6	0	186	244	6	0	186	244
			G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
D			15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0	
W		G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0	
		G	11PD	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0	
	D	12C-0sw	0.091	nw	3.08	1.18	0	0	0	0	0	0	0	0		
W	G	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0		
	G	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0		
	D	16B-38ad	0.026	-	1.18	0.96	57	57	98	80	50	50	86	70		
P	C	F	19A-Obscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0		
			21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0		
6	c) AED excursion								64				65			
	Envelope loss/gain								680	539			620	513		
12	a) Infiltration								225	27			200	24		
	b) Room ventilation								0	0			0	0		
13	Internal gains		Occupants @	230					0	0			0	0		
			Appliances @	1200					0	0			0	0		
	Subtotal (lines 6 to 13)								905	566			820	536		
	Less external load								0	0			0	0		
	Less transfer								0	0			0	0		
	Redistribution								0	0			0	0		
14	Subtotal								905	566			820	536		
15	Duct loads								41%	59%			335	315		
	Total room load								1274	899			1154	852		
	Air required (cfm)								34	39			31	37		

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Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1 Room name				Master W/C				Master Bed Rm						
2 Exposed wall				8.0 ft		15.0 ft		8.0 ft		33.0 ft				
3 Ceiling height				heat/cool		heat/cool		heat/cool		heat/cool				
4 Room dimensions				8.0 x 7.0 ft		8.0 x 7.0 ft		15.0 x 18.0 ft		15.0 x 18.0 ft				
5 Room area				56.0 ft²		56.0 ft²		270.0 ft²		270.0 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	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	120	93	559	214
	G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	27	0	838	922
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0
11	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.58	1.76	64	64	384	147	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.08	1.18	56	56	336	129	144	144	865	332
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.18	0.96	56	56	96	78	270	270	463	378
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-93
	Envelope loss/gain								817	337			2724	1752
12	a) Infiltration								374	44			823	98
	b) Room ventilation								0	0			0	0
13	Internal gains		Occupants @	230			0			0	2			460
			Appliances @	1200			0			0	0			0
	Subtotal (lines 6 to 13)								1191	381			3548	2310
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1191	381			3548	2310
15	Duct loads						41%	59%	486	224	41%	59%	1448	1358
	Total room load								1677	606			4995	3668
	Air required (cfm)								45	26			133	160

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Right-J® Worksheet
Entire House
Rowan Heating & A/C INC.

Job: 3399
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 By: WHD

12459 Route 216, Highland, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mris.com

1		Room name		Bed Rm 2		Hall								
2		Exposed wall		14.0 ft		0 ft								
3		Ceiling height		8.0 ft		8.0 ft								
4		Room dimensions		1.0 x 178.0 ft		1.0 x 102.0 ft								
5		Room area		178.0 ft²		102.0 ft²								
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	12C-0sw	0.091	ne	4.51	1.73	112	99	592	227	0	0	0	0
	G	4A3-2ov	0.470	ne	31.02	34.13	14	0	419	461	0	0	0	0
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0
11	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.58	1.76	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.08	1.18	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.18	0.96	178	178	305	249	102	102	175	143
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-47				-6
	Envelope loss/gain								1316	890			175	136
12	a) Infiltration								349	41			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains		Occupants @	230		1				230	0			0
			Appliances @	1200		0				0	0			0
	Subtotal (lines 6 to 13)								1665	1161			175	136
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1665	1161			175	136
15	Duct loads								41%	59%			71	80
	Total room load								2345	1844			246	217
	Air required (cfm)								62	80			7	9

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Right-J® Worksheet
Entire House
 Rowan Heating & A/C INC.

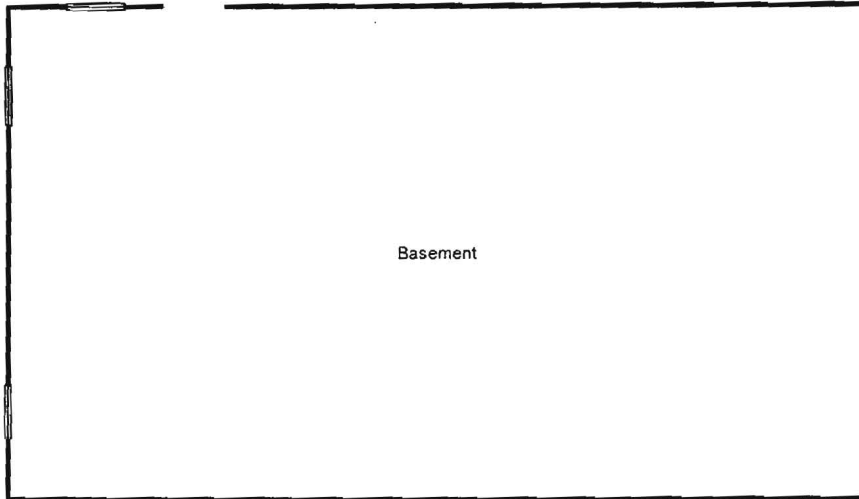
Job: 3399
 Date: April 26, 2010
 By: WHD

12459 Route 216, HgHand, MD 20777 Phone: 410-531-0008 Fax: 301-776-5117 Email: Trowan@mrs.com

1		Room name		Dressing Rm				Bed Rm 3						
2		Exposed wall		8.0 ft				8.0 ft						
3		Ceiling height		6.0 ft				27.0 ft						
4		Room dimensions		6.0 x 7.0 ft				1.0 x 198.0 ft						
5		Room area		42.0 ft²				198.0 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	12C-0sw	0.091	ne	4.51	1.73	0	0	0	0	120	93	559	214
	G	4A3-2ov	0.470	ne	31.02	34.13	0	0	0	0	27	0	838	922
	D	11P0	0.290	ne	19.14	8.79	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	ne	5.31	0.75	0	0	0	0	0	0	0	0
11	W	12C-0sw	0.091	se	6.01	2.30	0	0	0	0	96	96	577	221
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	se	5.20	0.68	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	se	31.02	40.63	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	sw	4.58	1.76	48	48	288	111	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	G	4A3-2ovd	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	sw	5.18	0.67	0	0	0	0	0	0	0	0
	G	4A3-2ov	0.470	sw	31.02	40.63	0	0	0	0	0	0	0	0
	D	11P0	0.290	sw	19.14	8.79	0	0	0	0	0	0	0	0
	W	12C-0sw	0.091	nw	3.08	1.18	0	0	0	0	0	0	0	0
	W	15B11-0wc-4	0.099	nw	5.31	0.75	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	6.01	1.40	0	0	0	0	0	0	0	0
	C	16B-38ad	0.026	-	1.18	0.96	42	42	72	59	198	198	340	277
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.92	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													-73
	Envelope loss/gain								360	161			2312	1561
12	a) Infiltration								150	18			674	80
	b) Room ventilation								0	0			0	0
13	Internal gains		Occupants @	230			0				1			230
			Appliances @	1200			0				0			0
	Subtotal (lines 6 to 13)								510	179			2986	1871
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								510	179			2986	1871
15	Duct loads						41%	59%	208	105	41%	59%	1219	1100
	Total room load								718	284			4205	2971
	Air required (cfm)								19	12			112	129

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.

Basement



Basement

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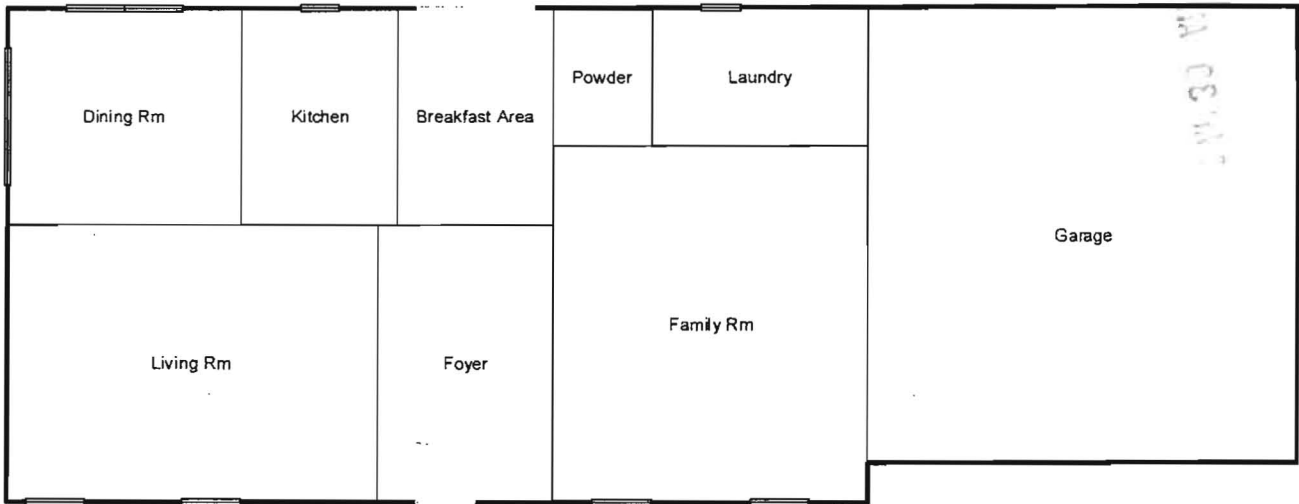
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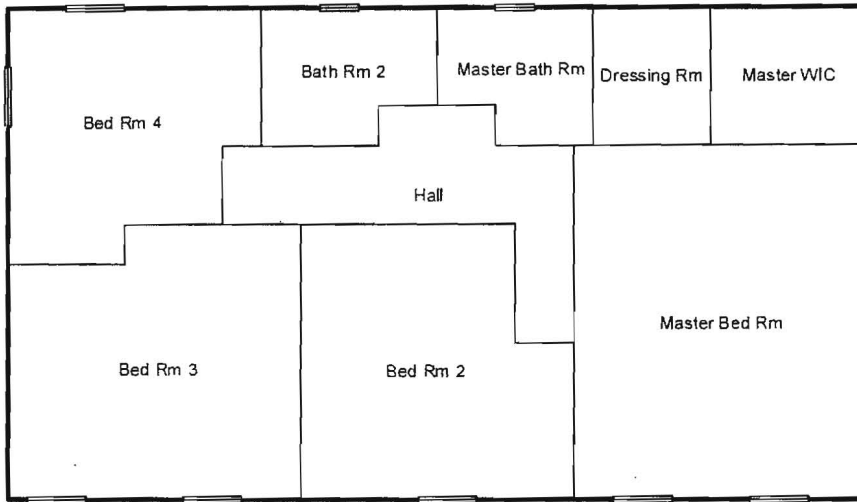
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Second Floor



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