

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

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

HVACR PERMIT # M1500038
BUILDING PERMIT #

BUILDING ADDRESS: 12351 Preakness Circle Ln, Clarksville
SUITE/APT: _____
SUBDIVISION: 0000
CENSUS TRACT: _____ SECTION: _____ AREA: 1.04 ACRES
LOT: 6 TAX MAP: 0028 PARCEL: 0074
BLOCK: 9999 ZONE: _____
PROPERTY ID: 448654 MAP COORDINATES: _____
TYPE OF IMPROVEMENTS: Replacement USE: _____

OWNERS NAME: CHRIS BREWSTER
ADDRESS: 12351 Preakness Circle Ln.
CITY: CLARKSVILLE
STATE: MD ZIP CODE: 21209
HOME PHONE: 410-241-9734 WORK PHONE: _____

CHECK ONE	HOW MANY
SINGLE FAMILY DWELLING <input type="checkbox"/>	<u>3</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: HVAC SERVICE GROUP INC
LICENSEE NAME: TODD STILL / FRANK TURANO
ADDRESS: 507 DUVER ROAD
CITY: EASTON
STATE: MD ZIP CODE: 21601
PHONE: 410-763-9500 HVACR LICENSE NO: 01-18062

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

RECEIVED

****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 = 3 x 40
Technology Fee (10% of Permit Fee) = 12.00
Plus Application Fee 50.00
Total Fees Due = 182

Rooms

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

FEB 03 2015

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: Todd G. Still DATE: FEBRUARY 2 2015

PRINT NAME OF LICENSEE: TODD G. STILL

Email Address: TG STILL @ GMAIL - COM

Validation

Check Number: _____
Cash: _____
Receipt Number: _____

Make check payable to: DIRECTOR OF FINANCE OF HOWARD COUNTY

well + septic

RLESSER9@GMAIL.COM



LICENSE * REGISTRATION * CERTIFICATION * PERMIT

STATE OF MARYLAND

DEPARTMENT OF LABOR, LICENSING AND REGULATION

Martin O'Mall
Governor

Anthony G. Bro
Lt. Governor

Leonard J. How
Secretary

STATE BOARD OF HVACR CONTRACTORS

CERTIFIES THAT:

TODD G. STILL

INSURED TO CONTRACT WORK

PO BOX 618
507 DOVER ROAD
EASTON

MD 21601

IS AN AUTHORIZED: **01 - MASTER LICENSE**

LIC/REG/CERT
18062

EXPIRATION
01-18-2016

EFFECTIVE
N/A

CONTROL NO
4509653

Signature of Bearer

Leonard J. Howie, III
Secretary DLLR

WHERE REQUIRED BY LAW THIS MUST BE CONSPICUOUSLY DISPLAYED IN OFFICE TO WHICH IT APPLIES

05 01 18062

4,509,653

05 01 18062

STATE BOARD OF HVACR CONTRACTORS
500 N. CALVERT STREET
BALTIMORE, MD 21202-3651

TODD G STILL
INSURED TO CONTRACT WORK
PO BOX 618
507 DOVER ROAD
EASTON

MD 21601



LICENSE * REGISTRATION * CERTIFICATION * PERMIT
STATE OF MARYLAND
DEPARTMENT OF LABOR, LICENSING AND REGULATION

Martin O'Malley
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Secretary

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CERTIFIES THAT:

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LIC/REG/CERT
18062

EXPIRATION
01-18-2016

EFFECTIVE
N/A

CONTROL NO
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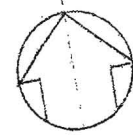
Signature of Bearer

Leonard J. Howie, III
Secretary D.L.R.

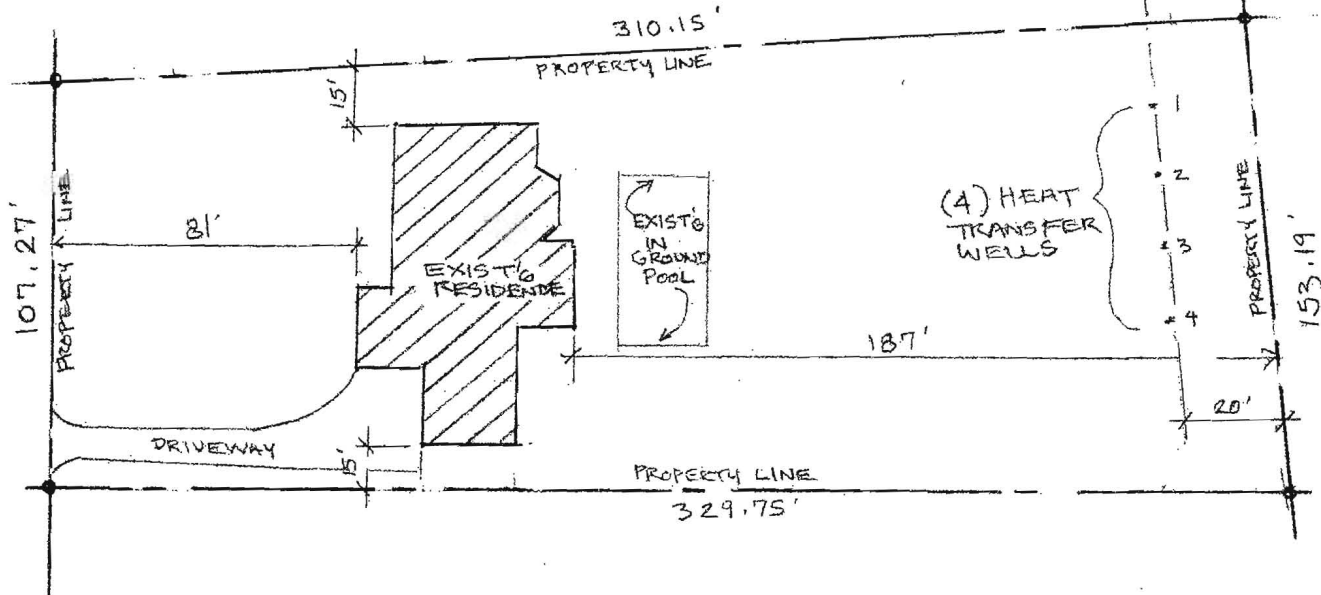
11/100-100

BREWSTER RESIDENCE

12351 Preakness Circle Ln., Clarksville MD 21029



Preakness Circle Ln.



SITE PLAN

SCALE: 1" = 50'-0"

M15000138

507 Dover Road, Easton, MD 21601

Project Information

For: Brewster Residence
12351 Preakness Circle Ln, Clarksville, MD 21029

Notes:

Design Information

Weather: Baltimore Blt-Washngtn Int'l, MD, US

Winter Design Conditions

Outside db 5 °F
Inside db 70 °F
Design TD 65 °F

Summer Design Conditions

Outside db 98 °F
Inside db 75 °F
Design TD 23 °F
Daily range M
Relative humidity 50 %
Moisture difference 50 gr/lb

Heating Summary

Structure 41475 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 41475 Btuh

Sensible Cooling Equipment Load Sizing

Structure 20095 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 1.03
Equipment sensible load 20698 Btuh

Infiltration

Method Simplified
Construction quality Semi-tight
Fireplaces 1 (Average)

	Heating	Cooling
Area (ft ²)	4391	4391
Volume (ft ³)	25145	25145
Air changes/hour	0.24	0.11
Equiv. AVF (cfm)	99	47

Latent Cooling Equipment Load Sizing

Structure 1565 Btuh
Ducts 0 Btuh
Central vent (0 cfm) 0 Btuh
Equipment latent load 1565 Btuh
Equipment total load 22263 Btuh
Req. total capacity at 0.70 SHR 2.5 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 919 cfm
Air flow factor 0.022 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 919 cfm
Air flow factor 0.046 cfm/Btuh
Static pressure 0 in H2O
Load sensible heat ratio 0.93

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



Project Summary
Second Floor
HVAC Services Group

Job: 4610
 Date: Jan 30, 2015
 By: WHD

507 Dover Road, Easton, MD 21601

Project Information

For: Brewster Residence
 12351 Preakness Circle Ln, Clarksville, MD 21029

Notes:

Design Information

Weather: Baltimore Bit-Washngtn Int'l, MD, US

Winter Design Conditions

Outside db	5 °F
Inside db	70 °F
Design TD	65 °F

Summer Design Conditions

Outside db	98 °F
Inside db	75 °F
Design TD	23 °F
Daily range	M
Relative humidity	50 %
Moisture difference	50 gr/lb

Heating Summary

Structure	30582 Btuh
Ducts	7404 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	37985 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17513 Btuh
Ducts	6549 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	1.03
Equipment sensible load	24784 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	1 (Average)

	Heating	Cooling
Area (ft ²)	2359	2359
Volume (ft ³)	23590	23590
Air changes/hour	0.32	0.15
Equiv. AVF (cfm)	124	59

Latent Cooling Equipment Load Sizing

Structure	3372 Btuh
Ducts	1223 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	4596 Btuh
Equipment total load	29380 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	1009 cfm
Air flow factor	0.027 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	1009 cfm
Air flow factor	0.042 cfm/Btuh
Static pressure	0 in H2O
Load sensible heat ratio	0.84

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





Load Short Form
First Floor
HVAC Services Group

Job: 4610
 Date: Jan 30, 2015
 By: WHD

507 Dover Road, Easton, MD 21601

Project Information

For: Brewster Residence
 12351 Preakness Circle Ln, Clarksville, MD 21029

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	5	98	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	65	23	Fireplaces	1 (Average)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	27	50		

HEATING EQUIPMENT

COOLING EQUIPMENT

Make		Make	
Trade		Trade	
Model		Cond	
AHRI ref		Coil	
Efficiency	80 AFUE	AHRI ref	
Heating input	0 Btuh	Efficiency	0 SEER
Heating output	0 Btuh	Sensible cooling	0 Btuh
Temperature rise	0 °F	Latent cooling	0 Btuh
Actual air flow	919 cfm	Total cooling	0 Btuh
Air flow factor	0.022 cfm/Btuh	Actual air flow	919 cfm
Static pressure	0 in H2O	Air flow factor	0.046 cfm/Btuh
Space thermostat		Static pressure	0 in H2O
		Load sensible heat ratio	0.93

ROOM NAME	Area (ft ²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Basement	2085	9205	504	204	23
Sitting Rm	210	3512	1668	78	76
Dining Rm	168	2596	984	58	45
Foyer	230	2034	937	45	43
Bath Rm 1	40	716	602	16	28
Office	280	4306	2528	95	116
Family Rm	465	4397	2706	97	124
Kitchen	692	5140	4068	114	186
Utility/Mud Rm	140	3557	1351	79	62
Nook	81	6011	4747	133	217

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



First Floor	4391	41475	20095	919	919
Other equip loads		0	0		
Equip. @ 1.03 RSM			20698		
Latent cooling			1565		
TOTALS	4391	41475	22263	919	919

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



Load Short Form
Second Floor
HVAC Services Group

Job: 4610
 Date: Jan 30, 2015
 By: WHD

507 Dover Road, Easton, MD 21601

Project Information

For: Brewster Residence
 12351 Preakness Circle Ln, Clarksville, MD 21029

Design Information

	Htg	Clg		Infiltration
Outside db (°F)	5	98	Method	Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	65	23	Fireplaces	1 (Average)
Daily range	-	M		
Inside humidity (%)	30	50		
Moisture difference (gr/lb)	27	50		

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 1009 cfm
 Air flow factor 0.027 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 1009 cfm
 Air flow factor 0.042 cfm/Btuh
 Static pressure 0 in H2O
 Load sensible heat ratio 0.84

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bed Rm 3	224	5324	3047	141	128
Upper Foyerr	152	1547	632	41	26
Bed Rm 2	169	3619	1875	96	79
Master Bed rm	227	5067	4364	135	183
Bath Rm 2	54	1377	1008	37	42
Bed Rm 4	210	4701	3088	125	130
Upper Family Rm	225	1865	804	50	34
Guest Rm	140	1613	1564	43	66
Guest WIC	35	56	53	1	2
Master Bath Rm 2	40	620	235	16	10
Master WIC 1	54	187	113	5	5
Master Bath Rm 1	225	5695	3838	151	161
Master WIC 2	81	1032	401	27	17
Laundry Rm	99	4560	2384	121	100
Hall/Bridge	424	722	658	19	28

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

Second Floor	2359	37985	24062	1009	1009
Other equip loads		0	0		
Equip. @ 1.03 RSM			24784		
Latent cooling			4596		
TOTALS	2359	37985	29380	1009	1009

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

507 Dover Road, Easton, MD 21601

		First Floor 372.0 ft						Basement 200.0 ft									
		9.5 ft						9.0 ft									
		4391.0 ft ²						2085.0 ft ² 1.0 x 2085.0 ft									
		heat/cool						heat/cool									
		2085.0 ft ²						2085.0 ft ²									
1	Room name	Exposed wall	Room height	Room dimensions	Room area	HTM (Btuh/ft ²)				Area (ft ²) or perimeter (ft)		Load (Btuh)		Area (ft ²) or perimeter (ft)		Load (Btuh)	
						U-value (Btuh/ft ² -°F)	Or	Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	4.41	1.77	360	251	1106	444	0	0	0	0	0	0	
	G	4A5-2ov	0.470	n	30.50	16.84	85	0	2603	1437	0	0	0	0	0	0	
	D	11D0	0.390	n	25.31	13.71	24	24	607	329	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	n	3.66	0.22	441	441	1612	97	441	441	1612	97	0	0	
11	W	12E-0sw	0.068	e	4.41	1.77	600	503	2219	891	0	0	0	0	0	0	
	G	4A5-2ov	0.470	e	30.50	40.11	57	0	1739	2286	0	0	0	0	0	0	
	G	4A5-2ovd	0.470	e	30.50	40.11	40	0	1226	1613	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	e	3.66	0.22	459	459	1678	101	459	459	1678	101	0	0	
	W	12E-0sw	0.068	s	4.41	1.77	560	315	1389	558	0	0	0	0	0	0	
	G	4A5-2ov	0.470	s	30.50	23.22	45	0	1373	1045	0	0	0	0	0	0	
	G	4A5-2ovd	0.470	s	30.50	23.22	200	0	6107	4649	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	s	3.66	0.22	441	441	1612	97	441	441	1612	97	0	0	
	W	12E-0sw	0.068	w	4.41	1.77	200	160	705	283	0	0	0	0	0	0	
	G	4A5-2ov	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0	0	0	
	G	4A5-2ovd	0.470	w	30.50	40.11	40	0	1226	1613	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	w	3.66	0.22	459	459	1678	101	459	459	1678	101	0	0	
	P	12C-0sw	0.091	-	5.91	1.84	600	600	3544	1106	0	0	0	0	0	0	
	C	16B-50ad	0.020	-	1.30	1.17	432	432	561	507	0	0	0	0	0	0	
	F	19A-0bscp	0.295	-	7.19	2.55	221	221	1589	563	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	0	0	
	F	21B-32t	0.014	-	0.91	0.00	2085	2085	1894	0	2085	2085	1894	0	0	0	
6	c)AED excursion									0						-15	
	Envelope loss/gain									34470	17720				8475	382	
12	a) Infiltration									7006	1175				730	122	
	b) Room ventilation									0	0				0	0	
13	Internal gains:		Occupants @	230			0			0	0				0	0	
			Appliances/other							1200					0	0	
	Subtotal (lines 6 to 13)									41475	20095				9205	504	
	Less external load									0	0				0	0	
	Less transfer									0	0				0	0	
	Redistribution									0	0				0	0	
14	Subtotal									41475	20095				9205	504	
15	Duct loads						0%	0%		0	0		-0%	0%	0	0	
	Total room load									41475	20095				9205	504	
	Air required (cfm)									919	919				204	23	

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

507 Dover Road, Easton, MD 21601

1 2 3 4 5	Room name		Foyer						Bath Rm 1					
	Exposed wall		10.0 ft			10.0 ft			10.0 ft			5.0 ft		
	Room height		1.0			x 230.0 ft			8.0			x 5.0 ft		
Room dimensions		Room area		230.0 ft²				40.0 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	12E-0sw	0.068	n	4.41	1.77	100	51	224	90	0	0	0	0
	G	4A5-2ov	0.470	n	30.50	16.84	25	0	773	427	0	0	0	0
	D	11D0	0.390	n	25.31	13.71	24	24	607	329	0	0	0	0
11	W	15B11-0wc-8	0.099	n	3.66	0.22	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	4.41	1.77	0	0	0	0	50	38	168	67
	G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	12	0	366	481
	G	4A5-2ovd	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	e	3.66	0.22	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.41	1.77	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	s	3.66	0.22	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.41	1.77	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	w	3.66	0.22	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.91	1.84	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.30	1.17	50	50	65	59	0	0	0	0
	F	19A-0bscp	0.295	-	7.19	2.55	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.91	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion													22
	Envelope loss/gain								1669	876			534	571
12	a) Infiltration								365	61			182	31
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								2034	937			716	602
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								2034	937			716	602
15	Duct loads						-0%	0%	0	0			0	0
	Total room load								2034	937			716	602
	Air required (cfm)								45	43			16	28

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

507 Dover Road, Easton, MD 21601

						Office 34.0 ft 10.0 ft 14.0 x 20.0 ft 280.0 ft²				Family Rm 26.0 ft 10.0 ft 15.0 x 31.0 ft 465.0 ft²								
1	2	3	4	5	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	12E-0sw	0.068	n	4.41	1.77	0	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	25.31	13.71	0	0	0	0	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	n	3.66	0.22	0	0	0	0	0	0	0	0	0	0	0	0
11	W	12E-0sw	0.068	e	4.41	1.77	200	170	750	301	110	110	485	195	0	0	0	0
	G	4A5-2ov	0.470	e	30.50	40.11	30	0	915	1203	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	e	3.66	0.22	0	0	0	0	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.41	1.77	140	110	485	195	150	70	309	124	0	0	0	0
	G	4A5-2ov	0.470	s	30.50	23.22	30	0	915	697	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	s	30.50	23.22	0	0	0	0	80	0	2440	1858	0	0	0	0
	W	15B11-0wc-8	0.099	s	3.66	0.22	0	0	0	0	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.41	1.77	0	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	w	3.66	0.22	0	0	0	0	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.91	1.84	0	0	0	0	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.30	1.17	0	0	0	0	165	165	214	194	0	0	0	0
	F	19A-0bscp	0.295	-	7.19	2.55	0	0	0	0	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.91	0.00	0	0	0	0	0	0	0	0	0	0	0	0
6	c)AED excursion												-76				177	
	Envelope loss/gain												3066	2320			3449	2547
12	a) Infiltration												1241	208			949	159
	b) Room ventilation												0	0			0	0
13	Internal gains:		Occupants @	230			0						0	0			0	0
			Appliances/other										0	0			0	0
	Subtotal (lines 6 to 13)												4306	2528			4397	2706
	Less external load												0	0			0	0
	Less transfer												0	0			0	0
	Redistribution												0	0			0	0
14	Subtotal												4306	2528			4397	2706
15	Duct loads						-0%	0%					0	0	-0%	0%	0	0
	Total room load												4306	2528			4397	2706
	Air required (cfm)												95	116			97	124

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

507 Dover Road, Easton, MD 21601

		Kitchen		Utility/Mud Rm										
		22.0 ft		7.0 ft										
		heat/cool		heat/cool										
		10.0 ft		10.0 ft										
		1.0 x 692.0 ft		7.0 x 20.0 ft										
		692.0 ft²		140.0 ft²										
1	Room name	Exposed wall	Room height	Room dimensions	Room area									
						Area (ft²)		Load (Btuh)		Area (ft²)		Load (Btuh)		
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	12E-0sw	0.068	n	4.41	1.77	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0
	D	11D0	0.390	n	25.31	13.71	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	n	3.66	0.22	0	0	0	0	0	0	0	0
11	W	12E-0sw	0.068	e	4.41	1.77	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	e	3.66	0.22	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.41	1.77	110	30	132	53	70	55	243	97
	G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	15	0	458	348
	G	4A5-2ovd	0.470	s	30.50	23.22	80	0	2440	1858	0	0	0	0
	W	15B11-0wc-8	0.099	s	3.66	0.22	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.41	1.77	110	110	485	195	0	0	0	0
	G	4A5-2ov	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	w	3.66	0.22	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	5.91	1.84	190	190	1122	350	270	270	1595	498
	C	16B-50ad	0.020	-	1.30	1.17	121	121	157	142	0	0	0	0
	F	19A-0bscp	0.295	-	7.19	2.55	0	0	0	0	140	140	1007	357
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	21B-32t	0.014	-	0.91	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									136				8
	Envelope loss/gain								4337	2734			3302	1308
12	a) Infiltration								803	135			255	43
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			0			0	0			0
			Appliances/other							1200				0
	Subtotal (lines 6 to 13)								5140	4068			3557	1351
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								5140	4068			3557	1351
15	Duct loads						-0%	0%	0	0	-0%	0%	0	0
	Total room load								5140	4068			3557	1351
	Air required (cfm)								114	186			79	62

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

507 Dover Road, Easton, MD 21601

1	Room name				Nook									
	2	3	4	5	10.0 ft		27.0 ft		heat/cool					
					81.0 ft²		9.0 x 9.0 ft							
6	Ty	Construction number	U-value (Btuh/ft²·°F)	Or	HTM (Btuh/ft²)		Area (ft²) or perimeter (ft)		Load (Btuh)		Area or perimeter		Load	
					Heat	Cool	Gross	N/P/S	Heat	Cool	Gross	N/P/S	Heat	Cool
6	W	12E-0sw	0.068	n	4.41	1.77	0	0	0	0				
	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0				
	D	11D0	0.390	n	25.31	13.71	0	0	0	0				
	W	15B11-0wc-8	0.099	n	3.66	0.22	0	0	0	0				
11	W	12E-0sw	0.068	e	4.41	1.77	90	50	220	88				
	G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0				
	G	4A5-2ovd	0.470	e	30.50	40.11	40	0	1226	1613				
	W	15B11-0wc-8	0.099	e	3.66	0.22	0	0	0	0				
	W	12E-0sw	0.068	s	4.41	1.77	90	50	220	88				
	G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0				
	G	4A5-2ovd	0.470	s	30.50	23.22	40	0	1226	933				
	W	15B11-0wc-8	0.099	s	3.66	0.22	0	0	0	0				
	W	12E-0sw	0.068	w	4.41	1.77	90	50	220	88				
	G	4A5-2ov	0.470	w	0.00	0.00	0	0	0	0				
	G	4A5-2ovd	0.470	w	30.50	40.11	40	0	1226	1613				
	W	15B11-0wc-8	0.099	w	3.66	0.22	0	0	0	0				
	P	12C-0sw	0.091	-	5.91	1.84	0	0	0	0				
	C	16B-50ad	0.020	-	1.30	1.17	81	81	105	95				
	F	19A-0bscp	0.295	-	7.19	2.55	81	81	583	206				
	F	19C-19cscp	0.049	-	0.00	0.00	0	0	0	0				
	F	21B-32t	0.014	-	0.91	0.00	0	0	0	0				
6	c)AED excursion									-143				
	Envelope loss/gain								5026	4581				
12	a) Infiltration								985	165				
	b) Room ventilation								0	0				
13	Internal gains:		Occupants @	230			0			0				
			Appliances/other							0				
	Subtotal (lines 6 to 13)								6011	4747				
	Less external load								0	0				
	Less transfer								0	0				
	Redistribution								0	0				
14	Subtotal								6011	4747				
15	Duct loads						-0%	0%	0	0				
	Total room load								6011	4747				
	Air required (cfm)								133	217				

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

507 Dover Road, Easton, MD 21601

1 Room name		Second Floor						Bed Rm 3						
2 Exposed wall		10.0 ft						10.0 ft 35.0 ft heat/cool						
3 Room height		242.0 ft						14.0 x 16.0 ft						
4 Room dimensions		2359.0 ft²						224.0 ft²						
5 Room area														
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	12E-0sw	0.068	n	4.41	1.77	650	560	2471	992	140	110	485	195
	G	4A5-2ov	0.470	n	30.50	16.84	90	0	2745	1516	30	0	915	505
	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	e	4.41	1.77	560	518	2286	918	160	145	640	257
	G	4A5-2ov	0.470	e	30.50	40.11	42	0	1281	1685	15	0	458	602
	G	4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.41	1.77	650	565	2493	1001	0	0	0	0
	G	4A5-2ov	0.470	s	30.50	23.22	85	0	2593	1974	0	0	0	0
	G	4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.41	1.77	560	500	2207	886	50	50	221	89
	G	4A5-2ov	0.470	w	30.50	40.11	60	0	1830	2407	0	0	0	0
	G	4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.30	1.17	2359	2359	3062	2767	224	224	291	263
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	1.10	0.39	710	710	783	277	0	0	0	0
	F	21B-32l	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									0				-137
	Envelope loss/gain								21752	14422			3009	1773
12	a) Infiltration								8830	1481			1277	214
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230			7			1610	1			230
			Appliances/other							0				0
	Subtotal (lines 6 to 13)								30582	17513			4287	2217
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								30582	17513			4287	2217
15	Duct loads						24%	37%	7404	6549	24%	37%	1038	829
	Total room load								37985	24062			5324	3047
	Air required (cfm)								1009	1009			141	128

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

Right-J® Worksheet
Second Floor
HVAC Services Group

Job: 4610
 Date: Jan 30, 2015
 By: WHD

507 Dover Road, Easton, MD 21601

		Upper Foyer						Bed Rm 2									
		13.0 ft heat/cool						23.0 ft heat/cool									
		10.0 ft 1.0 x 152.0 ft						10.0 ft 13.0 x 13.0 ft									
		152.0 ft²						169.0 ft²									
1	Room name	Exposed wall	Room height	Room dimensions	Room area	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	12E-0sw	0.068	n	4.41	1.77	130	130	574	230	130	100	441	177			
	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	30	0	915	505			
	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0			
	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0			
11	W	12E-0sw	0.068	e	4.41	1.77	0	0	0	0	50	50	221	89			
	G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0			
	G	4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0			
	W	15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0			
	W	12E-0sw	0.068	s	4.41	1.77	0	0	0	0	0	0	0	0			
	G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0			
	G	4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0			
	W	15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0			
	W	12E-0sw	0.068	w	4.41	1.77	0	0	0	0	50	50	221	89			
	G	4A5-2ov	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0			
	G	4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0			
	W	15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0			
	P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0			
	C	16B-50ad	0.020	-	1.30	1.17	152	152	197	178	169	169	219	198			
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0			
	F	19C-19cscp	0.049	-	1.10	0.39	0	0	0	0	52	52	57	20			
	F	21B-32t	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0			
6	c) AED excursion																
	Envelope loss/gain								771	380			2074	994			
12	a) Infiltration								474	80			839	141			
	b) Room ventilation								0	0			0	0			
13	Internal gains:		Occupants @	230			0			0	1			230			
			Appliances/other							0				0			
	Subtotal (lines 6 to 13)								1245	460			2914	1365			
	Less external load								0	0			0	0			
	Less transfer								0	0			0	0			
	Redistribution								0	0			0	0			
14	Subtotal								1245	460			2914	1365			
15	Duct loads						24%	37%	301	172	24%	37%	705	510			
	Total room load								1547	632			3619	1875			
	Air required (cfm)								41	26			96	79			

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

Right-J® Worksheet
Second Floor
HVAC Services Group

Job: 4610
 Date: Jan 30, 2015
 By: WHD

507 Dover Road, Easton, MD 21601

1 Room name		Master Bed rm 25.0 ft						Bath Rm 2 9.0 ft							
2 Exposed wall		10.0 ft heat/cool						10.0 ft heat/cool							
3 Room height		1.0 x 227.0 ft						6.0 x 9.0 ft							
4 Room dimensions		227.0 ft²						54.0 ft²							
5 Room area															
	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	12E-0sw	0.068	n	4.41	1.77	100	70	309	124	0	0	0	0	
	G	4A5-2ov	0.470	n	30.50	16.84	30	0	915	505	0	0	0	0	
	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0	
11	W	12E-0sw	0.068	n	4.41	1.77	0	0	0	0	90	78	344	138	
	G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	12	0	366	481	
	G	4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	s	4.41	1.77	0	0	0	0	0	0	0	0	
	G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0	
	G	4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0	
	W	12E-0sw	0.068	w	4.41	1.77	150	120	530	213	0	0	0	0	
	G	4A5-2ov	0.470	w	30.50	40.11	30	0	915	1203	0	0	0	0	
	G	4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0	
	W	15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0	
	P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0	
	C	16B-50ad	0.020	-	1.30	1.17	227	227	295	266	54	54	70	63	
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
	F	19C-19cscp	0.049	-	1.10	0.39	185	185	204	72	0	0	0	0	
	F	21B-32t	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c)AED excursion									179				-5	
	Envelope loss/gain								3167	2563			780	678	
12	a) Infiltration								912	153			328	55	
	b) Room ventilation								0	0			0	0	
13	Internal gains:		Occupants @	230			2			460	0			0	
			Appliances/other							0				0	
	Subtotal (lines 6 to 13)								4079	3176			1109	733	
	Less external load								0	0			0	0	
	Less transfer								0	0			0	0	
	Redistribution								0	0			0	0	
14	Subtotal								4079	3176			1109	733	
15	Duct loads							24%	37%	988	1188	24%	37%	268	274
	Total room load								5067	4364			1377	1008	
	Air required (cfm)								135	183			37	42	

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

507 Dover Road, Easton, MD 21601

1 Room name				Guest Rm 9.0 ft heat/cool				Guest WIC 0 ft heat/cool						
2 Exposed wall				10.0 ft 14.0 x 10.0 ft				10.0 ft 7.0 x 5.0 ft						
3 Room height														
4 Room dimensions														
5 Room area				140.0 ft²				35.0 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	12E-0sw	0.068	n	4.41	1.77	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0
		11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W	12E-0sw	0.068	e	4.41	1.77	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
		4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	s	4.41	1.77	90	75	331	133	0	0	0	0
		4A5-2ov	0.470	s	30.50	23.22	15	0	458	348	0	0	0	0
		4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0
	W	12E-0sw	0.068	w	4.41	1.77	0	0	0	0	0	0	0	0
		4A5-2ov	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0
		4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0
	P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0
	C	16B-50ad	0.020	-	1.30	1.17	140	140	182	164	35	35	45	41
	F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F	19C-19cscp	0.049	-	1.10	0.39	0	0	0	0	0	0	0	0
	F	21B-32l	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion									-22				-2
	Envelope loss/gain								970	624			45	39
12	a) Infiltration								328	55			0	0
	b) Room ventilation								0	0			0	0
13	Internal gains:		Occupants @	230		2			460	0			0	0
			Appliances/other						0				0	0
	Subtotal (lines 6 to 13)								1299	1139			45	39
	Less external load								0	0			0	0
	Less transfer								0	0			0	0
	Redistribution								0	0			0	0
14	Subtotal								1299	1139			45	39
15	Duct loads					24%	37%		314	426	24%	37%	11	14
	Total room load								1613	1564			56	53
	Air required (cfm)								43	66			1	2

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

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		Master Bath Rm 2						Master WIC 1							
		10.0 ft		5.0 ft		heat/cool		10.0 ft		1.0 ft		heat/cool			
		5.0		x		8.0 ft		9.0		x		6.0 ft			
		40.0 ft²						54.0 ft²							
1	Room name	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	Exposed wall	W	12E-0sw	0.068	n	4.41	1.77	50	50	221	89	10	10	44	18
	Room height	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0
	Room dimensions	D	11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
	Room area	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0
11		W	12E-0sw	0.068	e	4.41	1.77	0	0	0	0	0	0	0	0
		G	4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
		G	4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0
		W	15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0
		W	12E-0sw	0.068	s	4.41	1.77	0	0	0	0	0	0	0	0
		G	4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0
		G	4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0
		W	15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0
		W	12E-0sw	0.068	w	4.41	1.77	0	0	0	0	0	0	0	0
		G	4A5-2ov	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0
		G	4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
		W	15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0
		P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0
		C	16B-50ad	0.020	-	1.30	1.17	40	40	52	47	54	54	70	63
		F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
		F	19C-19cscp	0.049	-	1.10	0.39	40	40	44	16	0	0	0	0
		F	21B-32t	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion										-11				-5
	Envelope loss/gain									317	141			114	76
12	a) Infiltration									182	31			36	6
	b) Room ventilation									0	0			0	0
13	Internal gains:		Occupants @	230				0			0	0			0
			Appliances/other								0				0
	Subtotal (lines 6 to 13)									499	171			151	82
	Less external load									0	0			0	0
	Less transfer									0	0			0	0
	Redistribution									0	0			0	0
14	Subtotal									499	171			151	82
15	Duct loads							24%	37%	121	64	24%	37%	36	31
	Total room load									620	235			187	113
	Air required (cfm)									16	10			5	5

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

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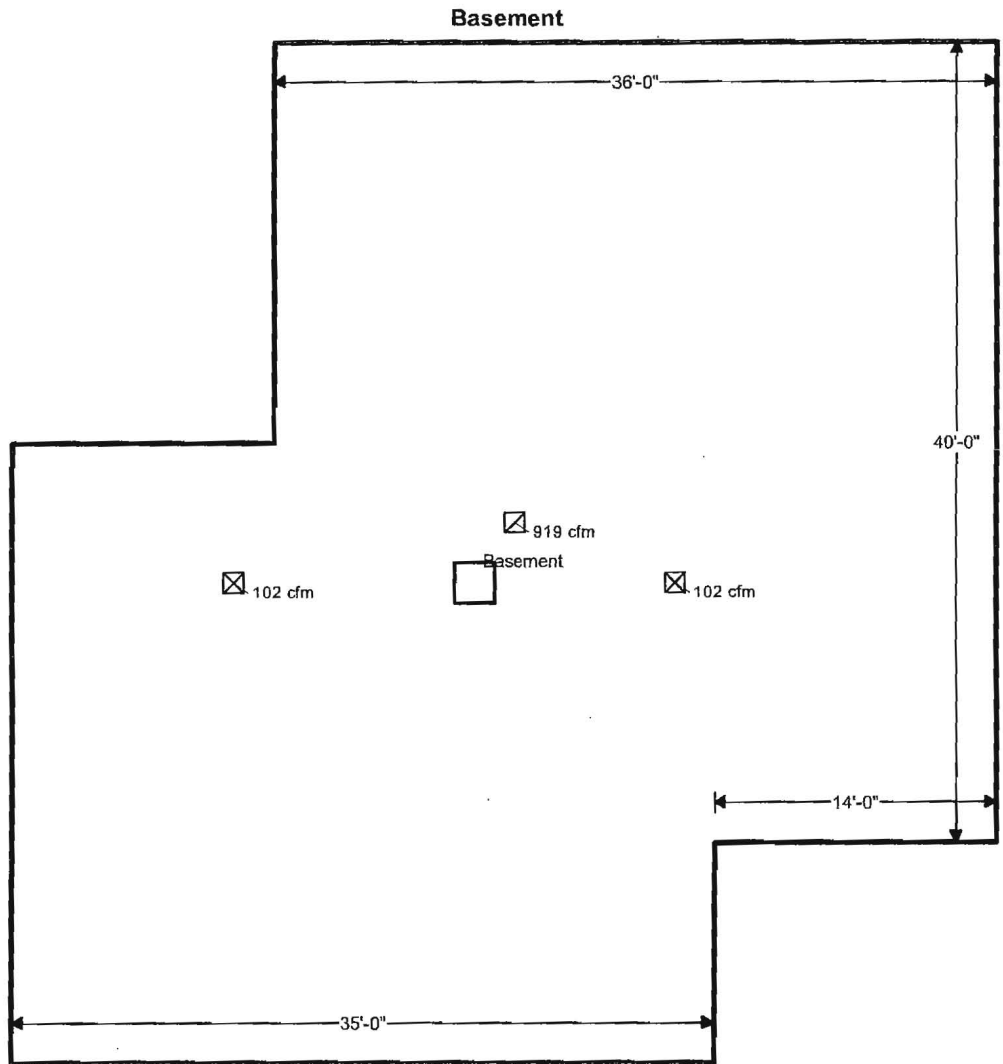
1 Room name				Master Bath Rm 1				Master WIC 2					
2 Exposed wall				10.0 ft		38.0 ft		10.0 ft		9.0 ft			
3 Room height				heat/cool		heat/cool		heat/cool		heat/cool			
4 Room dimensions				1.0 x 225.0 ft		1.0 x 225.0 ft		9.0 x 9.0 ft		9.0 x 9.0 ft			
5 Room area				225.0 ft²		225.0 ft²		81.0 ft²		81.0 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 12E-0sw	0.068	n	4.41	1.77	90	90	397	159	0	0	0	0
	G 4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0
	D 11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
11	W 15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0
	W 12E-0sw	0.068	e	4.41	1.77	0	0	0	0	0	0	0	0
	G 4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
	G 4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0
	W 15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0
	W 12E-0sw	0.068	s	4.41	1.77	90	90	397	159	90	90	397	159
	G 4A5-2ov	0.470	s	30.50	23.22	0	0	0	0	0	0	0	0
	G 4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0
	W 15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0
	W 12E-0sw	0.068	w	4.41	1.77	200	170	750	301	0	0	0	0
	G 4A5-2ov	0.470	w	30.50	40.11	30	0	915	1203	0	0	0	0
	G 4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
	W 15B11-0wc-8	0.099	w	0.00	0.00	0	0	0	0	0	0	0	0
	P 12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0
	C 16B-50ad	0.020	-	1.30	1.17	225	225	292	264	81	81	105	95
	F 19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0
	F 19C-19cscp	0.049	-	1.10	0.39	405	405	446	158	0	0	0	0
	F 21B-32t	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0
6	c) AED excursion								315				-18
	Envelope loss/gain							3198	2561			502	236
12	a) Infiltration							1387	233			328	55
	b) Room ventilation							0	0			0	0
13	Internal gains:		Occupants @ 230			0			0	0			0
			Appliances/other						0				0
	Subtotal (lines 6 to 13)							4585	2793			831	292
	Less external load							0	0			0	0
	Less transfer							0	0			0	0
	Redistribution							0	0			0	0
14	Subtotal							4585	2793			831	292
15	Duct loads					24%	37%	1110	1045	24%	37%	201	109
	Total room load							5695	3838			1032	401
	Air required (cfm)							151	161			27	17

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1		Room name		Laundry Rm		Hall/Bridge								
2		Exposed wall		31.0 ft		0 ft								
3		Room height		10.0 ft		10.0 ft								
4		Room dimensions		9.0 x 11.0 ft		1.0 x 424.0 ft								
5		Room area		99.0 ft²		424.0 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	12E-0sw	0.068	n	4.41	1.77	0	0	0	0	0	0	0	0
	G	4A5-2ov	0.470	n	30.50	16.84	0	0	0	0	0	0	0	0
		11D0	0.390	n	0.00	0.00	0	0	0	0	0	0	0	0
	W	15B11-0wc-8	0.099	n	0.00	0.00	0	0	0	0	0	0	0	0
	G	12E-0sw	0.068	e	4.41	1.77	110	110	485	195	0	0	0	0
		4A5-2ov	0.470	e	30.50	40.11	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	e	0.00	0.00	0	0	0	0	0	0	0	0
		15B11-0wc-8	0.099	e	0.00	0.00	0	0	0	0	0	0	0	0
	G	12E-0sw	0.068	s	4.41	1.77	90	50	221	89	0	0	0	0
		4A5-2ov	0.470	s	30.50	23.22	40	0	1220	929	0	0	0	0
	G	4A5-2ovd	0.470	s	0.00	0.00	0	0	0	0	0	0	0	0
		15B11-0wc-8	0.099	s	0.00	0.00	0	0	0	0	0	0	0	0
	G	12E-0sw	0.068	w	4.41	1.77	110	110	485	195	0	0	0	0
		4A5-2ov	0.470	w	30.50	40.11	0	0	0	0	0	0	0	0
	G	4A5-2ovd	0.470	w	0.00	0.00	0	0	0	0	0	0	0	0
15B11-0wc-8		0.099	w	0.00	0.00	0	0	0	0	0	0	0	0	
P	12C-0sw	0.091	-	0.00	0.00	0	0	0	0	0	0	0	0	
C	16B-50ad	0.020	-	1.30	1.17	99	99	129	116	424	424	550	497	
F	19A-0bscp	0.295	-	0.00	0.00	0	0	0	0	0	0	0	0	
F	19C-19cscp	0.049	-	1.10	0.39	0	0	0	0	28	28	31	11	
F	21B-32t	0.014	-	0.00	0.00	0	0	0	0	0	0	0	0	
6	c) AED excursion								22				-30	
	Envelope loss/gain							2540	1545			581	479	
12	a) Infiltration							1131	190			0	0	
	b) Room ventilation							0	0			0	0	
13	Internal gains:		Occupants @ 230			0			0	0			0	
			Appliances/other						0				0	
	Subtotal (lines 6 to 13)							3671	1735			581	479	
	Less external load							0	0			0	0	
	Less transfer							0	0			0	0	
	Redistribution							0	0			0	0	
14	Subtotal							3671	1735			581	479	
15	Duct loads					24%	37%	889	649	24%	37%	141	179	
	Total room load							4560	2384			722	658	
	Air required (cfm)							121	100			19	28	

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



Job #: 4610
Performed by WHD for:
Brewster Residence
12351 Preakness Circle Ln
Clarksville, MD 21029

HVAC Services Group

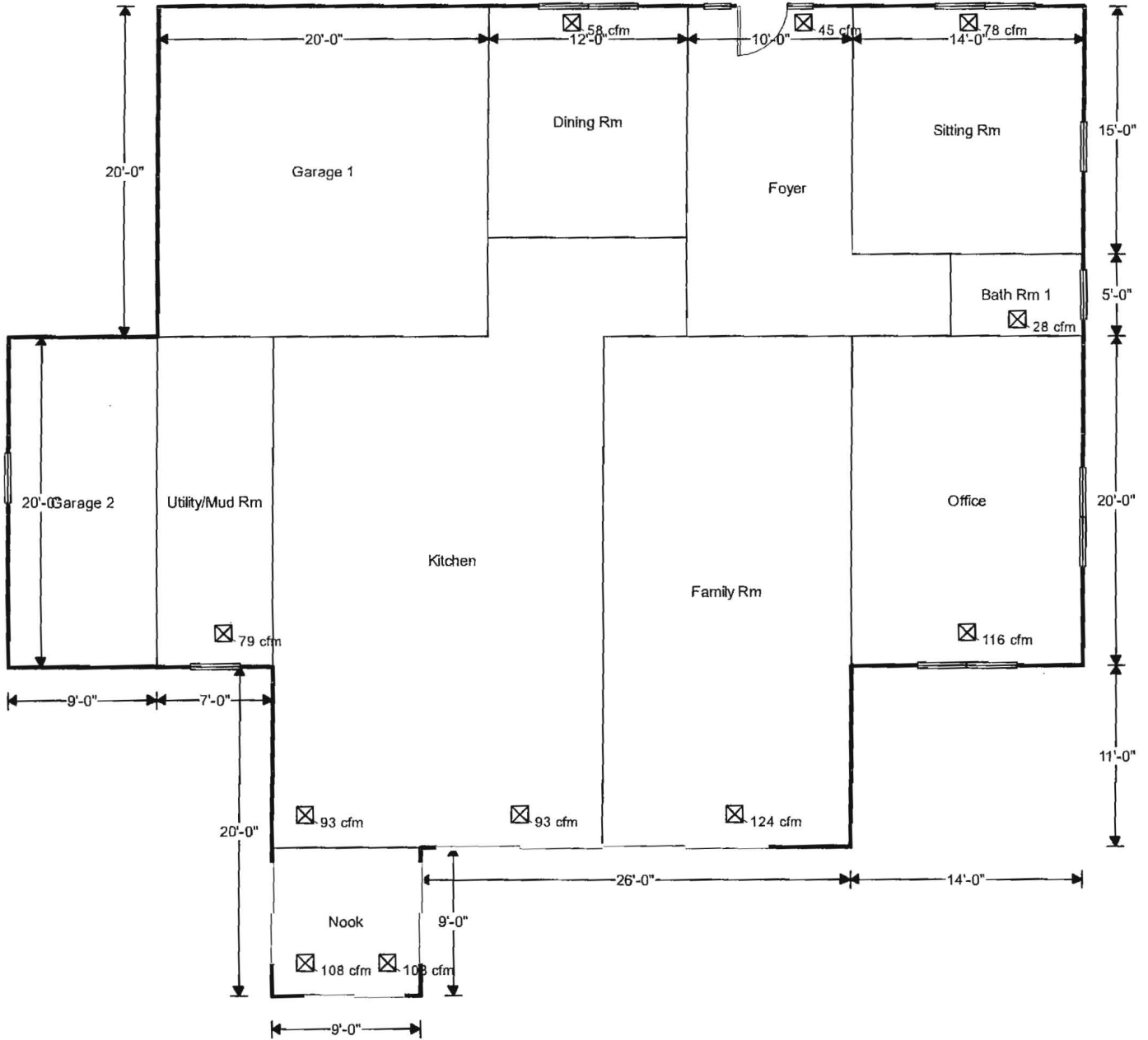
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First Floor



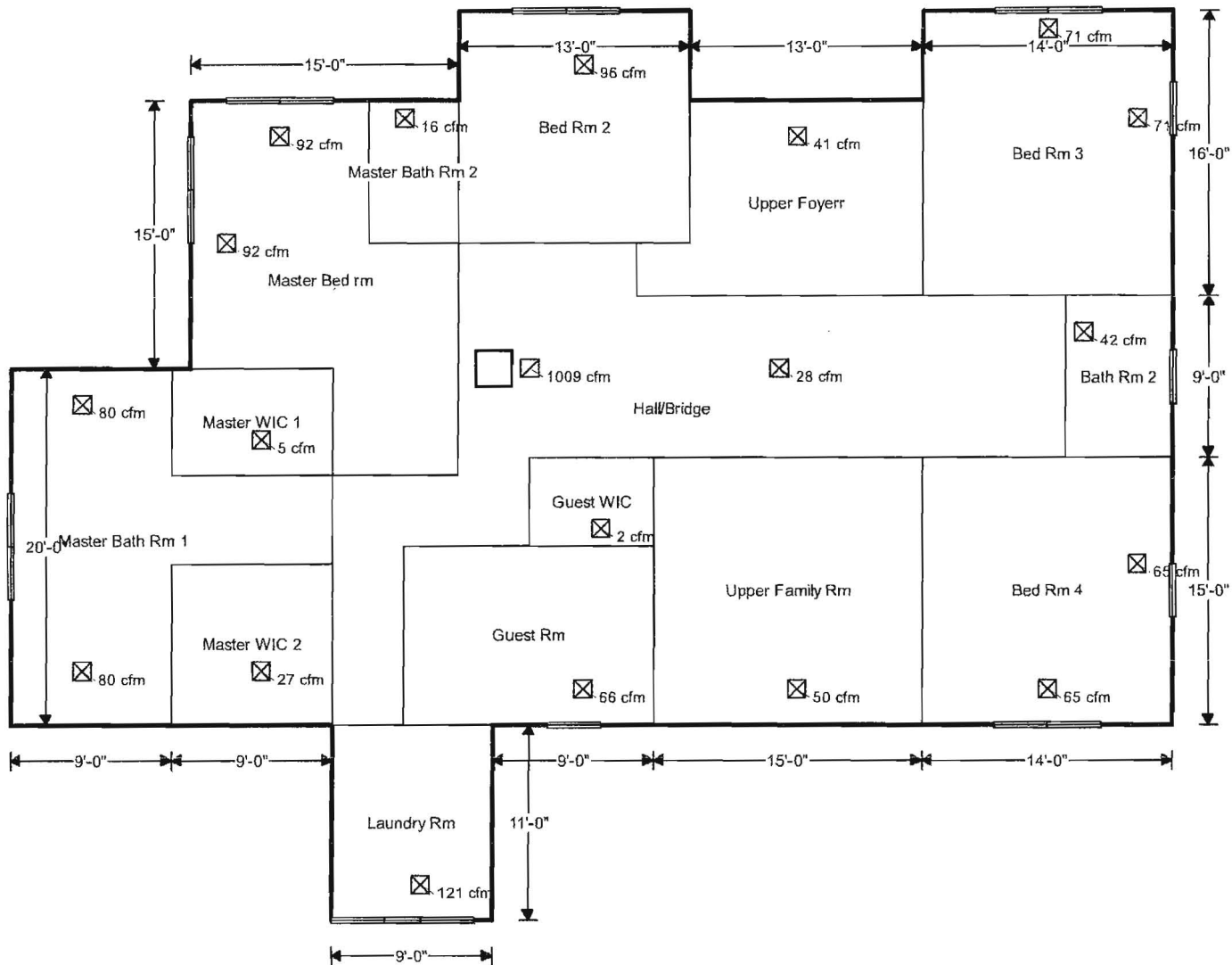
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Second Floor



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