



Manual S Compliance Report

Entire House

Bounds Heating and Air

Job:
Date: Jul 21, 2020
By: Josh Legler

25645 West Newberry Road, Newberry, FL 32669 Phone: 352-472-2761 Fax: 352-472-1809 Email: jlegler@boundshvac.com Web: www.boundshvac.com

Project Information

For: Hiscock, RKW Enterprises

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	20636	Btuh	Entering coil DB:	76.6°F
Outdoor design WB:	76.0°F	Latent gain:	2896	Btuh	Entering coil WB:	63.2°F
Indoor design DB:	75.0°F	Total gain:	23532	Btuh		
Indoor RH:	50%	Estimated airflow:	1087	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	25VNA836A0030+FE4ANF002L++UI
Actual airflow:	1087	cfm	
Sensible capacity:	22820	Btuh	11% of load
Latent capacity:	9780	Btuh	338% of load
Total capacity:	32600	Btuh	139% of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	25056	Btuh	Entering coil DB:	69.2°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	25VNA836A0030+FE4ANF002L++UI
Actual airflow:	1087	cfm	
Output capacity:	35000	Btuh	140% of load
Supplemental heat required:	0	Btuh	
			Capacity balance: 23 °F
			Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1087	cfm	
Output capacity:	0	kW	0% of load Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.



Comfort Builder by Wrightsoft 19.0.12 RSU27870

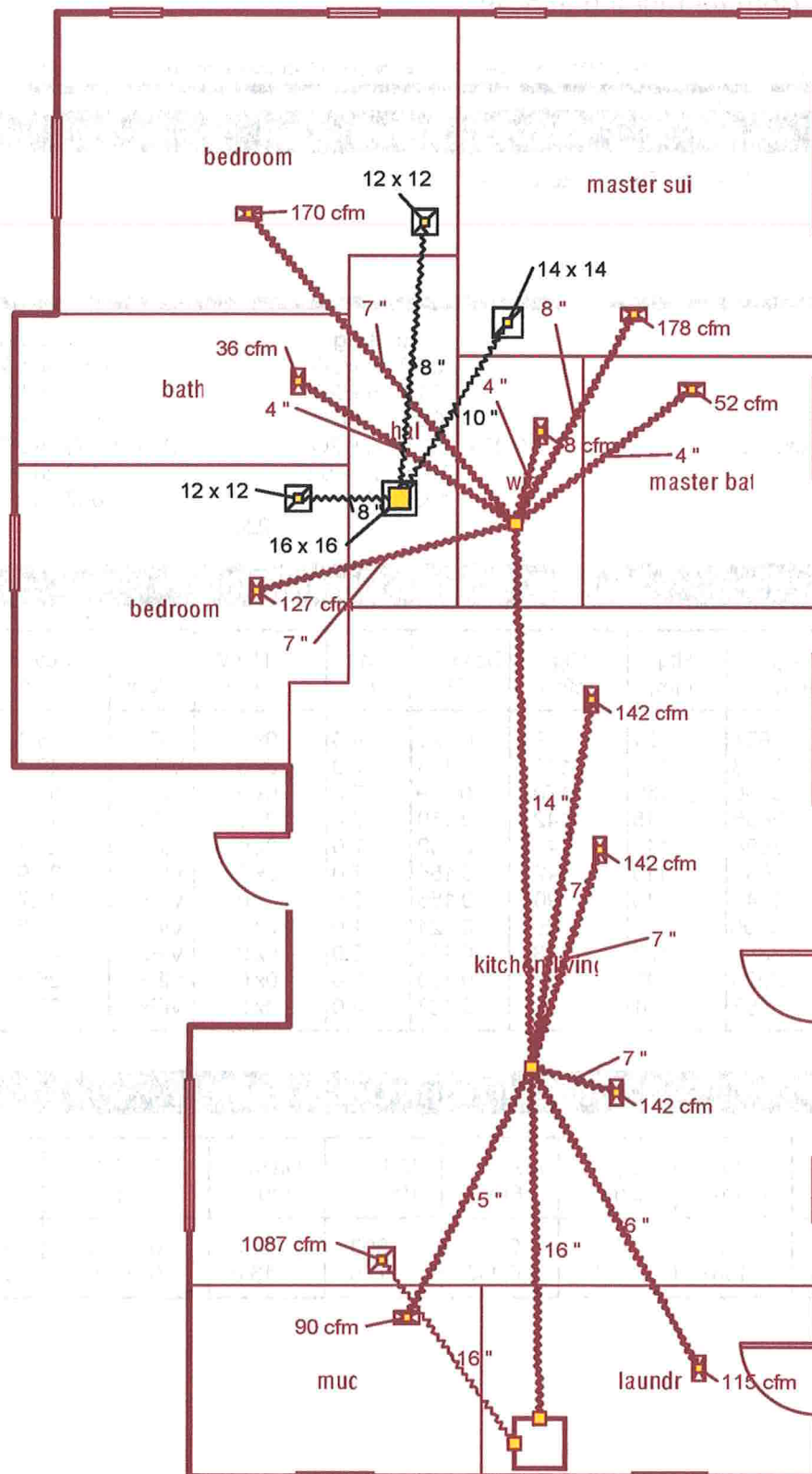
...htSoft J&D\2020 J&D\RKW enterprises\Hiscock.rup Calc = MJ8 Front Door faces: N

2020-Jul-22 09:20:47

Page 1



Level 1



Job #:
Performed by Josh Legler for:
 Hiscock

Bounds Heating and Air

25645 West Newberry Road
 Newberry, FL 32669
 Phone: 352-472-2761 Fax: 352-472-1809
www.boundsvac.com jlegler@boundsvac.com

Scale: 1 : 85

Page 1
 Comfort Builder by Wrightsoft
 19.0.12 RSU27870
 2020-Jul-22 09:23:03
 ... J&D\RKW enterprises\Hiscock.rup

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x 0	1087	1087	39.1	0.119	778	16.0	0x 0		VIFx	

Manual J Winter Calculations

Residential Load - Component Details (continued)

Mike Hiscock
151 sw Kayla Court
Fort White, FL 32038

Project Title:
200121 Hiscock
Building Type: User

2020-07-03

Infiltration	Type Natural	Wholehouse ACH 0.27	Volume(cuft) 15238	Wall Ratio 1.00	CFM= 69.2	3030 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.169)					3791 Btuh
All Zones	Sensible Subtotal All Zones					26180 Btuh

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	26180 Btuh 0 Btuh 26180 Btuh
---------------------------	--	------------------------------------

EQUIPMENT

1. Electric Heat Pump	#	30000 Btuh
-----------------------	---	------------

Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
U - (Window U-Factor)
HTM - (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Mike Hiscock
151 sw Kayla Court
Fort White, FL 32038

Project Title:
200121 Hiscock

2020-07-03

Reference City: Gainesville, FL Temperature Difference: 19.0F(TMY3 99%) Humidity difference: 51gr.

Component Loads for Whole House

Window	Type*						Overhang		Window Area(sqft)			HTM		Load		
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded			
1	2 NFRC	0.25, 0.35	No	No	E		1.5ft.	0.5ft.	36.0	4.5	31.5	12	31	1023	Btuh	
2	2 NFRC	0.25, 0.35	No	No	E		1.5ft.	0.5ft.	6.7	3.0	3.7	12	31	149	Btuh	
3	2 NFRC	0.25, 0.35	No	No	E		12.0f	1.0ft.	36.0	36.0	0.0	12	31	429	Btuh	
4	2 NFRC	0.25, 0.35	No	No	E		12.0f	4.0ft.	26.7	23.8	2.8	12	31	371	Btuh	
5	2 NFRC	0.25, 0.35	No	No	E		12.0f	5.0ft.	11.3	11.3	0.0	12	31	134	Btuh	
6	2 NFRC	0.25, 0.35	No	No	S		1.5ft.	5.0ft.	18.0	18.0	0.0	12	14	214	Btuh	
7	2 NFRC	0.25, 0.35	No	No	W		6.5ft.	0.5ft.	36.0	29.4	6.6	12	31	554	Btuh	
8	2 NFRC	0.25, 0.35	No	No	W		9.0ft.	2.0ft.	15.6	12.8	2.8	12	31	238	Btuh	
9	2 NFRC	0.25, 0.35	No	No	W		9.0ft.	1.0ft.	7.1	7.1	0.0	12	31	85	Btuh	
10	2 NFRC	0.25, 0.35	No	No	W		1.5ft.	5.0ft.	24.0	0.0	24.0	12	31	738	Btuh	
11	2 NFRC	0.25, 0.35	No	No	W		1.5ft.	0.5ft.	24.0	3.0	21.0	12	31	682	Btuh	
12	2 NFRC	0.25, 0.35	No	No	N		1.5ft.	5.0ft.	40.0	0.0	40.0	12	12	476	Btuh	
	Excursion													1119	Btuh	
	Window Total								281 (sqft)					6211 Btuh		
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load	
									Cav/Sheath							
	1	Frame - Wood - Ext					0.08		19.0/0.0		206.3		1.7		341 Btuh	
	2	Frame - Wood - Ext					0.08		19.0/0.0		179.8		1.7		297 Btuh	
	3	Frame - Wood - Ext					0.08		19.0/0.0		210.0		1.7		347 Btuh	
	4	Frame - Wood - Ext					0.08		19.0/0.0		126.0		1.7		208 Btuh	
	5	Frame - Wood - Ext					0.08		19.0/0.0		38.0		1.7		63 Btuh	
	6	Frame - Wood - Ext					0.08		19.0/0.0		49.2		1.7		81 Btuh	
	7	Frame - Wood - Ext					0.08		19.0/0.0		102.0		1.7		169 Btuh	
	8	Frame - Wood - Ext					0.08		19.0/0.0		138.0		1.7		228 Btuh	
	9	Frame - Wood - Ext					0.08		19.0/0.0		21.0		1.7		35 Btuh	
	10	Frame - Wood - Ext					0.08		19.0/0.0		81.0		1.7		134 Btuh	
	11	Frame - Wood - Ext					0.08		19.0/0.0		233.0		1.7		385 Btuh	
		Wall Total								1384 (sqft)					2289 Btuh	
Doors	Type								Area (sqft)		HTM		Load			
	1	Insulated - Exterior							6.7		12.0		80 Btuh			
	2	Insulated - Exterior							6.7		12.0		80 Btuh			
	3	Insulated - Exterior							20.0		12.0		240 Btuh			
		Door Total								33 (sqft)					400 Btuh	
Ceilings	Type/Color/Surface						U-Value		R-Value		Area(sqft)		HTM		Load	
	1	Vented Attic/DarkShingle					0.025		38.0/0.0		1710.0		1.37		2344 Btuh	
		Ceiling Total								1710 (sqft)					2344 Btuh	
Floors	Type								R-Value		Size		HTM		Load	
	1	Slab On Grade							0.0		1604 (ft-perimeter)		0.0		0 Btuh	
		Floor Total								1604.0 (sqft)					0 Btuh	
	Envelope Subtotal:													11244 Btuh		

Manual J Summer Calculations

Residential Load - Component Details (continued)

Mike Hiscock
151 sw Kayla Court
Fort White, FL 32038

Project Title:
200121 Hiscock

Climate:FL_GAINESVILLE_REGIONAL_A

2020-07-03

Infiltration	Type Natural	Average ACH 0.20	Volume(cuft) 15238	Wall Ratio 1	CFM= 51.9	Load 1079 Btuh
Internal gain		Occupants 6	Btuh/occupant X 230	Appliance +	2400	Load 3780 Btuh
					Sensible Envelope Load:	16103 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.308)	4955 Btuh
					Sensible Load All Zones	21058 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Mike Hiscock
151 sw Kayla Court
Fort White, FL 32038

Project Title:
200121 Hiscock

Climate:FL_GAINESVILLE_REGIONAL_A

2020-07-03

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	16103 Btuh
	Sensible Duct Load	4955 Btuh
	Total Sensible Zone Loads	21058 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	21058 Btuh
	Latent infiltration gain (for 51 gr. humidity difference)	1791 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	942 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	3933 Btuh
	TOTAL GAIN	24992 Btuh

EQUIPMENT

1. Central Unit	#	30000 Btuh
-----------------	---	------------

*Key: Window types (Panels - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: Assume medium color, half closed
For Draperies: Assume medium weave, half closed
For Roller shades: Assume translucent, half closed
(IS - Insect screen: none(N), Full(F) or Half(½))
(Ornt - compass orientation)



Version 8