

Project Information

For: 672 SW MAGNOLIA LN, FORT WHITE, FL 32038

Notes:

Design Information

Weather: Gainesville, FL, US

Winter Design Conditions

Outside db 33 °F
Inside db 70 °F
Design TD 37 °F

Summer Design Conditions

Outside db 92 °F
Inside db 75 °F
Design TD 17 °F
Daily range M
Relative humidity 50 %
Moisture difference 43 gr/lb

Heating Summary

Structure 19609 Btuh
Ducts 2387 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Humidification 0 Btuh
Piping 0 Btuh
Equipment load 21995 Btuh

Sensible Cooling Equipment Load Sizing

Structure 14550 Btuh
Ducts 3263 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Blower 0 Btuh
Use manufacturer's data n
Rate/swing multiplier 0.97
Equipment sensible load 17349 Btuh

Infiltration

Method Simplified
Construction quality Average
Fireplaces 1 (Average)

Latent Cooling Equipment Load Sizing

Structure 2233 Btuh
Ducts 680 Btuh
Central vent (0 cfm)
(none) 0 Btuh
Equipment latent load 2912 Btuh

	Heating	Cooling
Area (ft ²)	1428	1428
Volume (ft ³)	12699	12699
Air changes/hour	0.54	0.23
Equiv. AVF (cfm)	115	49

Equipment Total Load (Sen+Lat) 20262 Btuh
Req. total capacity at 0.70 SHR 2.1 ton

Heating Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN42400AA0
AHRI ref 210998533
Efficiency 7.5 HSPF2
Heating input
Heating output 23600 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 787 cfm
Air flow factor 0.036 cfm/Btuh
Static pressure 0.53 in H2O
Space thermostat
Capacity balance point = 32 °F
Backup:
Input = 4 kW, Output = 13312 Btuh, 100 AFUE

Cooling Equipment Summary

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN42400AA0
Coil FJ4DNXB24L
AHRI ref 210998533
Efficiency 12.5 EER2, 15.2 SEER2
Sensible cooling 16520 Btuh
Latent cooling 7080 Btuh
Total cooling 23600 Btuh
Actual air flow 787 cfm
Air flow factor 0.044 cfm/Btuh
Static pressure 0.53 in H2O
Load sensible heat ratio 0.86

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

Project Information

For:
672 SW MAGNOLIA LN, FORT WHITE, FL 32038

Cooling Equipment

Design Conditions

Outdoor design DB:	92.4°F	Sensible gain:	17813	Btuh	Entering coil DB:	76.9°F
Outdoor design WB:	75.8°F	Latent gain:	2912	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	20725	Btuh		
Indoor RH:	50%	Estimated airflow:	787	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier		Model: GH5SAN42400AA0+FJ4DNXB24L		
Actual airflow:	787	cfm			
Sensible capacity:	16520	Btuh	93% of load		
Latent capacity:	7080	Btuh	243% of load		
Total capacity:	23600	Btuh	114% of load	SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.3°F	Heat loss:	21995	Btuh	Entering coil DB:	69.1°F
Indoor design DB:	70.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	Carrier	Model:	GH5SAN42400AA0+FJ4DNXB24L		
Actual airflow:	787	cfm			
Output capacity:	23600	Btuh	107% of load		Capacity balance: 32 °F
Supplemental heat required:	0	Btuh			Economic balance: -99 °F

Backup equipment type:	Elec strip			
Manufacturer:		Model:		
Actual airflow:	787	cfm		
Output capacity:	3.9	kW	61% of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.

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	Heating	Cooling
External static pressure	0.53 in H ₂ O	0.53 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.53 in H ₂ O	0.53 in H ₂ O
Supply / return available pressure	0.365 / 0.165 in H ₂ O	0.365 / 0.165 in H ₂ O
Lowest friction rate	0.285 in/100ft	0.285 in/100ft
Actual air flow	787 cfm	787 cfm
Total effective length (TEL)	186 ft	

Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BATH 2	h 758	27	17	0.335	4.0	0x0	VIFx	19.0	90.0	st2
BED 3	c 1333	55	59	0.352	5.0	0x0	VIFx	13.8	90.0	st2
BED 4	h 3170	113	70	0.320	6.0	0x0	VIFx	24.1	90.0	st2
KITCH/DINE/LIVRM	c 2747	71	121	0.301	6.0	0x0	VIFx	31.3	90.0	st1
KITCH/DINE/LIVRM-A	c 2746	71	121	0.302	6.0	0x0	VIFx	30.8	90.0	st1
KITCH/DINE/LIVRM-B	c 2746	71	121	0	0	0x0	VIFx	0	0	
LAUNDRY	h 2703	97	76	0.336	6.0	0x0	VIFx	18.6	90.0	st2
M BATH	h 1443	52	51	0.303	4.0	0x0	VIFx	30.3	90.0	st1
M BED	h 4097	147	108	0.300	7.0	0x0	VIFx	31.8	90.0	st1
M CLOEST	h 2364	85	42	0.285	5.0	0x0	VIFx	37.8	90.0	st1

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st1	Peak AVF	424	444	0.285	565	12.0	0 x 0	VinIFlx	
st2	Peak AVF	292	222	0.320	535	10.0	0 x 0	VinIFlx	

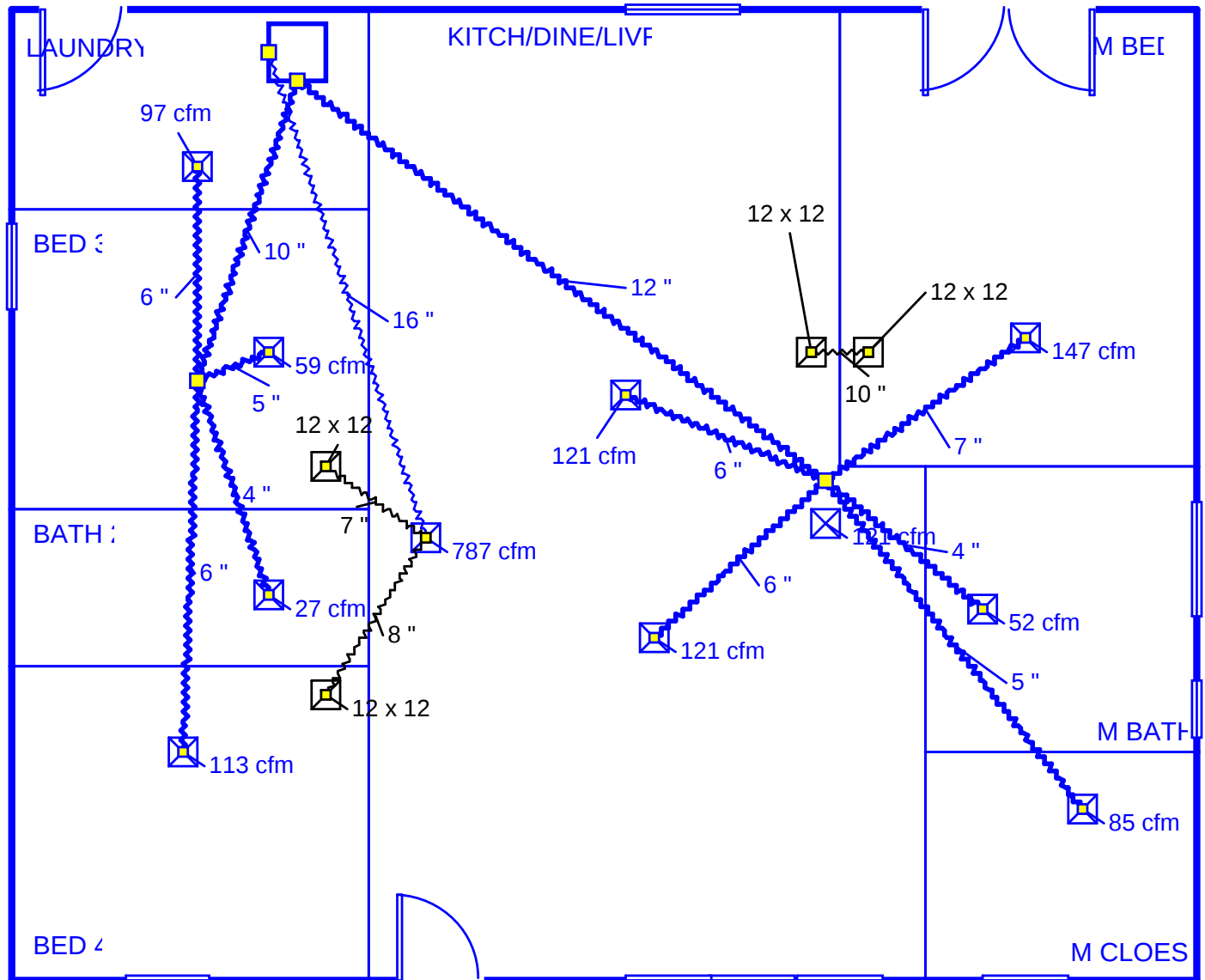
Return Branch Detail Table

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
rb2	0x 0	787	787	57.9	0.285	564	16.0	0x 0		VIFx	rst2

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rst2	Peak AVF	787	787	0.285	564	16.0	0 x 0	VinIFlx	

Duct Layout



Job #: J-10251 - C-2606
Performed by LaNiika Stewart for:

672 SW MAGNOLIA LN
FORT WHITE, FL 32038

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