



Load Short Form
Entire House
High Springs Electric

Job:
Date: Dec 30, 2024
By: Donna Brackeen
Plan: Ashely 'A'

Project Information

For: Sauls Jr Residence, America's Home Place
432 SE Stardust Pl, Lake City, FL 32024

Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	32	93	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	36	18	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	30	49		

HEATING EQUIPMENT

Make Trane
Trade 2.5 Ton HP
Model 4TWR4030N1
AHRI ref 209480290
Efficiency 7.5 HSPF2
Heating input
Heating output 26800 Btuh @ 47°F
Temperature rise 0 °F
Actual air flow 0 cfm
Air flow factor 0 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 21 °F

COOLING EQUIPMENT

Make Trane
Trade 2.5 Ton HP
Cond 4TWR4030N1
Coil TEM4A0B31M31++TDR
AHRI ref 209480290
Efficiency 11.7 EER2, 14.3 SEER2
Sensible cooling 20160 Btuh
Latent cooling 8640 Btuh
Total cooling 28800 Btuh
Actual air flow 960 cfm
Air flow factor 0.041 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.86

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bd3	177	2793	2451	0	100
bath2	77	615	783	0	32
bd2	166	2501	3126	0	127
common area	604	5693	9384	0	382
pan	16	0	0	0	0
hall	33	0	0	0	0
m bd	225	3273	3781	0	154
wic	72	220	1036	0	42
utility	69	1087	1434	0	58
m bath	86	1855	1617	0	66

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

Entire House	1525	18037	23612	0	960
Other equip loads		0	0		
Equip. @ 0.98 RSM			23045		
Latent cooling			3851		
TOTALS	1525	18037	26896	0	960

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

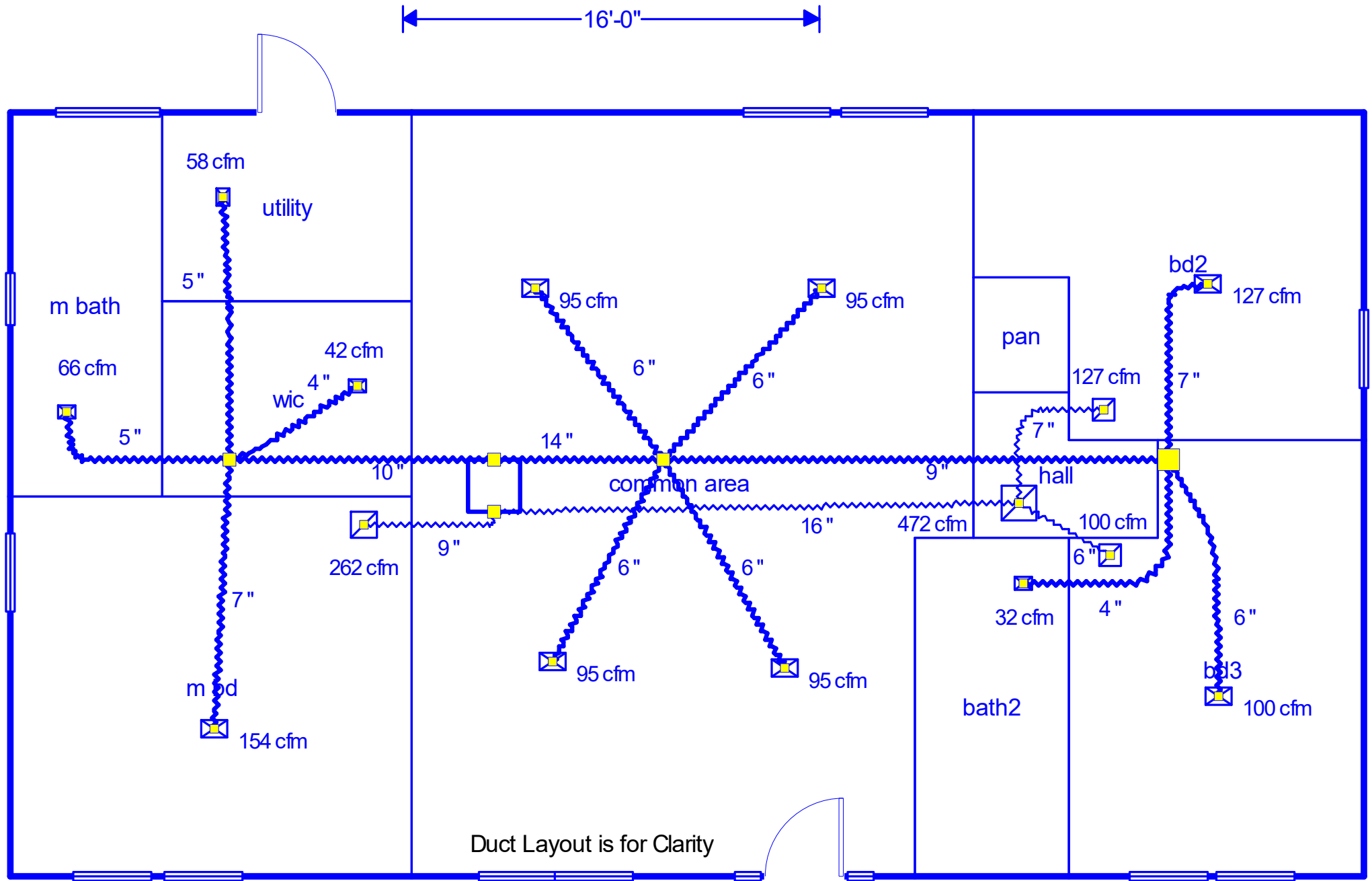


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...ectricAmericas Home Place\Ashely 'A' Northrup Calc = MJ8 Front Door faces: N





Manual S Compliance Report

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Cooling Equipment

Design Conditions

Outdoor design DB:	92.6°F	Sensible gain:	23612	Btuh	Entering coil DB:	76.9°F
Outdoor design WB:	76.7°F	Latent gain:	3851	Btuh	Entering coil WB:	63.4°F
Indoor design DB:	75.0°F	Total gain:	27463	Btuh		
Indoor RH:	50%	Estimated airflow:	960	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4030N1+TEM4A0B31M31++TDR
Actual airflow:	960	cfm	
Sensible capacity:	20160	Btuh	85% of load
Latent capacity:	8640	Btuh	224% of load
Total capacity:	28800	Btuh	105% of load SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	31.7°F	Heat loss:	18037	Btuh	Entering coil DB:	68.0°F
Indoor design DB:	68.0°F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	4TWR4030N1+TEM4A0B31M31++TDR
Actual airflow:	0	cfm	
Output capacity:	26800	Btuh	149% of load
Supplemental heat required:	0	Btuh	
Capacity balance:	21	°F	
Economic balance:	-99	°F	

Meets all requirements of ACCA Manual S.



Duct System Summary

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	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.18 in H2O	0.18 in H2O
Available static pressure	0.32 in H2O	0.32 in H2O
Supply / return available pressure	0.227 / 0.093 in H2O	0.227 / 0.093 in H2O
Lowest friction rate	0.150 in/100ft	0.150 in/100ft
Actual air flow	0 cfm	960 cfm
Total effective length (TEL)	213 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
bath2	c 783	0	32	0.150	4.0	0x 0	VIFx	36.3	115.0	st3
bd2	c 3126	0	127	0.152	7.0	0x 0	VIFx	33.9	115.0	st3
bd3	c 2451	0	100	0.151	6.0	0x 0	VIFx	35.5	115.0	st3
common area	c 2346	0	95	0.215	6.0	0x 0	VIFx	15.3	90.0	st2
common area-A	c 2346	0	95	0.215	6.0	0x 0	VIFx	15.8	90.0	st2
common area-B	c 2346	0	95	0.215	6.0	0x 0	VIFx	15.5	90.0	st2
common area-C	c 2346	0	95	0.217	6.0	0x 0	VIFx	14.7	90.0	st2
m bath	c 1617	0	66	0.201	5.0	0x 0	VIFx	18.0	95.0	st1
m bd	c 3781	0	154	0.205	7.0	0x 0	VIFx	20.5	90.0	st1
utility	c 1434	0	58	0.197	5.0	0x 0	VIFx	20.3	95.0	st1
wic	c 1036	0	42	0.205	4.0	0x 0	VIFx	15.9	95.0	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	0	320	0.197	587	10.0	0 x 0	VinIFlx	st2
st3	Peak AVF	0	259	0.150	585	9.0	0 x 0	VinIFlx	
st2	Peak AVF	0	640	0.150	599	14.0	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
rb3	0x 0	0	100	54.2	0.172	507	6.0	0x 0		VIFx	rt1
rb2	0x 0	0	127	62.1	0.150	476	7.0	0x 0		VIFx	rt1
rb4	0x 0	0	262	40.5	0.230	592	9.0	0x 0		VIFx	
rb1	0x 0	0	472	30.2	0.309	601	12.0	0x 0		VIFx	rt1

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt1	Peak AVF	0	698	0.150	500	16.0	0 x 0	VinIFlx	