



Manual S Compliance Report

Entire House

Bounds Heating and Air

Job:
Date: Apr 29, 2021
By:

Email: jlegler@boundshvac.com

Project Information

For: Marrero, Amira

Cooling Equipment

Design Conditions

Outdoor design DB:	92.0°F	Sensible gain:	20941 Btuh	Entering coil DB:	77.0°F
Outdoor design WB:	76.3°F	Latent gain:	4214 Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	25155 Btuh		
Indoor RH:	50%	Estimated airflow:	1167 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	CH17NA0360G0B0+FV4CNF002L
Actual airflow:	1167 cfm		
Sensible capacity:	24500 Btuh	117% of load	
Latent capacity:	10500 Btuh	249% of load	
Total capacity:	35000 Btuh	139% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.4°F	Heat loss:	23593 Btuh	Entering coil DB:	67.1°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	CH17NA0360G0B0+FV4CNF002L
Actual airflow:	1167 cfm		
Output capacity:	35200 Btuh	149% of load	Capacity balance: 23 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1167 cfm		
Output capacity:	6.3 kW	91% of load	Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.



Load Short Form

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Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Semi-tight
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	47		

HEATING EQUIPMENT

Make Carrier
Trade CARRIER
Model CH17NA0360G0B0
AHRI ref 10471327

Efficiency 9 HSPF
Heating input
Heating output 35200 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 1167 cfm
Air flow factor 0.049 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 23 °F

Backup:
Input = 6 kW, Output = 21359 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
Trade CARRIER
Cond CH17NA0360G0B0
Coil FV4CNF002L
AHRI ref 10471327

Efficiency 12.0 EER, 16 SEER
Sensible cooling 24500 Btuh
Latent cooling 10500 Btuh
Total cooling 35000 Btuh
Actual air flow 1167 cfm
Air flow factor 0.056 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.83

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bedroom 2	151	4098	2515	203	140
hall	48	0	0	0	0
bath 2	55	1096	421	54	23
bedroom 3	156	3440	2204	170	123
kitchen/living	529	7390	9218	365	514
master suite	204	3040	3492	150	195
wic	56	1741	552	86	31
master bath	75	1319	746	65	42
laundry	53	966	1346	48	75
drop zone	82	503	447	25	25

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

Entire House	d	1408	23593	20941	1167	1167
Other equip loads			0	0		
Equip. @ 0.97 RSM				20312		
Latent cooling				4214		
TOTALS		1408	23593	24527	1167	1167

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



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Project Summary

Entire House

Bounds Heating and Air

Job:
Date: Apr 29, 2021
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Email: jlegler@boundshvac.com

Project Information

For: Marrero, Amira

Notes:

Design Information

Weather: Gainesville Regional AP, FL, US

Winter Design Conditions

Outside db	33 °F
Inside db	68 °F
Design TD	35 °F

Summer Design Conditions

Outside db	92 °F
Inside db	75 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	47 gr/lb

Heating Summary

Structure	17556 Btuh
Ducts	6037 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	23593 Btuh

Sensible Cooling Equipment Load Sizing

Structure	13397 Btuh
Ducts	7543 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	20312 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2622 Btuh
Ducts	1593 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	4214 Btuh

	Heating	Cooling
Area (ft ²)	1408	1408
Volume (ft ³)	12674	12674
Air changes/hour	0.39	0.21
Equiv. AVF (cfm)	82	44

Equipment Total Load (Sen+Lat)	24527 Btuh
Req. total capacity at 0.70 SHR	2.4 ton

Heating Equipment Summary

Make	Carrier
Trade	CARRIER
Model	CH17NA0360G0B0
AHRI ref	10471327
Efficiency	9 HSPF
Heating input	
Heating output	35200 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	1167 cfm
Air flow factor	0.049 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 23 °F	
Backup:	
Input = 6 kW, Output = 21359 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Carrier
Trade	CARRIER
Cond	CH17NA0360G0B0
Coil	FV4CNF002L
AHRI ref	10471327
Efficiency	12.0 EER, 16 SEER
Sensible cooling	24500 Btuh
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Total cooling	35000 Btuh
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Static pressure	0.50 in H2O
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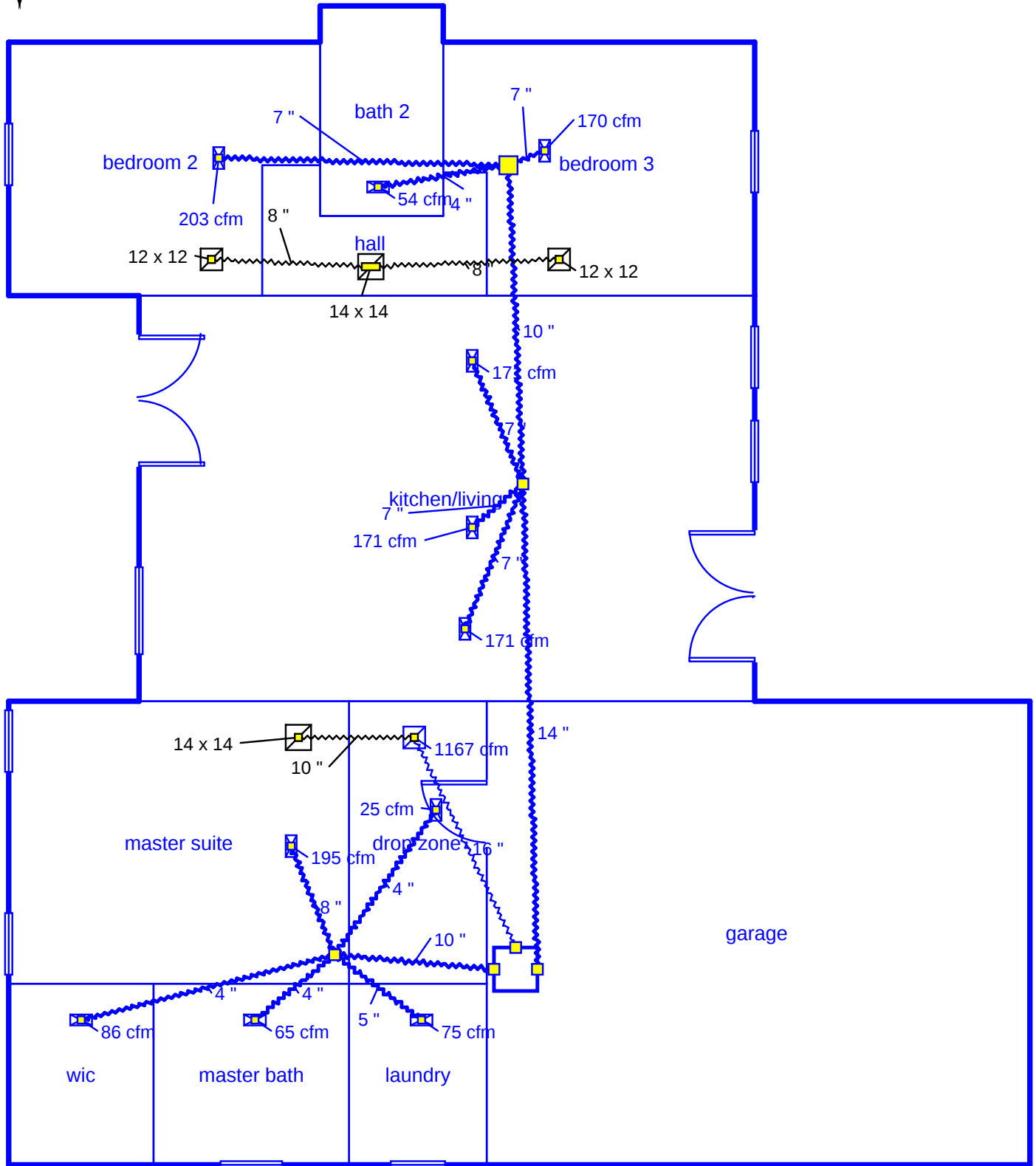
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Main floor



Job #:
Performed for:
Marrero

Bounds Heating and Air

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Duct System Summary

Entire House

Bounds Heating and Air

Job:
Date: Apr 29, 2021
By:

Email: jlegler@boundshvac.com

Project Information

For: Marrero, Amira

	Heating	Cooling
External static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Pressure losses	0 in H ₂ O	0 in H ₂ O
Available static pressure	0.50 in H ₂ O	0.50 in H ₂ O
Supply / return available pressure	0.380 / 0.120 in H ₂ O	0.380 / 0.120 in H ₂ O
Lowest friction rate	0.237 in/100ft	0.237 in/100ft
Actual air flow	1167 cfm	1167 cfm
Total effective length (TEL)	211 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 1096	54	23	0.248	4.0	0x0	VIFx	43.1	110.0	st3
bedroom 2	h 4098	203	140	0.237	7.0	0x0	VIFx	50.4	110.0	st3
bedroom 3	h 3440	170	123	0.255	7.0	0x0	VIFx	38.8	110.0	st3
drop zone	c 447	25	25	0.360	4.0	0x0	VIFx	15.5	90.0	st2
kitchen/living	c 3073	122	171	0.318	7.0	0x0	VIFx	29.5	90.0	st1
kitchen/living-A	c 3072	122	171	0.321	7.0	0x0	VIFx	28.5	90.0	st1
kitchen/living-B	c 3072	122	171	0.329	7.0	0x0	VIFx	25.4	90.0	st1
laundry	c 1346	48	75	0.371	5.0	0x0	VIFx	12.4	90.0	st2
master bath	h 1319	65	42	0.372	4.0	0x0	VIFx	12.1	90.0	st2
master suite	c 3492	150	195	0.370	8.0	0x0	VIFx	12.7	90.0	st2
wic	h 1741	86	31	0.347	4.0	0x0	VIFx	19.4	90.0	st2

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st3	Peak AVF	427	286	0.237	783	10.0	0 x 0	VinIFlx	st1
st1	Peak AVF	792	800	0.237	748	14.0	0 x 0	VinIFlx	
st2	Peak AVF	374	367	0.347	686	10.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden



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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	1167	1167	50.7	0.237	535	20.0	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	1167	1167	0.237	836	16.0	0 x 0	VinIFlx	

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