



Load Short Form

Entire House

Bounds Heating and Air

Job:
Date: Aug 24, 2023
By:

Email: jlegler@boundshvac.com

Project Information

For: Vasquez, Harvey Building & Construction



Design Information

	Htg	Clg	Infiltration	
Outside db (°F)	33	92	Method	Simplified
Inside db (°F)	68	75	Construction quality	Average
Design TD (°F)	35	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	44		

HEATING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Model GH5SAN43600AA0
AHRI ref 209690377

Efficiency 7.5 HSPF2
Heating input
Heating output 34000 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 1140 cfm
Air flow factor 0.036 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 32 °F

Backup: n/a n/a

Input = 0 kW, Output = 0 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
Trade 15 SEER2 HP
Cond GH5SAN43600AA0
Coil FJ4DNXB36L
AHRI ref 209690377

Efficiency 12.0 EER2, 14.3 SEER2
Sensible cooling 23940 Btuh
Latent cooling 10260 Btuh
Total cooling 34200 Btuh
Actual air flow 1140 cfm
Air flow factor 0.049 cfm/Btuh
Static pressure 0.50 in H2O
Load sensible heat ratio 0.85

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
bath 2	78	2639	1657	96	82
bedroom 2	237	2609	3034	95	149
laundry	199	4536	3424	165	168
living/kitchen	781	11022	8567	400	422
master bedroom	327	5719	3944	208	194
wic	141	1320	906	48	45
master bath	139	3539	1638	129	81

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



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...F plans & J&D (2023)\Harvey\Vazquez\Vazquez.rup Calc = MJ8 Front Door faces: N

Entire House	1901	31385	23171	1140	1140
Other equip loads		0	0		
Equip. @ 0.97 RSM			22523		
Latent cooling			3941		
TOTALS	1901	31385	26463	1140	1140

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Project Summary

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Notes:

Design Information

Weather: Gainesville Regional, 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	44 gr/lb

Heating Summary

Structure	25758 Btuh
Ducts	5627 Btuh
Central vent (0 cfm) (none)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	31385 Btuh

Sensible Cooling Equipment Load Sizing

Structure	17373 Btuh
Ducts	5799 Btuh
Central vent (0 cfm) (none)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	22523 Btuh

Infiltration

Method	Simplified
Construction quality	Average
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2368 Btuh
Ducts	1573 Btuh
Central vent (0 cfm) (none)	0 Btuh
Equipment latent load	3941 Btuh

	Heating	Cooling
Area (ft ²)	1901	1901
Volume (ft ³)	17889	17889
Air changes/hour	0.38	0.20
Equiv. AVF (cfm)	113	60

Equipment Total Load (Sen+Lat)	26463 Btuh
Req. total capacity at 0.70 SHR	2.7 ton

Heating Equipment Summary

Make	Carrier
Trade	15 SEER2 HP
Model	GH5SAN43600AA0
AHRI ref	209690377
Efficiency	7.5 HSPF2
Heating input	
Heating output	34000 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	1140 cfm
Air flow factor	0.036 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 32 °F	
Backup: n/a n/a	
Input = 0 kW, Output = 0 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Carrier
Trade	15 SEER2 HP
Cond	GH5SAN43600AA0
Coil	FJ4DNXB36L
AHRI ref	209690377
Efficiency	12.0 EER2, 14.3 SEER2
Sensible cooling	23940 Btuh
Latent cooling	10260 Btuh
Total cooling	34200 Btuh
Actual air flow	1140 cfm
Air flow factor	0.049 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.85

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Duct System Summary

Entire House

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Project Information

For: Vasquez, Harvey Building & Construction

	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	0.381 / 0.119 in H ₂ O	0.381 / 0.119 in H ₂ O
Lowest friction rate	0.225 in/100ft	0.225 in/100ft
Actual air flow	1140 cfm	1140 cfm
Total effective length (TEL)	222 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 2639	96	82	0.323	5.0	0x0	VIFx	22.9	95.0	st1
bedroom 2	c 3034	95	149	0.375	7.0	0x0	VIFx	11.5	90.0	st1
laundry	c 3424	165	168	0.359	6.0	0x0	VIFx	16.1	90.0	st1
living/kitchen	c 2142	100	105	0.245	6.0	0x0	VIFx	40.6	115.0	st2
living/kitchen-A	c 2142	100	105	0.244	6.0	0x0	VIFx	41.1	115.0	st2
living/kitchen-B	c 2142	100	105	0.353	6.0	0x0	VIFx	18.0	90.0	st1
living/kitchen-C	c 2142	100	105	0.358	6.0	0x0	VIFx	16.4	90.0	st1
master bath	h 3539	129	81	0.225	6.0	0x0	VIFx	53.9	115.0	st2
master bedroom	h 5719	208	194	0.250	8.0	0x0	VIFx	42.5	110.0	st2
wic	h 1320	48	45	0.244	5.0	0x0	VIFx	45.8	110.0	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
st2	Peak AVF	584	530	0.225	547	14.0	0 x 0	VinIFlx	st1
st1	Peak AVF	1140	1140	0.225	816	16.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden

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	1140	1140	52.9	0.225	523	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	1140	1140	0.225	816	16.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden



Manual S Compliance Report

Entire House

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Job:
Date: Aug 24, 2023
By:

Email: jlegler@boundshvac.com

Project Information

For: Vasquez, Harvey Building & Construction

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	23171 Btuh	Entering coil DB:	76.4°F
Outdoor design WB:	75.8°F	Latent gain:	3941 Btuh	Entering coil WB:	63.3°F
Indoor design DB:	75.0°F	Total gain:	27112 Btuh		
Indoor RH:	50%	Estimated airflow:	1140 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	GH5SAN43600AA0+FJ4DNXB36L
Actual airflow:	1140 cfm		
Sensible capacity:	23940 Btuh	103% of load	
Latent capacity:	10260 Btuh	260% of load	
Total capacity:	34200 Btuh	126% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	31385 Btuh	Entering coil DB:	67.3°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

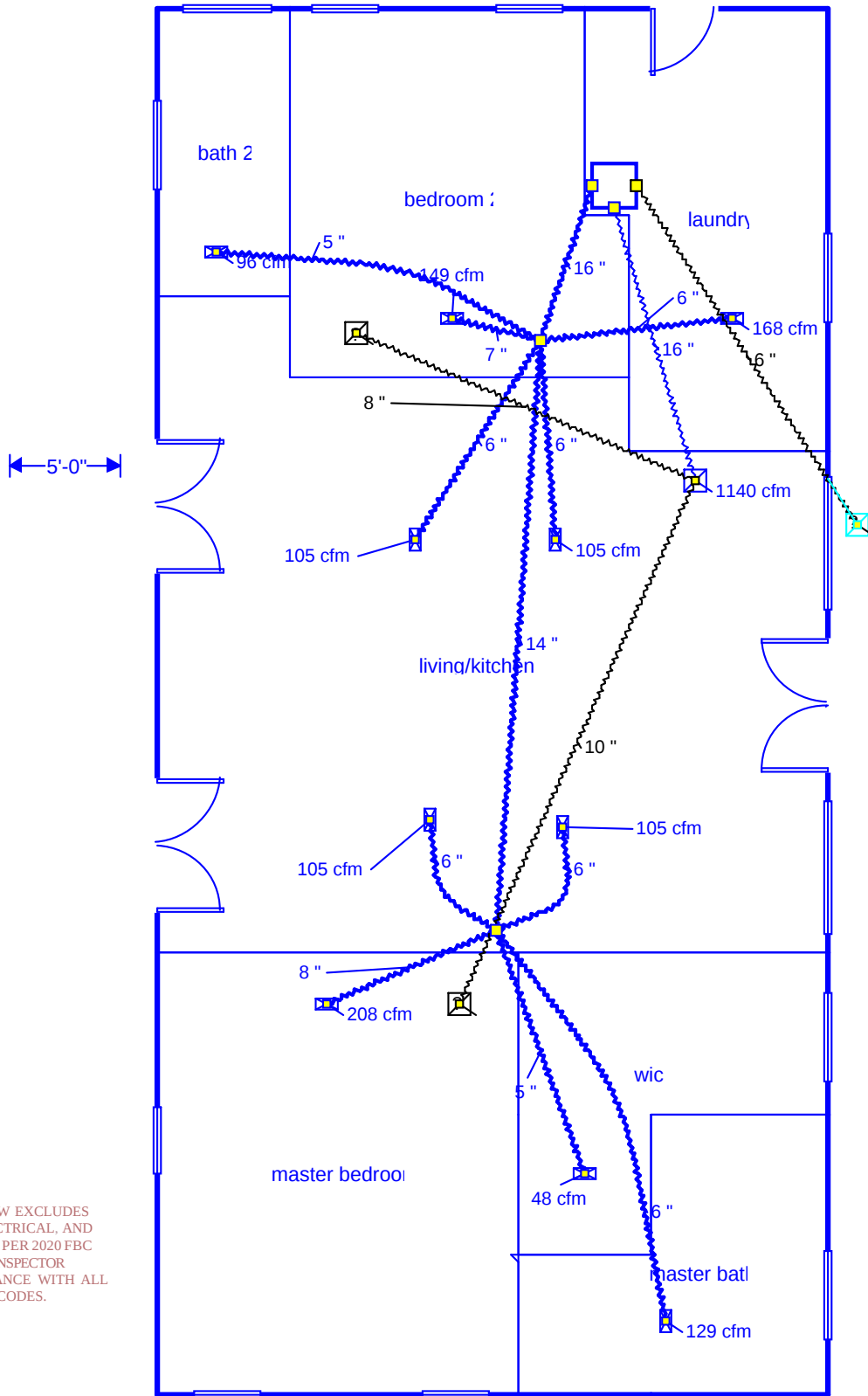
Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	GH5SAN43600AA0+FJ4DNXB36L
Actual airflow:	1140 cfm		
Output capacity:	34000 Btuh	108% of load	Capacity balance: 32 °F
Supplemental heat required:	0 Btuh		Economic balance: -99 °F

Backup equipment type:	Elec strip		
Manufacturer:	n/a	Model:	n/a+n/a
Actual airflow:	1140 cfm		
Output capacity:	0 kW	0% of load	Temp. rise: 0 °F

Meets all requirements of ACCA Manual S.



Level 1



NOTE: PLAN REVIEW EXCLUDES
MECHANICAL, ELECTRICAL, AND
PLUMBING REVIEW PER 2020 FBC
A107.3.5 FIELD INSPECTOR
WILL VERIFY COMPLIANCE WITH ALL
APPLICABLE CODES.



Job #:
Performed for:
Vasquez

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