



Manual S Compliance Report

Entire House

Bounds Heating and Air

Job:
Date: Aug 27, 2021
By:

Email: jlegler@boundshvac.com

Project Information

For: Creasey, Amira Builders Inc.

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	21241 Btuh	Entering coil DB:	77.4°F
Outdoor design WB:	75.8°F	Latent gain:	3557 Btuh	Entering coil WB:	63.6°F
Indoor design DB:	75.0°F	Total gain:	24798 Btuh		
Indoor RH:	50%	Estimated airflow:	1100 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	CH14NB036P0G0B0+FB4CNP036L
Actual airflow:	1100 cfm		
Sensible capacity:	23100 Btuh	109% of load	
Latent capacity:	9900 Btuh	278% of load	
Total capacity:	33000 Btuh	133% of load	SHR: 70%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	25750 Btuh	Entering coil DB:	66.9°F
Indoor design DB:	68.0°F				

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Carrier	Model:	CH14NB036P0G0B0+FB4CNP036L
Actual airflow:	1100 cfm		
Output capacity:	33800 Btuh	131% of load	
Supplemental heat required:	0 Btuh		
		Capacity balance:	27 °F
		Economic balance:	-99 °F

Backup equipment type:	Elec strip		
Manufacturer:		Model:	
Actual airflow:	1100 cfm		
Output capacity:	7.3 kW	97% 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	44		

HEATING EQUIPMENT

Make Carrier
Trade CARRIER
Model CH14NB036P0G0B0
AHRI ref 204861634

Efficiency 8.2 HSPF
Heating input
Heating output 33800 Btuh @ 47°F
Temperature rise 28 °F
Actual air flow 1100 cfm
Air flow factor 0.043 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 27 °F

Backup:
Input = 7 kW, Output = 24866 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Carrier
Trade CARRIER
Cond CH14NB036P0G0B0
Coil FB4CNP036L
AHRI ref 204861634

Efficiency 11.5 EER, 14 SEER
Sensible cooling 23100 Btuh
Latent cooling 9900 Btuh
Total cooling 33000 Btuh
Actual air flow 1100 cfm
Air flow factor 0.052 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)
bedroom 2	203	3782	2160	162	112
wic 2	26	442	180	19	9
bath a	50	93	172	4	9
bath b	40	795	801	34	41
wic 3	29	776	278	33	14
hall	34	0	0	0	0
bedroom 3	174	3006	1882	128	97
kitchen/living	736	8253	8849	353	458
storage	23	35	64	1	3
pantry	32	48	88	2	5
hall 2	103	536	537	23	28
master suite	245	2692	2605	115	135
laundry	76	846	1218	36	63
wic	103	960	501	41	26

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

toilet	22	693	239	30	12
master bath	133	2793	1668	119	86
Entire House	2027	25750	21241	1100	1100
Other equip loads		0	0		
Equip. @ 0.97 RSM			20647		
Latent cooling			3557		
TOTALS	2027	25750	24204	1100	1100

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...DF plans & J&D (2021)\Amira\Creasey\Creasey.rup Calc = MJ8 Front Door faces: N



Project Summary

Entire House

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Job:
Date: Aug 27, 2021
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Project Information

For: Creasey, Amira Builders Inc.

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	19189 Btuh
Ducts	6561 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	25750 Btuh

Sensible Cooling Equipment Load Sizing

Structure	12979 Btuh
Ducts	8263 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Blower	0 Btuh
Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	20647 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	1902 Btuh
Ducts	1655 Btuh
Central vent (0 cfm)	0 Btuh
(none)	
Equipment latent load	3557 Btuh

	Heating	Cooling
Area (ft ²)	2027	2027
Volume (ft ³)	20273	20273
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	74	37

Equipment Total Load (Sen+Lat)	24204 Btuh
Req. total capacity at 0.70 SHR	2.5 ton

Heating Equipment Summary

Make	Carrier
Trade	CARRIER
Model	CH14NB036P0G0B0
AHRI ref	204861634
Efficiency	8.2 HSPF
Heating input	
Heating output	33800 Btuh @ 47°F
Temperature rise	28 °F
Actual air flow	1100 cfm
Air flow factor	0.043 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 27 °F	
Backup:	
Input = 7 kW, Output = 24866 Btuh, 100 AFUE	

Cooling Equipment Summary

Make	Carrier
Trade	CARRIER
Cond	CH14NB036P0G0B0
Coil	FB4CNP036L
AHRI ref	204861634
Efficiency	11.5 EER, 14 SEER
Sensible cooling	23100 Btuh
Latent cooling	9900 Btuh
Total cooling	33000 Btuh
Actual air flow	1100 cfm
Air flow factor	0.052 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.86

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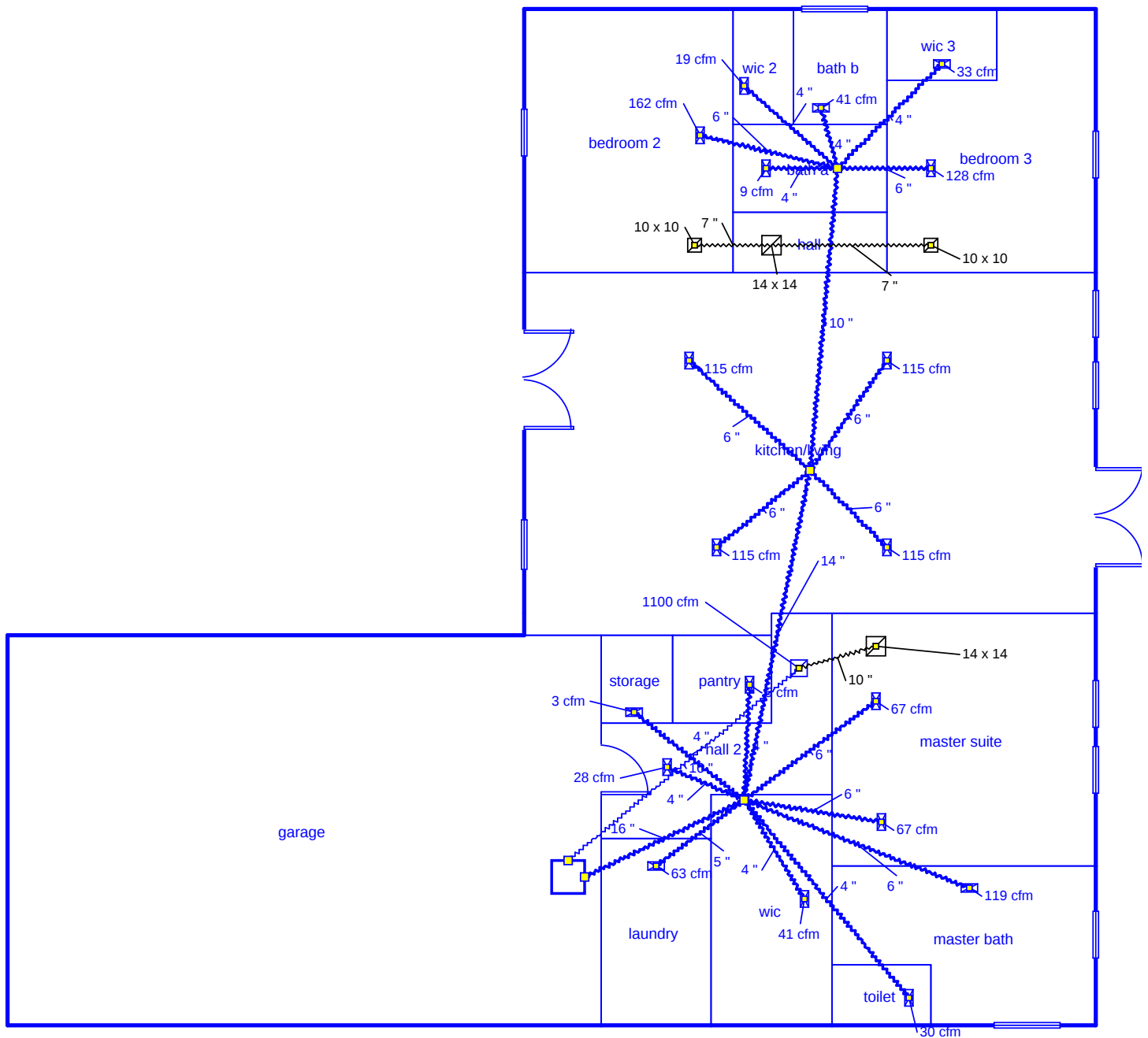
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Level 1



Job #:
Performed for:
Creasey

Bounds Heating and Air

jlegler@boundshvac.com

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Duct System Summary

Entire House

Bounds Heating and Air

Job:
Date: Aug 27, 2021
By:

Email: jlegler@boundshvac.com

Project Information

For: Creasey, Amira Builders Inc.

	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	0.382 / 0.118 in H ₂ O	0.382 / 0.118 in H ₂ O
Lowest friction rate	0.203 in/100ft	0.203 in/100ft
Actual air flow	1100 cfm	1100 cfm
Total effective length (TEL)	247 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 a	c 172	4	9	0.208	4.0	0x0	VIFx	53.9	130.0	st3
bath b	c 801	34	41	0.208	4.0	0x0	VIFx	53.3	130.0	st3
bedroom 2	h 3782	162	112	0.203	6.0	0x0	VIFx	58.1	130.0	st3
bedroom 3	h 3006	128	97	0.206	6.0	0x0	VIFx	55.2	130.0	st3
hall 2	c 537	23	28	0.361	4.0	0x0	VIFx	15.8	90.0	st1
kitchen/living	c 2212	88	115	0.253	6.0	0x0	VIFx	41.0	110.0	st2
kitchen/living-A	c 2212	88	115	0.257	6.0	0x0	VIFx	38.5	110.0	st2
kitchen/living-B	c 2212	88	115	0.256	6.0	0x0	VIFx	39.3	110.0	st2
kitchen/living-C	c 2212	88	115	0.259	6.0	0x0	VIFx	37.7	110.0	st2
laundry	c 1218	36	63	0.356	5.0	0x0	VIFx	17.4	90.0	st1
master bath	h 2793	119	86	0.331	6.0	0x0	VIFx	25.4	90.0	st1
master suite	c 1302	57	67	0.345	6.0	0x0	VIFx	20.7	90.0	st1
master suite-A	c 1302	57	67	0.350	6.0	0x0	VIFx	19.2	90.0	st1
pantry	c 88	2	5	0.355	4.0	0x0	VIFx	17.7	90.0	st1
storage	c 64	1	3	0.350	4.0	0x0	VIFx	19.3	90.0	st1
toilet	h 693	30	12	0.328	4.0	0x0	VIFx	26.4	90.0	st1
wic	h 960	41	26	0.354	4.0	0x0	VIFx	17.8	90.0	st1
wic 2	h 442	19	9	0.204	4.0	0x0	VIFx	57.1	130.0	st3
wic 3	h 776	33	14	0.203	4.0	0x0	VIFx	58.5	130.0	st3

Bold/italic values have been manually overridden

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	380	283	0.203	697	10.0	0 x 0	VinIFlx	st2
st2	Peak AVF	733	742	0.203	694	14.0	0 x 0	VinIFlx	st1
st1	Peak AVF	1100	1100	0.203	788	16.0	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
rb1	0x 0	1100	1100	58.2	0.203	504	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	1100	1100	0.203	788	16.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden