



Project Summary

Entire House

Bounds Heating and Air

Job:
Date: Mar 13, 2025
By:

Email: jlegler@boundshvac.com

Project Information

For: Lot 7 Forest Cove, Maronda Homes

Notes:

Design Information

Weather: Gainesville Regional, FL, US

Winter Design Conditions

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

Ventilation Method MJ8

Heating Summary

Structure	23385 Btuh
Ducts (R-6.0)	6575 Btuh
Central vent (0 cfm)	0 Btuh

Humidification	0 Btuh
Piping	0 Btuh
Equipment load	29960 Btuh

Infiltration

Method	Simplified
Construction quality	Semi-tight
Fireplaces	0

	Heating	Cooling
Area (ft ²)	2051	2051
Volume (ft ³)	18045	18045
Air changes/hour	0.22	0.11
Equiv. AVF (cfm)	66	33

Heating Equipment Summary

Make	Trane
Trade	TRANE
Model	5TWR5036A1
AHRI ref	214074335

Efficiency	8.5 HSPF2
Heating input	
Heating output	31400 Btuh @ 47°F
Temperature rise	26 °F
Actual air flow	1107 cfm
Air flow factor	0.037 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	
Capacity balance point = 32 °F	

Backup: n/a n/a
Input = 5 kW, Output = 17061 Btuh, 100 AFUE

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

Sensible Cooling Equipment Load Sizing

Structure	15528 Btuh
Ducts (R-6.0)	8290 Btuh
Central vent (0 cfm)	0 Btuh

Blower 0 Btuh

Use manufacturer's data	n
Rate/swing multiplier	0.97
Equipment sensible load	23152 Btuh

Latent Cooling Equipment Load Sizing

Structure	2181 Btuh
Ducts	1670 Btuh
Central vent (0 cfm)	0 Btuh

Equipment latent load 3851 Btuh

Equipment Total Load (Sen+Lat)	27002 Btuh
Req. total capacity at 0.70 SHR	2.8 ton

Cooling Equipment Summary

Make	Trane
Trade	TRANE
Cond	5TWR5036A1
Coil	5TEM6D04AV31++TDR
AHRI ref	214074335

Efficiency	12.0 EER2, 16 SEER2
Sensible cooling	23240 Btuh
Latent cooling	9960 Btuh
Total cooling	33200 Btuh
Actual air flow	1107 cfm
Air flow factor	0.046 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.86

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



Right-Suite® Universal 2025 25.0.01 RSU57217
...ot 7 Forest Cove - WillowLot 7 Forest Cove.rup Calc = MJ8 Front Door faces: W

2025-Mar-24 06:54:04
Page 1



Load Short Form

Entire House

Bounds Heating and Air

Job:
Date: Mar 13, 2025
By:

Email: jlegler@boundshvac.com

Project Information

For: Lot 7 Forest Cove, Maronda Homes

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 Trane
Trade TRANE
Model 5TWR5036A1
AHRI ref 214074335

Efficiency 8.5 HSPF2
Heating input
Heating output 31400 Btuh @ 47°F
Temperature rise 26 °F
Actual air flow 1107 cfm
Air flow factor 0.037 cfm/Btuh
Static pressure 0.50 in H2O
Space thermostat
Capacity balance point = 32 °F

Backup: n/a n/a

Input = 5 kW, Output = 17061 Btuh, 100 AFUE

COOLING EQUIPMENT

Make Trane
Trade TRANE
Cond 5TWR5036A1
Coil 5TEM6D04AV31++TDR
AHRI ref 214074335

Efficiency 12.0 EER2, 16 SEER2
Sensible cooling 23240 Btuh
Latent cooling 9960 Btuh
Total cooling 33200 Btuh
Actual air flow 1107 cfm
Air flow factor 0.046 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 4	152	4151	2936	153	136
bedroom 3	178	2175	1489	80	69
bath 2	60	753	331	28	15
bedroom 2	191	3983	2669	147	124
foyer	59	848	430	31	20
flex	148	2189	2336	81	109
kitchen/living	688	5285	6558	195	305
ah	17	0	0	0	0
laundry	84	2387	2164	88	101
pantry	34	623	184	23	9
wc	21	0	0	0	0
master bath	72	1997	599	74	28
master bedroom	254	2560	3046	95	142
wic	92	3010	1076	111	50

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



Right-Suite® Universal 2025 25.0.01 RSU57217

...ot 7 Forest Cove - WillowLot 7 Forest Cove.rup Calc = MJ8 Front Door faces: W

2025-Mar-24 06:54:04

Page 1

Entire House	2051	29960	23818	1107	1107
Other equip loads		0	0		
Equip. @ 0.97 RSM			23152		
Latent cooling			3851		
TOTALS	2051	29960	27002	1107	1107

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





Manual S Compliance Report

Entire House

Bounds Heating and Air

Job:
Date: Mar 13, 2025
By:

Email: jlegler@boundshvac.com

Project Information

For: Lot 7 Forest Cove, Maronda Homes

Cooling Equipment

Design Conditions

Outdoor design DB:	92.2°F	Sensible gain:	23818 Btuh	Entering coil DB:	77.4°F
Outdoor design WB:	75.8°F	Latent gain:	3851 Btuh	Entering coil WB:	63.6°F
Indoor design DB:	75.0°F	Total gain:	27669 Btuh		
Indoor RH:	50%	Estimated airflow:	1107 cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP		
Manufacturer:	Trane	Model:	5TWR5036A1+5TEM6D04AV31++TDR
Actual airflow:	1107 cfm		
Sensible capacity:	27695 Btuh	116% of load	
Latent capacity:	4083 Btuh	106% of load	
Total capacity:	31778 Btuh	115% of load	SHR: 87%

Heating Equipment

Design Conditions

Outdoor design DB:	33.2°F	Heat loss:	29960 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:	Trane	Model:	5TWR5036A1+5TEM6D04AV31++TDR
Actual airflow:	1107 cfm		
Output capacity:	24434 Btuh	82% of load	Capacity balance: 32 °F
Supplemental heat required:	5527 Btuh		Economic balance: -99 °F

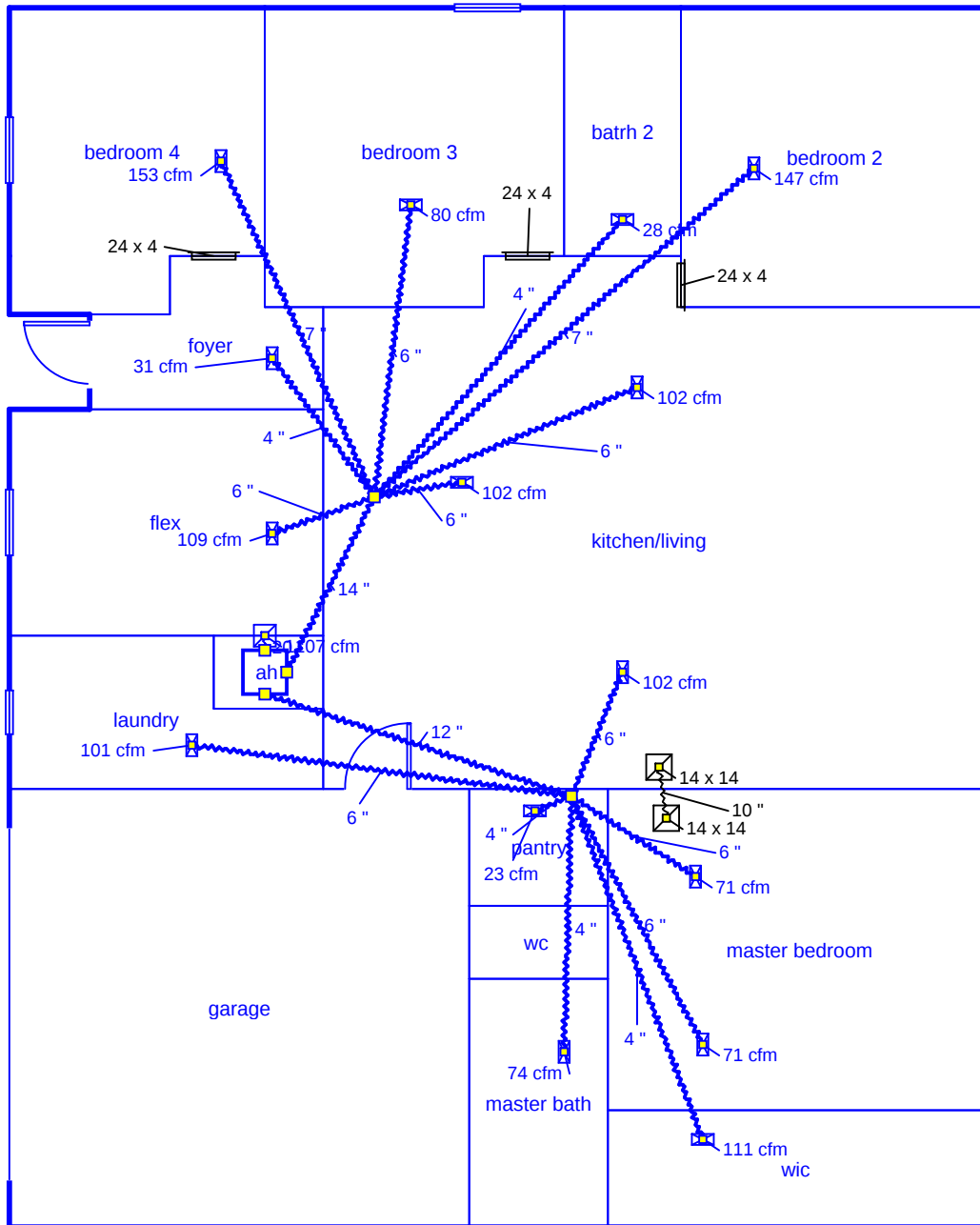
Backup equipment type:	Elec strip		
Manufacturer:	n/a	Model:	n/a+n/a
Actual airflow:	1107 cfm		
Output capacity:	5.0 kW	57% of load	Temp. rise: 14 °F

Meets all requirements of ACCA Manual S.



Level 1

10'-0"



Job #:
Performed for:
Lot 7 Forest Cove

Bounds Heating and Air

jlegler@boundshvac.com

Scale: 1 : 100

Page 1
Right-Suite® Universal 2025
25.0.01 RSU57217
2025-Mar-24 06:54:25
...e - Willow/Lot 7 Forest Cove.rup



Duct System Summary

Entire House

Bounds Heating and Air

Job:
Date: Mar 13, 2025
By:

Email: jlegler@boundshvac.com

Project Information

For: Lot 7 Forest Cove, Maronda Homes

	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	0.400 / 0.100 in H ₂ O	0.400 / 0.100 in H ₂ O
Lowest friction rate	0.327 in/100ft	0.327 in/100ft
Actual air flow	1107 cfm	1107 cfm
Total effective length (TEL)	153 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 753	28	15	0.345	4.0	0x0	VIFx	25.9	90.0	st1
bedroom 2	h 3983	147	124	0.328	7.0	0x0	VIFx	31.9	90.0	st1
bedroom 3	h 2175	80	69	0.356	6.0	0x0	VIFx	22.4	90.0	st1
bedroom 4	h 4151	153	136	0.345	7.0	0x0	VIFx	25.8	90.0	st1
flex	c 2336	81	109	0.385	6.0	0x0	VIFx	13.9	90.0	st1
foyer	h 848	31	20	0.374	4.0	0x0	VIFx	16.8	90.0	st1
kitchen/living	c 2186	65	102	0.388	6.0	0x0	VIFx	13.0	90.0	st1
kitchen/living-A	c 2186	65	102	0.357	6.0	0x0	VIFx	21.9	90.0	st1
kitchen/living-B	c 2186	65	102	0.360	6.0	0x0	VIFx	20.9	90.0	st2
laundry	c 2164	88	101	0.327	6.0	0x0	VIFx	32.2	90.0	st2
master bath	h 1997	74	28	0.343	4.0	0x0	VIFx	26.4	90.0	st2
master bedroom	c 1523	47	71	0.358	6.0	0x0	VIFx	21.5	90.0	st2
master bedroom-A	c 1523	47	71	0.340	6.0	0x0	VIFx	27.6	90.0	st2
pantry	h 623	23	9	0.375	4.0	0x0	VIFx	16.6	90.0	st2
wic	h 3010	111	50	0.329	4.0	0x0	VIFx	31.5	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
st1	Peak AVF	651	677	0.328	633	14.0	0 x 0	VinIFlx	
st2	Peak AVF	456	430	0.327	580	12.0	0 x 0	VinIFlx	

Bold/italic values have been manually overridden



A Mitek® / Berkshire Hathaway Company

Right-Suite® Universal 2025 25.0.01 RSU57217

...ot 7 Forest Cove - WillowLot 7 Forest Cove.rup Calc = MJ8 Front Door faces: W

2025-Mar-24 06:54:04

Page 1

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	1107	1107	30.7	0.327	507	20.0	0x 0		VIFx	