

wrightsoft **Project Summary** **Entire House** **Bounds Heating & Air**

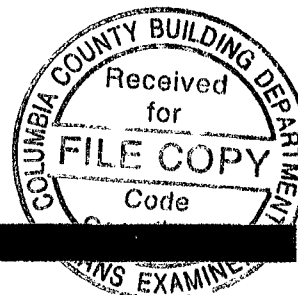
Job:
 Date: Jan 08, 2014
 By: Joe Mullins

25645 West Newberry Road, Newberry, FL 32669 Phone: 352-472-2761 Fax: 352-472-1809 Email: joe.atbounds@yahoo.com Web: www.boundshvac.com

Project Information

For: Reed, Ronald Clark Construction

Notes:



Design Information

Weather: Gainesville, 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	76 °F
Design TD	17 °F
Daily range	M
Relative humidity	50 %
Moisture difference	52 gr/lb

Heating Summary

Structure	17636 Btuh
Ducts	5019 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	22654 Btuh

Sensible Cooling Equipment Load Sizing

Structure	13374 Btuh
Ducts	6145 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

	Heating	Cooling
Area (ft²)	1748	1748
Volume (ft³)	15734	15734
Air changes/hour	0.14	0.07
Equiv. AVF (cfm)	37	18

Latent Cooling Equipment Load Sizing

Structure	1445 Btuh
Ducts	1481 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	2927 Btuh

Equipment total load	21861 Btuh
Req. total capacity at 0.70 SHR	2.3 ton

Heating Equipment Summary

Make	Carrier
Trade	Builder Model
Model	CH13NA03000G
AHRI ref	5211529

Efficiency	7.7 HSPF
Heating input	
Heating output	25758 Btuh @ 47°F
Temperature rise	27 °F
Actual air flow	863 cfm
Air flow factor	0.038 cfm/Btuh
Static pressure	1.00 in H2O
Space thermostat	

Cooling Equipment Summary

Make	Carrier
Trade	Builder Model
Cond	CH13NA03000G
Coil	FB4CNF030T00
AHRI ref	5211529

Efficiency	11.6 EER, 13 SEER
Sensible cooling	18121 Btuh
Latent cooling	7766 Btuh
Total cooling	25887 Btuh
Actual air flow	863 cfm
Air flow factor	0.044 cfm/Btuh
Static pressure	1.00 in H2O
Load sensible heat ratio	0.87

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



Duct System Summary

Entire House

Bounds Heating & Air

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	Heating	Cooling
External static pressure	1.00 in H ₂ O	1.00 in H ₂ O
Pressure losses	0.30 in H ₂ O	0.30 in H ₂ O
Available static pressure	0.70 in H ₂ O	0.70 in H ₂ O
Supply / return available pressure	0.509 / 0.191 in H ₂ O	0.509 / 0.191 in H ₂ O
Lowest friction rate	0.212 in/100ft	0.212 in/100ft
Actual air flow	863 cfm	863 cfm
Total effective length (TEL)	330 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
Toilet	h 977	37	16	0.412	4.0	0x0	VIFx	18.7	105.0	st2
WIC	h 734	28	14	0.220	4.0	0x0	VIFx	26.3	205.0	st1
bath	h 606	23	13	0.234	4.0	0x0	VIFx	38.0	180.0	st1
bedroom 2	h 3585	137	123	0.235	7.0	0x0	VIFx	46.3	170.0	st1
bedroom 3	h 4497	171	137	0.342	7.0	0x0	VIFx	44.0	105.0	st1
breakfast	h 2888	110	100	0.212	6.0	0x0	VIFx	35.0	205.0	st1
dining	h 2385	91	61	0.226	6.0	0x0	VIFx	20.3	205.0	st1
foyer	h 1014	39	27	0.231	4.0	0x0	VIFx	30.0	190.0	st1
Kitchen	c 3030	12	134	0.234	7.0	0x0	VIFx	12.7	205.0	st1
living	c 2594	67	115	0.229	7.0	0x0	VIFx	27.0	195.0	st1
master bath	c 162	4	7	0.278	4.0	0x0	VIFx	13.0	170.0	st2
master bedroom	h 3784	144	116	0.256	7.0	0x0	VIFx	19.0	180.0	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	678	724	0.212	744	11.1	14 x 10	RectFbg	
st2	Peak AVF	185	139	0.256	317	6.4	14 x 6	RectFbg	

Bold/italic values have been manually overridden

Return Branch Detail Table

Name	Grill 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
rb2	0x 0	528	475	90.0	0.212	494	14.0	0x 0		VIFx	
rb6	0x 0	335	388	71.3	0.268	711	10.0	0x 0		VIFx	

Bold/italic values have been manually overridden



Load Short Form Entire House Bounds Heating & Air

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Project Information

For: Reed, Ronald Clark Construction

Design Information

	Htg	Clg	Infiltration	Simplified
Outside db (°F)	33	92	Method	Tight
Inside db (°F)	68	75	Construction quality	0
Design TD (°F)	35	17	Fireplaces	
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	29	52		

HEATING EQUIPMENT

Make Carrier
Trade Builer Model
Model CH13NA03000G
AHRI ref 5211529

Efficiency 7.7 HSPF
Heating input
Heating output 25758 Btuh @ 47°F
Temperature rise 27 °F
Actual air flow 863 cfm
Air flow factor 0.038 cfm/Btuh
Static pressure 1.00 in H2O
Space thermostat

COOLING EQUIPMENT

Make Carrier
Trade Builer Model
Cond CH13NA03000G
Coil FB4CNF030T00
AHRI ref 5211529

Efficiency 11.6 EER, 13 SEER
Sensible cooling 18121 Btuh
Latent cooling 7766 Btuh
Total cooling 25887 Btuh
Actual air flow 863 cfm
Air flow factor 0.044 cfm/Btuh
Static pressure 1.00 in H2O
Load sensible heat ratio 0.87

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
master bedroom	223	3784	2625	144	116
WIC	56	734	323	28	14
Toilet	34	977	365	37	16
master bath	81	95	162	4	7
breakfast	97	2888	2269	110	100
bedroom 2	184	3585	2790	137	123
bath	50	606	290	23	13
bedroom 3	194	4497	3090	171	137
foyer	49	1014	600	39	27
dining	143	2385	1381	91	61
living	315	1767	2594	67	115
kitchen	275	321	3030	12	134
hall	48	0	0	0	0

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



Wrightsoft

Right-Suite® Universal 2013 13.0.08 RSU01870

C:\Wrightsoft\HVAC\2014 J&D\Clark - Reedrup Calc = MJ8 Front Door faces: SW

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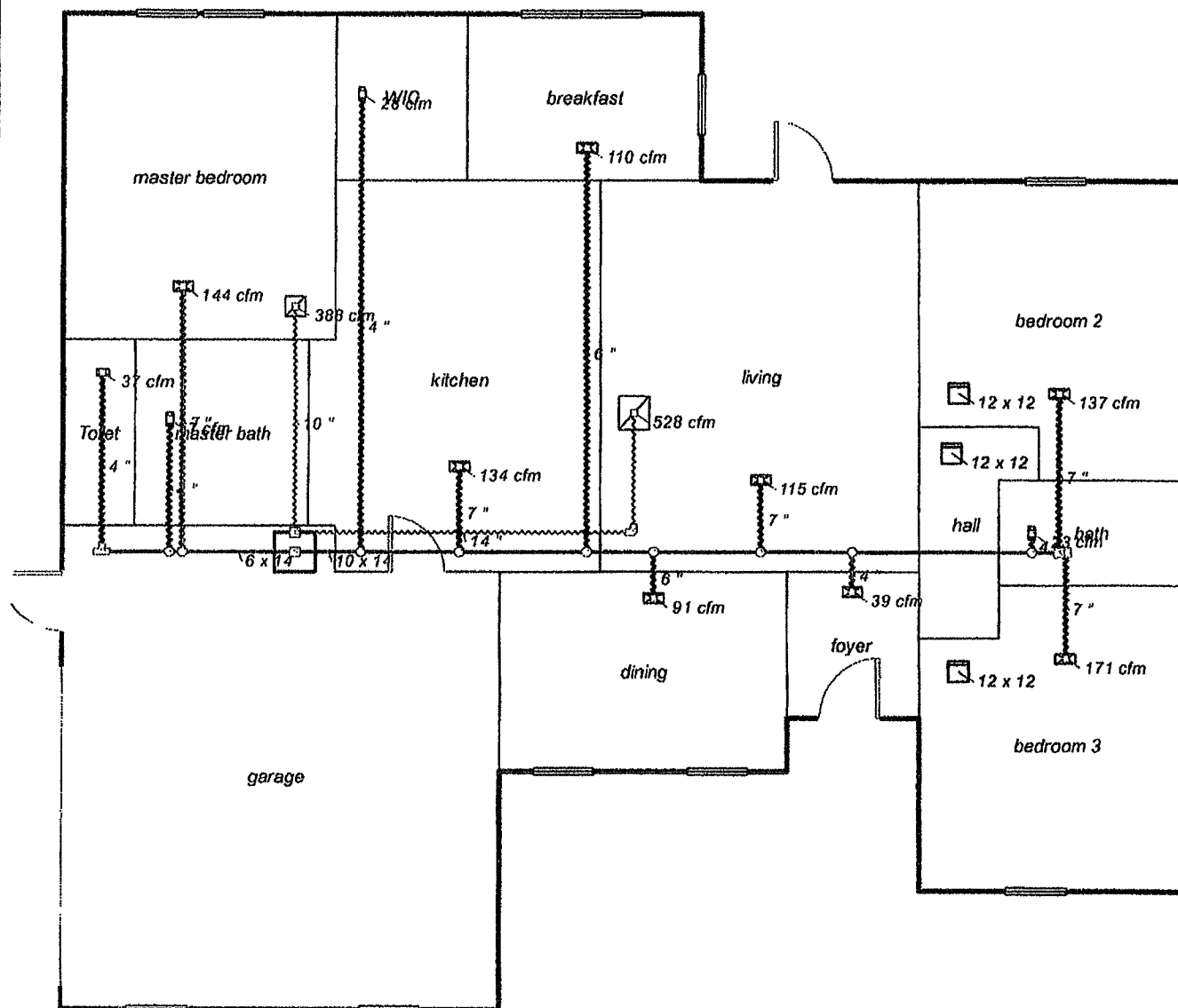
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Entire House	d	1748	22654	19519	863	863
Other equip loads			0	0		
Equip. @ 0.97 RSM				18934		
Latent cooling				2927		
TOTALS		1748	22654	21861	863	863

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



Level 1



Job #:
Performed by Joe Mullins for:
 Reed

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