Load Short Form
Entire House

Job: 4394
Date: Jan 07, 2009
By:

Cert.#:

Project Information

For:

Design Information

	Htg	Clg
Outside db (°F)	3	86
Inside db (°F)	72	75
Design TD (°F)	69	11
Daily range	-	M
Inside humidity (%)	50	50
Moisture difference (gr/lb)	53	37

Infiltration

Method	F280
Exposure category	Sheltered
Construction category	Tight
Number of stories	1.0

HEATING EQUIPMENT

Make	Goodman Mfg.
Trade	Goodman
Model	GMS90704CX
GAMA ID	45557

Efficiency	93 AFUE	
Heating input	69000	Btuh
Heating output	64000	Btuh
Temperature rise	68	°F
Actual air flow	868	cfm
Air flow factor	0.018	cfm/Btuh
Static pressure	0.50	in H2O
Space thermostat		

COOLING EQUIPMENT

Make	Generic
Trade	
Cond	SEER 13.0
Coil	
ARI ref no.	

Efficiency	13 SEER	
Sensible cooling	18225	Btuh
Latent cooling	7811	Btuh
Total cooling	26035	Btuh
Actual air flow	868	cfm
Air flow factor	0.043	cfm/Btuh
Static pressure	0.50	in H2O
Load sensible heat ratio	0.77	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MASTER BEDROOM	253	4427	2710	80	116
ENSUITE	103	2417	864	44	37
LAUNDRY RM.	73	1378	1830	25	78
BTHRM	62	1057	187	19	8
KITCHEN/DINETE	212	3199	4567	58	196
LIVING ROOM	260	5070	4438	91	190
DINING ROOM	337	4075	1984	74	85
ENTRY	106	2342	652	42	28
BEDROOM #2	164	4305	3018	78	129
BASEMENT	1568	19825	0	358	0

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Entire House	d	3135	48096	20250	868	868
Other equip loads			0	0		
Equip. @ 0.90	RSM			18225		
Latent cooling				6075		
TOTALS		3135	48096	24300	868	868

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Project Summary
Entire House

Job: 4394
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Cert.#:

Project Information

For:

Notes:

Design Information

Weather: St. Catharines, ON, CA

Winter Design Conditions

Outside db	3 °F
Inside db	72 °F
Design TD	69 °F

Summer Design Conditions

Outside db	86 °F
Inside db	75 °F
Design TD	11 °F
Daily range	M
Relative humidity	50 %
Moisture difference	37 gr/lb

Heating Summary

Structure	48096 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	48096 Btuh

Sensible Cooling Equipment Load Sizing

Structure	20250 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Blower	0 Btuh
Use manufacturer's data	y
Rate/swing multiplier	0.90
Equipment sensible load	18225 Btuh

Infiltration

Method	F280
Exposure category	Sheltered
Construction category	Tight
Number of stories	1.0

	Heating	Cooling
Area (ft²)	3135	1568
Volume (ft³)	26987	14446
Air changes/hour	0.34	0.35
Equiv. AVF (cfm)	153	84

Latent Cooling Equipment Load Sizing

Structure	6075 Btuh
Ducts	0 Btuh
Central vent (0 cfm)	0 Btuh
Equipment latent load	6075 Btuh
Equipment total load	24300 Btuh
Req. total capacity at 0.70 SHR	2.2 ton

Heating Equipment Summary

Make	Goodman Mfg.
Trade	Goodman
Model	GMS90704CX
GAMA ID	45557
Efficiency	93 AFUE
Heating input	69000 Btuh
Heating output	64000 Btuh
Temperature rise	68 °F
Actual air flow	868 cfm
Air flow factor	0.018 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

Cooling Equipment Summary

Make	Generic
Trade	
Cond	SEER 13.0
Coil	
ARI ref no.	
Efficiency	13 SEER
Sensible cooling	18225 Btuh
Latent cooling	7811 Btuh
Total cooling	26035 Btuh
Actual air flow	868 cfm
Air flow factor	0.043 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.77

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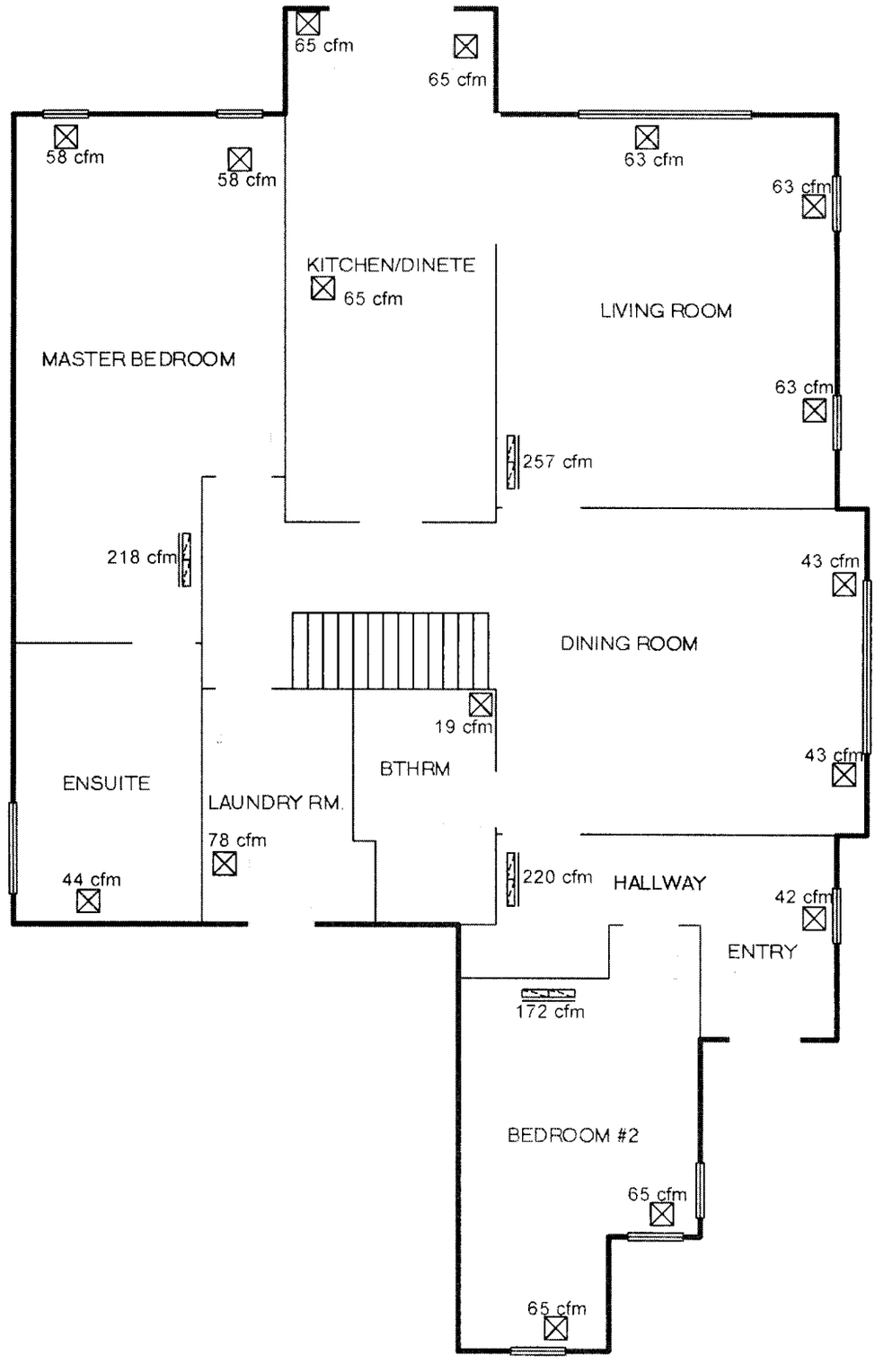
First floor



Job #: 4394
Performed for:

Scale: 1 : 89

Right-Suite® Universal
7.1.05 RSU07578
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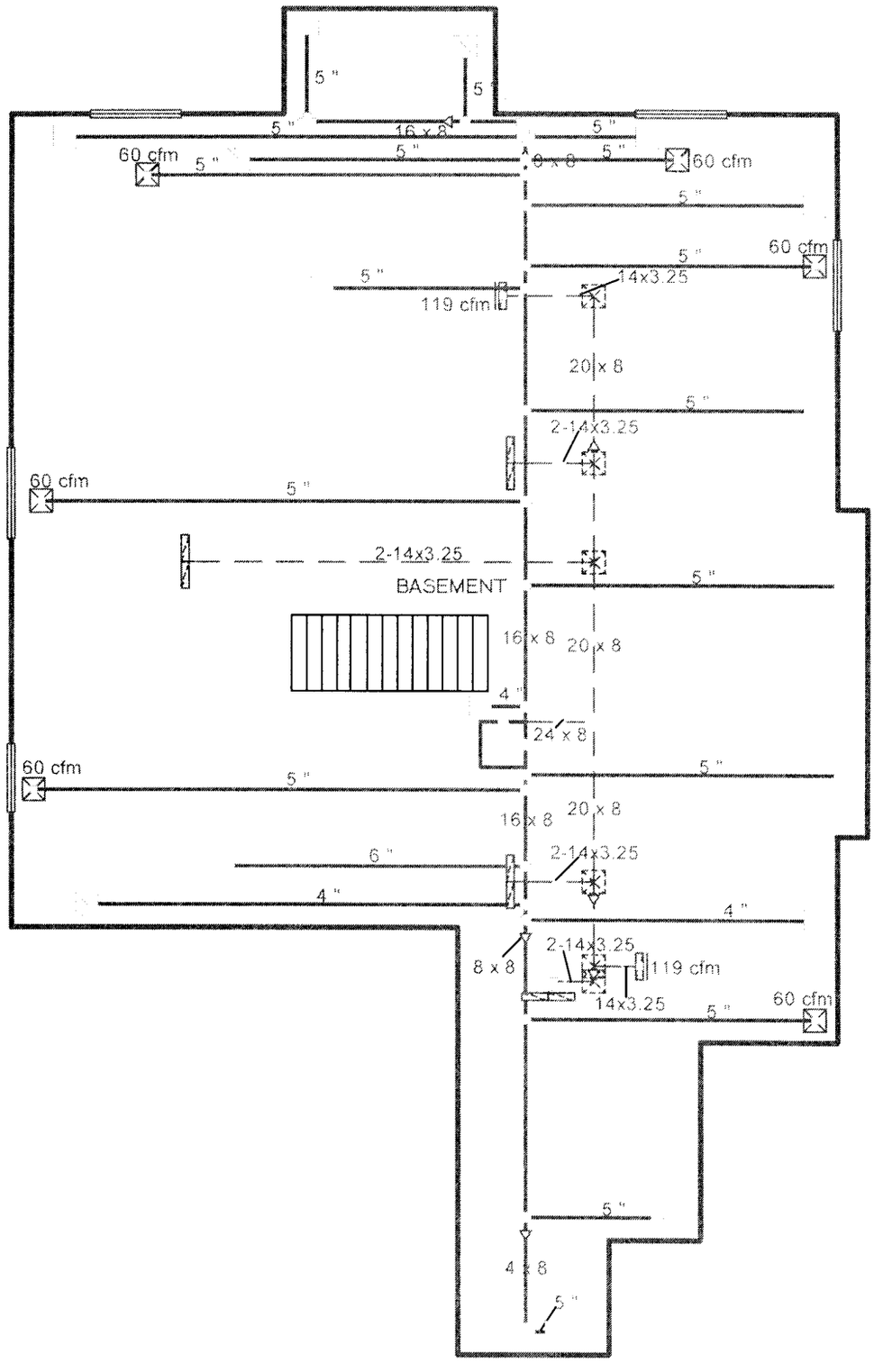
Basement



Job #: 4394 **Performed for:**		Scale: 1 : 89 Page 2 Right-Suite® Universal 7.1.05 RSU07578 2010-Jun-10 13:02:09 C:\Users\Glen Curnock\Desktop\N...

Duct System Summary
Entire House

Job: 4394
Date: Jan 07, 2009
By:

Cert.#:

Project Information

For:

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.25 in H2O	0.25 in H2O
Available static pressure	0.25 in H2O	0.25 in H2O
Supply / return available pressure	0.12 / 0.13 in H2O	0.12 / 0.13 in H2O
Lowest friction rate	0.058 in/100ft	0.058 in/100ft
Actual air flow	868 cfm	868 cfm
Total effective length (TEL)	434 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
BASEMENT	h	3304	60	0	0.081	5.0	0x0	ShMt	32.3	115.0	st2
BASEMENT-A	h	3304	60	0	0.070	5.0	0x0	ShMt	23.7	145.0	st1
BASEMENT-B	h	3304	60	0	0.066	5.0	0x0	ShMt	33.7	145.0	st2
BASEMENT-C	h	3304	60	0	0.077	5.0	0x0	ShMt	24.7	130.0	st1A
BASEMENT-D	h	3304	60	0	0.071	5.0	0x0	ShMt	41.7	125.0	st2
BASEMENT-E	h	3304	60	0	0.060	5.0	0x0	ShMt	32.0	165.0	st2
BEDROOM #2	c	1509	39	65	0.081	5.0	0x0	ShMt	26.7	120.0	st1A
BEDROOM #2-A	c	1509	39	65	0.106	5.0	0x0	ShMt	27.0	85.0	st1B
BTHRM	h	1057	19	8	0.060	4.0	0x0	ShMt	3.7	195.0	st2
DINING ROOM	c	992	37	43	0.070	5.0	0x0	ShMt	15.3	155.0	st1
DINING ROOM-A	c	992	37	43	0.058	5.0	0x0	ShMt	21.0	185.0	st2
ENSUITE-A	h	2417	44	37	0.078	4.0	0x0	ShMt	26.3	125.0	st1
ENTRY	h	2342	42	28	0.088	4.0	0x0	ShMt	20.3	115.0	st1
KITCHEN/DINETE	c	1522	19	65	0.087	5.0	0x0	ShMt	41.3	95.0	st2B
KITCHEN/DINETE-A	c	1522	19	65	0.064	5.0	0x0	ShMt	29.0	155.0	st2
KITCHEN/DINETE-B	c	1522	19	65	0.073	5.0	0x0	ShMt	33.3	130.0	st2A
LAUNDRY RM.	c	1830	25	78	0.077	6.0	0x0	ShMt	18.7	135.0	st1
LIVING ROOM	c	1479	30	63	0.062	5.0	0x0	ShMt	27.3	165.0	st2
LIVING ROOM-A	c	1479	30	63	0.069	5.0	0x0	ShMt	36.3	135.0	st2
LIVING ROOM-B	c	1479	30	63	0.078	5.0	0x0	ShMt	32.0	120.0	st2A
MASTER BEDROOM	c	1355	40	58	0.071	5.0	0x0	ShMt	47.0	120.0	st2A
MASTER BEDROOM-A	c	1355	40	58	0.077	5.0	0x0	ShMt	38.3	115.0	st2

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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	523	553	0.058	622	***11.8***	***8*** x ***16***	ShtMetl	
st2A	Peak AVF	109	252	0.071	567	8.8	8 x 8	ShtMetl	st2
st2B	Peak AVF	19	65	0.087	73	***9.1***	***8*** x ***16***	ShtMetl	st2A
st1	Peak AVF	344	315	0.070	387	***10.6***	***8*** x ***16***	ShtMetl	
st1A	Peak AVF	137	129	0.077	309	6.9	8 x 8	ShtMetl	st1
st1B	Peak AVF	39	65	0.106	291	4.9	8 x 4	ShtMetl	st1A

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
rb4	30x3	114	172	228.0	0.058	272	8.0	2-14x3.25	2-10x18	SJSp	rt3B
rb1	30x3	143	218	164.0	0.080	346	8.2	2-14x3.25	2-10x18	SJSp	rt2
rb3	30x4	219	257	194.0	0.068	407	9.0	2-14x3.25	2-10x18	SJSp	rt2
rb2	30x3	153	220	149.7	0.088	349	8.0	2-14x3.25	2-10x18	SJSp	rt3
rb6	16x3	119	0	166.7	0.079	377	6.5	14x3.25	10x9	SJSp	rt3A
rb5	16x3	119	0	176.7	0.074	377	6.6	14x3.25	10x9	SJSp	rt2A

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt3B	Peak AVF	114	172	0.058	155	***9.2***	***8*** x ***20***	ShtMetl	rt3A
rt2	Peak AVF	481	476	0.068	433	***11.0***	***8*** x ***20***	ShtMetl	rt1
rt2A	Peak AVF	119	0	0.074	107	***11.0***	***8*** x ***20***	ShtMetl	rt2
rt3	Peak AVF	387	392	0.058	353	***11.3***	***8*** x ***20***	ShtMetl	rt1
rt3A	Peak AVF	234	172	0.058	210	***9.2***	***8*** x ***20***	ShtMetl	rt3
rt1	Peak AVF	868	868	0.058	651	14.6	8 x 24	ShtMetl	

Bold/italic values have been manually overridden

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