


Schedule 1: Designer Information

Type in the text you want to insert

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			
Building number, street name MODEL CERTIFICATION		Unit no. N/A	Lot/con. N/A
Municipality KING CITY	Postal code N/A	Plan number/ other description N/A	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 65 CHURCH STREET SOUTH		Unit no.	Lot/con.
Municipality AJAX	Postal code L1S 6A7	Province ONTARIO	E-mail info@hvacdsgns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]			
<input type="checkbox"/> House	<input type="checkbox"/> HVAC – House	<input type="checkbox"/> Building Structural	
<input type="checkbox"/> Small Buildings	<input type="checkbox"/> Building Services	<input type="checkbox"/> Plumbing – House	
<input type="checkbox"/> Large Buildings	<input type="checkbox"/> Detection, Lighting and Power	<input type="checkbox"/> Plumbing – All Buildings	
<input type="checkbox"/> Complex Buildings	<input type="checkbox"/> Fire Protection	<input type="checkbox"/> On-site Sewage Systems	
Description of designer's work Heat Loss/Gain Calculations Duct Sizing Residential Mechanical Ventilation Design Summary Residential System Design per Can/CSA-F280-M90		Model: 50-10 Project: CASTLES OF KING CITY	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
<input type="checkbox"/> review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
<input type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration: <u>O.B.C. SENTENCE 3.2.4.1. (4)</u>			
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. I have submitted this application with the knowledge and consent of the firm.			
JANUARY 30, 2014 Date		 Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

ENERGYSTAR 12.1 2012 OBC - REV JAN 2014

ROOM USE	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-3	ENS-4	WIC-2	ENS-2	WIC-3	ENS-5
EXP. WALL	46	12	10	32	53	18	20	11	0	18	16	18
RM AREA	384	192	258	328	210	442	110	121	0	128	0	0
CLG. HT.	11	0	0	11	12	10	10	10	10	11	9	9
COLD FLOOR	0	0	0	0	210	0	0	0	0	0	0	0
COLD CEILING	384	192	258	328	210	442	110	121	0	128	0	0
NO ATTIC EXPOSED CLG	0	0	0	0	0	0	0	0	0	0	0	0
GROSS WALL BAS ABOVE GRADE	0	0	0	0	0	0	0	0	0	0	0	0
GROSS WALL BAS BELOW GRADE	0	0	0	0	0	0	0	0	0	0	0	0
FACTORS												
GRS WALL AREA	506	120	100	352	636	180	200	110	0	198	144	162
GLAZING												
NORTH	19.50 13.96	0	0	0	0	0	0	0	0	0	0	0
EASTWEST	19.50 33.00	0	0	0	0	0	0	0	0	0	0	0
SOUTH	19.50 20.92	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	19.50 136.72	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.91 5.32	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	2.92 0.60	88	100	328	602	162	180	102	0	175	135	156
WALL BAS ABOVE GR	3.60 0.48	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.48 0.72	384	258	328	210	442	110	121	0	128	0	0
NO ATTIC EXPOSED CLG	2.42 1.18	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.36 0.48	0	0	0	0	0	0	0	0	0	0	0
EXPOSED WALL BAS BELOW GRADE	22.00	0	0	0	0	0	0	0	0	0	0	0
BELOW GRADE HT LOSS FLOOR	1.08	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS		3243	675	1914	3231	1481	1080	634	0	1150	570	573
SUB TOTAL HT GAIN		2533	247	640	1081	495	361	212	0	385	191	192
HT LOSS AIR LEAKAGE FACTOR 0.335		1085	226	169	1081	495	361	212	0	385	191	192
HT GAIN AIR LEAKAGE FACTOR 0.137		348	34	240	222	92	76	36	0	132	28	30
HT GAIN PEOPLE/APPLIANCES 240		480	240	1	240	1	240	1	0	240	0	240
TOTAL HT LOSS BTU/H		4328	901	2554	4312	1976	1441	846	0	1535	761	765
TOTAL HT GAIN x 1.3 BTU/H		4370	677	2125	2702	1300	1126	697	0	1726	306	636

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19689

MICHAEL O'ROURKE

ROOM USE	DEN	DIN	KT/FT	FAM	LAUN	WIR	FOY	INST	R3	R4	WOB	BAS
EXP. WALL	18	24	136	0	25	5	22	59	0	0	0	232
RM AREA	0	0	0	0	0	0	0	0	0	0	0	0
CLG. HT.	10	10	11	10	11	10	10	11	9	9	9	9
COLD FLOOR	0	0	0	0	0	0	0	0	0	0	0	0
COLD CEILING	0	0	324	0	0	0	0	252	0	0	0	0
NO ATTIC EXPOSED CLG	0	0	10	0	0	0	0	0	0	0	0	0
GROSS WALL BAS ABOVE GRADE	0	0	0	0	0	0	0	0	0	0	0	696
GROSS WALL BAS BELOW GRADE	0	0	0	0	0	0	0	0	0	0	0	1392
FACTORS												
GRS WALL AREA	180	240	1496	0	275	50	220	649	0	0	0	0
GLAZING												
NORTH	19.50 13.96	0	0	0	8	6	0	38	0	0	0	15
EAST/WEST	19.50 33.00	0	0	0	156	117	0	741	0	0	0	293
SOUTH	19.50 20.92	0	174	0	112	0	20	468	0	0	0	330
SKYLT.	19.50 136.72	0	3393	0	188	0	390	0	0	0	0	98
DOORS	25.91 5.32	0	753	0	9	0	0	0	0	0	0	105
NET EXPOSED WALL	2.92 0.60	0	0	0	176	0	0	0	0	0	0	0
WALL BAS ABOVE GR	3.60 0.48	0	0	0	106	0	0	0	0	0	0	0
EXPOSED CLG	1.48 0.72	0	0	0	20	0	518	0	0	0	0	20
NO ATTIC EXPOSED CLG	2.42 1.18	0	20	0	518	44	180	587	0	0	0	518
EXPOSED FLOOR	2.36 0.48	0	106	0	106	0	106	0	0	0	0	106
EXPOSED WALL BAS BELOW GRADE	22.00	0	38	0	696	129	526	1717	352	0	0	0
BELOW GRADE HT LOSS FLOOR	1.08	0	308	0	143	26	103	0	0	0	0	0
SUBTOTAL HT LOSS	825	1299	8224	0	1546	246	1435	3300	0	0	0	11300
SUB TOTAL HT GAIN												
HT LOSS AIR LEAKAGE FACTOR 0.335	348	876	6875	0	549	110	874	1857	0	0	0	1073
HT GAIN AIR LEAKAGE FACTOR 0.137	276	434	2751	0	517	82	480	1104	0	0	0	3780
HT GAIN PEOPLE/APPLIANCES 240	48	120	945	0	75	15	120	255	0	0	0	148
TOTAL HT LOSS BTU/H	2	2	4	0	6	1	2	2	0	0	0	1
TOTAL HT GAIN x 1.3 BTU/H	1101	1733	10975	0	2063	328	1915	4404	0	0	0	15080
TOTAL HT GAIN x 1.3 BTU/H	1139	1919	11415	0	2684	475	1917	3370	0	0	0	1899

SITE NAME: CASTLES OF KING
BUILDER: ZANCOR HOMES

DATE: Jan-14

GFA: 4676 LOW 53768

CALCULATIONS per HRAI PAGE 2 of 3

FURNACE CFM 1460 FURNACE CFM 1460
TOTAL HEAT LOSS 58576 TOTAL HEAT GAIN 42378
AIR FLOW RATE CFM 24.93 AIR FLOW RATE CFM 34.45

*LENNOX
ML195UH090XP48C 90 OUTPUT 85000 BTUH
FAN SPEED CFM @ 5" E.S.P.

HI-BOY HI-EFFICIENCY

RUN COUNT	3rd	2nd	1st	Bas
S/A	0	12	13	5
R/A	0	4	3	1

plenum pressure s/a 0.14
s/a diff press. loss 0.01
adjusted pressure s/a 0.13

for s/a & r/a 0.28

LOW 1285
MEDLOW 1460
MEDIUM HIGH 1675
HIGH 1830

DESIGN CFM = 1460
TEMPERATURE RISE 54 DEG/F.

All S/A runs 5'x10' unless noted otherwise on layout.

All R/A runs 5'x10' unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	INST	INST	WIC-3	ENS-5	ENS-2	DIN	KT/FM	KT/FM	KT/FM	KT/FM	LAUN	WIR	FOY	KT/FM	BAS	BAS	BAS	BAS
RM LOSS MBH	2.16	0.78	0.90	2.55	2.16	1.98	0.00	0.00	0.76	0.77	1.54	1.73	0.00	2.74	2.74	2.74	2.06	0.33	1.91	2.74	3.02	3.02	3.02	3.02
CFM PER RUN HEAT	54	19	22	64	54	49	0	19	19	54	38	43	0	68	68	68	51	8	48	68	75	75	75	75
RM GAIN MBH	2.18	0.95	0.68	2.12	1.35	1.30	0.00	0.00	0.31	0.64	1.73	1.92	0.00	2.85	2.85	2.85	2.68	0.47	1.92	2.85	0.38	0.38	0.38	0.38
CFM PER RUN COOLING	75	33	23	73	47	45	0	11	22	75	59	66	0	98	98	98	92	16	66	98	13	13	13	13
ADJUSTED PRESSURE	0.125	0.13	0.125	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.125	0.13	0.13	0.13	0.13	0.13
EQUIVALENT LENGTH	51	31	49	26	87	71	1	24	24	91	55	26	1	70	56	72	104	50	34	58	44	21	38	56
TOTAL EFFECTIVE LH	140	160	150	210	140	140	0	200	200	180	150	150	0	140	150	150	160	140	140	160	150	190	210	200
ADJUSTED PRESSURE	0.07	0.07	0.06	0.05	0.06	0.06	12.5	0.06	0.06	0.06	0.06	0.07	12.5	0.06	0.06	0.06	0.05	0.07	0.07	0.06	0.06	0.06	0.05	0.05
ROUND DUCT SIZE	5	5	5	6	5	5	5	5	5	5	5	5	5	6	6	6	6	5	5	6	6	6	6	6
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	C	D	D	A	A	B	A	A	A	C	B	D	C	C	C	C	B	B	B	C	A	A	C	C

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
ROOM NAME	BAS	ENS	ENS-3	ENS-4	BED-3	DEN	INST	INSTE																
RM LOSS MBH.	3.02	0.78	1.44	0.85	2.16	1.10	2.20	2.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CFM PER RUN HEAT	75	19	36	21	54	27	55	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
RM GAIN MBH.	0.38	0.95	1.13	0.70	1.35	1.14	1.68	1.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
CFM PER RUN COOLING	13	33	39	24	47	39	58	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
ADJUSTED PRESSURE	0.125	0.13	0.125	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.125	0.13	0.13	0.13	0.13	
ACTUAL DUCT LGH.	62	26	51	44	73	56	50	48	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
EQUIVALENT LENGTH	180	160	160	160	200	180	150	140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL EFFECTIVE LH	242	186	211	204	273	236	200	188	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
ADJUSTED PRESSURE	0.05	0.07	0.06	0.06	0.05	0.05	0.06	0.07	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	
ROUND DUCT SIZE	6	5	5	5	5	5	5	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	
TRUNK	C	D	B	B	A	B	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT
TRUNK A	470	0.05	11.9	16
TRUNK B	748	0.05	14.2	23
TRUNK C	605	0.05	13.1	19
TRUNK D	708	0.05	13.9	22
TRUNK E	0	0.05	0	0

RETURN AIR

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	BR
AIR VOLUME	120	175	155	115	235	325	155	0	0	0	0	0	0	0	180
PLENUM PRESSURE	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
EQUIVALENT LENGTH	69	52	25	66	68	24	43	1	1	1	1	1	1	1	14
TOTAL EFFECTIVE LH	284	172	210	251	288	169	193	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.04	0.07	0.06	0.05	0.04	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.08
ROUND DUCT SIZE	7.5	7.5	7.5	7	9.7	9.5	7.5	0	0	0	0	0	0	0	7.4
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	8
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	30	14	0	0	0	0	0	0	0	14

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT
TRUNK O	0	0.04	0	0
TRUNK P	0	0.04	0	0
TRUNK Q	0	0.04	0	0
TRUNK R	0	0.04	0	0
TRUNK S	0	0.04	0	0
TRUNK T	0	0.04	0	0
TRUNK U	0	0.04	0	0
TRUNK V	0	0.04	0	0
TRUNK W	355	0.04	11.3	14
TRUNK X	1285	0.04	18.3	30
TRUNK Y	175	0.04	8.7	9
TRUNK Z	270	0.04	10.2	12
DROP	1460	0.04	19.2	24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

MICHAEL O'ROURKE
BCIN: 19869

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER"

UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: 50-10

LO # 53768

PAGE 3 of 3

SITE NAME: CASTLES OF KING

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	<input checked="" type="checkbox"/> Direct vent (sealed combustion) only	
b)	<input type="checkbox"/> Positive venting induced draft (except fireplaces)	
c)	<input type="checkbox"/> Natural draft, B-vent or induced draft gas fireplace	
d)	<input type="checkbox"/> Solid Fuel (including fireplaces)	
e)	<input type="checkbox"/> No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/> Forced Air	<input type="checkbox"/> Non Forced Air
<input type="checkbox"/> Electric Space Heat	

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/> I	Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/> II	Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/> III	Any Type c) appliance	
<input type="checkbox"/> IV	Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/> 1	Exhaust only/Forced Air System	
<input type="checkbox"/> 2	HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/> 3	HRV Simplified/connected to forced air system	
<input type="checkbox"/> 4	HRV with Ducting/non forced air system	
<input type="checkbox"/>	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement & Master Bedroom	<u>2</u> @ 21.2 cfm <u>42.4</u> cfm	
Other Bedrooms	<u>3</u> @ 10.6 cfm <u>31.8</u> cfm	
Kitchen & Bathrooms	<u>7</u> @ 10.6 cfm <u>74.2</u> cfm	
Other Rooms	<u>6</u> @ 10.6 cfm <u>63.6</u> cfm	
Table 9.32.3.A.	TOTAL <u>212</u> cfm	

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
Master Bedroom	31.8 cfm	
Two Bedrooms	47.7 cfm	
Three Bedrooms	63.6 cfm	
Four Bedrooms	79.5 cfm	
Table 9.32.3.B.	TOTAL <u>79.5</u> cfm	
More than 5 - Part 6		

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u> cfm	
Less Principal Ventil. Capacity	<u>120</u> cfm	
Required Supplemental Capacity	<u>92</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 90H-V ECM	Location: BSMT
<u>120</u> cfm	<input checked="" type="checkbox"/> HVI Approved
<u>0.6</u> sones	


SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
W/R	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-3	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 90H-V ECM		
<u>159</u> cfm high	<u>65</u> cfm low	
<u>75</u> % Sensible Efficiency	<input checked="" type="checkbox"/> HVI Approved	
@ 32 deg F (0 deg C)		

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	
HRAI #	001820
Date:	January-14

MODEL: 50-10
SFQT: 4676

LO# 53768

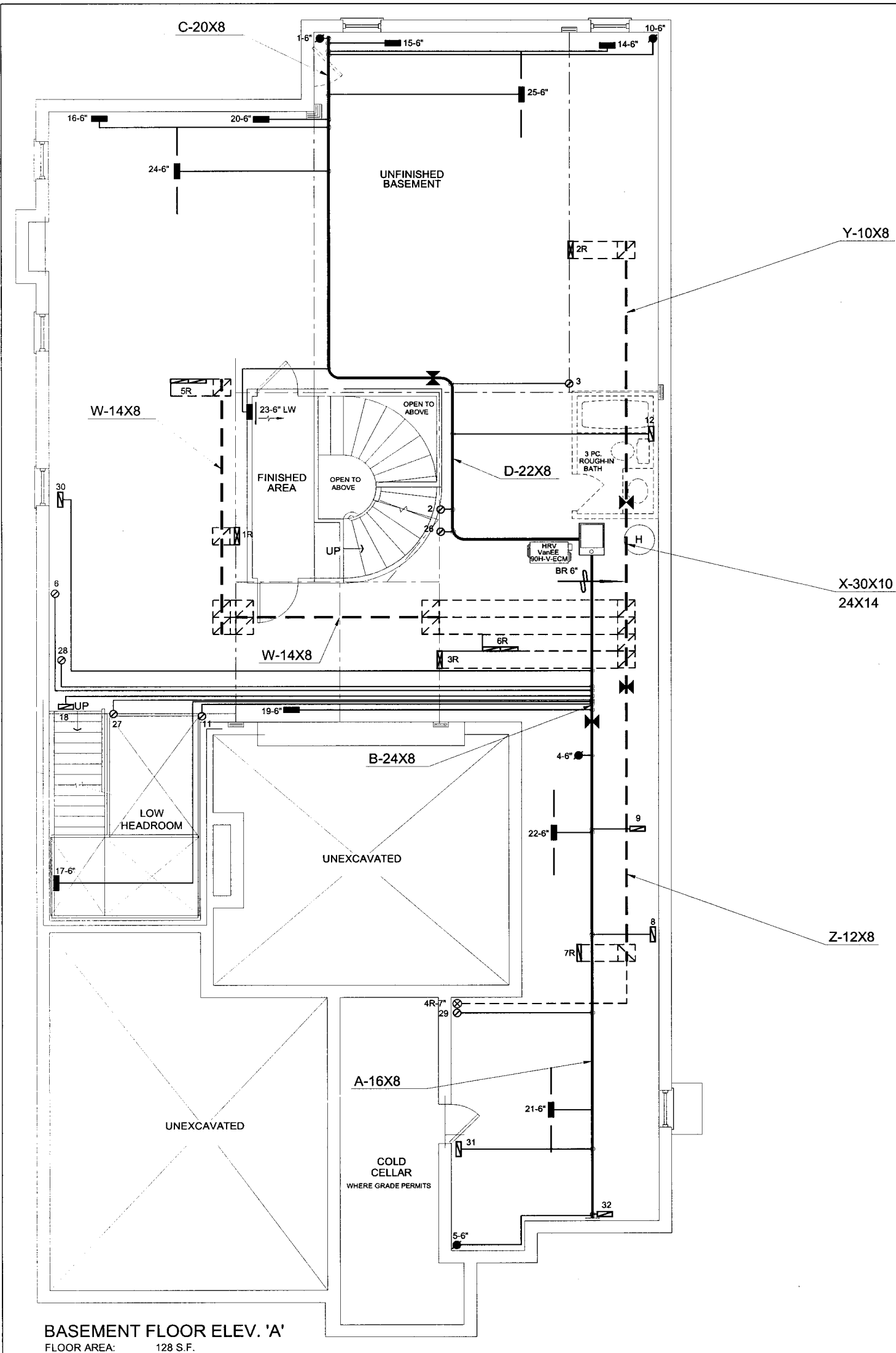
BUILDER: ZANCOR HOMES

ENERGYSTAR 12.1

Component	Compliance Package
	ZONE 1
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	24
Basement Walls Minimum RSI (R)-Value	20
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	ZONE C
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	95%
HRV Minimum Efficiency	75%
Domestic Hot Water Heater Minimum EF	0.9



INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



BASEMENT FLOOR ELEV. 'A'
FLOOR AREA: 128 S.F.

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

OBC 2012-Rev. 2014

ENERGY STAR

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client

ZANCOR HOMES

Project Name

**THE CASTLES OF KING CITY
KING CITY, ONTARIO**

50-10 4676 sqft

65 Church Street South - Ajax, Ontario
L1S 6A7 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

HEAT LOSS 76434 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE	2ND FLOOR	12	4	5
MODEL	1ST FLOOR	13	3	3
ML195UH090XP48C-90	BASEMENT	5	1	0
INPUT 88 MBTU/H	ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			
OUTPUT 85 MBTU/H				
COOLING 4.0 TONS				
FAN SPEED 1460 cfm @ 0.5" w.c.				

Sheet Title

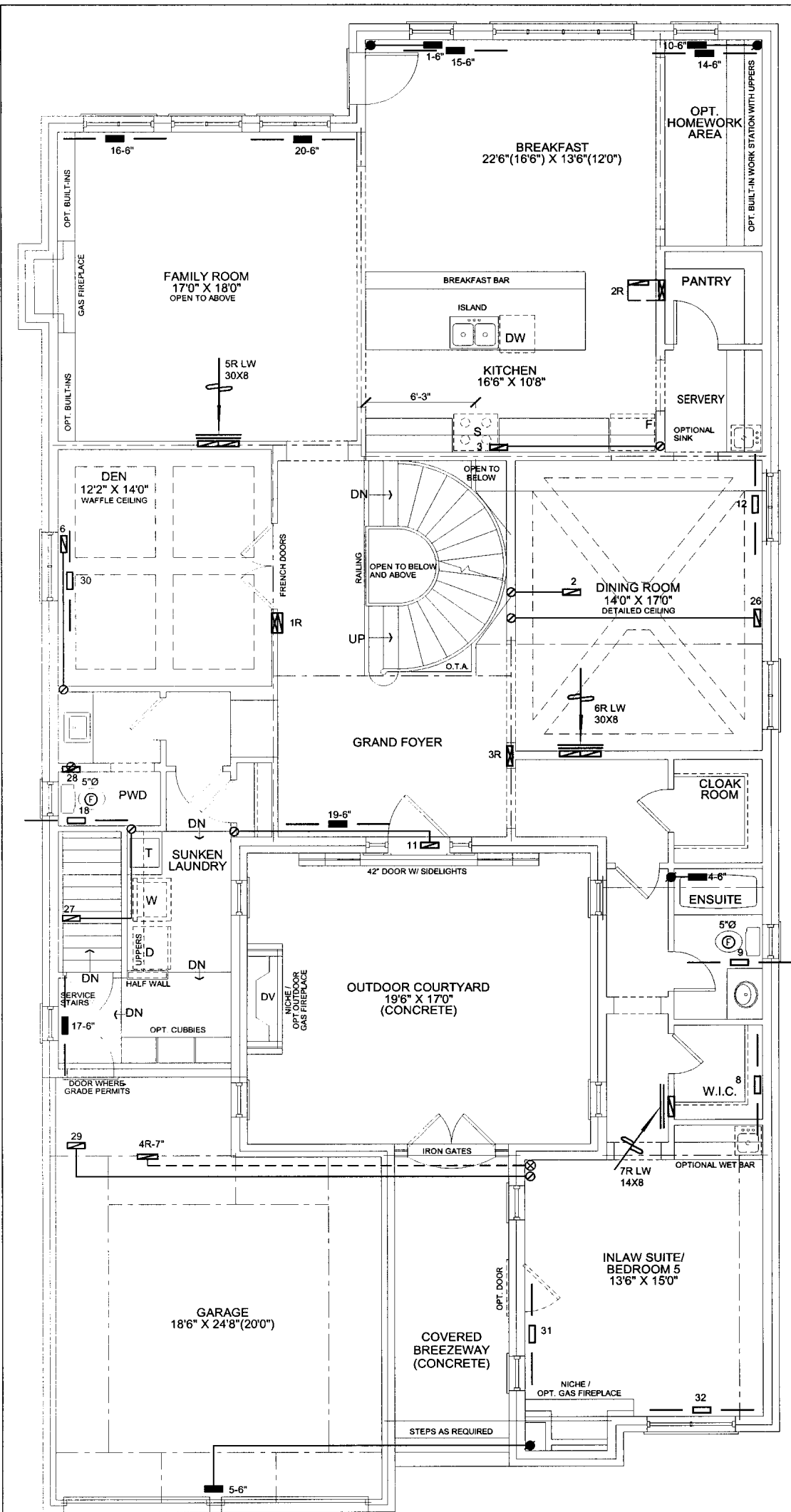
BASEMENT HEATING LAYOUT

Date JAN/2014

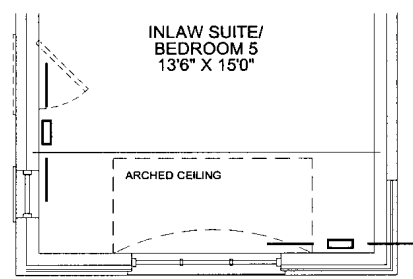
Scale 1/8" = 1'-0"

BCIN# 19669

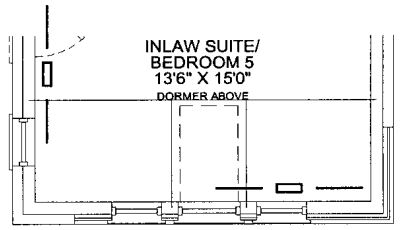
LO# 53768



GROUND FLOOR ELEV. 'A'



PARTIAL GROUND FLOOR ELEV. 'B'



PARTIAL GROUND FLOOR ELEV. 'C'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
BCIN# 19669
HVAC DESIGNS LTD.

OBC 2012-Rev. 2014



HVAC LEGEND								3.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.		
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No.	Description	Date
								REVISIONS		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client

ZANCOR HOMES

Project Name

**THE CASTLES OF KING CITY
KING CITY, ONTARIO**

HVACDESIGNS LTD.

65 Church Street South - Ajax, Ontario
L1S 6A7 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title

**FIRST FLOOR
HEATING
LAYOUT**

Date

JAN/2014

Scale

1/8" = 1'-0"

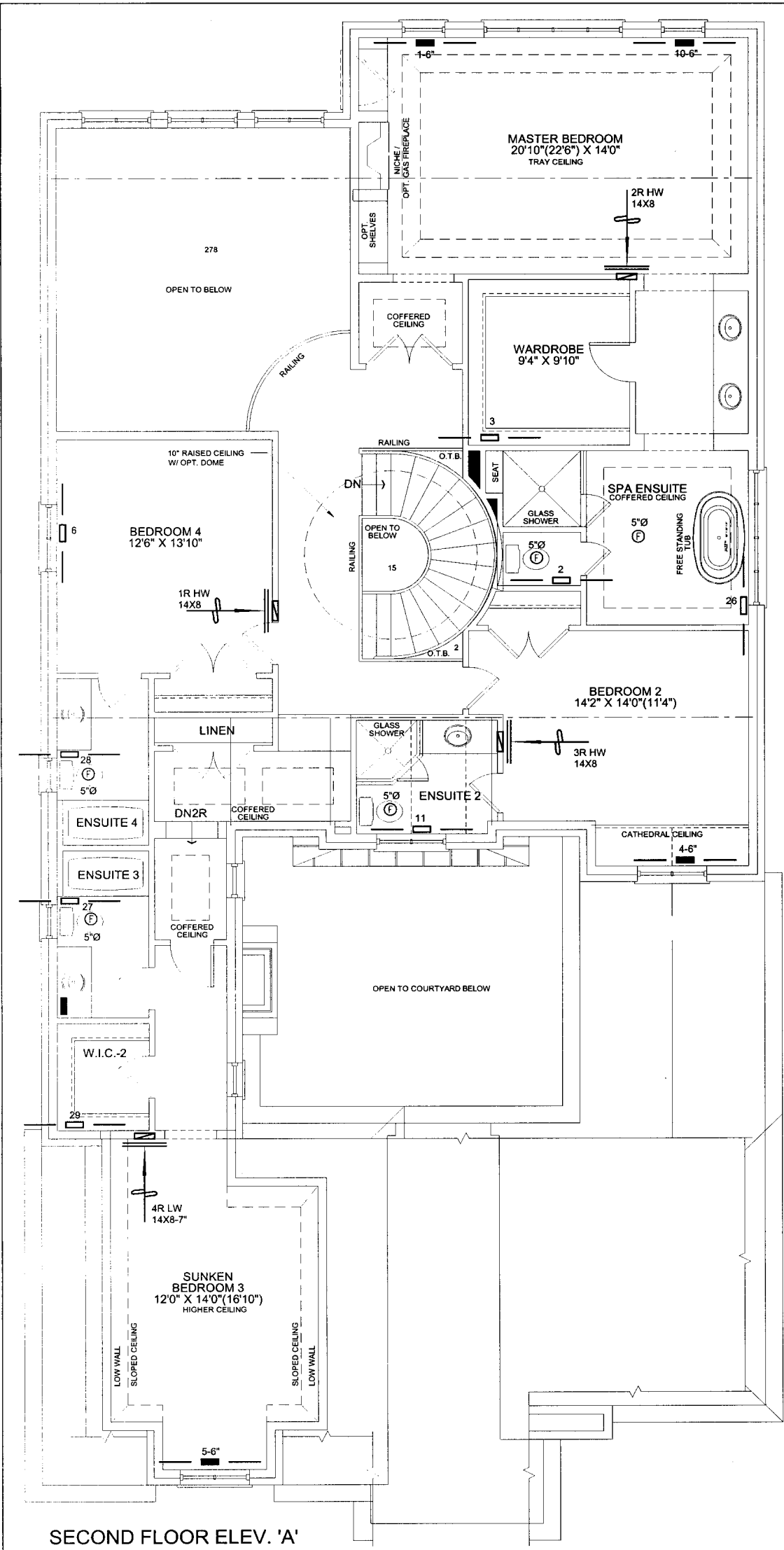
BCIN# 19669

LO#

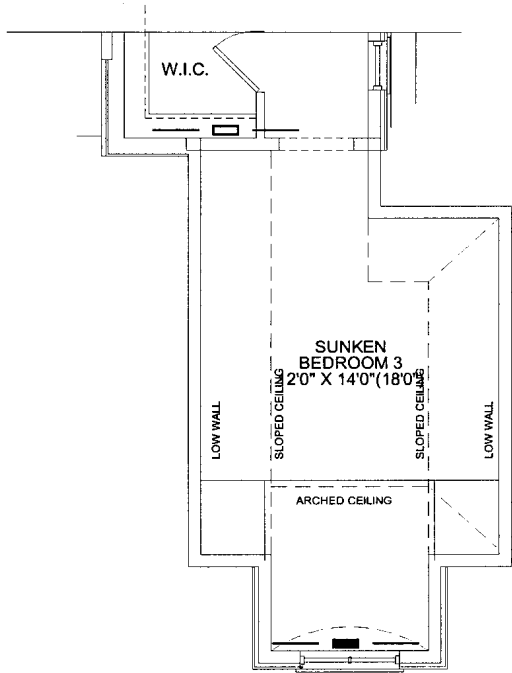
53768

50-10

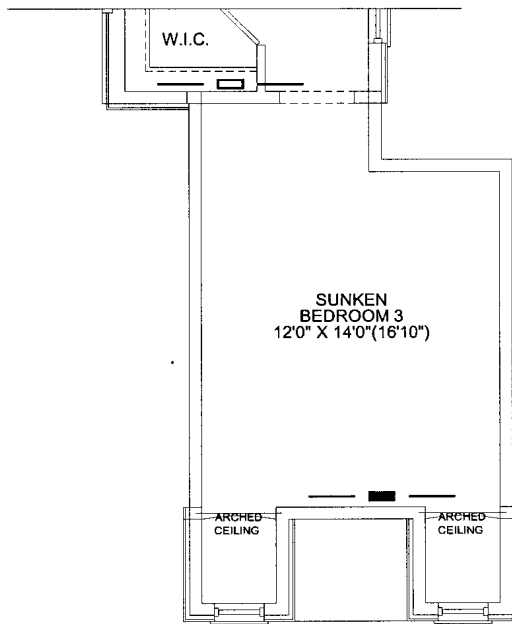
4676 sqft



SECOND FLOOR ELEV. 'A'



PARTIAL SECOND FLOOR ELEV. 'B'



PARTIAL SECOND FLOOR ELEV. 'C'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

OBC 2012-Rev. 2014



HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client		<div>HVACDESIGNS LTD.</div> <div>65 Church Street South - Ajax, Ontario L1S 6A7 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div>	Sheet Title	
ZANCOR HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name THE CASTLES OF KING CITY KING CITY, ONTARIO			Date JAN/2014	Scale 1/8" = 1'-0"
		BCIN# 19669		
50-10		4676 sqft		
		LO# 53768		