Schedule 1: Designer Information

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			Unit no.	Lot/con.
Municipality BRAMPTON	Postal code	Plan number/ other description		

B. Individual who reviews and takes responsibility for design activities				
Name **MICHAEL O'ROURKE**		Firm **HVAC DESIGNS LTD.**		
Street address **375 FINLEY AVE**			Unit no. **202**	Lot/con. **N/A**
Municipality **AJAX**	Postal code **L1S 2E2**	Province **ONTARIO**	E-mail **info@hvacdesigns.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]

❑ House	☒ HVAC – House	❑ Building Structural
❑ Small Buildings	❑ Building Services	❑ Plumbing – House
❑ Large Buildings	❑ Detection, Lighting and Power	❑ Plumbing – All Buildings
❑ Complex Buildings	❑ Fire Protection	❑ On-site Sewage Systems

Description of designer's work	
HEAT LOSS / GAIN CALCULATIONS **DUCT SIZING** **RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY** **RESIDENTIAL SYSTEM DESIGN per CSA-F280-12**	**Model:** 2001 **Project:** SUMMER RIDGE ESTATES

D. Declaration of Designer

I MICHAEL O'ROURKE declare that (choose one as appropriate):
(print name)

❑ I 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: _____

☒ 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 Di vision C, of the Building Code.

Individual BCIN: 19669
Basis for exemption from registration and qualification: O.B.C SENTENCE 3.2.4.1 (4)

❑ 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.

April 22, 2024
Date

Michael O'Rourke
Signature of Designer

NOTE:

1. 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.
2. 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.

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SITE NAME: SUMMER RIDGE ESTATES | DATE: Apr-24 | WINTER NATURAL AIR CHANGE RATE 0.282 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: ROYAL PIE HOMES | TYPE: 2001 | GFA: 1865 | LO# 104850 | SUMMER NATURAL AIR CHANGE RATE 0.088 | HEAT GAIN ΔT °F. 11 | PERFORMANCE

ROOM USE			MBR			ENS				BED-2			BED-3				BATH							
EXP. WALL			12			22				10			12				0							
CLG. HT.			9			9				9			9				9							
FACTORS																								
GRS.WALL AREA	LOSS	GAIN	108			198				90			108				0							
GLAZING			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN						
NORTH	20.8	12.8	0	0	0	0	0	0		0	0	0	0	0	0		0	0						
EAST	20.8	32.9	0	0	0	0	0	0		26	540	856	35	727	1152		0	0						
SOUTH	20.8	19.8	0	0	0	13	270	258		0	0	0	0	0	0		0	0						
WEST	20.8	32.9	30	623	987	0	0	0		0	0	0	0	0	0		0	0						
SKYLT.	34.1	132.1	0	0	0	0	0	0		0	0	0	0	0	0		0	0						
DOORS	19.6	2.9	0	0	0	0	0	0		0	0	0	0	0	0		0	0						
NET EXPOSED WALL	3.5	0.5	78	270	40	185	641	95		64	222	33	73	253	38		0	0						
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0		0	0	0	0	0	0		0	0						
EXPOSED CLG	1.3	0.6	260	326	145	161	202	90		205	257	114	201	252	112		70	88	39					
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0		0	0	0	19	51	23		0	0	0					
EXPOSED FLOOR	2.5	0.4	0	0	0	4	10	1		0	0	0	0	0	0		0	0	0					
BASEMENT/CRAWL HEAT LOSS				0			0				0			0				0						
SLAB ON GRADE HEAT LOSS				0			0				0			0				0						
SUBTOTAL HT LOSS				1219			1123				1019			1283				88						
SUB TOTAL HT GAIN					1172			444				1003			1324				39					
LEVEL FACTOR / MULTIPLIER			0.20	0.41		0.20	0.41			0.20	0.41		0.20	0.41			0.20	0.41						
AIR CHANGE HEAT LOSS				505			465				422			531				36						
AIR CHANGE HEAT GAIN					104			39				89			117				3					
DUCT LOSS				0			159				0			0				0						
DUCT GAIN					0			48				0			0				0					
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240		0		0					
HEAT GAIN APPLIANCES/LIGHTS					606			0				606			606				0					
TOTAL HT LOSS BTU/H				1724			1747				1440			1814				124						
TOTAL HT GAIN x 1.3 BTU/H					3070			691				2519			2973				55					

ROOM USE			GRT				KT/BF			ENTRY-1			LAUN				FOY			ENTRY-2				BAS		
EXP. WALL			10				12			8			0				12			14				56		
CLG. HT.			10				10			10			9				11			11				9		
FACTORS																										
GRS.WALL AREA	LOSS	GAIN	100				120			80			0				132			154				336		
GLAZING			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN	
NORTH	20.8	12.8	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
EAST	20.8	32.9	37	769	1218		0	0	0	0	0	0	0	0	0		11	229	362	0	0	0		3	62	99
SOUTH	20.8	19.8	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
WEST	20.8	32.9	0	0	0		28	582	922	0	0	0	0	0	0		0	0	0	0	0	0		3	62	99
SKYLT.	34.1	132.1	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
DOORS	19.6	2.9	0	0	0		0	0	0	20	392	58	0	0	0		30	587	87	40	783	116		20	392	58
NET EXPOSED WALL	3.5	0.5	63	218	32		92	319	47	60	208	31	0	0	0		91	316	47	114	395	59		0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		168	590	88
EXPOSED CLG	1.3	0.6	0	0	0		0	0	0	0	0	0	40	50	22		0	0	0	0	0	0		0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
BASEMENT/CRAWL HEAT LOSS				0				0			0			0				0			0				1853	
SLAB ON GRADE HEAT LOSS				0				0			0			0				0			0					
SUBTOTAL HT LOSS				987				901			600			50				1131			1178				2959	
SUB TOTAL HT GAIN					1250				969			89			22				496			175				343
LEVEL FACTOR / MULTIPLIER			0.30	0.62			0.30	0.62		0.30	0.62		0.20	0.41			0.30	0.62		0.30	0.62			0.50	1.67	
AIR CHANGE HEAT LOSS				611				557			371			21				700			729				4946	
AIR CHANGE HEAT GAIN					111				86			8			2				44			15				30
DUCT LOSS				0				0			0			0				0			0				0	
DUCT GAIN					0				0			0			0				0			0				0
HEAT GAIN PEOPLE	240		0		0		0		0	0		0	0		0		0		0	0		0		0		0
HEAT GAIN APPLIANCES/LIGHTS					606				606			0			606				0			0				606
TOTAL HT LOSS BTU/H				1598				1458			971			71				1831			1907				7905	
TOTAL HT GAIN x 1.3 BTU/H					2556				2158			126			819				702			247				1273

TOTAL HEAT GAIN BTU/H: 17379 TONS: 1.45 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 22590 TOTAL COMBINED HEAT LOSS BTU/H: 23865

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

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: SUMMER RIDGE ESTATES
BUILDER: ROYAL PIE HOMES
TYPE: 2001
DATE: Apr-24
GFA: 1865
LO# 104850

				furnace pressure	0.6			
HEATING CFM	545	COOLING CFM	545	furnace filter	0.00	FACTORY INSTALLED	**CARRIER**	AFUE = 96 %
TOTAL HEAT LOSS	22,590	TOTAL HEAT GAIN	17,190	a/c coil pressure	0.15		**59SC6A026M14--10** **26**	INPUT (BTU/H) = 26,000
AIR FLOW RATE CFM	24.13	AIR FLOW RATE CFM	31.7	available pressure			FAN SPEED	OUTPUT (BTU/H) = **25,000**
				for s/a & r/a	0.45		LOW 0	
							MEDLOW 545	DESIGN CFM = **545**
				plenum pressure s/a	0.23	r/a pressure 0.22	MEDIUM 770	CFM @ .6 " E.S.P.
				max s/a dif press. loss	0.02	r/a grille press. Loss 0.02	MEDIUM HIGH 0	
				min adjusted pressure s/a	0.21	adjusted pressure r/a 0.20	HIGH 0	TEMPERATURE RISE 42 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	3
R/A	0	0	4	1	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	5	6	7	10	12	14	15	17	19	20	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BATH	MBR	GRT	ENTRY-1	KT/BF	LAUN	FOY	ENTRY-2	BAS	BAS	BAS
RM LOSS MBH.	0.86	1.75	1.44	0.91	0.91	0.12	0.86	1.60	0.97	1.46	0.07	1.83	1.91	2.64	2.64	2.64
CFM PER RUN HEAT	21	42	35	22	22	3	21	39	23	35	2	44	46	64	64	64
RM GAIN MBH.	1.54	0.69	2.52	1.49	1.49	0.06	1.54	2.56	0.13	2.16	0.82	0.70	0.25	0.42	0.42	0.42
CFM PER RUN COOLING	49	22	80	47	47	2	49	81	4	68	26	22	8	13	13	13
ADJUSTED PRESSURE	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.21	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
ACTUAL DUCT LGH.	56	72	29	26	24	59	63	28	50	38	44	15	55	37	20	18
EQUIVALENT LENGTH	190	220	200	200	200	170	200	180	170	130	230	180	180	180	120	130
TOTAL EFFECTIVE LENGTH	246	292	229	226	224	229	263	208	220	168	274	195	235	217	140	148
ADJUSTED PRESSURE	0.09	0.08	0.1	0.1	0.1	0.1	0.09	0.1	0.1	0.13	0.08	0.11	0.1	0.1	0.16	0.15
ROUND DUCT SIZE	5	5	**6**	4	4	4	5	**6**	4	5	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	154	308	178	252	252	34	154	199	264	257	23	505	338	470	470	470
COOLING VELOCITY (ft/min)	360	162	408	539	539	23	360	413	46	499	298	252	59	95	95	95
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	B	B	A	B	A	A	A	B	A	A	B	B

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	254	0.08	8.4	8	x	8	572	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	547	0.08	11.2	14	x	8	703	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	0	0.00	0	0	x	8	0	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	545	0.06	12	18	x	8	545
TRUNK Y	390	0.06	10.6	14	x	8	501
TRUNK Z	0	0.06	0	0	x	8	0
DROP	545	0.06	12	24	x	10	327

RETURN AIR #	1	2	3	4	5											**BR**
FLOOR	2	2	2	2	1											B
AIR VOLUME	65	65	70	80	190	0	0	0	0	0	0	0	0	0	0	75
PLENUM PRESSURE	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
ACTUAL DUCT LGH.	71	63	78	42	37	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	215	255	175	155	240	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	286	318	253	197	277	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.07	0.06	0.08	0.10	0.07	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	19.60	0.13
ROUND DUCT SIZE	5.2	5.4	5.2	5.1	7.8	0	0	0	0	0	0	0	0	0	0	4.7
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	24	0	0	0	0	0	0	0	0	0	0	14

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

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TYPE: 2001 LO # 104850
SITE NAME: SUMMER RIDGE ESTATES

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES 9.32.3.1(1)

- a) [✓] Direct vent (sealed combustion) only
- b) [ ] Positive venting induced draft (except fireplaces)
- c) [ ] Natural draft, B-vent or induced draft gas fireplace
- d) [ ] Solid Fuel (including fireplaces)
- e) [ ] No Combustion Appliances

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE 9.32.1(2)

- [✓] I Type a) or b) appliance only, no solid fuel
- [ ] II Type I except with solid fuel (including fireplaces)
- [ ] III Any Type c) appliance
- [ ] IV Type I, or II with electric space heat
- [ ] Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS O.N.H.W.P.

- [ ] 1 Exhaust only/Forced Air System
- [ ] 2 HRV with Ducting/Forced Air System
- [✓] 3 HRV Simplified/connected to forced air system
- [ ] 4 HRV with Ducting/non forced air system
- [ ] Part 6 Design

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	2	@ 10.6 cfm	21.2	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	2	@ 10.6 cfm	21.2	cfm
Table 9.32.3.A.		TOTAL	127.2	cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED 9.32.3.4.(1)

1	Bedroom	31.8	cfm
2	Bedroom	47.7	cfm
3	Bedroom	63.6	cfm
4	Bedroom	79.5	cfm
5	Bedroom	95.4	cfm
	TOTAL	**63.6**	**cfm**

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	127.2	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	63.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE V150H Location: BSMT

63.6 cfm [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
63.6 CFM	X	74 F	X	1.08	X	0.25

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	✓	3.5
BATH	BY INSTALLING CONTRACTOR	50	✓	3.5

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE V150H

150 cfm high 35 cfm low

75 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: ROYAL PIE HOMES

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: Michael O'Rourke.

HRAI # 001820

Date: April-24

I REVIEW AND TAKE RESPONIBILITY 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. MICHAEL O'ROURKE

HVAC DESIGNS LTD.

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 104850 Model: 2001 Builder: ROYAL PIE HOMES Date: 2024-04-22

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	942	9	8478
First	942	10	9420
Second	943	9	8487
Third	0	9	0
Fourth	0	9	0
		Total:	26,385.0 ft³
		Total:	747.1 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.282
SUMMER NATURAL AIR CHANGE RATE	0.088

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.282 x 207.54 x 41 °C x 1.2 = 2899 W

= **9893 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

= 0.088 x 207.54 x 6 °C x 1.2 = 135 W

= **459 Btu/h**

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

64 CFM x 74 °F x 1.08 x 0.25 = **1274 Btu/h**

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

64 CFM x 11 °F x 1.08 x 0.25 = **189 Btu/h**

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL_{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	9,893	2,959	1.672
2	0.3		4,797	0.619
3	0.2		4,783	0.414
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss
*For a balanced or supply only ventilation system HLairve = 0

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2001 **BUILDER:** ROYAL PIE HOMES
SFQT: 1865 **LO#** 104850 **SITE:** SUMMER RIDGE ESTATES

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.60

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	26385.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 54.0 ft	WIDTH: 21.0 ft	EXPOSED PERIMETER:	56.0 ft

2012 OBC - COMPLIANCE PACKAGE **Component**	**Compliance Package PERFORMANCE**	
	Nominal	**Min. Eff.**
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	21.40
Basement Walls Minimum RSI (R)-Value	20	21.12
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	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	1.6	-
Skylights Maximum U-Value	2.6	-
Space Heating Equipment Minimum AFUE	96%	-
HRV/ERV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.9	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

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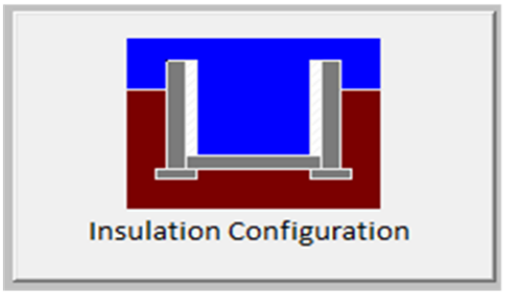
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**16.5**	 Insulation Configuration
Floor Width (m):	**6.4**	
Exposed Perimeter (m):	**17.1**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**0.6**	
Door Area (m^2):	**1.9**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**543**	

TYPE: 2001
LO# 104850

Michael O'Rourke BCIN #19669

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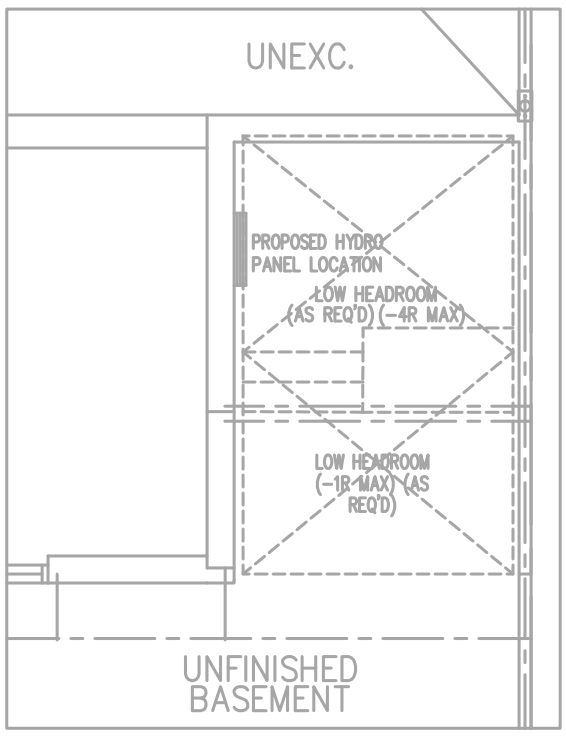
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

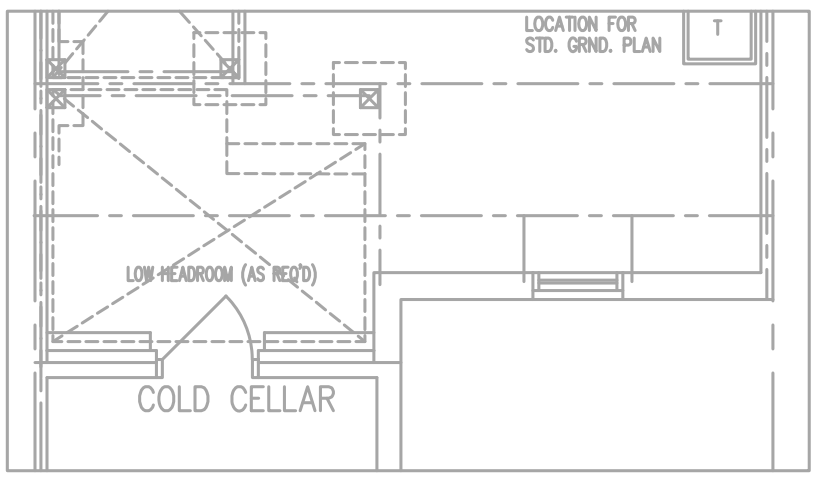
Weather Station Description	
Province:	Ontario
Region:	Brampton
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shielding	
Building Site:	Suburban, forest
Walls:	Heavy
Flue:	Heavy
Highest Ceiling Height (m):	6.71
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	747.1
Air Leakage/Ventilation	
Air Tightness Type:	Attached (3.0 ACH)
Custom BDT Data:	ELA @ 10 Pa. 836.9 cm^2
	3.00 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 30.0 / Total Exhaust 30.0
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.282**
Cooling Air Leakage Rate (ACH/H):	**0.088**

TYPE: 2001
LO# 104850

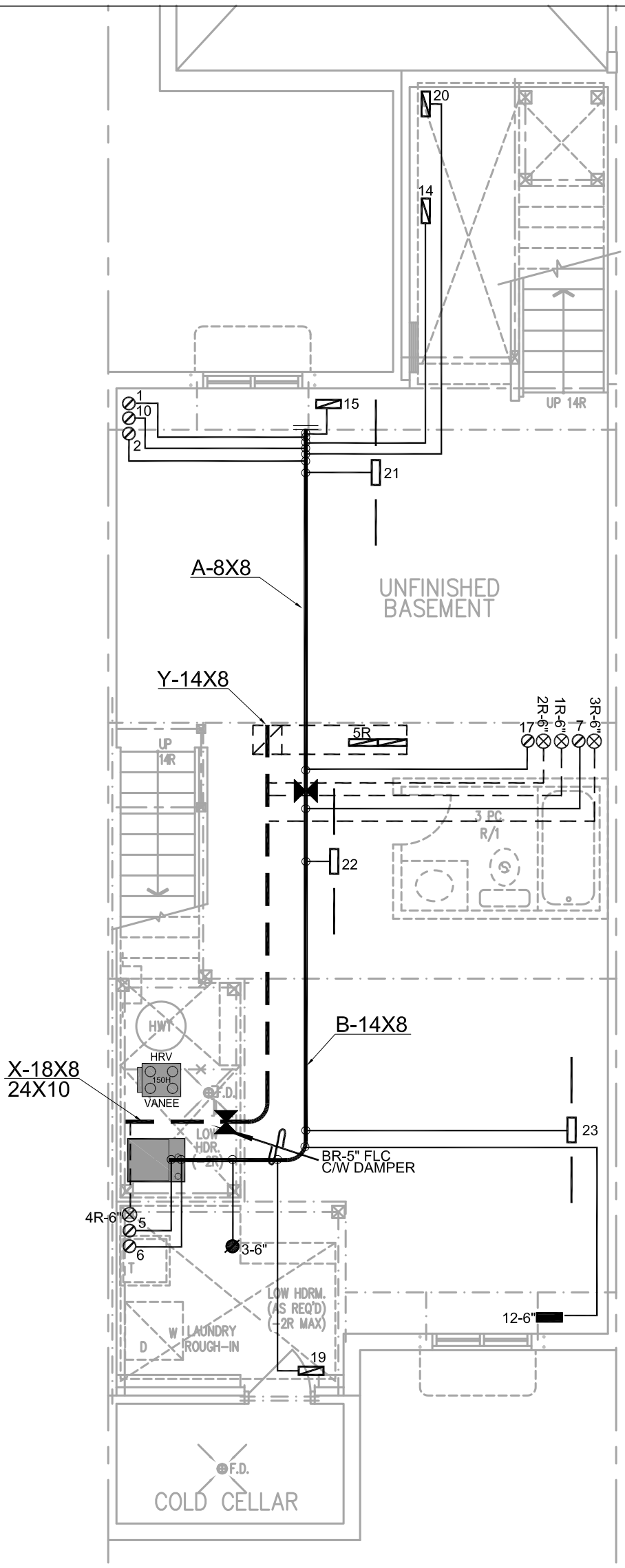
Michael O'Rourke BCIN# 19669



PART. BSMT. OPT. LAUNDRY ELEV. 'A'
(ELEV. 'B' SIMILAR)



PART. BASEMENT
PLAN, ELEV. 'B'



BASEMENT PLAN,
ELEV. 'A'

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

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.

PERFORMANCE

Client
ROYAL PINE HOMES

Project Name
SUMMER RIDGE ESTATES
BRAMPTON, ONTARIO

2001 1865 sqft

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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 23865 BTU/H

UNIT DATA

MAKE	CARRIER
MODEL	59SC6A026M14--10
INPUT	26 MBTU/H
OUTPUT	25 MBTU/H
COOLING	1.5 TONS
FAN SPEED	545 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	4	3
1ST FLOOR	5	1	2
BASEMENT	3	1	0

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

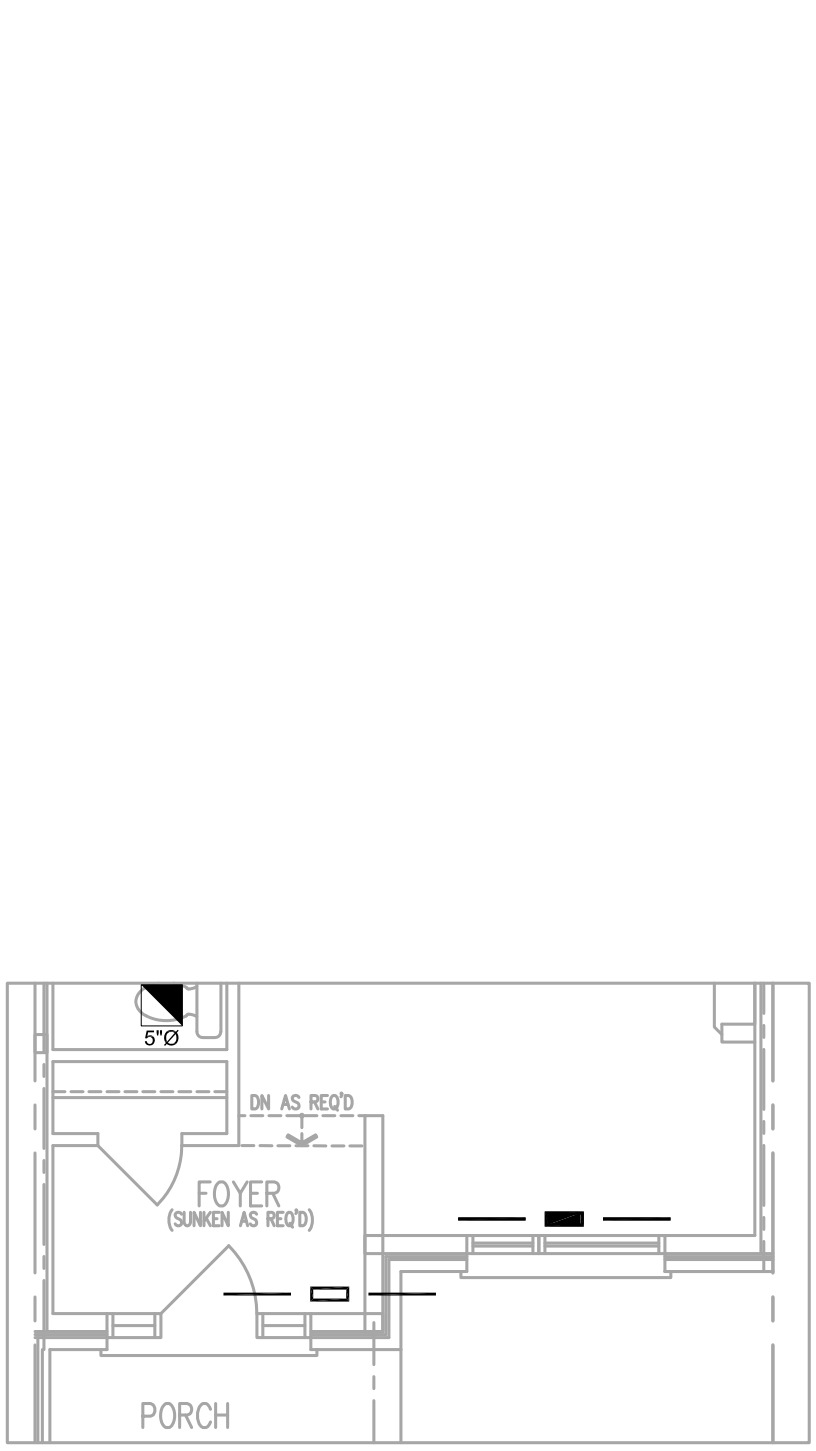
Sheet Title
BASEMENT HEATING LAYOUT

Date APR/2024

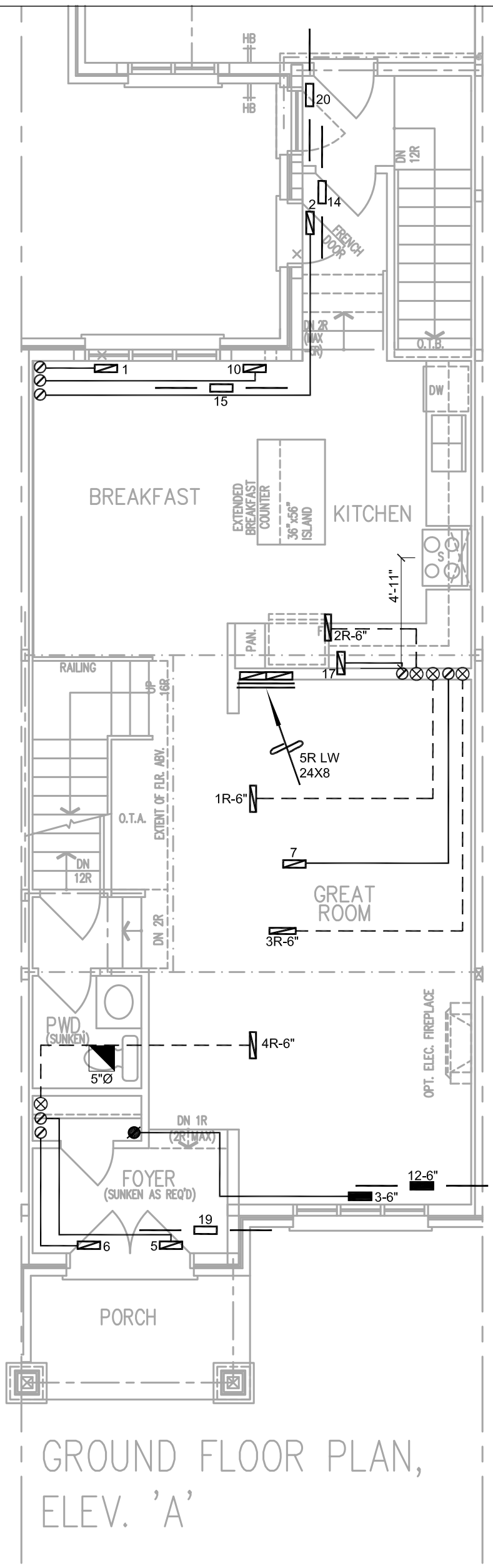
Scale 3/16" = 1'-0"

BCIN# 19669

LO# 104850



PART. GROUND FLOOR PLAN, ELEV. 'B'



GROUND FLOOR PLAN, ELEV. 'A'

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.		
1.		

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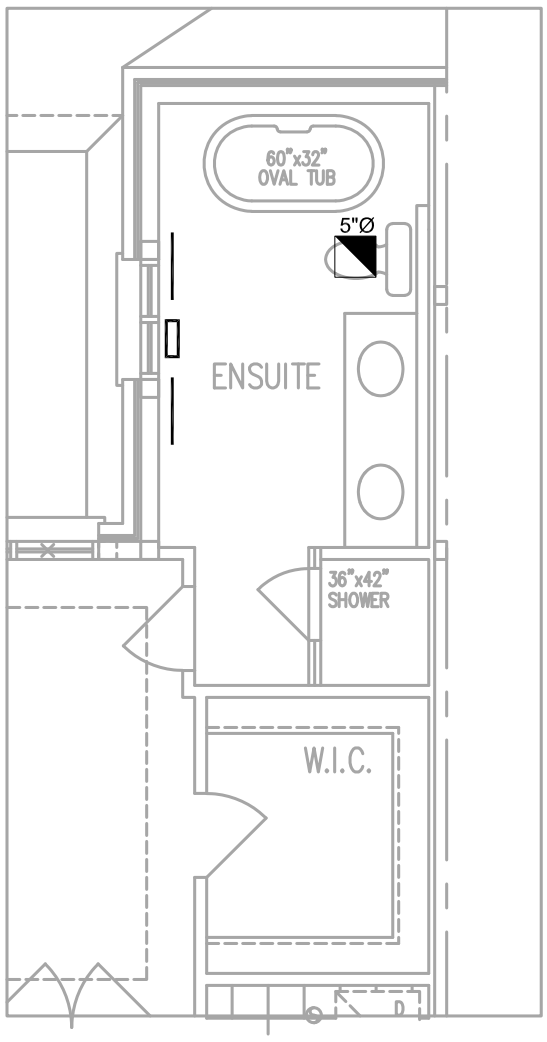
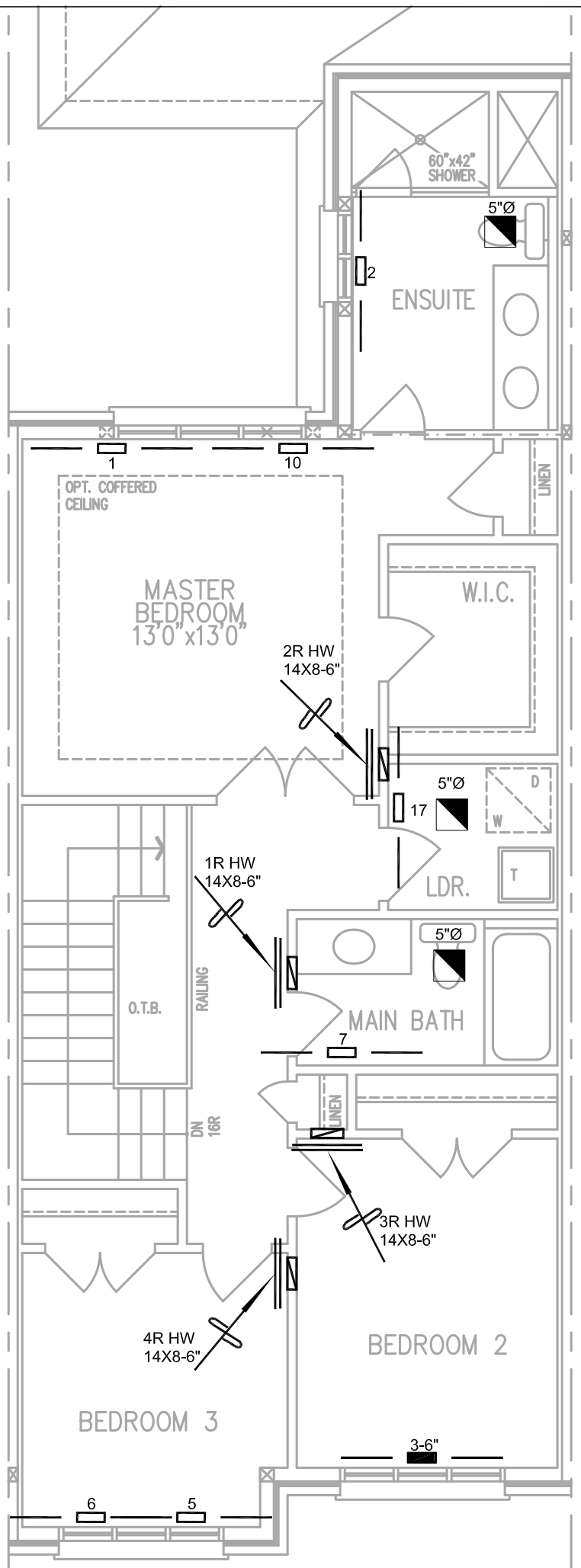
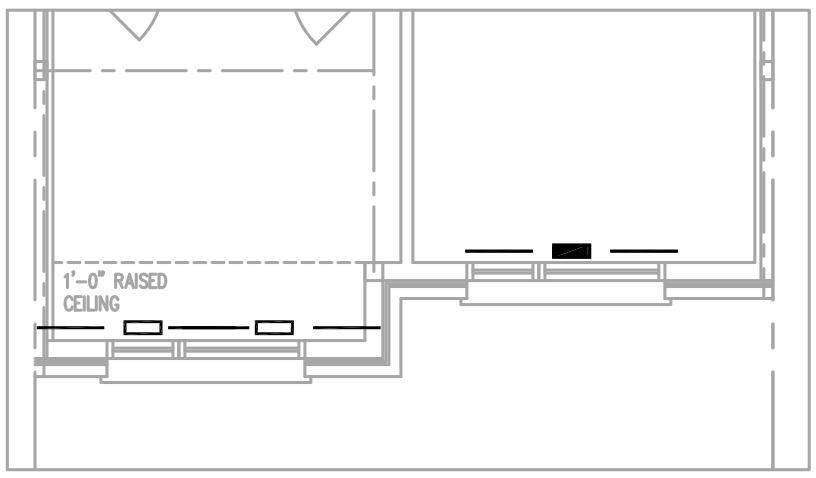
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date APR/2024
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 104850





PART SECOND FLOOR PLAN, ELEV. 'A' OPT. BATH LAYOUT



PART SECOND FLOOR PLAN, ELEV. 'B'

SECOND FLOOR PLAN, ELEV. 'A'

HVAC LEGEND							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— ▭ —	SUPPLY AIR GRILLE	▬	6" SUPPLY AIR BOOT ABOVE	▱	14"x8" RETURN AIR GRILLE	▱	RETURN AIR STACK ABOVE
— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▱	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▱	SUPPLY AIR BOOT ABOVE	⊘	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
3.		
2.		
1.		

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date APR/2024
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 104850