

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@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]				
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ 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: 3003 Project: SUMMER RIDGE ESTATES		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> (print name) declare that (choose one as appropriate):				
☐ 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 Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
☐ 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.				
May 15, 2024		 Signature of Designer		
Date				

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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: SUMMER RIDGE ESTATES										DATE: May-24		WINTER NATURAL AIR CHANGE RATE 0.279		HEAT LOSS AT °F. 74		CSA-F280-12	
BUILDER: ROYAL PIE HOMES										LO# 105060		SUMMER NATURAL AIR CHANGE RATE 0.087		HEAT GAIN AT °F. 11		PERFORMANCE	
ROOM USE		PRI		ENS		WIC		BED-2		BED-3						BATH	
EXP. WALL		39		24		6		32		24						6	
CLG. HT.		9		9		9		9		9						9	
FACTORS																	
GRS.WALL AREA		LOSS GAIN		351		216		54		288		216				54	
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
EAST		20.8	32.9	0	0	0	0	0	0	55	1143	1810	55	1143	1810	0	0
SOUTH		20.8	19.8	11	229	218	0	0	0	0	0	0	0	0	0	0	0
WEST		20.8	32.9	36	748	1185	18	374	592	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	304	1054	156	198	687	102	54	187	28	233	808	120	161	558
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	347	435	193	120	150	67	76	95	42	214	268	119	188	236
NO ATTIC EXPOSED CLG		2.7	1.2	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	188	468
BASEMENT/CRAWL HEAT LOSS																	
SLAB ON GRADE HEAT LOSS																	
SUBTOTAL HT LOSS																	
SUB TOTAL HT GAIN																	
LEVEL FACTOR / MULTIPLIER		0.20	0.22			0.20	0.22			0.20	0.22		0.20	0.22		0.20	0.22
AIR CHANGE HEAT LOSS																	
AIR CHANGE HEAT GAIN																	
DUCT LOSS																	
DUCT GAIN																	
HEAT GAIN PEOPLE		240		2		480	0	0	0	1		240	1		240	0	0
HEAT GAIN APPLIANCES/LIGHTS						949	0	0	0			949			949	0	0
TOTAL HT LOSS BTU/H						2996		1472		343		2697			3215	514	
TOTAL HT GAIN x 1.3 BTU/H						4252		1040		96		4345			4806	120	

ROOM USE		LV/DN		ENTRY		KT/FM		LAUN		W/R		FOY		MUD		BAS	
EXP. WALL		38		9		66		11		12		17		11		133	
CLG. HT.		10		10		10		9		10		10		10		9	
FACTORS																	
GRS.WALL AREA		LOSS GAIN		365		86		634		99		115		163		106	
GLAZING		LOSS GAIN		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
EAST		20.8	32.9	0	0	0	0	0	0	0	0	33	686	1086	0	0	0
SOUTH		20.8	19.8	44	914	872	0	0	0	20	416	397	8	166	159	4	83
WEST		20.8	32.9	0	0	0	0	0	0	0	0	0	0	0	0	8	166
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	20	392
NET EXPOSED WALL		3.5	0.5	321	1112	165	86	300	44	79	274	41	107	372	55	121	420
NET EXPOSED BSMT WALL ABOVE GR		3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	399	1402
EXPOSED CLG		1.3	0.6	0	0	0	0	0	0	19	24	11	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
EXPOSED FLOOR		2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS																	
SLAB ON GRADE HEAT LOSS																	
SUBTOTAL HT LOSS																	
SUB TOTAL HT GAIN																	
LEVEL FACTOR / MULTIPLIER		0.30	0.37			0.30	0.37			0.20	0.22		0.30	0.37		0.30	0.37
AIR CHANGE HEAT LOSS																	
AIR CHANGE HEAT GAIN																	
DUCT LOSS																	
DUCT GAIN																	
HEAT GAIN PEOPLE		240		0		0	0	0	0	0		0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS						949	0	0	0			949	0	0	0	0	0
TOTAL HT LOSS BTU/H						2778		411		5140		1082		737		1758	944
TOTAL HT GAIN x 1.3 BTU/H						2651		61		5222		1953		292		1604	139

TOTAL HEAT GAIN BTU/H:

28834

TONS: 2.40

LOSS DUE TO VENTILATION LOAD BTU/H: 1274

STRUCTURAL HEAT LOSS: 35958

TOTAL COMBINED HEAT LOSS BTU/H: 37233

SITE NAME: SUMMER RIDGE ESTATES
BUILDER: ROYAL PIE HOMES

TYPE: 3003

DATE: May-24

GFA: 2165

LO# 105060

HEATING CFM 925 COOLING CFM 925
TOTAL HEAT LOSS 35,958 TOTAL HEAT GAIN 28,645
AIR FLOW RATE CFM 25.72 AIR FLOW RATE CFM 32.29

furnace pressure 0.6
furnace filter 0.00
a/c coil pressure 0.26
available pressure for s/a & r/a 0.34

FACTORY INSTALLED

59SC6A040M14--10

CARRIER

AFUE = 96 %

INPUT (BTU/H) = 40,000

OUTPUT (BTU/H) = 39,000

FAN SPEED

LOW 0

MEDLOW 0

MEDIUM 0

MEDIUM HIGH 925

HIGH 0

DESIGN CFM = 925

CFM @ .6" E.S.P.

TEMPERATURE RISE 39 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	7	4
R/A	0	0	4	2	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	4	5	8	9	10	11	12	13	14	15	17	18	19	20	21	22	23	24
ROOM NAME	PRI	ENS	WIC	BED-2	BED-3	BED-2	BED-3	PRI	BATH	LV/DN	ENTRY	KT/FM	KT/FM	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.50	1.47	0.34	1.35	1.61	1.35	1.61	1.50	0.51	2.78	0.41	2.57	2.57	1.08	0.74	1.76	0.94	2.97	2.97	2.97	2.97
CFM PER RUN HEAT	39	38	9	35	41	35	41	39	13	71	11	66	66	28	19	45	24	76	76	76	76
RM GAIN MBH.	2.13	1.04	0.10	2.17	2.40	2.17	2.40	2.13	0.12	2.65	0.06	2.61	2.61	1.95	0.29	1.60	0.14	0.52	0.52	0.52	0.52
CFM PER RUN COOLING	69	34	3	70	78	70	78	69	4	86	2	84	84	63	9	52	5	17	17	17	17
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	56	44	32	33	60	37	59	66	41	8	19	39	45	41	20	27	16	38	34	7	19
EQUIVALENT LENGTH	160	130	130	120	160	120	170	140	170	190	170	130	110	170	120	120	170	120	140	170	130
TOTAL EFFECTIVE LENGTH	216	174	162	153	220	157	229	206	211	198	189	169	155	211	140	147	186	158	174	177	149
ADJUSTED PRESSURE	0.08	0.1	0.1	0.11	0.08	0.11	0.07	0.08	0.08	0.08	0.09	0.09	0.1	0.08	0.12	0.11	0.09	0.11	0.1	0.09	0.11
ROUND DUCT SIZE	6	4	4	5	6	5	6	6	4	6	4	6	6	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	199	436	103	257	209	257	209	199	149	362	126	337	337	206	218	516	275	558	558	558	558
COOLING VELOCITY (ft/min)	352	390	34	514	398	514	398	352	46	438	23	428	428	463	103	597	57	125	125	125	125
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	3X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	C	C	C	B	A	B	B	B	A	B	C	C	C	B	A	A	B	C

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
1	PRI	1.50	39	2.13	69	0.17	56	160	216	0.08	6	199	352	4X10	A
2	ENS	1.47	38	1.04	34	0.17	44	130	174	0.1	4	436	390	3X10	B
3	WIC	0.34	9	0.10	3	0.17	32	130	162	0.1	4	103	34	3X10	B
4	BED-2	1.35	35	2.17	70	0.17	33	120	153	0.11	5	257	514	3X10	C
5	BED-3	1.61	41	2.40	78	0.17	60	160	220	0.08	6	209	398	4X10	C
8	BED-2	1.35	35	2.17	70	0.17	37	120	157	0.11	5	257	514	3X10	C
9	BED-3	1.61	41	2.40	78	0.17	59	170	229	0.07	6	209	398	4X10	B
10	PRI	1.50	39	2.13	69	0.17	66	140	206	0.08	6	199	352	4X10	A
11	BATH	0.51	13	0.12	4	0.17	41	170	211	0.08	4	149	46	3X10	B
12	LV/DN	2.78	71	2.65	86	0.16	8	190	198	0.08	6	362	438	4X10	B
13	ENTRY	0.41	11	0.06	2	0.17	19	170	189	0.09	4	126	23	3X10	B
14	KT/FM	2.57	66	2.61	84	0.16	39	130	169	0.09	6	337	428	4X10	A
15	KT/FM	2.57	66	2.61	84	0.16	45	110	155	0.1	6	337	428	4X10	B
17	LAUN	1.08	28	1.95	63	0.17	41	170	211	0.08	5	206	463	3X10	C
18	W/R	0.74	19	0.29	9	0.17	20	120	140	0.12	4	218	103	3X10	C
19	FOY	1.76	45	1.60	52	0.17	27	120	147	0.11	4	516	597	3X10	C
20	MUD	0.94	24	0.14	5	0.17	16	170	186	0.09	4	275	57	3X10	B
21	BAS	2.97	76	0.52	17	0.17	38	120	158	0.11	5	558	125	3X10	A
22	BAS	2.97	76	0.52	17	0.17	34	140	174	0.1	5	558	125	3X10	A
23	BAS	2.97	76	0.52	17	0.17	7	170	177	0.09	5	558	125	3X10	B
24	BAS	2.97	76	0.52	17	0.17	19	130	149	0.11	5	558	125	3X10	C

SUPPLY AIR TRUNK SIZE															RETURN AIR TRUNK SIZE														
	TRUNK	STATIC	ROUND	RECT	VELOCITY						TRUNK	STATIC	ROUND	RECT	VELOCITY						TRUNK	STATIC	ROUND	RECT	VELOCITY				
	CFM	PRESS.	DUCT	DUCT				(ft/min)		CFM	PRESS.	DUCT	DUCT				(ft/min)		CFM	PRESS.	DUCT	DUCT				(ft/min)			
TRUNK A	296	0.08	8.9	10	x	8	533		TRUNK G	0	0.00	0	0	x	8	0		TRUNK O	0	0.05	0	0	x	8	0				
TRUNK B	645	0.07	12.3	18	x	8	645		TRUNK H	0	0.00	0	0	x	8	0		TRUNK P	0	0.05	0	0	x	8	0				
TRUNK C	279	0.08	8.7	10	x	8	502		TRUNK I	0	0.00	0	0	x	8	0		TRUNK Q	0	0.05	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 R	0	0.05	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 S	0	0.05	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		TRUNK T	0	0.05	0	0	x	8	0				

RETURN AIR #	1	2	3	4	5	6	BR
FLOOR	2	2	2	2	1	1	B
AIR VOLUME	115	75	85	115	105	280	150
PLENUM PRESSURE	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ACTUAL DUCT LGH.	57	76	63	71	29	47	14
EQUIVALENT LENGTH	215	240	205	225	155	180	135
TOTAL EFFECTIVE LH	272	316	268	296	184	227	149
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.08	0.06	0.10
ROUND DUCT SIZE	7	6	6	7	6	9.4	6.5
INLET GRILL SIZE	8	8	8	8	8	8	8
INLET GRILL SIZE	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14

TYPE: 3003
SITE NAME: SUMMER RIDGE ESTATES

LO # 105060

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>159.0</u> 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	<u>159</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>95.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>63.6</u> 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
W/R	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	May-24

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																	
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																	
LO#: 105060		Model: 3003		Builder: ROYAL PIE HOMES			Date: 2024-05-15																																																										
Volume Calculation					Air Change & Delta T Data																																																												
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5.2.3.1 Heat Loss due to Air Leakage					6.2.6 Sensible Gain due to Air Leakage																																																												
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.279 x 225.49 x 41 °C x 1.2 = 3111 W = 10614 Btu/h					$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ 0.087 x 225.49 x 6 °C x 1.2 = 144 W = 493 Btu/h																																																												
5.2.3.2 Heat Loss due to Mechanical Ventilation					6.2.7 Sensible heat Gain due to 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					$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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)																																																																	
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																																	
					Michael O'Rourke BCIN# 19669 																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 3003	BUILDER: ROYAL PIE HOMES
SFQT: 2165	SITE: SUMMER RIDGE ESTATES
LO# 105060	

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):	28666.6	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	2.10	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.6 ft
LENGTH: 53.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	133.0 ft

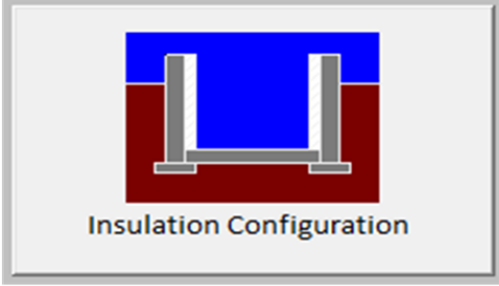
2012 OBC - COMPLIANCE PACKAGE		Compliance Package PERFORMANCE	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22+1.5	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



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):	16.2	 Insulation Configuration
Floor Width (m):	7.9	
Exposed Perimeter (m):	40.5	
Wall Height (m):	2.6	
Depth Below Grade (m):	1.71	
Window Area (m ²):	1.1	
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):		1325

TYPE: 3003
LO# 105060

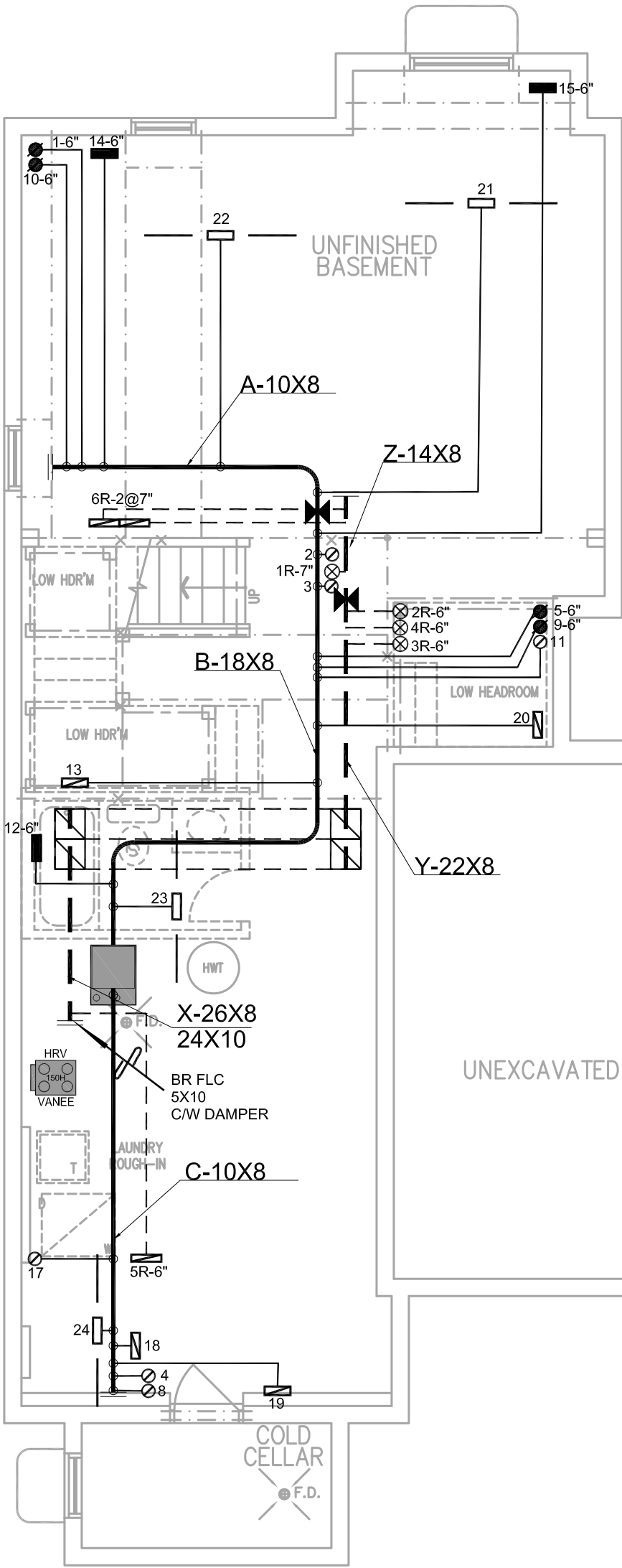
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

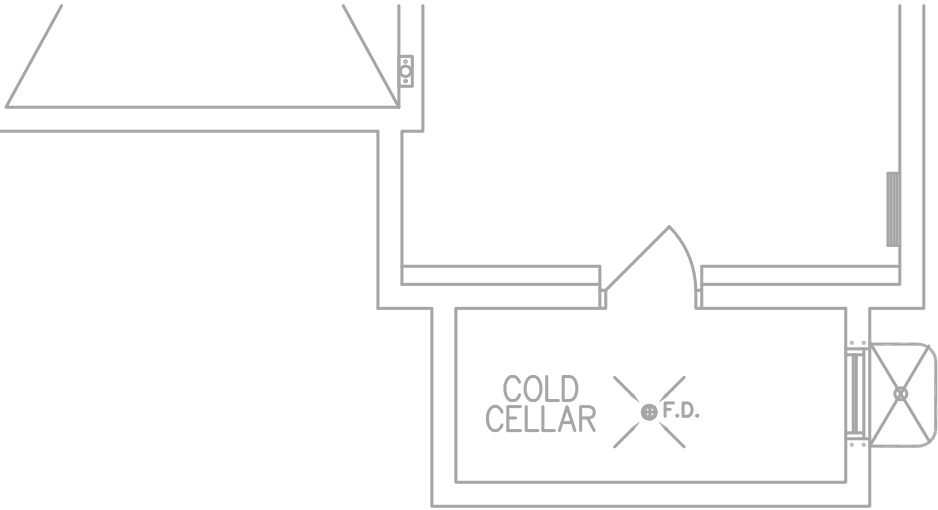
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.58			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	811.7			
Air Leakage/Ventilation				
Air Tightness Type:	Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	909.3 cm ²		
	3.00	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.279			
Cooling Air Leakage Rate (ACH/H):	0.087			

TYPE: 3003

LO# 105060

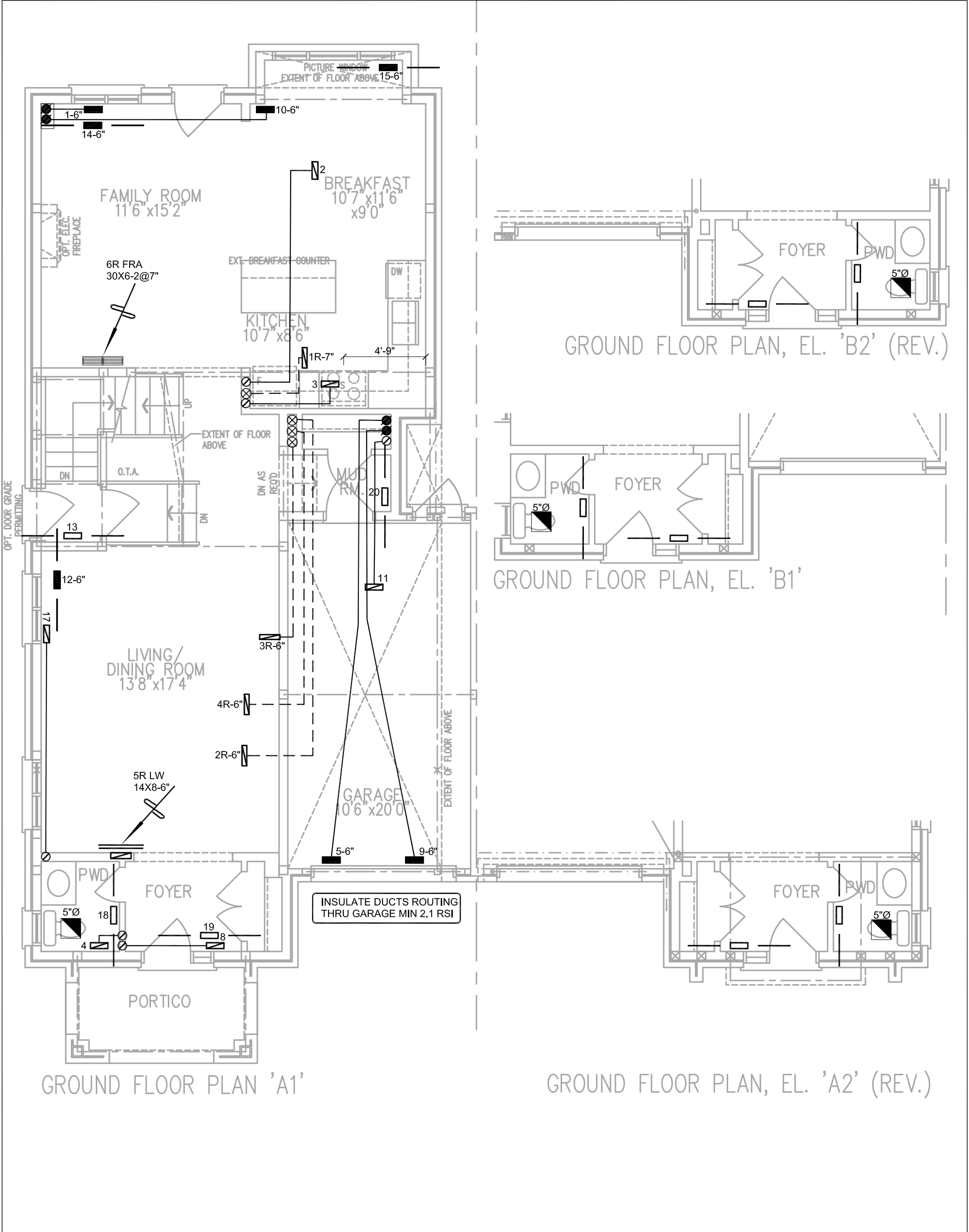


BASEMENT PLAN 'A1' & 'B1'

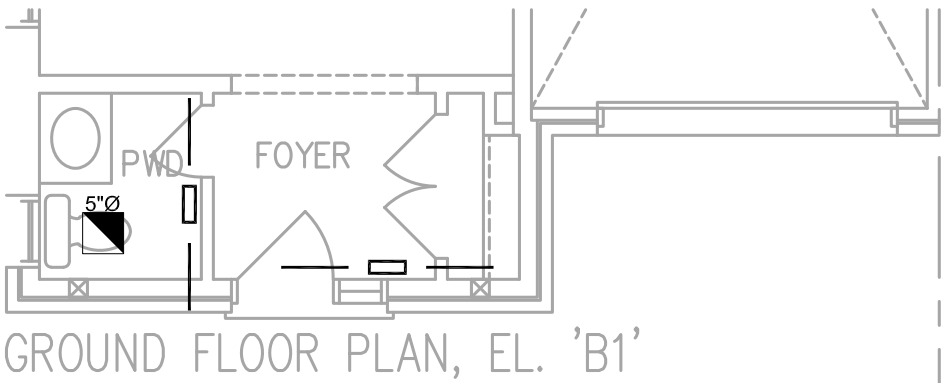
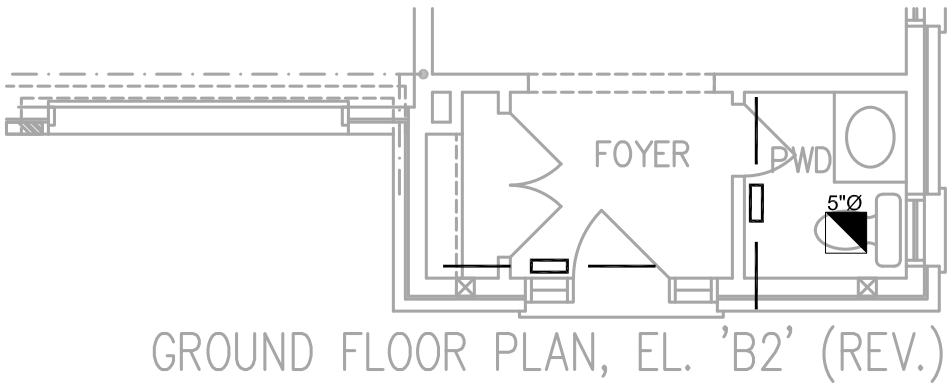


BASEMENT PLAN, EL. 'A2' & 'B2' (REV.)

HVAC LEGEND								3.										
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.										
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.										
	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.						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		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 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				HEAT LOSS 37233 BTU/H		# OF RUNS S/A R/A FANS		Sheet Title								
ROYAL PINE HOMES Project Name SUMMER RIDGE ESTATES BRAMPTON, ONTARIO						UNIT DATA		3RD FLOOR		BASEMENT HEATING LAYOUT								
						MAKE		2ND FLOOR				10	4	2				
						MODEL		1ST FLOOR				7	2	2				
						59SC6A040M14--10		BASEMENT		4	1	0	Date	MAY/2024				
INPUT		40 MBTU/H		OUTPUT		39 MBTU/H		Scale		3/16" = 1'-0"								
COOLING		2.5 TONS		FAN SPEED		925 cfm @ 0.6" w.c.		BCIN# 19669		LO# 105060								
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.																		
3003		2165 sqft																

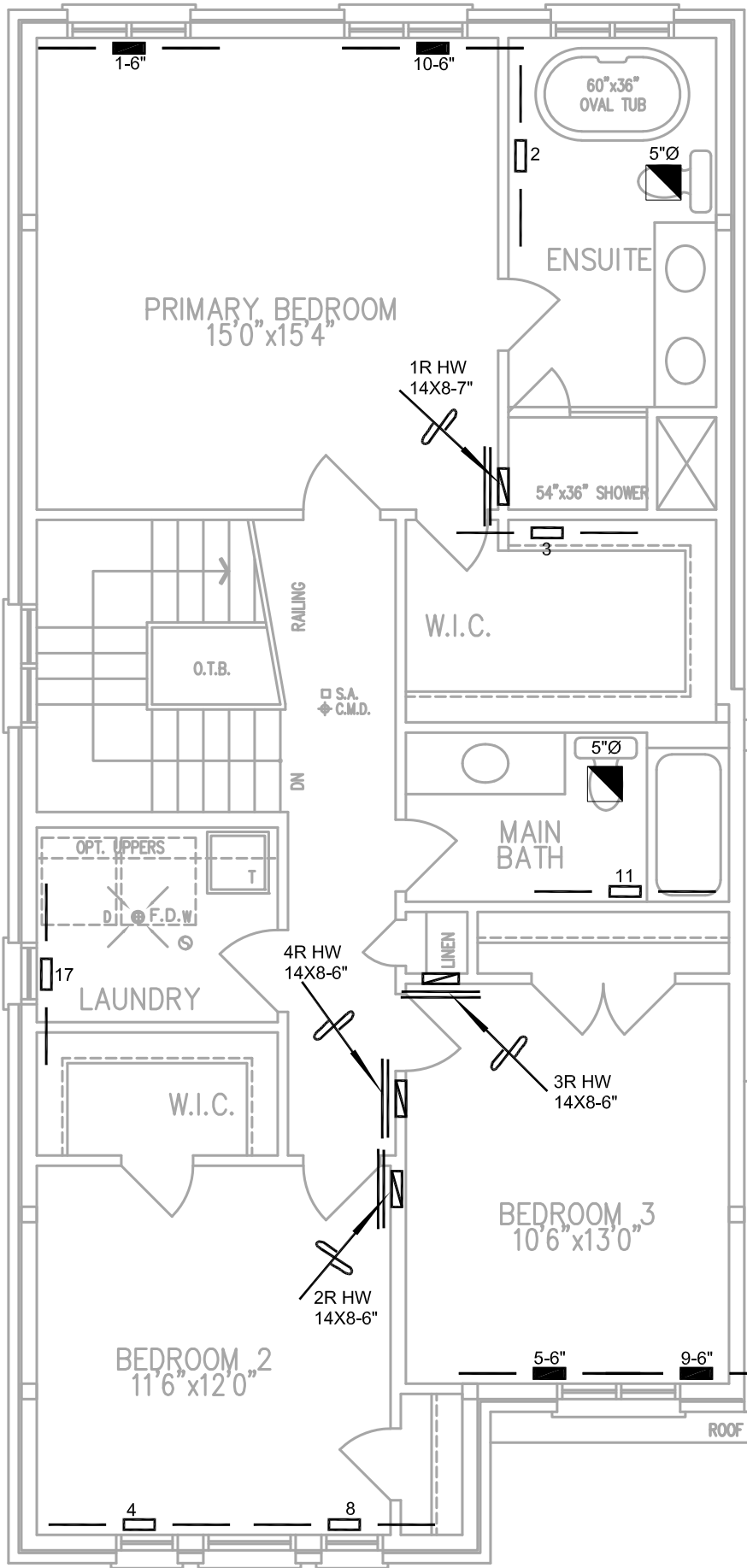


GROUND FLOOR PLAN 'A1'

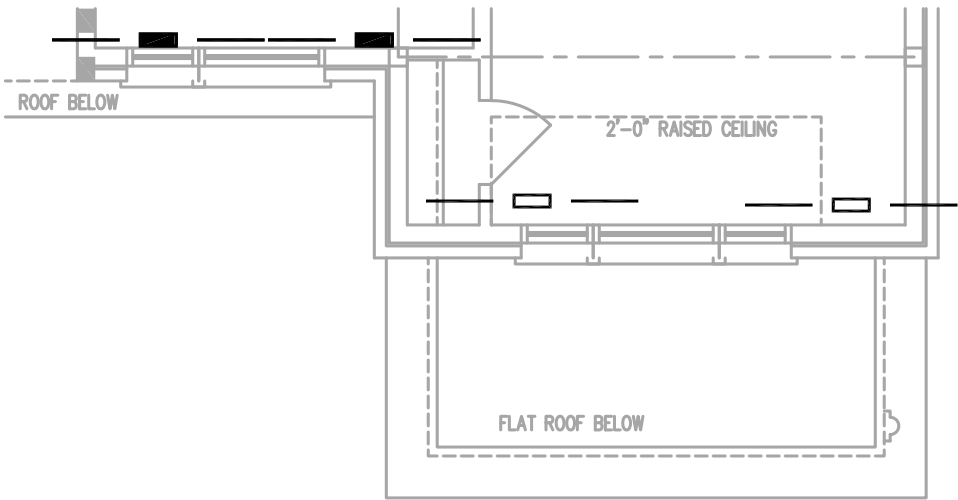


GROUND FLOOR PLAN, EL. 'A2' (REV.)

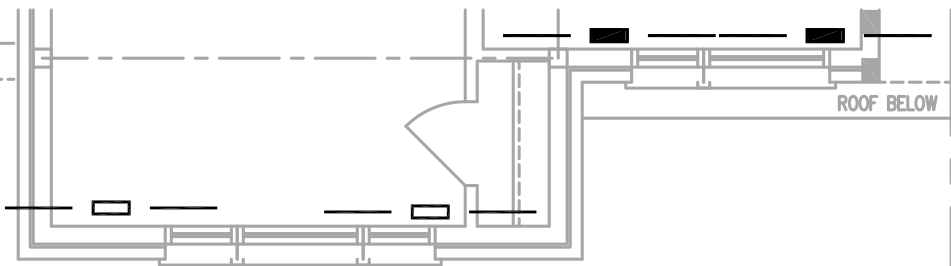
HVAC LEGEND							3.		
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Client		Project Name		3003		2165 sqft		PERFORMANCE	
ROYAL PINE HOMES		SUMMER RIDGE ESTATES BRAMPTON, ONTARIO		375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.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 MAY/2024	
								Scale 3/16" = 1'-0"	
								BCIN# 19669	
								LO# 105060	



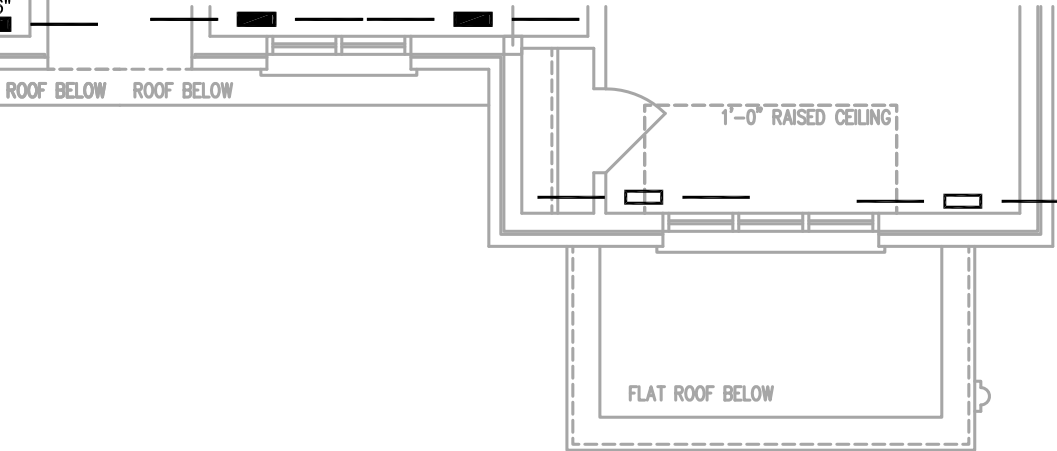
SECOND FLOOR PLAN EL. 'A1'



SECOND FLOOR PLAN EL. 'B2' (REV)



SECOND FLOOR PLAN EL. 'B1'



SECOND FLOOR PLAN EL. 'A2' (REV)

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Project Name										SECOND FLOOR HEATING LAYOUT	
SUMMER RIDGE ESTATES BRAMPTON, ONTARIO										Date MAY/2024	
3003										Scale 3/16" = 1'-0"	
2165 sqft						BCIN# 19669					
						LO#		105060			