

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 ☐ 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: 2501 Project: LEAFTRAIL HOLDINGS	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> 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 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.			
April 25, 2022			
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.

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

SITE NAME: LEAFTRAIL HOLDINGS				TYPE: 2501				GFA: 1905				DATE: Apr-22				WINTER NATURAL AIR CHANGE RATE 0.282				HEAT LOSS ΔT °F. 74				CSA-F280-12			
BUILDER: ROYAL PINE HOMES												LO# 95317				SUMMER NATURAL AIR CHANGE RATE 0.088				HEAT GAIN ΔT °F. 11				SB-12 PERFORMANCE			
ROOM USE				MBR				ENS				BED-2				BED-3				BATH							
EXP. WALL				31				7				29				10				8							
CLG. HT.				9				9				9				9				9							
FACTORS																											
GRS.WALL AREA	LOSS	GAIN		279				63				261				90				72							
GLAZING				LOSS	GAIN			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN						
NORTH	20.8	15.5		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0					
EAST	20.8	41.0		0	0	0		0	0	0		44	914	1806		70	1454	2873		0	0	0					
SOUTH	20.8	24.4		0	0	0		0	0	0		0	0	0		0	0	0		0	0	0					
WEST	20.8	41.0		26	540	1067		17	353	698		0	0	0		0	0	0		0	0	0					
SKYLT.	34.1	100.3		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		0	0	0		0	0	0		0	0	0					
NET EXPOSED WALL	3.5	0.5		253	877	130		46	159	24		217	752	112		20	69	10		72	250	37					
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					
EXPOSED CLG	1.3	0.6		326	408	182		107	134	60		175	219	98		136	170	76		80	100	45					
NO ATTIC EXPOSED CLG	2.7	1.2		0	0	0		0	0	0		45	121	54		45	121	54		0	0	0					
EXPOSED FLOOR	2.5	0.4		0	0	0		0	0	0		105	261	39		0	0	0		70	174	26					
BASEMENT/CRAWL HEAT LOSS				0				0				0				0				0							
SLAB ON GRADE HEAT LOSS				0				0				0				0				0							
SUBTOTAL HT LOSS				1826				647				2268				1815				524							
SUB TOTAL HT GAIN					1379			781					2108			3013					107						
LEVEL FACTOR / MULTIPLIER	0.20	0.26						0.20	0.26			0.20	0.26			0.20	0.26			0.20	0.26						
AIR CHANGE HEAT LOSS				476				169				592				474				137							
AIR CHANGE HEAT GAIN					68			39					105			150					5						
DUCT LOSS				0				0				286				0				66							
DUCT GAIN					0			0					295			0					11						
HEAT GAIN PEOPLE	240			2		480		0				1		240		1		240		0		0					
HEAT GAIN APPLIANCES/LIGHTS						501		0					501			501				0		0					
TOTAL HT LOSS BTU/H				2302				816				3146				2288				727							
TOTAL HT GAIN x 1.3 BTU/H					3157			1066					4224			5075				161							

ROOM USE			LV/DN			K/B/F			LAUN			PWD			FOY															BAS		
EXP. WALL			35			38			7			4			10															92		
CLG. HT.			10			10			9			11			11															9		
FACTORS																																
GRS.WALL AREA	LOSS	GAIN	350			380			63			44			110												552					
GLAZING			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN												LOSS GAIN					
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EAST	20.8	41.0	34	706	1396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
SOUTH	20.8	24.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
WEST	20.8	41.0	0	0	0	73	1517	2997	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	125	246				
SKYLT.	34.1	100.3	0	0	0	0	0	0	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	20	392	58	0	0	0	0	0	0	0	0	0	0	20	392	58	0	0	0	0	0	0	20	392	58					
NET EXPOSED WALL	3.5	0.5	296	1026	152	307	1064	158	63	218	32	44	153	23	90	312	46	0	0	0	0	0	0	0	0	0	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	0	0	0	0	276	970	144					
EXPOSED CLG	1.3	0.6	0	0	0	42	53	23	75	94	42	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0			
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0														
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0														
SUBTOTAL HT LOSS			2124			2634			312			153			704																	
SUB TOTAL HT GAIN				1606			3178			74		23			104																	
LEVEL FACTOR / MULTIPLIER	0.30	0.52				0.30	0.52		0.20	0.26		0.30	0.52		0.30	0.52									0.50	1.06						
AIR CHANGE HEAT LOSS			1095			1357			82			79			363											4823						
AIR CHANGE HEAT GAIN				80			158			4		1			5												22					
DUCT LOSS			0			0			0			0			0											0						
DUCT GAIN				0			0			0		0			0											0						
HEAT GAIN PEOPLE	240		0		0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
HEAT GAIN APPLIANCES/LIGHTS					501		501			501		0			0												501					
TOTAL HT LOSS BTU/H			3219			3991			394			231			1066											9371						
TOTAL HT GAIN x 1.3 BTU/H				2843			4988			753		31			142														1263			

TOTAL HEAT GAIN BTU/H: 23892 TONS: 1.99 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 27552 TOTAL COMBINED HEAT LOSS BTU/H: 28826

SITE NAME: LEAFTRAIL HOLDINGS
BUILDER: ROYAL PINE HOMES

TYPE: 2501

DATE: Apr-22

GFA: 1905 LO# 95317

HEATING CFM 710 COOLING CFM 710
TOTAL HEAT LOSS 27,552 TOTAL HEAT GAIN 23,703
AIR FLOW RATE CFM 25.77 AIR FLOW RATE CFM 29.95

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure
for s/a & r/a 0.35

#CARRIER

AFUE = 97 %

59SP5A-40-10 40

INPUT (BTU/H) = 40,000

FAN SPEED

OUTPUT (BTU/H) = 39,000

LOW 0

DESIGN CFM = 710

MEDLOW 0

CFM @ .6" E.S.P.

MEDIUM 0

MEDIUM HIGH 710

HIGH 875

TEMPERATURE RISE 51 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	5	3
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	6	7	10	13	14	15	17	18	19	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-3	BATH	MBR	LV/DN	K/B/F	K/B/F	LAUN	PWD	FOY	BAS	BAS	BAS
RM LOSS MBH.	1.15	0.82	1.57	1.57	1.14	1.14	0.73	1.15	3.22	2.00	2.00	0.39	0.23	1.07	3.12	3.12	3.12
CFM PER RUN HEAT	30	21	41	41	29	29	19	30	83	51	51	10	6	27	80	80	80
RM GAIN MBH.	1.58	1.07	2.11	2.11	2.54	2.54	0.16	1.58	2.84	2.49	2.49	0.75	0.03	0.14	0.42	0.42	0.42
CFM PER RUN COOLING	47	32	63	63	76	76	5	47	85	75	75	23	1	4	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	31	35	48	52	63	55	37	37	48	15	28	21	7	37	22	7	32
EQUIVALENT LENGTH	200	160	130	140	190	170	140	180	140	100	110	160	140	130	100	110	150
TOTAL EFFECTIVE LENGTH	231	195	178	192	253	225	177	217	188	115	138	181	147	167	122	117	182
ADJUSTED PRESSURE	0.07	0.09	0.1	0.09	0.07	0.08	0.1	0.08	0.09	0.15	0.12	0.1	0.12	0.1	0.14	0.15	0.09
ROUND DUCT SIZE	5	4	5	5	6	6	4	5	6	5	5	4	4	4	5	5	5
HEATING VELOCITY (ft/min)	220	241	301	301	148	148	218	220	423	374	374	115	69	310	587	587	587
COOLING VELOCITY (ft/min)	345	367	463	463	388	388	57	345	433	551	551	264	11	46	95	95	95
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	C	B	B	C	C	B	A	A	C	C	B	A	A	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
1	MBR	1.15	30	1.58	47	0.17	31	200	231	0.07	5	220	345	3X10	C
2	ENS	0.82	21	1.07	32	0.17	35	160	195	0.09	4	241	367	3X10	C
3	BED-2	1.57	41	2.11	63	0.17	48	130	178	0.1	5	301	463	3X10	C
4	BED-2	1.57	41	2.11	63	0.17	52	140	192	0.09	5	301	463	3X10	C
5	BED-3	1.14	29	2.54	76	0.17	63	190	253	0.07	6	148	388	4X10	B
6	BED-3	1.14	29	2.54	76	0.17	55	170	225	0.08	6	148	388	4X10	B
7	BATH	0.73	19	0.16	5	0.17	37	140	177	0.1	4	218	57	3X10	C
10	MBR	1.15	30	1.58	47	0.17	31	200	231	0.07	5	220	345	3X10	C
13	LV/DN	3.22	83	2.84	85	0.16	48	140	188	0.09	6	423	433	4X10	B
14	K/B/F	2.00	51	2.49	75	0.17	15	100	115	0.15	5	374	551	3X10	A
15	K/B/F	2.00	51	2.49	75	0.17	28	110	138	0.12	5	374	551	3X10	A
17	LAUN	0.39	10	0.75	23	0.17	21	160	181	0.1	4	115	264	3X10	C
18	PWD	0.23	6	0.03	1	0.17	7	130	147	0.12	4	69	11	3X10	C
19	FOY	1.07	27	0.14	4	0.17	37	130	167	0.1	4	310	46	3X10	B
21	BAS	3.12	80	0.42	13	0.17	22	100	122	0.14	5	587	95	3X10	A
22	BAS	3.12	80	0.42	13	0.17	7	110	117	0.15	5	587	95	3X10	A
23	BAS	3.12	80	0.42	13	0.17	32	150	182	0.09	5	587	95	3X10	B

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	262	0.12	7.7	8	x	8	590	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0		
TRUNK B	248	0.07	8.6	8	x	8	558	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0		
TRUNK C	446	0.07	10.7	14	x	8	573	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	0	0	0	0	0	0	0	0	0	BR
AIR VOLUME	85	75	75	85	205	75	0	0	0	0	0	0	0	0	0	110
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	39	64	57	47	21	40	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	195	260	245	215	135	270	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	234	324	302	262	156	310	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.06	0.05	0.05	0.06	0.09	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	6	6	6	6	7.5	6	0	0	0	0	0	0	0	0	0	5.8
INLET GRILL SIZE	8	8	8	8	8	8	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	14	14	0	0	0	0	0	0	0	0	0	14

TYPE: 2501
SITE NAME: LEAFTRAIL HOLDINGS

LO # 95317

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
PWD	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	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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

BUILDER: ROYAL PINE 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:	April-22

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

Michael O'Rourke

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 95317	Model: 2501	Builder: ROYAL PINE HOMES	Date: 2022-04-25																																																									
Volume Calculation			Air Change & Delta T Data																																																									
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$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.282 x 202.35 x 41 °C x 1.2 = 2827 W = 9645 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.088 x 202.35 x 6 °C x 1.2 = 131 W = 448 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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				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2501	BUILDER: ROYAL PINE HOMES
SFQT: 1905	SITE: LEAFTRAIL HOLDINGS
LO# 95317	

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	0.50

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):	25725.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 47.0 ft	WIDTH: 23.0 ft	EXPOSED PERIMETER:	92.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
SB-12 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	-

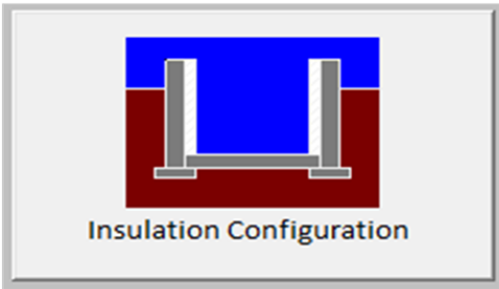
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



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):	14.3	 Insulation Configuration
Floor Width (m):	7.0	
Exposed Perimeter (m):	28.0	
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):		897

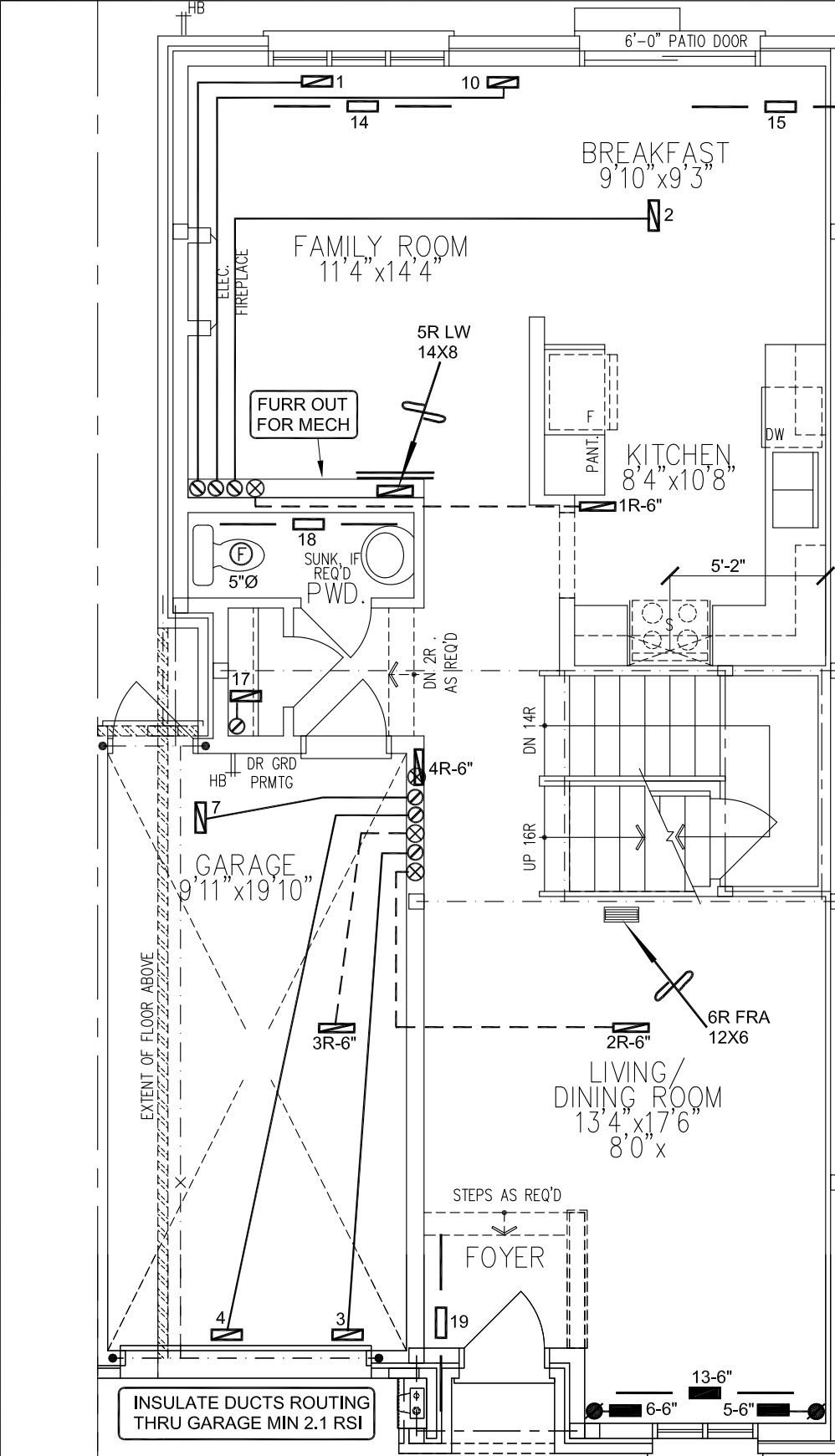
TYPE: 2501
LO# 95317

Air Infiltration Residential Load Calculator

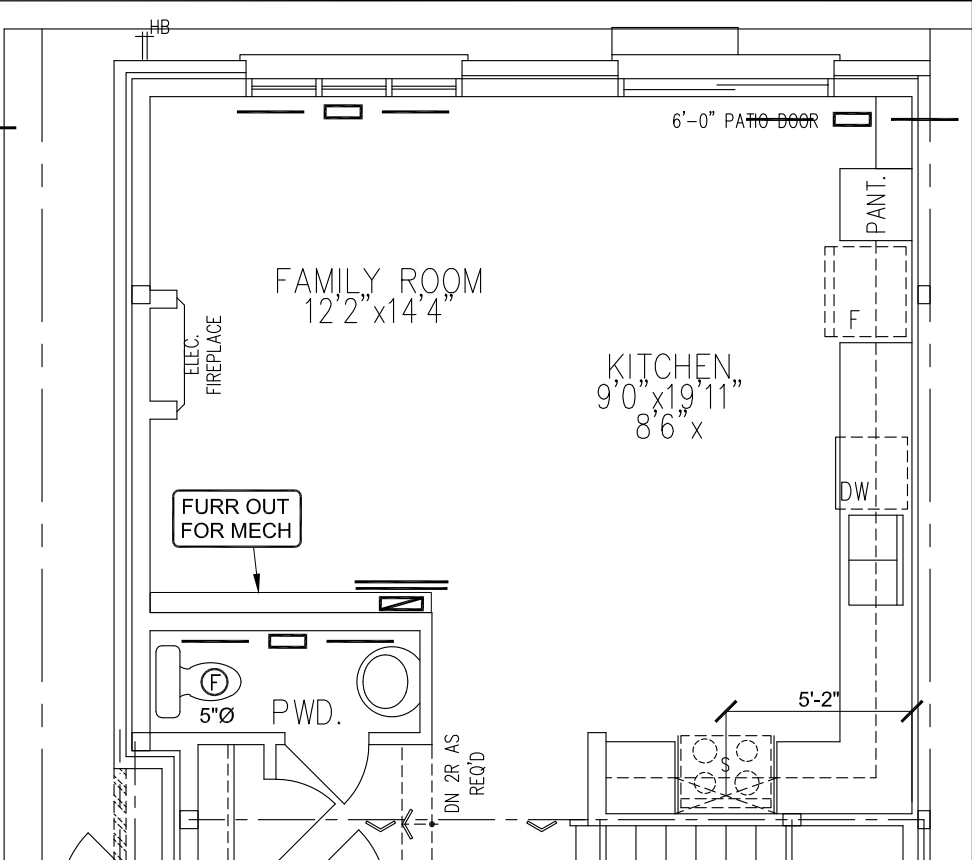
Supplemental tool for CAN/CSA-F280

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):	728.5			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	816.0 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):	0.282			
Cooling Air Leakage Rate (ACH/H):	0.088			

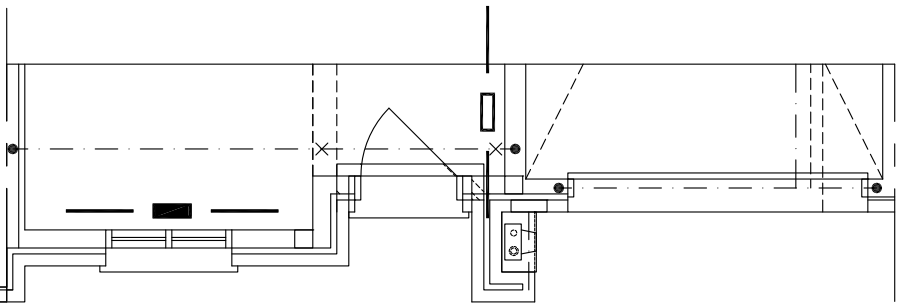
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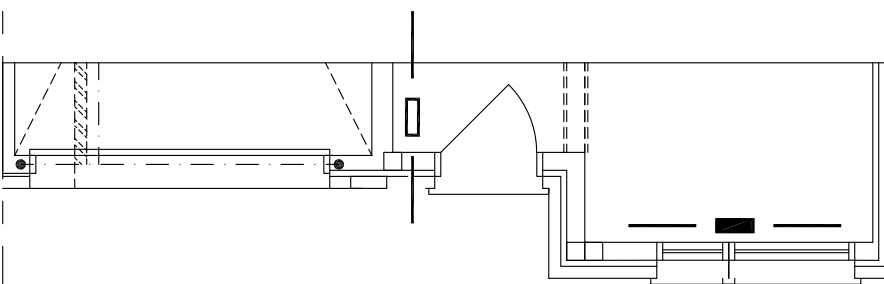
GROUND FLOOR PLAN ELEV 'A1' (REV)



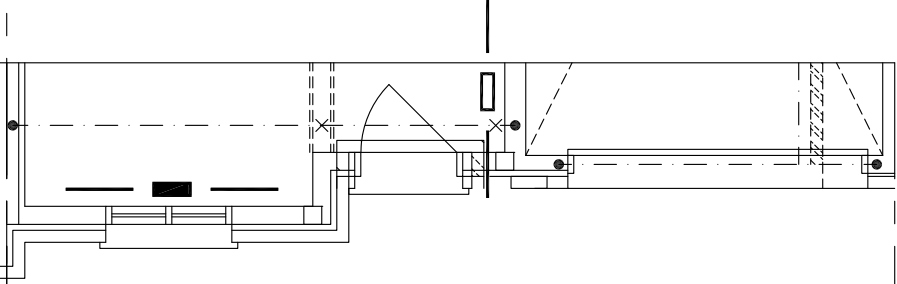
PARTIAL GROUND FLOOR PLAN,
ELEV 'A1' (REV) (W/ OPT.
KITCHEN LAYOUT)
(ELEV. 'B1' REV. & 'B2' SIMILAR)



PART. GROUND FLOOR PLAN ELEV 'A2'



PART. GRND FLR PLAN ELEV 'B1' (REV)



PART. GROUND FLOOR PLAN ELEV 'B2'

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.

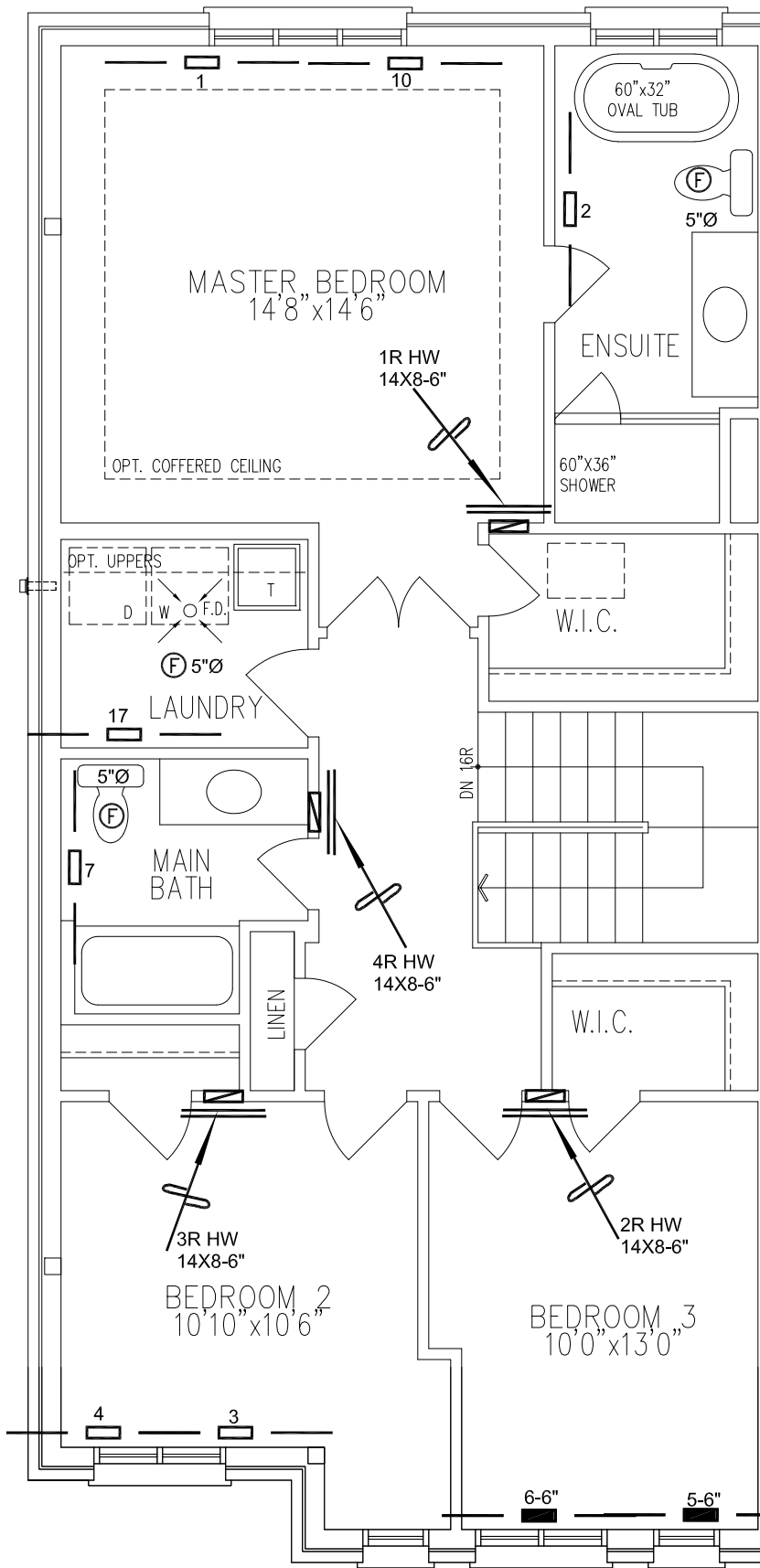
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
SB-12 PERFORMANCE

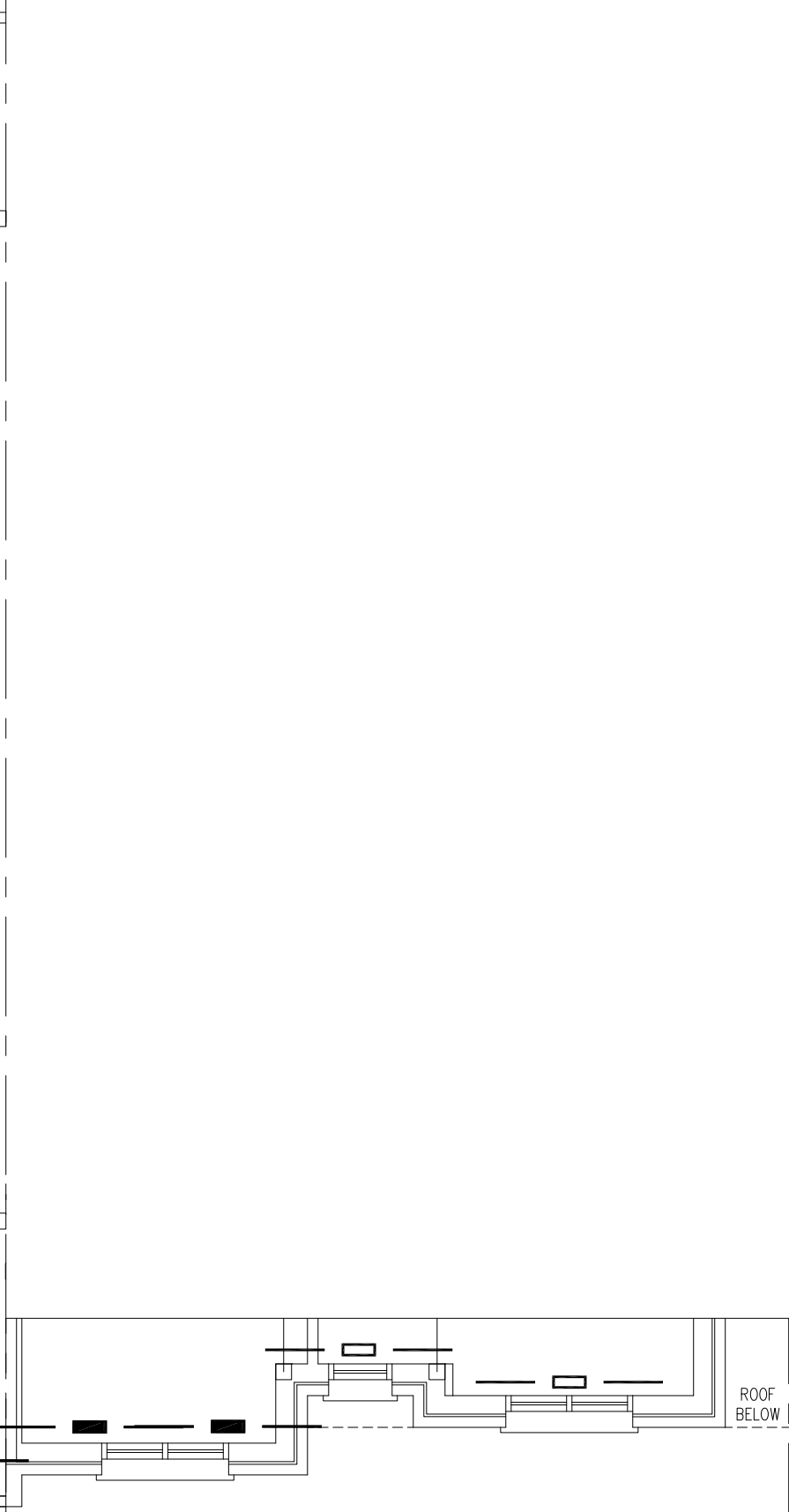
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE PATH	APR/2022
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		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		

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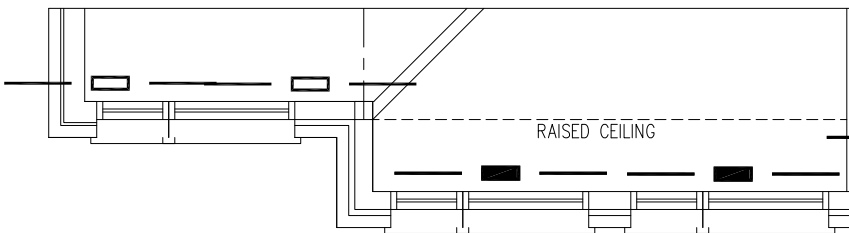
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title	
ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name		Installation 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.	Date	
LEAFTRAIL HOLDINGS BRAMPTON, ONTARIO			MAR/2022	
2501		1905 sqft	Scale	
			3/16" = 1'-0"	
			BCIN# 19669	
			LO# 95317	



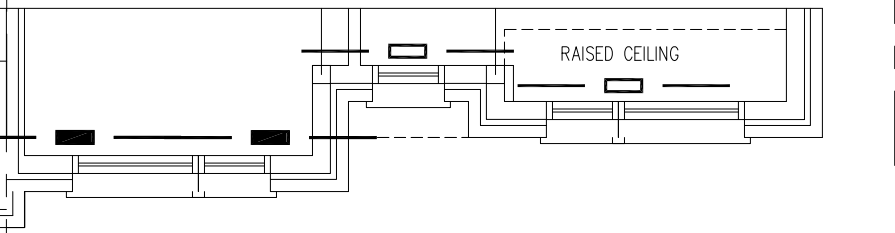
SECOND FLR PLAN ELEV 'A1' (REV)



PART. SECOND FLR PLAN ELEV 'A2'



PARTIAL SECOND FLR PLAN ELEV 'B1' (REV)



PART. SCND. FLR PLAN ELEV 'B2'

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.

CSA-F280-12
SB-12 PERFORMANCE

HVAC LEGEND								3.		
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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2022
LEAFTRAIL HOLDINGS BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
2501			BCIN# 19669	
1905 sqft			LO#	95317