


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]			
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <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 CSA-F280-12		Model: 2505 OPT 2ND Project: LEAFTRAIL HOLDINGS	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
<input type="checkbox"/> 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: _____			
<input checked="" 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 and qualification: <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.			
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

ROOM USE			FAM			KT/BR			LV/DN			ENS-2			W/R			FOY			MUD												BAS		
EXP. WALL			30			36			46			10			6			14			11												156		
CLG. HT.			10			10			10			9			10			10			11												9		
FACTORS																																			
GRS.WALL AREA			300			360			460			90			60			140			121												936		
LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN												LOSS GAIN		
GLAZING			LOSS GAIN			LOSS GAIN			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	8	166	124							0	0	0		
EAST			20.8	41.0	0	0	0	0	0	0	46	956	1888	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	57	1184	1391	46	956	1122	16	332	390	0	0	0	0	0	0	0	0	0	0	0	0	6	125	146				
WEST			20.8	41.0	38	789	1560	47	976	1929	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	62	123					
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	0			
DOORS			19.6	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	783	116	20	392	58			20	392	58					
NET EXPOSED WALL			3.5	0.5	262	908	135	256	888	132	368	1276	189	74	257	38	60	208	31	100	347	51	93	322	48			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			468	1644	244					
EXPOSED CLG			1.3	0.6	0	0	0	0	0	0	0	0	0	90	113	50	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	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	0			
BASEMENT/CRAWL HEAT LOSS					0			0		0			0			0			0			0											5332		
SLAB ON GRADE HEAT LOSS					0			0		0			0			0			0			0													
SUBTOTAL HT LOSS					1698			3048		3187			702			208			1130			880											7555		
SUB TOTAL HT GAIN						1694		3451		3200			479			31			167			230											571		
LEVEL FACTOR / MULTIPLIER			0.30	0.35	0.30	0.35	0.30	0.35	0.30	0.35	0.20	0.21	0.30	0.35	0.30	0.35	0.30	0.35	0.30	0.35	0.30	0.35	0.50	0.78											
AIR CHANGE HEAT LOSS					588			1056		1104			145			72			391			305											5860		
AIR CHANGE HEAT GAIN						72		147		136			20			1			7			10											24		
DUCT LOSS					0			0		0			0			0			0			0											0		
DUCT GAIN						0		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	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
HEAT GAIN APPLIANCES/LIGHTS						387		387		387			0			387			387			387											387		
TOTAL HT LOSS BTU/H					2286			4104		4291			847			280			1521			1185											13415		
TOTAL HT GAIN x 1.3 BTU/H					2800			5181		4840			648			546			731			815											1278		

TOTAL HEAT GAIN BTU/H:	34262	TONS: 2.86	LOSS DUE TO VENTILATION LOAD BTU/H: 1593	STRUCTURAL HEAT LOSS: 41057	TOTAL COMBINED HEAT LOSS BTU/H: 42650
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SITE NAME: LEAFTRAIL HOLDINGS
BUILDER: ROYAL PINE HOMES

OPT 2ND
TYPE: 2505

DATE: Apr-22

GFA: 2384 LO# 95324

HEATING CFM 1145 COOLING CFM 1145
TOTAL HEAT LOSS 41,057 TOTAL HEAT GAIN 34,026
AIR FLOW RATE CFM 27.89 AIR FLOW RATE CFM 33.65

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-60-14

60

INPUT (BTU/H) = 60,000

OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	9	4
R/A	0	0	5	2	1

plenium pressure s/a 0.18 r/a pressure 0.17
max s/a dif press. loss 0.02 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.16 adjusted pressure r/a 0.15

FAN SPEED
LOW 0
MEDLOW 785
MEDIUM 960
MEDIUM HIGH 1145
HIGH 1440

DESIGN CFM = 1145
CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

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	8	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BED-3	BED-4	BATH	BED-4	MBR	LV/DN	FAM	FAM	KT/BR	KT/BR	LV/DN	ENS-2	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.13	1.73	1.83	1.95	1.83	1.44	0.65	1.44	1.13	2.15	1.14	1.14	2.05	2.05	2.15	0.85	0.28	1.52	1.19	3.35	3.35	3.35	3.35
CFM PER RUN HEAT	32	48	51	54	51	40	18	40	32	60	32	32	57	57	60	24	8	42	33	94	94	94	94
RM GAIN MBH.	1.51	2.22	2.61	2.55	2.61	1.73	0.71	1.73	1.51	2.42	1.40	1.40	2.59	2.59	2.42	0.65	0.55	0.73	0.81	0.32	0.32	0.32	0.32
CFM PER RUN COOLING	51	75	88	86	88	58	24	58	51	81	47	47	87	87	81	22	18	25	27	11	11	11	11
ADJUSTED PRESSURE	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	37	42	59	43	59	54	36	50	42	54	23	13	30	33	50	54	14	34	21	27	11	23	47
EQUIVALENT LENGTH	160	210	200	180	220	140	130	120	150	110	120	100	130	130	110	180	180	180	120	140	130	140	120
TOTAL EFFECTIVE LENGTH	197	252	259	223	279	194	166	170	192	164	143	113	160	163	160	234	194	214	141	167	141	163	167
ADJUSTED PRESSURE	0.09	0.07	0.06	0.07	0.06	0.09	0.1	0.1	0.09	0.1	0.12	0.15	0.1	0.1	0.1	0.07	0.09	0.08	0.12	0.1	0.11	0.1	0.1
ROUND DUCT SIZE	5	6	6	6	6	5	4	5	5	6	4	4	6	6	6	4	4	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	235	245	260	275	260	294	207	294	235	306	367	367	291	291	306	275	92	482	379	479	479	479	479
COOLING VELOCITY (ft/min)	374	382	449	438	449	426	275	426	374	413	539	539	444	444	413	252	207	287	310	56	56	56	56
OUTLET GRILL SIZE	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	C	B	C	B	C	C	C	A	B	A	A	A	A	B	B	C	B	C	A	A	C	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	1.13	32	1.51	51	0.17	37	160	197	0.09	5	235	374	3X10	A
2	ENS	1.73	48	2.22	75	0.17	42	210	252	0.07	6	245	382	4X10	C
3	BED-3	1.83	51	2.61	88	0.16	59	200	259	0.06	6	260	449	4X10	B
4	BED-2	1.95	54	2.55	86	0.16	43	180	223	0.07	6	275	438	4X10	C
5	BED-3	1.83	51	2.61	88	0.16	59	220	279	0.06	6	260	449	4X10	B
6	BED-4	1.44	40	1.73	58	0.17	54	140	194	0.09	5	294	426	3X10	C
7	BATH	0.65	18	0.71	24	0.17	36	130	166	0.1	4	207	275	3X10	C
8	BED-4	1.44	40	1.73	58	0.17	54	120	170	0.1	5	294	426	3X10	C
10	MBR	1.13	32	1.51	51	0.17	42	150	192	0.09	5	235	374	3X10	A
11	LV/DN	2.15	60	2.42	81	0.16	54	110	164	0.1	6	306	413	4X10	B
12	FAM	1.14	32	1.40	47	0.17	23	100	143	0.12	4	367	539	3X10	A
13	FAM	1.14	32	1.40	47	0.17	13	130	113	0.15	4	367	539	3X10	A
14	KT/BR	2.05	57	2.59	87	0.16	30	130	160	0.1	6	291	444	4X10	A
15	KT/BR	2.05	57	2.59	87	0.16	33	130	163	0.1	6	291	444	4X10	A
16	LV/DN	2.15	60	2.42	81	0.16	50	110	160	0.1	6	306	413	4X10	B
17	ENS-2	0.85	24	0.65	22	0.17	54	180	234	0.07	4	275	252	3X10	B
18	W/R	0.28	8	0.55	18	0.17	14	180	194	0.09	4	92	207	3X10	C
19	FOY	1.52	42	0.73	25	0.17	34	180	214	0.08	4	482	287	3X10	B
20	MUD	1.19	33	0.81	27	0.17	21	120	141	0.12	4	379	310	3X10	C
21	BAS	3.35	94	0.32	11	0.16	27	140	167	0.1	6	479	56	4X10	A
22	BAS	3.35	94	0.32	11	0.16	27	140	167	0.11	6	479	56	4X10	A
23	BAS	3.35	94	0.32	11	0.16	27	140	167	0.1	6	479	56	4X10	C
24	BAS	3.35	94	0.32	11	0.16	27	140	167	0.1	6	479	56	4X10	B

SUPPLY AIR TRUNK SIZE															RETURN AIR TRUNK SIZE				
	TRUNK	STATIC	ROUND	RECT	VELOCITY						TRUNK	STATIC	ROUND	RECT	VELOCITY				
	CFM	PRESS.	DUCT	DUCT							CFM	PRESS.	DUCT	DUCT					
TRUNK A	430	0.09	9.9	12	x	8	645				TRUNK G	0	0.00	0	0	x	8	0	
TRUNK B	382	0.06	10.5	14	x	8	491				TRUNK H	0	0.00	0	0	x	8	0	
TRUNK C	717	0.06	13.3	20	x	8	645				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 #	1	2	3	4	5	6	7											BR	TRUNK W 1010 0.05 15.8 28 x 8 649 TRUNK X 1145 0.05 16.6 32 x 8 644 TRUNK Y 720 0.05 13.9 22 x 8 589 TRUNK Z 270 0.05 9.7 12 x 8 405 DROP 1145 0.05 16.6 24 x 10 687
AIR VOLUME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175	
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	0.15	0.15	
ACTUAL DUCT LGH.	55	68	58	63	53	19	47	1	1	1	1	1	1	1	1	1	1	14	
EQUIVALENT LENGTH	215	225	255	260	205	135	210	0	0	0	0	0	0	0	0	0	0	135	
TOTAL EFFECTIVE LH	270	293	313	323	258	154	257	1	1	1	1	1	1	1	1	1	1	149	
ADJUSTED PRESSURE	0.05	0.05	0.05	0.05	0.06	0.10	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10	
ROUND DUCT SIZE	6.3	7	7	6	6.7	8.6	7.5	0	0	0	0	0	0	0	0	0	0	6.9	
INLET GRILL SIZE	8	8	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	X	X	
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	14	

TYPE: 2505
SITE NAME: LEAFTRAIL HOLDINGS

LO # 95324
OPT 2ND

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>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>169.6</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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>169.6</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>90.1</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>79.5</u> cfm	<input checked="" type="checkbox"/> HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 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	<input checked="" type="checkbox"/>	3.5
BATH	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
W/R	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	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)	<input checked="" type="checkbox"/> HVI Approved	

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#: 95324	Model: 2505	Builder: ROYAL PINE HOMES	Date: 2022-04-25																																																									
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																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.273 x 254.51 x 41 °C x 1.2 = 3435 W</p> <p>= 11719 Btu/h</p>			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.089 x 254.51 x 6 °C x 1.2 = 165 W</p> <p>= 565 Btu/h</p>																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>80 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h</p>			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>80 CFM x 11 °F x 1.08 x 0.25 = 236 Btu/h</p>																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2505	OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 2384	LO# 95324	SITE: LEAFTRAIL HOLDINGS

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:	DETACHED	# 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):	32356.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.45	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 51.0 ft	WIDTH: 27.0 ft	EXPOSED PERIMETER:	156.0 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	-

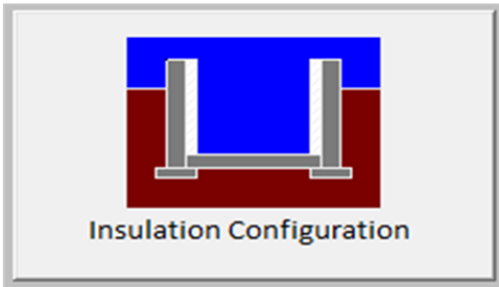
INDIVIDUAL BCIN: 19669

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):	15.5	 Insulation Configuration
Floor Width (m):	8.2	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.8	
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):		1562

TYPE: 2505
LO# 95324

OPT 2ND

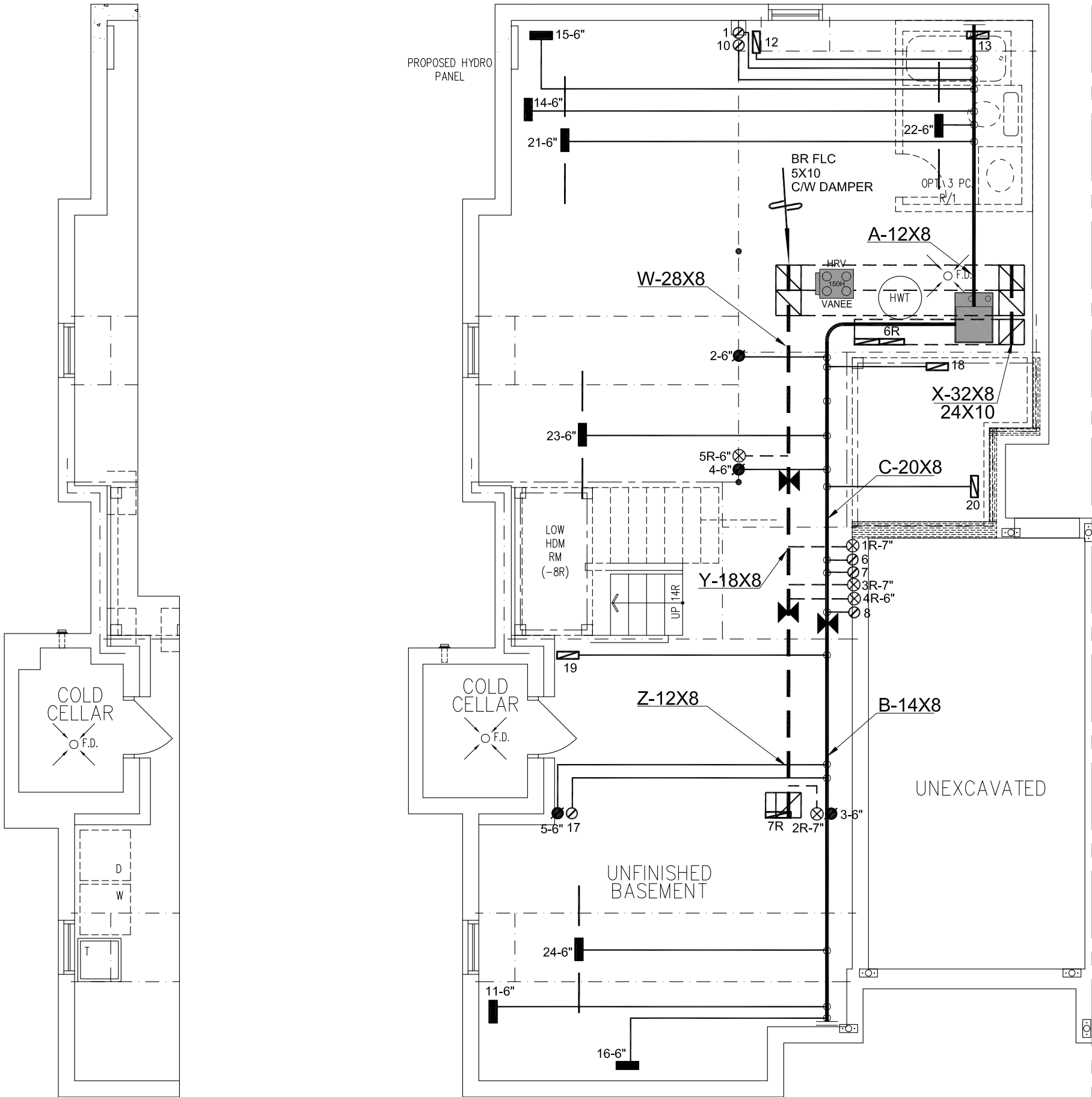
Air Infiltration Residential Load Calculator

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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	916.2			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1026.3 cm ²		
	3.00	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.273			
Cooling Air Leakage Rate (ACH/H):	0.089			

TYPE: 2505
LO# 95324

OPT 2ND



PARTIAL BASEMENT PLAN, ELEV 'B'

BASEMENT PLAN ELEV 'A'

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.

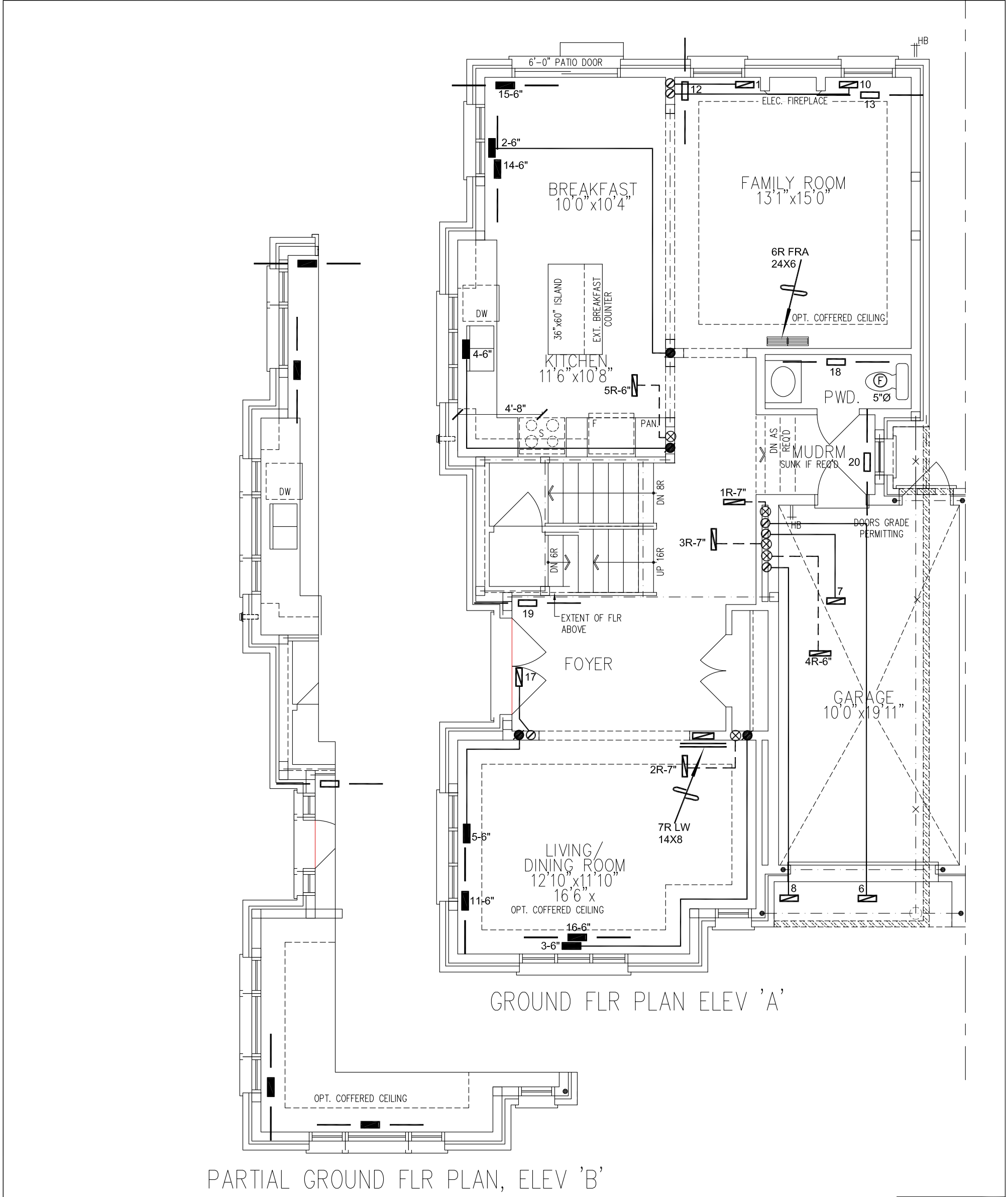
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND								3.		
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		<div></div> <div>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</div>	HEAT LOSS 42650 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
ROYAL PINE HOMES			MAKE CARRIER	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name LEAFTRAIL HOLDINGS BRAMPTON, ONTARIO			MODEL 59SP5A-60-14	2ND FLOOR		10	5	3	Date MAR/2022
			INPUT 60 MBTU/H	1ST FLOOR		9	2	2	
			OUTPUT 58 MBTU/H	BASEMENT		4	1	0	
		COOLING 3.0 TONS	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					Scale 3/16" = 1'-0"	
		FAN SPEED 1145 cfm @ 0.6" w.c.						BCIN# 19669	
2505 - OPT 2ND 2384 sqft		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.					LO#	95324	



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

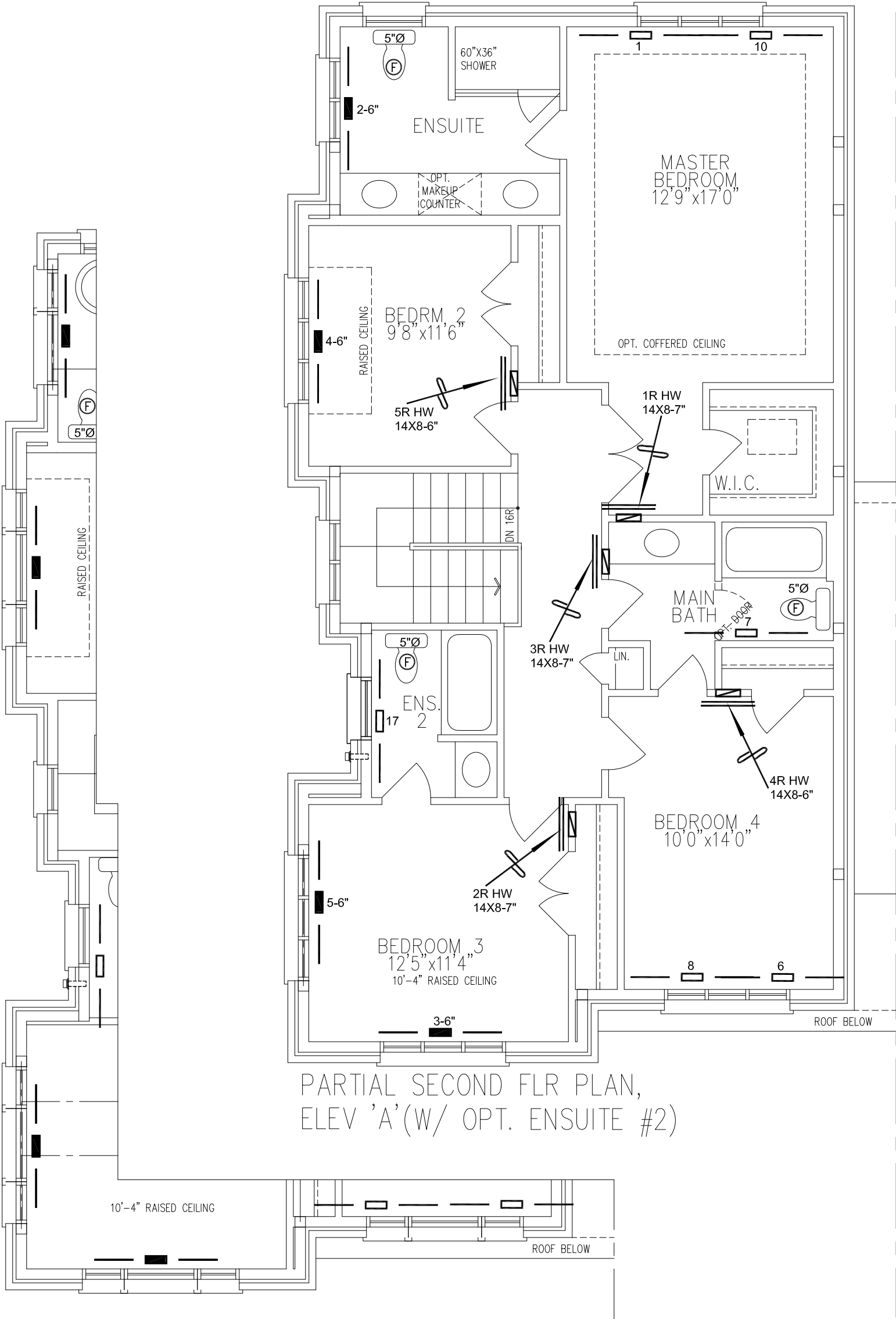
CSA-F280-12

SB-12 PERFORMANCE

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ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2022
LEAFTRAIL HOLDINGS BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
2505 - OPT 2ND 2384 sqft			BCIN# 19669	
			LO#	95324



PARTIAL SECOND FLR PLAN,
ELEV 'A'(W/ OPT. ENSUITE #2)

PARTIAL SECOND FLOOR PLAN ELEV 'B'

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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"
			BCIN# 19669	
2505 - OPT 2ND 2384 sqft			LO#	95324