

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: 2204.T4 Project: FORESTSIDE	
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 16, 2018				
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: FORESTSIDE
BUILDER: ROYAL PINE HOMES
TYPE: 2204.14
DATE: May-18
LO# 78694
GFA: 2503
WINTER NATURAL AIR CHANGE RATE 0.336
HEAT LOSS AT °F. 74
SUMMER NATURAL AIR CHANGE RATE 0.116
HEAT GAIN AT °F. 14
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	IMBR	ENS	WIC	BED-2	BED-3	BED-4	EN3/4		
EXP. WALL CLG. HT.	31 9	6 9	0 9	13 9	30 10	19 10	13 9		
GRS.WALL AREA GLAZING	279	54	0	117	300	190	117		
NORTH	0	0	0	0	0	0	0	LOSS	GAIN
EAST	0	0	0	0	0	0	0	0	0
SOUTH	33	686	833	0	0	0	0	0	0
WEST	20	416	838	16	332	670	0	0	0
SKYLT.	36.4	102.1	0	0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	226	985	186	38	166	31	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	346	434	210	108	135	66	72
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2519	633	90	1447	2934	1825	861	480	
SUB TOTAL HT GAIN	2067	0.20	0.29	0.20	0.29	0.20	0.29	0.20	0.29
LEVEL FACTOR / MULTIPLIER	719	181	26	413	838	521	246	32	
AIR CHANGE HEAT LOSS	136	0	0	186	0	0	0	0	
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	
DUCT LOSS	0	0	0	0	0	0	0	0	
HEAT GAIN PEOPLE	240	480	0	1	240	1	240	0	
HEAT GAIN APPLIANCES/LIGHTS	518	518	0	518	518	518	518	0	
TOTAL HT LOSS BTU/H	3239	814	116	2047	3772	2346	1107	666	
TOTAL HT GAIN x 1.3 BTU/H	4160	1063	61	2860	5028	2874			

ROOM USE	LIV	DIN	KT/FM	LAUN	WIR	FOY	BAS
EXP. WALL CLG. HT.	50 10	20 10	41 10	0 9	6 10	23 10	141 9
GRS.WALL AREA GLAZING	500	200	410	0	60	230	846
NORTH	0	0	0	0	0	0	0
EAST	935	1885	0	0	0	0	0
SOUTH	45	935	1136	0	0	5	104
WEST	0	0	73	1517	3058	0	0
SKYLT.	36.4	102.1	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	410	1786	337	148	645
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	3726	1725	3759	4450	261	2302	6972
SUB TOTAL HT GAIN	3391	0.30	0.39	0.20	0.30	0.30	0.50
LEVEL FACTOR / MULTIPLIER	1448	671	1461	106	102	895	7627
AIR CHANGE HEAT LOSS	223	0	0	48	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	480	1	240	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	518	518	518	518	518	518	518
TOTAL HT LOSS BTU/H	5174	2396	5220	6839	363	3197	14599
TOTAL HT GAIN x 1.3 BTU/H	5372	2972	61	526	68	749	1842

TOTAL HEAT GAIN BTU/H: 35789 TONS: 2.98 LOSS DUE TO VENTILATION LOAD BTU/H: 1593 STRUCTURAL HEAT LOSS: 44915 TOTAL COMBINED HEAT LOSS BTU/H: 46508

Michael O'Rourke

SITE NAME: FORESTSIDE
BUILDER: ROYAL PINE HOMES

TYPE: 2204.T4

DATE: May-18

GFA: 2503 LO# 78694

HEATING CFM 1030 COOLING CFM 1030
TOTAL HEAT LOSS 44,915 TOTAL HEAT GAIN 35,489
AIR FLOW RATE CFM 22.93 AIR FLOW RATE CFM 29.02

#CARRIER 59SP5A-60-12 60
FAN SPEED LOW 0
MEDLOW 785
MEDIUM 845
HIGH 970
HIGH 1030

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 1030
CFM @ .5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	8	4
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'0" unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	EN3/4	EN3/4	BED-3	MBR	LIV	LIV	DIN	DIN	KT/FM	KT/FM	LAUN	WIR	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.62	0.81	0.12	2.05	1.89	2.35	0.55	0.55	1.89	1.62	2.59	2.59	2.40	2.40	1.74	1.74	0.53	0.36	3.20	3.65	3.65	3.65	3.65	3.65
CFM PER RUN HEAT	37	19	3	47	43	54	13	13	43	37	59	59	55	55	40	40	12	8	73	84	84	84	84	84
RM GAIN MBH	2.08	1.06	0.06	2.86	2.51	2.87	0.33	0.33	2.51	2.08	2.69	2.69	2.97	2.97	2.28	2.28	0.93	0.07	0.75	0.46	0.46	0.46	0.46	0.46
CFM PER RUN COOLING	60	31	2	83	73	83	10	10	73	60	78	78	86	86	66	66	27	2	22	13	13	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.16	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	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	55	59	19	65	55	45	39	34	67	45	56	52	33	34	32	26	40	36	25	34	25	25	25	25
EQUIVALENT LENGTH	220	200	160	190	180	200	120	130	200	160	140	120	140	140	140	200	140	160	130	130	160	120	110	110
TOTAL EFFECTIVE LENGTH	275	259	179	255	235	245	159	164	267	205	196	172	173	154	172	226	180	196	155	164	185	145	154	154
ADJUSTED PRESSURE	0.06	0.07	0.1	0.06	0.07	0.07	0.11	0.1	0.06	0.08	0.09	0.1	0.09	0.1	0.08	0.1	0.08	0.1	0.09	0.11	0.1	0.09	0.11	0.11
ROUND DUCT SIZE	5	4	4	6	6	6	4	4	6	5	5	5	6	5	5	5	4	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	272	218	34	240	219	275	149	149	219	272	433	433	280	294	294	294	310	92	536	428	428	428	428	428
COOLING VELOCITY (ft/min)	441	356	23	423	372	423	115	115	372	441	573	573	438	485	485	485	310	23	162	66	66	66	66	66
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	D	D	B	A	A	D	B	B	A	C	A	A	B	C	C	D	B	A	B	C	D	B	A	A

ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH.	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
TRUNK	343	10.1	12	18	8	8	8	8	8	8	8	8	8
TRUNK A	343	10.1	12	18	8	8	8	8	8	8	8	8	8
TRUNK B	596	0.06	12.4	8	8	8	8	8	8	8	8	8	8
TRUNK C	201	0.08	7.7	8	8	8	8	8	8	8	8	8	8
TRUNK D	435	0.06	11	14	8	8	8	8	8	8	8	8	8
TRUNK E	0	0.00	0	0	8	8	8	8	8	8	8	8	8
TRUNK F	0	0.00	0	0	8	8	8	8	8	8	8	8	8

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	343	0.06	10.1	12	8	TRUNK G	0	0.00	0	0	0	TRUNK O	0	0.05	0	0	8
TRUNK B	596	0.06	12.4	8	8	TRUNK H	0	0.00	0	0	0	TRUNK P	0	0.05	0	0	8
TRUNK C	201	0.08	7.7	8	8	TRUNK I	0	0.00	0	0	0	TRUNK Q	0	0.05	0	0	8
TRUNK D	435	0.06	11	14	8	TRUNK J	0	0.00	0	0	0	TRUNK R	0	0.05	0	0	8
TRUNK E	0	0.00	0	0	8	TRUNK K	0	0.00	0	0	0	TRUNK S	0	0.05	0	0	8
TRUNK F	0	0.00	0	0	8	TRUNK L	0	0.00	0	0	0	TRUNK T	0	0.05	0	0	8

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	343	0.06	10.1	12	8	TRUNK G	0	0.00	0	0	0	TRUNK O	0	0.05	0	0	8
TRUNK B	596	0.06	12.4	8	8	TRUNK H	0	0.00	0	0	0	TRUNK P	0	0.05	0	0	8
TRUNK C	201	0.08	7.7	8	8	TRUNK I	0	0.00	0	0	0	TRUNK Q	0	0.05	0	0	8
TRUNK D	435	0.06	11	14	8	TRUNK J	0	0.00	0	0	0	TRUNK R	0	0.05	0	0	8
TRUNK E	0	0.00	0	0	8	TRUNK K	0	0.00	0	0	0	TRUNK S	0	0.05	0	0	8
TRUNK F	0	0.00	0	0	8	TRUNK L	0	0.00	0	0	0	TRUNK T	0	0.05	0	0	8

TYPE: 2204.T4
SITE NAME: FORESTSIDE

LO # 78694

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>3</u> @ 10.6 cfm	<u>31.8</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>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	79.5	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 65H	Location: BSMT
<u>79.5</u> cfm	<u>3.0</u> sones
☒	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 74 F	X 1.08	X 0.25

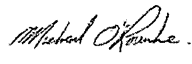
SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
EN3/4	QTXEN050C	50	☒	0.3
LAUN	QTXEN050C	50	☒	0.3
W/R	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</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:	
HRAI #	001820
Date:	May-18

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 2204.T4**BUILDER:** ROYAL PINE HOMES**SFQT:** 2503**LO#** 78694**SITE:** FORESTSIDE**DESIGN ASSUMPTIONS**

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

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	34187.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 27.0 ft	WIDTH: 56.0 ft	EXPOSED PERIMETER:	141.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****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	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	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	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

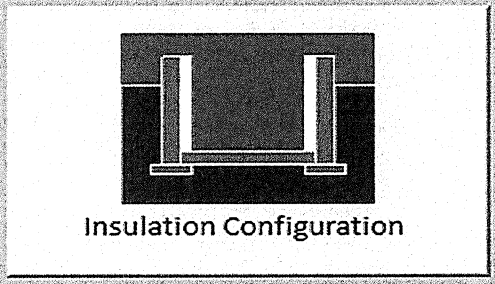
INDIVIDUAL BCIN: 19669

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):	8.2	 Insulation Configuration
Floor Width (m):	17.1	
Exposed Perimeter (m):	43.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.5	
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):		1365

TYPE: 2204.T4

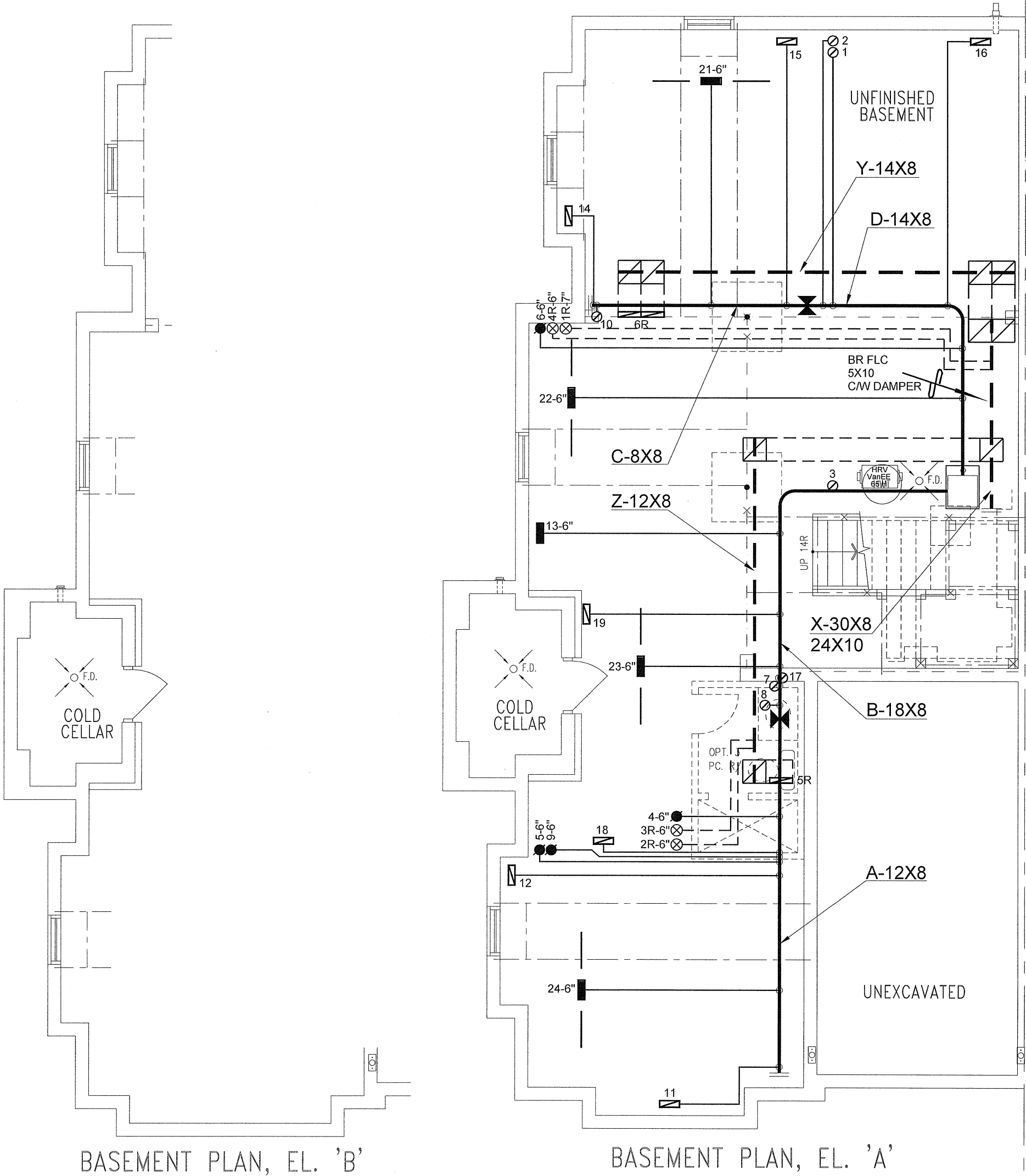
LO# 78694

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):	968.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1290.5 cm ²		
	3.57	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):	0.336			
Cooling Air Leakage Rate (ACH/H):	0.116			

TYPE: 2204.T4
LO# 78694



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
PACKAGE A1

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

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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	HEAT LOSS 46508 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			MODEL	59SP5A-60-12	2ND FLOOR	11	4	3		
FORESTSIDE BRAMPTON, ONTARIO			INPUT	60 MBTU/H	1ST FLOOR	8	2	2	Date	MAY/2018
			OUTPUT	58 MBTU/H	BASEMENT	4	1	0	Scale	3/16" = 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				BCIN# 19669		
2204.T4		FAN SPEED	1030 cfm @ 0.6" w.c.					LO#	78694	
2503 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.								

GROUND FLOOR PLAN, EL. 'B'

GROUND FLOOR PLAN, EL. '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.

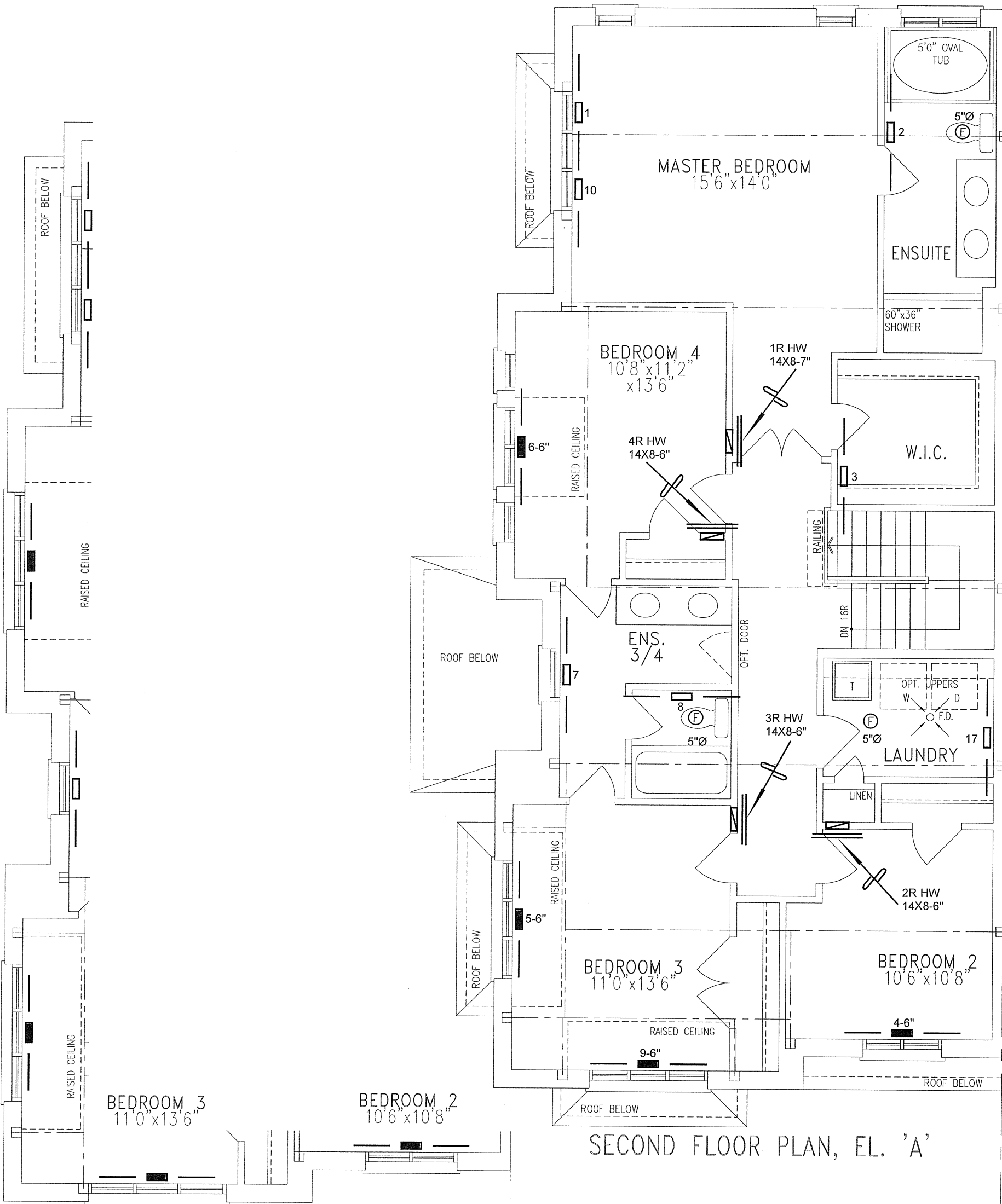
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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

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ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2018
FORESTSIDE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
2204.T4			BCIN# 19669	
2503 sqft		LO#	78694	



SECOND FLOOR PLAN, EL. 'B'

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
PACKAGE A1

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

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ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2018
FORESTSIDE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
2204.T4			LO#	78694
2503 sqft				