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	**Postal code**	**Plan number/ other description**		
BRAMPTON				

B. Individual who reviews and takes responsibility for design activities

Name		Firm		
MICHAEL O'ROURKE		**HVAC DESIGNS LTD.**		
Street address			**Unit no.**	**Lot/con.**
375 FINLEY AVE			**202**	**N/A**
Municipality	**Postal code**	**Province**	**E-mail**	
AJAX	**L1S 2E2**	**ONTARIO**	**info@hvacdesigns.ca**	
Telephone number	**Fax number**		**Cell number**	
(905) 619-2300	**(905) 619-2375**		( )	

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:** 1803 **Project:** FORESTSIDE

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.

June 19, 2018
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: FORESTSIDE | DATE: Apr-19 | WINTER NATURAL AIR CHANGE RATE 0.424 | HEAT LOSS ΔT °F. 74 | CSA-F280-12

BUILDER: ROYAL PINE HOMES | TYPE: 1803 | GFA: 2011 | LO# 78928 | SUMMER NATURAL AIR CHANGE RATE 0.146 | HEAT GAIN ΔT °F. 14 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3				BATH				PWD				
EXP. WALL			12			6			0			9			10				0				0				
CLG. HT.			9			9			9			9			9				9				10				
	FACTORS																										
GRS.WALL AREA	LOSS	GAIN	108			54			0			81			90				0				0				
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		
NORTH	20.8	16.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
EAST	20.8	41.9	0	0	0	0	0	0	0	0	0	27	561	1131	20	416	838		0	0	0		0	0	0		
SOUTH	20.8	25.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
WEST	20.8	41.9	28	582	1173	8	166	335	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
SKYLT.	36.4	102.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
DOORS	24.7	4.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
NET EXPOSED WALL	4.4	0.8	80	349	66	46	200	38	0	0	0	54	235	44	70	305	58		0	0	0		0	0	0		
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0		
EXPOSED CLG	1.3	0.6	257	322	156	71	89	43	55	69	33	134	168	81	111	139	67		100	125	61		0	0	0		
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	20	54	26		0	0	0		0	0	0		
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0		49	122	23		
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				1252			456			69			964			914				126				122			
SUB TOTAL HT GAIN					1395			416			33			1257			989				61				23		
LEVEL FACTOR / MULTIPLIER			0.10	0.34		0.10	0.34		0.10	0.34		0.10	0.34		0.10	0.34			0.10	0.34			0.20	0.60			
AIR CHANGE HEAT LOSS				425			155			23			327			310				43				74			
AIR CHANGE HEAT GAIN					115			34			3			104			82				5				2		
DUCT LOSS				0			0			0			129			122				17				20			
DUCT GAIN					0			0			0			199			170				7				2		
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240		0		0		0		0		
HEAT GAIN APPLIANCES/LIGHTS					388			0			0			388			388				0				0		
TOTAL HT LOSS BTU/H				1677			610			92			1421			1346				185				215			
TOTAL HT GAIN x 1.3 BTU/H					3092			586			47			2844			2429				94				36		

ROOM USE				LV/DN			K/B/F			OFFICE			LAUN				FOY			MUD				BAS		
EXP. WALL				19			18			19			11				31			5				61		
CLG. HT.				10			10			9			10				10			10				9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN		190			180			171			110				310			50				366		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN	
NORTH	20.8	16.3		0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0		0	0	0
EAST	20.8	41.9		51	1060	2136	0	0	0	0	0	0	0	0			5	104	209	0	0	0		0	0	0
SOUTH	20.8	25.2		0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0		0	0	0
WEST	20.8	41.9		0	0	0	70	1454	2932	52	1080	2178	0	0	0		0	0	0	0	0	0		3	62	126
SKYLT.	36.4	102.1		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
DOORS	24.7	4.7		0	0	0	0	0	0	0	0	0	20	493	93		40	986	186	20	493	93		0	0	0
NET EXPOSED WALL	4.4	0.8		139	606	114	110	479	90	119	518	98	90	392	74		265	1155	218	30	131	25		0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		183	643	121
EXPOSED CLG	1.3	0.6		0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3		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	0.5		181	451	85	33	82	16	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				1982	
SLAB ON GRADE HEAT LOSS					0			0			0			0				0			0					
SUBTOTAL HT LOSS					2116			2016			1599			885				2245			624				2687	
SUB TOTAL HT GAIN						2336			3038			2276			167				613			118				247
LEVEL FACTOR / MULTIPLIER				0.20	0.60		0.20	0.60		0.30	0.72		0.30	0.72			0.30	0.72		0.30	0.72			0.40	1.91	
AIR CHANGE HEAT LOSS					1276			1216			1149			636				1614			448				5130	
AIR CHANGE HEAT GAIN						193			251			188			14				51			10				20
DUCT LOSS					339			323			0			0				0			0				0	
DUCT GAIN						292			368			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						388			388			388			388				0			0				388
TOTAL HT LOSS BTU/H					3731			3554			2748			1521				3858			1072				7817	
TOTAL HT GAIN x 1.3 BTU/H						4171			5258			3708			739				863			166				852

TOTAL HEAT GAIN BTU/H: 25125 | TONS: 2.09 | LOSS DUE TO VENTILATION LOAD BTU/H: 1274 | STRUCTURAL HEAT LOSS: 29849 | TOTAL COMBINED HEAT LOSS BTU/H: 31123

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

HVAC DESIGNS LTD.

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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: FORESTSIDE
BUILDER: ROYAL PINE HOMES

TYPE: 1803 DATE: Apr-19 GFA: 2011 LO# 78928

| | | |

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TYPE: 1803 LO # 78928
SITE NAME: FORESTSIDE

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	5	@ 10.6 cfm	53	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	180.2	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	180.2	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	116.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 65H Location: BSMT

63.6 cfm 3.0 sones [✓] 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 NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
PWD	QTXEN050C	50	✓	0.3
LAUN	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 65H

155 cfm high 64 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 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: Michael O'Rourke.

HRAI # 001820

Date: April-19

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

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Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 78928 Model: 1803 Builder: ROYAL PINE HOMES Date: 4/22/2019

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	423	9	3807
First	423	9	3807
Second	799	10	7990
Third	799	9	7191
Fourth	0	9	0
		Total:	22,795.0 ft³
		Total:	645.5 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.424
SUMMER NATURAL AIR CHANGE RATE	0.146

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	22	30	8	14

5.2.3.1 Heat Loss due to Air Leakage

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

0.424 x 179.30 x 41 °C x 1.2 = 3759 W

= **12825 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

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

= 0.146 x 179.30 x 8 °C x 1.2 = 244 W

= **832 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 14 °F x 1.08 x 0.25 = **240 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	0.4	12,825	2,687	1.909
2	0.3		5,352	0.719
3	0.2		4,254	0.603
4	0.1		3,780	0.339
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: 1803 **BUILDER:** ROYAL PINE HOMES
SFQT: 2011 **LO#** 78928 **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):	4
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):	22795.0	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: 44.0 ft	WIDTH: 18.0 ft	EXPOSED PERIMETER:	61.0 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

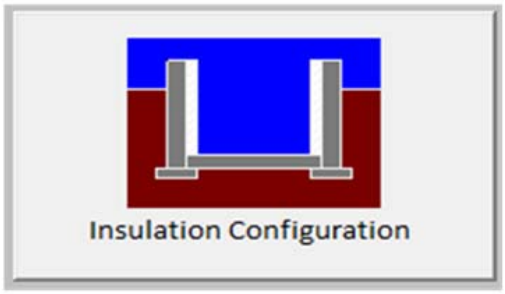
Michael O'Rourke

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	**13.4**	 Insulation Configuration
Floor Width (m):	**5.5**	
Exposed Perimeter (m):	**18.6**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**0.3**	
Door Area (m^2):	**0.0**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**581**	

TYPE: 1803
LO# 78928

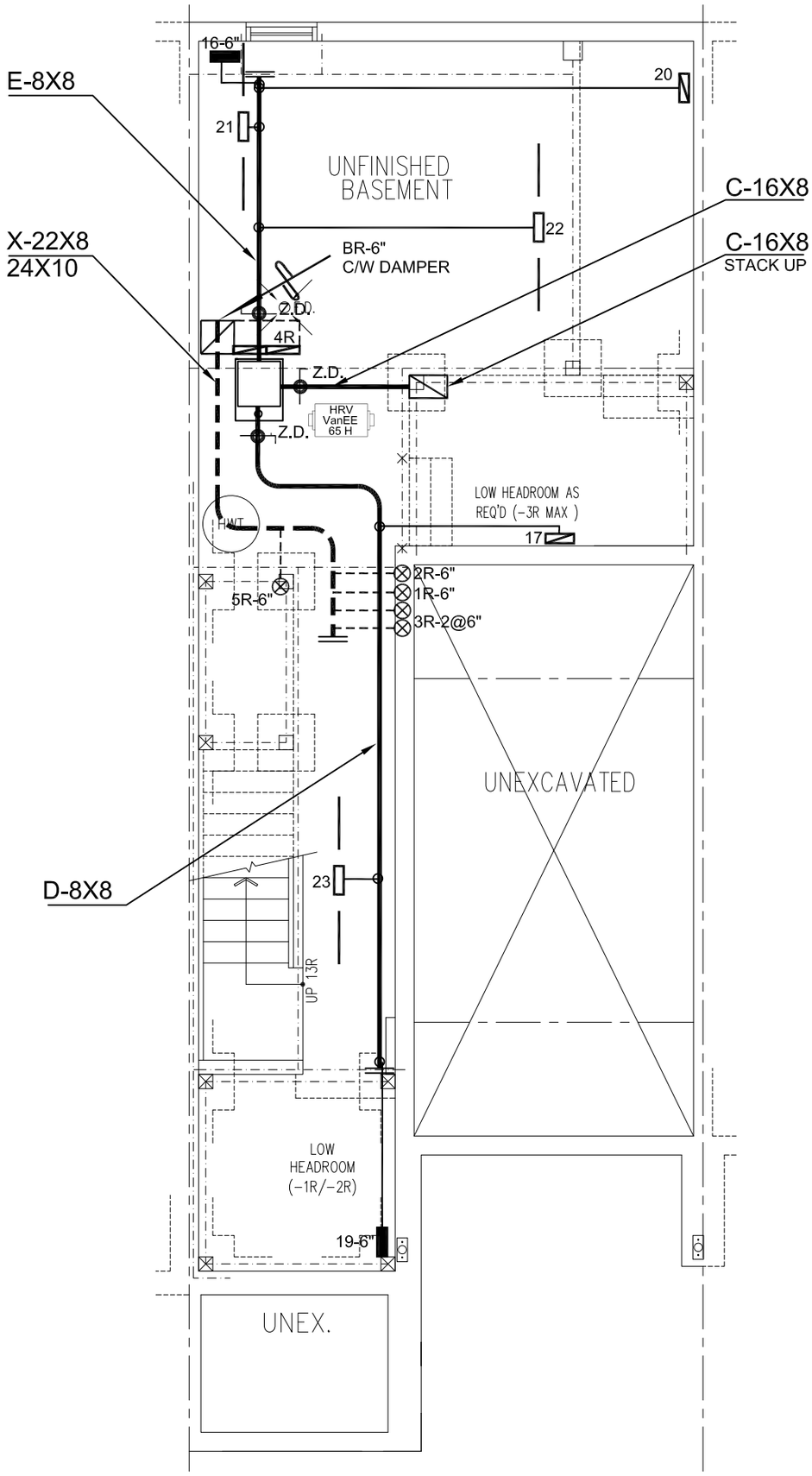
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	9.45
Building Configuration	
Type:	Semi
Number of Stories:	Three
Foundation:	Full
House Volume (m^3):	645.5
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 860.4 cm^2
	3.57 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):	**0.424**
Cooling Air Leakage Rate (ACH/H):	**0.146**

TYPE: 1803
LO# 78928



BASEMENT PLAN EL. 'A'&'A1'

Z.D. = MOTORIZED ZONE DAMPER

CSA-F280-12

PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEW 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.

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.	REVISED AS PER ARCHITECTURALS	APR/2019

REVISIONS

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Client
ROYAL PINE HOMES

Project Name
FORESTSIDE
BRAMPTON, ONTARIO

1803 2011 sqft

HVAC DESIGNS LTD.
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

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.

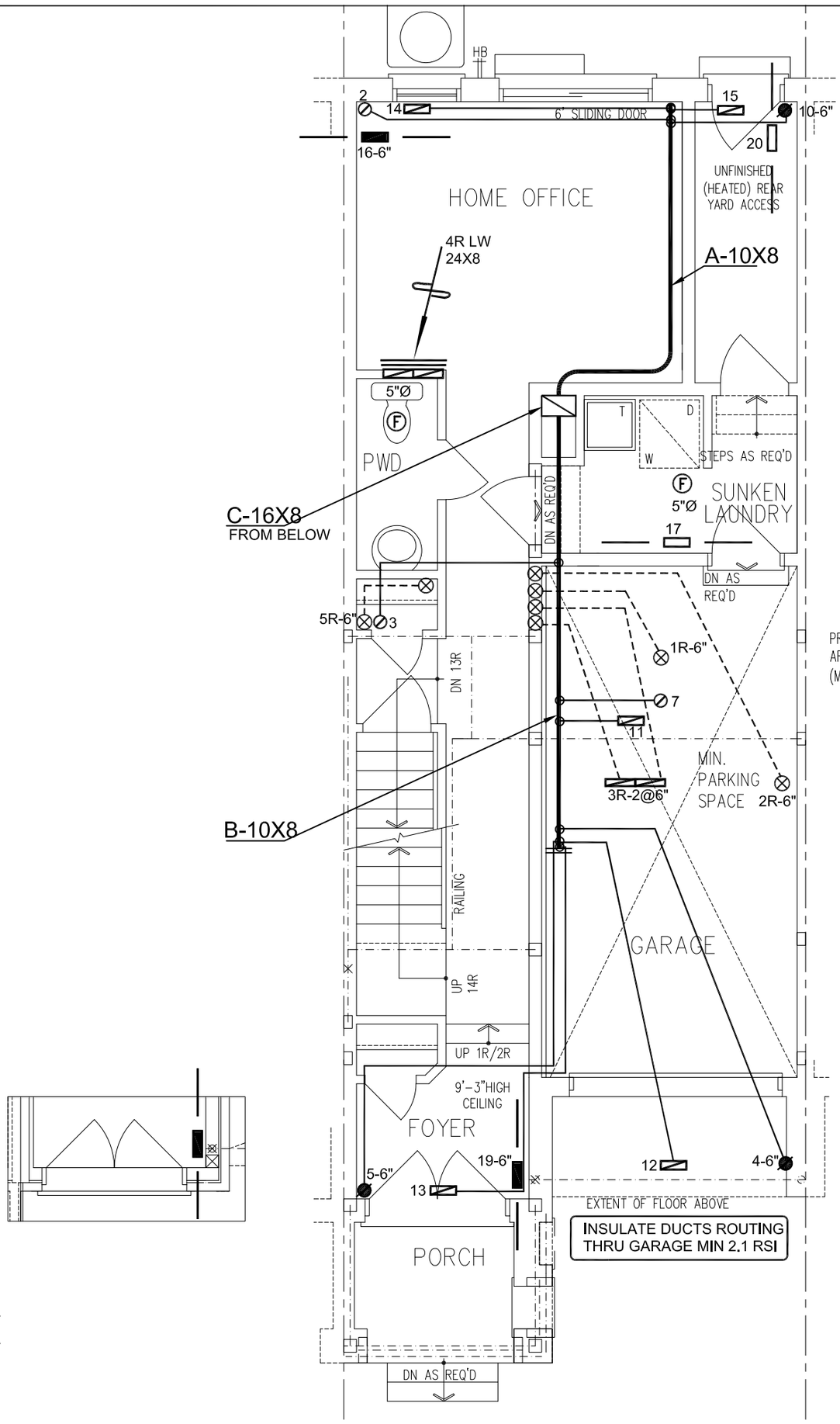
HEAT LOSS 31123 BTU/H	
UNIT DATA	
MAKE	CARRIER
MODEL	59SP5A-40-10
INPUT	40 MBTU/H
OUTPUT	39 MBTU/H
COOLING	2.0 TONS
FAN SPEED	710 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR	6	3	2
2ND FLOOR	5	1	2
1ST FLOOR	4	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 JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78928



GROUND FLOOR PLAN EL. 'B'

GROUND FLOOR PLAN EL. 'A' & 'A1'

CSA-F280-12

PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEW 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.

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
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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client
ROYAL PINE HOMES

Project Name
FORESTSIDE
BRAMPTON, ONTARIO

1803 2011 sqft

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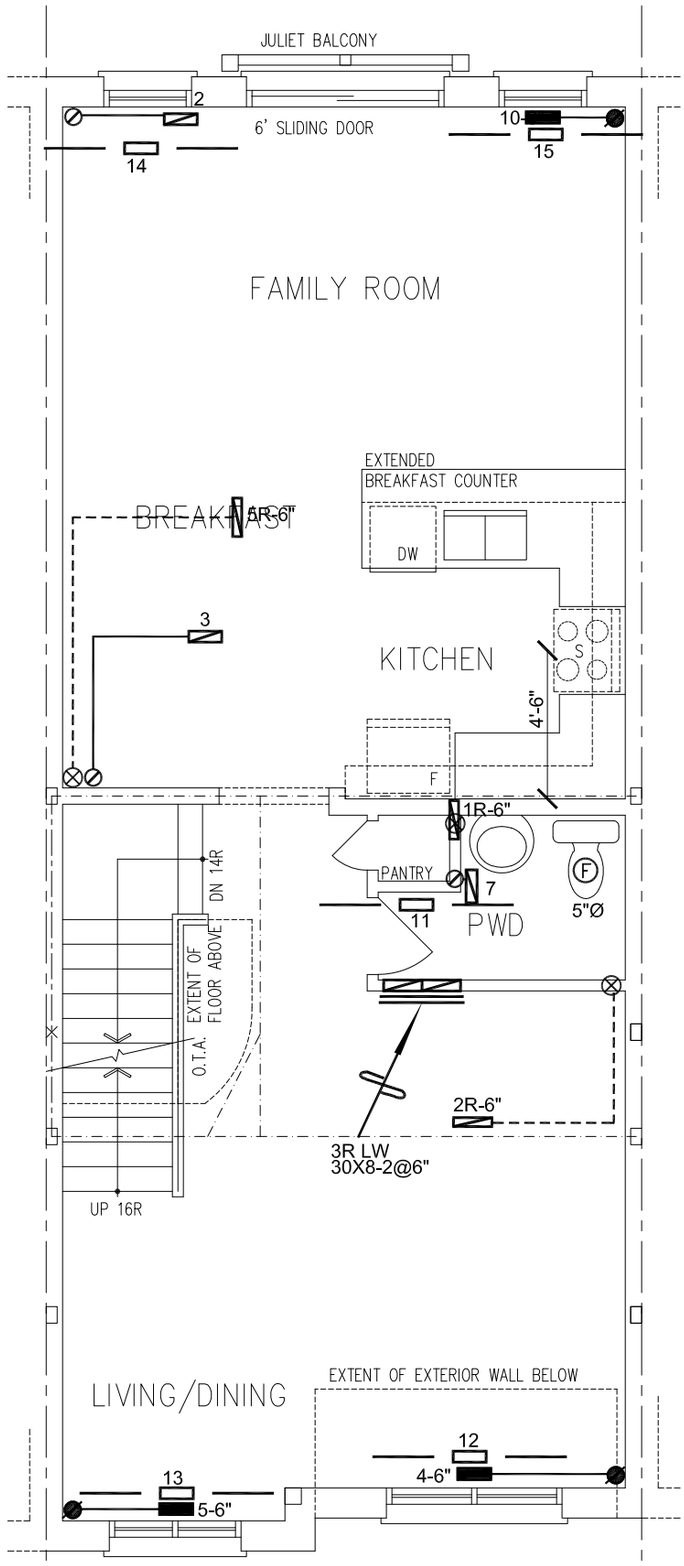
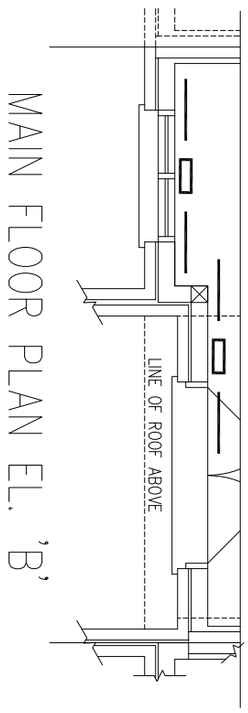
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78928





MAIN FLOOR PLAN EL. 'A' & 'A1'

I MICHAEL O'ROURKE HAVE REVIEW 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

PACKAGE A1

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
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Client
ROYAL PINE HOMES

Project Name
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BRAMPTON, ONTARIO

1803 2011 sqft

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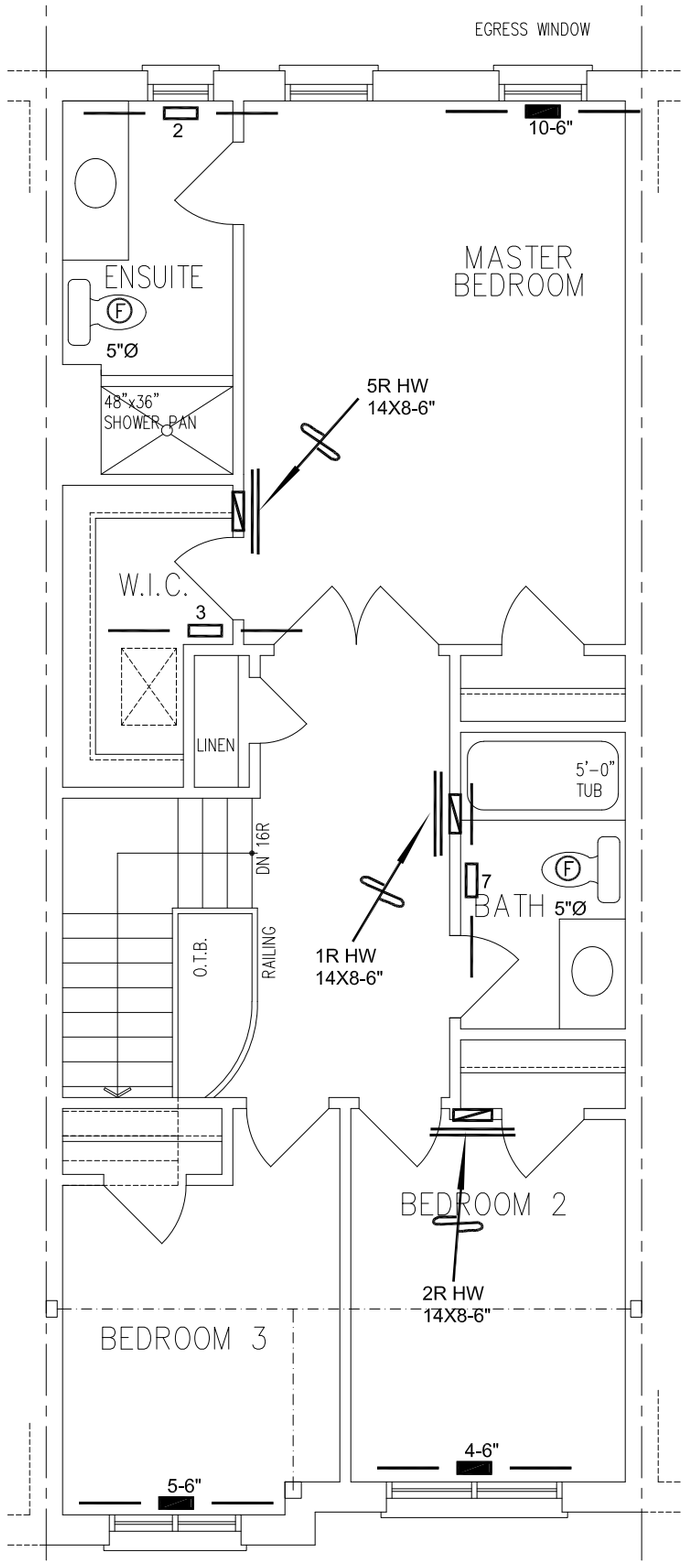
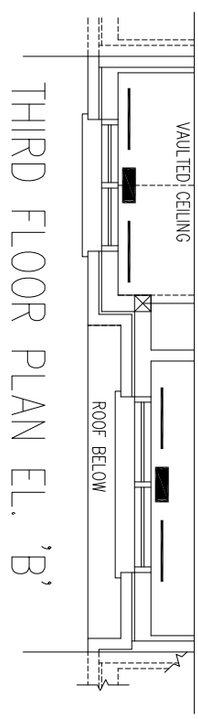
Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78928





THIRD FLOOR PLAN EL. 'B'

THIRD FLOOR PLAN EL. 'A'

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

CSA-F280-12

PACKAGE A1

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
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Client
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Project Name
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Sheet Title
THIRD FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78928