

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: 2201.T1 Project: FORESTSIDE		
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.				
May 15, 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: 2201.T1
DATE: May-18
LO# 78686
GFA: 2017
WINTER NATURAL AIR CHANGE RATE 0.336
SUMMER NATURAL AIR CHANGE RATE 0.116
HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 14
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MR	ENS	WIC	BED-2	BED-3	BATH	WINTER NATURAL AIR CHANGE RATE	SUMMER NATURAL AIR CHANGE RATE	HEAT LOSS AT °F.	HEAT GAIN AT °F.
GRS.WALL AREA	130	130	LOSS GAIN	130	180	81	207	160	72				
GLAZING	0	0	0	0	0	0	0	0	0				
NORTH	20.8	16.3	0	0	0	0	0	0	0				
EAST	20.8	41.9	24	499	1005	0	0	0	0				
SOUTH	20.8	25.2	0	0	0	0	0	0	0				
WEST	20.8	41.9	0	0	0	0	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	106	462	87	164	715	135	81	353	67	188	819
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	286	358	174	91	114	55	63	79	38	150	188
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1319	1266			1161	432	1725	1614	621			177	
SUB TOTAL HT GAIN	0.20	0.34			0.20	0.34	0.20	0.34	0.20	0.34		0.20	0.34
LEVEL FACTOR / MULTIPLIER	442	442			389	145	579	542	208			19	
AIR CHANGE HEAT LOSS	0	0			0	0	230	0	83			20	
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	856			0	0	1	240	0			0	
HEAT GAIN APPLIANCES/LIGHTS	0	0			0	0	856	856	0			0	
TOTAL HT LOSS BTU/H	1761	3559			1550	577	2535	2156	913			280	
TOTAL HT GAIN x 1.3 BTU/H					1238	151	3313	1415	615				

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	KT/GT	LAUN	FOY	MUD	BAS
GRS.WALL AREA	470	470	LOSS GAIN	470	54	310	187	576
GLAZING	0	0	0	0	0	0	0	0
NORTH	20.8	16.3	0	0	0	0	0	0
EAST	20.8	41.9	63	1309	2639	0	0	4
SOUTH	20.8	25.2	0	0	0	0	8	83
WEST	20.8	41.9	0	0	0	0	0	0
SKYLT.	36.4	102.1	0	0	0	0	0	0
DOORS	24.7	4.7	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	407	1773	335	45	1109	20
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	3082	2974			401	2254	1352	4701
SUB TOTAL HT GAIN	0.30	0.55			0.20	0.30	0.30	0.50
LEVEL FACTOR / MULTIPLIER	1684	317			134	1237	739	6100
AIR CHANGE HEAT LOSS	0	0			0	0	0	0
AIR CHANGE HEAT GAIN	0	0			0	0	0	0
DUCT LOSS	0	0			0	0	0	0
DUCT GAIN	0	0			0	0	0	0
HEAT GAIN PEOPLE	240	856			0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0	0			0	0	0	0
TOTAL HT LOSS BTU/H	4766	5391			588	3501	2091	10801
TOTAL HT GAIN x 1.3 BTU/H					1415	615	612	1753

TOTAL HEAT GAIN BTU/H: 22546 TONS: 1.88 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 31239 TOTAL COMBINED HEAT LOSS BTU/H: 32513

SITE NAME: FORESTSIDE
BUILDER: ROYAL PINE HOMES

TYPE: 2201.T1

DATE: May-18

GFA:	2017	LO#	78686
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HEATING CFM	710	COOLING CFM	710
TOTAL HEAT LOSS	31,239	TOTAL HEAT GAIN	22,305
AIR FLOW RATE CFM	22.73	AIR FLOW RATE CFM	31.83

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

#CARRIER
59SP5A-40-10 40
FAN SPEED
LOW 0

AFUE = 97 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 39,000

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

plenum pressure s/a	0.18
ax s/a dif press. loss	0.02

r/a pressure	0.17
r/a grille press. Loss	0.02

LOW	0
MEDLOW	0
MEDIUM	0
MEDIUM HIGH	710

$$\text{DESIGN CFM} = \frac{710}{\text{CFM @ .6" E.S.I.}}$$

Run #	1	2	3	4	5
Room Name	MBR	ENS	WIC	BED-2	BED-3
RM LOSS MBH	0.88	1.55	0.58	1.27	1.08
CFM PER RM HEAT	20	35	13	29	25
RM GAIN MBH	1.78	1.24	0.15	1.66	1.98
CFM PER RM COOLING	57	39	5	53	63
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	51	37	29	56	61
EQUIVALENT LENGTH	200	180	170	170	190
TOTAL EFFECTIVE LENGTH	251	217	199	226	251
ADJUSTED PRESSURE	0.07	0.08	0.09	0.08	0.07
ROUND DUCT SIZE	5	4	4	5	5
HEATING VELOCITY (ft/min)	147	402	149	213	184
COOLING VELOCITY (ft/min)	419	447	57	389	463
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	A	B	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
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SUPPLY AIR TRUNK SIZE				TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT
				CFM			
	TRUNK A	278	0.07		9	10	
	TRUNK B	270	0.07		8.9	10	X
	TRUNK C	434	0.07		10.6	14	X
	TRUNK D	0	0.00		0	0	X
	TRUNK E	0	0.00		0	0	X
	TRUNK F	0	0.00		0	0	X

	1	2	3	4
RETURN AIR #	0	0	0	0
AIR VOLUME	120	85	95	300
PLENUM PRESSURE	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	54	59	61	38
EQUIVALENT LENGTH	215	175	165	150
TOTAL EFFECTIVE LH	269	234	226	188
ADJUSTED PRESSURE	0.06	0.06	0.07	0.08
ROUND DUCT SIZE	6.8	6	6	8.9
INLET GRILL SIZE	8	8	8	8
	X	X	X	X
INLET GRILL SIZE	14	14	14	30
				0

TYPE: 2201.T1
SITE NAME: FORESTSIDE

LO # 78686

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>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Table 9.32.3.A.	TOTAL	<u>137.8</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>63.6</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>137.8</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>74.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 65H
Location:	BSMT
<u>63.6</u> cfm	<u>3.0</u> 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
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	May-18

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 2201.T1**BUILDER:** ROYAL PINE HOMES**SFQT:** 2017**LO#** 78686**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:	WEST	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):	27343.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 20.0 ft	WIDTH: 56.0 ft	EXPOSED PERIMETER:	96.0 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	-

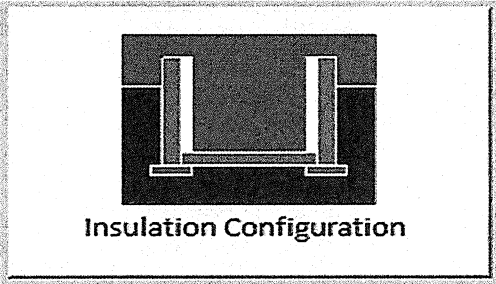
INDIVIDUAL BCIN: 19669

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):	6.1	 Insulation Configuration
Floor Width (m):	17.1	
Exposed Perimeter (m):	29.3	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.4	
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):		912

TYPE: 2201.T1

LO# 78686

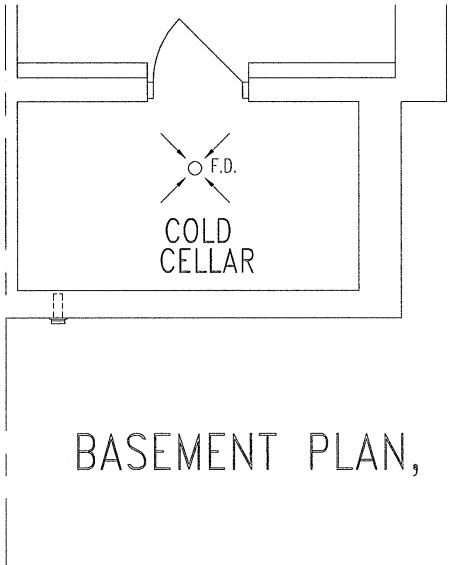
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

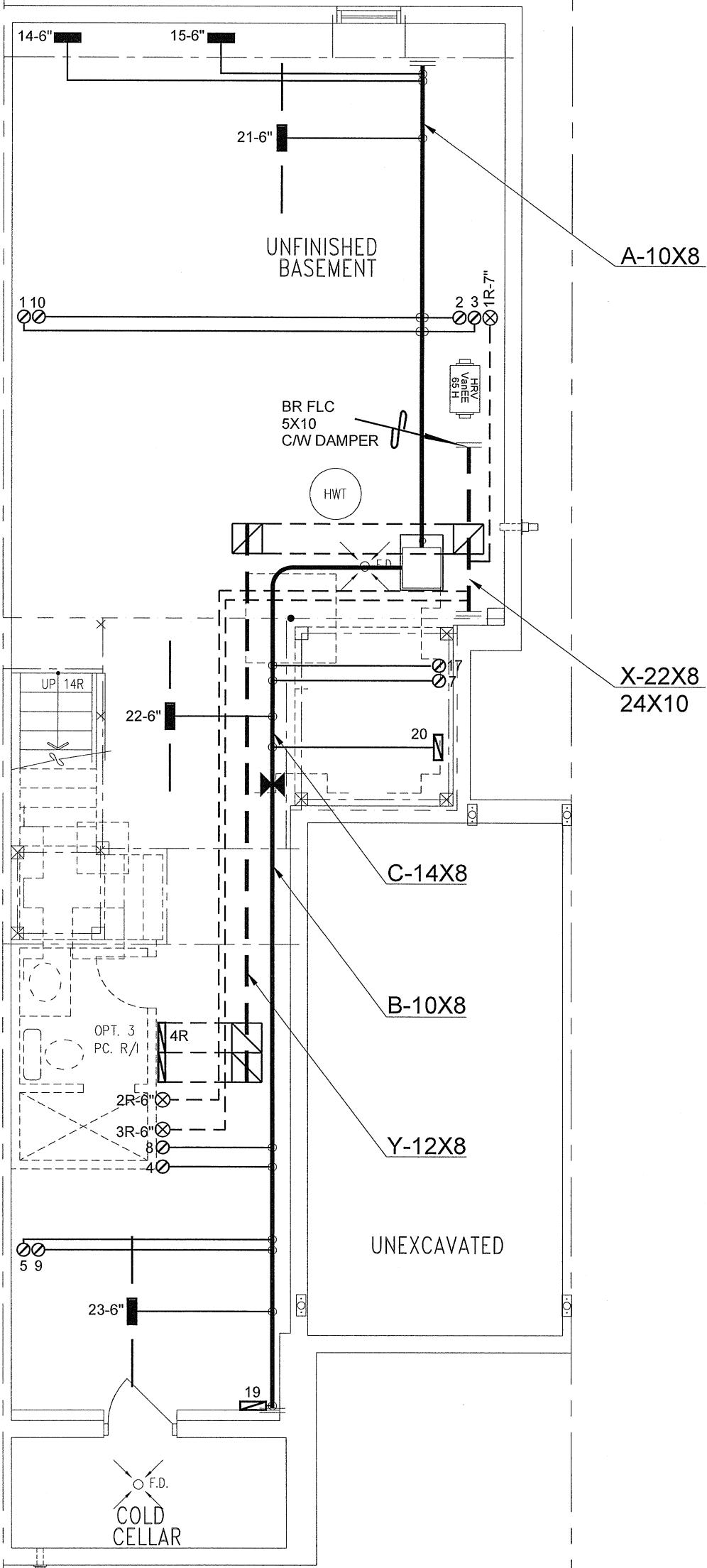
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	774.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1032.1 cm ²		
	3.57	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):	0.336			
Cooling Air Leakage Rate (ACH/H):	0.116			

TYPE: 2201.T1

LO# 78686



BASEMENT PLAN, EL. 'B'



BASEMENT PLAN, EL. 'A'

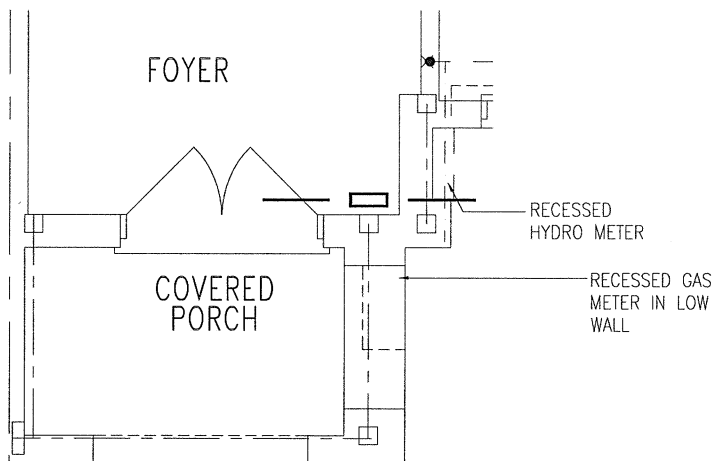
CSA-F280-12
PACKAGE A1

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

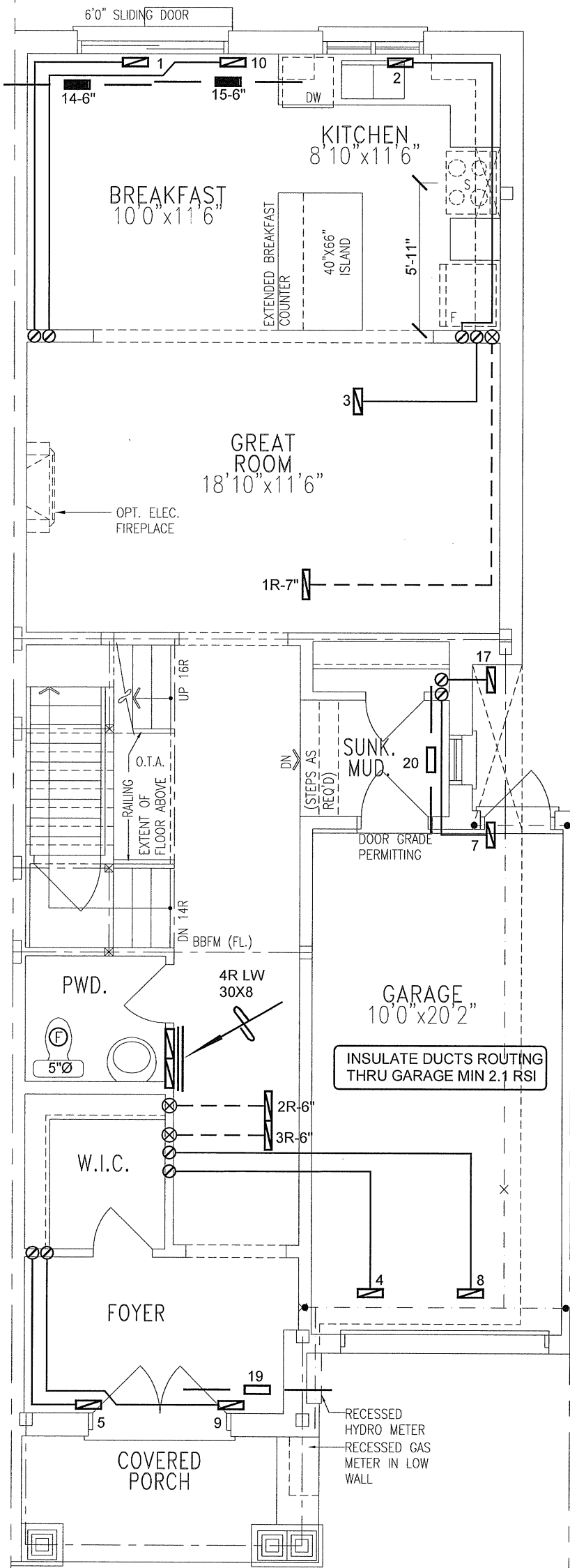
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		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		

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.

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 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 32513 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
ROYAL PINE HOMES			UNIT DATA		3RD FLOOR			BASEMENT	
Project Name			MAKE		2ND FLOOR			HEATING	
FORESTSIDE			MODEL		1ST FLOOR			LAYOUT	
BRAMPTON, ONTARIO			59SP5A-40-10		BASEMENT			Date	
			INPUT		3			MAY/2018	
			40 MBTU/H		1			Scale	
			OUTPUT		0			3/16" = 1'-0"	
			39 MBTU/H		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	
2201.T1		COOLING		TONS			LO#		
2017 sqft		2.0		FAN SPEED			78686		
		cfm @ 0.6" w.c.		710					



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.

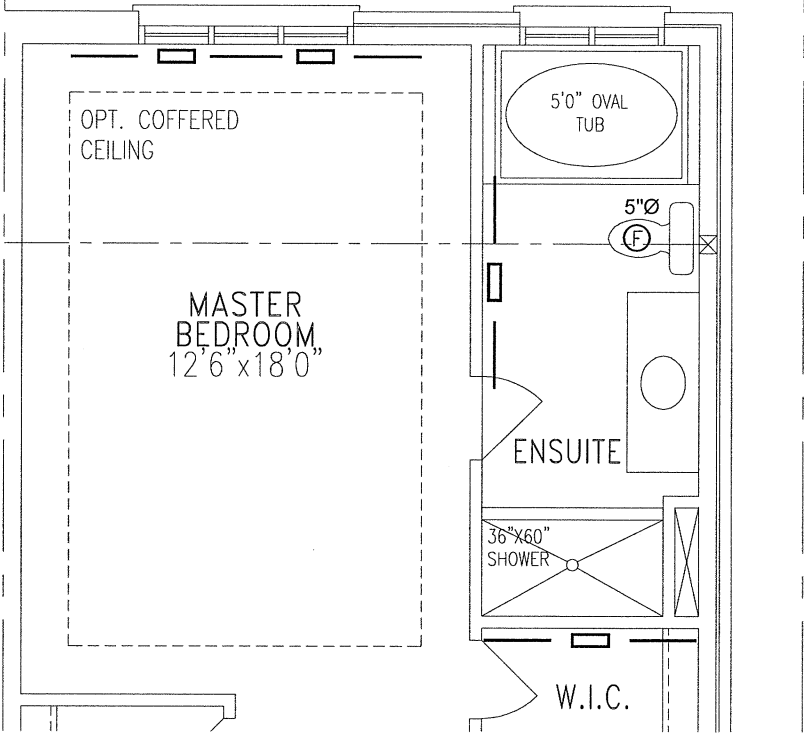
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

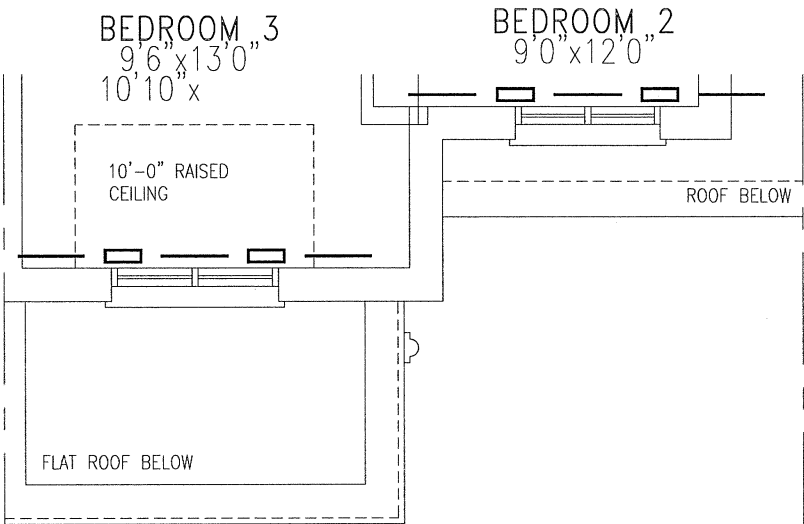
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		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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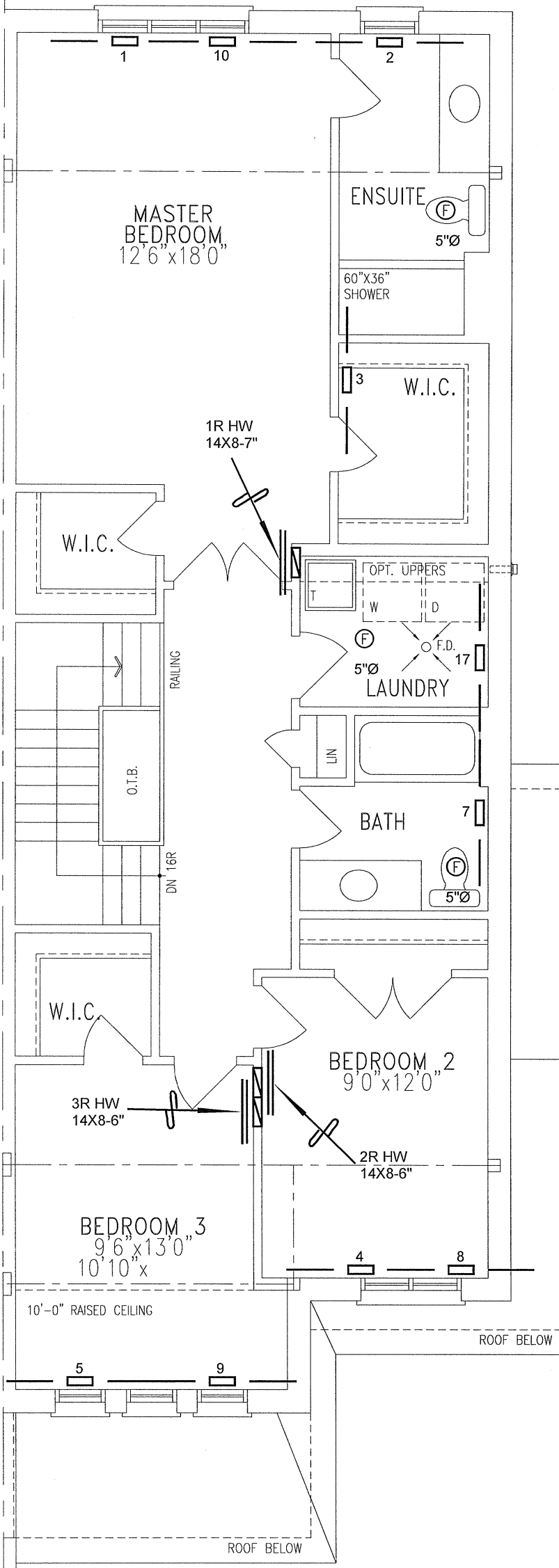
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title		
ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT		
Project Name			Date	MAY/2018	
FORESTSIDE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"	
			BCIN# 19669		
2201.T1		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#	78686
2017 sqft					



OPT. ENSUITE SECOND FLOOR PLAN



SECOND FLOOR PLAN, EL. 'B'



SECOND FLOOR PLAN, EL. 'A'

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

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	REVISIONS	

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Client ROYAL PINE HOMES		 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 SECOND FLOOR HEATING LAYOUT	
Project Name FORESTSIDE BRAMPTON, ONTARIO			Date MAY/2018	Scale 3/16" = 1'-0"
2201.T12017 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.	BCIN# 19669	
			LO#	78686