

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: 2202.T2 ALT. GROUND 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 ALT. GROUND DATE: May-18 WINTER NATURAL AIR CHANGE RATE 0.336 HEAT LOSS AT °F. 74 CSA-F280-12
BUILDER: ROYAL PINE HOMES TYPE: 2202.T2 LO# 78692 SUMMER NATURAL AIR CHANGE RATE 0.116 HEAT GAIN AT °F. 14 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	IMBR	ENS	WIC	BED-2	BED-3	BATH	WIC-2	HEAT LOSS AT °F. 74	HEAT GAIN AT °F. 14
GRS.WALL AREA	315	315	54	0	198	160	72	54		
GLAZING	LOSS GAIN	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		
EAST	20.8 41.9	24 499	16 332	0 0	0 0	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		
WEST	20.8 41.9	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		
DOORS	24.7 4.7	0 0	0 0	0 0	0 0	0 0	0 0	0 0		
NET EXPOSED WALL	4.4 0.8	291 1268	38 166	31 0	179 780	147 575	72 314	59 54	235 44	
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.7	0 0	0 0	0 0	0 0	0 0	0 0	0 0		
EXPOSED CLG	1.3 0.6	338 423	205 84	105 51	150 188	91 223	279 136	48 60	29 48	
NO ATTIC EXPOSED CLG	2.7 1.3	0 0	0 0	0 0	0 0	15 40	20 0	0 0		
EXPOSED FLOOR	2.5 0.5	0 0	0 0	0 0	150 373	70 0	0 0	43 120	23 48	
BASEMENT/CRAWL HEAT LOSS		0 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 0		
SUBTOTAL HT LOSS		2190	603	105	1736	1477	564	415		
SUB TOTAL HT GAIN		1450	753	51	1105	1436	166	96		
LEVEL FACTOR / MULTIPLIER		0.20 0.35	0.20 0.35	0.20 0.35	0.20 0.35	0.20 0.35	0.20 0.35	0.20 0.35		
AIR CHANGE HEAT LOSS		768	212	37	609	518	198	146		
AIR CHANGE HEAT GAIN		160	83	6	122	159	18	11		
DUCT LOSS		0 0	0 0	0 0	234	0	76	56		
DUCT GAIN		0 0	0 0	0 0	238	0	18	11		
HEAT GAIN PEOPLE	240	2 480	0 0	0 0	1 240	240	0 0	0 0		
HEAT GAIN APPLIANCES/LIGHTS		910	0 0	0 0	910	910	0 0	0 0		
TOTAL HT LOSS BTU/H		2958	815	142	2579	1994	838	617		
TOTAL HT GAIN x 1.3 BTU/H		3900	1086	74	3399	3569	263	153		

ROOM USE	EXP. WALL CLG. HT.	K/LD	LAUN	FOY	MUD	BAS
GRS.WALL AREA	500	500	54	320	198	594
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0 0	0 0	0 0	0 0	0 0	0 0
EAST	71 1475	2974	0 0	0 0	0 0	4 83
SOUTH	0 0	0 0	0 0	0 0	0 0	0 0
WEST	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
DOORS	24.7 4.7	0 0	0 0	0 0	0 0	0 0
NET EXPOSED WALL	4.4 0.8	429 1869	353 44	45 1109	20 493	20 493
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.7	0 0	0 0	0 0	170 741	0 0
EXPOSED CLG	1.3 0.6	0 0	54 68	0 0	0 0	297 1043
NO ATTIC EXPOSED CLG	2.7 1.3	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
BASEMENT/CRAWL HEAT LOSS		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
SUBTOTAL HT LOSS		3344	303	2307	1400	3205
SUB TOTAL HT GAIN		3327	77	435	435	4825
LEVEL FACTOR / MULTIPLIER		0.30 0.55	0.20 0.35	0.30 0.55	0.30 0.55	0.50 1.34
AIR CHANGE HEAT LOSS		1844	106	1273	772	6482
AIR CHANGE HEAT GAIN		368	9	48	48	51
DUCT LOSS		0 0	0 0	0 0	0 0	0 0
DUCT GAIN		0 0	0 0	0 0	0 0	0 0
HEAT GAIN PEOPLE	240	0 0	0 0	0 0	0 0	0 0
HEAT GAIN APPLIANCES/LIGHTS		910	910	0 0	0 0	0 0
TOTAL HT LOSS BTU/H		5189	409	3580	2172	11307
TOTAL HT GAIN x 1.3 BTU/H		5386	1294	629	628	1843

TOTAL HEAT GAIN BTU/H: 23065 TONS: 1.92 LOSS DUE TO VENTILATION LOAD BTU/H: 1274 STRUCTURAL HEAT LOSS: 32600 TOTAL COMBINED HEAT LOSS BTU/H: 33875

SITE NAME: FORESTSIDE ALT. GROUND TYPE: 2202.T2 DATE: May-18 GFA: 2144 LO# 78692

HEATING CFM 710 COOLING CFM 710
TOTAL HEAT LOSS 32,600 TOTAL HEAT GAIN 22,825
AIR FLOW RATE CFM 21.78 AIR FLOW RATE CFM 31.11

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	4	3
R/A	0	0	3	1	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	7	8	9	10	11	14	15	17	19	20	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-2	BED-3	MBR	WIC-2	K/L/D	K/L/D	LAUN	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH	1.48	0.81	0.14	1.29	1.00	0.84	1.29	1.00	1.48	0.62	2.59	2.59	0.41	3.58	2.17	3.77	3.77	3.77
CFM PER RUN HEAT	32	18	3	28	22	18	28	22	32	13	57	57	9	78	47	82	82	82
RM GAIN MBH	1.95	1.09	0.07	1.70	1.78	0.26	1.70	1.78	1.95	0.15	2.99	2.99	1.29	0.63	0.63	0.61	0.61	0.61
CFM PER RUN COOLING	61	34	2	53	56	8	53	56	61	5	93	93	40	20	20	19	19	19
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16
ACTUAL DUCT LGH	38	45	28	59	62	31	63	66	42	57	38	25	30	39	18	24	14	41
EQUIVALENT LENGTH	120	180	160	180	200	180	190	190	180	190	100	90	150	130	140	100	130	120
TOTAL EFFECTIVE LENGTH	158	225	188	239	262	211	253	256	222	247	138	115	180	169	158	124	144	161
ADJUSTED PRESSURE	0.11	0.08	0.09	0.07	0.07	0.08	0.07	0.07	0.08	0.07	0.12	0.14	0.1	0.11	0.11	0.13	0.11	0.1
ROUND DUCT SIZE	5	4	4	5	5	4	5	5	5	4	6	6	4	5	4	6	6	6
HEATING VELOCITY (ft/min)	235	207	34	206	162	207	206	162	235	149	291	291	103	573	539	418	418	418
COOLING VELOCITY (ft/min)	448	390	23	389	411	92	389	411	448	57	474	474	459	147	229	97	97	97
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	C	3X10	3X10	4X10	4X10	4X10
TRUNK	A	A	C	B	B	C	B	B	A	B	A	A	C	B	C	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	

SUPPLY AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	278	0.08	8.7	10	8	TRUNK G	0	0.00	0	0
TRUNK B	273	0.07	8.9	10	8	TRUNK H	0	0.00	0	0
TRUNK C	432	0.07	10.6	14	8	TRUNK I	0	0.00	0	0
TRUNK D	0	0.00	0	0	8	TRUNK J	0	0.00	0	0
TRUNK E	0	0.00	0	0	8	TRUNK K	0	0.00	0	0
TRUNK F	0	0.00	0	0	8	TRUNK L	0	0.00	0	0

RETURN AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	8	TRUNK O	0	0.06	0	8
TRUNK P	0	0.06	0	0	8	TRUNK P	0	0.06	0	8
TRUNK Q	0	0.06	0	0	8	TRUNK Q	0	0.06	0	8
TRUNK R	0	0.06	0	0	8	TRUNK R	0	0.06	0	8
TRUNK S	0	0.06	0	0	8	TRUNK S	0	0.06	0	8
TRUNK T	0	0.06	0	0	8	TRUNK T	0	0.06	0	8
TRUNK U	0	0.06	0	0	8	TRUNK U	0	0.06	0	8
TRUNK V	0	0.06	0	0	8	TRUNK V	0	0.06	0	8
TRUNK W	0	0.06	0	0	8	TRUNK W	0	0.06	0	8
TRUNK X	710	0.06	13.3	20	8	TRUNK X	710	0.06	13.3	8
TRUNK Y	0	0.06	0	0	8	TRUNK Y	0	0.06	0	8
TRUNK Z	0	0.06	0	0	8	TRUNK Z	0	0.06	0	8
DROP	710	0.06	13.3	24	10	DROP	710	0.06	13.3	10

TYPE: 2202.T2
SITE NAME: FORESTSIDE

LO # 78692
ALT. GROUND

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>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>148.4</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>148.4</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>84.8</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 Sones
ENS	QTXEN050C	50	☒ 0.3
BATH	QTXEN050C	50	☒ 0.3
LAUN	QTXEN050C	50	☒ 0.3
PWD	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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	May-18

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2202.T2	ALT. GROUND	BUILDER: ROYAL PINE HOMES
SFQT: 2144	LO# 78692	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 (ft³):	29056.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 20.0 ft	WIDTH: 59.0 ft	EXPOSED PERIMETER:	99.0 ft

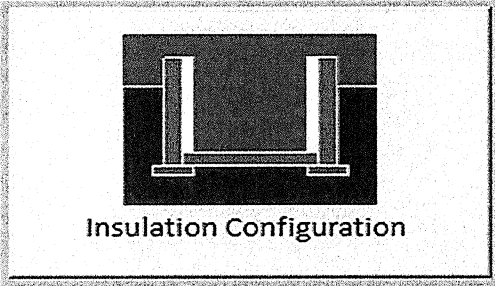
2012 OBC - COMPLIANCE PACKAGE		
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement 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):	18.0	
Exposed Perimeter (m):	30.2	
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):		939

TYPE: 2202.T2
LO# 78692

ALT. GROUND

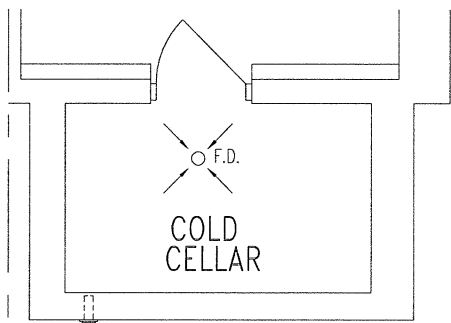
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

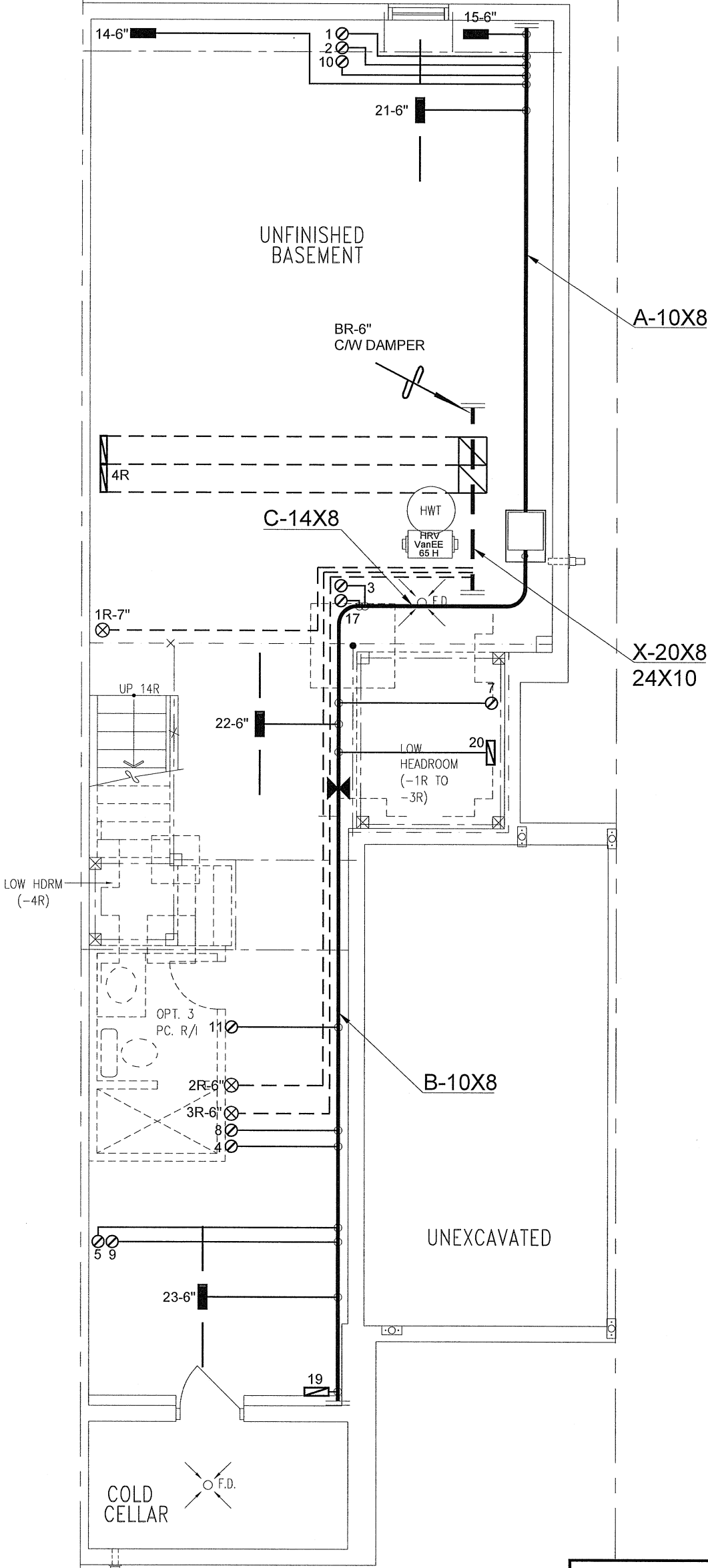
Weather Station Description				
Province:	Ontario			
Region:	Brampton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	822.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1096.8 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: 2202.T2
LO# 78692

ALT. GROUND



BASEMENT PLAN, EL. 'B'



BASEMENT PLAN, EL. 'A'

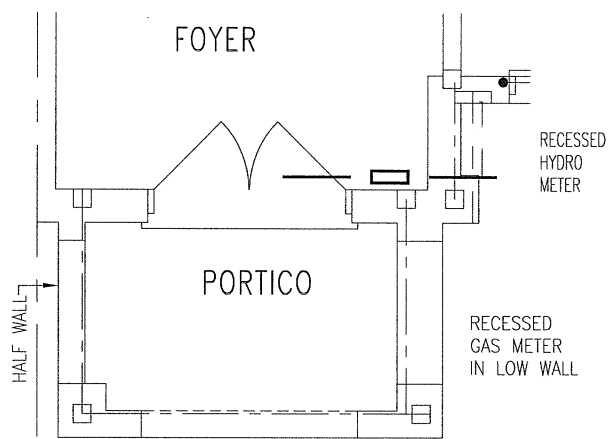
CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

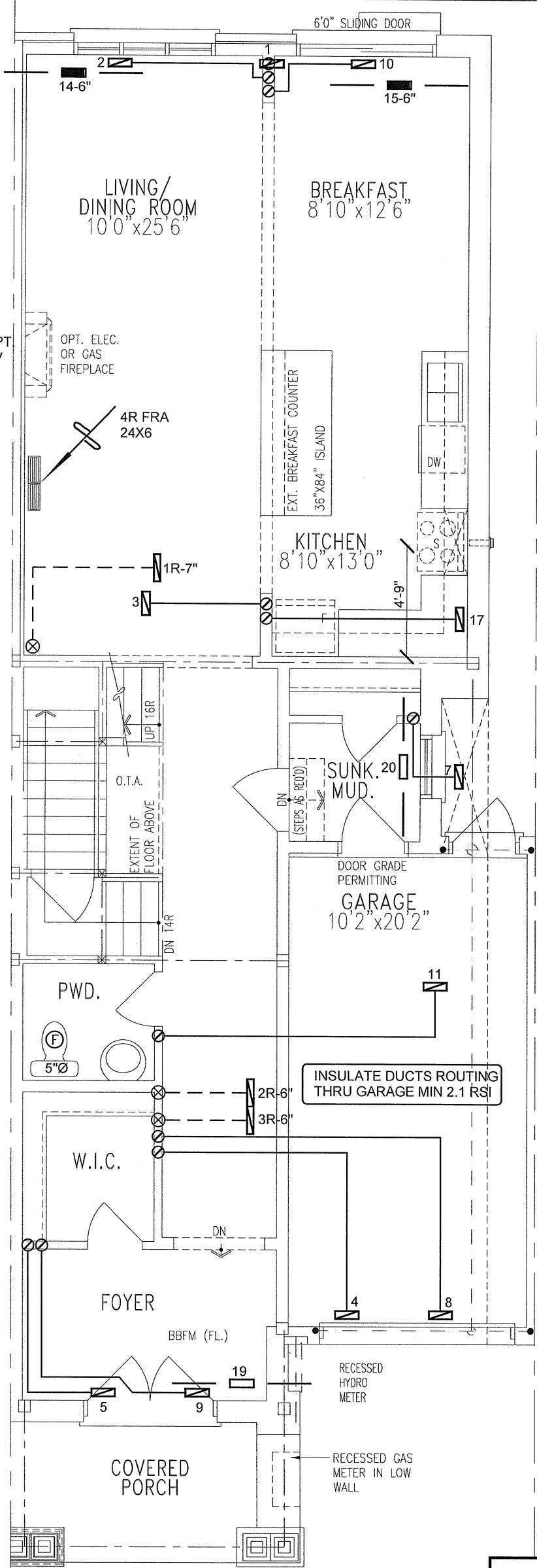
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	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

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Client		HVACDESIGNS 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	HEAT LOSS 33875 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name			MAKE CARRIER		3RD FLOOR					
FORESTSIDE BRAMPTON, ONTARIO			MODEL 59SP5A-40-10		2ND FLOOR		1133			
			INPUT 40 MBTU/H		1ST FLOOR		412			
			OUTPUT 39 MBTU/H		BASEMENT		3100			
ALT. GROUND 2202.T2		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.	COOLING 2.0 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				Date MAY/2018	
2144 sqft			FAN SPEED 710 cfm @ 0.6" w.c.						Scale 3/16" = 1'-0"	
									BCIN# 19669	
								LO# 78692		



GROUND FLOOR PLAN, EL. 'B'



GROUND FLOOR PLAN, EL. 'A'

CSA-F280-12
PACKAGE A1

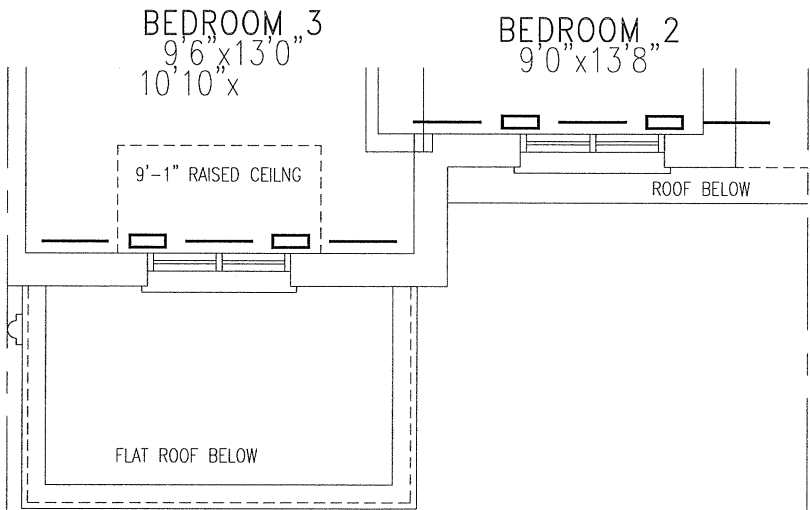
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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		Date
							REVISIONS		

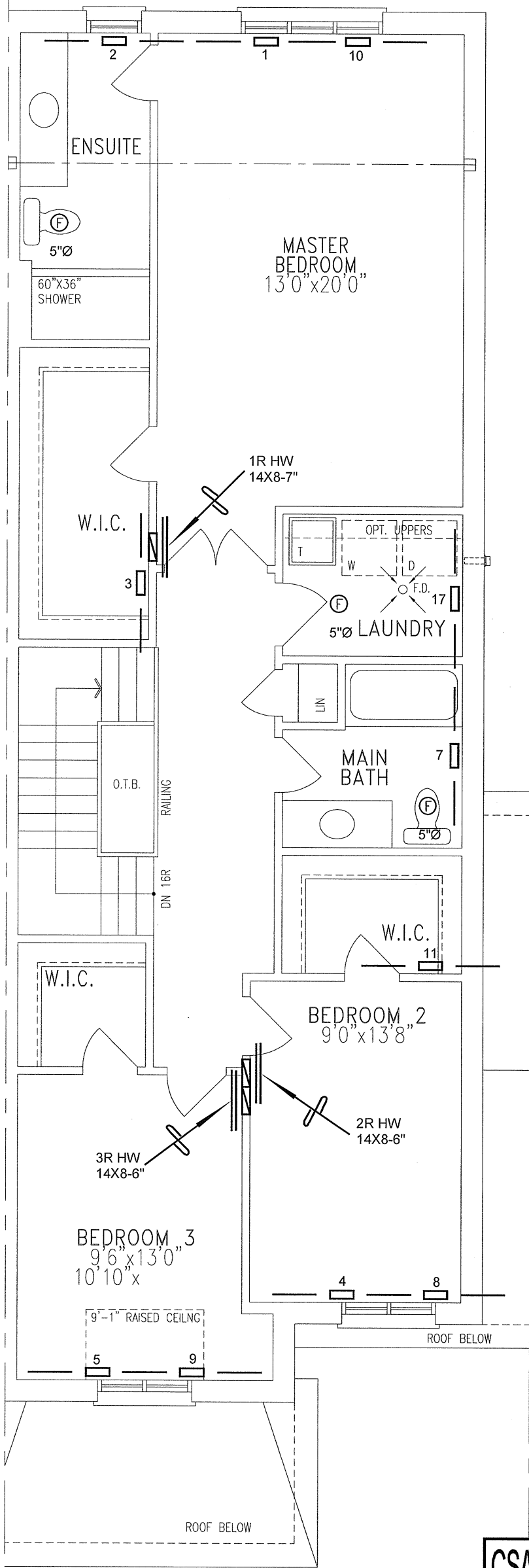
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Client ROYAL PINE HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to 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.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name FORESTSIDE BRAMPTON, ONTARIO			Date MAY/2018	
ALT. GROUND 2202.T2			Scale 3/16" = 1'-0"	
2144 sqft			BCIN# 19669	
			LO#	78692

OPT. ENSUITE SECOND FLOOR PLAN, EL. 'A' & 'B'



SECOND FLOOR PLAN, EL. 'B'



SECOND FLOOR PLAN, EL. 'A'

CSA-F280-12
PACKAGE A1

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.

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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Project Name FORESTSIDE BRAMPTON, ONTARIO			Date MAY/2018	
ALT. GROUND 2202.T2			Scale 3/16" = 1'-0"	
2144 sqft			BCIN# 19669	
			LO#	78692