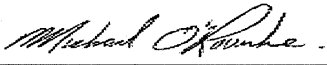


Schedule 1: Designer Information

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: 2203.T3 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 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: 2203.T3
DATE: May-18
LO# 78693
GFA: 2308
WINTER NATURAL AIR CHANGE RATE 0.336
HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 11
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH				
GRS.WALL AREA	350	350	63	0	90	350	171	0				
GLAZING												
NORTH	20.8 15.5	0	0	0	0	0	0	0				
EAST	20.8 41.0	0	0	0	0	30 623 1231	33 686 1355	0				
SOUTH	20.8 24.4	0	0	0	0	0	11 229 268	27 561 659				
WEST	20.8 41.0	28 582 1149	16 332 657	0	0	0	0	0				
SKYLT.	36.4 100.7	0	0	0	0	0	0	0				
DOORS	24.7 3.7	0	0	0	0	0	0	0				
NET EXPOSED WALL	4.4 0.6 322 1403 208	47 205 30	0	0	60 261 39	306 1333 198	144 627 93	0				
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.5 0	0	0	0	0	0	0	0				
EXPOSED CLG	1.3 0.6 304 381 169	98 123 55	91 114 51	198 248 110	225 282 125	260 326 145	88 110 49	0				
NO ATTIC EXPOSED CLG	2.7 1.2 0	0	0	0	0	15 40 18	0	0				
EXPOSED FLOOR	2.5 0.4 0	0	0	0	198 493 73	0	0	24 60 9				
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	2366	1527	660	114	1626	2570	1514	170				
SUB TOTAL HT GAIN	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31				
LEVEL FACTOR / MULTIPLIER	731	111	204	35	502	794	468	53				
AIR CHANGE HEAT LOSS												
AIR CHANGE HEAT GAIN												
DUCT LOSS	0	0	0	0	213	0	0	22				
DUCT GAIN												
HEAT GAIN PEOPLE	240	0	0	0	241	0	0	6				
HEAT GAIN APPLIANCES/LIGHTS	609	609	0	1	609	609	1	0				
TOTAL HT LOSS BTU/H	3097	864	864	149	2341	3364	1982	245				
TOTAL HT GAIN x 1.3 BTU/H	3544	1034	1034	71	3443	3841	2353	89				

ROOM USE	EXP. WALL CLG. HT.	KT/GT	LAUN	WIR	FOY	BAS
GRS.WALL AREA	550	550	110	150	540	762
GLAZING						
NORTH	20.8 15.5	0	0	0	0	0
EAST	20.8 41.0	0	0	0	0	0
SOUTH	20.8 24.4	20 416 488	0	8 166 195	5 104 205	8 166 195
WEST	20.8 41.0	71 1475 2914	0	0	0	4 83 164
SKYLT.	36.4 100.7	0	0	0	0	0
DOORS	24.7 3.7	0	0	0	0	0
NET EXPOSED WALL	4.4 0.6 459 2000 296	0	20 493 73	122 532 79	495 2157 320	20 493 73
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.5 0	0	0	0	0	0
EXPOSED CLG	1.3 0.6 0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7 1.2 0	0	0	0	0	0
EXPOSED FLOOR	2.5 0.4 0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS		0	0	0	0	0
SLAB ON GRADE HEAT LOSS		0	0	0	0	0
SUBTOTAL HT LOSS	3890	3890	885	1191	3247	6223
SUB TOTAL HT GAIN	0.30 0.45	0.30 0.45	0.30 0.45	0.30 0.45	0.30 0.45	0.50 1.12
LEVEL FACTOR / MULTIPLIER	1765	1765	402	540	1473	6967
AIR CHANGE HEAT LOSS						
AIR CHANGE HEAT GAIN						
DUCT LOSS	0	0	0	0	0	0
DUCT GAIN						
HEAT GAIN PEOPLE	240	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	609	609	609	0	0	0
TOTAL HT LOSS BTU/H	5656	5656	1287	1731	4720	13190
TOTAL HT GAIN x 1.3 BTU/H	5948	5948	974	484	936	1671

TOTAL HEAT GAIN BTU/H: 24624 TONS: 2.05 LOSS DUE TO VENTILATION LOAD BTU/H: 1593 STRUCTURAL HEAT LOSS: 38625 TOTAL COMBINED HEAT LOSS BTU/H: 40218

Michael O'Rourke

SITE NAME: FORESTSIDE
BUILDER: ROYAL PINE HOMES

TYPE: 2203.T3		DATE: Apr-19		GFA: 2308		LO# 78693	
HEATING CFM 785		COOLING CFM 785		furnace pressure 0.6		furnace filter 0.05	
TOTAL HEAT LOSS 38,625		TOTAL HEAT GAIN 24,388		a/c coil pressure 0.2		available pressure for s/a & r/a 0.35	
AIR FLOW RATE CFM 20.32		AIR FLOW RATE CFM 32.19		plenium pressure s/a 0.18		max s/a dif press. loss 0.02	
				min adjusted pressure s/a 0.16			
RUN COUNT		4th	3rd	2nd	1st	Bas	
S/A		0	0	10	5	3	
R/A		0	0	4	1	1	

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

RUN #		1	2	3	4	5	6	7	8	9	10	
ROOM NAME		MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	
RM LOSS MBH		1.55	0.86	0.15	1.17	1.68	1.98	0.24	1.17	1.88	1.55	
CFM PER RUN HEAT		31	18	3	24	34	40	5	24	34	31	
RM GAIN MBH		1.77	1.03	0.07	1.72	1.92	2.35	0.09	1.72	1.92	1.77	
CFM PER RUN COOLING		57	33	2	55	62	76	3	55	62	57	
ADJUSTED PRESSURE		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
ACTUAL DUCT LGH		56	39	38	59	64	48	36	64	68	60	
EQUIVALENT LENGTH		170	220	200	160	170	130	220	180	190	190	
TOTAL EFFECTIVE LENGTH		226	259	238	219	234	178	256	244	258	250	
ADJUSTED PRESSURE		0.08	0.07	0.07	0.08	0.07	0.1	0.07	0.07	0.07	0.07	
ROUND DUCT SIZE		5	4	4	5	5	5	4	5	5	5	
HEATING VELOCITY (ft/min)		228	207	34	176	250	294	57	176	250	228	
COOLING VELOCITY (ft/min)		419	379	23	404	455	558	34	404	455	419	
OUTLET GRILL SIZE		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	
TRUNK		A	A	A	B	B	A	B	B	B	A	

RUN #		1	2	3	4	5	6	7	8	9	10	
ROOM NAME		MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	
RM LOSS MBH		1.55	0.86	0.15	1.17	1.68	1.98	0.24	1.17	1.88	1.55	
CFM PER RUN HEAT		31	18	3	24	34	40	5	24	34	31	
RM GAIN MBH		1.77	1.03	0.07	1.72	1.92	2.35	0.09	1.72	1.92	1.77	
ADJUSTED PRESSURE		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
ACTUAL DUCT LGH		56	39	38	59	64	48	36	64	68	60	
EQUIVALENT LENGTH		170	220	200	160	170	130	220	180	190	190	
TOTAL EFFECTIVE LENGTH		226	259	238	219	234	178	256	244	258	250	
ADJUSTED PRESSURE		0.08	0.07	0.07	0.08	0.07	0.1	0.07	0.07	0.07	0.07	
ROUND DUCT SIZE		5	4	4	5	5	5	4	5	5	5	
HEATING VELOCITY (ft/min)		228	207	34	176	250	294	57	176	250	228	
COOLING VELOCITY (ft/min)		419	379	23	404	455	558	34	404	455	419	
OUTLET GRILL SIZE		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	
TRUNK		A	A	A	B	B	A	B	B	B	A	

SUPPLY AIR TRUNK SIZE		TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A		415	0.07	10.4	12	8	0	0.00	0	0	0
TRUNK B		367	0.07	10	12	8	0	0.00	0	0	0
TRUNK C		0	0.00	0	0	8	0	0.00	0	0	0
TRUNK D		0	0.00	0	0	8	0	0.00	0	0	0
TRUNK E		0	0.00	0	0	8	0	0.00	0	0	0
TRUNK F		0	0.00	0	0	8	0	0.00	0	0	0
RETURN AIR #		1	2	3	4	5	6	7	8	9	10
AIR VOLUME		95	85	75	95	315	0.15	0.15	0.15	0.15	0.15
PLENUM PRESSURE		0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH		48	72	70	40	18	1	1	1	1	1
EQUIVALENT LENGTH		165	175	215	165	150	0	0	0	0	0
TOTAL EFFECTIVE LH		213	247	285	205	168	1	1	1	1	1
ADJUSTED PRESSURE		0.07	0.06	0.05	0.07	0.09	0.09	0.09	0.09	0.09	0.09
ROUND DUCT SIZE		6	6	6	6	8	8	8	8	8	8
INLET GRILL SIZE		X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE		14	14	14	14	30	0	0	0	0	0

TYPE: 2203.T3
SITE NAME: FORESTSIDE

LO # 78693

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	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm	42.4 cfm
Other Rooms	3 @ 10.6 cfm	31.8 cfm
Table 9.32.3.A.	TOTAL	148.4 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	148.4	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	68.9	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE 65H	Location: BSMT		
79.5 cfm	3.0 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
BATH	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		
155 cfm high	64 cfm low	
75 % 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:** 2203.T3**BUILDER:** ROYAL PINE HOMES**SFQT:** 2308**LO#** 78693**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)	75

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 (ft³):	31232.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 23.0 ft	WIDTH: 57.0 ft	EXPOSED PERIMETER:	127.0 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	-

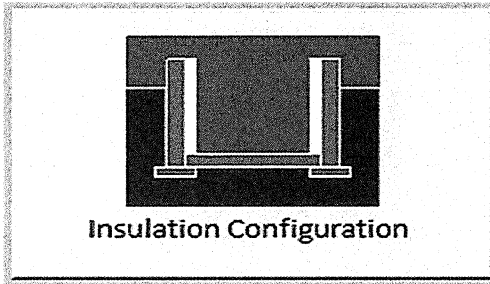
INDIVIDUAL BCIN: 19669

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):	7.0	 Insulation Configuration
Floor Width (m):	17.4	
Exposed Perimeter (m):	38.7	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.1	
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):		1214

TYPE: 2203.T3

LO# 78693

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):	884.4			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1178.9 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):	0.105			

TYPE: 2203.T3

LO# 78693

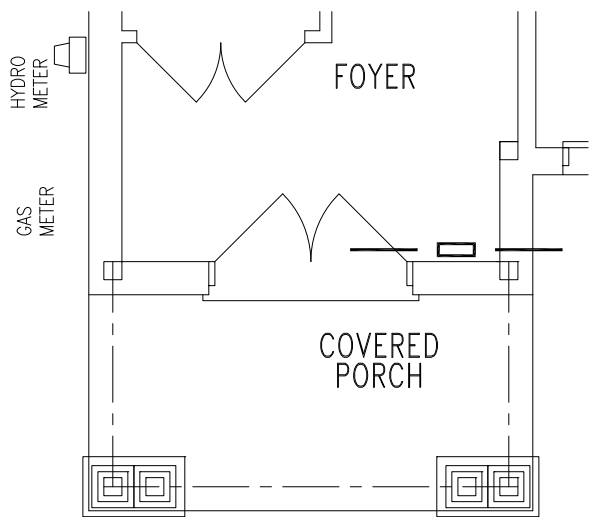


CSA-F280-12
PACKAGE A1

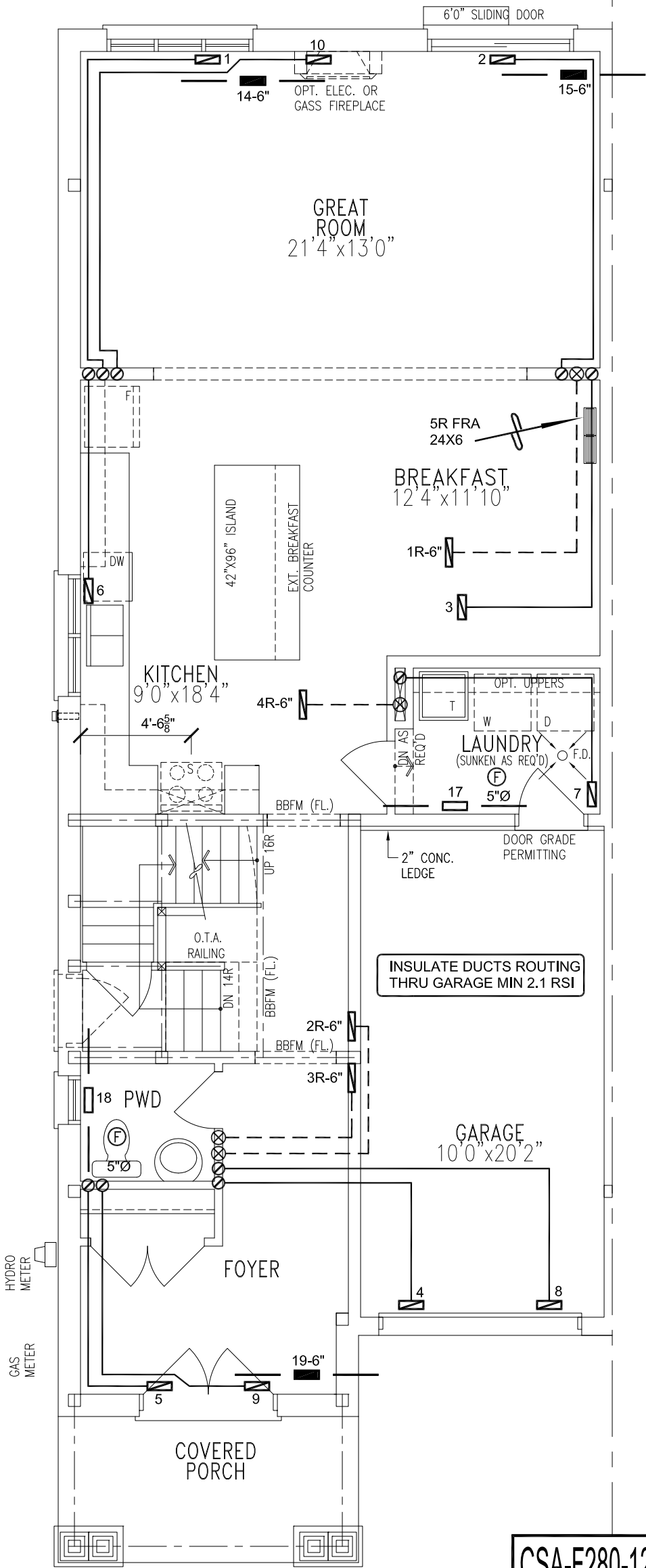
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED AS PER ACRHITECTURAL	APR/2019
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 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	HEAT LOSS 40218 BTU/H		# OF RUNS S/A R/A FANS				Sheet Title	
ROYAL PINE HOMES			UNIT DATA		3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name			MAKE CARRIER		2ND FLOOR 10 4 2					
FORESTSIDE			MODEL 59SP5A-60-12		1ST FLOOR 5 1 3					
BRAMPTON, ONTARIO			INPUT 60 MBTU/H		BASEMENT 3 1 0				Date	MAY/2018
2203.T3		OUTPUT 58 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				Scale	3/16" = 1'-0"	
2308 sqft		COOLING 2.0 TONS						BCIN# 19669		
		FAN SPEED 785 cfm @ 0.6" w.c.						LO# 78693		



GROUND FLOOR PLAN, EL. 'B'



GROUND FLOOR PLAN, EL. 'A'

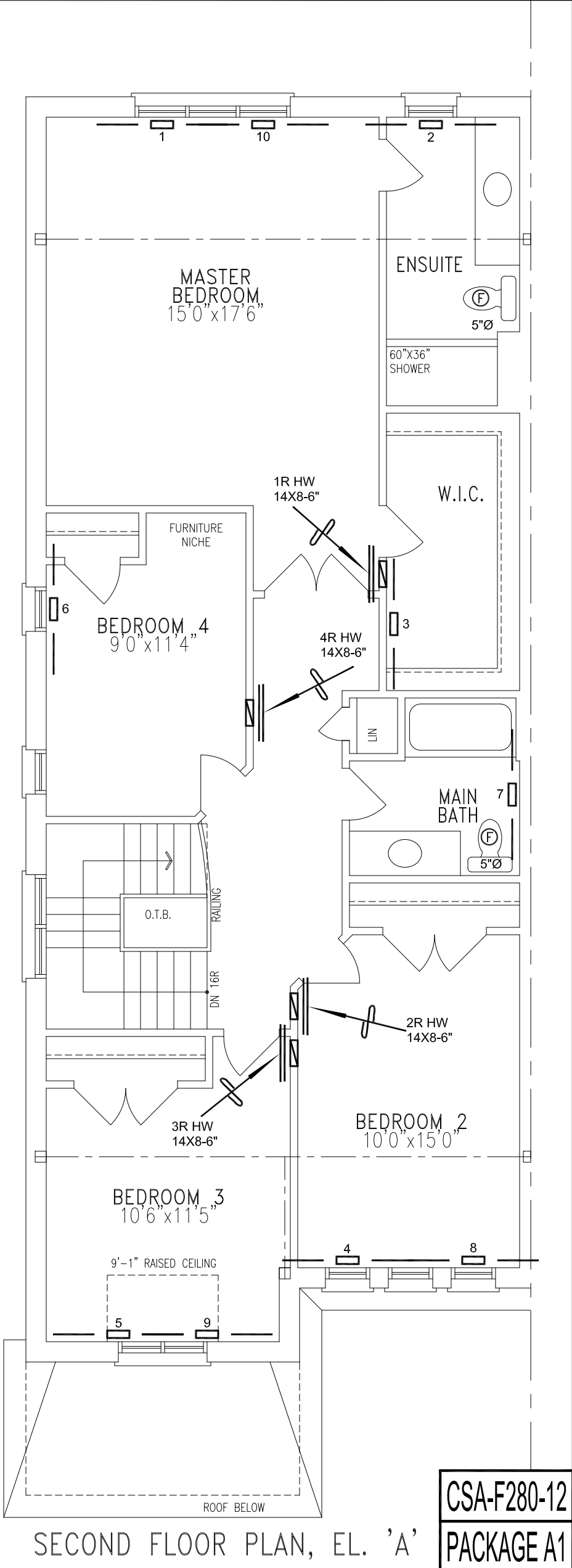
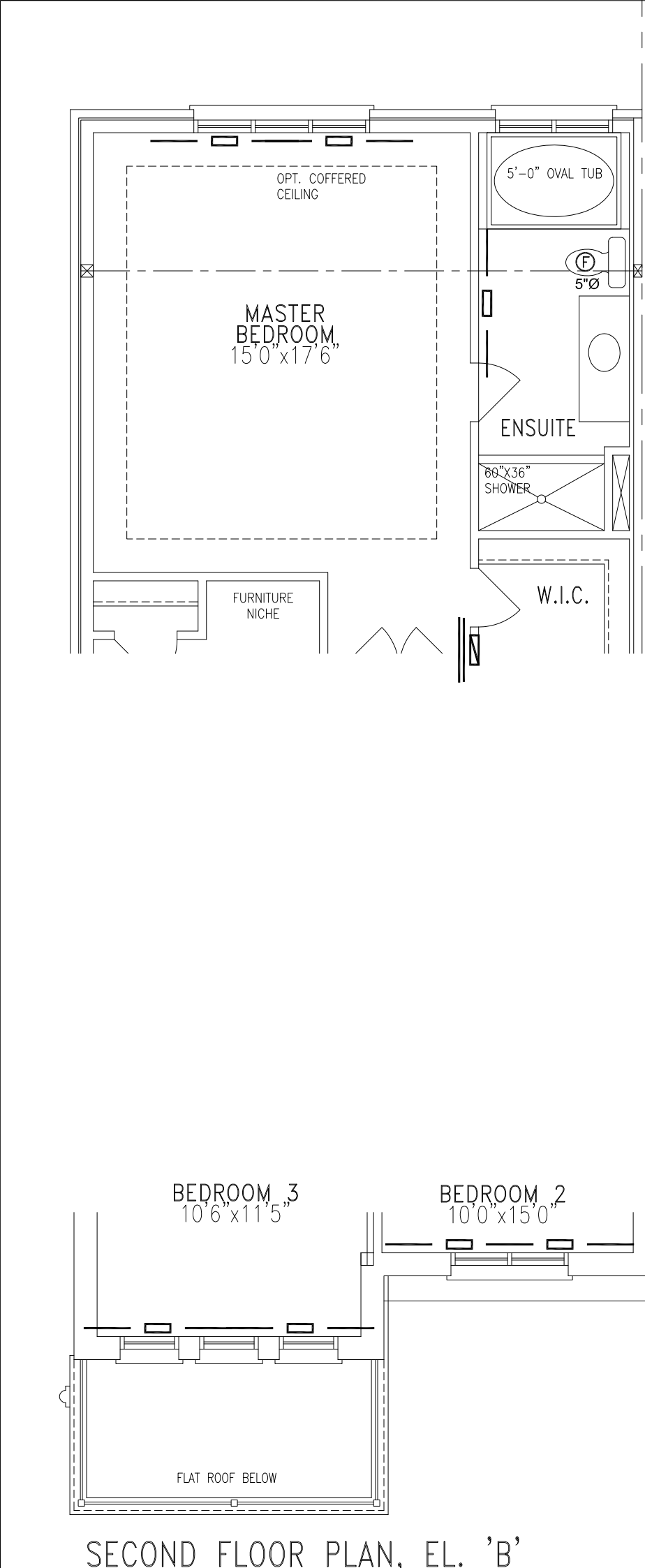
CSA-F280-12
PACKAGE A1

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.	REVISED AS PER ACRHITECTURAL	APR/2019
	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.	Sheet Title	
ROYAL PINE HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2018
FORESTSIDE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
2203.T3			LO#	78693
2308 sqft				



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.

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.	REVISED AS PER ACRHITECTURAL	APR/2019
	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.	Sheet Title	
ROYAL PINE HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAY/2018
FORESTSIDE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
2203.T3			LO#	78693
2308 sqft				