

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 RICHMOND HILL	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: 2009 END FIN BSMT Project: CENTREFIELD (WEST GORMLEY)		
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.				
April 21, 2021				
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: CENTREFIELD (WEST GORMLEY)									
BUILDER: ROYAL PINE HOMES									
FIN BSMT TYPE: 2009 END									
DATE: Apr-21									
LO# 87537									
GFA: 1700									
WINTER NATURAL AIR CHANGE RATE 0.236									
SUMMER NATURAL AIR CHANGE RATE 0.072									
HEAT LOSS AT °F. 78									
HEAT GAIN AT °F. 13									
CSA-F280-12 SB-12 PERFORMANCE									
ROOM USE	EXP. WALL CLG. HT.	ENS	MR	GRS WALL AREA	FACTORS	LOSS	GAIN	BATH	B-BATH
GLAZING									
NORTH	21.8	16.0	0	0	0	0	0	0	0
EAST	21.8	41.6	0	0	0	0	0	0	0
SOUTH	21.8	24.9	0	0	0	0	0	0	0
WEST	21.8	41.6	28	610	1163	36	784	1496	0
SKYLT.	35.8	101.2	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	89	374	62	225	946	156	0
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	382	502	225	78	103	46	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS									
SLAB ON GRADE HEAT LOSS									
SUBTOTAL HT LOSS			1486						
SUB TOTAL HT GAIN			1450						
LEVEL FACTOR / MULTIPLIER			0.20	0.20	0.20	0.20	0.20	0.20	0.20
AIR CHANGE HEAT LOSS			302						
AIR CHANGE HEAT GAIN			69						
DUCT LOSS			0						
DUCT GAIN			0						
HEAT GAIN PEOPLE	240		0						
HEAT GAIN APPLIANCES/LIGHTS			480						
TOTAL HT LOSS BTU/H			1788						
TOTAL HT GAIN x 1.3 BTU/H			3798						

ROOM USE	EXP. WALL CLG. HT.	K/B/G	PWD	FOY	BAS
GLAZING					
NORTH	21.8	16.0	0	0	0
EAST	21.8	41.6	0	0	0
SOUTH	21.8	24.9	0	0	0
WEST	21.8	41.6	0	0	0
SKYLT.	35.8	101.2	0	0	0
DOORS	25.8	4.3	0	0	0
NET EXPOSED WALL	4.2	0.7	20	517	85
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	113	476	78
EXPOSED CLG	1.3	0.6	0	0	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0
BASEMENT/CRAWL HEAT LOSS					
SLAB ON GRADE HEAT LOSS					
SUBTOTAL HT LOSS			993	3452	5310
SUB TOTAL HT GAIN			163	1517	654
LEVEL FACTOR / MULTIPLIER			0.30	0.26	0.50
AIR CHANGE HEAT LOSS			257	893	3703
AIR CHANGE HEAT GAIN			8	72	31
DUCT LOSS			0	0	0
DUCT GAIN			0	0	0
HEAT GAIN PEOPLE	240		0	0	0
HEAT GAIN APPLIANCES/LIGHTS			0	0	0
TOTAL HT LOSS BTU/H			1250	4345	9013
TOTAL HT GAIN x 1.3 BTU/H			222	2056	891

TOTAL HEAT GAIN BTU/H: 24584 TONS: 2.05 LOSS DUE TO VENTILATION LOAD BTU/H: 1336 STRUCTURAL HEAT LOSS: 30760 TOTAL COMBINED HEAT LOSS BTU/H: 32096

Michael O'Rourke

SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMESFIN BSMIT
TYPE: 2009 END

GFA: 1700 LO# 87537

DATE: Apr-21

HEATING CFM 820 COOLING CFM 820
TOTAL HEAT LOSS 30,760 TOTAL HEAT GAIN 24,364
AIR FLOW RATE CFM 26.66 AIR FLOW RATE CFM 33.66

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	6	4
R/A	0	0	4	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	6	7	8	10	13	14	15	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BED-3	BATH	BED-2	MBR	K/B/G	K/B/G	K/B/G	PWD	FOY	FOY	BAS	B-BATH	BAS	BAS
RM LOSS MBH	0.89	1.50	1.04	2.10	2.10	2.10	0.31	1.04	0.89	1.94	1.94	1.94	1.25	2.17	2.17	3.00	0.49	3.00	3.00
CFM PER RUN HEAT	24	40	28	56	56	56	8	28	24	52	52	52	33	58	58	80	13	80	80
RM GAIN MBH	1.90	0.78	1.87	2.52	2.52	2.52	0.10	1.87	1.90	2.57	2.57	2.57	0.22	1.03	1.03	0.30	0.00	0.30	0.30
CFM PER RUN COOLING	64	26	63	85	85	85	3	63	64	87	87	87	7	35	35	10	0	10	10
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	28	38	52	53	50	50	30	47	34	4	23	19	22	36	39	31	11	24	33
EQUIVALENT LENGTH	110	170	150	190	190	180	140	130	140	150	170	150	160	110	110	160	140	180	120
TOTAL EFFECTIVE LENGTH	138	208	202	243	230	230	170	177	174	154	193	169	182	146	149	191	151	204	153
ADJUSTED PRESSURE	0.12	0.08	0.09	0.07	0.07	0.07	0.1	0.1	0.1	0.11	0.08	0.1	0.09	0.12	0.12	0.09	0.11	0.08	0.11
ROUND DUCT SIZE	5	4	5	6	6	6	4	5	5	6	6	6	4	5	5	6	4	6	6
HEATING VELOCITY (ft/min)	176	459	206	286	286	286	92	206	176	265	265	265	379	426	426	408	149	408	408
COOLING VELOCITY (ft/min)	470	298	463	433	433	433	34	463	470	444	444	444	80	257	257	51	0	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10
TRUNK	C	C	B	A	A	A	B	B	C	B	C	C	B	A	A	C	B	C	A

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										RETURN AIR TRUNK SIZE										VELOCITY (ft/min)			
TRUNK	CFM	RECT DUCT	ROUND DUCT	STATIC PRESS.	VELOCITY (ft/min)	TRUNK	CFM	RECT DUCT	ROUND DUCT	STATIC PRESS.	VELOCITY (ft/min)	TRUNK	CFM	RECT DUCT	ROUND DUCT	STATIC PRESS.	VELOCITY (ft/min)	TRUNK	CFM	RECT DUCT	ROUND DUCT	STATIC PRESS.	VELOCITY (ft/min)
TRUNK A	308	0.07	9.3	0.07	554	TRUNK G	0	0.00	0	0.00	0	TRUNK O	0	0.05	0	0.05	0	TRUNK Q	0	0.05	0	0.05	0
TRUNK B	470	0.07	10.9	0.07	604	TRUNK H	0	0.00	0	0.00	0	TRUNK P	0	0.05	0	0.05	0	TRUNK R	0	0.05	0	0.05	0
TRUNK C	352	0.08	9.5	0.08	634	TRUNK I	0	0.00	0	0.00	0	TRUNK Q	0	0.05	0	0.05	0	TRUNK S	0	0.05	0	0.05	0
TRUNK D	0	0.00	0	0.00	0	TRUNK J	0	0.00	0	0.00	0	TRUNK R	0	0.05	0	0.05	0	TRUNK T	0	0.05	0	0.05	0
TRUNK E	0	0.00	0	0.00	0	TRUNK K	0	0.00	0	0.00	0	TRUNK S	0	0.05	0	0.05	0	TRUNK U	0	0.05	0	0.05	0
TRUNK F	0	0.00	0	0.00	0	TRUNK L	0	0.00	0	0.00	0	TRUNK T	0	0.05	0	0.05	0	TRUNK V	0	0.05	0	0.05	0
RETURN AIR #										BR										VELOCITY (ft/min)			
AIR VOLUME	95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	64	47	56	55	21	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	205	165	245	175	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	269	212	301	230	171	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.05	0.06	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
ROUND DUCT SIZE	6.2	6.5	6	5.7	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 2009 END
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87537
FIN BSMT

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	2 @ 10.6 cfm	21.2 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	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	84.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
63.6 cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 CFM	X 78 F	X 1.08	X	0.25

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR				
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5
B-BATH	BY INSTALLING CONTRACTOR	50	☒	3.5

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:	April-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																			
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																			
LO#: 87537	Model: 2009 END	Builder: ROYAL PINE HOMES	Date: 4/21/2021																																																
Volume Calculation		Air Change & Delta T Data																																																	
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6.2.6 Sensible Gain due to Air Leakage																																																			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																			
0.236	x	186.74	x	7 °C	x	1.2	=	114 W																																											
							=	389 Btu/h																																											
6.2.7 Sensible heat Gain due to Ventilation																																																			
$HL_{vaibrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																			
64 CFM	x	78 °F	x	1.08	x	0.25	=	220 Btu/h																																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																			
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																			

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2009 END	FIN BSMT	BUILDER: ROYAL PINE HOMES
SFQT: 1700	LO# 87537	SITE: CENTREFIELD (WEST GORMLEY)

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
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:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	23741.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 52.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	112.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
SB-12 PERFORMANCE****Nominal Min. Eff.**

Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	18.50
Basement Walls Minimum RSI (R)-Value	20	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	1.6	-
Skylights Maximum U-Value	2.6	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	TE=94%	-

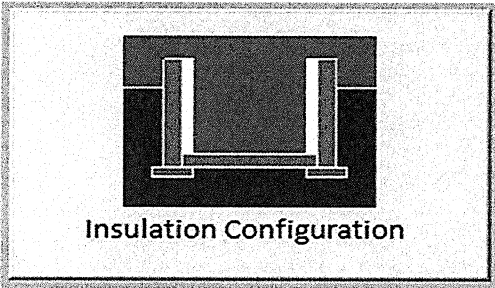
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (m):	34.1	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	0.9	
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):		1062

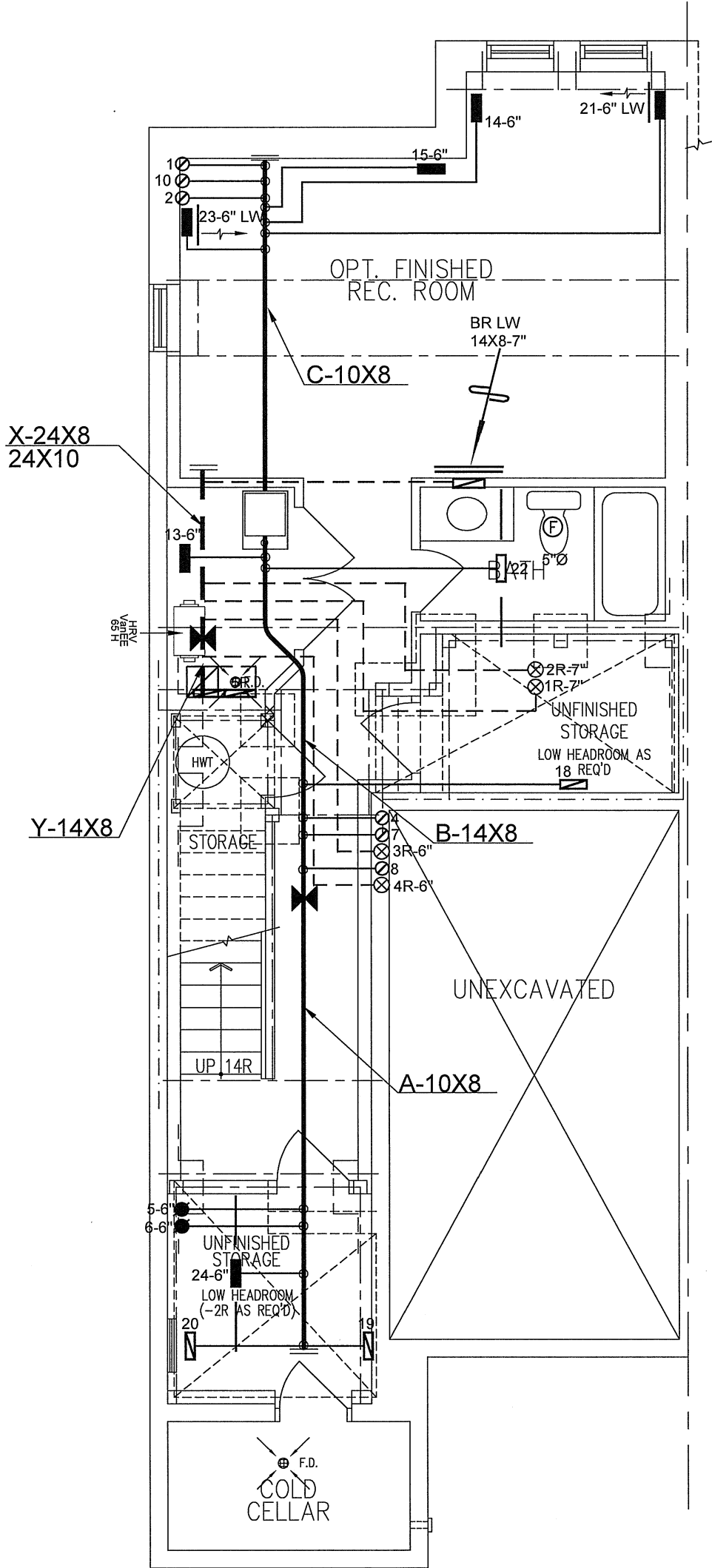
TYPE: 2009 END
LO# 87537

FIN BSMT

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Richmond Hill			
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):	6.74			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	672.3			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	627.6 cm ²		
	2.50	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):	0.236			
Cooling Air Leakage Rate (ACH/H):	0.072			



OPT. FINISHED BASEMENT PLAN,
EL. 'A' & 'B' – END COND.

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.

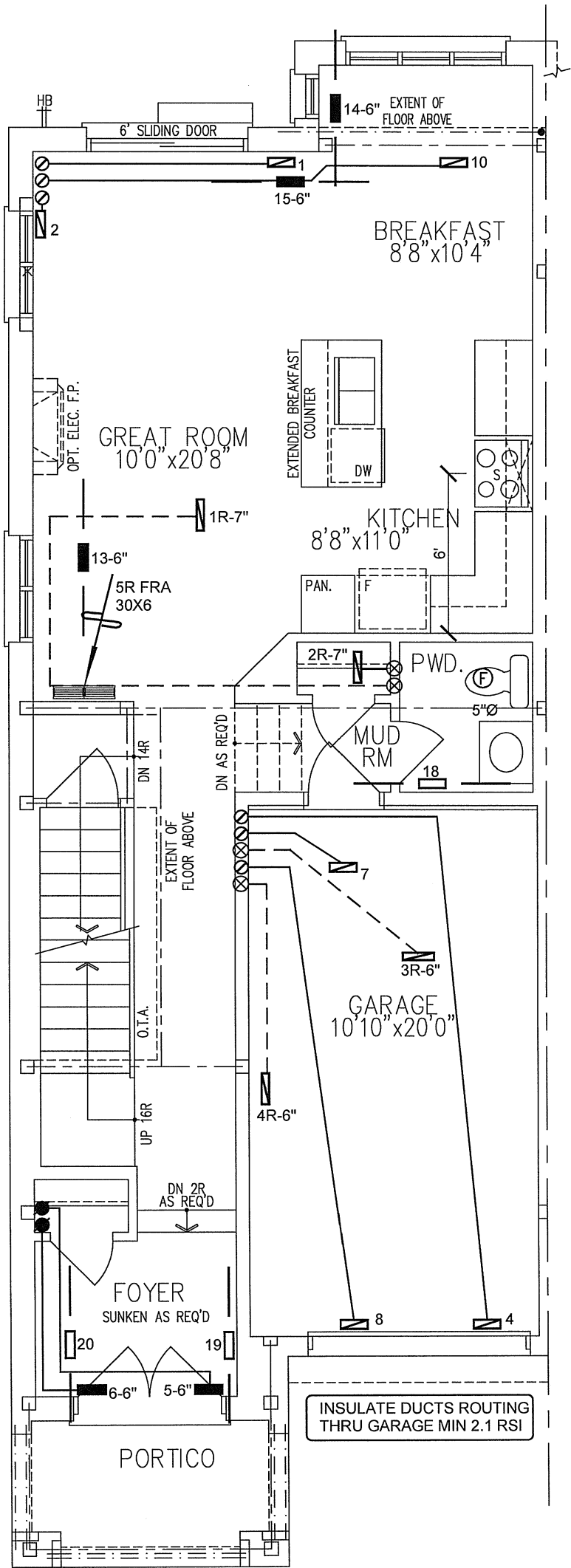
CSA-F280-12

SB-12 PERFORMANCE

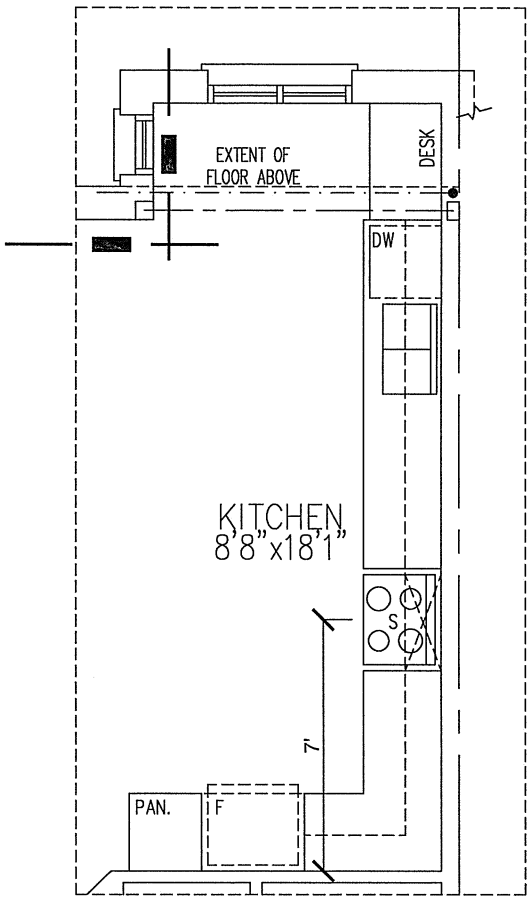
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	SUPPLY AIR GRILLE 6" BOOT		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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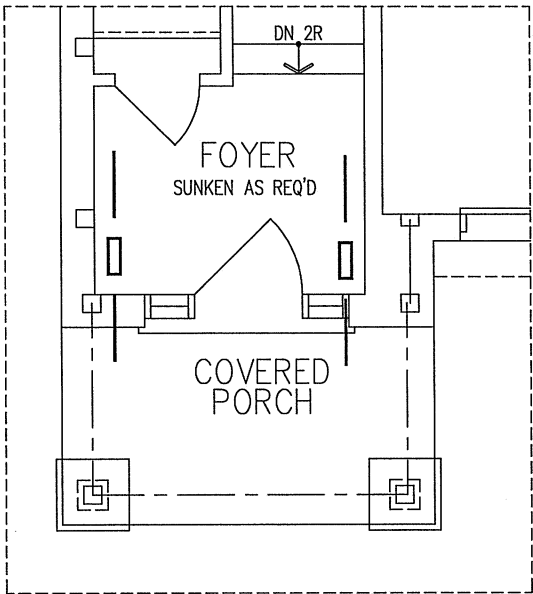
Client ROYAL PINE HOMES	 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 32096 BTU/H UNIT DATA MAKE CARRIER MODEL 59TN6A-060-14V INPUT 60 MBTU/H OUTPUT 58 MBTU/H COOLING 2.0 TONS FAN SPEED 820 cfm @ 0.6" w.c.	# OF RUNS S/A R/A FANS 3RD FLOOR 2ND FLOOR 8 4 2 1ST FLOOR 6 1 2 BASEMENT 4 1 1 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	SEPT/2020
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO	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.			Scale	3/16" = 1'-0"
				BCIN# 19669	
FIN BSMT 2009 END	1700 sqft			LO#	87537



GROUND FLOOR PLAN,
EL. 'A' – END



PART. GROUND FLOOR PLAN
– OPT. KITCHEN LAYOUT



GROUND FLOOR PLAN, EL.
'B' – END

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.

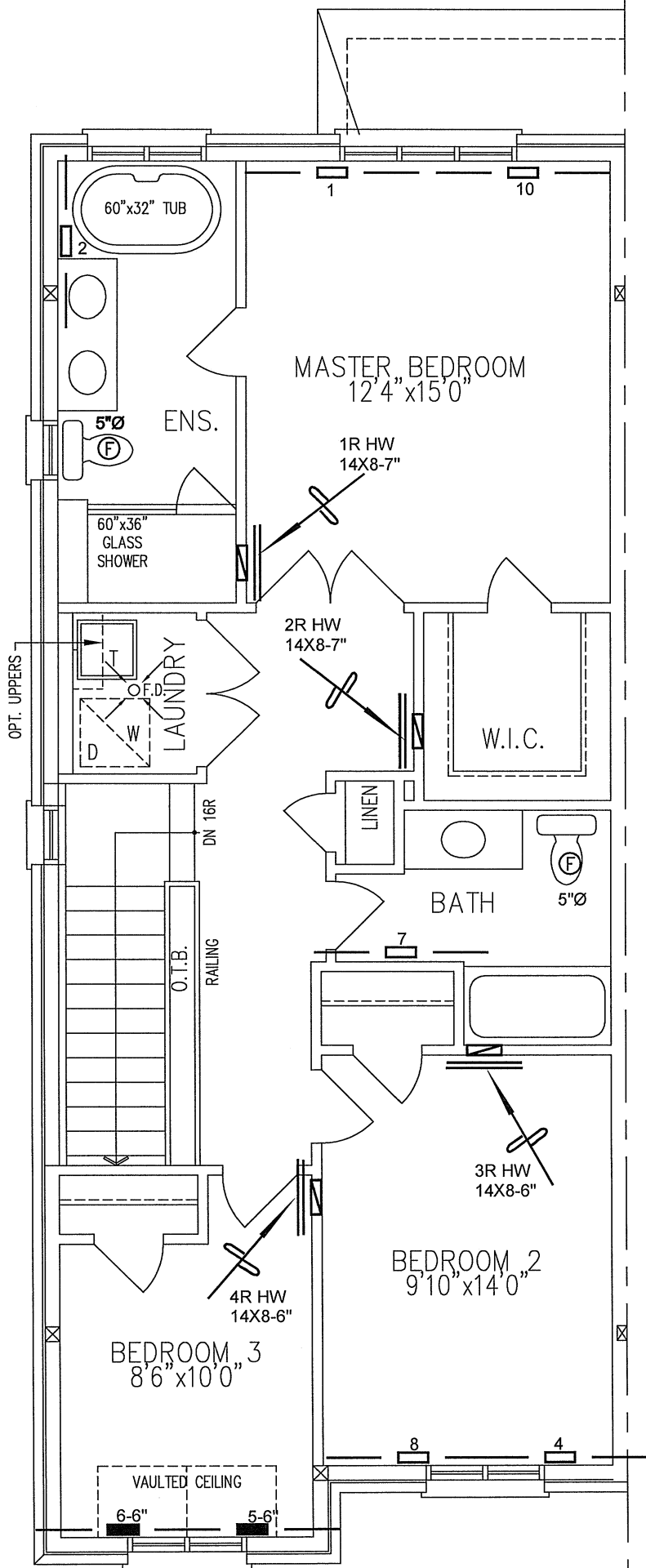
CSA-F280-12

SB-12 PERFORMANCE

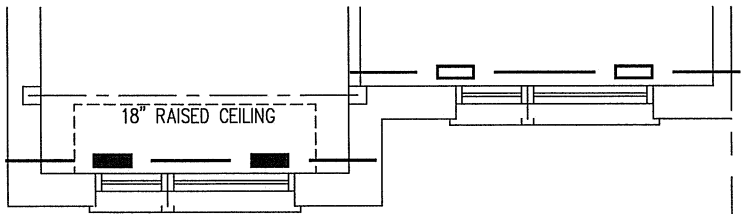
HVAC LEGEND								3.		
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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation 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	SEPT/2020
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
FIN BSMT 2009 END			BCIN# 19669	
1700 sqft			LO#	87537



SECOND FLOOR PLAN, EL.
'A1/A2' - END



SECOND FLOOR PLAN, EL.
'B' - END

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

SB-12 PERFORMANCE

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
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ROYAL PINE HOMES				SECOND FLOOR HEATING LAYOUT	
Project Name		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.		Date	SEPT/2020
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO				Scale	3/16" = 1'-0"
FIN BSMT				BCIN# 19669	
2009 END				LO#	87537
1700 sqft					