

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: 2007 Project: CENTREFIELD (WEST GORMLEY)	
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.			
September 10, 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									
TYPE: 2007									
DATE: Sep-21									
LO# 87524									
GFA: 1662									
WINTER NATURAL AIR CHANGE RATE 0.275									
HEAT LOSS AT °F. 78									
SUMMER NATURAL AIR CHANGE RATE 0.083									
HEAT GAIN AT °F. 13									
CSA-F280-12									
SB-12 PERFORMANCE									
ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	KIG/B	BED-2	BED-3	BATH
GRS.WALL AREA	21.8	16.0	0	0	0	0	0	0	0
GLAZING	21.8	41.6	0	0	0	0	0	0	0
NORTH	21.8	41.6	0	0	0	0	0	0	0
EAST	21.8	24.9	0	0	0	0	0	0	0
SOUTH	21.8	41.6	0	0	0	0	0	0	0
WEST	21.8	41.6	0	0	0	0	0	0	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	84	353	68	40	168	28	0
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	295	388	173	138	181	81	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.6	0.4	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1351			1351	524		1698	1712	177
SUB TOTAL HT GAIN	0.20	0.32		0.20	0.32		0.20	0.32	0.20
LEVEL FACTOR / MULTIPLIER	428			428	165		538	505	56
AIR CHANGE HEAT LOSS	0			0	0		224	210	23
AIR CHANGE HEAT GAIN	0			0	0		287	313	6
DUCT LOSS	0			0	0		1	240	0
DUCT GAIN	0			0	0		1077	1077	0
HEAT GAIN PEOPLE	240			2	480		0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0			1077	690		0	0	0
TOTAL HT LOSS BTU/H	1779			3944	690		2460	2310	256
TOTAL HT GAIN x 1.3 BTU/H					607		4111	4475	79

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	KIG/B	BED-2	BED-3	BATH	FOY	MUD	BAS
GRS.WALL AREA	21.8	16.0	0	0	0	0	0	0	0	0	0	0
GLAZING	21.8	41.6	0	0	0	0	0	0	0	0	0	0
NORTH	21.8	41.6	0	0	0	0	0	0	0	0	0	0
EAST	21.8	24.9	0	0	0	0	0	0	0	0	0	0
SOUTH	21.8	41.6	0	0	0	0	0	0	0	0	0	0
WEST	21.8	41.6	0	0	0	0	0	0	0	0	0	0
SKYLT.	35.8	101.2	0	0	0	0	0	0	0	0	0	0
DOORS	25.8	4.3	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.2	0.7	84	353	68	40	168	28	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	295	388	173	138	181	81	0	0	0	0
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	2.6	0.4	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1351			1351	524		1698	1712	177	2779	993	2208
SUB TOTAL HT GAIN	0.20	0.32		0.20	0.32		0.20	0.32	0.20	0.30	0.40	0.50
LEVEL FACTOR / MULTIPLIER	428			428	165		538	505	56	1596	163	500
AIR CHANGE HEAT LOSS	0			0	0		224	210	23	0.30	0.40	1.17
AIR CHANGE HEAT GAIN	0			0	0		287	313	6	1112	398	4233
DUCT LOSS	0			0	0		1	240	0	0	0	0
DUCT GAIN	0			0	0		1077	1077	0	0	0	0
HEAT GAIN PEOPLE	240			2	480		0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0			1077	690		0	0	0	0	0	0
TOTAL HT LOSS BTU/H	1779			3944	690		2460	2310	256	3891	1391	7862
TOTAL HT GAIN x 1.3 BTU/H					607		4111	4475	79	2197	225	688

TOTAL HEAT GAIN BTU/H: 22873 TONS: 1.91 LOSS DUE TO VENTILATION LOAD BTU/H: 1336 STRUCTURAL HEAT LOSS: 24241 TOTAL COMBINED HEAT LOSS BTU/H: 25577

Michael O'Rourke

SITE NAME: CENTREFIELD (WEST GORMLEY)
BUILDER: ROYAL PINE HOMES

TYPE: 2007 DATE: Sep-21
GFA: 1662 LO# 87524

HEATING CFM 820 COOLING CFM 820
TOTAL HEAT LOSS 24,241 TOTAL HEAT GAIN 22,653
AIR FLOW RATE CFM 33.83 AIR FLOW RATE CFM 36.2

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 820
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	3
R/A	0	0	4	1	1

plenum pressure s/a 0.18
max s/a diff press. loss 0.03
min adjusted pressure s/a 0.15
r/a pressure 0.17
r/a grille press. loss 0.02
adjusted pressure r/a 0.15

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	10	14	15	18	19	20	21	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-3	BED-3	BATH	MBR	K/G/B	K/G/B	FOY	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH	0.89	0.69	1.23	1.23	1.16	1.16	0.26	0.89	1.80	1.80	1.95	1.95	1.39	2.82	2.82	2.82
CFM PER RUN HEAT	30	23	42	42	39	39	9	30	61	61	66	66	47	89	89	89
RM GAIN MBH	1.97	0.61	2.06	2.06	2.24	2.24	0.08	1.97	3.16	3.16	1.10	1.10	0.22	0.23	0.23	0.23
CFM PER RUN COOLING	71	22	74	74	81	81	3	71	115	115	40	40	8	8	8	8
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.15	0.15	0.17	0.17	0.17	0.16	0.16	0.16
EQUIVALENT LENGTH	120	150	160	170	120	140	150	150	120	150	100	80	110	130	140	110
TOTAL EFFECTIVE LENGTH	160	206	203	215	153	170	165	186	155	189	118	104	136	169	161	120
ADJUSTED PRESSURE	0.11	0.08	0.08	0.08	0.11	0.11	0.1	0.09	0.1	0.08	0.15	0.17	0.13	0.1	0.1	0.14
ROUND DUCT SIZE	5	4	5	5	5	5	4	5	6	6	5	5	4	6	6	6
HEATING VELOCITY (f/min)	220	264	308	308	286	286	103	220	311	311	485	485	539	454	454	454
COOLING VELOCITY (f/min)	521	252	543	543	595	595	34	521	586	586	294	294	92	41	41	41
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	A	B	B	B	C	C	C	A	A	A	C	C	B	A	A	C

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (f/min)	COOLING VELOCITY (f/min)	OUTLET GRILL SIZE
TRUNK	A	B	B	B	C	C	C	C	A	A	A	A	A

SUPPLY AIR TRUNK SIZE	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)
TRUNK A	360	0.08	0.08	9.6	10	8	TRUNK G	0	0.00	0	0	8
TRUNK B	514	0.08	0.08	10.9	14	8	TRUNK H	0	0.00	0	0	8
TRUNK C	308	0.10	0.10	8.5	8	8	TRUNK I	0	0.00	0	0	8
TRUNK D	0	0.00	0.00	0	0	0	TRUNK J	0	0.00	0	0	8
TRUNK E	0	0.00	0.00	0	0	0	TRUNK K	0	0.00	0	0	8
TRUNK F	0	0.00	0.00	0	0	0	TRUNK L	0	0.00	0	0	8

RETURN AIR TRUNK SIZE	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)
TRUNK O	0	0.05	0.05	0	0	8	TRUNK O	0	0.05	0	0	8
TRUNK P	0	0.05	0.05	0	0	8	TRUNK P	0	0.05	0	0	8
TRUNK Q	0	0.05	0.05	0	0	8	TRUNK Q	0	0.05	0	0	8
TRUNK R	0	0.05	0.05	0	0	8	TRUNK R	0	0.05	0	0	8
TRUNK S	0	0.05	0.05	0	0	8	TRUNK S	0	0.05	0	0	8
TRUNK T	0	0.05	0.05	0	0	8	TRUNK T	0	0.05	0	0	8
TRUNK U	0	0.05	0.05	0	0	8	TRUNK U	0	0.05	0	0	8
TRUNK V	0	0.05	0.05	0	0	8	TRUNK V	0	0.05	0	0	8
TRUNK W	0	0.05	0.05	0	0	8	TRUNK W	0	0.05	0	0	8
TRUNK X	820	0.05	0.05	14.6	24	8	TRUNK X	820	0.05	14.6	24	8
TRUNK Y	0	0.05	0.05	0	0	8	TRUNK Y	0	0.05	0	0	8
TRUNK Z	0	0.05	0.05	0	0	8	TRUNK Z	0	0.05	0	0	8
DROP	820	0.05	0.05	14.6	24	10	DROP	820	0.05	14.6	24	10

TYPE: 2007
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87524

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	2 @ 10.6 cfm	21.2 cfm
Table 9.32.3.A.	TOTAL	137.8 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	137.8	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	74.2	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	78 F	1.08	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

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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	September-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations			
Formula Sheet (For Air Leakage / Ventilation Calculation)			
LO#: 87524	Model: 2007	Builder: ROYAL PINE HOMES	Date: 9/10/2021
Volume Calculation		Air Change & Delta T Data	
House Volume		WINTER NATURAL AIR CHANGE RATE	0.275
Level	Floor Area (ft²)	Floor Height (ft)	SUMMER NATURAL AIR CHANGE RATE
Bsmt	731	10	0.083
First	731	10	
Second	931	8	
Third	0	9	
Fourth	0	9	
	Total:		
	Total:		
	22,141.1 ft³		
	627.0 m³		
Design Temperature Difference			
Winter DTDh	Tin °C	Tout °C	ΔT °C
Summer DTDc	22	-21	43
	24	31	7
			ΔT °F
			78
			13
6.2.6 Sensible Gain due to Air Leakage			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$			
0.275	x	174.16	x
		7 °C	x
		1.2	=
			124 W
			=
			422 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	13 °F	x
		1.08	x
		0.25	=
			220 Btu/h
5.2.3.1 Heat Loss due to Air Leakage			
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$			
0.275	x	174.16	x
		43 °C	x
		1.2	=
			2481 W
			=
			8466 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	78 °F	x
		1.08	x
		0.25	=
			1336 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{aglevel} + HL_{bglevel})\}$			
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Air Leakage Heat Loss Multiplier (LF x HLairbv / Hlevel)
1	0.5	8,466	1.167
2	0.3		0.400
3	0.2		0.317
4	0		0.000
5	0		0.000
*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:** 2007**BUILDER:** ROYAL PINE HOMES**SFQT:** 1662**LO#** 87524**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:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	22141.1	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.80	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:	68.0 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%	-

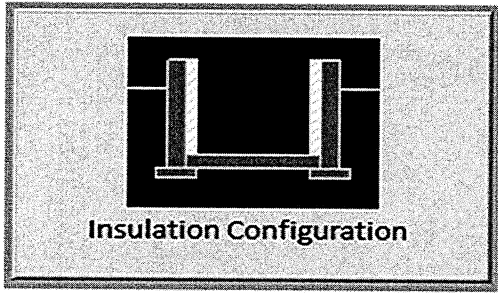
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

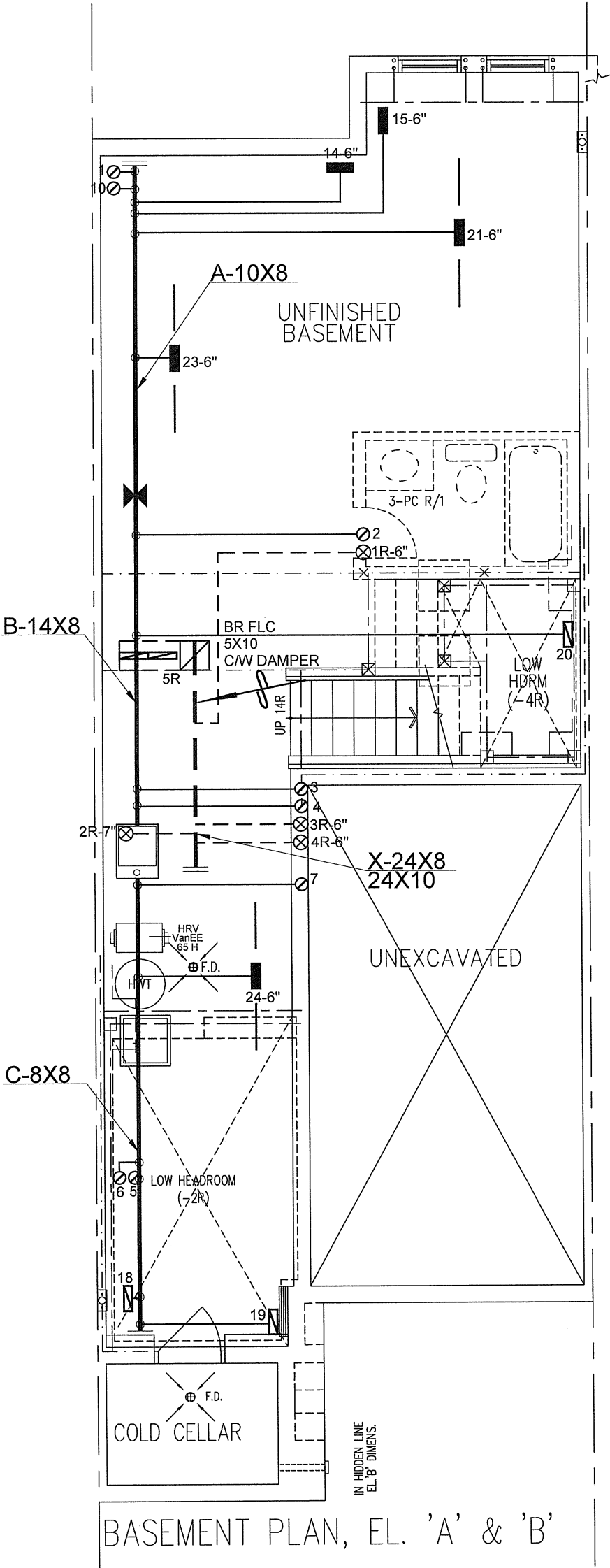
Weather Station Description		
Province:	Ontario	
Region:	Richmond Hill	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	 Insulation Configuration
Floor Width (m):	6.1	
Exposed Perimeter (m):	20.7	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	0.7	
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):		647

TYPE: 2007
LO# 87524

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):	6.43			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	627.0			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	702.3 cm ²		
	3.00	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):	0.275			
Cooling Air Leakage Rate (ACH/H):	0.083			



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.

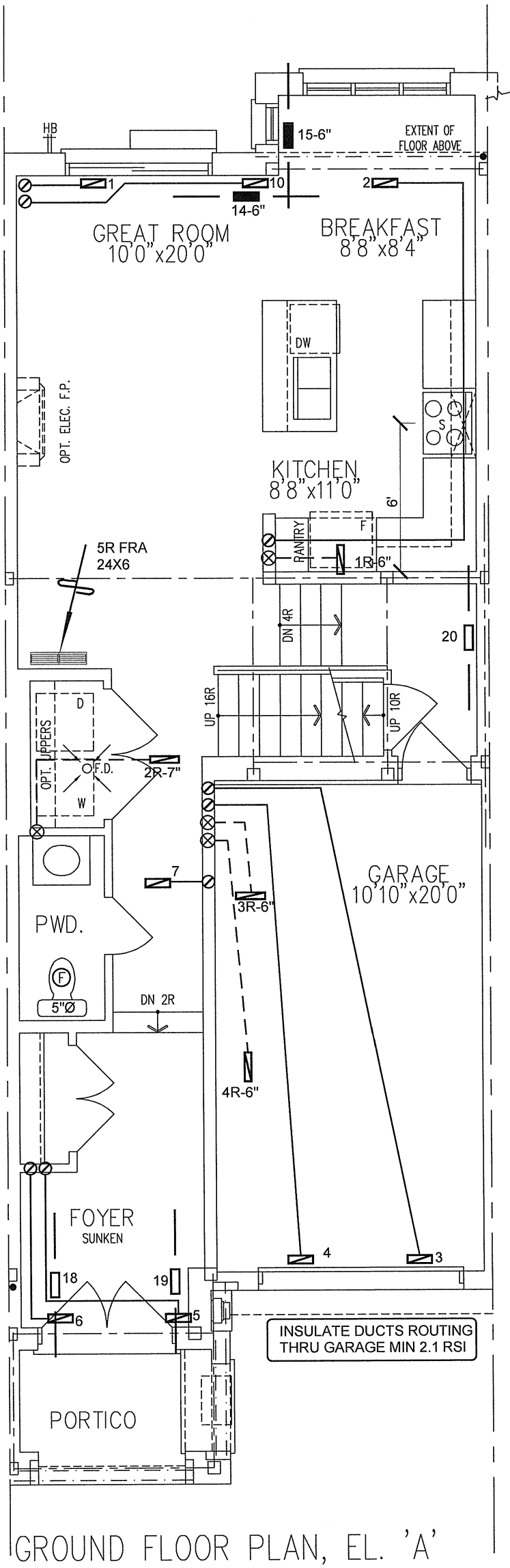
CSA-F280-12

SB-12 PERFORMANCE

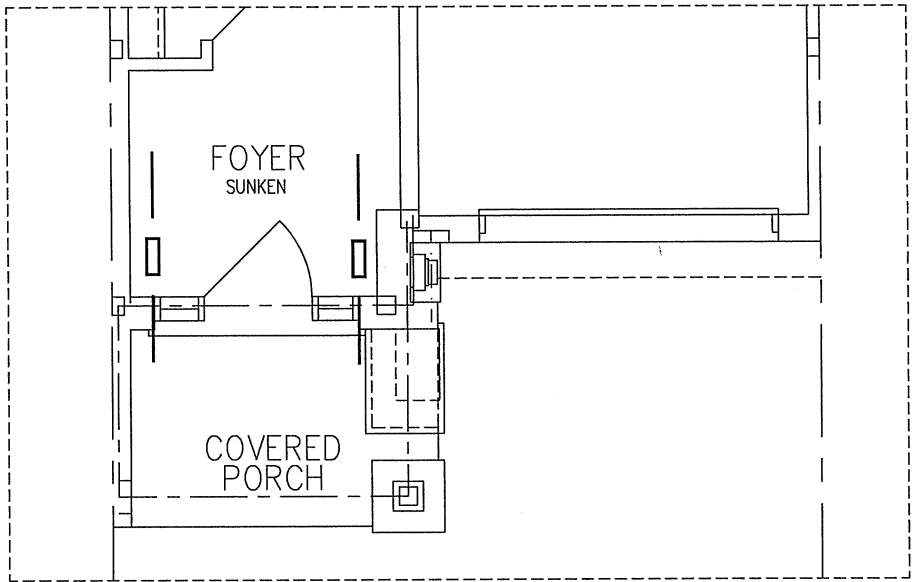
HVAC LEGEND								3.	REVISED ACH	SEPT/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	SUPPLY 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		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 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 25577 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO				UNIT DATA		3RD FLOOR			BASEMENT HEATING LAYOUT	
				MAKE CARRIER		2ND FLOOR 8 4 2			Date SEPT/2020	
				MODEL 59TN6A-060-14V		1ST FLOOR 5 1 2			Scale 3/16" = 1'-0"	
				INPUT 60 MBTU/H		BASEMENT 3 1 0			BCIN# 19669	
2007		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					LO#	
		COOLING 2.0 TONS							87524	
		FAN SPEED 820 cfm @ 0.6" w.c.								
1662 sqft										



GROUND FLOOR PLAN, EL. 'A'



GROUND FLOOR PLAN, EL. 'B'

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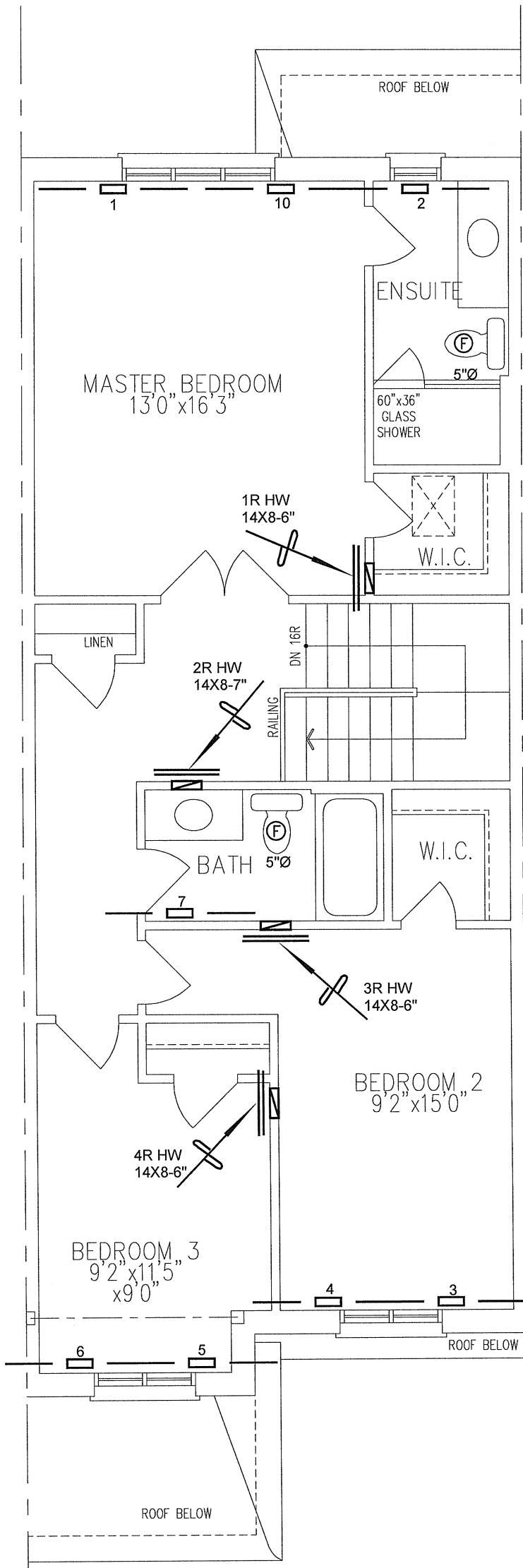
CSA-F280-12

SB-12 PERFORMANCE

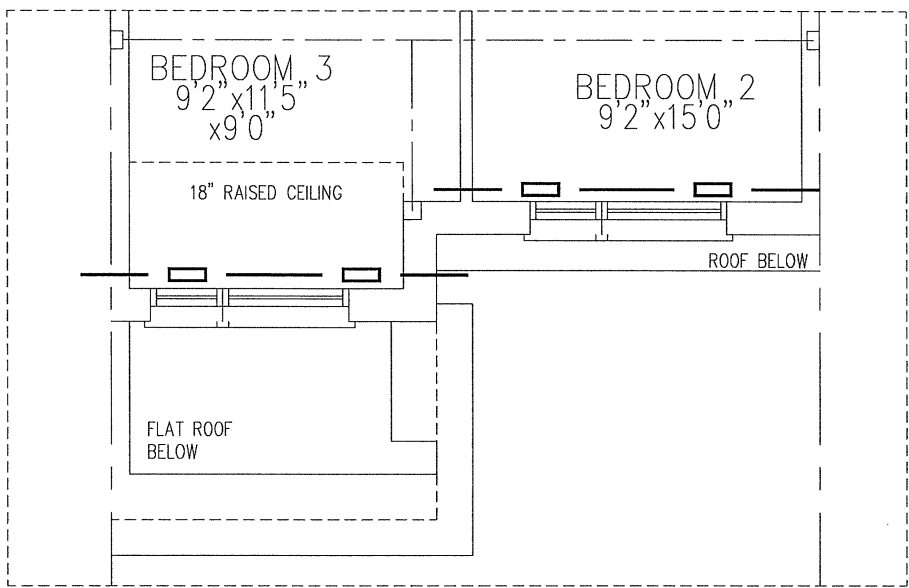
HVAC LEGEND								3.	REVISED ACH	SEPT/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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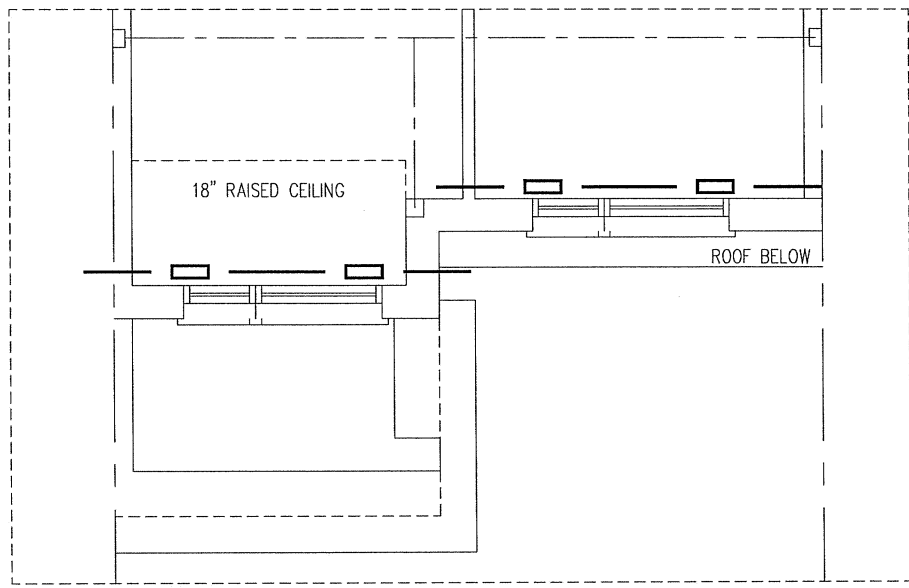
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets 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"
2007			BCIN# 19669	
1662 sqft			LO#	87524



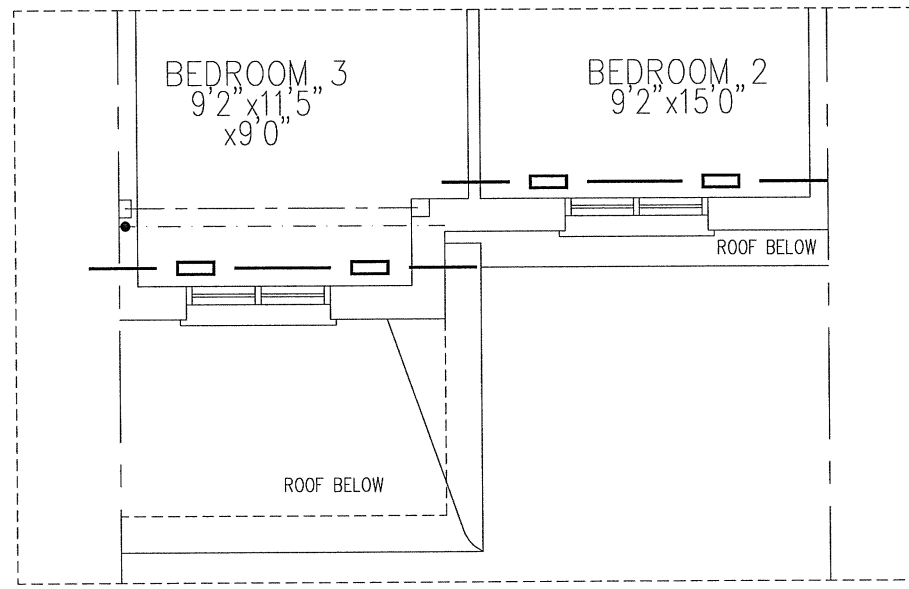
SECOND FLOOR PLAN, EL. 'A1'



PART. SECOND FLOOR PLAN,
EL. 'B2'



SECOND FLOOR PLAN, EL. 'B1'



PART. SECOND FLOOR PLAN,
EL. 'A2'

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

CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND								3.	REVISED ACH	SEPT/2021
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
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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 SECOND FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
2007			Scale 3/16" = 1'-0"	
1662 sqft			BCIN# 19669	
			LO#	87524