

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 OPT 2ND 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)										OPT 2ND		DATE: Sep-21		WINTER NATURAL AIR CHANGE RATE 0.284		HEAT LOSS AT °F. 78		CSA-F280-12	
BUILDER: ROYAL PINE HOMES										TYPE: 2007		LO# 87526		SUMMER NATURAL AIR CHANGE RATE 0.086		HEAT GAIN AT °F. 13		SB-12 PERFORMANCE	
ROOM USE		MBR		ENS		BED-2		BED-3		BATH									
EXP. WALL	CLG. HT.	14	9	6	9	10	9	16	10	0	9								
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN							
GRS.WALL AREA		126		54		90		160		0									
GLAZING		0		0		0		0		0									
NORTH		21.8		16.0		0		0		0									
EAST		21.8		41.6		29		632		36		784		1498					
SOUTH		21.8		24.9		0		0		0		0		0					
WEST		21.8		41.6		23		610		8		174		332					
SKYL.T.		35.8		101.2		0		0		0		0		0					
DOORS		25.8		4.3		0		0		0		0		0					
NET EXPOSED WALL		4.2		0.7		98		412		68		193		32					
NET EXPOSED BSMT WALL ABOVE GR		3.7		0.6		0		0		0		0		0					
EXPOSED CLG		1.3		0.6		295		386		173		138		181					
NO ATTIC EXPOSED CLG		2.8		1.3		0		0		0		0		0					
EXPOSED FLOOR		2.6		0.4		0		0		0		0		0					
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		1410		549		1834		1662		83		37							
SUB TOTAL HT GAIN		0.20		0.33		0.20		0.33		0.20		0.33							
LEVEL FACTOR / MULTIPLIER		464		181		603		547		27		2							
AIR CHANGE HEAT LOSS		87		27		92		106		0		0							
AIR CHANGE HEAT GAIN		0		0		244		221		0		0							
DUCT LOSS		0		0		1		315		0		0							
DUCT GAIN		480		0		290		240		0		0							
HEAT GAIN PEOPLE		1077		0		1077		1077		0		0							
HEAT GAIN APPLIANCES/LIGHTS		1873		730		2681		2430		110		51							
TOTAL HT LOSS BTU/H		3982		615		4151		4498											
TOTAL HT GAIN x 1.3 BTU/H																			

ROOM USE		K/G/B		FOY		MUD		BAS	
EXP. WALL	CLG. HT.	23	10	32	11	12	11	68	10
FACTORS		LOSS		GAIN		LOSS		GAIN	
GRS.WALL AREA		232		355		133		476	
GLAZING		0		0		0		0	
NORTH		21.8		16.0		0		0	
EAST		21.8		41.6		30		654	
SOUTH		21.8		24.9		8		174	
WEST		21.8		41.6		78		1699	
SKYL.T.		35.8		101.2		0		0	
DOORS		25.8		4.3		0		0	
NET EXPOSED WALL		4.2		0.7		146		615	
NET EXPOSED BSMT WALL ABOVE GR		3.7		0.6		0		0	
EXPOSED CLG		1.3		0.6		0		0	
NO ATTIC EXPOSED CLG		2.8		1.3		30		84	
EXPOSED FLOOR		2.6		0.4		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0	
SUBTOTAL HT LOSS		2573		3579		933		3529	
SUB TOTAL HT GAIN		0.30		0.43		0.30		0.50	
LEVEL FACTOR / MULTIPLIER		1108		1196		428		4553	
AIR CHANGE HEAT LOSS		220		98		10		31	
AIR CHANGE HEAT GAIN		0		0		0		0	
DUCT LOSS		0		0		0		0	
DUCT GAIN		0		0		0		0	
HEAT GAIN PEOPLE		1077		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		3681		3975		1421		8182	
TOTAL HT LOSS BTU/H		6339		2203		225		689	
TOTAL HT GAIN x 1.3 BTU/H									

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

TYPE: 2007
OPT 2ND

GFA: 1662 LO# 87526

DATE: Sep-21

HEATING CFM 820 COOLING CFM 820
TOTAL HEAT LOSS 25,082 TOTAL HEAT GAIN 22,734
AIR FLOW RATE CFM 32.69 AIR FLOW RATE CFM 36.07

****CARRIER**
59T96A-060-14V
FAN SPEED 60
LOW 820
MEDIUM 0
HIGH 1520

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	5	3
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
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-3	BATH
RM LOSS MBH	0.94	0.73	1.34	1.34	1.21	1.21	0.11
CFM PER RUN HEAT	31	24	44	44	40	40	4
RM GAIN MBH	1.98	0.61	2.08	2.08	2.25	2.25	0.05
CFM PER RUN COOLING	71	22	75	75	81	81	2
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	0.17
ACTUAL DUCT LGH.	40	56	43	45	33	30	15
EQUIVALENT LENGTH	120	150	160	170	120	140	150
TOTAL EFFECTIVE LENGTH	160	206	203	215	153	170	165
ADJUSTED PRESSURE	0.11	0.08	0.08	0.08	0.11	0.1	0.1
ROUND DUCT SIZE	5	4	6	6	5	5	4
HEATING VELOCITY (ft/min)	228	275	224	224	294	294	46
COOLING VELOCITY (ft/min)	521	252	382	382	595	595	23
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	3X10	3X10	3X10
TRUNK	A	B	B	B	C	C	C

RUN #	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
ROOM NAME	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B	K/G/B
RM LOSS MBH	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84	1.84
CFM PER RUN HEAT	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
RM GAIN MBH	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17	3.17
CFM PER RUN COOLING	114	114	114	114	114	114	114	114	114	114	114	114	114	114	114
ADJUSTED 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
ACTUAL DUCT LGH.	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
EQUIVALENT LENGTH	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
TOTAL EFFECTIVE LENGTH	155	155	155	155	155	155	155	155	155	155	155	155	155	155	155
ADJUSTED PRESSURE	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	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	306	306	306	306	306	306	306	306	306	306	306	306	306	306	306
COOLING VELOCITY (ft/min)	581	581	581	581	581	581	581	581	581	581	581	581	581	581	581
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	360	0.07	9.9	12	540	TRUNK G	0	0.00	0	0	0
TRUNK B	518	0.07	11.3	16	583	TRUNK H	0	0.00	0	0	0
TRUNK C	303	0.10	8.5	8	682	TRUNK I	0	0.00	0	0	0
TRUNK D	0	0.00	0	0	0	TRUNK J	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0

TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	360	0.07	9.9	12	540	TRUNK G	0	0.00	0	0	0
TRUNK B	518	0.07	11.3	16	583	TRUNK H	0	0.00	0	0	0
TRUNK C	303	0.10	8.5	8	682	TRUNK I	0	0.00	0	0	0
TRUNK D	0	0.00	0	0	0	TRUNK J	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0

TYPE: 2007
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87526
OPT 2ND

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	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

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:	September-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																						
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																						
LO#: 87526		Model: 2007		Builder: ROYAL PINE HOMES		Date: 9/10/2021																																																																
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6.2.6 Sensible Gain due to Air Leakage																																																																						
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																						
0.284	x	181.48	x	7 °C	x	1.2	=	133 W																																																														
							=	454 Btu/h																																																														
6.2.7 Sensible heat Gain due to Ventilation																																																																						
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																						
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)																																																																						
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl})\}$																																																																						
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5	0		0	0.000																																																																		
*HLairbv = Air leakage heat loss + ventilation heat loss **For a balanced or supply only ventilation system HLairrv = 0																																																																						

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2007	OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 1662	LO# 87526	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):	23072.1	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

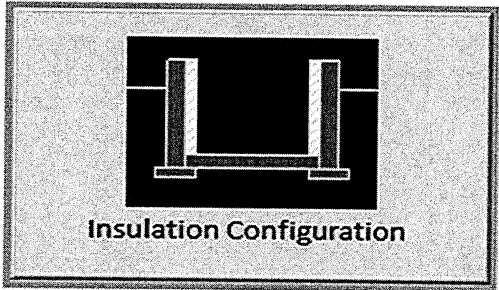
Component	Compliance Package SB-12 PERFORMANCE	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22+1.5	18.50
Basement Walls Minimum 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

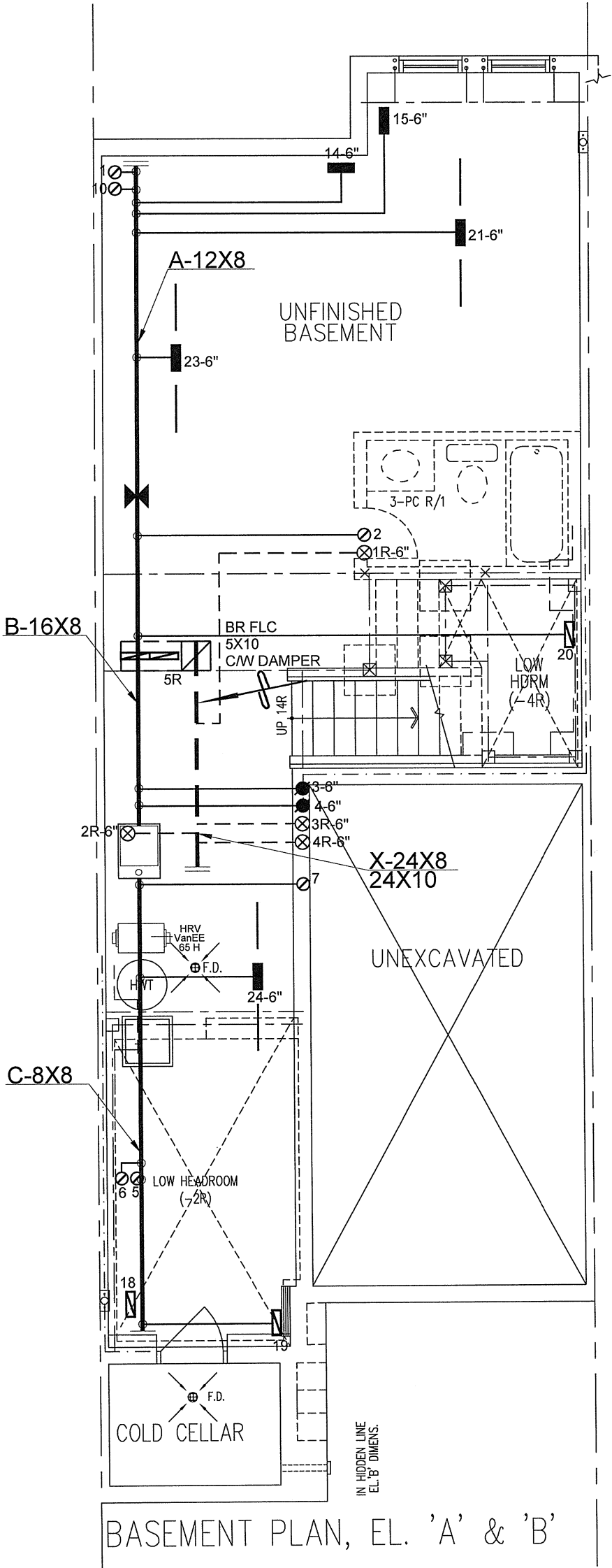
Supplemental tool for CAN/CSA-F280

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

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):	653.3			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	731.9 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):	0.284			
Cooling Air Leakage Rate (ACH/H):	0.086			



BASEMENT PLAN, EL. 'A' & 'B'

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 BCIN# 19669
HVAC DESIGNS LTD.

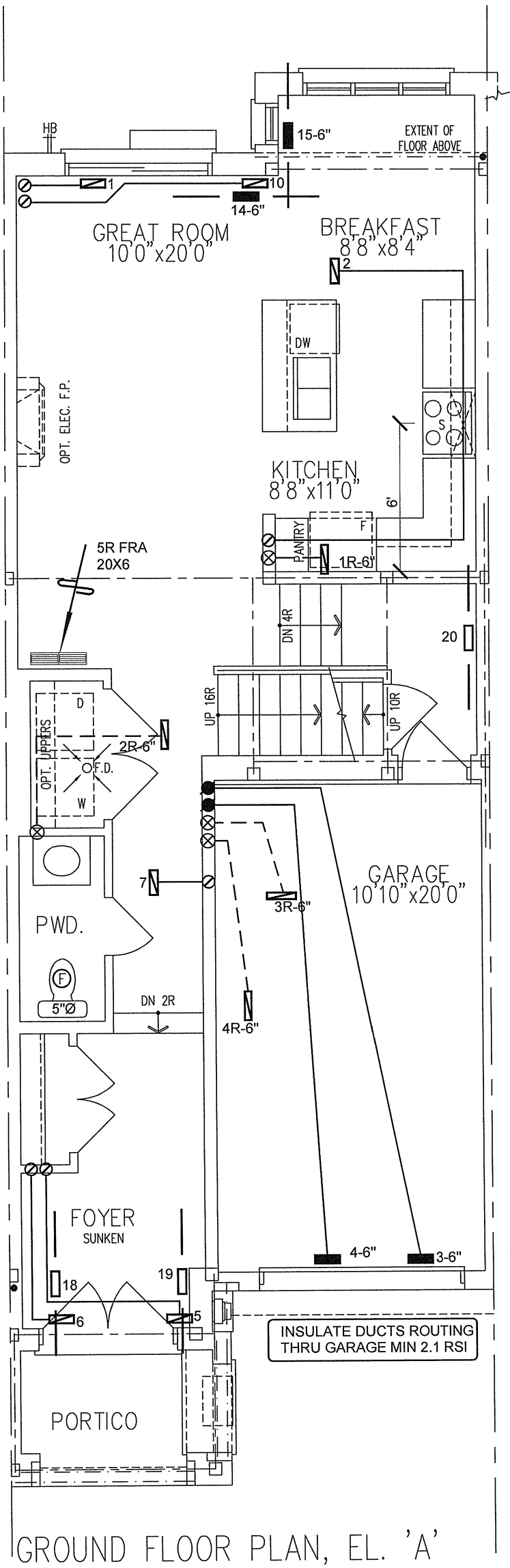
CSA-F280-12

SB-12 PERFORMANCE

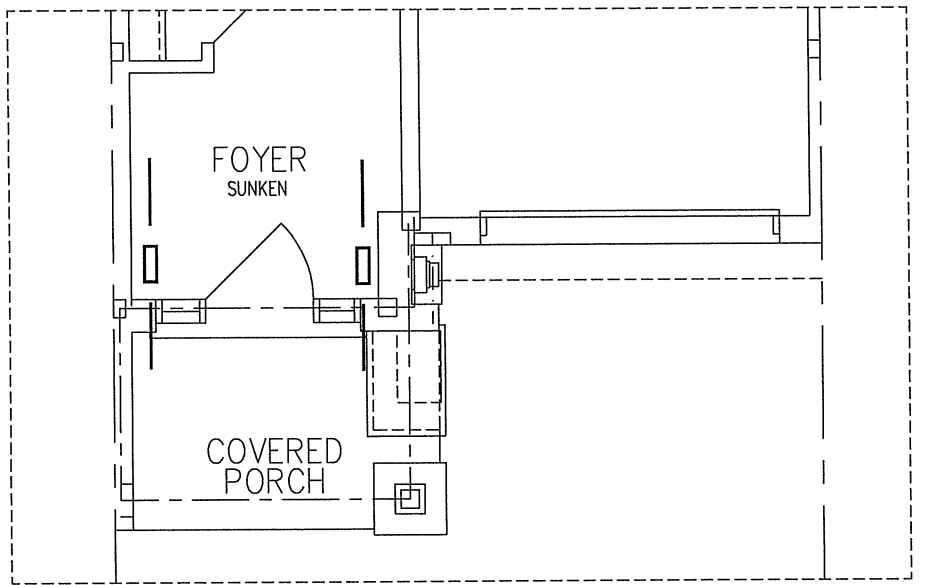
HVAC LEGEND								3.	REVISED ACH	SEPT/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	REVISED TO PERFORMANCE	SEPT/2020
	SUPPLY 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	HEAT LOSS 26418 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
ROYAL PINE HOMES			MAKE CARRIER		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			MODEL 59TN6A-060-14V		2ND FLOOR	8	4	2	Date SEPT/2020
OPT 2ND 2007			INPUT 60 MBTU/H		1ST FLOOR	5	1	2	Scale 3/16" = 1'-0"
1662 sqft		OUTPUT 58 MBTU/H		BASEMENT	3	1	0	BCIN# 19669	
		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					LO# 87526
		FAN SPEED 820 cfm @ 0.6" w.c.							



GROUND FLOOR PLAN, EL. 'A'



GROUND FLOOR PLAN, EL. 'B'

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.

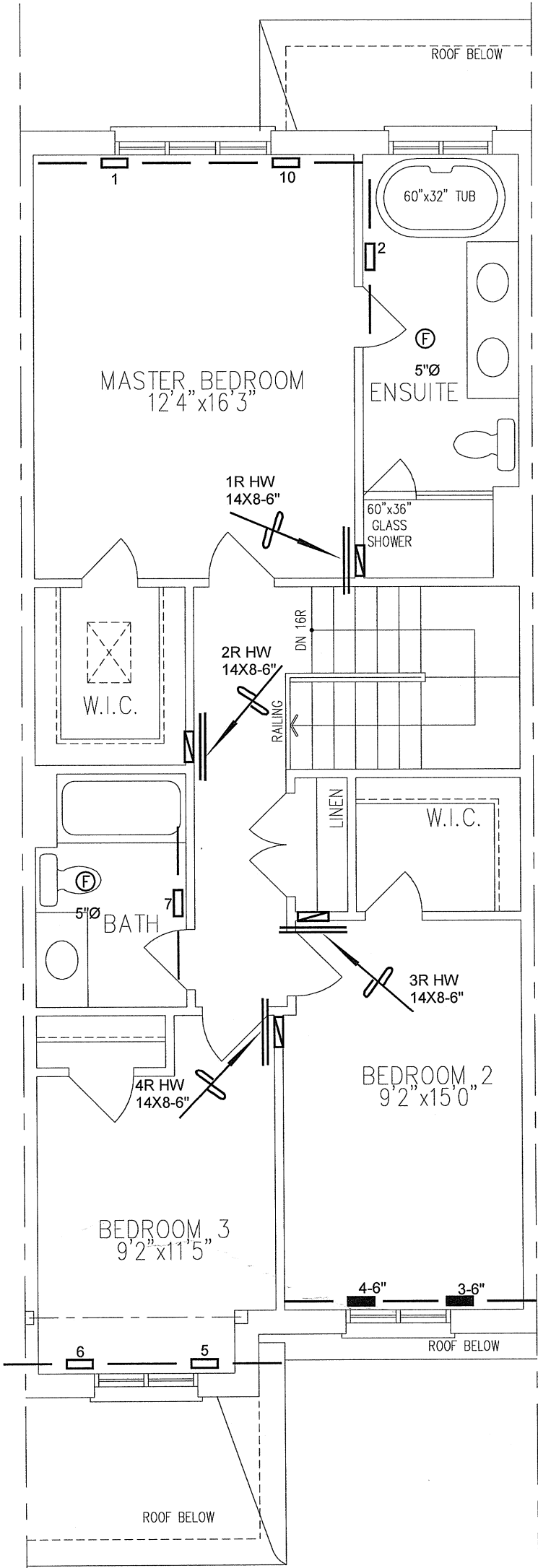
CSA-F280-12

SB-12 PERFORMANCE

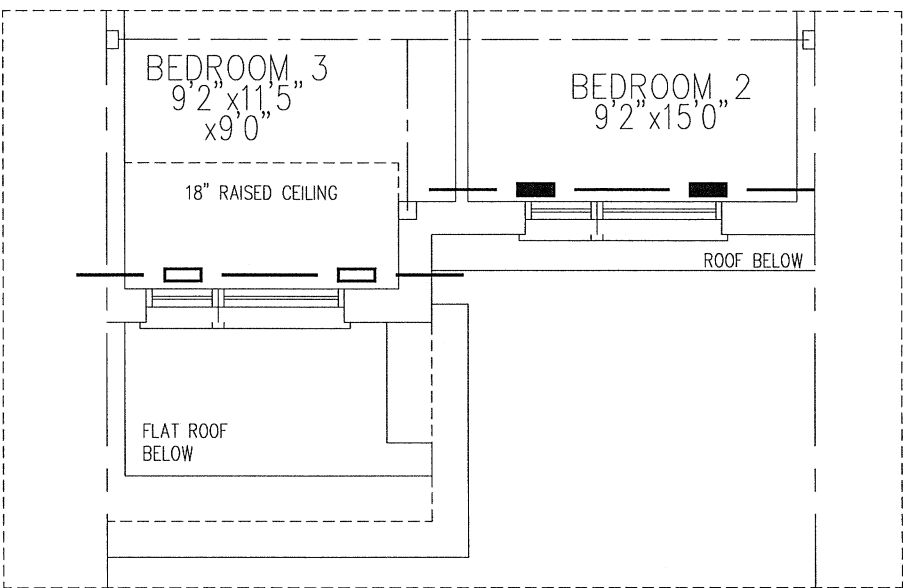
HVAC LEGEND								3.	REVISED ACH	SEPT/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
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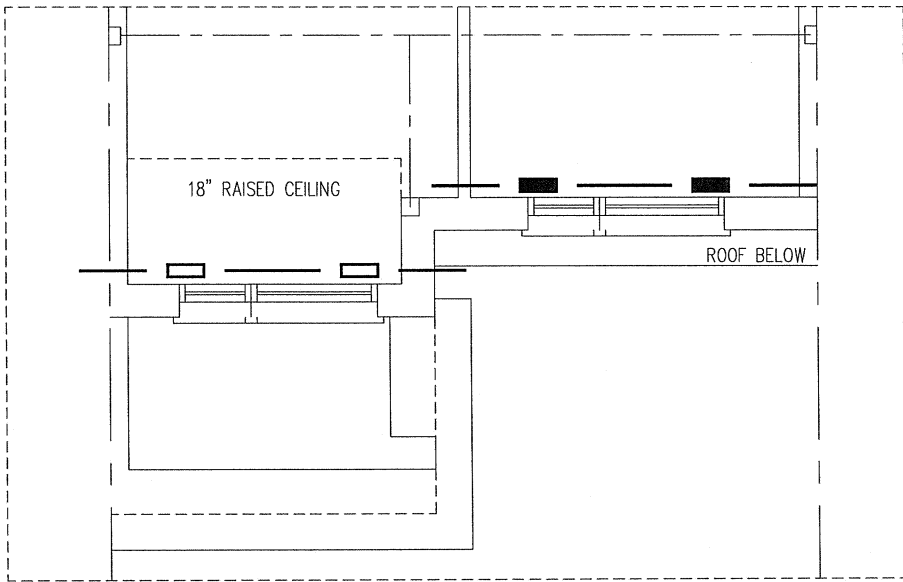
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets 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 CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date	SEPT/2020
OPT 2ND 2007			Scale	3/16" = 1'-0"
1662 sqft		BCIN# 19669		
		LO#	87526	



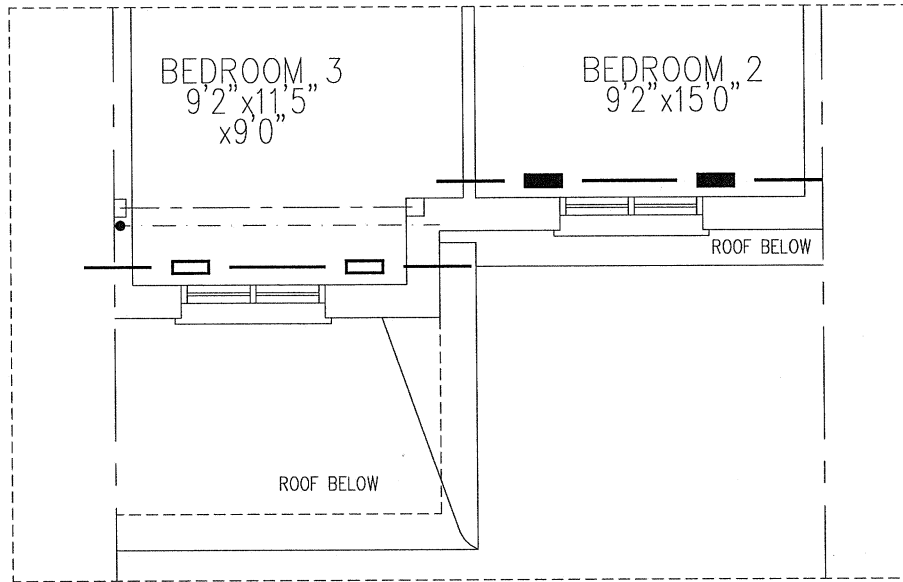
OPT. SECOND FLOOR PLAN,
EL. 'A1'



PART. SECOND FLOOR PLAN,
EL. 'B2'



SECOND FLOOR PLAN, EL. 'B1'



PART. SECOND FLOOR PLAN,
EL. 'A2'

CSA-F280-12

SB-12 PERFORMANCE

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.	REVISED ACH	SEPT/2021
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED AS PER ARCHITECTURALS	APR/2021
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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	
OPT 2ND 2007			Scale 3/16" = 1'-0"	
1662 sqft			BCIN# 19669	
			LO#	87526