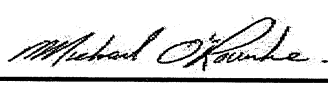


Schedule 1: Designer Information

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	Postal code	Plan number/ other description		
RICHMOND HILL				
B. Individual who reviews and takes responsibility for design activities				
Name		Firm		
MICHAEL O'ROURKE		HVAC DESIGNS LTD.		
Street address		Unit no.	Lot/con.	
375 FINLEY AVE		202	N/A	
Municipality	Postal code	Province	E-mail	
AJAX	L1S 2E2	ONTARIO	info@hvacdsgns.ca	
Telephone number	Fax number	Cell number		
(905) 619-2300	(905) 619-2375	()		
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		Model: 2009		
HEAT LOSS / GAIN CALCULATIONS		OPT 2ND		
DUCT SIZING		Project: CENTREFIELD (WEST GORMLEY)		
RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY				
RESIDENTIAL SYSTEM DESIGN per CSA-F280-12				
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.				
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.

SITE NAME: CENTREFIELD (WEST GORMLEY) BUILDER: ROYAL PINE HOMES										DATE: Sep-21 LO# 87534	WINTER NATURAL AIR CHANGE RATE 0.276	HEAT LOSS AT °F. 78	HEAT GAIN AT °F. 13	CSA-F280-12 SB-12 PERFORMANCE
ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	TYPE: 2009	OPT 2ND	GFA: 1660	BED-2	BED-3	BATH					
GRS.WALL AREA	FACTORS	14	6											
GLAZING	LOSS GAIN	8	8											
NORTH	21.8 16.0	0	0	0	0	10	0	15	0					
EAST	21.8 41.6	0	0	0	0	8	0	9	0					
SOUTH	21.8 24.9	0	0	0	0	0	0	0	0					
WEST	21.8 41.6	28	610	1163	17	80	0	135	0					
SKYLT.	35.8 101.2	0	0	0	0	0	0	0	0					
DOORS	25.8 4.3	0	0	0	0	0	0	0	0					
NET EXPOSED WALL	4.2 0.7	84	353	58	31	52	219	36	99	416	68	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.7 0.6	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3 0.6	382	502	225	78	177	233	104	200	263	118	77	101	45
NO ATTIC EXPOSED CLG	2.8 1.3	0	0	0	0	0	0	0	20	56	25	0	0	0
EXPOSED FLOOR	2.6 0.4	0	0	0	0	177	462	76	21	55	9	50	131	21
BASEMENT/CRAWL HEAT LOSS		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
SUBTOTAL HT LOSS		1465		603		1523		1574		232		232		67
SUB TOTAL HT GAIN		0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
LEVEL FACTOR / MULTIPLIER		446		184		464		479		71		71		4
AIR CHANGE HEAT LOSS		0		0		199		205		30		30		7
AIR CHANGE HEAT GAIN		0		0		269		294		0		0		0
DUCT LOSS		0		0		240		240		0		0		0
DUCT GAIN		2		480		889		889		0		0		0
HEAT GAIN PEOPLE	240			0		1		1		0		0		0
HEAT GAIN APPLIANCES/LIGHTS		889		0		2186		2259		333		333		101
TOTAL HT LOSS BTU/H		1911		787		3700		4208						
TOTAL HT GAIN x 1.3 BTU/H		3767		1053										

ROOM USE	EXP. WALL CLG. HT.	FACTORS	GRS.WALL AREA	LOSS GAIN	K/BIG	PWD	FOY	BAS
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	8	174	199	0	0	25	545
WEST	21.8 41.6	78	1699	3241	0	0	0	1039
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	146	615	101	20	517	85	40
NET EXPOSED BSMT WALL ABOVE GR	3.7 0.6	0	0	0	113	476	78	268
EXPOSED CLG	1.3 0.6	0	0	0	0	0	0	1127
NO ATTIC EXPOSED CLG	2.8 1.3	31	87	39	0	0	0	185
EXPOSED FLOOR	2.6 0.4	0	0	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		2576		3580	993		2706	
SUB TOTAL HT GAIN		0.30	0.39	0.30	0.39	163	1394	
LEVEL FACTOR / MULTIPLIER		1012		1012	390		1063	
AIR CHANGE HEAT LOSS		0		205	0		80	
AIR CHANGE HEAT GAIN		0		0	0		0	
DUCT LOSS		0		0	0		0	
DUCT GAIN		0		889	0		0	
HEAT GAIN PEOPLE	240			0	0		0	
HEAT GAIN APPLIANCES/LIGHTS				3588	1383		3769	
TOTAL HT LOSS BTU/H				6076				
TOTAL HT GAIN x 1.3 BTU/H					225		1916	

TOTAL HEAT GAIN BTU/H:	23112	TONS: 1.93	LOSS DUE TO VENTILATION LOAD BTU/H: 1336	STRUCTURAL HEAT LOSS: 23841	TOTAL COMBINED HEAT LOSS BTU/H: 25177
------------------------	-------	------------	--	-----------------------------	---------------------------------------

Michael O'Rourke

TYPE: 2009
SITE NAME: CENTREFIELD (WEST GORMLEY)

LO # 87534
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
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:	September-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																													
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																													
LO#: 87534		Model: 2009		Builder: ROYAL PINE HOMES		Date: 9/10/2021																																																							
Volume Calculation					Air Change & Delta T Data																																																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>734</td> <td>9</td> <td>6606</td> </tr> <tr> <td>First</td> <td>734</td> <td>10</td> <td>7413.4</td> </tr> <tr> <td>Second</td> <td>934</td> <td>8</td> <td>7472</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>21,491.4 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>608.6 m³</td> </tr> </tbody> </table>					Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	734	9	6606	First	734	10	7413.4	Second	934	8	7472	Third	0	9	0	Fourth	0	9	0	Total:			21,491.4 ft³	Total:			608.6 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> </thead> <tbody> <tr> <td>Winter DTDh</td> <td>22</td> <td>-21</td> <td>43</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> <tr> <td></td> <td></td> <td></td> <td>13</td> </tr> </tbody> </table>					Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-21	43	Summer DTDc	24	31	7				13
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																										
Bsmt	734	9	6606																																																										
First	734	10	7413.4																																																										
Second	934	8	7472																																																										
Third	0	9	0																																																										
Fourth	0	9	0																																																										
Total:			21,491.4 ft³																																																										
Total:			608.6 m³																																																										
Design Temperature Difference																																																													
	Tin °C	Tout °C	ΔT °C																																																										
Winter DTDh	22	-21	43																																																										
Summer DTDc	24	31	7																																																										
			13																																																										
6.2.6 Sensible Gain due to Air Leakage																																																													
$HG_{satb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.083 x 169.05 x 7 °C x 1.2 = 120 W = 410 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																																																													
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																													
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clvel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center;">8,218</td> <td>3,517</td> <td>1.168</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>6,274</td> <td>0.393</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>5,398</td> <td>0.304</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0										Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	8,218	3,517	1.168	2	0.3	6,274	0.393	3	0.2	5,398	0.304	4	0	0	0.000	5	0	0	0.000																										
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																									
1	0.5	8,218	3,517	1.168																																																									
2	0.3		6,274	0.393																																																									
3	0.2		5,398	0.304																																																									
4	0		0	0.000																																																									
5	0		0	0.000																																																									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 2009	OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 1660	LO# 87534	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):	21491.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.85	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 52.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	66.0 ft

2012 OBC - COMPLIANCE PACKAGE		Compliance Package	
Component		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%	-

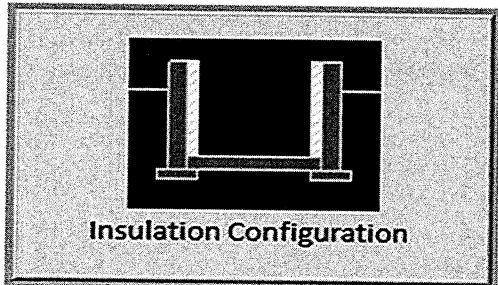
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

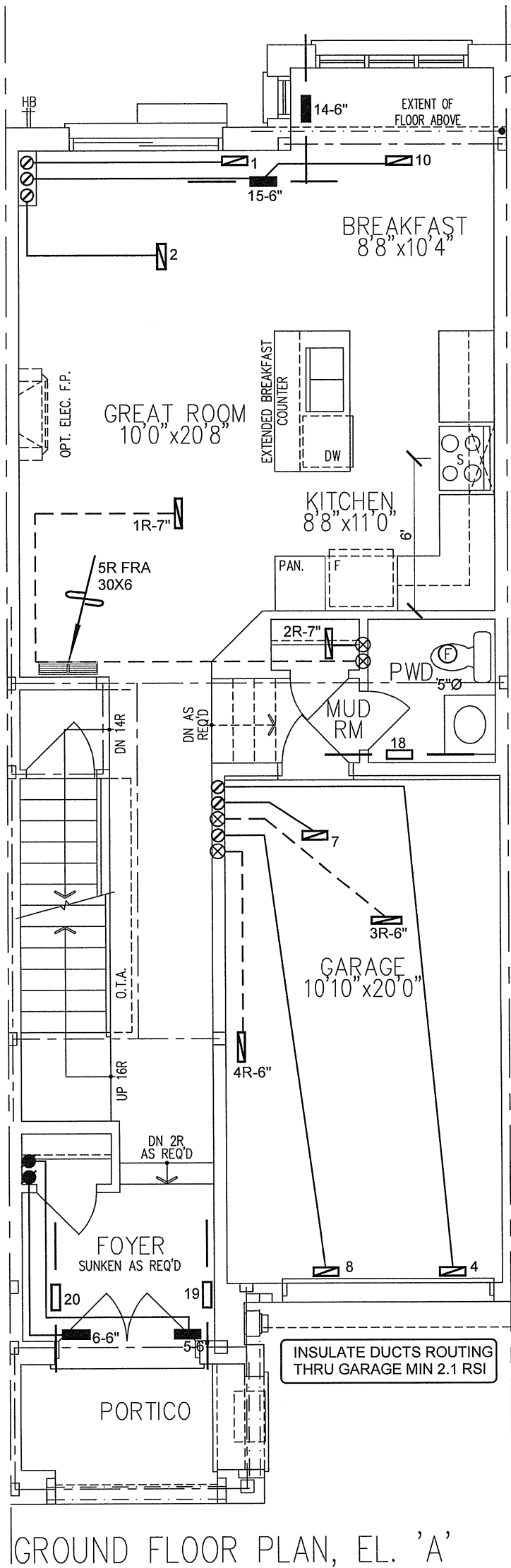
Supplemental tool for CAN/CSA-F280

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	
Floor Width (m):	6.1	
Exposed Perimeter (m):	20.1	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
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):		621

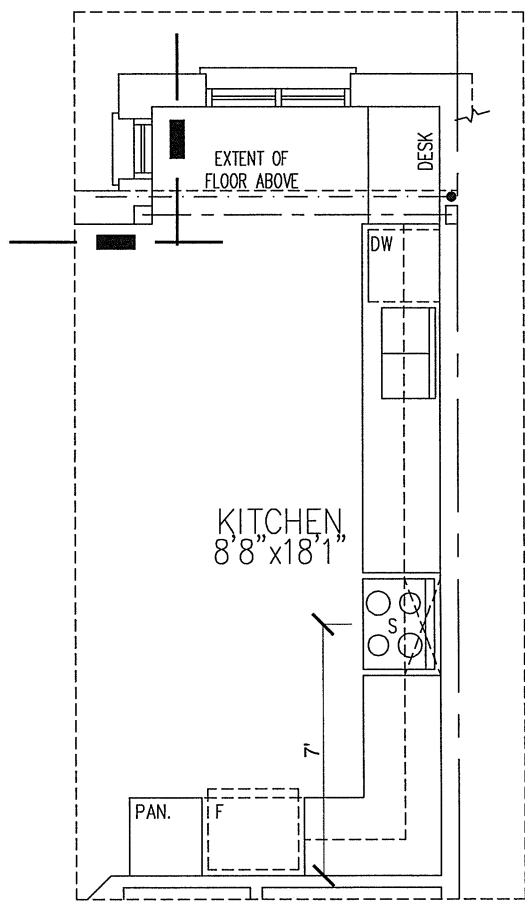
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

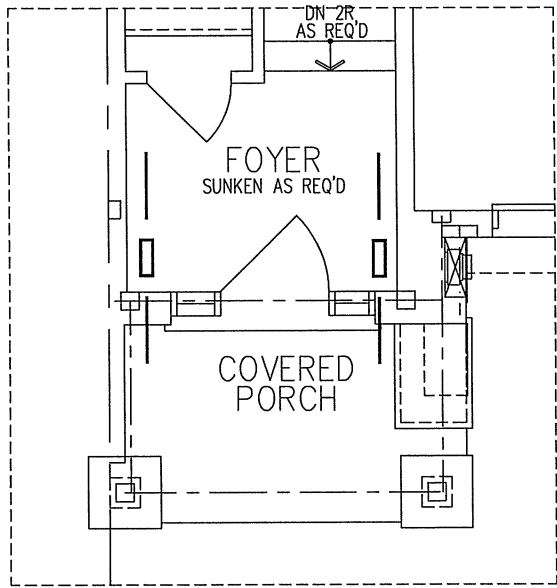
Weather Station Description				
Province:	Ontario			
Region:	Richmond Hill			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.43			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	608.6			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	681.7 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			



GROUND FLOOR PLAN, EL. 'A'



PART. GROUND FLOOR PLAN
- OPT. KITCHEN LAYOUT



GROUND FLOOR PLAN, EL. '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
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

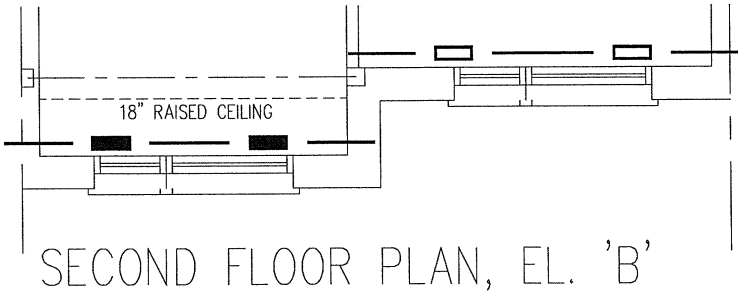
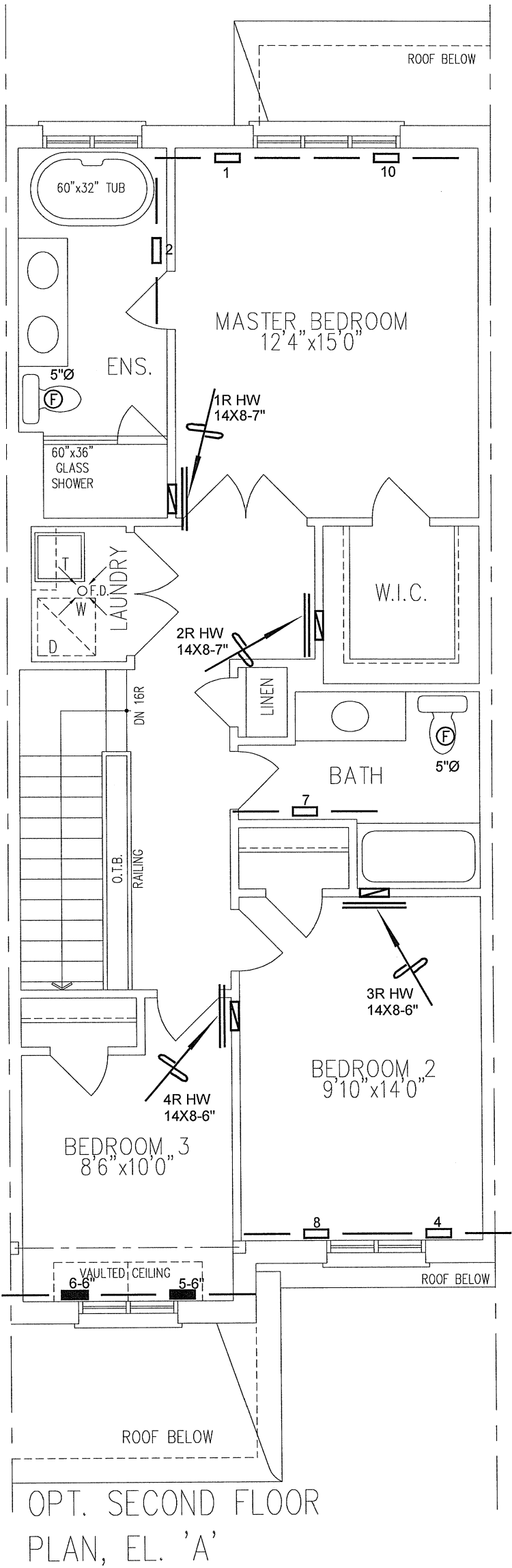
CSA-F280-12

SB-12 PERFORMANCE

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	REVISED ACH	SEPT/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		

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 ROYAL PINE HOMES		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.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Date SEPT/2020	
OPT 2ND 2009			Scale 3/16" = 1'-0"	
1660 sqft			BCIN# 19669 LO# 87534	



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 ACH	SEPT/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		

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	SEPT/2020
CENTREFIELD (WEST GORMLEY) RICHMOND HILL, ONTARIO			Scale	3/16" = 1'-0"
OPT 2ND 2009			BCIN# 19669	
1660 sqft			LO#	87534