

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 HAMILTON	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: ROSEWOOD 1 WOB Project: RUSSEL GARDENS		
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.				
January 9, 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.

SITE NAME: RUSSEL GARDENS BUILDING: GREENPARK HOMES				WOB		DATE: Jan-18		WINTER NATURAL AIR CHANGE RATE 0.365		HEAT LOSS AT °F. 71		CSA-F280-12 SB-12 PACKAGE A1	
ROOM USE		BUILDER: GREENPARK HOMES		TYPE: ROSEWOOD 1		GFA: 2683		LO# 77365		SUMMER NATURAL AIR CHANGE RATE 0.142		HEAT GAIN AT °F. 16	
EXP. WALL CLG. HT.		MBR		ENS		WIC		BED-2		BED-3		BED-4	
FACTORS		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
GRS.WALL AREA		360		216		90		261		320		126	
GLAZING		0		0		0		0		0		0	
NORTH		19.8 16.8		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
EAST		19.8 42.4		0 0 0		12 237 509		35 692 1484		48 949 2035		0 0 0	
SOUTH		19.8 25.7		0 0 0		8 158 206		0 0 0		0 0 0		0 0 0	
WEST		19.8 42.4		35 692 1484		15 297 636		0 0 0		0 0 0		0 0 0	
SKYLT.		34.6 103.0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
DOORS		23.5 5.2		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
NET EXPOSED WALL		4.1 0.9		325 1347 302		193 800 179		78 323 72		226 937 210		272 1128 252	
NET EXPOSED BSMT WALL ABOVE GR		3.3 0.7		0 0 0		0 0 0		0 0 0		0 0 0		110 455 102	
EXPOSED CLG		1.2 0.6		400 477 255		143 170 91		84 100 54		262 312 167		82 340 76	
NO ATTIC EXPOSED CLG		2.6 1.4		0 0 0		0 0 0		65 166 89		112 286 153		0 0 0	
EXPOSED FLOOR		2.4 0.5		0 0 0		143 339 76		0 0 0		0 0 0		0 0 0	
BASEMENT/CRAWL HEAT LOSS		0 0 0		0 0 0		0 0 0		208 493 110		0 0 0		0 0 0	
SLAB ON GRADE HEAT LOSS		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0		0 0 0	
SUBTOTAL HT LOSS		2516		1764		732		2458		2463		1085	
SUB TOTAL HT GAIN		2041		1188		673		1984		2484		681	
LEVEL FACTOR / MULTIFLIER		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27	
AIR CHANGE HEAT LOSS		676		474		197		660		662		291	
AIR CHANGE HEAT GAIN		218		127		72		212		267		73	
DUCT LOSS		0		224		0		312		0		0	
DUCT GAIN		0		132		0		0		0		0	
HEAT GAIN PEOPLE		240		0		0		1		240		1	
HEAT GAIN APPLIANCES/LIGHTS		702		0		0		702		702		702	
TOTAL HT LOSS BTU/H		3192		2462		929		3430		3124		1376	
TOTAL HT GAIN x 1.3 BTU/H		4473		1881		969		4487		4814		2205	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LVDN	KTIFM	LAUN	PWD	FOY	WOB	BAS
GRS.WALL AREA	410	700	700	410	700	228	60	330	531	630
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0	0	0	0	0	8	158	135	63	1245
EAST	0	0	0	0	0	0	0	0	0	1059
SOUTH	27	534	695	0	0	0	0	10	198	424
WEST	0	0	0	0	0	0	7	138	180	0
SKYLT.	0	0	98	1937	4154	0	0	0	0	4
DOORS	0	0	0	0	0	0	0	0	0	79
NET EXPOSED WALL	383	1588	555	602	2496	200	829	185	468	1940
NET EXPOSED BSMT WALL ABOVE GR	0	0	0	0	0	0	0	0	0	434
EXPOSED CLG	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	0	0	10	26	14	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	2122	4458	4458	2122	4458	1456	358	2297	840	2376
SUB TOTAL HT GAIN	1050	4727	4727	1050	4727	425	229	894	4025	3977
LEVEL FACTOR / MULTIPLIER	0.30	0.47	0.30	0.30	0.47	0.30	0.47	0.30	1493	0.50
AIR CHANGE HEAT LOSS	987	2075	2075	987	2075	678	167	1069	4025	1.04
AIR CHANGE HEAT GAIN	112	506	506	112	506	45	25	96	4025	8291
DUCT LOSS	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3109	6533	6533	3109	6533	2134	525	3365	4865	12288
TOTAL HT GAIN x 1.3 BTU/H	2424	7716	7716	2424	7716	1524	330	1286	1942	846

GFA: 2683 LO# 77365

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2		LVIDN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	1,60	2,46	0,93	1,72	1,56	1,38	0,83	1,72	1,56	1,60	0,86		3,11	2,18	2,18	2,18	2,13	0,52	3,37	3,43	3,43	3,43	3,43	3,43
CFM PER RUN HEAT	37	57	21	40	36	32	19	40	36	37	20		72	50	50	50	49	12	78	79	79	79	79	79
RM GAIN MBH.	2,24	1,88	0,97	2,24	2,41	2,20	0,53	2,24	2,41	2,24	0,46		2,42	2,57	2,57	2,57	1,52	0,33	1,29	0,56	0,56	0,56	0,56	0,56
CFM PER RUN COOLING	70	59	31	71	76	69	17	71	76	70	14		76	81	81	81	48	10	41	18	18	18	18	18
ADJUSTED PRESSURE	0,17	0,17	0,17	0,17	0,17	0,17	0,17	0,17	0,17	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	0,17
ACTUAL DUCT LGH.	67	29	46	55	48	21	43	60	55	56	54		8	21	33	40	34	26	33	13	22	32	32	9
EQUIVALENT LENGTH	130	220	120	130	180	200	120	140	150	150	170		140	160	140	110	140	130	90	170	150	120	130	130
TOTAL EFFECTIVE LENGTH	197	249	166	185	228	221	163	200	205	206	224		148	181	173	150	174	156	183	172	152	139	139	139
ADJUSTED PRESSURE	0,09	0,07	0,1	0,09	0,08	0,08	0,11	0,09	0,08	0,08	0,08		0,12	0,09	0,09	0,11	0,1	0,11	0,14	0,09	0,1	0,11	0,11	0,12
ROUND DUCT SIZE	5	5	4	5	5	5	4	5	5	5	4		5	5	5	5	4	5	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	272	419	241	294	284	235	218	294	264	272	229		529	367	367	367	562	138	573	580	580	580	580	580
COOLING VELOCITY (ft/min)	514	433	356	521	558	507	195	521	558	514	161		558	595	595	595	551	115	301	132	132	132	132	132
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	B	B	B	A	B	B	B	A	C	B		B	C	C	C	C	A	A	C	C	C	C	C

25	ROOM NAME	BAS
3.43	RM LOSS MBH	
79	CFM PER RUN HEAT	
0.56	RM GAIN MBH	
18	CFM PER RUN COOLING	
0.17	ADJUSTED PRESSURE	
28	ACTUAL DUCT LGH	
100	EQUIVALENT LENGTH	
128	TOTAL EFFECTIVE LENGTH	
0.13	ADJUSTED PRESSURE	
5	ROUND DUCT SIZE	
580	HEATING VELOCITY (ft/min)	
132	COOLING VELOCITY (ft/min)	
3X10	OUTLET GRILL SIZE	
A	TRUNK	

[illegible]

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: ROSEWOOD 1
SITE NAME: RUSSEL GARDENS

LO # 77365
WOB

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	5 @ 10.6 cfm	53 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 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	169.6	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	30.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 60H-V+	Location: BSMT
139.0 cfm	3.0 sones
☒	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION	
CFM	ΔT °F
139.0 CFM	X 71 F
X	X
FACTOR	% LOSS
1.08	X 0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
139	cfm high	50 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: GREENPARK 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:	January-18

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: ROSEWOOD 1	WOB	BUILDER: GREENPARK HOMES
SFQT: 2683	LO# 77365	SITE: RUSSEL GARDENS

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	DETACHED	# 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):	35995.0	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: 49.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	105.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	59.0 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	-

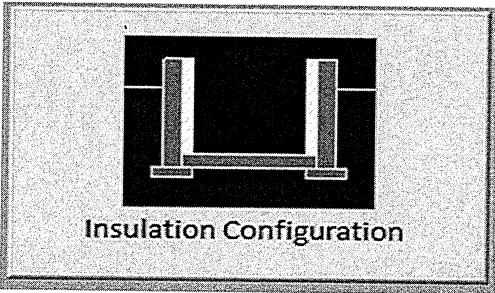
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

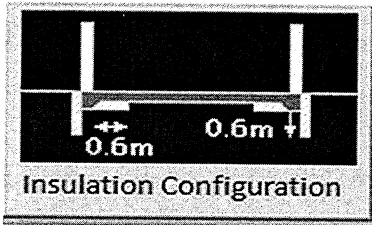
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	7.0	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	32.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.60	
Window Area (m ²):	0.4	
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):		696

TYPE: ROSEWOOD 1
LO# 77365

WOB

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	4.0	 Insulation Configuration
Width (m):	10.1	
Exposed Perimeter (m):	18.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		246

TYPE: ROSEWOOD 1
LO# 77365

WOB

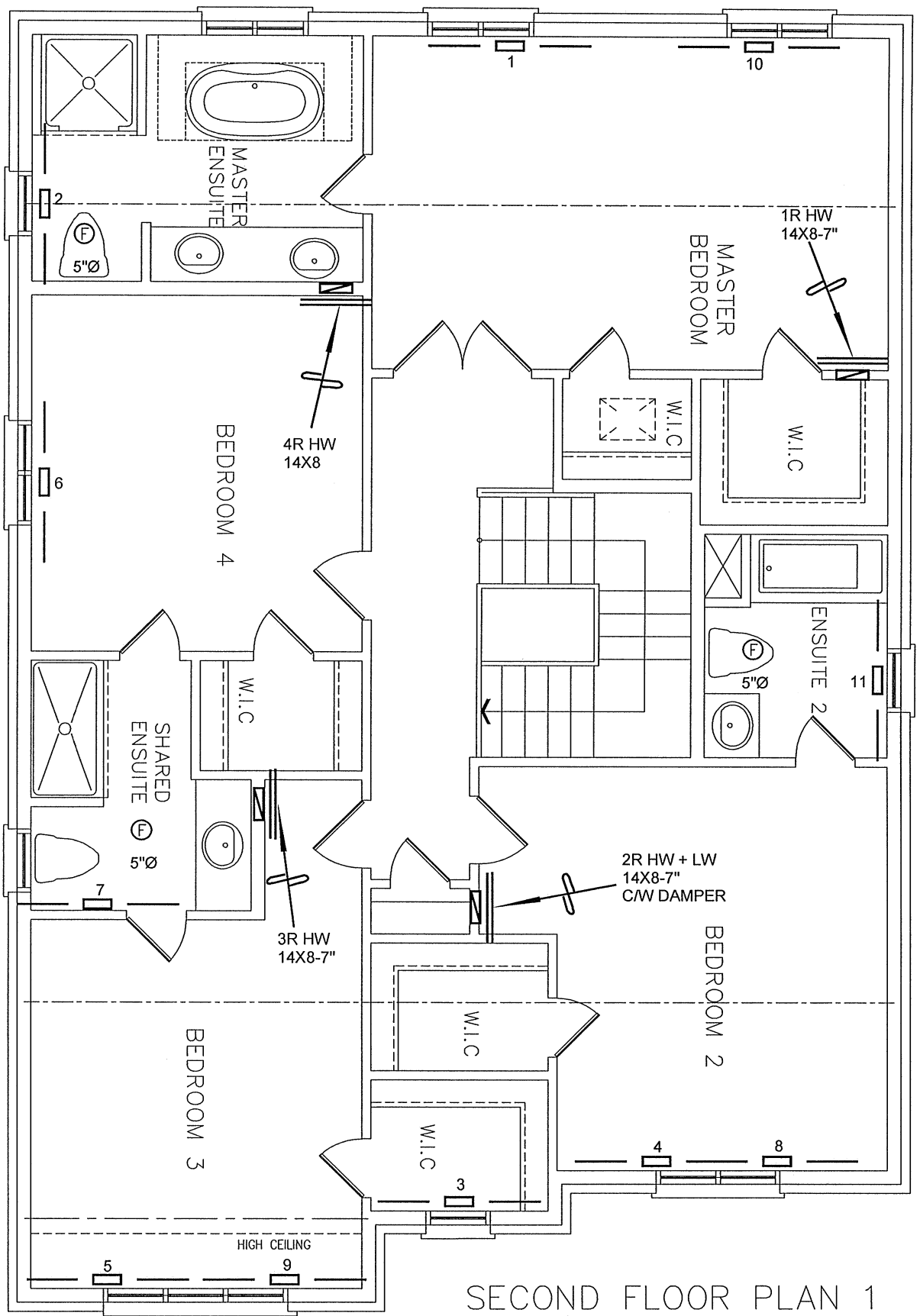
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

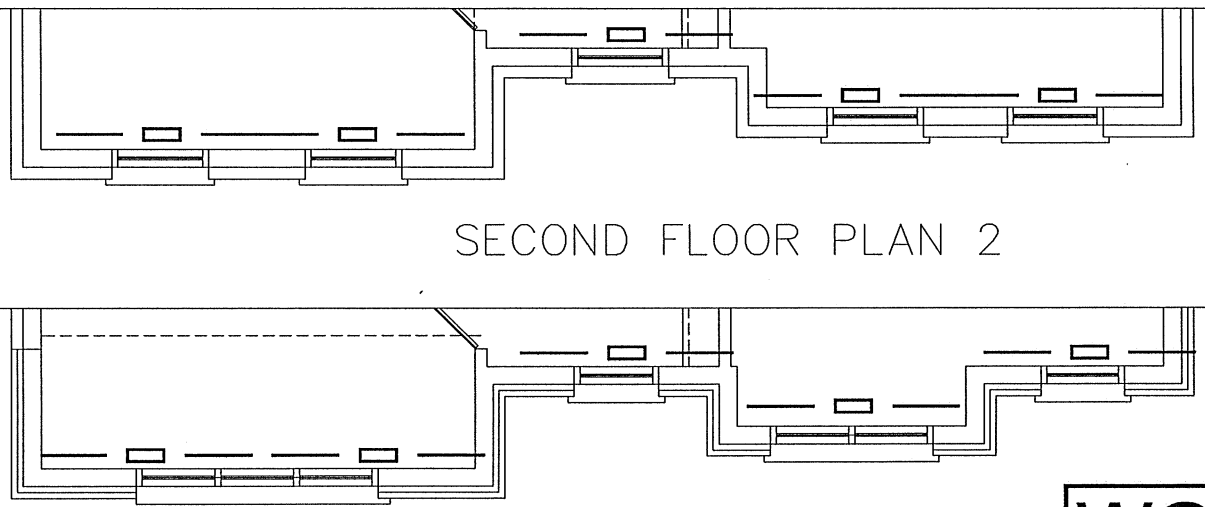
Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1019.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1358.7 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	65.6	65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.365			
Cooling Air Leakage Rate (ACH/H):	0.142			

TYPE: ROSEWOOD 1
LO# 77365

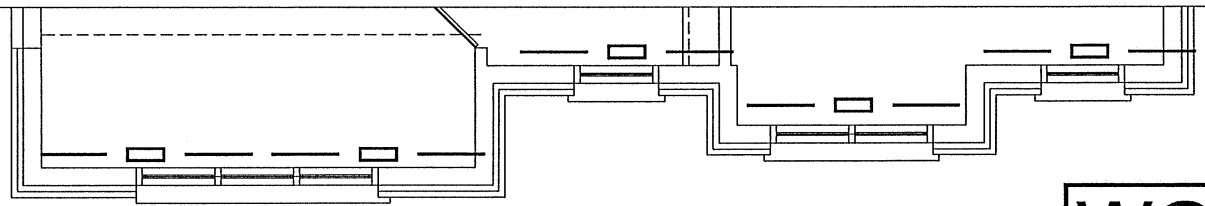
WOB



SECOND FLOOR PLAN 1



SECOND FLOOR PLAN 2



SECOND FLOOR PLAN 3

WOB
CSA-F280-12
PACKAGE A1

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.

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	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
GREENPARK HOMES

Project Name
**RUSSEL GARDENS
HAMILTON, ONTARIO**

WOB
ROSEWOOD 1 2683 sqft

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.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**

Date **JAN/2018**

Scale **3/16" = 1'-0"**

BCIN# 19669

LO# 77365