

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.
Municipality HAMILTON			Postal code
Plan number/ other description			Lot/con.
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 ☒ HVAC – House ☐ Building Structural ☐ Small Buildings ☐ Building Services ☐ Plumbing – House ☐ Large Buildings ☐ Detection, Lighting and Power ☐ Plumbing – All Building s ☐ Complex Buildings ☐ Fire Protection ☐ 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 5 WOB Project: RUSSEL GARDENS	
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.			
February 6, 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 WOB TYPE: ROSEWOOD 5 DATE FEB-18 WINTER NATURAL AIR CHANGE RATE 0.310 HEAT LOSS AT °F. 71 CSA-F280-12
BUILDER: GREENPARK HOMES LO# 77446 SUMMER NATURAL AIR CHANGE RATE 0.120 HEAT GAIN AT °F. 16 SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-3	ENS-4	
GRS WALL AREA	19.8	16.5	342	108	144	117	285	456	162	54	63	
GLAZING	0	0	0	0	0	0	0	0	0	0	0	
NORTH	0	0	0	0	0	0	0	0	0	0	0	LOSS GAIN
EAST	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	10 198 413
WEST	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	35	692	1446	21	415	867	0	0	7	138	289	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.9	307	1273	286	87	351	81	144	597	134	102
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	352	420	226	132	157	84	210	250	134	260
NO ATTIC EXPOSED CLG	2.6	1.4	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	2384	1955	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0	0	0	0
LEVEL FACTOR / MULTIPLE	554	201	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	2	480	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	786	0	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	2948	4449	1154	1048	1273	2061	3757	3783	1079	843	1110	935
TOTAL HT GAIN x 1.3 BTU/H												

ROOM USE	EXP. WALL	CLG. HT.	OFF	K/D/F	LAUN	PWD	FOY	WUB	BAS
GRS WALL AREA	19.8	16.5	130	1110	228	130	340	225	1116
GLAZING	0	0	0	0	0	0	0	0	0
NORTH	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0
SKYLT.	35	692	1446	21	415	867	0	0	0
DOORS	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.9	113	468	105	121	502	112	278
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	1.4	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	806	532	0.30	0.40	0.30	0.40	0.30	0.40	0.30
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0
LEVEL FACTOR / MULTIPLE	321	55	0	0	0	0	0	0	0
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	786	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	1125	1784	8831	8379	2102	1683	3584	1029	1638
TOTAL HT GAIN x 1.3 BTU/H									

TOTAL HEAT GAIN BTU/H: 37235 TONS: 3.10 LOSS DUE TO VENTILATION LOAD BTU/H: 2650 STRUCTURAL HEAT LOSS: 52072 TOTAL COMBINED HEAT LOSS BTU/H: 54722

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

WOB
TYPE: ROSEWOOD 5

DATE: Feb-18

GFA: 2996

LO# 77646

HEATING CFM 1131
TOTAL HEAT LOSS 52,072
AIR FLOW/RATE CFM 21.72

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

#GOODMAN
GMCE960603BNA 60
FAN SPEED LOW
MEDIUM HIGH

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600
DESIGN CFM = 1131
CFM @ 5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	7	5
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	22	23	24
MBR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	22	23	24
RM LOSS MBH	1.47	1.15	1.05	1.27	1.88	1.89	1.89	0.84	1.88	1.47	1.11	1.89	1.13	2.94	2.94	2.94	2.10	0.95	3.58	3.70	3.70	3.70	3.70
CFM PER RUN HEAT	32	25	23	28	41	41	23	18	41	32	24	41	24	64	64	64	46	21	78	80	80	80	80
RM GAIN MBH	2.22	1.48	0.38	2.06	2.59	2.43	0.69	0.44	2.59	2.22	0.94	2.43	1.78	2.79	2.79	2.79	1.69	0.69	1.03	0.52	0.52	0.52	0.52
CFM PER RUN COOLING	69	46	12	64	80	75	21	14	80	69	29	75	55	86	86	86	52	21	32	16	16	16	16
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	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	49	59	33	33	42	56	57	39	46	43	36	62	35	41	28	31	23	43	35	28	25	16	15
ACTUAL DUCT LGH	130	190	170	130	150	140	200	150	150	130	130	160	150	140	130	120	150	130	120	90	80	100	90
TOTAL EFFECTIVE LENGTH	179	249	203	163	192	196	257	189	196	173	166	222	185	181	158	151	173	173	155	118	105	116	105
ADJUSTED PRESSURE	0.1	0.07	0.08	0.11	0.09	0.09	0.07	0.09	0.09	0.1	0.1	0.08	0.09	0.09	0.1	0.11	0.1	0.1	0.11	0.15	0.16	0.15	0.16
ROUND DUCT SIZE	5	5	4	5	5	5	4	4	5	4	4	5	5	5	5	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	235	184	264	206	301	301	264	207	301	235	275	470	301	176	470	470	528	241	573	587	587	587	587
COOLING VELOCITY (ft/min)	507	338	138	470	587	551	241	161	587	507	333	551	404	631	631	631	597	241	573	117	117	117	117
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	A	A	B	B	D	C	A	D	D	A	D	C	C	A	A	A	B	C	C	B	B	B	D

ROOM NAME	25
RM LOSS MBH	3.70
CFM PER RUN HEAT	80
RM GAIN MBH	0.52
CFM PER RUN COOLING	16
ADJUSTED PRESSURE	0.17
EQUIVALENT LENGTH	34
ACTUAL DUCT LGH	140
TOTAL EFFECTIVE LENGTH	174
ADJUSTED PRESSURE	0.1
ROUND DUCT SIZE	5
HEATING VELOCITY (ft/min)	587
COOLING VELOCITY (ft/min)	117
OUTLET GRILL SIZE	3X10
TRUNK	C

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.07	9.3	10	8	304	0.00	0	0	0	TRUNK G	0.00	0	0	0	TRUNK O	0.06	0	0	8
TRUNK B	0.07	12.3	18	8	641	0.00	0	0	0	TRUNK H	0.00	0	0	0	TRUNK P	0.06	0	0	8
TRUNK C	0.08	8.8	10	8	513	0.00	0	0	0	TRUNK I	0.00	0	0	0	TRUNK Q	0.06	0	0	8
TRUNK D	0.08	10.7	14	8	629	0.00	0	0	0	TRUNK J	0.00	0	0	0	TRUNK R	0.06	0	0	8
TRUNK E	0.00	0	0	8	0	0.00	0	0	0	TRUNK K	0.00	0	0	0	TRUNK S	0.06	0	0	8
TRUNK F	0.00	0	0	8	0	0.00	0	0	0	TRUNK L	0.00	0	0	0	TRUNK T	0.06	0	0	8
RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
AIR VOLUME	155	175	85	85	330	120	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
ACTUAL DUCT LGH	39	39	45	55	29	35	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	215	165	155	175	170	195	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	254	204	200	230	199	230	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	7.5	7.5	5.8	8	6	6.8	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: ROSEWOOD 5
SITE NAME: RUSSEL GARDENS

LO # 77646
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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>190.8</u> 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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>190.8</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>51.8</u>	cfm

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

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

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
<u>139</u> cfm high	<u>50</u> cfm low	
<u>75</u> % 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:	February-18

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: ROSEWOOD 5	WOB	BUILDER: GREENPARK HOMES
SFQT: 2996	LO# 77646	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):	40294.0	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: 58.0 ft	WIDTH: 35.0 ft	EXPOSED PERIMETER:	186.0 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



Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

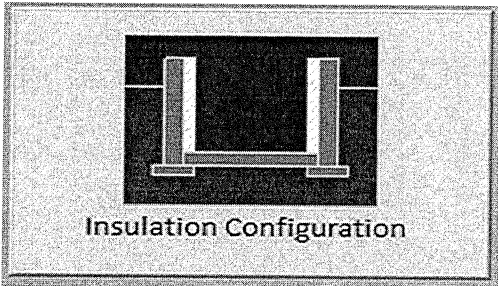
Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1141.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1521.0 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):	0.310			
Cooling Air Leakage Rate (ACH/H):	0.120			

TYPE: ROSEWOOD 5
LO# 77646

WOB

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

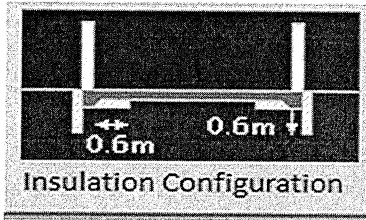
Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	10.7	
Exposed Perimeter (m):	43.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.55	
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):		718

TYPE: ROSEWOOD 5
LO# 77646

WOB

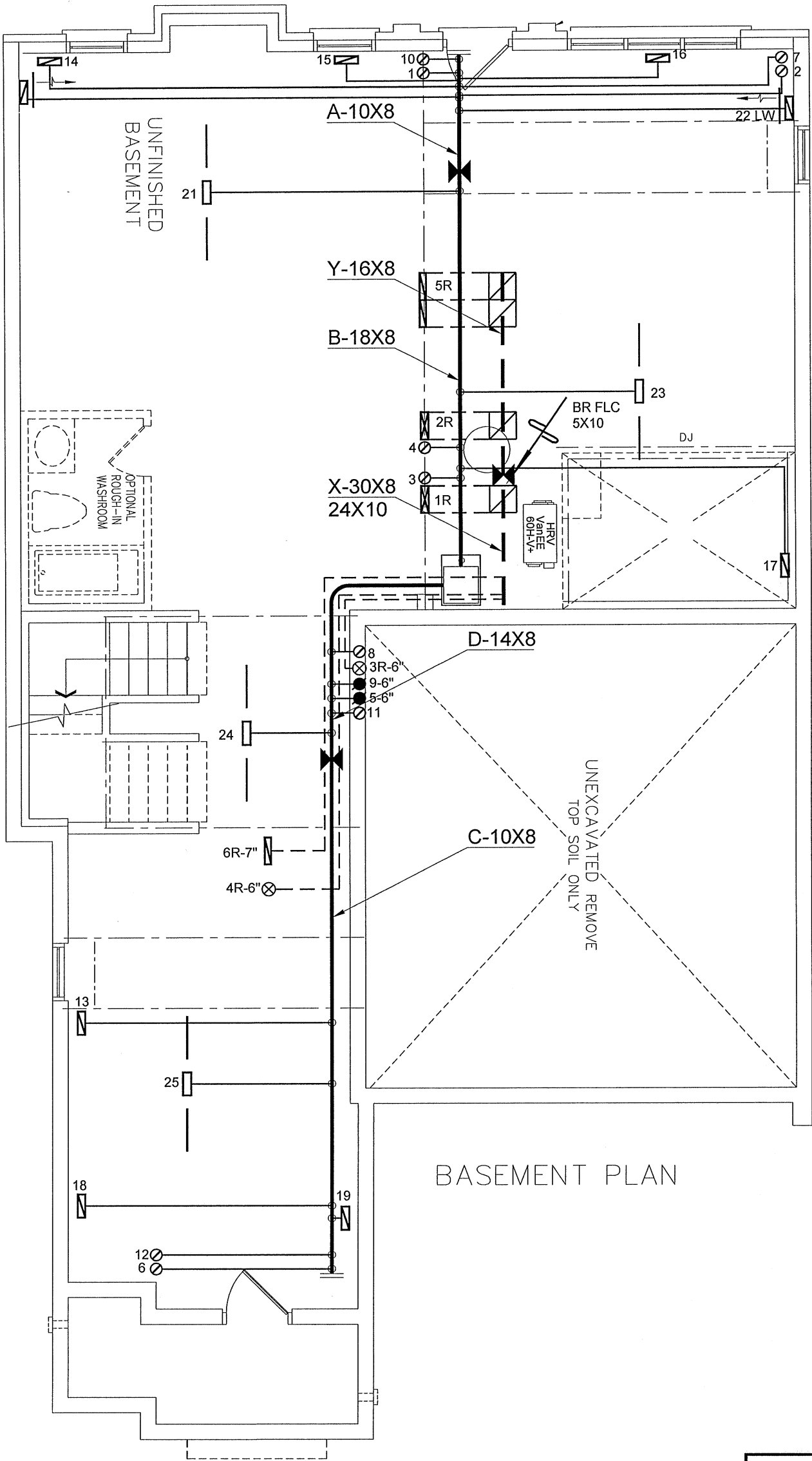
Residential Foundation Thermal Load Calculator

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):	1.5	 Insulation Configuration
Width (m):	10.7	
Exposed Perimeter (m):	13.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		174

TYPE: ROSEWOOD 5
LO# 77646

WOB



BASEMENT PLAN

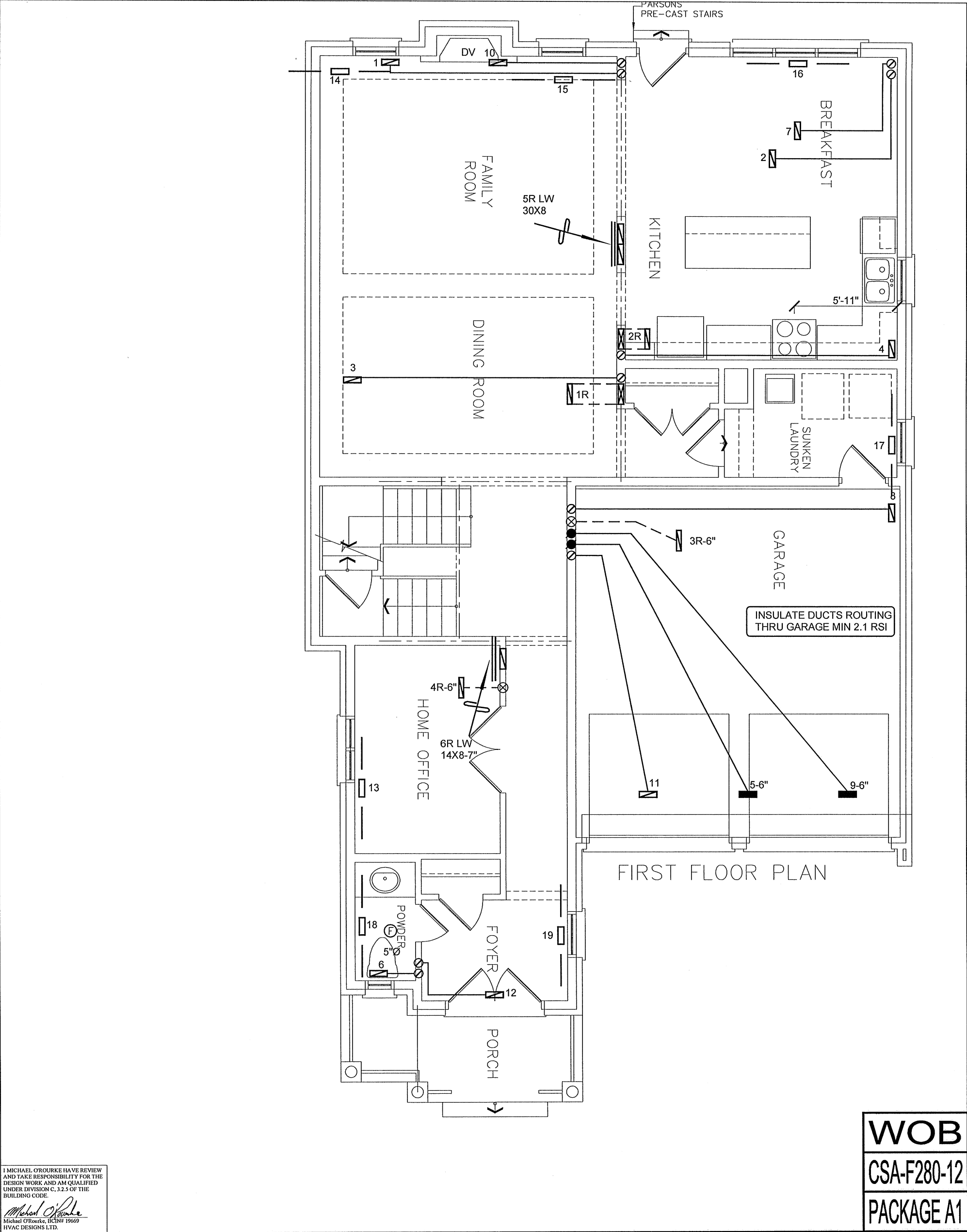
WOB
CSA-F280-12
PACKAGE A1

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		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 54722 BTU/H		# OF RUNS		S/A		R/A		FANS		Sheet Title	
GREENPARK HOMES				UNIT DATA		3RD FLOOR								BASEMENT	
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.		MAKE		2ND FLOOR		12		4		4		HEATING	
RUSSEL GARDENS				MODEL		1ST FLOOR		7		2		2		LAYOUT	
HAMILTON, ONTARIO				GMEC960903BNA		BASEMENT		5		1		0		Date	
				INPUT		60		MBTU/H						FEB/2018	
				OUTPUT		57.6		MBTU/H						Scale	
				COOLING		3.0		TONS						3/16" = 1'-0"	
				FAN SPEED		1131		cfm @ 0.6" w.c.						BCIN# 19669	
WOB														LO#	
ROSEWOOD 5														77646	
2996 sqft															



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.

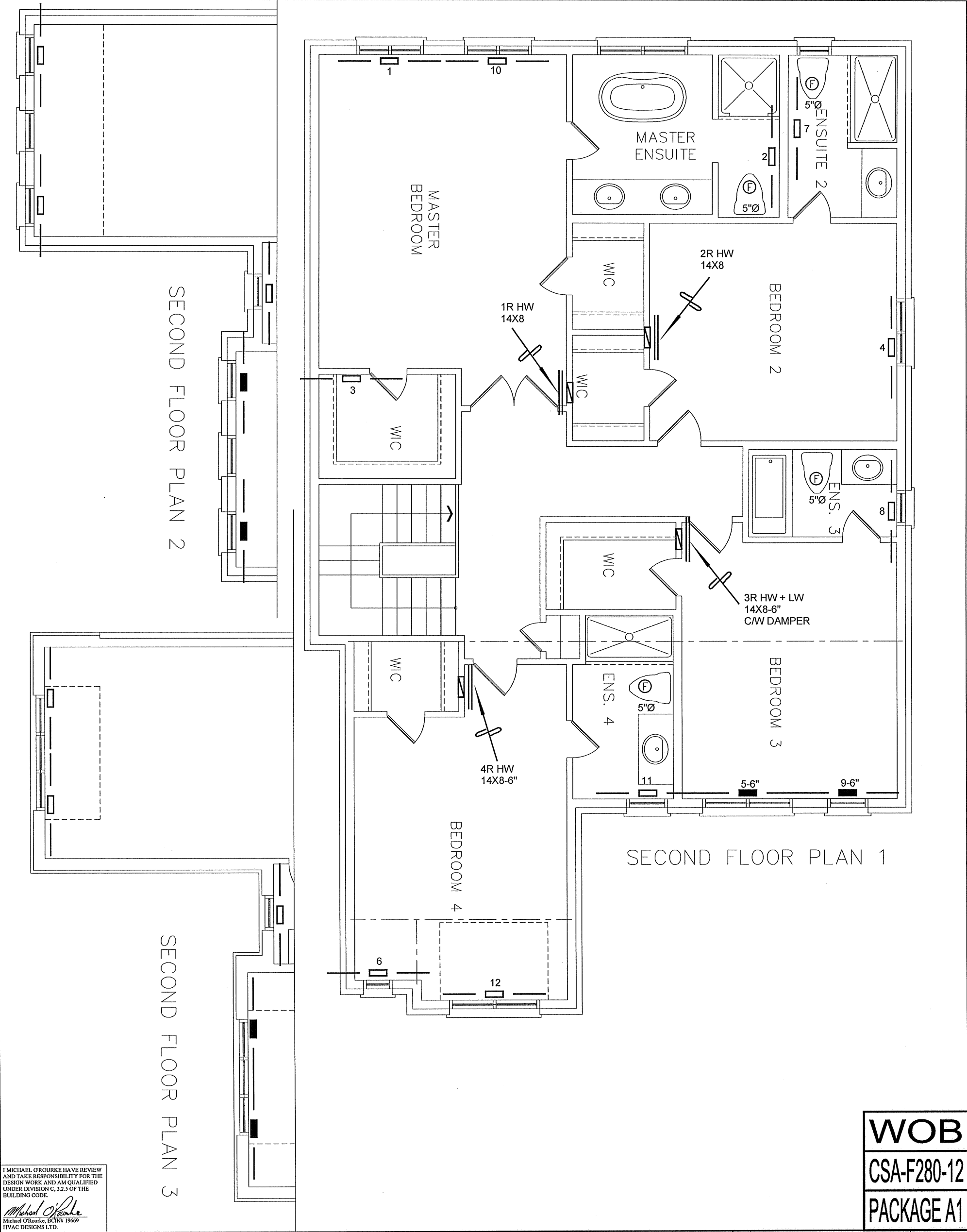
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOB
CSA-F280-12
PACKAGE A1

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		 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 RUSSEL GARDENS HAMILTON, ONTARIO			Date FEB/2018	
WOB ROSEWOOD 5 2996 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 77646	



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 32.3 OF THE BUILDING CODE.

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

WOB

CSA-F280-12

PACKAGE A1

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	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
Project Name		SECOND FLOOR HEATING LAYOUT
WOB ROSEWOOD 5 2996 sqft		Date FEB/2018
		Scale 3/16" = 1'-0"
		BCIN# 19669
		LO# 77646