

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@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: ROSEWOOD 12 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 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: RUSSEL GARDENS

BUILDER: GREENPARK HOMES

TYPE: ROSEWOOD 12

GFA: 3113

DATE: Feb-18

LO# 75043

WINTER NATURAL AIR CHANGE RATE 0.310

SUMMER NATURAL AIR CHANGE RATE 0.117

HEAT LOSS AT °F. 71

HEAT GAIN AT °F. 15

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE			MBR		ENS		BED-2		BED-3		BED-4		ENS-2		ENS-3		ENS-4		LOUNGE		
EXP. WALL			36		29		18		21		14		9		16		10		5		
CLG. HT.			9		9		9		9		9		9		9		9		9		
GRS.WALL AREA	LOSS	GAIN	324		261		162		189		126		81		144		90		45		
GLAZING	LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	
NORTH	19.8	16.5	0	0	0	0	18	356	298	0	0	0	9	178	149	0	0	0	0	0	0
EAST	19.8	42.1	0	0	0	0	0	0	0	37	731	1558	0	0	0	10	198	421	0	0	0
SOUTH	19.8	25.5	0	0	0	21	0	0	0	0	0	0	0	0	0	21	415	535	21	415	535
WEST	19.8	42.1	36	712	1516	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	34.6	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	23.5	4.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.9	288	1194	250	219	144	597	125	152	630	132	101	419	88	72	298	63	134	556	116
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	320	381	199	208	306	365	190	206	246	128	238	284	148	63	75	39	136	162	85
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	24	61	32	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	230	545	114	0	0	0	63	149	31	63	149	31
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			2287		1986		1318		2213		1197		701		978		882		638		608
SUB TOTAL HT GAIN				1965	1739			613	1964		872		282		608		683			608	
LEVEL FACTOR / MULTIPLIER	0.20	0.28		0.20	0.28		0.20	0.28	0.20	0.28		0.20	0.28		0.20	0.28		0.20	0.28		0.20
AIR CHANGE HEAT LOSS			630		547		363		610		330		193		269		243		176		50
AIR CHANGE HEAT GAIN				161	142			50	161		71		23		50		56			50	
DUCT LOSS			0		0		0		282		0		89		125		113		81		124
DUCT GAIN			0		0		0		295		0		30		66		74			124	
HEAT GAIN PEOPLE	240		2		480	0	1		240	1		240	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					585	0			585			585			0			0		585	
TOTAL HT LOSS BTU/H			2917		2533		1681		3106		1526		983		1372		1238		896		1778
TOTAL HT GAIN x 1.3 BTU/H				4149	2445			1935	4219		2300		436		941		1057				

ROOM USE			OFF		LIV/DIN		KIT/FM		LAUN		W/R		FOY						WUP		BAS
EXP. WALL			41		62		72		30		10		7						32		194
CLG. HT.			13		10		11		11		10		20						9		9
GRS.WALL AREA	LOSS	GAIN	533		620		792		330		100		140						288		1164
GLAZING	LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN					LOSS	GAIN	LOSS
NORTH	19.8	16.5	0	0	0	0	0	0	8	158	132	0	0	0	0	0	0	0	0	0	10
EAST	19.8	42.1	67	1324	2822	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	19.8	25.5	36	712	917	69	1364	1757	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	19.8	42.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	34.6	102.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	23.5	4.9	0	0	0	0	0	0	20	469	98	0	0	0	47	1102	231	0	0	0	0
NET EXPOSED WALL	4.1	0.9	430	1783	374	551	2284	479	302	1252	262	100	415	87	93	386	81	268	1111	233	0
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	1.3	201	513	268	0	0	0	0	0	0	0	0	0	48	123	64	0	0	0	0
EXPOSED FLOOR	2.4	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0		0		0		0		0		0		0		0		0		6470
SLAB ON GRADE HEAT LOSS			0		0		0		0		0		0		0		0		0		
SUBTOTAL HT LOSS			4332		3648		5142		1879		415		1610						1580		9082
SUB TOTAL HT GAIN				4379	2236		5163			493	87		376						331		672
LEVEL FACTOR / MULTIPLIER	0.30	0.30		0.30	0.30		0.30	0.30	0.30	0.30		0.30	0.30		0.30	0.30				0.50	0.79
AIR CHANGE HEAT LOSS			1283		1080		1523		557		123		477								8405
AIR CHANGE HEAT GAIN				358	183		423		40		7		31								82
DUCT LOSS			0		0		0		0		0		0								0
DUCT GAIN			0		0		0		0		0		0								0
HEAT GAIN PEOPLE	240		0		0	0	0	0	0		0	0	0	0	0			0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS					585		585				585		0						0		585
TOTAL HT LOSS BTU/H			5615		4729		6665		2436		537		2087						1580		17487
TOTAL HT GAIN x 1.3 BTU/H				6920	3905		8023			1454	122		529						431		1741

TOTAL HEAT GAIN BTU/H: 42938

TONS: 3.58

LOSS DUE TO VENTILATION LOAD BTU/H: 2650

STRUCTURAL HEAT LOSS: 57389

TOTAL COMBINED HEAT LOSS BTU/H: 60038

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

TYPE: ROSEWOOD 12

DATE: Feb-18

GFA: 3113 LO# 75043

HEATING CFM 1316 COOLING CFM 1316
TOTAL HEAT LOSS 57,389 TOTAL HEAT GAIN 42,383
AIR FLOW RATE CFM 22.93 AIR FLOW RATE CFM 31.05

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

~*GOODMAN
GMVC960804CNA 80

AFUE = 96 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	10	5
R/A	0	0	4	3	1

plenium pressure s/a 0.18 r/a pressure 0.17
max s/a dif press. loss 0.03 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.15 adjusted pressure r/a 0.15

FAN SPEED 1316
LOW 1316
MEDLOW 0
MEDIUM 1389
MEDIUM HIGH 0
HIGH 1396

DESIGN CFM = 1316
CFM @ .6" E.S.P.

TEMPERATURE RISE 54 °F

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	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BED-3	BED-4	ENS-2	ENS-3	ENS-4	MBR	LOUNGE	OFF	LIV/DIN	KIT/FM	KIT/FM	KIT/FM	LAUN	W/R	FOY	OFF	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.46	2.53	1.55	1.68	1.55	1.53	0.98	1.37	1.24	1.46	0.90	2.81	2.36	2.22	2.22	2.22	2.44	0.54	2.09	2.81	3.81	3.81	3.81	3.81
CFM PER RUN HEAT	33	58	36	39	36	35	23	31	28	33	21	64	54	51	51	51	56	12	48	64	87	87	87	87
RM GAIN MBH.	2.07	2.45	2.11	1.93	2.11	2.30	0.44	0.94	1.06	2.07	1.78	3.46	1.95	2.67	2.67	2.67	1.45	0.12	0.53	3.46	0.43	0.43	0.43	0.43
CFM PER RUN COOLING	64	76	66	60	66	71	14	29	33	64	55	107	61	83	83	83	45	4	16	107	13	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.15	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	30	41	71	77	69	72	68	76	61	38	58	59	34	24	22	33	25	42	43	49	22	13	29	48
EQUIVALENT LENGTH	120	130	180	200	170	200	190	190	160	160	130	120	150	100	120	120	160	110	150	110	130	140	160	120
TOTAL EFFECTIVE LENGTH	150	171	251	277	239	272	258	266	221	198	188	179	184	124	142	153	185	152	193	159	152	153	189	168
ADJUSTED PRESSURE	0.11	0.1	0.07	0.06	0.07	0.06	0.07	0.06	0.08	0.09	0.09	0.08	0.09	0.13	0.11	0.11	0.09	0.11	0.09	0.1	0.11	0.11	0.09	0.1
ROUND DUCT SIZE	5	5	5	5	5	6	4	4	4	5	5	6	5	5	5	5	5	4	4	6	5	5	5	5
HEATING VELOCITY (ft/min)	242	426	264	286	264	178	264	356	321	242	154	326	396	374	374	374	411	138	551	326	639	639	639	639
COOLING VELOCITY (ft/min)	470	558	485	441	485	362	161	333	379	470	404	546	448	609	609	609	330	46	184	546	95	95	95	95
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10
TRUNK	D	C	B	B	B	C	B	B	B	D	B	A	C	D	D	D	D	B	A	A	D	D	C	A

RUN #	25	27
ROOM NAME	LIV/DIN	BAS
RM LOSS MBH.	2.36	3.81
CFM PER RUN HEAT	54	87
RM GAIN MBH.	1.95	0.43
CFM PER RUN COOLING	61	13
ADJUSTED PRESSURE	0.17	0.16
ACTUAL DUCT LGH.	25	16
EQUIVALENT LENGTH	170	200
TOTAL EFFECTIVE LENGTH	195	216
ADJUSTED PRESSURE	0.09	0.08
ROUND DUCT SIZE	5	6
HEATING VELOCITY (ft/min)	396	444
COOLING VELOCITY (ft/min)	448	66
OUTLET GRILL SIZE	3X10	4X10
TRUNK	C	D

SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT		VELOCITY		TRUNK	STATIC	ROUND	RECT		VELOCITY
	CFM	PRESS.	DUCT	DUCT		(ft/min)		CFM	PRESS.	DUCT	DUCT		(ft/min)
TRUNK A	263	0.08	8.5	8	x	8	592	TRUNK G	0	0.00	0	0	8
TRUNK B	489	0.06	11.5	16	x	8	550	TRUNK H	0	0.00	0	0	8
TRUNK C	777	0.06	13.7	22	x	8	636	TRUNK I	0	0.00	0	0	8
TRUNK D	536	0.08	11.1	14	x	8	689	TRUNK J	0	0.00	0	0	8
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	8
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT		VELOCITY
	CFM	PRESS.	DUCT	DUCT		(ft/min)
TRUNK O	0	0.06	0	0	x	8
TRUNK P	0	0.06	0	0	x	8
TRUNK Q	0	0.06	0	0	x	8
TRUNK R	0	0.06	0	0	x	8
TRUNK S	0	0.06	0	0	x	8
TRUNK T	0	0.06	0	0	x	8
TRUNK U	0	0.06	0	0	x	8
TRUNK V	0	0.06	0	0	x	8
TRUNK W	135	0.06	7.1	6	x	8
TRUNK X	1316	0.06	16.7	26	x	10
TRUNK Y	935	0.06	14.7	26	x	8
TRUNK Z	605	0.06	12.5	18	x	8
DROP	1316	0.06	16.7	24	x	12

RETURN AIR #	1	2	3	4	5	6	7									BR
AIR VOLUME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	206
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
ACTUAL DUCT LGH.	34	84	80	24	74	59	25	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	135	175	160	185	100	135	185	0	0	0	0	0	0	0	0	140
TOTAL EFFECTIVE LH	169	259	240	209	174	194	210	1	1	1	1	1	1	1	1	154
ADJUSTED PRESSURE	0.09	0.06	0.06	0.07	0.09	0.08	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7.1	5.7	5.7	7.5	6.4	9.2	7.2	0	0	0	0	0	0	0	0	7.3
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	14

TYPE: ROSEWOOD 12
SITE NAME: RUSSEL GARDENS

LO # 75043

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>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>201.4</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>201.4</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>62.4</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
W/R	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

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** ROSEWOOD 12**BUILDER:** GREENPARK HOMES**SFQT:** 3113**LO#** 75043**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)	73

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 (ft ³):	42977.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 61.0 ft	WIDTH: 36.0 ft	EXPOSED PERIMETER:	194.0 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	-

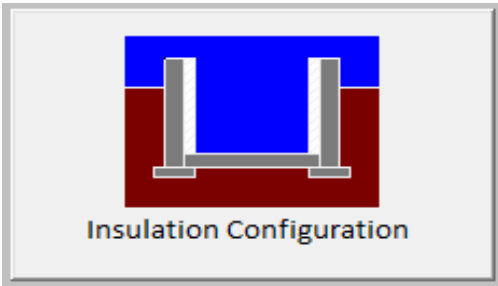
INDIVIDUAL BCIN: 19669

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):	18.6	 Insulation Configuration
Floor Width (m):	11.0	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.9	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1896

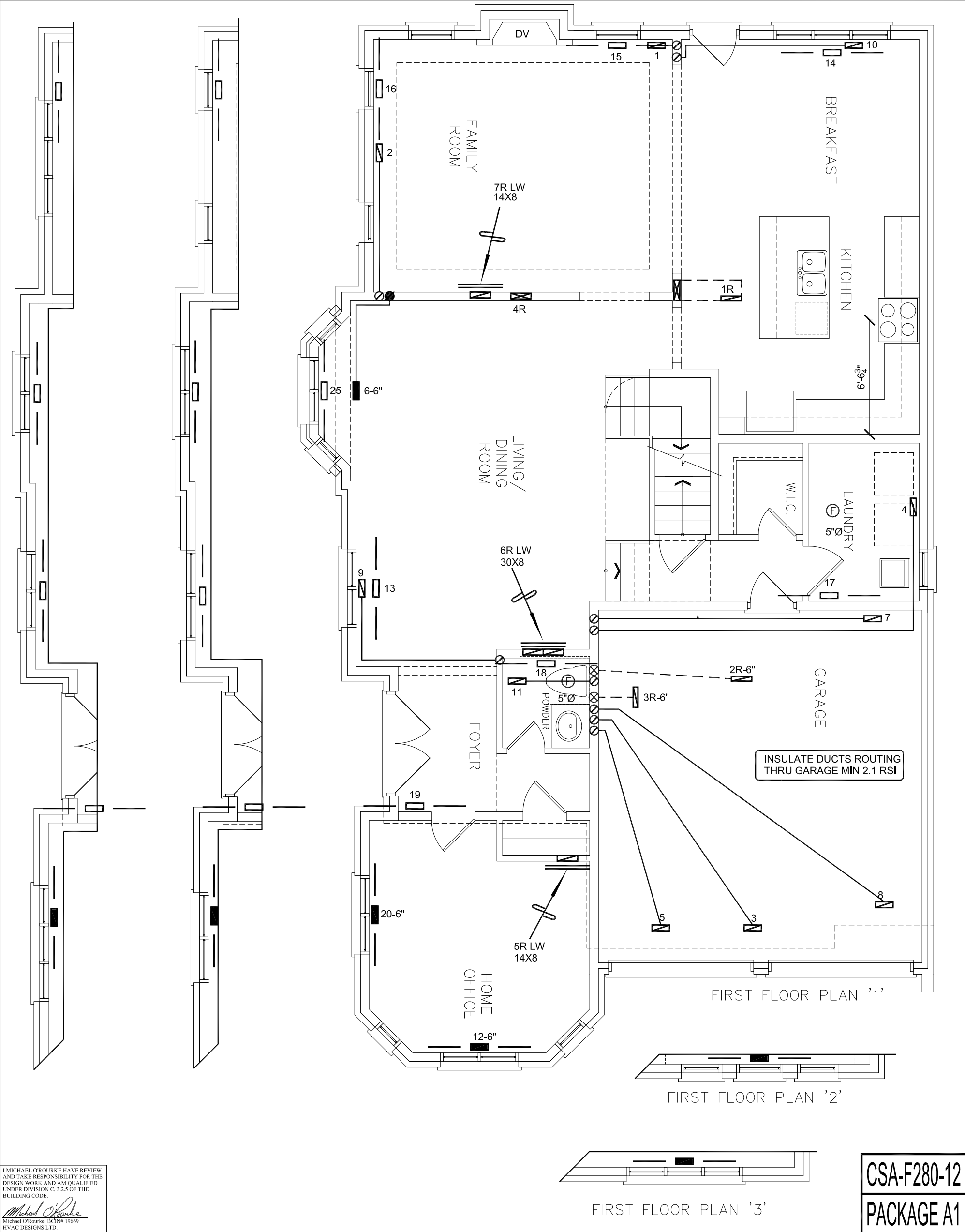
TYPE: ROSEWOOD 12
LO# 75043

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):	1217.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1622.3 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):	0.117			

TYPE: ROSEWOOD 12
LO# 75043



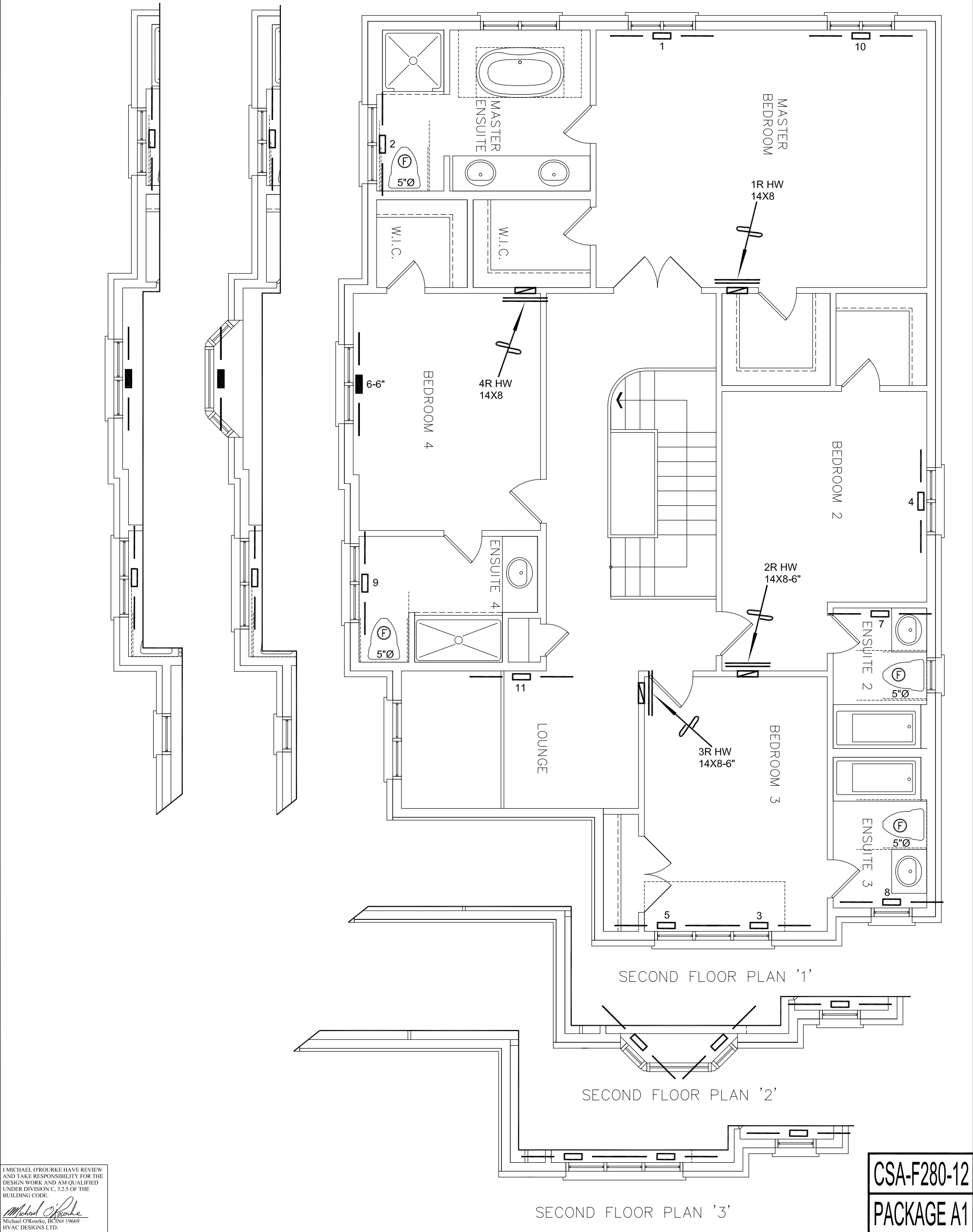
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	WOD CONDITION ADDED	FEB/2018
	FLOOR 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		 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	
GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JUL/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 12 3113 sqft			BCIN# 19669	
			LO#	75043



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

CSA-F280-12

PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	WOD CONDITION ADDED	FEB/2018
	FLOOR 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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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JUL/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 12 3113 sqft			BCIN# 19669	
			LO#	75043