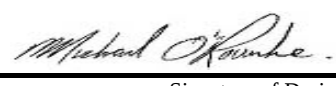


Schedule 1: Designer Information

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 7 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										DATE: Feb-18				WINTER NATURAL AIR CHANGE RATE 0.310								HEAT LOSS AT °F. 71				CSA-F280-12															
BUILDER: GREENPARK HOMES										TYPE: ROSEWOOD 7						GFA: 3193				LO# 75041				SUMMER NATURAL AIR CHANGE RATE 0.120								HEAT GAIN AT °F. 16				SB-12 PACKAGE A1					
ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			ENS-2			WIC-2			ENS-3			ENS-4											
EXP. WALL			34			27			11			30			40			12			9			6			9			6											
CLG. HT.			9			9			9			10			10			9			9			9			9			9											
FACTORS																																									
GRS.WALL AREA			LOSS			GAIN			306			243			99			285			380			108			81			54			81			54					
GLAZING			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN					
NORTH			19.8	16.8	0	0	0	8	158	135	0	0	0	0	0	0	0	0	0	0	7	138	118	0	0	0	0	0	0	0	0	0	0	0							
EAST			19.8	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	178	382	0	0	0	0	0	0	0	0							
SOUTH			19.8	25.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	138	180	7	138	180								
WEST			19.8	42.4	36	712	1526	4	79	170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
NET EXPOSED WALL			4.1	0.9	270	1119	250	231	958	214	99	410	92	245	1016	227	340	1410	315	92	381	85	74	307	69	45	187	42	74	307	69	47	195	44							
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	0	0	0	0	0	0	0	0	0	0	0							
EXPOSED CLG			1.2	0.6	285	340	182	182	217	116	154	184	98	188	224	120	188	224	120	228	272	146	126	150	80	90	107	57	171	204	109	114	136	73							
NO ATTIC EXPOSED CLG			2.6	1.4	0	0	0	0	0	0	0	0	0	36	92	49	36	92	49	0	0	0	0	0	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	224	531	119	0	0	0	0	0	0	0	0	90	213	48	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			2171			1412			594			2653			2516			969			595			685			649			469											
SUB TOTAL HT GAIN			1959			635			190			2211			2180			643			267			528			358			297											
LEVEL FACTOR / MULTIPLIER			0.20	0.27				0.20	0.27				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			582			379			159			712			675			260			160			184			174			126											
AIR CHANGE HEAT GAIN			214			69			21			242			239			70			29			58			39			32											
DUCT LOSS			0			0			0			336			0			0			0			87			0			0											
DUCT GAIN			0			0			0			335			0			0			0			59			0			0											
HEAT GAIN PEOPLE			240	2	480	0	0	0	0	0	1	240	1	240	1	240	1	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
HEAT GAIN APPLIANCES/LIGHTS			660			0			0			660			660			660			660			0			0			0			0								
TOTAL HT LOSS BTU/H			2753			1790			753			3701			3191			1229			755			956			823			595											
TOTAL HT GAIN x 1.3 BTU/H			4307			915			274			4795			4315			2097			385			838			516			428											

ROOM USE				OFF				LV/DN				KT/FM			
EXP. WALL				12				33				77			
CLG. HT.				10				10				11			
FACTORS															
GRS.WALL AREA				LOSS GAIN				120				330			
GLAZING				LOSS GAIN				847				231			
NORTH				19.8 16.8				0 0 0 0				10 198 168			
EAST				19.8 42.4				0 0 0 0				0 0 0 0			
SOUTH				19.8 25.7				20 395 515				0 0 0 0			
WEST				19.8 42.4				0 0 0 0				102 2016 4324			
SKYLT.				34.6 103.0				0 0 0 0				0 0 0 0			
DOORS				23.5 5.2				0 0 0 0				0 0 0 0			
NET EXPOSED WALL				4.1 0.9				100 415 93				304 1260 282			
NET EXPOSED BSMT WALL ABOVE GR				3.3 0.7				0 0 0 0				0 0 0 0			
EXPOSED CLG				1.2 0.6				0 0 0 0				0 0 0 0			
NO ATTIC EXPOSED CLG				2.6 1.4				0 0 0 0				0 0 0 0			
EXPOSED FLOOR				2.4 0.5				0 0 0 0				0 0 0 0			
BASEMENT/CRAWL HEAT LOSS								0				0			
SLAB ON GRADE HEAT LOSS								0				0			
SUBTOTAL HT LOSS				810				1774				5105			
SUB TOTAL HT GAIN				608				951				5015			
LEVEL FACTOR / MULTIPLIER				0.30 0.42				0.30 0.42				0.30 0.42			
AIR CHANGE HEAT LOSS				340				746				2146			
AIR CHANGE HEAT GAIN				67				104				549			
DUCT LOSS				0				0				0			
DUCT GAIN				0				0				0			
HEAT GAIN PEOPLE				240				0				0			
HEAT GAIN APPLIANCES/LIGHTS								660				660			
TOTAL HT LOSS BTU/H				1150				2520				7251			
TOTAL HT GAIN x 1.3 BTU/H				1734				2230				8092			

TOTAL HEAT GAIN BTU/H: 37727

TONS: 3.14

LOSS DUE TO VENTILATION LOAD BTU/H: 2650

STRUCTURAL HEAT LOSS: 53599

TOTAL COMBINED HEAT LOSS BTU/H: 56248

SITE NAME: RUSSEL GARDENS

BUILDER: GREENPARK HOMES

TYPE: ROSEWOOD 7

DATE: Feb-18

GFA: 3193

LO# 75041

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 53,599 TOTAL HEAT GAIN 37,134
AIR FLOW RATE CFM 21.1 AIR FLOW RATE CFM 30.46

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

#GOODMAN
GMEC960603BNA 60

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	8	4
R/A	0	0	4	2	1

plenium pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16
r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
CFM @ .6" E.S.P.

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	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	MBR	ENS-4	OFF	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.38	1.79	0.75	1.85	1.60	1.23	0.76	0.96	0.82	1.38	0.59	1.15	2.52	2.42	2.42	2.42	2.13	0.97	3.26	4.94	4.94	4.94	4.94
CFM PER RUN HEAT	29	38	16	39	34	26	16	20	17	29	13	24	53	51	51	51	45	20	69	104	104	104	104
RM GAIN MBH.	2.15	0.92	0.27	2.40	2.16	2.10	0.38	0.84	0.52	2.15	0.43	1.73	2.23	2.70	2.70	2.70	1.52	0.71	0.74	0.81	0.81	0.81	0.81
CFM PER RUN COOLING	66	28	8	73	66	64	12	26	16	66	13	53	68	82	82	82	46	22	23	25	25	25	25
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	0.16	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	58	71	37	48	54	50	44	36	38	49	38	28	18	51	43	51	34	39	33	54	37	18	28
EQUIVALENT LENGTH	200	220	170	140	180	150	200	120	170	160	180	130	160	130	160	170	130	130	100	150	100	140	140
TOTAL EFFECTIVE LENGTH	258	291	207	188	234	200	244	156	208	209	218	158	178	181	203	221	164	169	133	204	137	158	168
ADJUSTED PRESSURE	0.07	0.06	0.08	0.09	0.07	0.09	0.07	0.11	0.08	0.08	0.08	0.11	0.1	0.09	0.08	0.07	0.1	0.1	0.13	0.08	0.12	0.1	0.1
ROUND DUCT SIZE	5	4	4	5	5	5	4	4	4	5	4	4	5	5	5	6	4	4	5	6	5	6	6
HEATING VELOCITY (ft/min)	213	436	184	286	250	191	184	229	195	213	149	275	389	374	374	260	516	229	507	530	764	530	530
COOLING VELOCITY (ft/min)	485	321	92	536	485	470	138	298	184	485	149	608	499	602	602	418	528	252	169	127	184	127	127
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10
TRUNK	A	A	B	D	C	B	D	D	D	A	D	D	D	A	A	A	B	C	C	A	B	B	C

RUN #	25	26
ROOM NAME	BED-2	BED-3
RM LOSS MBH.	1.85	1.60
CFM PER RUN HEAT	39	34
RM GAIN MBH.	2.40	2.16
CFM PER RUN COOLING	73	66
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	42	50
EQUIVALENT LENGTH	130	150
TOTAL EFFECTIVE LENGTH	172	200
ADJUSTED PRESSURE	0.1	0.09
ROUND DUCT SIZE	5	5
HEATING VELOCITY (ft/min)	286	250
COOLING VELOCITY (ft/min)	536	485
OUTLET GRILL SIZE	3X10	3X10
TRUNK	D	C

SUPPLY AIR TRUNK SIZE												RETURN AIR TRUNK SIZE												
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)	
TRUNK A	353	0.06	10.2	12	x	8	530	TRUNK G	0	0.00	0	0	x	8	0		TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	648	0.06	12.8	20	x	8	583	TRUNK H	0	0.00	0	0	x	8	0		TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	261	0.07	8.8	10	x	8	470	TRUNK I	0	0.00	0	0	x	8	0		TRUNK Q	0	0.05	0	0	x	8	0
TRUNK D	482	0.07	11	14	x	8	620	TRUNK J	0	0.00	0	0	x	8	0		TRUNK R	0	0.05	0	0	x	8	0
TRUNK E	1130	0.06	15.8	28	x	8	726	TRUNK K	0	0.00	0	0	x	8	0		TRUNK S	0	0.05	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0		TRUNK T	0	0.05	0	0	x	8	0
																			</					

RETURN AIR #	1	2	3	4	5	6											BR
AIR VOLUME	135	85	155	155	300	135	0	0	0	0	0	0	0	0	0	0	166
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
ACTUAL DUCT LGH.	52	47	46	49	31	30	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	220	135	155	215	175	140	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	272	182	201	264	206	170	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.08	0.07	0.06	0.07	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10	
ROUND DUCT SIZE	7.5	5.6	7.2	7.5	9.2	6.4	0	0	0	0	0	0	0	0	0	6.8	
INLET GRILL SIZE	8	8	8	8	8	8	0	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	30	14	0	0	0	0	0	0	0	0	0	14	

TYPE: ROSEWOOD 7
SITE NAME: RUSSEL GARDENS

LO # 75041

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
ENS-4	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 @ 32 deg F (0 deg C)	☒	HVI Approved

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 7	BUILDER: GREENPARK HOMES
SFQT: 3193	SITE: RUSSEL GARDENS
LO# 75041	

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):	43587.0	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: 63.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	192.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****Nominal Min. Eff.**

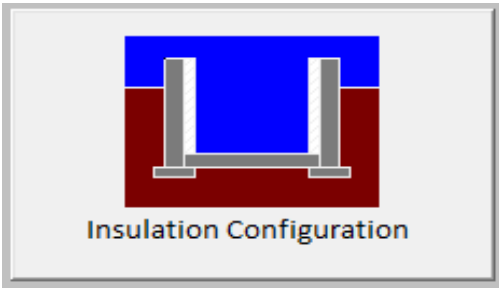
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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

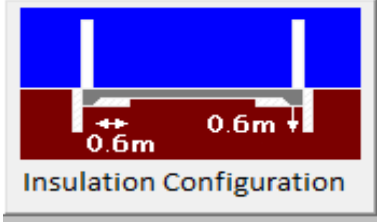
Supplemental tool for CAN/CSA-F280

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):	19.2	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.0	
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):		1848

TYPE: ROSEWOOD 7
LO# 75041

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):	0.0	
Width (m):	0.0	
Exposed Perimeter (m):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		0

TYPE: ROSEWOOD 7
LO# 75041

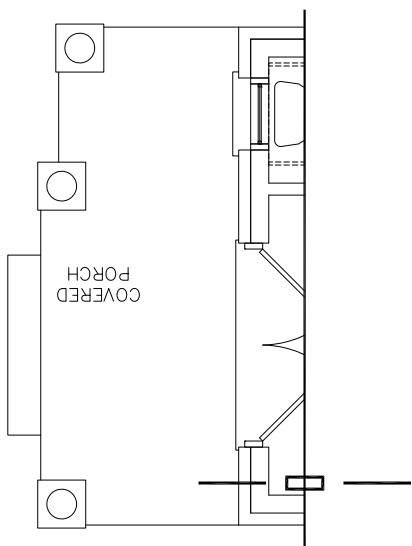
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

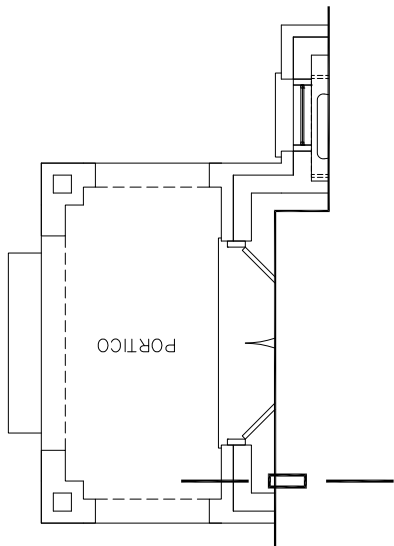
Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1234.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1645.3 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):	0.120			

TYPE: ROSEWOOD 7

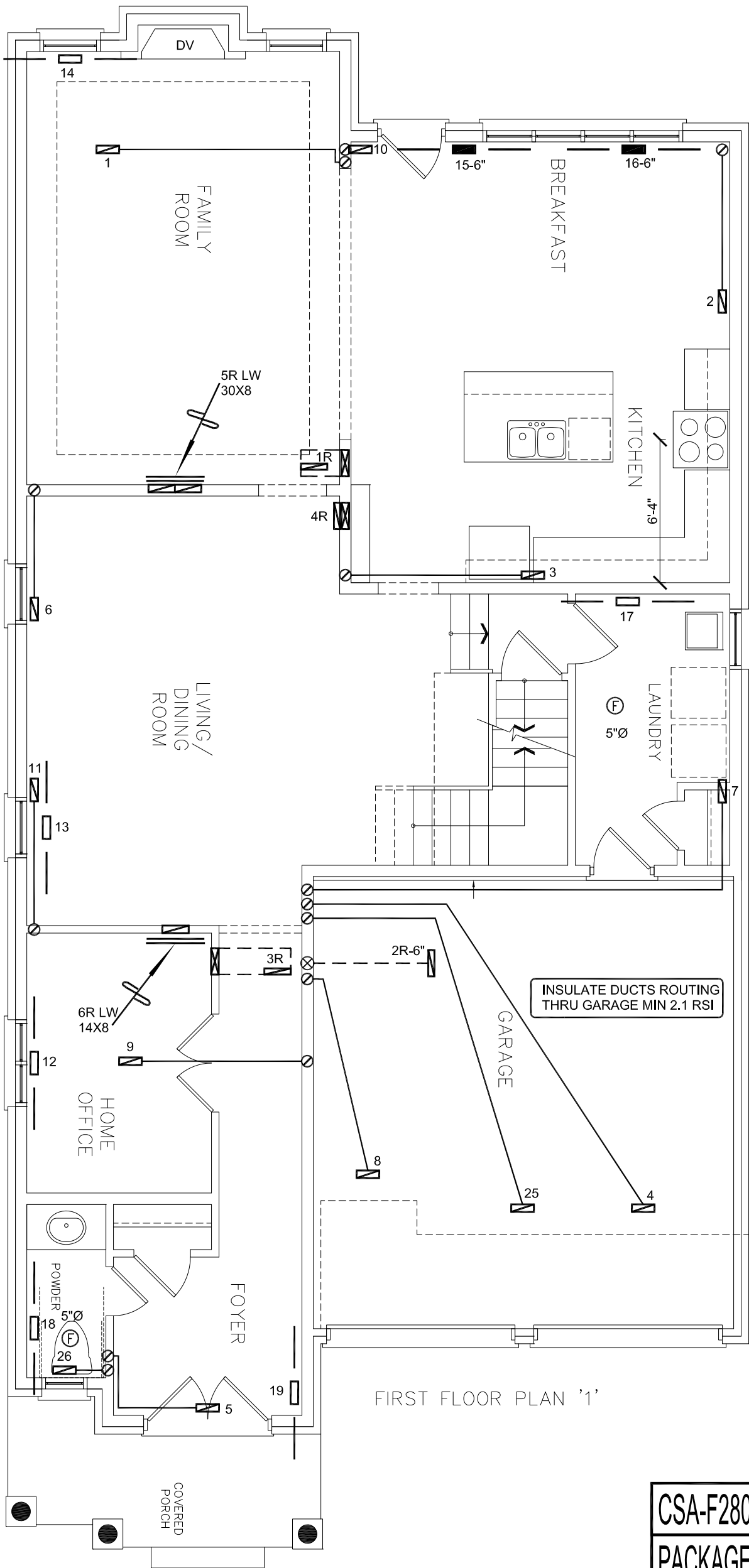
LO# 75041



FIRST FLOOR PLAN '2'



FIRST FLOOR PLAN '3'



FIRST FLOOR PLAN '1'

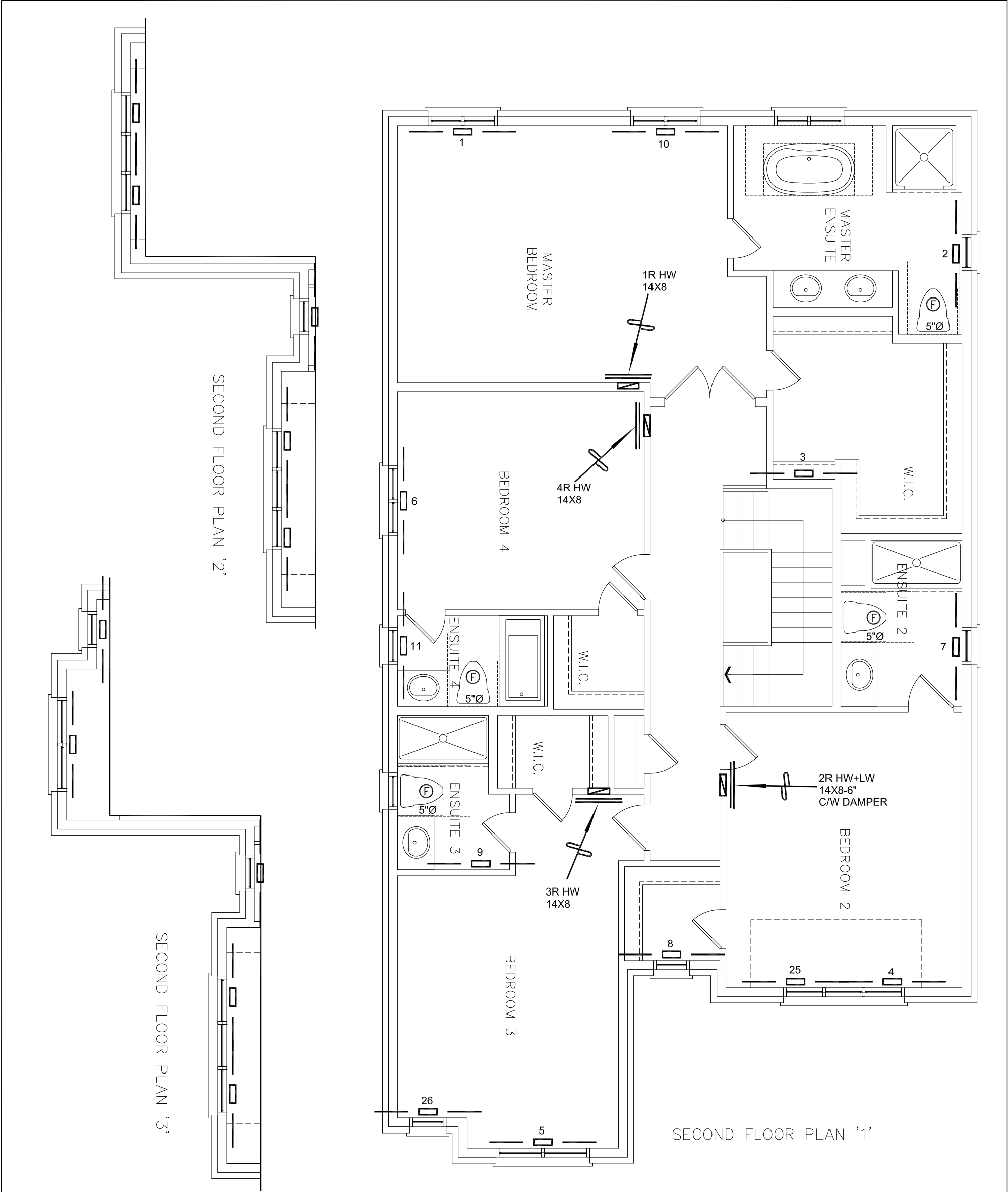
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
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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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 7 3193 sqft			BCIN# 19669	
			LO#	75041



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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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Project Name			Date	JUL/2017		
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"		
			BCIN# 19669			
ROSEWOOD 7 3193 sqft			LO#	75041		