

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 11 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: - The information contained in this schedule is true to the best of my knowledge. - 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				LO# 75042				SUMMER NATURAL AIR CHANGE RATE 0.117				HEAT GAIN AT °F. 15		SB-12 PACKAGE A1	
ROOM USE		MBR		ENS		BED-2		BED-3		BED-4		BATH		ENS-4	
EXP. WALL		35		29		12		13		29		21		7	
CLG. HT.		9		9		9		9		10		9		10	
FACTORS															
GRS.WALL AREA		315		261		108		117		276		189		67	
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
NORTH		19.8	16.5	0	0	0	0	0	0	0	0	0	0	0	0
EAST		19.8	42.1	0	0	0	0	21	415	884	27	534	1137	0	0
SOUTH		19.8	25.5	23	455	586	0	0	0	0	0	0	0	30	593
WEST		19.8	42.1	26	514	1095	16	316	674	0	0	0	0	0	0
SKYLT.		34.6	102.5	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
NET EXPOSED WALL		4.1	0.9	266	1103	231	237	983	206	92	381	80	96	398	83
NET EXPOSED BSMT WALL ABOVE GR		3.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG		1.2	0.6	304	362	189	208	248	129	240	286	149	208	248	129
NO ATTIC EXPOSED CLG		2.6	1.3	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR		2.4	0.5	0	0	0	0	0	0	60	142	30	208	493	103
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		2434		1705		1126		1554		1806		1320		902	
SUB TOTAL HT GAIN		2101		1141		523		1200		1479		769		878	
LEVEL FACTOR / MULTIPLIER		0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23
AIR CHANGE HEAT LOSS		551		386		255		352		409		299		204	
AIR CHANGE HEAT GAIN		170		93		42		97		120		62		71	
DUCT LOSS		0		0		138		191		0		162		0	
DUCT GAIN		0		0		140		213		0		83		0	
HEAT GAIN PEOPLE		240	2	480	0	0	0	1	240	1	240	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS		594		0		594		594		594		0		0	
TOTAL HT LOSS BTU/H		2985		2091		1519		2097		2216		1781		1106	
TOTAL HT GAIN x 1.3 BTU/H		4348		1604		2002		3048		3163		1188		1233	

ROOM USE		LIV/DIN		KIT/FM		LAUN		W/R		FOY		WUP		BAS	
EXP. WALL		56		67		12		13		26		20		166	
CLG. HT.		11		11		10		10		12		9		9	
FACTORS															
GRS.WALL AREA		616		737		114		130		312		180		996	
GLAZING		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
NORTH		19.8	16.5	0	0	0	0	8	158	132	0	0	0	5	99
EAST		19.8	42.1	40	791	1684	0	0	0	0	0	0	0	5	99
SOUTH		19.8	25.5	54	1067	1375	40	791	1018	0	0	0	0	10	198
WEST		19.8	42.1	0	0	0	96	1898	4043	0	0	0	0	0	0
SKYLT.		34.6	102.5	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
NET EXPOSED WALL		4.1	0.9	522	2164	454	601	2492	522	84	348	73	122	506	106
NET EXPOSED BSMT WALL ABOVE GR		3.3	0.7	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
NO ATTIC EXPOSED CLG		2.6	1.3	0	0	0	10	26	13	126	150	78	0	0	0
EXPOSED FLOOR		2.4	0.5	0	0	0	0	0	0	30	77	40	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		4022		5206		1168		664		2549		1132		7851	
SUB TOTAL HT GAIN		3513		5597		955		238		534		237		995	
LEVEL FACTOR / MULTIPLIER		0.30	0.33	0.30	0.33	0.20	0.23	0.30	0.33	0.30	0.33	0.50	0.76	0.50	0.76
AIR CHANGE HEAT LOSS		1320		1709		265		218		837		6806		100	
AIR CHANGE HEAT GAIN		285		454		77		19		43		0		0	
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
HEAT GAIN APPLIANCES/LIGHTS		594		594		594		594		0		0		594	
TOTAL HT LOSS BTU/H		5343		6914		1433		882		3385		1132		14657	
TOTAL HT GAIN x 1.3 BTU/H		5709		8638		2114		335		751		309		2196	

TOTAL HEAT GAIN BTU/H:

37195

TONS: 3.10

LOSS DUE TO VENTILATION LOAD BTU/H: 2650

STRUCTURAL HEAT LOSS: 47541

TOTAL COMBINED HEAT LOSS BTU/H: 50191

SITE NAME: RUSSEL GARDENS

BUILDER: GREENPARK HOMES

TYPE: ROSEWOOD 11

DATE: Feb-18

GFA: 2617

LO# 75042

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 47,541 TOTAL HEAT GAIN 36,640
AIR FLOW RATE CFM 23.79 AIR FLOW RATE CFM 30.87

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	10	7	4
R/A	0	0	4	2	1

plenum 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 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	10	12	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	BED-3	BED-2	BED-3	BED-4	BATH	ENS-4	MBR	LIV/DIN	LIV/DIN	KIT/FM	KIT/FM	KIT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.49	2.09	1.05	1.52	1.05	2.22	1.78	1.11	1.49	2.67	2.67	2.30	2.30	2.30	1.43	0.88	3.39	3.95	3.95	3.95	3.95
CFM PER RUN HEAT	36	50	25	36	25	53	42	26	36	64	64	55	55	55	34	21	81	94	94	94	94
RM GAIN MBH.	2.17	1.60	1.52	2.00	1.52	3.16	1.19	1.23	2.17	2.85	2.85	2.88	2.88	2.88	2.11	0.33	0.75	0.63	0.63	0.63	0.63
CFM PER RUN COOLING	67	50	47	62	47	98	37	38	67	88	88	89	89	89	65	10	23	19	19	19	19
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	37	44	69	69	67	73	74	65	46	52	33	19	13	20	30	25	17	13	11	10	44
EQUIVALENT LENGTH	190	140	170	140	160	160	180	180	190	110	170	130	180	130	150	80	120	100	120	150	120
TOTAL EFFECTIVE LENGTH	227	184	239	209	227	233	254	245	236	162	203	149	193	150	180	105	137	113	131	160	164
ADJUSTED PRESSURE	0.08	0.09	0.07	0.08	0.08	0.07	0.07	0.07	0.07	0.1	0.08	0.11	0.08	0.11	0.1	0.16	0.12	0.14	0.12	0.1	0.1
ROUND DUCT SIZE	5	4	5	5	4	6	4	4	5	5	6	5	6	5	5	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	264	574	184	264	287	270	482	298	264	470	326	404	280	404	250	241	595	690	690	690	690
COOLING VELOCITY (ft/min)	492	574	345	455	539	500	424	436	492	646	449	653	454	653	477	115	169	140	140	140	140
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	C	A	B	A	A	A	A	B	A	A	B	B	C	B	C	B	C	C	B	A

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	393	0.07	10.2	12	x 8	590	TRUNK G	0	0.00	0	0 x 8 0
TRUNK B	820	0.07	13.5	22	x 8	671	TRUNK H	0	0.00	0	0 x 8 0
TRUNK C	314	0.09	8.8	10	x 8	565	TRUNK I	0	0.00	0	0 x 8 0
TRUNK D	0	0.00	0	0	x 8	0	TRUNK J	0	0.00	0	0 x 8 0
TRUNK E	0	0.00	0	0	x 8	0	TRUNK K	0	0.00	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

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x 8 0
TRUNK P	0	0.05	0	0	x 8 0
TRUNK Q	0	0.05	0	0	x 8 0
TRUNK R	0	0.05	0	0	x 8 0
TRUNK S	0	0.05	0	0	x 8 0
TRUNK T	0	0.05	0	0	x 8 0
TRUNK U	0	0.05	0	0	x 8 0
TRUNK V	0	0.05	0	0	x 8 0
TRUNK W	0	0.05	0	0	x 8 0
TRUNK X	1131	0.05	16.5	32	x 8 636
TRUNK Y	615	0.05	13.1	20	x 8 554
TRUNK Z	0	0.05	0	0	x 8 0
DROP	1131	0.05	16.5	24	x 10 679

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	180	85	85	85	180	270	0	0	0	0	0	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	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	42	72	65	71	44	17	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	180	225	245	230	185	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	222	297	310	301	229	152	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.05	0.05	0.05	0.06	0.10	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.6	6.3	6.3	6.3	7.9	8.1	0	0	0	0	0	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	0	0	0	0	0
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	24	14	14	14	24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: ROSEWOOD 11
SITE NAME: RUSSEL GARDENS

LO # 75042

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>5</u> @ 10.6 cfm <u>53</u> cfm	
Other Rooms	<u>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Table 9.32.3.A.	TOTAL <u>169.6</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	79.5 cfm	

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>169.6</u> cfm	
Less Principal Ventil. Capacity	<u>139</u> cfm	
Required Supplemental Capacity	<u>30.6</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
BATH	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

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 11	BUILDER: GREENPARK HOMES
SFQT: 2617	SITE: RUSSEL GARDENS
LO# 75042	

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):	34803.0	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: 50.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	166.0 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	-

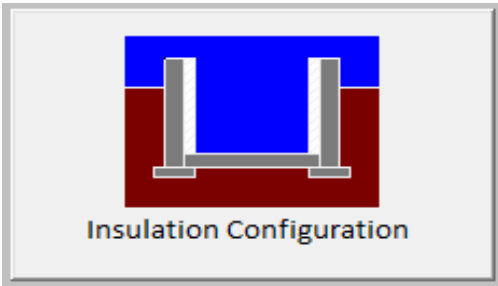
INDIVIDUAL BCIN: 19669

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):	15.2	 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):	1.9	
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):		1559

TYPE: ROSEWOOD 11
LO# 75042

Air Infiltration Residential Load Calculator

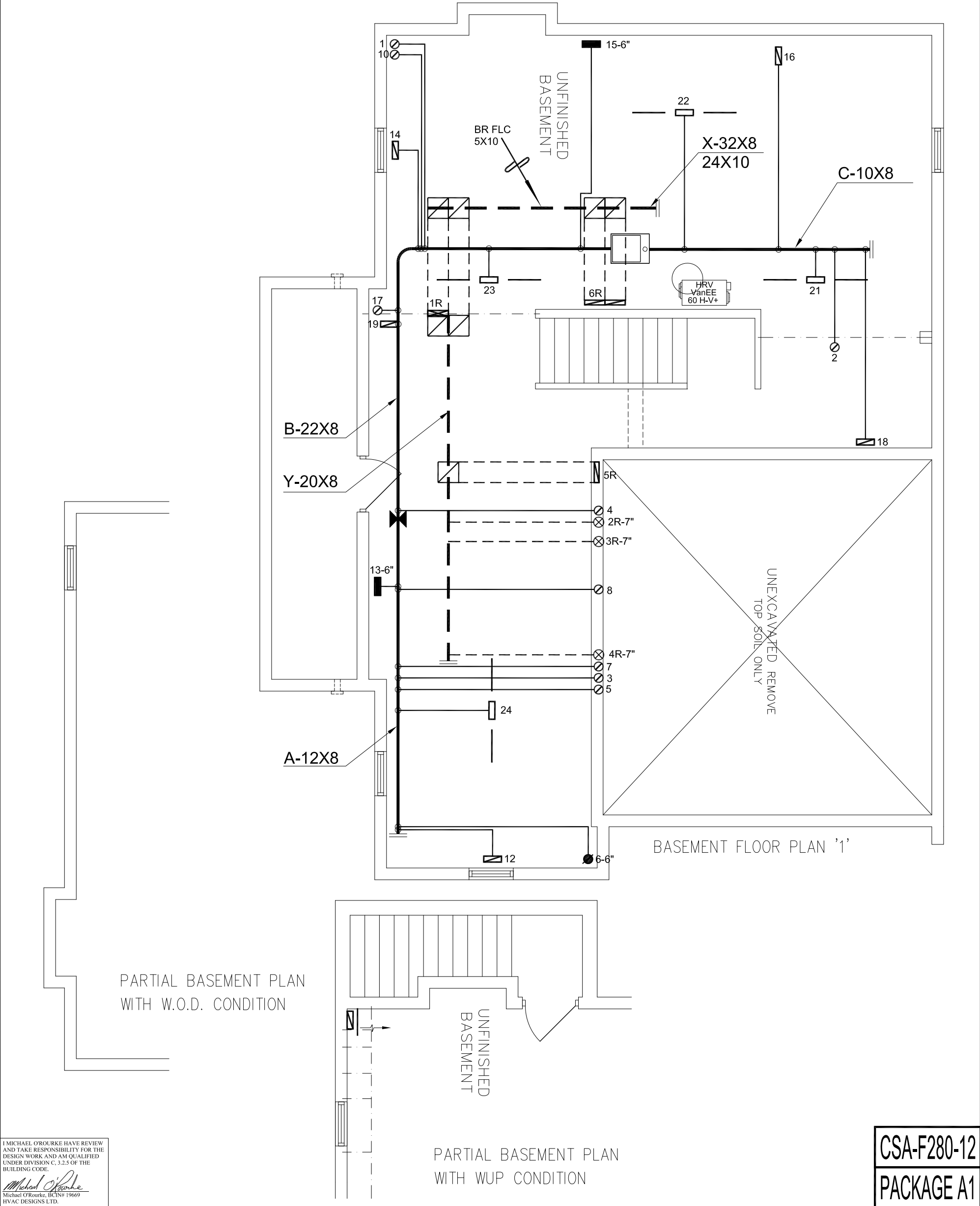
Supplemental tool for CAN/CSA-F280

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):	985.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1313.7 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):	0.310			
Cooling Air Leakage Rate (ACH/H):	0.117			

TYPE: ROSEWOOD 11
LO# 75042

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AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.

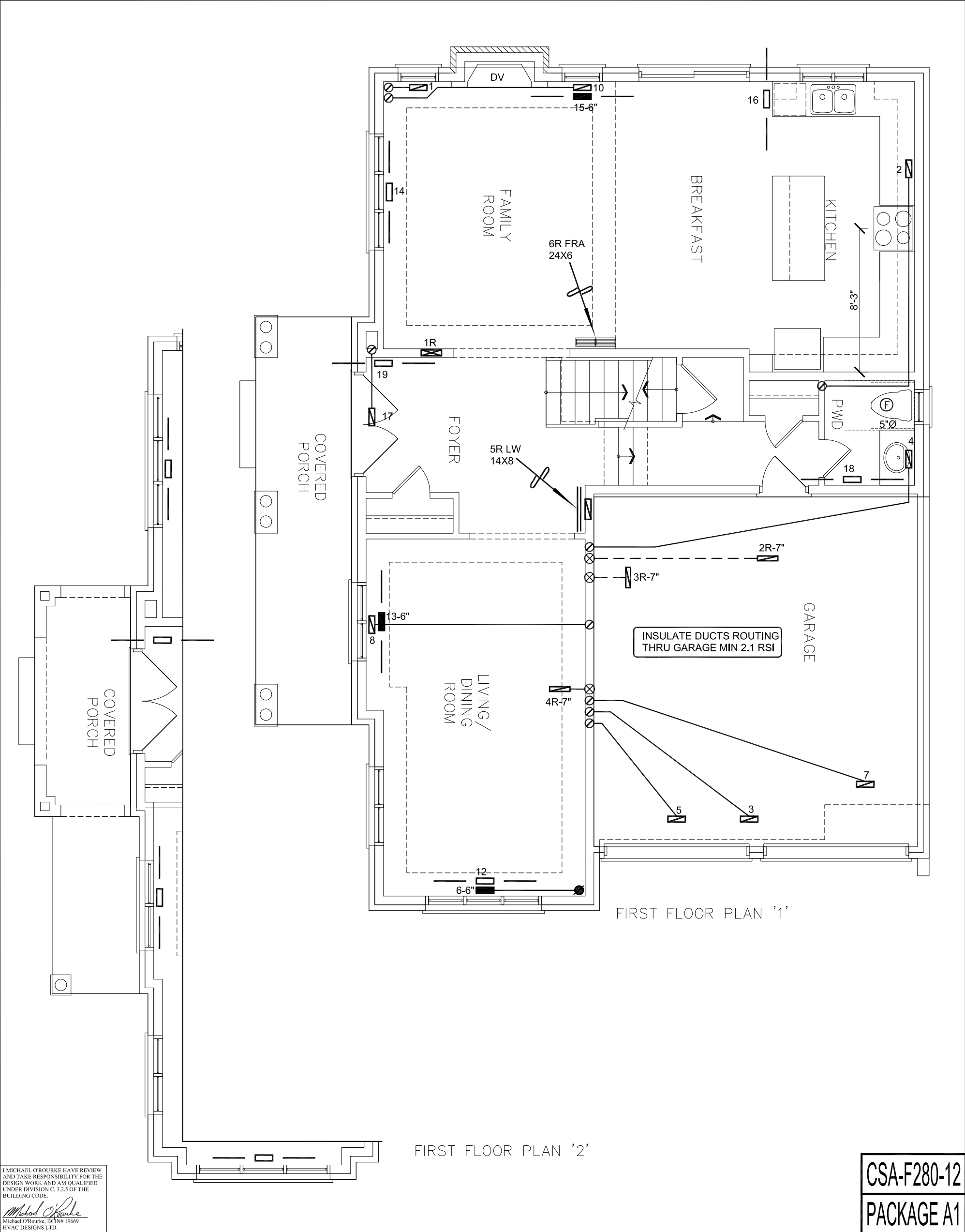
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.



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.		
	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	HEAT LOSS 50191 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name RUSSEL GARDENS HAMILTON, ONTARIO			MAKE	GOODMAN	3RD FLOOR					
			MODEL	GMEC960603BNA-60	2ND FLOOR	10	4	4		
			INPUT	60 MBTU/H	1ST FLOOR	7	2	2		
			OUTPUT	57.6 MBTU/H	BASEMENT	4	1	0		
ROSEWOOD 11 2617 sqft		COOLING 3.0 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				Date JUL/2017		
		FAN SPEED 1131 cfm @ 0.5" w.c.						Scale 3/16" = 1'-0"		
								BCIN# 19669		
								LO# 75042		



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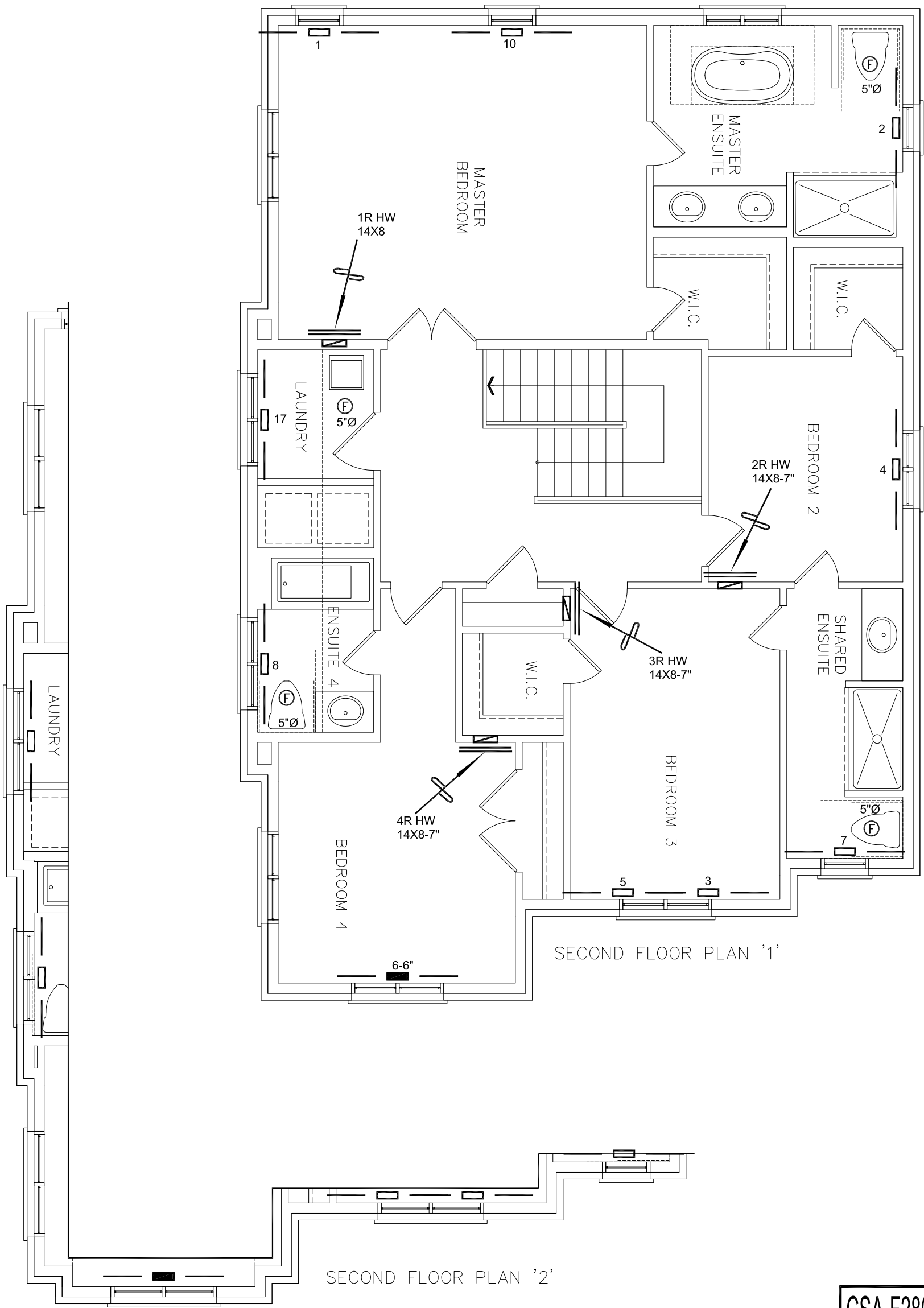
CSA-F280-12

PACKAGE A1

HVAC LEGEND								3.		
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JUL/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
ROSEWOOD 11 2617 sqft			BCIN# 19669	
			LO#	75042



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HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE A1

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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 11 2617 sqft			BCIN# 19669	
			LO#	75042