

ROOM USE	L/H		DIN		K/B		FAM		LND		W/R		FOY		WOD		BAS						
EXP. WALL	42		14		34		33		14		27		16		42		162						
CLG. HT.	10		10		10		10		9		10		10		8		8						
GRS.WALL AREA	420		140		340		330		126		270		160		336		936						
GLAZING	LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN						
NORTH	19.8	14.7	0	0	0	0	9	178	133	0	0	23	455	339	8	158	118	0	0	0	0		
EAST	19.8	37.8	48	949	1812	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SOUTH	19.8	22.8	48	949	1093	48	949	1093	0	0	0	24	474	548	0	0	0	6	119	137	0		
WEST	19.8	37.8	0	0	0	0	0	51	1008	1926	28	554	1057	0	0	0	0	0	0	0	0		
SKYL.T.	34.8	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
DOORS	23.5	4.3	0	0	0	0	0	12	281	51	0	0	0	0	20	469	85	40	938	170	0		
NET EXPOSED WALL	4.1	0.8	324	1343	244	92	381	69	268	1111	201	278	1162	209	103	427	77	242	1003	182	114	473	86
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.5	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	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	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	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	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			3241		1330		2679		2180		1065		1630		1529		0						
SUB TOTAL HT GAIN				3149		1162		2311		1813		507		385		392							
LEVEL FACTOR / MULTIPLIER	0.30	0.35			0.30	0.35		0.30	0.35		0.30	0.35		0.30	0.35								
AIR CHANGE HEAT LOSS			1150		472		916		774		233		579		543								
AIR CHANGE HEAT GAIN				187		69		137		108		30		23		23							
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	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				349		349		349		349		349		349		349							
TOTAL HT LOSS BTU/H			4391		1802		3494		2954		1299		2209		2072								
TOTAL HT GAIN x 1.3 BTU/H				4790		2054		3636		2950		1162		984		540							

REC'D BY: _____ DATE: _____

REP'D BY: _____ DATE: _____

AUG 25 2021

CITY OF DAVENPORT

Planning & Development Department

TOTAL COMBINED HEAT LOSS BTU/H: 50831

MICHAEL O'BROURKE

SITE NAME: RUSSELL GARDENS PH 4
BUILDER: GREENPARK HOMES

TYPE: VALLEYCREEK 11

DATE: Mar-21

GFA: 2689 LO# 90136

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 49,316 TOTAL HEAT GAIN 36,949
AIR FLOW RATE CFM 22.93 AIR FLOW RATE CFM 30.61

#GOODMAN
GMEC960603BNA 60
FAN SPEED LOW
MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,800
DESIGN CFM = 1131
CFM @ .8" E.S.P.
TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	5
R/A	0	0	5	2	1

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

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

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35
plenum pressure s/a 0.18
max s/a d/f press. loss 0.01
min adjusted pressure s/a 0.17
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	ENS-2	WIC-3	BED-2	MBR	ENS-3	L/H	DIN	K/B	K/B	FAM	LND	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.37	1.54	0.46	1.63	1.65	1.92	0.73	0.79	1.63	1.37	0.85	2.20	1.80	1.75	1.75	1.48	1.30	2.21	2.07	3.10	3.10	3.10	3.10	3.10
CFM PER RUN HEAT	31	35	11	37	38	44	17	18	37	31	19	50	41	40	40	34	30	51	48	71	71	71	71	71
RM GAIN MBH	1.87	1.59	0.14	1.68	2.39	2.56	0.80	0.86	1.68	1.87	1.10	2.40	2.05	1.82	1.82	1.48	1.15	0.98	0.54	0.38	0.38	0.38	0.38	0.38
CFM PER RUN COOLING	57	49	4	51	73	78	25	26	51	57	34	73	63	56	56	45	36	30	17	12	12	12	12	12
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	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	39	38	20	51	50	42	43	55	53	28	46	40	21	24	21	26	32	22	27	31	21	24	19	38
EQUIVALENT LENGTH	160	140	160	120	190	200	150	120	140	100	200	120	170	110	150	90	150	160	160	150	140	160	110	110
TOTAL EFFECTIVE LENGTH	199	178	180	171	240	242	193	175	193	128	246	160	191	134	171	116	182	182	187	191	171	164	179	148
ADJUSTED PRESSURE	0.09	0.1	0.1	0.1	0.07	0.07	0.09	0.1	0.09	0.13	0.07	0.11	0.09	0.13	0.1	0.15	0.09	0.09	0.09	0.1	0.1	0.1	0.1	0.12
ROUND DUCT SIZE	5	4	4	5	6	6	4	4	5	5	4	5	5	5	5	5	4	5	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	228	402	126	272	194	224	195	207	272	228	218	367	301	294	294	250	344	374	352	521	521	521	521	521
COOLING VELOCITY (ft/min)	419	562	46	374	372	398	287	298	374	419	390	536	463	411	411	330	402	220	125	88	88	88	88	88
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	D	C	D	D	D	D	A	C	C	D	A	A	B	B	B	D	C	A	A	D	C

RUN #	25	26	27
ROOM NAME	BED-3	FAM	L/H
RM LOSS MBH	1.65	1.48	2.20
CFM PER RUN HEAT	38	34	50
RM GAIN MBH	2.39	1.48	2.40
CFM PER RUN COOLING	73	45	73
ADJUSTED PRESSURE	0.17	0.17	0.17
ACTUAL DUCT LGH.	53	31	40
EQUIVALENT LENGTH	170	120	120
TOTAL EFFECTIVE LENGTH	223	151	160
ADJUSTED PRESSURE	0.08	0.11	0.11
ROUND DUCT SIZE	6	4	5
HEATING VELOCITY (ft/min)	194	390	367
COOLING VELOCITY (ft/min)	372	516	536
OUTLET GRILL SIZE	4X10	3X10	3X10
TRUNK	C	A	C

SUPPLY AIR TRUNK SIZE																RETURN AIR TRUNK SIZE															
		TRUNK	STATIC	ROUND	RECT	VELOCITY										VELOCITY															
		CFM	PRESS.	DUCT	DUCT		(ft/min)	TRUNK	STATIC	ROUND	RECT					(ft/min)	TRUNK	STATIC	ROUND	RECT											
								CFM	PRESS.	DUCT	DUCT						CFM	PRESS.	DUCT	DUCT											
TRUNK A	318	0.09	8.9	10	x	8	572	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0								
TRUNK B	479	0.09	10.5	14	x	8	618	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0								
TRUNK C	337	0.07	9.6	10	x	8	607	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0								
TRUNK D	650	0.07	12.3	18	x	8	650	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	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 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	7									BR															
AIR VOLUME	135	155	75	75	300	155	85	0	0	0	0	0	0	0	0	151															
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.	40	37	58	66	38	49	60	1	1	1	1	1	1	1	1	17															
EQUIVALENT LENGTH	165	120	215	255	225	200	205	0	0	0	0	0	0	0	0	160															
TOTAL EFFECTIVE LH	205	157	273	321	263	249	265	1	1	1	1	1	1	1	1	177															
ADJUSTED PRESSURE	0.07	0.09	0.05	0.05	0.06	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08															
ROUND DUCT SIZE	6.8	6.8	6	6	9.6	7.5	6	0	0	0	0	0	0	0	0	6.9															
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	30	14	14	0	0	0	0	0	0	0	0	14															

TYPE: VALLEYCREEK 11
 SITE NAME: RUSSELL GARDENS PH 4

LO # 90138

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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	180.2 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	180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	100.7	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
79.5 cfm	3.0 sones
☒ HVI Approved	

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

SUPPLEMENTAL FANS		PANASONIC		
Location	Model	cfm	HVI	Sones
ENS	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
ENS-3	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
150	cfm high	35 cfm low
75	% 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:	March-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																														
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																														
LO#: 90136	Model: VALLEYCREEK 11	Builder: GREENPARK HOMES	Date: 31/03/2021																																																											
Volume Calculation			Air Change & Delta T Data																																																											
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>1159</td><td>8</td><td>9272</td></tr> <tr><td>First</td><td>1159</td><td>10</td><td>11590</td></tr> <tr><td>Second</td><td>1530</td><td>9</td><td>13770</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>34,632.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>980.7 m³</td></tr> </tbody> </table>			Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)	Bsmt	1159	8	9272	First	1159	10	11590	Second	1530	9	13770	Third	0	9	0	Fourth	0	9	0	Total:			34,632.0 ft ³	Total:			980.7 m ³	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">WINTER NATURAL AIR CHANGE RATE</th> <th>0.338</th> </tr> <tr> <th colspan="2">SUMMER NATURAL AIR CHANGE RATE</th> <th>0.121</th> </tr> </thead> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5">Design Temperature Difference</th> </tr> <tr> <th></th> <th>T_{in} °C</th> <th>T_{out} °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> </thead> <tbody> <tr> <td>Winter DTD_h</td> <td>22</td> <td>-17</td> <td>39</td> <td>71</td> </tr> <tr> <td>Summer DTD_c</td> <td>24</td> <td>31</td> <td>7</td> <td>13</td> </tr> </tbody> </table>		WINTER NATURAL AIR CHANGE RATE		0.338	SUMMER NATURAL AIR CHANGE RATE		0.121	Design Temperature Difference						T _{in} °C	T _{out} °C	ΔT °C	ΔT °F	Winter DTD _h	22	-17	39	71	Summer DTD _c	24	31	7	13
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																											
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.338 x 272.41 x 39 °C x 1.2 = 4332 W = 14780 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.121 x 272.41 x 7 °C x 1.2 = 281 W = 960 Btu/h																																																											
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																											
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 71 °F x 1.08 x 0.25 = 1515 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 13 °F x 1.08 x 0.25 = 275 Btu/h																																																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																														
$HL_{airrr} = \text{Level Factor} \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HL_{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HL_{airbv} / HL_{level})</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5" style="text-align: center;">14,780</td><td>8,125</td><td>0.910</td></tr> <tr><td>2</td><td>0.3</td><td>12,490</td><td>0.355</td></tr> <tr><td>3</td><td>0.2</td><td>13,487</td><td>0.219</td></tr> <tr><td>4</td><td>0</td><td>0</td><td>0.000</td></tr> <tr><td>5</td><td>0</td><td>0</td><td>0.000</td></tr> </tbody> </table> *HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HL_{airve} = 0					Level	Level Factor (LF)	HL _{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{level})	1	0.5	14,780	8,125	0.910	2	0.3	12,490	0.355	3	0.2	13,487	0.219	4	0	0	0.000	5	0	0	0.000																																
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HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** VALLEYCREEK 11**BUILDER:** GREENPARK HOMES**SFQT:** 2689**LO#** 90136**SITE:** RUSSELL GARDENS PH 4**DESIGN ASSUMPTIONS**

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

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	SOUTH	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):	34632.0	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:	5.0 ft
LENGTH: 49.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	162.0 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	-

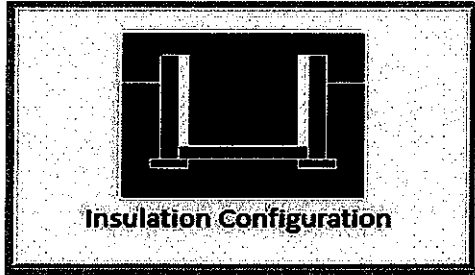
INDIVIDUAL BCIN: 19669

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):	14.9	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.52	
Window Area (m ²):	1.7	
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):	1551	

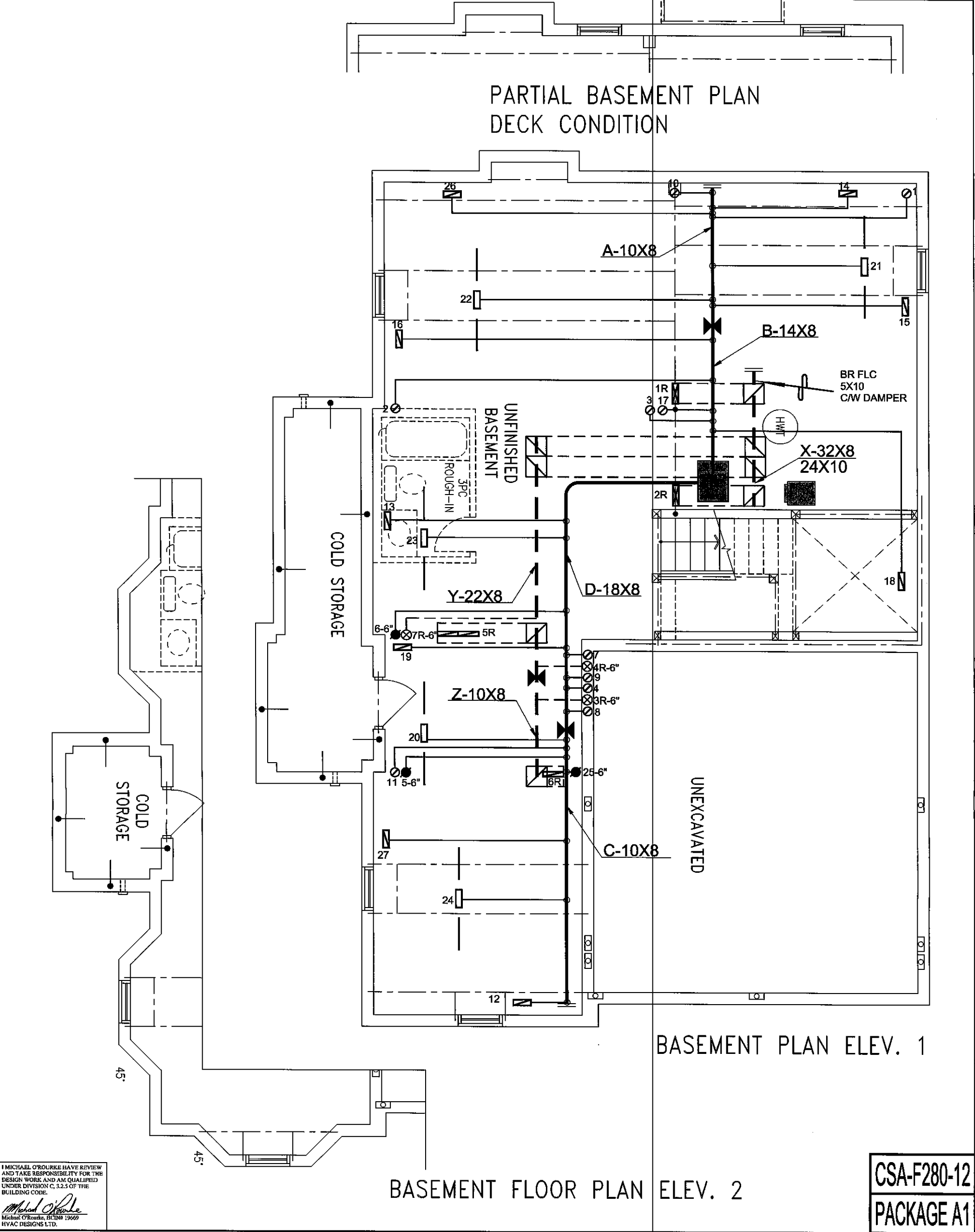
TYPE: VALLEYCREEK 11
LO# 90136

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):	7.62			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	980.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1307.3 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.338			
Cooling Air Leakage Rate (ACH/H):	0.121			

TYPE: VALLEYCREEK 11
LO# 90136



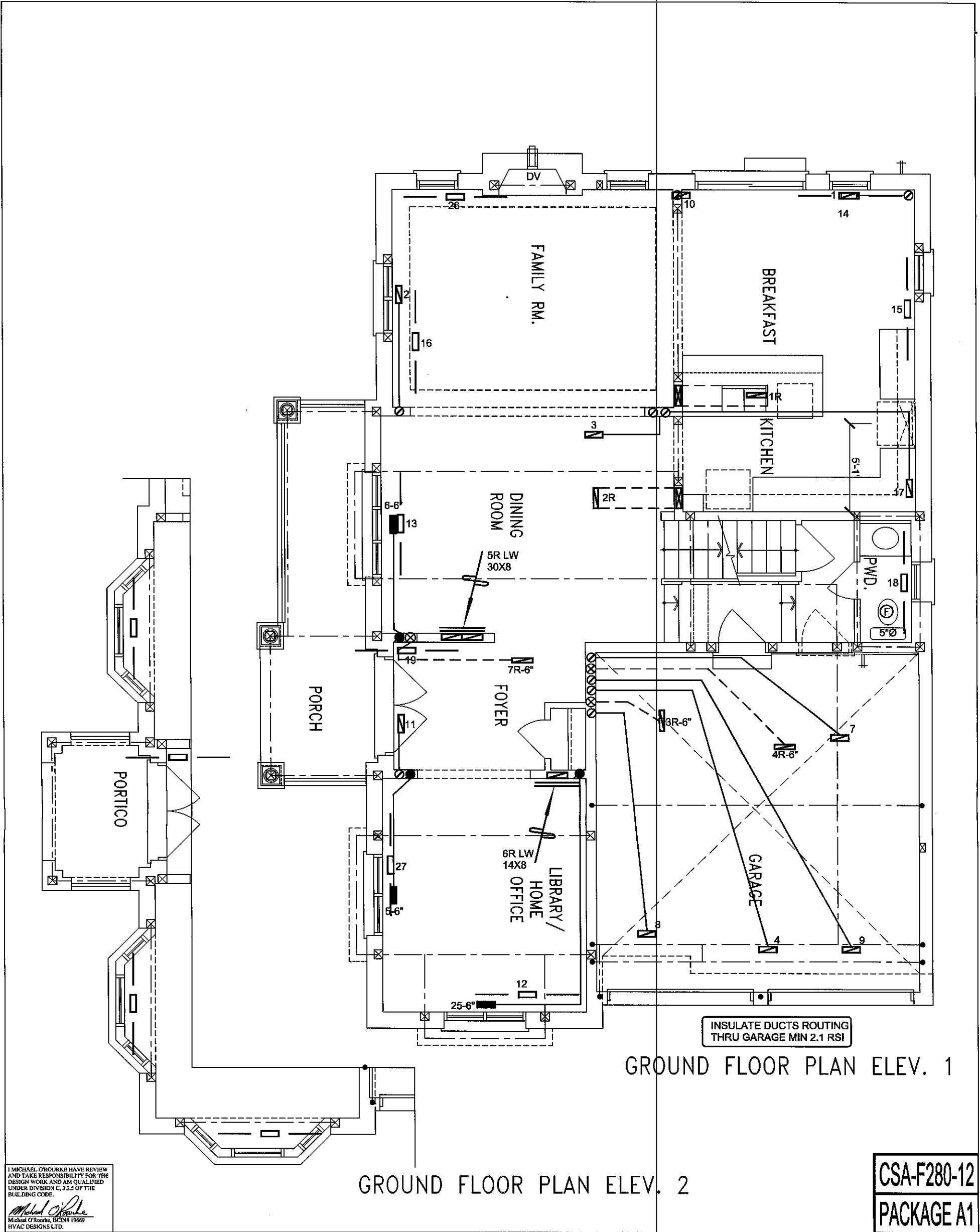
BASEMENT PLAN ELEV. 1

BASEMENT FLOOR PLAN ELEV. 2

CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 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		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR		
	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@hvacadesigns.ca Web: www.hvacadesigns.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.		HEAT LOSS 50831 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title	
GREENPARK HOMES				MAKE GOODMAN		3RD FLOOR		BASEMENT HEATING LAYOUT	
Project Name				MODEL GMEC960603BNA		2ND FLOOR 13 5 4		Date MAR/2021	
RUSSELL GARDENS PH 4 HAMILTON, ONTARIO				INPUT 60 MBTU/H		1ST FLOOR 9 2 2		Scale 3/16" = 1'-0"	
VALLEYCREEK 11 2689 sqft				OUTPUT 57.6 MBTU/H		BASEMENT 5 1 0		BCIN# 19669	
		COOLING 3.0 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A		LO# 90136			
		FAN SPEED 1131 cfm @ 0.6" w.g.							



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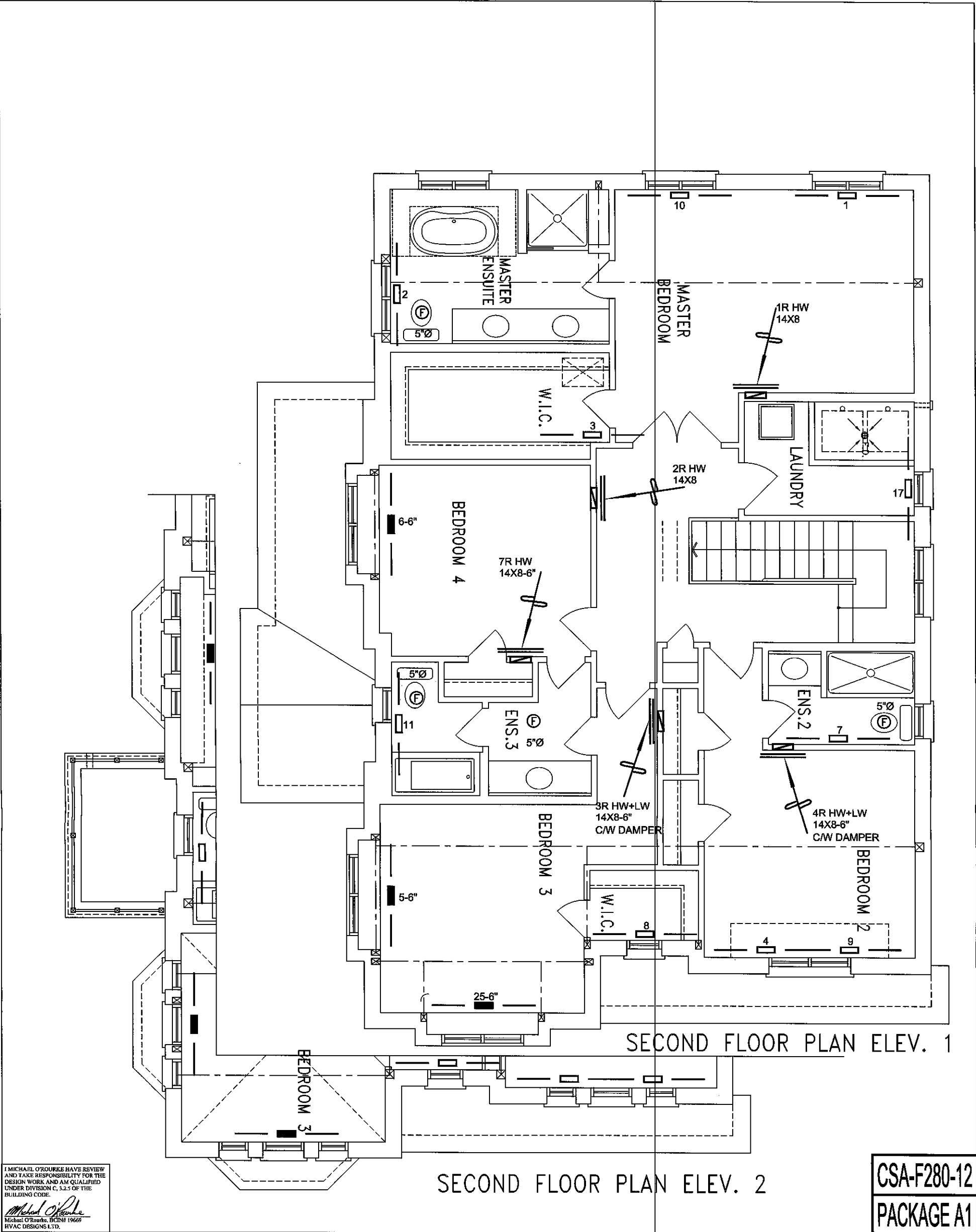
CSA-F280-12
PACKAGE A1

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		
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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@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	
GREENPARK HOMES									FIRST FLOOR HEATING LAYOUT	
Project Name									Date	
RUSSELL GARDENS PH 4 HAMILTON, ONTARIO									MAR/2021	
						Scale		3/16" = 1'-0"		
								BCIN# 19669		
VALLEYCREEK 11 2689 sqft								LO#	90136	



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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.

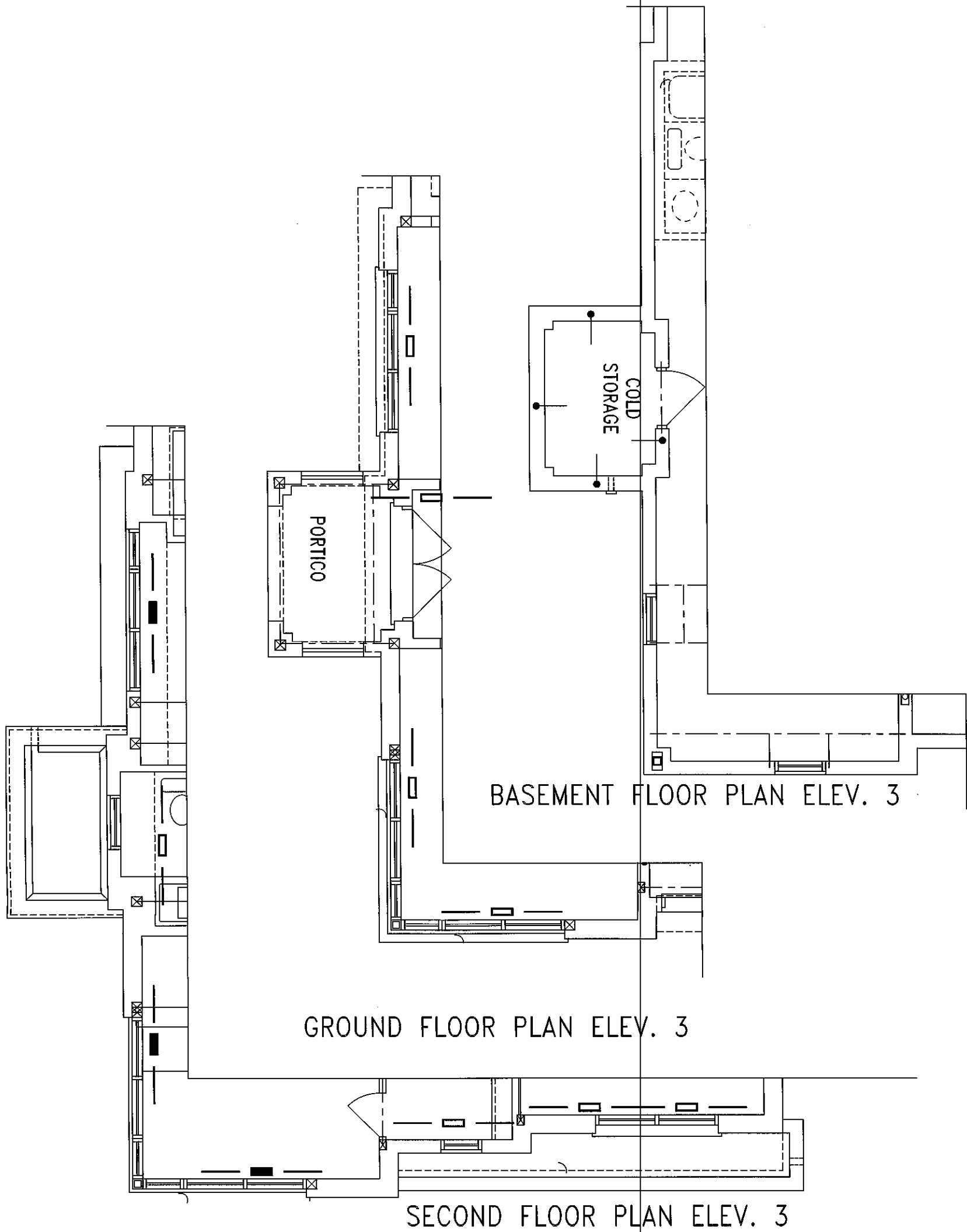


I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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.		
	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	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER		Date	
								REVISIONS		
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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 SECOND FLOOR HEATING LAYOUT	
Project Name RUSSELL GARDENS PH 4 HAMILTON, ONTARIO									Date MAR/2021	
VALLEYCREEK 11 2689 sqft									Scale 3/16" = 1'-0"	
									BCIN# 19669	
						LO#		90136		



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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.		
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	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 RUSSELL GARDENS PH 4 HAMILTON, ONTARIO			Date MAR/2021	
VALLEYCREEK 11 2689 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 90136	