

SITE NAME: RESSEL GARDENS PHASE 3

BUILDER: GREENPARK HOMES

TYPE: VALLEYCREEK 2S

GFA: 2553

DATE: Mar-20

LO# 85776

WINTER NATURAL AIR CHANGE RATE 0.336

SUMMER NATURAL AIR CHANGE RATE 0.121

HEAT LOSS AT °F. 71

HEAT GAIN AT °F. 13

CSA-F280-12

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2
37	23	8	25	32	15	9	9	9	9	9
9	9	9	9	9	9	9	9	9	9	9
FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
GRS.WALL AREA	333		207		72		261		288	
GLAZING										
NORTH	19.8	16.0	0	0	0	0	0	0	0	0
EAST	19.8	41.5	0	0	0	0	0	0	0	0
SOUTH	19.8	24.9	0	0	0	0	0	0	0	0
WEST	19.8	41.5	35	592	1454	15	237	623	0	0
SKYL.T.	34.6	101.5	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	298	1235	224	184	763	138	55	228
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	338	403	199	129	154	76	29	35
NO ATTIC EXPOSED CLG	2.6	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										
SLAB ON GRADE HEAT LOSS										
SUBTOTAL HT LOSS			2330		1371		667		2464	
SUB TOTAL HT GAIN				1877		1037		777		1536
LEVEL FACTOR / MULTIPLIER	0.20	0.25			0.20	0.25			0.20	0.25
AIR CHANGE HEAT LOSS			581		342		166		615	
AIR CHANGE HEAT GAIN				141		78		59		116
DUCT LOSS			0		0		83		308	
DUCT GAIN				0		0		84		241
HEAT GAIN PEOPLE	240		2	480	0	0	0	1	240	1
HEAT GAIN APPLIANCES/LIGHTS				520	0	0	0	0	520	0
TOTAL HT LOSS BTU/H			2912		1713		917		3367	
TOTAL HT GAIN x 1.3 BTU/H				3923		1449		1195		3448

ROOM USE	EXP. WALL	CLG. HT.	FAM	DIN	KID	LAUND	W/R	FOY	WOD	BAS
36	26	35	27	6	35	27	10	11	43	164
10	10	10	10	10	10	10	10	10	8	8
FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
GRS.WALL AREA	360		260		350		270		385	
GLAZING										
NORTH	19.8	16.0	0	0	0	0	0	0	0	0
EAST	19.8	41.5	0	0	0	0	0	0	0	0
SOUTH	19.8	24.9	0	0	0	0	0	0	0	0
WEST	19.8	41.5	39	593	1247	0	0	0	0	0
SKYL.T.	34.6	101.5	0	0	0	0	0	0	0	0
DOORS	23.5	4.3	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.1	0.8	330	1368	248	233	966	175	287	1190
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	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	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										
SLAB ON GRADE HEAT LOSS										
SUBTOTAL HT LOSS			1961		1600		2435		1615	
SUB TOTAL HT GAIN				1495		847		2833		1615
LEVEL FACTOR / MULTIPLIER	0.30	0.41			0.30	0.41			0.30	0.41
AIR CHANGE HEAT LOSS			805		616		1000		663	
AIR CHANGE HEAT GAIN				113		64		214		29
DUCT LOSS			0		0		0		0	
DUCT GAIN				0		0		0		0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				520	620	520	520	520	0	0
TOTAL HT LOSS BTU/H			2766		2115		3435		2278	
TOTAL HT GAIN x 1.3 BTU/H				2765		1860		4637		1206

TOTAL HEAT GAIN BTU/H: 30935

TONS: 2.68

LOSS DUE TO VENTILATION LOAD BTU/H: 1515

STRUCTURAL HEAT LOSS: 44712

TOTAL COMBINED HEAT LOSS BTU/H: 46228

Michael O'Rourke

SITE NAME: RESSEL GARDENS PHASE 3
 BUILDER: GREENPARK HOMES

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 HEATING CFM 928 COOLING CFM 928
 TOTAL HEAT LOSS 44,712 TOTAL HEAT GAIN 30,860
 AIR FLOW RATE CFM 20.75 AIR FLOW RATE CFM 30.27

 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
 FAN SPEED LOW
 MEDLOW 928
 MEDIUM 1017
 HIGH 1131

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

 DESIGN CFM = 928
 CFM @ .6" E.S.P.

TEMPERATURE RISE 57 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	4
R/A	0	0	3	2	1

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	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	FAM	DIN	K/D	K/D	LAUND	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.46	1.71	0.92	1.69	1.53	1.33	0.88	1.69	1.53	1.46	0.72	2.77	2.12	1.72	1.72	2.28	0.51	3.48	3.81	3.81	3.81	3.81
CFM PER RUN HEAT	30	36	19	35	32	28	18	35	32	30	15	57	44	36	36	47	10	72	79	79	79	79
RM GAIN MBH.	1.96	1.45	1.20	1.72	2.34	1.82	0.51	1.72	2.34	1.96	0.33	2.79	1.86	2.32	2.32	1.21	0.30	0.62	0.48	0.48	0.48	0.48
CFM PER RUN COOLING	59	44	36	52	71	55	16	52	71	59	10	84	56	70	70	37	9	19	15	15	15	15
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	47	29	45	55	54	19	36	49	61	38	48	31	34	39	28	29	32	36	30	32	29	39
EQUIVALENT LENGTH	140	150	130	150	150	120	160	140	150	140	180	120	100	140	120	120	160	100	110	140	150	130
TOTAL EFFECTIVE LENGTH	187	179	175	205	204	139	196	189	211	178	228	151	134	179	148	149	192	136	140	172	179	169
ADJUSTED PRESSURE	0.09	0.1	0.1	0.08	0.08	0.12	0.09	0.09	0.08	0.1	0.08	0.11	0.13	0.1	0.12	0.12	0.09	0.13	0.12	0.1	0.1	0.1
ROUND DUCT SIZE	5	4	4	5	6	5	4	5	6	5	4	6	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	220	413	218	257	163	206	207	257	163	220	172	291	323	264	264	539	115	529	580	580	580	580
COOLING VELOCITY (ft/min)	433	505	413	382	362	404	184	382	362	433	115	428	411	514	514	424	103	140	110	110	110	110
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	C	B	B	A	C	B	B	A	D	B	C	B	D	D	C	A	A	C	D	A	A

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2	FAM	DIN	K/D	K/D	LAUND	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.46	1.71	0.92	1.69	1.53	1.33	0.88	1.69	1.53	1.46	0.72	2.77	2.12	1.72	1.72	2.28	0.51	3.48	3.81	3.81	3.81	3.81
CFM PER RUN HEAT	30	36	19	35	32	28	18	35	32	30	15	57	44	36	36	47	10	72	79	79	79	79
RM GAIN MBH.	1.96	1.45	1.20	1.72	2.34	1.82	0.51	1.72	2.34	1.96	0.33	2.79	1.86	2.32	2.32	1.21	0.30	0.62	0.48	0.48	0.48	0.48
CFM PER RUN COOLING	59	44	36	52	71	55	16	52	71	59	10	84	56	70	70	37	9	19	15	15	15	15
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	47	29	45	55	54	19	36	49	61	38	48	31	34	39	28	29	32	36	30	32	29	39
EQUIVALENT LENGTH	140	150	130	150	150	120	160	140	150	140	180	120	100	140	120	120	160	100	110	140	150	130
TOTAL EFFECTIVE LENGTH	187	179	175	205	204	139	196	189	211	178	228	151	134	179	148	149	192	136	140	172	179	169
ADJUSTED PRESSURE	0.09	0.1	0.1	0.08	0.08	0.12	0.09	0.09	0.08	0.1	0.08	0.11	0.13	0.1	0.12	0.12	0.09	0.13	0.12	0.1	0.1	0.1
ROUND DUCT SIZE	5	4	4	5	6	5	4	5	6	5	4	6	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	220	413	218	257	163	206	207	257	163	220	172	291	323	264	264	539	115	529	580	580	580	580
COOLING VELOCITY (ft/min)	433	505	413	382	362	404	184	382	362	433	115	428	411	514	514	424	103	140	110	110	110	110
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	C	B	B	A	C	B	B	A	D	B	C	B	D	D	C	A	A	C	D	A	A

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			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)	
TRUNK A	304	0.08	9	10	X	8	547		TRUNK G	0	0.00	0	0	X	8	0	TRUNK O	0	0.06	0	0	X	8	0
TRUNK B	470	0.08	10.6	14	X	8	604		TRUNK H	0	0.00	0	0	X	8	0	TRUNK P	0	0.06	0	0	X	8	0
TRUNK C	247	0.10	7.9	8	X	8	556		TRUNK I	0	0.00	0	0	X	8	0	TRUNK Q	0	0.06	0	0	X	8	0
TRUNK D	211	0.09	7.6	8	X	8	475		TRUNK J	0	0.00	0	0	X	8	0	TRUNK R	0	0.06	0	0	X	8	0
TRUNK E	458	0.09	10.2	12	X	8	687		TRUNK K	0	0.00	0	0	X	8	0	TRUNK S	0	0.06	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	0.06	0	0	X	8	0

RETURN AIR #	1	2	3	4	5											BR	TRUNK V	0	0.06	0	0	x	8	0
AIR VOLUME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	8	0		
PLENUM PRESSURE	155	125	155	155	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	8	0		
ACTUAL DUCT LGH.	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	x	8	618		
EQUIVALENT LENGTH	56	53	54	44	13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	x	8	465		
TOTAL EFFECTIVE LH	185	175	180	190	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	x	8	0		
ADJUSTED PRESSURE	241	228	234	234	148	1	1	1	1	1	1	1	1	1	1	1	1	1	1	x	10	557		
ROUND DUCT SIZE	0.06	0.06	0.06	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	0.09				
INLET GRILL SIZE	7.5	6.9	7.5	7.5	7.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.5				
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8				
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X				
INLET GRILL SIZE	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14				

122 AVANTI CRES. LOT 95

 TYPE: VALLEYCREEK 2S
 SITE NAME: RESSEL GARDENS PHASE 3

LO # 85776

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		9.32.4(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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 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	169.6	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	90.1	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 65H
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
BATH	FV-05-11VK1	50	☒	0.3
ENS-2	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 65H	
155 cfm high	64 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 #	001620
Date:	March-20

CSA F280-12 Residential Heat Loss and Heat Gain Calculations
Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 85776

Model: VALLEYCREEK 2S

Builder: GREENPARK HOMES

Date: 3/25/2020

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1129	8	9032
First	1129	10	11290
Second	1424	9	12816
Third	0	9	0
Fourth	0	9	0
Total:			33,138.0 ft³
Total:			938.4 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.338
SUMMER NATURAL AIR CHANGE RATE	0.121

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-17	39	71
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

$$0.338 \times 260.66 \times 39^\circ\text{C} \times 1.2 = 4145 \text{ W}$$

$$= 14142 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

$$0.121 \times 260.66 \times 7^\circ\text{C} \times 1.2 = 269 \text{ W}$$

$$= 918 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

$$80 \text{ CFM} \times 71^\circ\text{F} \times 1.08 \times 0.25 = 1515 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

$$80 \text{ CFM} \times 13^\circ\text{F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$$

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	14,142	8,150	0.868
2	0.3		10,334	0.411
3	0.2		11,338	0.249
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HLairve = 0

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** VALLEYCREEK 2S**BUILDER:** GREENPARK HOMES**SFQT:** 2553**LO#** 85776**SITE:** RESSEL GARDENS PHASE 3**DESIGN ASSUMPTIONS** 122 AVANTI CRES LOT 95

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:	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):	33138.0	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:	5.0 ft
LENGTH: 49.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	164.0 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	-

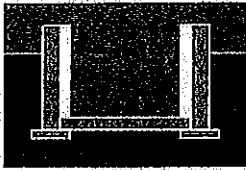
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.52	
Window Area (m ²):	1.1	
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):		1581

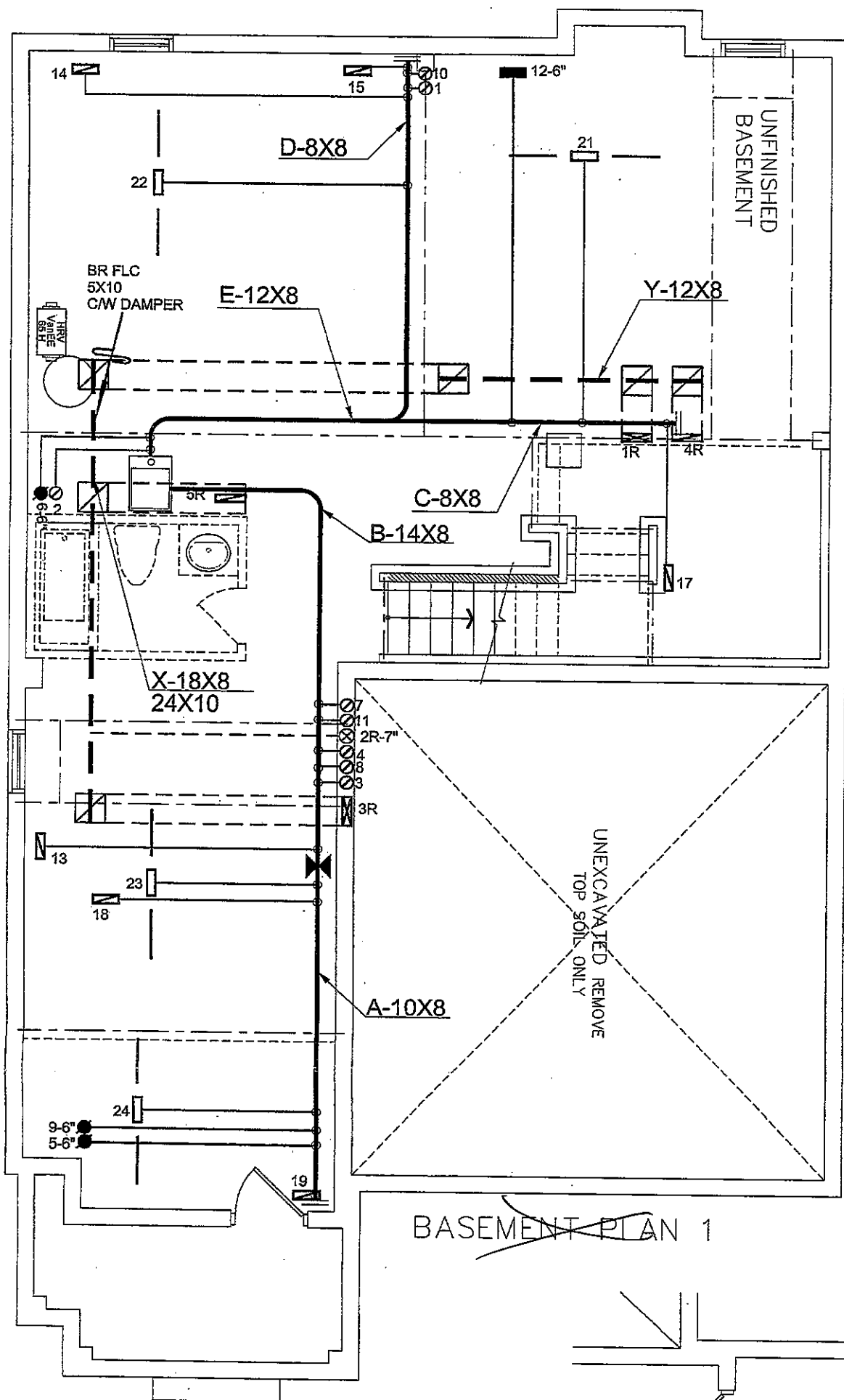
TYPE: VALLEYCREEK 2S
LO# 85776

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

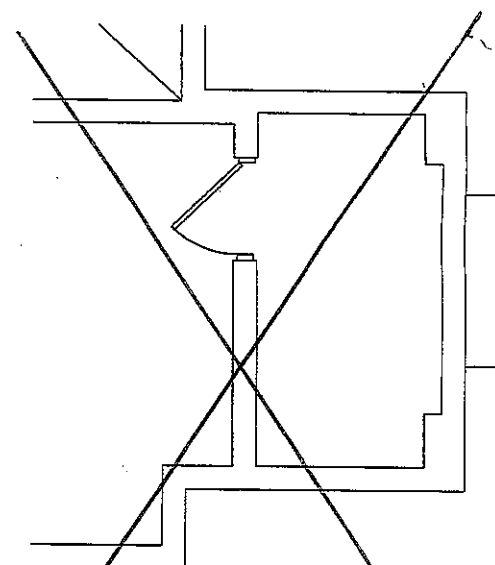
Weather Station Description			
Province:	Ontario		
Region:	Hamilton		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shielding			
Building Site:	Suburban, forest		
Walls:	Heavy		
Flue:	Heavy		
Highest Ceiling Height (m):	7.62		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	938.4		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1250.9 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 2S
LO# 85776



BASEMENT PLAN 1

PARTIAL BASEMENT PLAN FOR DECK CONDITION



BASEMENT PLAN 2

BASEMENT PLAN 3

CITY OF HAMILTON
Building Division

Permit No. **21-102417**

THESE STAMPED DRAWINGS SHALL BE AVAILABLE ON SITE

THE OWNER AND/OR CONTRACTOR SHALL COMPLY WITH
THE ONTARIO BUILDING CODE AND ALL OTHER APPLICABLE LAW

These drawings and/or specifications have been reviewed by

[Signature] **Feb 2021**
FOR CHIEF BUILDING OFFICIAL DATE

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department

JAN 19 2020

REC BY _____ DATE _____
REF'D TO _____ DATE _____

CSA-F280-12
PACKAGE A1

HVAC LEGEND

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

No.	Description	Date
3.		
2.		
1.		

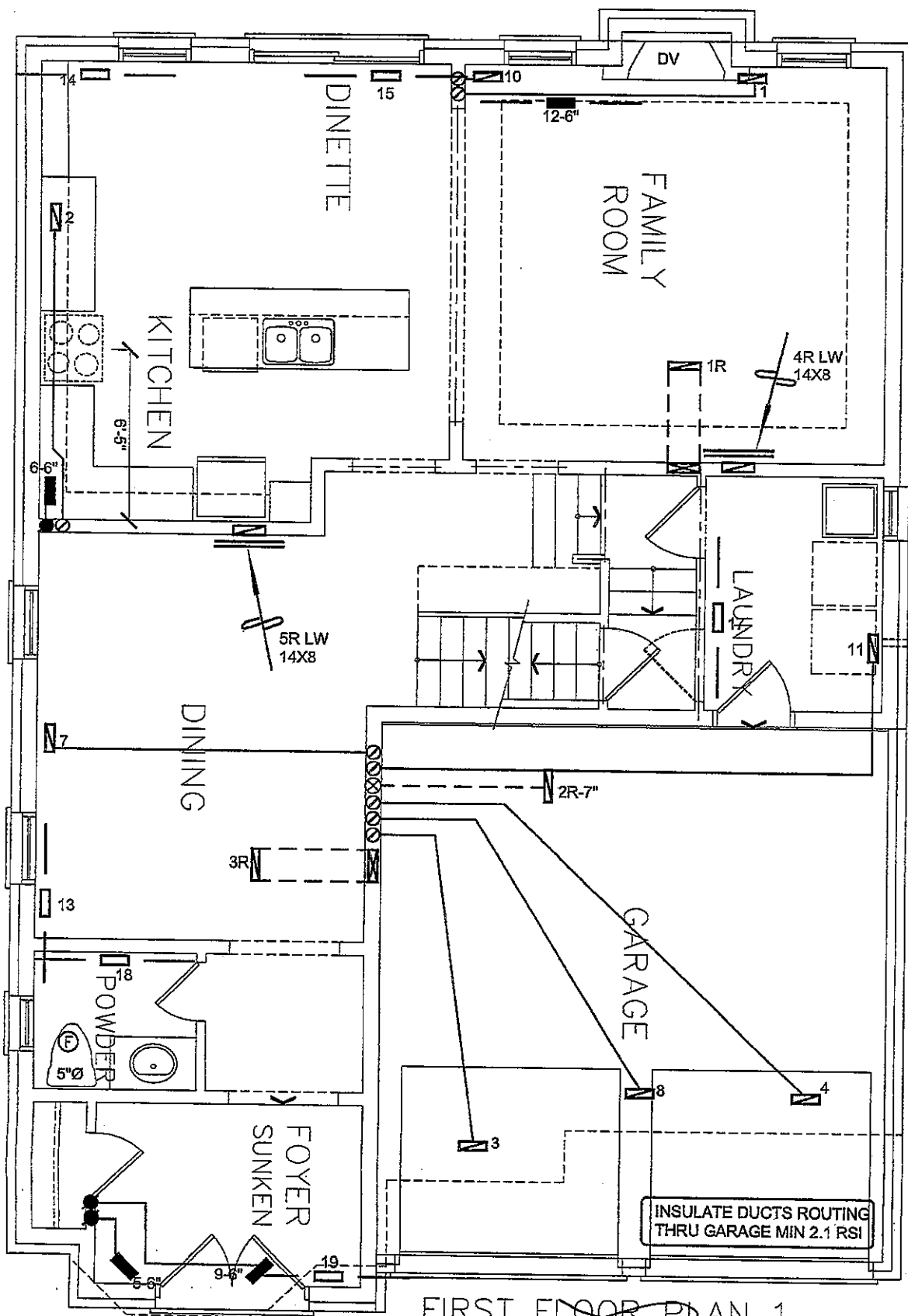
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Client
GREENPARK HOMES
Project Name
**RUSSEL GARDENS PHASE 3
HAMILTON, ONTARIO**
LOT 95
VALLEYCREEK 2S 2553 sqft

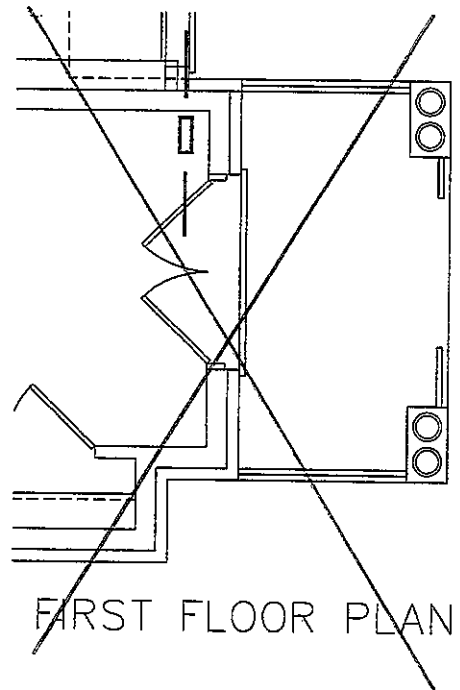
HVAC DESIGNS LTD.
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Web: www.hvacdsgns.ca
Specializing in Residential Mechanical Design Services
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

HEAT LOSS 46228 BTU/H	# OF RUNS	S/A	R/A	FANS
UNIT DATA	3RD FLOOR			
MAKE GOODMAN	2ND FLOOR	11	3	3
MODEL GMEC960603BNA	1ST FLOOR	7	2	2
INPUT 60 MBTU/H	BASEMENT	4	1	0
OUTPUT 57.6 MBTU/H				
COOLING 2.5 TONS				
FAN SPEED 928 cfm @ 0.8" w.c.				

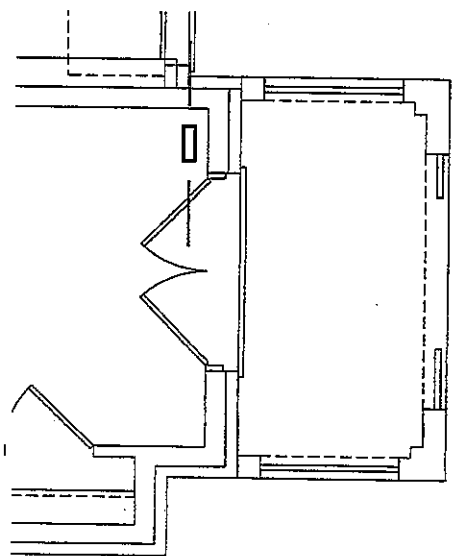
Sheet Title
**BASEMENT
HEATING
LAYOUT**
Date **MAR/2020**
Scale **3/16" = 1'-0"**
BCIN# **19669**
LO# **85776**



FIRST FLOOR PLAN 1



FIRST FLOOR PLAN 2



FIRST FLOOR PLAN 3

CITY OF HAMILTON
Building Division

Permit No. 21-102417

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FOR CHIEF BUILDING OFFICIAL DATE

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Planning & Development Department

JAN 19 2020

REC BY _____ DATE _____
REF'D TO _____ DATE _____

I MICHAEL O'Rourke HAVE REVIEW
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

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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No.	Description Date

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Client

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Project Name
RUSSEL GARDENS PHASE 3
HAMILTON, ONTARIO

Lot 95
VALLEYCREEK 2S 2553 sqft

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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
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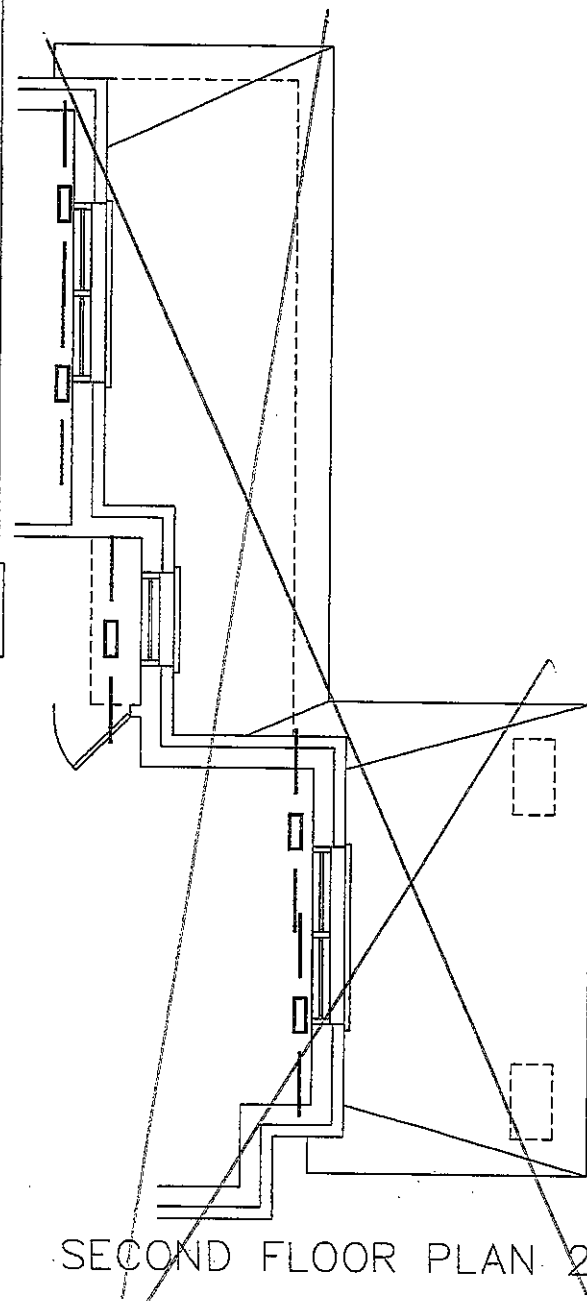
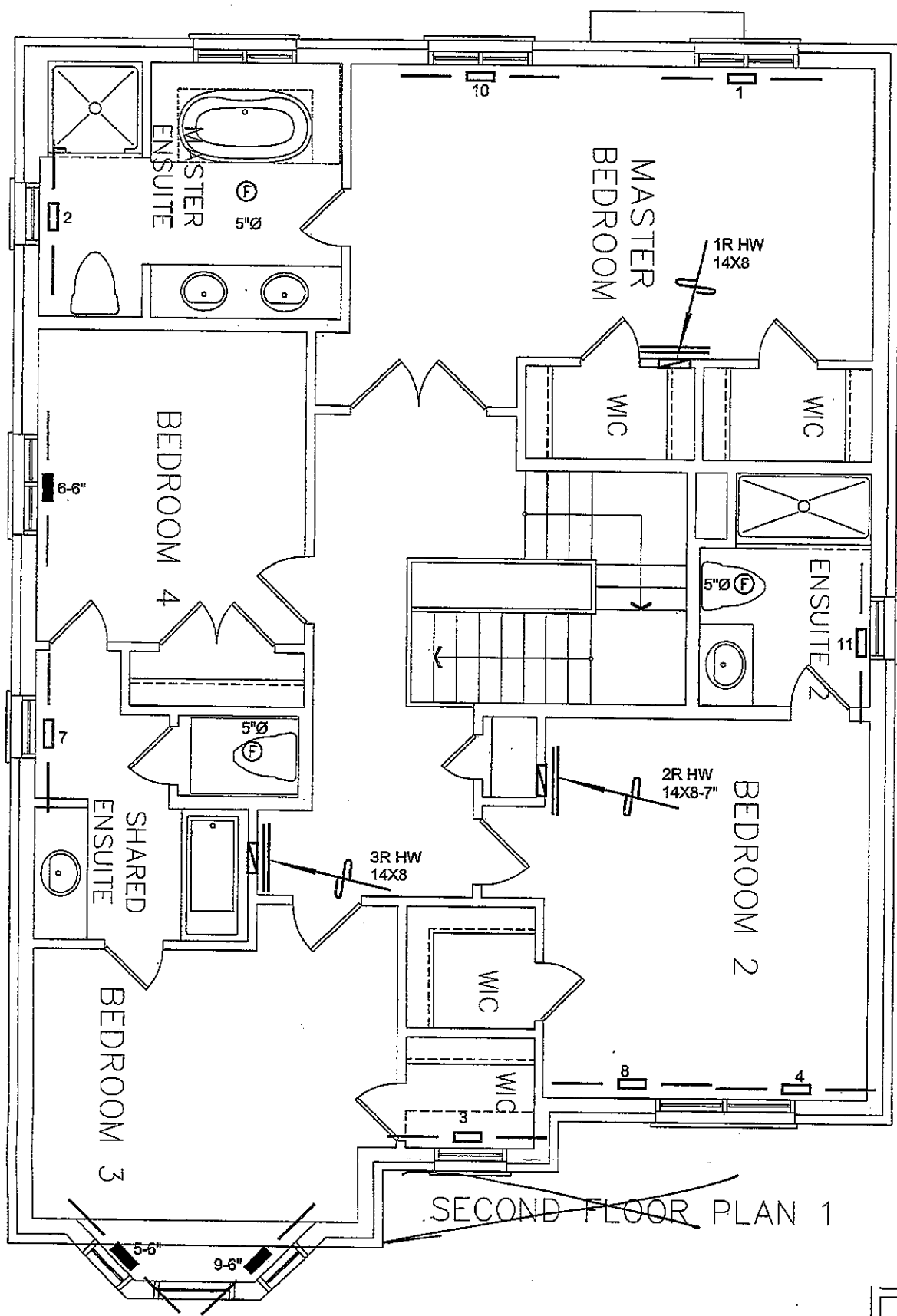
FIRST FLOOR
HEATING
LAYOUT

Date MAR/2020

Scale 3/16" = 1'-0"

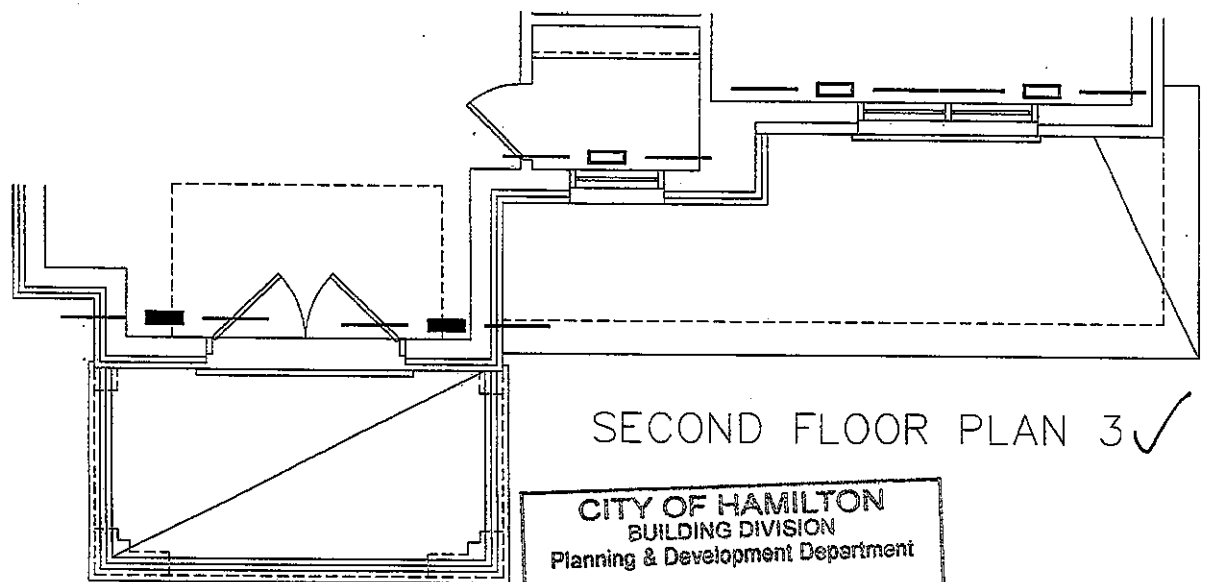
BCIN# 19669

LO# 85776



SECOND FLOOR PLAN 1

SECOND FLOOR PLAN 2



SECOND FLOOR PLAN 3 ✓

CITY OF HAMILTON
Building Division

Permit No. 21-102417

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[Signature] Feb 2021
FOR CHIEF BUILDING OFFICIAL DATE

I MICHAEL O'Rourke HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.2 OF THE
BUILDING CODE
[Signature]
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CITY OF HAMILTON
BUILDING DIVISION
Planning & Development Department
JAN 19 2020
REC BY _____ DATE _____
REF'D TO _____ DATE _____

CSA-F280-12
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