

SITE NAME: LAMBERT'S LANE PH.2
BUILDER: GREENPARK HOMES

OPT 2ND
TYPE: WOODCROFT 3

GFA: 2997

DATE: Feb-19
LO# 81342

WINTER NATURAL AIR CHANGE RATE 0.248
SUMMER NATURAL AIR CHANGE RATE 0.081

HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 11

CSA-F280-12
ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN	BED-5	ENS-3		
FACTORS			33	29	7	14	30	11	6	0	12	20		
GRS.WALL AREA			9	9	9	9	9	9	9	9	9	9		
GLAZING			297	261	63	128	270	99	54	0	108	180		
LOSS GAIN			LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN		
NORTH	18.6	15.1	0	0	0	20	371	303	0	0	0	0		
EAST	18.6	40.7	0	0	0	0	0	0	0	0	0	0		
SOUTH	18.6	24.1	0	0	0	0	0	0	44	816	1782	43	788	1781
WEST	18.6	40.7	30	557	1222	14	260	570	0	0	0	0		
SKYL.T.	31.2	98.9	0	0	0	0	0	0	0	0	0	0		
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0	0		
NET EXPOSED WALL	3.8	0.5	267	939	139	227	798	118	63	222	33	111	390	58
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	226	796	118	56	197	28
EXPOSED CLG	1.3	0.6	206	333	148	198	248	110	133	167	74	238	298	133
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	221	277	123	120	150	67
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	102	32	14	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0	102	264	38	221	650	82
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1629		1677	388	1221	2438	1177	677	144	891		
SUB TOTAL HT GAIN			1509		1102	107	455	2114	1861	225	84	537		
LEVEL FACTOR / MULTIPLIER	0.20	0.23		0.20	0.23		0.20	0.23	0.20	0.23		0.20	0.23	
AIR CHANGE HEAT LOSS	412			378		88	275	559	285	163		201		
AIR CHANGE HEAT GAIN			81		59		6	24		12		3		
DUCT LOSS			0		0		160	299		83		29		
DUCT GAIN			0		0		138	313		0		0		
HEAT GAIN PEOPLE	240		2	480	0	0	1	240	1	240	0	1	240	0
HEAT GAIN APPLIANCES/LIGHTS				664	0	0		664		664	0		664	0
TOTAL HT LOSS BTU/H			2241		2055	475	1646	3287	1442	912	177	1092		
TOTAL HT GAIN x 1.3 BTU/H			3553		1609	147	1978	4477	3724	339	851	1910		

ROOM USE	EXP. WALL	CLG. HT.	LV/DRN	KIT	FAM	FOY	MUD	LOD	BAS
FACTORS			33	43	36	34	26	47	172
GRS.WALL AREA			10	10	10	10	11	9	9
GLAZING			330	430	380	340	286	423	1173
LOSS GAIN			LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	18.6	15.1	0	0	0	0	0	0	0
EAST	18.6	40.7	40	742	1629	0	0	0	0
SOUTH	18.6	24.1	23	427	553	0	0	0	0
WEST	18.6	40.7	0	0	0	0	0	0	0
SKYL.T.	31.2	98.9	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	267	939	139	366	1287	191	322
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	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			2108	2474	1837	1196	1428	1171	7934
SUB TOTAL HT GAIN			2321	2797	1715	177	212	629	468
LEVEL FACTOR / MULTIPLIER	0.30	0.42		0.30	0.42	0.30	0.42	0.50	0.70
AIR CHANGE HEAT LOSS	894			1049	779	507	608		5390
AIR CHANGE HEAT GAIN			124		92		11		68
DUCT LOSS			0		0		0		0
DUCT GAIN			0		0		0		0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				664	664		664		664
TOTAL HT LOSS BTU/H			3001	3523	2816	1703	2034	1171	14324
TOTAL HT GAIN x 1.3 BTU/H			4042	4693	3212	243	1153	818	1634

TOTAL HEAT GAIN BTU/H: 35313

TONS: 2.94

LOSS DUE TO VENTILATION LOAD BTU/H: 1911

STRUCTURAL HEAT LOSS: 42800

TOTAL COMBINED HEAT LOSS BTU/H: 44711

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION 1.2.2.5 OF THE BUILDING CODE
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Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

RECEIVED
JUN 10 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

SITE NAME: LAMBERT'S LANE PH.2
 BUILDER: GREENPARK HOMES

 OPT 2ND
 TYPE: WOODCROFT 3

DATE: Feb-19

GFA: 2807 LO# 81342

 HEATING CFM 1131 COOLING CFM 1131
 TOTAL HEAT LOSS 42,800 TOTAL HEAT GAIN 35,029
 AIR FLOW RATE CFM 26.43 AIR FLOW RATE CFM 32.29

 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 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

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

 AFUE = 98 %
 INPUT (BTU/H) = 60,000
 OUTPUT (BTU/H) = 57,600

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

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	7	4
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.

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	BATH	BED-5	LAUN	MBR	ENS-3	LIV/DIN	LIV/DIN	KIT	KIT	FAM	BED-3	BED-4	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.12	2.06	0.48	1.65	1.64	0.72	0.91	1.09	0.18	1.12	1.10	1.50	1.50	1.76	1.76	2.62	1.64	0.72	1.70	2.03	3.87	3.87	3.87	3.87
CFM PER RUN HEAT	30	54	13	43	43	19	24	29	5	30	29	40	40	47	47	69	43	19	45	54	102	102	102	102
RM GAIN MBH.	1.78	1.51	0.15	1.98	2.24	1.86	0.34	1.91	0.95	1.78	0.75	2.02	2.02	2.35	2.35	3.21	2.24	1.86	0.24	1.15	0.59	0.59	0.59	0.59
CFM PER RUN COOLING	57	49	5	64	72	60	11	62	31	57	24	65	65	76	76	104	72	60	8	37	19	19	19	19
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	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	63	67	24	71	47	41	55	16	86	52	41	7	21	31	39	54	56	38	33	42	29	49	12	10
EQUIVALENT LENGTH	160	150	170	140	190	155	125	205	150	145	155	120	120	130	150	110	160	130	170	120	140	130	130	110
TOTAL EFFECTIVE LENGTH	223	217	194	211	237	196	180	221	216	197	196	127	141	161	189	164	216	168	203	162	169	179	142	120
ADJUSTED PRESSURE	0.08	0.08	0.09	0.08	0.07	0.09	0.1	0.08	0.08	0.09	0.09	0.14	0.12	0.11	0.09	0.1	0.08	0.1	0.08	0.11	0.1	0.09	0.11	0.14
ROUND DUCT SIZE	5	5	4	5	6	5	4	5	4	5	4	5	5	5	5	6	6	5	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	220	396	149	316	219	140	275	213	57	220	333	294	294	345	345	352	219	140	330	396	520	520	520	520
COOLING VELOCITY (ft/min)	419	360	57	470	367	441	126	455	356	419	275	477	477	558	558	530	367	441	59	272	87	87	87	87
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	B	A	B	D	C	C	D	B	A	B	C	D	C	B	B	A	C	C	C	A	B	A	D	D

 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

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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 284	0.08	8.8	10	511	TRUNK G 0	0.00	0	0	0
TRUNK B 582	0.08	11.4	16	655	TRUNK H 0	0.00	0	0	0
TRUNK C 238	0.07	8.5	8	538	TRUNK I 0	0.00	0	0	0
TRUNK D 549	0.07	11.6	16	618	TRUNK J 0	0.00	0	0	0
TRUNK E 0	0.00	0	0	0	TRUNK K 0	0.00	0	0	0
TRUNK F 0	0.00	0	0	0	TRUNK L 0	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS.	DUCT	DUCT	(ft/min)
TRUNK O 0	0.05	0	0	0
TRUNK P 0	0.05	0	0	0
TRUNK Q 0	0.05	0	0	0
TRUNK R 0	0.05	0	0	0
TRUNK S 0	0.05	0	0	0
TRUNK T 0	0.05	0	0	0
TRUNK U 0	0.05	0	0	0
TRUNK V 0	0.05	0	0	0
TRUNK W 0	0.05	0	0	0
TRUNK X 1131	0.05	16.5	32	636
TRUNK Y 210	0.05	8.8	10	378
TRUNK Z 0	0.05	0	0	0
DROP 1131	0.05	16.5	24	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	0	0	0	0	0	0	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.	55	43	62	39	58	40	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	215	180	185	170	180	190	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	270	223	247	209	236	230	194	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.07	0.06	0.07	0.06	0.08	0.08	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	6	7.5	6	6	6	7.1	8.9	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	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	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	14	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: WOODCROFT 3
SITE NAME: LAMBERT'S LANE PH.2

LO # 81342
OPT 2ND

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	4	@ 10.6 cfm	42.4	cfm
Kitchen & Bathrooms	5	@ 10.6 cfm	53	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	201.4	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	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	106.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY
Model: VANE 65H Location: BSMT
95.4 cfm 3.0 sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
95.4 CFM	74 F	1.08	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-3	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.
Model: VANE 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: *Michael O'Rourke*
HRAI #: 001820
Date: February-19

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* MICHAEL O'ROURKE

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

LO#: 81342

Model: WOODCROFT 3

Builder: GREENPARK HOMES

Date: 2019-02-04

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1257	9	11313
First	1257	10	12570
Second	1658	9	14922
Third	0	9	0
Fourth	0	9	0
Total:			38,805.0 ft³
Total:			1098.8 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.248
SUMMER NATURAL AIR CHANGE RATE	0.081

Design Temperature Difference				
	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

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

0.248 x 305.23 x 41 °C x 1.2 = 3746 W

= 12780 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

= 0.081 x 305.23 x 6 °C x 1.2 = 181 W

= 616 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

95 CFM x 74 °F x 1.08 x 0.25 = 1911 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

95 CFM x 11 °F x 1.08 x 0.25 = 283 Btu/h

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

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

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 / HL _{level})
1	0.5	12,780	9,105	0.702
2	0.3		9,043	0.424
3	0.2		11,340	0.225
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 HLairv = 0

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: WOODCROFT 3	OPT 2ND	BUILDER: GREENPARK HOMES
SFQT: 2907	LO# 81342	SITE: LAMBERT'S LANE PH.2

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
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:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	38805.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 47.0 ft	WIDTH: 39.0 ft	EXPOSED PERIMETER:	172.0 ft

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

Ceiling with Attic Space Minimum RSI (R)-Value
 Ceiling Without Attic Space Minimum RSI (R)-Value
 Exposed Floor Minimum RSI (R)-Value
 Walls Above Grade Minimum RSI (R)-Value
 Basement Walls Minimum RSI (R)-Value
 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
 Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value
 Windows and Sliding Glass Doors Maximum U-Value
 Skylights Maximum U-Value
 Space Heating Equipment Minimum AFUE
 HRV Minimum Efficiency
 Domestic Hot Water Heater Minimum EF

60	59.20
31	27.70
31	29.80
R22+R5	21.10
20	21.12
-	-
10	10
10	11.13
ZONE 2	-
ZONE 2	-
0.96	-
75%	-
0.9	-

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 THE ONTARIO BUILDING CODE

INDIVIDUAL BCIN: 19669
 MICHAEL O'ROURKE

RECEIVED

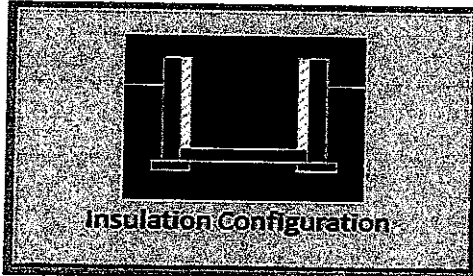
JUN 14 2019

Michael O'Rourke

TOWN OF SALEM
 BUILDING SECTION
 FILE NO. _____

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.3	
Floor Width (m):	11.9	
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):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1745	

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODETYPE: WOODCROFT 3
LO# 81342

OPT 2ND

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JUN 10 2019TOWN OF CALEDON
BUILDING SECTION
FILE NO.

Air Infiltration Residential Load Calculator

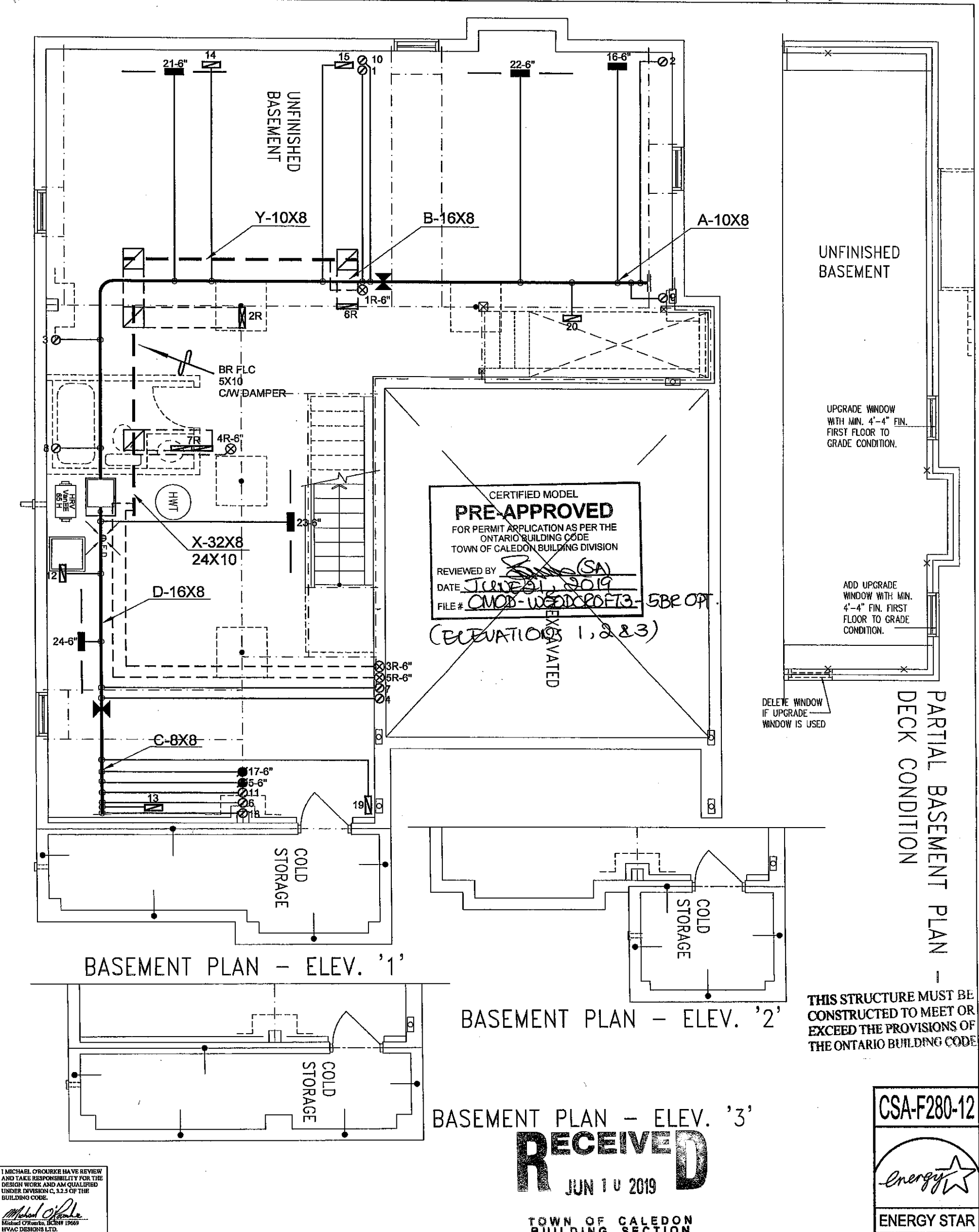
Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Brampton		
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):	1098.8		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1025.8 cm ²	
	2.50	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	45.0	45.0	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.248		
Cooling Air Leakage Rate (ACH/H):	0.081		

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LO# 81342

OPT 2ND

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JUN 10 2019TOWN OF CALEDON
BUILDING SECTION
FILE NO



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.

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JUN 10 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO. _____

CSA-F280-12

ENERGY STAR

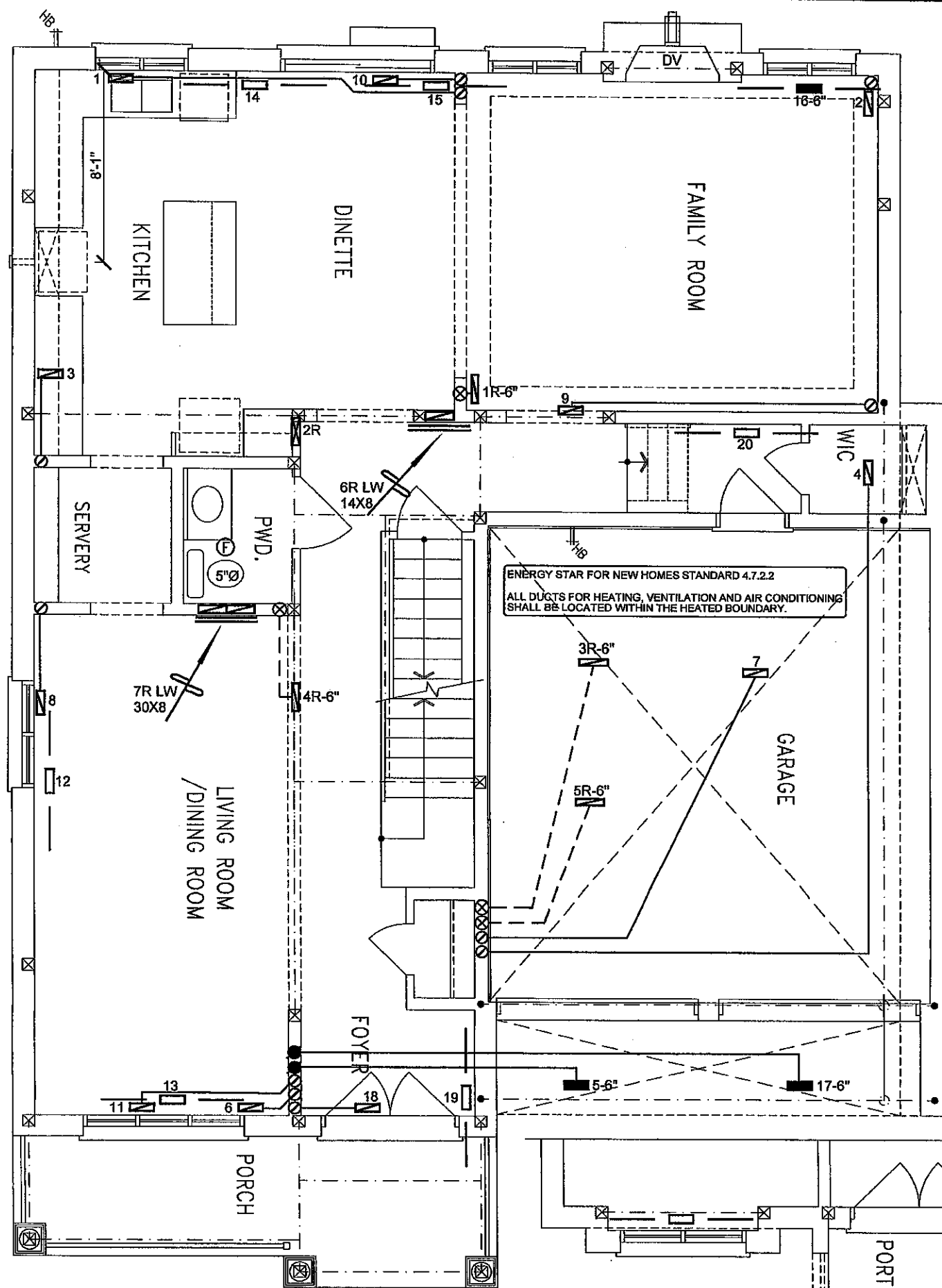
HVAC LEGEND								REVISIONS	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Date
	SUPPLY AIR GRILLE		8" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA - FLOOR RETURN AIR GRILLE		REDUCER		

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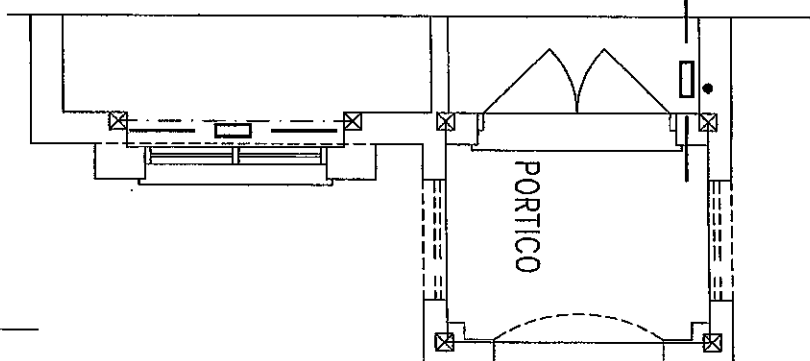
Client GREENPARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply 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.	HEAT LOSS 44711 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
Project Name LAMBERTS LANE HOME CORP PH2 CALEDON, ONTARIO			MAKE GOODMAN	3RD FLOOR					Date FEB/2019	
			MODEL GMEC960603BNA	2ND FLOOR		13	5	5		
			INPUT 60 MBTU/H	1ST FLOOR		7	2	2		
			OUTPUT 57.6 MBTU/H	BASEMENT		4	1	0		
			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						
FAN SPEED 1131 cfm @ 0.8" w.c.										
OPT 2ND WOODCROFT 3 2907 sqft		Scale 3/16" = 1'-0"								
		BCIN# 19669								
		LO# 81342								

APPLICANT COPY

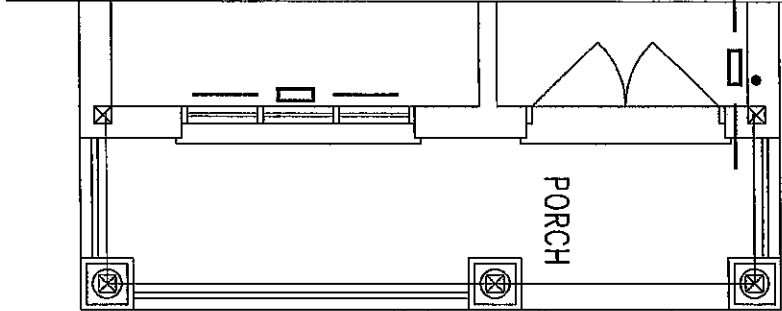
TOWN COPY



GROUND FLOOR PLAN - ELEV. '1'



GROUND FLOOR PLAN - ELEV. '2'



GROUND FLOOR PLAN - ELEV. '3'

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, BCIN# 19669
HVAC DESIGNS LTD.

DUCTS LOCATED IN UNCONDITIONED SPACES SHALL BE SEALED TO A CLASS A SEAL LEVEL IN ACCORDANCE WITH THE SMACNA MANUAL

THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

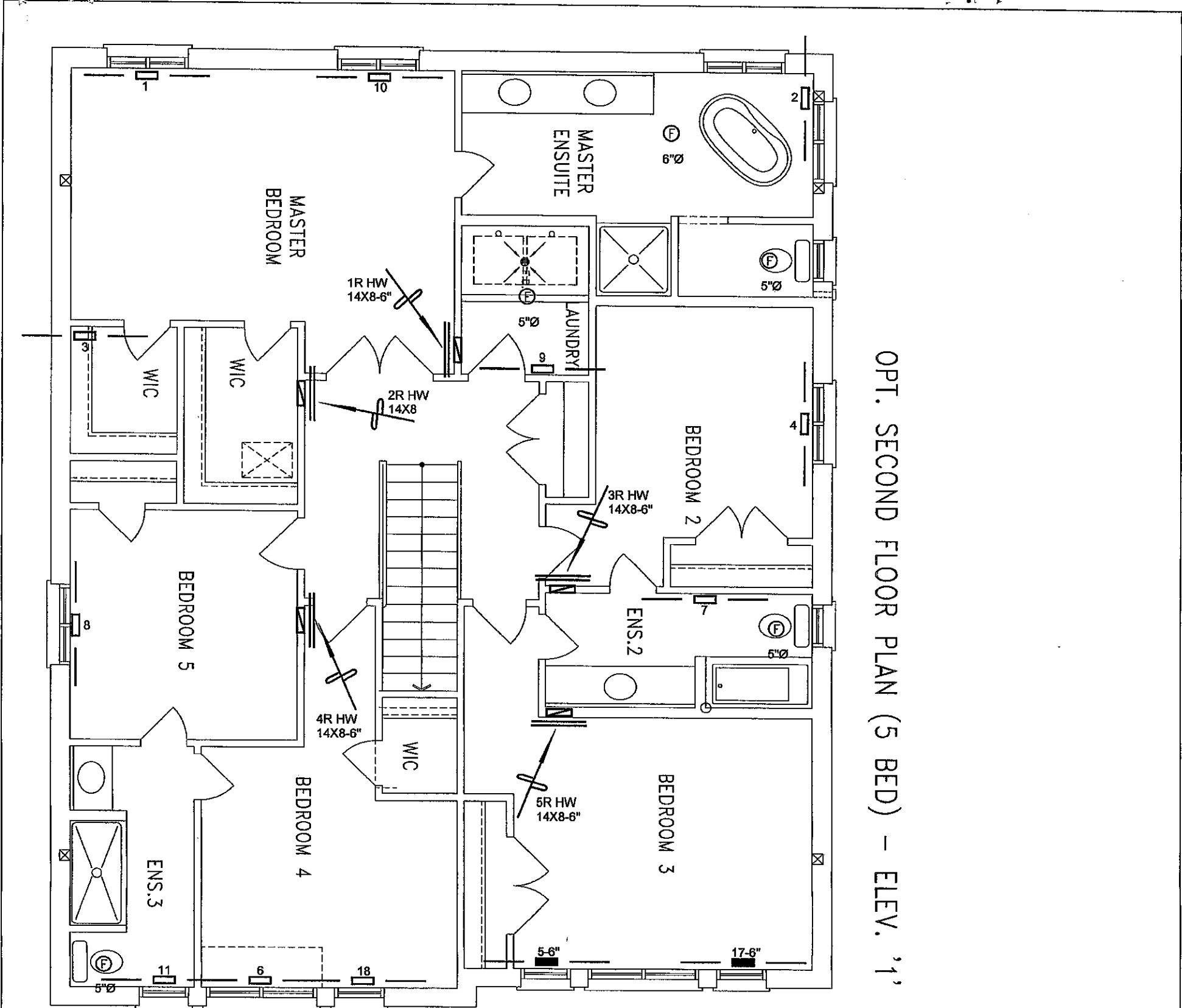
CSA-F280-12



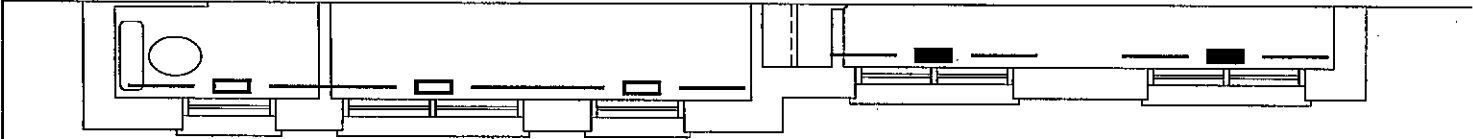
HVAC LEGEND								REVISIONS		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	No.	Description	Date
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	3.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	2.		
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA - FLOOR RETURN AIR GRILLE		REDUCER	1.		

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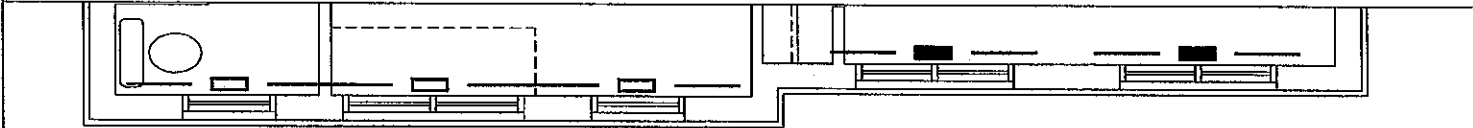
Client GREENPARK HOMES Project Name LAMBERTS LANE HOME CORP PH2 CALEDON, ONTARIO OPT 2ND WOODCROFT 3 2907 sqft	HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential 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.	RECEIVED JUN 10 2019 TOWN OF CALEDON BUILDING SECTION FILE NO. _____	Sheet Title FIRST FLOOR HEATING LAYOUT Date FEB/2019 Scale 3/16" = 1'-0" BCIN# 19669 LO# 81342
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OPT. SECOND FLOOR PLAN (5 BED) - ELEV. '1'



OPT. SECOND FLOOR PLAN (5 BED) - ELEV. '2'



OPT. SECOND FLOOR PLAN (5 BED) - ELEV. '3'

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

THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE

CSA-F280-12

ENERGY STAR

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
GREENPARK HOMES

Project Name
LAMBERTS LANE HOME CORP PH2 CALEDON, ONTARIO

OPT 2ND
WOODCROFT 3 2907 sqft

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.

JUN 10 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO.

Sheet Title
SECOND FLOOR HEATING LAYOUT

Date
FEB/2019

Scale
3/16" = 1'-0"

BCIN# 19669

LO# 81342