

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

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SITE NAME: LAMBERT'S LANE PH.2

BUILDER: GREENPARK HOMES

TYPE: BARTON 8 - LOT 6

GFA: 3510

DATE: Jul-19

LO# 83121

WINTER NATURAL AIR CHANGE RATE 0.274

SUMMER NATURAL AIR CHANGE RATE 0.089

HEAT LOSS AT °F. 74

HEAT GAIN AT °F. 11

CSA-F280-12

ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	WIC-2	ENS-2	
GRS.WALL AREA			LOSS GAIN	324	171	54	207	279	234	108	181	171	
GLAZING			LOSS GAIN										
NORTH	18.6	15.1	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	
EAST	18.6	40.7	0 0 0	0 0 0	0 0 0	0 0 0	30 557 1222	30 557 1222	0 0 0	0 0 0	12 223 489	10 186 407	
SOUTH	18.6	24.1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	9 167 217	9 167 217	0 0 0	0 0 0	0 0 0	
WEST	18.6	40.7	32 594 1303	24 445 977	0 0 0	0 0 0	0 0 0	0 0 0	16 297 651	0 0 0	0 0 0	0 0 0	
SKYL.T.	31.2	39.9	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	24.7	3.7	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	
NET EXPOSED WALL	3.5	0.5	292 1027 192	147 517 77	54 190 28	177 622 92	240 844 125	209 735 109	99 348 52	69 243 36	161 566 84	0 0 0	
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	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	1.3	0.6	397 498 221	150 188 84	84 105 47	242 303 135	249 312 139	162 203 90	130 169 75	63 79 35	88 110 49	0 0 0	
NO ATTIC EXPOSED CLG	2.7	1.2	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	
EXPOSED FLOOR	2.5	0.4	0 0 0	0 0 0	40 100 15	8 20 3	8 20 3	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	
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS			2118	1150	395	1502	1899	1402	684	544	1091	0	
SUB TOTAL HT GAIN			1877	1137	30	1452	1705	1667	343	560	573	0	
LEVEL FACTOR / MULTIPLIER			0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	0.20 0.34	
AIR CHANGE HEAT LOSS			728	394	135	515	851	481	235	187	371	0	
AIR CHANGE HEAT GAIN			91	62	5	79	92	58	19	30	31	0	
DUCT LOSS			0	0	53	202	255	0	0	0	0	0	
DUCT GAIN			0	0	0	269	296	0	0	0	0	0	
HEAT GAIN PEOPLE	240		2	480	0	0	1	240	1	240	0	60	
HEAT GAIN APPLIANCES/LIGHTS			919	0	0	919	919	919	919	0	0	0	
TOTAL HT LOSS BTU/H			2844	1545	583	2219	2805	1883	919	721	1597	0	
TOTAL HT GAIN x 1.3 BTU/H			4117	1559	135	3846	4228	2970	471	767	863	0	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LVDN	KIT	FAM	LAUN	W/R	FOY	LIBR	WOB	BAS
GRS.WALL AREA			LOSS GAIN	478	517	485	198	89	88	297	630	720
GLAZING			LOSS GAIN									
NORTH	18.6	15.1	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
EAST	18.6	40.7	44 516 1792	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	59 1064 893	4 74 51
SOUTH	18.6	24.1	34 631 818	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	8 148 325	44 816 1792	0 0 0	0 0 0
WEST	18.6	40.7	0 0 0	71 1317 2891	36 568 1466	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	8 148 193
SKYL.T.	31.2	39.9	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	24.7	3.7	0 0 0	20 493 73	0 0 0	20 493 73	0 0 0	40 986 146	40 141 21	253 890 132	10 247 37	20 493 73
NET EXPOSED WALL	3.5	0.5	395 1369 206	426 1498 222	459 1614 239	178 626 93	99 348 52	40 141 21	253 890 132	561 1973 292	0 0 0	0 0 0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	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	1.3	0.6	0 0 0	0 0 0	120 150 67	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	360 1265 188
NO ATTIC EXPOSED CLG	2.7	1.2	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
EXPOSED FLOOR	2.5	0.4	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
BASEMENT/CRAWL HEAT LOSS			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
SUBTOTAL HT LOSS			2836	3308	2432	1119	348	1275	1706	1822	1225	2878
SUB TOTAL HT GAIN			2816	3186	1772	166	52	493	483	1822	1225	4856
LEVEL FACTOR / MULTIPLIER			0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43	0.30 0.43
AIR CHANGE HEAT LOSS			1207	1408	1035	476	148	543	726	104	0	0
AIR CHANGE HEAT GAIN			153	173	96	9	3	27	0	0	0	94
DUCT LOSS			0	0	0	0	0	0	0	0	0	0
DUCT GAIN			0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			919	919	919	919	919	919	919	919	919	919
TOTAL HT LOSS BTU/H			4843	4716	3468	1595	496	1818	2432	3831	1589	1986
TOTAL HT GAIN x 1.3 BTU/H			5054	5562	3624	1423	71	675	3831	3831	1589	1986

RECEIVED
AUG 08 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

TOTAL HEAT GAIN BTU/H: 43008

TONS: 3.58

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 52264

TOTAL COMBINED HEAT LOSS BTU/H: 53866

Michael O'Rourke

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

TYPE: BARTON 8 - LOT 6

DATE: Jul-19

GFA: 3510

LO# 83121

HEATING CFM 1504
TOTAL HEAT LOSS 52,264
AIR FLOW RATE CFM 28.78

COOLING CFM 1504
TOTAL HEAT GAIN 42,772
AIR FLOW RATE CFM 35.16

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
GMEC960804CNA
FAN SPEED 80

FAN SPEED LOW

MEDLOW

MEDIUM

MEDIUM HIGH

HIGH 1504
1615

AFUE = 96 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800

DESIGN CFM = 1504
CFM @ 0.5" E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	11	8
R/A	0	0	4	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	MBR	WIC	ENS	ENS	ENS-2	BED-2	WIC-2	BED-3	BED-3	BATH	BED-4	KIT	KIT	FAM	FAM	LAUN	W/R	LIBR	FOY	LV/DN	LV/DN	BAS	BAS
RM LOSS MBH	1.42	1.42	0.58	0.77	0.77	1.60	1.11	0.73	1.40	1.40	0.92	0.94	2.36	2.36	1.73	1.73	1.80	0.50	1.22	1.82	2.02	2.02	3.09	3.09
CFM PER RUN HEAT	41	41	17	22	22	46	32	21	40	40	26	27	68	68	50	50	46	14	35	52	58	58	89	89
RM GAIN MBH	2.06	2.06	0.14	0.78	0.78	0.86	1.92	0.77	2.11	2.11	0.47	1.49	2.78	2.78	1.81	1.81	1.42	0.07	1.92	0.68	2.53	2.53	0.60	0.60
CFM PER RUN COOLING	72	72	5	27	27	30	68	27	74	74	17	52	98	98	64	64	50	2	87	24	89	89	21	21
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	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	62	59	65	50	65	63	53	42	40	49	34	30	31	41	51	62	39	40	42	38	33	8	61	34
EQUIVALENT LENGTH	160	170	150	170	180	180	160	130	130	140	160	140	140	140	140	140	160	170	180	150	140	180	170	180
TOTAL EFFECTIVE LENGTH	222	229	215	220	245	243	233	202	170	179	174	190	171	181	191	202	199	210	222	186	173	188	231	214
ADJUSTED PRESSURE	0.08	0.08	0.08	0.08	0.07	0.07	0.07	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.09	0.07	0.08
ROUND DUCT SIZE	6	6	4	4	4	5	6	4	5	5	4	5	6	6	5	5	5	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	209	209	195	252	252	338	163	241	294	294	298	198	347	347	367	367	338	161	257	382	296	296	454	454
COOLING VELOCITY (ft/min)	367	367	57	310	310	220	347	310	543	543	195	382	500	500	470	470	367	23	492	176	454	454	107	107
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	B	A	B	B	A	B	D	D	D	D	E	C	C	B	A	A	B	B	D	D	D	C	A	B

RUN #	25	26	27	28	29	30	31
ROOM NAME	BAS	BAS	BAS	BAS	BED-2	BED-4	LIBR
RM LOSS MBH	3.09	3.09	3.09	3.09	1.11	0.94	1.22
CFM PER RUN HEAT	89	89	89	89	32	27	35
RM GAIN MBH	0.60	0.60	0.60	0.60	1.92	1.49	1.92
CFM PER RUN COOLING	21	21	21	21	68	52	67
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.17	0.17	0.17
ACTUAL DUCT LGH	28	34	32	28	54	28	46
EQUIVALENT LENGTH	90	100	110	170	210	170	180
TOTAL EFFECTIVE LENGTH	118	134	142	198	264	198	206
ADJUSTED PRESSURE	0.14	0.12	0.11	0.08	0.07	0.09	0.08
ROUND DUCT SIZE	6	6	6	6	6	5	5
HEATING VELOCITY (ft/min)	454	454	454	454	163	198	257
COOLING VELOCITY (ft/min)	107	107	107	107	347	382	492
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	3X10	3X10
TRUNK	E	E	E	C	D	C	D

THIS SYSTEM WAS
CONSTRUCTED TO
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	252	0.07	8.7	10	8
TRUNK B	595	0.07	11.9	16	8
TRUNK C	864	0.07	13.7	22	8
TRUNK D	345	0.07	9.7	14	8
TRUNK E	638	0.07	12.3	18	8
TRUNK F	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	8
TRUNK H	0	0.00	0	0	8
TRUNK I	0	0.00	0	0	8
TRUNK J	0	0.00	0	0	8
TRUNK K	0	0.00	0	0	8
TRUNK L	0	0.00	0	0	8

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	165	85	185	185	300	325	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	52	67	40	38	44	19	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	175	140	135	175	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	227	242	180	173	219	154	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.06	0.08	0.09	0.07	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	7.4	6	7.5	7.2	9.2	8.7	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
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

TYPE: BARTON 8 - LOT 6
SITE NAME: LAMBERT'S LANE PH.2

LO # 83121

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 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 74 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	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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:	July-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

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

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

LO#: 83121

Model: BARTON 8 - LOT 6

Builder: GREENPARK HOMES

Date: 07/19/2019

Volume Calculation
Air Change & Delta T Data
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1744	9	15696
First	1744	11	19184
Second	1766	9	15894
Third	0	9	0
Fourth	0	9	0
Total:			50,774.0 ft³
Total:			1437.8 m³

WINTER NATURAL AIR CHANGE RATE	0.274
SUMMER NATURAL AIR CHANGE RATE	0.089

Design Temperature Difference				
	T _{in} °C	T _{out} °C	ΔT °C	ΔT °F
Winter DTD _h	22	-19	41	74
Summer DTD _c	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

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

0.274 x 399.38 x 41 °C x 1.2 = 5416 W
 = 18480 Btu/h

6.2.6 Sensible Gain due to Air Leakage

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

0.089 x 399.38 x 6 °C x 1.2 = 261 W
 = 889 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 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

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

80 CFM x 11 °F x 1.08 x 0.25 = 236 Btu/h

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

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

Level	Level Factor (LF)	HL _{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{chevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{chevel})
1	0.5	18,480	9,328	0.991
2	0.3		13,025	0.426
3	0.2		10,776	0.343
4	0		0	0.000
5	0		0	0.000

 *HL_{airbv} = Air leakage heat loss + ventilation heat loss

 *For a balanced or supply only ventilation system HL_{airv} = 0

 THIS STRUCTURE MUST BE
 CONSTRUCTED TO MEET THE
 EXISTING REQUIREMENTS
 THEREOF.

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: BARTON 8 - LOT 6

BUILDER: GREENPARK HOMES

SFQT: 3510

LO# 83121

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):	50774.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 55.0 ft	WIDTH: 40.0 ft	EXPOSED PERIMETER:	120.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	70.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package ENERGYSTAR	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.20
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.70
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	R22+R5	21.10
Basement Walls Minimum RSI (R)-Value	20	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	ZONE 2	-
Skylights Maximum U-Value	ZONE 2	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.9	-

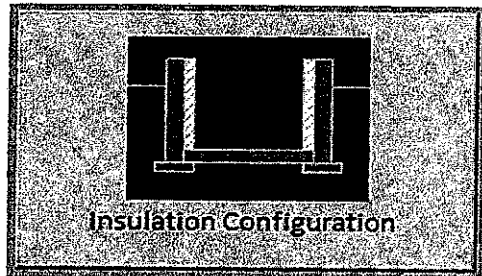
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

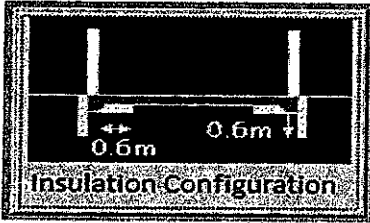
Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	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):	7.6	 Insulation Configuration
Floor Width (m):	12.2	
Exposed Perimeter (m):	36.6	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.63	
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):		843

TYPE: BARTON 8 - LOT 6
LO# 83121CONSTRUCTED TO MEET OR
EXCEED THE PROVISIONS OF
THE ONTARIO BUILDING CODE

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		
Length (m):	4.6	
Width (m):	12.2	
Exposed Perimeter (m):	21.3	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):	339	

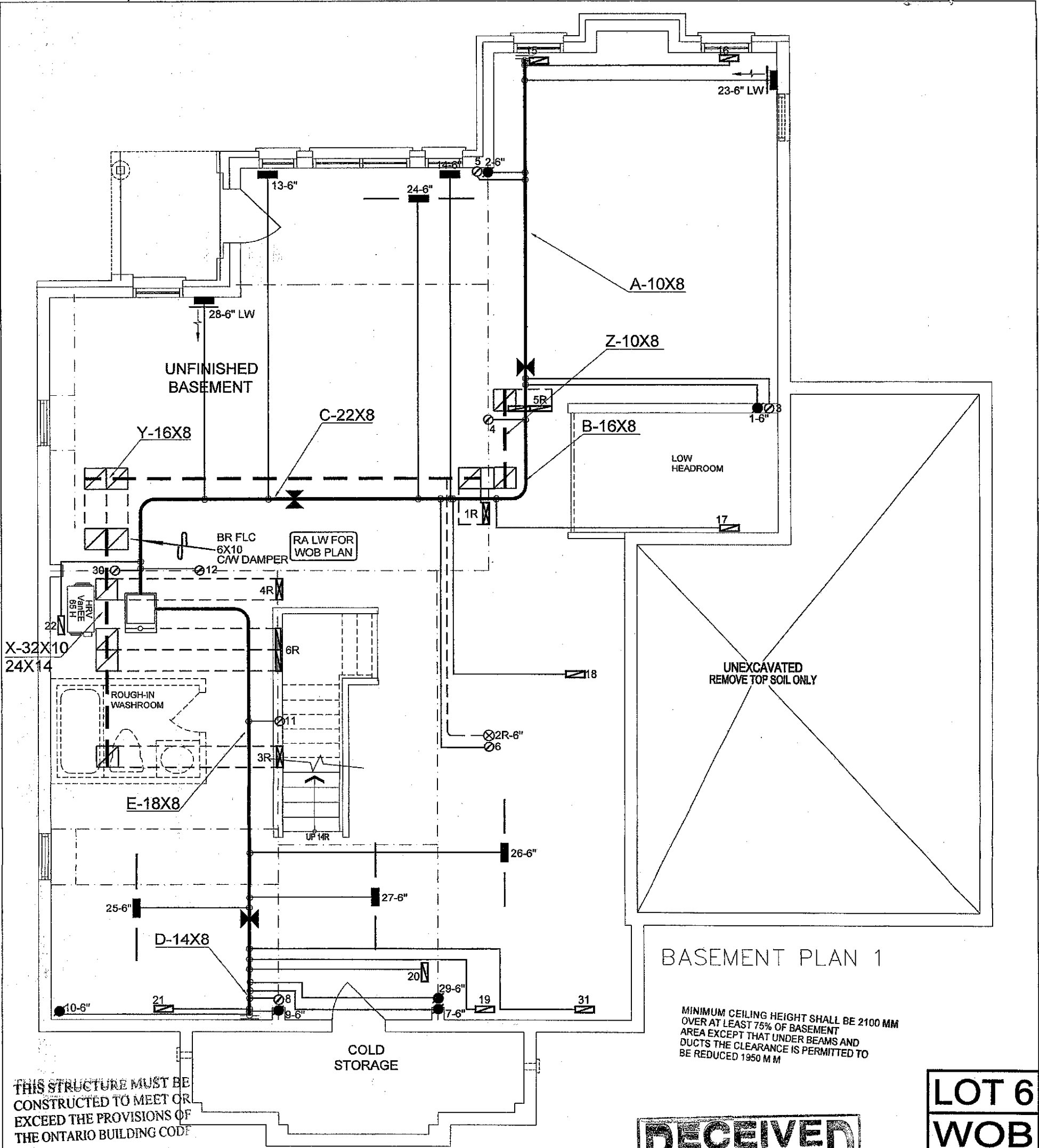
TYPE: BARTON 8 - LOT 6
LO# 83121THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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THE ONTARIO BUILDING CODE

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):	8.84			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1437.8			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1342.1 cm ²		
	2.50	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):	0.274			
Cooling Air Leakage Rate (ACH/H):	0.089			

TYPE: BARTON 8 - LOT 6
LO# 83121



THIS STRUCTURE MUST BE
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I MICHAEL O'ROURKE HAVE REVIEW
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.

APPROVED
For construction as per the
Ontario Building Code
Town of Caledon Building Department
Initial *SA*
Date *AUG 15, 2019*
File # *BA/19/0466*

RECEIVED
AUG 08 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO

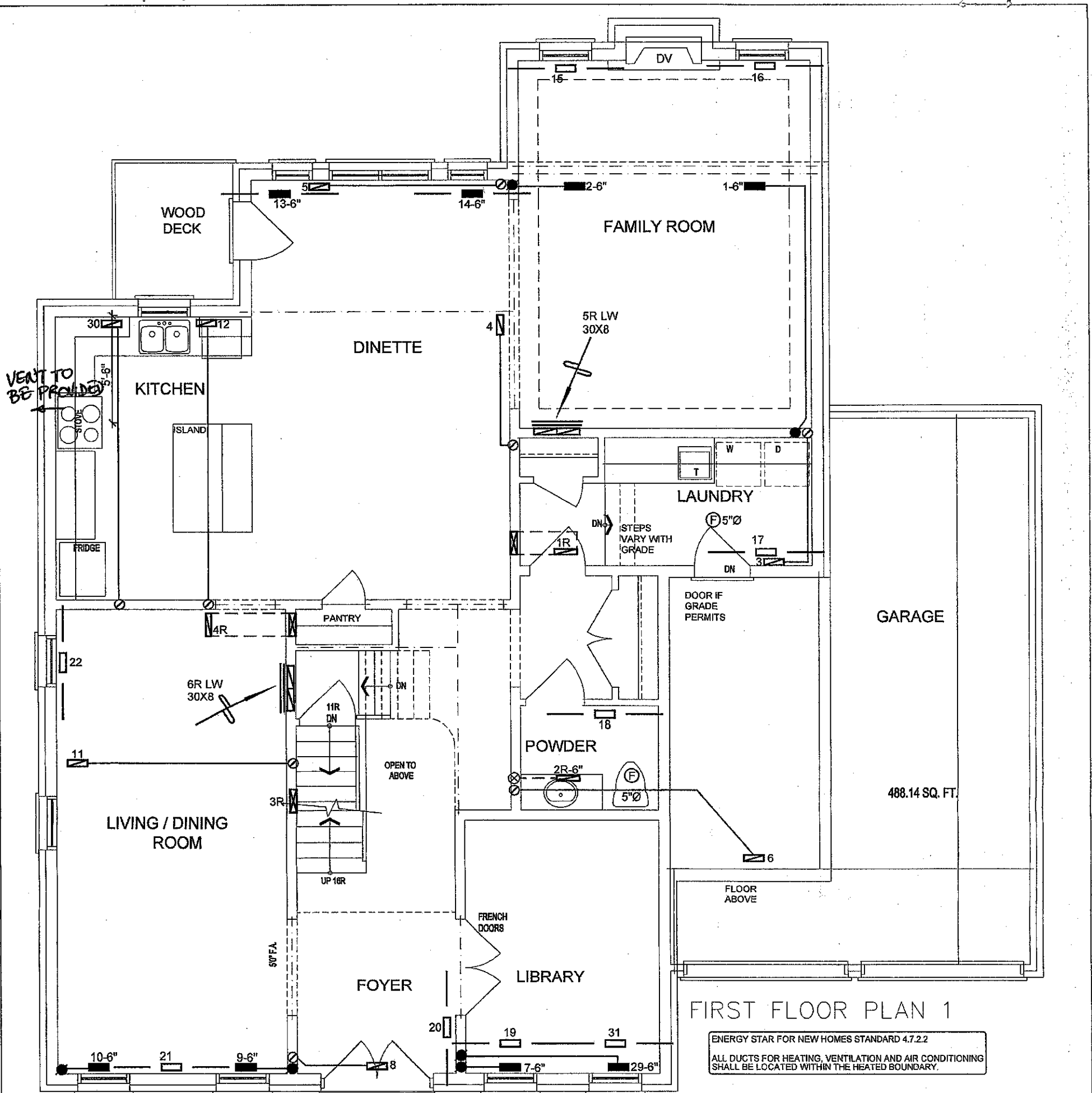
LOT 6

WOB

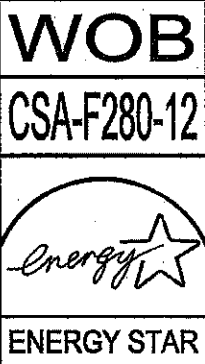
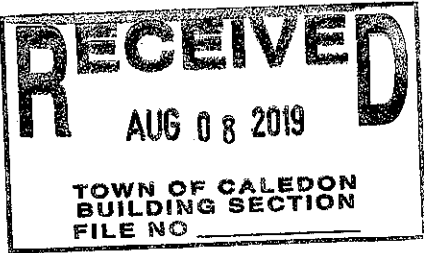
CSA-F280-12

ENERGY STAR

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			
ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.											
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.				HEAT LOSS 53856 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		Sheet Title	
GREENPARK HOMES						MAKE GOODMAN		3RD FLOOR		BASEMENT HEATING LAYOUT	
Project Name		LAMBERTS LANE HOME CORP PH 2 CALEDON, ONTARIO		MODEL GMEC960804CNA		2ND FLOOR 14 4 4		Date JULY/2019			
LOT 6 BARTON 8		3510 sqft		INPUT 80 MBTU/H		1ST FLOOR 11 2 3		Scale 3/16" = 1'-0"			
				OUTPUT 76.8 MBTU/H		BASEMENT 6 1 0		BCIN# 19669			
				COOLING 3.5 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		LO# 83121			
				FAN SPEED 1504 cfm @ 0.5" w.c.							



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

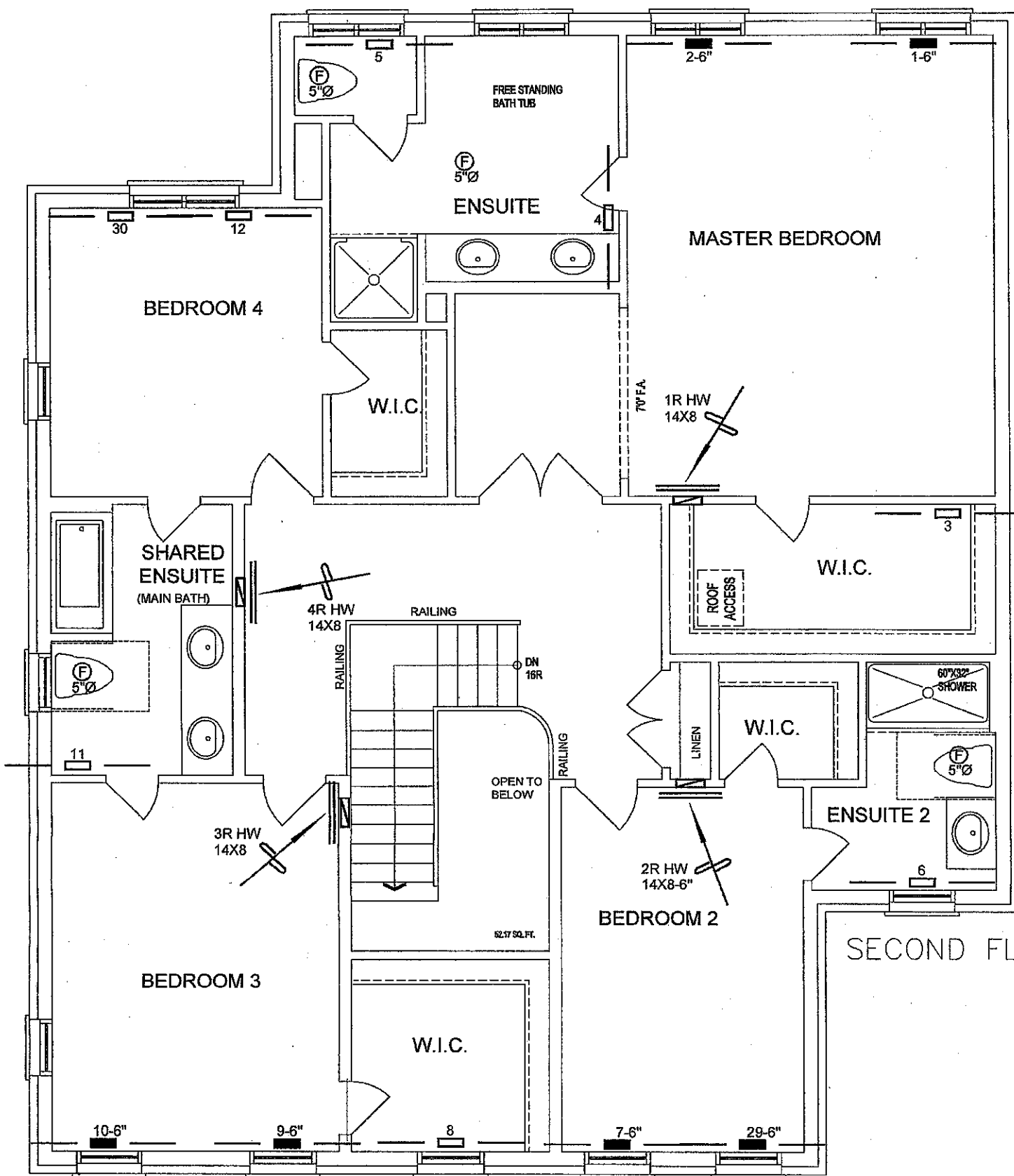


I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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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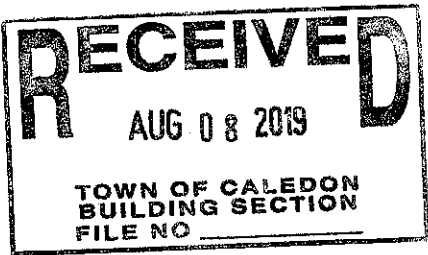
Client GREENPARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name LAMBERTS LANE HOME CORP PH 2 CALEDON, ONTARIO	Date JULY/2019				
BARTON 8 - LOT 6 3510 sqft		Scale 3/16" = 1'-0"			
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.		BCIN# 19669			
		LO#		83121	



SECOND FLOOR PLAN 1

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



WOB
CSA-F280-12

Energy

ENERGY STAR

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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Client
GREENPARK HOMES

Project Name
**LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO**

BARTON 8 - LOT 6 3510 sqft

HVACDESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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Specializing in Residential Mechanical Design Services

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Sheet Title	
SECOND FLOOR HEATING LAYOUT	
Date	JULY/2019
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	83121