

SITE NAME: LAMBERT'S LANE PH.2

BUILDER: GREENPARK HOMES

TYPE: HORIZON 12

GFA: 1862

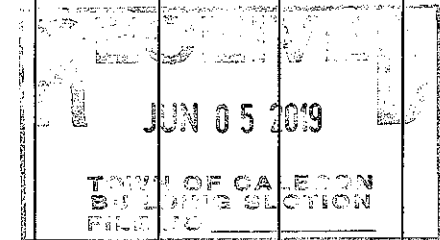
DATE: Feb-19
LO# 81378

WINTER NATURAL AIR CHANGE RATE 0.282
SUMMER NATURAL AIR CHANGE RATE 0.088

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

GSA-F280-12
ENERGYSTAR

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BATH
			31	6	7	26	13	10
			10	9	9	10	9	10
FACTORS								
GRS.WALL AREA	LOSS	GAIN	310	54	63	260	117	100
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	18.6	15.1	0	0	0	0	0	0
EAST	18.6	40.7	28	519	1140	8	148	328
SOUTH	18.6	24.1	28	519	674	0	0	0
WEST	18.6	40.7	0	0	0	0	0	0
SKYLT.	31.2	99.9	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	254	893	132	46	162	24
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	156	196	87	72	90	40
NO ATTIC EXPOSED CLG	2.7	1.2	48	129	57	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0
SUBTOTAL HT LOSS			2256		400		451	
SUB TOTAL HT GAIN				2030		390		389
LEVEL FACTOR / MULTIPLIER	0.20	0.29		0.20	0.29	0.20	0.29	0.20
AIR CHANGE HEAT LOSS			648		115		129	
AIR CHANGE HEAT GAIN				100		19		14
DUCT LOSS			0		0		0	
DUCT GAIN			0		0		0	
HEAT GAIN PEOPLE	240		2	480	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				443	0	0		0
TOTAL HT LOSS BTU/H			2804		515		580	
TOTAL HT GAIN x 1.3 BTU/H			4048		531		413	



ROOM USE	EXP. WALL	CLG. HT.	LV/DN	FAM	KIT	LAUN	W/R	FOY	BAS
			35	28	12	0	8	11	93
			10	10	10	9	10	10	9
FACTORS									
GRS.WALL AREA	LOSS	GAIN	350	280	120	0	80	110	558
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
NORTH	18.6	15.1	0	0	0	0	0	0	0
EAST	18.6	40.7	47	872	1914	0	0	0	0
SOUTH	18.6	24.1	34	631	818	0	0	0	0
WEST	18.6	40.7	0	0	0	0	0	0	0
SKYLT.	31.2	99.9	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	269	946	140	210	738	109	73
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			2449		2037		1238		
SUB TOTAL HT GAIN				2872		2394		1285	
LEVEL FACTOR / MULTIPLIER	0.30	0.40		0.30	0.40	0.30	0.40	0.30	0.40
AIR CHANGE HEAT LOSS			980		815		496		
AIR CHANGE HEAT GAIN				137		114		61	
DUCT LOSS			0		0		0		
DUCT GAIN			0		0		0		
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				443	443	443			443
TOTAL HT LOSS BTU/H			3428		2852		1734		
TOTAL HT GAIN x 1.3 BTU/H			4488		3836		2326		

TOTAL HEAT GAIN BTU/H: 24401

TONS: 2.03

LOSS DUE TO VENTILATION LOAD BTU/H: 1274

STRUCTURAL HEAT LOSS: 28642

TOTAL COMBINED HEAT LOSS BTU/H: 28917

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.

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THE ONTARIO BUILDING CODE

Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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

TYPE: HORIZON 12

DATE: Feb-19

GFA: 1862 LO# 81378

HEATING CFM 890 COOLING CFM 890
TOTAL HEAT LOSS 28,642 TOTAL HEAT GAIN 24,212
AIR FLOW RATE CFM 31.07 AIR FLOW RATE CFM 36.76

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
GMEC960402BNA
FAN SPEED 40
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 890

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400
DESIGN CFM = 890
CFM @ .6" E.S.P.

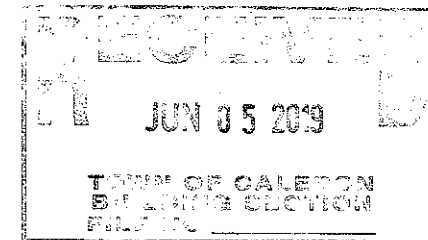
TEMPERATURE RISE 40 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	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	7	8	10	11	12	13	14	15	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-2	MBR	LV/DN	LV/DN	FAM	FAM	KIT	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.45	0.52	0.58	1.24	1.15	0.84	1.24	1.45	1.71	1.71	1.43	1.43	1.73	0.29	0.39	1.85	2.40	2.40	2.40	2.40
CFM PER RUN HEAT	45	16	18	39	36	26	39	45	53	53	44	44	54	9	12	58	75	75	75	75
RM GAIN MBH	2.02	0.53	0.41	1.71	2.09	0.53	1.71	2.02	2.24	2.24	1.92	1.92	2.33	0.71	0.06	0.44	0.33	0.33	0.33	0.33
CFM PER RUN COOLING	74	20	15	63	77	19	63	74	82	82	71	71	86	26	2	16	12	12	12	12
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	37	55	25	45	41	32	39	50	34	25	28	27	24	47	9	11	19	25	16	29
EQUIVALENT LENGTH	200	210	210	190	150	180	180	220	170	150	130	130	110	150	120	190	140	80	150	120
TOTAL EFFECTIVE LENGTH	237	285	235	235	191	212	199	270	204	175	158	157	134	197	129	201	159	105	166	149
ADJUSTED PRESSURE	0.07	0.06	0.07	0.07	0.09	0.08	0.09	0.06	0.08	0.09	0.11	0.11	0.12	0.09	0.13	0.09	0.11	0.16	0.1	0.12
ROUND DUCT SIZE	6	4	4	5	6	4	5	6	6	6	5	5	6	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	229	184	207	286	184	298	286	229	270	270	323	323	275	103	138	426	551	551	551	551
COOLING VELOCITY (ft/min)	377	229	172	483	393	218	463	377	418	418	521	521	438	298	23	117	88	88	88	88
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	B	A	B	B	C	C	C	A	A	A	A	B	C	A	B	C	C

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



SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	262	0.09	8.2	10	8
TRUNK B	453	0.07	10.8	14	8
TRUNK C	438	0.06	11.1	14	8
TRUNK D	0	0.00	0	0	8
TRUNK E	0	0.00	0	0	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
TRUNK O	0	0.07	0	0	8
TRUNK P	0	0.07	0	0	8
TRUNK Q	0	0.07	0	0	8
TRUNK R	0	0.07	0	0	8
TRUNK S	0	0.07	0	0	8
TRUNK T	0	0.07	0	0	8
TRUNK U	0	0.07	0	0	8
TRUNK V	0	0.07	0	0	8
TRUNK W	0	0.07	0	0	8
TRUNK X	615	0.07	12.1	18	8
TRUNK Y	0	0.07	0	0	8
TRUNK Z	0	0.07	0	0	8
DROP	890	0.07	13.9	24	10

RETURN AIR

1	2	3	4	5	7	8	10	11	12	13	14	15	17	18	19	21	22	23	24
AIR VOLUME	130	95	190	145	185	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
ACTUAL DUCT LGH.	57	39	31	28	25	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	135	175	135	150	155	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	192	214	166	178	180	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.08	0.07	0.09	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
ROUND DUCT SIZE	6.5	6	7.3	6.8	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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TYPE: HORIZON 12
 SITE NAME: LAMBERT'S LANE PH.2

LO # 81378

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	2 @ 10.6 cfm 21.2 cfm
Kitchen & Bathrooms	4 @ 10.6 cfm 42.4 cfm
Other Rooms	5 @ 10.6 cfm 53.0 cfm
Table 9.32.3.A.	TOTAL 159.0 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	63.6 cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.	
Total Ventilation Capacity	159 cfm
Less Principal Ventil. Capacity	63.6 cfm
Required Supplemental Capacity	95.4 cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION	
CFM	ΔT °F
63.6 CFM	74 F
X	X
1.08	X
% LOSS 0.25	

SUPPLEMENTAL FANS PANASONIC	
Location	Model
ENS	FV-05-11VK1
BATH	FV-05-11VK1
W/R	FV-05-11VK1
cfm	sones
50	0.3
50	0.3
50	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.	
Model: VANE 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 #:

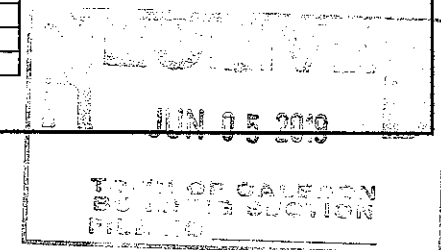
DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	February-19

 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

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 81378	Model: HORIZON 12	Builder: GREENPARK HOMES	Date: 06/02/2019																																																									
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>931</td><td>9</td><td>8379</td></tr> <tr><td>First</td><td>931</td><td>10</td><td>9310</td></tr> <tr><td>Second</td><td>931</td><td>9</td><td>8379</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>26,068.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>738.2 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	931	9	8379	First	931	10	9310	Second	931	9	8379	Third	0	9	0	Fourth	0	9	0	Total:			26,068.0 ft³	Total:			738.2 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.282</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.088</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.282	SUMMER NATURAL AIR CHANGE RATE	0.088	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.282 x 205.05 x 41 °C x 1.2 = 2865 W = 9774 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.088 x 205.05 x 6 °C x 1.2 = 133 W = 454 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 74 °F x 1.08 x 0.25 = 1274 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 11 °F x 1.08 x 0.25 = 189 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{ugcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
Level	Level Factor (LF)	HLairve 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	9,774	4,731	1.033																																																								
2	0.3		7,328	0.400																																																								
3	0.2		6,810	0.287																																																								
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																																																												

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HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** HORIZON 12**BUILDER:** GREENPARK HOMES**SFQT:** 1862**LO#** 81378**SITE:** LAMBERT'S LANE PH.2**DESIGN ASSUMPTIONS**

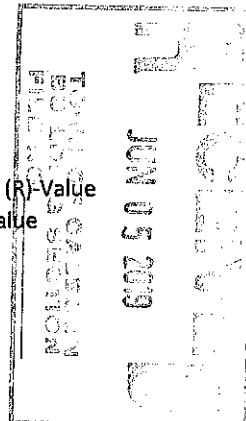
HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.00	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	26068.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 41.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	93.0 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	-



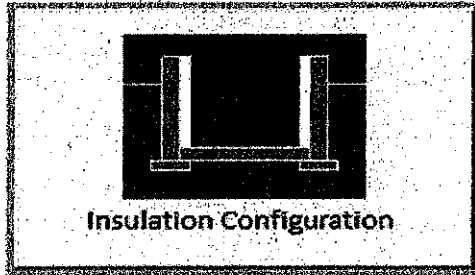
INDIVIDUAL BCIN: 19669

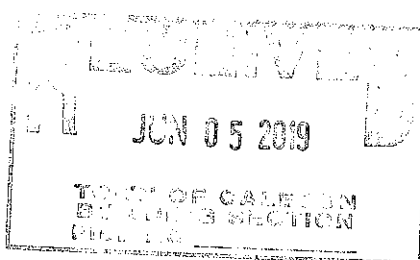
MICHAEL O'ROURKE

*Michael O'Rourke*THIS STRUCTURE MUST BE
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Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

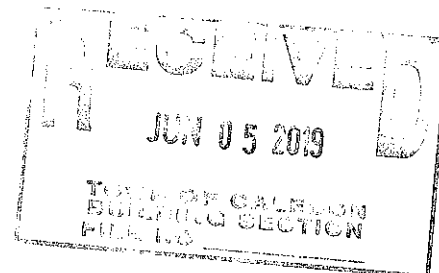
Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	12.5	
Floor Width (m):	7.9	
Exposed Perimeter (m):	28.3	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.7	
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):	911	

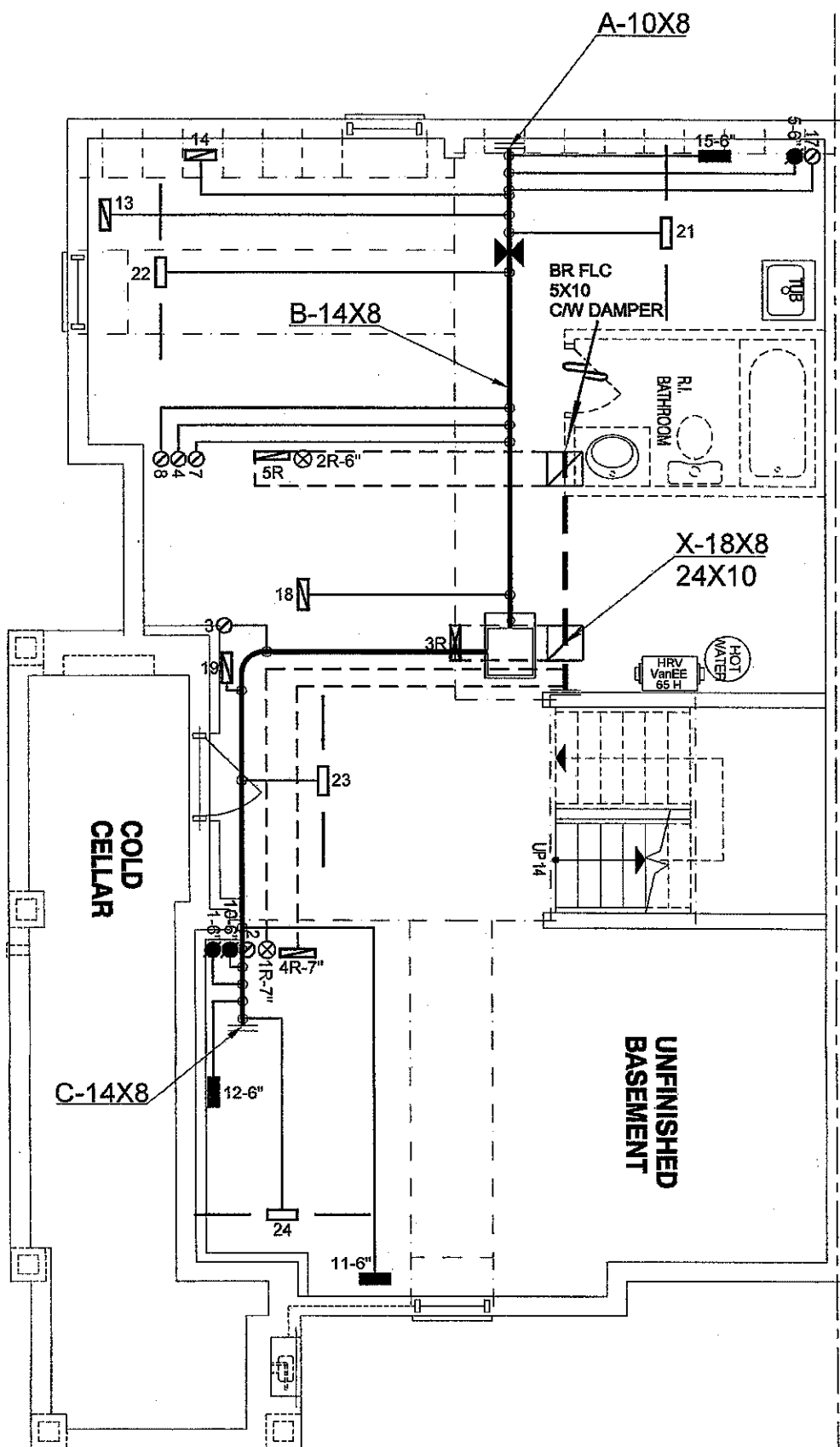
TYPE: HORIZON 12
LO# 81378THIS STRUCTURE MUST BE
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Air Infiltration Residential Load Calculator

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):	6.71			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	738.2			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Attached (3.0 ACH)			
Custom BDT Data:	ELA @ 10 Pa. 3.00	826.9 cm ² ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply 30.0	Total Exhaust 30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):		0.282		
Cooling Air Leakage Rate (ACH/H):		0.088		

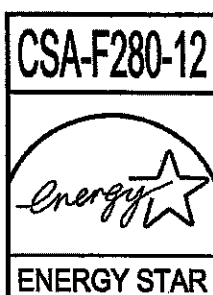
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THE ONTARIO BUILDING CODETYPE: HORIZON 12
LO# 81378



RECEIVED
JUN 05 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO.

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

CERTIFIED MODEL
PRE-APPROVED
FOR PERMIT APPLICATION AS PER THE
ONTARIO BUILDING CODE
TOWN OF CALEDON BUILDING DIVISION
REVIEWED BY *[Signature]* (SA)
DATE JUNE 13, 2019
FILE # CMOD - Horizon 12
(SUBVATION 1)



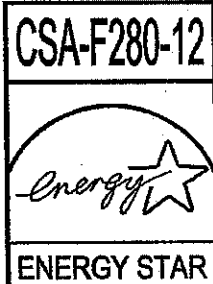
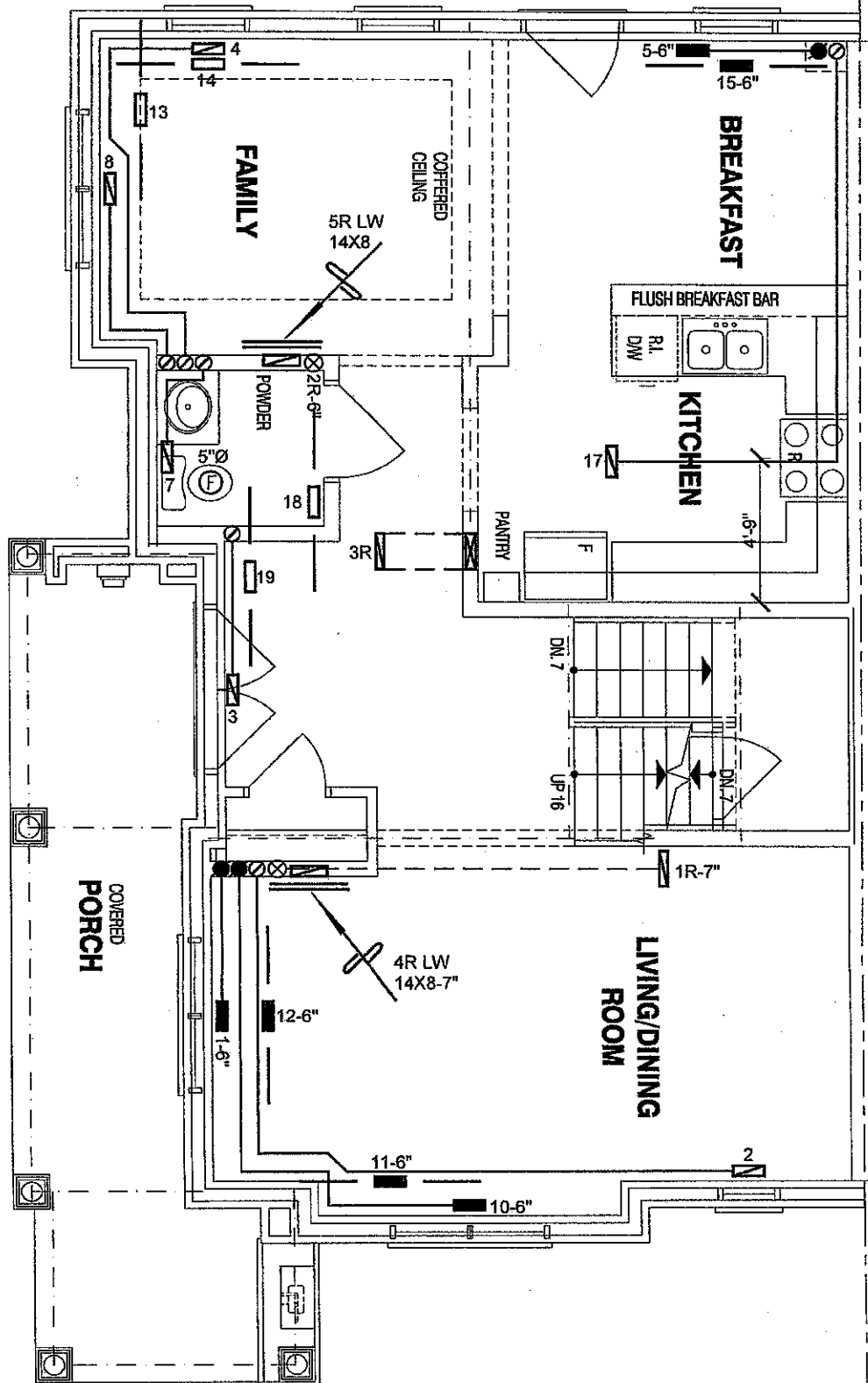
I MICHAEL O'ROURKE HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C.3.2.5 OF THE
BUILDING CODE.
[Signature]
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

APPLICANT COPY

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	

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Client		HVACDESIGNS LTD. 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 29917 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	GMEC960402BNA	2ND FLOOR		9	3	3		
LAMBERT'S LANE HOME CORP PH 2 CALEDON, ONTARIO			INPUT	40 MBTU/H	1ST FLOOR		7	2	2		
			OUTPUT	38.4 MBTU/H	BASEMENT		4	1	0	Date FEB/2019	
			COOLING	2.0 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						Scale 3/16" = 1'-0"
			FAN SPEED	890 cfm @ 0.6" w.c.							BCIN# 19669
HORIZON 12		1862 sqft		LO# 81378							



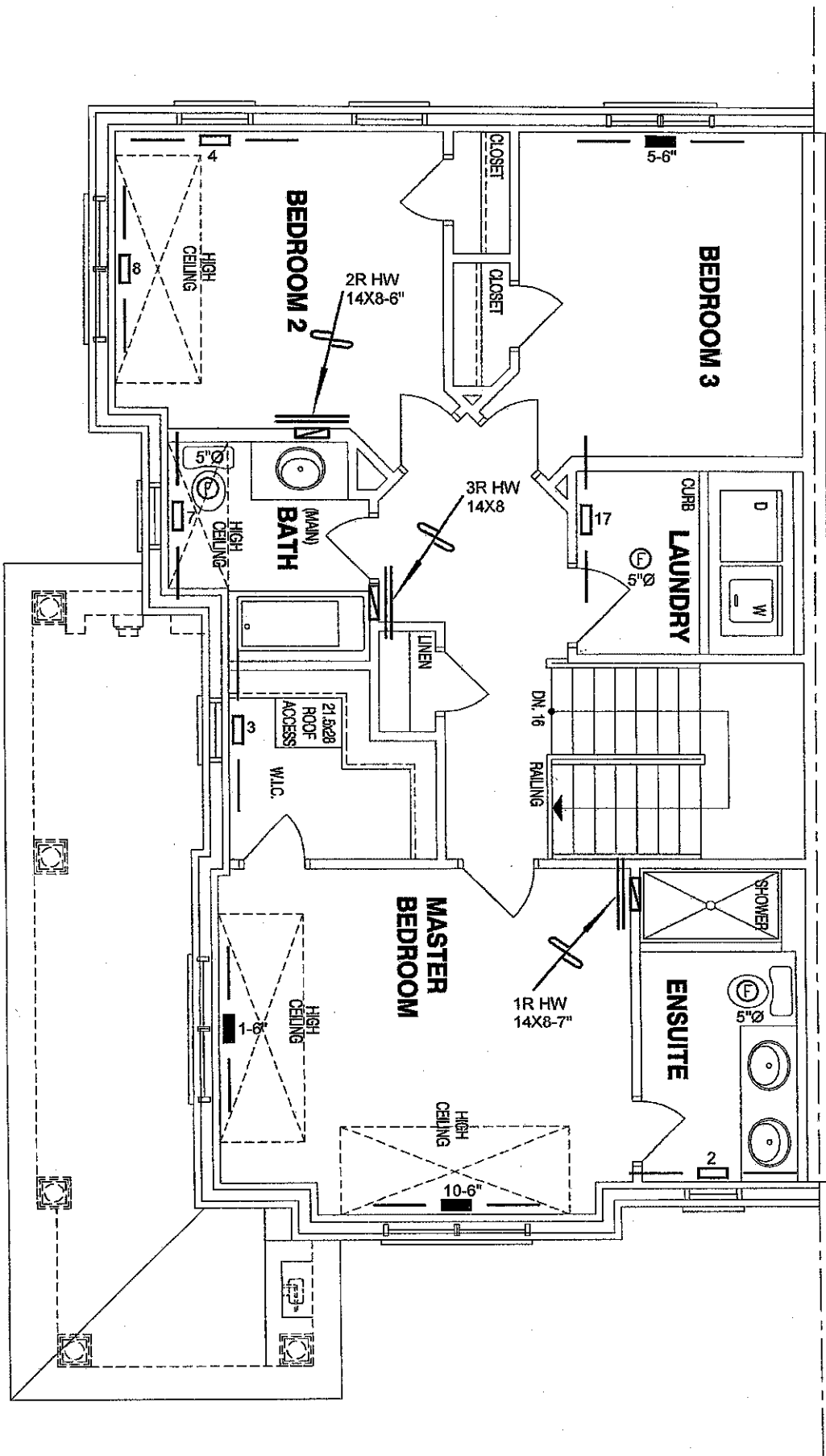
I MICHAEL O'DRISKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.

Michael O'Driscoll
Michael O'Driscoll, BSCM 19650
HVAC DESIGNS LTD.

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.		
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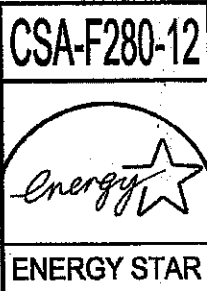
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Client GREENPARK HOMES		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	THIS STRUCTURE MUST BE CONSTRUCTED TO MEET OR EXCEED THE PROVISIONS OF THE ONTARIO BUILDING CODE.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name LAMBERT'S LANE HOME CORP PH 2 CALEDON, ONTARIO				Date FEB/2019	Scale 3/16" = 1'-0"
HORIZON 12 1862 sqft		BCIN# 19669			
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.		LO#		81378	



I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 32.5 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.		
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Project Name LAMBERT'S LANE HOME CORP PH 2 CALEDON, ONTARIO				Date FEB/2019	Scale 3/16" = 1'-0"
HORIZON 12 1862 sqft		BCIN# 19669			
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.		LO#		81378	