

SITE NAME: LAMBERT'S LANE PH.2				OPT 2ND				DATE: Feb-18				WINTER NATURAL AIR CHANGE RATE 0.227				HEAT LOSS AT 'F. 74				CSA-F280-12			
BUILDER: GREENPARK HOMES				TYPE: PRESTON 11				LO# 81386				SUMMER NATURAL AIR CHANGE RATE 0.074				HEAT GAIN AT 'F. 11				ENERGYSTAR			
ROOM USE				MBR				WIC				ENS-4/5				ENS-2							
EXP. WALL				31				11				12				6							
CLG. HT.				9				9				9				9							
FACTORS																							
GRS.WALL AREA				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN							
GLAZING				278				99				108				207							
NORTH				18.0 15.1				0 0 0				0 0 0				0 0 0							
EAST				18.6 40.7				0 0 0				0 0 0				0 0 0							
SOUTH				18.6 24.1				0 0 0				0 0 0				0 0 0							
WEST				18.6 40.7				40 742 1629				20 371 481				20 371 481							
SKYL.T.				31.2 99.9				0 0 0				0 0 0				0 0 0							
DOORS				24.7 3.7				0 0 0				0 0 0				0 0 0							
NET EXPOSED WALL				3.6 0.5				239 840 126				78 274 41				167 887 87							
NET EXPOSED BSMT WALL ABOVE GR				3.6 0.5				0 0 0				0 0 0				0 0 0							
EXPOSED CLG				1.3 0.6				230 288 128				120 160 67				136 170 76							
NO ATTIC EXPOSED CLG				2.7 1.2				0 0 0				0 0 0				0 0 0							
EXPOSED FLOOR				2.6 0.4				0 0 0				0 0 0				0 0 0							
BASEMENT/CRAWL HEAT LOSS				0				0				0				0							
SLAB ON GRADE HEAT LOSS				0				0				0				0							
SUBTOTAL HT LOSS				1871				814				252				2448							
SUB TOTAL HT GAIN				1892				425				68				1966							
LEVEL FACTOR / MULTIPLIER				0.20 0.19				0.20 0.19				0.20 0.19				0.20 0.19							
AIR CHANGE HEAT LOSS				348				161				47				485							
AIR CHANGE HEAT GAIN				80				16				3				83							
DUCT LOSS				0				0				0				0							
DUCT GAIN				0				0				0				0							
HEAT GAIN PEOPLE				240				2				480				0							
HEAT GAIN APPLIANCES/LIGHTS				480				0				0				1							
TOTAL HT LOSS BTU/H				2219				966				299				3190							
TOTAL HT GAIN x 1.3 BTU/H				3771				577				88				3932							

ROOM USE		DIN		FAM		KT/BR		LIB		LAUN		W/R		FOY		MUD		BAS		
EXP. WALL		12		31		37		38		7		14		12		22		170		
CLG. HT.		10		10		10		10		9		10		10		10		9		
FACTORS																				
GRS.WALL AREA		120		310		370		380		63		140		120		220		1020		
LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		
NORTH		18.0	15.1	0	0	0	0	0	0	0	6	111	91	0	0	0	0	0	0	
EAST		18.6	40.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTH		18.6	24.1	40	742	963	27	501	860	0	0	0	0	14	280	227	0	0	0	
WEST		18.6	40.7	0	0	0	32	594	1303	45	835	1832	0	0	0	0	0	0	0	
SKYL.T.		31.2	98.9	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	
NET EXPOSED WALL		3.6	0.5	90	281	42	261	883	131	325	1143	169	300	1055	156	57	209	30	126	
NET EXPOSED BSMT WALL ABOVE GR		3.6	0.5	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	0	0	0	0	0	0	0	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	
EXPOSED FLOOR		2.8	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS																				
SLAB ON GRADE HEAT LOSS																				
SUBTOTAL HT LOSS		1023		1994		1977		2084		1978		2830		481		1267		1196		
SUB TOTAL HT GAIN				1994		2084		2002		2748		196		703		1267		1196		
LEVEL FACTOR / MULTIPLIER		0.30	0.31	0.30		0.31	0.30		0.31	0.30		0.31	0.20		0.19	0.30		0.31	0.30	
AIR CHANGE HEAT LOSS		322		621		821		798		89		221		380		376		5395		
AIR CHANGE HEAT GAIN		43		88		85		116		8		17		8		8		33		
DUCT LOSS		0		0		0		0		0		0		0		0		0		
DUCT GAIN		0		0		0		0		0		0		0		0		0		
HEAT GAIN PEOPLE		240	0	0		0		0		0		0		0		0		0		
HEAT GAIN APPLIANCES/LIGHTS		460		460		460		460		460		460		460		460		460		
TOTAL HT LOSS BTUH		1345		2689		2689		3337		570		924		1886		1572		14040		
TOTAL HT GAIN x 1.3 BTUH		1959		3421		3310		4321		863		546		255		240		1946		

RECEIVED

JUN 10 2019

TOWN OF CALEDON
BUILDING SECTION
FILE NO

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

OPT 2ND
TYPE: PRESTON 11

DATE: Feb-19

GFA: 2759 LO# 81356

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 42,728 TOTAL HEAT GAIN 35,163
AIR FLOW RATE CFM 26.47 AIR FLOW RATE CFM 32.16

furnace pressure 0.6
furnace filler 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

#GOODMAN
GMEC960603BNA 60
FAN SPEED LOW

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	10	4
R/A	0	0	4	2	1

plenum pressure s/a 0.18
max s/a diff 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

MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
CFM @ 8" E.S.P.

TEMPERATURE RISE 47 °F

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	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	BED-5	WIC	BED-2	BED-3	ENS-4/5	BED-4	MBR	ENS-2	DIN	FAM	KT/BR	KT/BR	LIB	ENS	W/R	FOY	MUD	SAS	BAS	BAS	BAS
RM LOSS MBH	1.11	1.78	0.30	1.60	1.20	0.93	1.31	1.11	0.99	1.34	1.30	1.30	1.30	1.67	0.97	0.92	1.67	1.57	3.51	3.51	3.51	3.51
CFM PER RUN HEAT	29	47	8	42	32	25	35	29	26	36	34	34	34	44	26	24	44	42	93	93	93	93
RM GAIN MBH	1.89	2.89	0.09	1.97	2.02	0.77	1.84	1.89	0.69	1.96	1.71	1.66	1.66	2.16	0.58	0.55	0.25	0.24	0.41	0.41	0.41	0.41
CFM PER RUN COOLING	61	93	3	83	85	25	59	61	22	63	55	53	53	69	19	18	8	8	13	13	13	13
ADJUSTED PRESSURE	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	38	45	30	56	53	44	36	44	50	24	43	25	36	43	21	31	28	15	35	21	23	37
EQUIVALENT LENGTH	120	160	120	150	180	180	140	140	130	110	170	110	110	110	120	180	170	110	180	120	150	120
TOTAL EFFECTIVE LENGTH	158	205	150	206	233	224	176	184	180	134	213	135	148	153	141	211	198	125	195	141	173	157
ADJUSTED PRESSURE	0.11	0.08	0.11	0.08	0.07	0.08	0.1	0.09	0.1	0.13	0.08	0.13	0.12	0.11	0.12	0.08	0.09	0.14	0.08	0.11	0.09	0.1
ROUND DUCT SIZE	5	6	4	5	6	4	5	5	4	5	5	5	5	5	4	4	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	213	240	92	308	163	287	257	213	288	264	250	250	250	323	298	275	505	482	474	474	474	474
COOLING VELOCITY (ft/min)	448	474	34	463	331	287	433	448	252	463	404	389	389	507	218	207	92	66	66	66	66	66
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	E	B	E	D	C	B	B	E	D	B	B	E	A	C	A	D	D	A	B	A	B	C

RUN #	25	26	27	28	29
ROOM NAME	BED-2	BED-3	LIB	FAM	LAUN
RM LOSS MBH	1.60	1.20	1.67	1.30	0.57
CFM PER RUN HEAT	42	32	44	34	15
RM GAIN MBH	1.97	2.02	2.16	1.71	0.86
CFM PER RUN COOLING	63	65	69	55	28
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	55	51	41	35	42
EQUIVALENT LENGTH	140	170	110	140	165
TOTAL EFFECTIVE LENGTH	195	221	151	175	207
ADJUSTED PRESSURE	0.09	0.08	0.11	0.1	0.08
ROUND DUCT SIZE	5	6	5	5	4
HEATING VELOCITY (ft/min)	308	163	323	250	172
COOLING VELOCITY (ft/min)	463	331	507	404	321
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	3X10
TRUNK	D	C	C	B	D

THIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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	195	0.11	7	8	439
TRUNK B	397	0.08	9.9	12	596
TRUNK C	245	0.07	8.6	8	551
TRUNK D	438	0.07	10.6	14	563
TRUNK E	935	0.07	14.1	24	701
TRUNK F	0	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	0
TRUNK H	0	0.00	0	0	0
TRUNK I	0	0.00	0	0	0
TRUNK J	0	0.00	0	0	0
TRUNK K	0	0.00	0	0	0
TRUNK L	0	0.00	0	0	0
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	365	0.05	10.8	14	469
TRUNK Z	465	0.05	11.8	16	523
DROP	1131	0.05	16.5	24	679

RETURN AIR #	1	2	3	4	5	6																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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TYPE: PRESTON 11
 SITE NAME: LAMBERT'S LANE PH.2

 LO# 81355
 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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	190.8 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	190.8	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	95.4	cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
95.4 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
ENS-4/5	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:	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

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

LO#: 81356

Model: PRESTON 11

Builder: GREENPARK HOMES

Date: 2/6/2019

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1224	9	11016
First	1224	10	12240
Second	1535	9	13815
Third	0	9	0
Fourth	0	9	0
Total:			37,071.0 ft³
Total:			1049.7 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.227
SUMMER NATURAL AIR CHANGE RATE	0.074

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

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

$$0.227 \times 291.59 \times 41 \text{ °C} \times 1.2 = 3279 \text{ W}$$

$$= 11189 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

$$HG_{satb} = LR_{atrc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

$$0.074 \times 291.59 \times 6 \text{ °C} \times 1.2 = 158 \text{ W}$$

$$= 539 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

$$95 \text{ CFM} \times 74 \text{ °F} \times 1.08 \times 0.25 = 1911 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

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

$$95 \text{ CFM} \times 11 \text{ °F} \times 1.08 \times 0.25 = 283 \text{ Btu/h}$$

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

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

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 / HL _{level})
1	0.5	11,189	8,446	0.662
2	0.3		10,684	0.314
3	0.2		12,029	0.186
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: PRESTON 11	OPT 2ND	BUILDER: GREENPARK HOMES
SFQT: 2759	LO# 81356	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):	37071.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 54.0 ft	WIDTH: 31.0 ft	EXPOSED PERIMETER:	170.0 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	-

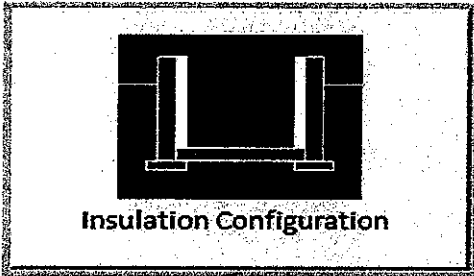
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

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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):	16.5	 Insulation Configuration
Floor Width (m):	9.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.4	
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):		1724

THIS STRUCTURE MUST BE
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THE ONTARIO BUILDING CODETYPE: PRESTON 11
LO# 81356

OPT 2ND

Air Infiltration Residential Load Calculator

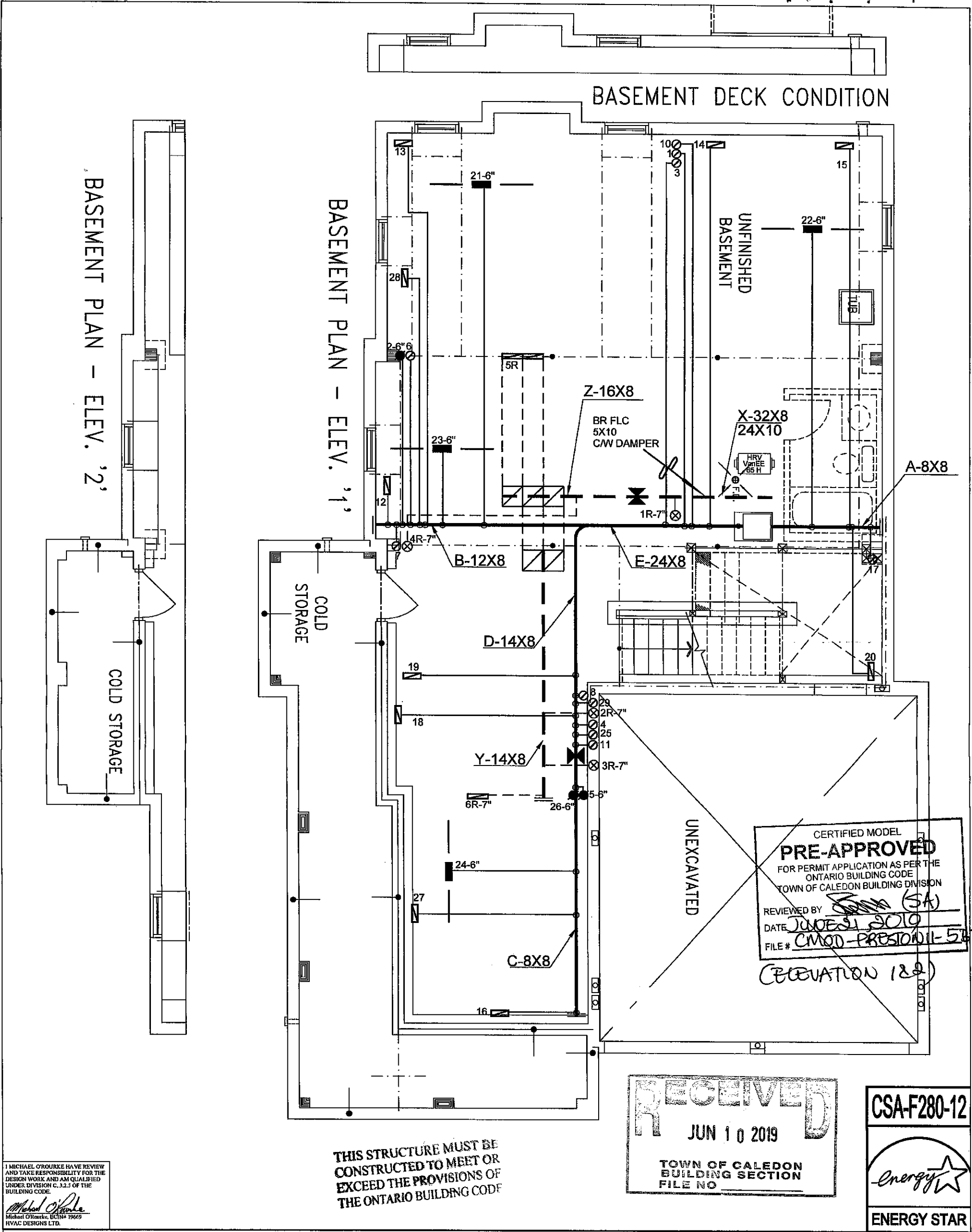
Supplemental tool for CAN/CSA-F280

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:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1049.7		
Air Leakage/Ventilation			
Air Tightness Type:	Energy Star Detached (2.5 ACH)		
Custom BDT Data:	ELA @ 10 Pa. 2.50	979.9 cm ² ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply 45.0	Total Exhaust 45.0	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.227		
Cooling Air Leakage Rate (ACH/H):	0.074		

TYPE: PRESTON 11
LO# 81356

OPT 2ND

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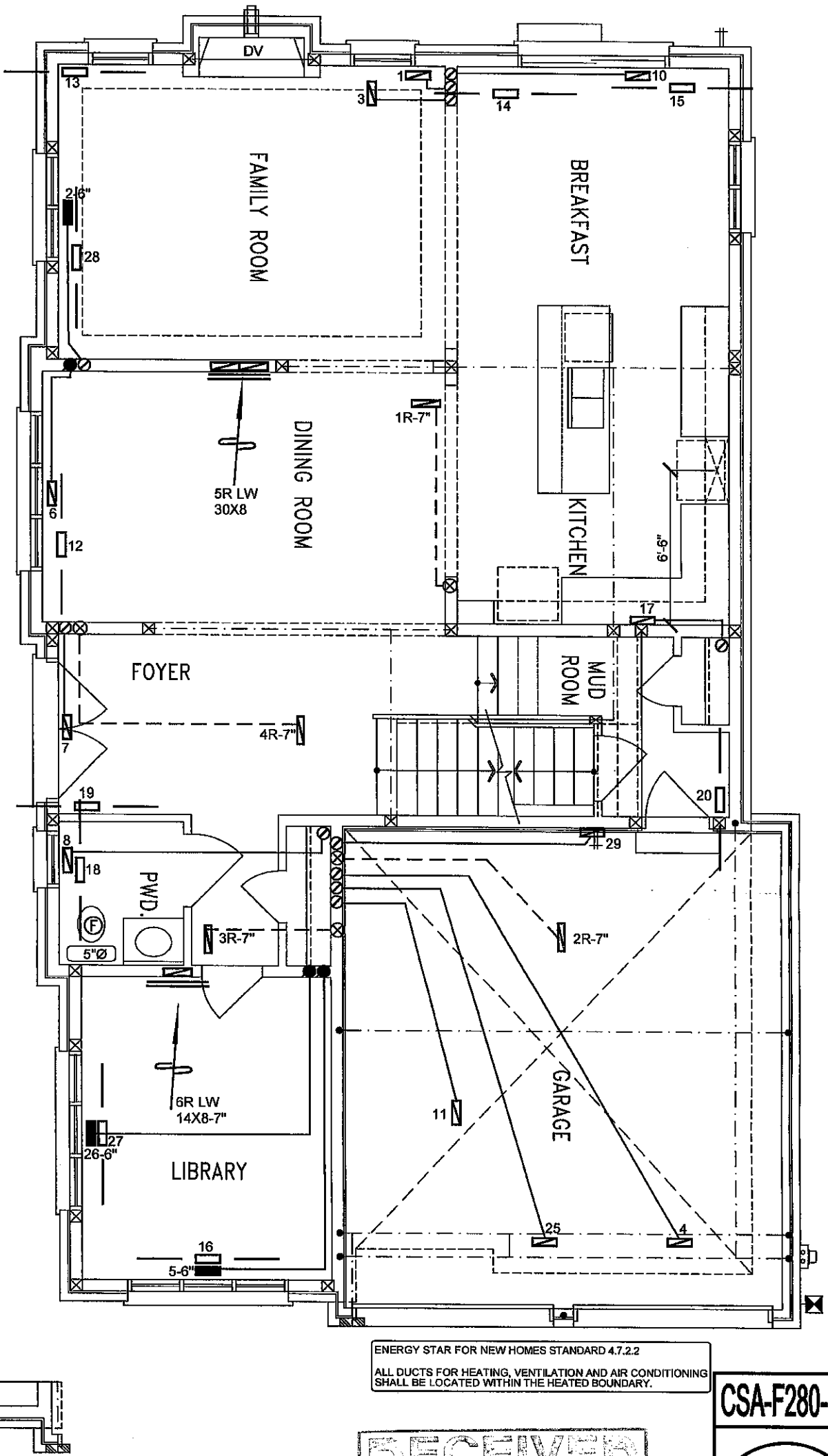


HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
[Symbol]	SUPPLY AIR GRILLE	[Symbol]	6" SUPPLY AIR BOOT ABOVE	[Symbol]	14"x8" RETURN AIR GRILLE	[Symbol]	RETURN AIR STACK ABOVE
[Symbol]	SUPPLY AIR GRILLE 6" BOOT	[Symbol]	SUPPLY AIR STACK FROM 2nd FLOOR	[Symbol]	30"x8" RETURN AIR GRILLE	[Symbol]	RETURN AIR STACK 2nd FLOOR
[Symbol]	SUPPLY AIR BOOT ABOVE	[Symbol]	6" SUPPLY AIR STACK 2nd FLOOR	[Symbol]	FRA- FLOOR RETURN AIR GRILLE	[Symbol]	REDUCER
						REVISIONS	
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						Date	
Client						Sheet Title	
GREENPARK HOMES						BASEMENT HEATING LAYOUT	
Project Name						Date	
LAMBERTS LANE HOME CORP PH 2						FEB/2019	
CALEDON, ONTARIO						Scale	
						3/16" = 1'-0"	
						BCIN# 19669	
OPT 2ND						LO#	
PRESTON 11						81356	
2759 sqft							
HVAC DESIGNS 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 44639 BTU/H						# OF RUNS S/A R/A FANS	
UNIT DATA							
MAKE GOODMAN						3RD FLOOR	
MODEL GMCE960603BNA						2ND FLOOR	13 4 4
INPUT 60 MBTU/H						1ST FLOOR	10 2 2
OUTPUT 57.6 MBTU/H						BASEMENT	4 1 0
COOLING 3.0 TONS						ALL S/A DIFFUSERS 4 "x10"	
FAN SPEED 1131 cfm @ 0.6" w.c.						UNLESS NOTED OTHERWISE	
						ON LAYOUT. ALL S/A RUNS 5'Ø	
						UNLESS NOTED OTHERWISE	
						ON LAYOUT. UNDERCUT	
						DOORS 1" min. FOR R/A	

APPLICANT COPY

GROUND FLOOR PLAN - ELEV. '2'

GROUND FLOOR PLAN - ELEV. '1'



ENERGY STAR FOR NEW HOMES STANDARD 4.7.2.2
ALL DUCTS FOR HEATING, VENTILATION AND AIR CONDITIONING
SHALL BE LOCATED WITHIN THE HEATED BOUNDARY.

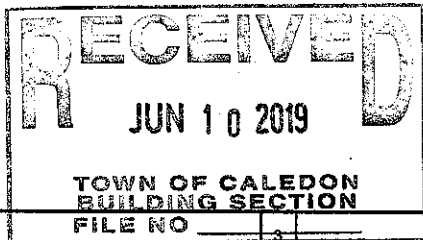
CSA-F280-12



ENERGY STAR

I MICHAEL O'Rourke HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C.12.3 OF THE
BUILDING CODE.
Michael O'Rourke
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



HVAC LEGEND

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.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	

REVISIONS

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

**OPT 2ND
PRESTON 11** 2759 sqft



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

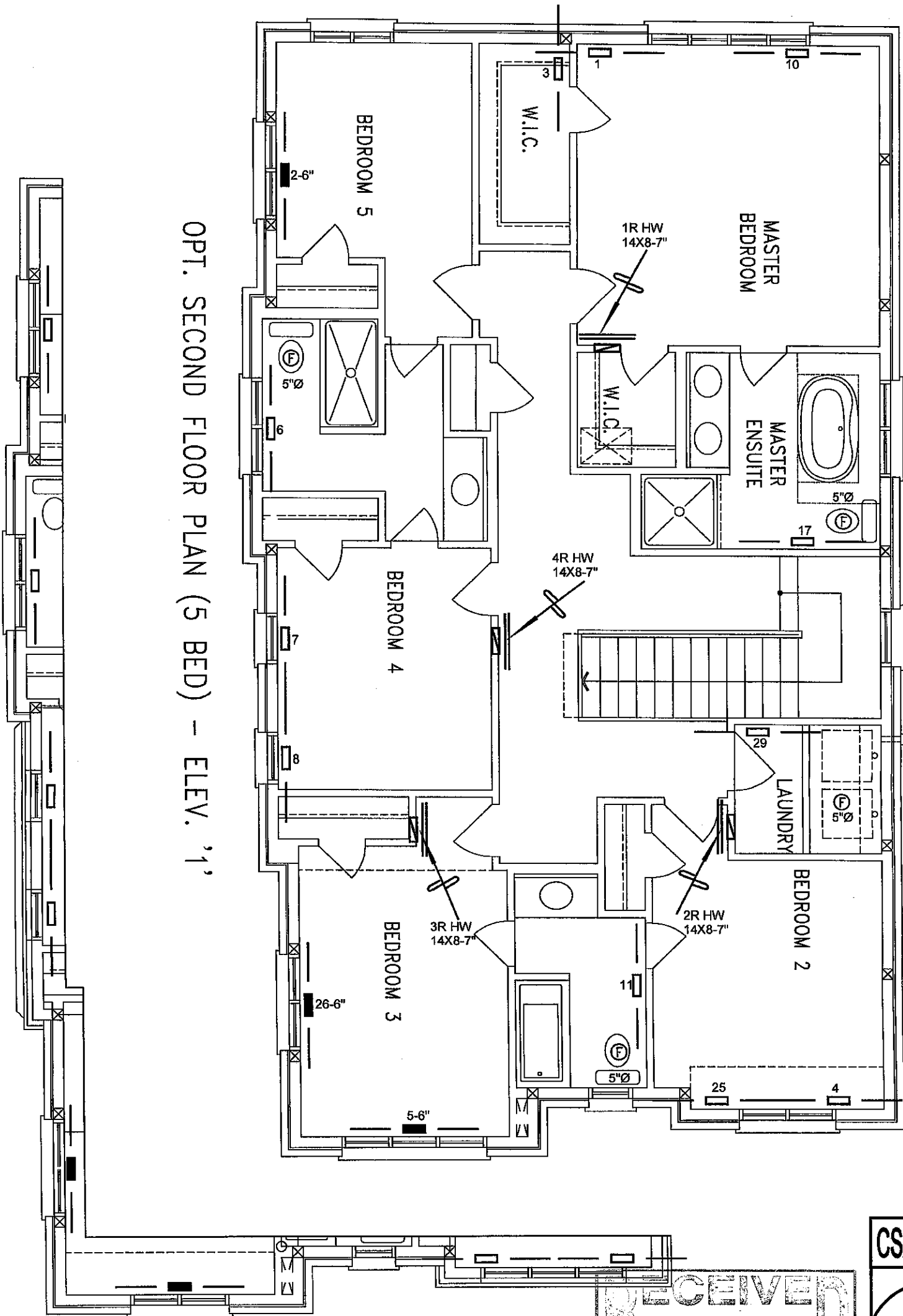
Installation to comply with the latest Ontario Building Code. All supply
branch outlets shall be equipped with a manual balancing damper.
Ductwork which passes through the garage or unheated spaces shall be
adequately insulated and be gas-proofed.

**THIS STRUCTURE MUST BE
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Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**
Date **FEB/2019**
Scale **3/16" = 1'-0"**
BCIN# 19669
LO# **81356**

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

OPT. SECOND FLOOR PLAN (5 BED) - ELEV. '1'



I MICHAEL OKOUNSKI HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.

Michael Okounski
HVAC DESIGNS LTD.

RECEIVED
JUN 10 2019
TOWN OF CALEDON
BUILDING SECTION
FILE NO.

CSA-F280-12
Energy Star
ENERGY STAR

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
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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client
GREENPARK HOMES
Project Name
**LAMBERTS LANE HOME CORP PH 2
CALEDON, ONTARIO**
OPT 2ND
PRESTON 11 2759 sqft

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Sheet Title
**SECOND FLOOR
HEATING
LAYOUT**
Date
FEB/2019
Scale
3/16" = 1'-0"
BCIN# 19669
LO# 81356