

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

LOT 74
TYPE: KINMOUNT 6A

GFA: 3054

DATE: Aug-19
LO# 83595

WINTER NATURAL AIR CHANGE RATE 0.268
SUMMER NATURAL AIR CHANGE RATE 0.087

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

CSA-F280-12
ENERGYSTAR

ROOM USE			MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		ENS-4		ENERGYSTAR			
EXP. WALL			33		37		13		15		35		31		14		8					
CLG. HT.			8		8		8		8		8		8		8		8					
FACTORS			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN					
GRS.WALL AREA			267		299		105		121		283		251		113		48					
GLAZING			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN					
NORTH			18.6	14.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	130	99	
EAST			18.6	37.6	0	0	0	0	0	0	0	45	835	1690	37	686	1389	0	0	0	0	
SOUTH			18.6	22.3	0	0	16	297	357	0	0	0	0	0	0	0	6	111	134	0	0	
WEST			18.6	37.6	32	594	1202	26	464	939	0	0	0	0	0	0	0	0	0	0	0	
SKYLT.			31.2	99.9	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	
NET EXPOSED WALL			3.5	0.5	235	825	122	258	908	135	105	370	55	238	837	124	214	761	111	107	377	66
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	
EXPOSED CLG			1.3	0.6	270	338	151	255	320	142	195	244	108	256	321	143	149	187	83	208	261	116
NO ATTIC EXPOSED CLG			2.7	1.2	0	0	0	0	0	0	0	0	0	75	201	89	48	129	57	0	0	0
EXPOSED FLOOR			2.5	0.4	0	0	0	0	0	0	0	0	0	0	0	0	256	637	94	0	0	0
BASEMENT/CRAWL HEAT LOSS					0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS					0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS					1757		1988		614		988		2059		2464		769		668		215	
SUB TOTAL HT GAIN						1475			1572		163		554		1966		1768		314			
LEVEL FACTOR / MULTIPLIER			0.20	0.26			0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26		0.20	0.26		
AIR CHANGE HEAT LOSS					454		513		168		255		531		636		198		170		13	
AIR CHANGE HEAT GAIN					88		94		10		33		119		106		19		83		23	
DUCT LOSS					0		0		0		0		0		310		0		0		0	
DUCT GAIN					0		0		0		0		0		268		0		0		0	
HEAT GAIN PEOPLE			240	2	480	0	0	0	0	1	240	1	240	1	240	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS					561		0		0		561		561		561		0		0		0	
TOTAL HT LOSS BTU/H					2211		2501		772		1243		2590		3410		957		910		326	
TOTAL HT GAIN x 1.3 BTU/H					3385		2166		225		1805		3778		3825		433					

ROOM USE			LIV			KIT			FAM			LAUN			WIR			FOY			OFF			WOB			BAS			
EXP. WALL			33			43			38			29			7			19			19			64			128			
CLG. HT.			11			11			11			13			11			11			11			9			9			
FACTORS																														
GRS.WALL AREA			363			473			418			377			77			209			209			486			768			
GLAZING			LOSS	GAIN	LOSS	GAIN	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	14.1	0	0	0	0	0	0	0	0	7	130	99	0	0	0	0	0	0	0	0	0	0	8	148	113	0	0		
EAST	18.6	37.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	519	1052	0	0	0	0	0	0		
SOUTH	18.6	22.3	30	557	669	0	0	0	0	0	0	0	0	7	130	156	0	0	0	0	0	0	0	0	0	0	0	0	0	
WEST	18.6	37.6	0	0	0	35	649	1314	47	872	1765	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SKYLT.	31.2	99.9	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	
DOORS	24.7	3.7	0	0	0	20	493	73	0	0	0	20	493	73	0	0	0	46	1134	166	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	3.5	0.5	333	1171	174	418	1470	218	371	1305	193	350	1231	182	70	248	36	163	573	85	181	637	94	220	493	73	20	493	73	
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	
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	384	1349	200	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	
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	
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			1728			2612			2177			1954			376			1707			1156			794			4605			2614
SUB TOTAL HT GAIN			842			1605			1958			354			193			253			1146			3587			4605			386
LEVEL FACTOR / MULTIPLIER	0.30	0.36			0.30	0.36		0.30	0.36		0.36	0.36		0.30	0.36		0.30	0.36		0.36	0.36					0.50	0.36			
AIR CHANGE HEAT LOSS			651			984			820			698			142			643			435						7290			
AIR CHANGE HEAT GAIN			60			96			117			21			12			16			58						78			
DUCT LOSS			0			0			0			0			0			0			0						0			
DUCT GAIN			0			0			0			0			0			0			0						0			
HEAT GAIN PEOPLE	240	0	0			0			0			0			0			0			0			0			0			0
HEAT GAIN APPLIANCES/LIGHTS			561			561			561			561			0			0			561						561			
TOTAL HT LOSS BTU/H			2378			3596			2997			2552			518			2350			1591			3587			11894			
TOTAL HT GAIN x 1.3 BTU/H			1990			2841			3427			1217			265			349			2308			1188			1332			

TOTAL HEAT GAIN BTU/H:

31056

TONS: 2.59

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 46069

TOTAL COMBINED HEAT LOSS BTU/H: 47862

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

LOT 74
TYPE: KINMOUNT 6A

DATE: Aug-19

GFA: 3054 LO# 83695

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 46,069 TOTAL HEAT GAIN 30,860
AIR FLOW RATE CFM 24.55 AIR FLOW RATE CFM 36.65

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

#GOODMAN
GMEC960603BNA 60

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	4
R/A	0	0	4	2	1

plenium 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

FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
CFM @ 6" 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	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-4	BED-3	MBR	ENS-4	LIV	FAM	KIT	KIT	FAM	LAUN	W/R	FOY	OFF	BAS	BAS	BAS	BAS
RM LOSS MBH	1.11	1.66	0.77	1.24	1.30	1.71	0.97	1.71	1.30	1.11	0.91	2.38	1.50	1.80	1.80	1.50	2.56	0.52	2.35	1.59	3.87	3.87	3.87	3.87
CFM PER RUN HEAT	27	41	19	31	32	42	24	42	32	27	22	58	37	44	44	37	63	13	58	39	95	95	95	95
RM GAIN MBH	1.69	1.44	0.23	1.80	1.89	1.91	0.43	1.91	1.89	1.69	0.33	1.89	1.71	1.47	1.47	1.71	1.22	0.27	0.35	2.31	0.63	0.63	0.63	0.63
CFM PER RUN COOLING	62	53	8	66	69	70	16	70	69	62	12	69	63	54	54	63	45	10	13	85	23	23	23	23
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	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	57	49	37	21	45	47	37	37	47	44	33	14	38	35	31	46	46	8	37	28	63	32	11	28
EQUIVALENT LENGTH	190	130	180	140	130	200	140	170	90	150	170	140	160	140	120	130	140	120	170	140	160	180	130	190
TOTAL EFFECTIVE LENGTH	247	179	217	161	175	247	177	207	137	194	203	154	198	175	151	176	186	128	207	168	223	212	141	218
ADJUSTED PRESSURE	0.07	0.1	0.08	0.11	0.1	0.07	0.1	0.08	0.13	0.09	0.08	0.11	0.09	0.1	0.11	0.1	0.09	0.13	0.08	0.1	0.07	0.08	0.11	0.07
ROUND DUCT SIZE	6	5	4	6	5	6	4	6	5	5	4	6	5	5	5	5	5	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	138	301	218	158	235	214	275	214	235	198	252	296	272	323	323	272	463	149	426	199	484	484	484	484
COOLING VELOCITY (ft/min)	316	389	92	337	507	357	184	357	507	455	138	352	463	396	396	463	330	115	95	433	117	117	117	117
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	B	B	E	C	D	E	E	E	D	B	E	E	A	B	B	A	A	C	D	D	A	B	C	D

RUN #	25
ROOM NAME	ENS
RM LOSS MBH	0.83
CFM PER RUN HEAT	20
RM GAIN MBH	0.71
CFM PER RUN COOLING	26
ADJUSTED PRESSURE	0.17
ACTUAL DUCT LGH.	19
EQUIVALENT LENGTH	130
TOTAL EFFECTIVE LENGTH	149
ADJUSTED PRESSURE	0.12
ROUND DUCT SIZE	4
HEATING VELOCITY (ft/min)	229
COOLING VELOCITY (ft/min)	298
OUTLET GRILL SIZE	3X10
TRUNK	C

SUPPLY AIR TRUNK SIZE																RETURN AIR TRUNK SIZE											
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)				
TRUNK A	232	0.07	8.4	8	x	8	522		TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.06	0	0	x	8	0			
TRUNK B	278	0.07	9	10	x	8	500		TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.06	0	0	x	8	0			
TRUNK C	669	0.07	12.5	18	x	8	669		TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.06	0	0	x	8	0			
TRUNK D	256	0.07	8.7	10	x	8	461		TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.06	0	0	x	8	0			
TRUNK E	463	0.07	10.9	14	x	8	595		TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.06	0	0	x	8	0			
TRUNK F	0	0.00	0	0	x	8	0		TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.06	0	0	x	8	0			
																TRUNK U	0	0.06	0	0	x	8	0				
																TRUNK V	0	0.06	0	0	x	8	0				
																TRUNK W	0	0.06	0	0	x	8	0				
RETURN AIR #	1	2	3	4	5	6			0	0	0	0	0	0	0	BR	TRUNK X	786	0.06	13.8	22	x	8	643			
AIR VOLUME	155	170	95	85	290	165	0	0	0	0	0	0	0	0	0	171	TRUNK Y	345	0.06	10.1	12	x	8	518			
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	TRUNK Z	0	0.06	0	0	x	8	0			
ACTUAL DUCT LGH.	58	43	56	56	20	32	1	1	1	1	1	1	1	1	1	19	DROP	1131	0.06	15.8	24	x	10	679			
EQUIVALENT LENGTH	180	175	165	190	135	170	0	0	0	0	0	0	0	0	0	165											
TOTAL EFFECTIVE LH	238	218	221	246	155	202	1	1	1	1	1	1	1	1	1	184											
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.10	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08											
ROUND DUCT SIZE	7.5	7.5	6	6	8.3	7.4	0	0	0	0	0	0	0	0	0	7.2											
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8											
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X											
INLET GRILL SIZE	14	14	14	14	24	14	0	0	0	0	0	0	0	0	0	14											

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

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

LO#: 83695

Model: KINMOUNT 6A

Builder: GREENPARK HOMES

Date: 29/08/2019

Volume Calculation
House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1363	9	12267
First	1363	11	14993
Second	1691	8	13668.353
Third	0	9	0
Fourth	0	9	0
Total:			40,928.4 ft³
Total:			1159.0 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.268
SUMMER NATURAL AIR CHANGE RATE	0.087

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

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

$$0.268 \times 321.93 \times 41^\circ\text{C} \times 1.2 = 4273 \text{ W}$$

$$= 14579 \text{ Btu/h}$$

6.2.6 Sensible Gain due to Air Leakage

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

$$0.087 \times 321.93 \times 6^\circ\text{C} \times 1.2 = 206 \text{ W}$$

$$= 702 \text{ Btu/h}$$

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

$$80 \text{ CFM} \times 74^\circ\text{F} \times 1.08 \times 0.25 = 1593 \text{ Btu/h}$$

6.2.7 Sensible heat Gain due to Ventilation

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

$$80 \text{ CFM} \times 11^\circ\text{F} \times 1.08 \times 0.25 = 236 \text{ Btu/h}$$

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

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{devel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	14,579	8,192	0.890
2	0.3		11,609	0.377
3	0.2		11,297	0.258
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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THE ONTARIO BUILDING CODE

TYPE: KINMOUNT 6A
SITE NAME: LAMBERT'S LANE PH.2

LO # 83695
LOT 74

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	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	169.6	cfm
Less Principal Ventll. Capacity	79.5	cfm
Required Supplemental Capacity	90.1	cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
79.5 CFM	74 F	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-4	FV-05-11VK1	50	☒	0.3
W/R	FV-05-11VK1	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GREENPARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

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

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: 19689 *Michael O'Rourke* MICHAEL O'ROURKE

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: KINMOUNT 6A	LOT 74	BUILDER: GREENPARK HOMES
SFQT: 3054	LO# 83695	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):	40928.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 57.0 ft	WIDTH: 34.0 ft	EXPOSED PERIMETER:	128.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	54.0 ft

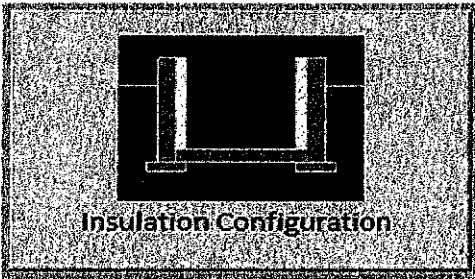
2012 OBC - COMPLIANCE PACKAGE

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'ROURKETHIS STRUCTURE MUST BE
CONSTRUCTED TO MEET OR
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THE ONTARIO BUILDING CODE*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):	6.1	 Insulation Configuration
Floor Width (m):	10.4	
Exposed Perimeter (m):	39.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.58	
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):	766	

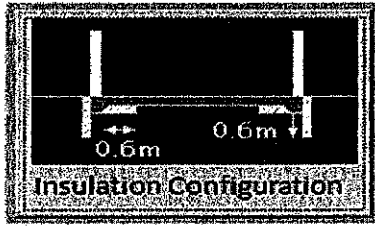
TYPE: KINMOUNT 6A
LO# 83695

LOT 74

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Residential Slab on Grade 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):	3.0	 Insulation Configuration
Width (m):	10.4	
Exposed Perimeter (m):	16.5	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		233

TYPE: KINMOUNT 6A
LO# 83695

LOT 74

Air Infiltration Residential Load Calculator

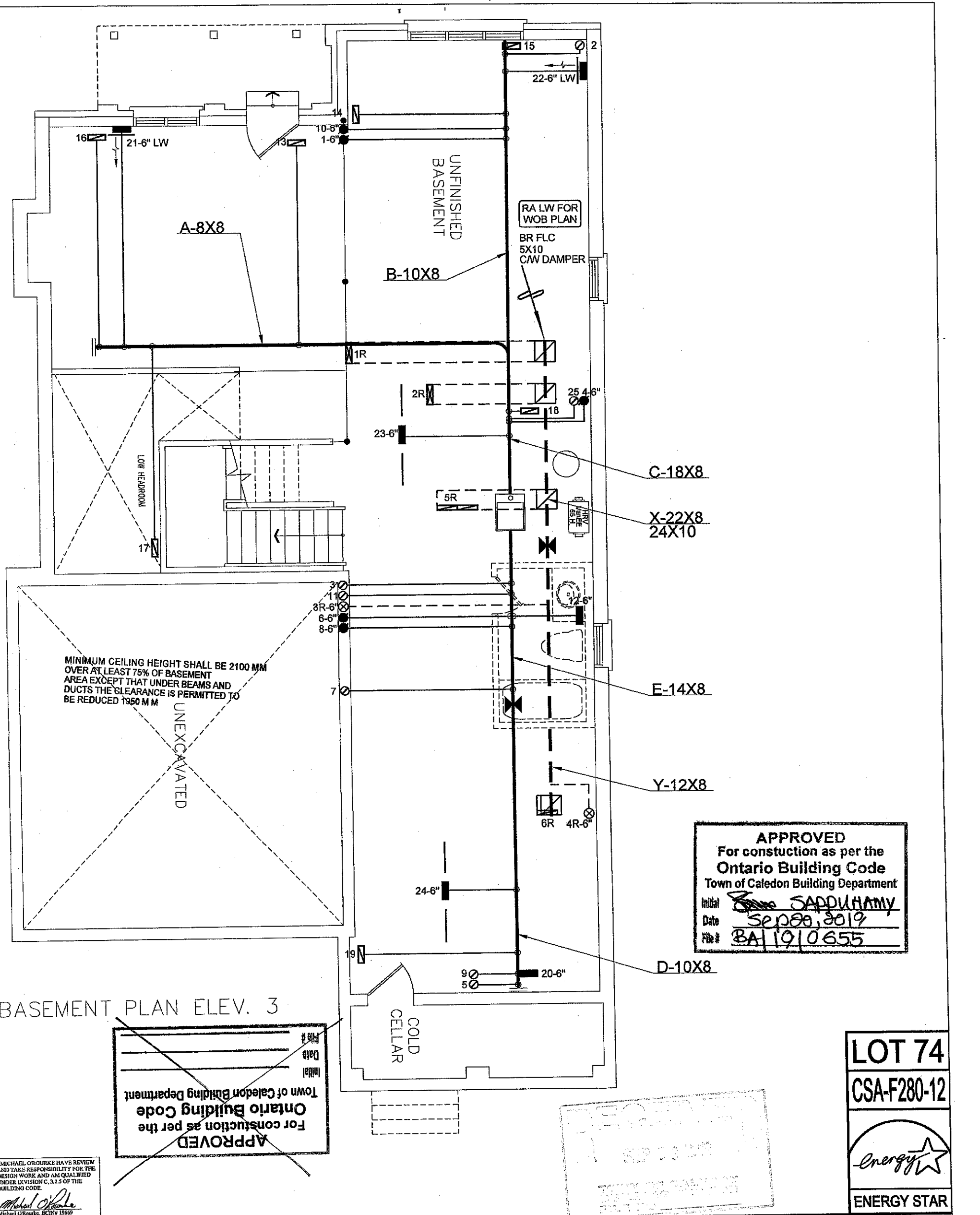
Supplemental tool for CAN/CSA-F280

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):	8.56			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1159.0			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1081.9 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):	0.268			
Cooling Air Leakage Rate (ACH/H):	0.087			

TYPE: KINMOUNT 6A
LO# 83695

LOT 74

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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.

HVAC LEGEND							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client

GREENPARK HOMES

Project Name

**LAMBERT'S LANE HOME CORP PH 2
CALEDON, ONTARIO**

**LOT 74
KINMOUNT 6A**

3054 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 47662 BTU/H
UNIT DATA

MAKE	GOODMAN
MODEL	GMEC960603BNA
INPUT	60 MBTU/H
OUTPUT	57.6 MBTU/H
COOLING	2.5 TONS
FAN SPEED	1131 cfm @ 0.5" w.g.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	12	4	4
1ST FLOOR	9	2	2
BASEMENT	4	1	0

ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5" UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title

BASEMENT HEATING LAYOUT

Date

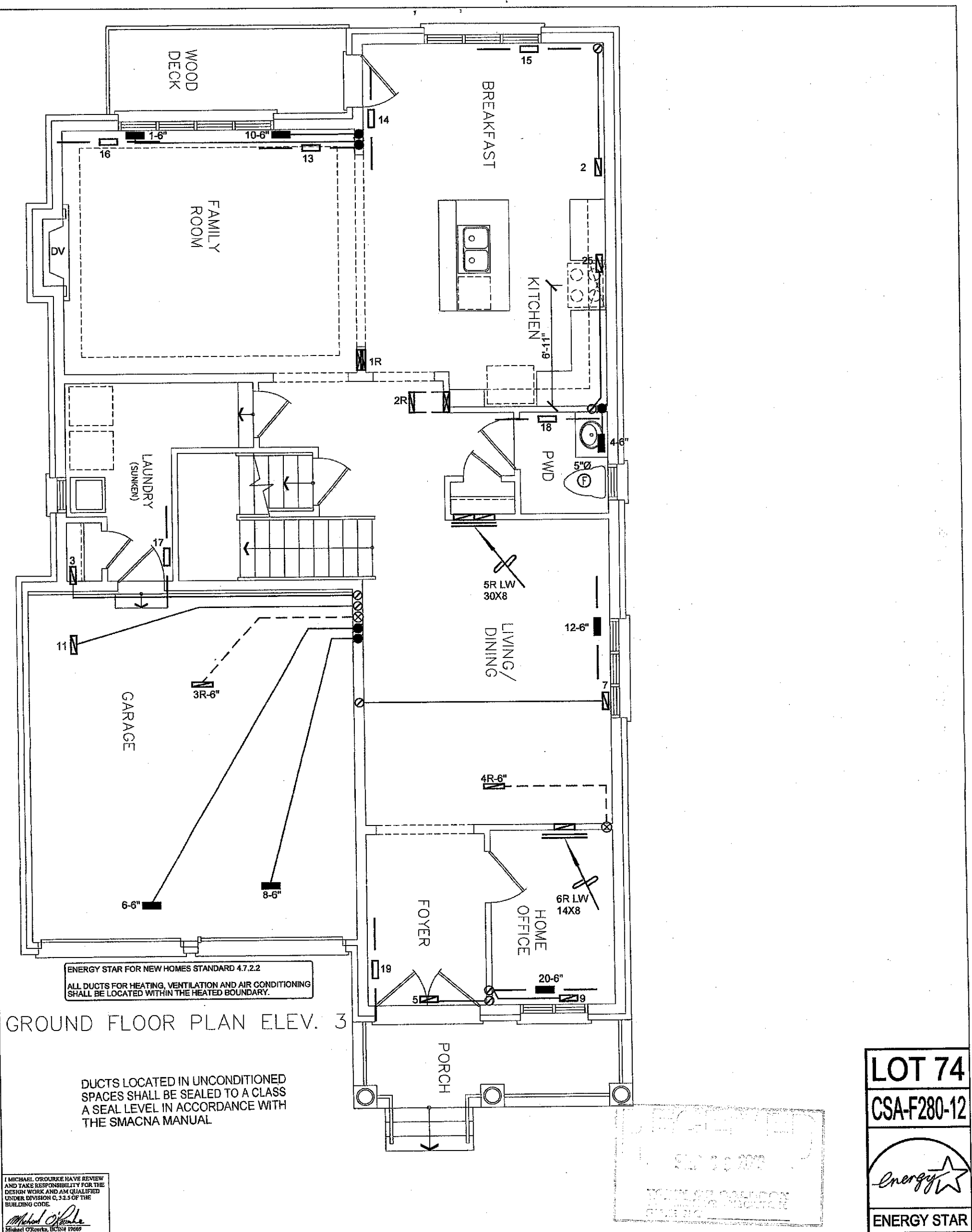
AUG/2019

Scale

3/16" = 1'-0"

BCIN# 19669

LO# **83695**



GROUND FLOOR PLAN ELEV. 3

LOT 74

CSA-F280-12

ENERGY STAR

I MICHAEL OROURKE 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
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
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REVISIONS							
No.	Description	Date					

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Client

GREENPARK HOMES

Project Name

LAMBERT'S LANE HOME CORP PH 2
CALEDON, ONTARIO

LOT 74
KINMOUNT 6A 3054 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.

Sheet Title

FIRST FLOOR
HEATING
LAYOUT

Date

AUG/2019

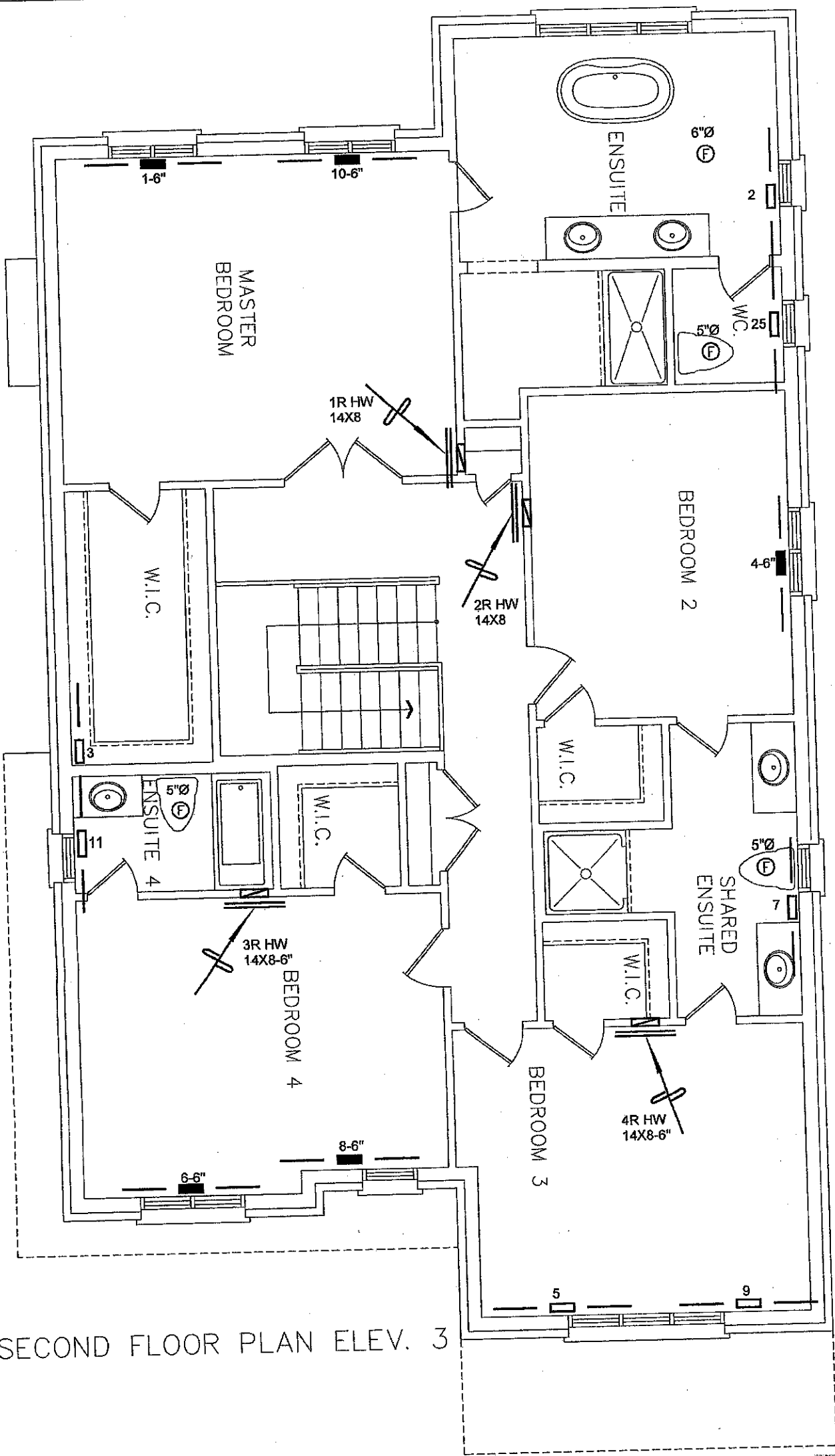
Scale

3/16" = 1'-0"

BCIN# 19669

LO#

83695



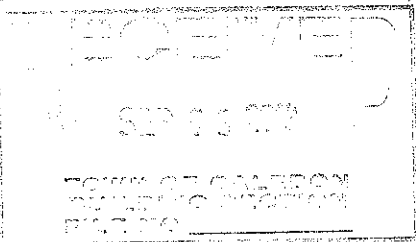
SECOND FLOOR PLAN ELEV. 3

LOT 74
CSA-F280-12

ENERGY STAR

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 BUILDING CODE.

 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 Project Name LAMBERT'S LANE HOME CORP PH 2 CALEDON, ONTARIO LOT 74 KINMOUNT 6A 3054 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.	Sheet Title SECOND FLOOR HEATING LAYOUT Date AUG/2019 Scale 3/16" = 1'-0" BCIN# 19669 LO# 83695
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