LAMPONE INVESTMENT INC

CITY OF MARKHAM

HEAT LOSS/HEAT GAIN CALCULATIONS

MODEL NAME : PEYTON 3

ELEV 1A, 1B, 2, 3A & 3B

HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: LAMPONE INVESTMENTS | DATE: Jul-20 | WINTER NATURAL AIR CHANGE RATE 0.359 | HEAT LOSS ΔT °F. 78 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: PEYTON 3 | GFA: 1949 | LO# 86809 | SUMMER NATURAL AIR CHANGE RATE 0.109 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS				BED-2			BED-3				BATH								
EXP. WALL			15			32				11			38				9								
CLG. HT.			9			9				9			9				9								
	FACTORS																								
GRS.WALL AREA	LOSS	GAIN	129			275				95			327				77								
GLAZING				LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN						
NORTH	21.8	16.0	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
EAST	21.8	41.6	0	0	0	0	0	0		33	719	1371	34	741	1413		0	0	0						
SOUTH	21.8	24.9	0	0	0	24	523	598		0	0	0	0	0	0		11	240	274						
WEST	21.8	41.6	22	479	914	11	240	457		0	0	0	0	0	0		0	0	0						
SKYLT.	38.1	101.5	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
DOORS	25.8	4.3	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
NET EXPOSED WALL	4.6	0.8	107	489	80	240	1097	181		62	281	46	293	1338	220		66	303	50						
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6	0	0	0	0	0	0		0	0	0	0	0	0		0	0	0						
EXPOSED CLG	1.3	0.6	300	394	176	194	255	114		116	152	68	198	260	116		117	154	69						
NO ATTIC EXPOSED CLG	2.8	1.3	0	0	0	0	0	0		32	90	40	40	113	50		0	0	0						
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0		148	386	64	0	0	0		0	0	0						
BASEMENT/CRAWL HEAT LOSS				0			0				0			0				0							
SLAB ON GRADE HEAT LOSS				0			0				0			0				0							
SUBTOTAL HT LOSS				1362			2115				1629			2451				697							
SUB TOTAL HT GAIN					1171			1349				1590			1800				393						
LEVEL FACTOR / MULTIPLIER			0.20	0.29		0.20	0.29			0.20	0.29		0.20	0.29			0.20	0.29							
AIR CHANGE HEAT LOSS				401			623				480			722				205							
AIR CHANGE HEAT GAIN					74			85				100			114				25						
DUCT LOSS				0			0				211			0				0							
DUCT GAIN					0			0				238			0				0						
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240		0		0						
HEAT GAIN APPLIANCES/LIGHTS					448			0				448			448				0						
TOTAL HT LOSS BTU/H				1763			2737				2320			3173				902							
TOTAL HT GAIN x 1.3 BTU/H					2825			1865				3401			3382				543						

ROOM USE				FAM			KIT			LV/DN			LAUN			W/R			FOY			MUD					WOD			BAS		
EXP. WALL				35			11			48			0			6			13			16					34			122		
CLG. HT.				10			10			10			9			11			11			11					9			9		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN		336			106			461			0			64			138			170					292			917		
GLAZING					LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN	
NORTH	21.8	16.0		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	21.8	41.6		0	0	0	0	0	0	14	305	582	0	0	0	0	0	0	15	327	623	0	0	0		0	0	0	0	0	0
SOUTH	21.8	24.9		0	0	0	0	0	0	26	566	647	0	0	0	9	196	224	0	0	0	0	0	0		0	0	0	6	131	149
WEST	21.8	41.6		66	1438	2742	13	283	540	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		6	131	249	0	0	0
SKYLT.	38.1	101.5		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
DOORS	25.8	4.3		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	517	85	20	517	85		0	0	0	20	517	85
NET EXPOSED WALL	4.6	0.8		270	1233	203	93	423	70	421	1922	316	0	0	0	55	249	41	103	470	77	150	683	112		0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.7	0.6		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		198	729	120	132	486	80
EXPOSED CLG	1.3	0.6		0	0	0	0	0	0	0	0	0	77	101	45	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.8	1.3		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	2.6	0.4		0	0	0	0	0	0	0	0	0	71	185	30	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						3294		
SLAB ON GRADE HEAT LOSS					0			0			0			0			0			0			0					0			
SUBTOTAL HT LOSS					2671			706			2794			287			445			1313			1200					860		4428		
SUB TOTAL HT GAIN						2945			610			1545			76			265			786			197					369			314
LEVEL FACTOR / MULTIPLIER				0.30	0.41		0.30	0.41		0.30	0.41		0.20	0.29		0.30	0.41		0.30	0.41		0.30	0.41						0.50	1.19		
AIR CHANGE HEAT LOSS					1103			292			1154			84			184			543			496						6286		
AIR CHANGE HEAT GAIN						186			39			98			5			17			50			12							43	
DUCT LOSS					0			0			0			37			0			0			0						0		
DUCT GAIN						0			0			0			53			0			0			0							0	
HEAT GAIN PEOPLE	240			0		0	0		0	0		0	0		0	0		0	0		0	0		0		0		0	0		0	
HEAT GAIN APPLIANCES/LIGHTS						448			448			448			448			0			0			0					0			448
TOTAL HT LOSS BTU/H					3775			998			3948			408			630			1856			1696					860		10714		
TOTAL HT GAIN x 1.3 BTU/H						4654			1426			2719			756			366			1086			273					480			1048

TOTAL HEAT GAIN BTU/H: 25042 TONS: 2.09 LOSS DUE TO VENTILATION LOAD BTU/H: 1336 STRUCTURAL HEAT LOSS: 35779 TOTAL COMBINED HEAT LOSS BTU/H: 37115

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.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: LAMPONE INVESTMENTS
BUILDER: GREENPARK HOMES

TYPE: PEYTON 3 | DATE: Jul-20 | GFA: 1949 | LO# 86809

HEATING CFM	890	COOLING CFM	890	furnace pressure	0.6
TOTAL HEAT LOSS	35,779	TOTAL HEAT GAIN	24,822	furnace filter	0.05
AIR FLOW RATE CFM	24.88	AIR FLOW RATE CFM	35.85	a/c coil pressure	0.2
				available pressure for s/a & r/a	0.35

#GOODMAN
GMEC960402BNA 40

AFUE =	96 %
INPUT (BTU/H) =	40,000
OUTPUT (BTU/H) =	**38,400**

FAN SPEED	
LOW	
MEDLOW	
MEDIUM	695
MEDIUM HIGH	
HIGH	890

DESIGN CFM = **890**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 40 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	8	4
R/A	0	0	4	2	1

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.02	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.16	adjusted pressure r/a	0.15

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	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-3	BATH	MBR	FAM	FAM	KIT	LV/DN	LV/DN	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	0.88	2.74	1.16	1.16	1.59	1.59	0.90	0.88	1.89	1.89	1.00	1.97	1.97	0.41	0.63	1.86	1.70	2.89	2.89	2.89	2.89
CFM PER RUN HEAT	22	68	29	29	39	39	22	22	47	47	25	49	49	10	16	46	42	72	72	72	72
RM GAIN MBH.	1.41	1.86	1.70	1.70	1.69	1.69	0.54	1.41	2.33	2.33	1.43	1.36	1.36	0.76	0.37	1.09	0.27	0.38	0.38	0.38	0.38
CFM PER RUN COOLING	51	67	61	61	61	61	19	51	83	83	51	49	49	27	13	39	10	14	14	14	14
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	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	53	63	48	43	52	45	33	48	35	48	39	31	23	39	25	22	28	40	44	25	25
EQUIVALENT LENGTH	150	200	160	170	200	170	180	130	170	160	160	110	140	150	160	100	140	100	160	110	130
TOTAL EFFECTIVE LENGTH	203	263	208	213	252	215	213	178	205	208	199	141	163	189	185	122	168	140	204	135	155
ADJUSTED PRESSURE	0.08	0.07	0.08	0.08	0.07	0.08	0.08	0.1	0.08	0.08	0.09	0.12	0.11	0.09	0.09	0.14	0.1	0.12	0.08	0.13	0.11
ROUND DUCT SIZE	5	**6**	5	5	5	5	4	5	**6**	**6**	5	4	4	4	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	162	347	213	213	286	286	252	162	240	240	184	562	562	115	184	528	482	529	529	529	529
COOLING VELOCITY (ft/min)	374	342	448	448	448	448	218	374	423	423	374	562	562	310	149	447	115	103	103	103	103
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	C	C	B	A	A	A	A	C	C	B	B	C	B	B	A	B	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	303	0.07	9.3	10	x	8	545
TRUNK B	595	0.07	11.9	16	x	8	669
TRUNK C	294	0.07	9.2	10	x	8	529
TRUNK D	889	0.07	13.9	22	x	8	727
TRUNK E	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0
TRUNK G	0	0.00	0	0	x	8	0
TRUNK H	0	0.00	0	0	x	8	0
TRUNK I	0	0.00	0	0	x	8	0
TRUNK J	0	0.00	0	0	x	8	0
TRUNK K	0	0.00	0	0	x	8	0
TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	890	0.05	15.1	26	x	8	616
TRUNK Y	390	0.05	11.1	14	x	8	501
TRUNK Z	230	0.05	9.1	10	x	8	414
DROP	890	0.05	15.1	24	x	10	534

RETURN AIR #	1	2	3	4	5	6										**BR**
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	75	85	75	75	300	155	0	0	0	0	0	0	0	0	0	125
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
ACTUAL DUCT LGH.	76	47	51	78	20	47	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	225	215	255	215	195	200	0	0	0	0	0	0	0	0	0	150
TOTAL EFFECTIVE LH	301	262	306	293	215	247	1	1	1	1	1	1	1	1	1	164
ADJUSTED PRESSURE	0.05	0.06	0.05	0.05	0.07	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	6	6	6	6	9.2	7.5	0	0	0	0	0	0	0	0	0	6.2
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	30	14	0	0	0	0	0	0	0	0	0	14

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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TYPE: PEYTON 3 LO # 86809
SITE NAME: LAMPONE INVESTMENTS

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	3	@ 10.6 cfm	31.8	cfm
Table 9.32.3.A.		TOTAL	137.8	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	**63.6**	**cfm**

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	137.8	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	74.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 65H Location: BSMT

63.6 cfm [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
63.6 CFM	X	78 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
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: Michael O'Rourke.

HRAI # 001820

Date: July-20

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

Michael O'Rourke.

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 86809 Model: PEYTON 3 Builder: GREENPARK HOMES Date: 29/07/2020

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	875	9	7525
First	875	10	8400
Second	1074	9	9236.4
Third	0	9	0
Fourth	0	9	0
		Total:	25,161.4 ft³
		Total:	712.5 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.359
SUMMER NATURAL AIR CHANGE RATE	0.109

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-21	43	78
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

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

0.359 x 197.91 x 43 °C x 1.2 = 3685 W

= **12572 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

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

= 0.109 x 197.91 x 7 °C x 1.2 = 184 W

= **627 Btu/h**

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

64 CFM x 78 °F x 1.08 x 0.25 = **1336 Btu/h**

6.2.7 Sensible heat Gain due to Ventilation

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

64 CFM x 13 °F x 1.08 x 0.25 = **220 Btu/h**

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

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL_{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	12,572	5,288	1.189
2	0.3		9,130	0.413
3	0.2		8,540	0.294
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

HVAC DESIGNS LTD.
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: PEYTON 3 **BUILDER:** GREENPARK HOMES
SFQT: 1949 **LO#** 86809 **SITE:** LAMPONE INVESTMENTS

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-6	OUTDOOR DESIGN TEMP.	88
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:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	25161.4	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.1 ft
LENGTH: 47.0 ft	WIDTH: 24.0 ft	EXPOSED PERIMETER:	122.0 ft

2012 OBC - COMPLIANCE PACKAGE **Component**	**Compliance Package A1**	
	Nominal	**Min. Eff.**
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	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	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

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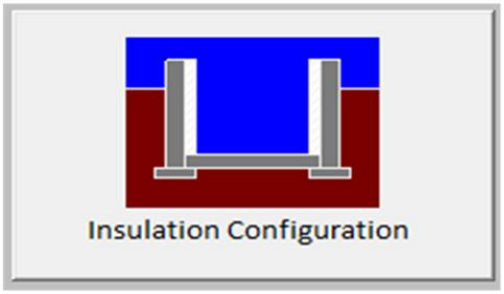
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Markham
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**14.3**	 Insulation Configuration
Floor Width (m):	**7.3**	
Exposed Perimeter (m):	**37.2**	
Wall Height (m):	**2.6**	
Depth Below Grade (m):	**2.16**	
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):	**965**	

TYPE: PEYTON 3
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Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Markham
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shielding	
Building Site:	Suburban, forest
Walls:	Heavy
Flue:	Heavy
Highest Ceiling Height (m):	7.38
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	712.5
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 949.8 cm^2
	3.57 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):	**0.359**
Cooling Air Leakage Rate (ACH/H):	**0.109**

TYPE: PEYTON 3

LO# 86809