

SITE NAME: ZADORRA ESTATES INC
BUILDER: GREENPARK HOMES

CORPORATION OF THE CITY OF OSHAWA

TRUE COPY

MHP 23039

DATE: 01/23/2023
TIME: 09:11

WINTER NATURAL AIR CHANGE RATE 0.340

HEAT LOSS AT °F. 74

CSA-F280-12

SUMMER NATURAL AIR CHANGE RATE 0.094

HEAT GAIN AT °F. 11

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	MBR	LOSS	GAIN	PERMIT PLANS	WIC	BED-2	BED-3	BED-4	S-BATH	HALL	ENS-4		
GRS.WALL AREA	20.8	15.5	0	0	0	32	0	0	Nov 14 2023	5	30	34	17	5	8	11		
GLAZING	20.8	41.0	0	0	0	9	0	0		9	9	9	9	9	9	9		
NORTH	20.8	41.0	0	0	0	288	0	0		270	306	153	45	72	99			
EAST	20.8	41.0	0	0	0	LOSS	LOSS	LOSS		LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS		
SOUTH	20.8	41.0	22	457	903	21	436	862		0	0	0	0	0	19	395	294	
WEST	36.4	100.7	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
SKYLT.	19.6	2.9	0	0	0	0	0	0		0	0	0	0	0	0	0	0	
DOORS	4.4	0.6	242	1054	156	206	898	133		45	196	29	236	1028	152	222	967	143
NET EXPOSED WALL	3.5	0.5	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	1.3	0.6	278	348	155	156	195	87		63	79	35	200	251	111	197	247	110
EXPOSED CLG	2.7	1.2	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.5	0.4	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
EXPOSED FLOOR			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	0	0	0	0	0
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0		0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			2358			1675				275	2483	2959	1617	680	1002	739		
SUB TOTAL HT GAIN			1800			1190				64	1733	2968	1245	549	471	414		
LEVEL FACTOR / MULTIPLIER	0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24		0.20	0.24	0.20	0.24	0.20	0.24	0.20	0.24	
AIR CHANGE HEAT LOSS			561			398				65	590	704	384	162	238	176		
AIR CHANGE HEAT GAIN			80			53				3	77	132	56	24	21	18		
DUCT LOSS			0			0				0	307	0	0	84	124	0		
DUCT GAIN			0			0				0	256	0	0	57	49	0		
HEAT GAIN PEOPLE	240	2	480			0				0	1	240	1	240	0	0		
HEAT GAIN APPLIANCES/LIGHTS			512			0				0	512	512	512	0	0	0		
TOTAL HT LOSS BTU/H			2919			2073				340	3381	3663	2002	926	1365	914		
TOTAL HT GAIN x 1.3 BTU/H			3734			1616				87	3665	5009	2669	819	704	563		

ROOM USE	EXP. WALL	CLG. HT.	H-OFF	DIN	KT/BF	FAM	LAUN	PWD	FOY	MUD		WOD	BAS
GRS.WALL AREA	20.8	15.5	36	17	38	33	7	9	26	23		38	182
GLAZING	20.8	41.0	10	10	10	10	9	10	10	10		9	9
NORTH	20.8	41.0	0	0	0	0	0	0	0	0		0	0
EAST	20.8	41.0	44	914	1806	0	0	0	0	0		0	0
SOUTH	20.8	41.0	44	914	1073	48	997	1171	0	0		0	0
WEST	36.4	100.7	0	0	0	0	0	0	0	0		0	0
SKYLT.	19.6	2.9	0	0	0	0	0	0	0	0		0	0
DOORS	4.4	0.6	272	1185	176	122	532	79	309	1346	200	270	1176
NET EXPOSED WALL	3.5	0.5	0	0	0	0	0	0	0	0		0	0
NET EXPOSED BSMT WALL ABOVE GR	1.3	0.6	0	0	0	0	0	0	0	0		0	0
EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0		0	0
NO ATTIC EXPOSED CLG	2.5	0.4	0	0	0	0	0	0	0	0		0	0
EXPOSED FLOOR			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			3013			1529			2821			2423	
SUB TOTAL HT GAIN			3055			1250			1656			2104	
LEVEL FACTOR / MULTIPLIER	0.30	0.37	0.30	0.37	0.30	0.37	0.30	0.37	0.20	0.24	0.30	0.37	0.30
AIR CHANGE HEAT LOSS			1128			572			1056			907	
AIR CHANGE HEAT GAIN			136			56			74			94	
DUCT LOSS			0			0			0			0	
DUCT GAIN			0			0			0			0	
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0		0	0
HEAT GAIN APPLIANCES/LIGHTS			512			512			512			512	
TOTAL HT LOSS BTU/H			4141			2101			3878			3330	
TOTAL HT GAIN x 1.3 BTU/H			4815			2363			2915			3524	

TOTAL HEAT GAIN BTU/H:

37146

TONS: 3.10

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 54436

TOTAL COMBINED HEAT LOSS BTU/H: 56029

SITE NAME: ZADORRA ESTATES INC

BUILDER: GREENPARK HOMES

CORPORATION OF THE CITY OF OSHAWA

TYPE: VENTILATION

GFA: 2787

LO#

101814

MHP 23039

HEATING CFM 1131
TOTAL HEAT LOSS 54,436
AIR FLOW RATE CFM 20.78COOLING CFM 1131
TOTAL HEAT GAIN 36,909
AIR FLOW RATE CFM 20.78furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35#GOODMAN
GMCE960603BNA 60
FAN SPEED LOWAFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st
S/A	0	0	14	10
R/A	0	0	5	2

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131DESIGN 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	S-BATH	HALL	BED-2	MBR	ENS-4	H-OFF	DIN	KT/BF	KT/BF	FAM	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.46	1.04	0.34	1.69	1.83	2.00	0.93	1.36	1.69	1.46	0.91	2.07	2.10	1.94	1.94	1.66	0.59	0.90	2.51	1.82	3.52	3.52	3.52	3.52
CFM PER RUN HEAT	30	22	7	35	38	42	19	28	35	30	19	43	44	40	40	35	12	19	52	38	73	73	73	73
RM GAIN MBH.	1.87	0.81	0.09	1.83	2.50	2.67	0.82	0.70	1.83	1.87	0.56	2.41	2.36	1.46	1.46	1.76	0.92	0.59	1.01	0.27	0.33	0.33	0.33	0.33
CFM PER RUN COOLING	57	25	3	56	77	82	25	22	56	57	17	74	72	45	45	54	28	18	31	8	10	10	10	10
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	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	0.17	0.17
ACTUAL DUCT LGH.	31	45	25	52	52	38	47	38	55	28	46	44	18	18	26	29	38	38	31	39	24	19	13	23
EQUIVALENT LENGTH	150	180	140	160	190	140	130	140	180	130	160	130	130	110	110	130	130	150	150	110	140	150	90	90
TOTAL EFFECTIVE LENGTH	181	225	165	212	242	178	177	178	235	158	206	174	148	128	136	159	168	188	181	149	164	169	103	113
ADJUSTED PRESSURE	0.1	0.08	0.1	0.08	0.07	0.09	0.1	0.1	0.07	0.11	0.08	0.1	0.12	0.13	0.13	0.11	0.1	0.09	0.1	0.12	0.1	0.1	0.17	0.15
ROUND DUCT SIZE	5	4	4	5	6	6	4	4	5	5	4	5	5	4	4	5	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	220	252	80	257	194	214	218	321	257	220	218	316	323	459	459	257	138	218	382	436	536	536	536	536
COOLING VELOCITY (ft/min)	419	287	34	411	393	418	287	252	411	419	195	543	529	516	516	396	321	207	228	92	73	73	73	73
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	E	B	A	C	B	B	B	E	B	A	C	D	D	D	C	A	B	C	D	D	E	C

RUN #	25	26	27	28	29
ROOM NAME	BAS	BED-3	H-OFF	FAM	ENS
RM LOSS MBH.	3.52	1.83	2.07	1.66	1.04
CFM PER RUN HEAT	73	38	43	35	22
RM GAIN MBH.	0.33	2.50	2.41	1.76	0.81
CFM PER RUN COOLING	10	77	74	54	25
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	46	58	45	19	45
EQUIVALENT LENGTH	120	190	130	80	140
TOTAL EFFECTIVE LENGTH	166	248	175	99	185
ADJUSTED PRESSURE	0.1	0.07	0.1	0.17	0.09
ROUND DUCT SIZE	5	6	5	5	4
HEATING VELOCITY (ft/min)	536	194	316	257	252
COOLING VELOCITY (ft/min)	73	393	543	396	287
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	3X10
TRUNK	A	A	A	E	D

SUPPLY AIR TRUNK SIZE												RETURN AIR TRUNK SIZE											
TRUNK	STATIC	ROUND	RECT	VELOCITY			TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY							
CFM	PRESS.	DUCT	DUCT			(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT			(ft/min)					
TRUNK A	254	0.07	8.7	10	x	8	457	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			
TRUNK B	442	0.07	10.7	14	x	8	568	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			
TRUNK C	651	0.07	12.3	18	x	8	651	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			
TRUNK D	305	0.08	9	10	x	8	549	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			
TRUNK E	480	0.08	10.7	14	x	8	617	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			
TRUNK F	0	0.00	0	0	x	8	0	0	0.00	0	0	x	8	0	0	0.05	0	x	8	0			

RETURN AIR #	1	2	3	4	5	6	7	BR											
AIR VOLUME	115	95	85	100	100	368	85	0	0	0	0	0	0	0	0	0	0	183	
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		
ACTUAL DUCT LGH.	30	58	57	37	36	15	47	1	1	1	1	1	1	1	1	1	1	14	
EQUIVALENT LENGTH	135	185	225	180	175	135	230	0	0	0	0	0	0	0	0	0	0	140	
TOTAL EFFECTIVE LH	165	243	282	217	211	150	277	1	1	1	1	1	1	1	1	1	1	154	
ADJUSTED PRESSURE	0.09	0.06	0.05	0.07	0.07	0.10	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10	
ROUND DUCT SIZE	6	6	6	6	6	9.1	6	0	0	0	0	0	0	0	0	0	0	7	
INLET GRILL SIZE	8	8	8	8	8	8	8	0	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	X	X	
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	14	

TYPE: VILLA 12
SITE NAME: ZADORRA ESTATES INC

CORPORATION OF THE CITY OF OSHAWA
TRUE COPY
RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY
OF PERMIT PLANS
Nov 14 2023
PER: *C. Martin*
CHIEF BUILDING OFFICIAL

MHP 23039

COMBUSTION APPLIANCES

- 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 V150H Location: BSMT

79.5 cfm ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	74 F	1.08	0.25

SUPPLEMENTAL FANS

BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
S-BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR

9.32.3.11.

Model: VANEE V150H

150 cfm high 35 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-23

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

CORPORATION OF THE CITY OF OSHAWA
TRUE COPY
OF PERMIT PLANS

Nov 14 2023

MHP 23039

F230-12 Residential Heat Loss and Heat Gain Calculations																																																																
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																
LO#: 101814	Model: VILLA-12	Builder: GREENPARK HOMES	Date: 2023-07-13																																																													
Volume Calculation		Air Change & Delta T Data																																																														
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">House Volume</th> </tr> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> <tr> <td>Bsmt</td> <td>1246</td> <td>9</td> <td>11214</td> </tr> <tr> <td>First</td> <td>1246</td> <td>10</td> <td>12460</td> </tr> <tr> <td>Second</td> <td>1541</td> <td>9</td> <td>13869</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>37,543.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>1063.1 m³</td> </tr> </table>		House Volume				Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1246	9	11214	First	1246	10	12460	Second	1541	9	13869	Third	0	9	0	Fourth	0	9	0	Total:			37,543.0 ft³	Total:			1063.1 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width:30%;">0.340</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.094</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5">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	0.340	SUMMER NATURAL AIR CHANGE RATE	0.094	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																																																														
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.340 x 295.31 x 41 °C x 1.2 = 4971 W = 16960 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.094 x 295.31 x 6 °C x 1.2 = 203 W = 691 Btu/h																																																														
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																														
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 74 °F x 1.08 x 0.25 = 1593 Btu/h		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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)																																																																
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																
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	16,960	9,101	0.932																																																												
2	0.3		13,592	0.374																																																												
3	0.2		14,267	0.238																																																												
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																																																																
				Michael O'Rourke BCIN# 19669 																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: VILLA 12

SFQT: 2787

TRUE COPY
OF PERMIT PLANS
LO# 101814
Nov 14 2023

MHP 23039

BUILDER: GREEN PARK HOMES

SITE: ZADORRA ESTATES INC

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
		WINDOW SHGC	0.50

BUILDING DATA

ATTACHMENT:	DETACHED	# 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 (ft³):	37543.0	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: 59.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	182.0 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	96%	-
HRV/ERV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

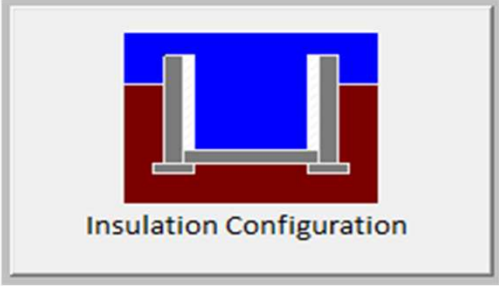
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



**MHP 23039****Residential Form 1 Thermal Load Calculator**

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oshawa	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	18.0	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.1	
Door Area (m ²):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1794

TYPE: VILLA 12
LO# 101814

**MHP 23039**

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Oshawa			
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):	7.62			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1063.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1417.1 cm ²		
	3.57	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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.094			

TYPE: VILLA 12

LO# 101814

