

SITE NAME: BARLASSINA										DATE: Aug-22		WINTER NATURAL AIR CHANGE RATE 0.319				HEAT LOSS AT °F. 72		CSA-F280-12														
BUILDER: GREENPARK HOMES										LO# 98649		SUMMER NATURAL AIR CHANGE RATE 0.085				HEAT GAIN AT °F. 9		SB-12 PACKAGE A1														
TYPE: CHERRY 1										GFA: 1946																						
ROOM USE										MBR		ENS		WIC		BED-2		BED-3		BATH		FLEX										
EXP. WALL										11		14		0		10		10		0		0										
CLG. HT.										9		9		9		9		9		9												
FACTORS																																
GRS.WALL AREA										99		126		0		90		90		0		0										
GLAZING										LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN										
NORTH										20.3	15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EAST										20.3	40.5	0	0	0	0	0	0	0	18	365	730	16	324	649	0	0	0	0	0	0		
SOUTH										20.3	23.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WEST										20.3	40.5	27	547	1095	24	487	973	0	0	0	0	0	0	0	0	0	0	0	0	0		
SKYLT.										35.5	99.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
DOORS										19.1	2.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL										4.3	0.5	72	306	39	102	434	55	0	0	0	72	306	39	74	315	40	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR										3.4	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG										1.2	0.5	300	367	158	160	196	84	60	73	32	170	208	90	180	220	95	130	159	68	190	232	100
NO ATTIC EXPOSED CLG										2.6	1.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR										2.4	0.3	176	428	54	0	0	0	24	58	7	0	0	0	72	175	22	48	117	15	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						
SUBTOTAL HT LOSS										1648		1116		132		879		1034				276		232								
SUB TOTAL HT GAIN												1346		1112		39		858		806				83		100						
LEVEL FACTOR / MULTIPLIER										0.20	0.40			0.20	0.40		0.20	0.40		0.20	0.40		0.20	0.40								
AIR CHANGE HEAT LOSS										659		446		53		351		413				110		93								
AIR CHANGE HEAT GAIN												87		72		3		55		52		5		6								
DUCT LOSS										231		0		18		0		145				39		0								
DUCT GAIN												250		0		4		0		168		9		0								
HEAT GAIN PEOPLE										240	2	480	0	0	0	0	1	240	1	240	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS												585		0		0		585		585		0		685								
TOTAL HT LOSS BTU/H										2537		1562		203		1230		1592				424		325								
TOTAL HT GAIN x 1.3 BTU/H												3571		1540		59		2260		2406				127		899						

ROOM USE										PWD		FOY						BAS		
EXP. WALL										15		30						91		
CLG. HT.										10		10						9		
FACTORS																				
GRS.WALL AREA										150		300						546		
GLAZING										LOSS GAIN		LOSS GAIN						LOSS GAIN		
NORTH										20.3	15.0	0	0	0	0	0	0	0	0	
EAST										20.3	40.5	0	0	0	0	0	0	4	81	162
SOUTH										20.3	23.9	0	0	0	0	0	0	0	0	0
WEST										20.3	40.6	0	0	0	11	223	446	0	0	0
SKYLT.										35.5	99.8	0	0	0	0	0	0	0	0	0
DOORS										19.1	2.4	10	191	24	0	0	0	21	401	51
NET EXPOSED WALL										4.3	0.5	414	1760	224	150	638	81	233	991	126
NET EXPOSED BSMT WALL ABOVE GR										3.4	0.4	0	0	0	0	0	0	0	0	0
EXPOSED CLG										1.2	0.5	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG										2.6	1.1	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR										2.4	0.3	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										0		0		0		0		2758		
SLAB ON GRADE HEAT LOSS										0		0		0		0				
SUBTOTAL HT LOSS										3086		638		2283						
SUB TOTAL HT GAIN												81		708				4176		
LEVEL FACTOR / MULTIPLIER										0.30	0.53			0.30	0.53			0.50	1.27	332
AIR CHANGE HEAT LOSS										1637		338		1211				5311		
AIR CHANGE HEAT GAIN												5		46				21		
DUCT LOSS										0		0		0				0		
DUCT GAIN												0		0				0		
HEAT GAIN PEOPLE										240	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS												585		0		0		585		
TOTAL HT LOSS BTU/H										4724		976		3495				9487		
TOTAL HT GAIN x 1.3 BTU/H												112		980				1220		

SITE NAME: BARLASSINA  
BUILDER: GREENPARK HOMES

TYPE: CHERRY 1

DATE: Aug-22

GFA: 1946 LO# 98649

HEATING CFM 614 COOLING CFM 614  
TOTAL HEAT LOSS 26,554 TOTAL HEAT GAIN 17,418  
AIR FLOW RATE CFM 23.12 AIR FLOW RATE CFM 35.25

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

#GOODMAN  
GMEC960302BNA 30  
FAN SPEED LOW  
MEDLOW  
MEDIUM 614  
MEDIUM HIGH 895

AFUE = 96 %  
INPUT (BTU/H) = 30,000  
OUTPUT (BTU/H) = 28,800

DESIGN CFM = 614  
CFM @ .5" E.S.P.

TEMPERATURE RISE 43 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	5	3
R/A	0	0	3	1	1

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

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	10	14	15	16	18	19	21	22	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BATH	FLEX	MBR	K/L/D	K/L/D	K/L/D	PWD	FOY	BAS	BAS	BAS
RM LOSS MBH.	1.27	1.56	0.20	1.23	1.59	0.21	0.21	0.33	1.27	1.57	1.57	1.57	0.98	3.49	3.16	3.16	3.16
CFM PER RUN HEAT	29	36	5	28	37	5	5	8	29	36	36	36	23	81	73	73	73
RM GAIN MBH.	1.79	1.54	0.06	2.26	2.41	0.06	0.06	0.90	1.79	1.42	1.42	1.42	0.11	0.98	0.41	0.41	0.41
CFM PER RUN COOLING	63	54	2	80	85	2	2	32	63	50	50	50	4	35	14	14	14
ADJUSTED PRESSURE	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	0.16	0.17	0.17	0.17
ACTUAL DUCT LGH.	51	42	18	54	45	26	24	45	55	45	40	12	6	28	44	31	22
EQUIVALENT LENGTH	180	160	170	160	130	150	170	170	200	120	120	90	90	120	120	130	140
TOTAL EFFECTIVE LENGTH	231	202	188	214	175	176	194	215	255	165	160	102	96	148	164	161	162
ADJUSTED PRESSURE	0.07	0.09	0.09	0.08	0.09	0.1	0.09	0.08	0.07	0.1	0.11	0.17	0.18	0.11	0.1	0.11	0.11
ROUND DUCT SIZE	6	5	4	6	6	4	4	5	6	5	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	148	264	57	143	189	57	57	59	148	264	413	264	264	595	536	536	536
COOLING VELOCITY (ft/min)	321	396	23	408	433	23	23	235	321	367	574	367	46	257	103	103	103
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	B	A	A	B	B	B	C	A	A	B	C	C	A	A	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
1	MBR	1.27	29	1.79	63	0.17	51	180	231	0.07	6	148	321	4X10	C
2	ENS	1.56	36	1.54	54	0.17	42	160	202	0.09	5	264	396	3X10	C
3	WIC	0.20	5	0.06	2	0.17	18	170	188	0.09	4	57	23	3X10	B
4	BED-2	1.23	28	2.26	80	0.17	54	160	214	0.08	6	143	408	4X10	A
5	BED-3	1.59	37	2.41	85	0.16	45	130	175	0.09	6	189	433	4X10	A
6	BATH	0.21	5	0.06	2	0.17	26	150	176	0.1	4	57	23	3X10	B
7	BATH	0.21	5	0.06	2	0.17	24	170	194	0.09	4	57	23	3X10	B
8	FLEX	0.33	8	0.90	32	0.17	45	170	215	0.08	5	59	235	3X10	B
10	MBR	1.27	29	1.79	63	0.17	55	200	255	0.07	6	148	321	4X10	C
14	K/L/D	1.57	36	1.42	50	0.17	45	120	165	0.1	5	264	367	3X10	A
15	K/L/D	1.57	36	1.42	50	0.17	40	120	160	0.11	4	413	574	3X10	A
16	K/L/D	1.57	36	1.42	50	0.17	12	90	102	0.17	5	264	367	3X10	B
18	PWD	0.98	23	0.11	4	0.16	6	120	96	0.18	4	595	46	3X10	C
19	FOY	3.49	81	0.98	35	0.16	28	120	148	0.11	5	5	257	3X10	C
21	BAS	3.16	73	0.41	14	0.17	44	130	164	0.1	5	536	103	3X10	A
22	BAS	3.16	73	0.41	14	0.17	31	140	161	0.11	5	536	103	3X10	A
24	BAS	3.16	73	0.41	14	0.17	22	140	162	0.11	5	536	103	3X10	C

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS & DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING CODE AND ANY OTHER REFERENCED REQUIREMENTS.

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	283	0.08	8.7	10	X	8	509		TRUNK G	0	0.00	0	0	X	8	0	TRUNK O	0	0.07	0	0	X	8	0
TRUNK B	342	0.08	9.4	14	X	8	440		TRUNK H	0	0.00	0	0	X	8	0	TRUNK P	0	0.07	0	0	X	8	0
TRUNK C	271	0.07	8.9	10	X	8	488		TRUNK I	0	0.00	0	0	X	8	0	TRUNK Q	0	0.07	0	0	X	8	0
TRUNK D	0	0.00	0	0	X	8	0		TRUNK J	0	0.00	0	0	X	8	0	TRUNK R	0	0.07	0	0	X	8	0
TRUNK E	0	0.00	0	0	X	8	0		TRUNK K	0	0.00	0	0	X	8	0	TRUNK S	0	0.07	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	0.07	0	0	X	8	0
																	TRUNK U	0	0.07	0	0	X	8	0
																	TRUNK V	0	0.07	0	0	X	8	0
																	TRUNK W	0	0.07	0	0	X	8	0
RETURN AIR #	1		3	4	5									BR			TRUNK X	614	0.07	12.1	18	X	8	614
AIR VOLUME	85		85	85	270	0	0	0	0	0	0	0	0	0	89		TRUNK Y	85	0.07	5.8	8	X	8	191
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		TRUNK Z	0	0.07	0	0	X	8	0
ACTUAL DUCT LGH.	55	1	28	27	14	1	1	1	1	1	1	1	1	1	14		DROP	614	0.07	12.1	24	X	10	368
EQUIVALENT LENGTH	145	0	175	140	180	0	0	0	0	0	0	0	0	0	180									
TOTAL EFFECTIVE LH	200	1	203	167	194	1	1	1	1	1	1	1	1	1	194									
ADJUSTED PRESSURE	0.07	14.80	0.07	0.09	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08									
ROUND DUCT SIZE	5.8	0	5.8	5.4	8.6	0	0	0	0	0	0	0	0	0	5.7									
INLET GRILL SIZE	8	0	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									
INLET GRILL SIZE	14	0	14	14	30	0	0	0	0	0	0	0	0	0	14									

TYPE: CHERRY 1  
SITE NAME: BARLASSINA

LO # 98649

### 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	4	@ 10.6 cfm	42.4	cfm
Table 9.32.3.A.	TOTAL			148.4 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	148.4	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	84.8	cfm

**PRINCIPAL EXHAUST FAN CAPACITY**

Model: VANEE V150H Location: BSMT

63.6 cfm ☒ HVI Approved

**PRINCIPAL EXHAUST HEAT LOSS CALCULATION**

CFM	ΔT °F	FACTOR	% LOSS
63.6 CFM	72 F	1.08	0.25

**SUPPLEMENTAL FANS** BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	✓	3.5
BATH	BY INSTALLING CONTRACTOR	50	✓	3.5
LAUN	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: August-22

NOT THE GRANTING OF A PERMIT NOR REVIEWING OF SPECS  
& DRAWINGS NOR INSPECTIONS MADE DURING INSTALLATION  
BY THE OFFICIAL HAVING JURISDICTION SHALL RELIEVE THE  
OWNER FROM REQUIREMENTS OF THE ONTARIO BUILDING  
CODE AND ANY OTHER REFERENCED REQUIREMENTS.

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
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<b>House Volume</b> <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>816</td> <td>9</td> <td>7344</td> </tr> <tr> <td>First</td> <td>816</td> <td>10</td> <td>8160</td> </tr> <tr> <td>Second</td> <td>1130</td> <td>9</td> <td>10170</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>25,674.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>727.0 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	816	9	7344	First	816	10	8160	Second	1130	9	10170	Third	0	9	0	Fourth	0	9	0	Total:			25,674.0 ft³	Total:			727.0 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%;">0.319</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.085</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>-18</td> <td>40</td> <td>72</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>29</td> <td>5</td> <td>9</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.319	SUMMER NATURAL AIR CHANGE RATE	0.085	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-18	40	72	Summer DTDc	24	29	5	9
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Bsmt	816	9	7344																																																									
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Summer DTDc	24	29	5	9																																																								
<b>S.2.3.1 Heat Loss due to Air Leakage</b>			<b>6.2.6 Sensible Gain due to Air Leakage</b>																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.319 x 201.95 x 40 °C x 1.2 = 3113 W</p> <p>= 10623 Btu/h</p>			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.085 x 201.95 x 5 °C x 1.2 = 105 W</p> <p>= 358 Btu/h</p>																																																									
<b>S.2.3.2 Heat Loss due to Mechanical Ventilation</b>			<b>6.2.7 Sensible heat Gain due to Ventilation</b>																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h</p>			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>64 CFM x 9 °F x 1.08 x 0.25 = 158 Btu/h</p>																																																									
<b>S.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>																																																												
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairve = 0</p>																																																												

Michael O'Rourke  
BCIN# 19669





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Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

## HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: CHERRY 1

BUILDER: GREENPARK HOMES

SFQT: 1946

LO# 98649

SITE: BARLASSINA

### DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

### 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 (ft³):	25674.0	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: 57.0 ft	WIDTH: 17.0 ft	EXPOSED PERIMETER:	91.0 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	-

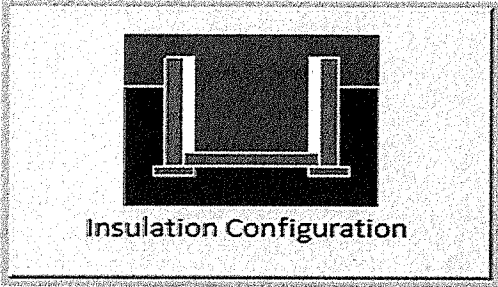
INDIVIDUAL BCIN: 19669

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## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Cambridge	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	17.4	 Insulation Configuration
Floor Width (m):	5.2	
Exposed Perimeter (m):	27.7	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m <sup>2</sup> ):	0.4	
Door Area (m <sup>2</sup> ):	2.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		808

TYPE: CHERRY 1  
LO# 98649



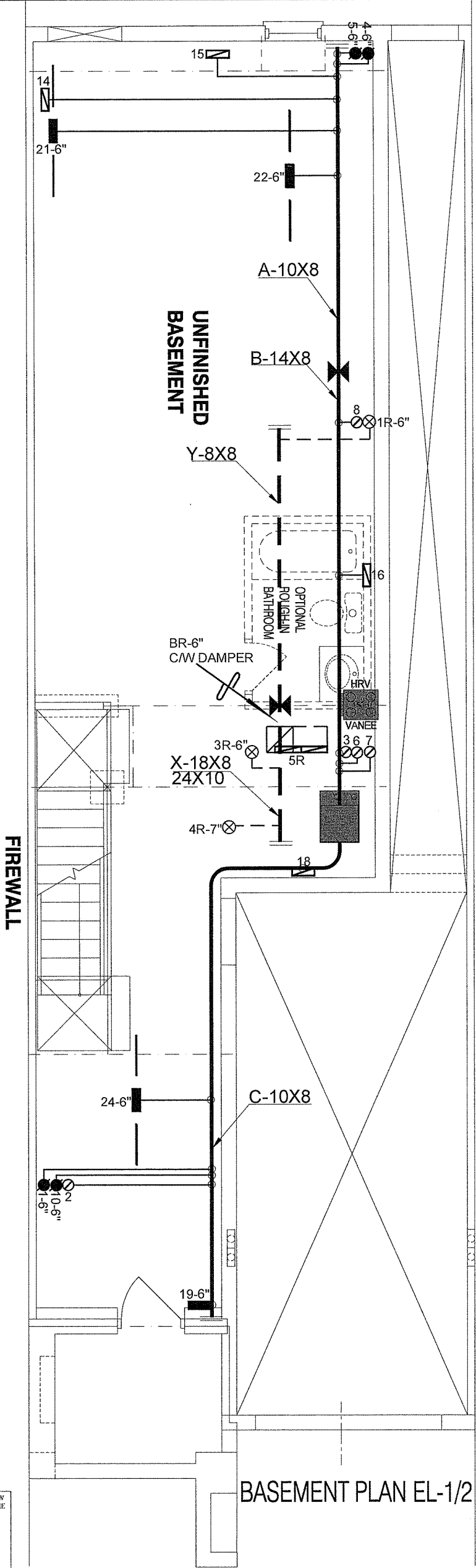
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## Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Cambridge			
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 <sup>3</sup> ):	727.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	969.1 cm <sup>2</sup>		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	30.0	30.0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.319			
Cooling Air Leakage Rate (ACH/H):	0.085			

TYPE: CHERRY 1  
LO# 98649



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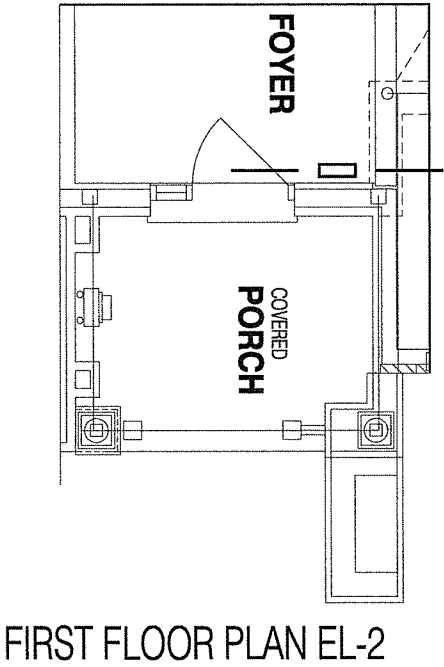
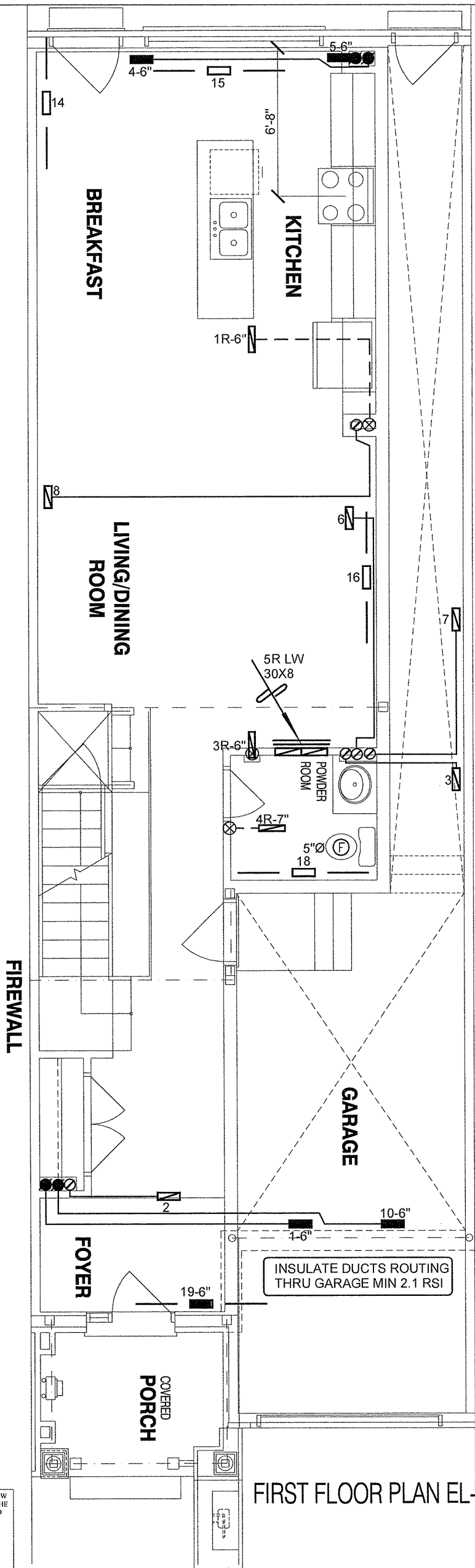
CSA-F280-12  
PACKAGE A1

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

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Client <b>GREENPARK HOMES</b>		<div><p>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</p><p>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.</p></div>	HEAT LOSS 27798 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title <b>BASEMENT HEATING LAYOUT</b>	
Project Name <b>BARLASSINA CAMBRIDGE, ONTARIO</b>			MAKE GOODMAN		3RD FLOOR			Date AUG/2022	
Block 119 Units 31 to 36			MODEL GMEC960302BNA		2ND FLOOR	9	3	3	Scale 3/16" = 1'-0"
CHERRY 1 1946 sqft			INPUT 30 MBTU/H		1ST FLOOR	5	1	2	BCIN# 19669
			OUTPUT 29 MBTU/H		BASEMENT	3	1	0	LO# 98649
		COOLING 1.5 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					
		FAN SPEED 735 cfm @ 0.6" w.c.							





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CSA-F280-12  
PACKAGE A1

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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 119 Units 31 to 36			BCIN# 19669	
CHERRY 1	1946 sqft		LO#	98649

FIREWALL

BEDROOM 2

BEDROOM 3

FLEX ROOM

LAUNDRY

BATH (MAIN)

MASTER BEDROOM

ENSUITE

ENSUITE

SEC. FLOOR PLAN EL-2

SEC. FLOOR PLAN EL-1

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CSA-F280-12  
PACKAGE A1

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Project Name <b>BARLASSINA CAMBRIDGE, ONTARIO</b>			Date AUG/2022	
Block 119 Units 31 to 36		Scale 3/16" = 1'-0"	BCIN# 19669	
CHERRY 1                      1946 sqft		LO#      98649		
		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.		