

Block 120 Units 13 to 18

SITE NAME: BARLASSINA										DATE: Aug-22		WINTER NATURAL AIR CHANGE RATE 0.319				HEAT LOSS ΔT °F. 72		CSA-F280-12												
BUILDER: GREENPARK HOMES										TYPE: CHERRY 2		GFA: 2030		LO# 98650		SUMMER NATURAL AIR CHANGE RATE 0.085				HEAT GAIN ΔT °F. 9		SB-12 PACKAGE A1								
ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BATH			FLEX									
EXP. WALL			13			7			0			11			13			0			0									
CLG. HT.			9			9			9			9			9			9			9									
FACTORS																														
GRS.WALL AREA			LOSS GAIN			117			63			0			99			117			0			0						
GLAZING			LOSS GAIN			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	0	0	0	0	0		
EAST			20.3	40.5	18	365	730	16	324	649	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0		
WEST			20.3	40.5	0	0	0	0	0	0	0	0	0	27	547	1095	24	487	973	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	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	0	0	0			
NET EXPOSED WALL			4.3	0.5	99	421	53	47	200	25	0	0	0	72	306	39	93	395	50	0	0	0	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	0	0			
EXPOSED CLG			1.2	0.5	286	350	151	144	176	76	80	98	42	176	215	93	155	189	82	63	77	33	381	466	201	0	0	0		
NO ATTIC EXPOSED CLG			2.6	1.1	0	0	0	0	0	0	0	0	0	0	0	0	15	39	17	0	0	0	0	0	0	0	0			
EXPOSED FLOOR			2.4	0.3	42	102	13	79	192	24	60	146	19	176	428	54	13	32	4	63	153	19	55	134	17	0	0	0		
BASEMENT/CRAWL HEAT LOSS						0			0			0			0			0			0			0						
SLAB ON GRADE HEAT LOSS						0			0			0			0			0			0			0						
SUBTOTAL HT LOSS						1237			892			244			1496			1142			230			599						
SUB TOTAL HT GAIN						947			774			61			1281			1126			53			218						
LEVEL FACTOR / MULTIPLIER			0.20	0.37				0.20	0.37				0.20	0.37				0.20	0.37				0.20	0.37						
AIR CHANGE HEAT LOSS						463			334			91			559			427			86			224						
AIR CHANGE HEAT GAIN						76			62			5			103			91			4			18						
DUCT LOSS						170			123			33			206			157			32			82						
DUCT GAIN						231			84			7			243			226			6			24						
HEAT GAIN PEOPLE			240	2	480			0	0	0			1	240	1			240	0			0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS						805			0			0			805			805			0			0						
TOTAL HT LOSS BTU/H						1870			1348			368			2261			1726			348			906						
TOTAL HT GAIN x 1.3 BTU/H						3301			1197			94			3474			3235			81			336						

ROOM USE					K/L/B				W/R		FOY						BAS	
EXP. WALL					61				13		25						100	
CLG. HT.					10				10		10						9	
FACTORS																		
GRS.WALL AREA	LOSS	GAIN			610				130		250						600	
GLAZING			LOSS		GAIN				LOSS		GAIN		LOSS		GAIN		LOSS	
NORTH	20.3	15.0	0	0	0			0	0	0	0	0	0			0	0	0
EAST	20.3	40.5	24	487	973			0	0	0	0	0	0	4	81	162		
SOUTH	20.3	23.9	0	0	0			0	0	0	0	0	0	0	0	0		
WEST	20.3	40.5	0	0	0			0	0	0	15	304	608	0	0	0		
SKYLT.	35.5	99.8	0	0	0			0	0	0	0	0	0	0	0	0		
DOORS	19.1	2.4	20	382	49			0	0	0	40	764	97	20	382	49		
NET EXPOSED WALL	4.3	0.5	566	2406	306			130	553	70	195	829	105	0	0	0		
NET EXPOSED BSMT WALL ABOVE GR	3.4	0.4	0	0	0			0	0	0	0	0	0	300	1028	131		
EXPOSED CLG	1.2	0.5	0	0	0			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	0	0	0		
EXPOSED FLOOR	2.4	0.3	0	0	0			0	0	0	0	0	0	0	0	0		
BASEMENT/CRAWL HEAT LOSS			0						0		0						3048	
SLAB ON GRADE HEAT LOSS			0						0		0							
SUBTOTAL HT LOSS			3275						553		1897						4540	
SUB TOTAL HT GAIN					1327				70		811						341	
LEVEL FACTOR / MULTIPLIER	0.30	0.57							0.30	0.57	0.30		0.57	0.50	1.20			
AIR CHANGE HEAT LOSS			1874						316		1086						5459	
AIR CHANGE HEAT GAIN					107				6		65						28	
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		
HEAT GAIN APPLIANCES/LIGHTS			805						0		0						805	
TOTAL HT LOSS BTU/H			5149						869		2983						9999	
TOTAL HT GAIN x 1.3 BTU/H			2911						99		1139						1526	

SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES

TYPE: CHERRY 2

DATE: Aug-22

GFA: 2030

LO# 98650

HEATING CFM 695 COOLING CFM 695
TOTAL HEAT LOSS 27,827 TOTAL HEAT GAIN 17,393
AIR FLOW RATE CFM 24.98 AIR FLOW RATE CFM 39.96

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

#GOODMAN
GMEC960402BNA 40
FAN SPEED LOW
MEDLOW
MEDIUM 695
MEDIUM HIGH 890

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

DESIGN CFM = 695
CFM @ .6" E.S.P.

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

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

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

TEMPERATURE RISE 51 °F

RUN #	1	2	3	4	5	6	7	8	9	10	14	15	16	18	19	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-3	BED-2	BED-2	BATH	FLEX	BED-3	MBR	K/L/B	K/L/B	K/L/B	W/R	FOY	BAS	BAS	BAS
RM LOSS MBH.	0.94	1.35	0.37	0.86	1.13	1.13	0.35	0.91	0.86	0.94	1.72	1.72	1.72	0.87	2.98	3.33	3.33	3.33
CFM PER RUN HEAT	23	34	9	22	28	28	9	23	22	23	43	43	43	22	75	83	83	83
RM GAIN MBH.	1.65	1.20	0.09	1.62	1.74	1.74	0.08	0.34	1.62	1.65	0.97	0.97	0.97	0.10	1.14	0.51	0.51	0.51
CFM PER RUN COOLING	66	48	4	65	69	69	3	13	65	66	39	39	39	4	46	20	20	20
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	0.16	0.16	0.16
ACTUAL DUCT LGH.	46	45	36	65	62	69	69	41	51	39	17	32	24	34	47	27	25	13
EQUIVALENT LENGTH	180	150	160	180	160	180	190	170	140	140	110	130	130	140	110	80	90	110
TOTAL EFFECTIVE LENGTH	226	195	196	245	222	249	259	211	191	179	127	162	154	174	157	107	115	123
ADJUSTED PRESSURE	0.08	0.09	0.09	0.07	0.08	0.07	0.07	0.08	0.09	0.1	0.14	0.11	0.11	0.1	0.11	0.15	0.14	0.13
ROUND DUCT SIZE	5	5	4	6	6	6	4	4	6	5	4	4	4	4	5	6	6	6
HEATING VELOCITY (ft/min)	169	250	103	112	143	143	103	264	112	169	493	493	493	252	551	423	423	423
COOLING VELOCITY (ft/min)	485	352	46	331	352	352	34	149	331	485	447	447	447	46	338	102	102	102
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	A	A	B	C	C	C	C	C	C	A	B	A	A	C	C	B	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
1	MBR	0.94	23	1.65	66	0.17	46	180	226	0.08	5	169	485	3X10	A
2	ENS	1.35	34	1.20	48	0.17	45	150	195	0.09	5	250	352	3X10	A
3	WIC	0.37	9	0.09	4	0.17	36	160	196	0.09	4	103	46	3X10	B
4	BED-3	0.86	22	1.62	65	0.17	65	180	245	0.07	6	112	331	4X10	C
5	BED-2	1.13	28	1.74	69	0.17	62	160	222	0.08	6	143	352	4X10	C
6	BED-2	1.13	28	1.74	69	0.17	69	180	249	0.07	6	143	352	4X10	C
7	BATH	0.35	9	0.08	3	0.17	69	190	259	0.07	4	103	34	3X10	C
8	FLEX	0.91	23	0.34	13	0.17	41	170	211	0.08	4	264	149	3X10	C
9	BED-3	0.86	22	1.62	65	0.17	51	140	191	0.09	6	112	331	4X10	C
10	MBR	0.94	23	1.65	66	0.17	39	140	179	0.1	5	169	485	3X10	A
14	K/L/B	1.72	43	0.97	39	0.17	17	110	127	0.14	4	493	447	3X10	B
15	K/L/B	1.72	43	0.97	39	0.17	32	130	162	0.11	4	493	447	3X10	A
16	K/L/B	1.72	43	0.97	39	0.17	24	130	154	0.11	4	493	447	3X10	A
18	W/R	0.87	22	0.10	4	0.17	34	140	174	0.1	4	252	46	3X10	C
19	FOY	2.98	75	1.14	46	0.17	47	110	157	0.11	5	551	338	3X10	C
21	BAS	3.33	83	0.51	20	0.16	27	80	107	0.15	6	423	102	4X10	B
22	BAS	3.33	83	0.51	20	0.16	25	90	115	0.14	6	423	102	4X10	B
23	BAS	3.33	83	0.51	20	0.16	13	110	123	0.13	6	423	102	4X10	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	166	0.08	7.2	8	x	374		TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	384	0.08	9.8	12	x	576		TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	312	0.07	9.4	12	x	468		TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	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	0.05	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	0.05	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	0.05	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	695	0.05	13.8	22	x	8	569	
															TRUNK Y	495	0.05	12.1	18	x	8	495	
															TRUNK Z	235	0.05	9.2	10	x	8	423	
															DROP	695	0.05	13.8	24	x	10	417	

RETURN AIR #	1	2	3	4	5											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	95	75	75	85	260	0	0	0	0	0	0	0	0	0	0	105
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.	44	41	26	27	36	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	100	270	265	225	185	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	144	311	291	252	221	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.10	0.05	0.05	0.06	0.07	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	5.5	6	6	6	8.8	0	0	0	0	0	0	0	0	0	0	5.7
INLET GRILL SIZE	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
INLET GRILL SIZE	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	14

TYPE: CHERRY 2
SITE NAME: BARLASSINA

LO # 98650

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	4	@ 10.6 cfm	42.4	cfm
Other Rooms	2	@ 10.6 cfm	21.2	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		79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	137.8	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	58.3	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	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
W/R	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 ☒ 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: *Michael O'Rourke*

HRAI # 001820

Date: August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98650	Model: CHERRY 2	Builder: GREENPARK HOMES	Date: 2022-08-24																																																									
Volume Calculation			Air Change & Delta T Data																																																									
House Volume <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>812</td><td>9</td><td>7308</td></tr> <tr><td>First</td><td>812</td><td>10</td><td>8120</td></tr> <tr><td>Second</td><td>1218</td><td>9</td><td>10962</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>26,390.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>747.3 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	812	9	7308	First	812	10	8120	Second	1218	9	10962	Third	0	9	0	Fourth	0	9	0	Total:			26,390.0 ft³	Total:			747.3 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%; text-align: center;">0.319</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">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 style="text-align: center;">22</td> <td style="text-align: center;">-18</td> <td style="text-align: center;">40</td> <td style="text-align: center;">72</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">29</td> <td style="text-align: center;">5</td> <td style="text-align: center;">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
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	812	9	7308																																																									
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	Tin °C	Tout °C	ΔT °C	ΔT °F																																																								
Winter DTDh	22	-18	40	72																																																								
Summer DTDc	24	29	5	9																																																								
5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.319 x 207.58 x 40 °C x 1.2 = 3200 W = 10919 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.085 x 207.58 x 5 °C x 1.2 = 108 W = 367 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 72 °F x 1.08 x 0.25 = 1554 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 9 °F x 1.08 x 0.25 = 197 Btu/h																																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HLclevel)</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5" style="text-align: center; vertical-align: middle;">10,919</td><td style="text-align: center;">4,540</td><td style="text-align: center;">1.203</td></tr> <tr><td>2</td><td>0.3</td><td style="text-align: center;">5,725</td><td style="text-align: center;">0.572</td></tr> <tr><td>3</td><td>0.2</td><td style="text-align: center;">5,841</td><td style="text-align: center;">0.374</td></tr> <tr><td>4</td><td>0</td><td style="text-align: center;">0</td><td style="text-align: center;">0.000</td></tr> <tr><td>5</td><td>0</td><td style="text-align: center;">0</td><td style="text-align: center;">0.000</td></tr> </tbody> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0					Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HLclevel)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	10,919	4,540	1.203	2	0.3	5,725	0.572	3	0.2	5,841	0.374	4	0	0	0.000	5	0	0	0.000																														
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CODE AND ANY OTHER REFERENCED REQUIREMENTS.

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: CHERRY 2
SFQT: 2030

LO# 98650

BUILDER: GREENPARK HOMES
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):	26390.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.70	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 62.0 ft	WIDTH: 17.0 ft	EXPOSED PERIMETER:	100.0 ft

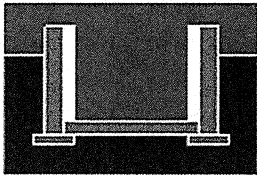
2012 OBC - COMPLIANCE PACKAGE

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

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):	18.9	 Insulation Configuration
Floor Width (m):	5.2	
Exposed Perimeter (m):	30.5	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.4	
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):		893

TYPE: CHERRY 2

LO# 98650

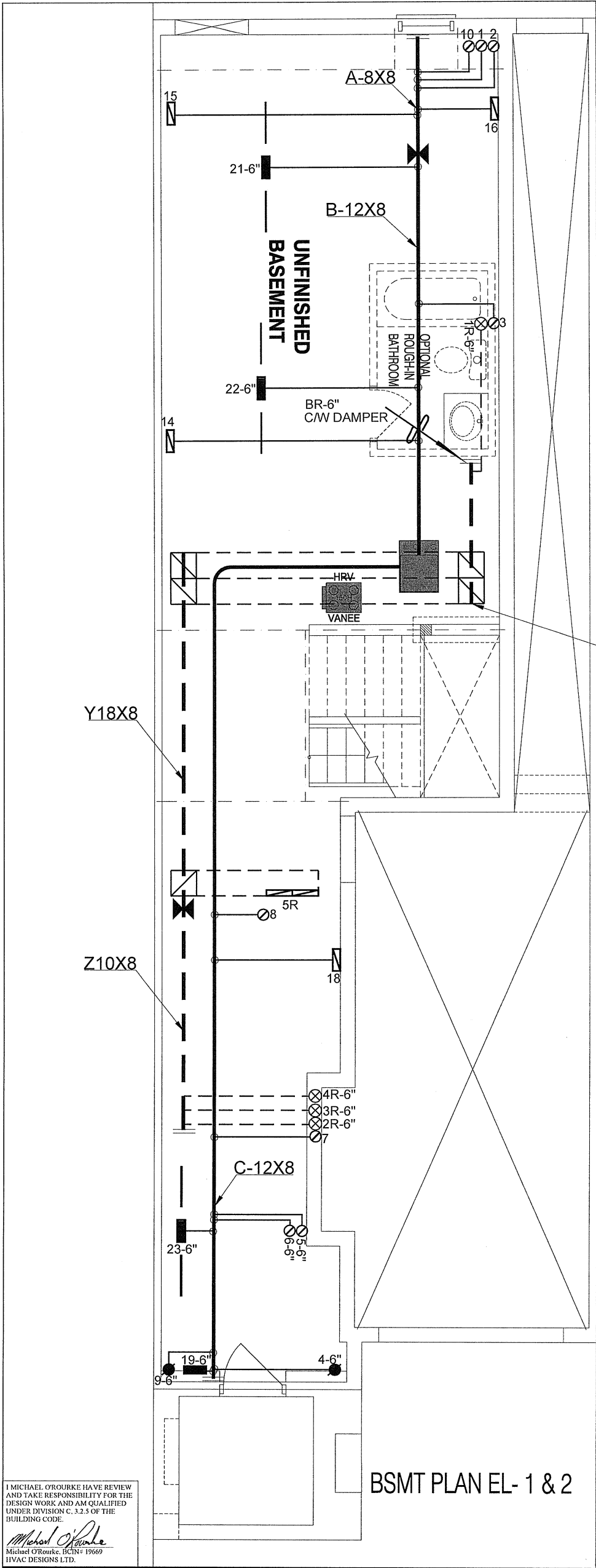
Air Infiltration Residential Load Calculator

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 ³):	747.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	996.1 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):	0.319			
Cooling Air Leakage Rate (ACH/H):	0.085			

TYPE: CHERRY 2
LO# 98650

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I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE.

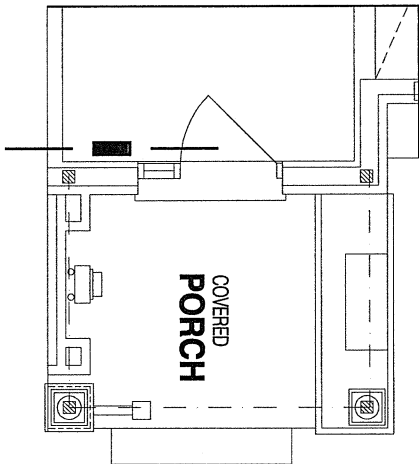
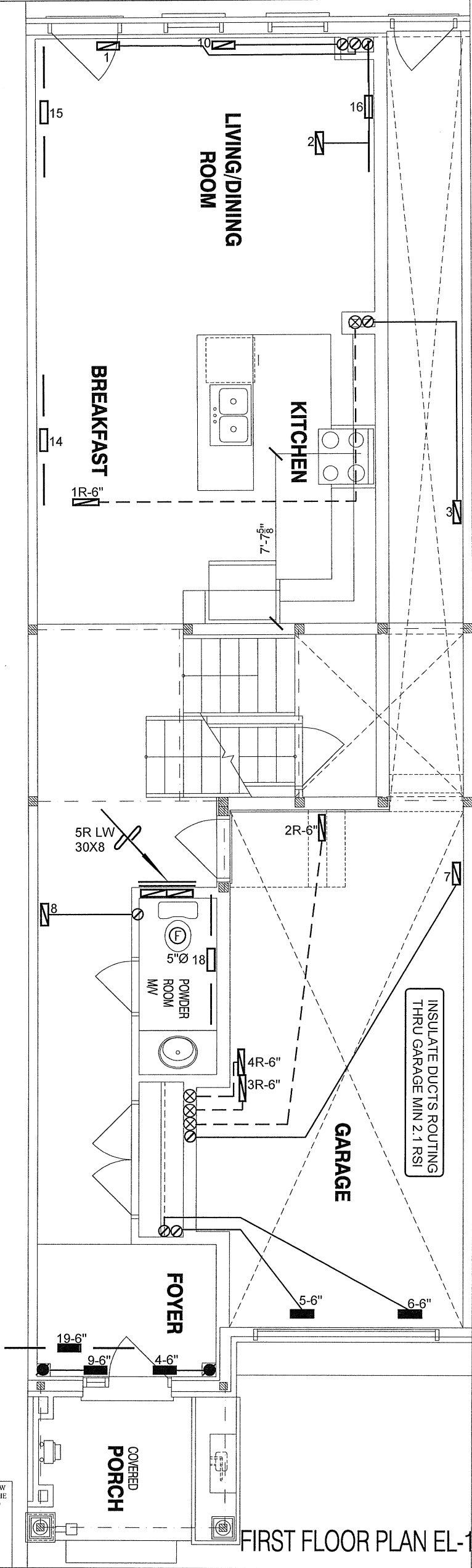
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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		 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 29381 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES						UNIT DATA		3RD FLOOR			BASEMENT	
						MAKE		2ND FLOOR			HEATING	
						GOODMAN		9 4 3			LAYOUT	
						MODEL		1ST FLOOR			Date	
						GMEC960402BNA		5 1 2			AUG/2022	
Project Name						INPUT		BASEMENT			Scale	
BARLASSINA						40 MBTU/H		3 1 0			3/16" = 1'-0"	
CAMBRIDGE, ONTARIO						OUTPUT		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			BCIN# 19669	
Block 120 Units 13 to 18						38.4 MBTU/H					LO#	
CHERRY 2						COOLING					98650	
2030 sqft						1.5 TONS						
						FAN SPEED						
						695 cfm @ 0.6" w.c.						

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FIRST FLOOR PLAN EL-2

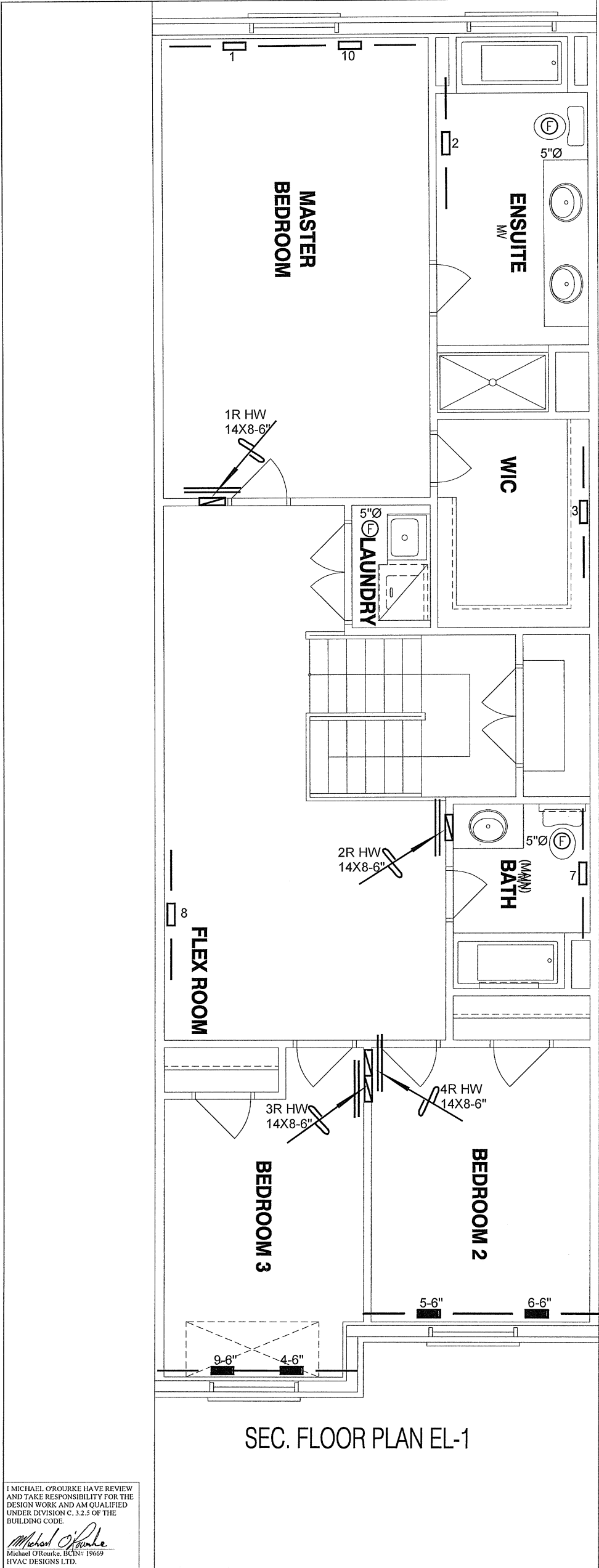
FIRST FLOOR PLAN EL-1

CSA-F280-12
PACKAGE A1

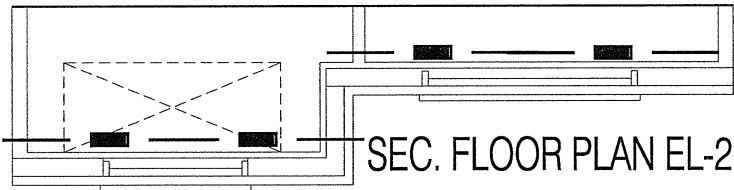
HVAC LEGEND								3.		
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	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 120 Units 13 to 18			BCIN# 19669	
CHERRY 2	2030 sqft	LO#	98650	



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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.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE A1

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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 120 Units 13 to 18			BCIN# 19669	
CHERRY 2	2030 sqft		LO#	98650