

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.

Garden 4 - Elevation 3

SITE NAME: BARLASSINA		TYPE: GARDEN 4		GFA: 2615		DATE: Aug-22		WINTER NATURAL AIR CHANGE RATE 0.307		HEAT LOSS ΔT °F. 72		CSA-F280-12	
BUILDER: GREENPARK HOMES						LO# 98642		SUMMER NATURAL AIR CHANGE RATE 0.084		HEAT GAIN ΔT °F. 9		SB-12 PACKAGE A1	
ROOM USE		MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-3			BATH		
EXP. WALL		33	23	8	30	34	18	10			16		
CLG. HT.		9	9	9	9	9	9	9			9		
FACTORS													
GRS.WALL AREA	LOSS GAIN	297	207	72	270	306	162	90			144		
GLAZING	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	0 0 0	0 0 0	0 0 0	27 547 1095	42 851 1703	0 0 0	0 0 0			0 0 0		
SOUTH	20.3 23.9	0 0 0	9 182 215	0 0 0	0 0 0	0 0 0	24 487 573	15 304 358			0 0 0		
WEST	20.3 40.5	20 405 811	9 182 365	0 0 0	0 0 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 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 0		
NET EXPOSED WALL	4.3 0.5	277 1178 150	189 803 102	72 306 39	243 1033 131	264 1122 143	138 587 75	75 319 41			144 612 78		
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 0		
EXPOSED CLG	1.2 0.5	260 318 137	142 174 75	104 127 55	228 279 120	267 326 141	231 282 122	75 92 40			144 176 76		
NO ATTIC EXPOSED CLG	2.6 1.1	0 0 0	0 0 0	0 0 0	14 37 16	18 47 20	0 0 0	0 0 0			0 0 0		
EXPOSED FLOOR	2.4 0.3	0 0 0	0 0 0	0 0 0	242 588 75	0 0 0	0 0 0	0 0 0			49 119 15		
BASEMENT/CRAWL HEAT LOSS		0	0	0	0	0	0	0			0		
SLAB ON GRADE HEAT LOSS		0	0	0	0	0	0	0			0		
SUBTOTAL HT LOSS		1901	1342	433	2484	2347	1356	715			907		
SUB TOTAL HT GAIN			1098	757	94	1437	2006	770			438		169
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		450	318	103	588	556	321	169			215		
AIR CHANGE HEAT GAIN		50	35	4	66	92	35	20			8		
DUCT LOSS		0	0	0	307	0	0	0			112		
DUCT GAIN		0	0	0	246	0	0	0			18		
HEAT GAIN PEOPLE	240	2	480	0	0	1	240	0			0		
HEAT GAIN APPLIANCES/LIGHTS			713	0	0	713	713	0			0		
TOTAL HT LOSS BTU/H		2351	1660	536	3379	2903	1677	884			1234		
TOTAL HT GAIN x 1.3 BTU/H			3044	1029	127	3512	3968	2286			252		

ROOM USE		LIV/D	K/B/F/D	LAUN	W/R	FOY					LOB	BAS
EXP. WALL		38	90	20	13	19					34	174
CLG. HT.		10	10	11	10	11					8	8
FACTORS												
GRS.WALL AREA	LOSS GAIN	380	900	220	130	209					272	870
GLAZING	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
EAST	20.3 40.5	0 0 0	0 0 0	0 0 0	9 182 365	30 608 1216					0 0 0	0 0 0
SOUTH	20.3 23.9	28 568 669	14 284 334	0 0 0	0 0 0	0 0 0					0 0 0	10 203 239
WEST	20.3 40.5	0 0 0	81 1642 3284	0 0 0	0 0 0	0 0 0					7 142 284	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
DOORS	19.1 2.4	0 0 0	0 0 0	21 401 51	0 0 0	18 344 44					0 0 0	21 401 51
NET EXPOSED WALL	4.3 0.5	352 1496 190	805 3422 435	199 846 108	121 514 65	161 684 87					265 1127 143	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	522 1789 227
EXPOSED CLG	1.2 0.5	0 0 0	0 0 0	0 0 0	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	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	0 0 0					0 0 0	0 0 0
BASEMENT/CRAWL HEAT LOSS		0	0	0	0	0					0	5594
SLAB ON GRADE HEAT LOSS		0	0	0	0	0					0	
SUBTOTAL HT LOSS		2064	5348	1247	697	1636					1269	7987
SUB TOTAL HT GAIN			859	4053	158	430					427	517
LEVEL FACTOR / MULTIPLIER	0.30 0.37		0.30 0.37	0.30 0.37	0.30 0.37	0.30 0.37					0.50 0.73	
AIR CHANGE HEAT LOSS		766	1985	463	259	607						6799
AIR CHANGE HEAT GAIN		40	186	7	20	62						43
DUCT LOSS		0	0	0	0	0						0
DUCT GAIN		0	0	0	0	0						0
HEAT GAIN PEOPLE	240	0	0	0	0	0					0	0
HEAT GAIN APPLIANCES/LIGHTS			713	713	713	0					0	713
TOTAL HT LOSS BTU/H		2830	7333	1710	955	2244					1269	14786
TOTAL HT GAIN x 1.3 BTU/H			2095	6439	1143	585					555	1656

TOTAL HEAT GAIN BTU/H:

29317

TONS: 2.44

LOSS DUE TO VENTILATION LOAD BTU/H: 1554

STRUCTURAL HEAT LOSS: 45750

TOTAL COMBINED HEAT LOSS BTU/H: 47304



SITE NAME: BARLASSINA

BUILDER: GREENPARK HOMES

TYPE: GARDEN 4

DATE: Aug-22

GFA: 2615

LO# 98642

HEATING CFM 928 COOLING CFM 928
TOTAL HEAT LOSS 45,750 TOTAL HEAT GAIN 29,119
AIR FLOW RATE CFM 20.28 AIR FLOW RATE CFM 31.87

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	11	7	4
R/A	0	0	5	1	1

plenium 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

MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131

DESIGN CFM = **928**
CFM @ .6" E.S.P.

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	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-3	BED-2	BED-3	MBR	BATH	LIV/D	K/B/F/D	K/B/F/D	K/B/F/D	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.18	1.66	0.54	1.69	1.45	1.68	0.88	1.69	1.45	1.18	1.23	2.83	2.44	2.44	2.44	1.71	0.96	2.24	4.01	4.01	4.01	4.01
CFM PER RUN HEAT	24	34	11	34	29	34	18	34	29	24	25	57	50	50	50	35	19	46	81	81	81	81
RM GAIN MBH.	1.52	1.03	0.13	1.76	1.98	2.29	0.60	1.76	1.98	1.52	0.25	2.10	2.15	2.15	2.15	1.14	0.59	1.83	0.55	0.55	0.55	0.55
CFM PER RUN COOLING	49	33	4	56	63	73	19	56	63	49	8	67	68	68	68	36	19	58	18	18	18	18
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	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	61	43	21	62	65	33	71	67	70	44	37	41	37	36	20	29	57	48	20	31	17	40
EQUIVALENT LENGTH	160	200	120	180	150	200	210	180	140	160	180	110	130	120	170	140	140	120	140	130	130	100
TOTAL EFFECTIVE LENGTH	221	243	141	242	215	233	281	247	210	204	217	151	167	156	190	169	197	168	160	161	147	140
ADJUSTED PRESSURE	0.08	0.07	0.12	0.07	0.08	0.07	0.06	0.07	0.08	0.08	0.08	0.11	0.1	0.11	0.09	0.1	0.09	0.1	0.1	0.1	0.11	0.12
ROUND DUCT SIZE	5	4	4	5	5	6	4	5	5	5	4	5	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	176	390	126	250	213	173	207	250	213	176	287	419	367	367	367	402	218	338	595	595	595	595
COOLING VELOCITY (ft/min)	360	379	46	411	463	372	218	411	463	360	92	492	499	499	499	413	218	426	132	132	132	132
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	D	A	A	C	A	A	A	C	B	B	C	C	C	B	A	A	C	C	B	B

RUN #	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-3	BED-2	BED-3	MBR	BATH	LIV/D	K/B/F/D	K/B/F/D	K/B/F/D	LAUN	W/R	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.18	1.66	0.54	1.69	1.45	1.68	0.88	1.69	1.45	1.18	1.23	2.83	2.44	2.44	2.44	1.71	0.96	2.24	4.01	4.01	4.01	4.01
CFM PER RUN HEAT	24	34	11	34	29	34	18	34	29	24	25	57	50	50	50	35	19	46	81	81	81	81
RM GAIN MBH.	1.52	1.03	0.13	1.76	1.98	2.29	0.60	1.76	1.98	1.52	0.25	2.10	2.15	2.15	2.15	1.14	0.59	1.83	0.55	0.55	0.55	0.55
CFM PER RUN COOLING	49	33	4	56	63	73	19	56	63	49	8	67	68	68	68	36	19	58	18	18	18	18
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	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	61	43	21	62	65	33	71	67	70	44	37	41	37	36	20	29	57	48	20	31	17	40
EQUIVALENT LENGTH	160	200	120	180	150	200	210	180	140	160	180	110	130	120	170	140	140	120	140	130	130	100
TOTAL EFFECTIVE LENGTH	221	243	141	242	215	233	281	247	210	204	217	151	167	156	190	169	197	168	160	161	147	140
ADJUSTED PRESSURE	0.08	0.07	0.12	0.07	0.08	0.07	0.06	0.07	0.08	0.08	0.08	0.11	0.1	0.11	0.09	0.1	0.09	0.1	0.1	0.1	0.11	0.12
ROUND DUCT SIZE	5	4	4	5	5	6	4	5	5	5	4	5	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	176	390	126	250	213	173	207	250	213	176	287	419	367	367	367	402	218	338	595	595	595	595
COOLING VELOCITY (ft/min)	360	379	46	411	463	372	218	411	463	360	92	492	499	499	499	413	218	426	132	132	132	132
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	D	A	A	C	A	A	A	C	B	B	C	C	C	B	A	A	C	C	B	B

SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY
	CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)
TRUNK A	209	0.06	8.4	10	x	8	376	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	488	0.06	11.5	16	x	8	549	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	428	0.07	10.6	14	x	8	550	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	927	0.06	14.6	26	x	8	642	TRUNK J	0	0.00	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 F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT		VELOCITY	
	CFM	PRESS.	DUCT	DUCT		(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	928	0.05	15.3	28	x	8	597
TRUNK Y	475	0.05	11.9	16	x	8	534
TRUNK Z	0	0.05	0	0	x	8	0
DROP	928	0.05	15.3	24	x	10	557

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16	17	18	19	21	22	23	24
AIR VOLUME	115	75	75	85	95	325	0	0	0	0	0	0	0	0	0	0	0	0	158	158	158	158
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	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	40	73	72	43	38	36	1	1	1	1	1	1	1	1	1	1	1	1	14	14	14	14
EQUIVALENT LENGTH	245	225	255	215	185	250	0	0	0	0	0	0	0	0	0	0	0	0	135	135	135	135
TOTAL EFFECTIVE LH	285	298	327	258	223	286	1	1	1	1	1	1	1	1	1	1	1	1	149	149	149	149
ADJUSTED PRESSURE	0.05	0.05	0.05	0.06	0.07	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10	0.10	0.10	0.10
ROUND DUCT SIZE	7	6	6	6	6	10.4	0	0	0	0	0	0	0	0	0	0	0	0	6.6	6.6	6.6	6.6
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	8	8	8	8
INLET GRILL SIZE	X	X	X	X	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	0	0	0	0	0	0	0	0	0	0	0	0	14	14	14	14

TYPE: GARDEN 4
SITE NAME: BARLASSINA

LO # 98642

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>180.2</u> 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	<u>180.2</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>100.7</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>79.5</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	X 72 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	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		
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	August-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 98642	Model: GARDEN 4	Builder: GREENPARK HOMES	Date: 8/25/2022																																																									
Volume Calculation			Air Change & Delta T Data																																																									
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.307 x 269.29 x 40 °C x 1.2 = 3985 W = 13597 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.084 x 269.29 x 5 °C x 1.2 = 138 W = 472 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)																																																												
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*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: GARDEN 4	BUILDER: GREENPARK HOMES
SFQT: 2615	SITE: BARLASSINA
LO# 98642	

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:	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):	34236.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	5.0 ft
LENGTH: 63.0 ft	WIDTH: 24.0 ft	EXPOSED PERIMETER:	174.0 ft

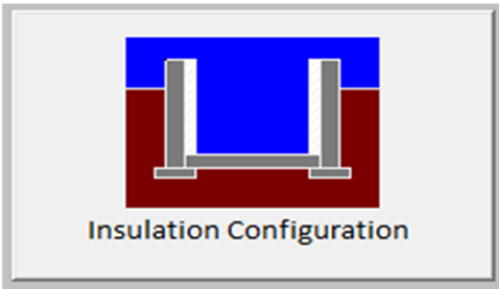
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement 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):	19.2	 Insulation Configuration
Floor Width (m):	7.3	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.4	
Depth Below Grade (m):	1.52	
Window Area (m ²):	1.6	
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):		1639

TYPE: GARDEN 4

LO# 98642

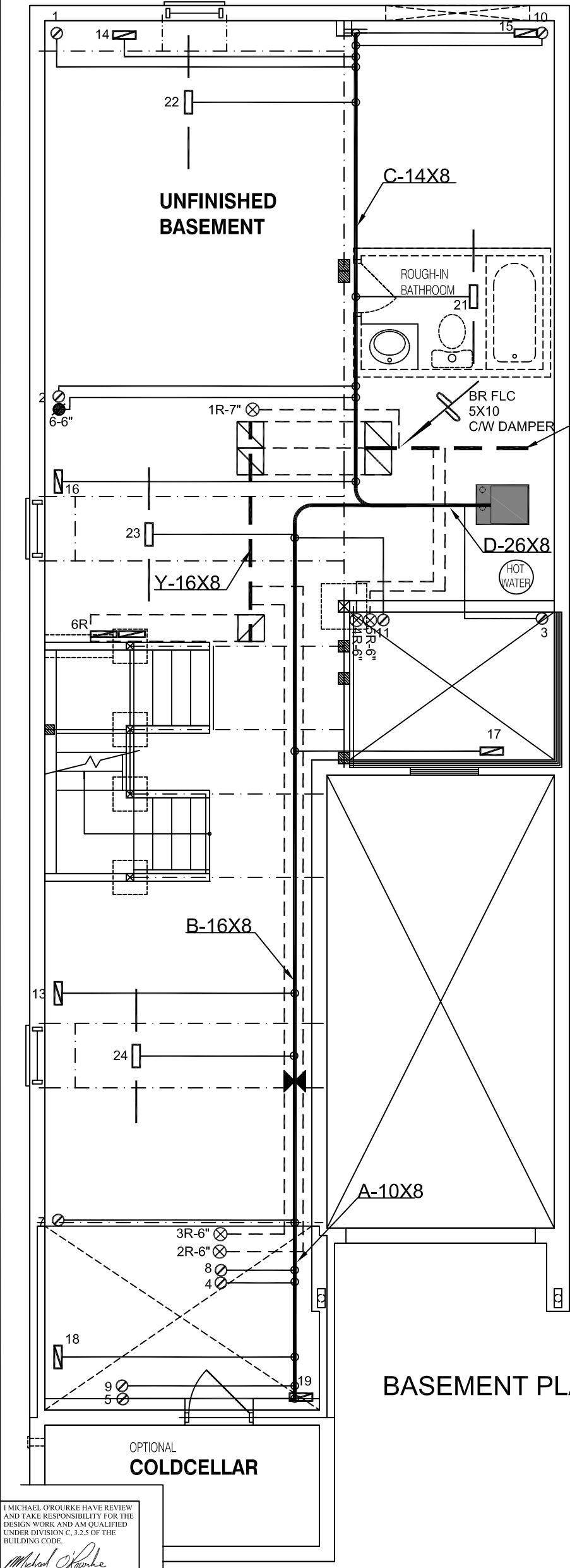
Air Infiltration Residential Load Calculator

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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	969.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1292.3 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):	0.307			
Cooling Air Leakage Rate (ACH/H):	0.084			

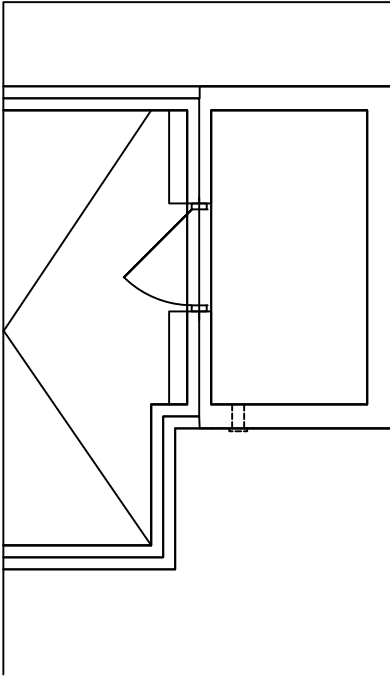
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LO# 98642

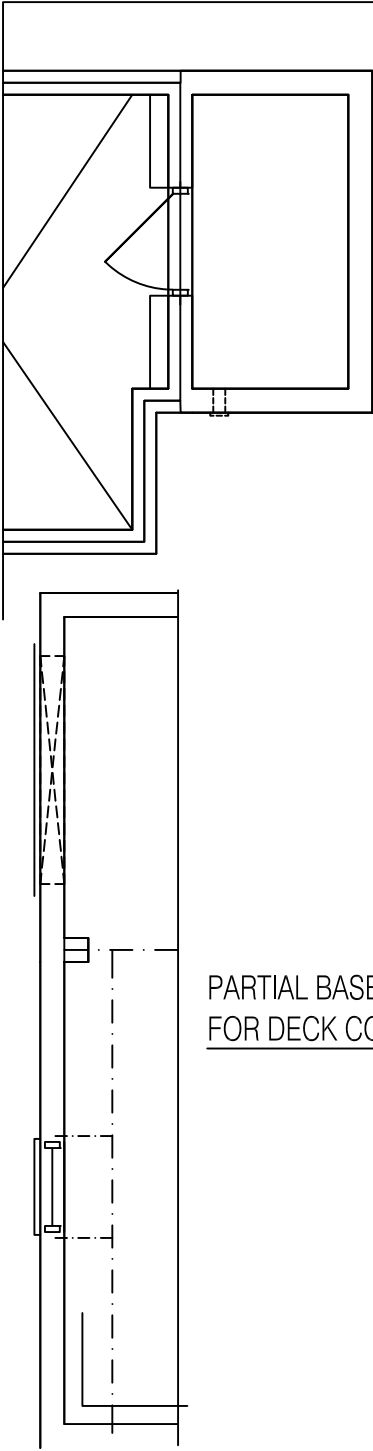


BASEMENT PLAN EL-1

BASEMENT PLAN EL-2



BASEMENT PLAN EL-3



PARTIAL BASEMENT LAYOUT
FOR DECK CONDITIONS

CSA-F280-12
PACKAGE A1

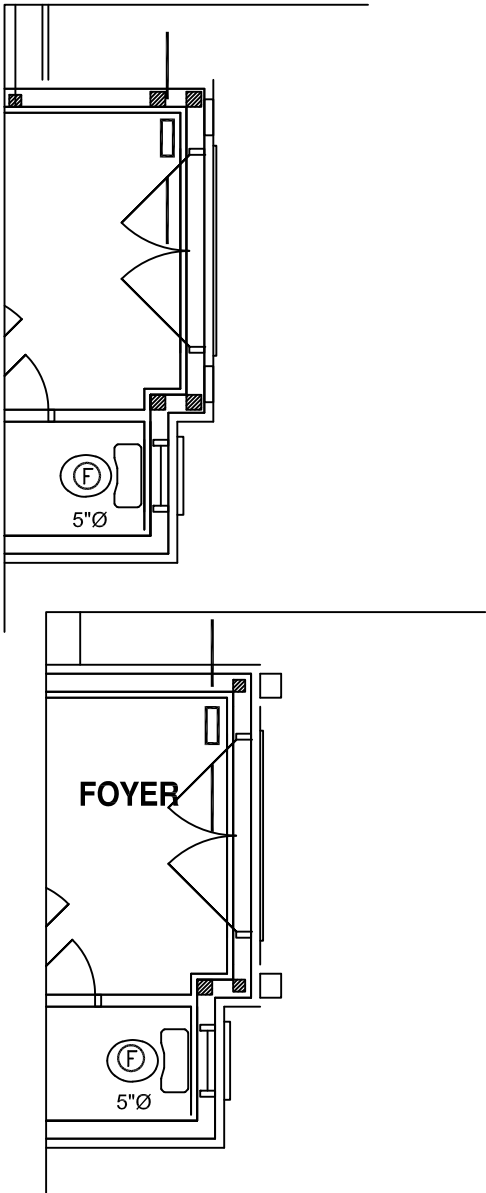
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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	

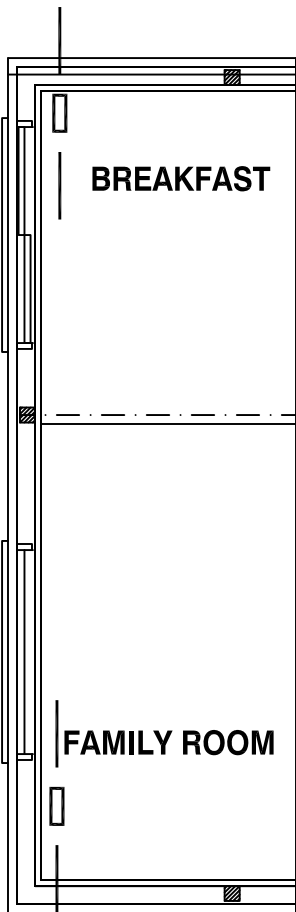
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Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services		HEAT LOSS 47304 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES				MAKE GOODMAN		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO				MODEL GMEC960603BNA		2ND FLOOR				
				INPUT 60 MBTU/H		1ST FLOOR				
Garden 4 - Elevation 3		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.		OUTPUT 57.6 MBTU/H		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			Date AUG/2022	
COOLING 2.5 TONS				Scale 3/16" = 1'-0"						
GARDEN 4 2615 sqft				FAN SPEED 928 cfm @ 0.6" w.c.					BCIN# 19669	

FIRST FLOOR PLAN EL-2

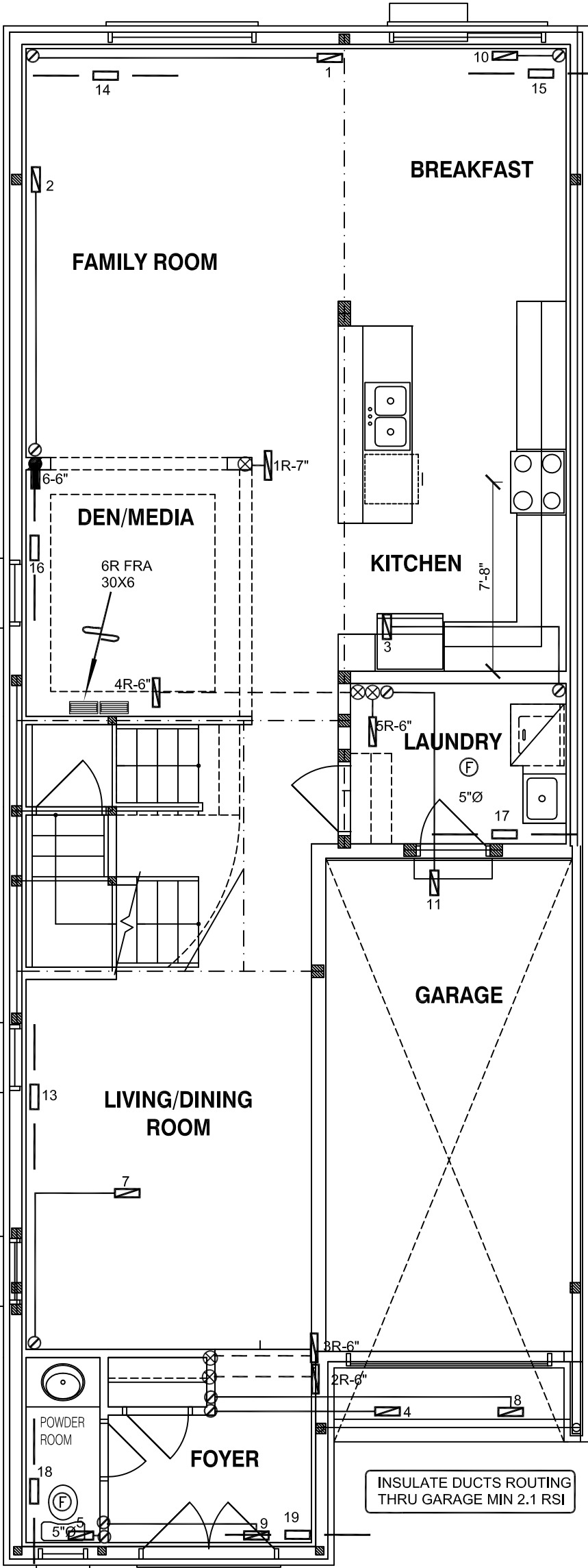


FIRST FLOOR PLAN EL-3



PARTIAL FIRST FLOOR LAYOUT
FOR DECK CONDITION EL-3

CSA-F280-12
PACKAGE A1



FIRST FLOOR PLAN EL-1

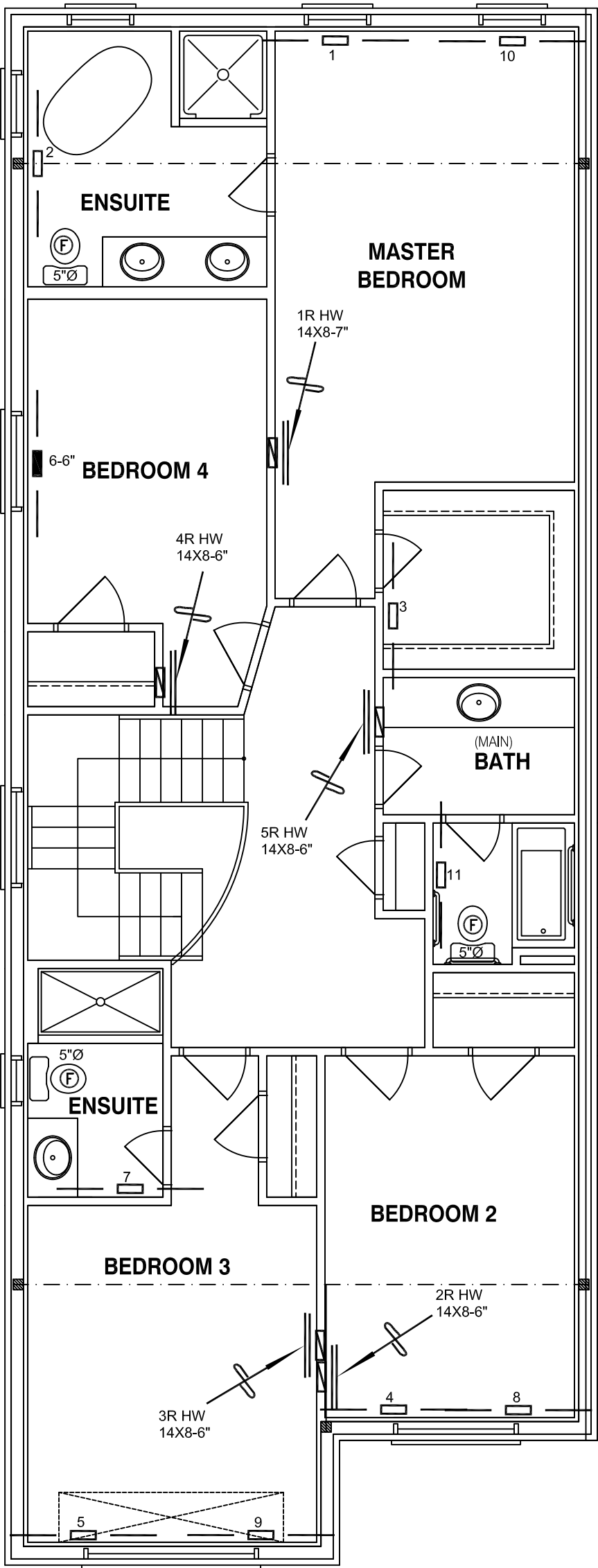
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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

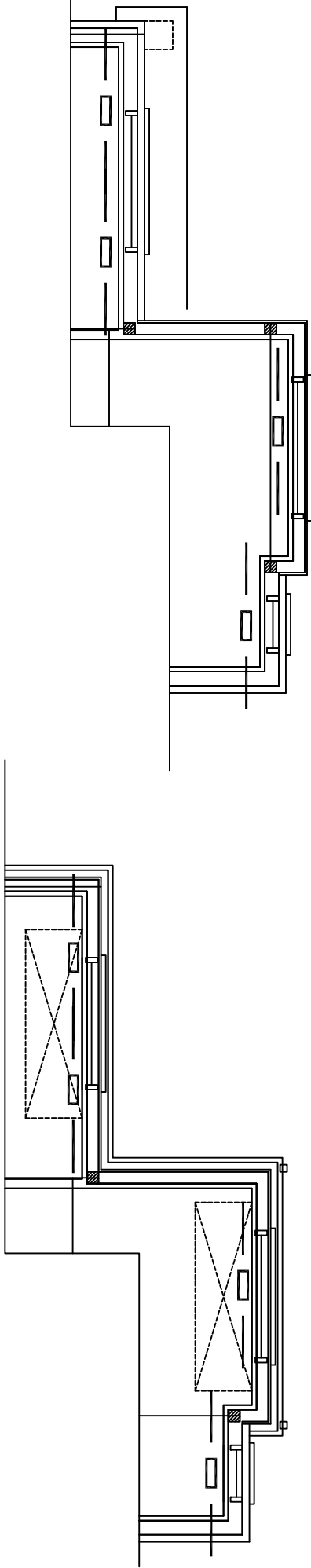
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Client GREENPARK HOMES		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply 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.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			Date AUG/2022	
Garden 4 - Elevation 3			Scale 3/16" = 1'-0"	
GARDEN 4			BCIN# 19669	
2615 sqft	LO# 98642			



SECOND FLOOR PLAN EL-1

SECOND FLOOR PLAN EL-2



SECOND FLOOR PLAN EL-3

I MICHAEL O'ROURKE HAVE REVIEW
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
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Project Name			Date	AUG/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Garden 4 - Elevation 3			BCIN# 19669	
GARDEN 4	2615 sqft		LO#	98642