

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.

Block 122 Units 55 to 60

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: WILLOW 2										GFA: 1795										LO# 98654										SUMMER NATURAL AIR CHANGE RATE 0.085										HEAT GAIN ΔT °F. 9										SB-12 PACKAGE A									
ROOM USE				MBR				ENS				WIC				BED-2				BED-3				MEDIA				BATH																																									
EXP. WALL				12				8				0				10				16				0				0																																									
CLG. HT.				9				9				9				9				9				9				9																																									
FACTORS																																																																					
GRS.WALL AREA		LOSS GAIN		108				72				0				90				144				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	0	0																																							
EAST		20.3	40.5	0	0	0		0	0	0		0	0	0		23	466	933		24	487	973		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																																							
WEST		20.3	40.5	27	547	1095		16	324	649		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																																							
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																																							
NET EXPOSED WALL		4.3	0.5	81	344	44		56	238	30		0	0	0		67	285	36		120	510	65		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	228	279	120		104	127	55		48	59	25		180	220	95		170	208	90		318	389	168		72	88	38																																							
NO ATTIC EXPOSED CLG		2.6	1.1	0	0	0		0	0	0		0	0	0		12	31	14		0	0	0		0	0	0		0	0	0																																							
EXPOSED FLOOR		2.4	0.3	50	121	15		65	158	20		30	73	9		180	437	56		42	102	13		73	177	23		30	73	9																																							
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				1292				847				132				1440				1307				566				161																																									
SUB TOTAL HT GAIN						1274				754				35				1133				1140				190				47																																							
LEVEL FACTOR / MULTIPLIER		0.20 0.33						0.20 0.33				0.20 0.33				0.20 0.33				0.20 0.33				0.20 0.33				0.20 0.33																																									
AIR CHANGE HEAT LOSS				429				281				44				478				434				188				53																																									
AIR CHANGE HEAT GAIN				79				47				2				70				70				12				3																																									
DUCT LOSS				172				113				18				192				174				75				21																																									
DUCT GAIN				229				80				4				190				191				66				5																																									
HEAT GAIN PEOPLE		240		2	480	0		0	0	0		1	240	1		240	1		240	1		240	0		0	0	0		0	0	0																																						
HEAT GAIN APPLIANCES/LIGHTS				459				0				0				459				459				459				0																																									
TOTAL HT LOSS BTU/H				1893				1242				193				2110				1914				829				236																																									
TOTAL HT GAIN x 1.3 BTU/H				3277				1145				52				2719				2731				944				72																																									

ROOM USE		FACTORS		K/L/D	LAUN	PWD	FOY	MUD								
EXP. WALL				42	0	11	26	17								
CLG. HT.				10	9	10	10	10								
GRS.WALL AREA	LOSS GAIN			420	0	110	260	170								
GLAZING		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								
EAST	20.3 40.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	14 284 568	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								
WEST	20.3 40.5	44 892 1784	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								
DOORS	19.1 2.4	10 191 24	0 0 0	0 0 0	0 0 0	0 0 0	11 210 27	20 382 49								
NET EXPOSED WALL	4.3 0.5	366 1556 198	0 0 0	0 0 0	0 0 0	110 468 59	235 999 127	150 638 81								
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	0 0 0	42 51 22	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	24 58 7	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								
SLAB ON GRADE HEAT LOSS		0	0	0	0	0	0	0								
SUBTOTAL HT LOSS		2639		110	468	1493	1020									
SUB TOTAL HT GAIN			2006	30	59	721	130									
LEVEL FACTOR / MULTIPLIER	0.30 0.52		0.30 0.52	0.30 0.52	0.30 0.52	0.30 0.52	0.30 0.52	0.30 0.52								
AIR CHANGE HEAT LOSS		1369		36	243	775	529									
AIR CHANGE HEAT GAIN		124		2	4	45	8									
DUCT LOSS		0		15	0	0	0									
DUCT GAIN		0		49	0	0	0									
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS		459		459	459	0	0	0								
TOTAL HT LOSS BTU/H		4008		161	710	2268	1549									
TOTAL HT GAIN x 1.3 BTU/H			3365	701	82	996	179									

TOTAL HEAT GAIN BTU/H:

17474

TONS: 1.46

LOSS DUE TO VENTILATION LOAD BTU/H: 1243

STRUCTURAL HEAT LOSS: 26205

TOTAL COMBINED HEAT LOSS BTU/H: 27449

Michael O'Rourke

SITE NAME: BARLASSINA

BUILDER: GREENPARK HOMES

TYPE: WILLOW 2

DATE: Aug-22

GFA: 1795

LO# 98654

HEATING CFM 614 COOLING CFM 614
TOTAL HEAT LOSS 26,205 TOTAL HEAT GAIN 17,316
AIR FLOW RATE CFM 23.43 AIR FLOW RATE CFM 35.46

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

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	5	3
R/A	0	0	4	1	1

plenium pressure s/a 0.18
max s/a dif press. loss 0.01
min adjusted pressure s/a 0.17

r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

FAN SPEED
LOW
MEDLOW
MEDIUM 614
MEDIUM HIGH
HIGH 895

DESIGN CFM = 614
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	14	15	17	18	19	20	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	MEDIA	BATH	BED-2	BED-3	MBR	K/L/D	K/L/D	LAUN	PWD	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH.	0.95	1.24	0.19	1.05	0.96	0.83	0.24	1.05	0.96	0.95	2.00	2.00	0.16	0.71	2.27	1.55	3.03	3.03	3.03
CFM PER RUN HEAT	22	29	5	25	22	19	6	25	22	22	47	47	4	17	53	36	71	71	71
RM GAIN MBH.	1.64	1.14	0.05	1.36	1.37	0.94	0.07	1.36	1.37	1.64	1.68	1.68	0.70	0.08	1.00	0.18	0.35	0.35	0.35
CFM PER RUN COOLING	58	41	2	48	48	33	3	48	48	58	60	60	25	3	35	6	12	12	12
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	0.17
ACTUAL DUCT LGH.	42	35	23	59	51	29	20	55	56	40	26	28	18	29	41	23	28	14	27
EQUIVALENT LENGTH	200	170	200	170	150	130	170	180	170	190	100	90	150	100	130	130	90	140	90
TOTAL EFFECTIVE LENGTH	242	205	223	229	201	159	190	235	226	230	126	118	168	129	171	153	118	154	117
ADJUSTED PRESSURE	0.07	0.08	0.08	0.08	0.09	0.11	0.09	0.07	0.08	0.07	0.14	0.15	0.1	0.13	0.1	0.11	0.15	0.11	0.15
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	5	5	4	4	5	4	5	5	5
HEATING VELOCITY (ft/min)	162	333	57	184	162	140	69	184	162	162	345	345	46	195	389	413	521	521	521
COOLING VELOCITY (ft/min)	426	470	23	352	352	242	34	352	352	426	441	441	287	34	257	69	88	88	88
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	A	A	B	B	A	A	C	C	C	B	B	A	B	C	C	B

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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	147	0.07	7.1	8	x 8	331	TRUNK G	0	0.00	0	0 x 8
TRUNK B	300	0.07	9.2	12	x 8	450	TRUNK H	0	0.00	0	0 x 8
TRUNK C	314	0.07	9.4	10	x 8	565	TRUNK I	0	0.00	0	0 x 8
TRUNK D	0	0.00	0	0	x 8	0	TRUNK J	0	0.00	0	0 x 8
TRUNK E	0	0.00	0	0	x 8	0	TRUNK K	0	0.00	0	0 x 8
TRUNK F	0	0.00	0	0	x 8	0	TRUNK L	0	0.00	0	0 x 8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x 8
TRUNK P	0	0.05	0	0	x 8
TRUNK Q	0	0.05	0	0	x 8
TRUNK R	0	0.05	0	0	x 8
TRUNK S	0	0.05	0	0	x 8
TRUNK T	0	0.05	0	0	x 8
TRUNK U	0	0.05	0	0	x 8
TRUNK V	0	0.05	0	0	x 8
TRUNK W	0	0.05	0	0	x 8
TRUNK X	614	0.05	13.1	20	x 8
TRUNK Y	205	0.05	8.7	10	x 8
TRUNK Z	0	0.05	0	0	x 8
DROP	614	0.05	13.1	24	x 10

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	14	15	17	18	19	20	21	22	23
AIR VOLUME	75	65	65	75	250	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
ACTUAL DUCT LGH.	44	63	62	62	11	1	1	1	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	215	230	225	185	175	0	0	0	0	0	0	0	0	0	0	0	0	0	220
TOTAL EFFECTIVE LH	259	293	287	247	186	1	1	1	1	1	1	1	1	1	1	1	1	1	234
ADJUSTED PRESSURE	0.06	0.05	0.05	0.06	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.06
ROUND DUCT SIZE	5.7	5.7	5.7	5.7	8.3	0	0	0	0	0	0	0	0	0	0	0	0	0	6
INLET GRILL SIZE	8	8	8	8	8	0	0	0	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	X
INLET GRILL SIZE	14	14	14	14	24	0	0	0	0	0	0	0	0	0	0	0	0	0	14

TYPE: WILLOW 2
SITE NAME: BARLASSINA

LO # 98654

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>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>159.0</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	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>159</u>	cfm
Less Principal Ventil. Capacity	<u>63.6</u>	cfm
Required Supplemental Capacity	<u>95.4</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
<u>63.6</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
63.6 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
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	
<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#: 98654	Model: WILLOW 2	Builder: GREENPARK HOMES	Date: 2022-08-30																																																									
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>733</td> <td>9</td> <td>6597</td> </tr> <tr> <td>First</td> <td>733</td> <td>10</td> <td>7330</td> </tr> <tr> <td>Second</td> <td>1062</td> <td>9</td> <td>9558</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>23,485.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>665.0 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	733	9	6597	First	733	10	7330	Second	1062	9	9558	Third	0	9	0	Fourth	0	9	0	Total:			23,485.0 ft³	Total:			665.0 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;"> <thead> <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> </thead> <tbody> <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> </tbody> </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	733	9	6597																																																									
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.319 x 184.73 x 40 °C x 1.2 = 2848 W = 9717 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.085 x 184.73 x 5 °C x 1.2 = 96 W = 327 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 72 °F x 1.08 x 0.25 = 1243 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 64 CFM x 9 °F x 1.08 x 0.25 = 158 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	9,717	4,235	1.147																																																								
2	0.3		5,619	0.519																																																								
3	0.2		5,854	0.332																																																								
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: WILLOW 2	BUILDER: GREENPARK HOMES
SFQT: 1795	SITE: BARLASSINA
LO# 98654	

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 (ft ³):	23485.0	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:	6.0 ft
LENGTH: 55.0 ft	WIDTH: 17.0 ft	EXPOSED PERIMETER:	93.0 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	-

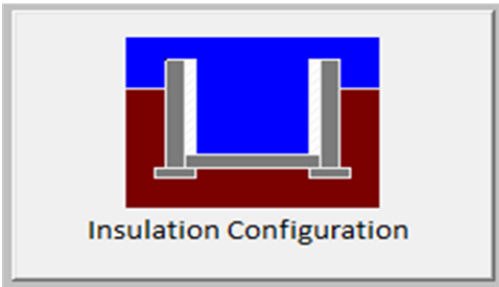
INDIVIDUAL BCIN: 19669

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):	16.8	 Insulation Configuration
Floor Width (m):	5.2	
Exposed Perimeter (m):	28.3	
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):		825

TYPE: WILLOW 2

LO# 98654

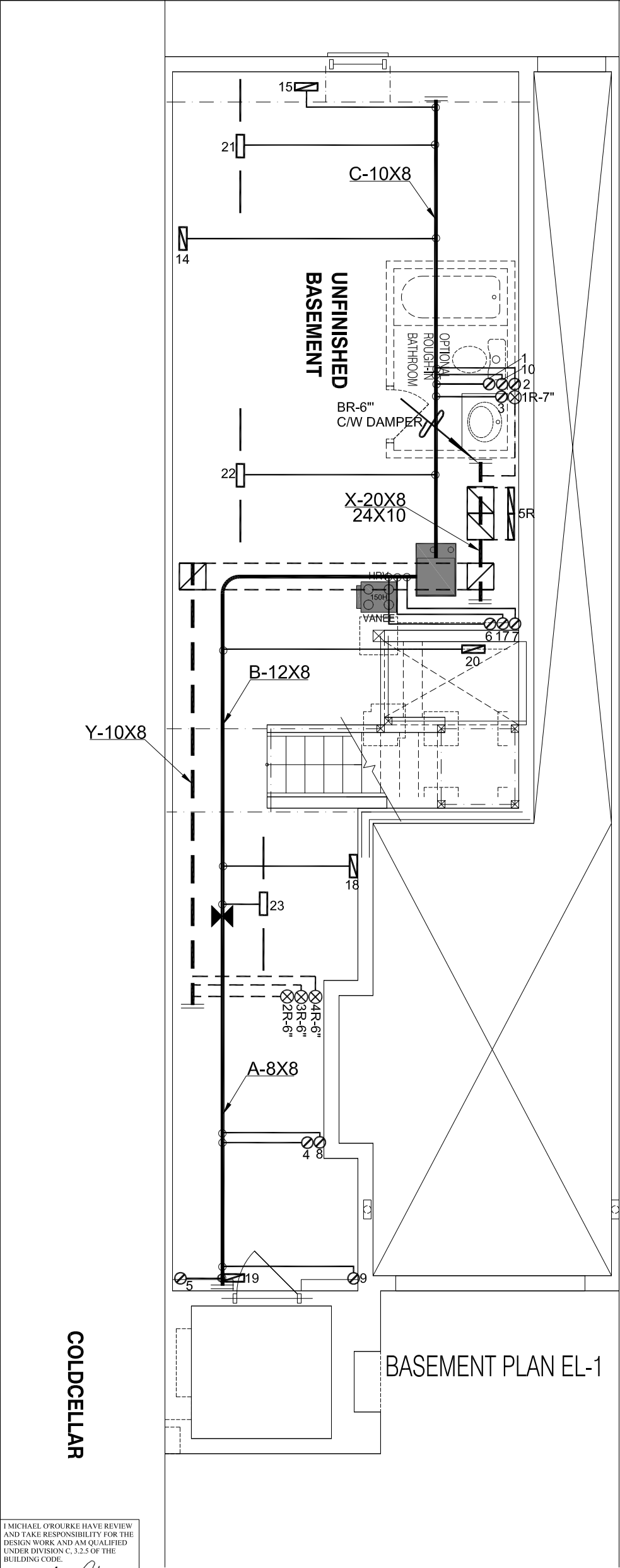
Air Infiltration Residential Load Calculator

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):	665.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	886.5 cm ²		
	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			

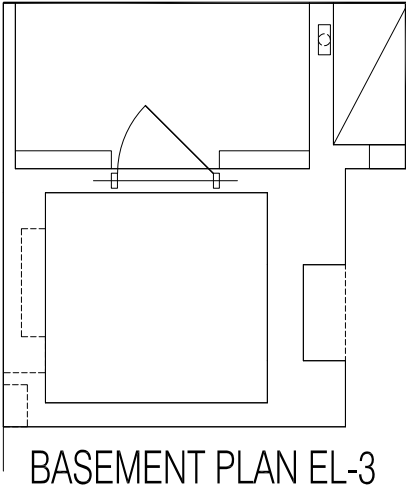
TYPE: WILLOW 2

LO# 98654

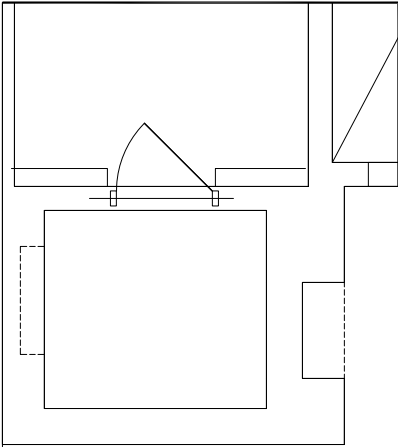


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COLDCELLAR



COLDCELLAR



BASEMENT PLAN EL-1

BASEMENT PLAN EL-2

BASEMENT PLAN EL-3

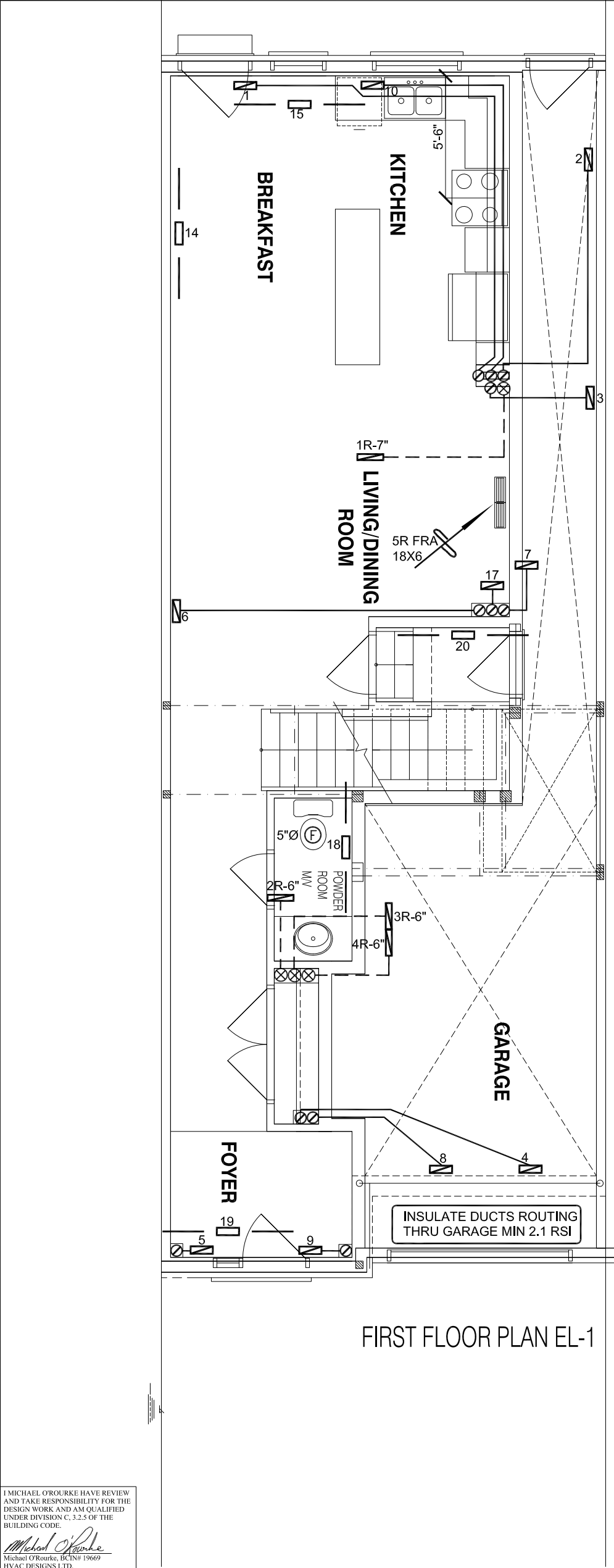
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

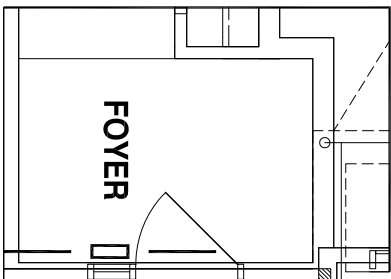
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 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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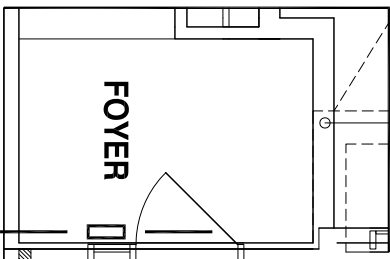
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 27449 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES			MAKE GOODMAN		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960302BNA		2ND FLOOR	11	4	3	
Block 122 Units 55 to 60			INPUT 30 MBTU/H		1ST FLOOR	5	1	2	Date /2022
WILLOW 2 1795 sqft			OUTPUT 28.8 MBTU/H		BASEMENT	3	1	0	Scale 3/16" = 1'-0"
		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					BCIN# 19669
		FAN SPEED 614 cfm @ 0.6" w.c.							LO# 98654



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FIRST FLOOR PLAN EL-3



FIRST FLOOR PLAN EL-2

FIRST FLOOR PLAN EL-1

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Michael O'Rourke, BCIN# 19669
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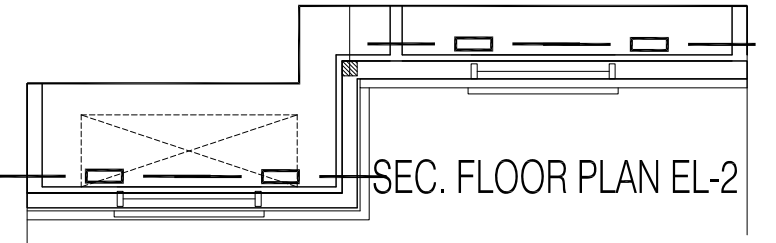
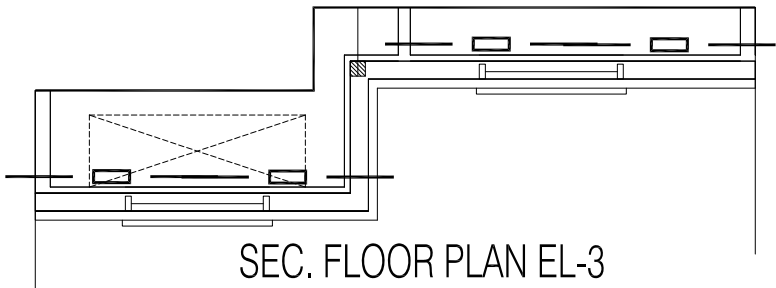
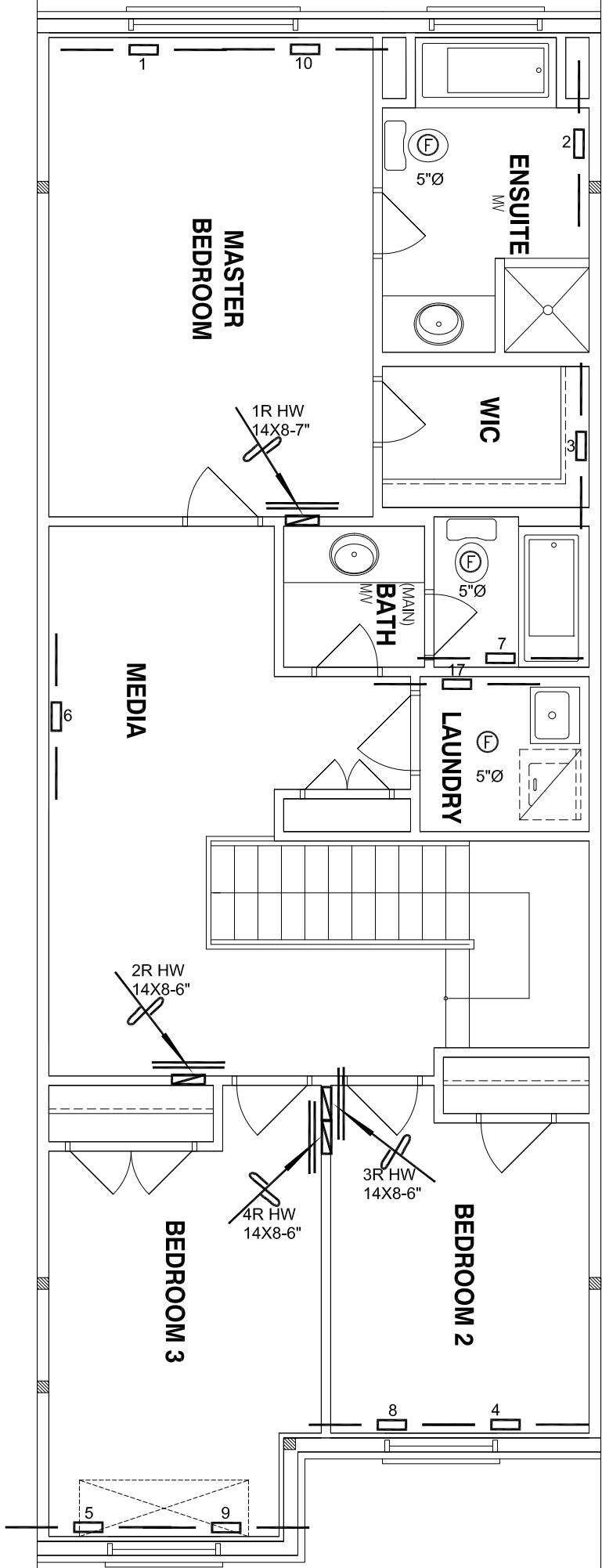
CSA-F280-12
PACKAGE A1

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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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 55 to 60			BCIN# 19669	
WILLOW 2	1795 sqft		LO#	98654

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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	/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 55 to 60			BCIN# 19669	
WILLOW 2	1795 sqft		LO#	98654