

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 37 to 42

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						
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	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	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	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	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	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	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	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	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	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												
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	0	1	240			1	240			0	0	0	0	0	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					K/L/D				LAUN		PWD		FOY		MUD										BAS			
EXP. WALL					42				0		11		26		17										93			
CLG. HT.					10				9		10		10		10										9			
FACTORS																												
GRS.WALL AREA	LOSS	GAIN			420				0		110		260		170										558			
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	0	0	0	0	
EAST	20.3	40.5	0	0	0	0	0	0	0	0	0	0	14	284	568	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	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	0	4	81	162	
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	0	
DOORS	19.1	2.4	10	191	24	0	0	0	0	0	0	0	11	210	27	20	382	49	20	382	49	20	382	49	20	382	49	
NET EXPOSED WALL	4.3	0.5	366	1556	198	0	0	0	110	468	59	235	999	127	150	638	81	0	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	279	956	122	
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	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	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	0	0	0	0	
BASEMENT/CRAWL HEAT LOSS			0		0		0		0		0		0		0		0		0		2815							
SLAB ON GRADE HEAT LOSS			0		0		0		0		0		0		0		0		0									
SUBTOTAL HT LOSS			2639		110		468		1493		721		1020		130						4235							
SUB TOTAL HT GAIN			2006		30		59		332		130										332							
LEVEL FACTOR / MULTIPLIER	0.30	0.52			0.20	0.33			0.30	0.52			0.30	0.52							0.50		1.15					
AIR CHANGE HEAT LOSS			1369		36		243		775		529		529		21						4859							
AIR CHANGE HEAT GAIN			124		2		4		45		8										0							
DUCT LOSS			0		15		0		0		0		0		0		0		0		0							
DUCT GAIN			0		49		0		0		0		0		0		0		0		0							
HEAT GAIN PEOPLE	240	0	0		0		0		0		0		0		0		0		0		0							
HEAT GAIN APPLIANCES/LIGHTS			459		459		0		0		0		0		0		0		0		459							
TOTAL HT LOSS BTU/H			4008		161		710		2268		1549										9094							
TOTAL HT GAIN x 1.3 BTU/H			3365		701		82		996		179										1055							

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

plenum 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.

TEMPERATURE RISE 43 °F

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

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

RUN #	1	2	3	4	5	6	7	8	9	10	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
1	MBR	0.95	22	1.64	58	0.17	42	200	242	0.07	5	162	426	3X10	C
2	ENS	1.24	29	1.14	41	0.17	35	170	205	0.08	4	333	470	3X10	C
3	WIC	0.19	5	0.05	2	0.17	23	200	223	0.08	4	57	23	3X10	C
4	BED-2	1.05	25	1.36	48	0.17	59	170	229	0.08	5	184	352	3X10	A
5	BED-3	0.96	22	1.37	48	0.17	51	150	201	0.09	5	162	352	3X10	A
6	MEDIA	0.83	19	0.94	33	0.17	29	130	159	0.11	5	140	242	3X10	B
7	BATH	0.24	6	0.07	3	0.17	20	170	190	0.09	4	69	34	3X10	B
8	BED-2	1.05	25	1.36	48	0.17	55	180	235	0.07	5	184	352	3X10	A
9	BED-3	0.96	22	1.37	58	0.17	56	170	226	0.08	5	162	352	3X10	A
10	MBR	0.95	22	1.64	58	0.17	40	190	230	0.07	5	162	426	3X10	C
14	K/L/D	2.00	47	1.68	60	0.17	26	100	126	0.14	5	345	441	3X10	C
15	K/L/D	2.00	47	1.68	60	0.17	28	90	118	0.15	5	345	441	3X10	C
17	LAUN	0.16	4	0.70	25	0.17	18	150	168	0.1	4	46	287	3X10	B
18	PWD	0.71	17	0.08	3	0.17	29	100	129	0.13	4	195	34	3X10	B
19	FOY	2.27	53	1.00	35	0.17	41	130	171	0.1	5	389	257	3X10	A
20	MUD	1.55	36	0.18	6	0.17	23	130	153	0.11	4	413	69	3X10	B
21	BAS	3.03	71	0.35	12	0.17	28	90	118	0.15	5	521	88	3X10	C
22	BAS	3.03	71	0.35	12	0.17	14	140	154	0.11	5	521	88	3X10	C
23	BAS	3.03	71	0.35	12	0.17	27	90	117	0.15	5	521	88	3X10	B

SUPPLY AIR TRUNK SIZE													RETURN AIR TRUNK SIZE							
TRUNK	STATIC	ROUND	RECT	VELOCITY			TRUNK	STATIC	ROUND	RECT	VELOCITY			TRUNK	STATIC	ROUND	RECT	VELOCITY		
CFM	PRESS.	DUCT	DUCT			(ft/min)	CFM	PRESS.	DUCT	DUCT			(ft/min)	CFM	PRESS.	DUCT	DUCT			(ft/min)
TRUNK A	147	0.07	7.1	8	x	8	331	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
TRUNK B	300	0.07	9.2	12	x	8	450	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
TRUNK C	314	0.07	9.4	10	x	8	565	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
TRUNK D	0	0.00	0	0	x	8	0	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
TRUNK E	0	0.00	0	0	x	8	0	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
TRUNK F	0	0.00	0	0	x	8	0	0	0.00	0	0	x	8	0	0	0.05	0	0	x	8
															</					

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	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	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	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	1	1	1	1	1
EQUIVALENT LENGTH	215	230	225	185	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	259	293	287	247	186	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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	14.80	14.80	14.80	14.80	14.80
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	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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	X
INLET GRILL SIZE	14	14	14	14	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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																																																									
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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 (ft³):	23485.0	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: 55.0 ft	WIDTH: 17.0 ft	EXPOSED PERIMETER:	93.0 ft

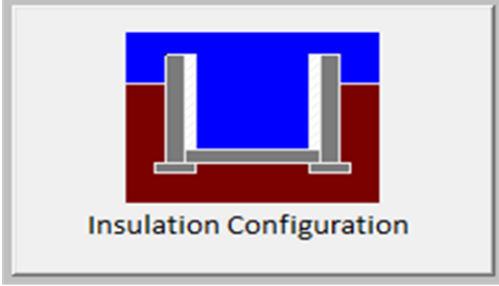
2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement 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):	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

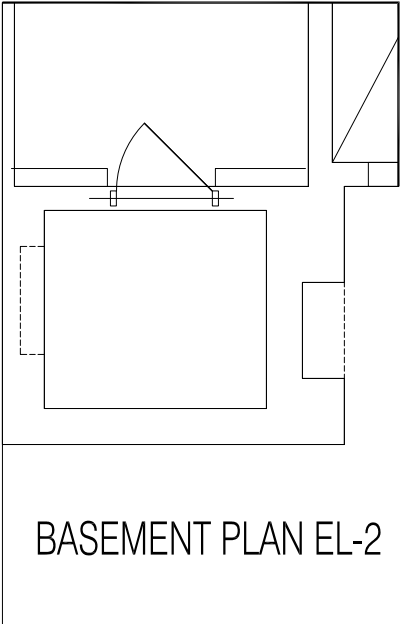
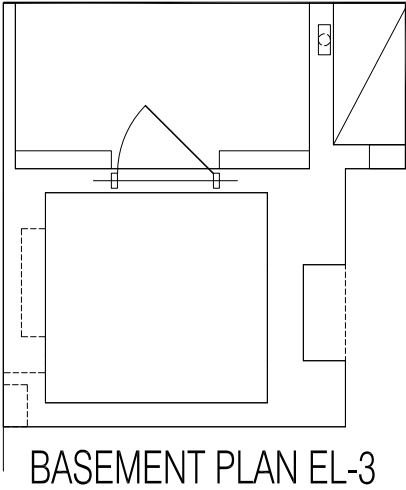
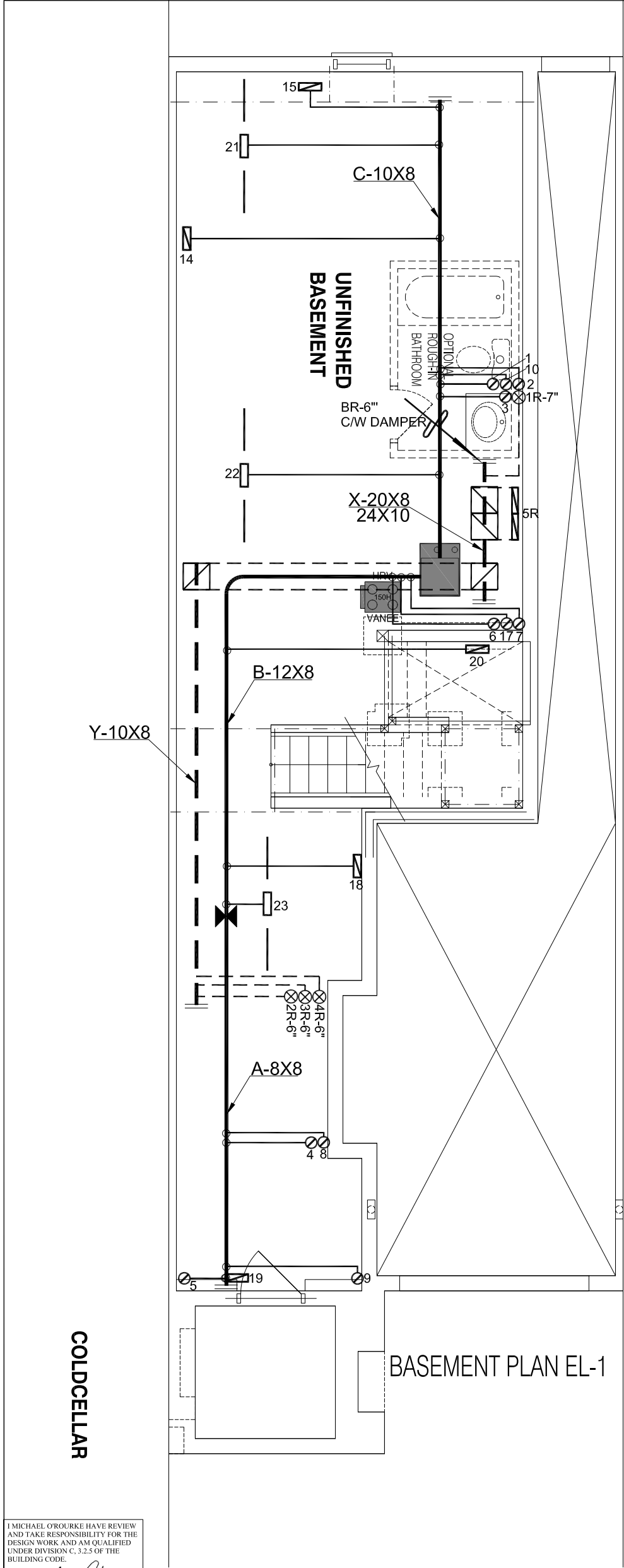
Supplemental tool for CAN/CSA-F280

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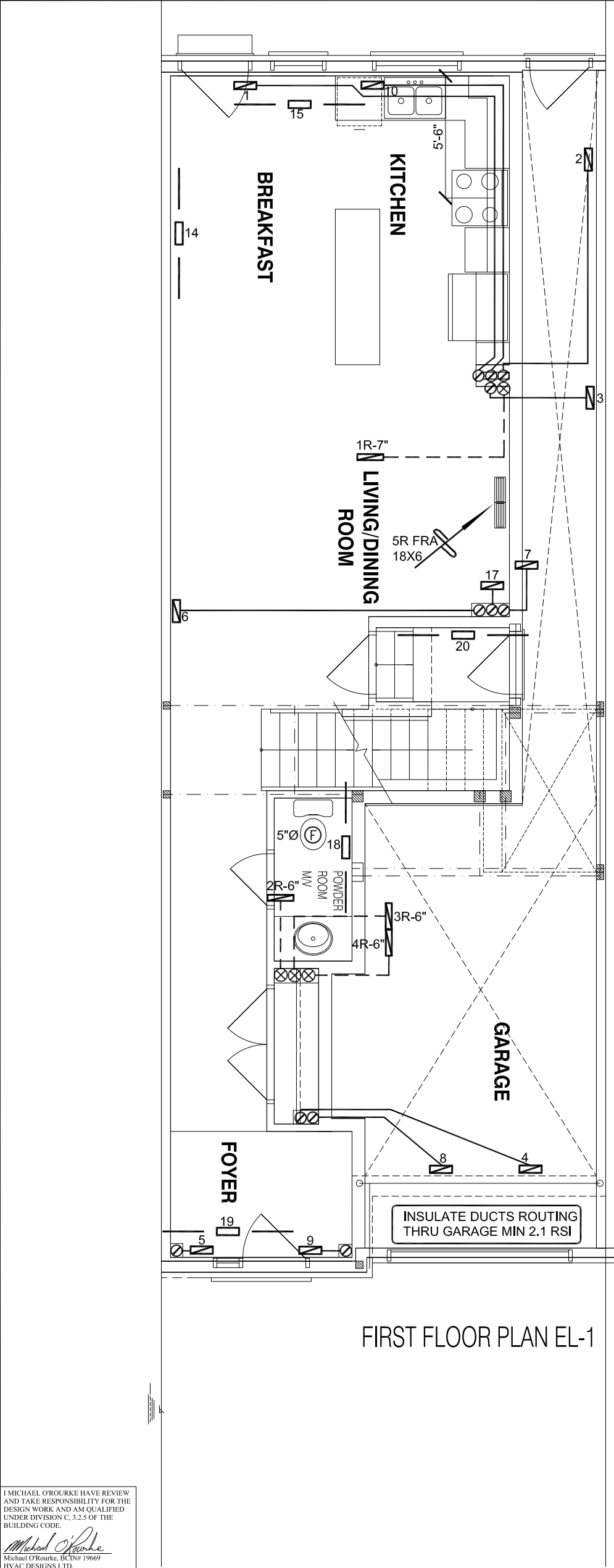
Michael O'Rourke, BCIN# 19669
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CSA-F280-12
PACKAGE A1

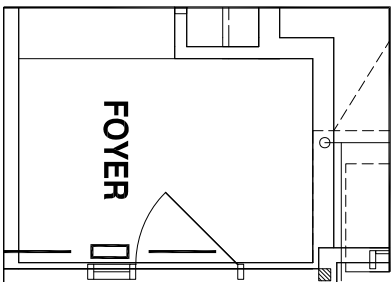
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 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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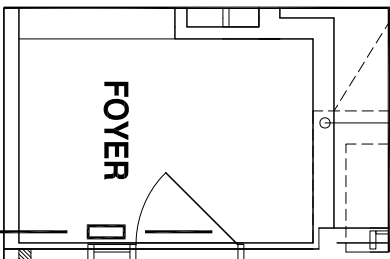
Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 27449 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GREENPARK HOMES			MAKE GOODMAN	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name BARLASSINA CAMBRIDGE, ONTARIO			MODEL GMEC960302BNA	2ND FLOOR	11	4	3		
Block 122 Units 37 to 42			INPUT 30 MBTU/H	1ST FLOOR	5	1	2		
WILLOW 2			OUTPUT 28.8 MBTU/H	BASEMENT	3	1	0	Date	/2022
1795 sqft		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				Scale	3/16" = 1'-0"	
		FAN SPEED 614 cfm @ 0.6" w.c.					BCIN# 19669		
							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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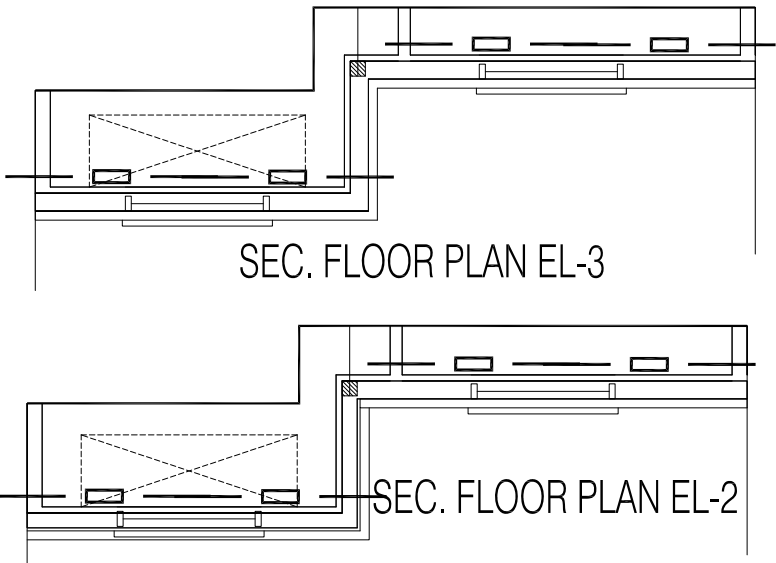
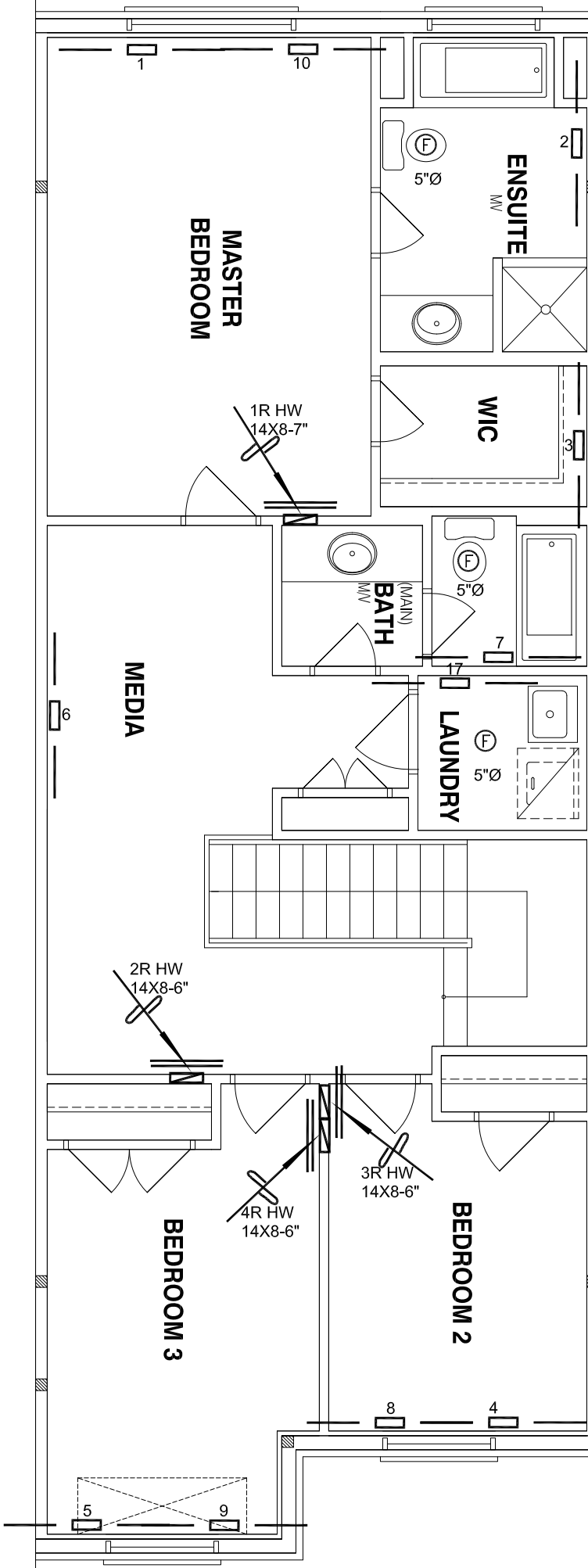
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GREENPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	/2022
BARLASSINA CAMBRIDGE, ONTARIO			Scale	3/16" = 1'-0"
Block 122 Units 37 to 42			BCIN# 19669	
WILLOW 2	1795 sqft		LO#	98654

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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 37 to 42			BCIN# 19669	
WILLOW 2	1795 sqft		LO#	98654