HVAC DESIGNS LTD.

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

Block 121 Units 7 to 12

SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES
TYPE: CHERRY 12
GFA: 2354
DATE: Aug-22
LO# 98652
WINTER NATURAL AIR CHANGE RATE 0.319
SUMMER NATURAL AIR CHANGE RATE 0.085
HEAT LOSS ΔT °F. 72
HEAT GAIN ΔT °F. 9
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE			MBR			ENS				BED-2			BED-3			BED-4			BATH					ENS-3					
EXP. WALL			13			21				11			37			14			9					11					
CLG. HT.			9			9				9			9			9			9					9					
	FACTORS																												
GRS.WALL AREA	LOSS	GAIN	117			189				99			333			126			81					99					
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		30	608	1216	25	507	1014	0	0	0	0	0	0			0	0	0			
SOUTH	20.3	23.9	0	0	0	12	243	287		0	0	0	24	487	573	12	243	287	12	243	287			24	487	573			
WEST	20.3	40.5	24	487	973	10	203	405		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	93	395	50	167	710	90		69	293	37	284	1207	153	114	485	62	69	293	37			75	319	41			
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	390	477	205	108	132	57		184	225	97	231	282	122	156	191	82	99	121	52			120	147	63			
NO ATTIC EXPOSED CLG	2.6	1.1	0	0	0	0	0	0		24	63	27	0	0	0	0	0	0	0	0	0			12	31	14			
EXPOSED FLOOR	2.4	0.3	0	0	0	0	0	0		184	447	57	60	146	19	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				1359			1288				1636			2629			919			658					984				
SUB TOTAL HT GAIN					1229			839				1434			1881			430			376					691			
LEVEL FACTOR / MULTIPLIER			0.20	0.27		0.20	0.27			0.20	0.27		0.20	0.27		0.20	0.27		0.20	0.27				0.20	0.27				
AIR CHANGE HEAT LOSS				371			351				446			717			251			179					268				
AIR CHANGE HEAT GAIN					51			35				60			79			18			16					29			
DUCT LOSS				0			0				208			335			0			0					0				
DUCT GAIN					0			0				222			268			0			0					0			
HEAT GAIN PEOPLE	240		2		480	0		0		1		240	1		240	1		240	0		0			0		0			
HEAT GAIN APPLIANCES/LIGHTS					481			0				481			481			481			0			0		0			
TOTAL HT LOSS BTU/H				1729			1639				2291			3681			1169			837					1252				
TOTAL HT GAIN x 1.3 BTU/H					2913			1137				3168			3833			1520			509					935			

ROOM USE			LIB			DIN			KT/FM			LAUN			PWD			FOY					BAS					
EXP. WALL			37			27			42			0			6			28					132					
CLG. HT.			10			10			10			9			10			10					9					
	FACTORS																											
GRS.WALL AREA	LOSS	GAIN	370			270			420			0			60			280					792					
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			
EAST	20.3	40.5	30	608	1216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			4	81	162			
SOUTH	20.3	23.9	15	304	358	33	669	788	30	608	717	0	0	0	15	304	358	10	203	239				4	81	96			
WEST	20.3	40.5	0	0	0	0	0	0	82	1662	3325	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			
DOORS	19.1	2.4	0	0	0	0	0	0	8	153	19	0	0	0	0	0	0	48	917	117				20	382	49			
NET EXPOSED WALL	4.3	0.5	325	1382	176	237	1008	128	300	1275	162	0	0	0	45	191	24	222	944	120				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				396	1358	173			
EXPOSED CLG	1.2	0.5	0	0	0	0	0	0	0	0	0	42	51	22	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	42	102	13	0	0	0	0	0	0				0	0	0			
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0					4268				
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0									
SUBTOTAL HT LOSS				2294			1677			3699			153			495			2063					6251				
SUB TOTAL HT GAIN					1750			916			4223			35			383			475					641			
LEVEL FACTOR / MULTIPLIER			0.30	0.39		0.30	0.39		0.30	0.39		0.20	0.27		0.30	0.39		0.30	0.39				0.50	1.05				
AIR CHANGE HEAT LOSS				883			646			1424			42			191			794					6563				
AIR CHANGE HEAT GAIN					73			38			176			1			16			20					27			
DUCT LOSS				0			0			0			20			0			0					0				
DUCT GAIN					0			0			0			52			0			0					0			
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0				0		0			
HEAT GAIN APPLIANCES/LIGHTS					481			481			481			481			0			0					481			
TOTAL HT LOSS BTU/H				3177			2322			5123			215			686			2858					12814			
TOTAL HT GAIN x 1.3 BTU/H					2996			1866			6344			740			518			644					1493			

TOTAL HEAT GAIN BTU/H: 28814 TONS: 2.40 LOSS DUE TO VENTILATION LOAD BTU/H: 1554 STRUCTURAL HEAT LOSS: 39793 TOTAL COMBINED HEAT LOSS BTU/H: 41347

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Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: BARLASSINA
BUILDER: GREENPARK HOMES

TYPE: CHERRY 12 DATE: Aug-22 GFA: 2354 LO# 98652

HEATING CFM	928	COOLING CFM	928
TOTAL HEAT LOSS	39,793	TOTAL HEAT GAIN	28,616
AIR FLOW RATE CFM	23.32	AIR FLOW RATE CFM	32.43

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

#GOODMAN
GMEC960603BNA 60

FAN SPEED	
LOW	
MEDLOW	
MEDIUM	928
MEDIUM HIGH	1017
HIGH	1131

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = **57,600**

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

TEMPERATURE RISE 57 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	8	3
R/A	0	0	5	1	1

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	12	13	14	15	16	17	18	19	21	22	23
ROOM NAME	MBR	ENS	BED-2	BED-2	BED-3	BED-4	BATH	BED-3	LIB	MBR	ENS-3	LIB	DIN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	BAS	BAS	BAS
RM LOSS MBH.	0.86	1.64	1.15	1.15	1.84	1.17	0.84	1.84	1.59	0.86	1.25	1.59	2.32	1.71	1.71	1.71	0.21	0.69	2.86	4.27	4.27	4.27
CFM PER RUN HEAT	20	38	27	27	43	27	20	43	37	20	29	37	54	40	40	40	5	16	67	100	100	100
RM GAIN MBH.	1.46	1.14	1.58	1.58	1.92	1.52	0.51	1.92	1.50	1.46	0.94	1.50	1.87	2.11	2.11	2.11	0.74	0.52	0.64	0.50	0.50	0.50
CFM PER RUN COOLING	47	37	51	51	62	49	17	62	49	47	30	49	61	69	69	69	24	17	21	16	16	16
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	0.16	0.16	0.16
ACTUAL DUCT LGH.	35	43	57	60	64	35	42	54	52	36	37	44	27	27	29	21	46	39	26	29	16	39
EQUIVALENT LENGTH	150	200	180	120	180	140	150	160	130	160	150	130	140	80	130	110	130	110	140	130	120	140
TOTAL EFFECTIVE LENGTH	185	243	237	180	244	175	192	214	182	196	187	174	167	107	159	131	176	149	166	159	136	179
ADJUSTED PRESSURE	0.09	0.07	0.07	0.1	0.07	0.1	0.09	0.08	0.09	0.09	0.09	0.1	0.1	0.16	0.11	0.13	0.1	0.12	0.1	0.1	0.12	0.09
ROUND DUCT SIZE	5	4	5	5	**6**	**6**	4	**6**	5	5	4	5	5	5	5	5	4	4	5	**6**	**6**	**6**
HEATING VELOCITY (ft/min)	147	436	198	198	219	138	229	219	272	147	333	272	396	294	294	294	57	184	492	510	510	510
COOLING VELOCITY (ft/min)	345	424	374	374	316	250	195	316	360	345	344	360	448	507	507	507	275	195	154	82	82	82
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10
TRUNK	C	D	A	B	A	D	D	A	A	C	B	A	B	D	C	C	B	B	B	C	D	A

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	287	0.07	9.1	10	x	8	517	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	485	0.07	11.1	14	x	8	624	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	220	0.09	7.7	8	x	8	495	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	445	0.07	10.7	14	x	8	572	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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (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	615	0.05	13.1	20	x	8	554
TRUNK Z	255	0.05	9.5	10	x	8	459
DROP	928	0.05	15.3	24	x	10	557

RETURN AIR #	1	2	3	4	5	6										BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	135	95	85	75	75	360	0	0	0	0	0	0	0	0	0	103
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.	45	36	64	68	69	38	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	175	140	195	235	240	150	0	0	0	0	0	0	0	0	0	180
TOTAL EFFECTIVE LH	220	176	259	303	309	188	1	1	1	1	1	1	1	1	1	194
ADJUSTED PRESSURE	0.07	0.08	0.06	0.05	0.05	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.08
ROUND DUCT SIZE	6.8	5.8	6	6	6	9.6	0	0	0	0	0	0	0	0	0	6
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	14

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Michael O'Rourke. INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: CHERRY 12 LO # 98652
SITE NAME: BARLASSINA

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	5	@ 10.6 cfm	53	cfm
Other Rooms	5	@ 10.6 cfm	53.0	cfm
Table 9.32.3.A.		TOTAL	180.2	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	180.2	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	100.7	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	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
ENS-3	BY INSTALLING CONTRACTOR	50	✓	3.5
PWD	BY INSTALLING CONTRACTOR	50	✓	3.5

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE V150H

150 cfm high 35 cfm low

75 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: GREENPARK HOMES

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke

HRAI # 001820

Date: August-22

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INDIVIDUAL BCIN: 19669 Michael O'Rourke MICHAEL O'ROURKE

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 98652 Model: CHERRY 12 Builder: GREENPARK HOMES Date: 2022-08-30

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	1054	9	9486
First	1054	10	10540
Second	1300	9	11700
Third	0	9	0
Fourth	0	9	0
		Total:	31,726.0 ft³
		Total:	898.4 m³

Air Change & Delta T Data

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

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.319 x 249.55 x 40 °C x 1.2 = 3847 W

= **13127 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

= 0.085 x 249.55 x 5 °C x 1.2 = 129 W

= **442 Btu/h**

5.2.3.2 Heat Loss due to Mechanical 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**

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

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)

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

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	13,127	6,251	1.050
2	0.3		10,228	0.385
3	0.2		9,625	0.273
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

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: CHERRY 12 **BUILDER:** GREENPARK HOMES
SFQT: 2354 **LO#** 98652 **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 (ft^3):	31726.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
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: 57.0 ft	WIDTH: 25.0 ft	EXPOSED PERIMETER:	132.0 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

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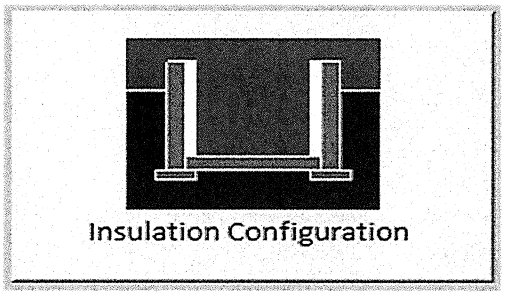
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Cambridge
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**17.4**	
Floor Width (m):	**7.6**	
Exposed Perimeter (m):	**40.2**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**1.1**	
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):	**1250**	

TYPE: CHERRY 12
LO# 98652

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Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Cambridge
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shielding	
Building Site:	Suburban, forest
Walls:	Heavy
Flue:	Heavy
Highest Ceiling Height (m):	6.71
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	898.4
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1197.6 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 37.5 / Total Exhaust 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 12
LO# 98652

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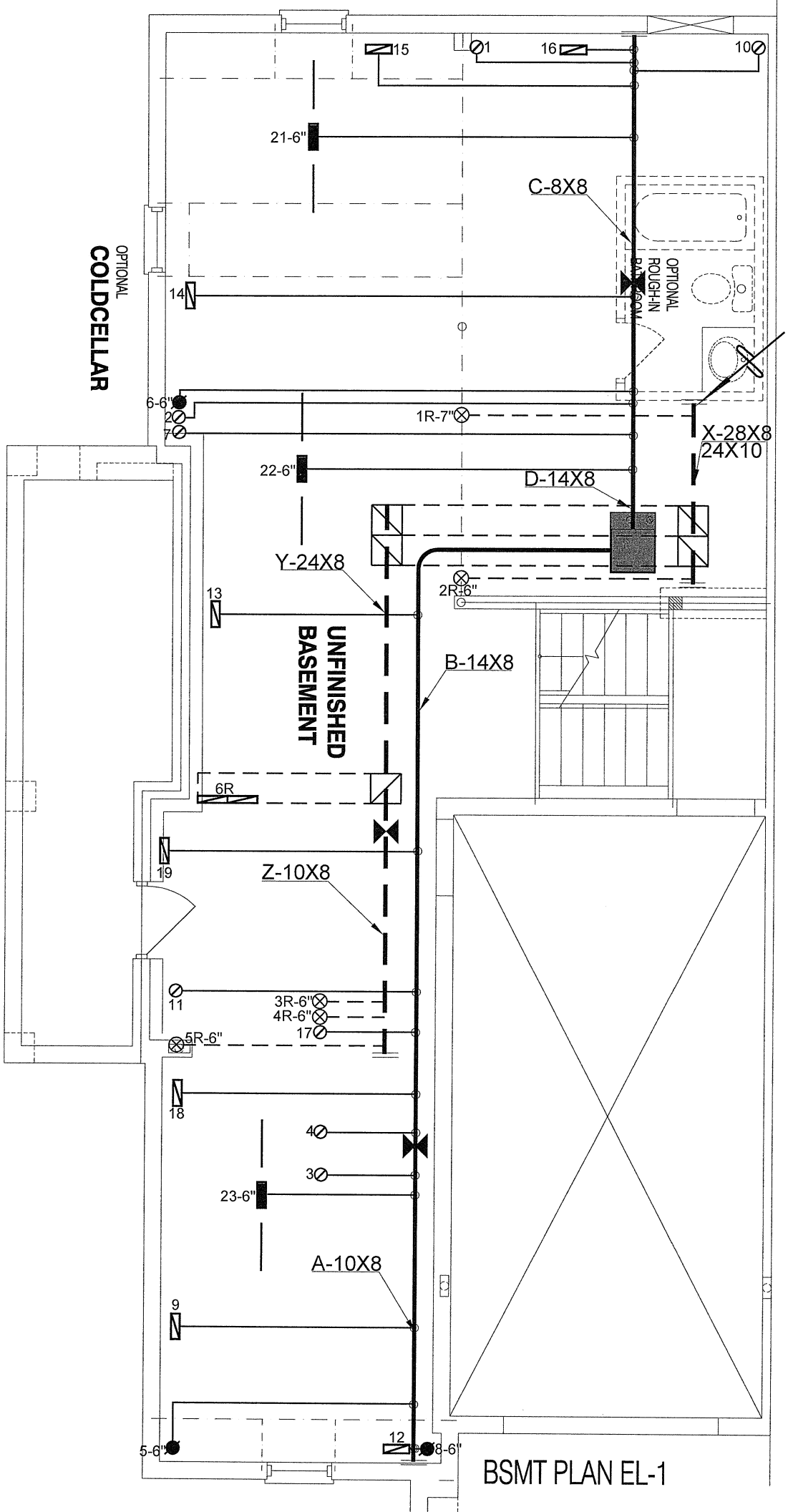

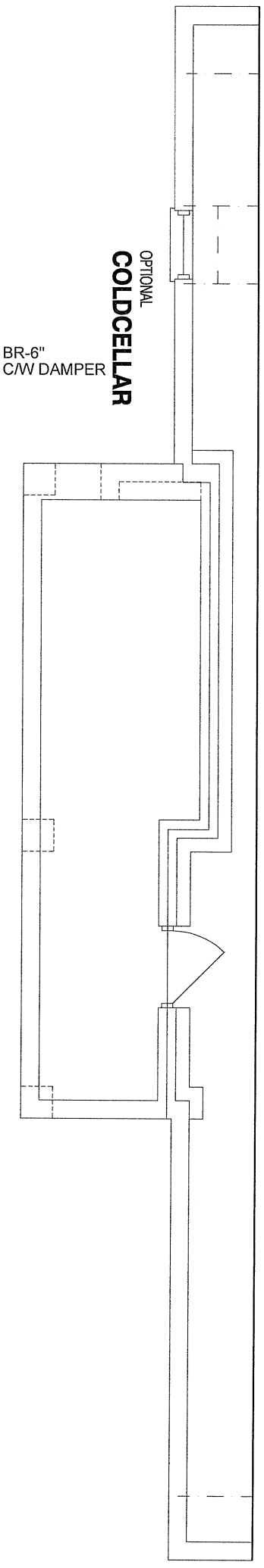

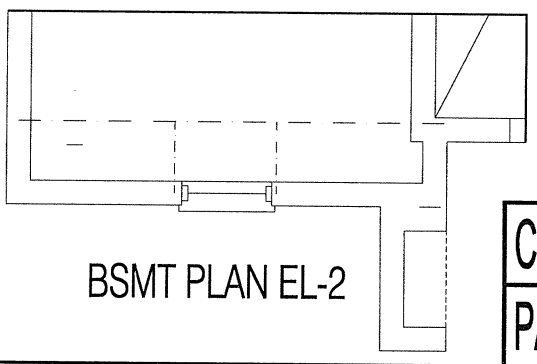

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CSA-F280-12

PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
GREENPARK HOMES

Project Name
BARLASSINA
CAMBRIDGE, ONTARIO

Block 121 Units 7 to 12

CHERRY 12 2354 sqft

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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 41347 BTU/H	
UNIT DATA	
MAKE	GOODMAN
MODEL	GMEC960603BNA
INPUT	60 MBTU/H
OUTPUT	57.6 MBTU/H
COOLING	2.5 TONS
FAN SPEED	928 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	11	5	4
1ST FLOOR	8	1	2
BASEMENT	3	1	0

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

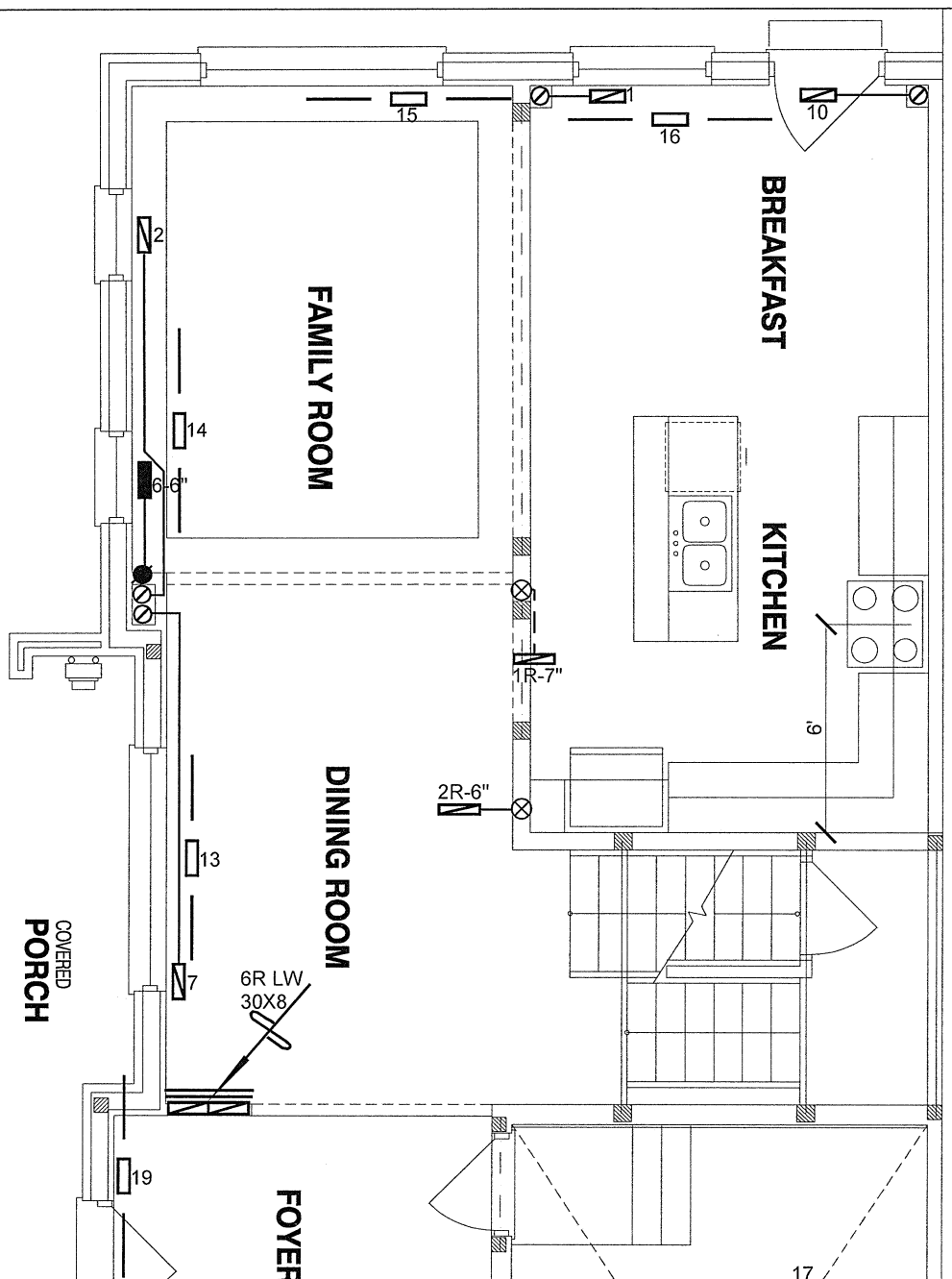
Sheet Title
BASEMENT HEATING LAYOUT

Date AUG/2022

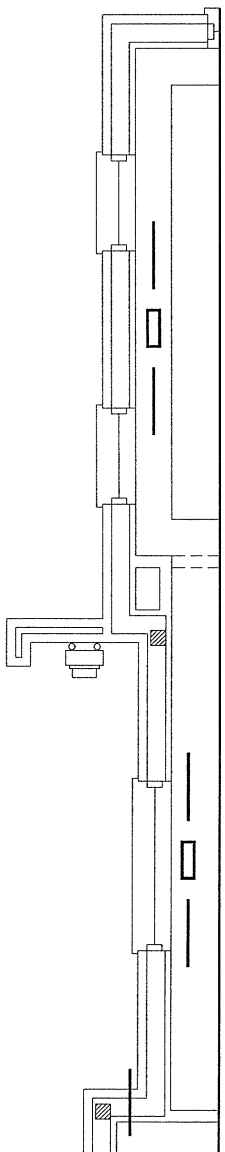
Scale 3/16" = 1'-0"

BCIN# 19669

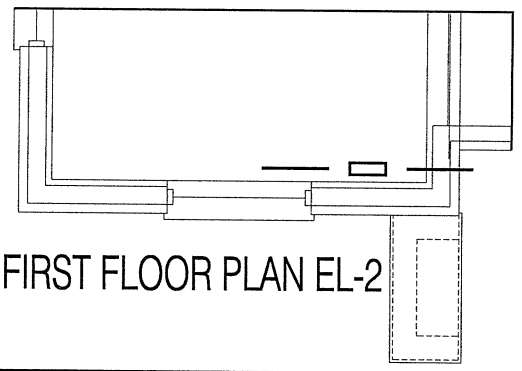
LO# 98652



FIRST FLOOR PLAN EL-1



FIRST FLOOR PLAN EL-2



FIRST FLOOR PLAN EL-2

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PACKAGE A1

HVAC LEGEND

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— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▨	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▨	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
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Sheet Title

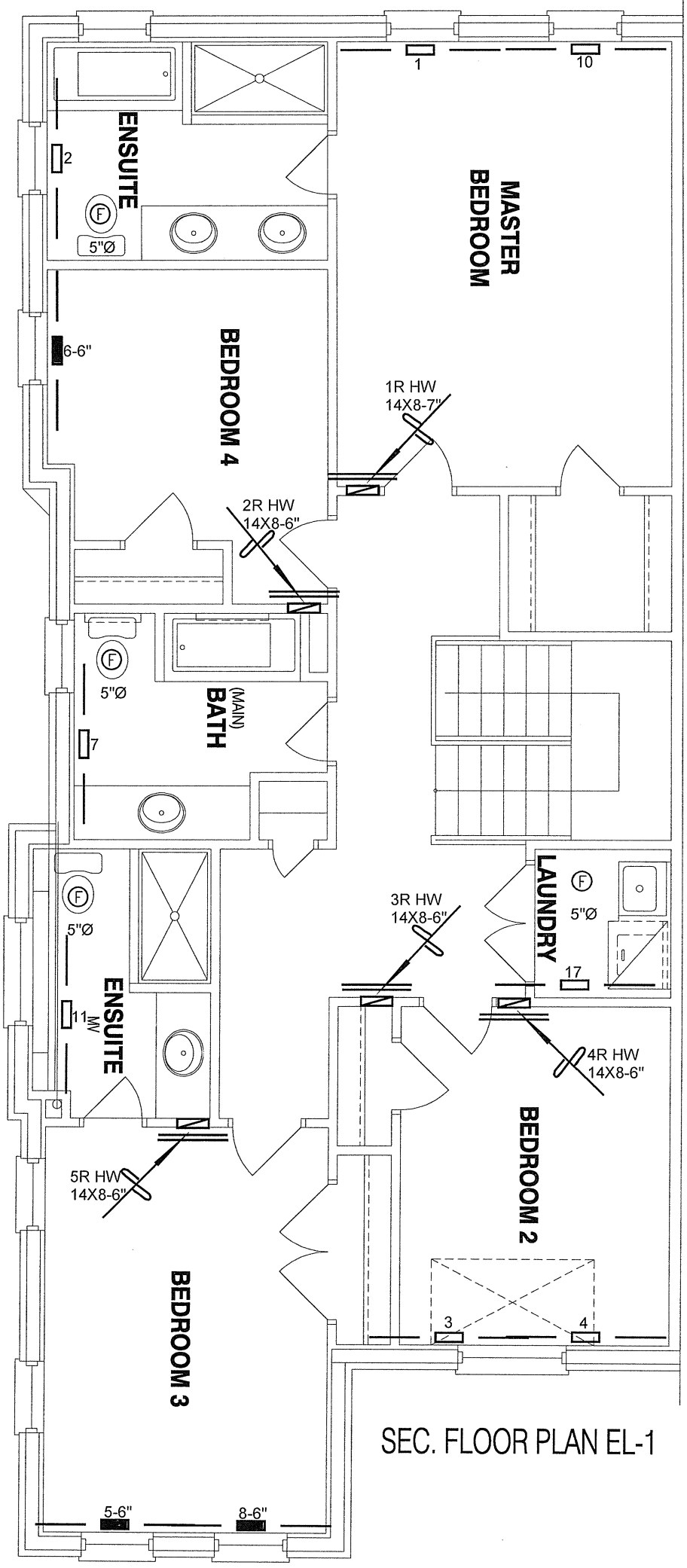
FIRST FLOOR HEATING LAYOUT

Date AUG/2022

Scale 3/16" = 1'-0"

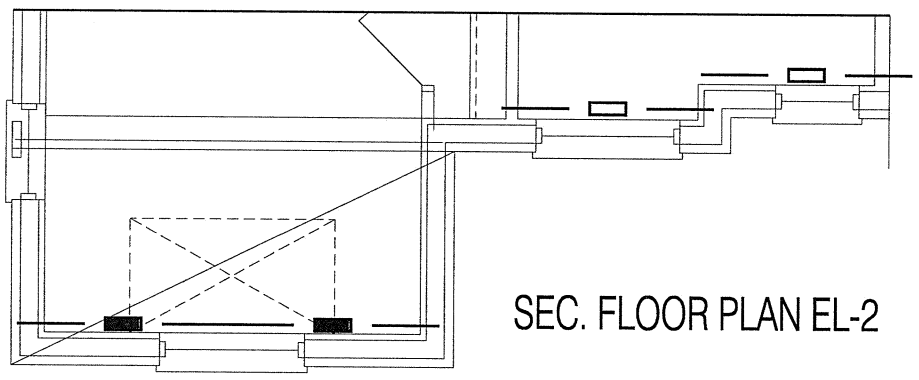
BCIN# 19669

LO# 98652



SEC. FLOOR PLAN EL-1

SEC. FLOOR PLAN EL-2



SEC. FLOOR PLAN EL-2

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CSA-F280-12

PACKAGE A1

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Sheet Title

SECOND FLOOR HEATING LAYOUT

Date AUG/2022

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 98652