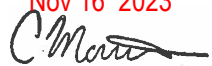


CORPORATION OF THE CITY OF OSHAWA

TRUE COPY
OF PERMIT PLANS

Nov 16 2023

PER: 

CHIEF BUILDING OFFICIAL

MHP 23027

SITE NAME: ZADORRA ESTATES INC

BUILDER: GREENPARK HOMES

TYPE: RIVERSIDE 11

GFA: 2129

LO# 101240

WINTER NATURAL AIR CHANGE RATE 0.340

HEAT LOSS ΔT °F. 74

CSA-F280-12

SUMMER NATURAL AIR CHANGE RATE 0.094

HEAT GAIN ΔT °F. 11

SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH				
						36	21	8	17	25	28	12				
						9	9	9	9	9	9	9				
GRS.WALL AREA	GLAZING		LOSS	GAIN		324	189	72	153	225	252	108				
NORTH	20.8	15.5	0	0	0	8	166	124	0	0	0	0	0	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	20.8	24.4	51	1060	1244	0	0	0	0	0	0	12	249	293	12	249
WEST	20.8	41.0	18	374	739	16	332	657	0	0	0	0	0	0	0	0
SKYLT.	36.4	100.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	19.6	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	255	1111	165	165	719	107	72	314	47	134	584	87	190	828
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	279	350	155	121	152	67	88	110	49	169	212	94	175	219
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	20	54
EXPOSED FLOOR	2.5	0.4	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	0	0	0
SLAB ON GRADE HEAT LOSS			0			0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			2894			1369		514	1190		2205	2134			817	
SUB TOTAL HT GAIN				2303		955		109	475		1516	2005			421	
LEVEL FACTOR / MULTIPLIER			0.20	0.23		0.20	0.23		0.20	0.23		0.20	0.23		0.20	0.23
AIR CHANGE HEAT LOSS			657			311		117	270		500	484			185	
AIR CHANGE HEAT GAIN				116		48		5	24		76	101			21	
DUCT LOSS			0			0		63	0		271	262			0	
DUCT GAIN			0			0		11	0		250	301			0	
HEAT GAIN PEOPLE	240		2		480	0		0	1		240	1		240	0	
HEAT GAIN APPLIANCES/LIGHTS					664	0		0			664	664			0	
TOTAL HT LOSS BTU/H			3551			1680		693	1461		2976	2880			1002	
TOTAL HT GAIN x 1.3 BTU/H				4631		1303		163	1823		3569	4304			575	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	LIV/DIN	FAM	BF/KT	LAUN	PWD	FOY	MUD				
						29	34	34	7	9	28	16				
						10	10	10	9	10	10	10				
GRS.WALL AREA	GLAZING		LOSS	GAIN		290	340	340	63	90	280	160				
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	20.8	24.4	30	623	732	30	623	732	0	0	0	0	0	0	0	0
WEST	20.8	41.0	0	0	0	30	623	1231	0	0	0	0	0	0	0	0
SKYLT.	36.4	100.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	19.6	2.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	260	1133	168	280	1220	181	63	274	41	77	335	50	240	1046
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	67	84	37	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	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	0	0	0
SLAB ON GRADE HEAT LOSS			0			0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS			1756			2467		2187	358		606	1853			1017	
SUB TOTAL HT GAIN				900		2144		1957	78		367	1034			151	
LEVEL FACTOR / MULTIPLIER			0.30	0.40		0.30	0.40		0.20	0.23		0.30	0.40		0.30	0.40
AIR CHANGE HEAT LOSS			694			975		865	81		239	733			402	
AIR CHANGE HEAT GAIN				45		108		98	4		18	52			8	
DUCT LOSS			0			0		0	0		0	0			0	
DUCT GAIN			0			0		0	0		0	0			0	
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0	
HEAT GAIN APPLIANCES/LIGHTS					664	664		664	0		0	0		0	0	
TOTAL HT LOSS BTU/H			2451			3442		3052	440		845	2585			1419	
TOTAL HT GAIN x 1.3 BTU/H				1229		3790		3535	107		501	1412			206	

TOTAL HEAT GAIN BTU/H:

29390

TONS: 2.45

LOSS DUE TO VENTILATION LOAD BTU/H: 1593

STRUCTURAL HEAT LOSS: 42529

TOTAL COMBINED HEAT LOSS BTU/H: 44121



SITE NAME: ZADORRA ESTATES IN
BUILDER: GREENPARK HOMES

CHIEF BUILDING OFFICIAL

MHP 23027

DATE: May-23

GFA: 2129 LO# 101240

HEATING CFM	928	COOLING CFM	928
TOTAL HEAT LOSS	42,529	TOTAL HEAT GAIN	29,153
AIR FLOW RATE CFM	21.82	AIR FLOW RATE CFM	31.83

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	4
R/A	0	0	5	2	1

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

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

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.01	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.17	adjusted pressure r/a	0.15

MEDLOW
MEDIUM 928
MEDIUM HIGH 1017
HIGH 1131DESIGN CFM = 928
CFM @ .6" E.S.P.

TEMPERATURE RISE 57 °F

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	BED-4	MBR	BATH	LIV/DIN	FAM	BF/KT	BF/KT	FAM	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.78	1.68	0.69	1.46	1.49	1.44	0.50	1.49	1.44	1.78	0.50	2.45	1.72	1.53	1.53	1.72	0.44	0.85	2.59	1.42	3.51	3.51	3.51	3.51
CFM PER RUN HEAT	39	37	15	32	32	31	11	32	31	39	11	53	38	33	33	38	10	18	56	31	77	77	77	77
RM GAIN MBH.	2.32	1.30	0.16	1.82	1.78	2.15	0.29	1.78	2.15	2.32	0.29	1.23	1.90	1.77	1.77	1.90	0.11	0.50	1.41	0.21	0.50	0.50	0.50	0.50
CFM PER RUN COOLING	74	41	5	58	57	68	9	57	68	74	9	39	60	56	56	60	3	16	45	7	16	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	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	49	33	52	33	53	56	57	57	56	37	53	27	32	23	18	24	34	42	49	33	30	15	22	46
EQUIVALENT LENGTH	170	150	220	200	160	170	160	170	170	220	150	120	120	110	100	150	200	160	120	110	130	140	130	110
TOTAL EFFECTIVE LENGTH	219	183	272	233	213	226	217	227	226	257	203	147	152	133	118	174	234	202	169	143	160	155	152	156
ADJUSTED PRESSURE	0.08	0.09	0.06	0.07	0.08	0.08	0.08	0.08	0.08	0.07	0.08	0.12	0.11	0.13	0.15	0.1	0.07	0.09	0.1	0.12	0.11	0.11	0.11	0.11
ROUND DUCT SIZE	6	4	4	5	5	6	4	5	6	6	4	5	5	5	5	5	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	199	424	172	235	235	158	126	235	158	199	126	389	279	242	242	279	115	207	411	356	565	565	565	565
COOLING VELOCITY (ft/min)	377	470	57	426	419	347	103	419	347	377	103	286	441	411	411	441	34	184	330	80	117	117	117	117
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	A	B	A	A	B	A	A	B	B	B	C	C	C	C	B	A	A	B	C	C	B	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	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY
	CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)
TRUNK A	292	0.06	9.5	12	x	8	438	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	556	0.06	12.1	18	x	8	556	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	372	0.08	9.7	12	x	8	558	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	x	8	0
TRUNK 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	774	0.05	14.3	24	x	8	581
TRUNK Z	324	0.05	10.3	12	x	8	486
DROP	928	0.05	15.3	24	x	10	557

RETURN AIR #	1	2	3	4	5	6	7									BR
AIR VOLUME	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	154
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.	52	51	71	73	55	35	51	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	265	185	235	240	270	225	195	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	317	236	306	313	325	260	246	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.06	0.05	0.05	0.05	0.06	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	7	6	6.8	6.6	6	7.6	6.8	0	0	0	0	0	0	0	0	6.6
INLET GRILL SIZE	8	8	8	8	8	8	8	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	24	14	0	0	0	0	0	0	0	0	14

Nov 16 2023

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

TYPE: RIVERS 11
SITE NAME: ZADORRA ESTATES I

MHP 23027

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>4</u> @ 10.6 cfm <u>42.4</u> cfm
Other Rooms	<u>3</u> @ 10.6 cfm <u>31.8</u> cfm
Table 9.32.3.A.	TOTAL <u>148.4</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	<u>79.5</u> ✓ cfm

SUPPLEMENTAL VENTILATION CAPACITY	9.32.3.5.
Total Ventilation Capacity	<u>148.4</u> cfm
Less Principal Ventil. Capacity	<u>79.5</u> cfm
Required Supplemental Capacity	<u>68.9</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 74 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
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:	May-23

MHP 23027

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																													
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																													
LO#: 101240		Model: RIVERS 11		Builder: GREENPARK HOMES																																																									
Date: 2023-05-17																																																													
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>968</td> <td>9</td> <td>8712</td> </tr> <tr> <td>First</td> <td>968</td> <td>10</td> <td>9680</td> </tr> <tr> <td>Second</td> <td>1161</td> <td>9</td> <td>10449</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="2" style="text-align: right;">Total:</td> <td></td> <td>28,841.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>816.7 m³</td> </tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	968	9	8712	First	968	10	9680	Second	1161	9	10449	Third	0	9	0	Fourth	0	9	0	Total:			28,841.0 ft³	Total:			816.7 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%;">0.340</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.094</td> </tr> </table> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>			WINTER NATURAL AIR CHANGE RATE	0.340	SUMMER NATURAL AIR CHANGE RATE	0.094	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																										
Bsmt	968	9	8712																																																										
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																										
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.340 x 226.86 x 41 °C x 1.2 = 3819 W = 13029 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ 0.094 x 226.86 x 6 °C x 1.2 = 156 W = 531 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 74 °F x 1.08 x 0.25 = 1593 Btu/h			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 80 CFM x 11 °F x 1.08 x 0.25 = 236 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 / HL _{clevel})																																																									
1	0.5	13,029	7,538	0.864																																																									
2	0.3		9,885	0.395																																																									
3	0.2		11,481	0.227																																																									
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 																																																									

MODEL: RIVERS 11

SFQT: 2129

LO# 101240

BUILDER: GREENPARK HOMES

SITE: ZADORRA ESTATES INC

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
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):	28841.0	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:	6.0 ft
LENGTH: 53.0 ft	WIDTH: 23.0 ft	EXPOSED PERIMETER:	152.0 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	-

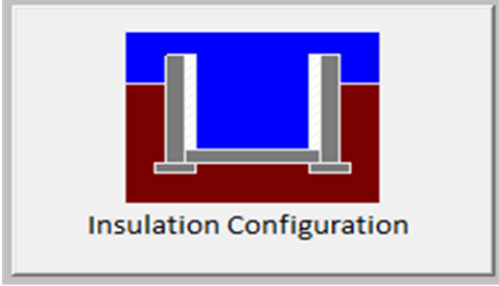
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oshawa	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	16.2	 Insulation Configuration
Floor Width (m):	7.0	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.5	
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):		1426

TYPE: RIVERS 11
LO# 101240

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Oshawa			
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):	7.62			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	816.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1088.7 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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.094			

TYPE: RIVERS 11

LO# 101240

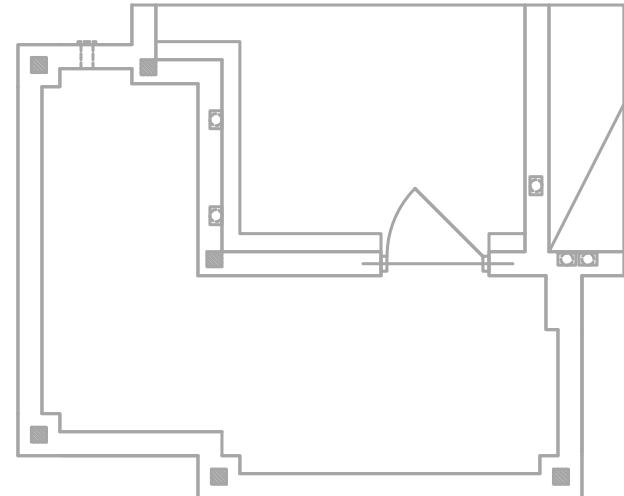
CORPORATION OF THE CITY OF OSHAWA
TRUE COPY
OF PERMIT PLANS
Nov 16 2023
PER: *C. Morin*
CHIEF BUILDING OFFICIAL

MHP 23027

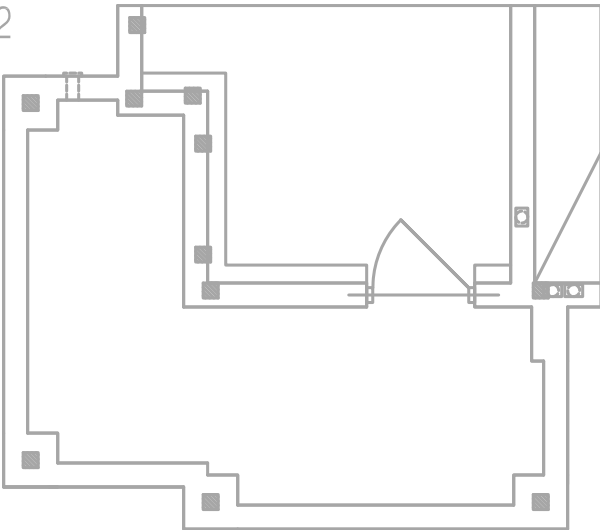
PARTIAL BASEMENT LAYOUT
FOR DECK CONDITION EL-1

PARTIAL BASEMENT LAYOUT
FOR DECK CONDITION EL-3

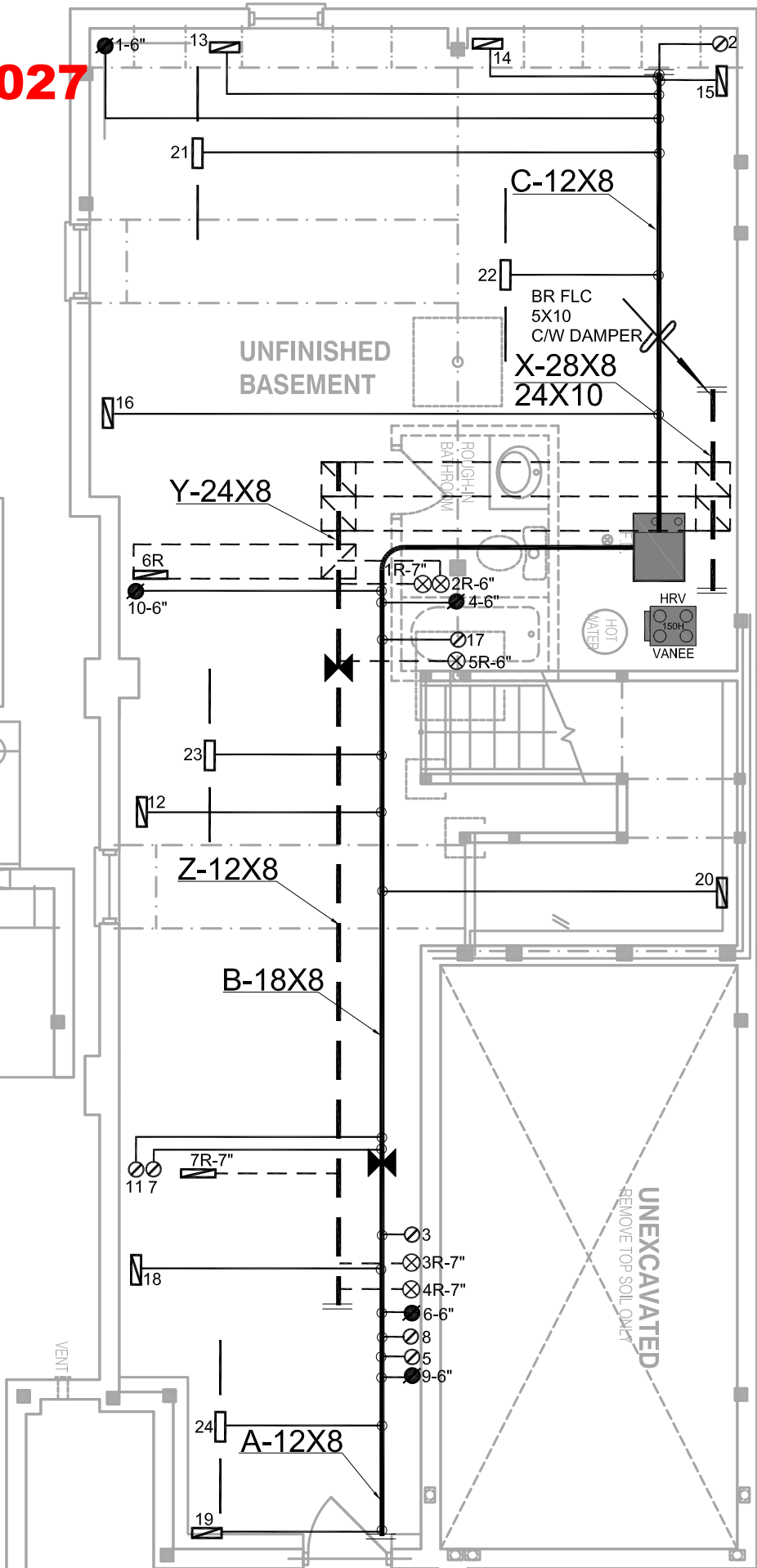
PARTIAL BASEMENT LAYOUT
FOR DECK CONDITION EL-2



BASEMENT PLAN EL-2



BASEMENT PLAN EL-3

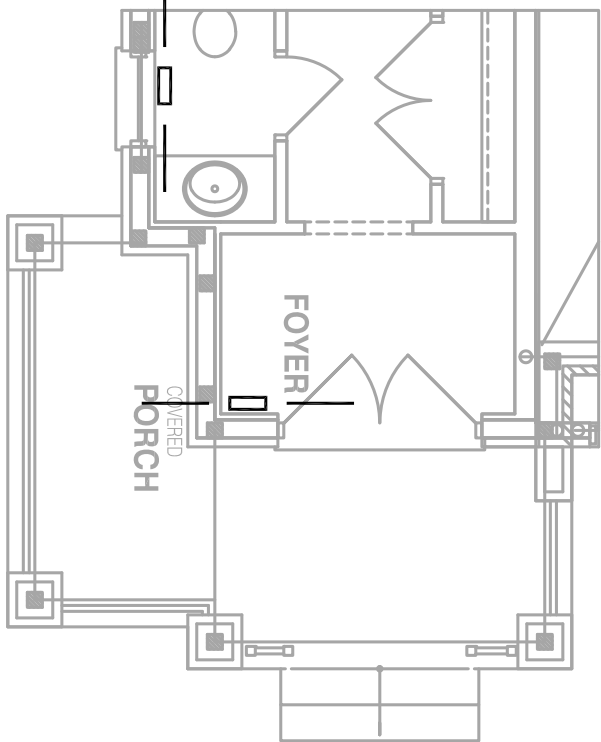


BASEMENT PLAN EL-1

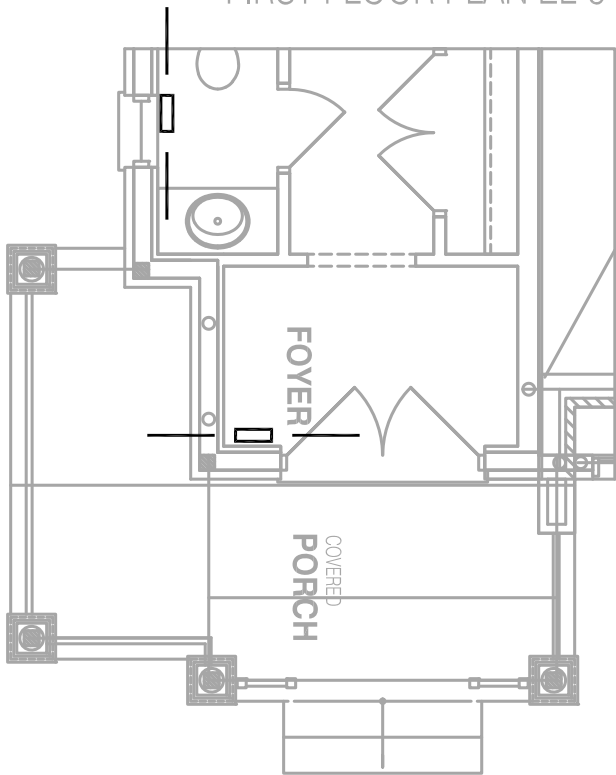
HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date
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I Michael O'Rourke have reviewed and take responsibility for the design work and am qualified under division C.3.2.5 of the building code.						PACKAGE A1		
Client GREENPARK HOMES						Sheet Title BASEMENT HEATING LAYOUT		
Project Name ZADORRA ESTATES INC OSHAWA, ONTARIO						Date MAY/2023		
RIVER 11 2129 sqft						Scale 3/16" = 1'-0"		
HVADESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services						BCIN# 19669		
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.						LO# 101240		
HEAT LOSS 44121 BTU/H UNIT DATA						# OF RUNS S/A R/A FANS		
MAKE GOODMAN						3RD FLOOR		
MODEL GMEC960603BNA						2ND FLOOR 12 5 3		
INPUT 60 MBTU/H						1ST FLOOR 8 2 2		
OUTPUT 57.6 MBTU/H						BASEMENT 4 1 0		
COOLING 2.5 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		
FAN SPEED 928 cfm @ 0.6" w.c.								

CORPORATION OF THE CITY OF OSHAWA
TRUE COPY
OF PERMIT PLANS
Nov 16 2023
PER: *C. Morin*
CHIEF BUILDING OFFICIAL

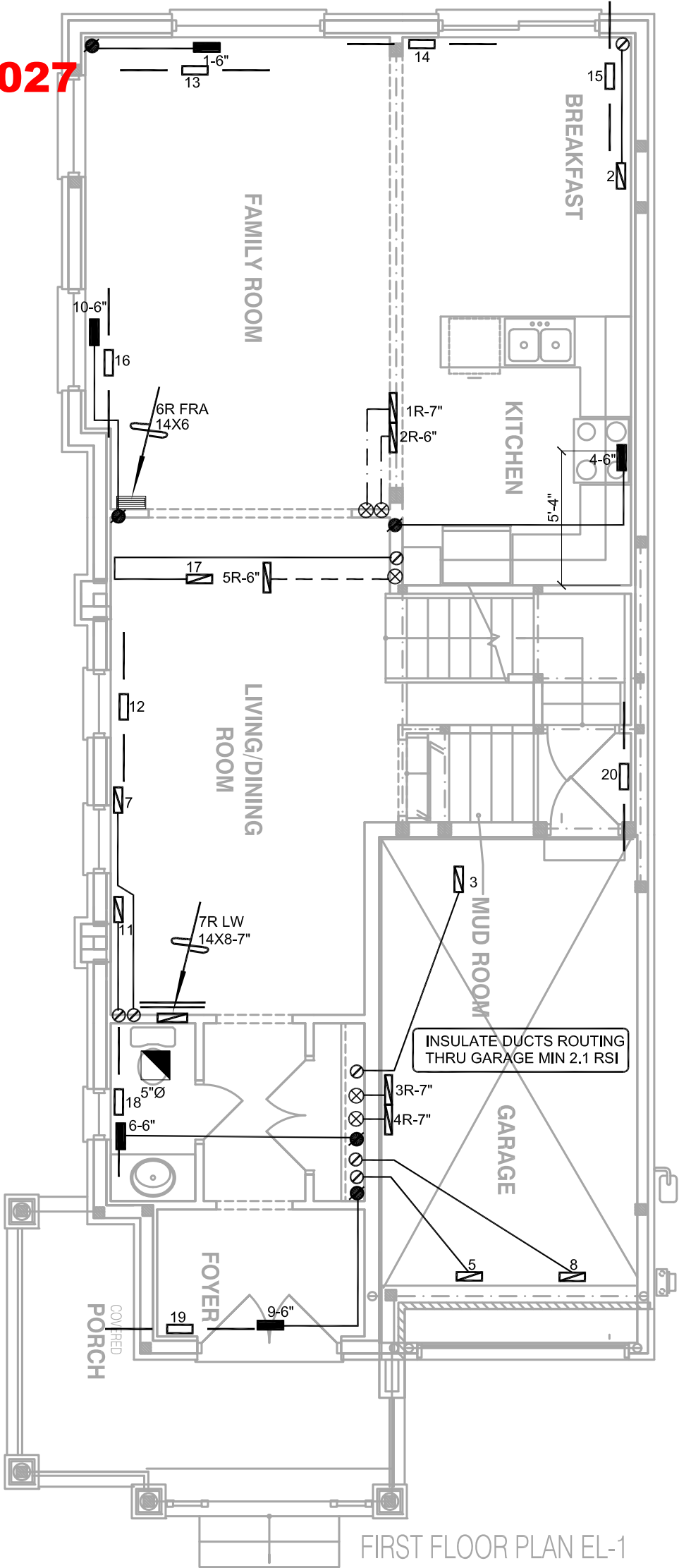
MHP 23027



FIRST FLOOR PLAN EL-3



FIRST FLOOR PLAN EL-2



FIRST FLOOR PLAN EL-1

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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Michael O'Rourke
Michael O'Rourke BCIN # 19669
HVAC Designs Ltd.

PACKAGE A1

Client
GREENPARK HOMES

Project Name
**ZADORRA ESTATES INC
OSHAWA, ONTARIO**

RIVER 11 **2129 sqft**

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.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.

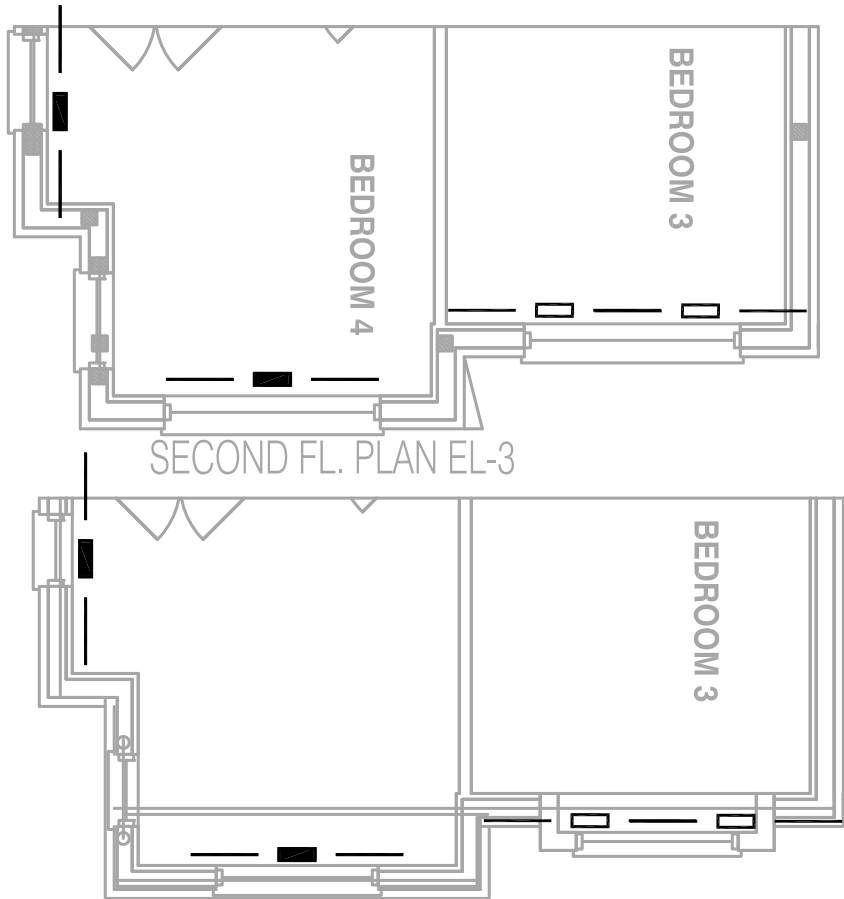
Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date **MAY/2023**

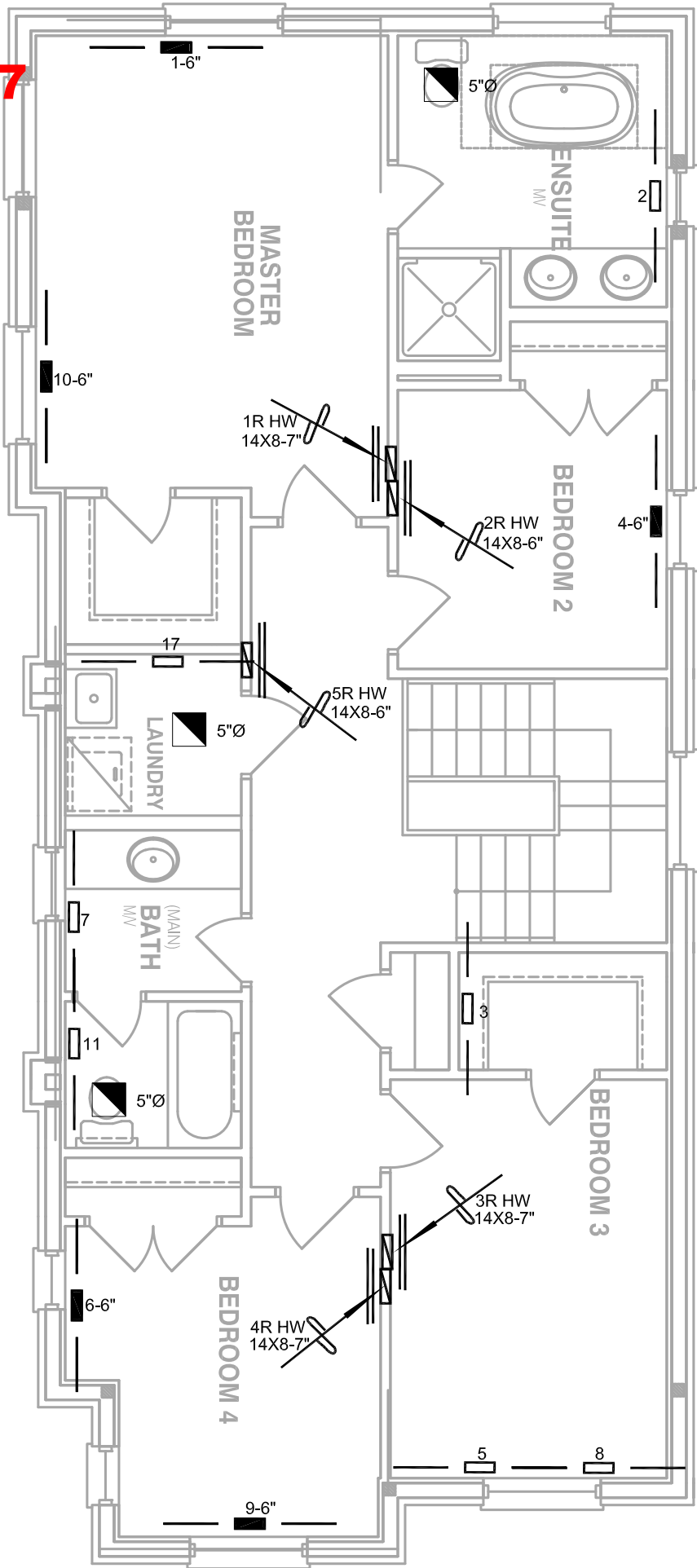
Scale **3/16" = 1'-0"**

BCIN# 19669

LO# 101240



SECOND FL. PLAN EL-2



SECOND FL. PLAN EL-1

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@hvacdsgns.ca Web: www.hvacdsgns.ca Specializing in Residential Mechanical Design Services						PACKAGE A1		
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ZADORRA ESTATES INC OSHAWA, ONTARIO								SECOND FLOOR HEATING LAYOUT		
								Date MAY/2023		
								Scale 3/16" = 1'-0"		
								BCIN# 19669		
RIVER 11		2129 sqft						LO# 101240		