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

SITE NAME: LECCO RIDGE — DATE: Dec-16 — WINTER NATURAL AIR CHANGE RATE 0.307 — HEAT LOSS ΔT °F. 72 — CSA-F280-12
BUILDER: GREENPARK HOMES — TYPE: JUNIPER 6 — GFA: 3119 — LO# 71351 — SUMMER NATURAL AIR CHANGE RATE 0.105 — HEAT GAIN ΔT °F. 14 — ENERGYSTAR

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH			ENS-2		
EXP. WALL			36			22			8			12			16			14			23			7		
CLG. HT.			10			9			9			9			10			9			9			9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	360			198			72			108			150			126			207			63		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	17.9	15.8	0	0	0	9	161	143	0	0	0	18	321	285	5	89	79	0	0	0	0	0	0	0	0	0
EAST	17.9	41.4	0	0	0	0	0	0	0	0	0	0	0	0	38	678	1574	0	0	0	16	286	663	0	0	0
SOUTH	17.9	24.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	268	372	0	0	0	8	143	198
WEST	17.9	41.4	34	607	1408	13	232	538	7	125	290	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	30.6	101.2	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	24.1	4.7	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	2.6	0.5	326	853	165	176	461	89	65	170	33	90	235	46	107	280	54	111	290	56	191	500	97	55	144	28
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	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	1.4	0.7	320	441	219	117	161	80	104	143	71	204	281	140	168	231	115	210	289	144	119	164	82	126	174	86
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	0	0	0	0	0	0	0	0	0	36	81	40	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0	0	0	0	156	342	66	0	0	0	105	230	45	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				1901			1014			438			838			1702			848			1180			460	
SUB TOTAL HT GAIN					1792			850			394			470			1929			572			885			312
LEVEL FACTOR / MULTIPLIER			0.20	0.38		0.20	0.38		0.20	0.38		0.20	0.38		0.20	0.38		0.20	0.38		0.20	0.38		0.20	0.38	
AIR CHANGE HEAT LOSS				725			387			167			319			649			323			460			175	
AIR CHANGE HEAT GAIN					150			71			33			39			162			48			74			26
DUCT LOSS				0			0			0			0			235			0			163			0	
DUCT GAIN					0			0			0			0			280			0			143			0
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					467			467			0			467			467			467			467			467
TOTAL HT LOSS BTU/H				2625			1401			605			1157			2586			1171			1792			636	
TOTAL HT GAIN x 1.3 BTU/H					3756			1805			555			1582			4000			1724			2040			1047

ROOM USE			LV/DN			OFF			KT/FM				LAUN				FOY			MUD				BAS	
EXP. WALL			24			22			72				0				98			8				180	
CLG. HT.			10			11			10				9				10			11				10	
	FACTORS																								
GRS.WALL AREA	LOSS	GAIN	240			242			720				0				980			88				1170	
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN			LOSS	GAIN
NORTH	17.9	15.8	0	0	0	18	321	285	0	0	0		0	0	0		28	500	444	0	0	0		9	161	143
EAST	17.9	41.4	0	0	0	0	0	0	0	0	0		0	0	0		74	1321	3065	0	0	0		0	0	0
SOUTH	17.9	24.8	38	678	941	0	0	0	0	0	0		0	0	0		12	214	297	0	0	0		0	0	0
WEST	17.9	41.4	0	0	0	0	0	0	103	1839	4266		0	0	0		0	0	0	0	0	0		0	0	0
SKYLT.	30.6	101.2	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0	0	0	0		0	0	0
DOORS	24.1	4.7	0	0	0	0	0	0	0	0	0		0	0	0		20	481	93	20	481	93		20	481	93
NET EXPOSED WALL	2.6	0.5	202	529	102	224	586	113	617	1614	312		0	0	0		846	2214	428	68	178	34		0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.3	0.6	0	0	0	0	0	0	0	0	0		0	0	0		0	0	0	0	0	0		540	1802	349
EXPOSED CLG	1.4	0.7	0	0	0	0	0	0	6	8	4		134	185	92		206	284	141	0	0	0		0	0	0
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	0	0	0	0	0	0		0	0	0		24	54	27	0	0	0		0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0		65	143	28		0	0	0	0	0	0		0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0				0				0			0				6134	
SLAB ON GRADE HEAT LOSS				0			0			0				0				0			0					
SUBTOTAL HT LOSS				1207			907			3461				327				5067			659				8578	
SUB TOTAL HT GAIN					1043			398			4583				119				4495			127					584
LEVEL FACTOR / MULTIPLIER			0.30	0.44		0.30	0.44		0.30	0.44			0.20	0.38			0.30	0.44		0.30	0.44			0.50	0.97	
AIR CHANGE HEAT LOSS				532			400			1525				125				2232			290				8299	
AIR CHANGE HEAT GAIN					87			33			384				10				377			11					49
DUCT LOSS				0			0			0				45				0			0				0	
DUCT GAIN					0			0			0				60				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					467			467			467				467				0			467					0
TOTAL HT LOSS BTU/H				1739			1307			4986				497				7300			949				16877	
TOTAL HT GAIN x 1.3 BTU/H					2077			1168			7063				853				6333			786					823

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 6 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS — APR 7, 2017
PLANS EXAMINER — DATE
Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relives the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province on Ontario, By-laws of the Region of Halton and Town of Milton

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MAR 29, 2017
JUNIPER 6
BUILDING DIVISION

TOTAL HEAT GAIN BTU/H: 36067 — TONS: 3.01 — LOSS DUE TO VENTILATION LOAD BTU/H: 2354 — STRUCTURAL HEAT LOSS: 45629 — TOTAL COMBINED HEAT LOSS BTU/H: 47983

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

TYPE: JUNIPER 6 DATE: Dec-16 GFA: 3119 LO# 71351

HEATING CFM	1131	COOLING CFM	1131
TOTAL HEAT LOSS	45,629	TOTAL HEAT GAIN	35,612
AIR FLOW RATE CFM	24.79	AIR FLOW RATE CFM	31.76

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	0.03
min adjusted pressure s/a	0.15
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

#AMANA
AMEC960603BNA 60
FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

AFUE = 96.0 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

DESIGN CFM = 1131
CFM @ .6 " E.S.P.

TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	8	4
R/A	0	0	4	2	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	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	MBR	ENS-2	LV/DN	OFF	KT/FM	KT/FM	KT/FM	LAUN	MUD	FOY	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.31	1.40	0.61	1.16	2.59	1.17	1.79	1.31	0.64	1.74	1.31	1.66	1.66	1.66	0.50	0.95	3.65	3.65	4.22	4.22	4.22	4.22
CFM PER RUN HEAT	33	35	15	29	64	29	44	33	16	43	32	41	41	41	12	24	90	90	105	105	105	105
RM GAIN MBH.	1.88	1.80	0.56	1.58	4.00	1.72	2.04	1.88	1.05	2.08	1.17	2.35	2.35	2.35	0.85	0.79	3.17	3.17	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	60	57	18	50	127	55	65	60	33	66	37	75	75	75	27	25	101	101	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	41	50	44	42	52	52	53	34	20	8	35	45	28	34	38	24	29	29	32	23	14	25
EQUIVALENT LENGTH	120	180	140	160	150	170	180	180	190	120	120	120	90	150	160	110	110	120	140	130	100	110
TOTAL EFFECTIVE LENGTH	161	230	184	202	202	222	233	214	210	128	155	165	118	184	198	134	139	149	172	153	114	135
ADJUSTED PRESSURE	0.11	0.07	0.09	0.09	0.08	0.08	0.07	0.08	0.08	0.13	0.11	0.1	0.15	0.09	0.09	0.13	0.12	0.11	0.09	0.11	0.14	0.12
ROUND DUCT SIZE	5	5	4	4	6	5	5	5	4	5	4	5	5	5	4	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	242	257	172	333	326	213	323	242	184	316	367	301	301	301	138	275	661	661	535	535	535	535
COOLING VELOCITY (ft/min)	441	419	207	574	648	404	477	441	379	485	424	551	551	551	310	287	742	742	36	36	36	36
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	C	C	B	A	A	A	B	B	B	B	C	C	C	A	B	A	A	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	

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 6
BUILDING DIVISION

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	434	0.07	10.6	14	x	8	558	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	716	0.07	12.8	20	x	8	644	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	416	0.07	10.4	12	x	8	624	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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	976	0.06	14.9	26	x	8	676
TRUNK Y	485	0.06	11.5	16	x	8	546
TRUNK Z	0	0.06	0	0	x	8	0
DROP	1131	0.06	15.8	24	x	10	679

RETURN AIR #	1	2	3	4	5	6											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	150	150	140	85	155	260	0	0	0	0	0	0	0	0	0	0	191
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
ACTUAL DUCT LGH.	36	46	55	57	29	30	1	1	1	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	145	145	145	185	150	170	0	0	0	0	0	0	0	0	0	0	185
TOTAL EFFECTIVE LH	181	191	200	242	179	200	1	1	1	1	1	1	1	1	1	1	201
ADJUSTED PRESSURE	0.08	0.08	0.07	0.06	0.08	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.07
ROUND DUCT SIZE	6.9	6.9	6.9	6	7	8.8	0	0	0	0	0	0	0	0	0	0	7.8
INLET GRILL SIZE	8	8	8	8	8	8	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
INLET GRILL SIZE	14	14	14	14	14	30	0	0	0	0	0	0	0	0	0	0	24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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TYPE: JUNIPER 6 LO # 71351
SITE NAME: LECCO RIDGE

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	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	190.8	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
More than 5 - Part 6	TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	86	cfm
Required Supplemental Capacity	104.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 40H+ Location: BSMT

86.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
86.0 CFM	X	72 F	X	1.08	X	0.35

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
ENS-2	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 40H+

86 cfm high 37 cfm low

65 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: C

Township P

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 6
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 6 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relives the owner from full responsibility for compliance with the provisions of the Ontario Building Code Act and the Ontario Building Code, both as amended, as well as other applicable statutes and regulations of the Province on Ontario, By-laws of the Region of Halton and Town of Milton

BUILDER: GF

Name:

Address:

City:

Telephone #:

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: December-16

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: JUNIPER 6 **BUILDER:** GREENPARK HOMES
SFQT: 3119 **LO#** 71351 **SITE:** LECCO RIDGE

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

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 (ft^3):	41790.0	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:	6.5 ft
LENGTH: 52.0 ft	WIDTH: 38.0 ft	EXPOSED PERIMETER:	180.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package ENERGYSTAR
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	20 + 5
Basement Walls Minimum RSI (R)-Value	20
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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	ZONE 2
Skylights Maximum U-Value	ZONE 2
Space Heating Equipment Minimum AFUE	0.95
HRV Minimum Efficiency	65%
Domestic Hot Water Heater Minimum EF	90% TE

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

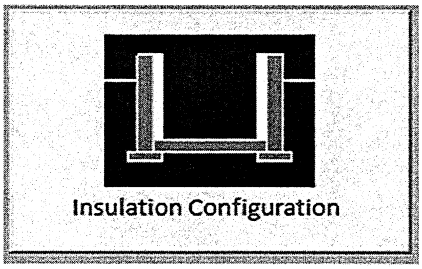
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

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

Foundation Dimensions		
Floor Length (m):	15.8	
Floor Width (m):	11.6	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.9	
Depth Below Grade (m):	2.0	
Window Area (m^2):	0.8	
Door Area (m^2):	1.9	


Insulation Configuration

Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	**1797**	

TYPE: JUNIPER 6
LO# 71351

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Ajax ON, L1S 2E2
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Air Infiltration Residential Load Calculator

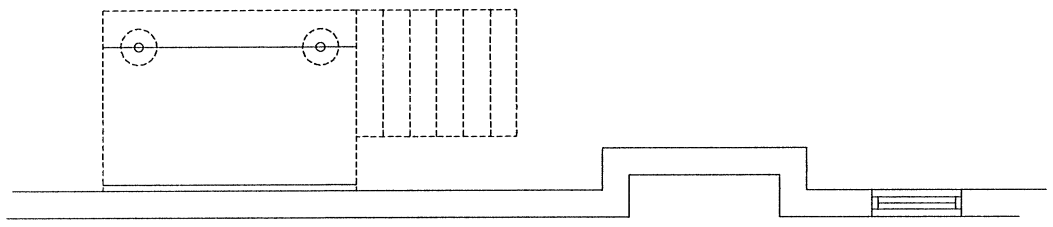
Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Milton
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shielding	
Building Site:	Suburban, forest
Walls:	Heavy
Flue:	Heavy
Highest Ceiling Height (m):	6.71
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	1183.4
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1577.5 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 40.6 / Total Exhaust 40.6
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.307**
Cooling Air Leakage Rate (ACH/H):	**0.105**

TYPE: JUNIPER 6
LO# 71351

RESIDENTIAL HVAC (New Construction)

1) All HVAC work shall comply with Part 6 and 9.32/9.33.
2) Supply or return air ducts not protected by an insulated exterior wall shall me insulated to a minimum 2.1 RSI (R-12)
3) Exhaust ducts (principle, supplemental & other exhaust fans) passing through unheated space shall be insulated to a minimum 0.5 RSI (R-3)
4) All supply/return air ducts located in unconditioned spaces shall be sealed to a SMACNA Class 'A' seal level and supply air ducts in conditioned spaces to shall be sealed to a SMACNA Class "C' seal level
5) Furnaces to be equipped with brushless DC motor (ECM) and controlled with a programmable thermostat (4 times periods/day, 2 day types/week)
6) HRVs to be installed in accordance with 9.32.3.11. and manufacturers' requirements (intake/exhaust separation, distance from R/A drop)
7) Bathrooms and washrooms to have a min. 50 CFM exhaust fan ducted directly outdoors with ductwork sized in accordance with Table 9.32.3.5.
8) Range hoods to exhaust directly to outdoors with non-combustible ducting
9) Changes to the HVAC equipment or duct layout requires a revision permit to be applied for and approved prior to booking any HVAC inspections



FLOOR PLAN FOR DECK CONDITION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 6 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
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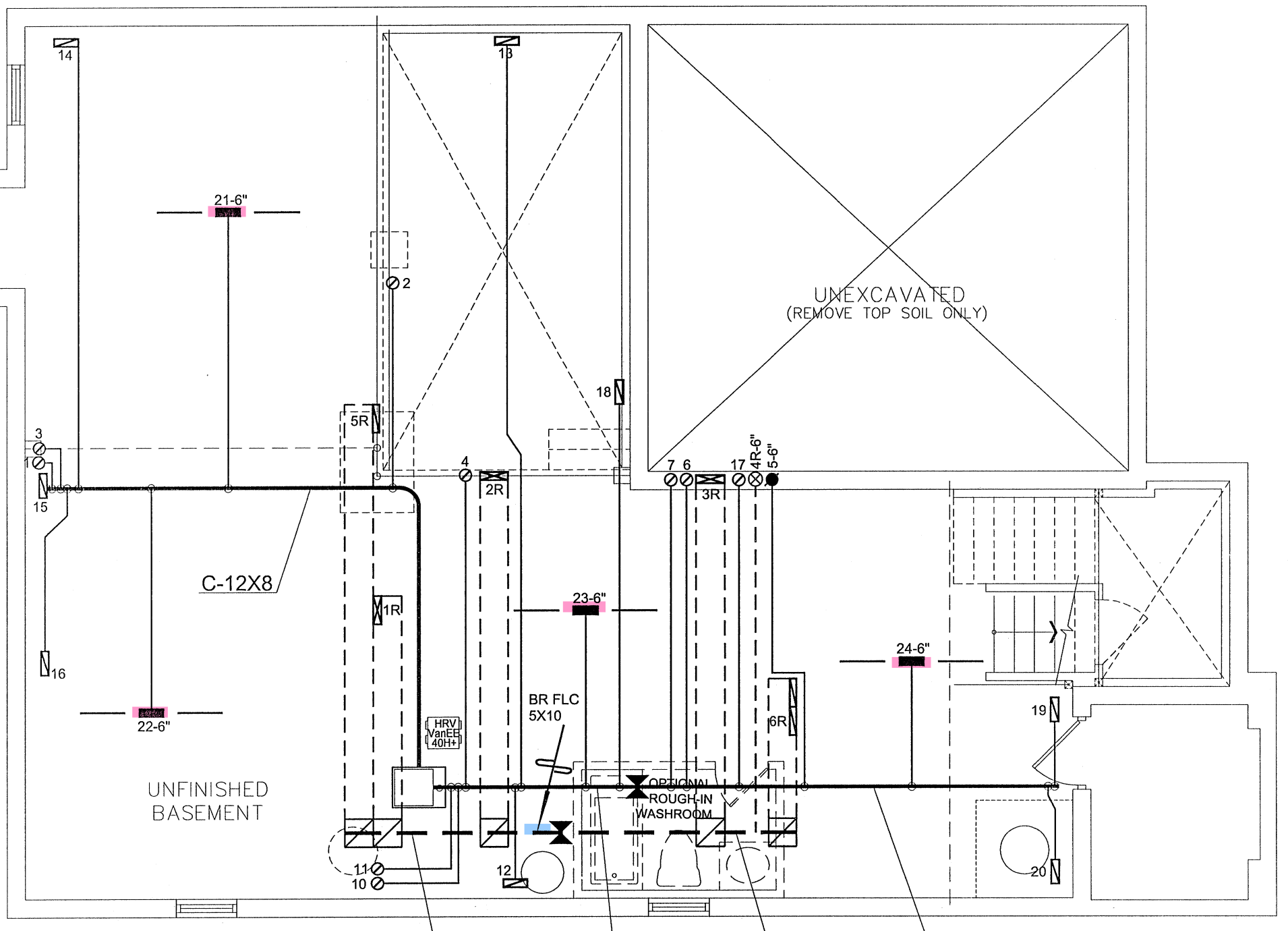

BASEMENT PLAN

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

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 6
BUILDING DIVISION

ENERGY STAR
CSA-F280-12

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR 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
LECCO RIDGE
MILTON, ONTARIO

JUNIPER 6 3119 sqft

HVAC DESIGNS LTD.
375 Finley Ave - Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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 47983 BTU/H

UNIT DATA

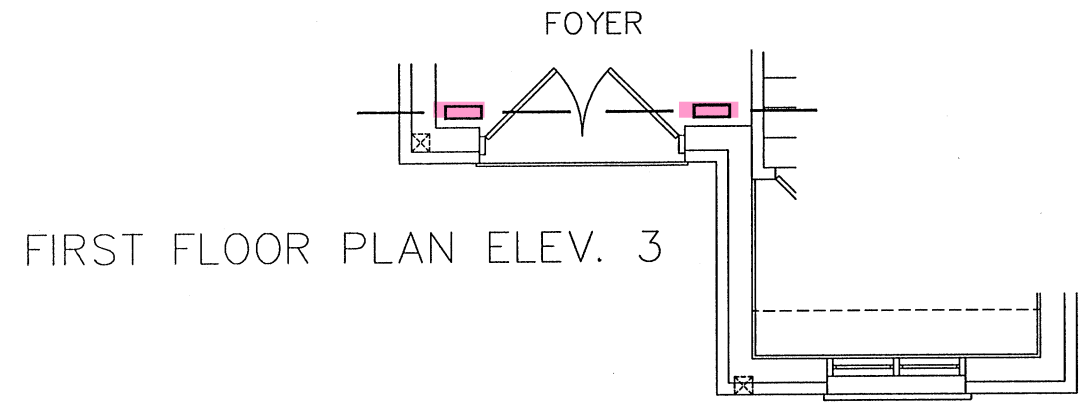
MAKE	AMANA
MODEL	AMEC960603BNA
INPUT	60 MBTU/H
OUTPUT	57.6 MBTU/H
COOLING	3.0 TONS
FAN SPEED	1131 cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	4	4
1ST FLOOR	8	2	2
BASEMENT	4	1	0

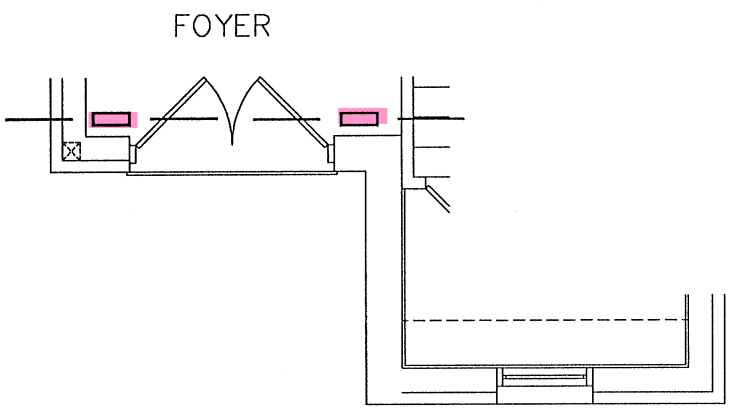
ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

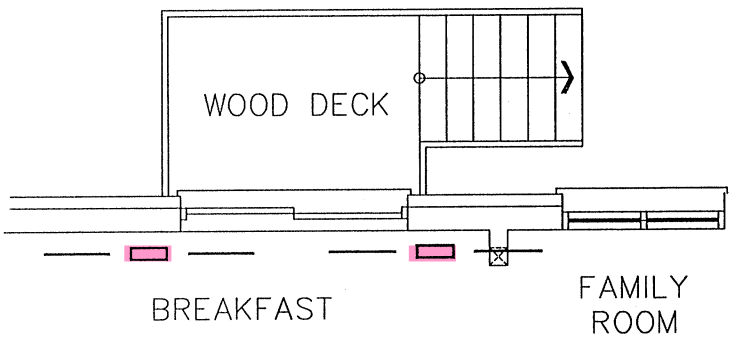
Date DEC/2016
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71351



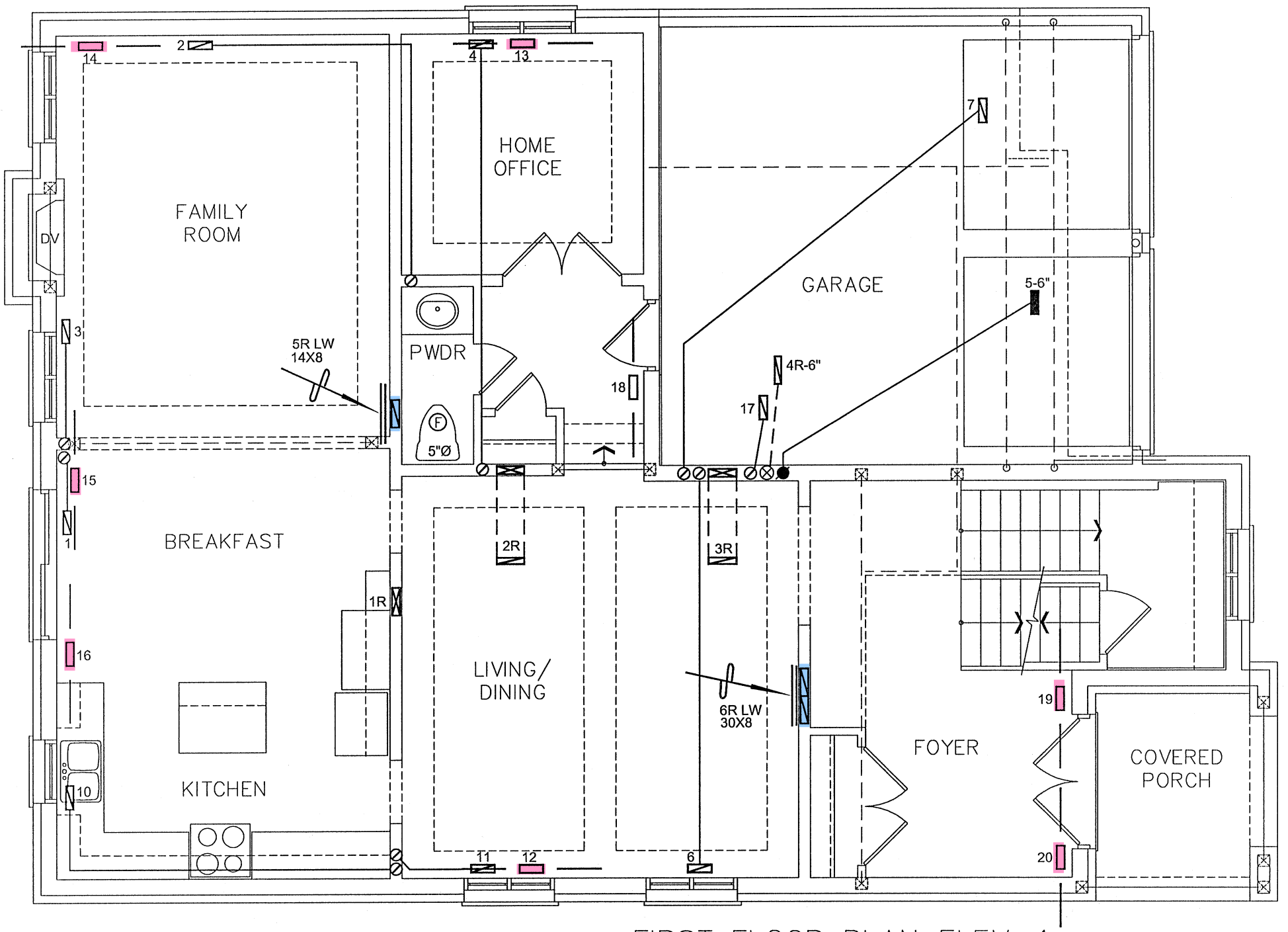
FIRST FLOOR PLAN ELEV. 3



FIRST FLOOR PLAN ELEV. 2



FLOOR PLAN FOR DECK CONDITION



FIRST FLOOR PLAN ELEV. 1

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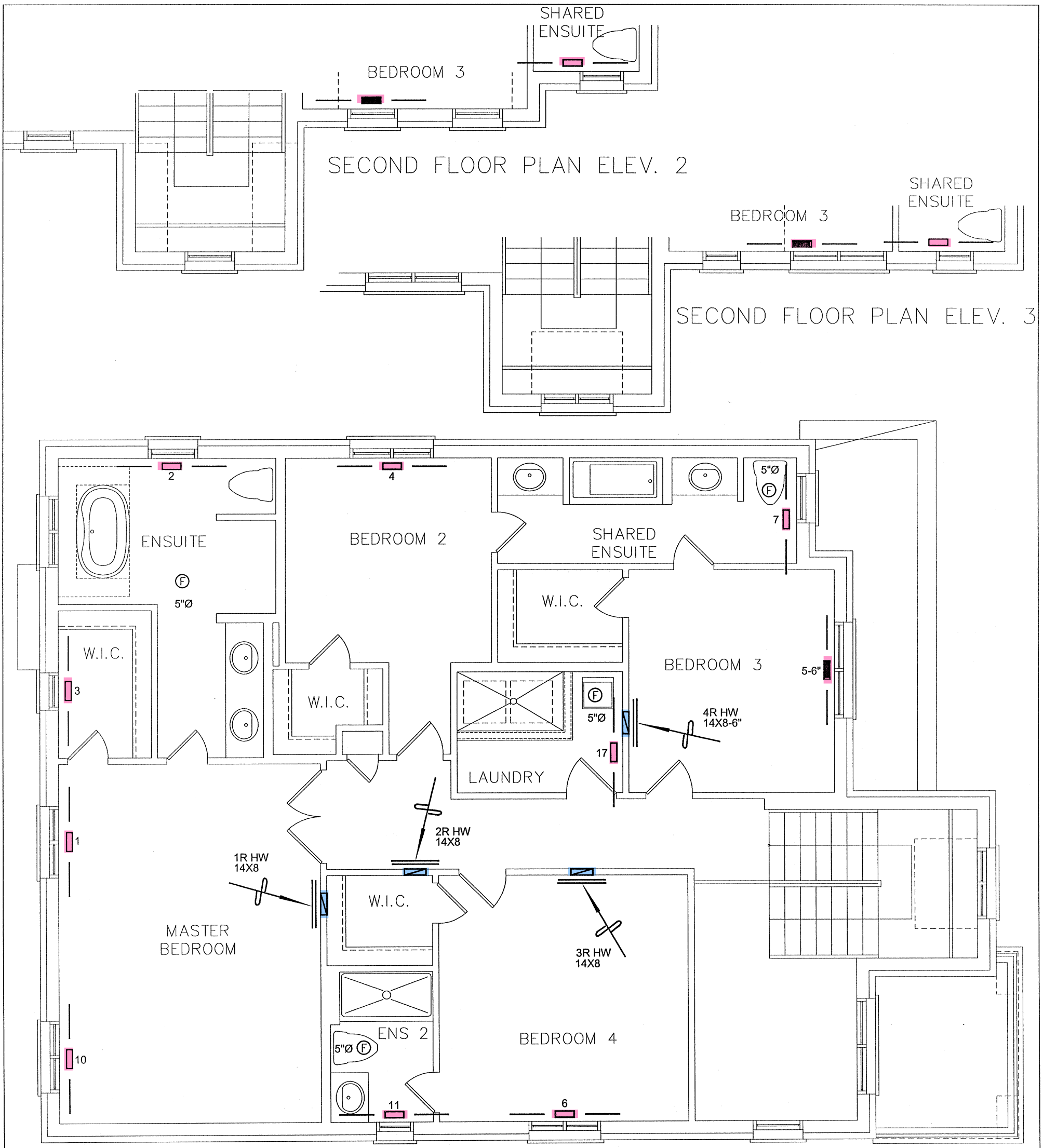
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date DEC/2016
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71351



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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date DEC/2016
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71351