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: Jan-17 | WINTER NATURAL AIR CHANGE RATE 0.263 | HEAT LOSS ΔT °F. 72 | CSA-F280-12
BUILDER: GREENPARK HOMES | TYPE: IVY 2 | GFA: 1641 | LO# 71713 | SUMMER NATURAL AIR CHANGE RATE 0.091 | HEAT GAIN ΔT °F. 15 | ENERGYSTAR

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BATH					
EXP. WALL			16			9			0			15			14			0					
CLG. HT.			9			9			9			9			9			9					
	FACTORS																						
GRS.WALL AREA	LOSS	GAIN	144			81			0			135			126			0					
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			
NORTH	20.4	16.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EAST	20.4	42.2	0	0	0	0	0	0	0	0	0	28	571	1181	10	204	422	0	0	0			
SOUTH	20.4	25.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
WEST	20.4	42.2	30	612	1266	13	265	549	0	0	0	0	0	0	0	0	0	0	0	0			
SKYLT.	35.7	102.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
DOORS	24.1	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
NET EXPOSED WALL	3.1	0.6	114	350	72	68	209	43	0	0	0	107	328	68	116	356	74	0	0	0			
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EXPOSED CLG	1.4	0.7	208	301	154	90	130	67	144	209	107	135	195	100	182	264	135	90	130	67			
NO ATTIC EXPOSED CLG	2.3	1.2	0	0	0	0	0	0	0	0	0	30	70	36	0	0	0	0	0	0			
EXPOSED FLOOR	2.3	0.5	52	121	25	0	0	0	50	117	24	165	385	80	0	0	0	0	0	0			
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0				
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0				
SUBTOTAL HT LOSS				1384			604			325			1550			823			130				
SUB TOTAL HT GAIN					1517			658			131			1465			630			67			
LEVEL FACTOR / MULTIPLIER			0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32				
AIR CHANGE HEAT LOSS				442			193			104			495			263			42				
AIR CHANGE HEAT GAIN					139			60			12			135			58			6			
DUCT LOSS				183			0			43			204			0			0				
DUCT GAIN					252			0			53			222			0			0			
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	0		0			
HEAT GAIN APPLIANCES/LIGHTS					385			385			385			385			385			0			
TOTAL HT LOSS BTU/H				2009			797			472			2249			1086			172				
TOTAL HT GAIN x 1.3 BTU/H					3606			1435			754			3181			1707			95			

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 2 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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TOWN OF MILTON
MAR 29, 2017
IVY 2
BUILDING DIVISION

ROOM USE			OFF			K/L/D						FOY			MUD						WOD			BAS		
EXP. WALL			32			46						16			10						28			107		
CLG. HT.			11			10						10			11						9			9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	352			460						160			110						252			885		
GLAZING				LOSS	GAIN		LOSS	GAIN					LOSS	GAIN		LOSS	GAIN					LOSS	GAIN		LOSS	GAIN
NORTH	20.4	16.6	0	0	0	0	0	0				0	0	0	0	0	0				10	204	166	4	82	66
EAST	20.4	42.2	50	1020	2110	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
SOUTH	20.4	25.5	0	0	0	12	245	307				0	0	0	0	0	0				0	0	0	0	0	0
WEST	20.4	42.2	0	0	0	56	1142	2363				0	0	0	0	0	0				0	0	0	0	0	0
SKYLT.	35.7	102.7	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
DOORS	24.1	5.0	0	0	0	20	481	100				28	673	140	20	481	100				0	0	0	20	481	100
NET EXPOSED WALL	3.1	0.6	302	926	192	372	1141	236				132	405	84	90	276	57				0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.8	0	0	0	0	0	0				0	0	0	0	0	0				158	572	119	78	283	59
EXPOSED CLG	1.4	0.7	110	159	81	56	81	41				0	0	0	0	0	0				0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.3	1.2	0	0	0	0	0	0				0	0	0	0	0	0				0	0	0	0	0	0
EXPOSED FLOOR	2.3	0.5	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								3104	
SLAB ON GRADE HEAT LOSS				0			0						0			0					0				
SUBTOTAL HT LOSS				2106			3091						1078			757					776			3949	
SUB TOTAL HT GAIN					2383			3047						223			157					285				225
LEVEL FACTOR / MULTIPLIER			0.30	0.33		0.30	0.33					0.30	0.33		0.30	0.33								0.50	0.81	
AIR CHANGE HEAT LOSS				690			1013						354			248								3842	
AIR CHANGE HEAT GAIN					219			280						21			14									47
DUCT LOSS				0			0						0			0								0	
DUCT GAIN					0			0						0			0									0
HEAT GAIN PEOPLE	240		0		0	1		240				0		0	0		0				0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					385			385						0			0						0			385
TOTAL HT LOSS BTU/H				2796			4104						1432			1005					776			7791	
TOTAL HT GAIN x 1.3 BTU/H					3883			5137						317			223					370				853

TOTAL HEAT GAIN BTU/H: 22001 TONS: 1.83 LOSS DUE TO VENTILATION LOAD BTU/H: 2127 STRUCTURAL HEAT LOSS: 24690 TOTAL COMBINED HEAT LOSS BTU/H: 26816

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: IVY 2 | DATE: Jan-17 | GFA: 1641 | LO# 71713

HEATING CFM	895	COOLING CFM	895	furnace pressure	0.6
TOTAL HEAT LOSS	24,690	TOTAL HEAT GAIN	21,561	furnace filter	0.05
AIR FLOW RATE CFM	36.25	AIR FLOW RATE CFM	41.51	a/c coil pressure	0.2
				available pressure for s/a & r/a	0.35

#AMANA
AMEC960302BNA 30

FAN SPEED	
LOW	
MEDLOW	
MEDIUM	
MEDIUM HIGH	557
HIGH	895

AFUE = 96 %
INPUT (BTU/H) = 30,000
OUTPUT (BTU/H) = 28,800
DESIGN CFM = 895
CFM @ .6 " E.S.P.
TEMPERATURE RISE 30 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	8	6	3
R/A	0	0	3	2	1

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.03	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.15	adjusted pressure r/a	0.15

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	12	13	14	15	19	20	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-2	BATH	MBR	OFF	OFF	K/L/D	K/L/D	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH.	1.00	0.80	0.47	1.12	1.09	1.12	0.17	1.00	1.40	1.40	2.05	2.05	1.43	1.01	2.86	2.86	2.86
CFM PER RUN HEAT	36	29	17	41	39	41	6	36	51	51	74	74	52	36	104	104	104
RM GAIN MBH.	1.80	1.43	0.75	1.59	1.71	1.59	0.09	1.80	1.94	1.94	2.57	2.57	0.32	0.22	0.41	0.41	0.41
CFM PER RUN COOLING	75	60	31	66	71	66	4	75	81	81	107	107	13	9	17	17	17
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.15	0.15	0.17	0.17	0.16	0.16	0.16
ACTUAL DUCT LGH.	36	32	34	36	30	31	31	45	31	36	20	34	21	22	30	13	29
EQUIVALENT LENGTH	170	180	130	125	140	160	130	160	130	110	150	100	110	80	90	140	120
TOTAL EFFECTIVE LENGTH	206	212	164	161	170	191	161	205	161	146	170	134	131	102	120	153	149
ADJUSTED PRESSURE	0.08	0.08	0.1	0.11	0.1	0.09	0.11	0.08	0.1	0.11	0.09	0.11	0.13	0.17	0.14	0.11	0.11
ROUND DUCT SIZE	5	5	4	5	5	5	4	5	5	5	6	6	4	4	6	6	6
HEATING VELOCITY (ft/min)	264	213	195	301	286	301	69	264	374	374	377	377	597	413	530	530	530
COOLING VELOCITY (ft/min)	551	441	356	485	521	485	46	551	595	595	546	546	149	103	87	87	87
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10
TRUNK	A	C	A	B	C	B	C	A	B	B	A	A	C	A	A	A	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

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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	481	0.08	10.7	14	x	8	618	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	288	0.09	8.5	8	x	8	648	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	414	0.08	10.1	12	x	8	621	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	895	0.06	14.5	24	x	8	671
TRUNK Y	360	0.06	10.3	12	x	8	540
TRUNK Z	0	0.06	0	0	x	8	0
DROP	895	0.06	14.5	24	x	10	537

RETURN AIR #	1	2	3	4	5											BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	85	170	85	215	190	0	0	0	0	0	0	0	0	0	0	150
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.	51	40	66	16	32	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	165	175	175	135	150	0	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	216	215	241	151	182	1	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.07	0.07	0.06	0.10	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	5.8	7.5	6	7.5	7.5	0	0	0	0	0	0	0	0	0	0	6.5
INLET GRILL SIZE	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
INLET GRILL SIZE	14	14	14	14	14	0	0	0	0	0	0	0	0	0	0	14

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.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: IVY 2 LO # 71713
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	2	@ 10.6 cfm	21.2	cfm
Kitchen & Bathrooms	4	@ 10.6 cfm	42.4	cfm
Other Rooms	4	@ 10.6 cfm	42.4	cfm
Table 9.32.3.A.		TOTAL	148.4	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	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	80	cfm
Required Supplemental Capacity	68.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 40H+ Location: BSMT

80.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
80.0 CFM	X	72 F	X	1.08	X	0.34

SUPPLEMENTAL FANS NUTONE

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

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 40H+

86 cfm high 37 cfm low

66 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

LOCATION OF INSTALLATION

Lot: C

Township Pl

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 2
BUILDING DIVISION

BUILDER: GR

Name:

Address:

City:

Telephone #:

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 2 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

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: January-17

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: IVY 2 **BUILDER:** GREENPARK HOMES
SFQT: 1641 **LO#** 71713 **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)	71

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	22596.0	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:	6.7 ft
LENGTH: 50.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	107.0 ft

2012 OBC - COMPLIANCE PACKAGE **Component**	**Compliance Package ENERGYSTAR** **Nominal**	
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+3.6	
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	

RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 2
BUILDING DIVISION

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

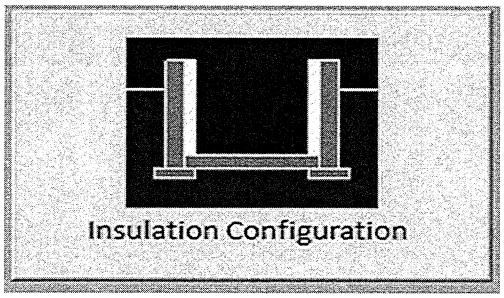
Michael O'Rourke.

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):	**15.2**	 Insulation Configuration
Floor Width (m):	**6.1**	
Exposed Perimeter (m):	**32.6**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**2.04**	
Window Area (m^2):	**1.3**	
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):	**909**	

TYPE: IVY 2
LO# 71713

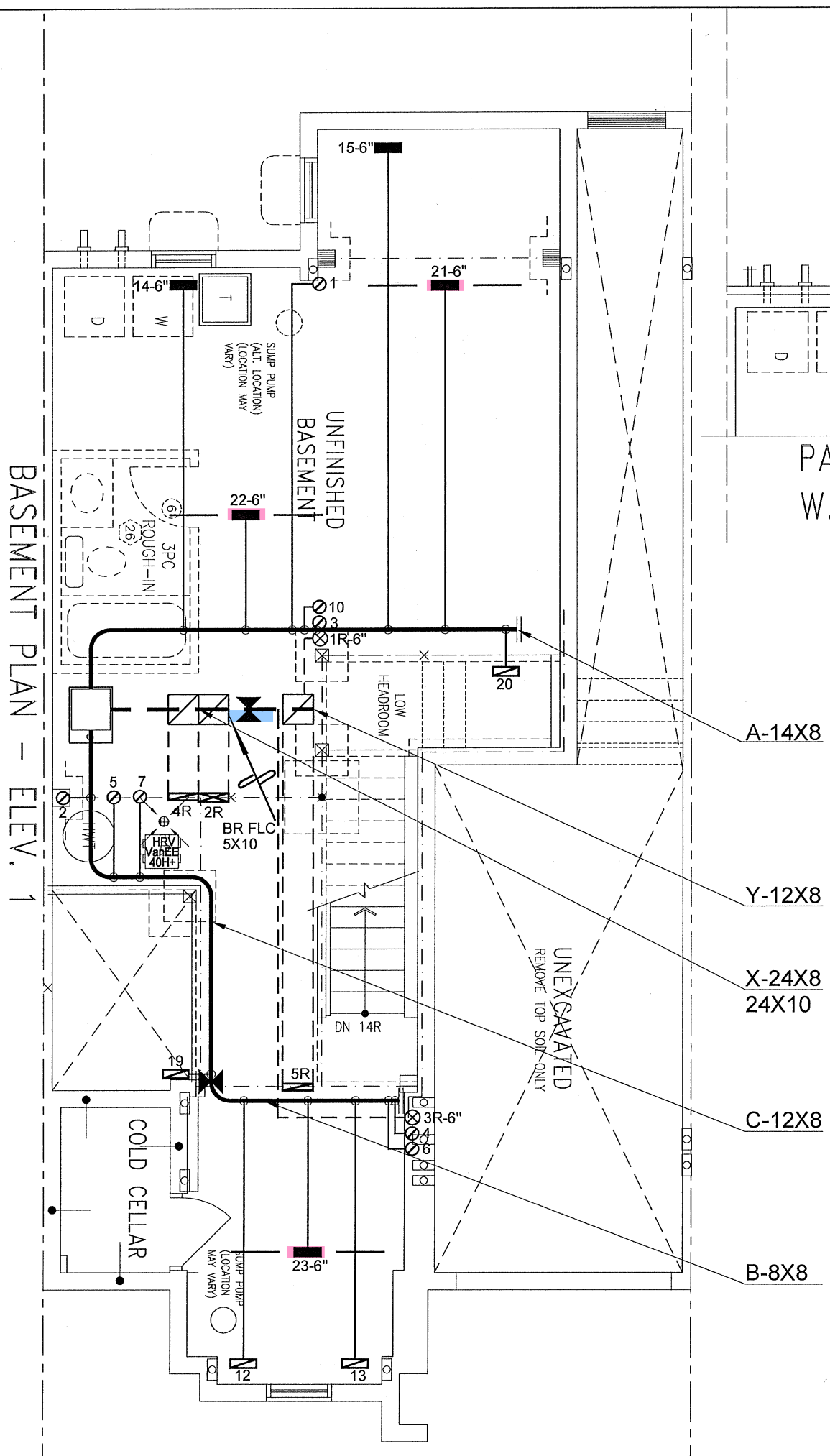
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

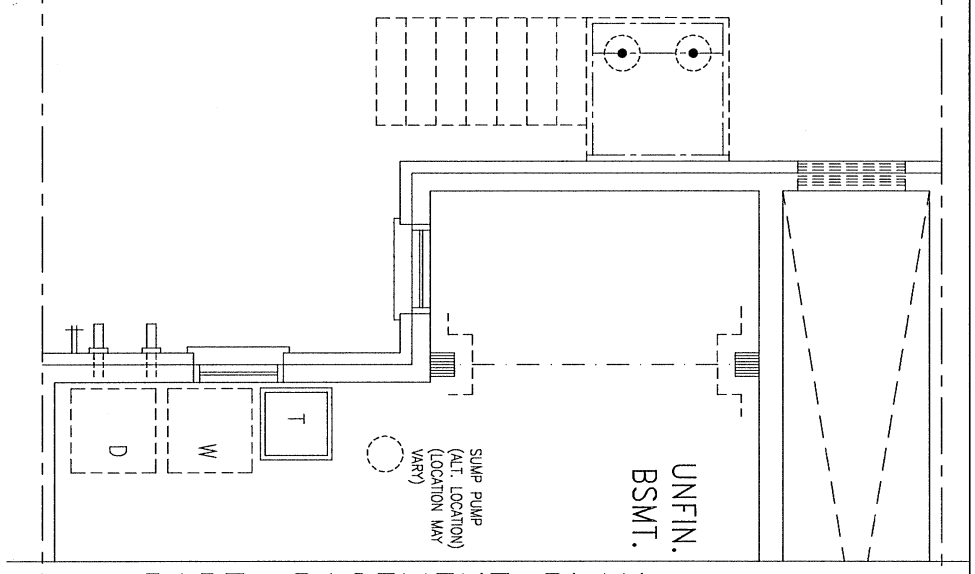
Air Infiltration Residential Load Calculator

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):	6.49
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	639.8
Air Leakage/Ventilation	
Air Tightness Type:	Energy Star Attached (3.0 ACH)
Custom BDT Data:	ELA @ 10 Pa. 716.8 cm^2
	3.00 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 37.8 / Total Exhaust 37.8
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.263**
Cooling Air Leakage Rate (ACH/H):	**0.091**

TYPE: IVY 2
LO# 71713





PART. BASEMENT PLAN
W.O.D CONDITION (8R OR MORE)

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

TOWN OF MILTON
PLANNING AND DEVELOPMENT
IVY 2 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
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RECEIVED
TOWN OF MILTON
MAR 29, 2017
IVY 2
BUILDING DIVISION

CSA-F280-12

ENERGY STAR

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.

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

IVY 2 1641 sqft

HVAC DESIGNS LTD.
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
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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 26816 BTU/H

UNIT DATA

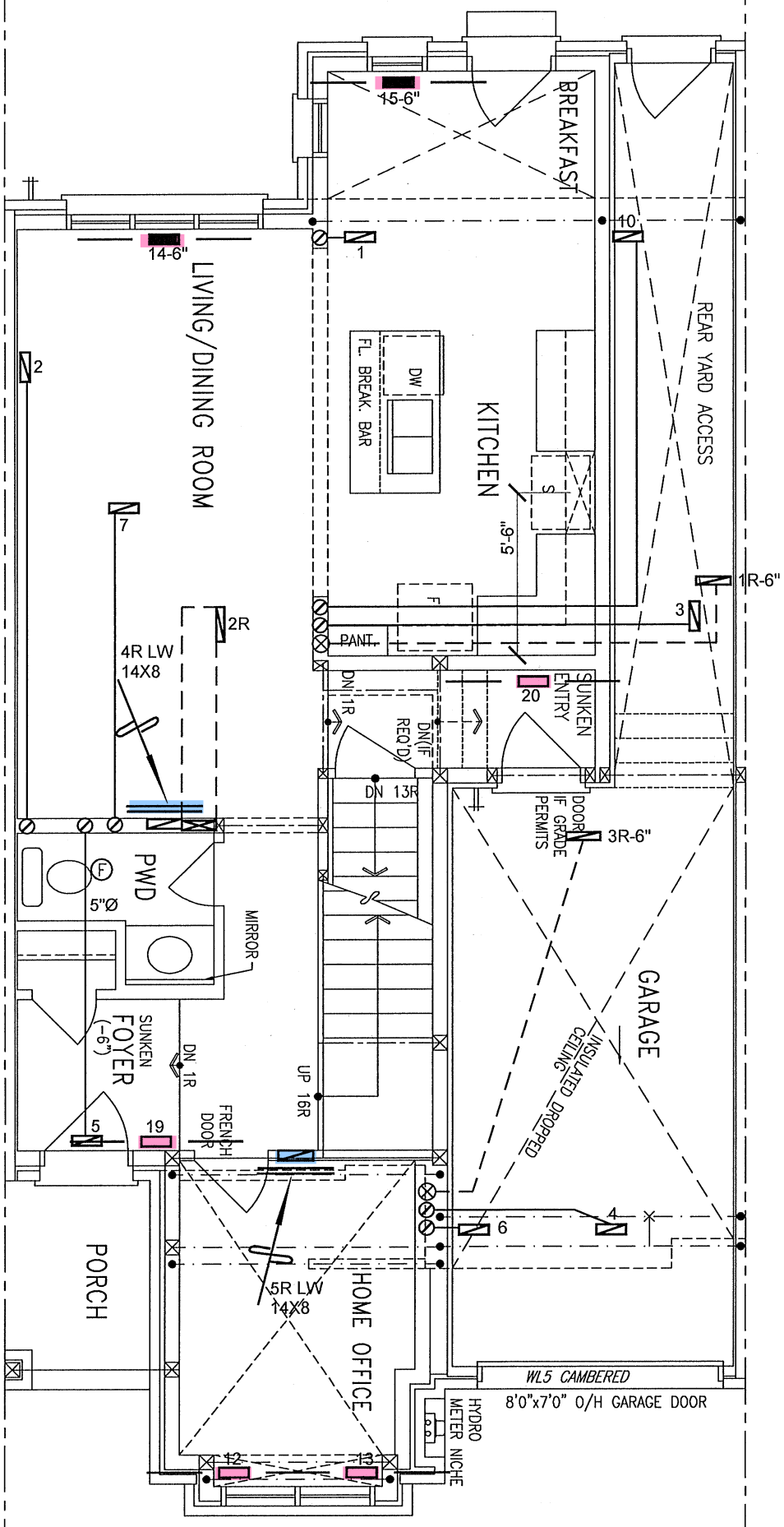
MAKE	AMANA	
MODEL	AMEC960302BNA-30	
INPUT	30	MBTU/H
OUTPUT	28.8	MBTU/H
COOLING	2.0	TONS
FAN SPEED	895	cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	2
1ST FLOOR	6	2	2
BASEMENT	3	1	0

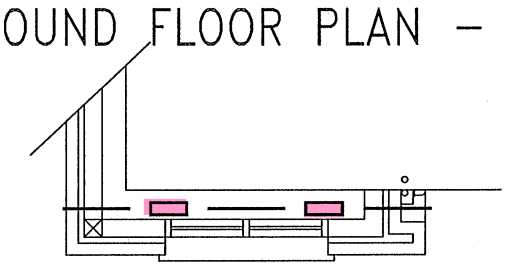
ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

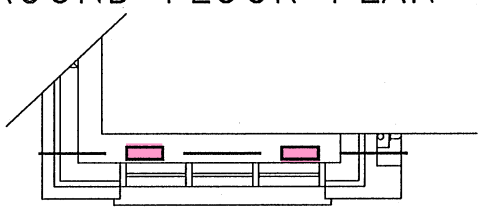
Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71713



GROUND FLOOR PLAN – ELEV. 1



GROUND FLOOR PLAN – ELEV. 2



GROUND FLOOR PLAN – ELEV. 3

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TOWN OF MILTON
MAR 29, 2017
IVY 2
BUILDING DIVISION

TOWN OF MILTON
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IVY 2 MODEL
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CSA-F280-12

ENERGY STAR

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Project Name
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IVY 2 1641 sqft

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Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2017
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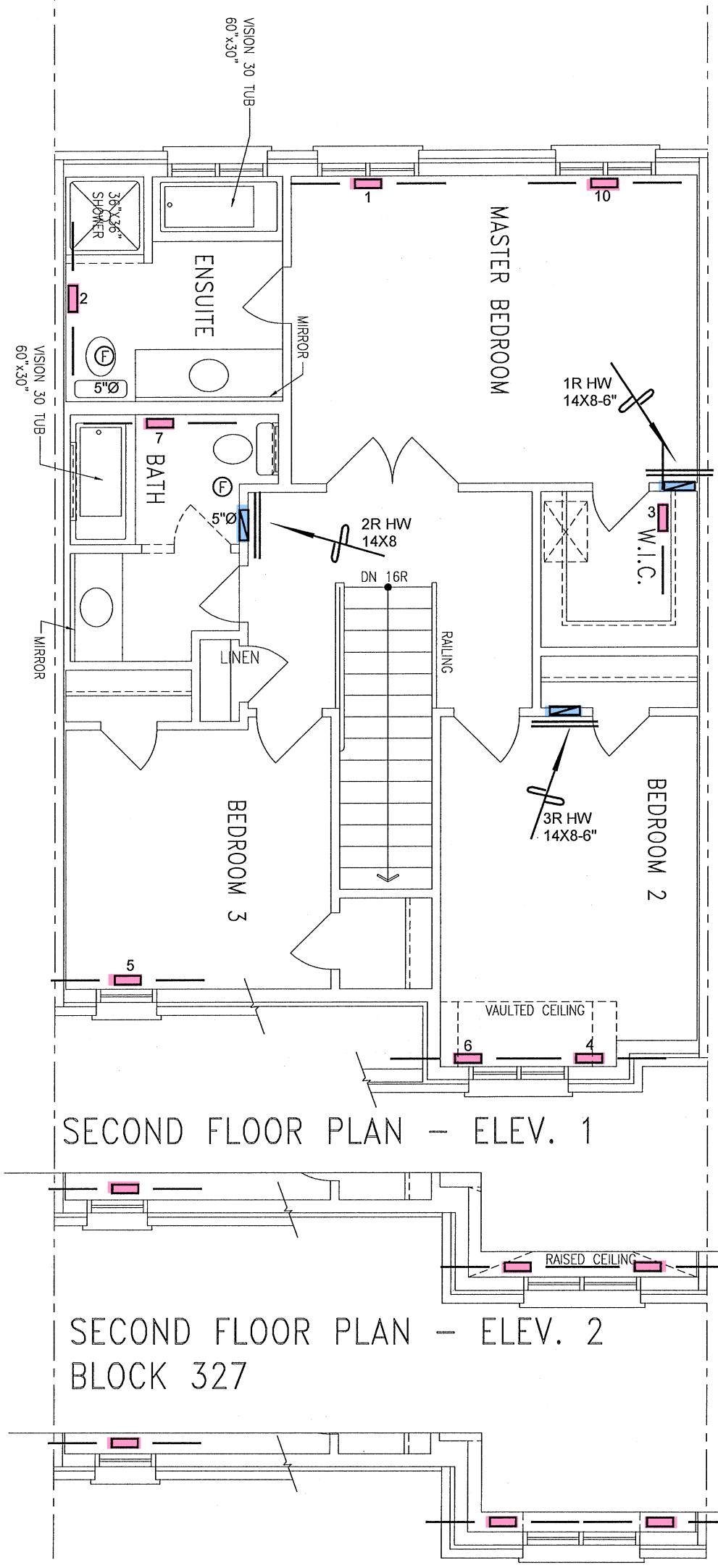
BCIN# 19669
LO# 71713



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GREENPARK HOMES

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MILTON, ONTARIO

IVY 2 1641 sqft

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JAN/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 71713