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 — WUP — DATE: Feb-17 — WINTER NATURAL AIR CHANGE RATE 0.307 — HEAT LOSS ΔT °F. 72 — CSA-F280-12
BUILDER: GREENPARK HOMES — TYPE: JUNIPER 7 — GFA: 3113 — LO# 72385 — 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			ENS-2		
EXP. WALL			34			28			7			14			42			14			7			22			22		
CLG. HT.			10			9			9			9			10			9			9			9			9		
	FACTORS																												
GRS.WALL AREA	LOSS	GAIN	340			252			63			126			420			126			63			198			198		
GLAZING			LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN
NORTH	17.9	15.8	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
EAST	17.9	41.4	0	0	0	0	0	0	0	0	0	33	589	1367	76	1357	3148	0	0	0	0	0	0	16	286	663	16	286	663
SOUTH	17.9	24.8	0	0	0	14	250	347	0	0	0	0	0	0	0	0	0	15	268	372	7	125	173	0	0	0	0	0	0
WEST	17.9	41.4	40	714	1657	13	232	538	7	125	290	0	0	0	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	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	0	0	0
NET EXPOSED WALL	2.6	0.5	300	785	152	225	589	114	56	147	28	93	243	47	344	900	174	111	290	56	56	147	28	182	476	92	182	476	92
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	0	0	0
EXPOSED CLG	1.4	0.7	288	397	197	195	269	134	112	154	77	172	237	118	191	263	131	210	289	144	140	193	96	96	132	66	96	132	66
NO ATTIC EXPOSED CLG	2.2	1.1	0	0	0	0	0	0	0	0	0	20	45	22	138	310	154	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.2	0.4	0	0	0	0	0	0	0	0	0	192	421	81	20	44	8	0	0	0	20	44	8	96	210	41	96	210	41
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0			0		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0			0		
SUBTOTAL HT LOSS			1896			1339			426			1535			2874			848			508			1105			1105		
SUB TOTAL HT GAIN					2006			1133			395			1635			3615			572			306		861			861
LEVEL FACTOR / MULTIPLIER			0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30		0.20	0.30	
AIR CHANGE HEAT LOSS			573			405			129			464			869			256			154			334			334		
AIR CHANGE HEAT GAIN					155			87			30			126			279			44			24		66			66
DUCT LOSS			0			0			0			200			374			0			66			144			144		
DUCT GAIN					0			0			0			263			477			0			33		156			156
HEAT GAIN PEOPLE	240		2		480	1		240	0		0	1		240	1		240	1		240	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					633			0			0			633			633			633			0		633			633
TOTAL HT LOSS BTU/H			2469			1744			555			2199			4117			1104			728			1582			1582		
TOTAL HT GAIN x 1.3 BTU/H					4256			1898			553			3767			6817			1935			471		2232			2232

ROOM USE			LV/DN			OFF			KT/FM				LAUN			W/R			FOY			MUD					WUP			BAS		
EXP. WALL			26			23			78				11			7			20			28					15			180		
CLG. HT.			10			10			10				9			10			10			11					10			10		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	260			230			780				99			70			200			308					143			1170		
GLAZING			LOSS		GAIN	LOSS		GAIN	LOSS		GAIN		LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN			LOSS		GAIN	LOSS		GAIN
NORTH	17.9	15.8	0	0	0	10	179	158	0	0	0		7	125	111	0	0	0	20	357	317	9	161	143			0	0	0	3	54	48
EAST	17.9	41.4	0	0	0	37	661	1533	0	0	0		0	0	0	0	0	0	6	107	249	0	0	0			0	0	0	0	0	0
SOUTH	17.9	24.8	34	607	842	0	0	0	0	0	0		0	0	0	7	125	173	0	0	0	0	0	0			0	0	0	0	0	0
WEST	17.9	41.4	0	0	0	0	0	0	111	1982	4598		0	0	0	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	0	0	0
DOORS	24.1	4.7	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	20	481	93	20	481	93			20	481	93	20	481	93
NET EXPOSED WALL	2.6	0.5	226	591	114	183	479	93	669	1750	338		92	241	47	63	165	32	154	403	78	279	730	141			123	321	62	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	0	0	0			0	0	0	540	1802	349
EXPOSED CLG	1.4	0.7	0	0	0	0	0	0	6	8	4		253	349	173	0	0	0	0	0	0	0	0	0			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	0	0	0	0	0	0	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	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								6071		
SLAB ON GRADE HEAT LOSS			0			0			0				0			0			0			0					0					
SUBTOTAL HT LOSS			1198			1318			3740				714			290			1348			1372					802			8408		
SUB TOTAL HT GAIN					956			1784			4940				331			205			736			377					155			489
LEVEL FACTOR / MULTIPLIER			0.30	0.55		0.30	0.55		0.30	0.55			0.20	0.30		0.30	0.55		0.30	0.55		0.30	0.55							0.50	0.92	
AIR CHANGE HEAT LOSS			659			725			2058				216			159			742			755								8499		
AIR CHANGE HEAT GAIN					74			138			381				26			16			57			29								50
DUCT LOSS			0			0			0				0			0			0			0								0		
DUCT GAIN					0			0			0				0			0			0			0								0
HEAT GAIN PEOPLE	240		0		0	0		0	1		240		1		240	0		0	0		0	0		0			0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					633			633			633				633			0			0			633					0			0
TOTAL HT LOSS BTU/H			1858			2043			5799				930			449			2090			2127					802			16908		
TOTAL HT GAIN x 1.3 BTU/H					2162			3320			8052				1598			287			1031			1350					202			700

TOTAL HEAT GAIN BTU/H: 41088 TONS: 3.42 LOSS DUE TO VENTILATION LOAD BTU/H: 2354 STRUCTURAL HEAT LOSS: 47503 TOTAL COMBINED HEAT LOSS BTU/H: 49857

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

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 7 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

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 7
BUILDING DIVISION

HVAC DESIGNS LTD.

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SITE NAME: LECCO RIDGE
BUILDER: GREENPARK HOMES

WUP
TYPE: JUNIPER 7

DATE: Feb-17

GFA: 3113 LO# 72385

HEATING CFM	1316	COOLING CFM	1316
TOTAL HEAT LOSS	47,503	TOTAL HEAT GAIN	40,633
AIR FLOW RATE CFM	27.7	AIR FLOW RATE CFM	32.39

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
AMVC960804CNA 80
FAN SPEED
LOW 1316
MEDLOW 0
MEDIUM 1389
MEDIUM HIGH 0
HIGH 1396

AFUE = 96.0 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 76,800

DESIGN CFM = 1316
CFM @ .6 " E.S.P.

TEMPERATURE RISE 54 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	5
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	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	ENS	MBR	ENS-2	OFF	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.23	0.87	0.55	2.20	2.06	1.10	0.73	2.06	0.87	1.23	1.58	2.04	1.86	1.93	1.93	1.93	0.93	0.45	2.09	2.13	3.54	3.54	3.54	3.54
CFM PER RUN HEAT	34	24	15	61	57	31	20	57	24	34	44	57	51	54	54	54	26	12	58	59	98	98	98	98
RM GAIN MBH.	2.13	0.95	0.55	3.77	3.41	1.94	0.47	3.41	0.95	2.13	2.23	3.32	2.16	2.68	2.68	2.68	1.60	0.29	1.03	1.35	0.18	0.18	0.18	0.18
CFM PER RUN COOLING	69	31	18	122	110	63	15	110	31	69	72	108	70	87	87	87	52	9	33	44	6	6	6	6
ADJUSTED PRESSURE	0.17	0.17	0.17	0.15	0.15	0.17	0.17	0.15	0.17	0.17	0.17	0.15	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	57	29	49	43	41	21	50	46	27	47	49	29	7	44	31	23	42	22	34	39	57	16	12	26
EQUIVALENT LENGTH	140	170	120	130	140	190	130	170	180	130	120	110	130	150	110	130	130	160	120	110	130	120	120	100
TOTAL EFFECTIVE LENGTH	197	199	169	173	181	211	180	216	207	177	169	139	137	194	141	153	172	182	154	149	187	136	132	126
ADJUSTED PRESSURE	0.09	0.09	0.1	0.09	0.08	0.08	0.1	0.07	0.08	0.1	0.1	0.11	0.13	0.08	0.11	0.11	0.1	0.09	0.11	0.12	0.09	0.12	0.12	0.13
ROUND DUCT SIZE	5	4	4	**6**	**6**	5	4	**6**	4	5	5	**6**	5	**6**	5	5	4	4	4	4	**6**	5	5	5
HEATING VELOCITY (ft/min)	250	275	172	311	291	228	229	291	275	250	323	291	374	275	396	396	298	138	665	677	500	720	720	720
COOLING VELOCITY (ft/min)	507	356	207	622	561	463	172	561	356	507	529	551	514	444	639	639	597	103	379	505	31	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10
TRUNK	A	B	B	D	C	D	D	C	D	B	D	C	D	A	B	B	A	C	C	A	A	B	D	C

RUN #	25
ROOM NAME	BAS
RM LOSS MBH.	3.54
CFM PER RUN HEAT	98
RM GAIN MBH.	0.18
CFM PER RUN COOLING	6
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH.	28
EQUIVALENT LENGTH	130
TOTAL EFFECTIVE LENGTH	158
ADJUSTED PRESSURE	0.1
ROUND DUCT SIZE	**6**
HEATING VELOCITY (ft/min)	500
COOLING VELOCITY (ft/min)	31
OUTLET GRILL SIZE	4X10
TRUNK	B

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 7
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	271	0.08	8.6	8	x	8	610	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	648	0.08	11.9	16	x	8	729	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	339	0.07	9.7	12	x	8	509	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	668	0.07	12.5	18	x	8	668	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	1141	0.06	15.8	30	x	8	685
TRUNK Y	660	0.06	12.9	20	x	8	594
TRUNK Z	310	0.06	9.7	12	x	8	465
DROP	1316	0.06	16.7	24	x	12	658

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	155	185	175	95	155	350	0	0	0	0	0	0	0	0	0	201
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.	63	52	52	52	46	23	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	195	145	170	175	200	185	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	258	197	222	227	246	208	1	1	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.06	0.08	0.07	0.07	0.06	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	7.5	7.5	7.5	6	7.5	9.8	0	0	0	0	0	0	0	0	0	7.5
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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INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: JUNIPER 7 LO # 72385
SITE NAME: LECCO RIDGE WUP

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
W/R	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:

Township

Address

Roll #

RECEIVED
TOWN OF MILTON
MAR 29, 2017
JUNIPER 7
BUILDING DIVISION

TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 7 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:

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: February-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

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

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	JUNIPER 7		WUP	**BUILDER:**	GREENPARK HOMES
SFQT:	3113	**LO#**	72385	**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):	42801.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.40	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.5 ft
LENGTH: 51.0 ft	WIDTH: 39.0 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

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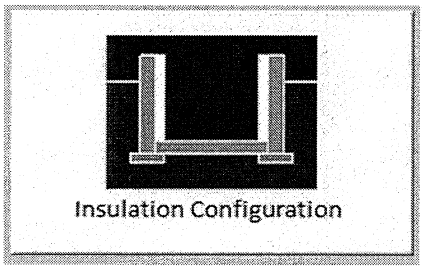
Residential Foundation Thermal Load Calculator

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):	**15.5**	 Insulation Configuration
Floor Width (m):	**11.9**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**2.9**	
Depth Below Grade (m):	**2.0**	
Window Area (m^2):	**0.3**	
Door Area (m^2):	**3.7**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**1779**	

TYPE: JUNIPER 7
LO# 72385

WUP

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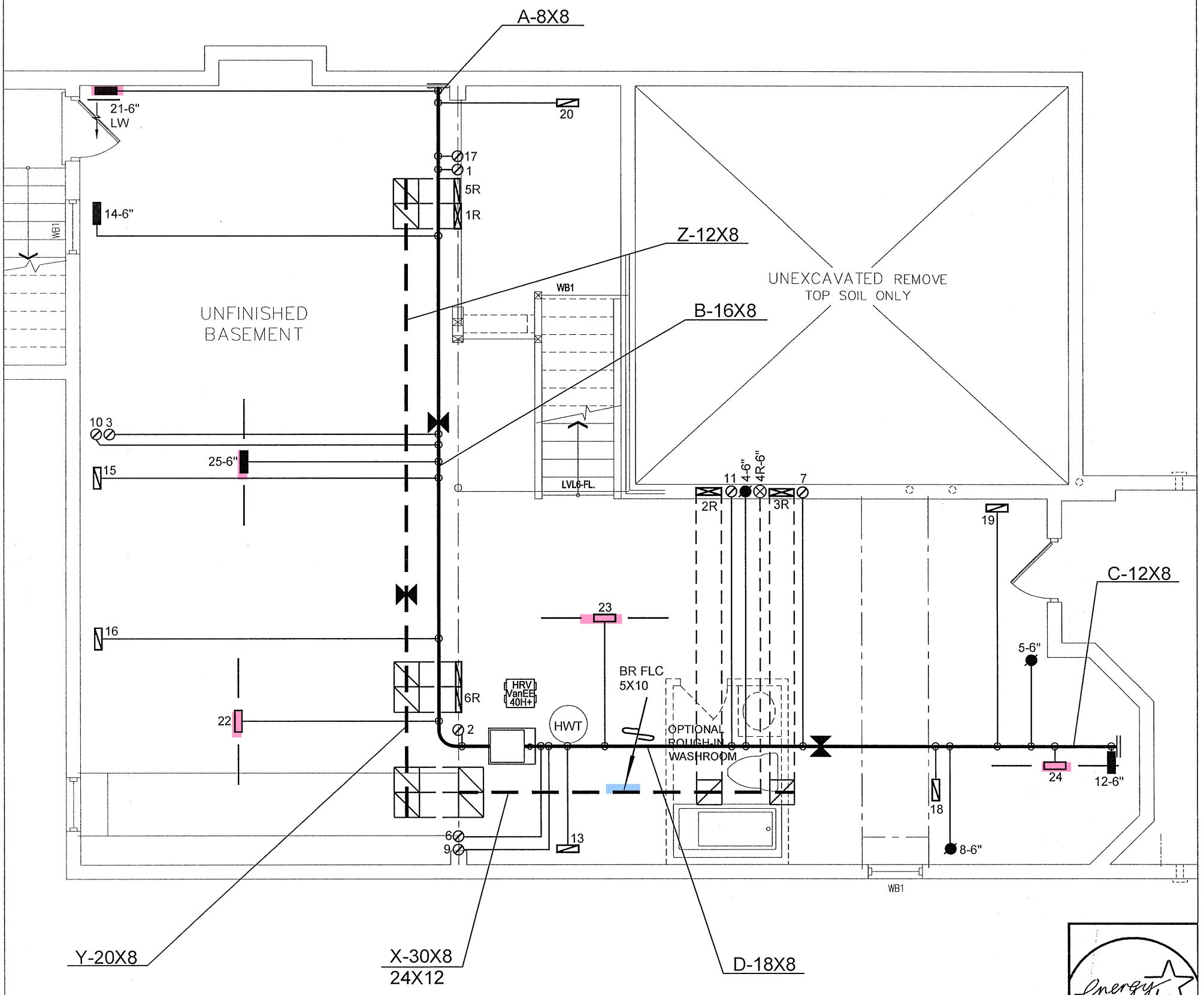
Air Infiltration Residential Load Calculator

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):	1212.0
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1615.6 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 7
LO# 72385

WUP



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 7
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 7 WUP 3113 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
MAKE
MODEL AM\
INPUT
OUTPUT
COOLING
FAN SPEED

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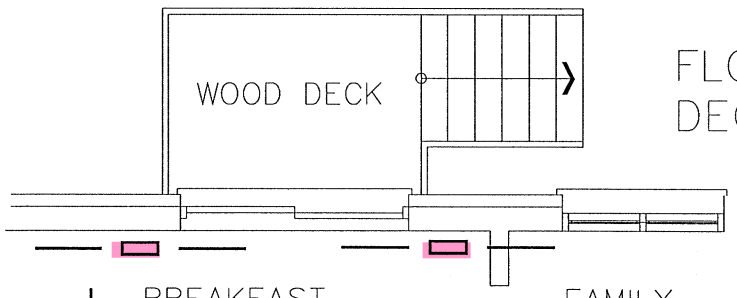
SE

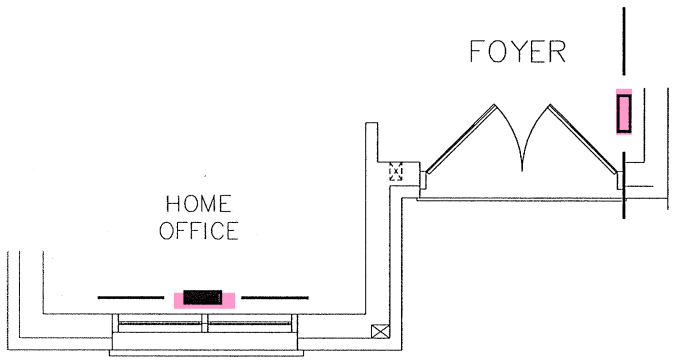
TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 7 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
PLANS EXAMINER DATE
Neither the issuance of a permit nor carrying out of inspections by the Town of Milton relives the owner from full responsibility for compliance with the provisions of the Ontario 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

Sheet Title
BASEMENT HEATING LAYOUT

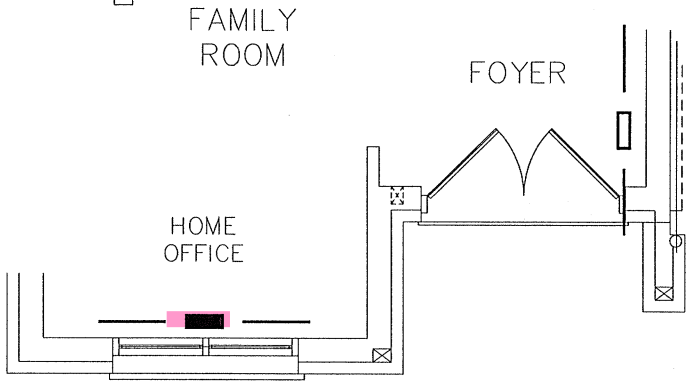
Date FEB/2017
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 72385

FLOOR PLAN FOR DECK CONDITION

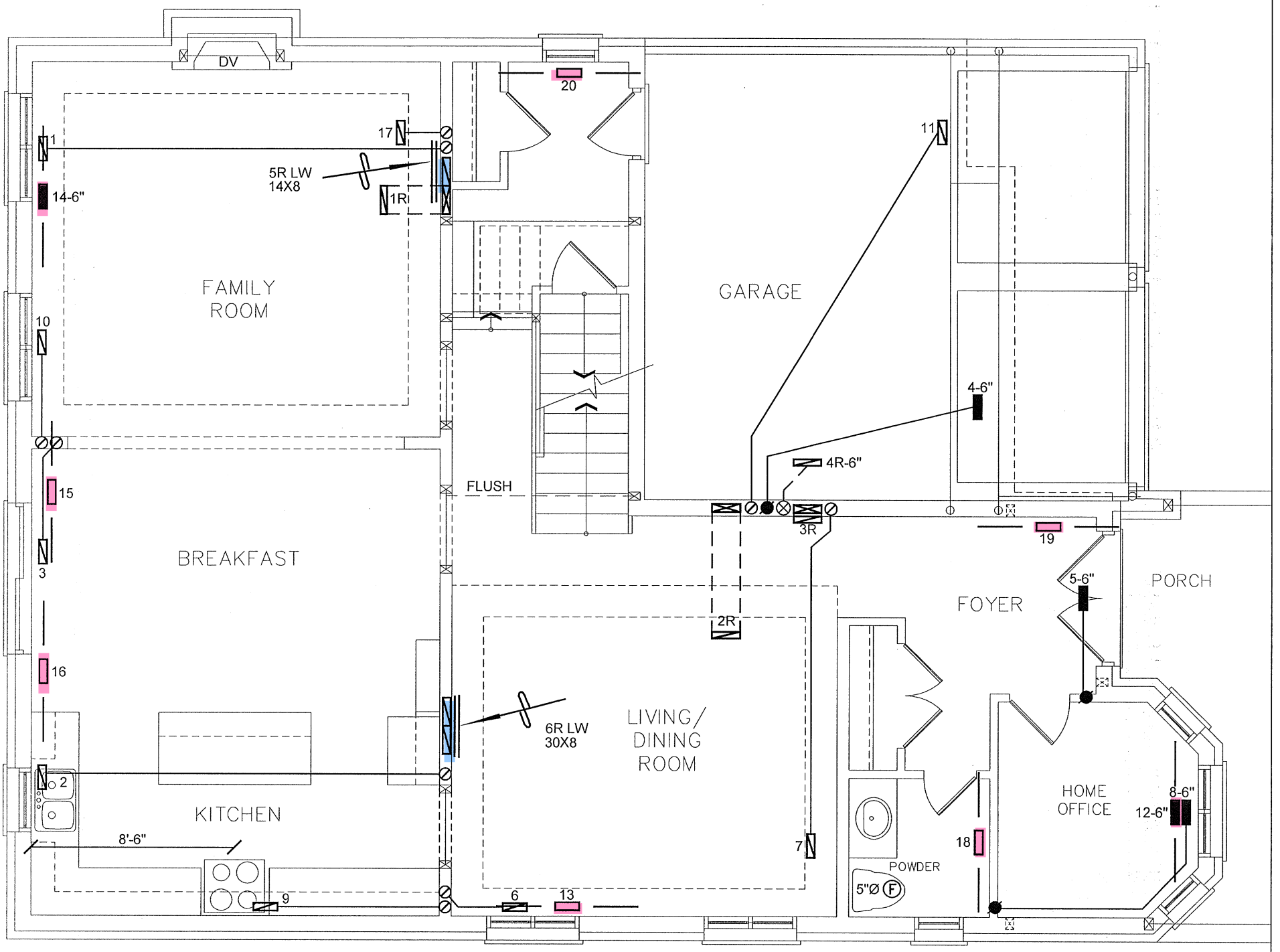




FIRST FLOOR PLAN '2'



FIRST FLOOR PLAN '3'



FIRST FLOOR PLAN '1'

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JUNIPER 7
BUILDING DIVISION

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

ENERGY STAR
CSA-F280-12

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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND

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▱	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▬	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

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MILTON, ONTARIO

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TOWN OF MILTON
PLANNING AND DEVELOPMENT
JUNIPER 7 MODEL
BUILDING: REVIEWED
SCOTT SHERRIFFS APR 7, 2017
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FIRST FLOOR HEATING LAYOUT

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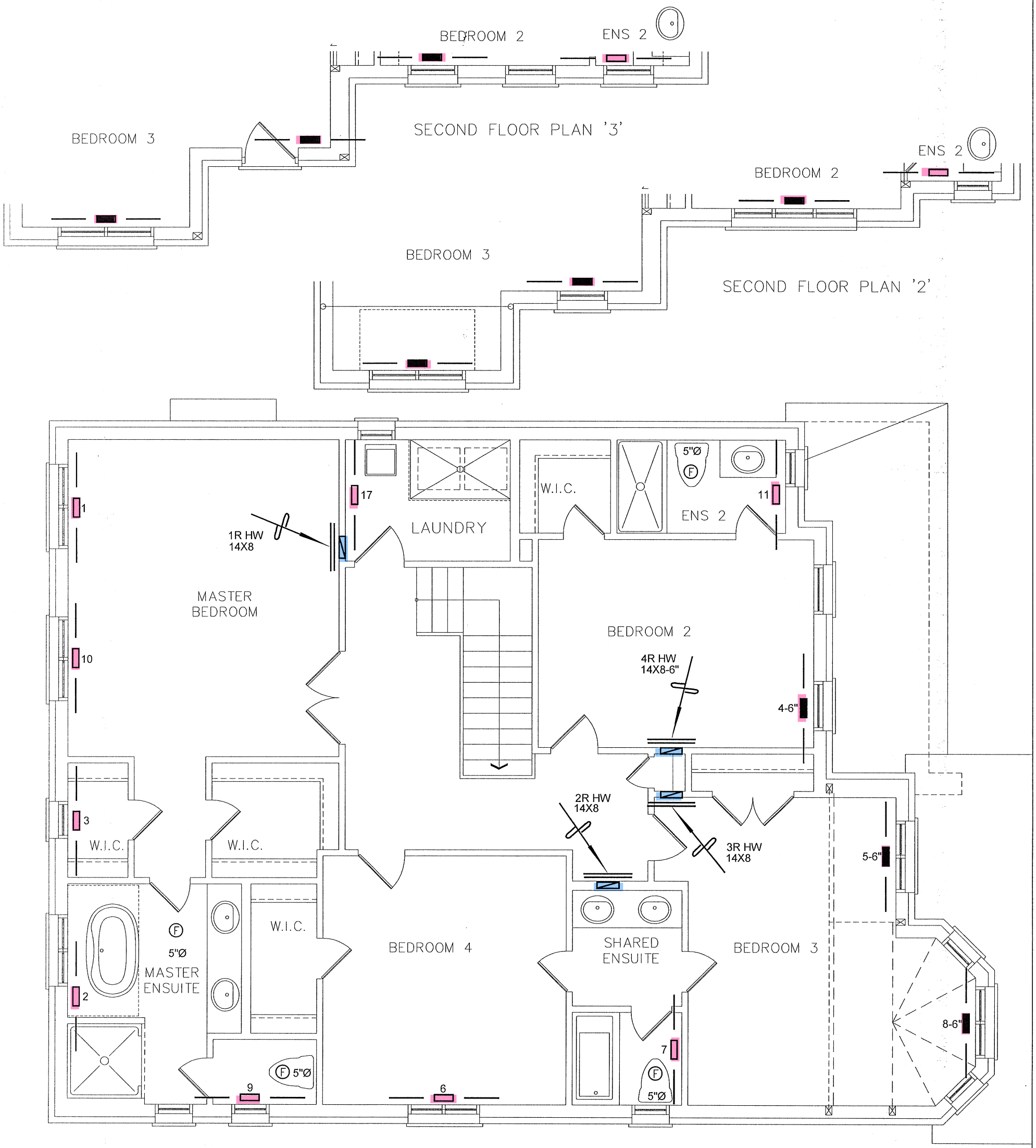

SECOND FLOOR PLAN '1'

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