Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name		Unit no.	Lot/con.
Municipality	**Postal code**	**Plan number/ other description**	
INNISFIL			

B. Individual who reviews and takes responsibility for design activities

Name		Firm	
MICHAEL O'ROURKE		**HVAC DESIGNS LTD.**	
Street address		**Unit no.**	**Lot/con.**
375 FINLEY AVE		**202**	**N/A**
Municipality	**Postal code**	**Province**	**E-mail**
AJAX	**L1S 2E2**	**ONTARIO**	**info@hvacdesigns.ca**
Telephone number	**Fax number**		**Cell number**
(905) 619-2300	**(905) 619-2375**		**( )**

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]

☐ House	☒ HVAC – House	☐ Building Structural
☐ Small Buildings	☐ Building Services	☐ Plumbing – House
☐ Large Buildings	☐ Detection, Lighting and Power	☐ Plumbing – All Buildings
☐ Complex Buildings	☐ Fire Protection	☐ On-site Sewage Systems

Description of designer's work	
HEAT LOSS / GAIN CALCULATIONS **DUCT SIZING** **RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY** **RESIDENTIAL SYSTEM DESIGN per CSA-F280-12**	**Model:** TH-12E **Project:** ALCONA

D. Declaration of Designer

I **MICHAEL O'ROURKE** declare that (choose one as appropriate):
(print name)

☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____
Firm BCIN: _____

☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Di vision C, of the Building Code.

Individual BCIN: 19669
Basis for exemption from registration and qualification: O.B.C SENTENCE 3.2.4.1 (4)

☐ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

June 14, 2018
Date

Signature of Designer

NOTE:

1. For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d).of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
2. Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

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SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON TYPE: TH-12E GFA: 1996 DATE: Jun-18 LO# 78882

WINTER NATURAL AIR CHANGE RATE 0.348 HEAT LOSS ΔT °F. 83 CSA-F280-12
SUMMER NATURAL AIR CHANGE RATE 0.090 HEAT GAIN ΔT °F. 12 SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH		
EXP. WALL			31			7			0			10			36			20			0		
CLG. HT.			9			9			9			9			9			9			9		
	FACTORS																						
GRS.WALL AREA	LOSS	GAIN	279			63			0			90			324			180			0		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	23.3	15.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	23.3	41.4	0	0	0	0	0	0	0	0	0	22	513	910	22	513	910	0	0	0	0	0	0
SOUTH	23.3	24.7	0	0	0	0	0	0	0	0	0	0	0	0	19	443	470	28	652	692	0	0	0
WEST	23.3	41.4	28	652	1159	13	303	538	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	40.8	101.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	27.6	4.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	251	1226	180	50	244	36	0	0	0	68	332	49	283	1383	203	152	743	109	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	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	0.6	238	334	137	119	167	69	60	84	35	160	225	92	209	294	121	220	309	127	110	155	64
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0	0	0	0	160	447	66	10	28	4	0	0	0	44	123	18
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2213			714			84			1516			2659			1704			277	
SUB TOTAL HT GAIN					1476			643			35			1117			1708			928			82
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	
AIR CHANGE HEAT LOSS				671			217			26			460			807			517			84	
AIR CHANGE HEAT GAIN					92			40			2			70			107			58			5
DUCT LOSS				0			0			0			198			347			0			36	
DUCT GAIN					0			0			0			188			251			0			9
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0
HEAT GAIN APPLIANCES/LIGHTS					458			0			0			458			458			458			0
TOTAL HT LOSS BTU/H				2884			931			110			2174			3813			2221			398	
TOTAL HT GAIN x 1.3 BTU/H					3258			887			48			2695			3593			2190			124

ROOM USE			FAM				KIT				LAUN			W/R			FOY				LOD			BAS		
EXP. WALL			22				32				19			8			45				45			129		
CLG. HT.			10				10				10			12			16				9			9		
	FACTORS																									
GRS.WALL AREA	LOSS	GAIN	220				320				190			96			720				405			1044		
GLAZING			LOSS	GAIN			LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN	
NORTH	23.3	15.8	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EAST	23.3	41.4	0	0	0		0	0	0		0	0	0	0	0	0	20	466	828		0	0	0	0	0	0
SOUTH	23.3	24.7	42	978	1039		0	0	0		0	0	0	0	0	0	28	652	692		0	0	0	8	186	198
WEST	23.3	41.4	0	0	0		57	1328	2359		0	0	0	0	0	0	0	0	0		5	116	207	0	0	0
SKYLT.	40.8	101.3	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
DOORS	27.6	4.1	0	0	0		0	0	0		0	0	0	0	0	0	20	553	81		0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	178	870	128		263	1285	188		190	928	136	96	469	69	652	3185	467		0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.9	0.6	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0		265	1044	153	117	461	68
EXPOSED CLG	1.4	0.6	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0		0	0	0		0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	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								
SLAB ON GRADE HEAT LOSS				0				0				0			0			0						4498		
SUBTOTAL HT LOSS				1848				2613				928			469			4856				0			5145	
SUB TOTAL HT GAIN					1166				2547				136			69			2068			1160				265
LEVEL FACTOR / MULTIPLIER			0.30	0.39			0.30	0.39			0.30	0.39		0.30	0.39		0.30	0.39					360	0.50	1.10	
AIR CHANGE HEAT LOSS				720				1017				361			183			1891							6953	
AIR CHANGE HEAT GAIN					73				159				8			4			129							39
DUCT LOSS				0				0				0			0			0						0		
DUCT GAIN					0				0				0			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					458				458				458			0			0							458
TOTAL HT LOSS BTU/H				2568				3630				1290			652			6747				1160			12098	
TOTAL HT GAIN x 1.3 BTU/H					2206				4114				783			95			2857				468			991

TOTAL HEAT GAIN BTU/H: 24571 TONS: 2.05 LOSS DUE TO VENTILATION LOAD BTU/H: 1786 STRUCTURAL HEAT LOSS: 40675 TOTAL COMBINED HEAT LOSS BTU/H: 42461

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: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: TH-12E DATE: Jun-18 GFA: 1996 LO# 78882

HEATING CFM	985	COOLING CFM	985
TOTAL HEAT LOSS	40,675	TOTAL HEAT GAIN	24,309
AIR FLOW RATE CFM	24.22	AIR FLOW RATE CFM	40.52

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

LENNOX
EL196UH070XE36B 70

FAN SPEED	
LOW	0
MEDLOW	0
MEDIUM	985
MEDIUM HIGH	1110
HIGH	1275

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,000

DESIGN CFM = 985
CFM @ .6 " E.S.P.

TEMPERATURE RISE 59 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	9	7	3
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	10	12	14	15	17	18	19	20	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	MBR	FAM	KIT	KIT	LAUN	W/R	FOY	FOY	BAS	BAS	BAS
RM LOSS MBH.	1.44	0.93	0.11	2.17	1.91	2.22	0.40	1.91	1.44	2.57	1.82	1.82	1.29	0.65	3.37	3.37	4.42	4.42	4.42
CFM PER RUN HEAT	35	23	3	53	46	54	10	46	35	62	44	44	31	16	82	82	107	107	107
RM GAIN MBH.	1.63	0.89	0.05	2.70	1.80	2.19	0.12	1.80	1.63	2.21	2.06	2.06	0.78	0.09	1.43	1.43	0.49	0.49	0.49
CFM PER RUN COOLING	66	36	2	109	73	89	5	73	66	89	83	83	32	4	58	58	20	20	20
ADJUSTED PRESSURE	0.17	0.17	0.17	0.15	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.16	0.16	0.15	0.15	0.15
ACTUAL DUCT LGH.	62	47	37	49	45	47	30	41	55	48	54	47	7	17	30	20	50	34	12
EQUIVALENT LENGTH	180	170	155	175	170	175	190	140	205	100	120	150	160	170	130	140	120	110	160
TOTAL EFFECTIVE LENGTH	242	217	192	224	215	222	220	181	260	148	174	197	167	187	160	160	170	144	172
ADJUSTED PRESSURE	0.07	0.08	0.09	0.07	0.08	0.07	0.08	0.1	0.07	0.11	0.09	0.08	0.1	0.09	0.1	0.1	0.09	0.11	0.09
ROUND DUCT SIZE	5	4	4	6	5	6	4	5	5	6	6	6	4	4	6	6	6	6	6
HEATING VELOCITY (ft/min)	257	264	34	270	338	275	115	338	257	316	224	224	356	184	418	418	546	546	546
COOLING VELOCITY (ft/min)	485	413	23	556	536	454	57	536	485	454	423	423	367	46	296	296	102	102	102
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	B	B	C	B	B	C	A	B	A	A	B	C	C	C	A	B	C

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	288	0.07	9.1	10	x	8	518	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	608	0.07	12	16	x	8	684	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	379	0.08	9.7	12	x	8	569	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	0.05	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	985	0.05	15.7	28	x	8	633
TRUNK Y	315	0.05	10.2	12	x	8	473
TRUNK Z	0	0.05	0	0	x	8	0
DROP	985	0.05	15.7	24	x	10	591

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	105	105	85	100	315	145	0	0	0	0	0	0	0	0	0	130
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.	46	49	56	43	41	28	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	225	225	155	135	120	185	0	0	0	0	0	0	0	0	0	135
TOTAL EFFECTIVE LH	271	274	211	178	161	213	1	1	1	1	1	1	1	1	1	149
ADJUSTED PRESSURE	0.05	0.05	0.07	0.08	0.09	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	6.8	6.8	5.8	5.9	8.8	7	0	0	0	0	0	0	0	0	0	6.2
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	30	14	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.

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

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TYPE: TH-12E
SITE NAME: ALCONA

LO # 78882

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	4	@ 10.6 cfm	42.4	cfm
Other Rooms	3	@ 10.6 cfm	31.8	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
	TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY — 9.32.3.5.

Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	68.9	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 65H Location: BSMT

79.5 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
79.5 CFM	X	83 F	X	1.08	X	0.25

SUPPLEMENTAL FANS

Location	Model	NUTONE cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
LAUN	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR — 9.32.3.11.

Model: VANEE 65H

155 cfm high 64 cfm low

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

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: BAYVIEW WELLINGTON

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

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

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: June-18

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: TH-12E
SFQT: 1996 **LO#** 78882
BUILDER: BAYVIEW WELLINGTON
SITE: ALCONA

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-11	OUTDOOR DESIGN TEMP.	84
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	ATTACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	26854.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 57.0 ft	WIDTH: 21.0 ft	EXPOSED PERIMETER:	129.0 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	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

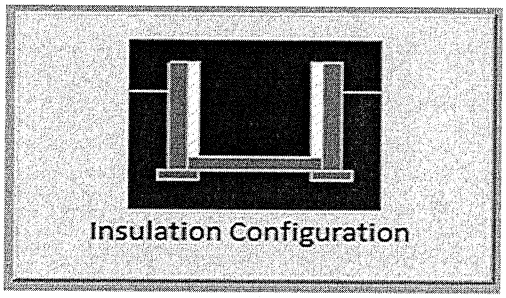
Michael O'Rourke

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:	Barrie
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	17.4	 Insulation Configuration
Floor Width (m):	6.4	
Exposed Perimeter (m):	39.3	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m^2):	1.2	
Door Area (m^2):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	**1318**	

TYPE: TH-12E
LO# 78882

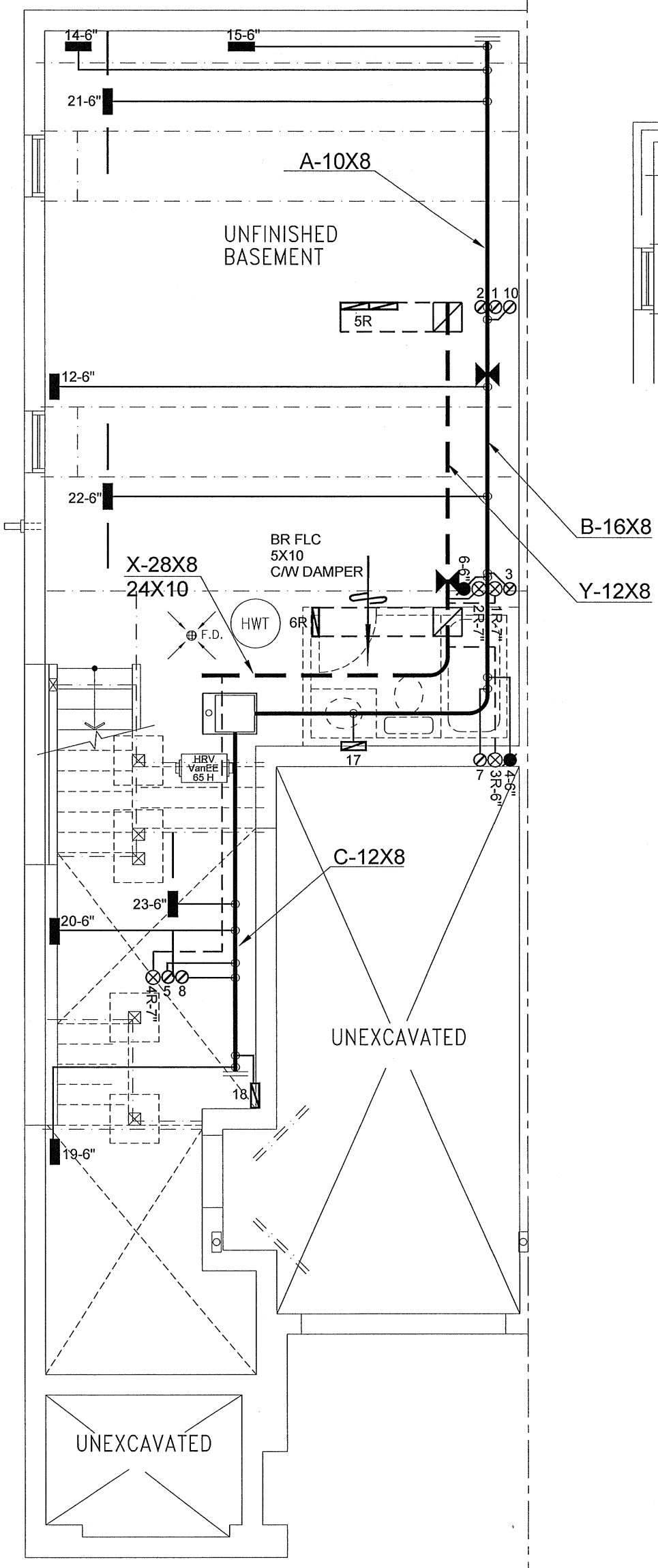
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

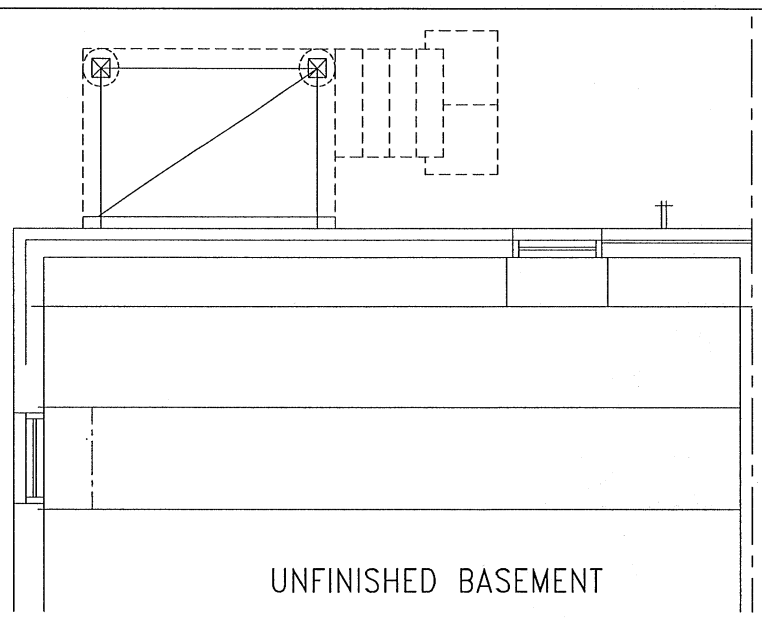
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Barrie
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shielding	
Building Site:	Suburban, forest
Walls:	Heavy
Flue:	Heavy
Highest Ceiling Height (m):	6.71
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	760.4
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1013.7 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: 37.5 Total Exhaust: 37.5
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.348**
Cooling Air Leakage Rate (ACH/H):	**0.090**

TYPE: TH-12E
LO# 78882





PARTIAL BASEMENT PLAN
6R W.O.D. CONDITION

BASEMENT PLAN 'A'

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.

CSA-F280-12
PACKAGE A1

HVAC LEGEND

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

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

TH-12E 1996 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
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.

HEAT LOSS 42461 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	EL196UH070XE36B
INPUT	66 MBTU/H
OUTPUT	63 MBTU/H
COOLING	2.0 TONS
FAN SPEED	985 cfm @ 0.6" w.c.

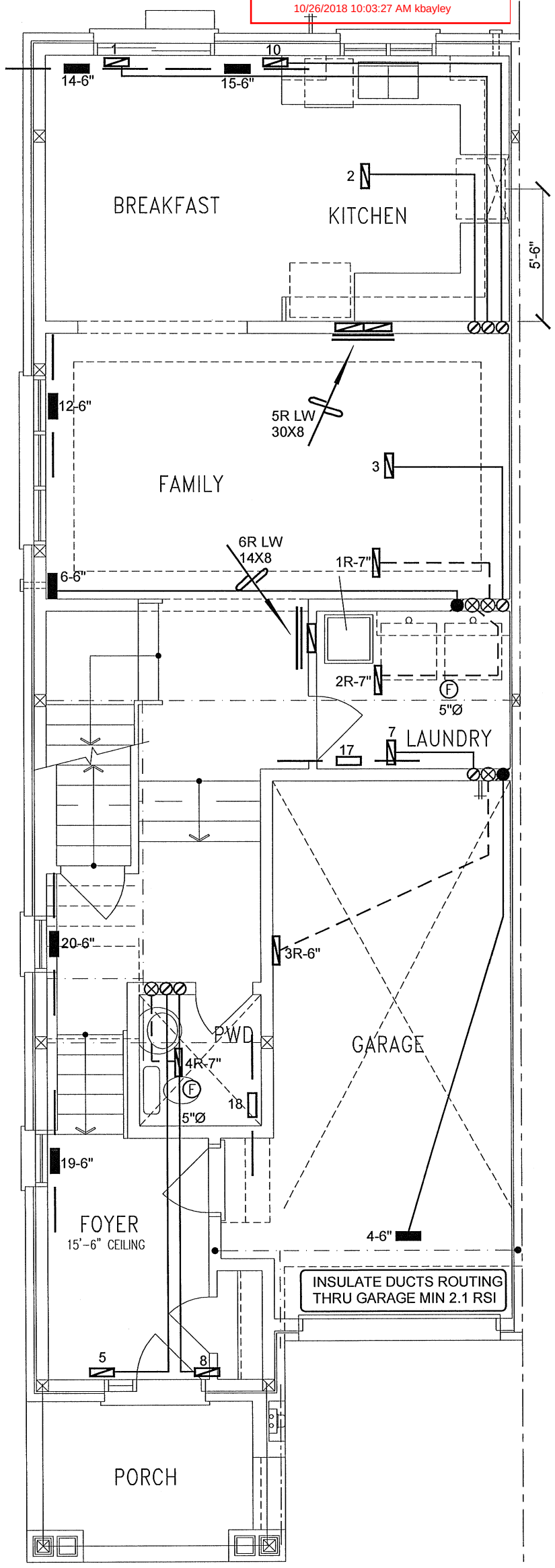
# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	9	4	2
1ST FLOOR	7	2	3
BASEMENT	3	1	0

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 JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78882

Town of Innisfil Certified Model
10/26/2018 10:03:27 AM kbayley



GROUND FLOOR PLAN 'A'

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.

CSA-F280-12

PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— ▭ —	SUPPLY AIR GRILLE	▬	6" SUPPLY AIR BOOT ABOVE	▱	14"x8" RETURN AIR GRILLE	▱	RETURN AIR STACK ABOVE
— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▱	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▱	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
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REVISIONS

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BAYVIEW WELLINGTON

Project Name
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INNISFIL, ONTARIO

TH-12E 1996 sqft

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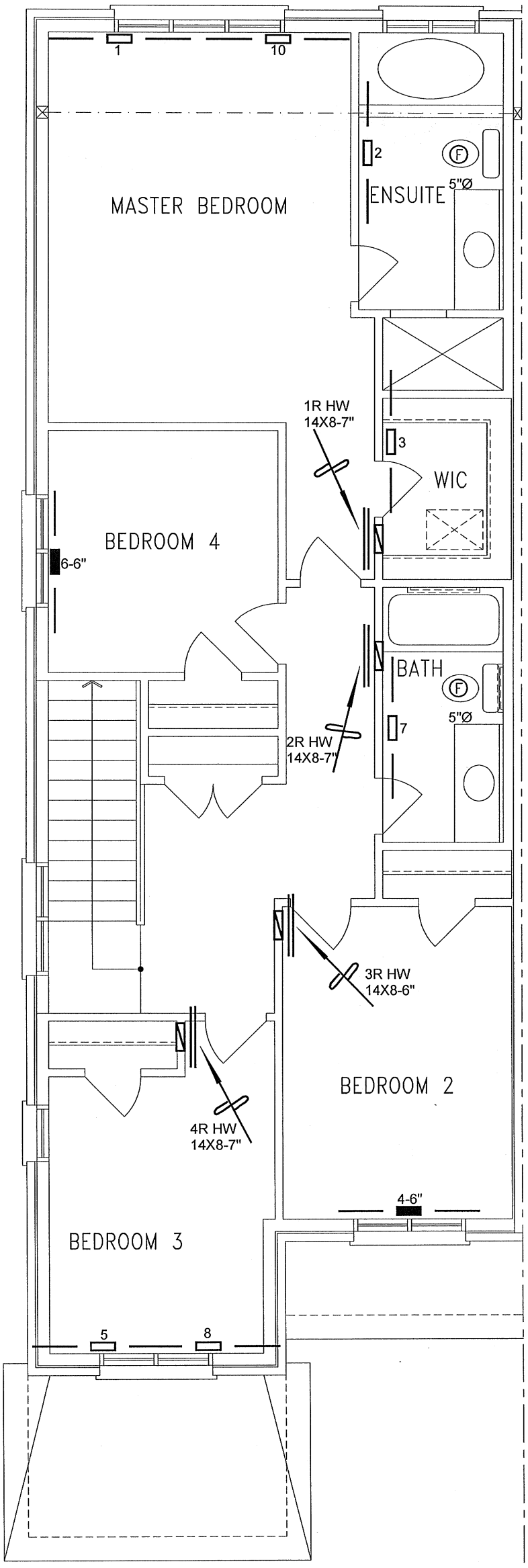
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78882

Town of Innisfil Certified Model
10/26/2018 10:03:27 AM kbayley



SECOND FLOOR PLAN 'A'

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.

CSA-F280-12
PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— ▭ —	SUPPLY AIR GRILLE	▬	6" SUPPLY AIR BOOT ABOVE	▭	14"x8" RETURN AIR GRILLE	▭	RETURN AIR STACK ABOVE
— ▬ —	SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▭	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▭	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

No.	Description	Date
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1.		

REVISIONS

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78882