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-2 **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

Michael O'Rourke
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.

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: ALCONA — DATE: Jun-18 — WINTER NATURAL AIR CHANGE RATE 0.348 — HEAT LOSS ΔT °F. 83 — CSA-F280-12

BUILDER: BAYVIEW WELLINGTON — TYPE: TH-2 — GFA: 1673 — LO# 78870 — 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				BATH								
EXP. WALL			12			9			0			10			20				0								
CLG. HT.			9			9			9			9			9				9								
	FACTORS																										
GRS.WALL AREA	LOSS	GAIN	108			81			0			90			180				0								
GLAZING			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						
EAST	23.3	41.4	0	0	0	0	0	0	0	0	0	22	513	910	32	745	1324		0	0	0						
SOUTH	23.3	24.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		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						
SKYLT.	40.8	101.3	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						
NET EXPOSED WALL	4.9	0.7	80	391	57	68	332	49	0	0	0	68	332	49	148	723	106		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						
EXPOSED CLG	1.4	0.6	192	270	111	126	177	73	72	101	42	140	197	81	182	256	105		126	177	73						
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						
EXPOSED FLOOR	2.8	0.4	0	0	0	28	78	11	0	0	0	140	391	57	33	92	14		26	73	11						
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0				0							
SLAB ON GRADE HEAT LOSS				0			0			0			0			0				0							
SUBTOTAL HT LOSS				1313			890			101			1432			1816				250							
SUB TOTAL HT GAIN					1327			671			42			1097			1549				83						
LEVEL FACTOR / MULTIPLIER			0.20	0.39		0.20	0.39		0.20	0.39		0.20	0.39		0.20	0.39			0.20	0.39							
AIR CHANGE HEAT LOSS				515			349			40			562			712				98							
AIR CHANGE HEAT GAIN					82			41			3			68			96				5						
DUCT LOSS				0			124			0			199			253				35							
DUCT GAIN					0			71			0			201			249				9						
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240		0		0						
HEAT GAIN APPLIANCES/LIGHTS					605			0			0			605			605				0						
TOTAL HT LOSS BTU/H				1828			1363			141			2193			2781				382							
TOTAL HT GAIN x 1.3 BTU/H					3242			1019			57			2874			3560				127						

ROOM USE			KT/FM			LAUN			FOY			MUD			LOD			BAS		
EXP. WALL			40			0			21			24			25			86		
CLG. HT.			10			9			12			10			9			9		
	FACTORS																			
GRS.WALL AREA	LOSS	GAIN	400			0			252			240			225			691		
GLAZING			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
EAST	23.3	41.4	0	0	0	0	0	0	12	280	497	0	0	0	0	0	0	0	0	0
SOUTH	23.3	24.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	23.3	41.4	80	1864	3311	0	0	0	0	0	0	0	0	0	23	536	952	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
DOORS	27.6	4.1	0	0	0	0	0	0	20	553	81	20	553	81	0	0	0	20	553	81
NET EXPOSED WALL	4.9	0.7	320	1563	229	0	0	0	220	1075	158	220	1075	158	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	152	599	88	83	327	48
EXPOSED CLG	1.4	0.6	0	0	0	63	89	36	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
EXPOSED FLOOR	2.8	0.4	0	0	0	18	50	7	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0						2838	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0				
SUBTOTAL HT LOSS				3427			139			1907			1628			1135			3718	
SUB TOTAL HT GAIN					3540			44			735			239			1040			129
LEVEL FACTOR / MULTIPLIER			0.30	0.50		0.20	0.39		0.30	0.50		0.30	0.50					0.50	1.20	
AIR CHANGE HEAT LOSS				1720			54			957			817						5824	
AIR CHANGE HEAT GAIN					219			3			45			15						72
DUCT LOSS				0			19			0			0						0	
DUCT GAIN					0			65			0			0						0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					605			605			0			605			0			605
TOTAL HT LOSS BTU/H				5147			212			2864			2445			1135			9542	
TOTAL HT GAIN x 1.3 BTU/H					5673			931			1015			1116			1352			1048

TOTAL HEAT GAIN BTU/H: 22222 — TONS: 1.85 — LOSS DUE TO VENTILATION LOAD BTU/H: 1429 — STRUCTURAL HEAT LOSS: 30034 — TOTAL COMBINED HEAT LOSS BTU/H: 31463

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

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: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: TH-2 DATE: Jun-18 GFA: 1673 LO# 78870

HEATING CFM	800	COOLING CFM	800
TOTAL HEAT LOSS	30,034	TOTAL HEAT GAIN	22,013
AIR FLOW RATE CFM	26.64	AIR FLOW RATE CFM	36.34

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	0.02
min adjusted pressure s/a	0.16
r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

LENNOX
EL196UH045XE24B 45
FAN SPEED
LOW 0
MEDLOW 0
MEDIUM 685
MEDIUM HIGH 800
HIGH 890

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,000
DESIGN CFM = 800
CFM @ .6 " E.S.P.
TEMPERATURE RISE 49 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	4	3
R/A	0	0	4	1	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	7	8	9	10	13	15	17	19	20	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BATH	BED-2	BED-3	MBR	KT/FM	KT/FM	LAUN	FOY	MUD	BAS	BAS	BAS
RM LOSS MBH.	0.91	1.36	0.14	1.10	1.39	0.38	1.10	1.39	0.91	2.57	2.57	0.21	2.86	2.44	3.56	3.56	3.56
CFM PER RUN HEAT	24	36	4	29	37	10	29	37	24	69	69	6	76	65	95	95	95
RM GAIN MBH.	1.62	1.02	0.06	1.44	1.78	0.13	1.44	1.78	1.62	2.84	2.84	0.93	1.01	1.12	0.80	0.80	0.80
CFM PER RUN COOLING	59	37	2	52	65	5	52	65	59	103	103	34	37	41	29	29	29
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.16	0.16	0.16
ACTUAL DUCT LGH.	63	57	32	42	57	32	46	60	56	21	32	37	32	19	28	16	26
EQUIVALENT LENGTH	205	180	130	185	155	145	190	145	175	100	120	180	100	130	90	140	130
TOTAL EFFECTIVE LENGTH	268	237	162	227	212	177	236	205	231	121	152	217	132	149	118	156	156
ADJUSTED PRESSURE	0.06	0.07	0.11	0.08	0.08	0.1	0.07	0.08	0.07	0.13	0.11	0.08	0.13	0.12	0.14	0.1	0.1
ROUND DUCT SIZE	5	4	4	5	5	4	5	5	5	**6**	**6**	4	**6**	5	**6**	**6**	**6**
HEATING VELOCITY (ft/min)	176	413	46	213	272	115	213	272	176	352	352	69	388	477	484	484	484
COOLING VELOCITY (ft/min)	433	424	23	382	477	57	382	477	433	525	525	390	189	301	148	148	148
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	3X10	4X10	4X10	4X10
TRUNK	A	A	B	D	C	D	D	C	A	A	A	B	C	D	B	D	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	222	0.06	8.6	8	x	8	500	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	327	0.06	9.9	12	x	8	491	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	245	0.08	8.3	8	x	8	551	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	473	0.07	11	14	x	8	608	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	800	0.05	14.5	24	x	8	600
TRUNK Y	0	0.05	0	0	x	8	0
TRUNK Z	0	0.05	0	0	x	8	0
DROP	800	0.05	14.5	24	x	10	480

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	75	95	95	95	305	0	0	0	0	0	0	0	0	0	0	135
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	43	40	52	33	1	1	1	1	1	1	1	1	1	1	20
EQUIVALENT LENGTH	235	165	155	155	160	0	0	0	0	0	0	0	0	0	0	250
TOTAL EFFECTIVE LH	287	208	195	207	193	1	1	1	1	1	1	1	1	1	1	270
ADJUSTED PRESSURE	0.05	0.07	0.08	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.05
ROUND DUCT SIZE	6	6	5.8	6	9	0	0	0	0	0	0	0	0	0	0	7.5
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	8
INLET GRILL SIZE	X 14	X 14	X 14	X 14	X 30	X 0	X 0	X 0	X 0	X 0	X 0	X 0	X 0	X 0	X 0	X 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

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley

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

TYPE: TH-2 LO # 78870
SITE NAME: ALCONA

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
	TOTAL	63.6	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	148.4	cfm
Less Principal Ventil. Capacity	63.6	cfm
Required Supplemental Capacity	84.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 65H Location: BSMT

63.6 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

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

SUPPLEMENTAL FANS NUTONE

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

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley

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: TH-2
SFQT: 1673 **LO#** 78870
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):	22492.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 46.0 ft	WIDTH: 20.0 ft	EXPOSED PERIMETER:	86.0 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.

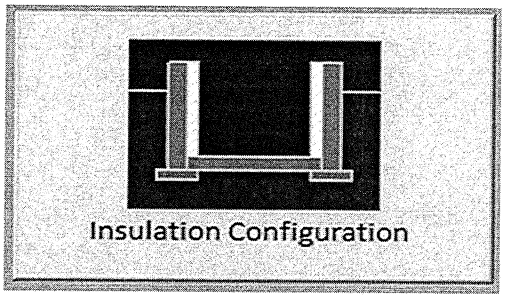
Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley

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):	**14.0**	 Insulation Configuration
Floor Width (m):	**6.1**	
Exposed Perimeter (m):	**26.2**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**2.1**	
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):	**832**	

TYPE: TH-2
LO# 78870

HVAC DESIGNS LTD.

Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley

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):	636.9

Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	849.0 cm^2
	3.57	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust
	30.0	30.0

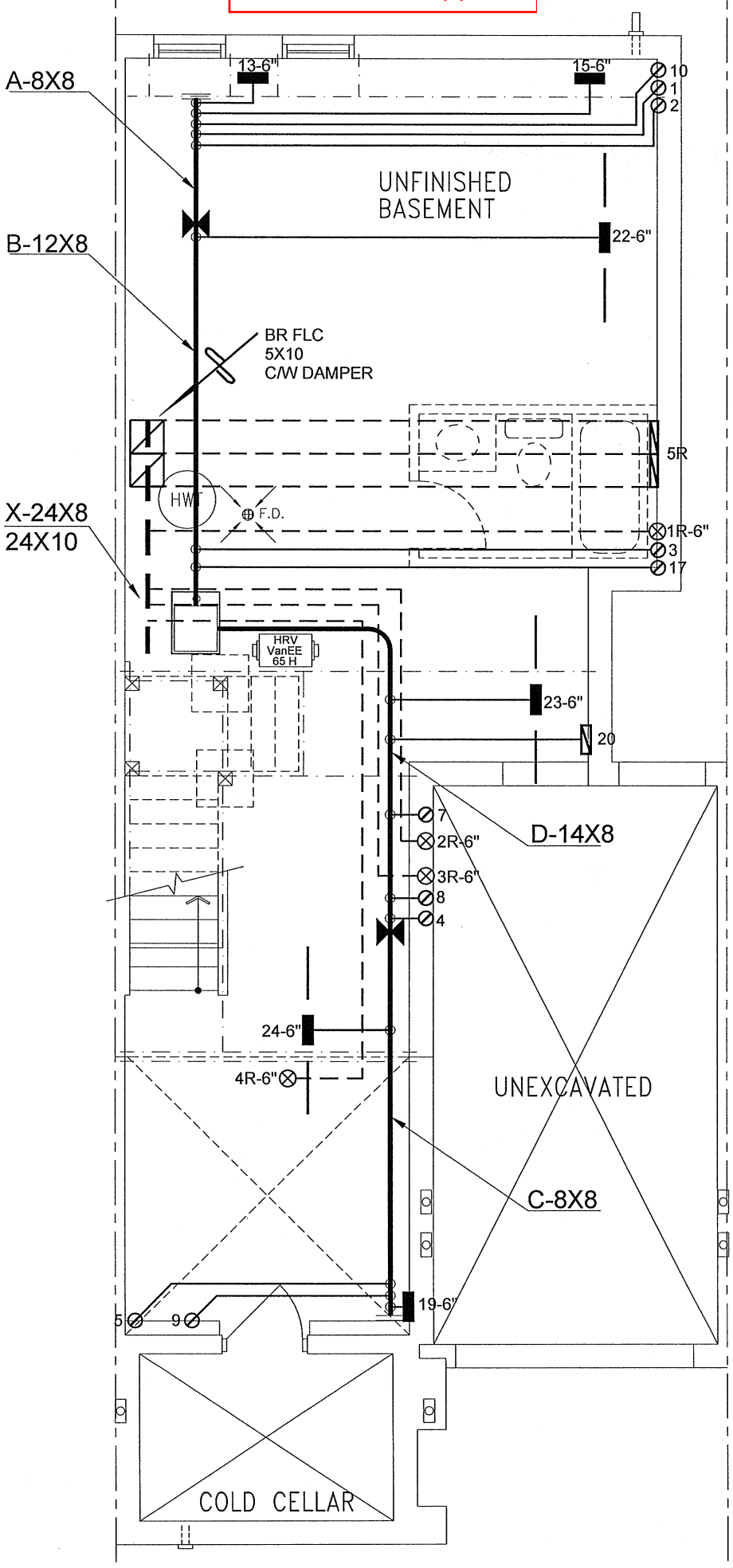
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0

Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.348**
Cooling Air Leakage Rate (ACH/H):	**0.090**

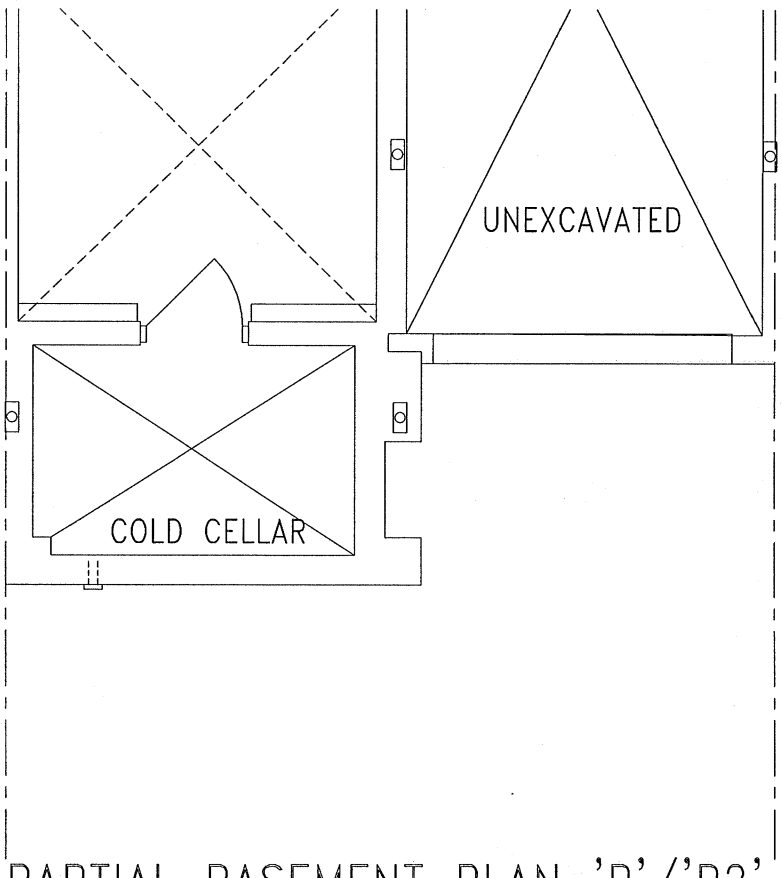
TYPE: TH-2
LO# 78870

Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley

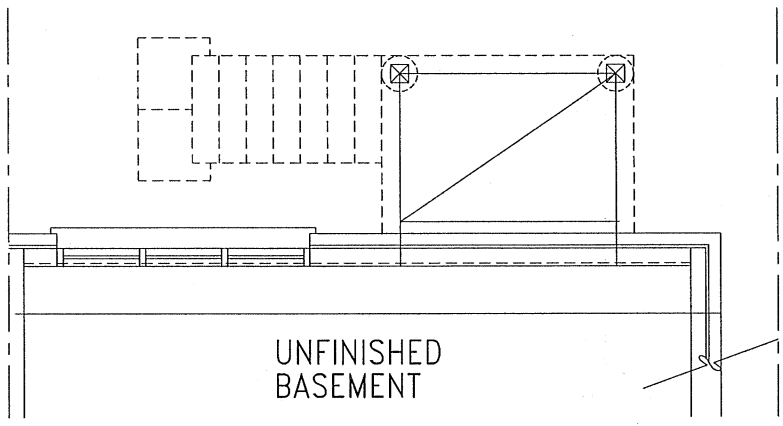
Outlets shall be located so as to bathe windows and exterior walls with warm air and be located in each finished room adjacent to unheated space - OBC 6.2.4.4.(2)



BASEMENT PLAN 'A'/'A2'



PARTIAL BASEMENT PLAN 'B'/'B2'



PARTIAL BASEMENT FLOOR PLAN WOD 9R COND.

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-2 1673 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 31463 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	EL196UH045XE24B
INPUT	44 MBTU/H
OUTPUT	42 MBTU/H
COOLING	2.0 TONS
FAN SPEED	800 cfm @ 0.6" w.c.

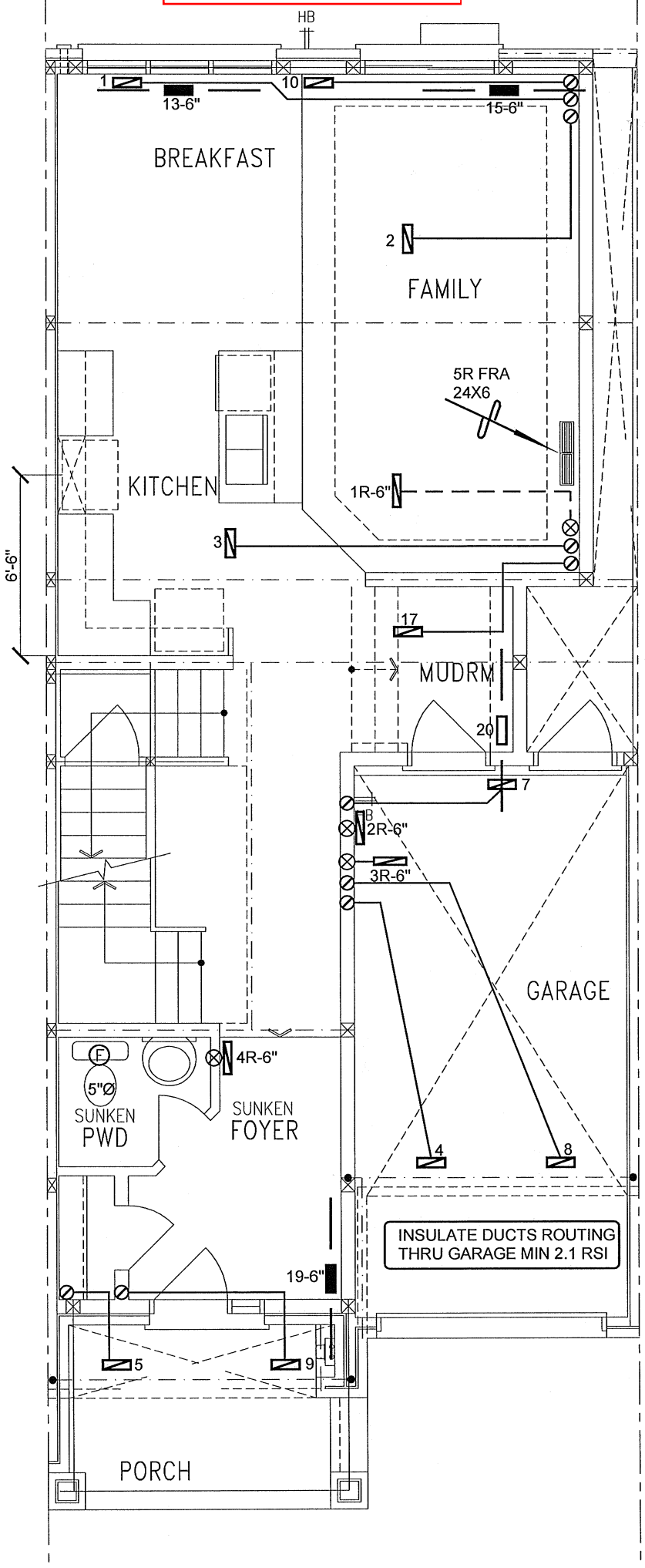
# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	4	3
1ST FLOOR	4	1	2
BASEMENT	3	1	0

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

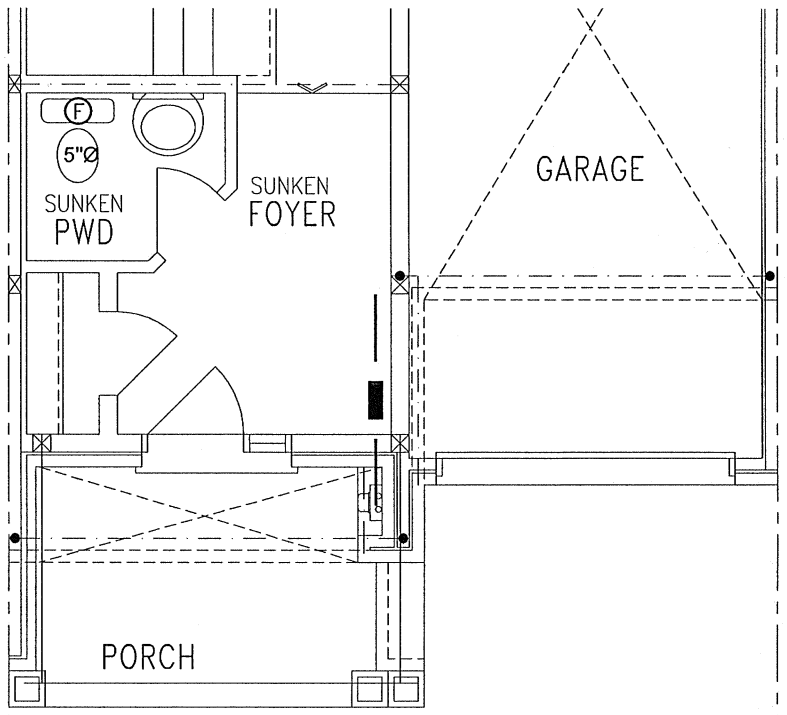
Sheet Title
BASEMENT HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78870

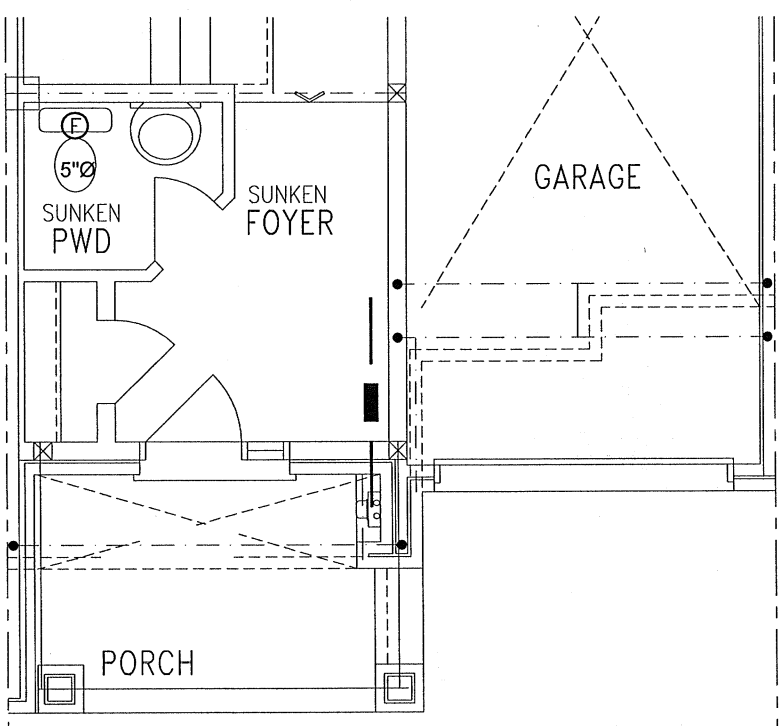
Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley



GROUND FLOOR PLAN 'A'



PARTIAL GROUND FLOOR PLAN 'B'/'B2'



PARTIAL GROUND FLOOR PLAN 'A2'

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-2 1673 sqft

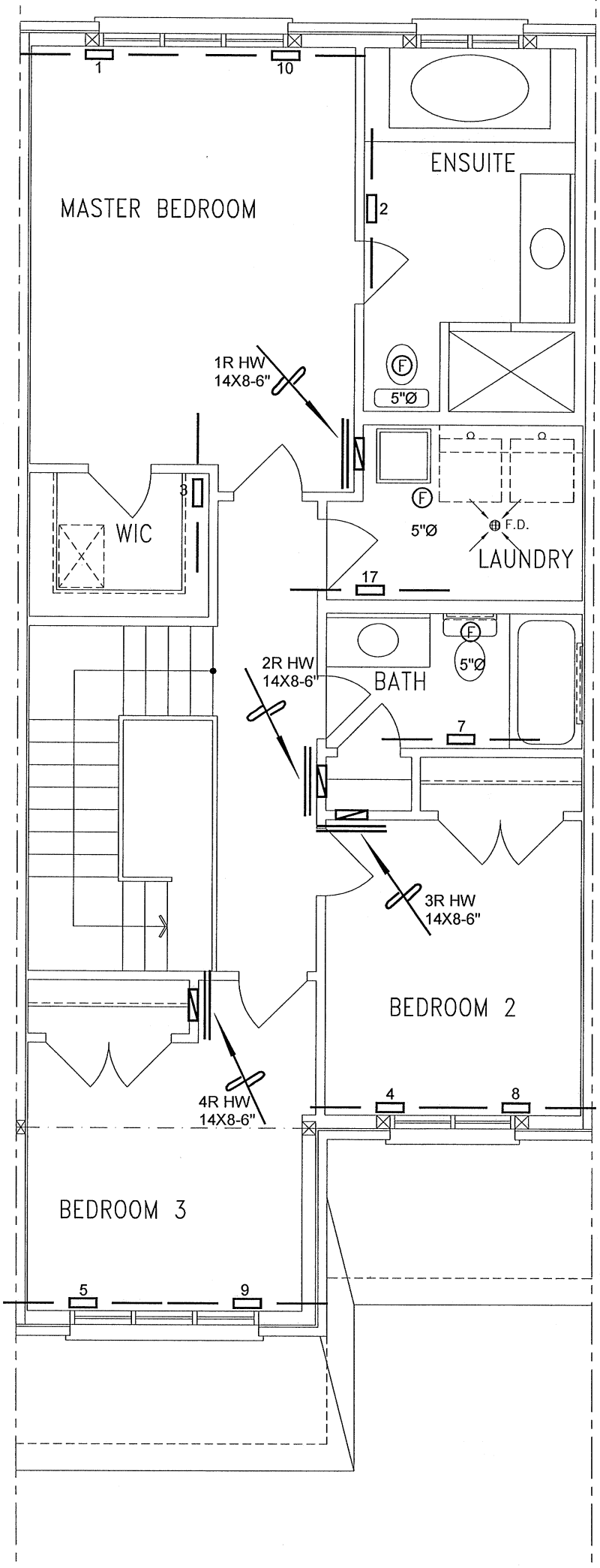
HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

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.

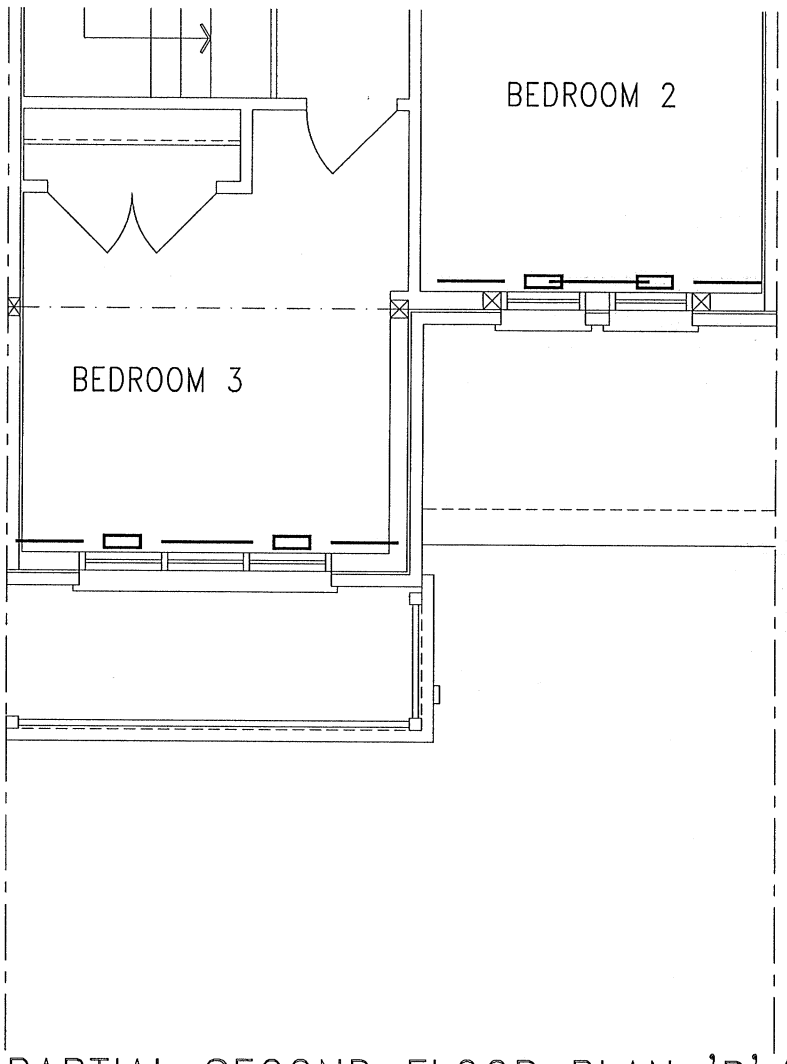
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78870

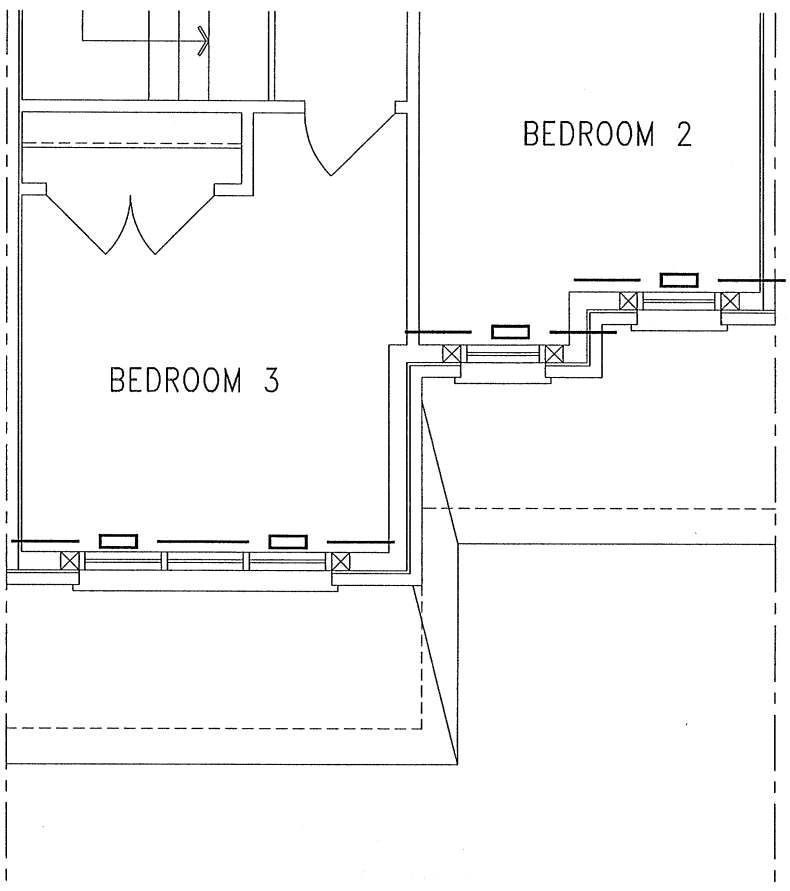
Town of Innisfil Certified Model
10/23/2018 12:24:30 PM kbayley



SECOND FLOOR PLAN 'A'



PARTIAL SECOND FLOOR PLAN 'B'/'B2'



PARTIAL SECOND FLOOR PLAN 'A2'

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-2 1673 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.

Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78870