

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 INNISFIL	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ 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: 45-2 WOB Project: ALCONA	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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 Division 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 23, 2017			
Date		Signature of Designer	

NOTE:

- 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.
- 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.

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON
WOB TYPE: 45-2
DATE: Jun-17
LO# 74586
GFA: 3154
WINTER NATURAL AIR CHANGE RATE 0.391
HEAT LOSS AT °F. 83
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	HEAT GAIN AT °F. 12
GRS.WALL AREA	490	490	243	54	209	209	126	225	153	
GLAZING										
NORTH	23.3 15.7	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
EAST	23.3 41.3	0 0 0	0 0 0	0 0 0	33 769 1362	35 815 1445	0 0 0	22 513 908	7 163 289	
SOUTH	23.3 24.6	0 0 0	14 326 345	0 0 0	0 0 0	0 0 0	16 373 394	0 0 0	0 0 0	
WEST	23.3 41.3	32 745 1321	16 373 660	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SKYL.T.	40.8 101.1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
DOORS	27.6 3.9	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	4.9 0.7	458 2238 317	213 1041 148	54 264	176 860 122	174 850 121	110 537 76	203 992 141	146 713 101	
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	0 0 0	
EXPOSED CLG	1.4 0.6	407 572 232	182 256 104	108 152 62	173 243 99	194 273 111	266 374 152	126 177 72	66 93 38	
NO ATTIC EXPOSED CLG	3.0 1.2	0 0 0	0 0 0	0 0 0	100 301 122	70 211 86	0 0 0	0 0 0	0 0 0	
EXPOSED FLOOR	2.8 0.4	0 0 0	0 0 0	0 0 0	273 762 108	0 0 0	0 0 0	0 0 0	66 184 26	
BASEMENT/CRAWL HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SLAB ON GRADE HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SUBTOTAL HT LOSS		3555	1995	416	2935	2149	1284	1681	1153	
SUB TOTAL HT GAIN		1870	1256	99	1813	1761	622	1121	454	
LEVEL FACTOR / MULTIPLIER		0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	0.20 0.31	
AIR CHANGE HEAT LOSS		1116	626	130	921	674	403	528	362	
AIR CHANGE HEAT GAIN		119	80	6	116	112	40	71	29	
DUCT LOSS		0 0 0	0 0 0	0 0 0	386 0 0	0 0 0	0 0 0	0 0 0	152	
DUCT GAIN		0 0 0	0 0 0	0 0 0	293 0 0	0 0 0	0 0 0	0 0 0	48	
HEAT GAIN PEOPLE	240	2 480 0	0 0 0	0 0 0	1 240 0	240 0	1 240 0	0 0 0	0 0 0	
HEAT GAIN APPLIANCES/LIGHTS		758	0	0	758	758	758	0	0	
TOTAL HT LOSS BTU/H		4671	2622	546	4242	2823	1687	2209	1667	
TOTAL HT GAIN x 1.3 BTU/H		4195	1738	137	4184	3733	2157	1550	590	

ROOM USE	EXP. WALL CLG. HT.	LVDIN	KTIFM	LAUN	PWD	FOY	MUD	WOB	BAS
GRS.WALL AREA	540	540	850	72	165	319	121	486	774
GLAZING									
NORTH	23.3 15.7	0 0 0	0 0 0	7 163 110	7 163 110	0 0 0	0 0 0	111 2586 1742	10 233 157
EAST	23.3 41.3	24 559 991	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SOUTH	23.3 24.6	52 1211 1280	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
WEST	23.3 41.3	0 0 0	135 3145 5572	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SKYL.T.	40.8 101.1	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DOORS	27.6 3.9	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	4.9 0.7	464 2267 322	715 3493 495	65 318 45	158 772 109	45 1244 176	20 553 78	375 1832 260	20 553 78
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	0 0 0
EXPOSED CLG	1.4 0.6	0 0 0	0 0 0	144 202 82	0 0 0	0 0 0	0 0 0	0 0 0	387 1525 216
NO ATTIC EXPOSED CLG	3.0 1.2	0 0 0	10 30 12	0 0 0	0 0 0	104 313 127	0 0 0	0 0 0	0 0 0
EXPOSED FLOOR	2.8 0.4	0 0 0	0 0 0	30 84 12	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 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SLAB ON GRADE HEAT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
SUBTOTAL HT LOSS		4037	6668	767	935	2895	1046	870	2847
SUB TOTAL HT GAIN		2592	6079	249	219	493	148	5287	5157
LEVEL FACTOR / MULTIPLIER		0.30 0.48	0.30 0.48	0.20 0.31	0.30 0.48	0.30 0.48	0.30 0.48	2002	0.50 1.20
AIR CHANGE HEAT LOSS		1944	3211	241	450	1394	504		12505
AIR CHANGE HEAT GAIN		165	388	16	14	31	9		156
DUCT LOSS		0 0 0	0 0 0	101 102 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DUCT GAIN		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
HEAT GAIN PEOPLE	240	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
HEAT GAIN APPLIANCES/LIGHTS		758	758	758	758	0	0	6157	17662
TOTAL HT LOSS BTU/H		5981	9879	1108	1385	4290	1550		790
TOTAL HT GAIN x 1.3 BTU/H		4570	9392	1462	303	682	205	2602	

SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON

WOB
TYPE: 45-2

DATE: Jun-17

GFA: 3154 LO# 74596

HEATING CFM	1105	COOLING CFM	1105
TOTAL HEAT LOSS	68,478	TOTAL HEAT GAIN	38,391
AIR FLOW RATE CFM	16.14	AIR FLOW RATE CFM	28.76

furnace pressure 0.6
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35
plenum pressure s/a 0.18
max s/a diff press. loss 0.03
min adjusted pressure s/a 0.15

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
DESIGN CFM = 1105
CFM @ .5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	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	ENS	BATH	MBR	ENS-2	LVDN	LVDN	LVDN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.34	1.31	0.55	2.12	2.82	1.89	1.31	2.21	2.34	1.67	2.99	2.99	2.99	2.47	2.47	2.47	1.11	1.39	4.29	1.55	4.76	4.76	4.76	4.76
CFM PER RUN HEAT	38	21	9	34	46	27	21	36	38	27	48	48	48	40	40	40	18	22	69	25	77	77	77	77
RM GAIN MBH	2.10	0.87	0.14	2.09	3.73	2.16	0.87	1.55	2.10	0.69	2.28	2.28	2.28	2.35	2.35	2.35	1.46	0.30	0.68	0.21	0.68	0.68	0.68	0.68
CFM PER RUN COOLING	60	25	4	60	107	62	25	45	60	20	66	66	66	68	68	68	42	9	20	6	20	20	20	20
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	60	51	66	42	48	52	47	41	76	44	22	31	31	42	38	45	43	45	34	39	46	51	66	18
EQUIVALENT LENGTH	150	140	170	170	180	190	140	140	190	190	160	110	120	120	140	150	160	150	120	120	150	160	150	120
TOTAL EFFECTIVE LENGTH	210	191	236	212	228	242	187	181	226	234	182	141	162	208	185	203	195	154	154	159	196	211	216	138
ADJUSTED PRESSURE	0.08	0.09	0.07	0.08	0.07	0.07	0.09	0.1	0.08	0.07	0.09	0.12	0.11	0.11	0.08	0.09	0.08	0.09	0.11	0.11	0.09	0.08	0.08	0.12
ROUND DUCT SIZE	5	4	4	5	6	5	4	4	5	4	5	5	5	5	5	5	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	279	241	103	250	235	198	241	413	279	310	352	352	352	294	294	294	207	252	507	287	565	565	565	565
COOLING VELOCITY (ft/min)	441	287	46	441	546	455	287	516	441	229	485	485	485	499	499	499	482	103	147	69	147	147	147	147
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10

RUN #	25	26	27
ROOM NAME	BAS	BED-2	KT/FM
RM LOSS MBH	4.76	2.12	2.47
CFM PER RUN HEAT	77	34	40
RM GAIN MBH	0.68	2.09	2.35
CFM PER RUN COOLING	20	60	68
ADJUSTED PRESSURE	0.17	0.17	0.17
ACTUAL DUCT LGH.	21	48	60
EQUIVALENT LENGTH	120	180	140
TOTAL EFFECTIVE LENGTH	141	228	200
ADJUSTED PRESSURE	0.12	0.08	0.09
ROUND DUCT SIZE	5	5	5
HEATING VELOCITY (ft/min)	565	250	294
COOLING VELOCITY (ft/min)	147	441	499
OUTLET GRILL SIZE	3X10	3X10	3X10

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.08	9.5	10	630	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	0.07	7.7	8	419	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.07	12.9	20	662	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	0.07	10	12	557	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0.07	15.1	26	765	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	115	130	130	130	130	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	75	47	45	50	36	39	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	245	135	155	185	235	255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	320	182	200	235	271	294	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.08	0.07	0.06	0.05	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 45-2
SITE NAME: ALCONA

LO # 74596
WOB

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>169.6</u> 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	<u>169.6</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>30.6</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE 60H-V+	Location: BSMT		
<u>139.0</u> cfm	<u>3.0</u> sones ☒ HVI Approved		
PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
139.0 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
ENS-2	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 60H-V+		
<u>139</u> cfm high	<u>50</u> cfm low	
<u>75</u> % Sensible Efficiency	☒ HVI Approved	
@ 32 deg F (0 deg C)		

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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	June-17

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 45-2	WOB	BUILDER: BAYVIEW WELLINGTON
SFQT: 3154	LO# 74596	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:	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 (ft³):	42956.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.15	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 37.0 ft	EXPOSED PERIMETER:	129.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	57.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component

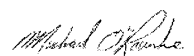
Compliance Package A1

Nominal	Min. Eff.
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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	29.8
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	-

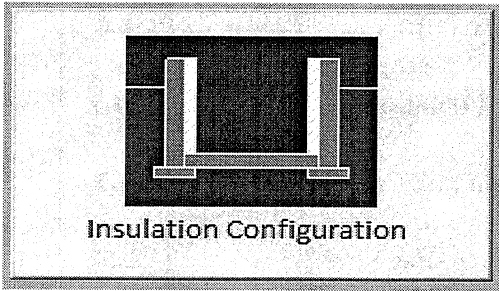
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

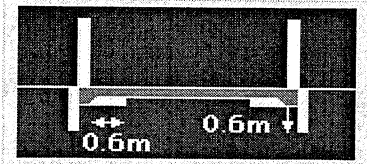
Weather Station Description		
Province:	Ontario	
Region:	Barrie	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	6.1	 Insulation Configuration
Floor Width (m):	11.3	
Exposed Perimeter (m):	39.3	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.59	
Window Area (m ²):	0.9	
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):		834

TYPE: 45-2
LO# 74596

WOB

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		
Length (m):	3.0	 Insulation Configuration
Width (m):	11.3	
Exposed Perimeter (m):	17.4	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		255

TYPE: 45-2
LO# 74596

WOB

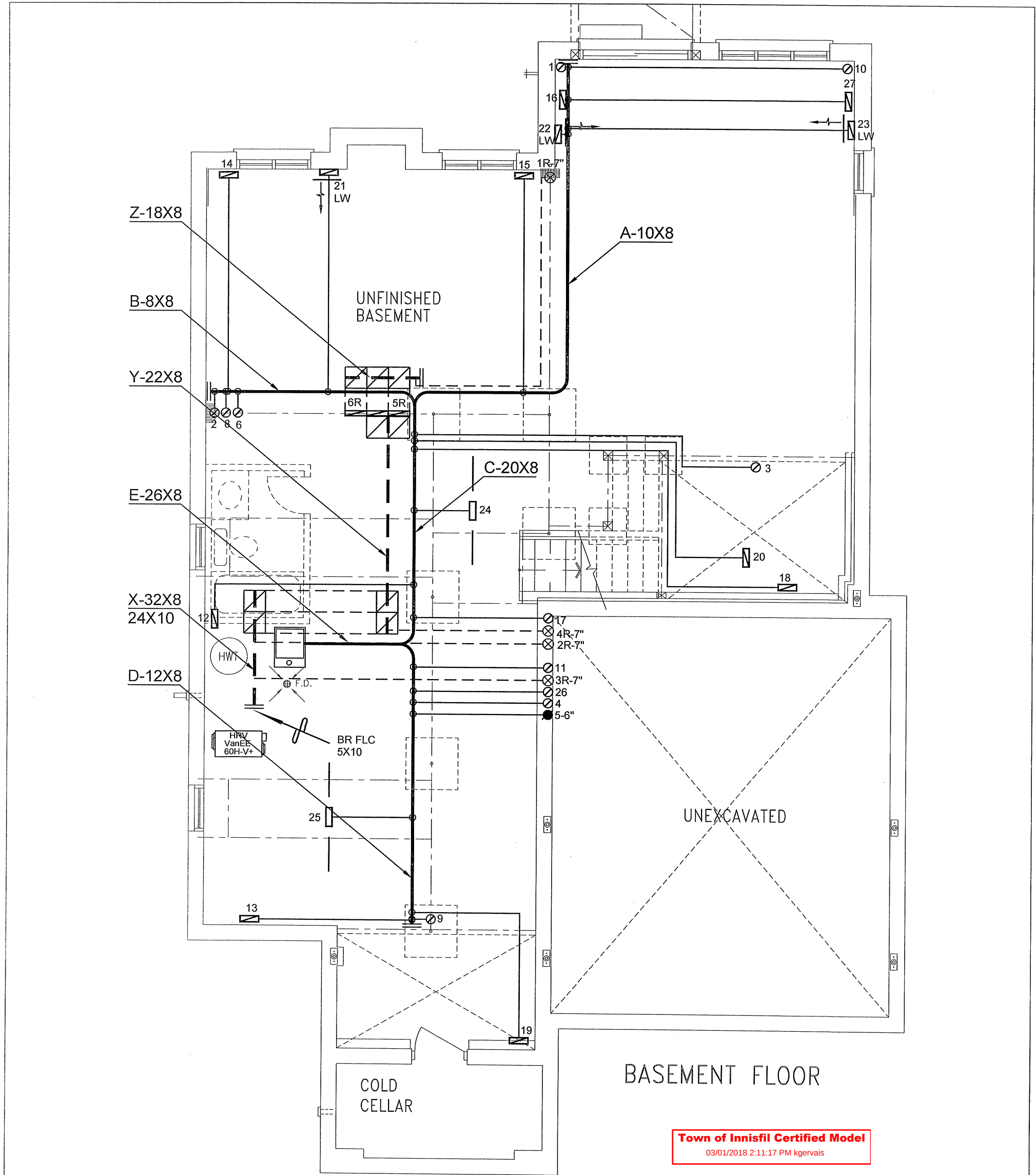
Air Infiltration Residential Load Calculator

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):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1216.4			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1621.5 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	65.6	65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.391			
Cooling Air Leakage Rate (ACH/H):	0.100			

TYPE: 45-2
LO# 74596

WOB



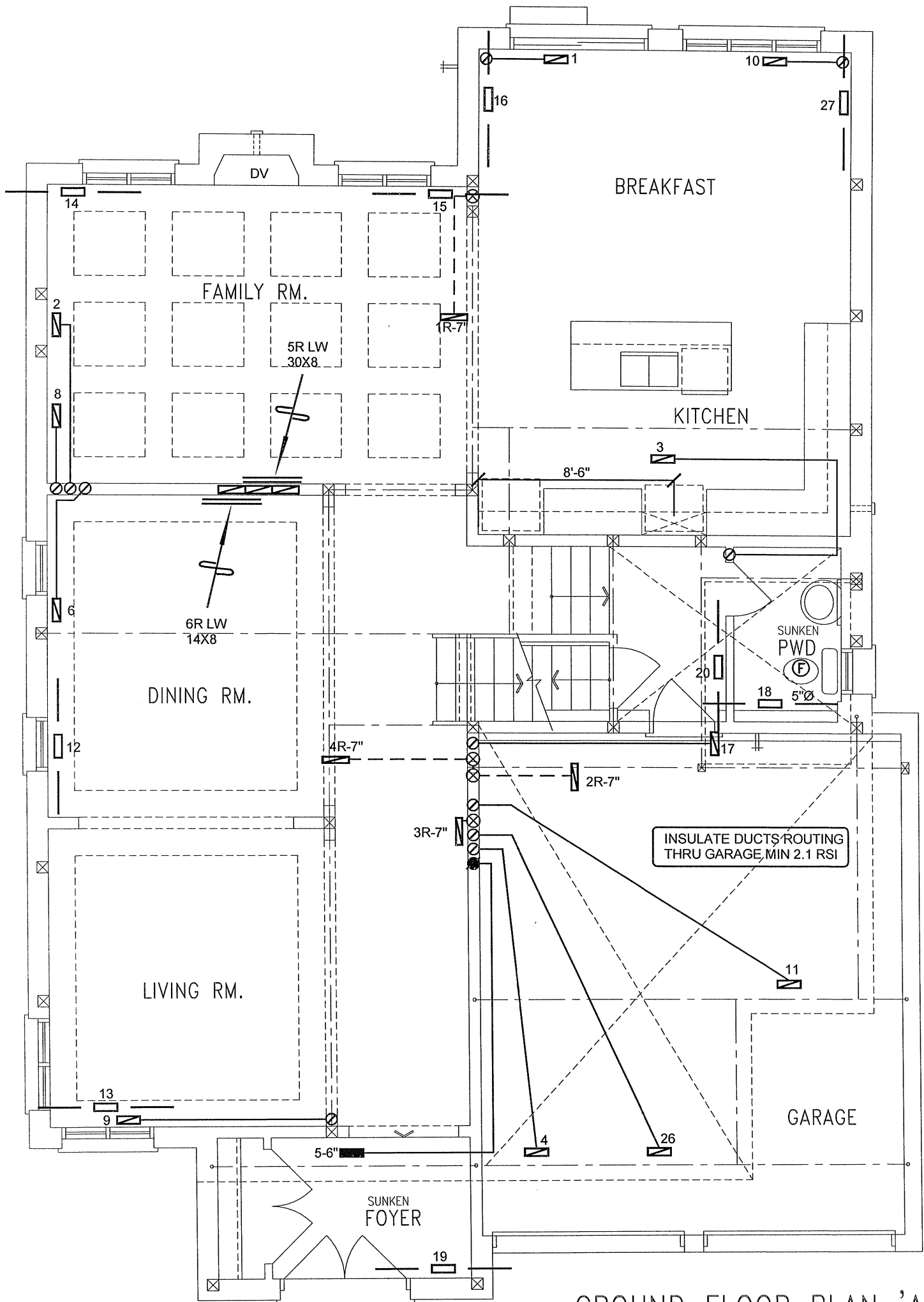
I, MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
WOB PACKAGE A1

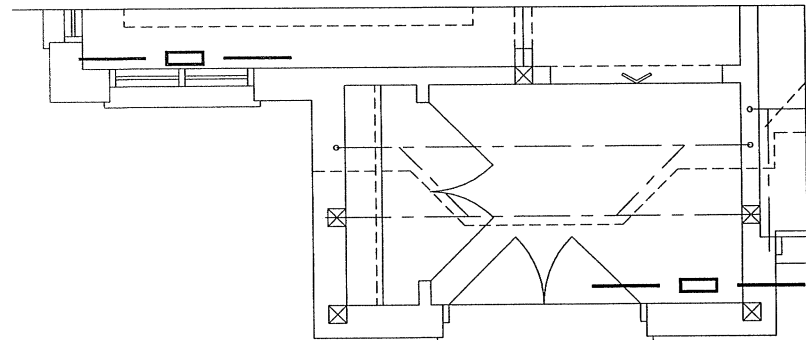
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client BAYVIEW WELLINGTON	 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.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 71601 BTU/H UNIT DATA	# OF RUNS	S/A	R/A	FANS	Sheet Title BASEMENT HEATING LAYOUT
Project Name ALCONA INNISFIL, ONTARIO		MAKE LENNOX	3RD FLOOR				Date JUNE/2017
		MODEL EL296UH090XE48C	2ND FLOOR	12	4	4	Scale 3/16" = 1'-0"
		INPUT 88 MBTU/H	1ST FLOOR	9	2	2	BCIN# 19669
45-2 WOB	3154 sqft	OUTPUT 85 MBTU/H	BASEMENT	5	1	0	LO# 74596
		COOLING 3.0 TONS	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				
		FAN SPEED 1105 cfm @ 0.6" w.c.					



GROUND FLOOR PLAN 'A'



PARTIAL GROUND FLOOR PLAN 'B'

Town of Innisfil Certified Model
03/01/2018 2:11:22 PM kgervais

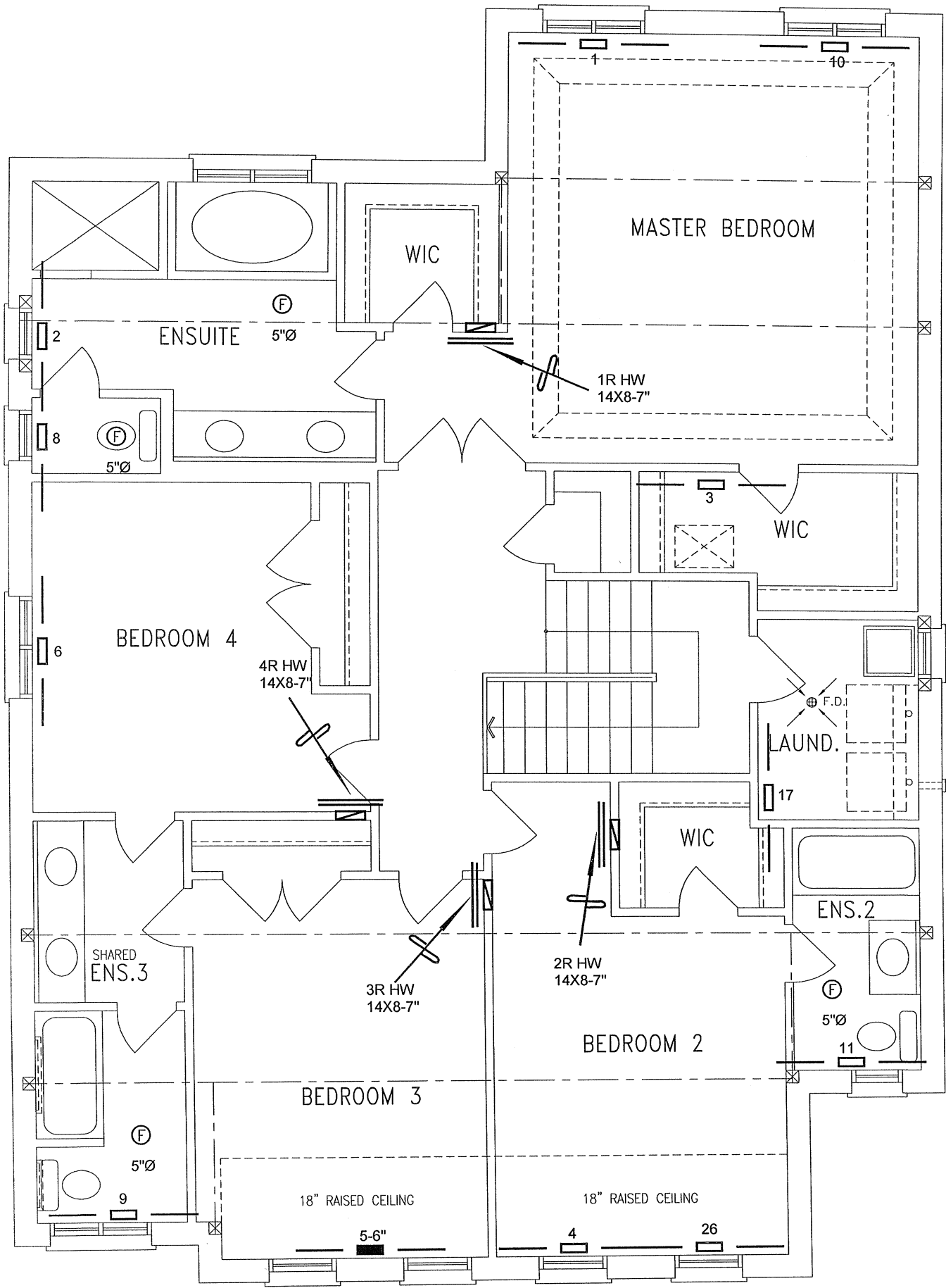
CSA-F280-12
WOB PACKAGE A1

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

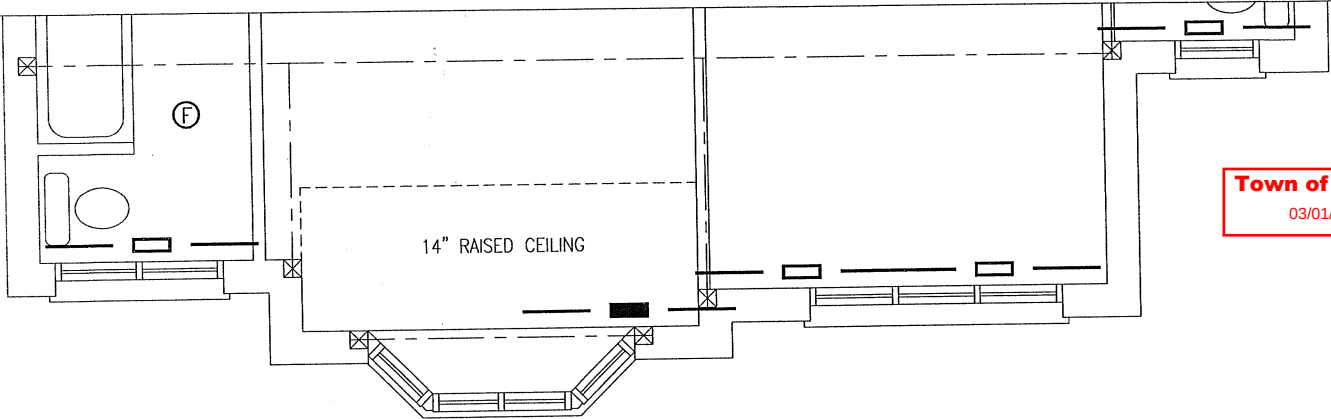
HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client		 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	
BAYVIEW WELLINGTON			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	
ALCONA INNISFIL, ONTARIO			JUNE/2017	
45-2 WOB			Scale	
3154 sqft		3/16" = 1'-0"		
		BCIN# 19669		
		LO#	74596	



SECOND FLOOR PLAN 'A'



PARTIAL SECOND FLOOR PLAN 'B'

Town of Innisfil Certified Model
03/01/2018 2:11:28 PM kgervais

I MICHAEL O'Rourke HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 32.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
WOB PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA - FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client BAYVIEW WELLINGTON		 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	
Project Name ALCONA INNISFIL, ONTARIO			Date JUNE/2017	
45-2 WOB			Scale 3/16" = 1'-0"	
3154 sqft			BCIN# 19669	
			LO#	74596