

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@hvacdsgns.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: 32-3-12 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: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ 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 22, 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			TYPE: 32-3-12			GFA: 2292			DATE: Jun-17			WINTER NATURAL AIR CHANGE RATE			HEAT LOSS AT °F			CSA-F280-1								
BUILDER: BAYVIEW WELLINGTON			EN5			BED-2			BED-3			BED-4			BATH			SUMMER NATURAL AIR CHANGE RATE			HEAT GAIN AT °F			SB-12 PACKAGE A1		
ROOM USE			MBR			BED-2			BED-3			BED-4			BATH			EN5-2								
EXP. WALL CLG. HT.			43 9			24 9			19 9			11 9			22 9			9 9								
FACTORS			387			216			171			99			198			81								
GRS.WALL AREA			198			198			198			198			198			198								
GLAZING			0 0			0 0			0 0			0 0			0 0			0 0								
NORTH			23.3 15.8			0 0			0 0			0 0			0 0			0 0								
EAST			23.3 41.4			28 652 1159			11 256 455			0 0			19 443 786			0 0								
SOUTH			23.3 24.7			0 0			11 256 272			16 373 396			0 0			7 163 173								
WEST			23.3 41.4			28 652 1159			11 256 455			0 0			0 0			0 0								
SKYL.T.			40.8 101.3			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								
NET EXPOSED WALL			4.9 0.7			359 1754 257			187 914 134			83 405 59			179 875 128			74 362 53								
NET EXPOSED BSMT WALL ABOVE GR			3.9 0.6			0 0			0 0			0 0			0 0			0 0								
EXPOSED CLG			1.4 0.6			325 457 188			120 169 69			197 277 114			90 126 52			54 76 31								
NO ATTIC EXPOSED CLG			3.0 1.2			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								
BASEMENT/CRAWL HEAT LOSS			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								
SUBTOTAL HT LOSS			2863			2217			1495			1055			1444			600								
SUB TOTAL HT GAIN			1604			1445			939			569			967			257								
LEVEL FACTOR / MULTIPLIER			0.20 0.26			0.20 0.26			0.20 0.26			0.20 0.26			0.20 0.26			0.20 0.26								
AIR CHANGE HEAT LOSS			734			569			383			271			370			154								
AIR CHANGE HEAT GAIN			119			107			70			42			72			19								
DUCT LOSS			0 0			279			0 0			0 0			0 0			0 0								
DUCT GAIN			0 0			235			0 0			0 0			0 0			0 0								
HEAT GAIN PEOPLE			2			1			240 1			240 1			240 0			0 0								
HEAT GAIN APPLIANCES/LIGHTS			568			568			568			568			568			0 0								
TOTAL HT LOSS BTU/H			3597			3064			1878			1326			1814			754								
TOTAL HT GAIN x 1.3 BTU/H			3589			3362			2348			1832			1350			359								

ROOM USE			KT/GR			LAUN			WIR			FOY			MUD			WOD			BAS		
EXP. WALL CLG. HT.			75 10			14 9			7 10			25 11			22 10			36 9			162 9		
FACTORS			750			126			70			263			220			324			1188		
GRS.WALL AREA			198			198			198			198			198			198			198		
GLAZING			0 0			0 0			0 0			0 0			0 0			0 0			0 0		
NORTH			23.3 15.8			0 0			0 0			0 0			0 0			0 0			0 0		
EAST			23.3 41.4			0 0			0 0			6 140 248			0 0			23 536 364			6 140 95		
SOUTH			23.3 24.7			0 0			9 210 223			0 0			0 0			0 0			0 0		
WEST			23.3 41.4			0 0			0 0			0 0			0 0			0 0			0 0		
SKYL.T.			40.8 101.3			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		
NET EXPOSED WALL			4.9 0.7			126 616 90			61 298 44			40 1106 162			20 553 81			0 0 0 20 553 81					
NET EXPOSED BSMT WALL ABOVE GR			3.9 0.6			0 0			0 0			217 1058 155			200 977 143			0 0 0 200 977 143					
EXPOSED CLG			1.4 0.6			175 246 101			0 0			0 0			0 0			193 760 111			270 1064 156		
NO ATTIC EXPOSED CLG			3.0 1.2			0 0			0 0			0 0			0 0			0 0			0 0		
EXPOSED FLOOR			2.8 0.4			51 142 21			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		
SLAB ON GRADE HEAT LOSS			0 0			0 0			0 0			0 0			0 0			0 0			0 0		
SUBTOTAL HT LOSS			2544			1004			508			2303			1530			1296			5664		
SUB TOTAL HT GAIN			1475			212			266			566			224			475			7420 332		
LEVEL FACTOR / MULTIPLIER			0.30 0.38			0.20 0.26			0.30 0.38			0.30 0.38			0.30 0.38			0.50 0.88					
AIR CHANGE HEAT LOSS			965			258			193			874			580			7706					
AIR CHANGE HEAT GAIN			109			16			20			42			17								
DUCT LOSS			0 0			126			0 0			0 0			0 0			0 0					
DUCT GAIN			0 0			79			0 0			0 0			0 0			0 0					
HEAT GAIN PEOPLE			0 0			0 0			0 0			0 0			0 0			0 0					
HEAT GAIN APPLIANCES/LIGHTS			568			568			568			568			568			1296			558		
TOTAL HT LOSS BTU/H			3509			1387			700			3177			2110			618			15126		
TOTAL HT GAIN x 1.3 BTU/H			2786			1124			372			790			1039						1235		

SITE NAME: ALCONA

BUILDER: BAYVIEW WELLINGTON

DATE: Jun-17

GFA: 2292 LO# 74580

TYPE: 32-3-12

furnace pressure
furnace filter
a/c coil pressure
available pressure
for s/a & r/a

0.6
0.05
0.2
0.35

COOLING CFM
TOTAL HEAT GAIN
AIR FLOW RATE CFM

995
28,252
35.22

ARUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 64,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	7	4
R/A	0	0	4	2	1

plenum pressure s/a
max s/a dif press. loss
min adjusted pressure s/a

0.18
0.02
0.16

r/a pressure
r/a grille press. Loss
adjusted pressure r/a

0.17
0.02
0.15

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	10	11	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	BED-2	BED-3	BED-4	BATH	ENS-2	BED-2	MBR	ENS-2	DIN	KT/GR	KT/GR	KT/GR	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.80	1.68	1.53	1.88	1.33	1.81	0.75	1.53	1.80	0.75	3.51	2.44	2.44	2.44	1.39	0.70	3.18	2.11	4.11	4.11	4.11	4.11
CFM PER RUN HEAT	37	34	31	38	27	37	15	31	37	15	72	50	50	50	28	14	65	43	84	84	84	84
RM GAIN MBH	1.79	0.92	1.68	2.35	1.83	1.35	1.79	1.68	1.79	1.35	2.79	2.18	2.18	2.18	1.12	0.37	0.79	1.04	0.46	0.46	0.46	0.46
CFM PER RUN COOLING	63	32	59	83	65	48	63	59	63	48	98	77	77	77	40	13	28	37	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	47	56	40	47	38	51	43	43	59	43	35	38	32	44	38	18	34	18	38	28	23	26
EQUIVALENT LENGTH	120	180	130	140	150	140	120	140	120	180	150	150	150	150	150	130	100	170	120	90	110	90
TOTAL EFFECTIVE LENGTH	167	236	170	187	188	191	183	188	179	223	185	188	182	174	188	148	134	188	158	118	133	116
ADJUSTED PRESSURE	0.1	0.07	0.1	0.09	0.09	0.09	0.08	0.09	0.1	0.08	0.09	0.09	0.09	0.09	0.1	0.12	0.13	0.09	0.1	0.14	0.14	0.14
ROUND DUCT SIZE	5	4	5	5	5	5	4	5	5	4	6	5	5	5	4	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	272	390	228	279	198	424	172	228	272	172	367	367	367	367	321	161	746	493	617	617	617	617
COOLING VELOCITY (ft/min)	463	367	433	609	477	551	463	433	463	149	500	565	565	565	459	149	321	424	424	424	424	424
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	D	C	B	C	B	D	A	B	C	A	A	A	D	B	C	D	A	B	B	C

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
1	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
2	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
3	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
4	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
5	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
6	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
7	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
8	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
9	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
10	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
11	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
12	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
13	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
14	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
15	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
16	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
17	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
18	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
19	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
20	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
21	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
22	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
23	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
24	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT 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 CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	342	0.07	9.7	12	8	513	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	566	0.07	11.7	16	8	637	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	296	0.09	8.6	8	8	666	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	429	0.09	9.9	12	8	644	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	995	0.07	14.5	24	8	746	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	0	0	0.00	0	0	0

RETURN AIR #	TRUNK CFM	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)
RETURN AIR #	1	2	3	4	6	0	0	0	0	0	0	0	0	0	0
AIR VOLUME	155	135	95	85	205	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
ACTUAL DUCT LGH	46	47	34	46	36	19	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	185	225	145	185	230	145	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	231	272	179	231	266	164	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.05	0.08	0.06	0.09	0.09	0.06	0.06	0.06	0.09	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	7.5	7.5	5.8	6	7.5	7.5	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	0	0	0	0	0	0	0	0	0

TYPE: 32-3-12
SITE NAME: ALCONA

LO # 74580

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	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	180.2 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	180.2	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	41.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 60H-V+	Location: BSMT
139.0 cfm	3.0 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
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 60H-V+		
139 cfm high	50 cfm low	
75 % 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:** 32-3-12**BUILDER:** BAYVIEW WELLINGTON**SFQT:** 2292**LO#** 74580**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 (ft ³):	31183.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 54.0 ft	WIDTH: 27.0 ft	EXPOSED PERIMETER:	162.0 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	29.8
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	-

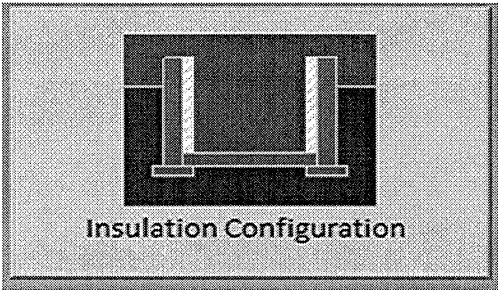
INDIVIDUAL BCIN: 19669

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):	16.5	 Insulation Configuration
Floor Width (m):	8.2	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	2.7	
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):		1660

TYPE: 32-3-12
LO# 74580

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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	883.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1177.1 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):	0.332			
Cooling Air Leakage Rate (ACH/H):	0.087			

TYPE: 32-3-12

LO# 74580

UNFINISHED BASEMENT

A

This architectural drawing shows a cross-section of a basement foundation and wall. On the left, a foundation wall is shown with a footing and a basement wall above it. A horizontal line indicates the ground level. To the right, a larger section of the basement wall is shown, with a diagonal line indicating a break in the wall. The text 'UNFINISHED BASEMENT' is written in the center, and a section line 'A' is shown on the right side.

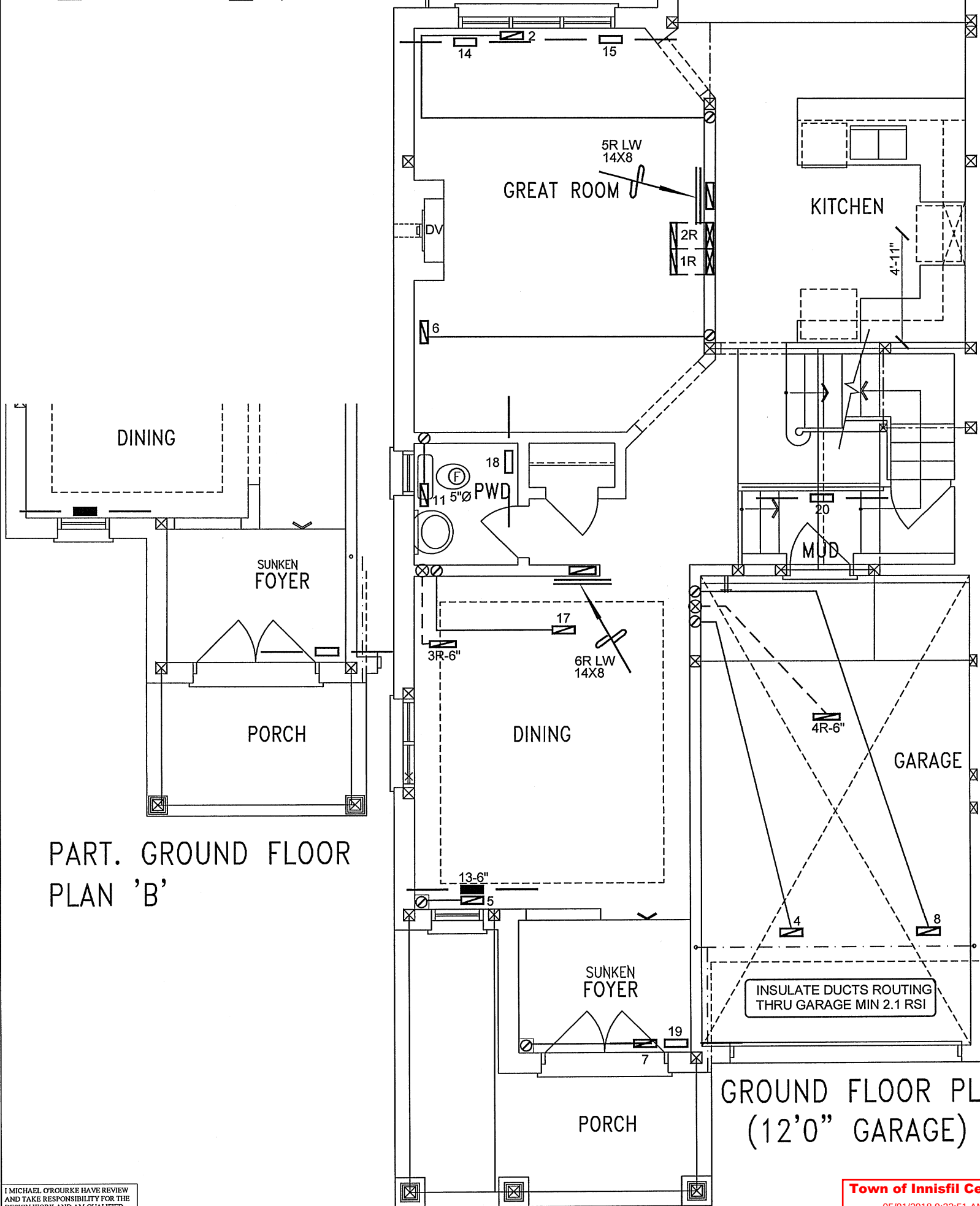


Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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Sheet Title	
BASEMENT HEATING LAYOUT	
Date	JUNE/2017
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	74580



PART. GROUND FLOOR
PLAN 'B'

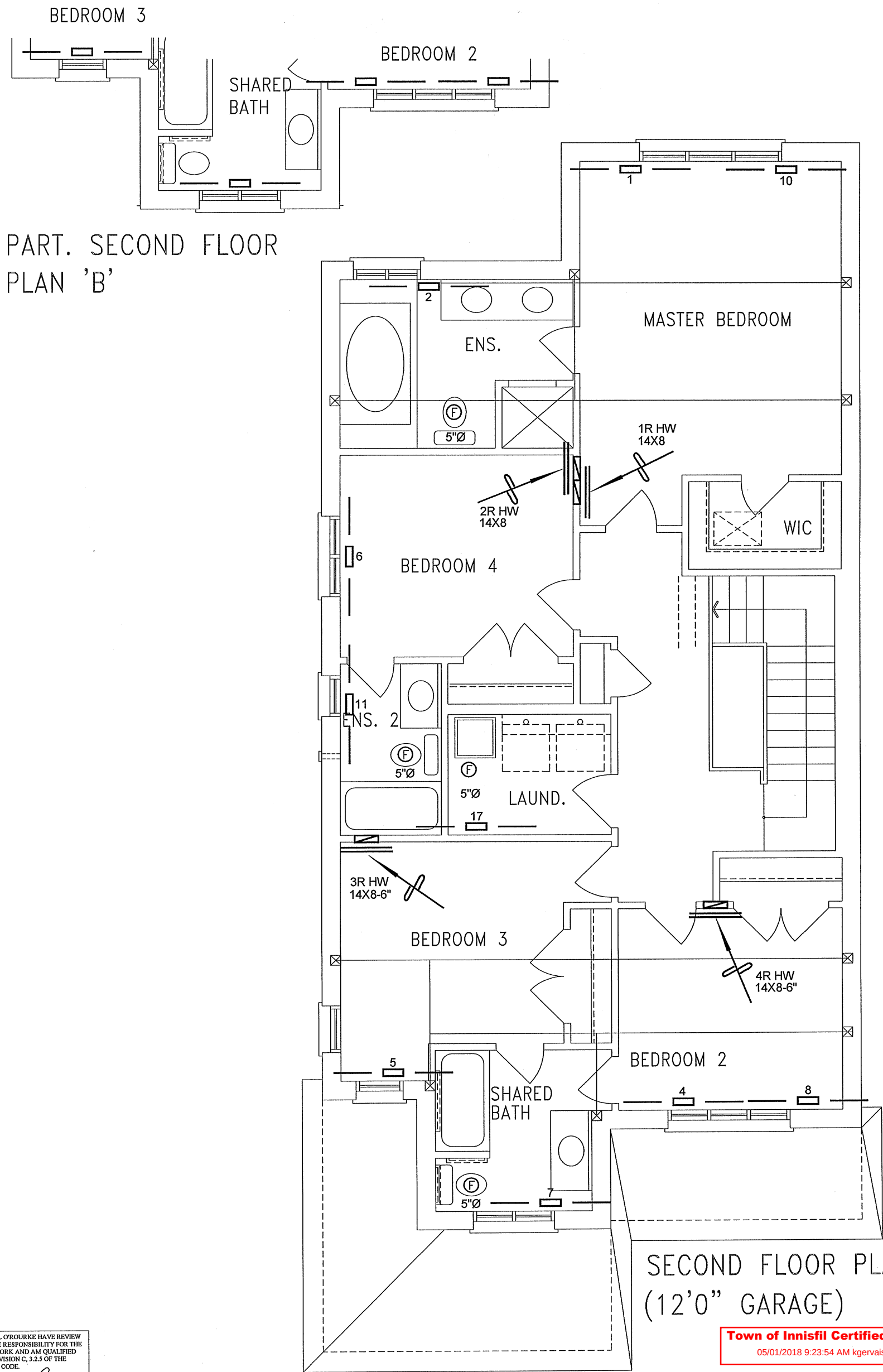
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC DESIGNS LTD.		HVAC DESIGNS LTD.						3.			
HVAC LEGEND								2.			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	1.			
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	No.		Description	Date
	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	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	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name ALCONA INNISFIL, ONTARIO			Date JUNE/2017	
			Scale 3/16" = 1'-0"	
			BCIN# 19669	
32-3-12 2292 sqft		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.		
LO# 74580				



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.

Town of Innisfil Certified Model
05/01/2018 9:23:54 AM kgervais

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JUNE/2017
ALCONA INNISFIL, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
32-3-12	2292 sqft	LO#	74580	