

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: 32-5-10 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 21, 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: ALCONA			DATE: Jun-17		WINTER NATURAL AIR CHANGE RATE 0.332		HEAT LOSS AT °F. 83		CSA-F280-12	
BUILDER: BAYVIEW WELLINGTON			LO# 74583		SUMMER NATURAL AIR CHANGE RATE 0.087		HEAT GAIN AT °F. 12		SB-12 PACKAGE A1	
TYPE: 32-5-10			GFA: 2647		BATH		ENS-2			
ROOM USE			BED-3		BED-4		FOY		WOD	
EXP. WALL			7		13		32		36	
CLG. HT.			9		9		11		9	
FACTORS			63		117		352		324	
GRS.WALL AREA			LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
GLAZING			0		0		0		23	
NORTH			0		0		0		0	
EAST			0		0		6		0	
SOUTH			0		0		140		0	
WEST			0		0		0		0	
SKYL.T.			0		0		0		0	
DOORS			0		0		0		0	
NET EXPOSED WALL			4.9		117		40		0	
NET EXPOSED BSMT WALL ABOVE GR			3.9		0		306		193	
EXPOSED CLG			1.4		0		0		0	
NO ATTIC EXPOSED CLG			3.0		0		0		0	
EXPOSED FLOOR			2.8		0		0		0	
BASEMENT/CRAWL HEAT LOSS			0		0		0		0	
SLAB ON GRADE HEAT LOSS			0		0		0		0	
SUBTOTAL HT LOSS			2281		1158		2740		1296	
SUB TOTAL HT GAIN			1492		588		630		475	
LEVEL FACTOR / MULTIPLIER			0.20		0.20		0.30		0.50	
AIR CHANGE HEAT LOSS			634		322		1182		8889	
AIR CHANGE HEAT GAIN			118		47		50		64	
DUCT LOSS			0		0		0		0	
DUCT GAIN			0		0		0		0	
HEAT GAIN PEOPLE			2		1		0		0	
HEAT GAIN APPLIANCES/LIGHTS			545		545		545		0	
TOTAL HT LOSS BTU/H			2915		1480		3923		1296	
TOTAL HT GAIN x 1.3 BTU/H			3426		1846		852		618	
TOTAL HT LOSS BTU/H:			28888		3122		52192		55315	
TOTAL HT GAIN BTU/H:			28888		3122		52192		55315	
TONS: 2.41			28888		3122		52192		55315	
TOTAL COMBINED HEAT LOSS BTU/H:			28888		3122		52192		55315	

SITE NAME: ALCONA				TYPE: 32-5-10				DATE: Jun-17				GFA: 2647				LO# 74583			
BUILDER: BAYVIEW WELLINGTON				furnace pressure				0.6				EL296UH070XE36B				^LENNOX			
HEATING CFM 995				COOLING CFM 995				furnace filter				FAN SPEED				70			
TOTAL HEAT LOSS 52,192				TOTAL HEAT GAIN 28,431				a/c coil pressure				LOW				0			
AIR FLOW RATE CFM 19.06				AIR FLOW RATE CFM 35				available pressure				MEDIUM				995			
								for s/a & r/a				HIGH				1100			
RUN COUNT				plenum pressure s/a				r/a pressure				DESIGN CFM =				995			
S/A				max s/a dif press. loss				r/a grille press. Loss				CH-M @ 8" E.S.P.				60			
R/A				min adjusted pressure s/a				adjusted pressure r/a				TEMPERATURE RISE				°F			

All S/A diffusers 4"x10" unless noted otherwise on layout.
All R/A runs 5'Ø unless noted otherwise on layout.

RUN #		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME		MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	ENS-2		LV/DN	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH		1.46	1.80	0.56	1.86	1.83	1.48	0.79	1.86	1.83	1.46	0.99		4.06	2.60	2.60	2.60	0.78	0.91	3.92	1.00	3.56	3.56	3.56	3.56
CFM PER RUN HEAT		28	34	11	35	35	28	15	35	35	28	19		77	50	50	50	15	17	75	19	68	68	68	68
RM GAIN MBH		1.71	1.06	0.14	1.57	2.03	1.85	0.39	1.57	2.03	1.71	0.23		2.73	2.19	2.19	2.19	1.13	0.13	0.88	0.85	0.37	0.37	0.37	0.37
CFM PER RUN COOLING		60	37	5	55	71	65	14	55	71	60	8		95	77	77	77	40	5	31	30	13	13	13	13
ADJUSTED PRESSURE		0.17	0.17	0.17	0.17	0.17	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	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH		49	50	36	39	60	37	35	41	67	53	26		38	47	45	46	38	20	36	17	39	34	24	25
EQUIVALENT LENGTH		120	130	120	140	120	170	130	150	140	140	170		130	120	120	120	160	190	120	170	140	150	110	120
TOTAL EFFECTIVE LENGTH		169	180	156	179	180	207	165	191	207	193	196		168	167	165	176	198	210	156	187	179	184	134	145
ADJUSTED PRESSURE		0.1	0.11	0.1	0.1	0.1	0.08	0.1	0.09	0.08	0.09	0.09		0.1	0.1	0.1	0.1	0.09	0.08	0.11	0.09	0.1	0.09	0.13	0.12
ROUND DUCT SIZE		5	4	4	4	5	5	4	5	5	5	4		5	5	5	5	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)		206	390	126	402	257	206	172	257	257	206	218		565	367	367	367	172	195	551	218	499	499	499	499
COOLING VELOCITY (ft/min)		441	424	57	631	521	477	161	404	521	441	92		698	565	565	565	459	57	228	344	95	95	95	95
OUTLET GRILL SIZE		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10		3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK		A	B	B	D	C	B	D	D	C	A	D		C	A	A	A	B	B	C	B	A	B	B	D

RUN #		25																							
ROOM NAME		BAS																							
RM LOSS MBH		3.56																							
CFM PER RUN HEAT		68																							
RM GAIN MBH		0.37																							
CFM PER RUN COOLING		13																							
ADJUSTED PRESSURE		0.17																							
ACTUAL DUCT LGH		37																							
EQUIVALENT LENGTH		120																							
TOTAL EFFECTIVE LENGTH		157																							
ADJUSTED PRESSURE		0.11																							
ROUND DUCT SIZE		5																							
HEATING VELOCITY (ft/min)		499																							
COOLING VELOCITY (ft/min)		95																							
OUTLET GRILL SIZE		3X10																							
TRUNK		C																							

SUPPLY AIR TRUNK SIZE												RETURN AIR TRUNK SIZE												RECT DUCT		VELOCITY (ft/min)	
TRUNK												TRUNK												RECT DUCT		VELOCITY (ft/min)	
CFM												CFM												RECT DUCT		VELOCITY (ft/min)	
PRESS												PRESS												RECT DUCT		VELOCITY (ft/min)	
DUCT												DUCT												RECT DUCT		VELOCITY (ft/min)	
ROUND												ROUND												RECT DUCT		VELOCITY (ft/min)	
STATIC												STATIC												RECT DUCT		VELOCITY (ft/min)	
PRESS												PRESS												RECT DUCT		VELOCITY (ft/min)	
TRUNK												TRUNK												RECT DUCT		VELOCITY (ft/min)	
CFM												CFM												RECT DUCT		VELOCITY (ft/min)	
VELOCITY												VELOCITY												RECT DUCT		VELOCITY (ft/min)	
TRUNK												TRUNK												RECT DUCT		VELOCITY (ft/min)	
PRESS												PRESS												RECT DUCT		VELOCITY (ft/min)	
DUCT												DUCT												RECT DUCT		VELOCITY (ft/min)	
ROUND												ROUND												RECT DUCT		VELOCITY (ft/min)	
STATIC												STATIC												RECT DUCT		VELOCITY (ft/min)	

TYPE: 32-5-10
SITE NAME: ALCONA

LO # 74583

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	83 F	1.08	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 @ 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:	
HRAI #	001820
Date:	June-17

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 32-5-10**BUILDER:** BAYVIEW WELLINGTON**SFQT:** 2647**LO#** 74583**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):	35973.0	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: 56.0 ft	WIDTH: 27.0 ft	EXPOSED PERIMETER:	166.0 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



Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

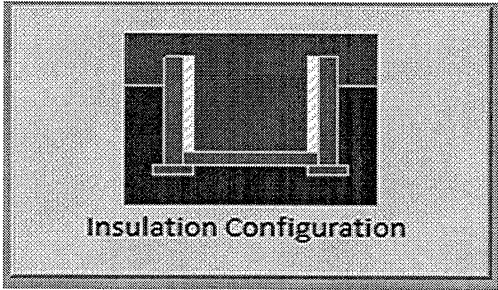
Weather Station Description				
Province:	Ontario			
Region:	Barrie			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1018.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1357.9 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: 32-5-10

LO# 74583

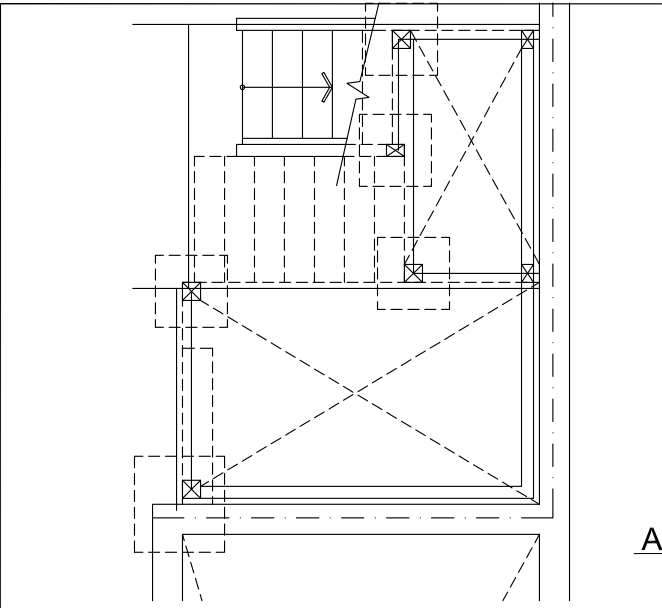
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

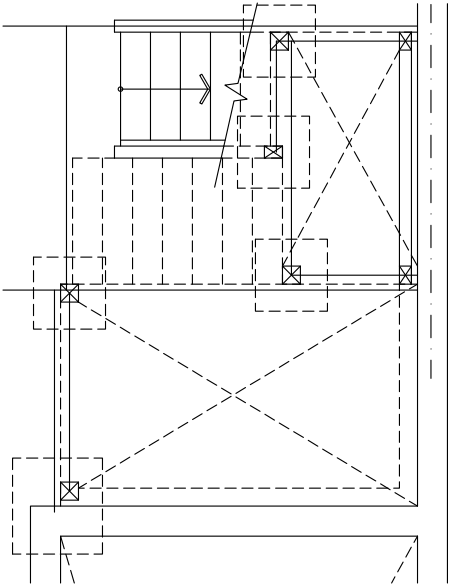
Weather Station Description		
Province:	Ontario	
Region:	Barrie	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	17.1	 Insulation Configuration
Floor Width (m):	8.2	
Exposed Perimeter (m):	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):		1706

TYPE: 32-5-10

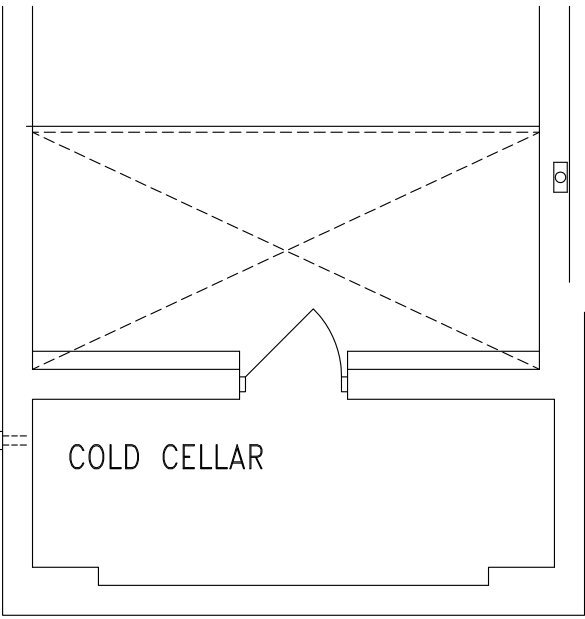
LO# 74583



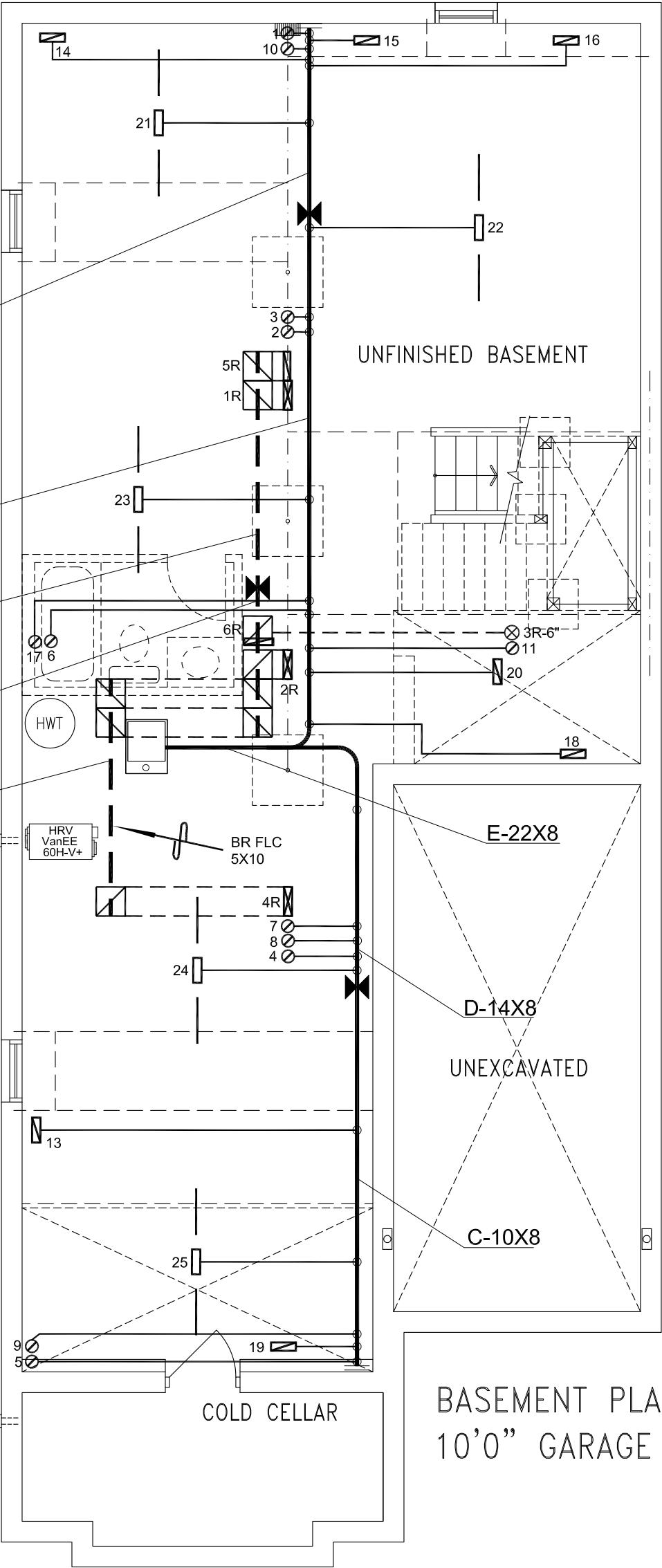
PARTIAL BASEMENT PLAN FOR
SUNKEN MUD & PWD 2R



PARTIAL BASEMENT PLAN FOR
SUNKEN MUD & PWD MAX 1R



PARTIAL BASEMENT PLAN 'B'
10'0" GARAGE



PARTIAL BASEMENT FLOOR PLAN 'A' & 'B'
W.O.D. 9R AND MORE 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.

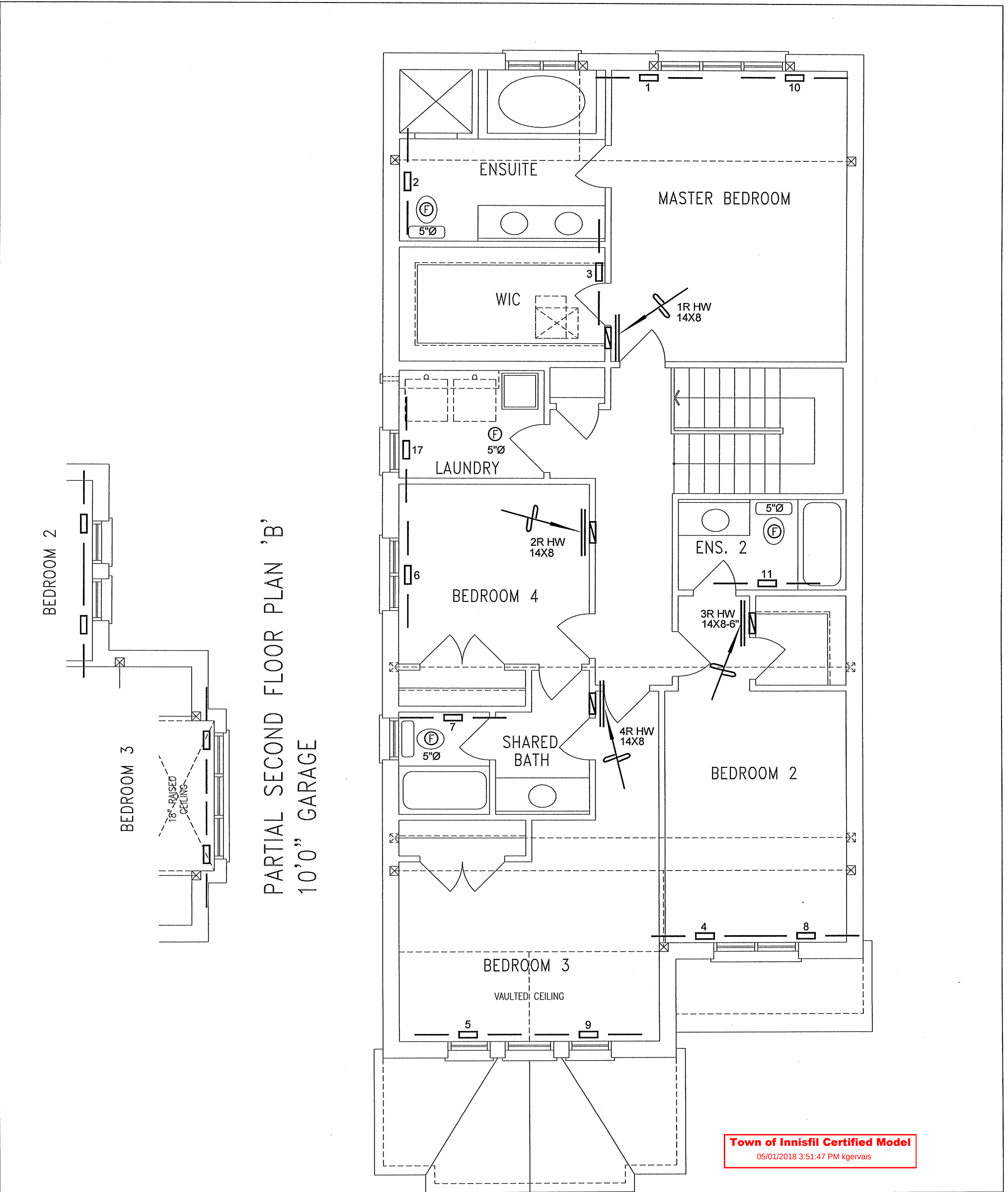
Town of Innisfil Certified Model
05/01/2018 3:51:38 PM kgervais

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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER		Date
							REVISIONS		

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Client		HVACDESIGNS 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		HEAT LOSS 55315 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
BAYVIEW WELLINGTON				MAKE LENNOX		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name ALCONA INNISFIL, ONTARIO		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.		MODEL EL296UH070XE36B		2ND FLOOR 12 4 4			Date JUNE/2017	
32-5-10 2647 sqft				INPUT 66 MBTU/H		1ST FLOOR 7 2 2				
				OUTPUT 64 MBTU/H		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				
				COOLING 2.5 TONS						
				FAN SPEED 995 cfm @ 0.5" w.c.		BASEMENT 5 1 0			Scale 3/16" = 1'-0"	
									BCIN# 19669	
									LO# 74583	



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.

SECOND FLOOR PLAN 'A' 10'0" GARAGE

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 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		
32-5-10			Scale 3/16" = 1'-0"		
2647 sqft			BCIN# 19669		
			LO#	74583	