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-10 **Project:** ALCONA

D. Declaration of Designer

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

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

Individual BCIN: _____
Firm BCIN: _____

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

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

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

I certify that:

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

June 14, 2018
Date

Signature of Designer

NOTE:

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

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SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON TYPE: TH-10 GFA: 2113 DATE: Jun-18 LO# 78879

WINTER NATURAL AIR CHANGE RATE 0.410 HEAT LOSS ΔT °F. 83 CSA-F280-12
SUMMER NATURAL AIR CHANGE RATE 0.105 HEAT GAIN ΔT °F. 12 SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3				BATH					
EXP. WALL			14			7			0			10			15				0					
CLG. HT.			9			9			9			9			9				9					
	FACTORS																							
GRS.WALL AREA	LOSS	GAIN	126			63			0			90			135				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				
EAST	23.3	41.4	0	0	0	0	0	0	0	0	0	22	513	910	33	769	1366		0	0				
SOUTH	23.3	24.7	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				
SKYLT.	40.8	101.3	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				
NET EXPOSED WALL	4.9	0.7	98	479	70	50	244	36	0	0	0	68	332	49	102	498	73		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				
EXPOSED CLG	1.4	0.6	210	295	121	105	148	61	99	139	57	165	232	95	209	294	121		105	148	61			
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				
EXPOSED FLOOR	2.8	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0				
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0				0				
SLAB ON GRADE HEAT LOSS				0			0			0			0			0				0				
SUBTOTAL HT LOSS				1426			695			139			1077			1561				148				
SUB TOTAL HT GAIN					1350			634			57			1054			1559				61			
LEVEL FACTOR / MULTIPLIER			0.20	0.63		0.20	0.63		0.20	0.63		0.20	0.63		0.20	0.63			0.20	0.63				
AIR CHANGE HEAT LOSS				904			440			88			682			989				93				
AIR CHANGE HEAT GAIN					100			47			4			78			115				4			
DUCT LOSS				0			0			0			0			0				0				
DUCT GAIN					0			0			0			0			0				0			
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240		0		0			
HEAT GAIN APPLIANCES/LIGHTS					617			0			0			617			617				0			
TOTAL HT LOSS BTU/H				2330			1135			227			1759			2550				241				
TOTAL HT GAIN x 1.3 BTU/H					3310			886			80			2586			3290				85			

ROOM USE			DIN			KT/FM			LAUN			W/R			FOY				WOB			BAS		
EXP. WALL			10			21			0			0			24				47			21		
CLG. HT.			10			10			9			10			16				9			9		
	FACTORS																							
GRS.WALL AREA	LOSS	GAIN	100			210			0			0			384				423			63		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN	
NORTH	23.3	15.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EAST	23.3	41.4	27	629	1117	0	0	0	0	0	0	0	0	0	20	466	828		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	0	0	0
WEST	23.3	41.4	0	0	0	59	1374	2442	0	0	0	0	0	0	0	0	0		0	0	0	23	536	952
SKYLT.	40.8	101.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
DOORS	27.6	4.1	20	553	81	20	553	81	0	0	0	0	0	0	40	1106	162		0	0	0	0	0	0
NET EXPOSED WALL	4.9	0.7	53	259	38	131	640	94	0	0	0	0	0	0	324	1583	232		423	2067	303	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	126	496	73
EXPOSED CLG	1.4	0.6	0	0	0	0	0	0	99	139	57	0	0	0	0	0	0		0	0	0	0	0	0
NO ATTIC EXPOSED CLG	3.0	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	162	452	66	0	0	0	0	0	0	11	31	5	0	0	0		0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			178								
SLAB ON GRADE HEAT LOSS				0			0			0			0			717						574		
SUBTOTAL HT LOSS				1893			2567			139			31			4049				174				
SUB TOTAL HT GAIN					1303			2617			57			5			1222				2240			1606	
LEVEL FACTOR / MULTIPLIER			0.30	1.10		0.30	1.10		0.20	0.63		0.30	1.10		0.50	1.04					303			1025
AIR CHANGE HEAT LOSS				2077			2816			88			34			4211						0.50	1.04	
AIR CHANGE HEAT GAIN					96			193			4			0			90						4000	
DUCT LOSS				397			0			0			6			0								98
DUCT GAIN					202			0			0			0			0						0	
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					617			617			617			0			0				0			617
TOTAL HT LOSS BTU/H				4367			5384			227			71			8260				2240			5607	
TOTAL HT GAIN x 1.3 BTU/H					2882			4454			882			7			1706				394			2261

TOTAL HEAT GAIN BTU/H: 23031 TONS: 1.92 LOSS DUE TO VENTILATION LOAD BTU/H: 1429 STRUCTURAL HEAT LOSS: 34396 TOTAL COMBINED HEAT LOSS BTU/H: 35825

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: ALCONA
BUILDER: BAYVIEW WELLINGTON

TYPE: TH-10 DATE: Jun-18 GFA: 2113 LO# 78879

HEATING CFM	800	COOLING CFM	800
TOTAL HEAT LOSS	34,396	TOTAL HEAT GAIN	22,821
AIR FLOW RATE CFM	23.26	AIR FLOW RATE CFM	35.05

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	9	5	5
R/A	0	0	2	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	10	12	13	14	15	17	18	19	20	21	22	23
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-3	BATH	MBR	DIN	DIN	KT/FM	KT/FM	LAUN	W/R	FOY	FOY	BAS	BAS	BAS
RM LOSS MBH.	1.16	1.13	0.23	1.76	1.27	1.27	0.24	1.16	2.18	2.18	2.69	2.69	0.23	0.07	4.13	4.13	2.62	2.62	2.62
CFM PER RUN HEAT	27	26	5	41	30	30	6	27	51	51	63	63	5	2	96	96	61	61	61
RM GAIN MBH.	1.66	0.89	0.08	2.59	1.65	1.65	0.08	1.66	1.44	1.44	2.23	2.23	0.88	0.01	0.85	0.85	0.88	0.88	0.88
CFM PER RUN COOLING	58	31	3	91	58	58	3	58	51	51	78	78	31	0	30	30	31	31	31
ADJUSTED PRESSURE	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	0.16	0.16	0.17	0.17	0.17
ACTUAL DUCT LGH.	50	40	37	41	45	39	15	43	23	25	36	28	21	6	23	35	36	23	8
EQUIVALENT LENGTH	160	160	170	180	150	170	140	130	120	115	130	120	180	140	170	130	90	100	110
TOTAL EFFECTIVE LENGTH	210	200	207	221	195	209	155	173	143	140	166	148	201	146	193	165	126	123	118
ADJUSTED PRESSURE	0.08	0.09	0.08	0.07	0.09	0.08	0.11	0.1	0.12	0.12	0.1	0.12	0.09	0.12	0.08	0.1	0.14	0.14	0.15
ROUND DUCT SIZE	5	4	4	6	5	5	4	5	5	5	5	5	4	4	6	6	5	5	5
HEATING VELOCITY (ft/min)	198	298	57	209	220	220	69	198	374	374	463	463	57	23	489	489	448	448	448
COOLING VELOCITY (ft/min)	426	356	34	464	426	426	34	426	374	374	573	573	356	0	153	153	228	228	228
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10
TRUNK	A	B	B	C	C	C	D	A	D	D	A	A	B	D	D	C	B	B	B

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	180	0.08	7.4	8	x	8	405	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	399	0.08	9.9	12	x	8	599	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	197	0.07	7.9	8	x	8	443	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	403	0.07	10.3	12	x	8	605	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	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	800	0.06	13.9	22	x	8	655
TRUNK Y	0	0.06	0	0	x	8	0
TRUNK Z	0	0.06	0	0	x	8	0
DROP	800	0.06	13.9	24	x	10	480

RETURN AIR #	1	2	3	4												BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	95	240	195	95	0	0	0	0	0	0	0	0	0	0	0	175
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.	47	36	33	16	1	1	1	1	1	1	1	1	1	1	1	26
EQUIVALENT LENGTH	155	135	180	155	0	0	0	0	0	0	0	0	0	0	0	215
TOTAL EFFECTIVE LH	202	171	213	171	1	1	1	1	1	1	1	1	1	1	1	241
ADJUSTED PRESSURE	0.07	0.09	0.07	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.06
ROUND DUCT SIZE	6	8	7.9	5.6	0	0	0	0	0	0	0	0	0	0	0	7.8
INLET GRILL SIZE	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	24	14	14	0	0	0	0	0	0	0	0	0	0	0	24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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TYPE: TH-10
SITE NAME: ALCONA
LO # 78879

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
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 65H

155 cfm high 64 cfm low

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

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: BAYVIEW WELLINGTON

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

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

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: June-18

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

HVAC DESIGNS LTD.
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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: TH-10
SFQT: 2113 **LO#** 78879
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):	26918.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	4
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	3.0 ft
LENGTH: 49.0 ft WIDTH:	21.0 ft	EXPOSED PERIMETER:	21.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	67.0 ft

2012 OBC - COMPLIANCE PACKAGE Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

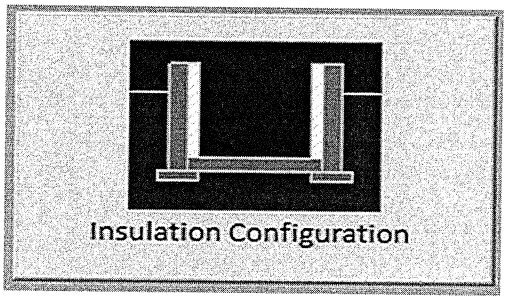
Michael O'Rourke

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

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

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

Foundation Dimensions		
Floor Length (m):	10.1	 Insulation Configuration
Floor Width (m):	6.4	
Exposed Perimeter (m):	6.4	
Wall Height (m):	2.7	
Depth Below Grade (m):	0.81	
Window Area (m^2):	2.1	
Door Area (m^2):	0.0	

Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	

Design Months		
Heating Month	1	

Foundation Loads	
Heating Load (Watts):	**220**

TYPE: TH-10
LO# 78879

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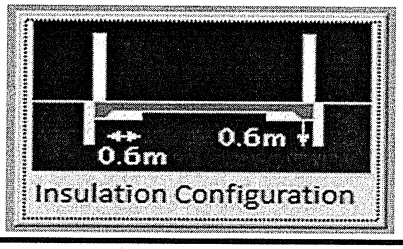
905-619-2300

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		
Length (m):	7.0	 Insulation Configuration
Width (m):	6.4	
Exposed Perimeter (m):	20.4	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):	**261**	

TYPE: TH-10
LO# 78879

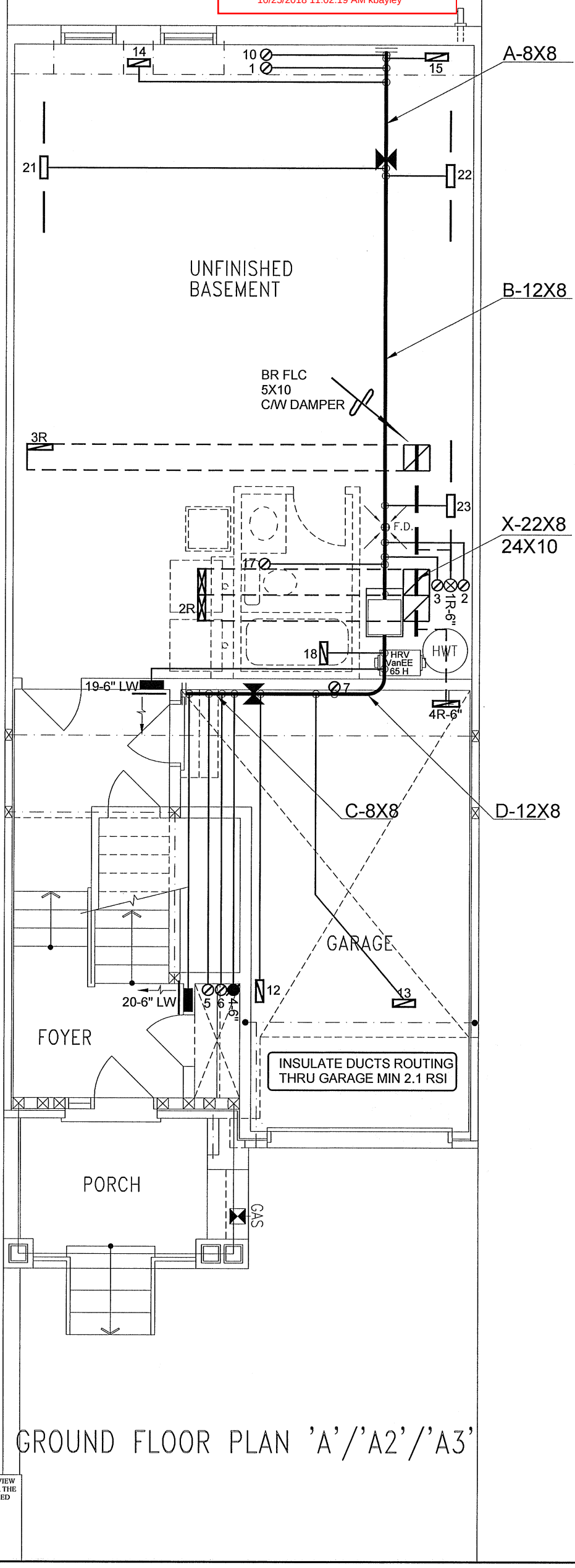
HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

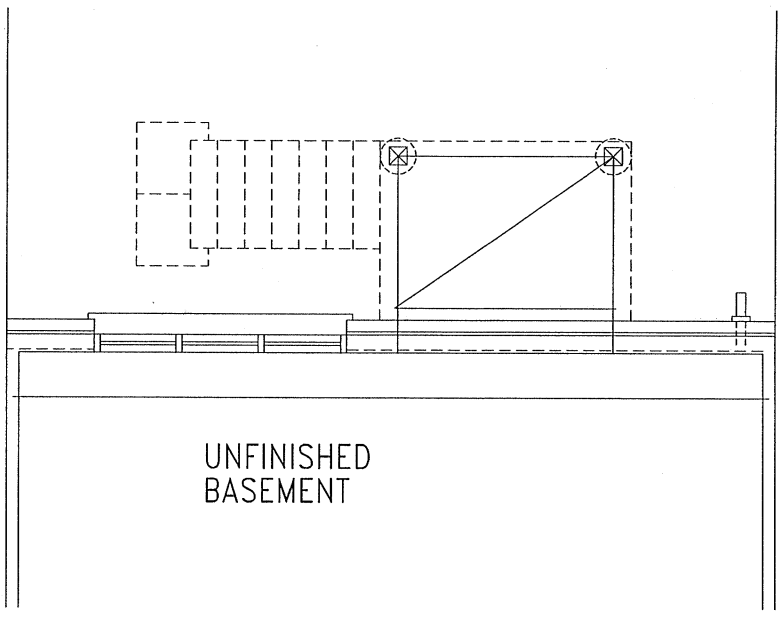
Air Infiltration Residential Load Calculator

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):	8.53
Building Configuration	
Type:	Semi
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	762.2
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 1016.1 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 30.0 / Total Exhaust 30.0
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.410**
Cooling Air Leakage Rate (ACH/H):	**0.105**

TYPE: TH-10
LO# 78879





PARTIAL GROUND FLOOR PLAN WOD 9R COND.

GROUND FLOOR PLAN 'A'/'A2'/'A3'

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

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Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

TH-10 2113 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.

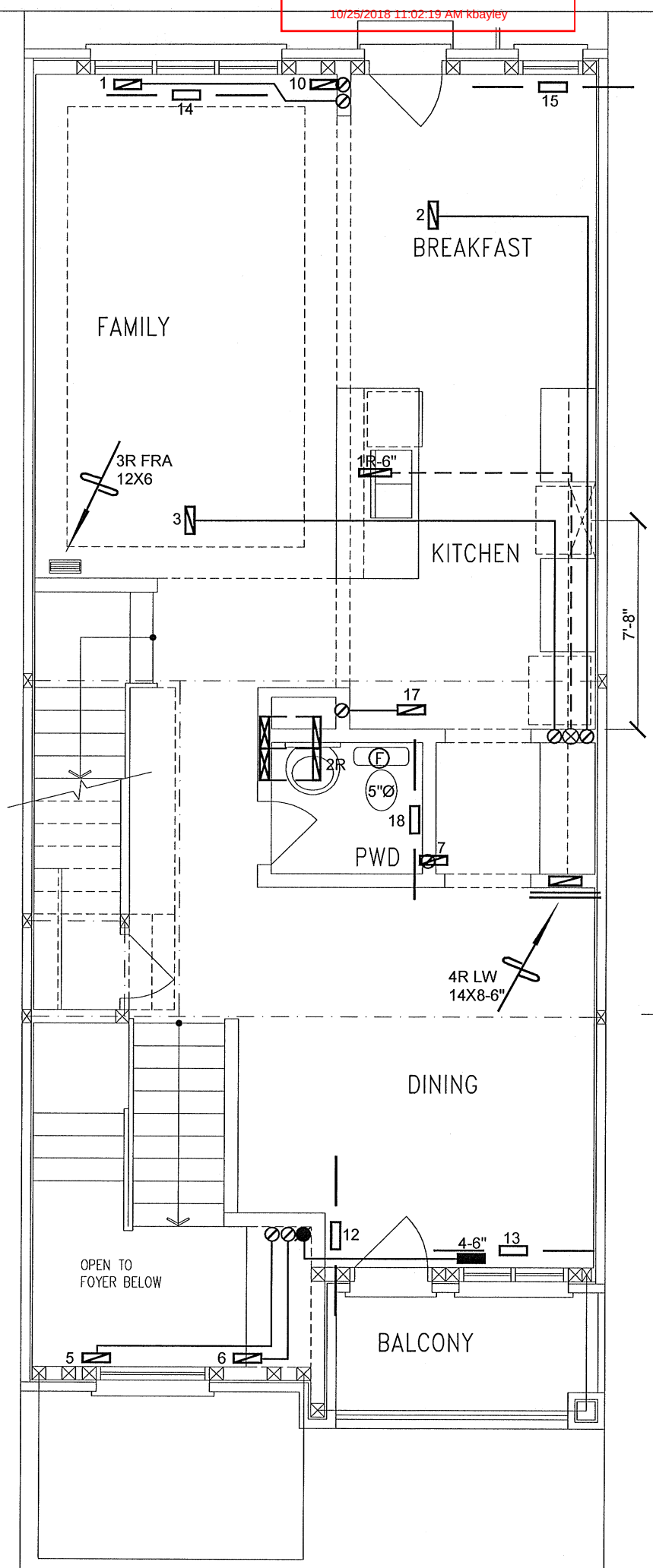
HEAT LOSS 35825 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	EL196UH045XE24B
INPUT	44 MBTU/H
OUTPUT	42 MBTU/H
COOLING	2.0 TONS
FAN SPEED	800 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	9	2	3
1ST FLOOR	5	2	2
BASEMENT	5	1	0

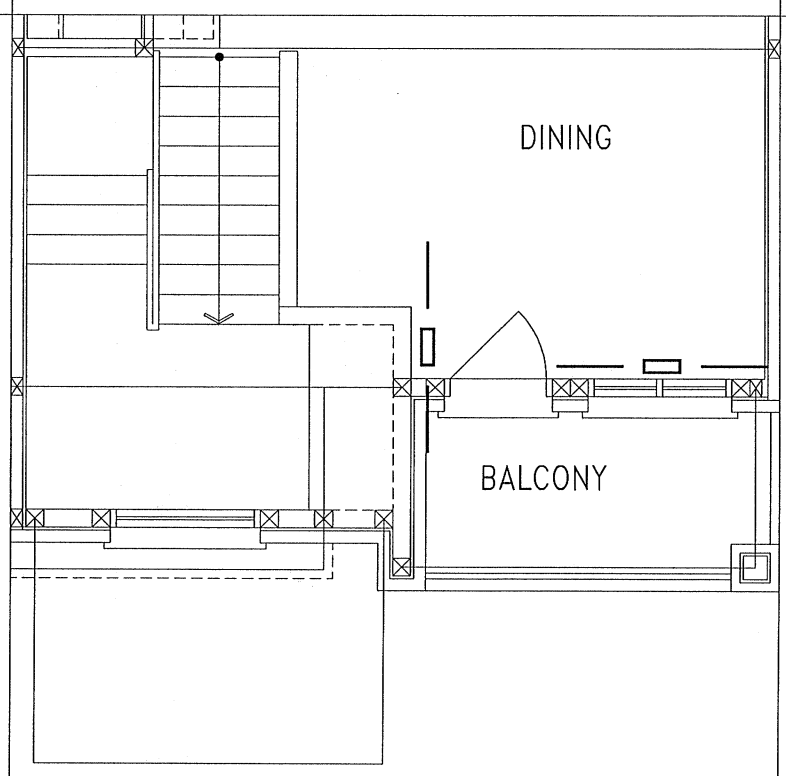
ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

Sheet Title
BASEMENT HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78879



MAIN FLOOR PLAN 'A'/'A2'



PART. MAIN FLOOR PLAN 'A3'

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

CSA-F280-12
PACKAGE A1

HVAC LEGEND

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

No.	Description	Date
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1.		

REVISIONS

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

TH-10 2113 sqft

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375 Finley Ave. Suite 202 - Ajax, Ontario
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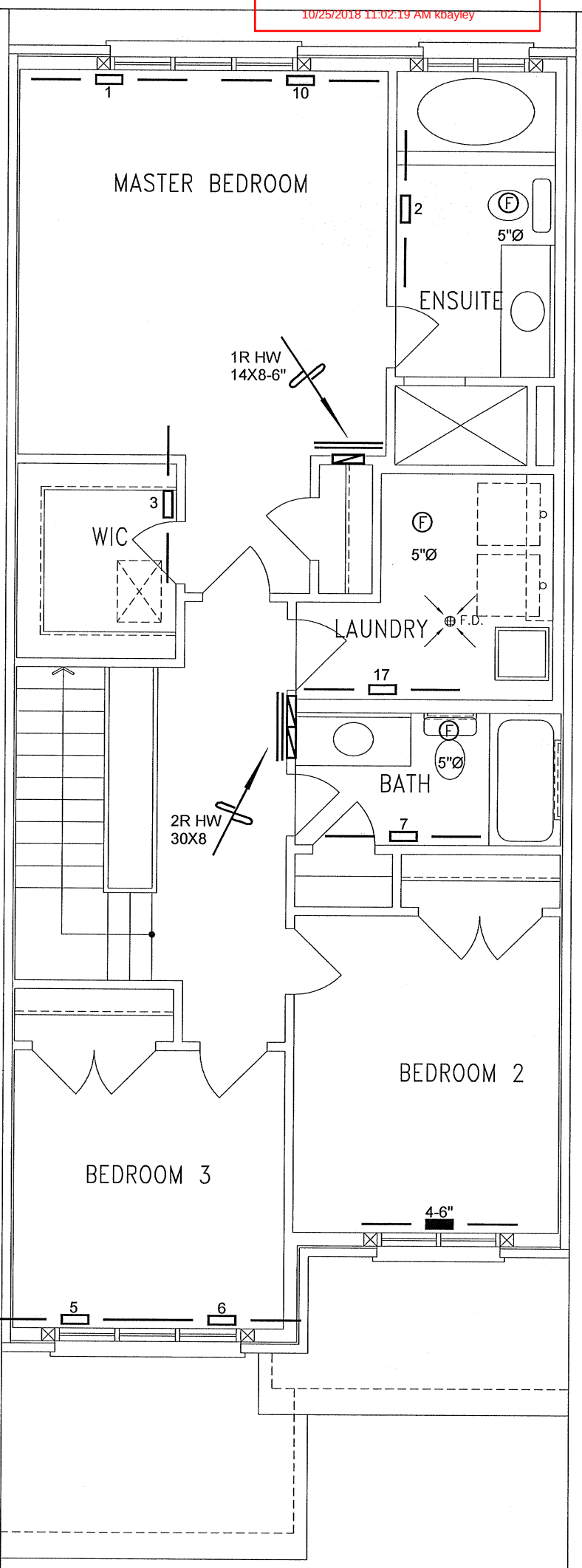
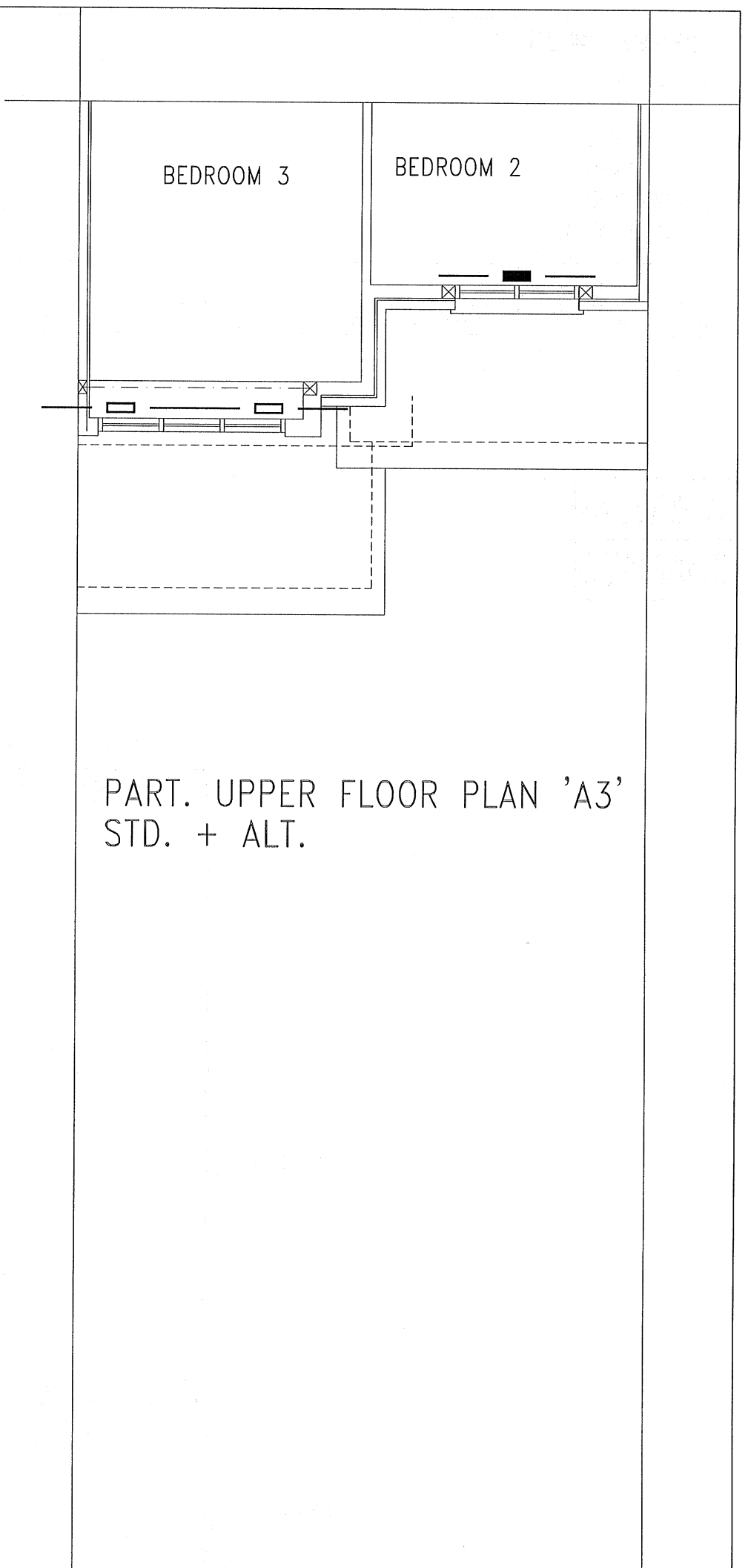
Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78879





UPPER FLOOR PLAN 'A'/'A2'
(3 BEDROOM W/ LAUNDRY)

PART. UPPER FLOOR PLAN 'A3'
STD. + ALT.

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

CSA-F280-12
PACKAGE A1

HVAC LEGEND

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

No.	Description	Date
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1.		

REVISIONS

Client
BAYVIEW WELLINGTON

Project Name
ALCONA
INNISFIL, ONTARIO

TH-10 2113 sqft

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Sheet Title
SECOND FLOOR HEATING LAYOUT

Date JUNE/2018
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 78879