

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 VAUGHAN	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: 38-1 Project: KLEINBURG GLEN	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> 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 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.			
<u>March 7, 2017</u>			
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: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES
DATE: Mar-17
LO# 72985
GFA: 2339
TYPE: 38-1
WINTER NATURAL AIR CHANGE RATE 0.330
HEAT LOSS AT °F. 76
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN.	ENS-2	HEAT GAIN AT °F. 14
GRS.WALL AREA	279	234	45	108	108	108	180	324	54	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	0	0	0	0	0	0	0	0	0	
EAST	0	0	0	0	0	0	0	0	0	
SOUTH	0	0	0	0	0	0	0	0	0	
WEST	0	0	0	0	0	0	0	0	0	
SKYLT.	0	0	0	0	0	0	0	0	0	
DOORS	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.5	207	37	93	353	65	143	638	118	288
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	83	40	168	216	102	156	200	95
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	2050	1715	284	950	1558	1072	1774	2466	436	189
SUB TOTAL HT GAIN	1604	1404	77	423	1448	566	1765	1609	20.23	0.20
LEVEL FACTOR / MULTIPLIER	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23	0.20	0.23
AIR CHANGE HEAT LOSS	463	387	64	214	354	242	401	557	98	10
AIR CHANGE HEAT GAIN	86	75	4	23	77	30	94	86	0	0
DUCT LOSS	0	0	0	0	182	131	217	0	0	0
DUCT GAIN	0	0	0	0	237	144	186	0	0	0
HEAT GAIN PEOPLE	240	0	0	1	240	1	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	604	0	0	604	604	604	0	604	0	0
TOTAL HT LOSS BTU/H	2513	2102	348	1164	2114	1445	2392	3023	534	259
TOTAL HT GAIN x 1.3 BTU/H	3605	1923	105	1677	3388	2060	2660	2988	259	

ROOM USE EXP. WALL CLG. HT.	WIR	FOY	WIR	FOY	WIR	FOY	WIR	FOY	WIR	FOY
GRS.WALL AREA	80	340	80	340	80	340	80	340	80	340
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0
SKYLT.	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
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EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0
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SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 38-1

DATE: Mar-17

GFA: 2339 LO# 72985

HEATING CFM 995 COOLING CFM 995
TOTAL HEAT LOSS 43,648 TOTAL HEAT GAIN 30,551
AIR FLOW RATE CFM 22.8 AIR FLOW RATE CFM 32.57EL296UH070XE36B
FAN SPEED LOW 0
MEDIUM 995
HIGH 1100
AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 64,000
DESIGN CFM = 995
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	6	4
R/A	0	0	4	1	1

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

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

RUN #	1	2	3	4	5	6	7	8	9	10	13	14	15	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN.	ENS-2	MBR	DIN.	KIT/GRT	KIT/GRT	WIR	FOY	KIT/GRT	BAS	BAS	BAS	BAS
RM LOSS MBH	1.26	2.10	0.35	1.16	2.11	1.45	2.39	3.02	0.53	1.26	1.28	2.34	2.34	0.69	4.35	2.34	3.67	3.67	3.67	3.67
CFM PER RUN HEAT	29	48	8	27	48	33	55	69	12	29	29	53	53	16	99	53	84	84	84	84
RM GAIN MBH	1.80	1.92	0.10	1.68	3.39	2.06	2.66	2.99	0.26	1.80	1.68	2.66	2.66	0.32	1.08	2.66	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	59	63	3	55	110	67	87	97	8	59	55	87	87	11	35	87	7	7	7	7
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.15	0.17	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	32	38	23	26	32	22	34	52	30	45	16	24	23	17	33	34	28	26	32	19
EQUIVALENT LENGTH	210	150	140	190	180	100	190	130	155	150	100	160	90	140	100	110	120	120	110	120
TOTAL EFFECTIVE LENGTH	242	188	163	216	212	122	224	182	185	195	116	184	113	157	133	144	138	146	142	139
ADJUSTED PRESSURE	0.07	0.09	0.11	0.08	0.07	0.14	0.07	0.09	0.09	0.09	0.15	0.09	0.14	0.11	0.12	0.11	0.12	0.11	0.11	0.12
ROUND DUCT SIZE	5	5	4	5	6	4	6	4	5	5	4	5	5	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	213	352	92	198	245	379	280	352	138	213	333	389	389	184	727	389	617	617	617	617
COOLING VELOCITY (ft/min)	433	463	34	404	561	769	444	495	92	433	631	639	639	126	257	639	51	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	D	D	A	D	D	D	A	A	B	D	D	C	A	A	B	D	B	A	A

TEMPERATURE RISE 60 °F

RUN

ROOM NAME

RM LOSS MBH

CFM PER RUN HEAT

RM GAIN MBH

CFM PER RUN COOLING

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	391	0.08	9.9	12	8	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.07	0	0	8
TRUNK B	166	0.09	6.9	6	8	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.07	0	0	8
TRUNK C	610	0.08	11.7	16	8	TRUNK I	0	0.00	0	0	8	TRUNK Q	0	0.07	0	0	8
TRUNK D	387	0.07	10.2	12	8	TRUNK J	0	0.00	0	0	8	TRUNK R	0	0.07	0	0	8
TRUNK E	0	0.00	0	0	8	TRUNK K	0	0.00	0	0	8	TRUNK S	0	0.07	0	0	8
TRUNK F	0	0.00	0	0	8	TRUNK L	0	0.00	0	0	8	TRUNK T	0	0.07	0	0	8
												TRUNK U	0	0.07	0	0	8
												TRUNK V	0	0.07	0	0	8
												TRUNK W	0	0.07	0	0	8
												TRUNK X	995	0.07	14.5	26	8
												TRUNK Y	0	0.07	0	0	8
												TRUNK Z	0	0.07	0	0	8
												DROP	995	0.07	14.5	24	10

RETURN AIR

AIR VOLUME

PLENUM PRESSURE

ACTUAL DUCT LGH.

EQUIVALENT LENGTH

TOTAL EFFECTIVE LH

ADJUSTED PRESSURE

ROUND DUCT SIZE

INLET GRILL SIZE

INLET GRILL SIZE

BR

AIR VOLUME

PLENUM PRESSURE

ACTUAL DUCT LGH.

EQUIVALENT LENGTH

TOTAL EFFECTIVE LH

ADJUSTED PRESSURE

ROUND DUCT SIZE

INLET GRILL SIZE

INLET GRILL SIZE

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

TYPE: 38-1
SITE NAME: KLEINBURG GLEN

LO # 72985

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	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 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
More than 5 - Part 6	TOTAL	79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	169.6	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	30.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 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 76 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 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:	
GOLD PARK HOMES	
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:	March-17

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																															
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																															
LO#: 72985	Model: 38-1	Builder: GOLD PARK HOMES	Date: 3/7/2017																																																																												
Volume Calculation		Air Change & Delta T Data																																																																													
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6.2.6 Sensible Gain due to Air Leakage																																																																															
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																															
0.330	x	243.77	x																																																																												
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			889 Btu/h																																																																												
6.2.7 Sensible heat Gain due to Ventilation																																																																															
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																															
139 CFM	x	14 °F	x																																																																												
		1.08	x																																																																												
		0.25	=																																																																												
			525 Btu/h																																																																												
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																															
$HL_{airrr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																															
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*HLairbv = Air leakage heat loss + ventilation heat loss
 *For a balanced or supply only ventilation system HLairve = 0

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 38-1	BUILDER: GOLD PARK HOMES
SFQT: 2339	SITE: KLEINBURG GLEN
LO# 72985	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	74

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):	30991.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 49.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	158.0 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	-

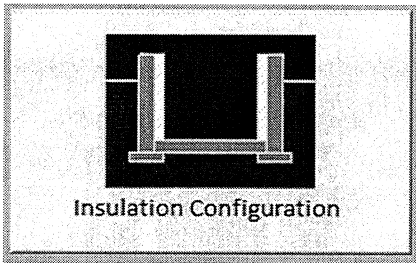
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Michael O'Rourke

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.9	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	1.1	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1537

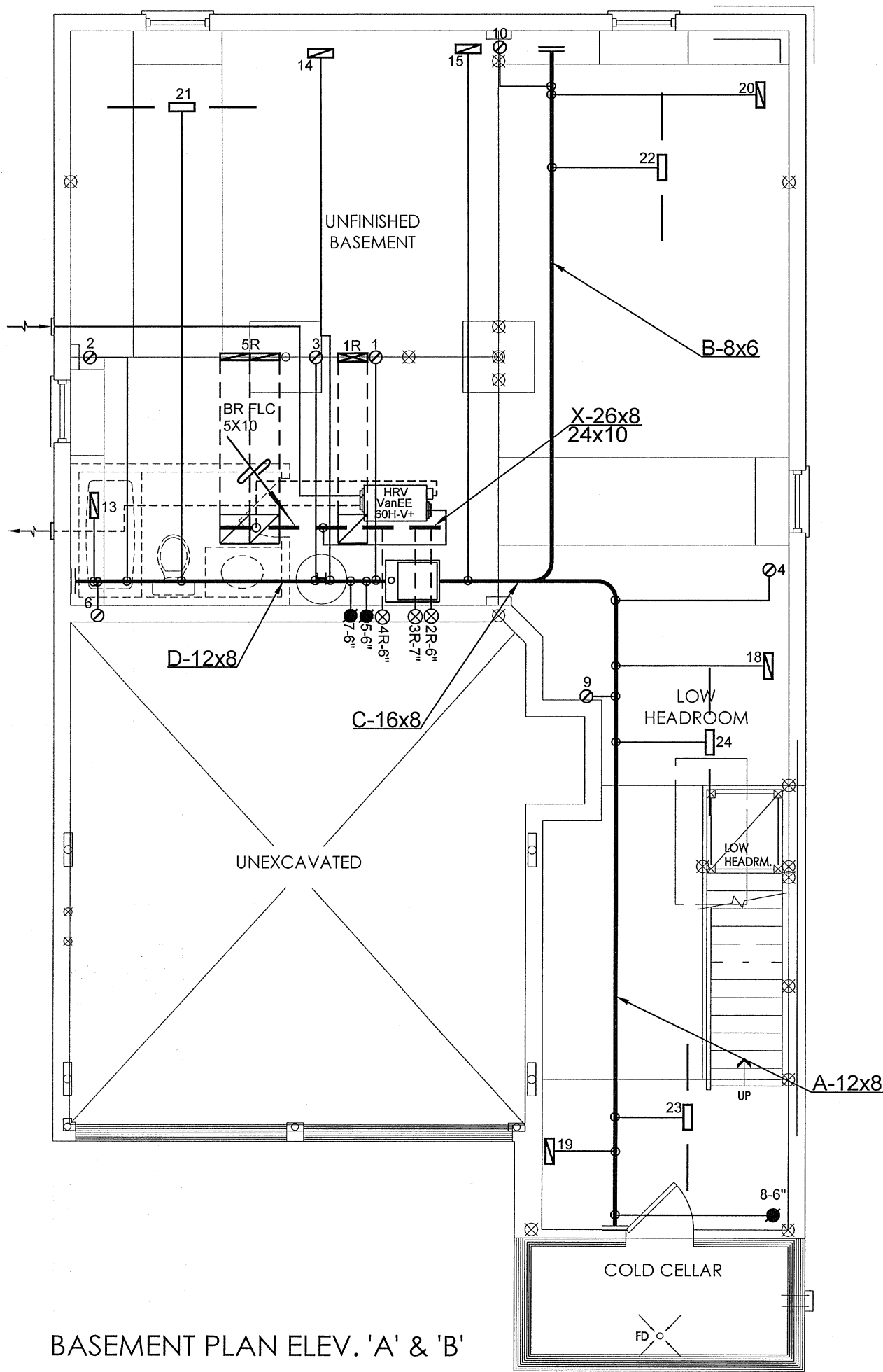
TYPE: 38-1
LO# 72985

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
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):	877.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1169.8 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):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.115			

TYPE: 38-1
LO# 72985



BASEMENT PLAN ELEV. 'A' & 'B'

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.

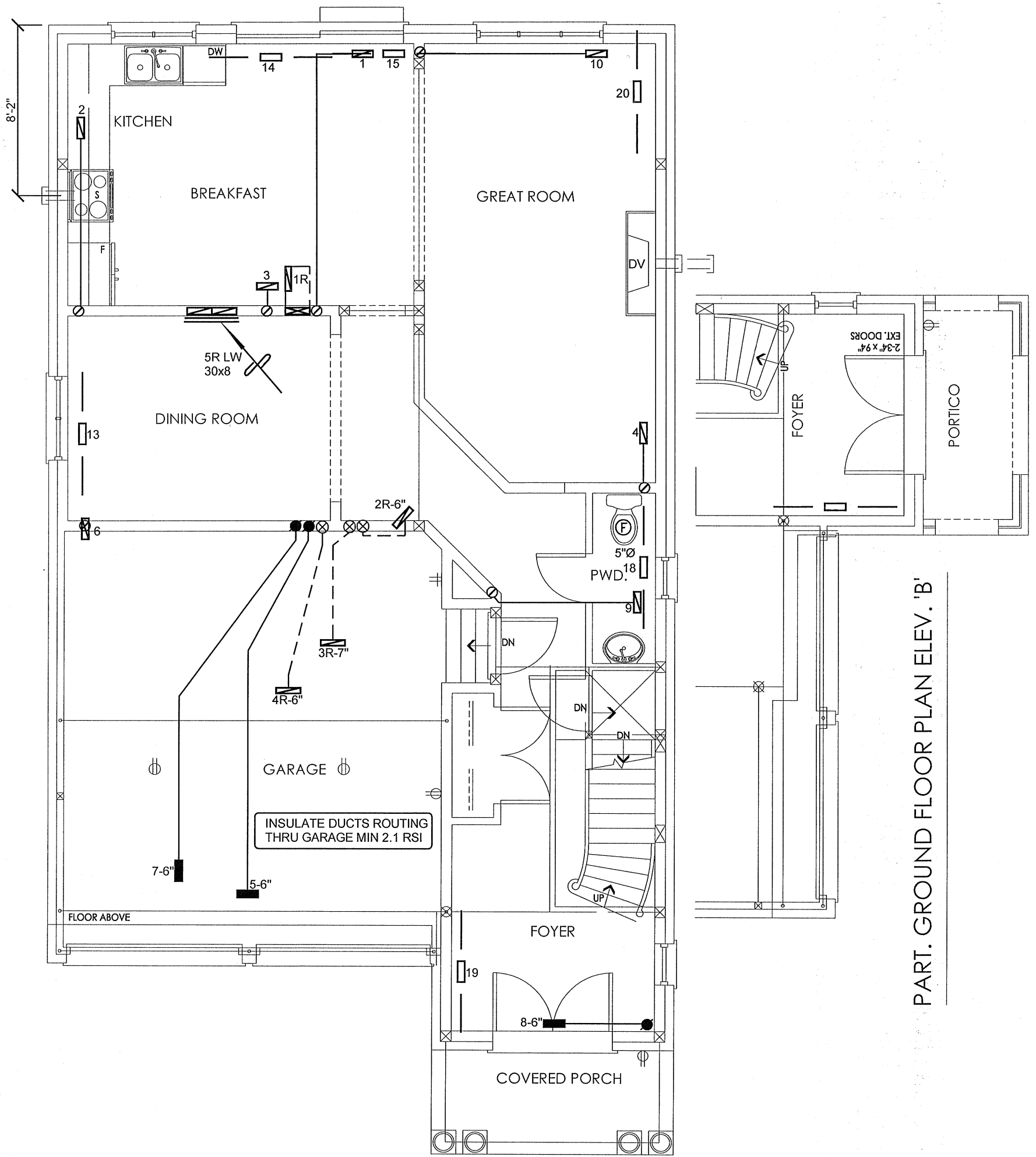
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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.	HEAT LOSS 46500 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES			MAKE LENNOX	3RD FLOOR					BASEMENT HEATING LAYOUT
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			MODEL EL296UH070XE36B	2ND FLOOR		10	4	4	
38-1 2339 sqft			INPUT 66 MBTU/H	1ST FLOOR		6	1	2	
			OUTPUT 64 MBTU/H	BASEMENT		4	1	0	Date MAR/2017
		COOLING 2.5 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		Scale 3/16" = 1'-0"		BCIN# 19669		
FAN SPEED 995 cfm @ 0.6" w.c.	LO#				72985				



GROUND FLOOR PLAN ELEV. 'A'

PART. GROUND FLOOR PLAN ELEV. 'B'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.

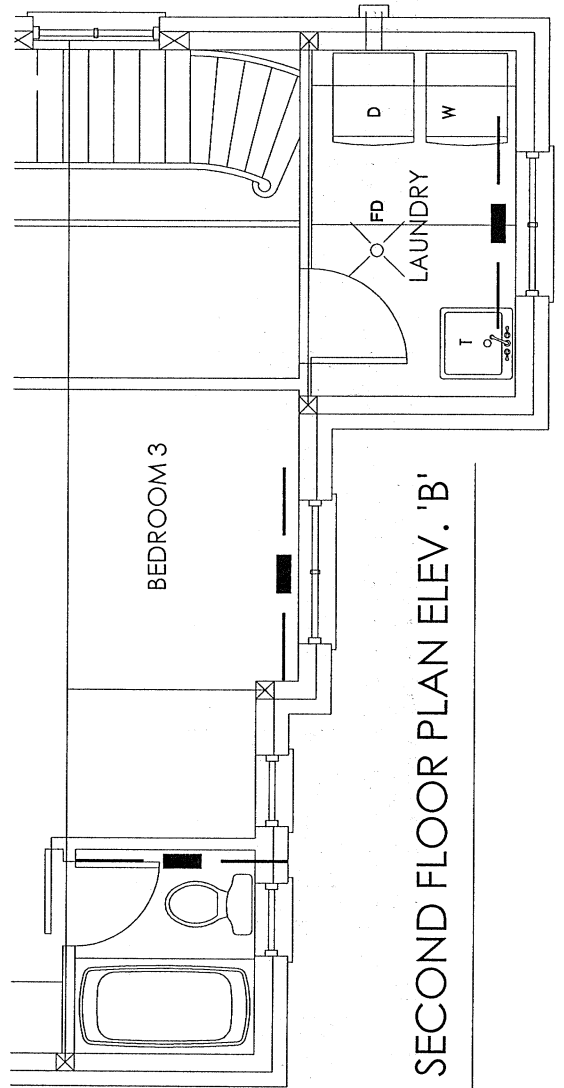
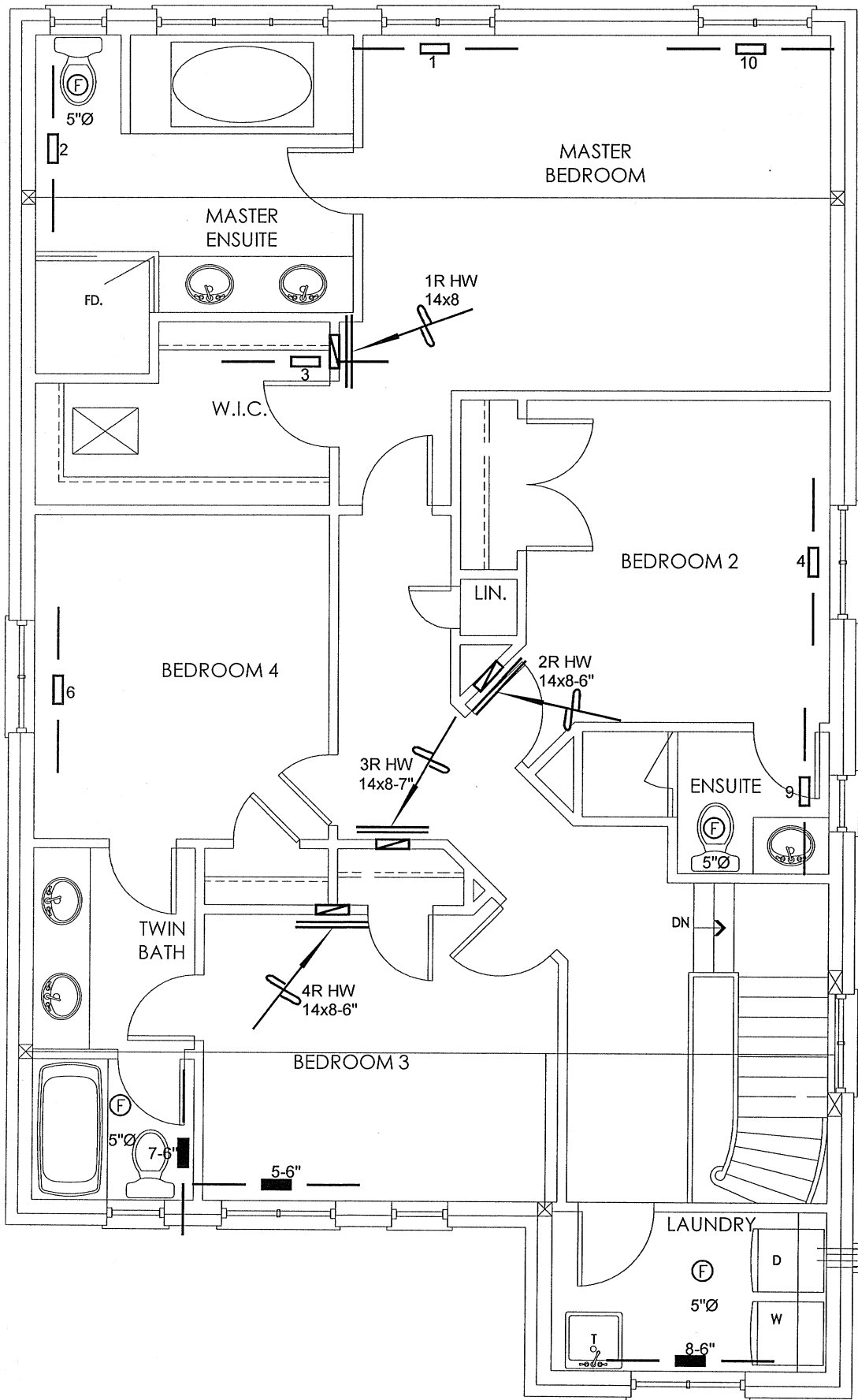
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
			BCIN# 19669	
38-1			LO#	72985
2339 sqft				



PART. SECOND FLOOR PLAN ELEV. 'B'

SECOND FLOOR PLAN ELEV. 'A'

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
PACKAGE A1

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description 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 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	
GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
		BCIN# 19669		
38-1	2339 sqft	LO#	72985	