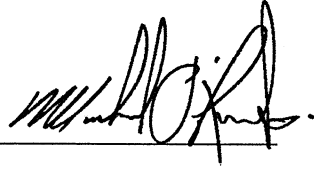


Schedule 1: Designer Information

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 BRAMPTON	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: 38-5 Project: ENCORE		
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:

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.

SITE NAME: ENCORE
BUILDER: GOLD PARK HOMES
TYPE: 38-5
DATE: Mar-17
LO# 72702
GFA: 2541
WINTER NATURAL AIR CHANGE RATE 0.324
HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 13
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 LOSS AT °F. 74	HEAT GAIN AT °F. 13
GRS.WALL AREA	340	207	117	153	396	300	72	45		
GLAZING	0	0	0	0	0	0	0	0		
NORTH	20.7	15.9	0	0	0	0	0	0		
EAST	20.7	41.5	0	0	0	0	0	0		
SOUTH	20.7	24.8	0	0	0	0	0	0		
WEST	20.7	41.5	0	0	0	0	0	0		
SKYLT.	20.7	86.5	0	0	0	0	0	0		
DOORS	24.6	4.2	0	0	0	0	0	0		
NET EXPOSED WALL	4.3	0.7	117	508	87	129	561	95	349	1517
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.6	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	143	179	84	221	276	129	141	176
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	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
SUB TOTAL HT LOSS	2448	1291	796	1334	2881	2897	768	391		
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	552	291	180	301	650	654	173	88		
AIR CHANGE HEAT GAIN	93	42	10	43	120	88	28	19		
DUCT LOSS	300	0	98	0	0	355	94	0		
DUCT GAIN	272	0	20	0	0	240	95	0		
HEAT GAIN PEOPLE	240	0	0	1	1	240	0	0		
HEAT GAIN APPLIANCES/LIGHTS	383	383	0	383	383	383	383	383		
TOTAL HT LOSS BTU/H	3300	1583	1074	1635	3531	3905	1035	480		
TOTAL HT GAIN x 1.3 BTU/H		1592	284	1932	3944	3428	1359	985		

ROOM USE EXP. WALL CLG. HT.	DIN	KTIFM	LAUN	WIR	FOY	BAS
GRS.WALL AREA	330	780	198	60	360	972
GLAZING	0	0	0	0	0	0
NORTH	20.7	15.9	0	0	0	0
EAST	20.7	41.5	0	0	0	0
SOUTH	20.7	24.8	0	0	0	0
WEST	20.7	41.5	0	0	0	0
SKYLT.	20.7	86.5	0	0	0	0
DOORS	24.6	4.2	0	0	0	0
NET EXPOSED WALL	4.3	0.7	198	508	87	129
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.6	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0
EXPOSED FLOOR	2.5	0.4	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
SUB TOTAL HT LOSS	2297	5415	860	392	2669	8010
LEVEL FACTOR / MULTIPLIER	0.30	0.37	0.30	0.37	0.30	0.37
AIR CHANGE HEAT LOSS	856	2018	321	146	994	2225
AIR CHANGE HEAT GAIN	52	246	8	12	49	30
DUCT LOSS	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	383	7433	383	383	383	383
TOTAL HT LOSS BTU/H	3153	7433	1181	538	3663	15235
TOTAL HT GAIN x 1.3 BTU/H	1849	6902	698	325	1781	1270

SITE NAME: ENCORE
BUILDER: GOLD PARK HOMES

TYPE: 38-5

DATE: Mar-17

GFA: 2541 LO# 72702

HEATING CFM 995 COOLING CFM 995
TOTAL HEAT LOSS 47,745 TOTAL HEAT GAIN 30,237
AIR FLOW RATE CFM 20.84 AIR FLOW RATE CFM 32.91

ALLENNOX
EL296UH070XE36B
FAN SPEED 70

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	4
R/A	0	0	4	2	1

plenum pressure s/a 0.18
max s/a diff press. loss 0.01
min adjusted pressure s/a 0.17

r/a pressure 0.17
r/a grille press. loss 0.02
adjusted pressure r/a 0.15

DESIGN CFM = 995
CFM @ .6" E.S.P. 1100

TEMPERATURE RISE 60 °F

ROOM #	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-3	BED-4	MBR	ENS-2	DIN	KT/FM	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH	1.65	1.58	1.07	1.64	1.77	1.95	1.04	1.77	1.95	1.65	0.48	3.15	2.48	2.48	2.48	2.48	1.18	0.54	3.66	3.81	3.81	3.81	3.81	3.81
CFM PER RUN HEAT	34	33	22	34	37	41	22	37	41	34	10	66	52	52	52	52	25	11	76	79	79	79	79	79
RM GAIN MBH	1.94	1.59	0.28	1.93	1.97	1.71	1.36	1.97	1.71	1.94	0.99	1.85	2.30	2.30	2.30	2.30	0.70	0.32	1.78	0.32	0.32	0.32	0.32	0.32
CFM PER RUN COOLING	64	52	9	64	65	56	45	65	56	64	32	61	76	76	76	76	23	11	59	10	10	10	10	10
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	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.	44	49	18	35	57	42	45	63	45	34	42	23	29	25	25	32	10	40	38	41	34	23	24	24
EQUIVALENT LENGTH	170	170	130	130	130	160	140	130	150	130	140	120	120	120	130	130	110	130	110	120	120	130	100	100
TOTAL EFFECTIVE LENGTH	214	219	148	165	187	202	185	193	195	164	182	143	149	155	155	162	120	170	148	161	154	153	124	124
ADJUSTED PRESSURE	0.08	0.08	0.12	0.1	0.09	0.09	0.09	0.09	0.09	0.1	0.09	0.12	0.12	0.12	0.11	0.11	0.14	0.1	0.12	0.11	0.11	0.11	0.11	0.11
ROUND DUCT SIZE	5	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	250	242	252	250	272	301	252	272	301	250	115	485	382	382	382	382	287	126	558	580	580	580	580	580
COOLING VELOCITY (ft/min)	470	382	103	470	477	411	516	477	411	470	367	448	558	558	558	558	284	126	433	73	73	73	73	73
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	3X10
TRUNK	B	C	A	F	E	A	A	E	A	B	C	F	B	B	B	C	D	E	E	E	C	B	B	F

ROOM NAME	TRUNK
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	

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)					
TRUNK A	0.09	6.3	6	8	869	0.08	13.3	20	8	TRUNK O	0.05	0	0	8					
TRUNK B	0.08	8.4	8	8	TRUNK G	0.00	0	0	8	TRUNK P	0.05	0	0	8					
TRUNK C	0.08	7.3	6	8	TRUNK H	0.00	0	0	8	TRUNK Q	0.05	0	0	8					
TRUNK D	0.08	10.4	12	8	TRUNK I	0.00	0	0	8	TRUNK R	0.05	0	0	8					
TRUNK E	0.09	8	8	8	TRUNK J	0.00	0	0	8	TRUNK S	0.05	0	0	8					
TRUNK F	0.09	9.8	12	8	TRUNK K	0.00	0	0	8	TRUNK T	0.05	0	0	8					
					TRUNK L	0.00	0	0	8	TRUNK U	0.05	0	0	8					
										TRUNK V	0.05	0	0	8					
										TRUNK W	0.05	7.6	8	315					
										TRUNK X	0.05	15.7	28	640					
										TRUNK Y	0.05	10.8	14	469					
										TRUNK Z	0.05	0	0	8					
										DROP	0.05	15.7	24	597					
														10					
RETURN AIR #										BR									
AIR VOLUME	95	0	4	6	0	0	0	0	0	TRUNK W	140	0	0	8					
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	TRUNK X	995	0	0	8					
ACTUAL DUCT LGH.	38	46	55	47	1	1	1	1	1	TRUNK Y	365	0	0	8					
EQUIVALENT LENGTH	175	175	215	235	0	0	0	0	0	TRUNK Z	0	0	0	8					
TOTAL EFFECTIVE LH	213	221	268	270	1	1	1	1	1	DROP	995	0	0	10					
ADJUSTED PRESSURE	0.07	0.07	0.05	0.05	14.80	14.80	14.80	14.80	14.80										
ROUND DUCT SIZE	6	6	7.1	6.8	0	0	0	0	0										
INLET GRILL SIZE	8	8	8	8	0	0	0	0	0										
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X										
INLET GRILL SIZE	14	14	14	14	0	0	0	0	0										

TYPE: 38-5
SITE NAME: ENCORE

LO # 72702

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	74 F	1.08	0.25

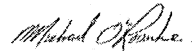
SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: 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:	
HRAI #	001820
Date:	March-17

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 38-5	BUILDER: GOLD PARK HOMES
SFQT: 2541	SITE: ENCORE
LO# 72702	

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	73

BUILDING DATA

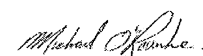
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	WEST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	33673.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED 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: 32.0 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	-

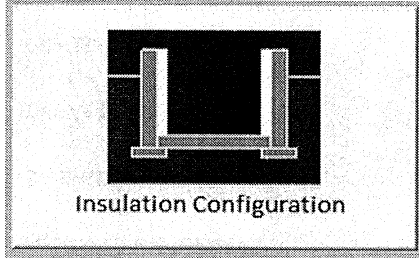
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
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):	9.8	
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):		1631

TYPE: 38-5

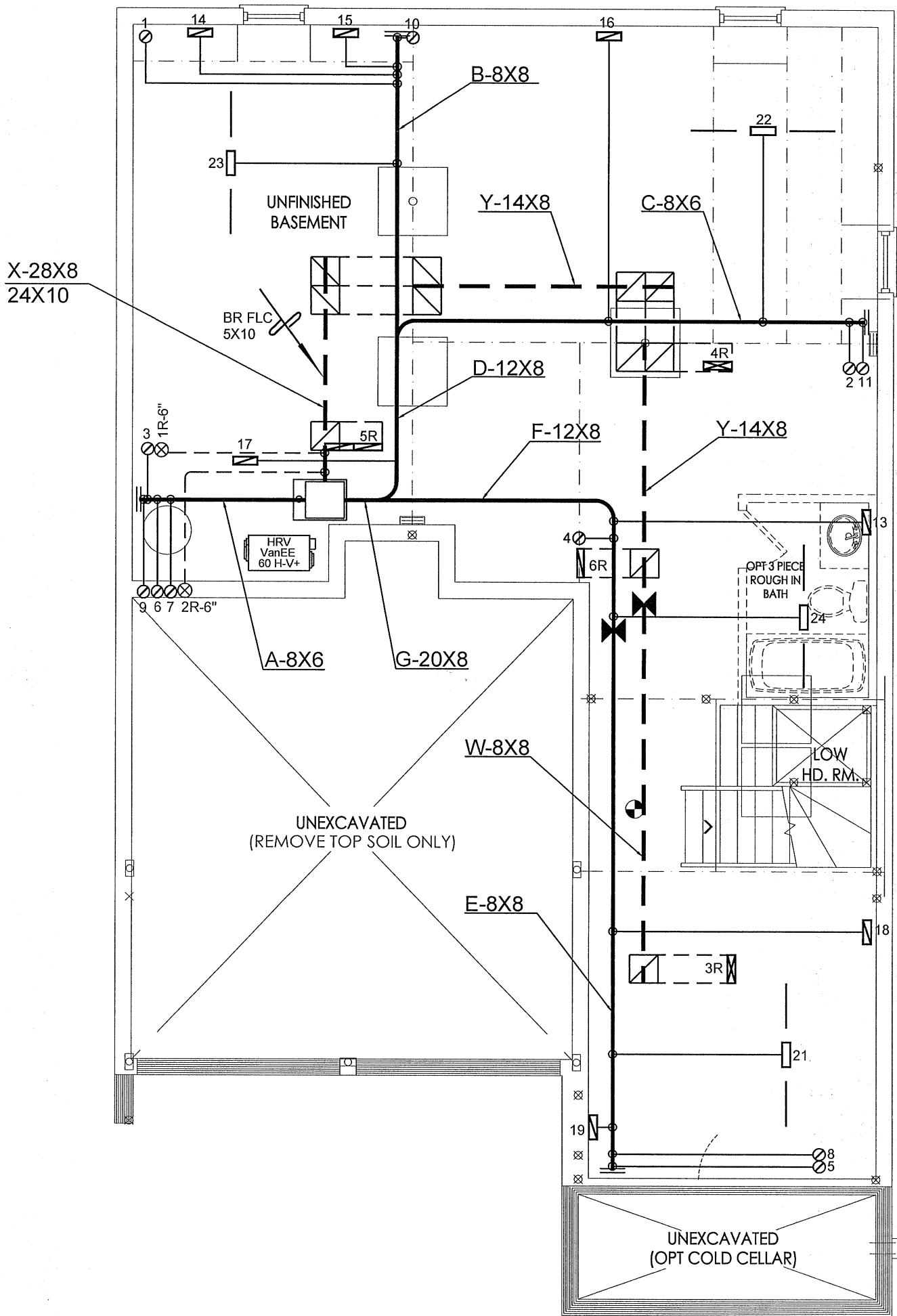
LO# 72702

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Brampton			
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):	953.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa. 3.57	1271.1 cm ² ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply 65.6	Total Exhaust 65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.324			
Cooling Air Leakage Rate (ACH/H):	0.111			

TYPE: 38-5
LO# 72702



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

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Client
GOLD PARK HOMES

Project Name
**ENCORE
BRAMPTON, ONTARIO**

38-5 2541 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 50522 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS		
MAKE	LENNOX	3RD FLOOR		
MODEL	EL296UH070XE36B	2ND FLOOR	11	4 3
INPUT	66 MBTU/H	1ST FLOOR	7	2 3
OUTPUT	64 MBTU/H	BASEMENT	4	1 0
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		
FAN SPEED	995 cfm @ 0.5" w.c.			

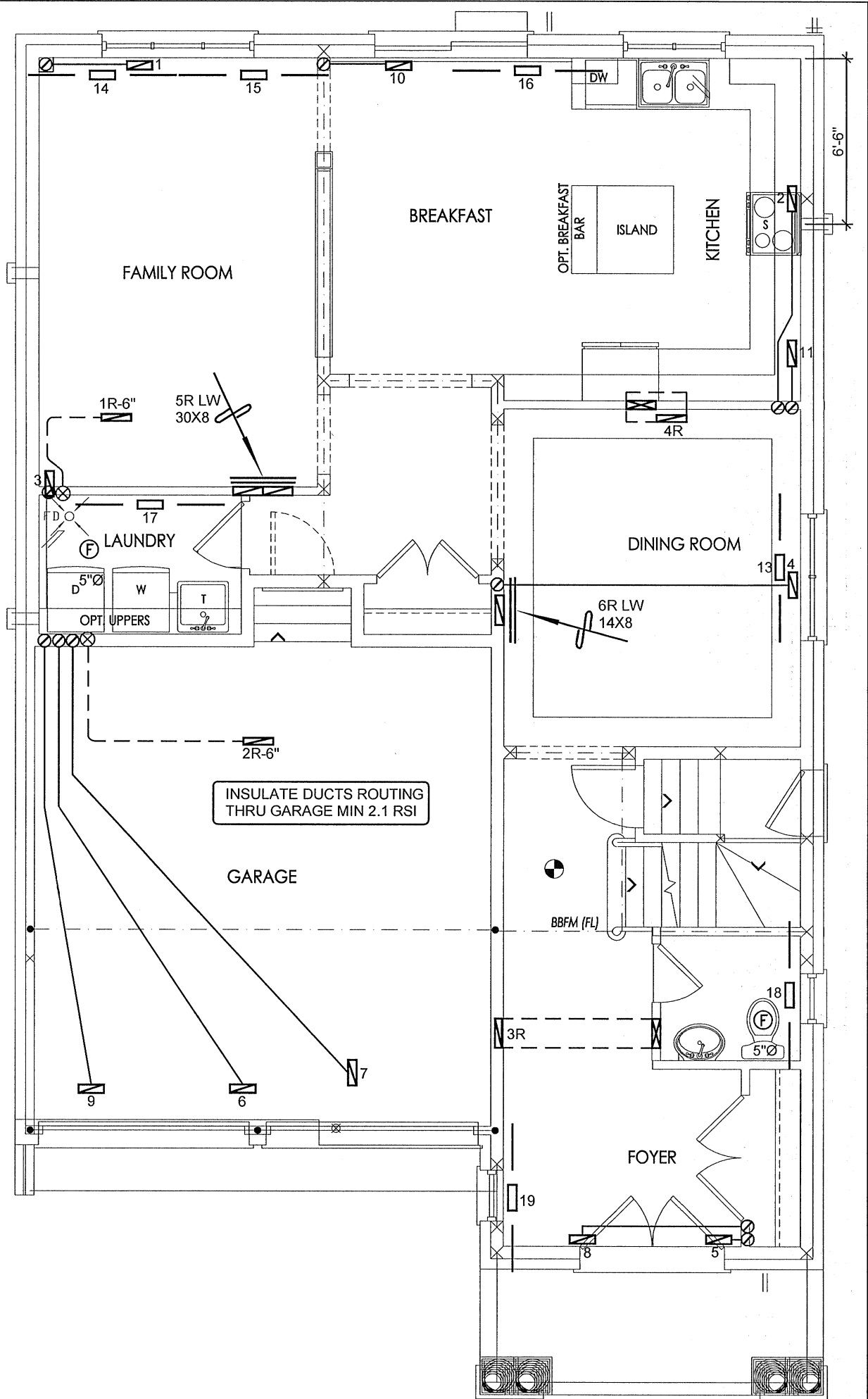
Sheet Title
**BASEMENT
HEATING
LAYOUT**

Date
MAR/2017

Scale
3/16" = 1'-0"

BCIN# 19669

LO# 72702



I, MICHAEL O'BROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Brourke
Michael O'Brourke, 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
GOLD PARK HOMES

Project Name
**ENCORE
BRAMPTON, ONTARIO**

38-5 2541 sqft

HVAC DESIGNS LTD.
375 Finlay Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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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.

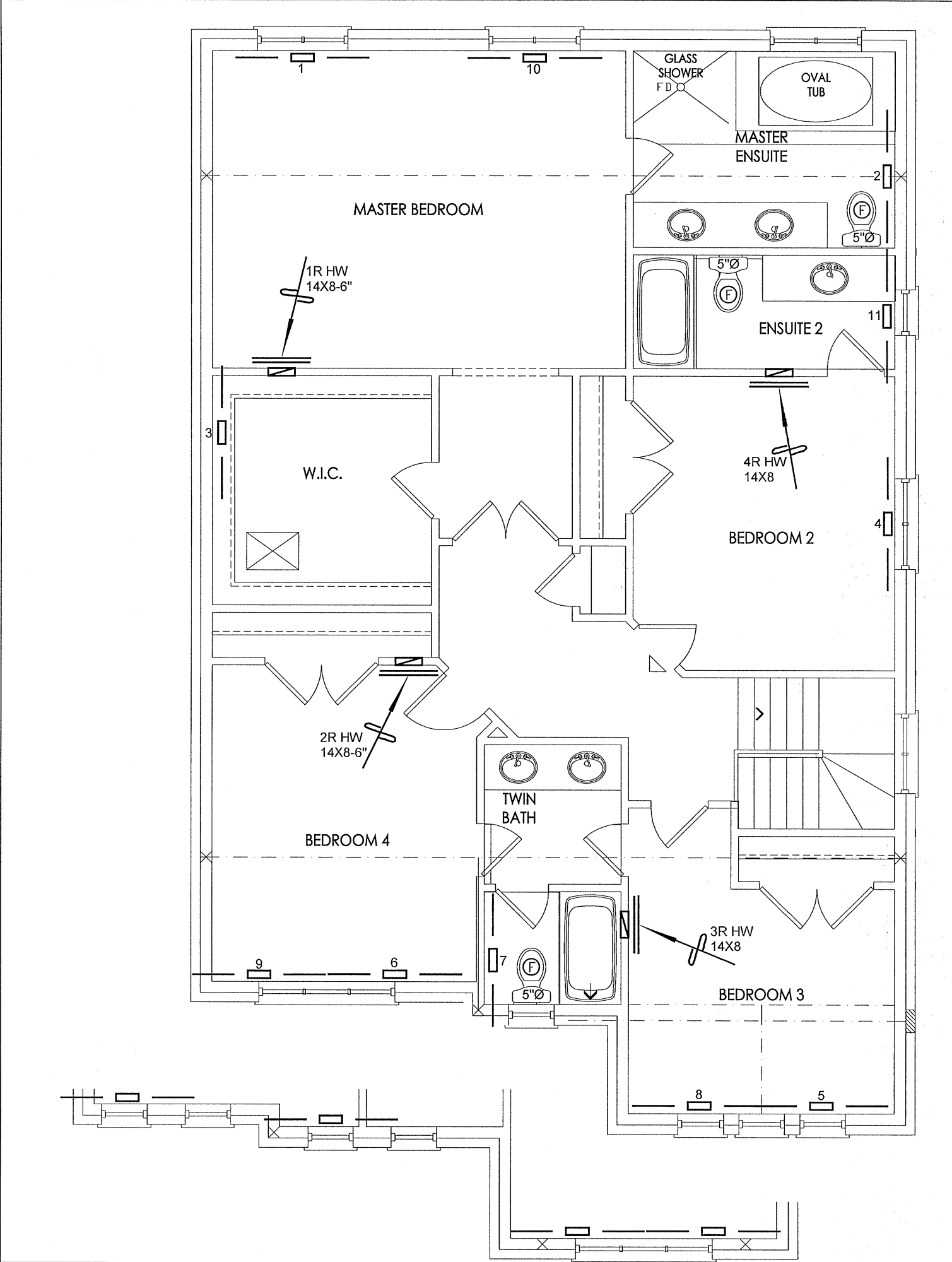
Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date
MAR/2017

Scale
3/16" = 1'-0"

BCIN# 19669

LO# **72702**



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	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 GOLD PARK HOMES		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	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name ENCORE BRAMPTON, ONTARIO			Date MAR/2017	
38-5		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.	Scale 3/16" = 1'-0"	
2541 sqft			BCIN# 19669	
		LO# 72702		