


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@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]				
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> 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: 38-6 B OPT. GROUND - CNR Project: ENCORE		
D. Declaration of Designer				
I <u>MICHAEL O'ROURKE</u> (print name) declare that (choose one as appropriate):				
<input type="checkbox"/> 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: _____				
<input checked="" type="checkbox"/> 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>				
<input type="checkbox"/> 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.				
September 11, 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: ENCORE BUILDER: GOLD PARK HOMES										DATE: Sep-17 L# 75912		WINTER NATURAL AIR CHANGE RATE 0.409		HEAT LOSS AT °F. 74		CSA-F280-12 98-12 PACKAGE A1	
TYPE: 38-6 OPT. GROUND - CNR										GFA: 3775		SUMMER NATURAL AIR CHANGE RATE 0.145		HEAT GAIN AT °F. 14		ENS-3	
ROOM USE EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-5	REC	ENS-2		ENS-3		ENS-2		ENS-3	
GRS.WALL AREA GLAZING	330	99	72	300	270	297	81	260	522	108	108	81	81	108	108	81	81
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	20	414	505	21	435	530	21	435	530	21	435	530	21	435	530	21	435
WEST	20	414	505	21	435	530	21	435	530	21	435	530	21	435	530	21	435
SKYLT.	20.7	41.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	20.7	86.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.3	0.8	270	1173	222	78	339	64	61	222	42	243	1056	200	238	1034	196
NET EXPOSED BMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	286	332	162	209	281	127	152	190	92	168	210	102	140	175	85
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	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	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	0	0	0
SUB TOTAL HT LOSS	2749	1035	847	2564	721	1868	602	1785	3054	822	790	3054	2196	822	790	3054	2196
LEVEL FACTOR / MULTIPLIER	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.19	0.10
AIR CHANGE HEAT LOSS	521	196	180	503	113	354	114	1892	3238	156	156	3238	135	156	156	3238	135
AIR CHANGE HEAT GAIN	157	44	0	316	103	65	72	94	0	0	0	0	0	0	0	0	0
DUCT LOSS	327	0	0	257	240	222	63	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	368	0	0	240	240	174	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	1	1	1	0	1	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	379	379	0	379	379	379	379	379	379	379	379	379	379	379	379	379	379
TOTAL HT LOSS BTU/H	3597	1231	1007	3471	2590	2444	787	3677	6292	1075	1075	6292	3522	1075	1075	6292	3522
TOTAL HT GAIN x 1.3 BTU/H	5120	1488	917	3679	3425	2486	907	2907	3522	1741	1741	3522	3522	1741	1741	3522	3522

TOTAL HEAT GAIN BTU/H: 48935										TOTAL HEAT GAIN BTU/H: 2777		LOSS DUE TO VENTILATION LOAD BTU/H: 43		STRUCTURAL HEAT LOSS: 68052		TOTAL COMBINED HEAT LOSS BTU/H: 70829	
TONS: 4.08										GFA: 3775		SUMMER NATURAL AIR CHANGE RATE 0.145		HEAT GAIN AT °F. 14		CSA-F280-12 98-12 PACKAGE A1	
ROOM USE EXP. WALL CLG. HT.	LIV	DIN	KTIFM	LAUN	WIR	FOY	MUD	BAS	ENS-3	ENS-2		ENS-3		ENS-2		ENS-3	
GRS.WALL AREA GLAZING	320	150	690	70	0	592	140	948	948	140	140	948	948	140	140	948	948
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	20.7	86.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	20.7	86.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.3	0.8	249	1082	206	120	521	99	567	2464	486	40	983	186	30	738	140
NET EXPOSED BMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	286	661	125	0	0	0	38	94	18	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	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	0	0	0
SUB TOTAL HT LOSS	3291	1143	5107	587	149	4463	1379	7761	5433	4463	2434	1379	474	4463	2434	1379	474
LEVEL FACTOR / MULTIPLIER	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20
AIR CHANGE HEAT LOSS	1063	369	1649	190	48	1441	1462	9518	1661	1441	1441	1462	29	1441	1441	1462	29
AIR CHANGE HEAT GAIN	157	53	322	78	20	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	435	0	676	50	3	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	310	0	594	379	3	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379	379
TOTAL HT LOSS BTU/H	4789	1512	7431	855	217	5904	2841	17269	5433	5904	3522	2841	1147	5904	3522	17269	1447
TOTAL HT GAIN x 1.3 BTU/H	4426	1674	8490	711	43	3522	1147	1447	5433	3522	1147	2841	1147	3522	1147	1447	1447

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

SITE NAME: ENCORE
BUILDER: GOLD PARK HOMES

TYPE: 38-6 OPT. GROUND - CNR DATE: Sep-17 LO# 75912 GFA: 3775

HEATING CFM	1525	COOLING CFM	1525		
TOTAL HEAT LOSS	68,052	TOTAL HEAT GAIN	48,409		
AIR FLOW RATE CFM	22.41	AIR FLOW RATE CFM	31.5		
RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	11	10	5	5
R/A	0	4	2	2	1

EL296UH090XE48C
FAN SPEED
LOW 0
MEDIUM 1105
HIGH 1255
DESIGN CFM = 1525
CFM @ 8" E.S.P.
AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000
TEMPERATURE RISE 52 °F

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

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
RM LOSS MBH	1.80	1.23	1.01	1.74	1.30	2.44	0.79	1.30	1.74	1.80	1.07	2.39	1.51	2.48	2.48	2.48	0.85	0.22	2.95	2.95	2.39	3.15	3.15	3.68
CFM PER RUN HEAT	40	28	39	29	40	55	18	29	39	40	24	54	34	56	56	56	19	5	66	66	54	71	71	82
RM GAIN MBH	2.56	1.49	0.92	1.84	1.71	2.49	0.91	1.71	1.84	2.56	1.74	2.21	1.67	2.83	2.83	2.83	0.71	0.04	1.93	1.93	2.21	1.76	1.76	2.91
CFM PER RUN COOLING	81	47	29	58	54	78	29	54	58	81	55	70	53	89	89	89	22	1	61	61	70	55	55	92
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16
ACTUAL DUCT LGH.	67	40	36	54	62	76	65	58	59	76	73	48	19	62	48	40	47	30	16	19	35	55	48	41
EQUIVALENT LENGTH	190	190	200	170	200	160	10	200	200	180	200	150	110	130	160	170	130	180	150	135	140	100	120	100
TOTAL EFFECTIVE LENGTH	257	230	236	224	262	236	75	258	259	256	273	196	129	192	208	210	177	210	166	154	175	155	168	141
ADJUSTED PRESSURE	0.06	0.07	0.07	0.08	0.07	0.07	0.23	0.07	0.07	0.06	0.06	0.09	0.13	0.08	0.08	0.08	0.1	0.08	0.1	0.11	0.1	0.11	0.1	0.11
ROUND DUCT SIZE	6	5	4	5	5	6	4	5	5	6	5	5	4	6	6	6	4	4	5	5	5	5	5	5
HEATING VELOCITY (ft/min)	204	206	264	286	213	280	207	213	286	204	176	396	390	286	286	286	218	57	485	485	396	521	521	602
COOLING VELOCITY (ft/min)	413	345	333	426	396	398	333	396	426	413	404	514	608	454	454	454	252	11	448	448	514	404	404	675
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	F	A	E	F	A	F	F	E	A	E	F	A	A	A	A	F	F	F	E	E	B	B	C

ROOM NAME	25	26	27	28	29	30	31
RM LOSS MBH	2.84	3.45	3.45	1.06	3.45	1.06	3.45
CFM PER RUN HEAT	64	77	77	24	77	24	77
RM GAIN MBH	1.15	0.29	0.29	0.43	0.29	0.43	0.29
CFM PER RUN COOLING	36	9	9	14	9	14	9
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	5	30	35	44	20	21	22
EQUIVALENT LENGTH	140	120	110	110	130	90	150
TOTAL EFFECTIVE LENGTH	145	150	145	154	150	111	172
ADJUSTED PRESSURE	0.12	0.11	0.12	0.11	0.11	0.15	0.1
ROUND DUCT SIZE	5	5	5	5	4	5	5
HEATING VELOCITY (ft/min)	470	565	565	565	275	565	565
COOLING VELOCITY (ft/min)	264	66	66	66	66	161	66
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	B	C	B	E	D	D

TRUNK	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	0.06	10.3	12	540	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	0.10	8.4	8	666	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.11	6.5	6	477	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	0.10	11.1	14	797	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0.06	9.6	10	538	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0.06	12	16	615	0	0.00	0	0	0	0	0.00	0	0	0

TRUNK	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	0.06	10.3	12	540	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	0.10	8.4	8	666	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	0.11	6.5	6	477	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	0.10	11.1	14	797	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	0.06	9.6	10	538	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0.06	12	16	615	0	0.00	0	0	0	0	0.00	0	0	0

TYPE: 38-6
SITE NAME: ENCORE

LO # 75912
OPT. GROUND - CNR

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	<input checked="" type="checkbox"/> Direct vent (sealed combustion) only	
b)	<input type="checkbox"/> Positive venting induced draft (except fireplaces)	
c)	<input type="checkbox"/> Natural draft, B-vent or induced draft gas fireplace	
d)	<input type="checkbox"/> Solid Fuel (including fireplaces)	
e)	<input type="checkbox"/> No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/> Forced Air	<input type="checkbox"/> Non Forced Air
<input type="checkbox"/> Electric Space Heat	

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/> I	Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/> II	Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/> III	Any Type c) appliance	
<input type="checkbox"/> IV	Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/> 1	Exhaust only/Forced Air System	
<input type="checkbox"/> 2	HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/> 3	HRV Simplified/connected to forced air system	
<input type="checkbox"/> 4	HRV with Ducting/non forced air system	
<input type="checkbox"/>	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	212.0 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	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	73.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 60H-V+
Location:	BSMT
139.0 cfm	3.0 sones
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/>
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 60H-V+	
139 cfm high	50 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> 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:	September-17

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 38-6	OPT. GROUND - CNR	BUILDER: GOLD PARK HOMES
SFQT: 3775	LO# 75912	SITE: ENCORE

DESIGN ASSUMPTIONS

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

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	4
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):	43986.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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	-

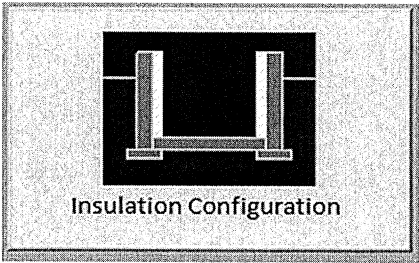
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



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):	9.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	0.7	
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):		1592

TYPE: 38-6
LO# 75912

OPT. GROUND - CNR

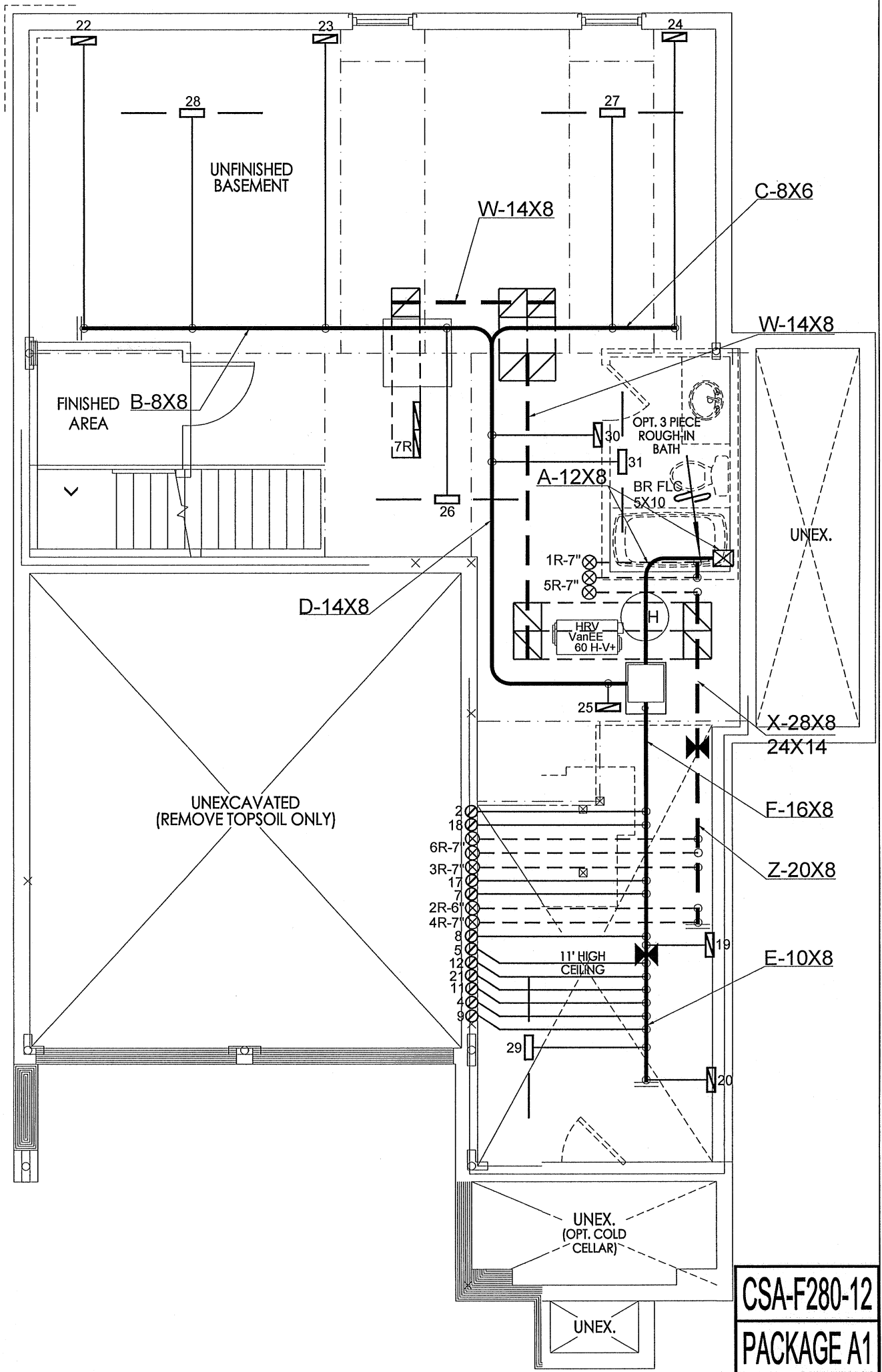
Air Infiltration Residential Load Calculator

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):	9.45			
Building Configuration				
Type:	Detached			
Number of Stories:	Three			
Foundation:	Full			
House Volume (m ³):	1245.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1660.3 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):	0.409			
Cooling Air Leakage Rate (ACH/H):	0.145			

TYPE: 38-6
LO# 75912


OPT. GROUND - CNR

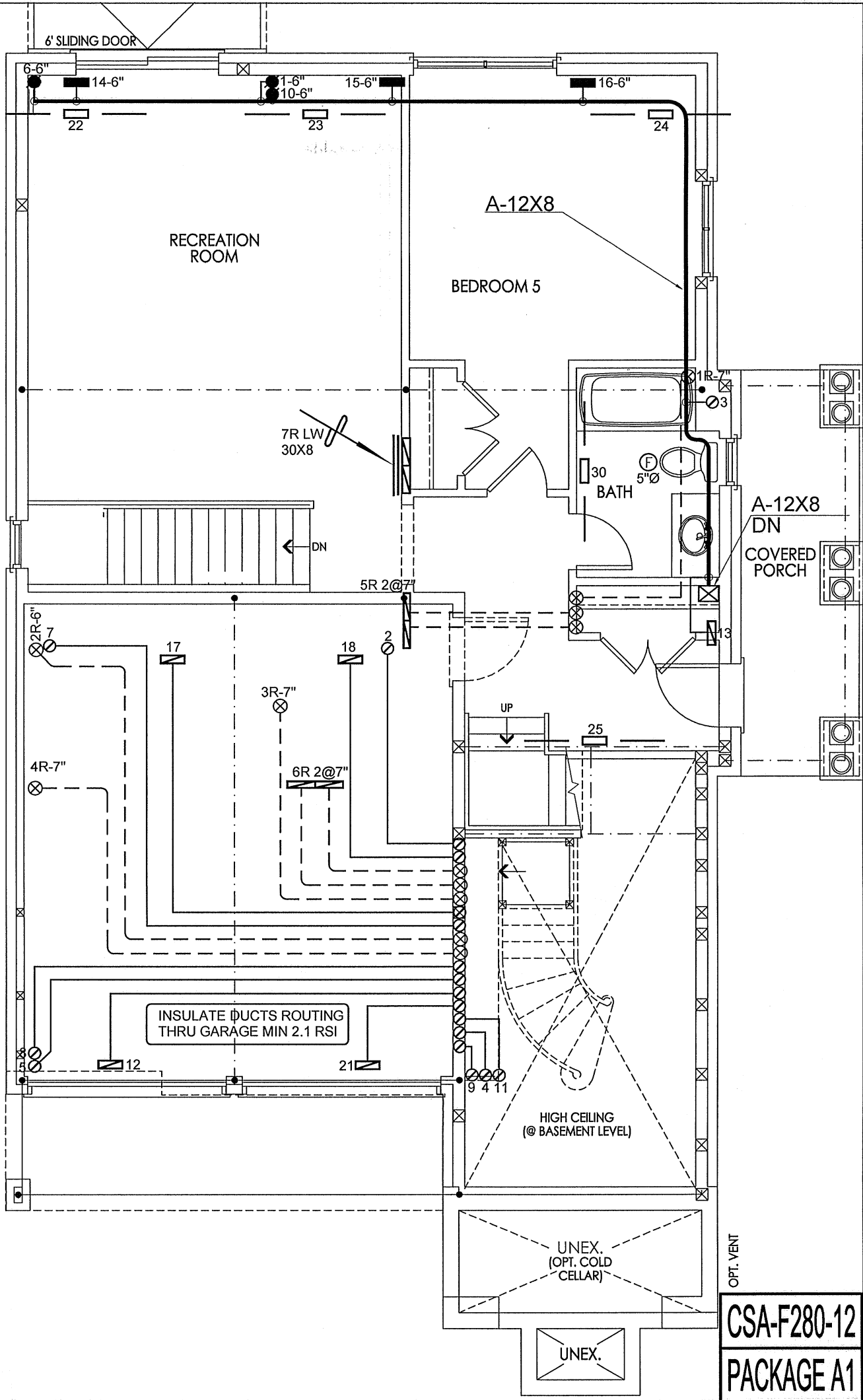


I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 31.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, B.C.S.M. 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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Client		<div><p>375 Finley Ave, Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: mike@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services</p></div> <div>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.</div>				HEAT LOSS 70829 BTU/H UNIT DATA		# OF RUNS		S/A		R/A		FANS		Sheet Title	
Project Name GOLD PARK HOMES ENCORE BRAMPTON, ONTARIO OPT. GROUND - CNR 38-6 3775 sqft						MAKE LENNOX		3RD FLOOR		11		4		3		BASEMENT	
						MODEL EL296UH090XE48C		2ND FLOOR		10		2		3		HEATING	
						INPUT 88 MBTU/H		1ST FLOOR		5		1		1		LAYOUT	
						OUTPUT 85 MBTU/H		BASEMENT		5		1		0		Date	
		COOLING 4.0 TONS										Scale					
		FAN SPEED 1525 cfm @ 0.5" w.c.										BCIN# 19669					
												LO#					
												75912					



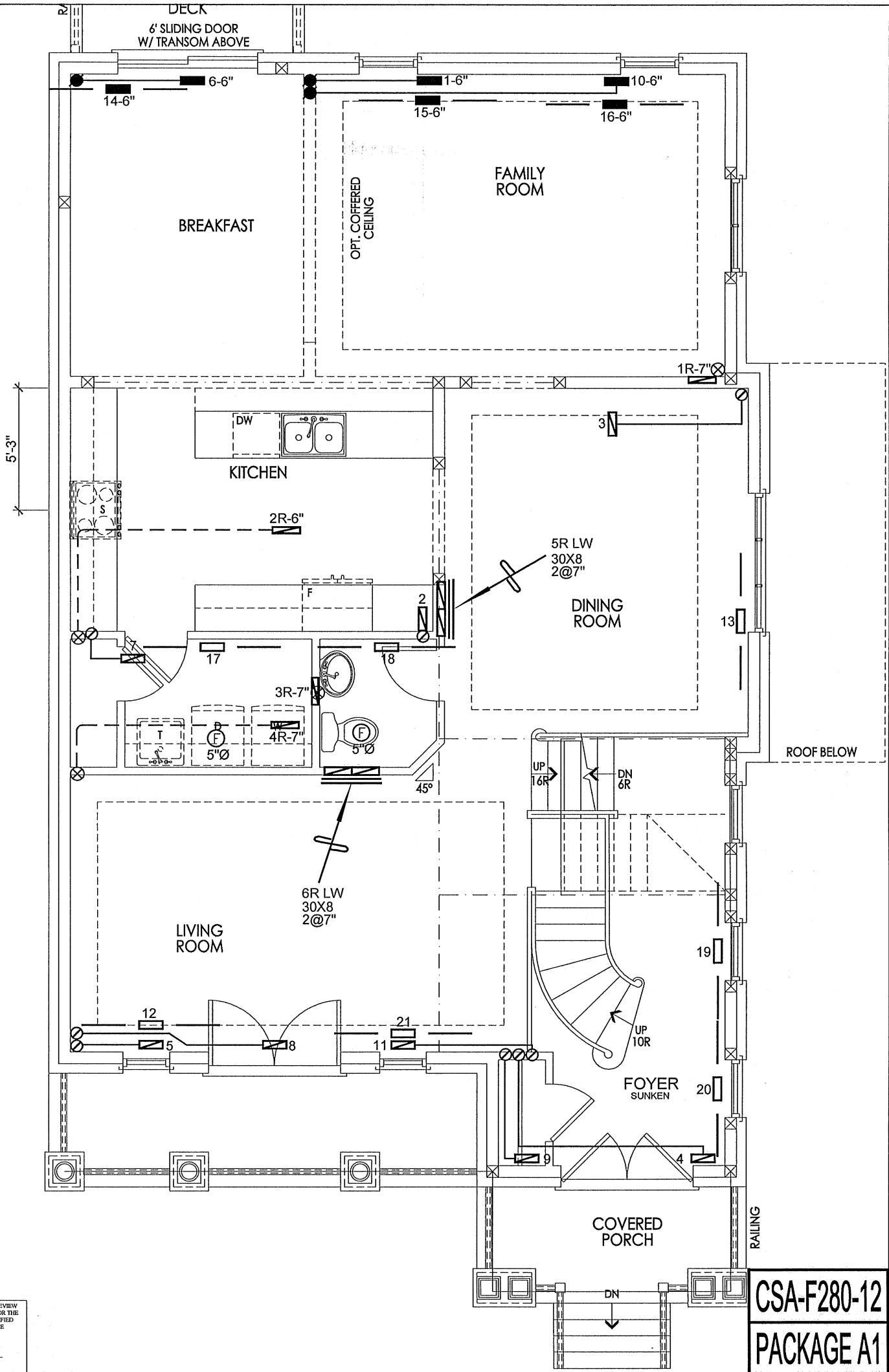
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Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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

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Client		<div>HVACDESIGNS LTD.</div> <div>375 Finley Ave, Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: mike@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name		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.	Date	
ENCORE BRAMPTON, ONTARIO			SEPT/2017	
OPT. GROUND - CNR		3775 sqft	Scale	
38-6			3/16" = 1'-0"	
			BCIN# 19669	
			LO# 75912	



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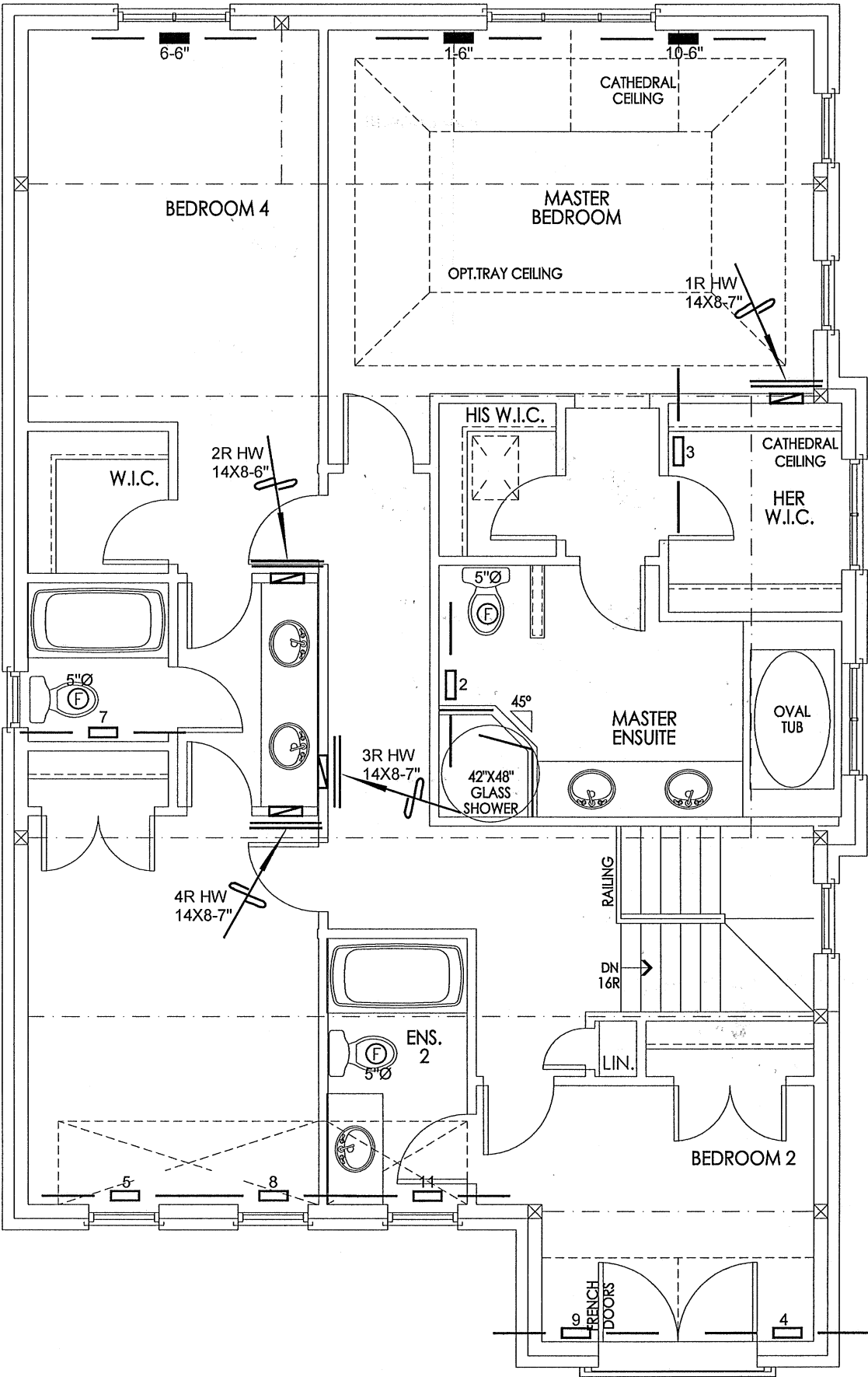
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	SEPT/2017
ENCORE BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
OPT. GROUND - CNR 38-6 3775 sqft			BCIN# 19669	
		LO#	75912	



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION 6, 32.3 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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GOLD PARK HOMES			THIRD FLOOR HEATING LAYOUT	
Project Name			Date	
ENCORE BRAMPTON, ONTARIO			SEPT/2017	
OPT. GROUND - CNR 38-63775 sqft		Scale		
		3/16" = 1'-0"		
		BCIN# 19669		
		LO#		
		75912		