

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 (WOODBIDGE)	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: 5004 THE BEAUMONT Project: PINE VALLEY & TESTON	
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: <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.			
January 24, 2018 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: PINE VALLEY & TESTON BUILDER: GOLD PARK HOMES										TYPE: 5004 THE BEAUMONT		GFA: 4184	DATE: Jan-18	WINTER NATURAL AIR CHANGE RATE 0.340		SUMMER NATURAL AIR CHANGE RATE 0.124		HEAT LOSS AT °F. 76		CSA-F280-12 SB-12 PACKAGE A1	
ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	DRESS	BED-2		BED-3	BED-4	ENS-2	WIC-2	ENS-3										
FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	
GRS.WALL AREA	190	342	108	99	18	383	303	0	0	0	430	0	0	0	117	0	162	0	0	0	
GLAZING	0	0	0	0	0	0	0	63	1341	2671	60	1277	2544	0	0	0	0	0	0	0	
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EAST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SOUTH	21.3	25.7	0	9	192	232	4	85	103	0	9	192	232	0	0	0	0	0	0	0	
WEST	21.3	42.4	42	894	1780	28	596	1187	0	0	0	0	0	0	0	0	0	0	0	0	
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
NET EXPOSED WALL	4.5	0.9	148	660	137	305	1361	283	104	464	96	81	361	75	99	442	92	361	1611	149	665
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
EXPOSED CLG	1.3	0.6	468	601	299	312	400	199	228	293	146	187	240	119	136	175	87	267	343	170	84
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0	0	0	165	82	150	412	205	0	
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	187	477	99	196	500	104	20	51	11	
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	115	24	78	199	41	
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS	2155	2216	2549	842	1461	2622	3035	3496	223	821	200	1237	779	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35
SUB TOTAL HT GAIN	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	0.20	0.35	
LEVEL FACTOR / MULTIPLIER	749	886	293	32	508	912	282	325	77	286	19	430	72	77	286	19	430	72	77	286	19
AIR CHANGE HEAT LOSS	206	177	0	0	197	353	441	492	30	111	22	167	85	7	111	22	167	85	7	111	22
AIR CHANGE HEAT GAIN	0	0	0	0	1	240	1	240	0	0	0	0	0	8	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	856	856	856	856	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	2	480	0	0	0	0	1	240	1	240	1	492	441	492	8	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	856	0	0	0	0	1	240	1	240	1	492	441	492	8	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	2904	3435	1135	1603	2167	3887	6311	5760	330	1217	312	1834	1218	330	1217	312	1834	1218	330	1217	312
TOTAL HT LOSS BTU/H																					
TOTAL HT GAIN x 1.3 BTU/H																					

ROOM USE	EXP. WALL CLG. HT.	LIBR	DIN	KIT	GREAT	LAUN	ENS-4	FOY	MUD	BAS
GRS.WALL AREA	297	187	1221	886	0	0	54	407	234	1610
GLAZING	0	0	0	0	0	0	0	0	0	LOSS
NORTH	21.3	16.8	0	0	0	0	0	0	0	362
EAST	21.3	42.4	0	0	0	0	0	0	0	286
SOUTH	21.3	25.7	0	0	0	0	0	0	0	0
WEST	21.3	42.4	0	0	0	0	0	0	0	0
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0
DOORS	25.2	5.2	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	244	1089	226	163	727	151	1061	20
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	505
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	199
NO ATTIC EXPOSED CLG	2.7	1.4	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	2217	1238	8386	6726	6772	375	453	2821	1460	11471
SUB TOTAL HT GAIN	0.30	0.38	0.30	0.38	0.30	0.35	0.20	0.35	0.30	0.50
LEVEL FACTOR / MULTIPLIER	840	469	3176	2665	2665	130	157	1068	553	14451
AIR CHANGE HEAT LOSS	211	72	0	0	0	12	27	178	28	84
DUCT LOSS	0	0	0	0	0	51	0	0	0	0
HEAT GAIN PEOPLE	240	0	0	0	0	100	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	3056	856	856	856	856	856	856	856	856	0
TOTAL HT LOSS BTU/H										25922
TOTAL HT GAIN x 1.3 BTU/H										1289

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMES

TYPE: 5004 THE BEAUMONT

DATE: Jan-18

GFA: 4184 LO# 77477

HEATING CFM	1955	COOLING CFM	1955
TOTAL HEAT LOSS	81,321	TOTAL HEAT GAIN	59,109
AIR FLOW RATE CFM	24.04	AIR FLOW RATE CFM	33.07
RUN COUNT			
S/A	0	4th	3rd
R/A	0	0	0
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
MBR	1.45	1.65	1.13	2.17	1.30	1.92	0.33	1.22	0.61	1.45	1.83	1.53	1.71	2.89	2.89	3.11	0.56	2.89	3.89	2.01	BAS	BAS	BAS	BAS
RM LOSS MBH	35	40	27	52	31	46	8	29	15	35	44	37	41	69	69	75	13	69	93	48	78	78	78	3.24
CFM PER RUN HEAT	2.44	1.30	1.60	2.50	2.10	2.34	0.12	0.31	0.41	2.44	1.22	2.17	2.21	2.67	2.67	2.61	1.43	2.67	2.72	1.54	0.16	0.16	0.16	0.16
RM GAIN MBH	81	43	53	83	70	78	4	10	13	81	40	72	73	88	88	86	47	88	90	51	5	5	5	5
CFM PER RUN COOLING	0.16	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	0.16	0.17	0.17	0.17	0.17	0.17
ADJUSTED PRESSURE	0.16	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	0.16	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	190	140	180	180	120	150	160	150	190	180	160	180	80	140	150	130	150	140	150	130	140	100	100	102
TOTAL EFFECTIVE LENGTH	236	202	209	214	158	200	188	181	233	234	201	221	107	180	182	179	176	176	174	146	180	190	139	132
ADJUSTED PRESSURE	0.07	0.09	0.08	0.08	0.11	0.09	0.09	0.1	0.07	0.07	0.09	0.08	0.16	0.09	0.09	0.09	0.1	0.09	0.09	0.12	0.1	0.09	0.12	0.13
ROUND DUCT SIZE	6	4	5	6	5	5	4	4	4	6	4	5	5	5	5	5	4	5	6	4	5	5	5	5
HEATING VELOCITY (ft/min)	178	459	198	265	228	338	92	333	172	178	505	272	301	507	551	507	149	507	474	551	573	573	573	573
COOLING VELOCITY (ft/min)	413	493	389	423	514	573	46	115	149	413	459	529	536	646	646	631	539	646	459	585	37	37	37	37
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10
TRUNK	B	C	D	F	F	E	F	D	E	B	F	E	F	A	C	A	D	B	E	D	A	A	C	C

ROOM NAME	25	26	27	28	29	30	31	32	33	34	35	36	37	38
BAS	3.24	3.24	3.24	3.24	1.65	1.30	1.30	1.30	1.92	1.92	1.53	2.89	3.11	3.11
RM LOSS MBH	78	78	78	78	40	3	31	31	46	46	37	69	75	75
CFM PER RUN HEAT	0.16	0.16	0.16	0.16	1.30	0.10	2.10	2.10	2.34	2.34	2.17	2.67	2.61	2.61
RM GAIN MBH	5	5	5	5	43	3	70	70	78	78	72	88	86	86
CFM PER RUN COOLING	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16
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	0.16	0.16
EQUIVALENT LENGTH	120	80	120	150	140	140	130	140	150	130	140	150	150	150
TOTAL EFFECTIVE LENGTH	157	103	137	181	174	173	172	186	197	170	175	178	189	214
ADJUSTED PRESSURE	0.11	0.17	0.13	0.1	0.1	0.1	0.1	0.09	0.09	0.1	0.1	0.09	0.09	0.08
ROUND DUCT SIZE	5	5	5	5	4	4	5	5	5	5	5	5	5	6
HEATING VELOCITY (ft/min)	573	573	573	573	459	34	228	228	338	338	272	507	551	382
COOLING VELOCITY (ft/min)	37	37	37	37	493	34	514	514	573	573	529	646	631	438
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10
TRUNK	B	D	F	E	D	D	F	F	E	E	E	B	A	A

TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	0.08	9.8	12	8	0	0.00	0	0	8
TRUNK B	0.07	12.5	18	8	0	0.00	0	0	8
TRUNK C	0.09	9	10	8	0	0.00	0	0	8
TRUNK D	0.07	15.7	28	8	0	0.00	0	0	8
TRUNK E	0.07	10.3	12	8	0	0.00	0	0	8
TRUNK F	0.07	12.8	20	8	0	0.00	0	0	8

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
TRUNK A	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	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
TRUNK B	38	37	37	45	43	59	27	25	34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRUNK C	195	185	165	205	145	175	190	185	150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK D	233	222	202	250	188	234	217	210	184	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TRUNK E	0.06	0.07	0.07	0.06	0.08	0.06	0.07	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
TRUNK F	6.8	6.6	6.6	6.8	9	6	9.2	9.2	7.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK G	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
TRUNK H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TRUNK I	14	14	14	14	30	14	30	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK J	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK K	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK L	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK M	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK N	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK O	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK Q	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK S	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK U	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK V	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRUNK X	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465	1465
TRUNK Y	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685	685
TRUNK Z	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490
DROP	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955	1955

TYPE: 5004 THE BEAUMONT
SITE NAME: PINE VALLEY & TESTON

LO # 77477

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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	201.4 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		79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	46.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM		ΔT °F		FACTOR	% LOSS
155.0 CFM	X	76 F	X	1.08	X
					0.25

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-3	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 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:		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:	January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations			
Formula Sheet (For Air Leakage / Ventilation Calculation)			
LO#: 77477	Model: 5004 THE BEAUMONT	Builder: GOLD PARK HOMES	Date: 1/24/2018
Volume Calculation			
House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Level			
Bsmt	2007	10	20070
First	2007	11	22077
Second	2262	9	20358
Third	0	9	0
Fourth	0	9	0
	Total:		62,505.0 ft³
	Total:		1769.9 m³
Air Change & Delta T Data			
		WINTER NATURAL AIR CHANGE RATE	0.340
		SUMMER NATURAL AIR CHANGE RATE	0.124
Design Temperature Difference			
	Tin °C	Tout °C	ΔT °C
Winter DTDh	22	-20	42
Summer DTDc	22	31	9
			ΔT °F
			76
			16
6.2.6 Sensible Gain due to Air Leakage			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$			
0.340	x	491.65	x
		9 °C	x
		1.2	=
			642 W
			=
			2191 Btu/h
6.2.7 Sensible heat Gain due to Ventilation			
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$			
155 CFM	x	16 °F	x
		1.08	x
		0.25	=
			661 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$			
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	28,902	11,471
2	0.3		1.260
3	0.2		0.379
4	0		0.348
5	0		0.000
	0	0	0.000
*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:** 5004 THE BEAUMONT**BUILDER:** GOLD PARK HOMES**SFQT:** 4184**LO#** 77477**SITE:** PINE VALLEY & TESTON**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
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):	62505.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 74.0 ft	WIDTH: 41.0 ft	EXPOSED PERIMETER:	230.0 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	-

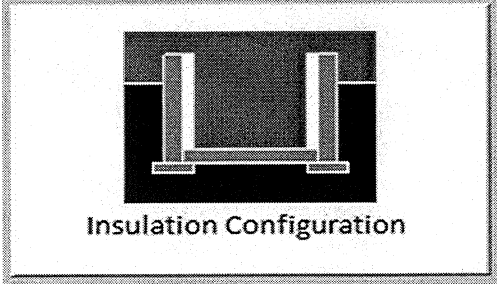
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



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):	22.6	 Insulation Configuration
Floor Width (m):	12.5	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.6	
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):		2380

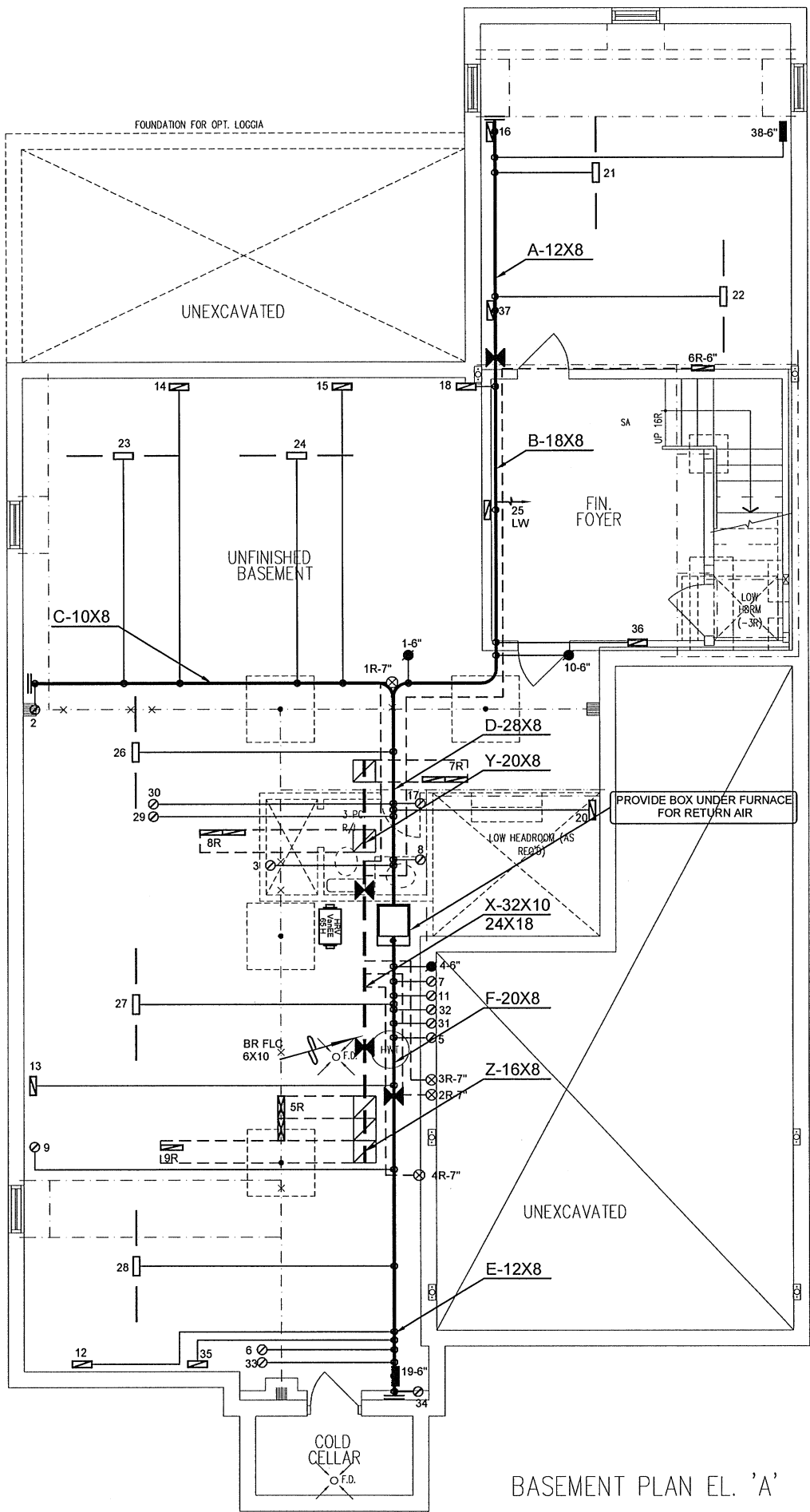
TYPE: 5004 THE BEAUMONT
LO# 77477

Air Infiltration Residential Load Calculator

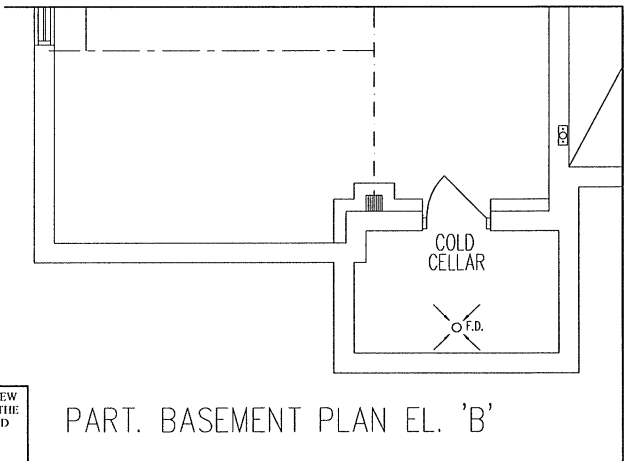
Supplemental tool for CAN/CSA-F280

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):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1769.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2359.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.124			

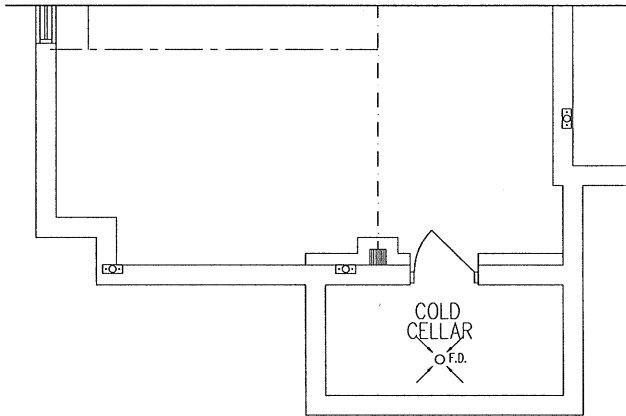
TYPE: 5004 THE BEAUMONT
LO# 77477



BASEMENT PLAN EL. 'A'



PART. BASEMENT PLAN EL. 'B'



PART. BASEMENT PLAN EL. 'C'

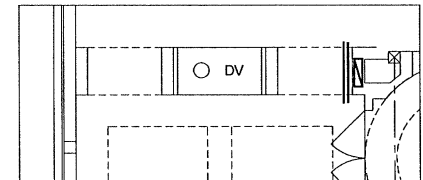
CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.3 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

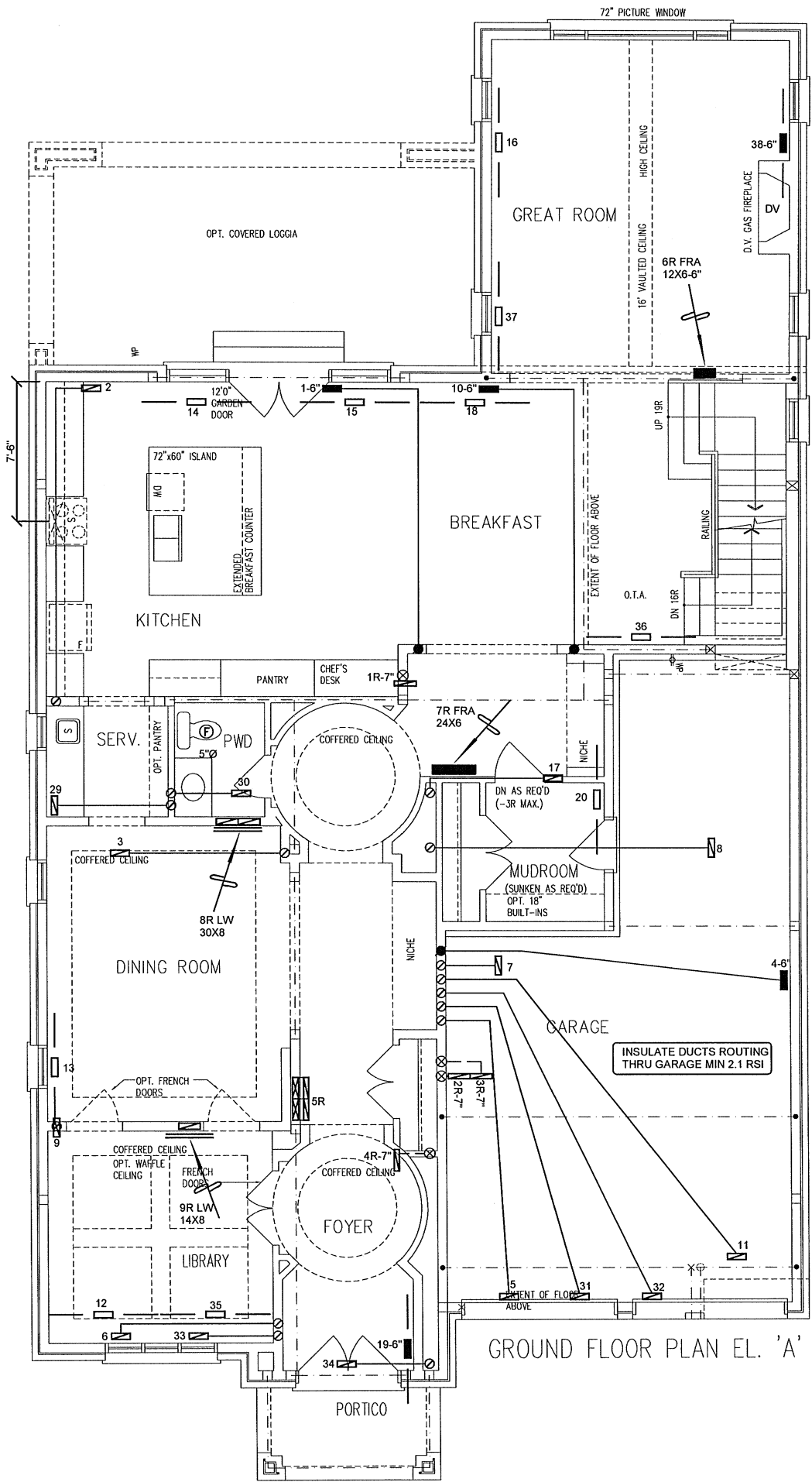
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK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

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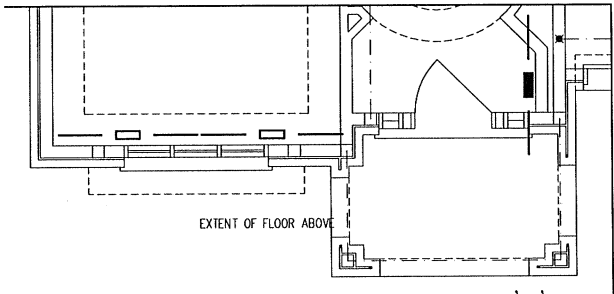
Client		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	HEAT LOSS 84501 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title	
GOLD PARK HOMES			MAKE LENNOX	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			MODEL EL296110XE60C	2ND FLOOR		18	5	6	
			INPUT 110 MBTU/H	1ST FLOOR		12	4	2	
			OUTPUT 106 MBTU/H	BASEMENT		8	1	0	Date JAN/2018
		COOLING 5.0 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 1/8" = 1'-0"		BCIN# 19669		
THE BEAUMONT 5004 4184 sqft		FAN SPEED 1955 cfm @ 0.6" w.c.			LO#		77477		



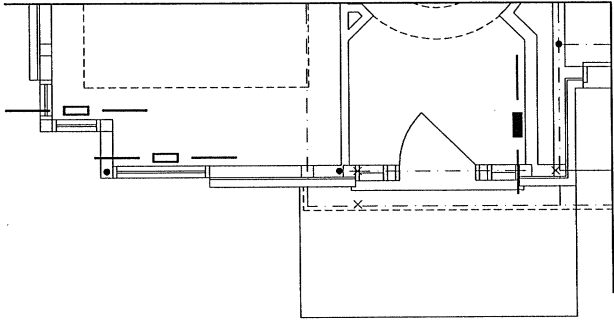
PART. OPT. LIBRARY GROUND FLOOR PLAN EL. 'A', 'B' & 'C'



GROUND FLOOR PLAN EL. 'A'



PART. GROUND FLOOR PLAN EL. 'B'



PART. GROUND FLOOR PLAN EL. 'C'

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.

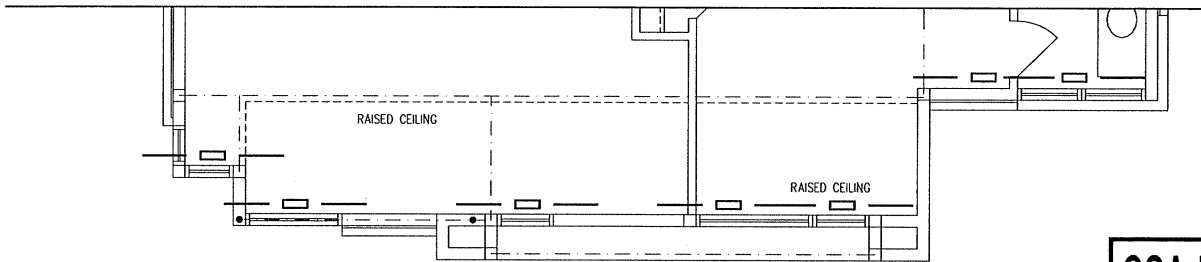
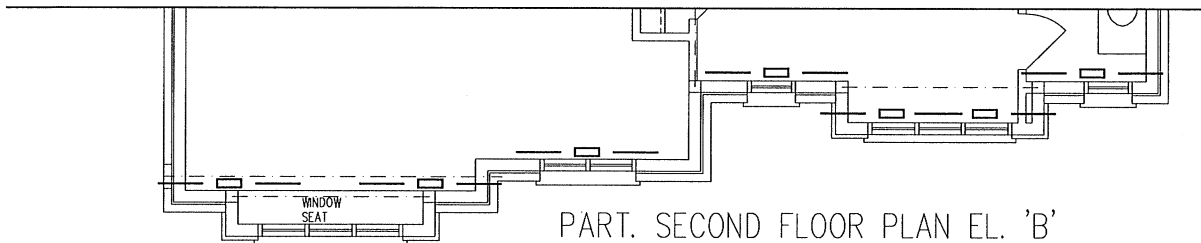
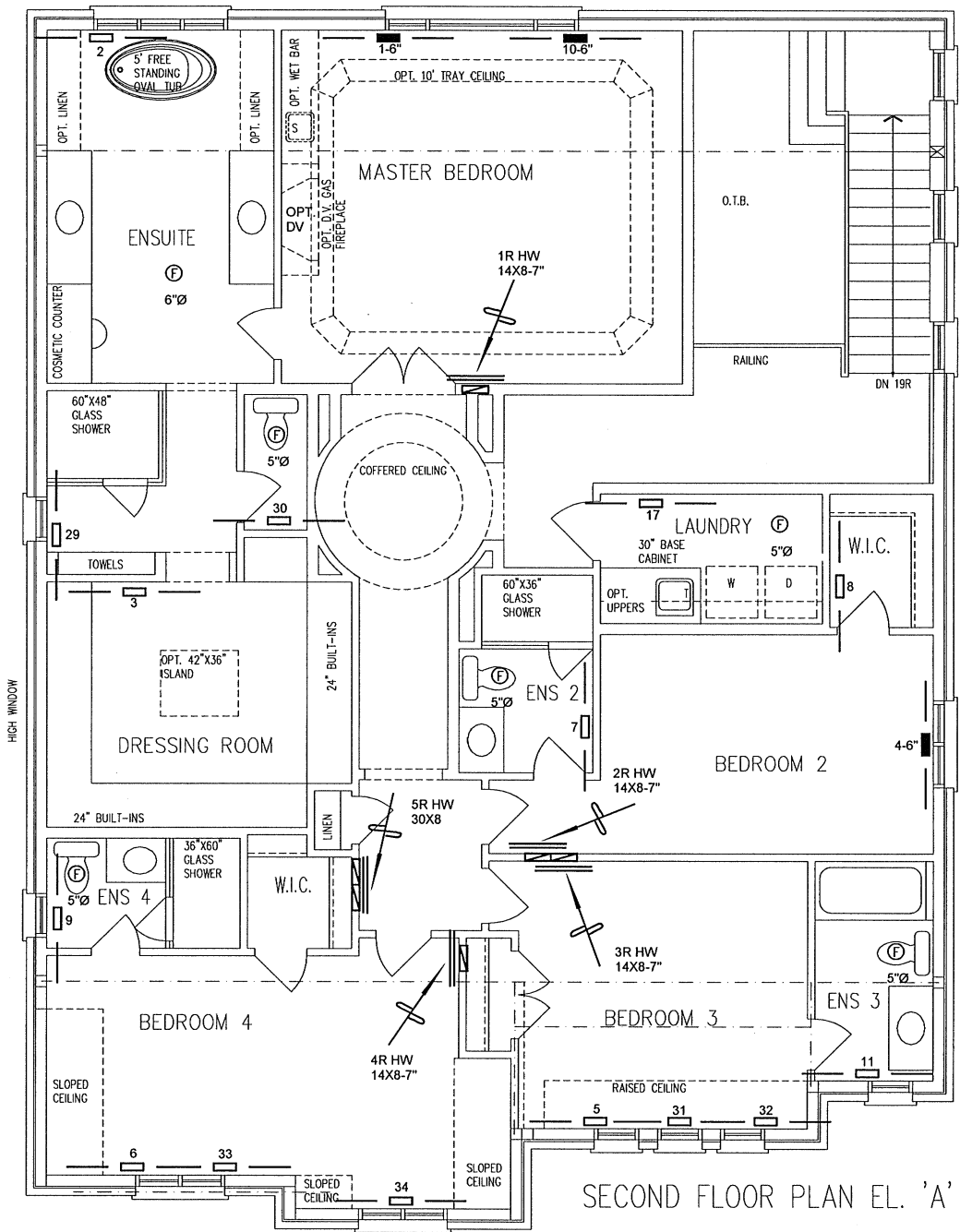
Michael O'Rourke
Michael O'Rourke, D.C.I.N. 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND						3.		
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	2.
	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.
REVISIONS								Date

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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.	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE BEAUMONT 5004			BCIN# 19669	
4184 sqft			LO#	77477



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 3.2.3 OF THE BUILDING CODE.

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

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE BEAUMONT 5004			BCIN# 19669	
4184 sqft			LO#	77477