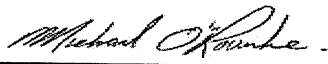


Schedule 1: Designer Information

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@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: 5004 THE BEAUMONT CORNER Project: PINE VALLEY & TESTON		
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 26, 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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY & TESTON CORNER										DATE: Sep-18		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F		CSA-F200-12	
BUILDER: GOLD PARK HOMES										LO# 80139		SUMMER NATURAL AIR CHANGE RATE		HEAT GAIN AT °F		SB-12 PACKAGE A1	
ROOM USE		MBR		ENS		DRESS		GFA: 4284		BED-3		BED-4		ENS-2		WIC-2	
EXP. WALL		19		41		14		11		16		43		0		13	
CLG. HT.		10		9		9		9		9		10		9		9	
FACTORS		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
GRS.WALL AREA		190		369		126		99		162		430		0		117	
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
NORTH		0		0		0		19		0		0		0		0	
EAST		0		0		0		0		0		0		0		0	
SOUTH		0		0		0		0		0		0		0		0	
WEST		35		745		18		0		0		0		0		0	
SKYLT.		0		0		0		0		0		0		0		0	
DOORS		0		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		126		108		80		536		380		0		117	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0		0		0		0		0		0		522	
EXPOSED CLG		1.3		283		228		187		175		267		0		95	
NO ATTIC EXPOSED CLG		2.7		0		0		0		136		84		0		100	
EXPOSED FLOOR		0		0		0		0		60		150		0		78	
BASEMENT/CRAWL HEAT LOSS		0		0		0		187		196		20		0		199	
SLAB ON GRADE HEAT LOSS		0		0		0		0		500		9		0		36	
SUBTOTAL HT LOSS		2037		3006		1158		1478		2269		3566		0		821	
SUB TOTAL HT GAIN		0.20		0.36		0.20		0.20		0.36		0.20		0.36		178	
LEVEL FACTOR / MULTIPLIER		732		1079		416		531		815		1281		80		295	
AIR CHANGE HEAT LOSS		0		0		0		201		308		485		30		15	
AIR CHANGE HEAT GAIN		0		0		0		201		308		485		30		15	
DUCT LOSS		0		0		0		1		1		1		0		0	
DUCT GAIN		2		480		0		1		367		439		8		19	
HEAT GAIN PEOPLE		1145		0		0		1145		1145		240		0		0	
HEAT GAIN APPLIANCES/LIGHTS		2769		4085		1573		2210		3392		5331		333		1228	
TOTAL HT LOSS BTU/H		4756		3309		2446		2871		5250		6274		111		277	
TOTAL HT GAIN x 1.3 BTU/H		4756		3309		2446		2871		5250		6274		111		277	

ROOM USE	EXP. WALL	CLG. HT.	LIBR	DIN	KIT	GREAT	LAUN	ENS-4	FOY	MUD	LOD	BAS					
FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN					
GRS.WALL AREA	297		297		1243		0		54		234						
GLAZING																	
NORTH	21.3	16.3	0	0	0	0	0	0	0	0	0	0					
EAST	21.3	41.8	38	809	1590	28	596	455	0	0	0	0					
SOUTH	21.3	25.2	0	0	0	0	0	0	0	0	0	0					
WEST	21.3	41.8	0	0	0	0	0	0	0	0	0	0					
SKYL.T.	37.2	102.0	0	0	0	0	0	0	0	0	0	0					
DOORS	25.2	4.6	0	0	0	0	0	0	0	0	0	0					
NET EXPOSED WALL	4.5	0.8	259	1156	210	198	884	160	1074	4793	870	782					
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0					
EXPOSED CLG	1.3	0.6	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					
EXPOSED FLOOR	2.6	0.5	0	0	0	0	0	0	0	0	0	0					
BASEMENT/CRAWL HEAT LOSS																	
SLAB ON GRADE HEAT LOSS																	
SUBTOTAL HT LOSS	1964			1352			375	453	2749	1460	2046	10232					
SUB TOTAL HT GAIN		1799															
LEVEL FACTOR / MULTIPLIER	0.30	0.39		0.30	0.39		0.20	0.36	0.30	0.39	0.30	0.50					
AIR CHANGE HEAT LOSS	762			524	3349	2659	135	163	1066	566	1370	14877					
AIR CHANGE HEAT GAIN																	
DUCT LOSS	0			0	0	0	51	0	0	0	0	0					
DUCT GAIN																	
HEAT GAIN PEOPLE	0	0	0	0	0	0	128	0	0	0	0	0					
HEAT GAIN APPLIANCES/LIGHTS																	
TOTAL HT LOSS BTU/H	2726	1145		1876	11985	9515	560	615	3815	2026	2046	25109					
TOTAL HT GAIN x 1.3 BTU/H		4029		2497	10985	8073	1825	388	1025	1862	1781	830					

TOTAL HEAT GAIN BTU/H: 60137 TONS: 5.01 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 82966 TOTAL COMBINED HEAT LOSS BTU/H: 86147

Michael O'Rourke

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

CORNER
TYPE: 5004 THE BEAUMONT

DATE: Sep-18

GFA: 4294 LO# 80139

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 82,966
AIR FLOW RATE CFM 23.56

AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000
DESIGN CFM = 1955
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	18	12	8
R/A	0	0	5	4	1

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

TEMPERATURE RISE 50 °F

RUN #	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	DRESS	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-4	MBR	ENS-3	LIBR	DIN	KIT	KIT	GREAT	LAUN	KIT	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.38	1.86	1.57	2.21	1.13	1.78	0.33	1.23	0.62	1.38	1.77	1.36	1.88	3.00	3.00	3.17	0.56	3.00	3.81	2.03	3.39	3.39	3.39	3.39
CFM PER RUN HEAT	33	44	37	52	27	42	8	29	14	33	42	32	44	71	71	75	13	71	90	48	80	80	80	80
RM GAIN MBH	2.38	1.50	2.45	2.87	1.75	2.09	0.11	0.28	0.39	2.38	0.97	2.01	2.50	2.75	2.75	2.69	1.83	2.75	1.03	1.86	0.33	0.33	0.33	0.33
CFM PER RUN COOLING	78	49	80	94	57	69	4	9	13	78	32	66	82	90	90	88	60	90	34	61	11	11	11	11
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	0.16	0.16	0.16	0.16	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	46	62	29	34	38	50	28	31	43	54	41	41	27	40	32	49	26	36	24	16	50	50	39	30
EQUIVALENT LENGTH	190	140	180	180	120	150	160	150	190	180	160	180	80	140	150	130	150	140	150	130	130	140	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	0.15	0.09	0.09	0.09	0.09	0.09	0.09	0.12	0.1	0.09	0.12	0.13
ROUND DUCT SIZE	6	4	5	6	4	5	4	4	4	6	4	5	5	6	6	6	5	6	6	4	5	5	5	5
HEATING VELOCITY (ft/min)	168	505	272	265	310	308	92	333	161	168	482	235	323	362	362	551	95	362	459	551	587	587	587	587
COOLING VELOCITY (ft/min)	398	562	587	479	654	507	46	103	149	398	367	485	602	459	459	646	441	459	173	700	81	81	81	81
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	C	D	F	F	E	F	D	E	B	F	E	F	C	C	A	D	B	E	D	A	A	C	C

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38
ROOM NAME	BAS	BAS	BAS	BAS	ENS	ENS	BED-3	BED-3	BED-3	BED-4	LIBR	KIT	GREAT	GREAT
RM LOSS MBH	3.39	3.39	3.39	3.39	1.86	0.36	1.13	1.13	1.78	1.78	1.36	3.00	3.17	3.17
CFM PER RUN HEAT	80	80	80	80	44	9	27	27	42	42	32	71	75	75
RM GAIN MBH	0.33	0.33	0.33	0.33	1.50	0.30	1.75	1.75	2.09	2.09	2.01	2.75	2.69	2.69
CFM PER RUN COOLING	11	11	11	11	49	10	57	57	69	69	66	90	88	88
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
ACTUAL DUCT LGH.	37	23	17	31	34	33	42	46	47	40	35	28	39	64
EQUIVALENT LENGTH	120	80	120	150	140	140	140	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	0.08	0.08
ROUND DUCT SIZE	5	5	5	5	4	4	5	5	5	5	5	6	5	6
HEATING VELOCITY (ft/min)	587	587	587	587	505	103	198	198	308	308	235	362	551	382
COOLING VELOCITY (ft/min)	81	81	81	81	562	115	419	419	507	507	485	459	646	449
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	D	F	E	D	D	F	F	E	E	E	B	A	A

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)	RETURN AIR TRUNK SIZE	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	385	0.08	9.8	12	8	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	8
TRUNK B	673	0.07	12.5	18	8	TRUNK G	0	0.00	0	8	TRUNK P	0	0.06	0	0	8
TRUNK C	346	0.09	9.1	10	8	TRUNK H	0	0.00	0	8	TRUNK Q	0	0.06	0	0	8
TRUNK D	1279	0.07	15.9	30	8	TRUNK I	0	0.00	0	8	TRUNK R	0	0.06	0	0	8
TRUNK E	374	0.07	10	12	8	TRUNK J	0	0.00	0	8	TRUNK S	0	0.06	0	0	8
TRUNK F	681	0.07	12.6	20	8	TRUNK K	0	0.00	0	8	TRUNK T	0	0.06	0	0	8
						TRUNK L	0	0.00	0	8	TRUNK U	0	0.06	0	0	8
											TRUNK V	0	0.06	0	0	8
											TRUNK W	0	0.06	0	0	8
											TRUNK X	1465	0.06	17.4	32	10
											TRUNK Y	805	0.06	13.9	22	8
											TRUNK Z	490	0.06	11.5	16	8
											DROP	1955	0.06	19.4	24	18

RETURN AIR #

ROOM NAME	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)
AIR VOLUME	1	0	0	0	0	BR	0	0	0	0	30
PLENUM PRESSURE	120	120	0.15	0.15	0.15	0	0	0	0	0	0
ACTUAL DUCT LGH.	38	37	37	37	37	0	0	0	0	0	0
EQUIVALENT LENGTH	195	185	165	205	145	0	0	0	0	0	0
TOTAL EFFECTIVE LH	233	222	202	250	188	0	0	0	0	0	0
ADJUSTED PRESSURE	0.06	0.07	0.07	0.06	0.08	0	0	0	0	0	0
ROUND DUCT SIZE	6.8	6.6	6.6	6.8	9	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	0	0	0	0	0	0
	X	X	X	X	X	0	0	0	0	0	0
	14	14	14	14	14	0	0	0	0	0	0

Michael O'Rourke

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

LO # 80139
CORNER

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	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: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/> 0.3
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/> 0.3
ENS-3	QTXEN050C	50	<input checked="" type="checkbox"/> 0.3
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/> 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 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-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																											
Formula Sheet (For Air Leakage / Ventilation Calculation)																											
LO#: 80139	Model: 5004 THE BEAUMONT																										
Builder: GOLD PARK HOMES																											
Date: 9/26/2018																											
Air Change & Delta T Data																											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width:50%;">0.340</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.118</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE	0.340	SUMMER NATURAL AIR CHANGE RATE	0.118																						
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<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Design Temperature Difference</th> </tr> <tr> <th></th> <th>T_{in} °C</th> <th>T_{out} °C</th> <th>ΔT °C</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>23</td> <td>31</td> <td>8</td> </tr> <tr> <td></td> <td></td> <td></td> <td>14</td> </tr> </table>		Design Temperature Difference					T _{in} °C	T _{out} °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	23	31	8				14						
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	T _{in} °C	T _{out} °C	ΔT °C																								
Winter DTDh	22	-20	42																								
Summer DTDc	23	31	8																								
			14																								
6.2.6 Sensible Gain due to Air Leakage																											
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p> = 0.118 x 506.14 x 8 °C x 1.2 = 547 W </p> <p> = 1868 Btu/h </p>																											
6.2.7 Sensible heat Gain due to Ventilation																											
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p> 155 CFM x 14 °F x 1.08 x 0.25 = 578 Btu/h </p>																											
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																											
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HL_{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HL_{airbv} / HL_{clevel})</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">29,754</td> <td>12,277</td> <td>1.212</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>23,016</td> <td>0.388</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,570</td> <td>0.359</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </table> <p>*HL_{airbv} = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HL_{airve} = 0</p>		Level	Level Factor (LF)	HL _{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{clevel})	1	0.5	29,754	12,277	1.212	2	0.3	23,016	0.388	3	0.2	16,570	0.359	4	0	0	0.000	5	0	0	0.000
Level	Level Factor (LF)	HL _{airbv} Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HL _{airbv} / HL _{clevel})																							
1	0.5	29,754	12,277	1.212																							
2	0.3		23,016	0.388																							
3	0.2		16,570	0.359																							
4	0		0	0.000																							
5	0		0	0.000																							

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5004 THE BEAUMONT**CORNER****BUILDER:** GOLD PARK HOMES**SFQT:** 4294**LO#** 80139**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)	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):	64347.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.95	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 74.0 ft	WIDTH: 46.0 ft	EXPOSED PERIMETER:	240.0 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	-

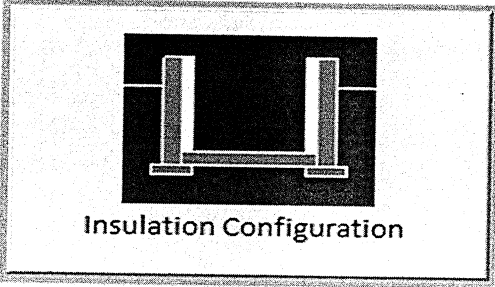
INDIVIDUAL BCIN: 19669

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):	14.0	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	3.8	
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):		2465

TYPE: 5004 THE BEAUMONT
LO# 80139

CORNER

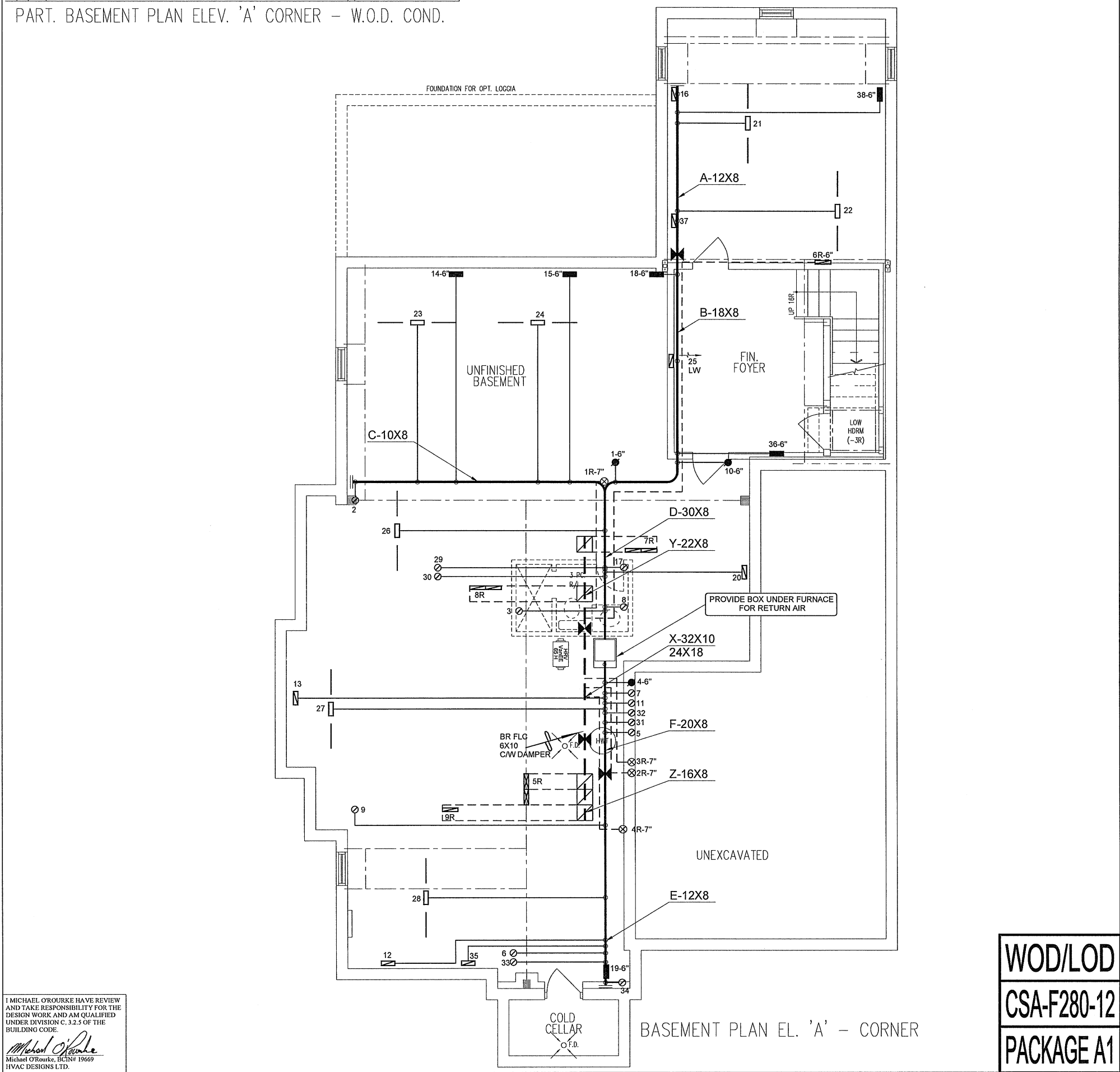
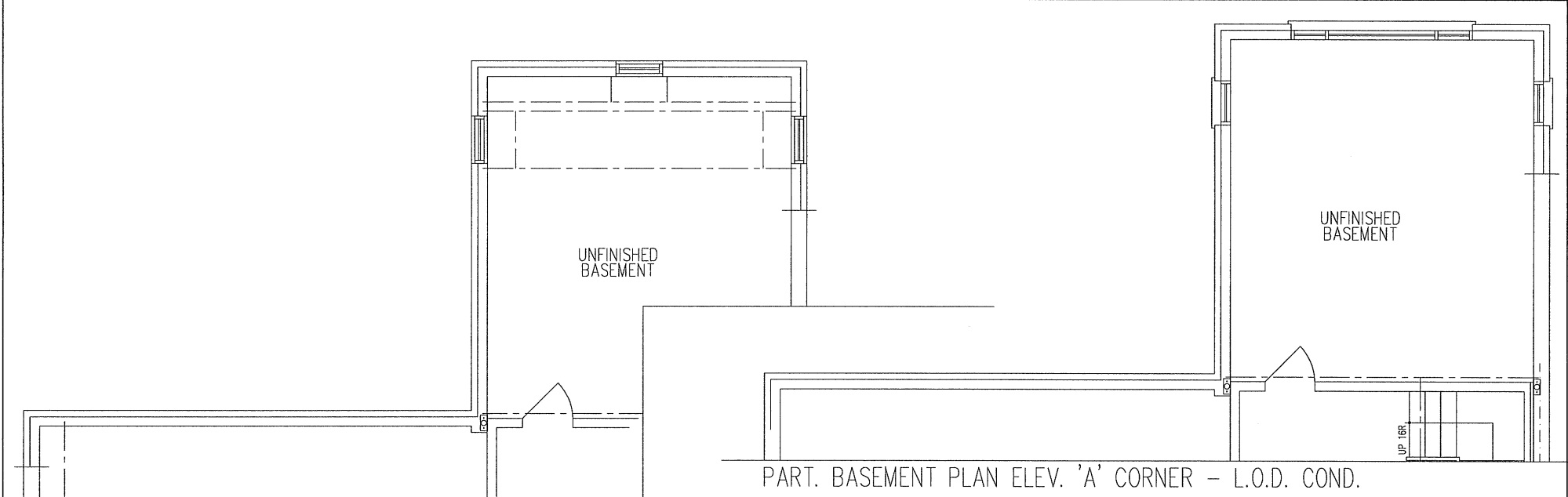
Air Infiltration Residential Load Calculator

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):	1822.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2428.9 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):	0.118			

TYPE: 5004 THE BEAUMONT
LO# 80139

CORNER



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.

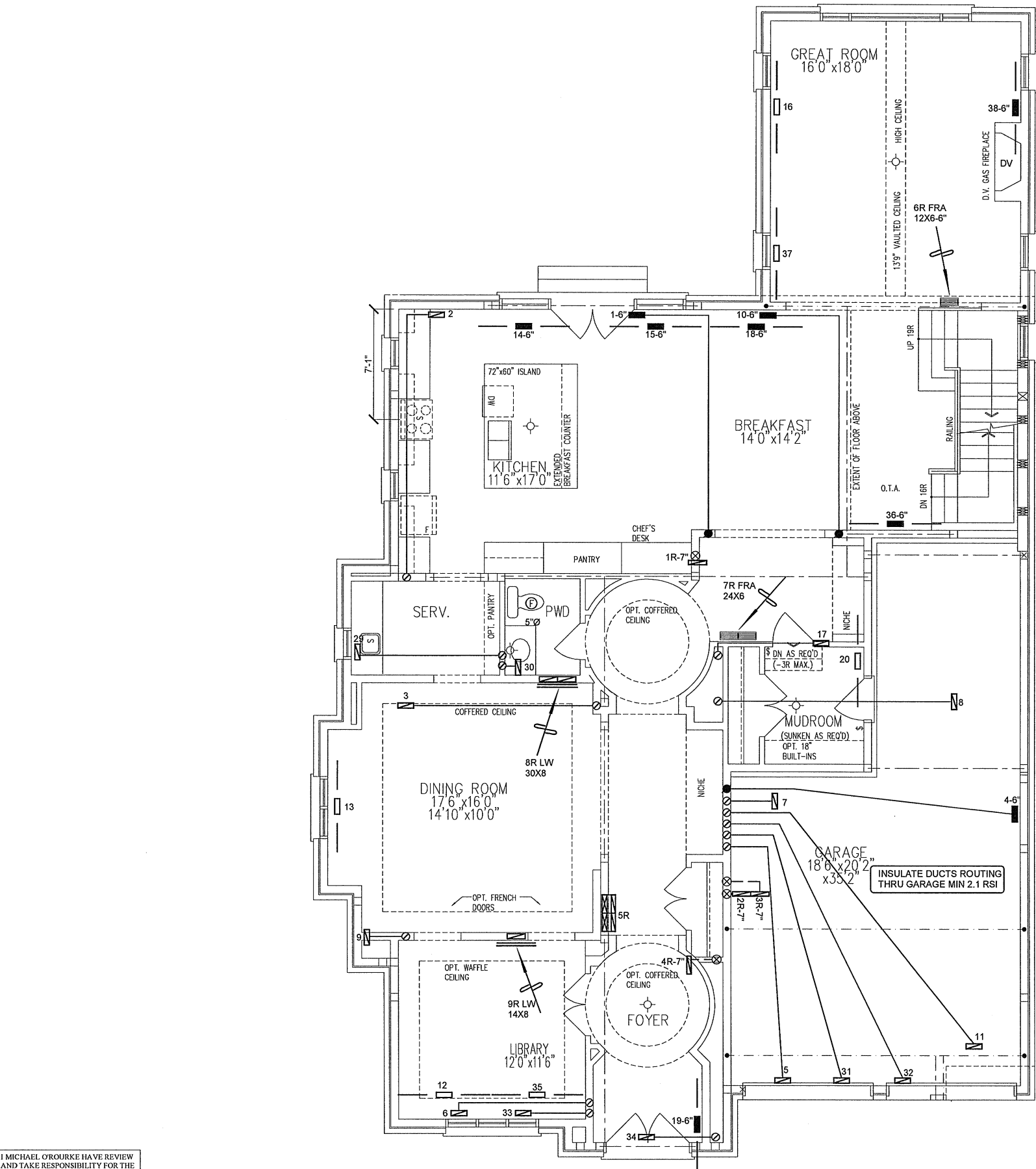
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOD/LOD
CSA-F280-12
PACKAGE A1

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 Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	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: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</p><p>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.</p></div>	HEAT LOSS 86147 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
			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			Date SEPT/2018		
		FAN SPEED 1955 cfm @ 0.6" w.c.				Scale 1/8" = 1'-0"			
						BCIN# 19669			
THE BEAUMONT 5004 - CORNER 4294 sqft						LO# 80139			



GROUND FLOOR PLAN EL. 'A' - CORNER

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.

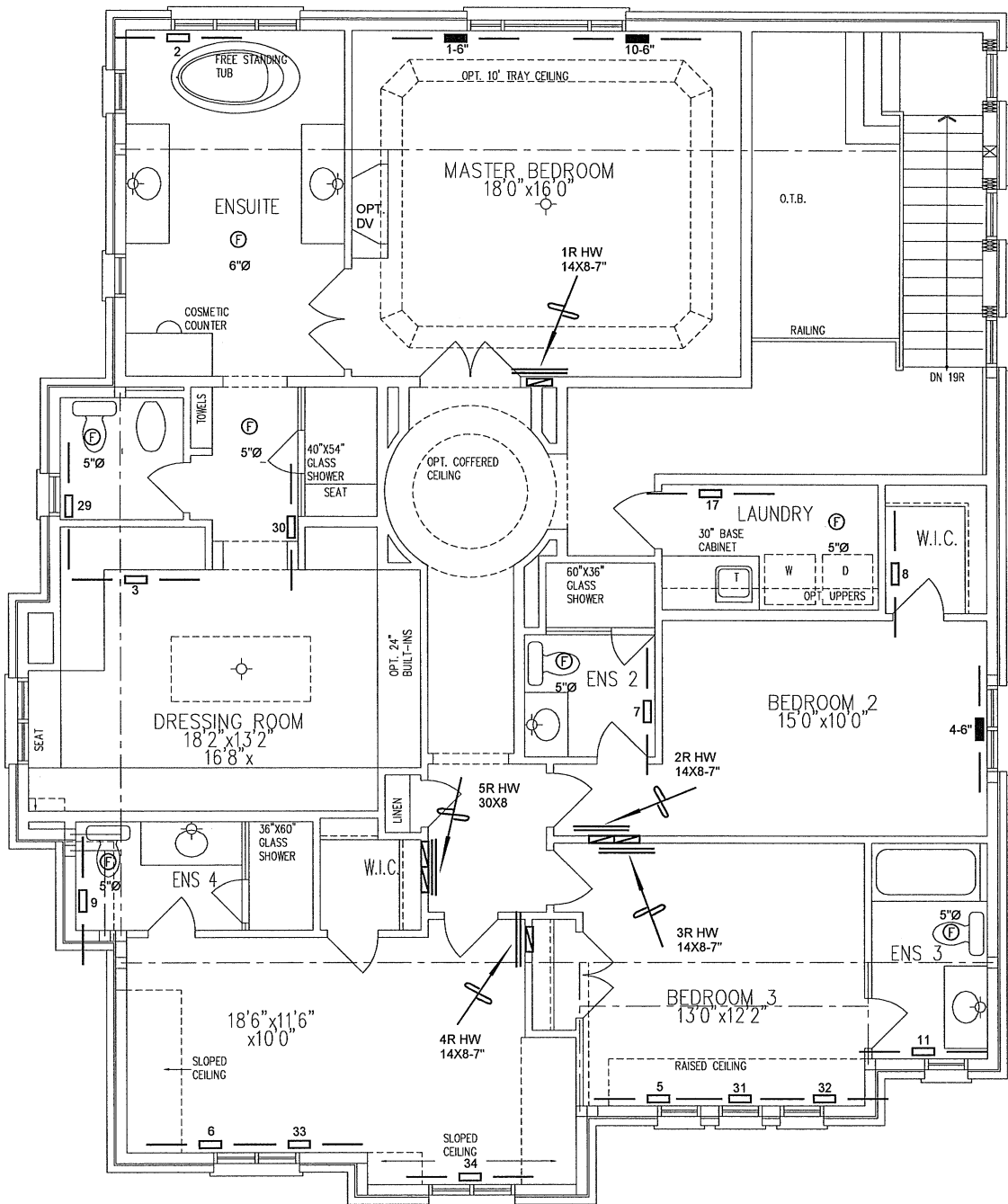
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

WOD/LOD
CSA-F280-12
PACKAGE A1

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 Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS	

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Client		<div></div> <div>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</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>	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	SEPT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE BEAUMONT			BCIN# 19669	
5004 - CORNER	4294 sqft		LO#	80139



SECOND FLOOR PLAN EL. 'A' – CORNER

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

WOD/LOD
CSA-F280-12
PACKAGE A1

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		Date
							REVISIONS		

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	SEPT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
THE BEAUMONT			BCIN# 19669	
5004 - CORNER	4294 sqft		LO#	80139