


## 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 <b>MICHAEL O'ROURKE</b>		Firm <b>HVAC DESIGNS LTD.</b>		
Street address <b>375 FINLEY AVE</b>		Unit no. <b>202</b>	Lot/con. <b>N/A</b>	
Municipality <b>AJAX</b>	Postal code <b>L1S 2E2</b>	Province <b>ONTARIO</b>	E-mail <b>info@hvacdesigns.ca</b>	
Telephone number <b>(905) 619-2300</b>	Fax number <b>(905) 619-2375</b>	Cell number (     )		
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]				
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House  <input type="checkbox"/> Small Buildings  <input type="checkbox"/> Large Buildings  <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House  <input type="checkbox"/> Building Services  <input type="checkbox"/> Detection, Lighting and Power  <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural  <input type="checkbox"/> Plumbing – House  <input type="checkbox"/> Plumbing – All Buildings  <input type="checkbox"/> On-site Sewage Systems </div> </div>				
Description of designer's work <b>HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12</b>		<b>Model:</b> 4202- ROSEDALE  OPT. 5 BED - ALT 1ST  <b>Project:</b> PINE VALLEY & TESTON		
D. Declaration of Designer				
I, <u><b>MICHAEL O'ROURKE</b></u> declare that (choose one as appropriate): (print name)				
<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.				
October 5, 2018		 Signature of Designer		
Date				

**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 BUILDERS: GOLD PARK HOMES TYPE: 4202-ROSEDALE DATE: Oct18 LO# 80274 GFA: 3785 WINTER NATURAL AIR CHANGE RATE 0.340 SUMMER NATURAL AIR CHANGE RATE 0.124 HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 16 CSA-P280-12 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	BED-2	BED-3	BED-4	ENS-2	BED-5	ENS-3	ENS-4/5	
GRS.WALL AREA	340	340	333	108	324	144	0	117	81	64	
GLAZING											
NORTH	21.3 16.8	0 0 0	0 0 0	18 383 303	0 0 0	0 0 0	0 0 0	0 0 0	9 192 161	0 0 0	
EAST	21.3 42.4	0 0 0	0 0 0	0 0 0	53 1128 2247	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SOUTH	21.3 25.7	0 0 0	0 0 0	0 0 0	0 0 0	38 809 978	0 0 0	18 383 463	0 0 0	0 0 0	
WEST	21.3 42.4	54 1149 2289	18 383 763	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
SKYL.T.	37.2 103.0	0 0 0	0 0 0	0 0 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	0 0 0	0 0 0	0 0 0	
NET EXPOSED WALL	286 1276 266	316 1406 292		90 402 83	271 1209 281	106 473 98	0 0 0	99 442 92	72 321 67	64 241 50	
NET EXPOSED BSMT WALL ABOVE GR	4.6 0.9	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
EXPOSED CLG	1.3 0.6	286 386	192 210 134	228 293 146	280 369 179	240 308 163	104 133 68	182 234 116	45 68 29	84 108 54	
NO A T T I C EXPOSED CLG	2.7 1.4	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
EXPOSED FLOOR	2.6 0.6	0 0 0	0 0 0	144 387 78	280 714 148	0 0 0	104 266 55	0 0 0	45 115 24	0 0 0	
BASEMENT/CRAWL HEAT LOSS		0 0 0	0 0 0	0 0 0	0 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 0	0 0 0	0 0 0	0 0 0	
SUBTOTAL HT LOSS		2791	2058	1445	3411	1590	399	1058	885	349	
SUB TOTAL HT GAIN		2736	1189	608	2826	1230	122	571	271	104	
LEVEL FACTOR / MULTIPLIER		0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	0.20 0.30	
AIR CHANGE HEAT LOSS		841	620	435	1028	479	120	319	207	105	
AIR CHANGE HEAT GAIN		305	133	88	315	137	14	75	30	12	
DUCT LOSS		0 0 0	0 0 0	188	444	0	52	0	89	0	
DUCT GAIN		0 0 0	0 0 0	167	414	0	14	0	30	0	
HEAT GAIN PEOPLE	240	2 480 0	0 0 0	1 240 1	240 1	240 1	0 0 0	1 240 0	0 0 0	0 0 0	
HEAT GAIN APPLANCES/LIGHTS		766	0	766	766	766	0	766	0	0	
TOTAL HT LOSS BTU/H		3632	2679	2068	4882	2069	571	1377	981	454	
TOTAL HT GAIN x 1.3 BTU/H		5561	1719	2390	5916	3071	153	2265	430	150	

ROOM USE	EXP. WALL CLG. HT.	DIN	KT/IGT	LUB	LAUN	FOY	MUD	WIC	LOD	BAS
GRS.WALL AREA	187	187	1100	132	288	649	180	64	430	1672
GLAZING										
NORTH	21.3 16.8	0 0 0	39 830 566	23 489 387	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	41 872 1738	7 149 297	0 0 0	0 0 0	0 0 0	0 0 0
SOUTH	21.3 25.7	34 724 876	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
WEST	21.3 42.4	0 0 0	123 2617 8214	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	20 426 848	0 0 0
SKYL.T.	37.2 103.0	0 0 0	0 0 0	0 0 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	10 252 52	0 0 0	0 0 0	57 1439 289	20 505 105	0 0 0	0 0 0	0 0 0
NET EXPOSED WALL	4.5 0.9	153 683 142	928 4141 861	109 486 101	247 1102 229	586 2811 643	160 714 148	54 241 50	0 0 0	20 805 106
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	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 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
NO A T T I C EXPOSED CLG	2.7 1.4	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
EXPOSED FLOOR	2.6 0.6	0 0 0	0 0 0	0 0 0	0 0 0	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 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 0	0 0 0	0 0 0	0 0 0
SUBTOTAL HT LOSS		1406	7841	976	2595	4199	1219	563	1282	8678
SUB TOTAL HT GAIN		1017	6783	488	2266	1139	253	148	1026	365
LEVEL FACTOR / MULTIPLIER		0.30 0.49	0.30 0.49	0.30 0.49	0.20 0.30	0.30 0.49	0.30 0.49	0.20 0.30	0.50 1.28	0.50 1.28
AIR CHANGE HEAT LOSS		687	3830	477	770	2051	595	170	12734	12734
AIR CHANGE HEAT GAIN		113	757	54	282	127	28	17	238 868 178	348 1252 260
DUCT LOSS		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
DUCT GAIN		0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	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 0 0	0 0 0	0 0 0	0 0 0
HEAT GAIN APPLANCES/LIGHTS		766	766	766	766	0 0 0	766	0 0 0	0 0 0	0 0 0
TOTAL HT LOSS BTU/H		2093	11671	1463	3325	8260	1814	806	1382	21412
TOTAL HT GAIN x 1.3 BTU/H		2452	10785	1687	4242	1645	1349	236	1334	1659

TOTAL HEAT GAIN BTU/H: 4745 TONS: 3.98 LOSS DUE TO VENTILATION LOAD BTU/H: 3181 STRUCTURAL HEAT LOSS: 88919 TOTAL COMBINED HEAT LOSS BTU/H: 72000

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

OPT. 5 BED - ALT 1ST

DATE: Oct-18

LO# 80274

HEATING CFM	1525	COOLING CFM	1525
TOTAL HEAT LOSS	68,819	TOTAL HEAT GAIN	47,083

furnace pressure	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35

EL296UH090XE48C 90  
FAN SPEED LOW 0

AFUE = 96 %  
INPUT (BTU/H) = 88,000  
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	9	6
R/A	0	0	4	2	1

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

[illegible]

	25	26	27	28	30	31	32	33
RUN #	BED-3	LAUN	BAS	FOY	WIC	BED-3	BAS	ENS-4/5
ROOM NAME	BED-3	LAUN	BAS	FOY	WIC	BED-3	BAS	ENS-4/5
RM LOSS MBH	1.63	1.66	3.12	3.12	0.81	3.78	0.45	
CFM PER RUN HEAT	36	37	84	69	18	36	84	10
RM GAIN MBH	1.97	2.12	0.50	0.82	0.24	1.97	0.50	0.15
CFM PER RUN COOLING	64	69	16	27	8	64	16	5
ADJUSTED PRESSURE	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17
ACTUAL DUCT LGH	45	57	33	40	60	58	22	39
EQUIVALENT LENGTH	140	150	180	150	150	180	120	140
TOTAL EFFECTIVE LENGTH	185	207	213	190	210	218	142	179
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.08	0.08	0.11	0.1
ROUND DUCT SIZE	5	5	6	5	4	5	5	4
HEATING VELOCITY (ft/min)	264	272	428	507	207	264	617	115
COOLING VELOCITY (ft/min)	470	507	82	198	92	470	117	57
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	E	D	D	D	B	E	C	C

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE											
		TRUNK		STATIC		ROUND		RECT		VELOCITY		TRUNK		STATIC		ROUND		RECT		VELOCITY	
		CFM		PRESS	DUCT			DUCT		(ft/min)		CFM		PRESS				DUCT		(ft/min)	
TRUNK A	274	0.08	8.6	8	X	8	617	TRUNK G	0	0.00	0	0	X	8	0	0.06	0	0	X	8	
TRUNK B	312	0.07	9.4	10	X	8	562	TRUNK H	0	0.00	0	0	X	8	0	0.06	0	0	X	8	
TRUNK C	919	0.07	14	22	X	8	752	TRUNK I	0	0.00	0	0	X	8	0	0.06	0	0	X	8	
TRUNK D	380	0.07	10.1	12	X	8	570	TRUNK J	0	0.00	0	0	X	8	0	0.06	0	0	X	8	
TRUNK E	609	0.07	12	16	X	8	685	TRUNK K	0	0.00	0	0	X	8	0	0.06	0	0	X	8	
TRUNK F	0	0.00	0	0	X	8	0	TRUNK L	0	0.00	0	0	X	8	0	0.06	0	0	X	8	

[illegible]

TYPE: 4202-ROSEDALE  
SITE NAME: PINE VALLEY & TESTON

LO # 80274  
OPT. 5 BED - ALT 1ST

**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	155	cfm
Required Supplemental Capacity	57.0	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-4/5	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
PWD	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:	October-18

<b>CSA F280-12 Residential Heat Loss and Heat Gain Calculations</b>																																																															
<b>Formula Sheet (For Air Leakage / Ventilation Calculation)</b>																																																															
LO#: 80274	Model: 4202- ROSEDALE	Builder: GOLD PARK HOMES	Date: 10/5/2018																																																												
<b>Volume Calculation</b>		<b>Air Change &amp; Delta T Data</b>																																																													
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House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																												
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<b>5.2.3.1 Heat Loss due to Air Leakage</b>																																																															
$HL_{air-b} = LR_{air-b} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																															
0.340	x	433.22	x																																																												
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		1.2	=																																																												
		7464 W																																																													
		=	25468 Btu/h																																																												
<b>5.2.3.2 Heat Loss due to Mechanical Ventilation</b>																																																															
$HL_{vair-b} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																															
155 CFM	x	76 °F	x																																																												
		1.08	x																																																												
		0.25	=																																																												
		3181 Btu/h																																																													
<b>5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>																																																															
$HL_{qirr} = Level Factor \times HL_{airbv} \times \{(HL_{qger} + HL_{hger}) \div (HL_{qglevel} + HL_{hglevel})\}$																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="text-align: center;">Level</th> <th style="text-align: center;">Level Factor (LF)</th> <th style="text-align: center;">HLairst Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th style="text-align: center;">Level Conductive Heat Loss: (HL<sub>level</sub>)</th> <th style="text-align: center;">Air Leakage Heat Loss Multiplier (LF x HLairstb / HLlevel)</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0.5</td> <td rowspan="5" style="text-align: center;">25,468</td> <td style="text-align: center;">9,960</td> <td style="text-align: center;">1.278</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">0.3</td> <td style="text-align: center;">15,641</td> <td style="text-align: center;">0.488</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">0.2</td> <td style="text-align: center;">16,904</td> <td style="text-align: center;">0.301</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0.000</td> </tr> </table>				Level	Level Factor (LF)	HLairst Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL <sub>level</sub> )	Air Leakage Heat Loss Multiplier (LF x HLairstb / HLlevel)	1	0.5	25,468	9,960	1.278	2	0.3	15,641	0.488	3	0.2	16,904	0.301	4	0	0	0.000	5	0	0	0.000																																		
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5	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**

<b>MODEL:</b> 4202- ROSEDALE	<b>OPT.</b> 5 BED - ALT 1ST	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 3785	<b>LO#</b> 80274	<b>SITE:</b> 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 <sup>3</sup> ):	55077.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft <sup>2</sup> ):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 68.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	202.0 ft

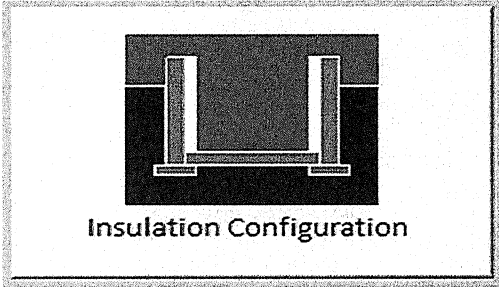
2012 OBC - COMPLIANCE PACKAGE		
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement 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):	20.7	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m <sup>2</sup> ):	1.9	
Door Area (m <sup>2</sup> ):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2028

TYPE: 4202- ROSEDALE  
LO# 80274

OPT. 5 BED - ALT 1ST

# 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 <sup>3</sup> ):	1559.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2079.0 cm <sup>2</sup>		
	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: 4202- ROSEDALE  
LO# 80274











OPT. 5 BED - ALT 1ST

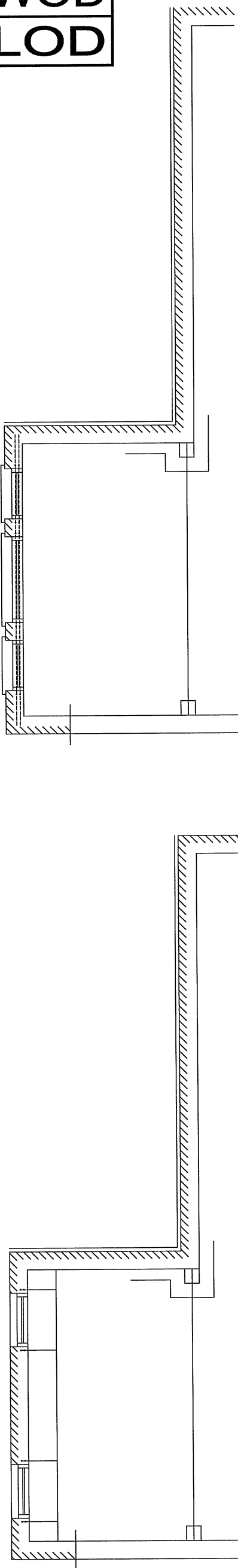


# WOD

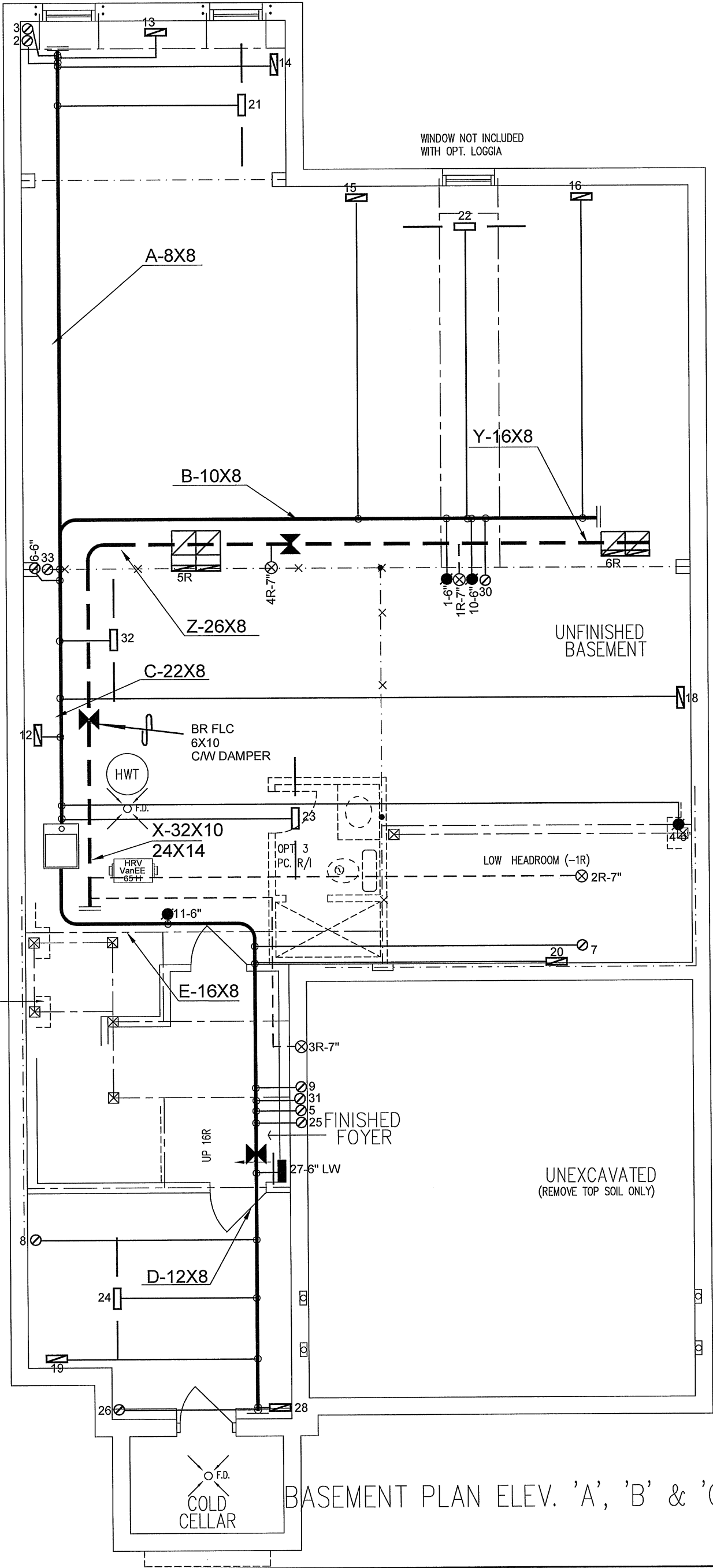
# LOD

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

HVAC LEGEND									
								3.	
								2.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION			1.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14" RETURN AIR STACK ABOVE				
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30" RETURN AIR GRILLE				
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FR4-FLOOR RETURN AIR GRILLE		REDUCER		
								Description	Date
REVISIONS									



PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' - W.O.D. COND.



BASEMENT PLAN ELEV. 'A', 'B' & 'C'













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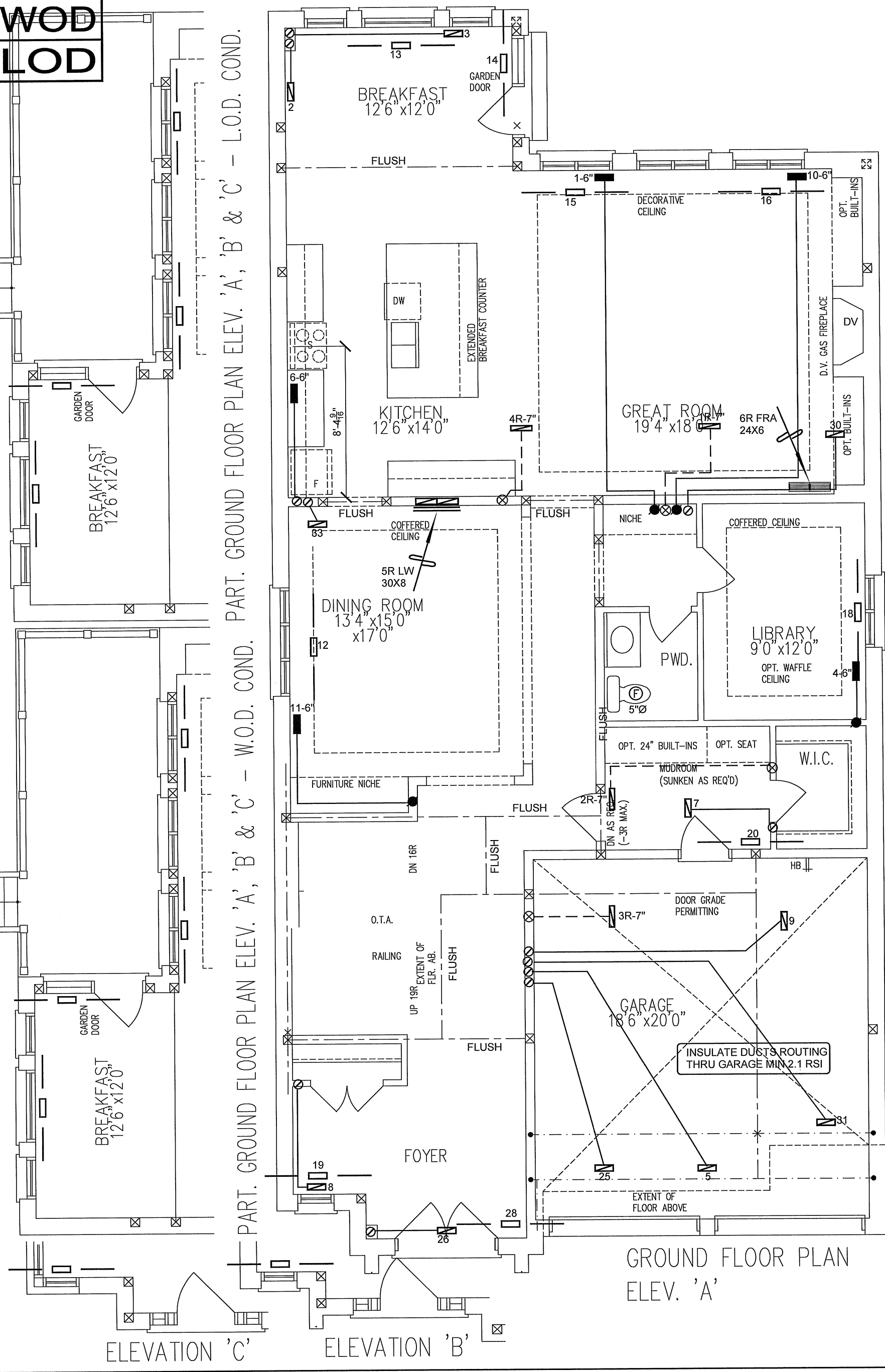
Client		<div><div><div>HVACDESIGNSLTD.</div><div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div></div><div>Installation to comply with the 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></div>	HEAT LOSS 72000 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 OPT. 5 BED ROSEDALE - ALT 1ST 42023785 sqft			MODEL EL296UH090XE48C		2ND FLOOR1645			Date OCT/2018	
			INPUT88MBTU/H		1ST FLOOR922			Scale 3/16" = 1'-0"	
			OUTPUT85MBTU/H		BASEMENT610			BCIN# 19669	
		COOLING4.0TONS		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			LO#80274		
		FAN SPEED1525cfm @ 0.6" w.c.							

## PACKAGE A1

# LOD

*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'x6' 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	 <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>	Sheet Title	
GOLD PARK HOMES		FIRST FLOOR HEATING LAYOUT	
Project Name		Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT. 5 BED ROSEDALE - ALT 1ST 4202		Scale	3/16" = 1'-0"
3785 sqft		BCIN# 19669	
	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.	LO#	80274

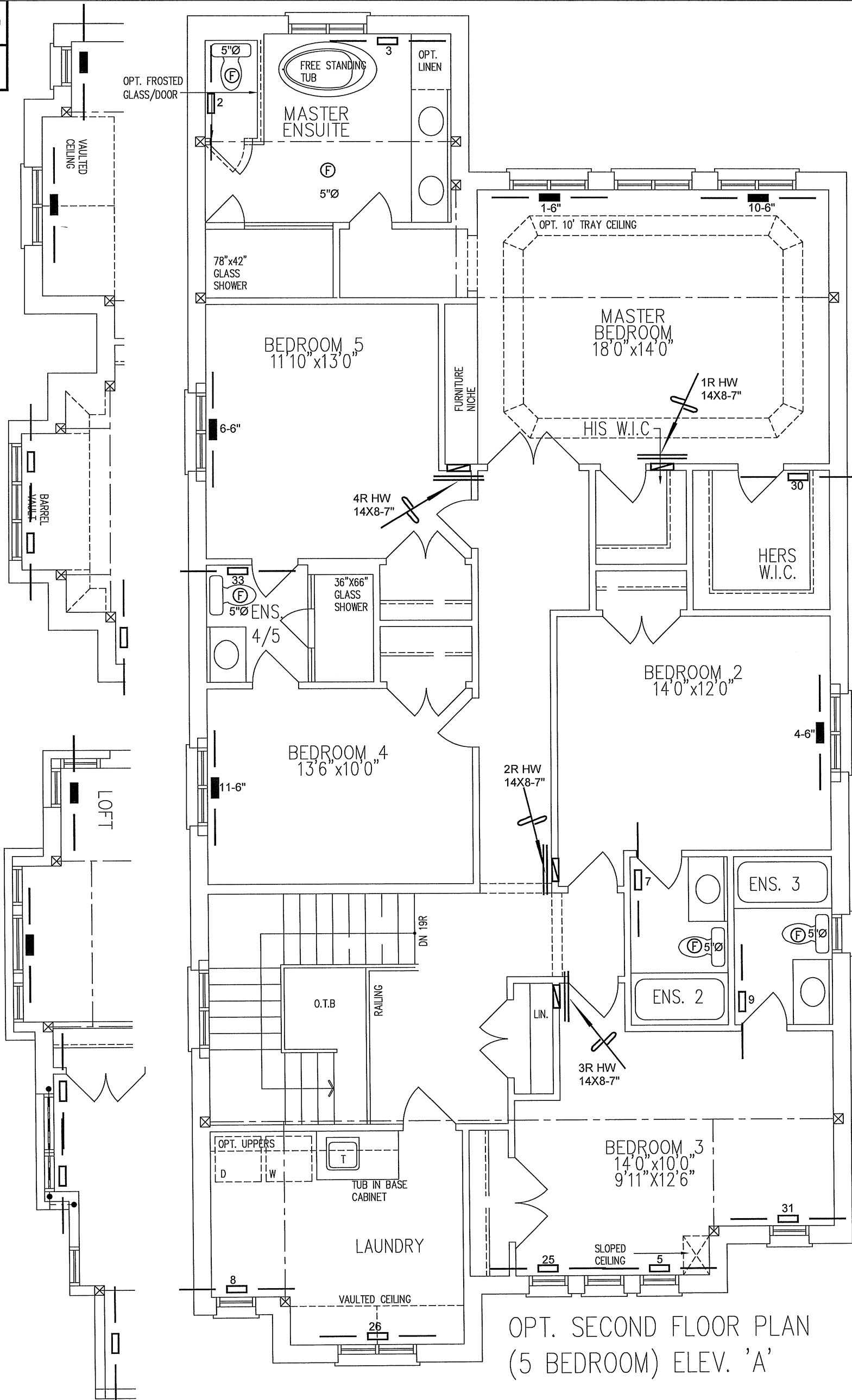
# WOD

# LOD

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

PARTIAL SECOND FLOOR PLAN – ELEVATION 'C'

HVAC LEGEND							
						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6' SUPPLY AIR BOOT ABOVE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6' BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		6' SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		Date
							REVISIONS



OPT. SECOND FLOOR PLAN  
(5 BEDROOM) ELEV. 'A'

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Client

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GOLD PARK HOMES

---

Project Name

PINE VALLEY & TESTON  
VAUGHAN, ONTARIO  
OPT. 5 BED  
ROSEDALE - ALT 1ST  
4202 3785 sqft

# HVAC DESIGNS LTD.

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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375  
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Web: [www.hvacdesigns.ca](http://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

# SECOND FLOOR HEATING LAYOUT

Date OCT/2018

Scale  $3/16" = 1'-0"$

BCIN# 19669

LO#	80274
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