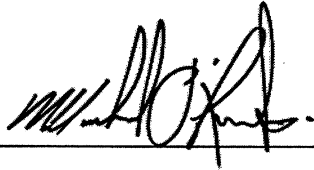


Schedule 1: Designer Information

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 MODEL CERTIFICATION		Unit no.	Lot/con.
Municipality VAUGHAN	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]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 38-3 Project: KLEINBURG GLEN	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name) ☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____ ☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u> ☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that: 1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
<u>SEPT 28, 2016</u> 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: KLEINBURG GLEN BUILDING: GOLD PARK HOMES TYPE: 38-3 DATE: Sep-16 WINTER NATURAL AIR CHANGE RATE 0.322 HEAT LOSS AT °F. 76 CSA-F280-12
LO# 87008 SUMMER NATURAL AIR CHANGE RATE 0.098 HEAT GAIN AT °F. 16 9B-12 PACKAGE J

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	LAUN	ENS-2	HEAT LOSS AT °F. 76	HEAT GAIN AT °F. 16
GRS.WALL AREA	24.1	288	216	90	162	351	252	54	81	54		
GLAZING	17.5	0	0	0	0	0	0	0	0	0		
NORTH	24.1	0	0	0	0	0	0	0	0	0		
EAST	24.1	32	337	603	0	0	0	0	0	0		
SOUTH	24.1	14	337	603	0	0	0	0	0	0		
WEST	24.1	0	0	0	24	578	633	0	0	0		
SKYLT.	24.1	0	0	0	0	0	0	0	0	0		
DOORS	24.1	0	0	0	0	0	0	0	0	0		
NET EXPOSED WALL	3.5	0	0	0	0	0	0	0	0	0		
NET EXPOSED BSMT WALL ABOVE GR	25.2	0	0	0	0	0	0	0	0	0		
EXPOSED CLG	1.5	0	0	0	0	0	0	0	0	0		
NO ATTIC EXPOSED CLG	2.5	0	0	0	0	0	0	0	0	0		
EXPOSED FLOOR	2.5	0	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	2039	1755	1254	448	1411	2456	2355	638	645	440		
SUB TOTAL HT GAIN	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26		
LEVEL FACTOR / MULTIPLIER	526	323	323	115	364	633	608	164	166	114		
AIR CHANGE HEAT LOSS	385	0	0	0	0	0	296	80	81	0		
DUCT LOSS	141	0	0	0	0	0	0	0	0	0		
DUCT GAIN	480	0	0	0	1	240	1	240	0	0		
HEAT GAIN PEOPLE	500	0	0	0	500	500	500	500	500	500		
HEAT GAIN APPLIANCES/LIGHTS	2949	1577	1177	563	1774	3089	3259	882	893	554		
TOTAL HT LOSS BTU/H	3862	1577	1177	563	1774	3089	3259	882	893	554		
TOTAL HT GAIN x 1.3 BTU/H												

ROOM USE	EXP. WALL CLG. HT.	DIN	KIT/GR	MUD	PWD	FOY	LOD	BAS
GRS.WALL AREA	24.1	310	670	210	160	360	441	1119
GLAZING	17.5	0	0	0	0	0	0	0
NORTH	24.1	0	0	0	0	0	0	0
EAST	24.1	0	0	0	0	0	0	0
SOUTH	24.1	28	675	739	0	0	0	0
WEST	24.1	0	0	0	0	0	0	0
SKYLT.	24.1	0	0	0	0	0	0	0
DOORS	24.1	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	25.2	0	0	0	0	0	0	0
EXPOSED CLG	1.5	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.5	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1649	944	4543	1326	718	2365	2084	9397
SUB TOTAL HT GAIN	0.30	0.43	0.30	0.43	0.30	0.43	0.50	0.66
LEVEL FACTOR / MULTIPLIER	703	51	1937	566	306	1009	1578	7535
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	240	240	240	240	240	240	240
HEAT GAIN APPLIANCES/LIGHTS	500	500	500	500	500	500	500	500
TOTAL HT LOSS BTU/H	2352	6481	7355	1892	1024	3374	2084	16932
TOTAL HT GAIN x 1.3 BTU/H								

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 38-3

DATE: Sep-16

GFA: 2575 LO# 67008

HEATING CFM 1100 COOLING CFM 1100
TOTAL HEAT LOSS 49,681 TOTAL HEAT GAIN 33,969
AIR FLOW RATE CFM 22.14 AIR FLOW RATE CFM 32.38furnace pressure 0.6
furnace filler 0.05
a/c coil pressure 0.2
available pressure 0.35
for s/a & r/aplenum pressure s/a 0.18
max s/a diff press. loss 0.02
min adjusted pressure s/a 0.16EL195UH070XE36B 70
FAN SPEED 0
LOW 0
MEDIUM 995
HIGH 1100AFUE = 95.0 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,000
DESIGN CFM = 1100
CFM @ 5" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	7	4
R/A	0	0	4	2	1

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

All S/A runs 5"Ø unless noted otherwise on layout.

RUN#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	BED-4	MBR	LAUN	ENS-2	DIN	KIT/GRT	KIT/GRT	KIT/GRT	MUD	PWD	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.47	1.58	0.56	1.77	1.54	1.63	0.88	1.54	1.63	1.47	0.89	0.55	2.35	2.16	2.16	2.16	1.89	1.02	3.37	4.75	4.75	4.75	4.75
CFM PER RUN HEAT	33	35	12	39	34	36	20	34	36	33	20	12	52	48	48	48	42	23	75	105	105	105	105
RM GAIN MBH.	1.93	1.18	0.18	2.21	1.93	1.97	1.42	1.93	1.97	1.93	1.10	0.37	2.25	2.45	2.45	2.45	1.17	0.44	1.50	0.78	0.78	0.78	0.78
CFM PER RUN COOLING	63	38	6	72	63	64	46	63	64	63	36	12	73	79	79	79	38	14	49	25	25	25	25
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	43	47	18	52	52	38	31	56	41	38	37	40	37	32	23	39	15	35	36	31	24	36	35
EQUIVALENT LENGTH	130	140	110	170	130	130	130	150	140	140	190	120	120	140	110	110	130	130	110	140	110	130	120
TOTAL EFFECTIVE LENGTH	173	187	128	222	182	168	161	206	181	178	227	160	157	172	133	149	145	165	146	171	134	166	155
ADJUSTED PRESSURE	0.1	0.09	0.13	0.08	0.09	0.1	0.11	0.08	0.1	0.1	0.08	0.11	0.11	0.1	0.13	0.12	0.12	0.1	0.12	0.09	0.12	0.1	0.1
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	4	4	5	5	5	5	4	4	5	6	5	6	6
HEATING VELOCITY (ft/min)	242	402	138	286	250	264	229	250	264	242	229	138	382	352	352	352	482	264	551	535	771	535	535
COOLING VELOCITY (ft/min)	463	436	69	529	463	470	528	463	470	463	413	138	536	580	580	580	436	161	360	127	184	127	127
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10
TRUNK	B	A	C	A	D	E	E	D	E	B	E	A	A	B	B	A	C	D	D	A	B	A	A

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH.	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
1	TRUNK A	396	0.08	9.9	12	8	594	0	0.00	0	0	0	0	0	0
2	TRUNK B	267	0.10	8.1	8	601	0	0.00	0	0	0	0	0	0	0
3	TRUNK C	717	0.08	12.4	20	645	0	0.00	0	0	0	0	0	0	0
4	TRUNK D	8.6	0.08	8.6	8	610	0	0.00	0	0	0	0	0	0	0
5	TRUNK E	383	0.08	9.8	12	575	0	0.00	0	0	0	0	0	0	0
6	TRUNK F	0	0.00	0	0	0	0	0.00	0	0	0	0	0	0	0

SUPPLY AIR TRUNK SIZE	TRUNK CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	396	0.08	9.9	12	8	594	0	0.00	0	0	0	0.07	0	0	8
TRUNK B	267	0.10	8.1	8	601	0	0.00	0	0	0	0	0.07	0	0	8
TRUNK C	717	0.08	12.4	20	645	0	0.00	0	0	0	0	0.07	0	0	8
TRUNK D	8.6	0.08	8.6	8	610	0	0.00	0	0	0	0	0.07	0	0	8
TRUNK E	383	0.08	9.8	12	575	0	0.00	0	0	0	0	0.07	0	0	8
TRUNK F	0	0.00	0	0	0	0	0.00	0	0	0	0	0.07	0	0	8
RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AIR VOLUME	145	155	85	85	275	185	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	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
ACTUAL DUCT LGH.	37	35	31	36	36	19	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	145	135	170	175	160	175	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	182	170	201	211	196	194	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.08	0.09	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
ROUND DUCT SIZE	6.8	6.8	5.8	5.8	8.6	7.5	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																					
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																					
LO#: 67008		Model: 38-3		Builder: GOLD PARK HOMES		Date: 9/28/2016																																																															
Volume Calculation				Air Change & Delta T Data																																																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>House Volume</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> <tr> <td>Basmt</td> <td>1117</td> <td>9</td> <td>10053</td> </tr> <tr> <td>First</td> <td>1117</td> <td>10</td> <td>11170</td> </tr> <tr> <td>Second</td> <td>1466</td> <td>9</td> <td>13194</td> </tr> <tr> <td>Third</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>9</td> <td>0</td> </tr> <tr> <td>Total:</td> <td></td> <td></td> <td>34,417.0 ft³</td> </tr> <tr> <td>Total:</td> <td></td> <td></td> <td>974.6 m³</td> </tr> </table>				House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Basmt	1117	9	10053	First	1117	10	11170	Second	1466	9	13194	Third	0	9	0	Fourth	0	9	0	Total:			34,417.0 ft³	Total:			974.6 m³	<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>22</td> <td>31</td> <td>9</td> </tr> <tr> <td></td> <td></td> <td></td> <td>ΔT °F</td> </tr> <tr> <td></td> <td></td> <td></td> <td>76</td> </tr> <tr> <td></td> <td></td> <td></td> <td>16</td> </tr> </table>						Design Temperature Difference					T _{in} °C	T _{out} °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	22	31	9				ΔT °F				76				16
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				6.2.6 Sensible Gain due to Air Leakage																																																																	
$HL_{airb} = LR_{airb} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$				$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																	
0.322 x 270.72 x 42 °C x 1.2 = 4417 W				= 0.098 x 270.72 x 9 °C x 1.2 = 283 W																																																																	
= 15070 Btu/h				= 966 Btu/h																																																																	
				6.2.7 Sensible heat Gain due to Ventilation																																																																	
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$				$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																	
95 CFM x 76 °F x 1.08 x 0.34 = 2651 Btu/h				95 CFM x 16 °F x 1.08 x 0.34 = 558 Btu/h																																																																	
				5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																	
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{aglevel} + HL_{bglevel})\}$																																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="4">15,070</td> <td>11,482</td> <td>0.656</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>10,602</td> <td>0.426</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>11,686</td> <td>0.258</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></td> <td>0</td> <td>0.000</td> </tr> </table>										Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	15,070	11,482	0.656	2	0.3	10,602	0.426	3	0.2	11,686	0.258	4	0	0	0.000	5	0		0	0.000																																	
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																																	
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4	0		0	0.000																																																																	
5	0		0	0.000																																																																	
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																																					

TYPE: 38-3
SITE NAME: KLEINBURG GLEN

LO # 67008

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>180.2</u> cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
More than 5 - Part 6	TOTAL	<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>180.2</u>	cfm
Less Principal Ventil. Capacity	<u>95</u>	cfm
Required Supplemental Capacity	<u>85.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 50H	Location: BSMT
<u>95.0</u> cfm	<u>3.0</u> sones
☒ HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM		ΔT °F	FACTOR		% LOSS
95.0 CFM	X	76 F	X	1.08	X 0.34

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
BATH	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 50H		
<u>95</u>	cfm high	<u>48</u> cfm low
<u>66</u>	% 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:	
HRAI #	001820
Date:	September-16

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 38-3	BUILDER: GOLD PARK HOMES
SFQT: 2575	LO# 67008
	SITE: KLEINBURG GLEN

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

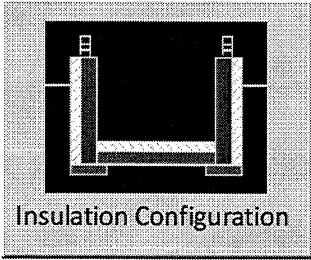
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	WEST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	34417.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.35	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 52.0 ft	WIDTH: 29.0 ft	EXPOSED PERIMETER:	162.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package
	J
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	22
Basement Walls Minimum RSI (R)-Value	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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	1.8
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	0.94
HRV Minimum Efficiency	60%
Domestic Hot Water Heater Minimum EF	0.67

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):	15.8	 Insulation Configuration
Floor Width (m):	8.8	
Exposed Perimeter (m):	0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	3.3	
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):	1934	

49.2

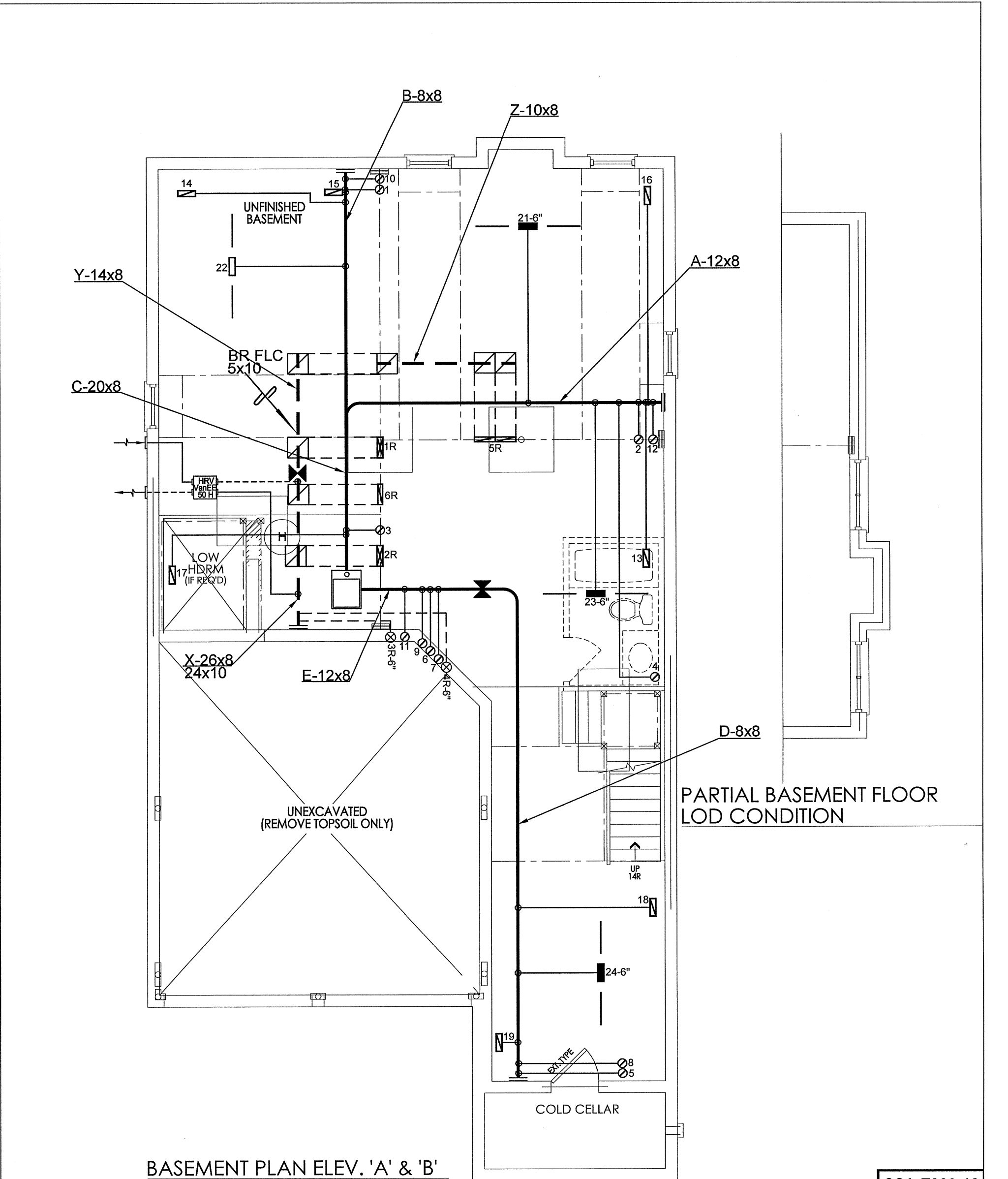
2.6 129.54

130.94

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):	6.71			
Building Configuration				
Type:	Detached ▼			
Number of Stories:	Two ▼			
Foundation:	Full ▼			
House Volume (m ³):	974.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57) ▼			
Custom BDT Data:	ELA @ 10 Pa. ▼ 716.42 cm ² 3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	0		0	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Change Rate (ACH/H):			0.322	
Cooling Air Change Rate (ACH/H):			0.098	



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

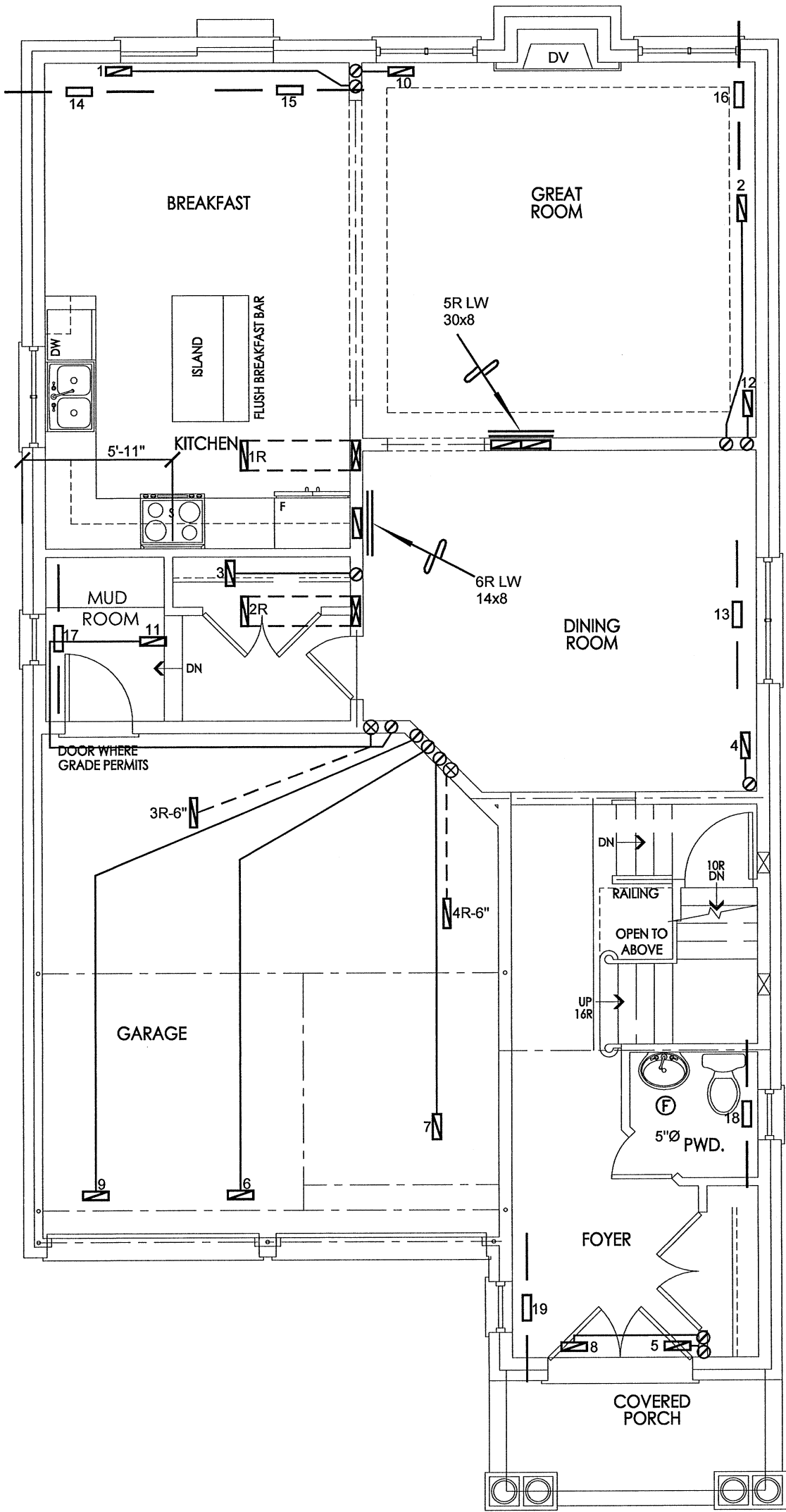
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE J

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.	Added Lookout Deck	SEPT/2016
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client		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 52333 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 KLEINBURG GLEN VAUGHAN, ONTARIO			MODEL EL195UH070XE36B-70	2ND FLOOR	12	4	3		
			INPUT 66 MBTU/H	1ST FLOOR	7	2	2		
			OUTPUT 63 MBTU/H	BASEMENT	4	1	0	Date	JAN/2016
		COOLING 3.0 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	3/16" = 1'-0"	
		FAN SPEED 1100 cfm @ 0.6" w.c.					BCIN# 19669		
38-3		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#	67008	
2575 sqft									



I MICHAEL O'ROURKE HAVE REVIEW 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.

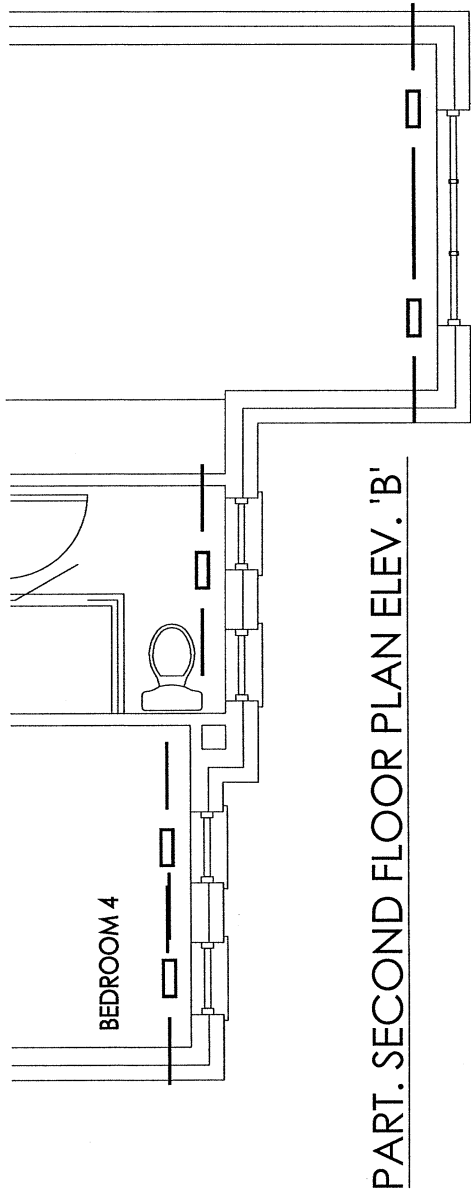
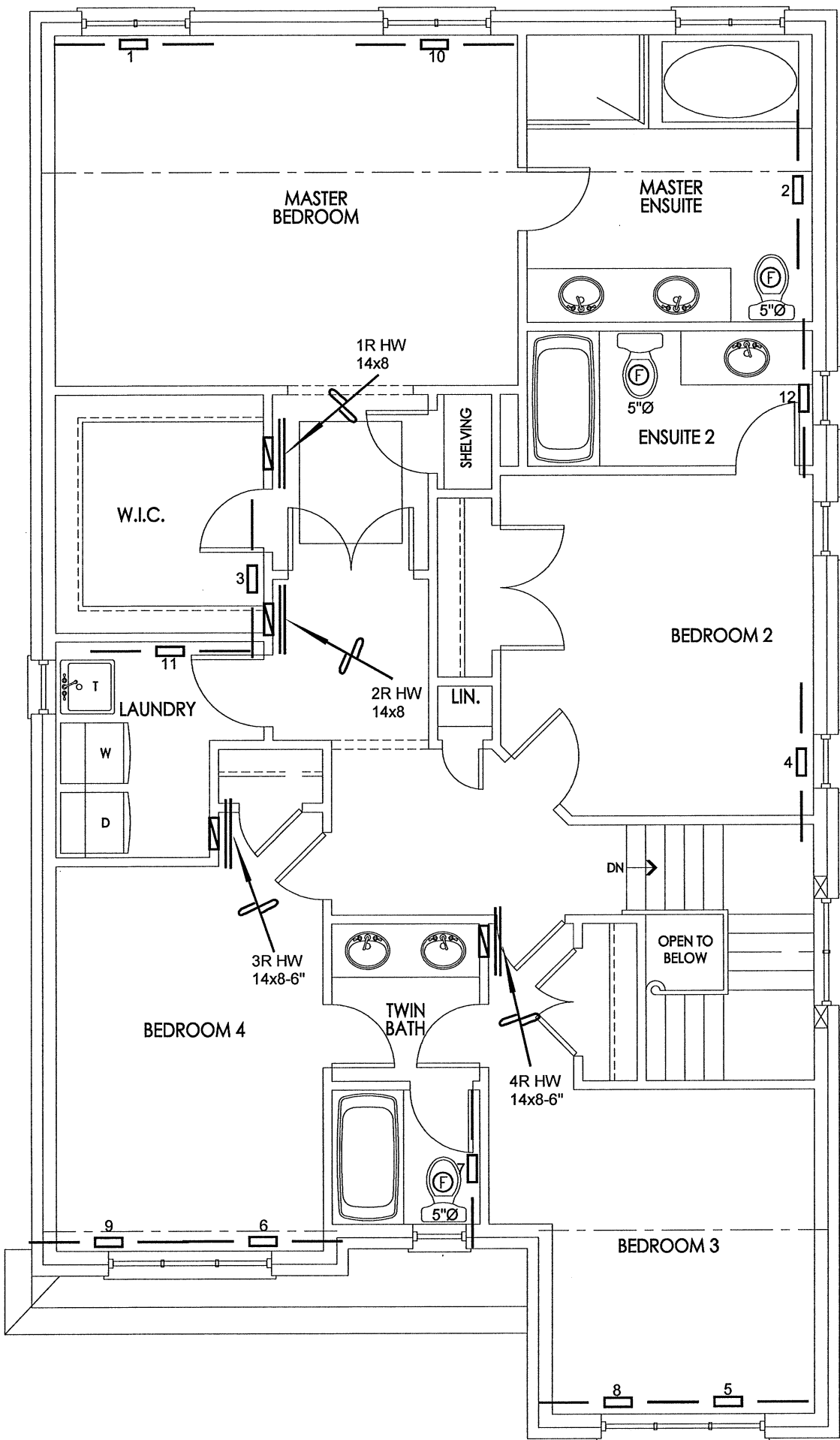
CSA-F280-12

PACKAGE J

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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	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
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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/2016
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
38-3			BCIN# 19669	
2575 sqft			LO#	67008



PART. SECOND FLOOR PLAN ELEV. 'B'

SECOND FLOOR PLAN ELEV. 'A'

CSA-F280-12
PACKAGE J

I MICHAEL O'ROURKE HAVE REVIEW
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.

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Project Name			SECOND FLOOR HEATING LAYOUT	
38-3			Date	JAN/2016
2575 sqft		Scale	3/16" = 1'-0"	
		BCIN# 19669		
		LO#	67008	