


## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project Information</b>			
Building number, street name		Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description	
<b>B. Individual who reviews and takes responsibility for design activities</b>			
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@hvacdsgns.ca</b>
Telephone number <b>(905) 619-2300</b>	Fax number <b>(905) 619-2375</b>	Cell number ( )	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]</b>			
<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 <b>HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12</b>		<b>Model:</b> 3103  CNR - OPT 4-BED  <b>Project:</b> PINE VALLEY DRIVE	
<b>D. Declaration of Designer</b>			
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.			
May 4, 2021 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 DRIVE BUILDER: GOLD PARK HOMES										CNR - OPT 4-BED TYPE: 3103		DATE: May-21 LO# 90633		WINTER NATURAL AIR CHANGE RATE 0.352 SUMMER NATURAL AIR CHANGE RATE 0.115		HEAT LOSS AT °F. 76 HEAT GAIN AT °F. 13		CSA-F280-12 SB-12 PACKAGE A1	
ROOM USE		BED-4		ENS		BED-2		BED-3		MBR		ENS-4		LAUN		BATH		B-BTH	
EXP. WALL CLG. HT.		25 9		6 9		17 9		38 9		12 9		12 9		0 9		6 9		18 9	
GRS.WALL AREA		225		54		153		342		108		108		0		54		108	
GLAZING		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS	
NORTH		21.3		14.9		0		0		0		0		0		0		0	
EAST		21.3		38.4		0		0		0		0		0		19		404	
SOUTH		21.3		23.1		0		0		0		24		511		0		0	
WEST		21.3		38.4		16		340		614		13		277		499		0	
SKYLT.		37.2		101.5		0		0		0		0		0		0		0	
DOORS		25.2		4.3		0		0		0		0		0		0		0	
NET EXPOSED WALL		4.5		0.8		209		933		157		41		183		31		0	
NET EXPOSED BSMT WALL ABOVE GR		3.6		0.6		0		0		0		0		0		0		0	
EXPOSED CLG		1.3		0.6		156		200		92		102		131		60		0	
NO ATTIC EXPOSED CLG		2.7		1.3		0		0		0		0		0		0		0	
EXPOSED FLOOR		2.6		0.4		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		1473		863		591		590		590		590		590		590		590	
SUB TOTAL HT GAIN		0.20		0.26		0.20		0.26		0.20		0.26		0.20		0.26		0.20	
LEVEL FACTOR / MULTIPLIER		389		56		156		38		38		38		38		38		38	
AIR CHANGE HEAT LOSS		0		0		0		0		0		0		0		0		0	
AIR CHANGE HEAT GAIN		0		0		0		0		0		0		0		0		0	
DUCT LOSS		0		0		0		0		0		0		0		0		0	
DUCT GAIN		0		0		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE		240		240		0		0		0		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		682		682		0		0		0		0		0		0		0	
TOTAL HT LOSS BTU/H		1863		746		746		0		0		0		0		0		0	
TOTAL HT GAIN x 1.3 BTU/H		2393		817		817		817		817		817		817		817		817	

ROOM USE	FACTORS		KID/G		PWD		FOY										BAS	
EXP. WALL CLG. HT.	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN									116 9	
GRS.WALL AREA	GLAZING	1023			91	455											696	
	NORTH	21.3	14.9	0	0	0	0	0	0							LOSS		
	EAST	21.3	38.4	0	0	0	0	21	447							GAIN		
	SOUTH	21.3	23.1	46	979	10	213	231	0							0		
	WEST	21.3	38.4	99	2107	0	0	0	0							0		
	SKYLT.	37.2	101.5	0	0	0	0	0	0							0		
	DOORS	25.2	4.3	0	0	0	0	0	0							8		
	NET EXPOSED WALL	4.5	0.8	878	3918	81	361	61	390	1740							307	
	NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0							0	
	EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0							0	
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0							0		
EXPOSED FLOOR	2.6	0.4	0	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			7004	5524	574	292	3298	1286									3829	
SUB TOTAL HT GAIN																	5757	
LEVEL FACTOR / MULTIPLIER			0.30	0.41	0.30	0.41	0.30	0.41									603	
AIR CHANGE HEAT LOSS			2852		234		1343										0.50	
AIR CHANGE HEAT GAIN																	1.13	
DUCT LOSS			0		0		84										6492	
DUCT GAIN																	39	
HEAT GAIN PEOPLE	240																0	
HEAT GAIN APPLIANCES/LIGHTS			0		0												0	
TOTAL HT LOSS BTU/H			9856	682	808	0	4641	0									562	
TOTAL HT GAIN x 1.3 BTU/H			8524		404		1781										12248	
																	1721	

SITE NAME: PINE VALLEY DRIVE  
BUILDER: GOLD PARK HOMES

CNR - OPT 4-BED

DATE: May-21

GFA: 2263 LO# 90833

HEATING CFM 985 COOLING CFM 985  
TOTAL HEAT LOSS 43,820 TOTAL HEAT GAIN 30,457  
AIR FLOW RATE CFM 22.48 AIR FLOW RATE CFM 32.34ML196UH070XE36B \$LENNOX  
FAN SPEED 70

AFUE = 96 %

INPUT (BTU/H) = 66,000

OUTPUT (BTU/H) = 63,900

DESIGN CFM = 985

CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	5
R/A	0	0	4	1	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	20	21	22	23	24
ROOM NAME	BED-4	MBR	BED-3	BED-2	BED-3	BED-3	LAUN	ENS-4	MBR	ENS	BATH	K/D/G	K/D/G	K/D/G	K/D/G	K/D/G	K/D/G	PWD	FOY	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.86	0.81	1.37	1.37	1.97	1.97	1.11	1.37	0.81	0.75	1.20	2.46	2.46	2.46	2.46	2.46	2.46	0.81	2.32	2.32	3.06	3.06	3.06	3.06
CFM PER RUN HEAT	42	18	31	31	44	44	25	31	18	17	27	55	55	55	55	55	55	18	52	52	69	69	69	69
RM GAIN MBH	2.39	1.73	1.84	1.84	2.52	2.52	0.32	0.98	1.73	0.82	1.27	2.13	2.13	2.13	2.13	2.13	2.13	0.40	0.89	0.89	0.43	0.43	0.43	0.43
CFM PER RUN COOLING	77	56	60	60	82	82	10	32	56	26	41	69	69	69	69	69	69	13	29	29	14	14	14	14
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	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
ACTUAL DUCT LGH.	48	54	61	55	59	53	42	36	46	38	50	18	26	37	42	42	42	36	35	28	26	49	35	41
EQUIVALENT LENGTH	150	130	140	120	150	150	160	160	130	150	160	110	140	160	130	130	130	130	140	150	120	140	150	120
TOTAL EFFECTIVE LENGTH	198	184	201	175	209	203	202	196	176	188	210	128	166	197	172	172	172	166	175	178	146	189	185	161
ADJUSTED PRESSURE	0.09	0.09	0.09	0.1	0.08	0.08	0.09	0.09	0.1	0.09	0.08	0.13	0.1	0.09	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.09	0.09	0.11
ROUND DUCT SIZE	6	5	5	5	6	6	4	4	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5
HEATING VELOCITY (f/min)	214	132	228	228	224	224	287	356	132	195	198	404	404	404	404	404	404	207	382	382	507	507	507	507
COOLING VELOCITY (f/min)	393	411	441	441	418	418	115	367	411	298	301	507	507	507	507	507	507	149	213	213	103	103	103	103
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	B	A	A	B	C	C	A	B	B	B	B	D	B	A	A	A	A	C	C	C	D	A	A	C

RUN # 25

ROOM NAME B-BTH

RM LOSS MBH 1.68

CFM PER RUN HEAT 38

RM GAIN MBH 0.05

CFM PER RUN COOLING 1

ADJUSTED PRESSURE 0.17

ACTUAL DUCT LGH. 16

EQUIVALENT LENGTH 100

TOTAL EFFECTIVE LENGTH 116

ADJUSTED PRESSURE 0.15

ROUND DUCT SIZE 4

HEATING VELOCITY (f/min) 436

COOLING VELOCITY (f/min) 11

OUTLET GRILL SIZE 3X10

TRUNK D

## SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (f/min)
TRUNK A	322	0.09	8.9	10	580	TRUNK G	0	0.00	0	0	0
TRUNK B	543	0.08	11.2	16	611	TRUNK H	0	0.00	0	0	0
TRUNK C	279	0.08	8.7	10	502	TRUNK I	0	0.00	0	0	0
TRUNK D	984	0.08	13.9	22	805	TRUNK J	0	0.00	0	0	0
TRUNK E	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0

## 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
0	0	0	0	2@8"	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	190	85	75	412	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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
44	42	55	57	42	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
245	165	195	250	185	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
289	207	250	307	227	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
0.05	0.07	0.06	0.05	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
6	7.8	6	6	10.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
14	24	14	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

TYPE: 3103  
SITE NAME: PINE VALLEY DRIVE

LO # 90633  
CNR - OPT 4-BED

**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	2 @ 10.6 cfm	21.2 cfm
Table 9.32.3.A.	TOTAL	159.0 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	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	159	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	79.5	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE V150H
Location:	BSMT
79.5 cfm	<input checked="" type="checkbox"/> HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T$ °F	FACTOR	% LOSS
79.5 CFM	X 76 F	X 1.08	X 0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
BATH	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
PWD	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE V150H	
150 cfm high	35 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:	May-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																			
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																			
LO#: 90633	Model: 3103	Builder: GOLD PARK HOMES	Date: 5/4/2021																																																
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>Bsmt</td> <td>923</td> <td>9</td> <td>8307</td> </tr> <tr> <td>First</td> <td>923</td> <td>11</td> <td>10153</td> </tr> <tr> <td>Second</td> <td>1374</td> <td>9</td> <td>12366</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>30,826.0 ft³</td> </tr> <tr> <td>Total:</td> <td></td> <td></td> <td>872.9 m³</td> </tr> </table>		House Volume	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	923	9	8307	First	923	11	10153	Second	1374	9	12366	Third	0	9	0	Fourth	0	9	0	Total:			30,826.0 ft³	Total:			872.9 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="4">WINTER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td></td> <td></td> <td>0.352</td> </tr> <tr> <th colspan="4">SUMMER NATURAL AIR CHANGE RATE</th> </tr> <tr> <td></td> <td></td> <td></td> <td>0.115</td> </tr> </table>		WINTER NATURAL AIR CHANGE RATE							0.352	SUMMER NATURAL AIR CHANGE RATE							0.115
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Winter DTDh	22	-20	42	76																																															
Summer DTDc	24	31	7	13																																															
6.2.6 Sensible Gain due to Air Leakage																																																			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$		$= 0.115 \times 242.47 \times 7 \times 1.2 = 237 \text{ W}$																																																	
		$= 14762 \text{ Btu/h}$																																																	
6.2.7 Sensible heat Gain due to Ventilation																																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$		$80 \text{ CFM} \times 13 \text{ °F} \times 1.08 \times 0.25 = 275 \text{ Btu/h}$																																																	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																			
$HL_{airr} = Level \text{ Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL<sub>clevel</sub>)</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">14,762</td> <td>6,545</td> <td>1.128</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>10,876</td> <td>0.407</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>11,178</td> <td>0.264</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 <sub>clevel</sub> )	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	14,762	6,545	1.128	2	0.3	10,876	0.407	3	0.2	11,178	0.264	4	0	0	0.000	5	0		0	0.000																					
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5	0		0	0.000																																															
<p>*HLairbv = Air leakage heat loss + ventilation heat loss            *For a balanced or supply only ventilation system HLairve = 0</p>																																																			

**HEAT LOSS AND GAIN SUMMARY SHEET**

<b>MODEL:</b> 3103	<b>CNR - OPT 4-BED</b>	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 2263	<b>LO#</b> 90633	<b>SITE:</b> PINE VALLEY DRIVE

**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75

**BUILDING DATA**

ATTACHMENT:	ATTACHED	# 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> ):	30826.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft <sup>2</sup> ):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 43.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	134.0 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	96%	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

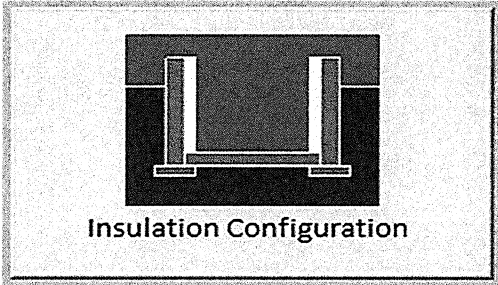
INDIVIDUAL BCIN: 19669

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):	13.1	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	40.8	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m <sup>2</sup> ):	0.7	
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):		1296

TYPE: 3103  
LO# 90633

CNR - OPT 4-BED

# Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

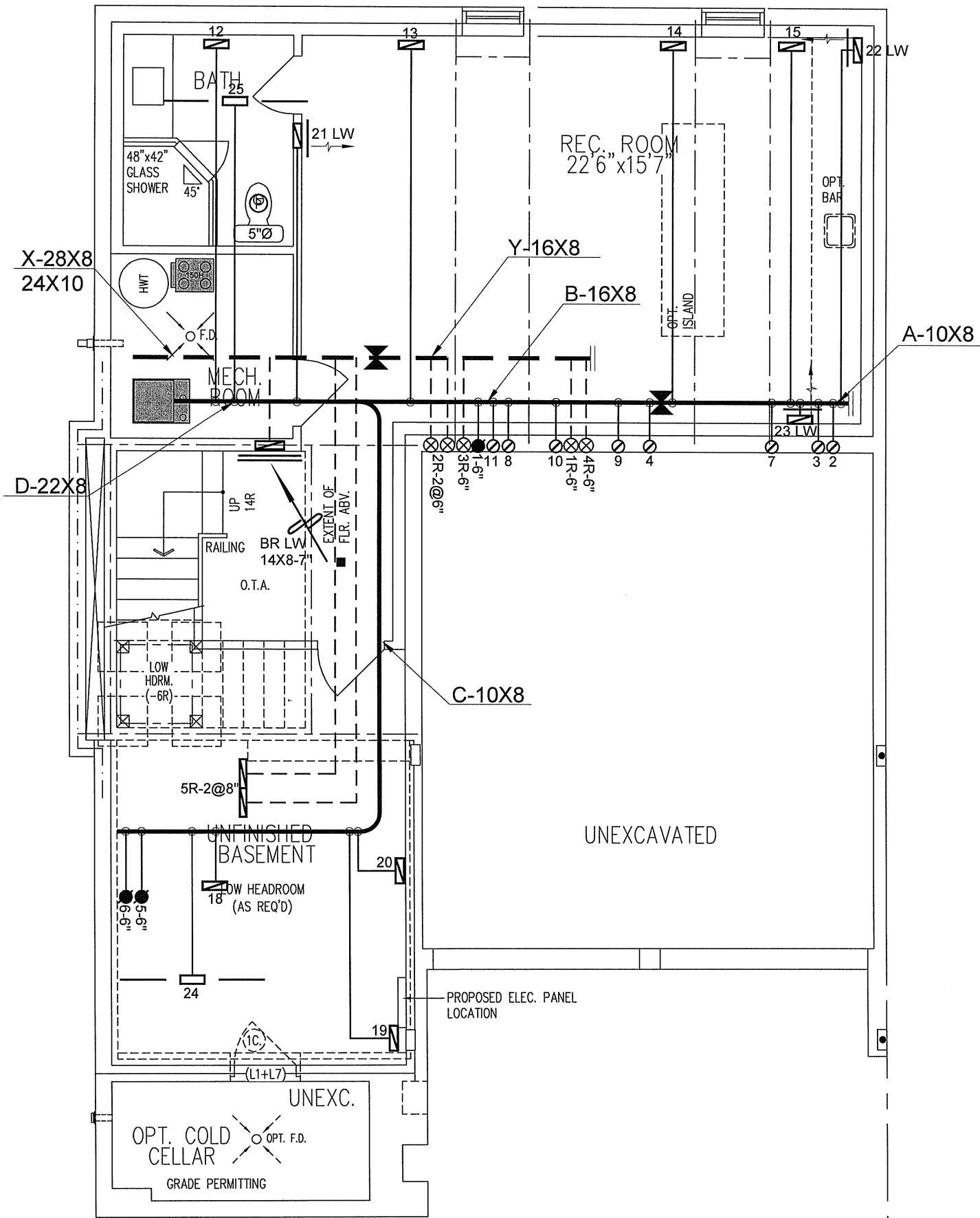
Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	7.01			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m <sup>3</sup> ):	872.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1163.6 cm <sup>2</sup>		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.352			
Cooling Air Leakage Rate (ACH/H):	0.115			

TYPE: 3103  
LO# 90633

CNR - OPT 4-BED



UNEXCAVATED



BASEMENT PLAN, ELEV. 'B'

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.5 OF THE BUILDING CODE.

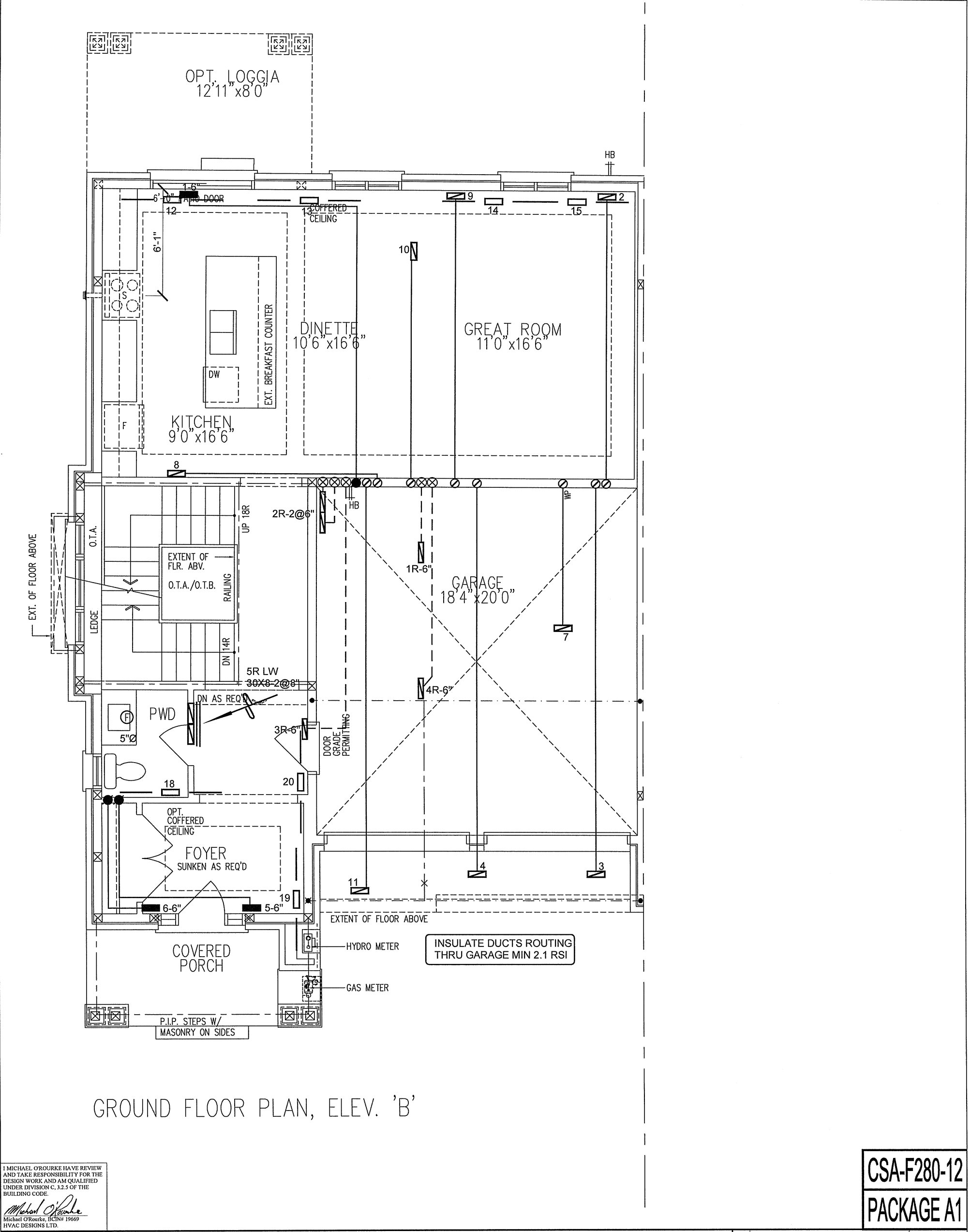
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

CSA-F280-12  
PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	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>HVACDESIGNS LTD.</div><div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: 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></div>	HEAT LOSS 45451 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 DRIVE VAUGHAN, ONTARIO			MODEL ML196UH070XE36B		2ND FLOOR	11	4	4	
			INPUT 66 MBTU/H		1ST FLOOR	7	1	2	
			OUTPUT 63.9 MBTU/H		BASEMENT	5	1	1	Date APR/2021
		COOLING 2.5 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"	
OPT 4-BED 3103 - CNR			FAN SPEED 985 cfm @ 0.6" w.c.					BCIN# 19669	
2263 sqft								LO#	90633



GROUND FLOOR PLAN, ELEV. 'B'

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.

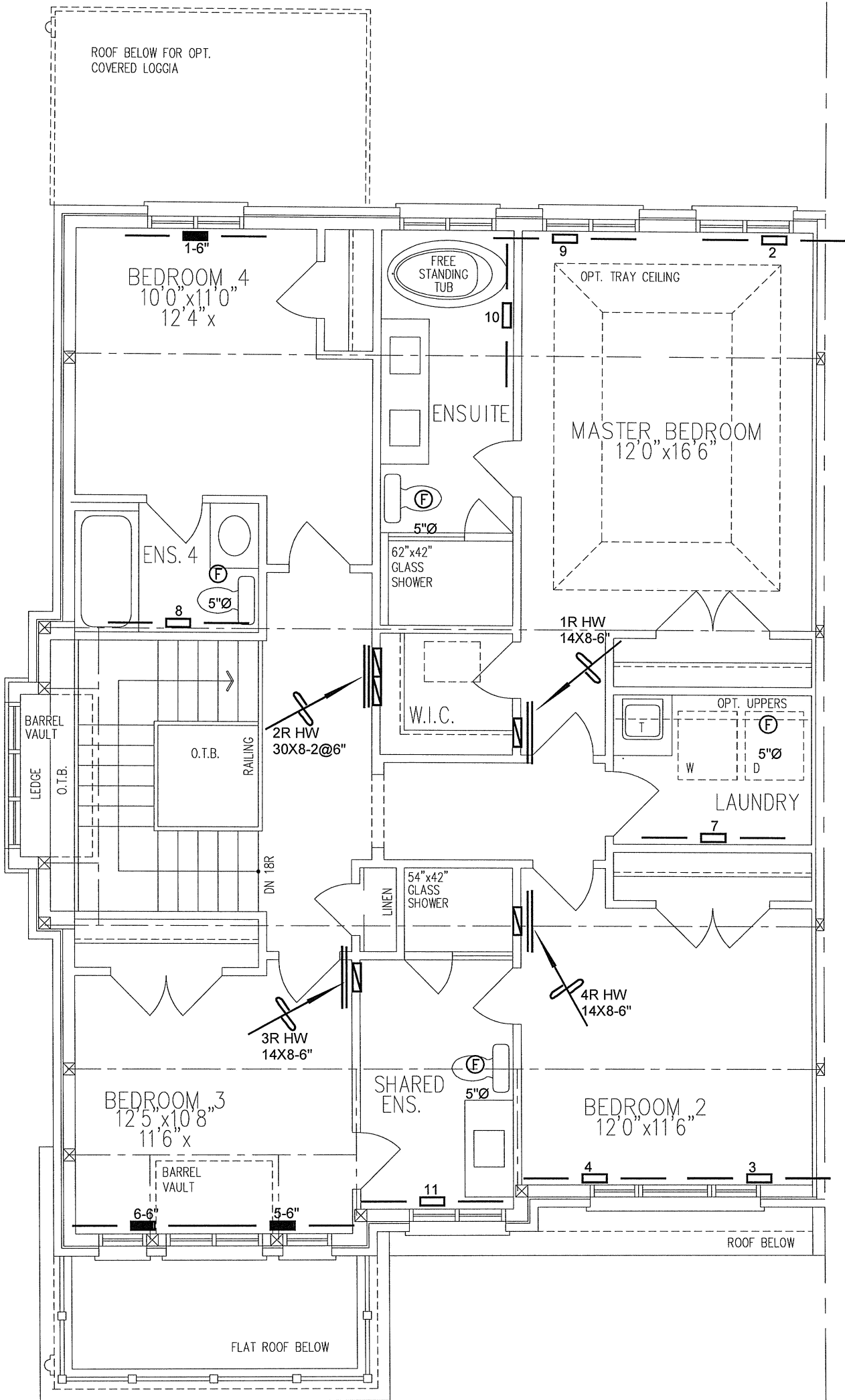
CSA-F280-12

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	APR/2021
PINE VALLEY DRIVE VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
OPT 4-BED 3103 - CNR			BCIN# 19669	
2263 sqft			LO#	90633



OPT. 4-BEDROOM FLOOR PLAN, ELEV. 'B'  
(ELEV. 'B' SIMILAR)

4-BEDROOM  
IS STANDARD

I MICHAEL O'ROURKE HAVE REVIEW  
AND TAKE RESPONSIBILITY FOR THE  
DESIGN WORK AND AM QUALIFIED  
UNDER DIVISION C.32.5 OF THE  
BUILDING CODE.  
*Michael O'Rourke*  
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

CSA-F280-12  
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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	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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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	APR/2021
PINE VALLEY DRIVE VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
OPT 4-BED 3103 - CNR			BCIN# 19669	
2263 sqft			LO#	90633