

Schedule 1: Designer Information

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

A. Project Information				
Building number, street name			Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design activities				
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.		
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca	
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()		
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]				
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5003 - THE OAKGROVE LOT 91 Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):		
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____				
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____				
I certify that:				
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.				
April 30, 2019				
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										DATE: Apr-19		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F. 76		HEAT GAIN AT °F. 16		CSA-F280-12	
BUILDER: GOLD PARK HOMES										LOH 82130		SUMMER NATURAL AIR CHANGE RATE		0.124		SB-12 PACKAGE A1			
TYPE: 5003 - THE OAKGROVE										GFA: 3854		LOUNGE		LAUN		ENS-2		BED-4	
LOT 91										BED-3		BATH		DEN		BED-2		WIC	
ROOM USE										ENS		MBR		GRS.WALL AREA		GLAZING		FACTORS	
EXP. WALL										LOSS		LOSS		LOSS		LOSS		LOSS	
CLG. HT.										GAIN		GAIN		GAIN		GAIN		GAIN	
NORTH										21.3		21.3		21.3		21.3		21.3	
EAST										21.3		21.3		21.3		21.3		21.3	
SOUTH										21.3		21.3		21.3		21.3		21.3	
WEST										21.3		21.3		21.3		21.3		21.3	
SKYLT.										37.2		37.2		37.2		37.2		37.2	
DOORS										25.2		25.2		25.2		25.2		25.2	
NET EXPOSED WALL										4.5		4.5		4.5		4.5		4.5	
DOORS										3.6		3.6		3.6		3.6		3.6	
NET EXPOSED BSMT WALL ABOVE GR										25.2		25.2		25.2		25.2		25.2	
EXPOSED CLG										1.3		1.3		1.3		1.3		1.3	
NO ATTIC EXPOSED CLG										2.7		2.7		2.7		2.7		2.7	
EXPOSED FLOOR										2.6		2.6		2.6		2.6		2.6	
BASEMENT/CRAWL HEAT LOSS										0		0		0		0		0	
SLAB ON GRADE HEAT LOSS										0		0		0		0		0	
SUBTOTAL HT LOSS										2763		2763		2763		2763		2763	
SUB TOTAL HT GAIN										2340		2340		2340		2340		2340	
LEVEL FACTOR / MULTIPLIER										0.20		0.20		0.20		0.20		0.20	
AIR CHANGE HEAT LOSS										872		872		872		872		872	
AIR CHANGE HEAT GAIN										199		199		199		199		199	
DUCT LOSS										0		0		0		0		0	
DUCT GAIN										0		0		0		0		0	
HEAT GAIN PEOPLE										240		240		240		240		240	
HEAT GAIN APPLIANCES/LIGHTS										703		703		703		703		703	
TOTAL HT LOSS BTU/H										3635		3635		3635		3635		3635	
TOTAL HT GAIN x 1.3 BTU/H										4838		4838		4838		4838		4838	

Michael O'Rourke

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

TYPE: 5003 - THE OAKGROVE

DATE: Apr-19

GFA: 3854

LO# 82130

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 69,524 TOTAL HEAT GAIN 56,010
AIR FLOW RATE CFM 28.12 AIR FLOW RATE CFM 34.9

ALLENNOX
EL298UH110XE60C 110
FAN SPEED
LOW 0
MEDIUM 1380
HIGH 1505
DESIGN CFM = 1955
CFM @ .8" E.S.P. = 1955

AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000

ROOM COUNT	4th	3rd	2nd	1st	Bas
SIA	0	0	16	10	7
R/A	0	0	5	3	1

All SIA diffusers 4"x10" unless noted otherwise on layout.

All SIA runs 5/2 unless noted otherwise on layout.

ROOM #	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	LOUNGE	WIC	BED-2	BED-3	BED-4	BATH	DEN	LAUN	MBR	ENS-2	DIN	LIV	KT/GT	KT/GT	KT/GT	KT/GT	KT/GT	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.82	1.89	0.98	1.37	1.15	1.43	1.68	2.35	0.91	1.82	0.91	1.78	1.77	2.61	2.61	2.61	2.61	2.61	3.24	3.24	3.31	3.31	3.31	3.31
CFM PER RUN HEAT	51	53	27	39	32	40	47	66	25	51	25	50	50	73	73	73	73	73	91	91	93	93	93	93
RM GAIN MBH	2.42	2.22	0.32	1.97	1.85	2.08	2.18	3.06	1.36	2.42	0.45	2.05	2.01	3.10	3.10	3.10	3.10	3.10	1.72	1.72	0.49	0.49	0.49	0.49
CFM PER RUN COOLING	84	77	11	69	65	73	76	106	48	84	16	72	70	108	108	108	108	108	60	60	17	17	17	17
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.16	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	48	26	36	48	45	54	42	63	45	41	49	26	39	36	27	31	38	45	35	40	30	22	42	41
TOTAL EFFECTIVE LENGTH	233	231	156	213	185	249	192	213	175	226	219	116	149	146	137	201	198	155	155	190	140	172	172	161
ADJUSTED PRESSURE	0.07	0.07	0.11	0.08	0.09	0.07	0.09	0.08	0.1	0.07	0.08	0.15	0.12	0.1	0.11	0.08	0.1	0.09	0.12	0.09	0.12	0.09	0.09	0.1
ROUND DUCT SIZE	6	6	4	5	6	5	5	6	4	6	4	5	5	6	6	6	6	6	5	6	5	6	6	5
HEATING VELOCITY (ft/min)	260	270	310	286	294	345	345	337	287	260	287	367	367	372	372	372	372	372	668	484	683	474	474	683
COOLING VELOCITY (ft/min)	428	393	126	507	331	536	558	540	551	428	184	529	514	551	551	551	551	551	441	306	125	87	87	125
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10
TRUNK	A	25	26	27	28	29	30	31	32	33	LIV	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS

ROOM #	25	26	27	28	29	30	31	32	33
ROOM NAME	BAS	BAS	BAS	ENS	BED-3	BED-3	BED-4	LIV	ENS
RM LOSS MBH	3.31	3.31	3.31	0.75	1.15	1.15	1.43	1.77	0.75
CFM PER RUN HEAT	93	93	93	21	32	32	40	50	21
RM GAIN MBH	0.49	0.49	0.49	0.73	1.85	1.85	2.08	2.01	0.73
CFM PER RUN COOLING	17	17	17	25	65	65	73	70	25
ADJUSTED PRESSURE	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	21	23	36	38	52	56	43	34	37
TOTAL EFFECTIVE LENGTH	201	123	166	198	197	211	233	134	232
ADJUSTED PRESSURE	0.08	0.13	0.1	0.09	0.09	0.08	0.07	0.13	0.07
ROUND DUCT SIZE	6	5	5	5	6	6	5	5	4
HEATING VELOCITY (ft/min)	474	683	683	241	163	163	294	367	241
COOLING VELOCITY (ft/min)	87	125	125	287	331	331	536	514	287
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10
TRUNK	E	E	D	F	E	E	D	D	F

SUPPLY AIR TRUNK SIZE										RETURN 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)	TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)		
TRUNK A	434	0.07	10.6	14	8	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	8		
TRUNK B	654	0.07	12.4	18	8	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.06	0	0	8		
TRUNK C	1115	0.07	15.1	26	8	TRUNK I	0	0.00	0	0	8	TRUNK Q	0	0.06	0	0	8		
TRUNK D	411	0.07	10.4	12	8	TRUNK J	0	0.00	0	0	8	TRUNK R	0	0.06	0	0	8		
TRUNK E	835	0.07	13.6	22	8	TRUNK K	0	0.00	0	0	8	TRUNK S	0	0.06	0	0	8		
TRUNK F	392	0.07	10.2	12	8	TRUNK L	0	0.00	0	0	8	TRUNK T	0	0.06	0	0	8		

TYPE: 5003 - THE OAKGROVE
SITE NAME: PINE VALLEY & TESTON

LO # 82130
LOT 91

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	8 @ 10.6 cfm	84.8 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		79.5 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 ☒ HVI Approved

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

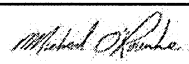
SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
PWD	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GOLD PARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	
HRAI #	001820
Date:	April-19

CSA F280-12 Residential Heat Loss and Heat Gain Calculations Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																			
LO#: 82130			Model: 5003 - THE OAKGROVE			Builder: GOLD PARK HOMES			Date: 4/30/2019																																																										
Air Change & Delta T Data																																																																			
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> <tr> <td>Bsmt</td> <td>1750</td> <td>10</td> <td>17500</td> </tr> <tr> <td>First</td> <td>1750</td> <td>11</td> <td>19250</td> </tr> <tr> <td>Second</td> <td>2125</td> <td>9</td> <td>19125</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 colspan="2">Total:</td> <td></td> <td>55,875.0 ft³</td> </tr> <tr> <td colspan="2">Total:</td> <td></td> <td>1582.2 m³</td> </tr> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	1750	10	17500	First	1750	11	19250	Second	2125	9	19125	Third	0	9	0	Fourth	0	9	0	Total:			55,875.0 ft³	Total:			1582.2 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">WINTER NATURAL AIR CHANGE RATE</td> <td>0.340</td> </tr> <tr> <td colspan="2">SUMMER NATURAL AIR CHANGE RATE</td> <td>0.124</td> </tr> </table>			WINTER NATURAL AIR CHANGE RATE		0.340	SUMMER NATURAL AIR CHANGE RATE		0.124	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4">Design Temperature Difference</th> </tr> <tr> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</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>16</td> </tr> </table>				Design Temperature Difference				Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	Summer DTDc	22	31	9				16
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Bsmt	1750	10	17500																																																																
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5.2.3.1 Heat Loss due to Air Leakage																																																																			
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$																																																																			
0.340			x	439.50	x	42 °C	x	1.2	=																																																										
									7572 W																																																										
									= 25837 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation																																																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																			
155 CFM			x	76 °F	x	1.08	x	0.25	=																																																										
									3181 Btu/h																																																										
									= 661 Btu/h																																																										
5.2.6 Sensible Gain due to Air Leakage																																																																			
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																			
			=	0.124	x	439.50	x	9 °C	x																																																										
									1.2																																																										
									= 574 W																																																										
									= 1959 Btu/h																																																										
5.2.7 Sensible heat Gain due to Ventilation																																																																			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																			
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																			
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																																			
Level			Level Factor (LF)		HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)		Level Conductive Heat Loss: (HL _{clevel})		Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																										
1			0.5		25,837		10,246		1.261																																																										
2			0.3				17,074		0.454																																																										
3			0.2				16,368		0.316																																																										
4			0				0		0.000																																																										
5			0				0		0.000																																																										

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5003 - THE OAKGROVE	LOT 91	BUILDER: GOLD PARK HOMES
SFQT: 3854	LO# 82130	SITE: PINE VALLEY & TESTON

DESIGN ASSUMPTIONS

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

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	55875.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 61.0 ft	WIDTH: 40.0 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	-

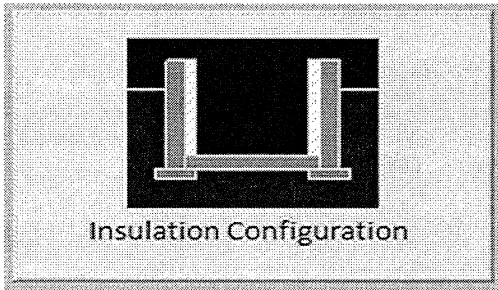
INDIVIDUAL BCIN: 19669

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):	18.6	 Insulation Configuration
Floor Width (m):	12.2	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
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):		2021

TYPE: 5003 - THE OAKGROVE
LO# 82130

LOT 91

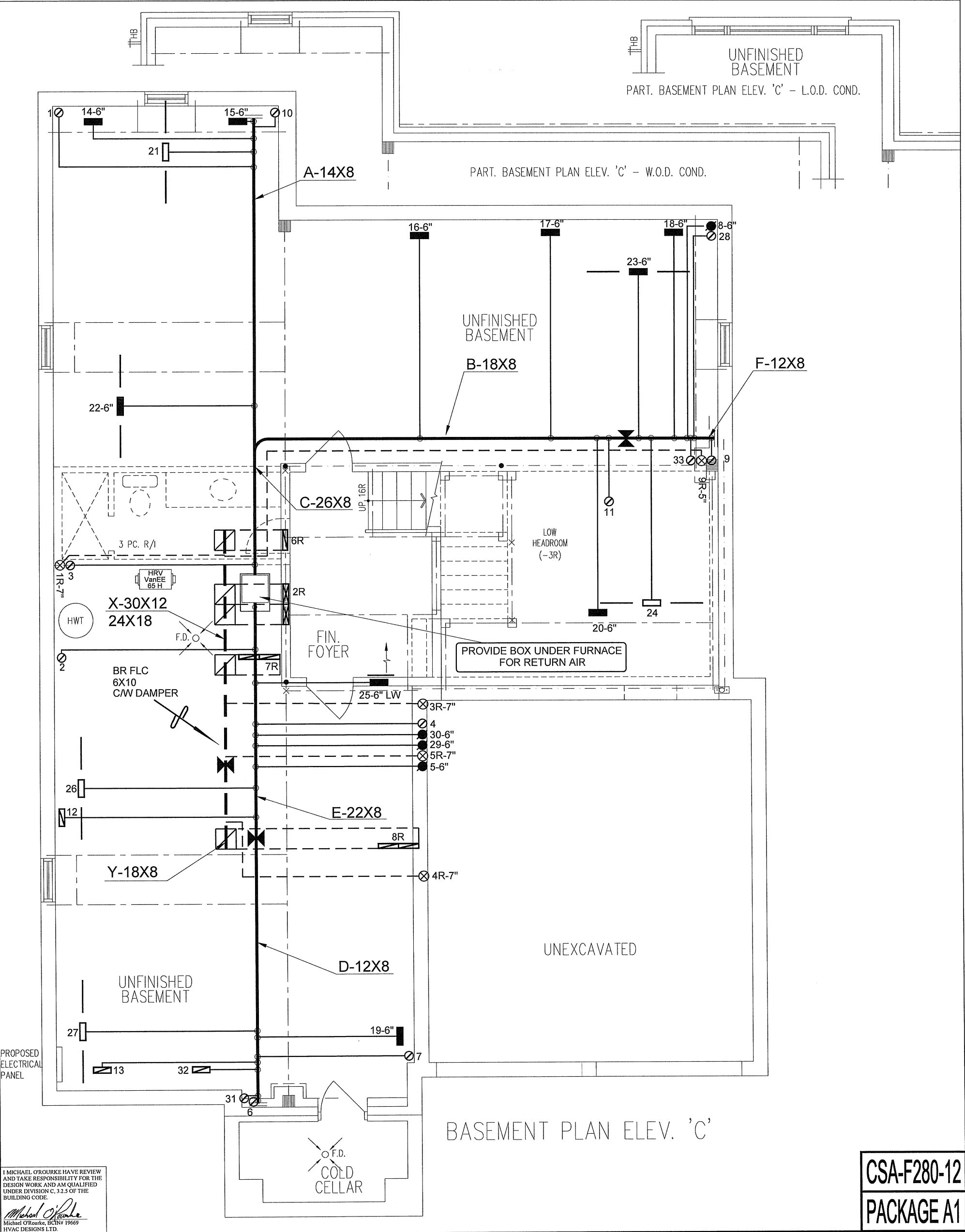
Air Infiltration Residential Load Calculator

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):	1582.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2109.1 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 5003 - THE OAKGROVE
LO# 82130

LOT 91



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.32.3 OF THE BUILDING CODE.

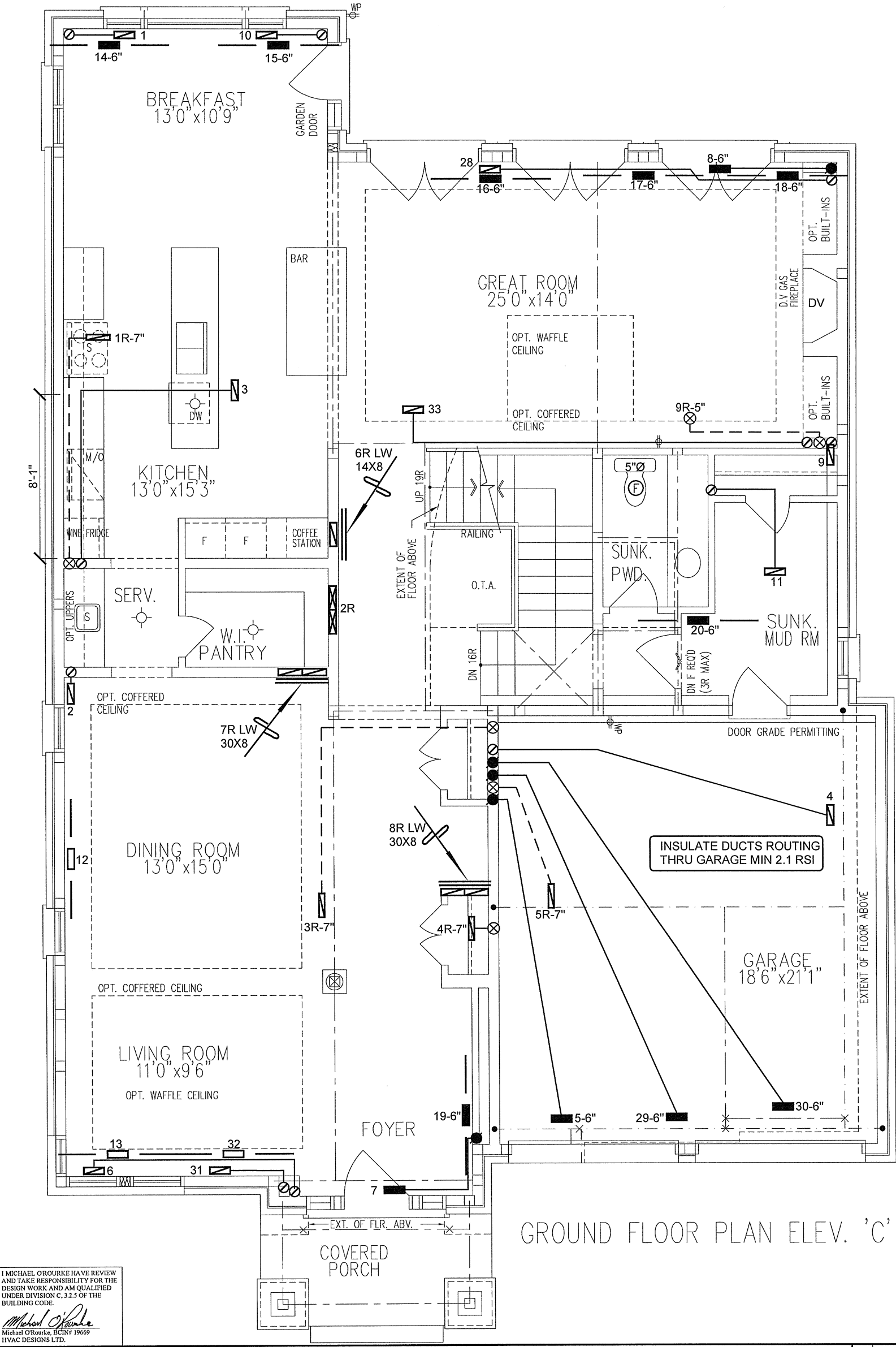
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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		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 72705 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT	
GOLD PARK HOMES				MAKE LENNOX	3RD FLOOR					
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO		MODEL EL296UH110XE60C	2ND FLOOR			16	5	4		
		INPUT 110 MBTU/H	1ST FLOOR			10	3	2		
THE OAKGROVE 5003 LOT 91 3854 sqft		OUTPUT 106 MBTU/H	BASEMENT			7	1	0	Date APRIL/2019	
		COOLING 5.0 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5'Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A							Scale 3/16" = 1'-0"
		FAN SPEED 1955 cfm @ 0.6" w.c.								BCIN# 19669
									LO#	82130



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.

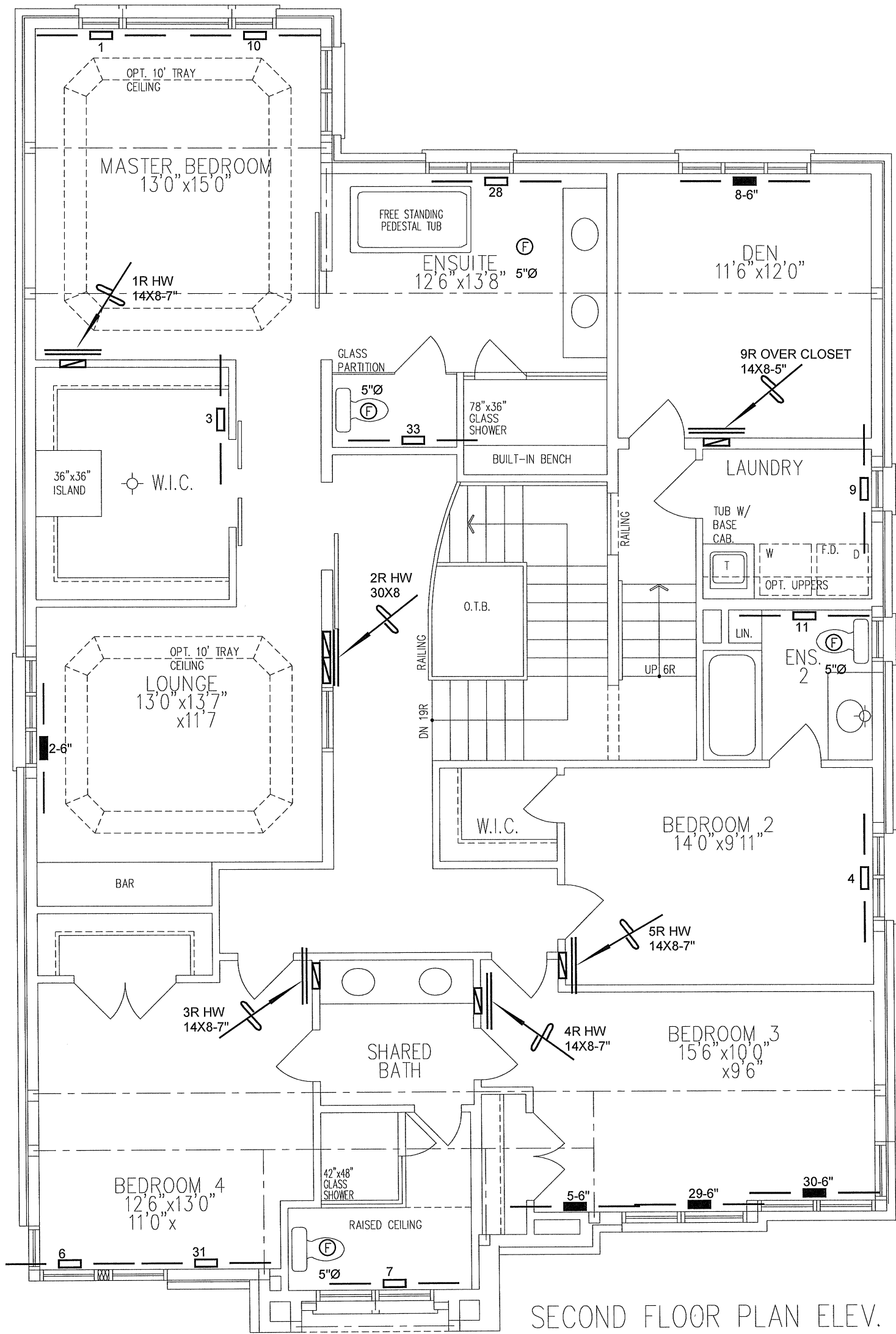
Michael O'Rourke
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CSA-F280-12
PACKAGE A1

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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 PINE VALLEY & TESTON VAUGHAN, ONTARIO			Date	APRIL/2019
			Scale	3/16" = 1'-0"
THE OAKGROVE 5003 LOT 91		BCIN# 19669		
3854 sqft		LO#	82130	



SECOND FLOOR PLAN ELEV. 'C'

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

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Project Name		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.	Date	APRIL/2019
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
THE OAKGROVE			BCIN# 19669	
5003 LOT 91	3854 sqft		LO#	82130