

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.
Municipality VAUGHAN (WOODBIDGE)			Postal code
Plan number/ other description			Lot/con.
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 OPT 5-BED 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: - The information contained in this schedule is true to the best of my knowledge. - I have submitted this application with the knowledge and consent of the firm.			
January 24, 2018 Date		 Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d). of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

SITE NAME: PINE VALLEY & TESTON BUILDER: GOLD PARK HOMES										DATE: Jan-18 LOW 77476		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-F280-12 SB-12 PACKAGE A1	
TYPE: 5003 - THE OAK GROVE										GFA: 3862		BATH-2		LAUN		BATH-2	
ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-5	LAUN	BATH-2	BATH-2	LAUN	BATH-2	BATH-2	BATH-2
GRS.WALL AREA	500		500	117	108	90	288	288	81	225	0	153	153	0	17	153	153
GLAZING	19	16.8	19	404	319	17	362	286	0	0	0	0	0	0	0	27	575
NORTH	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	454
EAST	21.3	25.7	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	0	0	0
WEST	21.3	42.4	61	1298	2586	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
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	420	1874	390	94	419	87	108	482	100	73	326	68	195	870	181
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
EXPOSED CLG	1.3	0.6	424	544	271	182	234	116	168	216	107	250	321	160	198	254	126
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
EXPOSED FLOOR	2.6	0.5	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
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	4121		3566	1143	795	603	3913	2431	1252	1469	282	1250	1250	140	20	0.29	647
SUB TOTAL HT GAIN			0.20	0.29	0.20	0.29	0.20	0.29	0.20	0.29	0.20	0.29	0.20	0.29	0.20	0.29	0.20
LEVEL FACTOR / MULTIPLIER			1180	327	200	413	1061	719	356	480	81	369	369	81	12	0	53
AIR CHANGE HEAT LOSS			295	66	0	50	323	201	0	163	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN			0	0	0	185	477	0	0	0	0	0	0	0	0	0	0
DUCT LOSS			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
HEAT GAIN PEOPLE	240		480	0	0	1	240	1	240	0	1	240	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS			770	0	0	770	770	770	770	770	770	770	770	770	770	770	770
TOTAL HT LOSS BTU/H	5301		1470	1119	897	2040	5244	3229	1610	2155	363	1659	1659	363	1198	1659	910
TOTAL HT GAIN x 1.3 BTU/H			6643			2378	7802	4734		3381							

TYPE: 5003 - THE OAK GROVE										GFA: 3862		BATH-2		LAUN		BATH-2	
ROOM USE	EXP. WALL	CLG. HT.	DIN	LIV	KTGT	FOY	MUD	BAS	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
GRS.WALL AREA	176		176	341	1034	330	372	1414	4	85	67	0	0	0	0	0	0
GLAZING	0	0	0	0	37	787	822	0	0	0	0	0	0	0	0	0	0
NORTH	21.3	16.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	42.4	0	0	48	1021	2035	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	25.7	26	553	689	17	362	438	24	511	618	0	0	0	0	0	0
WEST	21.3	42.4	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
DOORS	25.2	5.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	150	669	139	276	1232	256	775	3459	719	62	1565	325	20	605	105
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
EXPOSED CLG	1.3	0.6	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
EXPOSED FLOOR	2.6	0.5	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
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1223		808	2648	8970	2761	574	10011	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30
SUB TOTAL HT GAIN			0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30
LEVEL FACTOR / MULTIPLIER			534	1155	3914	1205	972	12987	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT LOSS			67	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS			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
HEAT GAIN PEOPLE	240		480	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLANCES/LIGHTS			770	0	0	770	770	770	770	770	770	770	770	770	770	770	770
TOTAL HT LOSS BTU/H	1756		1238	3803	12884	3966	808	22978	0	0	0	0	0	0	0	0	0
TOTAL HT GAIN x 1.3 BTU/H			2138	4854	15571		1809	2410									

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

OPT 5-BED

TYPE: 5003 - THE OAKGROVE

DATE: Jan-18

GFA: 3862 LO# 77476

HEATING CFM 1955 COOLING CFM 1955
TOTAL HEAT LOSS 72,554 TOTAL HEAT GAIN 58,536
AIR FLOW RATE CFM 26.95 AIR FLOW RATE CFM 33.4

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	17	10
R/A	0	0	5	3	1

plenum pressure s/a 0.18
max s/a diff press. loss 0.03
min adjusted pressure s/a 0.15

r/a grille press. loss 0.17
adjusted pressure r/a 0.15

DESIGN CFM = 1955
CFM @ 6" E.S.P. -

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	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-5	BATH-2	MBR	BATH-2	DIN	LIV	KT/GT	KT/GT	KT/GT	KT/GT	KT/GT	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.77	0.73	0.90	2.04	1.75	1.61	1.61	2.15	0.83	1.77	0.83	1.76	1.90	2.58	2.58	2.58	2.58	2.58	3.97	3.20	3.28	3.28	3.28	3.28
CFM PER RUN HEAT	48	20	24	55	47	44	43	58	22	48	22	47	51	69	69	69	69	69	107	86	88	88	88	88
RM GAIN MBH	2.21	0.56	0.29	2.38	2.50	2.37	2.78	3.38	0.46	2.21	0.46	2.14	2.43	3.11	3.11	3.11	3.11	3.11	0.81	1.81	0.34	0.34	0.34	0.34
CFM PER RUN COOLING	74	19	10	79	84	79	93	113	15	74	15	71	81	104	104	104	104	104	27	60	11	11	11	11
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.16	0.15	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.16	0.16	0.16	0.16	0.16
EQUIVALENT LENGTH	185	205	120	165	140	195	150	150	130	185	170	90	110	110	110	170	170	160	120	150	110	150	130	120
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	0.08	0.07	0.1	0.08	0.08	0.15	0.11	0.11	0.12	0.08	0.08	0.1	0.1	0.09	0.12	0.09	0.09	0.1
ROUND DUCT SIZE	5	4	4	5	6	6	6	6	4	5	4	4	5	6	6	6	6	6	6	5	5	5	5	5
HEATING VELOCITY (ft/min)	352	229	275	404	240	224	219	296	252	352	252	539	374	352	352	352	352	352	546	631	646	646	646	646
COOLING VELOCITY (ft/min)	543	218	115	580	428	403	474	576	172	543	172	815	595	530	530	530	530	530	138	441	81	81	81	81
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	E	C	E	E	D	D	B	A	A	B	E	D	A	A	B	B	B	D	B	A	A	B	B

RUN #	25	26	27	28	29	30	31	32	33	34
ROOM NAME	BAS	BAS	BAS	MBR	BED-3	BED-3	BED-4	LIV	ENS	LAUN
RM LOSS MBH	3.28	3.28	3.28	1.77	1.75	1.75	1.61	1.90	0.73	0.36
CFM PER RUN HEAT	88	88	88	48	47	47	44	51	20	10
RM GAIN MBH	0.34	0.34	0.34	2.21	2.50	2.50	2.37	2.43	0.56	1.20
CFM PER RUN COOLING	11	11	11	74	84	84	79	81	19	40
ADJUSTED PRESSURE	0.16	0.16	0.16	0.17	0.16	0.16	0.17	0.16	0.17	0.17
EQUIVALENT LENGTH	21	23	36	38	52	56	43	34	37	48
TOTAL EFFECTIVE LENGTH	201	123	166	198	197	211	233	134	232	238
ADJUSTED PRESSURE	0.08	0.13	0.1	0.09	0.08	0.08	0.07	0.12	0.07	0.07
ROUND DUCT SIZE	6	5	5	5	6	6	6	5	4	4
HEATING VELOCITY (ft/min)	449	646	646	352	240	240	224	374	229	115
COOLING VELOCITY (ft/min)	56	81	81	543	428	428	403	595	218	459
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10
TRUNK	E	E	D	A	E	E	D	D	E	B

TRUNK	CFM	RECT	ROUND	STATIC PRESS.	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS.	ROUND	RECT	VELOCITY (ft/min)
TRUNK A	458	14	14	0.07	589	TRUNK G	0	0.00	0	0	0
TRUNK B	581	16	16	0.07	654	TRUNK H	0	0.00	0	0	0
TRUNK C	1063	26	26	0.07	736	TRUNK I	0	0.00	0	0	0
TRUNK D	428	14	14	0.07	550	TRUNK J	0	0.00	0	0	0
TRUNK E	887	22	22	0.07	726	TRUNK K	0	0.00	0	0	0
TRUNK F	0	0	0	0.00	0	TRUNK L	0	0.00	0	0	0

RETURN AIR #	1	2	3	4	5	6	7	8
AIR VOLUME	120	360	135	135	120	170	320	320
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	50	26	44	49	53	17	19	32
EQUIVALENT LENGTH	175	135	185	190	185	160	135	145
TOTAL EFFECTIVE LH	225	161	229	239	238	177	154	177
ADJUSTED PRESSURE	0.07	0.09	0.06	0.06	0.06	0.08	0.10	0.08
ROUND DUCT SIZE	6.6	9.3	7.1	7.1	6.8	7.2	8.7	9.2
INLET GRILL SIZE	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	30	14	14	14	14	30	30

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

LO # 77476
OPT 5-BED

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	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	201.4 cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	46.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
☒ HVI Approved	

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

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
BATH-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	☒ 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:	
HRAI #	001820
Date:	January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations									
Formula Sheet (For Air Leakage / Ventilation Calculation)									
LO#: 77476		Model: 5003 - THE OAKGROVE		Builder: GOLD PARK HOMES		Air Change & Delta T Data			
		Volume Calculation				Date: 2018-01-24			
House Volume						WINTER NATURAL AIR CHANGE RATE		0.340	
						SUMMER NATURAL AIR CHANGE RATE		0.124	
Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)						
Bsmt	1760	10	17600						
First	1760	11	19360						
Second	2125	9	19125						
Third	0	9	0						
Fourth	0	9	0						
Total:				56,085.0 ft ³					
Total:				1588.2 m ³					
Design Temperature Difference									
		Tin °C	Tout °C	ΔT °C					
Winter DTDh		22	-20	42					
Summer DTDc		22	31	9					
6.2.6 Sensible Gain due to Air Leakage									
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$									
0.340	x	441.15	x	9 °C	x	1.2	=	576 W	
								=	1966 Btu/h
6.2.7 Sensible heat Gain due to Ventilation									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$									
155 CFM	x	16 °F	x	1.08	x	0.25	=	661 Btu/h	
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)									
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$									
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	25,934	10,011	1.295					
2	0.3		17,829	0.436					
3	0.2		18,118	0.286					
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 HLairbv = 0									

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5003 - THE OAKGROVE	OPT 5-BED	BUILDER: GOLD PARK HOMES
SFQT: 3862	LO# 77476	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 (ft ³):	56085.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	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.**

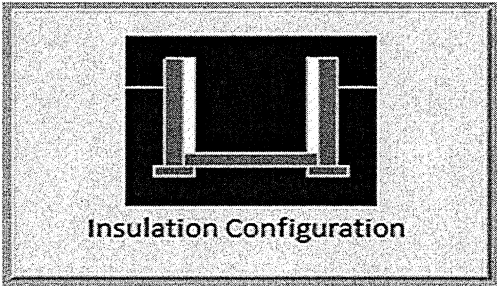
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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):	1.5	
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):		2047

TYPE: 5003 - THE OAKGROVE
LO# 77476

OPT 5-BED

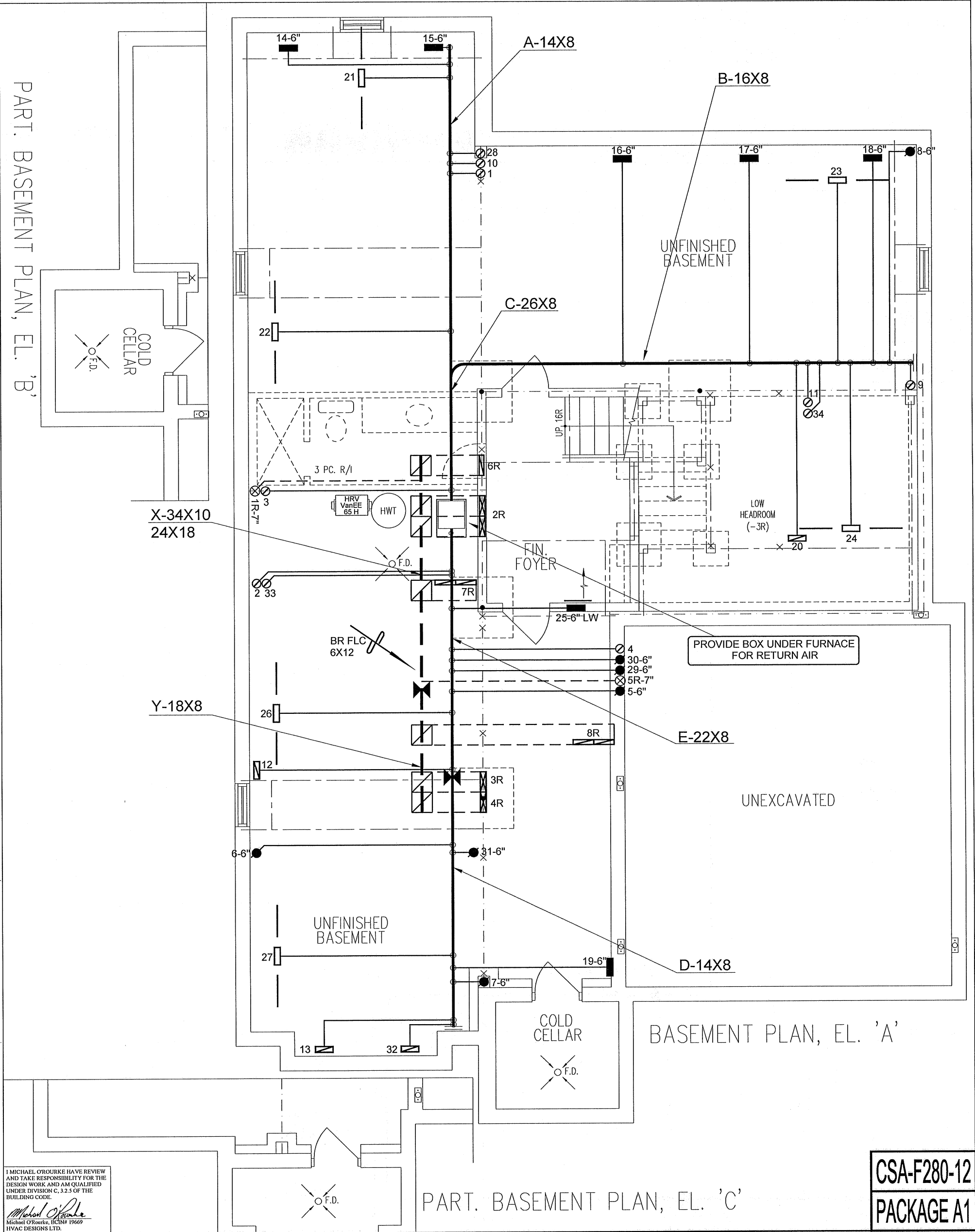
Air Infiltration Residential Load Calculator

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:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1588.2			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2117.1 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# 77476

OPT 5-BED



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.

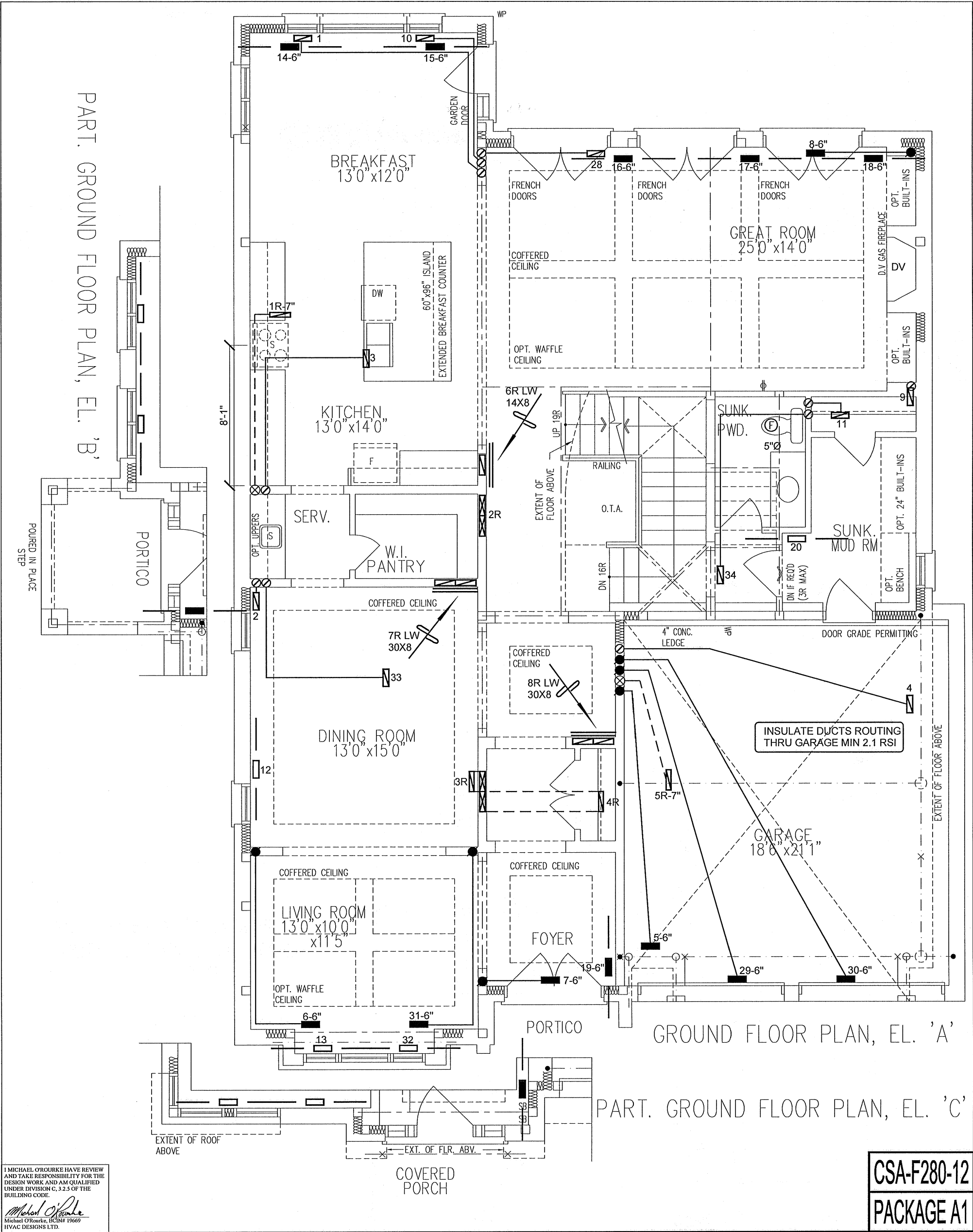
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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		 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.	HEAT LOSS 75735 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 OPT 5-BED THE OAKGROVE 5003			MODEL EL296UH110XE60C		2ND FLOOR 17 5 6				
3862 sqft			INPUT 110 MBTU/H		1ST FLOOR 10 3 2			Date JAN/2018	
			OUTPUT 106 MBTU/H		BASEMENT 7 1 0			Scale 3/16" = 1'-0"	
			COOLING 5.0 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			BCIN# 19669	
			FAN SPEED 1955 cfm @ 0.6" w.c.					LO# 77476	



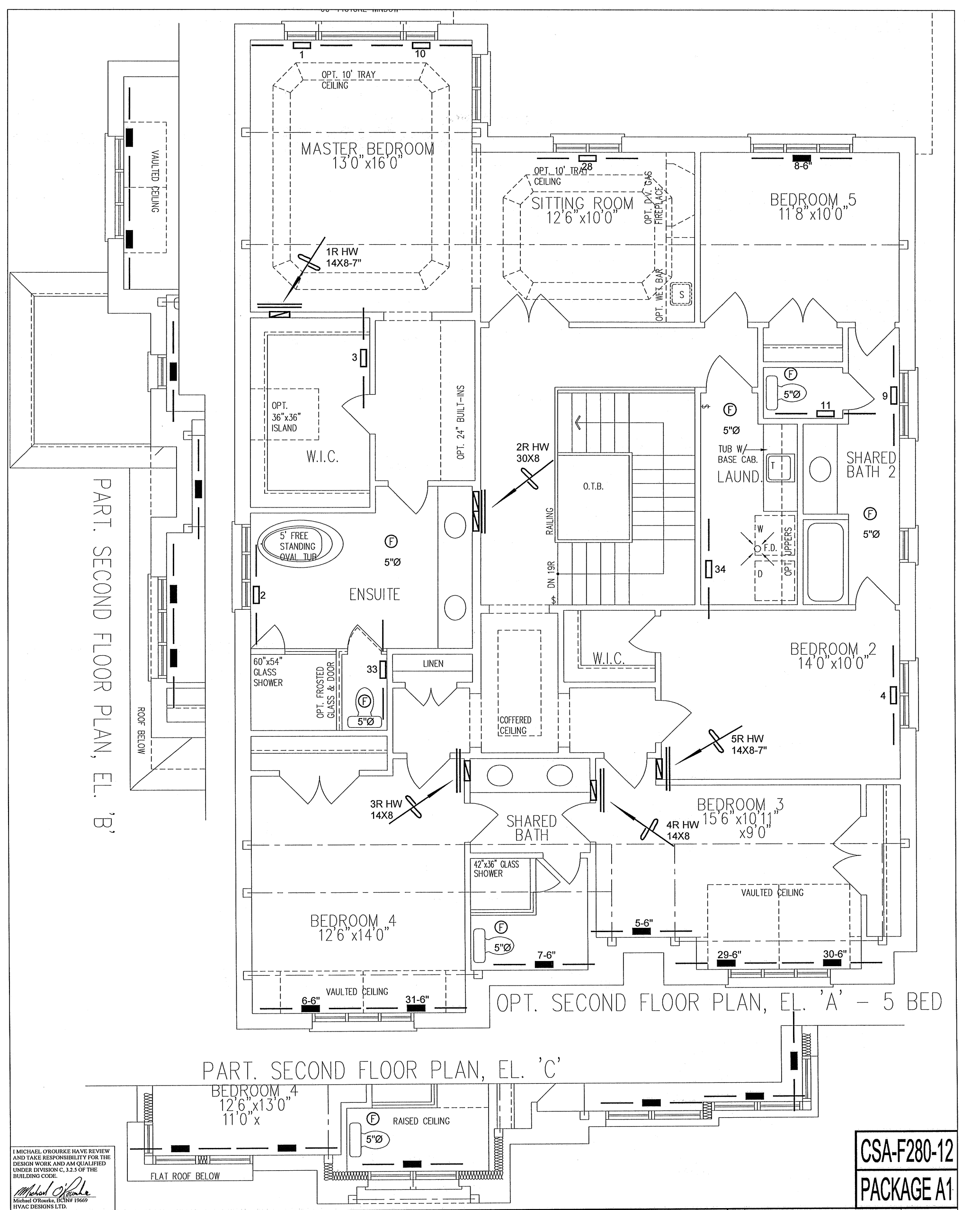
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

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

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Client		HVAC DESIGNS 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	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
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	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JAN/2018	
OPT 5-BED			Scale	
THE OAKGROVE			3/16" = 1'-0"	
5003			BCIN# 19669	
3862 sqft			LO# 77476	



I MICHAEL O'ROURKE HAVE REVIEWED 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.

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

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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name		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	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JAN/2018	
OPT 5-BED			Scale	
THE OAKGROVE			3/16" = 1'-0"	
5003			BCIN# 19669	
3862 sqft		LO#		77476