

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: 5005 ELEV. 'B' - THE HIGHBOURNE OPT. ELEVATOR 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.			
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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY & TESTON			OPT. ELEVATOR			DATE: Jan-18			WINTER NATURAL AIR CHANGE RATE 0.350			HEAT LOSS AT °F. 76			CSA-F280-12 SB-12 PACKAGE A1																					
BUILDER: GOLD PARK HOMES			TYPE: 5005 ELEV. 'B' - THE HIGHBORNE			GFA: 4412			LO# 77534			SUMMER NATURAL AIR CHANGE RATE 0.128			HEAT GAIN AT °F. 16																					
ROOM USE	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	ENS-4	WIC-3																									
EXP. WALL	46	35	13	34	36	19	8	3	4	7	14																									
CLG. HT.	11	10	10	11	11	10	10	10	10	10	10																									
FACTORS																																				
GRS.WALL AREA	506	360	130	374	396	190	80	30	40	70	140																									
GLAZING	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS																									
NORTH	0	0	6	128	101	0	0	0	0	0	0																									
EAST	0	0	0	0	0	0	0	0	0	0	0																									
SOUTH	0	0	0	0	0	0	0	0	0	0	0																									
WEST	0	0	0	0	0	0	0	0	0	0	0																									
SKYL.T.	21.3	34	724	1441	0	0	0	0	0	0	0																									
DOORS	50	1064	2120	0	0	0	0	0	0	0	0																									
NET EXPOSED WALL	37.2	103.0	0	0	0	0	0	0	0	0	0																									
NET EXPOSED BSMT WALL ABOVE GR	25.2	5.2	0	0	0	0	0	0	0	0	0																									
EXPOSED CLG	4.5	0.9	456	2035	423	326	1455	302	124	553	115	309	1379	287	336	1499	312	158	705	147	72	321	67	30	134	28	40	179	37	58	120	536	111			
NO ATTIC EXPOSED CLG	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
BASEMENT/CRAWL HEAT LOSS	1.3	0.6	533	684	340	323	415	206	207	266	132	175	225	112	249	320	159	285	366	182	60	77	38	40	51	26	92	118	59	105	135	67	53	68	34	
SLAB ON GRADE HEAT LOSS	2.7	1.4	0	0	0	0	0	0	0	0	0	78	214	107	18	49	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS	2.6	0.5	0	0	0	0	0	0	0	0	0	154	393	82	253	645	134	18	46	10	0	0	60	153	32	40	102	21	0	0	0	0	0	0	0	
SUB TOTAL HT LOSS	3783		2593	1339	3846	3191	1752	271	287	297	582	1029																								
LEVEL FACTOR / MULTIPLIER	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32	0.20	0.32
AIR CHANGE HEAT LOSS	1216		834	431	1237	1026	563	232	92	95	187	331																								
AIR CHANGE HEAT GAIN	0		0	177	422	408	95	38	7	9	31	94																								
DUCT LOSS	0		0	0	0	0	0	0	0	0	0	0																								
HEAT GAIN PEOPLE	2		0	0	0	1	0	0	0	0	0	0																								
HEAT GAIN APPLIANCES/LIGHTS	684		684	684	684	684	684	684	684	684	684	684																								
TOTAL HT LOSS BTU/H	4999		3427	1947	5592	4639	2315	1049	418	392	769	1360																								
TOTAL HT GAIN x 1.3 BTU/H	5617		2775	1651	6636	5833	2841		117			1413																								

ROOM USE	EXP. WALL	CLG. HT.	LIB	DIN	KIT/GT	CAB	LAUN	PWD	FOY	MUD			BAS				
FACTORS	LOSS	GAIN	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS
GRS WALL AREA	341			352	957	495	0	55	385	216			1666				
GLAZING	0		0	0	46	979	773	0	0	0			20				
NORTH	0	0	0	0	0	0	0	0	0	0			426				
EAST	56	1192	2374	0	0	0	0	0	0	0			0				
SOUTH	0	0	34	724	875	63	1341	1622	0	0			0				
WEST	0	0	0	0	115	2447	4875	63	1341	2671			0				
SKYL.T.	37.2	103.0	0	0	0	0	0	0	0	0			0				
DOORS	25.2	5.2	0	0	0	0	0	0	0	0			0				
NET EXPOSED WALL	4.5	0.9	285	1272	264	318	1419	295	776	3463	720	369	1647				
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0			0				
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0			0				
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0			0				
BASEMENT/CRAWL HEAT LOSS	2.6	0.5	0	0	0	0	0	0	0	0			0				
SLAB ON GRADE HEAT LOSS			0	0	0	0	0	0	0	0			0				
SUB TOTAL HT LOSS	2464		2638	2143	7315	4886	325	507	2995	1380			11937				
LEVEL FACTOR / MULTIPLIER	0.30	0.44	0.30	0.44	0.30	0.44	0.20	0.30	0.30	0.44			0.50				
AIR CHANGE HEAT LOSS	1082		1082	941	3212	2146	105	223	1315	606			15873				
AIR CHANGE HEAT GAIN	0		250	111	653	466	11	24	62	0			0				
DUCT LOSS	0		0	0	0	0	43	82	0	0			0				
HEAT GAIN PEOPLE	0		0	0	0	0	0	0	0	0			0				
HEAT GAIN APPLIANCES/LIGHTS	684		684	684	684	684	684	684	684	684			0				
TOTAL HT LOSS BTU/H	3545		4645	3084	10527	7032	473	729	4310	1966			27810				
TOTAL HT GAIN x 1.3 BTU/H				2555	10686	7881	1167	354					2278				

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

OPT. ELEVATOR

TYPE: 5005 ELEV. B' - THE HIGHBOURNI DATE: Jan-18

GFA: 4412 LO# 77534

HEATING CFM 1955
TOTAL HEAT LOSS 86,401
AIR FLOW RATE CFM 22.63COOLING CFM 1955
TOTAL HEAT GAIN 59,711
AIR FLOW RATE CFM 32.74EL296UH110XE60C
FAN SPEED
LOW 0
MEDIUM 1380
HIGH 1505
HIGH 1685AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	18	13	7
R/A	0	0	5	3	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	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	MBR	ENS-4	LIB	DIN	KIT/IGT	KIT/IGT	KIT/IGT	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.50	2.74	1.95	1.86	2.32	2.32	1.05	0.42	0.39	2.50	0.77	1.77	3.08	2.63	2.63	2.63	0.47	0.73	4.31	1.99	3.97	3.97	3.97	3.97
CFM PER RUN HEAT	57	62	44	42	52	52	24	9	57	57	17	40	70	60	60	60	11	17	98	45	90	90	90	90
RM GAIN MBH	2.81	2.33	1.65	2.21	2.92	2.84	0.42	0.12	0.14	2.81	0.47	2.32	2.55	2.67	2.67	2.67	1.17	0.35	0.93	1.30	0.33	0.33	0.33	0.33
CFM PER RUN COOLING	92	76	54	72	95	93	14	4	4	92	15	76	84	87	87	87	38	12	31	42	11	11	11	11
ADJUSTED PRESSURE	0.15	0.16	0.16	0.16	0.15	0.15	0.16	0.16	0.16	0.15	0.16	0.16	0.15	0.15	0.15	0.15	0.16	0.16	0.15	0.16	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	70	70	71	49	70	48	74	48	53	64	59	57	29	52	69	54	36	73	40	47	67	60	54	38
EQUIVALENT LENGTH	200	200	170	160	160	160	200	150	170	170	150	140	103	120	140	140	200	170	210	160	150	120	103	90
TOTAL EFFECTIVE LENGTH	270	270	241	209	230	208	274	198	223	234	209	197	132	172	209	164	236	243	250	207	217	180	157	128
ADJUSTED PRESSURE	0.05	0.06	0.06	0.07	0.06	0.07	0.06	0.08	0.07	0.06	0.07	0.08	0.11	0.09	0.07	0.09	0.07	0.06	0.06	0.08	0.07	0.08	0.09	0.11
ROUND DUCT SIZE	6	6	5	5	6	6	4	4	4	6	4	5	5	5	6	5	4	4	6	4	6	6	6	5
HEATING VELOCITY (ft/min)	291	316	323	308	265	265	275	103	103	291	195	294	514	441	306	441	126	195	500	516	459	459	459	661
COOLING VELOCITY (ft/min)	469	388	396	529	484	474	161	46	46	469	172	558	617	639	444	639	436	138	158	482	56	56	56	81
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10
TRUNK	D	C	C	G	F	E	C	G	G	D	E	F	E	D	B	C	E	A	F	C	A	B	D	E

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38
ROOM NAME	BAS	BAS	BED-2	BED-2	BED-3	WIC-3	LIB	KIT/IGT	CAB	CAB	CAB	ENS	ENS	BAS
RM LOSS MBH	3.97	3.97	1.86	1.86	2.32	1.36	1.77	2.63	2.34	2.34	2.34	0.34	0.34	3.97
CFM PER RUN HEAT	90	90	42	42	52	31	40	60	53	53	53	8	8	90
RM GAIN MBH	0.33	0.33	2.21	2.21	2.92	1.41	2.32	2.67	2.63	2.63	2.63	0.23	0.23	0.33
CFM PER RUN COOLING	11	11	72	72	95	46	76	87	86	86	86	7	7	11
ADJUSTED PRESSURE	0.15	0.15	0.16	0.16	0.15	0.16	0.16	0.15	0.15	0.15	0.15	0.16	0.16	0.15
ACTUAL DUCT LGH.	34	50	52	55	75	58	51	55	69	71	82	56	58	23
EQUIVALENT LENGTH	110	150	170	160	190	160	190	120	150	130	140	200	190	140
TOTAL EFFECTIVE LENGTH	144	200	222	215	235	248	211	175	219	201	222	256	248	163
ADJUSTED PRESSURE	0.1	0.07	0.07	0.07	0.06	0.06	0.07	0.08	0.07	0.07	0.07	0.06	0.06	0.09
ROUND DUCT SIZE	5	6	5	5	6	5	6	6	6	6	6	4	4	6
HEATING VELOCITY (ft/min)	661	459	308	308	265	228	204	306	270	270	270	92	92	459
COOLING VELOCITY (ft/min)	81	56	529	529	484	338	388	444	438	438	438	80	80	56
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10
TRUNK	G	F	G	G	F	F	F	B	A	A	A	C	C	E

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	266	0.06	9.2	10	8	479	637	0.06	12.7	18	8	TRUNK O	0	0.05	0	0	8		
TRUNK B	210	0.07	8.1	8	8	473	TRUNK G	0.05	20.3	38	10	TRUNK P	0	0.05	0	0	8		
TRUNK C	727	0.06	13.4	20	8	654	TRUNK H	0.00	0	0	8	TRUNK Q	0	0.05	0	0	8		
TRUNK D	264	0.05	9.6	10	8	475	TRUNK I	0.00	0	0	8	TRUNK R	0	0.05	0	0	8		
TRUNK E	1321	0.05	17.5	28	10	679	TRUNK J	0.00	0	0	8	TRUNK S	0	0.05	0	0	8		
TRUNK F	403	0.06	10.7	14	8	518	TRUNK K	0.00	0	0	8	TRUNK T	0	0.05	0	0	8		
							TRUNK L	0	0.00	0	8								

RETURN AIR #	1	2	3	4	5	6	7	8
AIR VOLUME	115	135	130	115	240	200	370	340
PLENUM PRESSURE	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
ACTUAL DUCT LGH.	84	51	62	59	47	49	30	51
EQUIVALENT LENGTH	200	135	155	185	135	140	170	195
TOTAL EFFECTIVE LH	284	186	217	244	182	189	200	246
ADJUSTED PRESSURE	0.05	0.07	0.06	0.05	0.07	0.07	0.07	0.05
ROUND DUCT SIZE	7	6.8	7	8.5	7.9	7.9	10	10.5
INLET GRILL SIZE	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	30	30

TYPE: 5005 ELEV. 'B' - THE HIGHBOURNE
SITE NAME: PINE VALLEY & TESTON

LO # 77534
OPT. ELEVATOR

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>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Other Rooms	<u>8</u> @ 10.6 cfm	<u>84.8</u> cfm
Table 9.32.3.A.	TOTAL	<u>233.2</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
TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>233.2</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>78.2</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
<u>155.0</u> cfm	<u>3.0</u> 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	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
<u>155</u> cfm high	<u>64</u> cfm low	
<u>75</u> % 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	January-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																							
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																							
LO#: 77534	Model: 5005 ELEV. 'B' - THE HIGHBOURNE	Builder: GOLD PARK HOMES	Date: 24/01/2018																																																				
Volume Calculation		Air Change & Delta T Data																																																					
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5.2.3.1 Heat Loss due to Air Leakage		6.2.6 Sensible Gain due to Air Leakage																																																					
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$		$HG_{salb} = LR_{aire} \times \frac{V_b}{3.6} \times DTD_e \times 1.2$																																																					
0.350	x 524.59 x 42 °C x 1.2 =	0.128	x 524.59 x 9 °C x 1.2 =																																																				
	= 9304 W		= 706 W																																																				
	= 31747 Btu/h		= 2407 Btu/h																																																				
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																					
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$		$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																					
155 CFM	x 76 °F x 1.08 x 0.25 =	155 CFM	x 16 °F x 1.08 x 0.25 =																																																				
	= 3181 Btu/h		= 661 Btu/h																																																				
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																							
$HL_{airr} = Level Factor \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclvl} + HL_{bgclvl}) \}$																																																							
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5	0		0	0.000																																																			

*HL_{airbv} = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HL_{airve} = 0

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5005 ELEV. 'B' - THE HIGHBOURNE OPT. ELEVATOR**BUILDER:** GOLD PARK HOMES**SFQT:** 4412**LO#** 77534**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

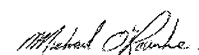
BUILDING DATA

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):	66692.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 77.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	238.0 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	-

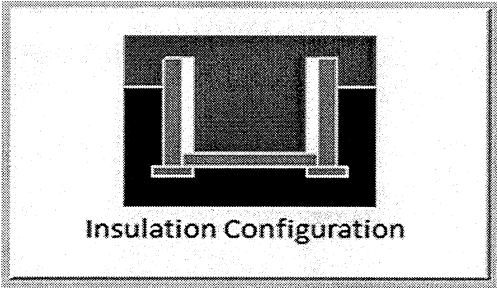
INDIVIDUAL BCIN: 19669

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):	23.5	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.9	
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):		2472

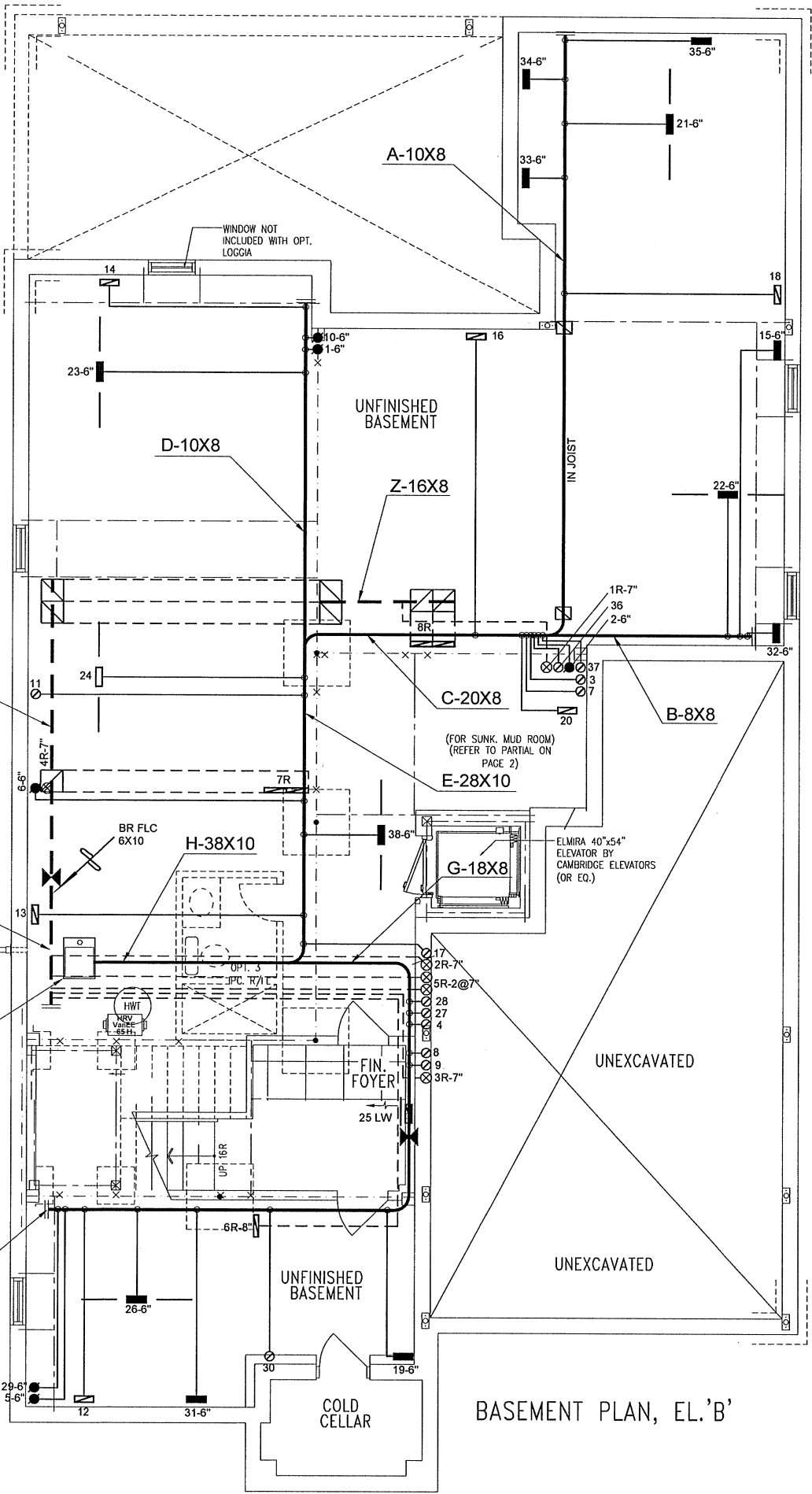
TYPE: 5005 ELEV. 'B' - THE HIGHBOURNE OPT. ELEVATOR
LO# 77534

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):	7.32			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1888.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2517.4 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):	0.350			
Cooling Air Leakage Rate (ACH/H):	0.128			

TYPE: 5005 ELEV. 'B' - THE HIGHBOURNE OPT. ELEVATOR
LO# 77534



BASEMENT PLAN, EL. 'B'

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

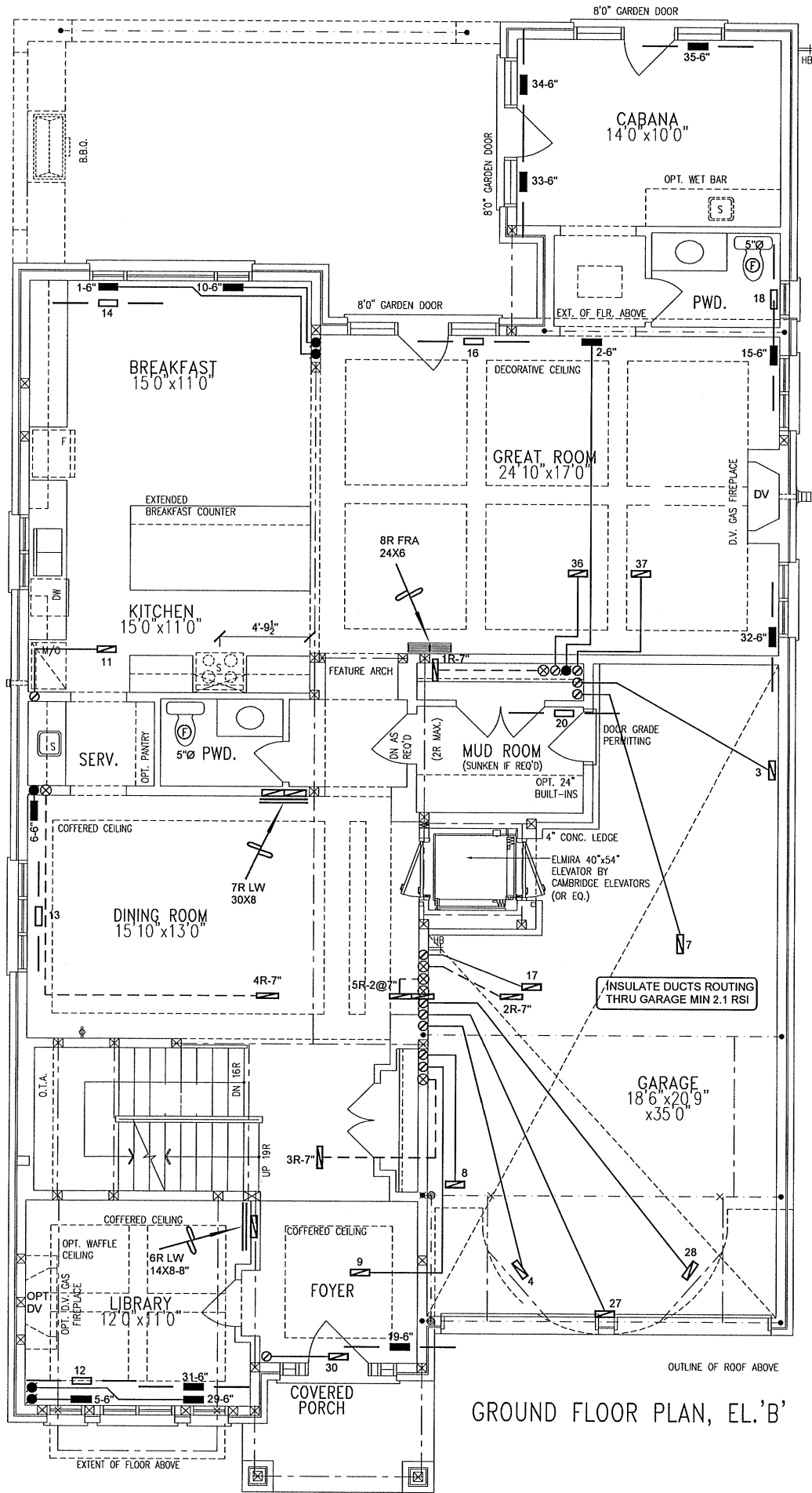
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.
	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		 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 89582 BTU/H		# OF RUNS S/A R/A FANS			Sheet Title	
GOLDPARK HOMES			UNIT DATA		3RD FLOOR			BASEMENT HEATING LAYOUT	
Project Name			MAKE		2ND FLOOR				
PINE VALLEY & TESTON			LENNOX		18 5 7				
VAUGHAN, ONTARIO			MODEL		1ST FLOOR			13 3 3	
THE HIGHBOURNE			EL296UH110XE60C		BASEMENT			Date JAN/2018	
OPT. ELEVATOR			INPUT		7 1 0			Scale 1/8" = 1'-0"	
5005 ELEV. 'B'			110 MBTU/H		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	
4412 sqft			OUTPUT					LO# 77534	
			106 MBTU/H						
			COOLING						
			5.0 TONS						
			FAN SPEED						
			1955 cfm @ 0.6" w.c.						



GROUND FLOOR PLAN, EL.'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.

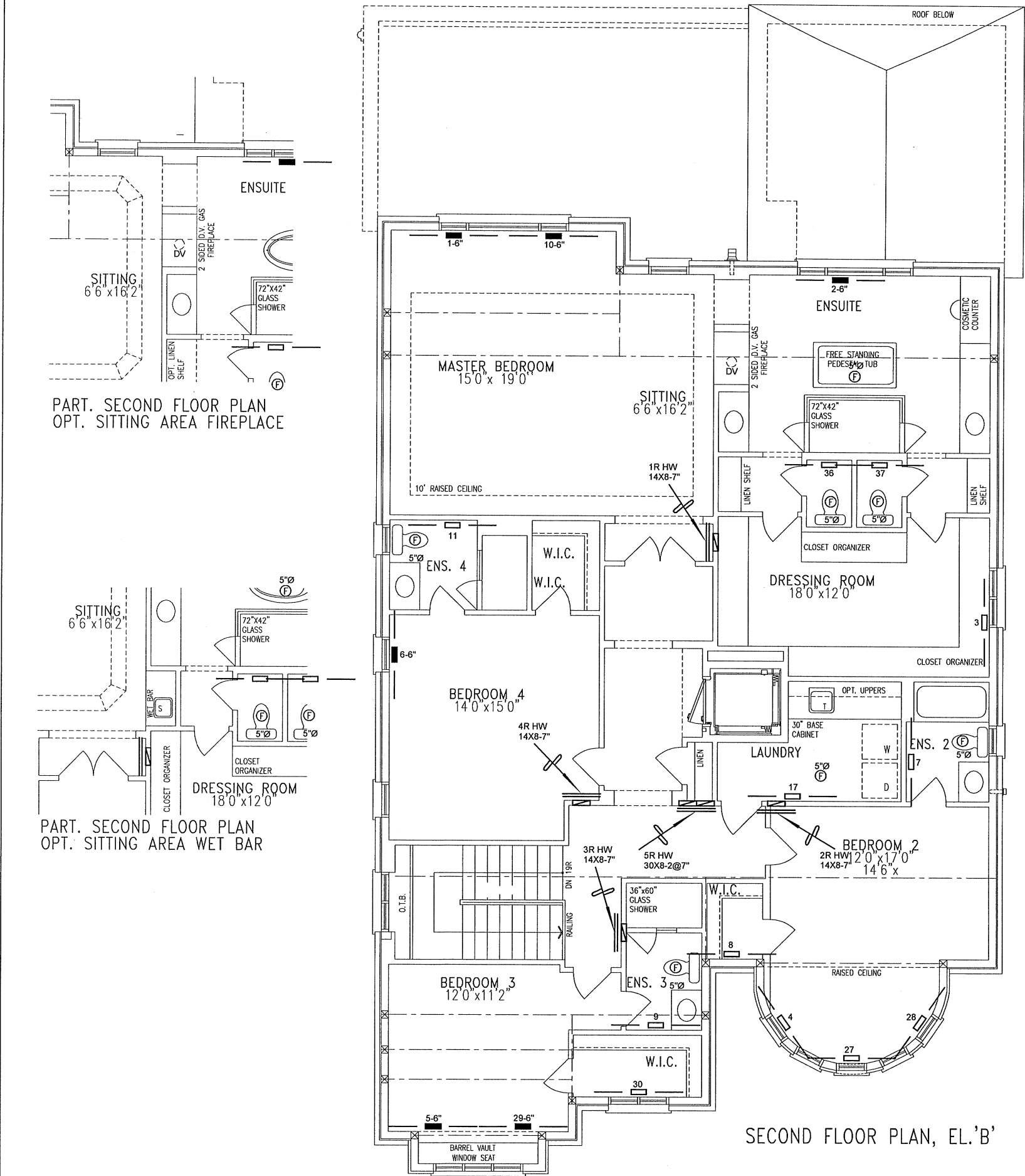
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR 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	REVISIONS		

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GOLDPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO THE HIGHBOURNE OPT. ELEVATOR 5005 ELEV. 'B' 4412 sqft			Scale	1/8" = 1'-0"
			BCIN# 19669	
			LO#	77534



I MICHAEL O'ROURKE HAVE REVIEWED 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

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Client

GOLDPARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
THE HIGHBOURNE
OPT. ELEVATOR
5005 ELEV. 'B' 4412 sqft

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Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

JAN/2018

Scale

1/8" = 1'-0"

BCIN# 19669

LO# 77534