


## 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>				
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House  <input type="checkbox"/> Small Buildings  <input type="checkbox"/> Large Buildings  <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House  <input type="checkbox"/> Building Services  <input type="checkbox"/> Detection, Lighting and Power  <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural  <input type="checkbox"/> Plumbing – House  <input type="checkbox"/> Plumbing – All Buildings  <input type="checkbox"/> On-site Sewage Systems </div> </div>				
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> 5005 - LOT 93  THE KNIGHTSWOOD  <b>Project:</b> PINE VALLEY & TESTON		
<b>D. Declaration of Designer</b>				
I, <u><b>MICHAEL O'ROURKE</b></u> declare that (choose one as appropriate): <div style="text-align: center;">(print name)</div>				
<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.				
November 1, 2018		 Signature of Designer		
Date				

**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**

THE KNIGHTSWOOD										CSA-F280-76											
SITE NAME: PINE VALLEY & TESTON		TYPE: 5005 - LOT 93		DATE: Nov-18		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F.													
BUILDER: GOLD PARK HOMES		GFA: 4380		LOF: 80575		SUMMER NATURAL AIR CHANGE RATE		HEAT GAIN AT °F.													
ROOM USE		ENS		WIC		BED-2		BED-3		BED-4		ENS-2		WIC-2		ENS-3		ENS-4		WIC-3	
EXP. WALL		36		13		36		36		19		6		3		4		7		14	
CLG. HT.		10		10		10		10		10		10		10		10		10		10	
FACTORS		360		130		396		360		190		60		30		40		70		140	
GRS.WALL AREA		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS		GAIN	
GLAZING		0		0		0		0		0		0		0		0		0		0	
NORTH		0		0		0		0		0		0		0		0		0		0	
EAST		0		0		0		0		0		0		0		0		0		0	
SOUTH		0		0		0		0		0		0		0		0		0		0	
WEST		0		0		0		0		0		0		0		0		0		0	
SKYL.T.		0		0		0		0		0		0		0		0		0		0	
DOORS		0		0		0		0		0		0		0		0		0		0	
NET EXPOSED WALL		0		0		0		0		0		0		0		0		0		0	
NET EXPOSED BENT WALL ABOVE GR		0		0		0		0		0		0		0		0		0		0	
EXPOSED CLG		0		0		0		0		0		0		0		0		0		0	
NO ATTIC EXPOSED CLG		0		0		0		0		0		0		0		0		0		0	
EXPOSED FLOOR		0		0		0		0		0		0		0		0		0		0	
BASEMENT/CRAWL HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SLAB ON GRADE HEAT LOSS		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS		3783		2593		1391		3031		2126		632		287		297		582		1029	
SUB TOTAL HT GAIN		2734		1848		400		2729		1534		228		63		84		307		952	
LEVEL FACTOR / MULTIPLIER		0.20		0.20		0.20		0.20		0.20		0.20		0.20		0.20		0.20		0.20	
AIR CHANGE HEAT LOSS		1290		884		474		1033		725		216		98		101		198		351	
AIR CHANGE HEAT GAIN		204		138		30		204		115		17		5		6		23		71	
DUCT LOSS		0		0		186		406		0		85		39		0		0		0	
DUCT GAIN		0		0		43		456		0		24		7		0		0		0	
HEAT GAIN PEOPLE		2		0		0		1		240		0		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		480		0		0		813		813		0		0		0		0		0	
TOTAL HT LOSS BTU/H		5073		3477		2051		4470		2850		933		424		398		780		1380	
TOTAL HT GAIN x 1.3 BTU/H		5500		2584		615		6515		5899		3512		97		118		430		1331	

THE KNIGHTSWOOD										CSA-F280-76											
SITE NAME: PINE VALLEY & TESTON		TYPE: 5005 - LOT 93		DATE: Nov-18		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F.													
BUILDER: GOLD PARK HOMES		GFA: 4380		LOF: 80575		SUMMER NATURAL AIR CHANGE RATE		HEAT GAIN AT °F.													
ROOM USE		ENS		WIC		BED-2		BED-3		BED-4		ENS-2		WIC-2		ENS-3		ENS-4		WIC-3	
EXP. WALL		36		13		36		36		19		6		3		4		7		14	
CL																					

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

THE KNIGHTSWOOD

DATE: Nov-18

GFA: 4380 LO# 80575

TYPE: 5005 - LOT 93

HEATING CFM 1955 COOLING CFM 1955  
TOTAL HEAT LOSS 89,307 TOTAL HEAT GAIN 59,456  
AIR FLOW RATE CFM 21.89 AIR FLOW RATE CFM 32.88EL296UH110XE60C 110  
FAN SPEED 0  
MEDLOW 1380  
MEDIUM 1505  
HIGH 1685AFUE = 96 %  
INPUT (BTU/H) = 110,000  
OUTPUT (BTU/H) = 106,000  
DESIGN CFM = 1955  
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	19	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/GT	KIT/GT	KIT/GT	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.54	2.76	2.05	2.24	2.24	1.43	0.93	0.42	0.40	2.54	0.78	1.82	3.16	2.70	2.70	2.70	0.40	0.75	4.16	2.03	4.22	4.22	4.22	4.22
CFM PER RUN HEAT	56	60	45	42	49	31	20	9	9	56	17	40	69	59	59	59	9	16	91	45	92	92	92	92
RM GAIN MBH	2.75	2.26	0.62	2.17	2.85	1.76	0.35	0.10	0.12	2.75	0.43	2.30	2.57	2.57	2.57	2.57	1.29	0.32	2.17	0.32	0.50	0.50	0.50	0.50
CFM PER RUN COOLING	90	74	20	71	94	58	12	3	4	90	14	76	85	84	84	84	42	11	71	11	16	16	16	16
ADJUSTED PRESSURE	0.15	0.16	0.16	0.16	0.15	0.16	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
EQUIVALENT LENGTH	190	200	170	160	160	160	200	150	170	170	150	140	103	120	140	110	200	170	210	160	150	120	103	90
TOTAL EFFECTIVE LENGTH	260	270	223	209	230	208	247	198	223	234	209	197	132	172	209	164	236	243	250	207	217	180	157	128
ADJUSTED PRESSURE	0.06	0.06	0.07	0.07	0.06	0.08	0.06	0.06	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	5	4	4	4	6	4	6	6	6	6	6	4	4	6	4	6	6	6	6
HEATING VELOCITY (ft/min)	286	306	330	308	250	228	229	103	103	286	195	204	352	301	301	301	103	184	484	516	469	469	469	469
COOLING VELOCITY (ft/min)	459	377	147	521	479	426	138	34	46	459	161	388	433	428	428	428	482	482	362	126	82	82	82	82
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10
TRUNK	D	C	E	G	F	E	F	G	G	D	E	F	E	D	B	C	G	A	F	C	A	B	D	E

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
ROOM NAME	BAS	BAS	BED-2	BED-2	BED-2	WIC-3	LIB	KIT/GT	CAB	CAB	CAB	ENS	ENS	BAS	BED-4
RM LOSS MBH	4.22	4.22	1.94	1.94	2.24	1.38	1.82	2.70	2.40	2.40	2.40	0.36	0.36	4.22	1.43
CFM PER RUN HEAT	92	92	42	42	49	30	40	59	53	53	53	8	8	92	31
RM GAIN MBH	0.50	0.50	2.17	2.17	2.85	1.33	2.30	2.57	2.55	2.55	2.55	0.16	0.16	0.50	1.76
CFM PER RUN COOLING	16	16	71	71	94	44	76	84	84	84	84	5	5	16	58
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	0.16
EQUIVALENT LENGTH	110	150	170	160	160	190	160	120	150	130	140	200	190	140	190
TOTAL EFFECTIVE LENGTH	144	200	222	215	235	248	211	175	219	201	222	256	248	163	238
ADJUSTED PRESSURE	0.1	0.07	0.07	0.07	0.06	0.06	0.06	0.07	0.08	0.07	0.07	0.06	0.06	0.09	0.07
ROUND DUCT SIZE	6	6	5	5	6	5	6	6	6	6	6	4	4	6	5
HEATING VELOCITY (ft/min)	469	308	308	308	250	220	204	301	270	270	270	92	92	469	228
COOLING VELOCITY (ft/min)	82	521	521	521	479	323	388	428	428	428	428	57	57	82	426
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10
TRUNK	G	F	G	G	F	F	F	B	A	A	A	C	C	E	E

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	267	0.06	9.2	10	481	TRUNK G	636	0.06	12.7	18	636	TRUNK O	0	0.05	0	0	8
TRUNK B	210	0.07	8.1	8	473	TRUNK H	1955	0.06	19.4	34	828	TRUNK P	0	0.05	0	0	8
TRUNK C	657	0.06	12.9	20	591	TRUNK I	0	0.00	0	0	0	TRUNK Q	0	0.05	0	0	8
TRUNK D	263	0.06	9.1	10	473	TRUNK J	0	0.00	0	0	0	TRUNK R	0	0.05	0	0	8
TRUNK E	1317	0.06	16.7	32	741	TRUNK K	0	0.00	0	0	0	TRUNK S	0	0.05	0	0	8
TRUNK F	391	0.06	10.6	14	503	TRUNK L	0	0.00	0	0	0	TRUNK T	0	0.05	0	0	8

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
AIR VOLUME	115	130	130	115	260	130	405	360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	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	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	200	165	155	185	135	140	170	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	284	216	217	244	182	189	200	246	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36	13.36
ADJUSTED PRESSURE	0.05	0.06	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
ROUND DUCT SIZE	7	7	7	7	8.8	6.8	10.3	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	30	14	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 5005 - LOT 93  
SITE NAME: PINE VALLEY & TESTON

LO # 80575  
THE KNIGHTSWOOD

**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	7 @ 10.6 cfm	74.2 cfm
Other Rooms	6 @ 10.6 cfm	63.6 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: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

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


SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155	cfm high	64 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:	
HRAI #	001820
Date:	November-18

<b>CSA F280-12 Residential Heat Loss and Heat Gain Calculations</b>																																																																			
<b>Formula Sheet (For Air Leakage / Ventilation Calculation)</b>																																																																			
LO#: 80575	Model: 5005 - LOT 93	Builder: GOLD PARK HOMES	Date: 01/11/2018																																																																
<b>Volume Calculation</b>		<b>Air Change &amp; Delta T Data</b>																																																																	
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$HG_{satlb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																			
0.379	x	519.30	x																																																																
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$HL_{vaibrb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																			
155 CFM	x	13 °F	x																																																																
		1.08	x																																																																
		0.25	=																																																																
			536 Btu/h																																																																
<b>5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>																																																																			
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairve = 0</p>																																																																			

**HEAT LOSS AND GAIN SUMMARY SHEET**

<b>MODEL:</b> 5005 - LOT 93	<b>THE KNIGHTSWOOD</b>	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 4380	<b>LO#</b> 80575	<b>SITE:</b> 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)	75

**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):	66020.0	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	-

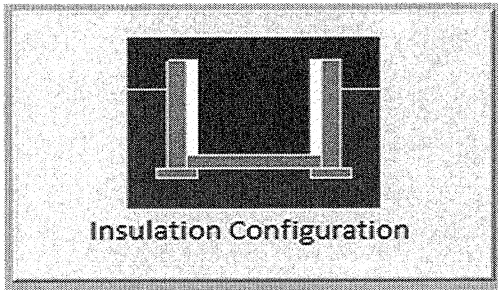
INDIVIDUAL BCIN: 19669

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 <sup>2</sup> ):	3.2	
Door Area (m <sup>2</sup> ):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2426

TYPE: 5005 - LOT 93  
LO# 80575

THE KNIGHTSWOOD

# Air Infiltration Residential Load Calculator

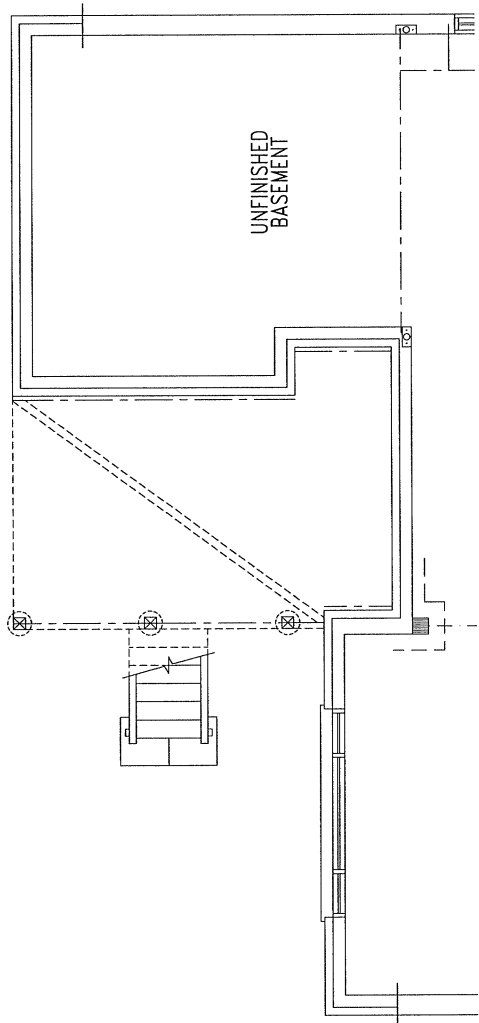
Supplemental tool for CAN/CSA-F280

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):	8.23			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m <sup>3</sup> ):	1869.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2492.1 cm <sup>2</sup>		
	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):	0.379			
Cooling Air Leakage Rate (ACH/H):	0.127			

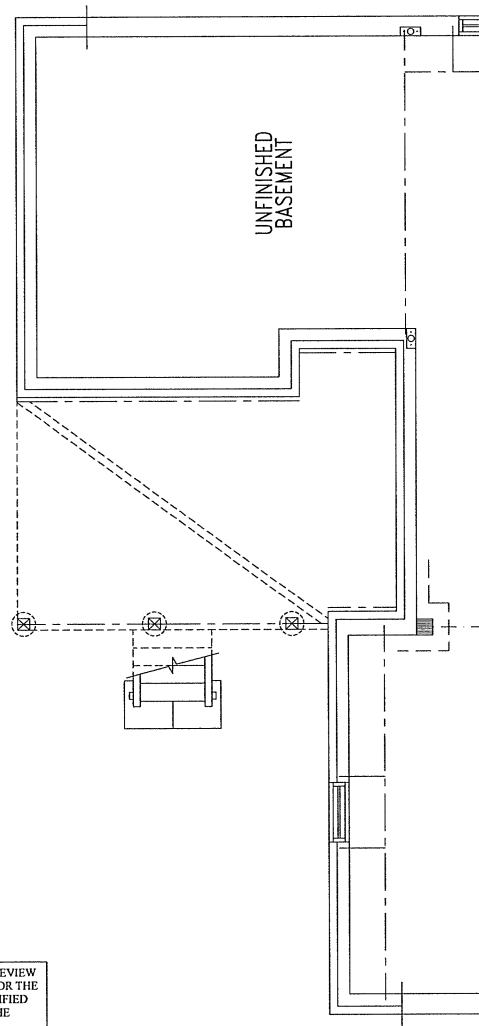
TYPE: 5005 - LOT 93  
LO# 80575

THE KNIGHTSWOOD

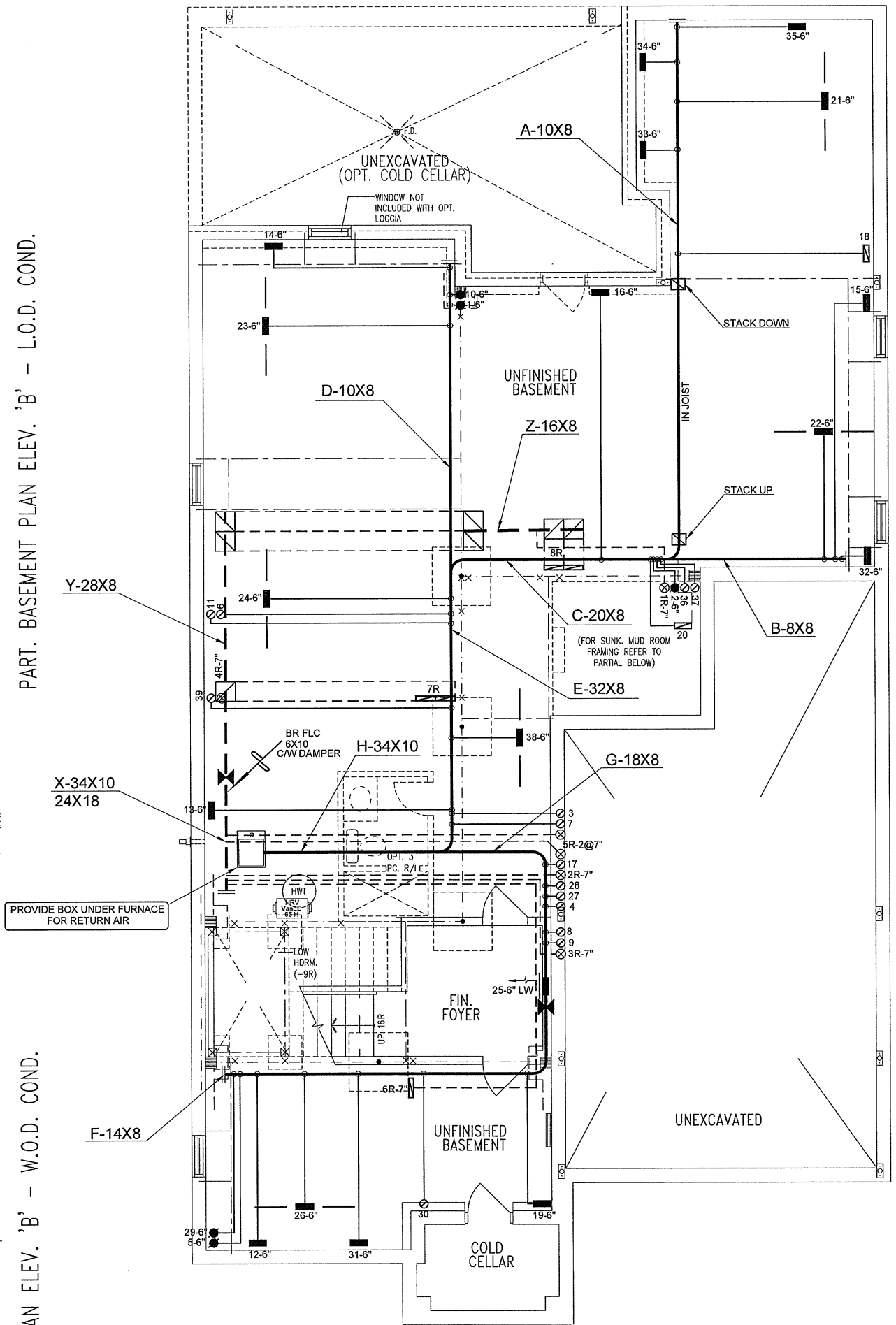




PART. BASEMENT PLAN ELEV. 'B' - L.O.D. COND.



PART. BASEMENT PLAN ELEV. 'B' - W.O.D. COND.



BASEMENT PLAN ELEV. 'B' - LOT 93

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.

LOT 93  
CSA-F280-12  
PACKAGE A1

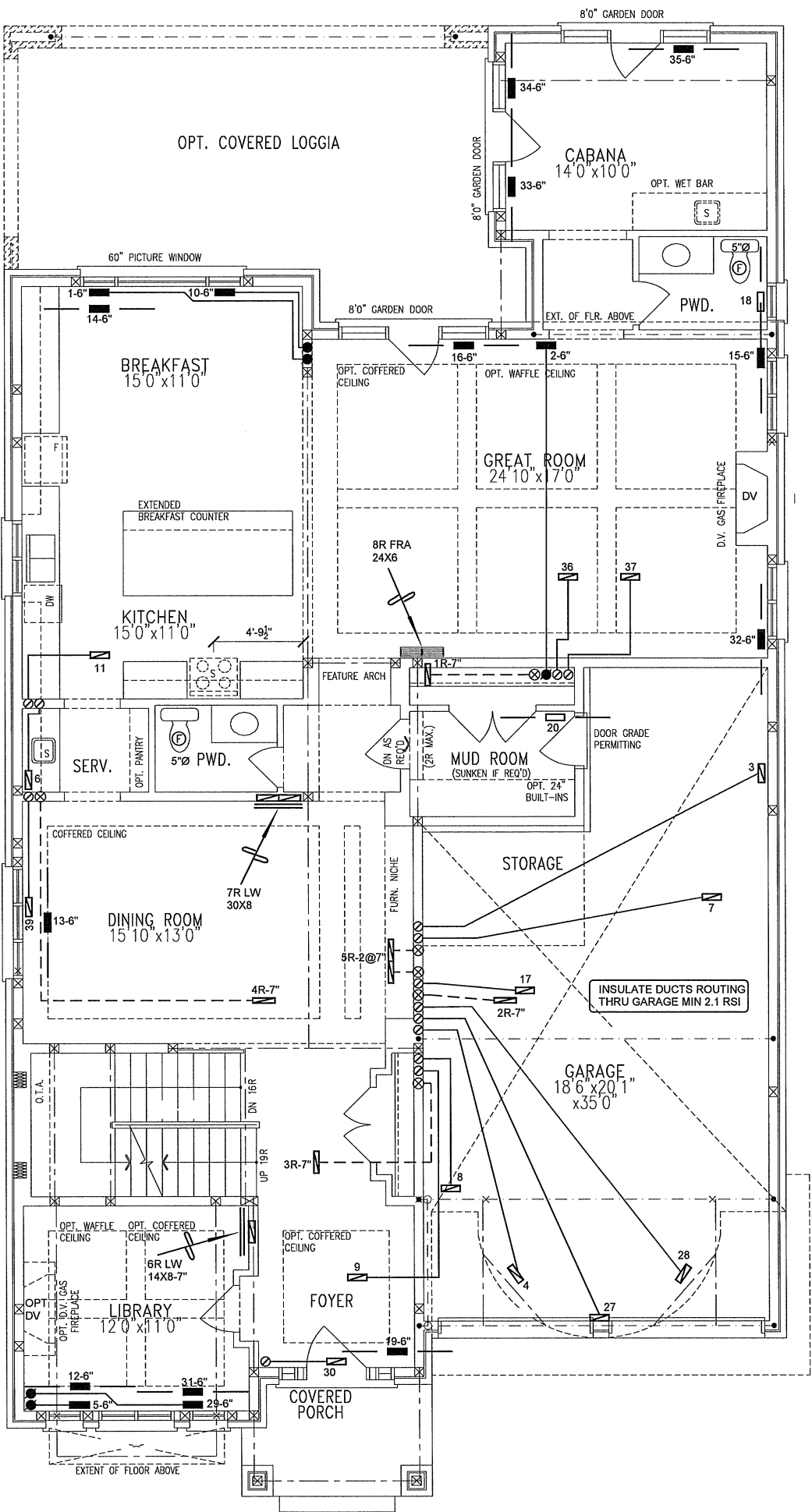
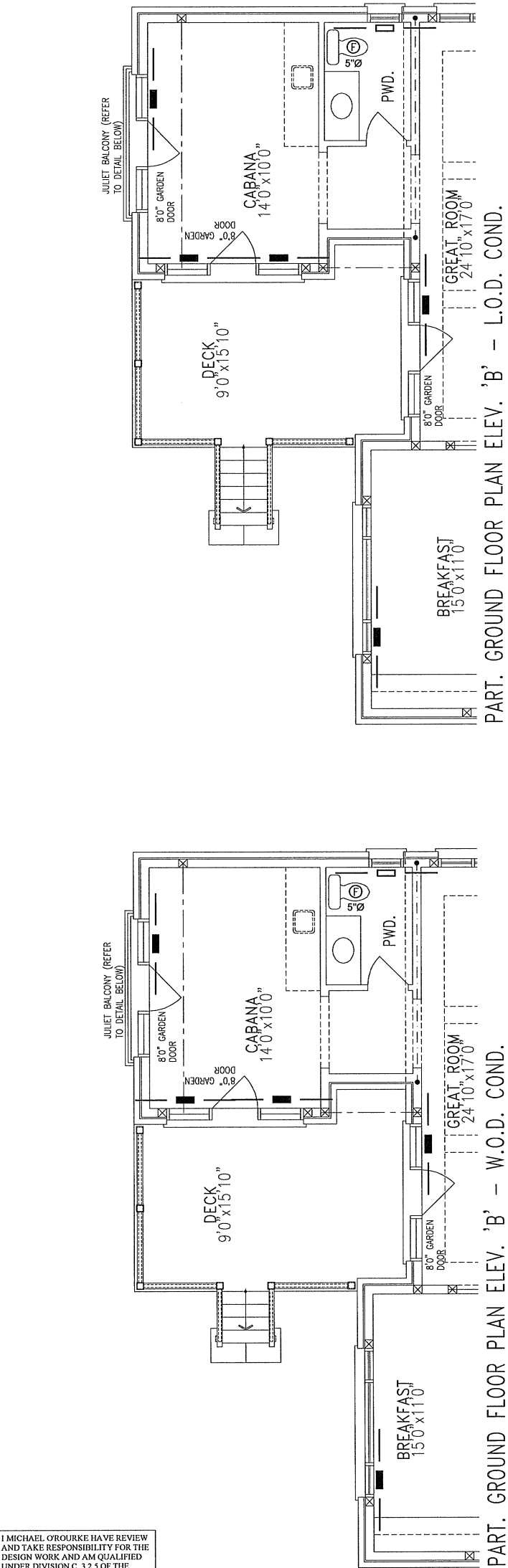
HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date
REVISIONS								

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Client		<div><p>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</p></div>	HEAT LOSS 92488 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title <div>BASEMENT HEATING LAYOUT</div>					
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			MAKE LENNOX		3RD FLOOR		S/A				R/A		FANS	
			MODEL EL296UH110XE60C		2ND FLOOR		19				5		7	
			INPUT 110 MBTU/H		1ST FLOOR		13				3		3	
KNIGHTSWOOD 5005 - LOT 93 4380 sqft			OUTPUT 106 MBTU/H		BASEMENT		7		1		0		Date	NOV/2018
		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	1/8" = 1'-0"	
		FAN SPEED 1955 cfm @ 0.6" w.c.										BCIN# 19669		LO#

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.



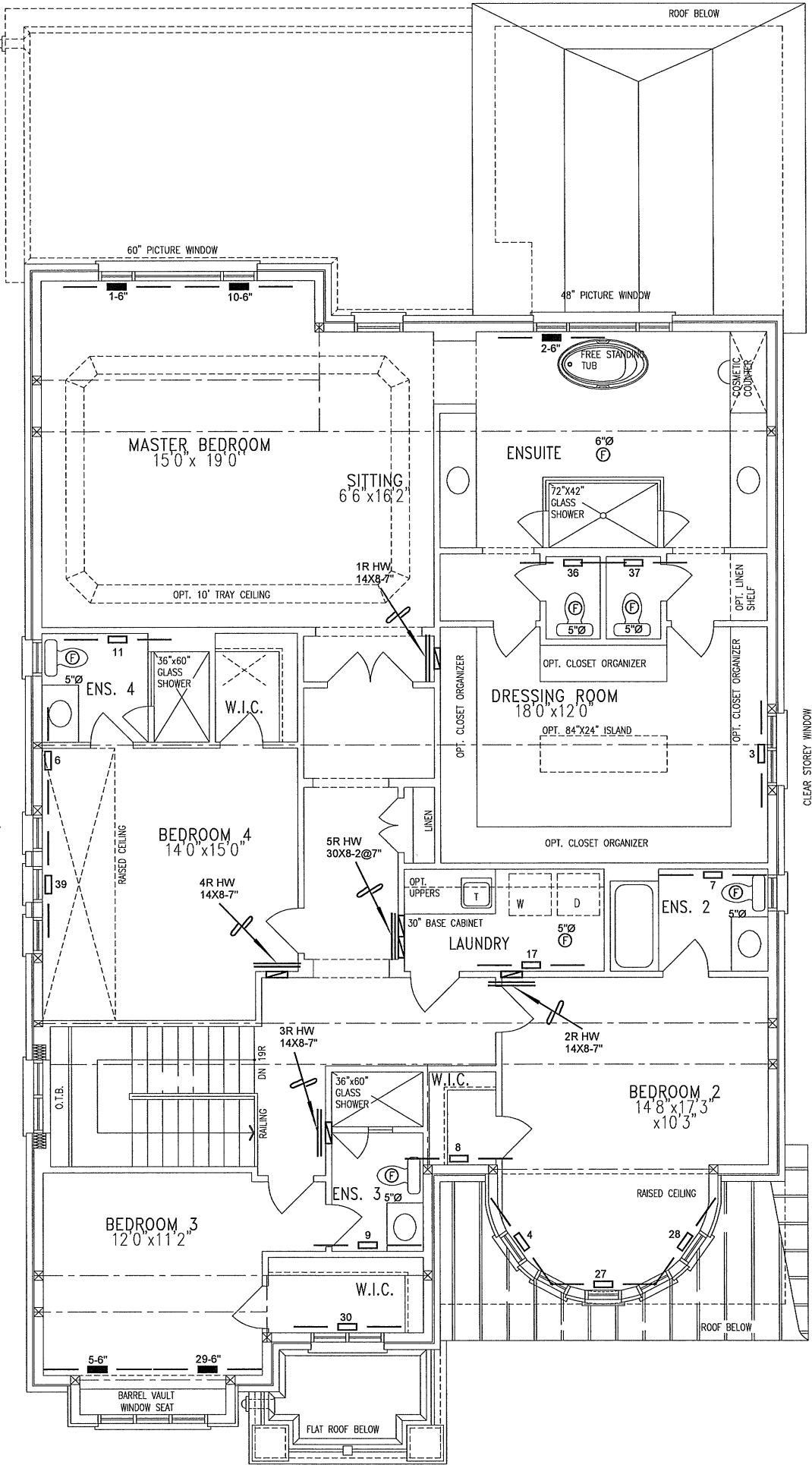
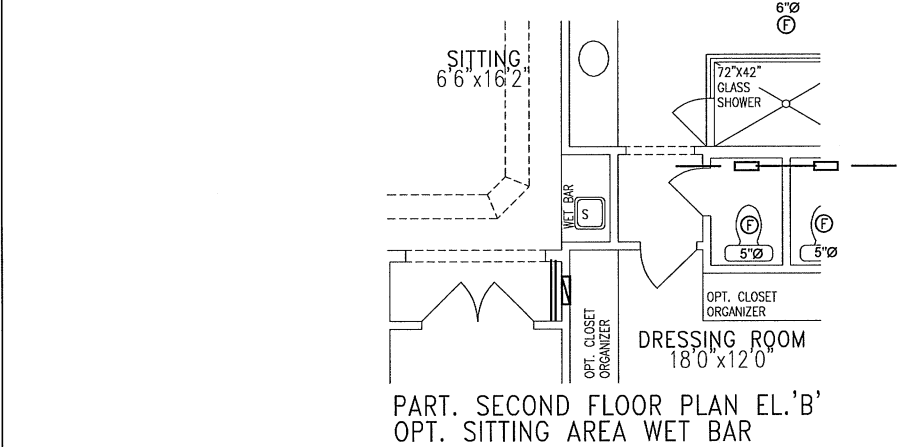
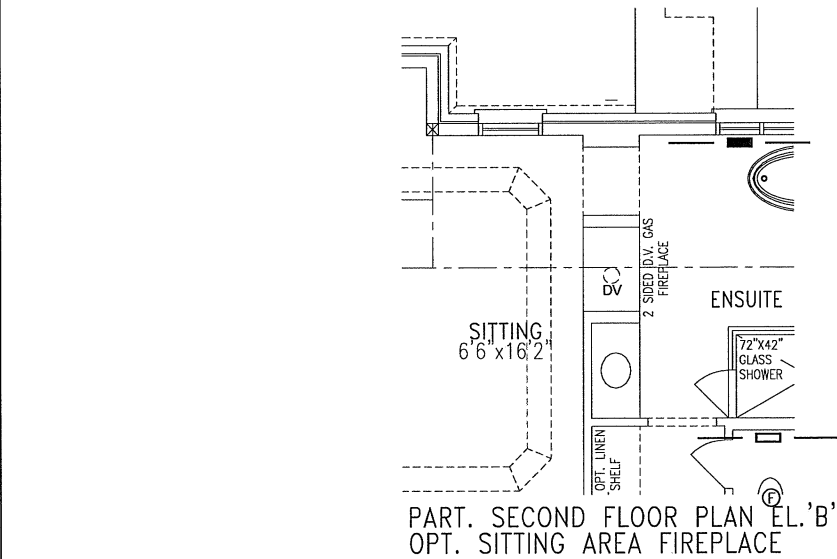
GROUND FLOOR PLAN ELEV. 'B' - LOT 93

LOT 93  
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	NOV/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
KNIGHTSWOOD 5005 - LOT 93      4380 sqft			BCIN# 19669	
		LO#	80575	



SECOND FLOOR PLAN ELEV. 'B' - LOT 93

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.

LOT 93  
CSA-F280-12  
PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION		SYMBOL	DESCRIPTION		2.
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	FLOOR SUPPLY AIR GRILLE 6" BOOT			SUPPLY AIR STACK FROM 2nd FLOOR			30"x8" RETURN AIR GRILLE		No.
	SUPPLY AIR BOOT ABOVE			6" SUPPLY AIR STACK 2nd FLOOR			FRA- FLOOR RETURN AIR GRILLE		
							REDUCER		
							REVISIONS		
							No.	Description	Date

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GOLDPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	NOV/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
KNIGHTSWOOD			BCIN# 19669	
5005 - LOT 93			LO#	80575
4380 sqft				