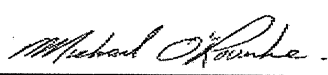


## Schedule 1: Designer Information

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@hvacdesigns.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> 5001 - THE HILLSBOROUGH  ELEVATION B - WOB  <b>Project:</b> PINE VALLEY & TESTON		
<b>D. Declaration of Designer</b>				
I, <u>MICHAEL O'ROURKE</u> (print name) declare that (choose one as appropriate):				
<input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.  Individual BCIN: _____ Firm BCIN: _____				
<input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.  Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>				
<input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____				
I certify that:				
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.				
October 5, 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**

SITE NAME: PINE VALLEY & TESTON													
BUILDER: GOLD PARK HOMES													
ELEVATION B - WOB													
TYPE: 5001 - THE HILLSBOROUGH													
DATE: Oct-18													
LO# 80238													
GFA: 3602													
WINTER NATURAL AIR CHANGE RATE 0.389													
HEAT LOSS AT °F. 76													
HEAT GAIN AT °F. 13													
CSA-F280-12													
SB-12 PACKAGE A1													
ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-4	HEAT LOSS AT °F.	HEAT GAIN AT °F.
GRS.WALL AREA	410		LOSS GAIN	410	225	90	99	333	180	63	54		
GLAZING													
NORTH	21.3	15.3	0	0	0	0	17	362	260	0	0	0	0
EAST	21.3	39.4	0	0	0	0	0	0	0	8	170	122	0
SOUTH	21.3	23.7	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	39.4	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	372	1660	280	197	879	148	90	402	68	46	205
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	340	436	200	156	120	154	71	242	311	142	260
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS													
SLAB ON GRADE HEAT LOSS													
SUBTOTAL HT LOSS	2905				1675	556	1038	3317	1897	880	530	0	0
SUB TOTAL HT GAIN					1342	138							
LEVEL FACTOR / MULTIPLIER	0.20	0.37		0.20	0.37	0.20	0.20	0.37	0.20	0.37	0.20	0.37	295
AIR CHANGE HEAT LOSS	1073			1073	618	205	383	1225	700	325	195	0.20	0.37
AIR CHANGE HEAT GAIN				183	124	13	43	186	105	27	27	0.20	0.37
DUCT LOSS	0			0	0	0	0	454	0	120	0	0	0
DUCT GAIN				0	0	0	0	319	0	32	0	0	0
HEAT GAIN PEOPLE	240			2	0	0	1	240	1	240	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				751	0	0	751	751	751	751	0	0	0
TOTAL HT LOSS BTU/H	3978			3978	2294	761	1422	4996	2598	1325	725	0	0
TOTAL HT GAIN x 1.3 BTU/H				4407	1907	195	1947	4551	2906	463	418	775	775

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LIB	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-4	HEAT LOSS AT °F.	HEAT GAIN AT °F.
GRS.WALL AREA	320		LOSS GAIN	320	320	225	90	99	333	180	63	54		
GLAZING														
NORTH	21.3	15.3	0	0	0	0	0	17	362	260	0	0	0	0
EAST	21.3	39.4	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	23.7	0	0	0	0	0	0	0	0	0	0	0	0
WEST	21.3	39.4	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	268	1196	201	156	120	154	71	242	311	142	260	334
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	60	77	35	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS														
SLAB ON GRADE HEAT LOSS														
SUBTOTAL HT LOSS														
LEVEL FACTOR / MULTIPLIER	0.30	0.53	2285	2380	2285	1675	556	1038	3317	1897	880	530	0.30	0.53
AIR CHANGE HEAT LOSS	1266					618	205	383	1225	700	325	195	195	27
AIR CHANGE HEAT GAIN	212					124	0	0	454	0	120	0	0	0
DUCT LOSS	0					0	0	0	0	0	0	0	0	0
DUCT GAIN	0					0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240					0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	751					0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	3645					2294	761	1422	4996	2598	1325	725	0	0
TOTAL HT GAIN x 1.3 BTU/H	4222					1907	195	1947	4551	2906	463	418		

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

ELEVATION B - WOB

TYPE: 5001 - THE HILLSBOROUGH DATE: Oct-18

GFA: 3602 LO# 80238

HEATING CFM 1255 COOLING CFM 1255  
TOTAL HEAT LOSS 65,872 TOTAL HEAT GAIN 41,752  
AIR FLOW RATE CFM 19.05 AIR FLOW RATE CFM 30.06

EL296UH090XE48C  
FAN SPEED 90

AFUE = 96 %  
INPUT (BTU/H) = 88,000  
OUTPUT (BTU/H) = 85,000

DESIGN CFM = 1255  
CFM @ 6" E.S.P.

TEMPERATURE RISE 63 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	9	6
R/A	0	0	4	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.  
All S/A runs 5'0" 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	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	BATH	MBR	ENS-4	LIB	LIB	KT/GT	KT/GT	DIN	LAUN	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.99	2.29	0.76	1.42	2.50	2.60	0.66	2.50	0.66	1.99	0.73	1.82	1.82	2.81	2.81	2.81	2.24	1.91	5.39	2.59	3.87	3.87	3.87	3.87
CFM PER RUN HEAT	38	44	14	27	48	49	13	48	13	38	14	35	35	54	54	54	43	36	103	49	74	74	74	74
RM GAIN MBH	2.20	1.91	0.20	1.95	2.28	2.91	0.23	2.28	0.23	2.20	0.42	2.11	2.11	2.97	2.97	2.97	2.30	2.73	2.23	1.38	0.52	0.52	0.52	0.52
CFM PER RUN COOLING	66	57	6	59	69	87	7	69	7	66	13	63	63	89	89	89	69	82	67	42	16	16	16	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	205	165	110	135	125	180	145	105	165	205	220	120	120	120	120	120	190	160	100	150	170	120	190	170
TOTAL EFFECTIVE LENGTH	269	214	141	166	174	228	175	150	191	280	268	170	165	170	157	219	210	105	181	181	160	218	218	207
ADJUSTED PRESSURE	0.06	0.08	0.12	0.1	0.1	0.07	0.1	0.11	0.09	0.06	0.06	0.1	0.1	0.1	0.1	0.08	0.08	0.16	0.09	0.1	0.11	0.08	0.08	0.08
ROUND DUCT SIZE	5	5	4	5	5	6	4	5	4	5	4	5	5	5	5	5	5	4	6	4	5	5	5	5
HEATING VELOCITY (ft/min)	279	323	161	198	352	250	149	352	149	279	161	257	257	396	396	396	316	264	80	525	562	543	543	543
COOLING VELOCITY (ft/min)	485	419	69	433	507	444	80	507	80	485	149	463	463	653	653	653	507	602	23	342	482	117	117	117
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	D	C	D	D	A	D	D	D	A	A	B	B	A	A	B	B	C	B	D	A	A	D	B

ROOM #	25	26	27
ROOM NAME	BAS	KT/GT	BAS
RM LOSS MBH	3.87	2.81	3.87
CFM PER RUN HEAT	74	54	74
RM GAIN MBH	0.52	2.97	0.52
CFM PER RUN COOLING	16	89	16
ADJUSTED PRESSURE	0.17	0.16	0.17
EQUIVALENT LENGTH	40	35	59
TOTAL EFFECTIVE LENGTH	110	130	150
ADJUSTED PRESSURE	0.11	0.1	0.08
ROUND DUCT SIZE	5	5	5
HEATING VELOCITY (ft/min)	543	396	543
COOLING VELOCITY (ft/min)	117	653	117
OUTLET GRILL SIZE	3X10	3X10	3X10
TRUNK	B	D	A

SUPPLY 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	469	0.06	11.3	14	8	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK B	400	0.08	9.9	12	8	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK C	890	0.06	14.4	24	8	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK D	370	0.08	9.7	12	8	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK E	0	0.00	0	0	8	0	0.00	0	0	8	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	8	0	0.00	0	0	8	0	0.06	0	0	8

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	110	0.15	155	125	0.15	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK B	47	0.36	37	59	0.15	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK C	205	0.19	185	160	0.15	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK D	252	0.22	222	219	0.15	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK E	0.06	0.07	0.07	0.07	0.07	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK F	6.6	7.2	7.2	6.7	7.2	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK G	8	8	8	8	8	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK H	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK I	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK J	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK K	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK L	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK M	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK N	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK O	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK P	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK Q	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK R	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK S	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK T	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK U	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK V	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK W	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK X	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK Y	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
TRUNK Z	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0
DROP	14	14	14	14	14	0	0.00	0	0	0	0	0.06	0	0	0

TYPE: 5001 - THE HILLSBOROUGH  
SITE NAME: PINE VALLEY & TESTON

LO # 80238  
ELEVATION B - WOB

**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	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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	190.8	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	35.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T \cdot F$	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	<input checked="" type="checkbox"/>	0.3
BATH	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-4	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
W/R	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	October-18

## Specializing in Residential Mechanical Design Services

**HEAT LOSS AND GAIN SUMMARY SHEET**

<b>MODEL:</b> 5001 - THE HILLSBOROUGH	<b>ELEVATION B - WOB</b>	<b>BUILDER:</b> GOLD PARK HOMES
<b>SFQT:</b> 3602	<b>LO#</b> 80238	<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 (ft <sup>3</sup> ):	49591.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft <sup>2</sup> ):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	144.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	52.0 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	-

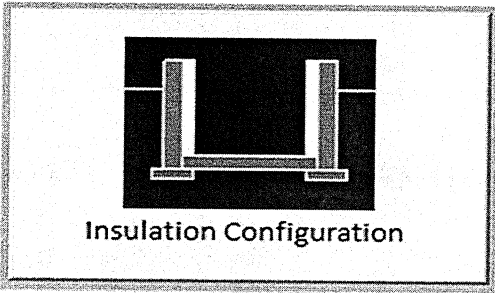
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



## Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

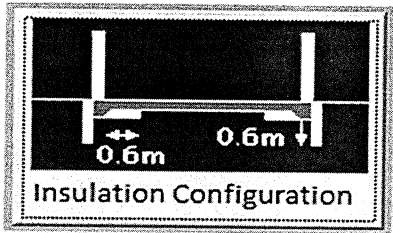
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	43.9	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.57	
Window Area (m <sup>2</sup> ):	0.6	
Door Area (m <sup>2</sup> ):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		<b>824</b>

TYPE: 5001 - THE HILLSBOROUGH  
LO# 80238

ELEVATION B - WOB

## 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		
Length (m):	1.5	
Width (m):	12.8	
Exposed Perimeter (m):	15.8	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		<b>217</b>

TYPE: 5001 - THE HILLSBOROUGH  
LO# 80238

ELEVATION B - WOB



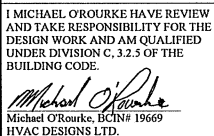
# Air Infiltration Residential Load Calculator

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):	8.53			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m <sup>3</sup> ):	1404.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1871.9 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):	0.389			
Cooling Air Leakage Rate (ACH/H):	0.130			

TYPE: 5001 - THE HILLSBOROUGH  
LO# 80238

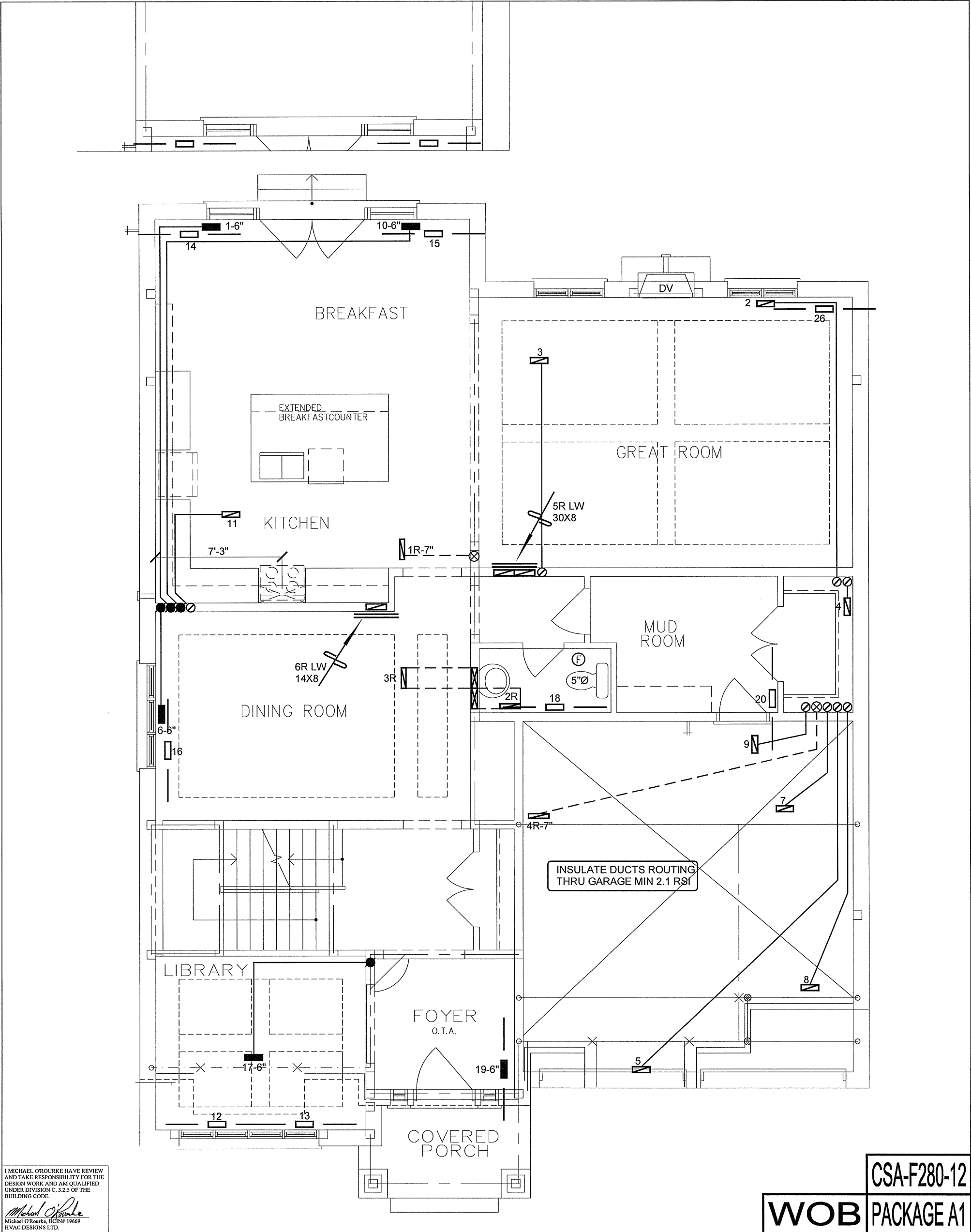
ELEVATION B - WOB



# PACKAGE A1

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Client	 <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>	HEAT LOSS 69053 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title <b>BASEMENT HEATING LAYOUT</b>	
GOLD PARK HOMES		MAKE LENNOX	3RD FLOOR						
Project Name	MODEL EL296UH090XE48C	2ND FLOOR	12	4	3				
PINE VALLEY & TESTON VAUGHAN, ONTARIO ELEVATION B - WOB THE HILLSBOROUGH 5001 3602 sqft	INPUT 88 MBTU/H	1ST FLOOR	9	2	2	Date	OCT/2018		
	OUTPUT 85 MBTU/H	BASEMENT	6	1	0	Scale	3/16" = 1'-0"		
	COOLING 3.5 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5'Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			BCIN# 19669				
	FAN SPEED 1255 cfm @ 0.6" w.c.				LO# 80238				
	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.								



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

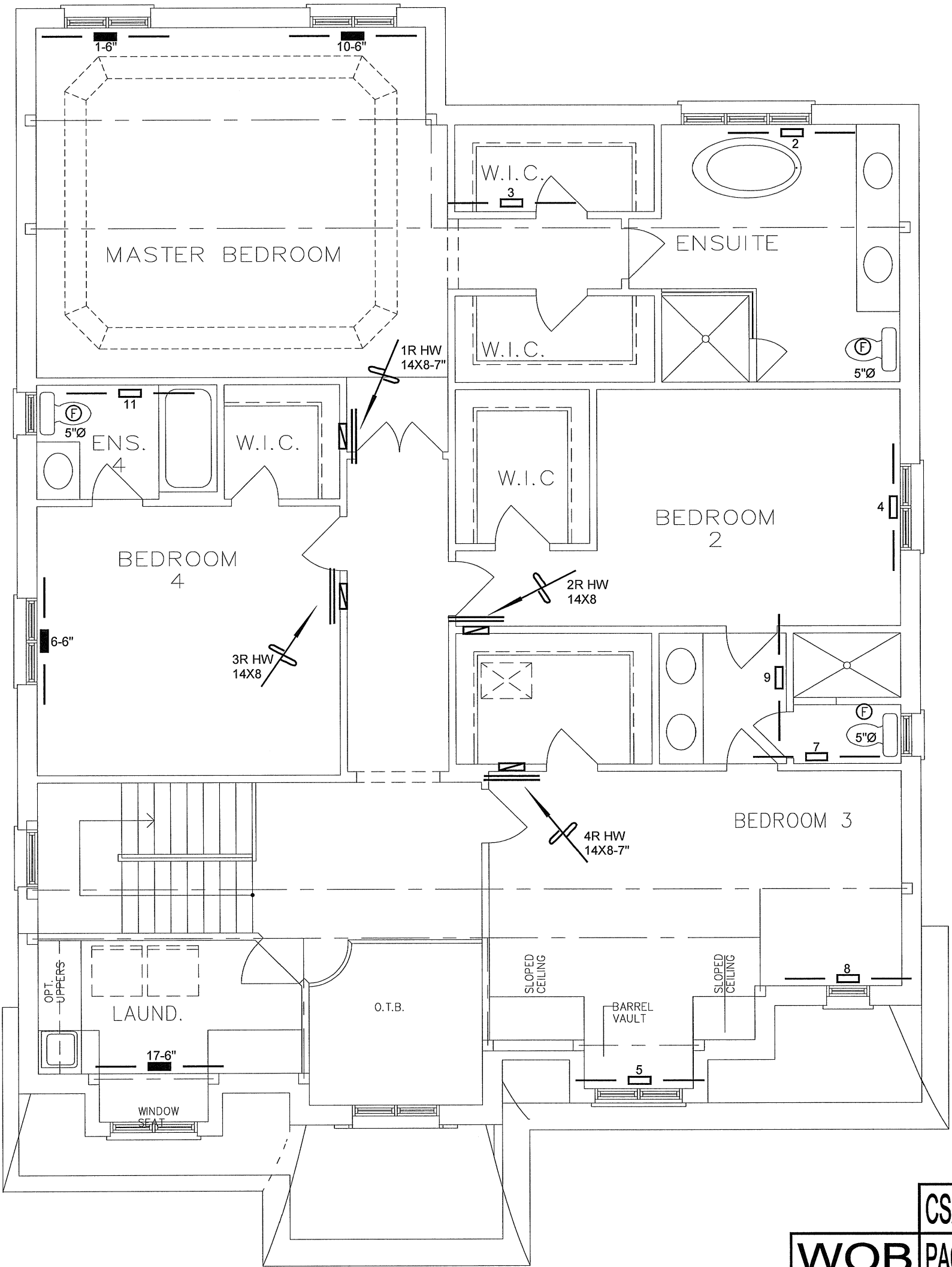
WOB

PACKAGE A1

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

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Client		<div></div> <div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdsgns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div> <div>Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.</div>	Sheet Title		
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT		
Project Name			Date	OCT/2018	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"	
ELEVATION B - WOB			BCIN# 19669		
THE HILLSBOROUGH			LO#	80238	
5001			3602 sqft		



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

CSA-F280-12

WOB 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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GOLD PARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	OCT/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
ELEVATION B - WOB			BCIN# 19669	
THE HILLSBOROUGH			LO#	80238
5001	3602 sqft			