


## 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>				
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems				
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> 4004 THE DALERIDGE  <b>Project:</b> PINE VALLEY & TESTON		
<b>D. Declaration of Designer</b>				
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)				
<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.				
September 10, 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  
BUILDER: GOLD PARK HOMES  
TYPE: 4004 THE DALERIDGE  
DATE: Sep-18  
LO# 77459  
GFA: 3341  
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

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	LOFT	ENS-3
GRS.WALL AREA	330			261			90	108	342	117	54	360	54
GLAZING													
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	290	1294	235	1053	90	402	83	90	402	83	90
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	270	347	172	210	134	180	205	102	192	246	123
NO A T T I C EXPOSED CLG	2.7	1.4	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
BASEMENT/CRAWL HEAT LOSS													
SLAB ON GRADE HEAT LOSS													
SUBTOTAL HT LOSS	2492			1855			607	1031	3675	1092	560	3678	893
SUB TOTAL HT GAIN					2137								
LEVEL FACTOR / MULTIPLIER	0.20	0.27		0.20	0.27		0.20	0.27	0.20	0.27	0.20	0.27	0.20
AIR CHANGE HEAT LOSS	684			509			167	283	981	300	164	954	237
AIR CHANGE HEAT GAIN				192			17		282		71	322	74
DUCT LOSS													
DUCT GAIN													
HEAT GAIN PEOPLE	2			480			0	1	240	1	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				621			0		621		785	621	0
TOTAL HT LOSS BTU/H	3176			2364			774	1314	5012	1392	785	4431	1210
TOTAL HT GAIN x 1.3 BTU/H				4459			283	1840	6119	2084	385	5877	1289

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	DIN	KTGT	LN/MD	ENS-4	FOY	STUDY	LOD	BAS
GRS.WALL AREA	264			264			836	273	99	550	110	420	1612
GLAZING													
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.9	238	1092	221		886	1093	91	406	87	388	81
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	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
NO A T T I C EXPOSED CLG	2.7	1.4	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
BASEMENT/CRAWL HEAT LOSS													
SLAB ON GRADE HEAT LOSS													
SUBTOTAL HT LOSS	1615			6253			6253	1769	802	3827	878	1437	7680
SUB TOTAL HT GAIN					890								
LEVEL FACTOR / MULTIPLIER	0.30	0.48		0.30	0.48		0.30	0.48	0.20	0.27	0.30	0.48	0.80
AIR CHANGE HEAT LOSS	769			2978			2978	842	220	1727	418	11224	11224
AIR CHANGE HEAT GAIN				80			629		38	222	42		0
DUCT LOSS													
DUCT GAIN													
HEAT GAIN PEOPLE	0			0			0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				621			621	621	0	0	0	0	0
TOTAL HT LOSS BTU/H	2385			9231			10719	2811	1022	5354	1286	1437	18884
TOTAL HT GAIN x 1.3 BTU/H				2068									1572

TOTAL HEAT LOSS BTU/H: 48215  
TONS: 4.02  
LOSS DUE TO VENTILATION LOAD BTU/H: 3181  
STRUCTURAL HEAT LOSS: 62577  
TOTAL COMBINED HEAT LOSS BTU/H: 68687

*Michael O'Rourke*

SITE NAME: PINE VALLEY & TESTON  
BUILDER: GOLD PARK HOMESTYPE: 4004 THE DALERIDGE DATE: Sep-18  
furnace pressure 0.6  
a/c coil pressure 0.2  
available pressure for s/a & r/a 0.35  
plenum pressure s/a 0.18  
max s/a diff press. loss 0.02  
min adjusted pressure s/a 0.16

GFA: 3341

LO# 77459

HEATING CFM 1525 COOLING CFM 1525  
TOTAL HEAT LOSS 62,677 TOTAL HEAT GAIN 47,553  
AIR FLOW RATE CFM 24.33 AIR FLOW RATE CFM 32.07EL286UH080XE48C  
FAN SPEED LOW 0  
MEDIUM 1105  
HIGH 1255^LENNOX  
90  
DESIGN CFM = 1525  
CFM @ 8" E.S.P.AFUE = 98 %  
INPUT (BTU/H) = 88,000  
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	14	9	6
R/A	0	0	5	3	1

All S/A diffusers 4"x10" 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	ENS-3	LOFT	MBR	ENS-3	DIN	KT/GT	KT/GT	KT/GT	KT/GT	LN/MD	ENS	FOY	STUDY	BAS	BAS	BAS	BAS
RM LOSS MBH	1.59	1.18	0.77	1.31	1.39	1.39	0.78	1.02	2.22	1.59	1.21	2.38	2.31	2.31	2.31	2.31	2.61	1.18	2.68	1.30	3.39	3.39	3.39	3.39
CFM PER RUN HEAT	39	29	19	32	61	34	19	25	54	39	29	58	56	56	56	56	64	29	65	32	82	82	82	82
RM GAIN MBH	2.23	1.00	0.26	1.84	3.06	2.09	0.38	0.57	2.94	2.23	1.29	2.07	2.68	2.68	2.68	2.68	1.47	1.00	1.74	1.47	0.57	0.57	0.57	0.57
CFM PER RUN COOLING	72	32	8	59	98	67	12	18	94	72	41	66	88	88	88	88	47	32	56	47	18	18	18	18
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	71	58	51	49	42	40	37	33	44	63	35	18	45	37	39	46	11	55	16	27	36	39	28	21
EQUIVALENT LENGTH	200	150	150	180	190	150	220	200	140	210	180	130	140	150	180	150	160	140	100	80	100	90	110	110
TOTAL EFFECTIVE LENGTH	271	208	201	229	232	190	257	233	184	273	215	148	185	187	199	198	171	195	156	107	136	129	138	131
ADJUSTED PRESSURE	0.06	0.08	0.09	0.08	0.07	0.09	0.07	0.07	0.09	0.06	0.08	0.12	0.09	0.09	0.08	0.08	0.1	0.09	0.11	0.16	0.12	0.13	0.12	0.12
ROUND DUCT SIZE	6	4	5	5	6	5	4	4	6	6	4	5	5	5	6	6	5	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	199	333	218	235	311	250	218	287	275	199	333	426	411	411	286	286	470	333	477	367	602	602	602	602
COOLING VELOCITY (ft/min)	367	367	92	433	500	492	138	207	479	367	470	485	631	631	438	438	345	367	411	539	132	132	132	132
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	D	C	D	C	D	A	D	C	A	A	A	A	C	C	D	C	B	B	B	C

TEMPERATURE RISE 52 °F

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BED-3	LOFT	FOY
RM LOSS MBH	3.39	3.39	2.51	2.22	2.68
CFM PER RUN HEAT	82	82	61	54	65
RM GAIN MBH	0.57	0.57	3.06	2.94	1.74
CFM PER RUN COOLING	18	18	98	94	56
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.17
ACTUAL DUCT LGH	19	32	48	57	25
EQUIVALENT LENGTH	120	120	200	200	120
TOTAL EFFECTIVE LENGTH	139	152	248	257	145
ADJUSTED PRESSURE	0.12	0.11	0.07	0.06	0.12
ROUND DUCT SIZE	5	5	6	6	5
HEATING VELOCITY (ft/min)	602	602	311	275	477
COOLING VELOCITY (ft/min)	132	132	500	479	411
OUTLET GRILL SIZE	3X10	3X10	4X10	4X10	3X10
TRUNK	C	D	D	D	D

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE										VELOCITY (ft/min)									
TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY	TRUNK	CFM	STAT. PRESS.	ROUND DUCT	RECT DUCT	VELOCITY
TRUNK A	331	0.06	10	12	8	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	0	TRUNK O	0	0.06	0	0	0	TRUNK O	0	0.06	0	0	8
TRUNK B	628	0.06	12.7	18	8	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.06	0	0	0	TRUNK P	0	0.06	0	0	0	TRUNK Q	0	0.06	0	0	8
TRUNK C	1034	0.06	15.3	28	8	TRUNK I	0	0.00	0	0	8	TRUNK R	0	0.06	0	0	0	TRUNK R	0	0.06	0	0	0	TRUNK S	0	0.06	0	0	8
TRUNK D	490	0.06	11.5	16	8	TRUNK J	0	0.00	0	0	8	TRUNK T	0	0.06	0	0	0	TRUNK T	0	0.06	0	0	0	TRUNK U	0	0.06	0	0	8
TRUNK E	0	0.00	0	0	0	TRUNK K	0	0.00	0	0	8	TRUNK V	0	0.06	0	0	0	TRUNK V	0	0.06	0	0	0	TRUNK W	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	8	TRUNK X	1270	0.06	16.5	28	0	TRUNK X	1270	0.06	16.5	28	0	TRUNK Y	605	0.06	12.5	18	653
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	25	26	27	28	29
AIR VOLUME	155	185	85	95	170	145	305	145	145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	51	36	44	37	45	28	31	23	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	190	155	205	165	165	185	145	195	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	241	191	249	202	210	213	176	218	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.08	0.06	0.07	0.07	0.07	0.08	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	0.07	0.07
ROUND DUCT SIZE	7.5	7.5	6	6	7.5	7	9	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
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	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	14	14	30	14	14	14	30	14	14	14	14	14	30	14	14	14	14	14	14	14	14	14	14	14	14

TYPE: 4004 THE DALERIDGE  
SITE NAME: PINE VALLEY & TESTON

LO # 77459

**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	6 @ 10.6 cfm	63.6 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		79.5 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
<input checked="" type="checkbox"/> 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	<input checked="" type="checkbox"/>	0.3
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-3	QTXEN050C	50	<input checked="" type="checkbox"/>	0.3
ENS-4	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:	September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations											
Formula Sheet (For Air Leakage / Ventilation Calculation)											
LO#: 77459		Model: 4004 THE DALERIDGE		Builder: GOLD PARK HOMES		Date: 9/10/2018					
Volume Calculation				Air Change & Delta T Data							
<b>House Volume</b>		Floor Area (ft²)		Floor Height (ft)		Volume (ft³)		WINTER NATURAL AIR CHANGE RATE		0.340	
Level								SUMMER NATURAL AIR CHANGE RATE		0.124	
Bsmt		1518		10		15180					
First		1518		11		16698					
Second		1852		9		16668					
Third		0		9		0					
Fourth		0		9		0					
		Total:		48,546.0 ft³							
		Total:		1374.7 m³							
<b>5.2.3.1 Heat Loss due to Air Leakage</b>											
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$											
0.340	x	381.85	x	42 °C	x	1.2	=	6579 W			
							=	22448 Btu/h			
<b>5.2.3.2 Heat Loss due to Mechanical Ventilation</b>											
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$											
155 CFM	x	76 °F	x	1.08	x	0.25	=	3181 Btu/h			
<b>5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)</b>											
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{uqcr} + HL_{pgr}) \div (HL_{uqlevel} + HL_{bqlevel})\}$											
Level		Level Factor (LF)		Hlairst Air Leakage + Ventilation Heat Loss (Btu/h)		Level Conductive Heat Loss: (HL <sub>level</sub> )		Air Leakage Heat Loss Multiplier (LF x Hlairstv / HL <sub>level</sub> )			
1		0.5		22,448		9,098		1.234			
2		0.3				14,142		0.476			
3		0.2				16,352		0.275			
4		0				0		0.000			
5		0				0		0.000			
<p>*HLairbv = Air leakage heat loss + ventilation heat loss</p> <p>*For a balanced or supply only ventilation system HLairv = 0</p>											

**HEAT LOSS AND GAIN SUMMARY SHEET****MODEL:** 4004 THE DALERIDGE**BUILDER:** GOLD PARK HOMES**SFQT:** 3341**LO#** 77459**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 <sup>3</sup> ):	48546.0	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:	7.0 ft
LENGTH: 58.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	180.0 ft

2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		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	-

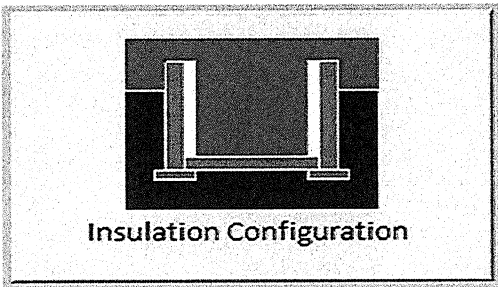
INDIVIDUAL BCIN: 19669

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):	17.7	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m <sup>2</sup> ):	3.3	
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):		1755

TYPE: 4004 THE DALERIDGE  
LO# 77459

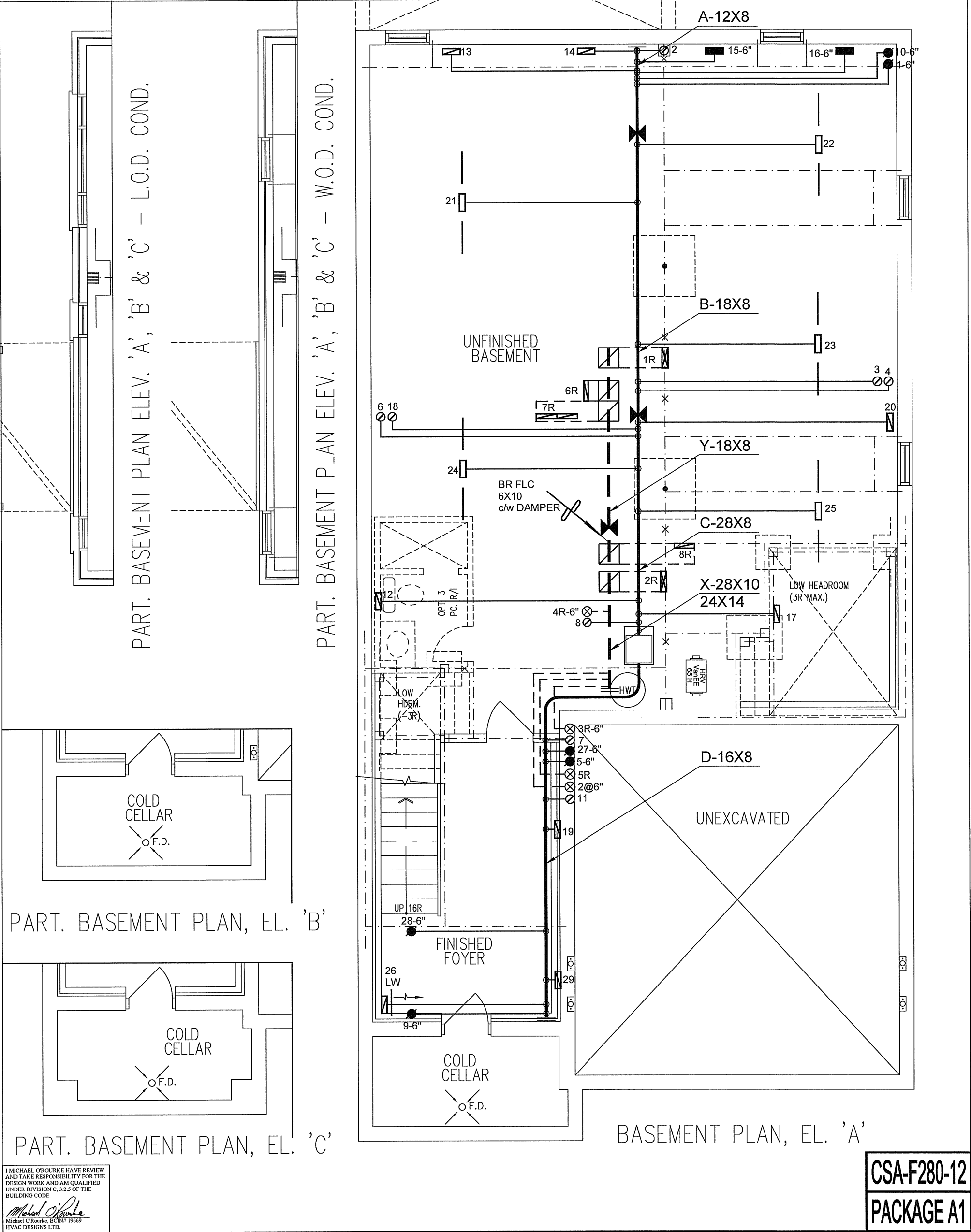
# Air Infiltration Residential Load Calculator

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 <sup>3</sup> ):	1374.7			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1832.5 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):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4004 THE DALERIDGE  
LO# 77459





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

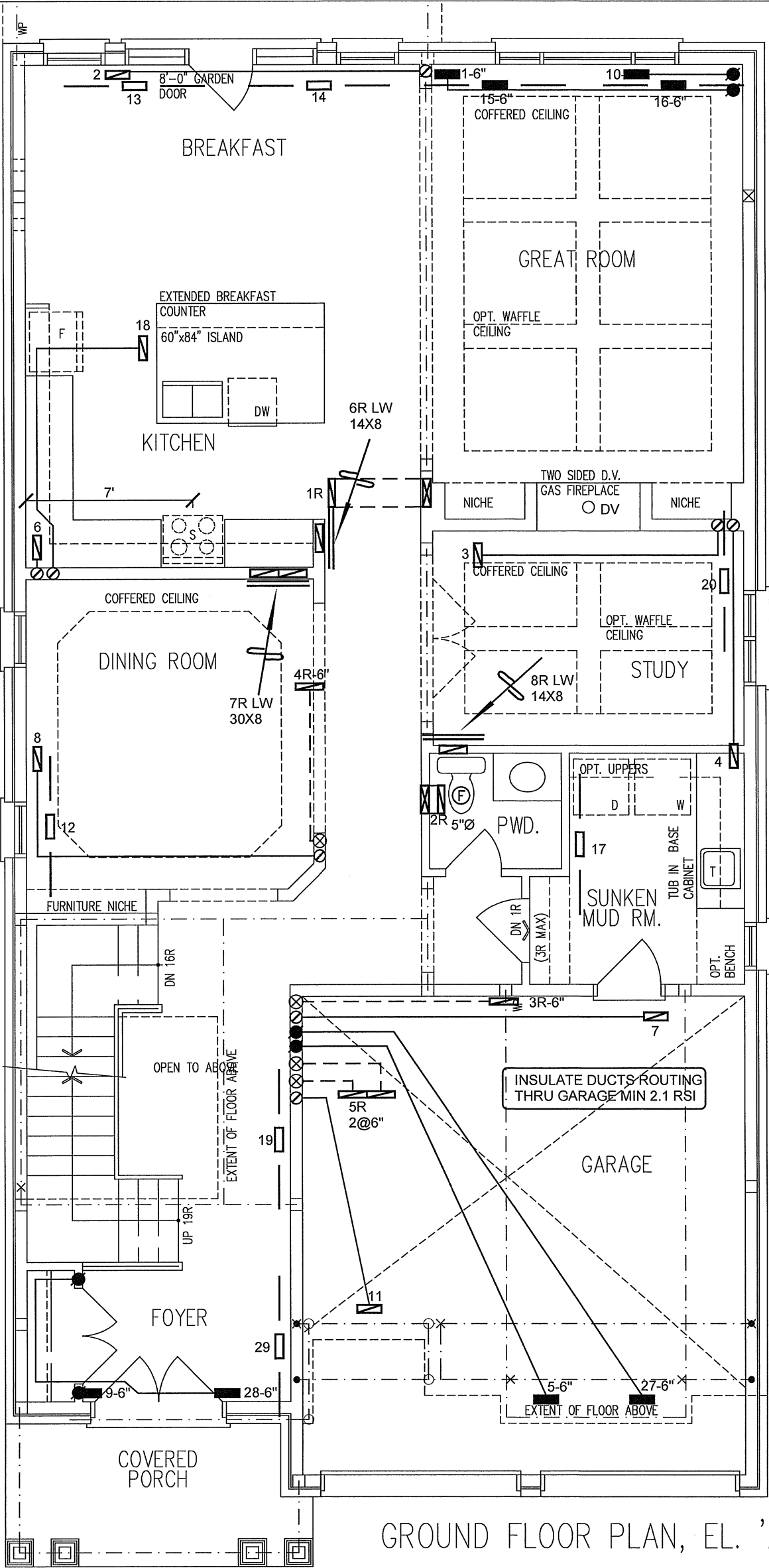
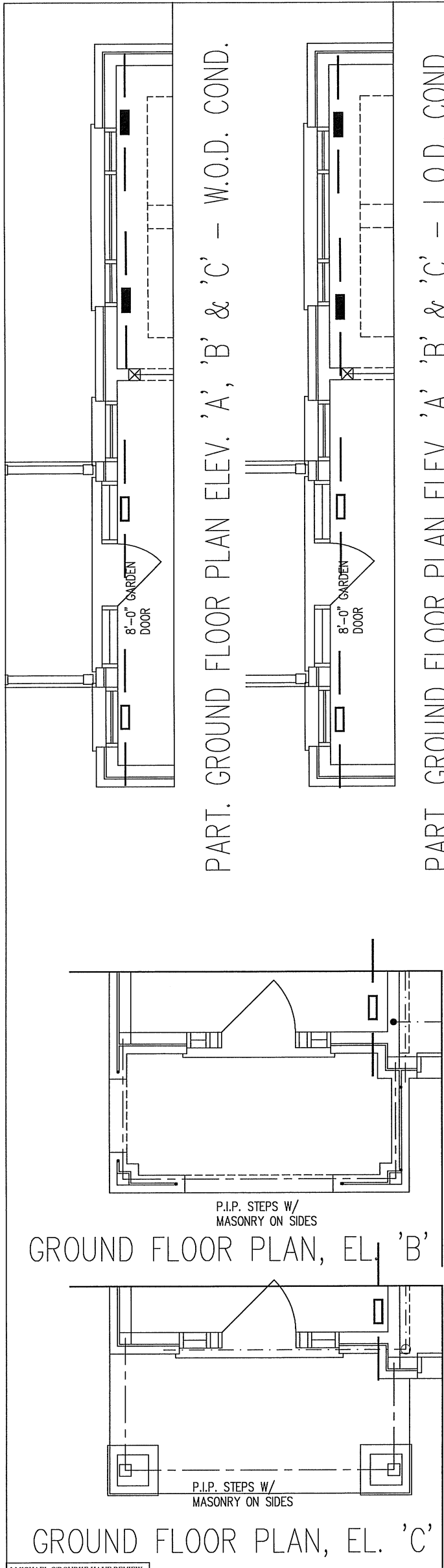
*Michael O'Rourke*  
Michael O'Rourke, BCIN# 19669  
HVAC DESIGNS LTD.

CSA-F280-12  
PACKAGE A1

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1. DECK CONDITIONS ADDED
	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 <b>GOLD PARK HOMES</b>		<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><p>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.</p></div>	HEAT LOSS 65857 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			<div>Sheet Title <b>BASEMENT HEATING LAYOUT</b></div> <div>Date <b>JAN/2018</b></div> <div>Scale <b>3/16" = 1'-0"</b></div> <div>BCIN# 19669</div> <div>LO# <b>77459</b></div>	
Project Name <b>PINE VALLEY &amp; TESTON VAUGHAN, ONTARIO</b>			MAKE LENNOX		3RD FLOOR				
			MODEL EL296UH090XE48C		2ND FLOOR 14 5 5				
			INPUT 88 MBTU/H		1ST FLOOR 9 3 2				
			OUTPUT 85 MBTU/H		BASEMENT 6 1 0				
THE DALERIDGE 4004 3341 sqft		COOLING 4.0 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					
		FAN SPEED 1525 cfm @ 0.6" w.c.							



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

*Michael O'Rourke*

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

CSA-F280-12

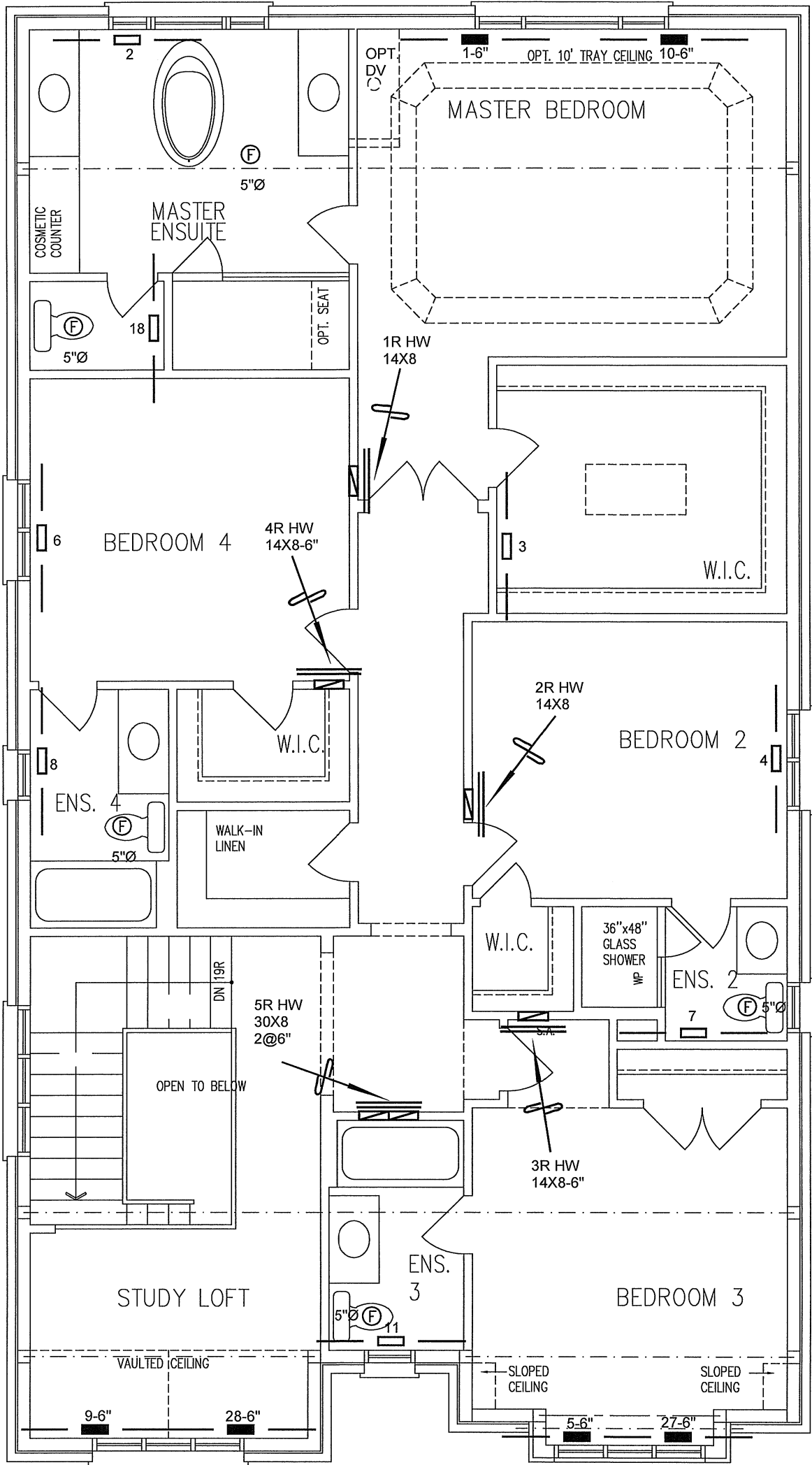
PACKAGE A1

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	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	1. DECK CONDITIONS ADDED
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date
REVISIONS								

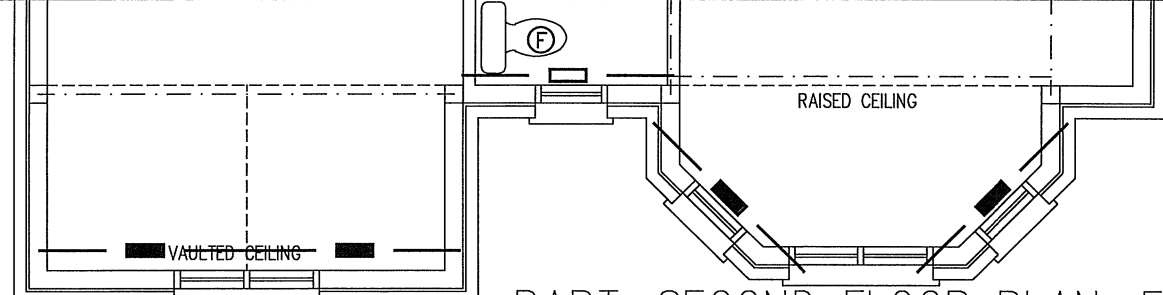
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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	
PINE VALLEY & TESTON VAUGHAN, ONTARIO			JAN/2018	
THE DALERIDGE 4004			Scale	
3341 sqft			3/16" = 1'-0"	
		BCIN# 19669		
		LO#	77459	

PART. SECOND FLOOR PLAN, EL. 'C'



SECOND FLOOR PLAN, EL. 'A'



PART. SECOND FLOOR PLAN, EL. 'B'

CSA-F280-12  
PACKAGE A1

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

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	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description
	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			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
THE DALERIDGE 4004			BCIN# 19669	
3341 sqft		LO#	77459	