


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@hvacdsgns.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]			
<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 HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5005 - LOT 93 - OPT. ELEVATOR WOB THE KNIGHTSWOOD Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
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.			
November 5, 2018 Date		 Signature of Designer	

NOTE:

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

SITE NAME: PINE VALLEY & TESTON			THE KNIGHTSWOOD			DATE: Nov-18			WINTER NATURAL AIR CHANGE RATE			HEAT LOSS AT °F.			CSA-F280-1																				
BUILDER: GOLD PARK HOMES			TYPE: 5005 - LOT 93 - OPT. ELEVATOR W GFA: 4405			LO# 80581			SUMMER NATURAL AIR CHANGE RATE			HEAT GAIN AT °F.			SB-12 PACKAGE A1																				
ROOM USE			ENS			WIC			BED-2			BED-3			BED-4			ENS-2			WIC-2			ENS-3			ENS-4			WIC-3					
EXP. WALL CLG. HT.			MBR			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS					
FACTORS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS					
GRS.WALL AREA			483			342			378			342			181			76			29			38			67			133					
GLAZING			LOS			GAIN			LOS			GAIN			LOS			GAIN			LOS			GAIN			LOS			GAIN					
NORTH			21.3			15.3			0			0			0			0			0			0			0			0			0		
EAST			21.3			39.4			0			0			0			0			0			0			0			0			0		
SOUTH			21.3			23.7			0			0			0			0			0			0			0			0			0		
WEST			21.3			39.4			50			1064			1969			34			724			1339			0			0			0		
SKYLT.			37.2			101.5			0			0			0			0			0			0			0			0			0		
DOORS			25.2			4.3			0			0			0			0			0			0			0			0			0		
NET EXPOSED WALL			4.5			0.8			433			1932			325			308			1375			231			99			440			74		
NET EXPOSED BSMT WALL ABOVE GR			3.6			0.6			0			0			0			0			0			0			0			0			0		
EXPOSED CLG			2.7			1.3			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		
EXPOSED FLOOR			2.6			0.4			0			0			0			0			0			0			0			0			0		
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0			0			0			0		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0			0			0			0		
SUBTOTAL HT LOSS			3680			2608			1228			3864			2950			2083			780			281			288			566			998		
SUB TOTAL HT GAIN			0.20			0.36			0.20			0.36			0.20			0.36			0.20			0.36			0.20			0.36			0.20		
LEVEL FACTOR / MULTIPLIER			1308			893			436			1048			740			109			106			38			102			201			355		
AIR CHANGE HEAT LOSS			0			0			0			0			0			0			0			0			0			0			0		
AIR CHANGE HEAT GAIN			0			0			0			0			0			0			0			0			0			0			0		
DUCT LOSS			0			0			0			0			0			0			0			0			0			0			0		
DUCT GAIN			2			480			0			1			240			240			0			27			7			0			0		
HEAT GAIN PEOPLE			821			0			0			821			821			2823			1163			418			390			767			1352		
HEAT GAIN APPLIANCES/LIGHTS			4988			5333			2458			6286			5502			3428			83			95			115			412			1262		
TOTAL HT LOSS BTU/H			3405			545			1831			5761			4398			2823			1163			418			390			767			1352		
TOTAL HT GAIN x 1.3 BTU/H			2458			545			1831			5761			4398			2823			1163			418			390			767			1352		

ROOM USE			DIN			KIT/GT			CAB			LAUN			PWD			FOY			MUD			WOB			BAS								
EXP. WALL CLG. HT.			MBR			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS					
FACTORS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS			LOS					
GRS.WALL AREA			326			399			914			473			0			53			368			138			494			1246					
GLAZING			LOS			GAIN			LOS			GAIN			LOS			GAIN			LOS			GAIN			LOS			GAIN					
NORTH			21.3			15.3			0			0			0			9			192			137			0			0			0		
EAST			21.3			39.4			56			1192			2205			0			0			0			0			0			0		
SOUTH			21.3			23.7			0			0			34			724			805			20			426			474			53		
WEST			21.3			39.4			0			0			0			0			95			2022			3741			53			1128		
SKYLT.			37.2			101.5			0			0			0			0			0			0			0			0			0		
DOORS			25.2			4.3			0			0			0			0			0			0			0			0			0		
NET EXPOSED WALL			4.5			0.8			270			1203			203			345			1540			259			733			3269			551		
NET EXPOSED BSMT WALL ABOVE GR			3.6			0.6			0			0			0			0			0			0			0			0			0		
EXPOSED CLG			2.7			1.3			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		
EXPOSED FLOOR			2.6			0.4			0			0			0			0			0			0			0			0			0		
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0			0			0			0			0		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0			0			0			0			0		
SUBTOTAL HT LOSS			2394			2768			7200			4865			317			496			2813			1032			6402			5206					
SUB TOTAL HT GAIN			0.30			0.48			0.30			0.48			0.20			0.30			0.48			0.30			0.48			0.50					
LEVEL FACTOR / MULTIPLIER			1157			1337			3478			2350			113			239			1359			498			17365			150					
AIR CHANGE HEAT LOSS			0			0			0			0			0			0			0			0			0			0					
AIR CHANGE HEAT GAIN			0			0			0			0			0			0			0			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			821			821			821			821			821			735			4172			1530			7549			821					
HEAT GAIN APPLIANCES/LIGHTS			3551			4430			10678			7215			473			308			4172			1530			7549			22570					
TOTAL HT LOSS BTU/H			4430			2673			8821			6573			1334			308			4172			1530			7549			22570					
TOTAL HT GAIN x 1.3 BTU/H			2673			8821			6573			1334			308			4172			1530			7549			22570			2415					

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

THE KNIGHTSWOOD
TYPE: 5005 - LOT 93 - OPT. ELEVATOR V DATE: Nov-18

GFA:	4405	LO#	80581
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	1955	1955
HEATING CFM		COOLING CFM
TOTAL HEAT LOSS	89,877	TOTAL HEAT GAIN
AIR FLOW RATE CFM	21.75	AIR FLOW RATE CFM

furnace filter	0.08
a/c coil pressure	0.2
available pressure for s/a & r/a	0.32

furnace filter	0.08
a/c coil pressure	0.2
available pressure	
for s/a & r/a	0.32

^LENNOX
EL296UH110XE60C 110
FAN SPEED

AFUE = 96 %
INPUT (BTU/H) = 110,0
OUTPUT (BTU/H) = 106.0

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

DESIGN CFM = **1955**
CFM @ .6" ESP

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	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.	2.49	2.74	1.83	1.92	2.20	1.41	1.16	0.42	0.39	2.49	0.77	1.78	4.11	2.67	2.67	2.67	0.47	0.74	4.17	1.53	3.76	3.76	3.76	3.76
CFM PER RUN HEAT	54	59	40	42	48	31	25	9	8	54	17	39	89	58	58	58	10	16	91	33	82	82	82	82
RM GAIN MBH.	2.67	2.22	0.54	2.10	2.75	1.71	0.39	0.10	0.12	2.67	0.41	2.21	2.67	2.21	2.21	2.21	1.33	0.31	1.23	0.24	1.15	1.15	1.15	1.15
CFM PER RUN COOLING	86	72	18	68	89	55	13	3	4	86	13	71	86	71	71	71	43	10	40	8	37	37	37	37
ADJUSTED PRESSURE	0.15	0.16	0.16	0.16	0.15	0.16	0.16	0.16	0.16	0.15	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.16	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	70	70	53	49	70	48	47	48	53	64	59	57	29	52	69	54	36	73	40	47	60	60	54	38
EQUIVALENT LENGTH	190	200	170	160	160	160	160	150	170	170	150	140	103	120	140	110	200	170	210	160	150	120	103	90
TOTAL EFFECTIVE LENGTH	260	270	223	209	203	208	207	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	0.08	0.08	0.07	0.06	0.07	0.08	0.11	0.09	0.07	0.1	0.07	0.06	0.06	0.08	0.07	0.08	0.09	0.11
ROUND DUCT SIZE	6	6	4	5	6	5	4	4	4	6	4	5	6	5	5	5	4	4	6	4	6	5	5	5
HEATING VELOCITY (ft/min)	275	301	459	308	245	228	287	103	92	275	195	286	454	426	426	426	115	184	464	379	418	602	602	602
COOLING VELOCITY (ft/min)	438	367	207	499	454	404	149	34	46	438	149	521	438	521	521	521	493	115	204	92	189	272	272	272
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	C	C	G	F	E	C	G	G	D	E	F	E	D	B	C	F	A	F	C	A	R	D	F

25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
ROOM NAME	BAS	BED-2	BED-2	WIC-3	WIC-3	LIB	KIT/GT	CAB	CAB	CAB	ENS	ENS	BAS	BED-4	BAS
RM LOSS MBH.	3.76	1.92	1.92	2.20	1.35	1.78	2.67	2.41	2.41	2.41	0.34	0.34	3.76	1.41	3.76
CFM PER RUN HEAT	82	82	42	48	29	39	58	52	52	52	7	7	82	31	82
RM GAIN MBH.	1.15	2.10	2.10	2.75	1.26	2.21	2.21	2.19	2.19	2.19	0.12	0.12	1.15	1.71	1.15
CFM PER RUN COOLING	37	68	68	89	41	71	71	71	71	71	4	4	37	55	37
ADJUSTED PRESSURE	0.15	0.16	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.15	0.16	0.15
ACTUAL DUCT LGH.	34	50	52	55	58	51	55	69	71	82	56	58	23	48	57
EQUIVALENT LENGTH	110	150	170	160	190	160	120	150	130	140	200	190	140	190	160
TOTAL EFFECTIVE LENGTH	144	200	222	215	235	248	211	219	201	222	256	248	163	238	217
ADJUSTED PRESSURE	0.1	0.07	0.07	0.06	0.06	0.07	0.09	0.07	0.08	0.07	0.06	0.06	0.09	0.07	0.07
ROUND DUCT SIZE	5	5	5	6	5	5	5	5	5	5	4	4	5	5	6
HEATING VELOCITY (ft/min)	602	308	308	245	213	286	426	382	382	382	80	80	602	228	418
COOLING VELOCITY (ft/min)	272	189	499	454	301	521	521	521	521	521	46	46	272	404	189
OUTLET GRILL SIZE	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10
TRUNK	G	F	G	F	F	F	B	A	A	A	C	C	E	E	C

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK					VELOCITY (ft/min)					TRUNK					VELOCITY (ft/min)				
CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	
TRUNK A	254	9	10	X	8	457	601	18	8	601	0.06	12.5	18	X	8	601	0.05	0	0
TRUNK B	198	0.07	7.9	X	8	446	TRUNK G	34	X	10	828	19.4	34	X	10	828	0.05	0	0
TRUNK C	763	0.06	13.6	X	8	624	TRUNK H	0	X	8	0	0	0	X	8	0	0.05	0	0
TRUNK D	248	0.06	8.9	X	8	446	TRUNK I	0	X	8	0	0	0	X	8	0	0.05	0	0
TRUNK E	1353	0.06	16.9	X	8	761	TRUNK J	0	X	8	0	0	0	X	8	0	0.05	0	0
TRUNK F	376	0.06	10.4	X	8	564	TRUNK K	0	X	8	0	0	0	X	8	0	0.05	0	0
			12	X	8		TRUNK L	0	X	8	0	0	0	X	8	0	0.05	0	0

[illegible]

TYPE: 5005 - LOT 93 - OPT. ELEVATOR WOB
SITE NAME: PINE VALLEY & TESTON

LO # 80581
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	<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>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>155</u>	cfm
Required Supplemental Capacity	<u>57.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY			
Model: VANEE 65H	Location: BSMT		
<u>155.0</u> cfm	<u>3.0</u> 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-4	QTXEN050C	50	<input checked="" type="checkbox"/> 0.3
PWD	QTXEN050C	50	<input checked="" type="checkbox"/> 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	<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:	November-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																									
Formula Sheet (For Air Leakage / Ventilation Calculation)																																									
LO#: 80581		Model: 5005 - LOT 93 - OPT. ELEVATOR WOB			Builder: GOLD PARK HOMES			Date: 05/11/2018																																	
Volume Calculation																																									
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6.2.6 Sensible Gain due to Air Leakage																																									
$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p> = 0.135 x 499.32 x 7 °C x 1.2 = 575 W = 34729 Btu/h </p>																																									
6.2.7 Sensible heat Gain due to Ventilation																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p> 155 CFM x 13 °F x 1.08 x 0.25 = 536 Btu/h </p>																																									
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																									
$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">34,729</td> <td>11,608</td> <td>1.496</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>21,568</td> <td>0.483</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>19,549</td> <td>0.355</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </table>										Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	34,729	11,608	1.496	2	0.3	21,568	0.483	3	0.2	19,549	0.355	4	0	0	0.000	5	0	0	0.000						
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<p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>																																									

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 5005 - LOT 93 - OPT. ELEVATOR W THE KNIGHTSWOOD**BUILDER:** GOLD PARK HOMES**SFQT:** 4405**LO#** 80581**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)	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 ³):	63480.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.5 ft
LENGTH: 77.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	166.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	72.0 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	-

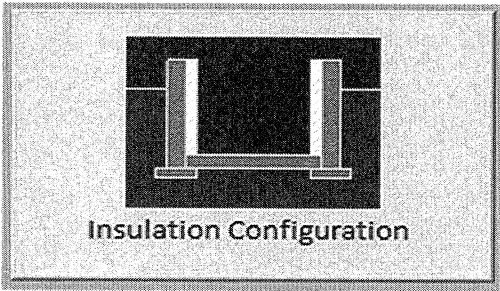
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

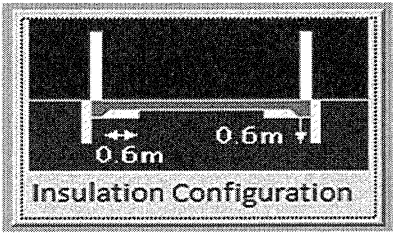
Supplemental tool for CAN/CSA-F280

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):	7.6	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	50.6	
Wall Height (m):	2.9	
Depth Below Grade (m):	2.04	
Window Area (m ²):	1.1	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		804

TYPE: 5005 - LOT 93 - OPT. ELEVATOR WO THE KNIGHTSWOOD
LO# 80581

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):	4.6	 Insulation Configuration
Width (m):	12.8	
Exposed Perimeter (m):	21.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		336

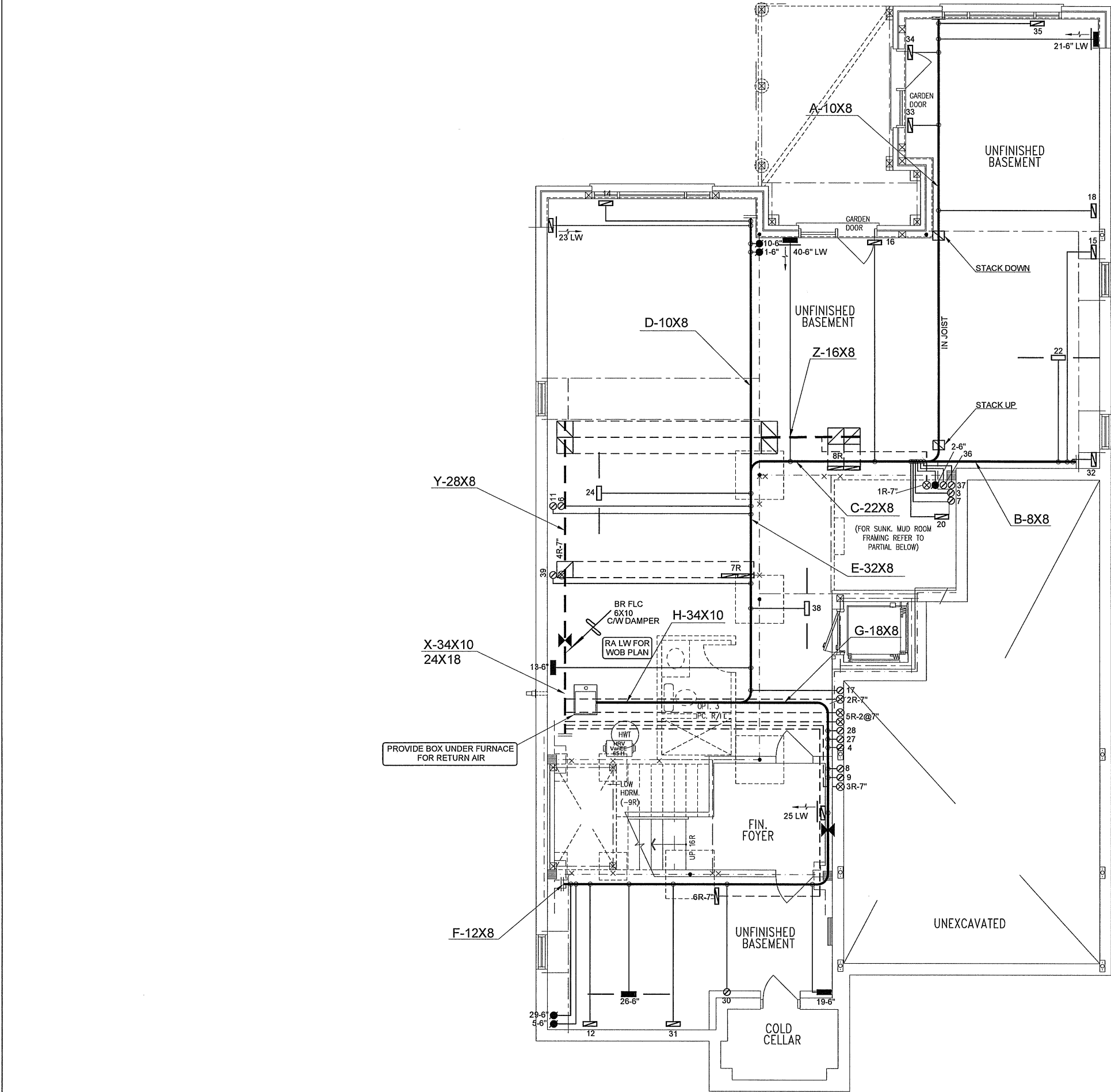
TYPE: 5005 - LOT 93 - OPT. ELEVATOR WOB THE KNIGHTSWOOD
LO# 80581

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):	8.99			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1797.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2396.2 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):	0.402			
Cooling Air Leakage Rate (ACH/H):	0.135			

TYPE: 5005 - LOT 93 - OPT. ELEVATOR W/ THE KNIGHTSWOOD
LO# 80581



BASEMENT PLAN ELEV. 'B' – LOT 93

WOB
LOT 93
CSA-F280-12
PACKAGE A1

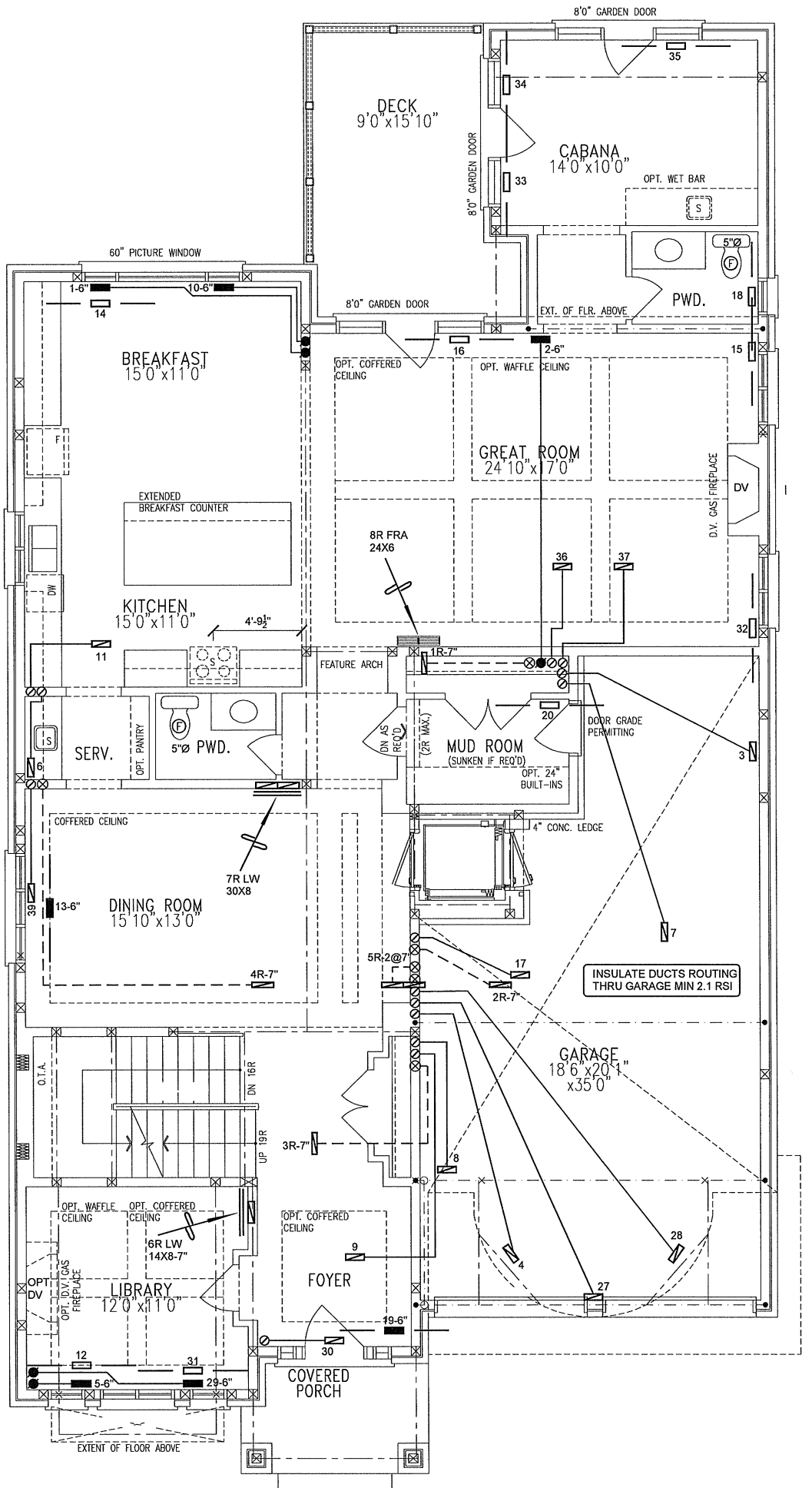
I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	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		<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@hvacdesigns.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>	HEAT LOSS 93057 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GOLDPARK HOMES			MAKE	LENNOX	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name			MODEL	EL296UH110XE60C	2ND FLOOR	19	5	7		
PINE VALLEY & TESTON VAUGHAN, ONTARIO			INPUT	110 MBTU/H	1ST FLOOR	13	3	3		
KNIGHTSWOOD			OUTPUT	106 MBTU/H	BASEMENT	8	1	0	Date	NOV/2018
OPT. ELEVATOR			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"
5005 - LOT 93 WOB 4405 sqft			FAN SPEED	1955 cfm @ 0.6" w.c.					BCIN# 19669	
									LO#	80581



GROUND FLOOR PLAN ELEV. 'B' - LOT 93

WOB
LOT 93
CSA-F280-12
PACKAGE A1

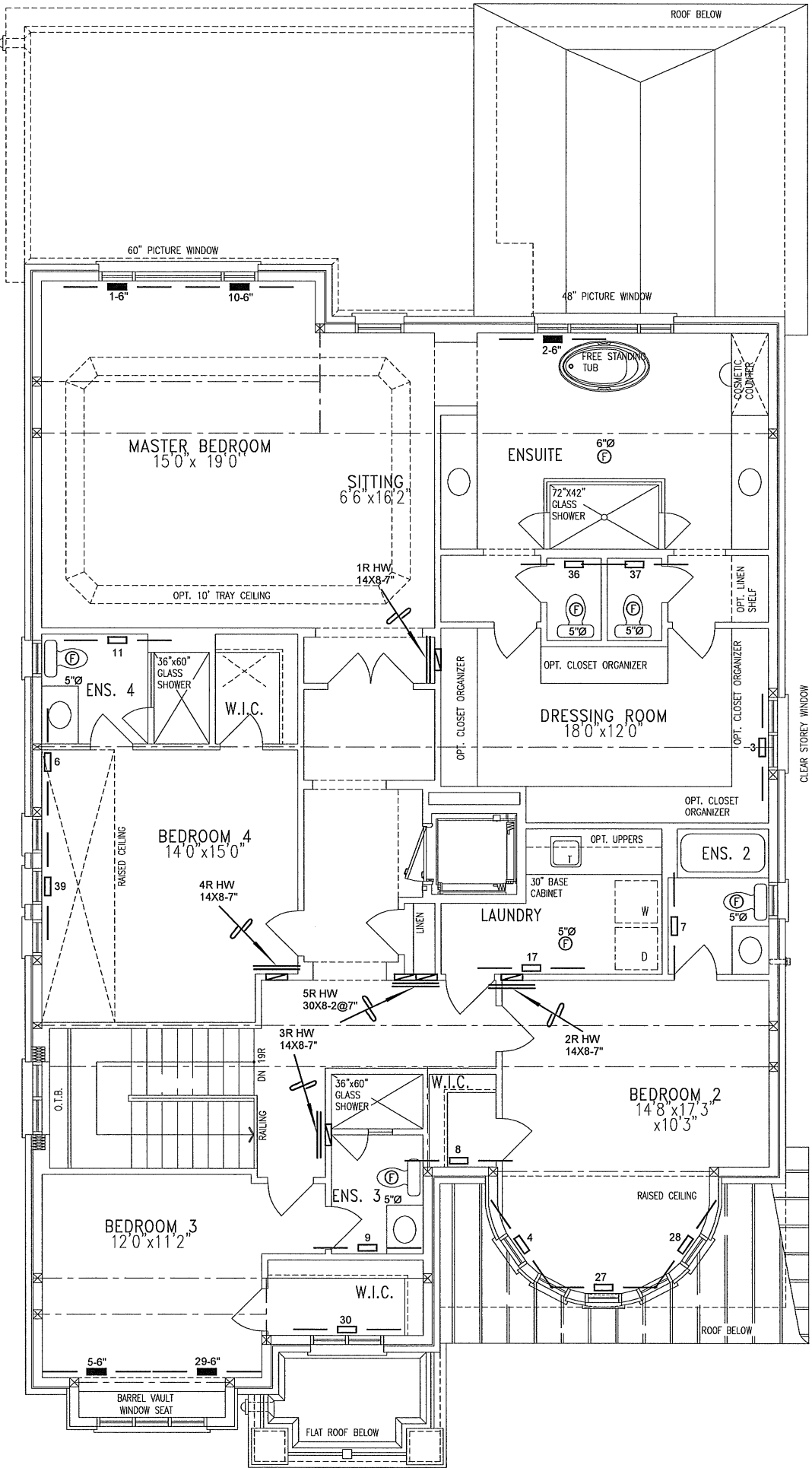
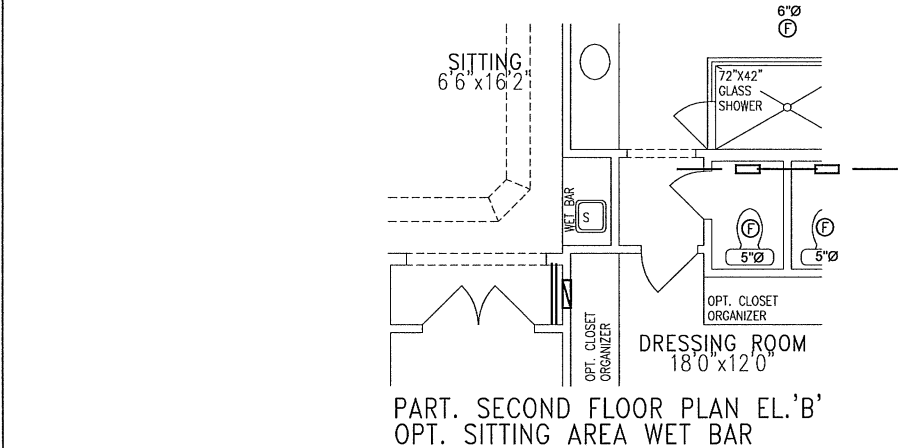
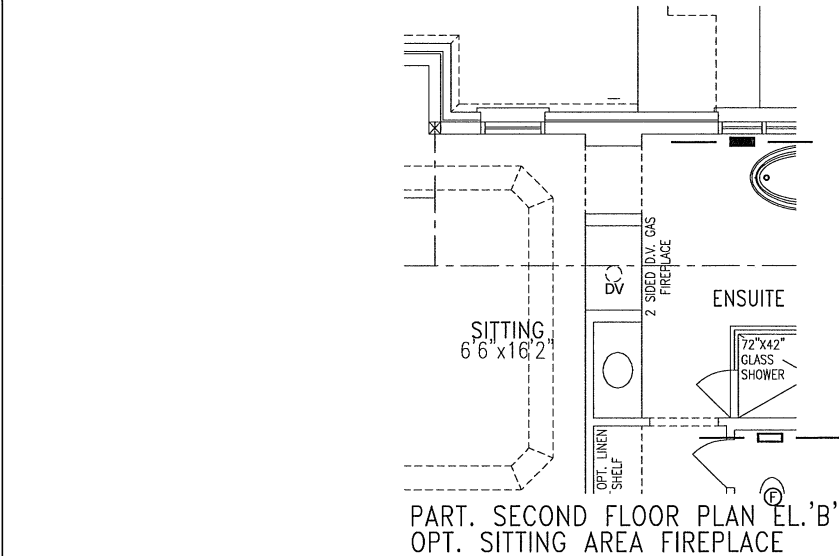
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GOLDPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	NOV/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO KNIGHTSWOOD OPT. ELEVATOR 5005 - LOT 93 WOB 4405 sqft			Scale	1/8" = 1'-0"
			BCIN# 19669	
			LO#	80581



SECOND FLOOR PLAN ELEV. 'B' - LOT 93

WOB
LOT 93
CSA-F280-12
PACKAGE A1

I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.2.5 OF THE BUILDING CODE.
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
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Client GOLDPARK HOMES		<div><p>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services</p></div>	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO KNIGHTSWOOD OPT. ELEVATOR 5005 - LOT 93 WOB 4405 sqft			Date NOV/2018	Scale 1/8" = 1'-0"
		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.	BCIN# 19669	
			LO#	80581