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	**Postal code**	**Plan number/ other description**		
VAUGHAN (WOODBRIDGE)				

B. Individual who reviews and takes responsibility for design activities

Name		Firm		
MICHAEL O'ROURKE		**HVAC DESIGNS LTD.**		
Street address			Unit no.	Lot/con.
375 FINLEY AVE			**202**	**N/A**
Municipality	Postal code	Province	E-mail	
AJAX	**L1S 2E2**	**ONTARIO**	**info@hvacdesigns.ca**	
Telephone number	Fax number		Cell number	
(**905**) **619-2300**	(**905**) **619-2375**		( )	

C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]

❑ House	☒ HVAC – House	❑ Building Structural
❑ Small Buildings	❑ Building Services	❑ Plumbing – House
❑ Large Buildings	❑ Detection, Lighting and Power	❑ Plumbing – All Buildings
❑ Complex Buildings	❑ Fire Protection	❑ On-site Sewage Systems

Description of designer's work	
HEAT LOSS / GAIN CALCULATIONS **DUCT SIZING** **RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY** **RESIDENTIAL SYSTEM DESIGN per CSA-F280-12**	**Model:** 6001 - QUEENSLAND - ELEV C OPT 2ND - WOB **Project:** PINE VALLEY PH 2

D. Declaration of Designer

I **MICHAEL O'ROURKE** declare that (choose one as appropriate):
(print name)

❑ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.

Individual BCIN: _____
Firm BCIN: _____

☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Di vision C, of the Building Code.

Individual BCIN: 19669
Basis for exemption from registration and qualification: O.B.C SENTENCE 3.2.4.1 (4)

❑ 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.

April 14, 2022
Date

Michael O'Rourke
Signature of Designer

NOTE:

1. 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.
2. 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.

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SITE NAME: PINE VALLEY PH 2 | OPT 2ND - WOB | DATE Apr-22 | WINTER NATURAL AIR CHANGE RATE 0.486 | HEAT LOSS ΔT °F. 76 | CSA-F280-12
BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND - ELEV C | GFA: 5742 | LO# 96174 | SUMMER NATURAL AIR CHANGE RATE 0.162 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			GREAT			KIT			DIN			LIBR			FOY			MUD			PWD		
EXP. WALL			58			56			25			33			43			22			7		
CLG. HT.			11			11			11			11			11			13			11		
	FACTORS																						
GRS.WALL AREA	LOSS	GAIN	615			594			265			350			456			277			74		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	21.3	16.0	26	553	415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	0	65	1383	2701	15	319	623	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	41	872	1021	18	383	448	0	0	0	0	0	0	0	0	0
WEST	21.3	41.6	78	1660	3241	119	2532	4945	0	0	0	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	0	0	0	0	0	0	0	0	0
DOORS	25.2	4.3	0	0	0	15	379	64	0	0	0	0	0	0	40	1010	170	20	505	85	0	0	0
NET EXPOSED WALL	4.5	0.8	511	2280	384	460	2051	345	224	1000	168	267	1191	201	401	1789	301	257	1148	193	74	331	56
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	10	27	13	0	0	0	0	0	0	10	27	13	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	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				4520			4962			1872			2984			3118			1653			331	
SUB TOTAL HT GAIN					4053			5354			1189			3362			1095			278			56
LEVEL FACTOR / MULTIPLIER			0.30	0.82		0.30	0.82		0.30	0.82		0.30	0.82		0.30	0.82		0.30	0.82		0.30	0.82	
AIR CHANGE HEAT LOSS				3718			4081			1540			2455			2564			1359			272	
AIR CHANGE HEAT GAIN					340			449			100			282			92			23			5
DUCT LOSS				0			0			0			0			0			0			0	
DUCT GAIN					0			0			0			0			0			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					860			860			860			860			0			0			0
TOTAL HT LOSS BTU/H				8238			9043			3412			5439			5682			3012			603	
TOTAL HT GAIN x 1.3 BTU/H					6828			8661			2793			5855			1542			392			79

ROOM USE			WOB			BAS		
EXP. WALL			67			175		
CLG. HT.			10			10		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	643			1680		
GLAZING				LOSS	GAIN		LOSS	GAIN
NORTH	21.3	16.0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	3	64	75
WEST	21.3	41.6	153	3256	6357	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0
DOORS	25.2	4.3	30	757	128	20	505	85
NET EXPOSED WALL	4.5	0.8	460	2054	346	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS							2855	
SLAB ON GRADE HEAT LOSS				1085				
SUBTOTAL HT LOSS				7152			3424	
SUB TOTAL HT GAIN					6831			160
LEVEL FACTOR / MULTIPLIER						0.50	2.52	
AIR CHANGE HEAT LOSS							26650	
AIR CHANGE HEAT GAIN								586
DUCT LOSS							0	
DUCT GAIN								0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS								
TOTAL HT LOSS BTU/H				8238			30073	
TOTAL HT GAIN x 1.3 BTU/H					8880			969

TOTAL HEAT GAIN BTU/H: 79368 TONS: 6.61 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 109520 TOTAL COMBINED HEAT LOSS BTU/H: 115676

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND - ELEV C | GFA: 5742 | LO# 96174 | SUMMER NATURAL AIR CHANGE RATE 0.162 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			MBR			ENS			BED-2			BED-3			BED-4			BED-5			ENS-2			ENS-3			ENS-4			ENS-5		
EXP. WALL			20			32			18			20			45			16			6			18			6			0		
CLG. HT.			10			9			9			10			10			9			9			9			9			9		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	200			288			162			200			450			144			54			162			54			0		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	21.3	16.0	0	0	0	0	0	0	38	809	607	18	383	288	0	0	0	0	0	0	8	170	128	0	0	0	0	0	0	0	0	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	0	65	1383	2701	65	1383	2701	0	0	0	0	0	0	10	213	416	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	22	468	548	0	0	0	0	0	0	18	383	448	19	404	473	0	0	0	0	0	0	8	170	199	0	0	0
WEST	21.3	41.6	42	894	1745	8	170	332	0	0	0	0	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	158	705	119	258	1151	194	124	553	93	117	522	88	367	1638	276	125	558	94	46	205	35	152	678	114	46	205	35	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	380	488	223	240	308	141	438	562	257	323	415	190	348	447	204	232	298	136	66	85	39	72	92	42	84	108	49	72	92	42
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	55	151	69	55	151	69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	200	510	86	228	581	98	0	0	0	0	0	0	66	168	28	72	184	31	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				2087			2098			2434			3436			4002			1260			629			1167			483			92	
SUB TOTAL HT GAIN					2087			1215			1044			3433			3699			703			229			603			283			42
LEVEL FACTOR / MULTIPLIER			0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44		0.20	0.44	
AIR CHANGE HEAT LOSS				926			931			1081			1525			1777			559			279			518			215			41	
AIR CHANGE HEAT GAIN					175			102			87			288			310			59			19			51			24			4
DUCT LOSS				0			0			351			496			0			0			91			169			0			0	
DUCT GAIN					0			0			223			482			0			0			111			151			0			0
HEAT GAIN PEOPLE	240		2		480	0		0	1		240	1		240	1		240	1		240	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					860			0			860			860			860			860			860			860			860			860
TOTAL HT LOSS BTU/H				3013			3029			3866			5457			5778			1819			998			1854			698			133	
TOTAL HT GAIN x 1.3 BTU/H					4683			1712			3190			6894			6641			2421			1585			2164			1517			1177

ROOM USE			LAUN			HALL			DRESS		
EXP. WALL			0			18			38		
CLG. HT.			9			10			9		
	FACTORS										
GRS.WALL AREA	LOSS	GAIN	0			180			342		
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN	
NORTH	21.3	16.0	0	0	0	0	0	0	27	575	431
EAST	21.3	41.6	0	0	0	44	936	1828	0	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	0	0	0
WEST	21.3	41.6	0	0	0	0	0	0	12	255	499
SKYLT.	37.2	101.5	0	0	0	24	894	2437	0	0	0
DOORS	25.2	4.3	0	0	0	30	757	128	0	0	0
NET EXPOSED WALL	4.5	0.8	0	0	0	106	473	80	303	1352	228
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	84	108	49	212	272	125	440	565	259
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	50	137	63	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	
SLAB ON GRADE HEAT LOSS				0			0			0	
SUBTOTAL HT LOSS				108			3470			2747	
SUB TOTAL HT GAIN					49			4660			1416
LEVEL FACTOR / MULTIPLIER			0.20	0.44		0.20	0.44		0.20	0.44	
AIR CHANGE HEAT LOSS				48			1541			1219	
AIR CHANGE HEAT GAIN					4			391			119
DUCT LOSS				0			0			0	
DUCT GAIN					0			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					860			0			860
TOTAL HT LOSS BTU/H				156			5011			3966	
TOTAL HT GAIN x 1.3 BTU/H					1187			6566			3113

TOTAL HEAT GAIN BTU/H: 79368 TONS: 6.61 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 109520 TOTAL COMBINED HEAT LOSS BTU/H: 115676

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SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

OPT 2ND - WOB
TYPE: 6001 - QUEENSLAND - ELEV C DATE: Apr-22

GFA: 5742 LO# 96174 **FURNACE 1**

HEATING CFM	1170	COOLING CFM	1170
TOTAL HEAT LOSS	73,741	TOTAL HEAT GAIN	36,000
AIR FLOW RATE CFM	15.87	AIR FLOW RATE CFM	32.5

furnace pressure	0.6
furnace filter	0.05
a/c coil pressure	0.2
available pressure for s/a & r/a	0.35
plenum pressure s/a	0.18
max s/a dif press. loss	0.02
min adjusted pressure s/a	0.16

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 76819 BTUH

r/a pressure	0.17
r/a grille press. Loss	0.02
adjusted pressure r/a	0.15

$LENNOX
ML196UH090XE36C **90**

FAN SPEED	
LOW	0
MEDLOW	0
MEDIUM	0
MEDIUM HIGH	1170
HIGH	1300

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = **85,600**
DESIGN CFM = **1170**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 68 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	15	9
R/A	0	0	0	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	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	MUD	PWD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.75	2.75	2.75	2.26	2.26	2.26	2.26	1.71	1.71	1.81	1.81	1.81	5.68	3.01	0.60	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	44	44	44	36	36	36	36	27	27	29	29	29	90	48	10	68	68	68	68
RM GAIN MBH.	2.28	2.28	2.28	2.17	2.17	2.17	2.17	1.40	1.40	1.95	1.95	1.95	1.54	0.39	0.08	1.09	1.09	1.09	1.09
CFM PER RUN COOLING	74	74	74	70	70	70	70	45	45	63	63	63	50	13	3	36	36	36	36
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	74	89	72	67	59	45	46	46	10	22	27	31	40	48	55	82	56	65	71
EQUIVALENT LENGTH	140	130	170	160	170	170	110	120	150	150	110	120	140	150	130	140	120	150	150
TOTAL EFFECTIVE LENGTH	214	219	242	227	229	215	156	166	160	172	137	151	180	198	185	222	176	215	221
ADJUSTED PRESSURE	0.08	0.08	0.07	0.08	0.08	0.08	0.11	0.1	0.11	0.1	0.13	0.11	0.09	0.09	0.09	0.08	0.1	0.08	0.08
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	**6**	**6**	**6**	5	5	5	5	5	**6**	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	224	224	224	184	184	184	184	198	198	213	213	213	459	551	115	499	499	499	499
COOLING VELOCITY (ft/min)	377	377	377	357	357	357	357	330	330	463	463	463	255	149	34	264	264	264	264
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	A	A	A	B	C	C	C	D	D	D	D	C	C	B	B	A	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.26	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	68	68	68	68	68
RM GAIN MBH.	1.09	1.09	1.09	1.09	1.09
CFM PER RUN COOLING	36	36	36	36	36
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	39	44	23	41	58
EQUIVALENT LENGTH	140	160	100	130	170
TOTAL EFFECTIVE LENGTH	179	204	123	171	228
ADJUSTED PRESSURE	0.1	0.08	0.14	0.1	0.08
ROUND DUCT SIZE	5	5	5	5	5
HEATING VELOCITY (ft/min)	499	499	499	499	499
COOLING VELOCITY (ft/min)	264	264	264	264	264
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	C	D	D	D	A

SUPPLY AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK A	408	0.07	10.4	12	x	8	612
TRUNK B	172	0.08	7.3	8	x	8	387
TRUNK C	796	0.07	13.3	16	x	12	597
TRUNK D	381	0.08	9.8	12	x	8	572
TRUNK E	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0
TRUNK G	0	0.00	0	0	x	8	0
TRUNK H	0	0.00	0	0	x	8	0
TRUNK I	0	0.00	0	0	x	8	0
TRUNK J	0	0.00	0	0	x	8	0
TRUNK K	0	0.00	0	0	x	8	0
TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	330	0.06	9.9	12	x	8	495
TRUNK X	840	0.06	14.1	16	x	12	630
TRUNK Y	580	0.06	12.3	12	x	10	696
TRUNK Z	275	0.06	9.3	10	x	8	495
DROP	1170	0.06	16	24	x	12	585

RETURN AIR #	1	2	3													**BR**
AIR VOLUME	275	305	330	0	0	0	0	0	0	0	0	0	0	0	0	260
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
ACTUAL DUCT LGH.	76	47	41	1	1	1	1	1	1	1	1	1	1	1	1	19
EQUIVALENT LENGTH	180	165	140	0	0	0	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	256	212	181	1	1	1	1	1	1	1	1	1	1	1	1	164
ADJUSTED PRESSURE	0.06	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	9.3	9.3	9.3	0	0	0	0	0	0	0	0	0	0	0	0	8.2
INLET GRILL SIZE	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	24

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

OPT 2ND - WOB
TYPE: 6001 - QUEENSLAND - ELEV C DATE: Apr-22 GFA: 5742 LO# 96174

FURNACE 2

				furnace pressure	0.6		
HEATING CFM	1270	COOLING CFM	1270	furnace filter	0.05	FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 38857 BTUH	
TOTAL HEAT LOSS	35,779	TOTAL HEAT GAIN	42,849	a/c coil pressure	0.2		
AIR FLOW RATE CFM	35.5	AIR FLOW RATE CFM	29.64	available pressure for s/a & r/a	0.35		
				plenum pressure s/a	0.18	r/a pressure	0.17
				max s/a dif press. loss	0.02	r/a grille press. Loss	0.02
				min adjusted pressure s/a	0.16	adjusted pressure r/a	0.15

$*LENNOX
ML196UH070XE48B **70**

FAN SPEED	
LOW	0
MEDLOW	1070
MEDIUM	1270
MEDIUM HIGH	1515
HIGH	1595

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = **63,900**
DESIGN CFM = **1270**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	24	0	0
R/A	0	0	6	0	0

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	MBR	MBR	ENS	ENS	BED-2	BED-2	ENS-2	BED-3	BED-3	BED-3	ENS-3	BED-4	BED-4	BED-4	ENS-5	ENS-4	BED-5	BED-5	LAUN	HALL	HALL	DRESS	DRESS
RM LOSS MBH.	1.00	1.00	1.00	2.27	0.76	1.93	1.93	1.00	1.82	1.82	1.82	1.85	1.93	1.93	1.93	0.13	0.70	0.91	0.91	0.16	2.51	2.51	1.98	1.98
CFM PER RUN HEAT	36	36	36	81	27	69	69	35	65	65	65	66	68	68	68	5	25	32	32	6	89	89	70	70
RM GAIN MBH.	1.56	1.56	1.56	1.28	0.43	1.59	1.59	1.59	2.30	2.30	2.30	2.16	2.21	2.21	2.21	1.18	1.52	1.21	1.21	1.19	3.28	3.28	1.56	1.56
CFM PER RUN COOLING	46	46	46	38	13	47	47	47	68	68	68	64	66	66	66	35	45	36	36	35	97	97	46	46
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17
ACTUAL DUCT LGH.	67	72	83	75	69	85	95	102	79	85	91	86	37	30	42	32	24	28	67	82	34	48	91	90
EQUIVALENT LENGTH	150	160	220	180	180	160	170	180	170	180	170	160	170	150	140	200	210	180	180	190	110	140	160	170
TOTAL EFFECTIVE LENGTH	217	232	303	255	249	245	265	282	249	265	261	246	207	180	182	232	234	208	247	272	144	188	251	260
ADJUSTED PRESSURE	0.08	0.07	0.06	0.06	0.07	0.07	0.06	0.06	0.07	0.06	0.07	0.07	0.08	0.1	0.09	0.07	0.07	0.08	0.07	0.06	0.11	0.09	0.07	0.07
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	4	**6**	**6**	5	**6**	**6**	**6**	**6**	5	5	5	4	5	5	5	**6**	**6**	**6**	**6**	**6**
HEATING VELOCITY (ft/min)	184	184	184	413	310	352	352	257	331	331	331	337	499	499	499	57	184	235	235	31	454	454	357	357
COOLING VELOCITY (ft/min)	235	235	235	194	149	240	240	345	347	347	347	326	485	485	485	402	330	264	264	178	495	495	235	235
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	B	B	A	B	B	A	A	A	C	C	C	C	D	D	D	C	C	C	B	A	D	D	A	A

RUN #	
ROOM NAME	
RM LOSS MBH.	
CFM PER RUN HEAT	
RM GAIN MBH.	
CFM PER RUN COOLING	
ADJUSTED PRESSURE	
ACTUAL DUCT LGH.	
EQUIVALENT LENGTH	
TOTAL EFFECTIVE LENGTH	
ADJUSTED PRESSURE	
ROUND DUCT SIZE	
HEATING VELOCITY (ft/min)	
COOLING VELOCITY (ft/min)	
OUTLET GRILL SIZE	
TRUNK	

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 A	355	0.06	10.2	10	x	10	511	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	567	0.06	12.2	14	x	10	583	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	890	0.06	14.4	18	x	12	593	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	382	0.08	9.8	12	x	8	573	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	550	0.05	12.6	14	x	10	566
TRUNK X	925	0.05	15.3	18	x	12	617
TRUNK Y	720	0.05	13.9	14	x	12	617
TRUNK Z	345	0.05	10.6	10	x	10	497
DROP	1270	0.05	17.3	24	x	12	635

RETURN AIR #	1	2	3	4	5	6										**BR**
AIR VOLUME	230	115	260	185	115	365	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
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	230	215	195	185	225	190	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.05	0.06	0.06	0.05	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	9.1	7	9.1	8	7	10.3	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	30	14	30	24	14	30	0	0	0	0	0	0	0	0	0	0

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE. INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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TYPE: 6001 - QUEENSLAND - ELEV C LO # 96174
SITE NAME: PINE VALLEY PH 2 OPT 2ND - WOB

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES 9.32.3.1(1)

- a) [✓] Direct vent (sealed combustion) only
- b) [ ] Positive venting induced draft (except fireplaces)
- c) [ ] Natural draft, B-vent or induced draft gas fireplace
- d) [ ] Solid Fuel (including fireplaces)
- e) [ ] No Combustion Appliances

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE 9.32.1(2)

- [✓] I Type a) or b) appliance only, no solid fuel
- [ ] II Type I except with solid fuel (including fireplaces)
- [ ] III Any Type c) appliance
- [ ] IV Type I, or II with electric space heat
- [ ] Other: Type I, II or IV no forced air

SYSTEM DESIGN OPTIONS O.N.H.W.P.

- [ ] 1 Exhaust only/Forced Air System
- [ ] 2 HRV with Ducting/Forced Air System
- [✓] 3 HRV Simplified/connected to forced air system
- [ ] 4 HRV with Ducting/non forced air system
- [ ] Part 6 Design

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	4	@ 10.6 cfm	42.4	cfm
Kitchen & Bathrooms	7	@ 10.6 cfm	74.2	cfm
Other Rooms	5	@ 10.6 cfm	53.0	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	**95.4**	**cfm**

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	62.0	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE V150H Location: BSMT

150.0 cfm [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
150.0 CFM	X	76 F	X	1.08	X	0.25

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR

Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	✓	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	✓	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	✓	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	✓	3.5

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE V150H INSTALL 2 HRV / ERV's

150 cfm high 35 cfm low

75 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

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: Michael O'Rourke.

HRAI # 001820

Date: April-22

I REVIEW AND TAKE RESPONIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

INDIVIDUAL BCIN: 19669 Michael O'Rourke. MICHAEL O'ROURKE

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 96174 Model: 6001 - QUEENSLAND - ELEV C Builder: GOLD PARK HOMES Date: 4/14/2022

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	2581	10	24777.6
First	2581	11	27358.6
Second	3175	9	28575
Third	0	9	0
Fourth	0	9	0
		Total:	80,711.2 ft³
		Total:	2285.5 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.486
SUMMER NATURAL AIR CHANGE RATE	0.162

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-20	42	76
Summer DTDc	24	31	7	13

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.486 x 634.86 x 42 °C x 1.2 = 15621 W

= **53299 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

= 0.162 x 634.86 x 7 °C x 1.2 = 876 W

= **2989 Btu/h**

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

x 2 HRV / ERV's

300 CFM x 76 °F x 1.08 x 0.25 = **6156 Btu/h**

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

300 CFM x 13 °F x 1.08 x 0.25 = **1,037 Btu/h**

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = Level\ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$$

Level	Level Factor (LF)	HLairve 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	53,299	10,576	2.520
2	0.3		19,441	0.822
3	0.2		24,012	0.444
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss
*For a balanced or supply only ventilation system HLairve = 0

Michael O'Rourke
BCIN# 19669

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND - ELEV C OPT 2ND - WOB **BUILDER:** GOLD PARK HOMES
SFQT: 5742 **LO#** 96174 **SITE:** PINE VALLEY PH 2

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
		WINDOW SHGC	0.50

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):	80711.2	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.65	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	8.1 ft
LENGTH: 66.0 ft	WIDTH: 55.0 ft	EXPOSED PERIMETER:	175.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	67.0 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

Michael O'Rourke

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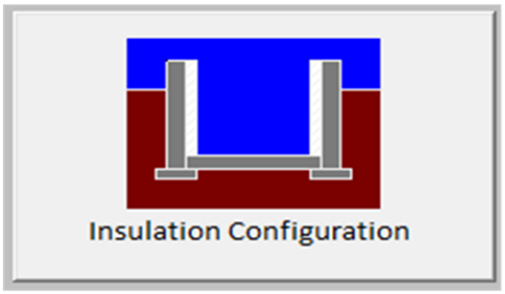
Residential Foundation Thermal Load Calculator

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)

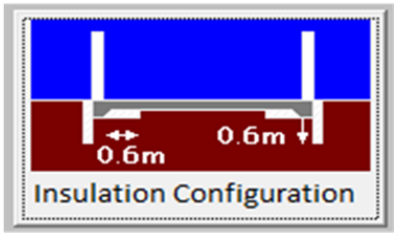
Foundation Dimensions		
Floor Length (m):	**4.9**	 Insulation Configuration
Floor Width (m):	**16.8**	
Exposed Perimeter (m):	**53.3**	
Wall Height (m):	**2.9**	
Depth Below Grade (m):	**2.19**	
Window Area (m^2):	**0.3**	
Door Area (m^2):	**1.9**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Foundation Loads		
Heating Load (Watts):	**836**	

TYPE: 6001 - QUEENSLAND - ELEV C OPT 2ND - WOB
LO# 96174

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

Residential Slab on Grade 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):	**1.8**	
Width (m):	**16.8**	
Exposed Perimeter (m):	**20.4**	
Radiant Slab		
Heated Fraction of the Slab:	**0**	
Fluid Temperature (°C):	**33**	
Design Months		
Heating Month	**1**	
Results		
Heating Load (Watts):	**318**	

TYPE: 6001 - QUEENSLAND - ELEV C OPT 2ND - WOB
LO# 96174

HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

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):	11.95
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	2285.5
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 3046.6 cm^2
	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 70.8 / Total Exhaust 70.8
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.486**
Cooling Air Leakage Rate (ACH/H):	**0.162**

TYPE: 6001 - QUEENSLAND - ELEV C OPT 2ND - WOB

LO# 96174

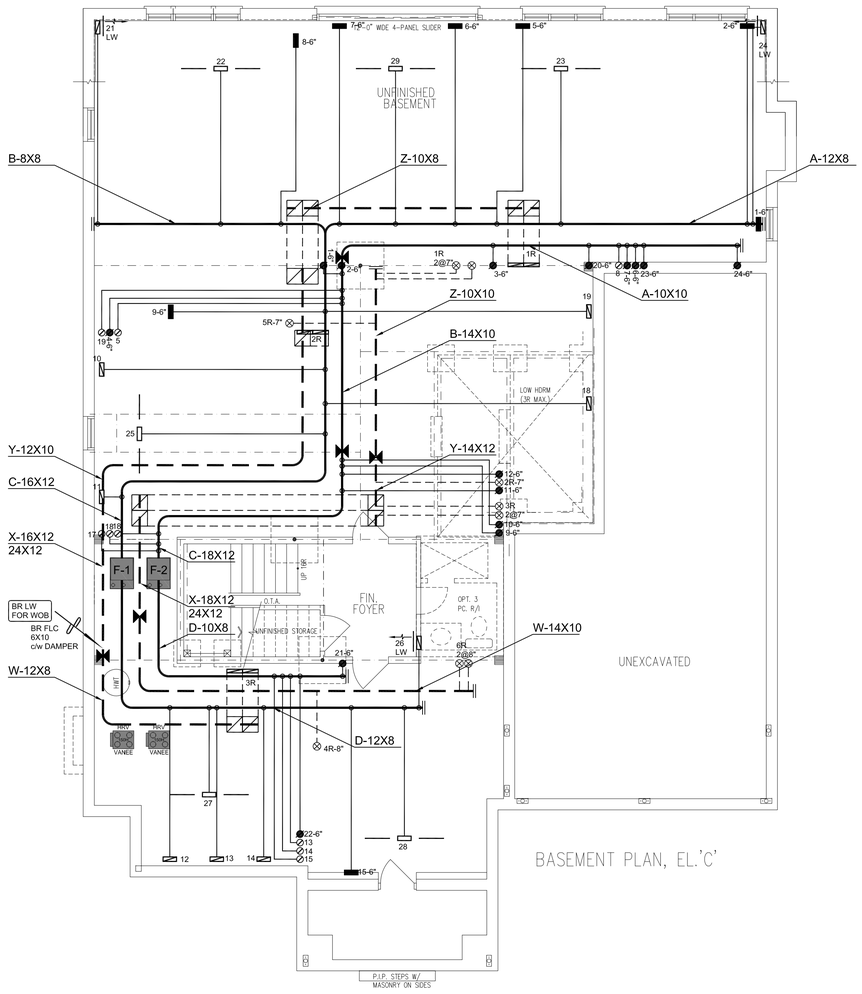
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

FURNACE 1 (F-1)
LENNOX ML196UH090XE36C
85600 BTU/H OUTPUT
3.0 TONS A/C @ 1170 cfm

FURNACE 2 (F-2)
LENNOX ML196UH070XE48B
63900 BTU/H OUTPUT
3.5 TONS A/C @ 1270 cfm

	S/A	R/A	FANS
2ND	22	6	7
1ST	15	3	2
BAS	9	1	0



HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
Ⓕ	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C-3.2.5 OF THE BUILDING CODE.
Michael O'Rourke, BCXO 19649
HVAC DESIGNS LTD.

No.	Revision	Date	By
1	ISSUED FOR PERMIT	APRIL 2022	EG

SB-12 PACKAGE

A1

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375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
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Email: Info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
OPT 2ND - WOB
5742 SQFT

Sheet Title: BASEMENT HVAC LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Sheet No.: 1
Date: APRIL 2022
LO #: 96174

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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	S/A	R/A	FANS
2ND	22	6	7
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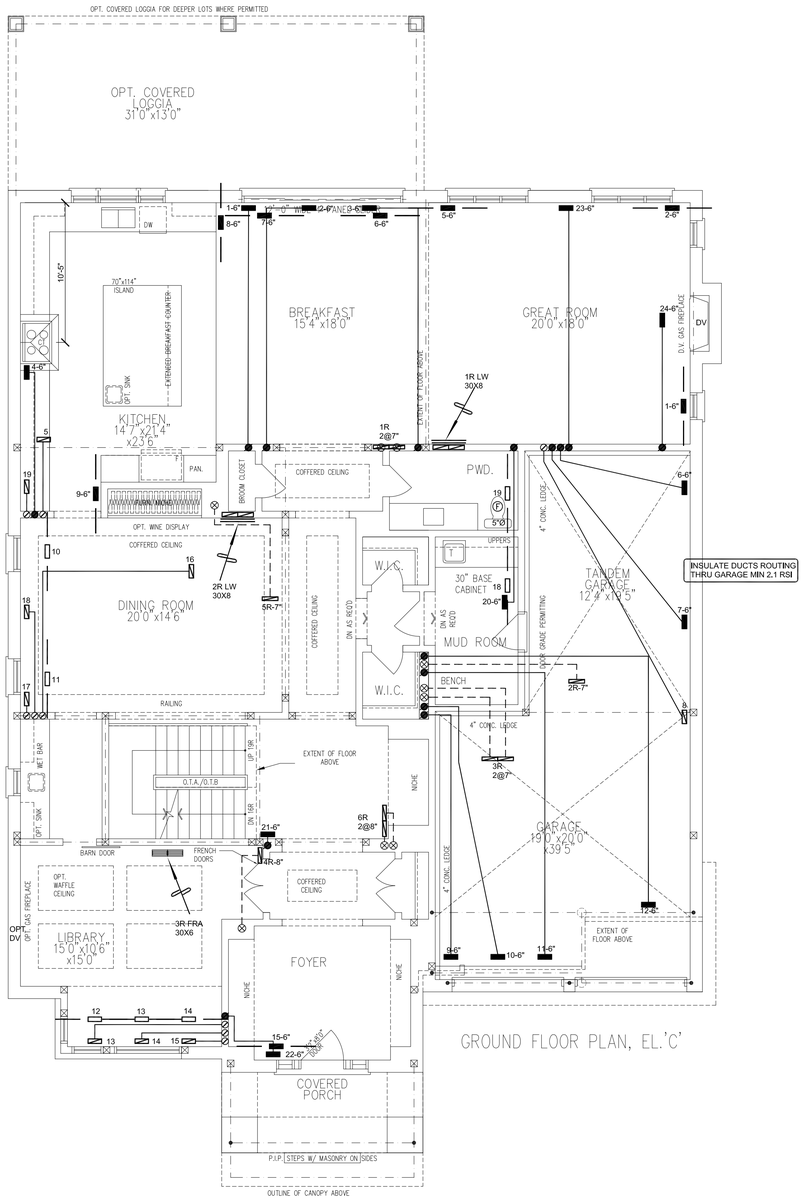
BAS	9	1	0



GROUND FLOOR PLAN, EL.'C'

HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
F	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

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

No.	Revision	Date	By
1	ISSUED FOR PERMIT	APRIL 2022	EG

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Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO

6001 - QUEENSLAND - ELEV C
OPT 2ND - WOB
5742 SQFT

Sheet Title: FIRST FLOOR HVAC LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Sheet No.: 2
Date: APRIL 2022
LO #: 96174

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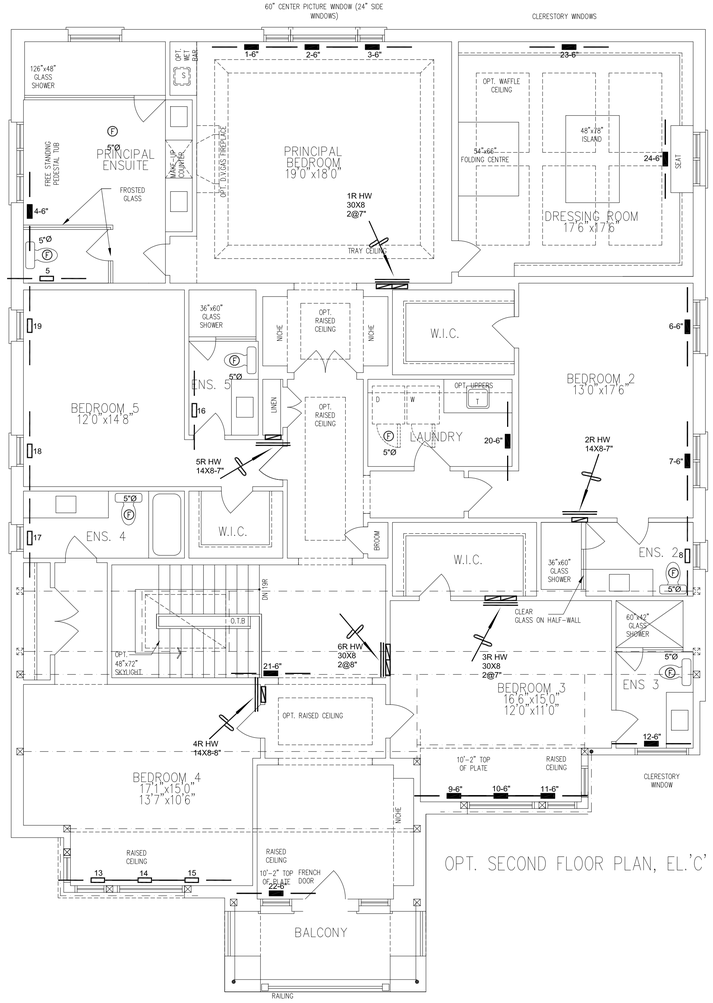
	S/A	R/A	FANS
2ND	22	6	7
1ST	15	3	2
BAS	9	1	0



OPT. SECOND FLOOR PLAN, EL.'C'

HVAC LEGEND

	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6"Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
Ⓕ	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

I MICHAEL O'BOURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
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Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO

6001 - QUEENSLAND - ELEV C
OPT 2ND - WOB
5742 SQFT

Sheet Title: SECOND FLOOR HVAC LAYOUT

Drawn By: EG | Checked By: MO

Scale: 3/16"=1'-0" | Sheet No.: 3

Date: APRIL 2022

LO #: 96174