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 OPT ELEVATOR **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 ELEVATOR | DATE Apr-22 | WINTER NATURAL AIR CHANGE RATE 0.434 | HEAT LOSS ΔT °F. 76 | CSA-F280-12
BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND | GFA: 5312 | LO# 96137 | SUMMER NATURAL AIR CHANGE RATE 0.145 | HEAT GAIN ΔT °F. 13 | SB-12 PACKAGE A1

ROOM USE			GREAT			KIT			DIN			LIBR			FOY			MUD		
EXP. WALL				50			56			25			35			38			29	
CLG. HT.				20			11			11			11			21			13	
	FACTORS																			
GRS.WALL AREA	LOSS	GAIN		1000			616			275			385			798			377	
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	21.3	16.0	46	979	735	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	58	1234	2410	80	1702	3324	0	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	41	872	1021	0	0	0	0	0	0	0	0	0
WEST	21.3	41.6	134	2852	5568	134	2852	5568	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
DOORS	25.2	4.3	0	0	0	0	0	0	0	0	0	20	505	85	50	1262	213	20	505	85
NET EXPOSED WALL	4.5	0.8	820	3659	616	482	2151	362	234	1044	176	307	1370	231	668	2981	502	357	1593	268
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
EXPOSED CLG	1.3	0.6	430	552	253	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	204	561	257	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
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0	
SUBTOTAL HT LOSS				8069			5003			1917			3137			6507			2098	
SUB TOTAL HT GAIN					7184			5930			1197			2738			4296			353
LEVEL FACTOR / MULTIPLIER			0.30	0.55		0.30	0.55		0.30	0.55		0.30	0.55		0.30	0.55		0.30	0.55	
AIR CHANGE HEAT LOSS				4427			2745			1052			1721			3570			1151	
AIR CHANGE HEAT GAIN					634			523			106			241			379			31
DUCT LOSS				0			0			0			0			0			0	
DUCT GAIN					0			0			0			0			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					1671			1671			1671			1671			0			0
TOTAL HT LOSS BTU/H				12496			7747			2968			4858			10076			3249	
TOTAL HT GAIN x 1.3 BTU/H					12336			10562			3866			6046			6077			500

ROOM USE			WOD			BAS		
EXP. WALL			66			242		
CLG. HT.			10			10		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	660			2090		
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	10	213	416	0	0	0
SKYLT.	37.2	101.5	0	0	0	0	0	0
DOORS	25.2	4.3	20	505	85	20	505	85
NET EXPOSED WALL	4.5	0.8	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	366	1317	222	330	1188	200
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							8416	
SLAB ON GRADE HEAT LOSS				0				
SUBTOTAL HT LOSS				2035			10173	
SUB TOTAL HT GAIN					722			360
LEVEL FACTOR / MULTIPLIER						0.50	2.00	
AIR CHANGE HEAT LOSS							24442	
AIR CHANGE HEAT GAIN								95
DUCT LOSS							0	
DUCT GAIN								0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS								
TOTAL HT LOSS BTU/H				2035			34615	
TOTAL HT GAIN x 1.3 BTU/H					939			592

TOTAL HEAT GAIN BTU/H: 77832 TONS: 6.49 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 107454 TOTAL COMBINED HEAT LOSS BTU/H: 113610

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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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			28			37			16			6			19			10			6		
CLG. HT.			10			9			9			11			10			9			9			9			9			9		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	200			288			162			308			370			144			54			171			90			54		
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	0	0	0	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	56	1192	2327	45	958	1870	0	0	0	0	0	0	12	255	499	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	22	468	548	0	0	0	0	0	0	0	0	0	19	404	473	0	0	0	0	0	0	8	170	199	8	170	199
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	252	1125	189	325	1450	244	125	558	94	46	205	35	159	710	120	82	366	62	46	205	35
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	291	373	171	293	376	172	304	390	179	66	85	39	84	108	49	80	103	47	72	92	42
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	75	206	94	30	82	38	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	216	551	93	0	0	0	0	0	0	66	168	28	84	214	36	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			3447			2866			1352			629			1287			639			468	
SUB TOTAL HT GAIN					2087			1215			1044			2874			2324			746			229			704			308			276
LEVEL FACTOR / MULTIPLIER			0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53	
AIR CHANGE HEAT LOSS				1106			1112			1291			1827			1520			717			333			682			339			248	
AIR CHANGE HEAT GAIN					184			107			92			253			205			66			20			62			27			24
DUCT LOSS				0			0			372			527			0			0			96			197			0			0	
DUCT GAIN					0			0			305			504			0			0			25			77			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					1671			0			1671			1671			1671			1671			0			0			0			0
TOTAL HT LOSS BTU/H				3193			3210			4097			5802			4386			2069			1058			2166			978			716	
TOTAL HT GAIN x 1.3 BTU/H					5749			1719			4357			7206			5772			3539			357			1095			435			391

ROOM USE			LAUN			HALL		
EXP. WALL			0			0		
CLG. HT.			9			9		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	0			0		
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	0	0	0
WEST	21.3	41.6	0	0	0	0	0	0
SKYLT.	37.2	101.5	0	0	0	24	894	2437
DOORS	25.2	4.3	0	0	0	0	0	0
NET EXPOSED WALL	4.5	0.8	0	0	0	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	84	108	49	103	132	61
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				0			0	
SLAB ON GRADE HEAT LOSS				0			0	
SUBTOTAL HT LOSS				108			1026	
SUB TOTAL HT GAIN					49			2498
LEVEL FACTOR / MULTIPLIER			0.20	0.53		0.20	0.53	
AIR CHANGE HEAT LOSS				57			544	
AIR CHANGE HEAT GAIN					4			220
DUCT LOSS				0			0	
DUCT GAIN					0			0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					1671			0
TOTAL HT LOSS BTU/H				165			1570	
TOTAL HT GAIN x 1.3 BTU/H					2242			3533

TOTAL HEAT GAIN BTU/H: 77832 TONS: 6.49 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 107454 TOTAL COMBINED HEAT LOSS BTU/H: 113610

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.

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SITE NAME: PINE VALLEY PH 2 | OPT ELEVATOR
BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND | DATE: Apr-22 | GFA: 5312 | LO# 96137 | **FURNACE 1**

HEATING CFM	1340	COOLING CFM	1340
TOTAL HEAT LOSS	78,045	TOTAL HEAT GAIN	40,917
AIR FLOW RATE CFM	17.17	AIR FLOW RATE CFM	32.75

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 = 81123 BTUH

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

$*LENNOX
ML196UH090XE48C 90

FAN SPEED	
LOW	0
MEDLOW	1080
MEDIUM	1190
MEDIUM HIGH	1340
HIGH	1575

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = **85,600**
DESIGN CFM = **1340**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 59 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	18	8
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	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	FOY	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.50	2.50	2.50	2.50	2.50	1.94	1.94	1.94	1.94	1.48	1.48	1.62	1.62	1.62	3.36	3.36	3.36	3.25	4.58	4.58	4.58	4.58
CFM PER RUN HEAT	43	43	43	43	43	33	33	33	33	25	25	28	28	28	58	58	58	56	79	79	79	79
RM GAIN MBH.	2.47	2.47	2.47	2.47	2.47	2.64	2.64	2.64	2.64	1.93	1.93	2.02	2.02	2.02	2.03	2.03	2.03	0.50	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	81	81	81	81	81	86	86	86	86	63	63	66	66	66	66	66	66	16	6	6	6	6
ADJUSTED PRESSURE	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	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
ACTUAL DUCT LGH.	74	89	83	78	72	67	59	45	46	46	10	22	27	31	40	46	37	48	67	56	65	71
EQUIVALENT LENGTH	140	130	150	160	130	130	140	170	110	120	150	150	110	120	140	110	100	150	110	120	120	140
TOTAL EFFECTIVE LENGTH	214	219	233	238	202	197	199	215	156	166	160	172	137	151	180	156	137	198	177	176	185	211
ADJUSTED PRESSURE	0.08	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.1	0.1	0.11	0.1	0.13	0.11	0.1	0.11	0.13	0.09	0.1	0.1	0.09	0.08
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	5	5	5	5	5	5	5	5	5	5	5	**6**	**6**
HEATING VELOCITY (ft/min)	219	219	219	219	219	168	168	168	168	184	184	206	206	206	426	426	426	411	580	580	403	403
COOLING VELOCITY (ft/min)	413	413	413	413	413	438	438	438	438	463	463	485	485	485	485	485	485	117	44	44	31	31
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10
TRUNK	A	A	A	A	B	B	B	C	D	D	D	F	F	F	E	E	E	D	C	C	B	A

RUN #	25	26	27	28
ROOM NAME	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.58	4.58	4.58	4.58
CFM PER RUN HEAT	79	79	79	79
RM GAIN MBH.	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	6	6	6	6
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	39	44	23	41
EQUIVALENT LENGTH	140	160	100	130
TOTAL EFFECTIVE LENGTH	179	204	123	171
ADJUSTED PRESSURE	0.1	0.08	0.14	0.1
ROUND DUCT SIZE	5	**6**	5	5
HEATING VELOCITY (ft/min)	580	403	580	580
COOLING VELOCITY (ft/min)	44	31	44	44
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10
TRUNK	D	E	F	E

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	251	0.07	8.6	8	x	10	452	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	439	0.07	10.7	12	x	10	527	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	191	0.08	7.5	8	x	8	430	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	848	0.07	13.6	16	x	12	636	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	332	0.08	9.3	10	x	8	598	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	495	0.08	10.8	14	x	8	636	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	450	0.06	11.2	14	x	8	579
TRUNK X	890	0.06	14.4	16	x	12	668
TRUNK Y	580	0.06	12.3	12	x	10	696
TRUNK Z	275	0.06	9.3	10	x	8	495
DROP	1340	0.06	16.8	24	x	12	670

RETURN AIR #	1	2	3														**BR**
AIR VOLUME	275	305	450	0	0	0	0	0	0	0	0	0	0	0	0	0	310
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
ACTUAL DUCT LGH.	76	47	41	1	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	0	145
TOTAL EFFECTIVE LH	256	212	181	1	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	14.80	0.09
ROUND DUCT SIZE	9.3	9.3	10.4	0	0	0	0	0	0	0	0	0	0	0	0	0	8.8
INLET GRILL SIZE	8	8	8	0	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	X
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	0	0	30

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

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SITE NAME: PINE VALLEY PH 2 | OPT ELEVATOR
BUILDER: GOLD PARK HOMES | TYPE: 6001 - QUEENSLAND | DATE: Apr-22 | GFA: 5312 | LO# 96137 | **FURNACE 2**

HEATING CFM	1110		COOLING CFM	1110			furnace pressure	0.6														
TOTAL HEAT LOSS	29,410		TOTAL HEAT GAIN	36,396			furnace filter	0.05		FURNACE HEAT LOSS +												
AIR FLOW RATE CFM	37.74		AIR FLOW RATE CFM	30.5			a/c coil pressure	0.2		HRV / ERV HEAT LOSS												
							available pressure			= 32488 BTUH												
							for s/a & r/a	0.35														
RUN COUNT	4th	3rd	2nd	1st	Bas																	
S/A	0	0	21	0	0		plenum pressure s/a	0.18		r/a pressure	0.17											
R/A	0	0	6	0	0		max s/a dif press. loss	0.03		r/a grille press. Loss	0.02											
All S/A diffusers 4"x10" unless noted otherwise on layout.							min adjusted pressure s/a	0.15		adjusted pressure r/a	0.15											
All S/A runs 5"Ø unless noted otherwise on layout.																						

$LENNOX AFUE = 96 %
ML196UH045XE36B **45** INPUT (BTU/H) = 44,000
FAN SPEED OUTPUT (BTU/H) = **42,800**
LOW 620
MEDLOW 685 DESIGN CFM = **1110**
MEDIUM 980 CFM @ .6 " E.S.P.
MEDIUM HIGH 1110
HIGH 0 TEMPERATURE RISE 36 °F

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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-4	BED-5	BED-5	ENS-5	LAUN	HALL
RM LOSS MBH.	1.06	1.06	1.06	2.41	0.80	2.05	2.05	1.06	1.93	1.93	1.93	2.17	1.46	1.46	1.46	0.98	1.03	1.03	0.72	0.16	1.57
CFM PER RUN HEAT	40	40	40	91	30	77	77	40	73	73	73	82	55	55	55	37	39	39	27	6	59
RM GAIN MBH.	1.92	1.92	1.92	1.29	0.43	2.18	2.18	0.36	2.40	2.40	2.40	1.09	1.92	1.92	1.92	0.44	1.77	1.77	0.39	2.24	3.53
CFM PER RUN COOLING	58	58	58	39	13	66	66	11	73	73	73	33	59	59	59	13	54	54	12	68	108
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15
ACTUAL DUCT LGH.	67	72	83	75	69	85	95	102	79	85	91	86	37	30	42	32	24	28	67	82	34
EQUIVALENT LENGTH	150	160	220	180	180	160	170	180	170	180	170	160	170	150	140	200	210	180	180	190	110
TOTAL EFFECTIVE LENGTH	217	232	303	255	249	245	265	282	249	265	261	246	207	180	182	232	234	208	247	272	144
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
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	4	**6**	**6**	5	**6**	**6**	**6**	**6**	5	5	5	4	5	5	4	**6**	**6**
HEATING VELOCITY (ft/min)	204	204	204	464	344	393	393	294	372	372	372	418	404	404	404	424	286	286	310	31	301
COOLING VELOCITY (ft/min)	296	296	296	199	149	337	337	81	372	372	372	168	433	433	433	149	396	396	138	347	551
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10
TRUNK	B	B	A	B	B	A	A	A	C	C	C	B	D	D	D	C	C	C	B	B	D

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	234	0.06	8.7	8	x	10	421	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	550	0.06	12	12	x	10	660	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	884	0.06	14.4	16	x	12	663	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	224	0.08	8	10	x	8	403	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	390	0.05	11.1	14	x	8	501
TRUNK X	765	0.05	14.3	16	x	12	574
TRUNK Y	720	0.05	13.9	16	x	10	648
TRUNK Z	345	0.05	10.6	10	x	10	497
DROP	1110	0.05	16.4	24	x	10	666

RETURN AIR #	1	2	3	4	5	6											**BR**
AIR VOLUME	230	115	260	130	115	260	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
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	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	0
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	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	7	7	9.1	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	14	14	30	0	0	0	0	0	0	0	0	0	0	

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

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TYPE: 6001 - QUEENSLAND LO # 96137
SITE NAME: PINE VALLEY PH 2 OPT ELEVATOR

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 [✓] 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: 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.

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 96137 Model: 6001 - QUEENSLAND Builder: GOLD PARK HOMES Date: 4/14/2022

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	2574	10	25740
First	2574	11	28314
Second	3208	9	28872
Third	0	9	0
Fourth	0	9	0
		Total:	82,926.0 ft³
		Total:	2348.2 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.434
SUMMER NATURAL AIR CHANGE RATE	0.145

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

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

0.434 x 652.28 x 42 °C x 1.2 = 14327 W

= **48884 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

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

= 0.145 x 652.28 x 7 °C x 1.2 = 808 W

= **2756 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	48,884	12,207	2.002
2	0.3		26,730	0.549
3	0.2		18,440	0.530
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

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND OPT ELEVATOR **BUILDER:** GOLD PARK HOMES
SFQT: 5312 **LO#** 96137 **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):	82926.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD ($Btu/h/ft^2$):	2.00	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 66.0 ft	WIDTH: 55.0 ft	EXPOSED PERIMETER:	242.0 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	-

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MICHAEL O'ROURKE

Michael O'Rourke

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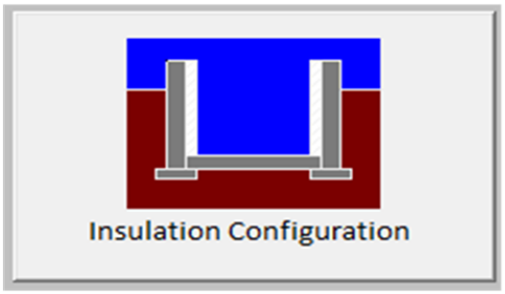
Residential Foundation Thermal Load Calculator

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):	**20.1**	 Insulation Configuration
Floor Width (m):	**16.8**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**3.0**	
Depth Below Grade (m):	**2.13**	
Window Area (m^2):	**1.2**	
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):	**2466**	

TYPE: 6001 - QUEENSLAND OPT ELEVATOR
LO# 96137

HVAC Designs Ltd.
375 Finley Ave, Suite 202
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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):	10.06
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	2348.2
Air Leakage/Ventilation	
Air Tightness Type:	Present (1961-) (3.57 ACH)
Custom BDT Data:	ELA @ 10 Pa. 3130.2 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):	**0.434**
Cooling Air Leakage Rate (ACH/H):	**0.145**

TYPE: 6001 - QUEENSLAND OPT ELEVATOR

LO# 96137

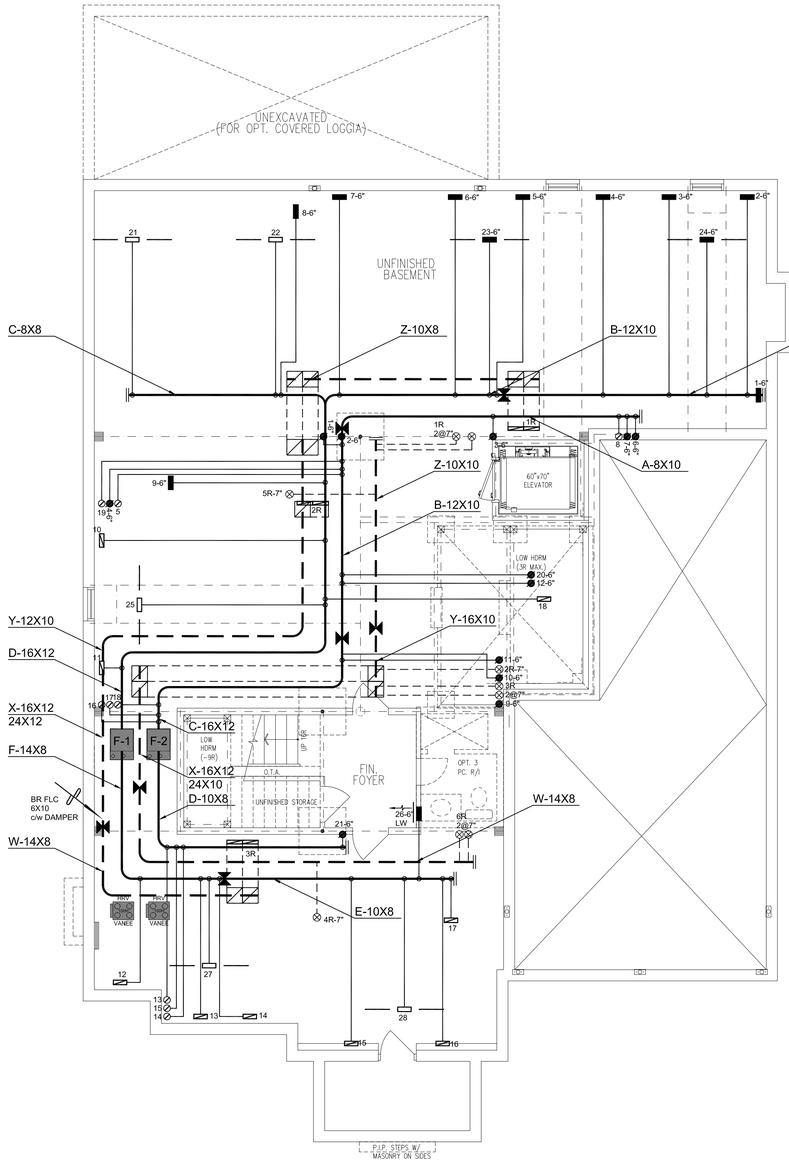
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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

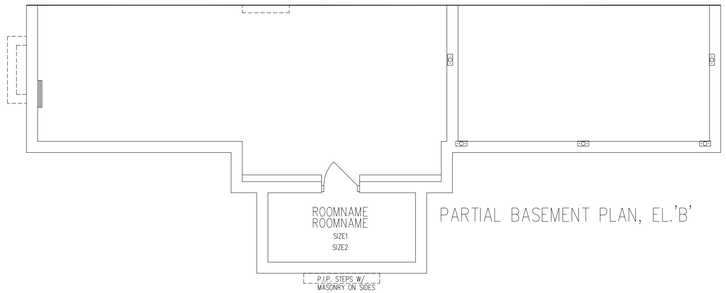
FURNACE 1 (F-1)
LENNOX ML196UH090XE48C
85600 BTU/H OUTPUT
3.5 TONS A/C @ 1340 cfm

FURNACE 2 (F-2)
LENNOX ML196UH045XE36B
42800 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

	S/A	R/A	FANS
2ND	21	6	7
1ST	18	3	2
BAS	8	1	0



PART. BASEMENT PLAN ELEV. 'A', 'B' & 'C' – W.O.D. COND.



PARTIAL BASEMENT PLAN, EL.'B'

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# 19819
HVAC DESIGNS LTD.

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

SB-12 PACKAGE A1

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Email: Info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing In Residential Mechanical Design Services

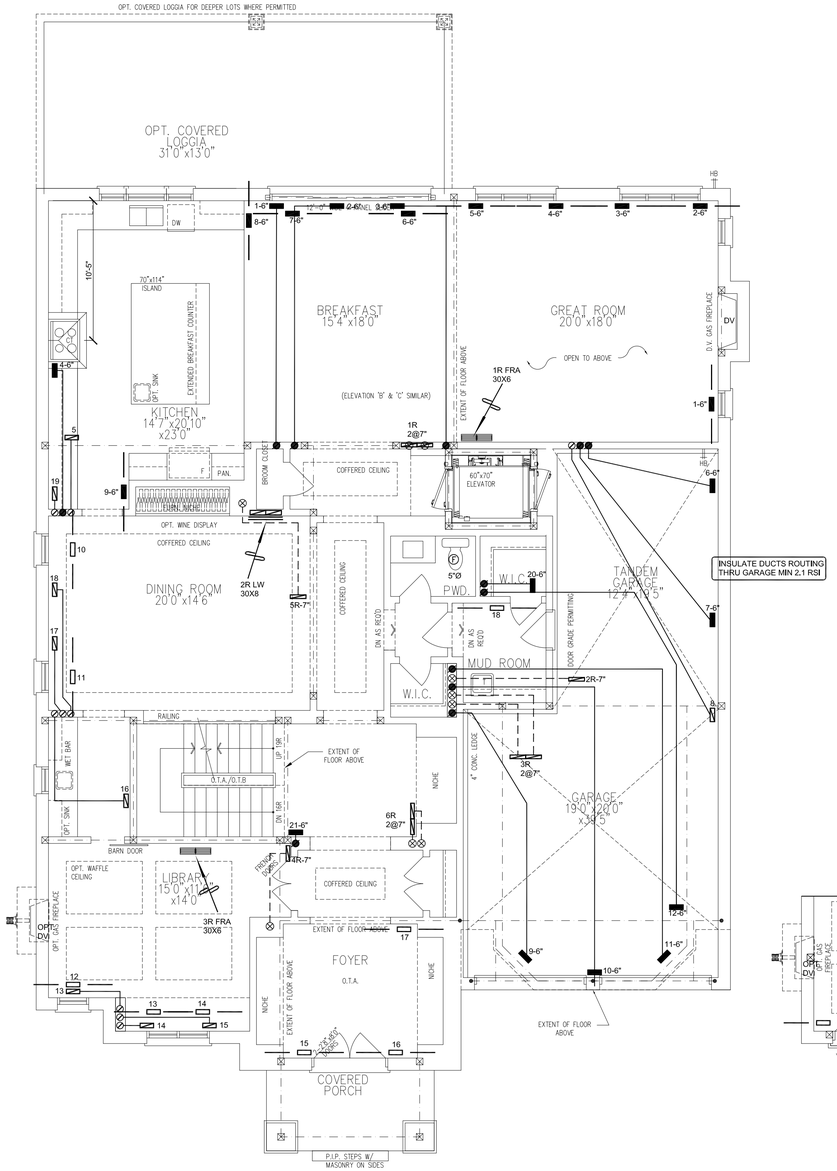
Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND
OPT ELEVATOR
5312 SQFT

Sheet Title: BASEMENT HVAC LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Sheet No.: 1
Date: APRIL 2022
LO #: 96137

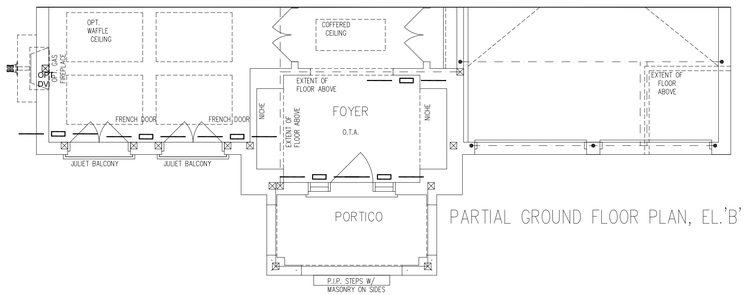
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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

	S/A	R/A	FANS
2ND	21	6	7
1ST	18	3	2
BAS	8	1	0



PARTIAL GROUND FLOOR PLAN W/ ELEVATOR, EL.'A'



PARTIAL GROUND FLOOR PLAN, EL.'B'

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, BCIN# 19669
HVAC DESIGNS LTD.

No.	Revision	Date	By
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Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES

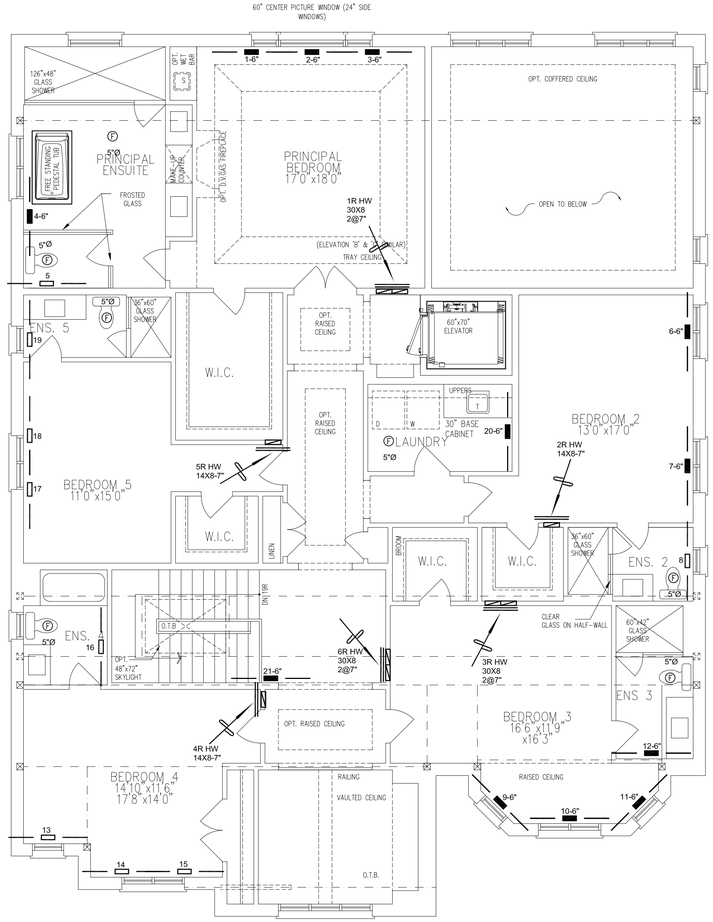
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND
OPT ELEVATOR
5312 SQFT

Sheet Title: FIRST FLOOR HVAC LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Sheet No.: 2
Date: APRIL 2022
LO #: 96137

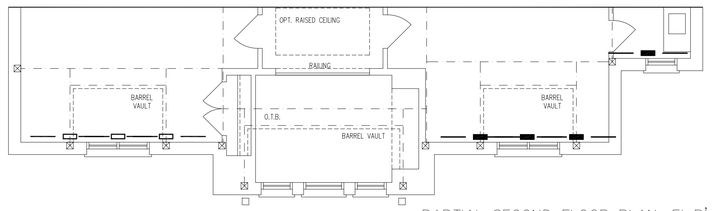
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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

	S/A	R/A	FANS
2ND	21	6	7
1ST	18	3	2
BAS	8	1	0



PARTIAL SECOND FLOOR PLAN W/ ELEVATOR, EL.'A'



PARTIAL SECOND FLOOR PLAN, EL.B'

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, 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
OPT ELEVATOR
5312 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.# 96137