

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@hvacdesigns.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]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ 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 2ND - ELEVATOR - WOB Project: PINE VALLEY PH 2	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> 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 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>			
☐ 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		 _____ Signature of Designer	

NOTE:

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

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY PH 2						OPT 2ND - ELEVATOR - WOB						DATE Apr-22						WINTER NATURAL AIR CHANGE RATE 0.486						HEAT LOSS AT °F. 76						CSA-F280-12											
BUILDER: GOLD PARK HOMES						TYPE: 6001 - QUEENSLAND						GFA: 5653						LO# 96168						SUMMER NATURAL AIR CHANGE RATE 0.162						HEAT GAIN AT °F. 13						SB-12 PACKAGE A1					
ROOM USE		GREAT		KIT		DIN		LIBR		FOY		MUD																													
EXP. WALL		58		56		25		35		38		29																													
CLG. HT.		11		11		11		11		21		13																													
FACTORS																																									
GRS.WALL AREA		LOSS GAIN		615		594		265		371		783		365																											
GLAZING				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	0	0	0														
EAST		21.3	41.6	0	0	0	0	0	0	0	58	1234	2410	80	1702	3324	0	0	0	0	0	0	0	0	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	0	0	0	0	0	0														
WEST		21.3	41.6	78	1660	3241	134	2852	5568	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														
DOORS		25.2	4.3	0	0	0	0	0	0	0	20	505	85	50	1262	213	20	505	85																						
NET EXPOSED WALL		4.5	0.8	511	2280	384	460	2051	345	224	1000	168	293	1308	220	653	2913	491	345	1541	260																				
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														
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	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	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	0	0	0														
BASEMENT/CRAWL HEAT LOSS				0		0		0		0		0		0		0		0																							
SLAB ON GRADE HEAT LOSS				0		0		0		0		0		0		0		0																							
SUBTOTAL HT LOSS				4520		4903		1872		3074		6439		2046																											
SUB TOTAL HT GAIN				4053		5913		1189		2728		4284		345																											
LEVEL FACTOR / MULTIPLIER		0.30	0.70			0.30	0.70			0.30	0.70			0.30	0.70			0.30	0.70																						
AIR CHANGE HEAT LOSS				3169		3437		1312		2155		4514		1435																											
AIR CHANGE HEAT GAIN				348		508		102		234		368		30																											
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	0	0	0	0	0	0	0	0	0	0	0														
HEAT GAIN APPLIANCES/LIGHTS				1405		1405		1405		1405		1405		0		0																									
TOTAL HT LOSS BTU/H				7689		8339		3184		5229		10952		3481																											
TOTAL HT GAIN x 1.3 BTU/H				7548		10175		3506		5678		6048		487																											

ROOM USE																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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SITE NAME: PINE VALLEY PH 2										OPT 2ND - ELEVATOR - WOB										DATE Apr-22				WINTER NATURAL AIR CHANGE RATE 0.486										HEAT LOSS AT °F. 76				CSA-F280-12																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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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	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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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	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	373	479	219	232	298	136	66	85	39	84	108	49	84	108	49	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

OPT 2ND - ELEVATOR - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5653 LO# 96168

FURNACE 1

HEATING CFM 1340 COOLING CFM 1340
TOTAL HEAT LOSS 77,257 TOTAL HEAT GAIN 43,046
AIR FLOW RATE CFM 17.34 AIR FLOW RATE CFM 31.13

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 80335 BTUH**
\$*LENNOX
ML196UH090XE48C

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	16	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	16	17	18	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	FOY	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.56	2.56	2.56	2.08	2.08	2.08	2.08	1.59	1.59	1.74	1.74	1.74	3.65	3.65	3.65	3.48	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	44	44	44	36	36	36	36	28	28	30	30	30	63	63	63	60	74	74	74	74
RM GAIN MBH.	2.52	2.52	2.52	2.54	2.54	2.54	2.54	1.75	1.75	1.89	1.89	1.89	2.02	2.02	2.02	0.49	1.07	1.07	1.07	1.07
CFM PER RUN COOLING	78	78	78	79	79	79	79	55	55	59	59	59	63	63	63	15	33	33	33	33
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	0.17	0.17	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	46	37	48	82	56	65	71
EQUIVALENT LENGTH	140	130	170	160	170	170	110	120	150	150	110	120	140	110	100	150	140	120	150	150
TOTAL EFFECTIVE LENGTH	214	219	242	227	229	215	156	166	160	172	137	151	180	156	137	198	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	0.1	0.11	0.13	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	5	5	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	224	224	224	184	184	184	184	206	206	220	220	220	463	463	463	441	377	377	377	377
COOLING VELOCITY (ft/min)	398	398	398	403	403	403	403	404	404	433	433	433	463	463	463	110	168	168	168	168
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	A	A	B	C	C	E	E	E	D	D	D	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	74	74	74	74	74
RM GAIN MBH.	1.07	1.07	1.07	1.07	1.07
CFM PER RUN COOLING	33	33	33	33	33
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	6
HEATING VELOCITY (ft/min)	543	543	543	543	377
COOLING VELOCITY (ft/min)	242	242	242	242	168
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10
TRUNK	C	D	E	D	A

SUPPLY AIR TRUNK SIZE

	TRUNK	STATIC	ROUND	RECT			VELOCITY		TRUNK	STATIC	ROUND	RECT			VELOCITY
	CFM	PRESS.	DUCT	DUCT			(ft/min)		CFM	PRESS.	DUCT	DUCT			(ft/min)
TRUNK A	426	0.07	10.5	14	x	8	548	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	184	0.08	7.4	8	x	8	414	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	836	0.07	13.6	18	x	12	557	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	337	0.08	9.3	10	x	8	607	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	501	0.08	10.8	14	x	8	644	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	0.06	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	430	0.06	11	14	x	8	553
TRUNK X	910	0.06	14.5	16	x	12	683
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	430	0	0	0	0	0	0	0	0	0	0	0	0	330
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	0.09	
ROUND DUCT SIZE	9.3	9.3	10.2	0	0	0	0	0	0	0	0	0	0	0	0	9
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	30

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

OPT 2ND - ELEVATOR - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5653

LO# 96168

FURNACE 2

HEATING CFM 1110 COOLING CFM 1110
TOTAL HEAT LOSS 32,952 TOTAL HEAT GAIN 35,946
AIR FLOW RATE CFM 33.69 AIR FLOW RATE CFM 30.88

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 36030 BTUH**
\$LENNOX
ML196UH045XE36B
FAN SPEED

LOW 620
MEDLOW 685
MEDIUM 980
MEDIUM HIGH 1110
HIGH 0

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = **42,800**

DESIGN CFM = **1110**
CFM @ .6" E.S.P.

TEMPERATURE RISE 36 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	23	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
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	DRESS	DRESS
RM LOSS MBH.	1.05	1.05	1.05	2.37	0.79	2.02	2.02	1.04	1.90	1.90	1.90	2.13	1.71	1.71	1.71	0.14	0.73	0.95	0.95	0.16	1.52	2.07	2.07
CFM PER RUN HEAT	35	35	35	80	27	68	68	35	64	64	64	72	58	58	58	5	25	32	32	5	51	70	70
RM GAIN MBH.	1.80	1.80	1.80	1.29	0.43	1.99	1.99	0.36	2.27	2.27	2.27	1.09	1.86	1.86	1.86	0.06	0.40	1.57	1.57	1.90	3.52	1.00	1.00
CFM PER RUN COOLING	56	56	56	40	13	61	61	11	70	70	70	34	58	58	58	2	12	48	48	59	109	31	31
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	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	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	91	90
EQUIVALENT LENGTH	150	160	240	180	180	180	190	200	170	180	170	160	170	150	140	200	210	180	180	210	110	160	170
TOTAL EFFECTIVE LENGTH	217	232	323	255	249	265	285	302	249	265	261	246	207	180	182	232	234	208	247	292	144	251	260
ADJUSTED PRESSURE	0.08	0.07	0.05	0.07	0.07	0.06	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	0.07	0.07
ROUND DUCT SIZE	6	6	6	6	4	6	6	5	6	6	6	6	5	5	5	4	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	178	178	178	408	310	347	347	257	326	326	326	367	426	426	426	57	287	235	235	25	260	357	357
COOLING VELOCITY (ft/min)	286	286	286	204	149	311	311	81	357	357	357	173	426	426	426	23	138	352	352	301	556	158	158
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
TRUNK	B	B	A	B	B	A	A	A	C	C	C	C	D	D	D	C	C	C	B	A	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
1	MBR	1.05	35	1.80	56	0.17	67	150	217	0.08	6	178	286	4X10	B
2	MBR	1.05	35	1.80	56	0.17	72	160	232	0.07	6	178	286	4X10	B
3	MBR	1.05	35	1.80	56	0.17	83	240	323	0.05	6	178	286	4X10	A
4	ENS	2.37	80	1.29	40	0.17	75	180	255	0.07	6	408	204	4X10	B
5	ENS	0.79	27	0.43	13	0.17	69	180	249	0.07	4	310	149	3X10	B
6	BED-2	2.02	68	1.99	61	0.17	85	180	265	0.06	6	347	311	4X10	A
7	BED-2	2.02	68	1.99	61	0.17	95	190	285	0.06	6	347	311	4X10	A
8	ENS-2	1.04	35	0.36	11	0.17	102	200	302	0.06	5	257	81	3X10	A
9	BED-3	1.90	64	2.27	70	0.17	79	170	249	0.07	6	326	357	4X10	C
10	BED-3	1.90	64	2.27	70	0.17	85	180	265	0.06	6	326	357	4X10	C
11	BED-3	1.90	64	2.27	70	0.17	91	170	261	0.07	6	326	357	4X10	C
12	ENS-3	2.13	72	1.09	34	0.17	86	160	246	0.07	5	367	173	4X10	C
13	BED-4	1.71	58	1.86	58	0.17	37	150	180	0.1	5	426	426	3X10	D
14	BED-4	1.71	58	1.86	58	0.17	30	140	182	0.09	5	426	426	3X10	D
15	BED-4	1.71	58	1.86	58	0.17	42	200	232	0.07	4	57	23	3X10	D
16	ENS-5	0.14	5	0.06	2	0.17	32	210	234	0.07	4	287	138	3X10	C
17	ENS-4	0.73	25	0.40	12	0.17	24	180	208	0.07	4	235	352	3X10	C
18	BED-5	0.95	32	1.57	48	0.17	28	180	247	0.08	5	235	352	3X10	C
19	BED-5	0.95	32	1.57	48	0.17	67	180	292	0.07	5	235	352	3X10	B
20	LAUN	0.16	5	1.90	59	0.17	82	210	144	0.06	6	25	301	4X10	A
21	HALL	1.52	51	3.52	109	0.15	34	110	251	0.11	6	260	556	4X10	D
22	DRESS	2.07	70	1.00	31	0.17	91	160	251	0.07	6	357	158	4X10	A
23	DRESS	2.07	70	1.00	31	0.17	90	170	260	0.07	6	357	158	4X10	A

SUPPLY AIR TRUNK SIZE														RETURN AIR TRUNK SIZE													
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)				
TRUNK A	351	0.05	10.7	10	x	10	505	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0				
TRUNK B	560	0.05	12.7	14	x	10	576	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0				
TRUNK C	886	0.05	15.1	18	x	12	591	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0				
TRUNK D	225	0.08	8	10	x	8	405	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	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 S	0	0.05	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	TRUNK T	0	0.05	0	0	x	8	0				

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		TRUNK W	390	0.05	11.1	14	x	8	501
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		TRUNK X	765	0.05	14.3	16	x	12	574
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	1	1	1	1	1	1	1		TRUNK Y	720	0.05	13.9	16	x	10	648
EQUIVALENT LENGTH	230	215	195	185	225	190	0	0	0	0	0	0	0	0	0	0		TRUNK Z	345	0.05	10.6	10	x	10	497
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	1	1	1	1	1	1	1		DROP	1110	0.05	16.4	24	x	10	666
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									

TYPE: 6001 - QUEENSLAND
SITE NAME: PINE VALLEY PH 2

LO # 96168
OPT 2ND - ELEVATOR - 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	<u>2</u> @ 21.2 cfm <u>42.4</u> cfm	
Other Bedrooms	<u>4</u> @ 10.6 cfm <u>42.4</u> cfm	
Kitchen & Bathrooms	<u>7</u> @ 10.6 cfm <u>74.2</u> cfm	
Other Rooms	<u>5</u> @ 10.6 cfm <u>53.0</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	95.4 cfm	

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u> cfm	
Less Principal Ventil. Capacity	<u>150</u> cfm	
Required Supplemental Capacity	<u>62.0</u> cfm	

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>150.0</u> 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	
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % 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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	April-22

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

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 96168	Model: 6001 - QUEENSLAND	Builder: GOLD PARK HOMES	Date: 4/14/2022																																																									
Volume Calculation		Air Change & Delta T Data																																																										
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>2574</td><td>10</td><td>24710.4</td></tr> <tr><td>First</td><td>2574</td><td>11</td><td>27284.4</td></tr> <tr><td>Second</td><td>3208</td><td>9</td><td>28872</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>80,866.8 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2289.9 m³</td></tr> </tbody> </table>		Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2574	10	24710.4	First	2574	11	27284.4	Second	3208	9	28872	Third	0	9	0	Fourth	0	9	0	Total:			80,866.8 ft³	Total:			2289.9 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%; text-align: center;">0.486</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td style="text-align: center;">0.162</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td style="text-align: center;">22</td> <td style="text-align: center;">-20</td> <td style="text-align: center;">42</td> <td style="text-align: center;">76</td> </tr> <tr> <td>Summer DTDc</td> <td style="text-align: center;">24</td> <td style="text-align: center;">31</td> <td style="text-align: center;">7</td> <td style="text-align: center;">13</td> </tr> </table>			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
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5.2.3.1 Heat Loss due to Air Leakage		6.2.6 Sensible Gain due to Air Leakage																																																										
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.486 x 636.08 x 42 °C x 1.2 = 15651 W = 53402 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.162 x 636.08 x 7 °C x 1.2 = 878 W = 2995 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																										
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ 300 CFM x 76 °F x 1.08 x 0.25 = 6156 Btu/h		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 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 / HL _{clevel})																																																								
1	0.5	53,402	10,596	2.520																																																								
2	0.3		22,854	0.701																																																								
3	0.2		21,097	0.506																																																								
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 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND	OPT 2ND - ELEVATOR - WOB	BUILDER: GOLD PARK HOMES
SFQT: 5653	LO# 96168	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 (ft³):	80866.8	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.85	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.**

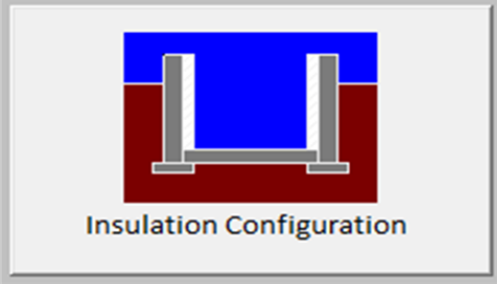
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

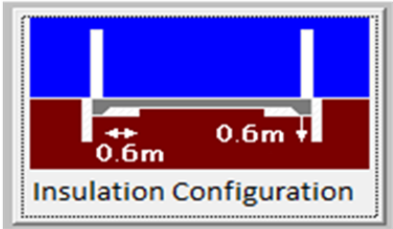
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.9	 Insulation Configuration
Floor Width (m):	16.8	
Exposed 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
LO# 96168

OPT 2ND - ELEVATOR - WOB

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
LO# 96168

OPT 2ND - ELEVATOR - WOB

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	11.95			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	2289.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	3052.5 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	70.8	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
LO# 96168

OPT 2ND - ELEVATOR - WOB

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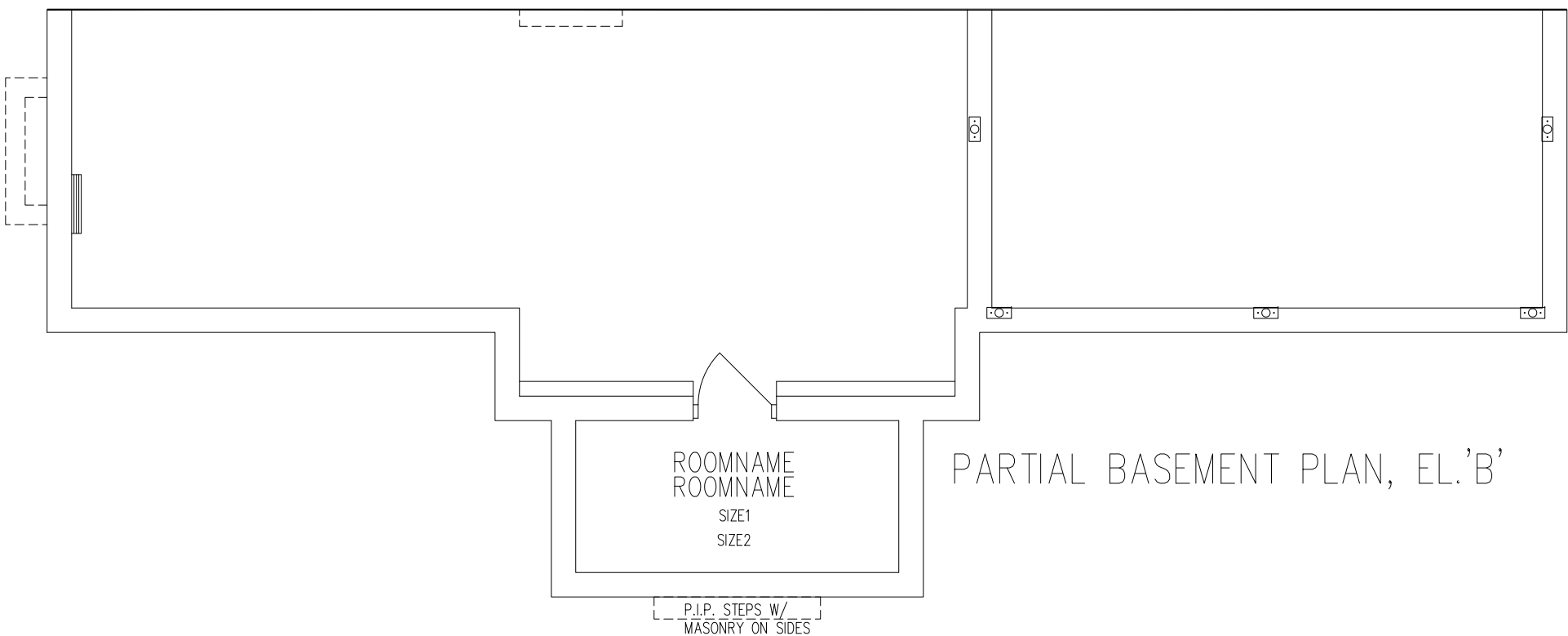
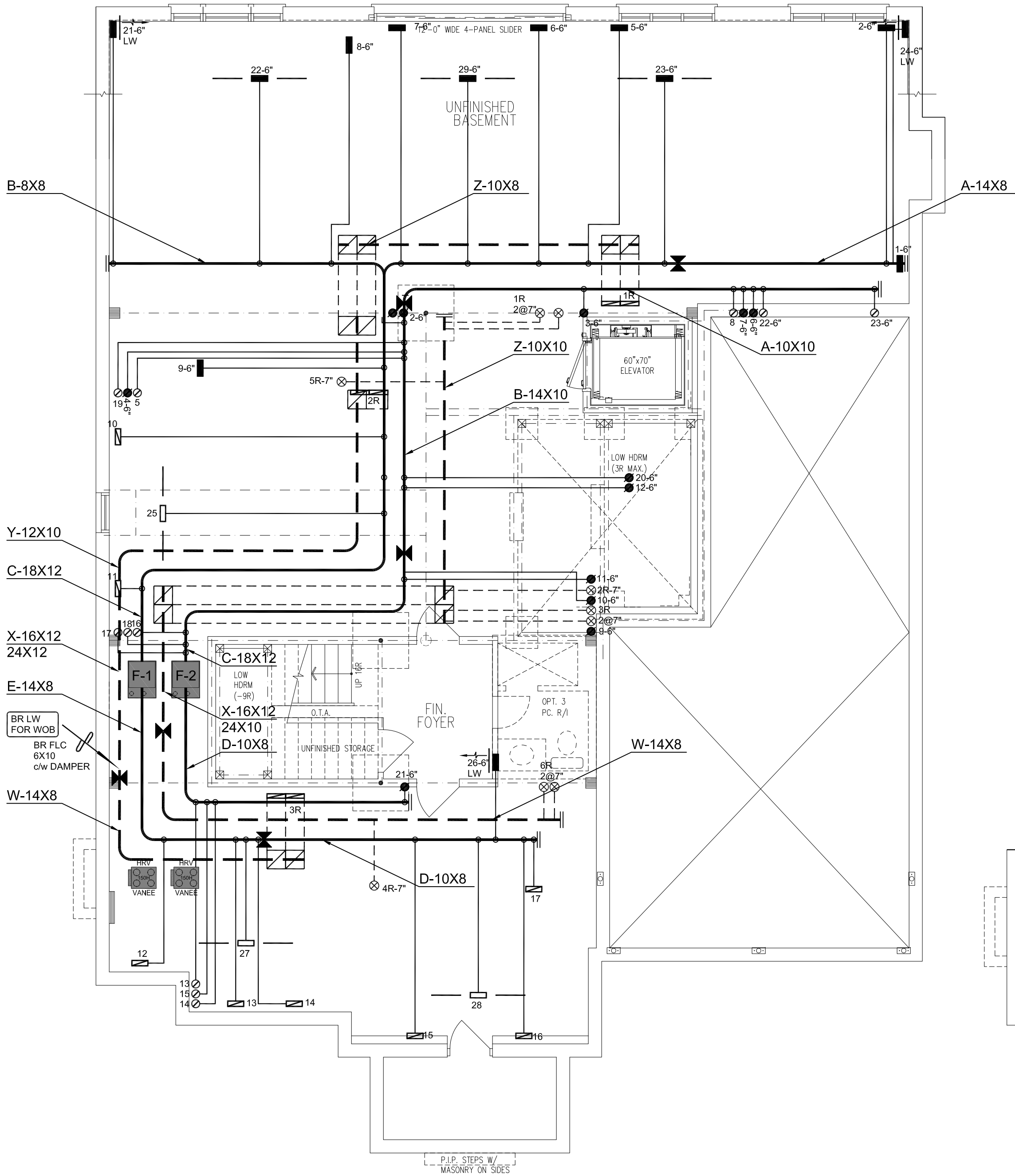
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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
3.5 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	23	6	7
1ST	16	3	2
BAS	8	1	0



HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE F'D BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
	LW LOW WALL
	HW HIGH WALL

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY PERMITS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY PERMITS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY PERMITS.

1. ISSUED FOR PERMIT APRIL 2022 EG

No. Revision Date By

SB-12 PACKAGE

A1

HVACDESIGNS LTD.

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

Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO

6001 - QUEENSLAND
OPT 2ND - ELEVATOR - WOB
5653 SQFT

Sheet Title: BASEMENT HVAC LAYOUT

Drawn By: EG Checked By: MO

Scale: 3/16"=1'-0"

Date: APRIL 2022 Sheet No.

LO # 96168 1

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	23	6	7
1ST	16	3	2
BAS	8	1	0

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 8'x0 BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

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

Michael O'Boake, BCIN# 19669 

1	ISSUED FOR PERMIT	APRIL 2022
No.	Revision	Date

SB-12 PACKAGE

A1



375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
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Specializing in Residential Mechanical Design Services

Client **GOLDPARK HOMES**

Project PINE VALLEY PH2

VAUGHAN, ONTARIO
6001 QUEENSLAND

6001 - QUEENSLAND
OPT 2ND - ELEVATOR - WO

5653 SQFT
Copyright & Copy: © 2022 HVAC D

Street Title	FIRST FLOOR
Drawn	EC

By	EG
Scale	3/16"=1'-0"

Date APRIL 2021

LO 96168

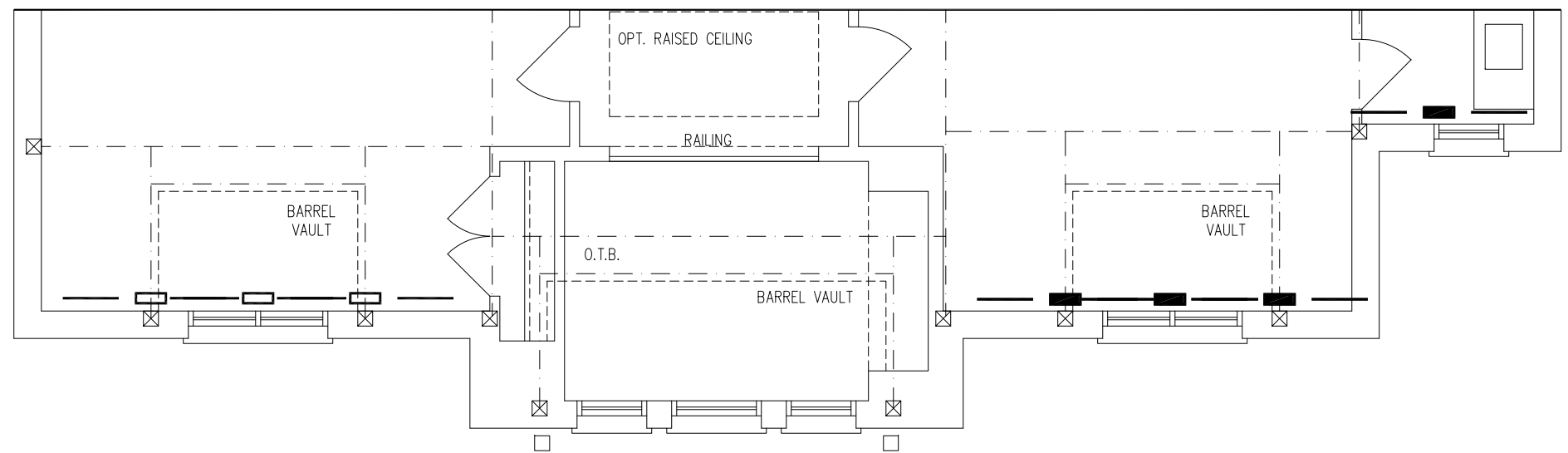
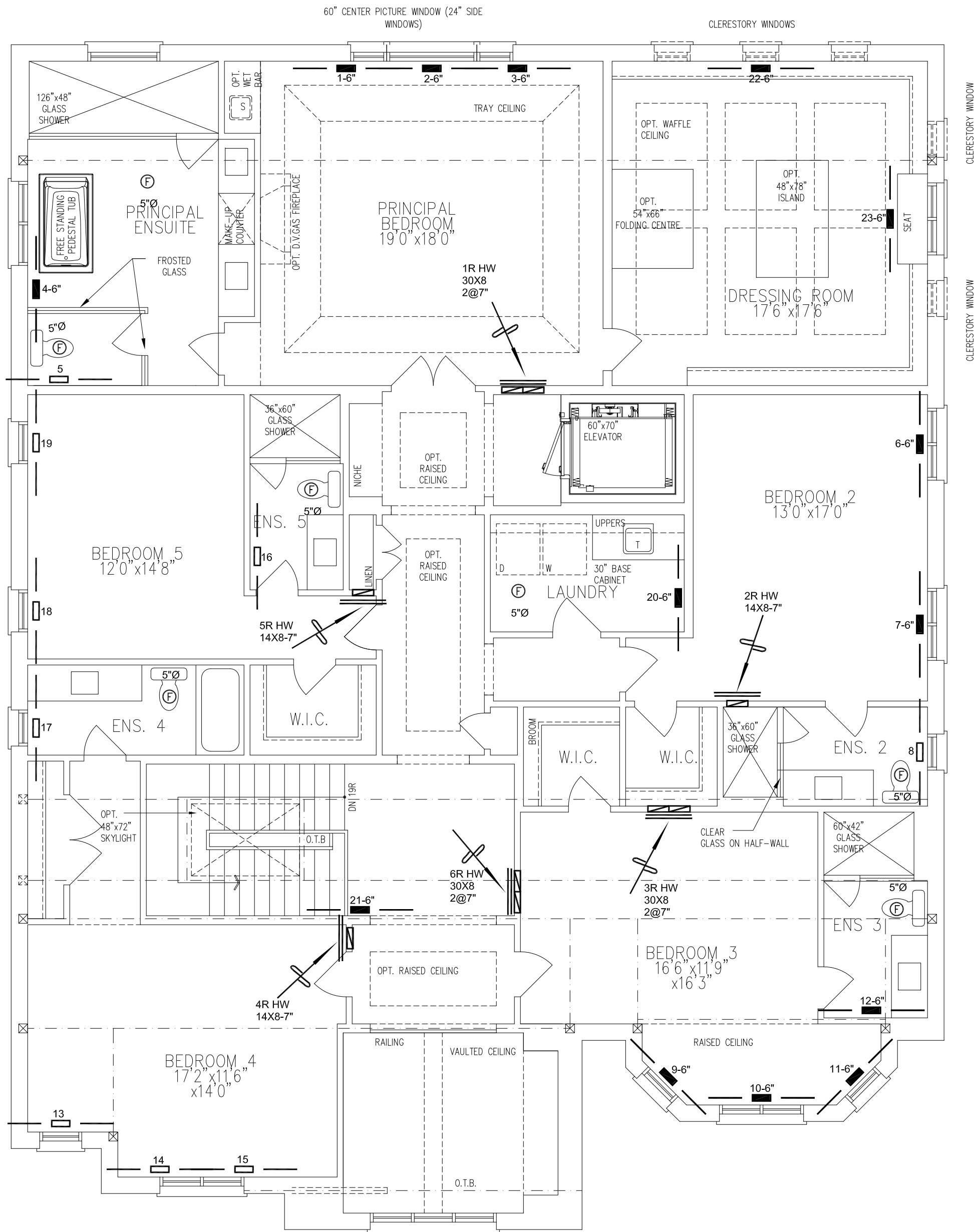
2

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	S/A	R/A	FANS
2ND	23	6	7
1ST	16	3	2
BAS	8	1	0



PARTIAL SECOND FLOOR PLAN, EL.B'

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

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X9 RETURN GRILLE
	4X10 SUPPLY GRILLE 6'Ø BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

I HEREBY CERTIFY THAT I HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED TO SIGN DRAWINGS IN THE FIELD OF MECHANICAL ENGINEERING.
Hvac Design Ltd. 1969
Hvac Designs Ltd.

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

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A1

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Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2 VAUGHAN, ONTARIO

6001 - QUEENSLAND
OPT 2ND - ELEVATOR - WOB
5653 SQFT

Sheet Title: SECOND FLOOR HVAC LAYOUT	Checked By: MO	Sheet No: 3
Drawn By: EG	Scale: 3/16"=1'-0"	Date: APRIL 2022
LO #	96168	