

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 - ELEV C 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										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 - ELEV C					GFA: 5401					LO# 96173					SUMMER NATURAL AIR CHANGE RATE 0.162					HEAT GAIN AT °F. 13		SB-12 PACKAGE A1	
ROOM USE				GREAT				KIT				DIN		LIBR		FOY		MUD				PWD											
EXP. WALL				50				56				25		33		43		22				7											
CLG. HT.				20				11				11		11		11		13				11											
FACTORS																																	
GRS.WALL AREA		LOSS GAIN		980				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	46	979	735	0	0	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	0	65	1383	2701	20	426	831	0	0	0	0	0	0	0	0	0	0	0	0				
SOUTH		21.3	24.9	0	0	0	0	0	0	0	41	872	1021	18	383	448	0	0	0	0	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	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				
DOORS		25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	35	884	149	20	505	85	0	0	0	0	0	0	0	0	0				
NET EXPOSED WALL		4.5	0.8	800	3570	601	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	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	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	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	0	0				
BASEMENT/CRAWL HEAT LOSS																																	
SLAB ON GRADE HEAT LOSS																																	
SUBTOTAL HT LOSS					7980			4903			1872			2984			3098			1653			331										
SUB TOTAL HT GAIN						7169			5913			1189			3362			1281			278			56									
LEVEL FACTOR / MULTIPLIER			0.30	0.70			0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70		0.30	0.70										
AIR CHANGE HEAT LOSS					5591			3435			1312			2091			2171			1158			232										
AIR CHANGE HEAT GAIN						561			462			93			263			100			22			4									
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	0	0	0	0	0	0	0	0	0	0	0				
HEAT GAIN APPLIANCES/LIGHTS						1028			1028			1028			1028			0			0			0									
TOTAL HT LOSS BTU/H					13571			8338			3184			5075			5269			2811			563										
TOTAL HT GAIN x 1.3 BTU/H						11386			9625			3004			6049			1796			390			78									

[illegible]

TOTAL HEAT GAIN BTU/H: 85307

TONS: 7.11

LOSS DUE TO VENTILATION LOAD BTU/H: 6156

STRUCTURAL HEAT LOSS: 110246

TOTAL COMBINED HEAT LOSS BTU/H: 116402

SITE NAME: PINE VALLEY PH 2										WOB				DATE Apr-22		WINTER NATURAL AIR CHANGE RATE 0.486										HEAT LOSS ΔT °F. 76		CSA-F280-1														
BUILDER: GOLD PARK HOMES										TYPE: 6001 - QUEENSLAND - ELEV C						GFA: 5401		LO# 96173		SUMMER NATURAL AIR CHANGE RATE 0.162										HEAT GAIN ΔT °F. 13		SB-12 PACKAGE A										
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			35			16			6			18			10			6												
CLG. HT.			10			9			9			10			10			9			9			9			9			9												
FACTORS																																										
GRS.WALL AREA			LOSS GAIN			200			288			162			200			350			144			54			162			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	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	8	170	199								
WEST			21.3	41.6	42	894	1745	8	170	332	0	0	0	0	0	0	0	383	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	267	1192	201	125	558	94	46	205	35	152	678	114	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	323	415	190	268	344	157	304	390	179	66	85	39	72	92	42	80	103	47	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																																										
SLAB ON GRADE HEAT LOSS																																										
SUBTOTAL HT LOSS			2087				2098				2434				3436				3453				1352				629				1167				639				468			
SUB TOTAL HT GAIN			2087				1215				1044				3433				3576				746				229				603				308				276			
LEVEL FACTOR / MULTIPLIER			0.20	0.50					0.20	0.50					0.20	0.50					0.20	0.50					0.20	0.50					0.20	0.50								
AIR CHANGE HEAT LOSS			1042				1047				1215				1715				1724				675				314				583				319				234			
AIR CHANGE HEAT GAIN							163				95				82				269				58				18				47				24				22			
DUCT LOSS			0				0				365				515				0				0				94				175				0				0			
DUCT GAIN			0				0				239				497				0				0				128				168				0				0			
HEAT GAIN PEOPLE			240	2	480	0	1	240	1	240	1	240	1	240	1	240	1	240	1	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS			1028				0				1028				1028				1028				1028				1028				1028				1028				1028			
TOTAL HT LOSS BTU/H			3128				3145				4014				5666				5176				2027				1037				1925				958				702			
TOTAL HT GAIN x 1.3 BTU/H			4886				1703				3422				7107				6662				2694				1824				2400				1768				1724			

ROOM USE	LAUN			HALL		
EXP. WALL	0			18		
CLG. HT.	9			10		
FACTORS						
GRS.WALL AREA	LOSS	GAIN	0	180		
GLAZING			LOSS GAIN	LOSS GAIN		
NORTH	21.3	16.0	0 0 0	0 0 0		
EAST	21.3	41.6	0 0 0	44 936 1828		
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	30 757 128		
NET EXPOSED WALL	4.5	0.8	0 0 0	106 473 80		
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	224 287 132		
NO ATTIC EXPOSED CLG	2.7	1.3	0 0 0	50 137 63		
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	3486		
SUB TOTAL HT GAIN			49	4667		
LEVEL FACTOR / MULTIPLIER		0.20	0.50	0.20 0.50		
AIR CHANGE HEAT LOSS			54	1740		
AIR CHANGE HEAT GAIN			4	365		
DUCT LOSS			0	0		
DUCT GAIN			0	0		
HEAT GAIN PEOPLE	240	0	0	0		
HEAT GAIN APPLIANCES/LIGHTS			1028	0		
TOTAL HT LOSS BTU/H			162	5225		
TOTAL HT GAIN x 1.3 BTU/H			1406	6542		

TOTAL HEAT GAIN BTU/H: 85307

TONS: 7.11

LOSS DUE TO VENTILATION LOAD BTU/H: 6156

STRUCTURAL HEAT LOSS: 110246

TOTAL COMBINED HEAT LOSS BTU/H: 116402

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

WOB
TYPE: 6001 - QUEENSLAND - ELEV C DATE: Apr-22

GFA: 5401 LO# 96173

FURNACE 1

HEATING CFM 1340 COOLING CFM 1340
TOTAL HEAT LOSS 77,082 TOTAL HEAT GAIN 42,649
AIR FLOW RATE CFM 17.38 AIR FLOW RATE CFM 31.42

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
= 80160 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	17	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	3	4	5	6	7	8	9	10	11	12	13	14	15	18	19	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	MUD	PWD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.71	2.71	2.71	2.71	2.71	2.08	2.08	2.08	2.08	1.59	1.59	1.69	1.69	1.69	5.27	2.81	0.56	4.25	4.25	4.25	4.25
CFM PER RUN HEAT	47	47	47	47	47	36	36	36	36	28	28	29	29	29	92	49	10	74	74	74	74
RM GAIN MBH.	2.28	2.28	2.28	2.28	2.28	2.41	2.41	2.41	2.41	1.50	1.50	2.02	2.02	2.02	1.80	0.39	0.08	1.15	1.15	1.15	1.15
CFM PER RUN COOLING	72	72	72	72	72	76	76	76	76	47	47	63	63	63	56	12	2	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	0.17	0.17	0.16	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	48	55	82	56	65	71
EQUIVALENT LENGTH	140	130	150	160	130	130	140	170	110	120	150	150	130	120	140	150	130	130	120	120	140
TOTAL EFFECTIVE LENGTH	214	219	233	238	202	197	199	215	156	166	160	172	157	151	180	198	185	212	176	185	211
ADJUSTED PRESSURE	0.08	0.08	0.07	0.07	0.09	0.09	0.09	0.08	0.11	0.1	0.11	0.1	0.11	0.11	0.09	0.09	0.09	0.08	0.1	0.09	0.08
ROUND DUCT SIZE	6	6	6	6	6	6	6	6	6	5	5	5	5	5	6	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	240	240	240	240	240	184	184	184	184	206	206	213	213	213	469	562	115	377	377	377	377
COOLING VELOCITY (ft/min)	367	367	367	367	367	388	388	388	388	345	345	463	463	463	286	138	23	184	184	184	184
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	B	B	B	C	D	D	D	E	E	E	E	D	D	C	C	B	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.25	4.25	4.25	4.25	4.25
CFM PER RUN HEAT	74	74	74	74	74
RM GAIN MBH.	1.15	1.15	1.15	1.15	1.15
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	150
TOTAL EFFECTIVE LENGTH	179	204	123	171	208
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)	264	264	264	264	184
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10
TRUNK	D	E	E	E	B

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	262	0.07	8.8	8	x	10	472	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	529	0.07	11.4	14	x	10	544	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	184	0.08	7.4	8	x	8	414	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	938	0.07	14.2	18	x	12	625	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	401	0.08	10	12	x	8	602	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	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
ACTUAL DUCT LGH.	76	47	41	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	145
TOTAL EFFECTIVE LH	256	212	181	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	9
INLET GRILL SIZE	8	8	8	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
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	30

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

WOB
TYPE: 6001 - QUEENSLAND - ELEV C DATE: Apr-22

GFA: 5401 LO# 96173

FURNACE 2

HEATING CFM 1270 COOLING CFM 1270
TOTAL HEAT LOSS 33,164 TOTAL HEAT GAIN 42,139
AIR FLOW RATE CFM 38.29 AIR FLOW RATE CFM 30.14

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
= 36242 BTUH**
**\$*LENNOX
ML196UH070XE48B
FAN SPEED 70**

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = **63,900**

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	22	0	0
R/A	0	0	6	0	0

plenium 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

LOW 0
MEDLOW 1070
MEDIUM 1270
MEDIUM HIGH 1515
HIGH 1595

DESIGN CFM = **1270**
CFM @ .6" E.S.P.

TEMPERATURE RISE 47 °F

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
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	HALL
RM LOSS MBH.	1.04	1.04	1.04	2.36	0.79	2.01	2.01	1.04	1.89	1.89	1.89	1.92	1.73	1.73	1.73	0.96	1.01	1.01	0.70	0.16	2.61	2.61
CFM PER RUN HEAT	40	40	40	90	30	77	77	40	72	72	72	74	66	66	66	37	39	39	27	6	100	100
RM GAIN MBH.	1.63	1.63	1.63	1.28	0.43	1.71	1.71	1.82	2.37	2.37	2.37	2.40	2.22	2.22	2.22	1.77	1.35	1.35	1.72	1.41	3.27	3.27
CFM PER RUN COOLING	49	49	49	39	13	52	52	55	71	71	71	72	67	67	67	53	41	41	52	42	99	99
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
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
EQUIVALENT LENGTH	150	160	220	180	180	160	170	180	170	180	170	160	170	150	140	200	210	180	180	190	110	140
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
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
ROUND DUCT SIZE	6	6	6	6	4	6	6	5	6	6	6	6	5	5	5	5	4	4	5	5	6	6
HEATING VELOCITY (ft/min)	204	204	204	459	344	393	393	294	367	367	367	377	485	485	485	272	447	447	198	44	510	510
COOLING VELOCITY (ft/min)	250	250	250	199	149	265	265	404	362	362	362	367	492	492	492	389	470	470	382	308	505	505
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	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

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										RETURN 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	240	0.06	8.8	8	x	10	432			TRUNK G	0	0.00	0	0	x	8	0		
TRUNK B	467	0.06	11.3	12	x	10	560			TRUNK H	0	0.00	0	0	x	8	0		
TRUNK C	872	0.06	14.3	16	x	12	654			TRUNK I	0	0.00	0	0	x	8	0		
TRUNK D	398	0.08	9.9	12	x	8	597			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 #	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	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	1	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	0	0	0	0
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	1	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	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	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	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	X	X	X	X	X
INLET GRILL SIZE	30	14	30	24	14	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

LO # 96173
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 @ 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:	<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* MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 96173	Model: 6001 - QUEENSLAND - ELEV C	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>2581</td><td>10</td><td>24777.6</td></tr> <tr><td>First</td><td>2581</td><td>11</td><td>27358.6</td></tr> <tr><td>Second</td><td>3175</td><td>9</td><td>28575</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>80,711.2 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2285.5 m³</td></tr> </tbody> </table>			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	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 20%;">0.486</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>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>22</td> <td>-20</td> <td>42</td> <td>76</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> <td>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 634.86 x 42 °C x 1.2 = 15621 W = 53299 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 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			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)																																																												
$HL_{airr} = Level \ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$ <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairve Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clevel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr><td>1</td><td>0.5</td><td rowspan="5" style="text-align: center; vertical-align: middle;">53,299</td><td>10,536</td><td>2.529</td></tr> <tr><td>2</td><td>0.3</td><td>22,821</td><td>0.701</td></tr> <tr><td>3</td><td>0.2</td><td>21,355</td><td>0.499</td></tr> <tr><td>4</td><td>0</td><td>0</td><td>0.000</td></tr> <tr><td>5</td><td>0</td><td>0</td><td>0.000</td></tr> </tbody> </table> *HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0					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	10,536	2.529	2	0.3	22,821	0.701	3	0.2	21,355	0.499	4	0	0	0.000	5	0	0	0.000																														
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				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	6001 - QUEENSLAND - ELEV C	WOB	BUILDER:	GOLD PARK HOMES
SFQT:	5401	LO#	96173	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):	1.85	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	-

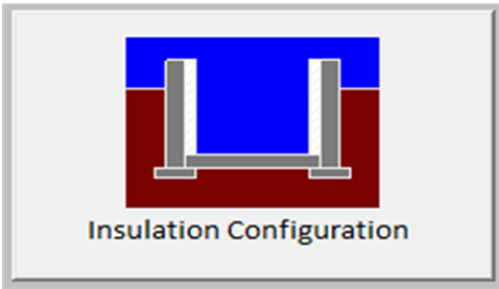
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

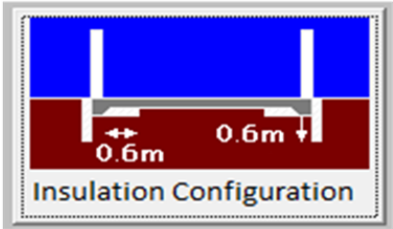
Supplemental tool for CAN/CSA-F280

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 - ELEV C WOB
LO# 96173

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
LO# 96173

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):	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	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 - ELEV C WOB
LO# 96173

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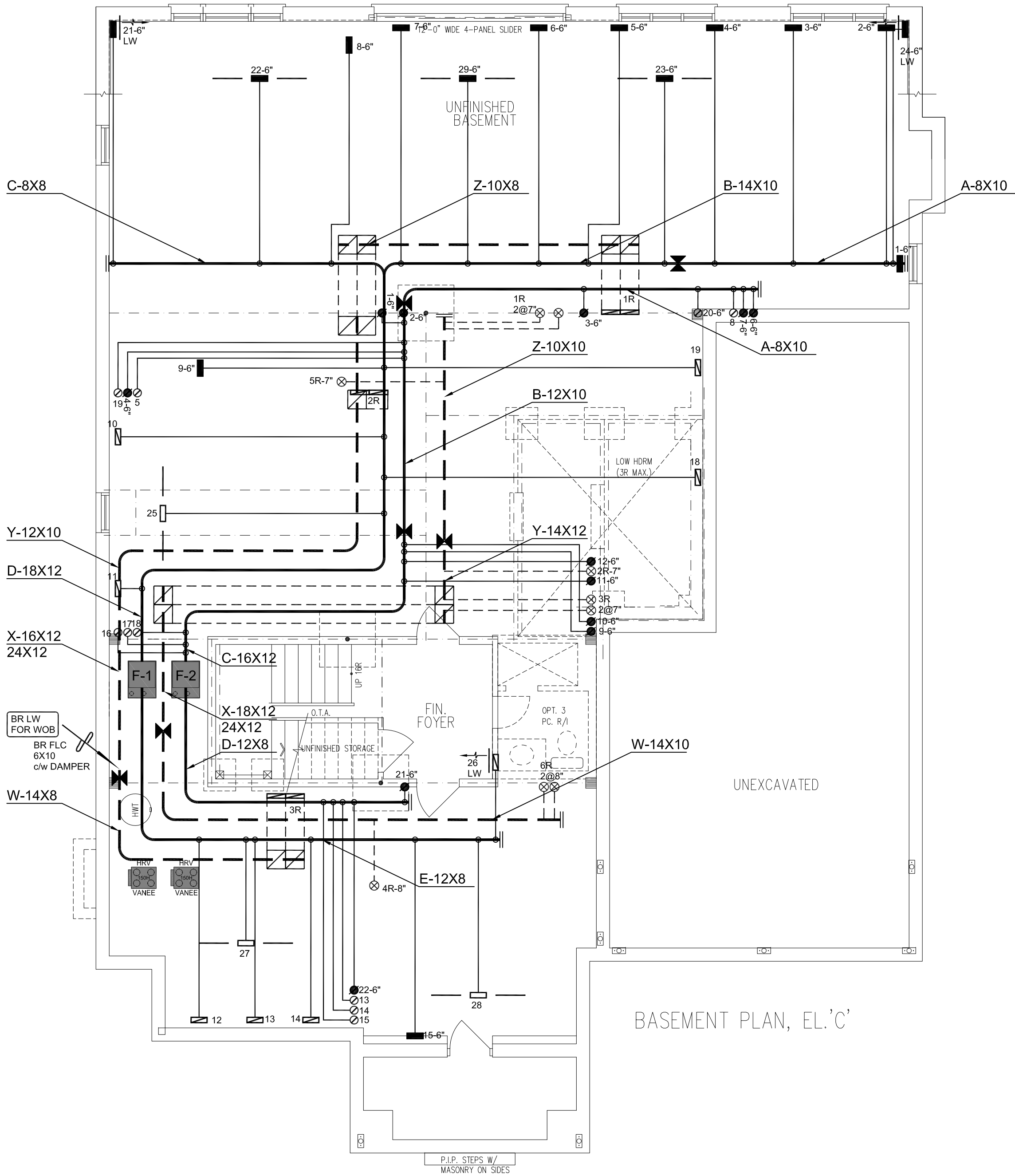
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

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 ML196UH090XE48C
85600 BTU/H OUTPUT
3.5 TONS A/C @ 1340 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	17	3	2
BAS	9	1	0



BASEMENT PLAN, EL.'C'

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

UNLESS OTHERWISE NOTED, THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS.

1. ISSUED FOR PERMIT APRIL 2022 EG

No. Revision Date By

SB-12 PACKAGE A1

HVACDESIGNS LTD.
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Email: info@hvacadesigns.ca
Web: www.hvacadesigns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES
Project: PINE VALLEY PH2
Name: VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
WOB
5401 SQFT

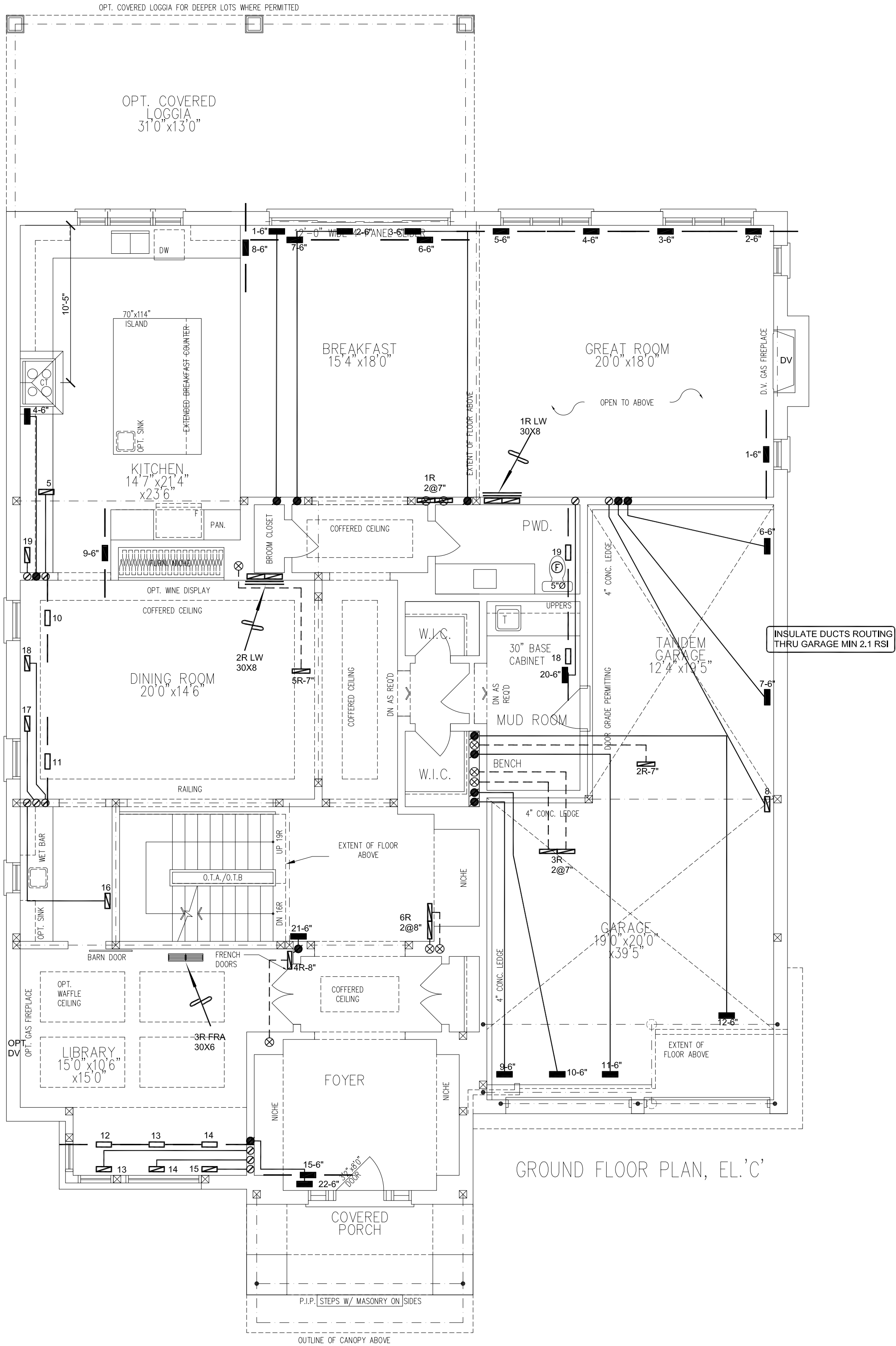
Sheet Title: BASEMENT HVAC LAYOUT
Drawn By: EG
Scale: 3/16"=1'-0"
Date: APRIL 2022
LO #: 96173
Checked By: MO
Sheet No.: 1

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	S/A	R/A	FANS
2ND	22	6	7
1ST	17	3	2
BAS	9	1	0



GROUND FLOOR PLAN, EL.'C'

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

I WARRANT: OWNER SHALL HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND ANY DISCREPANCIES THERE EXISTING, I, I, I OF THE INFORMATION.

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Client: GOLDPARK HOMES
Project: PINE VALLEY PH2
Name: VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
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5401 SQFT

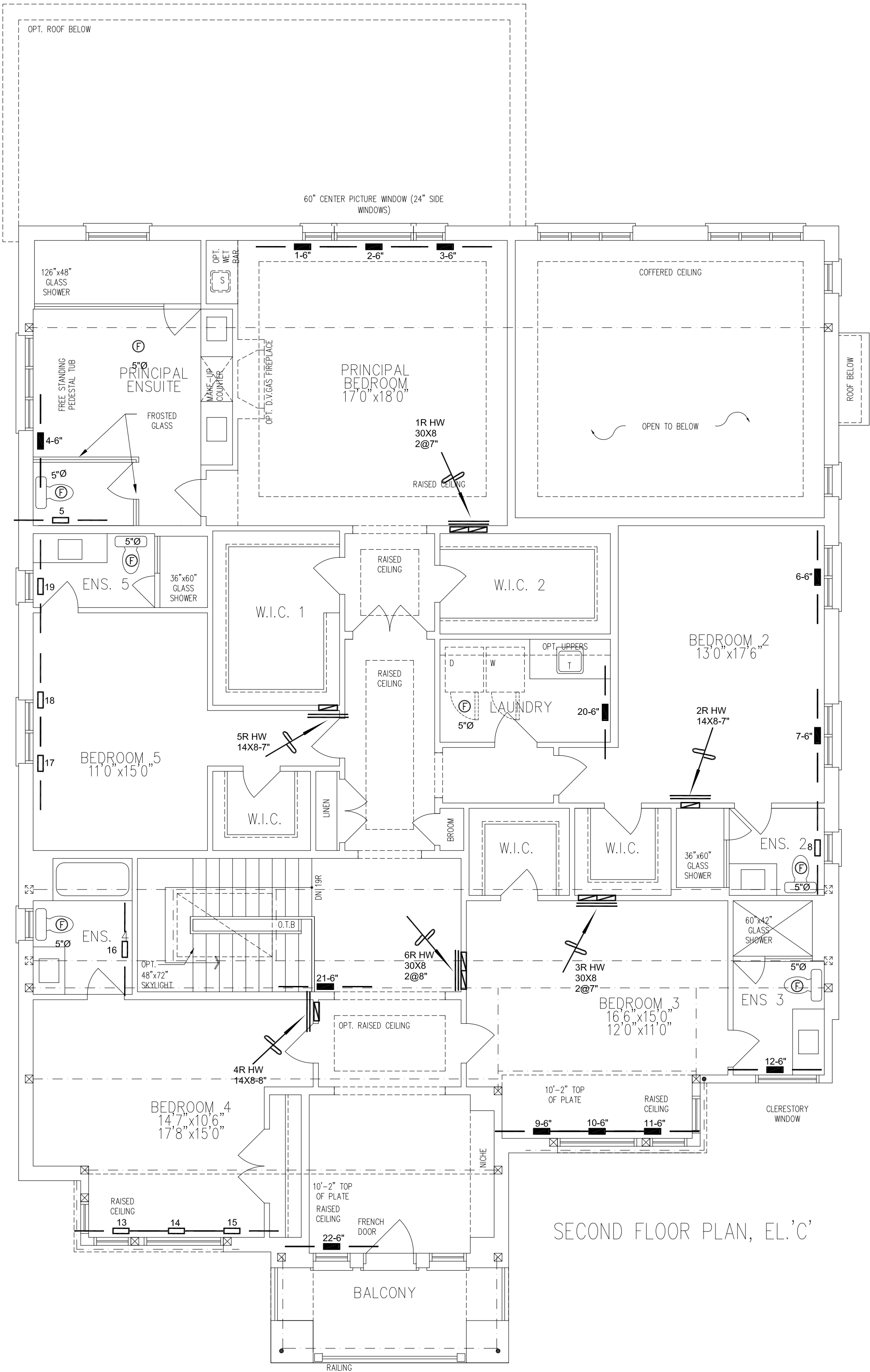
Sheet Title: FIRST FLOOR HVAC LAYOUT	Checked By: MO	Sheet No.:
Drawn By: EG	Scale: 3/16"=1'-0"	
Date: APRIL 2022	LO #	
96173		2

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	S/A	R/A	FANS
2ND	22	6	7
1ST	17	3	2
BAS	9	1	0



SECOND FLOOR PLAN, EL.'C'

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

UNLESS OTHERWISE NOTED, I SHALL HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED TO SIGN DRAWINGS IN ACCORDANCE WITH THE REGULATION OF THE PROFESSIONAL ENGINEERING ACT, 1990.
I hereby certify that I am a duly registered Professional Engineer in the Province of Ontario, and I am the author of the design work shown on this drawing.
Signature: *Michael J. Goff*
Date: *APRIL 2022*

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Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND - ELEV C
WOB
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Sheet Title: SECOND FLOOR HVAC LAYOUT
Drawn By: EG Checked By: MO
Scale: 3/16"=1'-0"
Date: APRIL 2022 Sheet No.: 3
LO #: 96173