

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: 6002 - KINGSVIEW OPT ELEVATOR - WOB Project: PINE VALLEY PH 2	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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 ELEVATOR - WOB			DATE Apr-22			WINTER NATURAL AIR CHANGE RATE 0.410			HEAT LOSS ΔT °F. 76		CSA-F280-12				
BUILDER: GOLD PARK HOMES			TYPE: 6002 - KINGSVIEW			GFA: 5526			LO# 96145			SUMMER NATURAL AIR CHANGE RATE 0.137			HEAT GAIN AT °F. 13		SB-12 PACKAGE A1	
ROOM USE																		
EXP. WALL																		
CLG. HT.																		
	FACTORS																	
GRS.WALL AREA	LOSS	GAIN																
GLAZING																		
NORTH	21.3	16.0																
EAST	21.3	41.6																
SOUTH	21.3	24.9																
WEST	21.3	41.6																
SKYLT.	37.2	101.5																
DOORS	25.2	4.3																
NET EXPOSED WALL	4.5	0.8																
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6																
EXPOSED CLG	1.3	0.6																
NO ATTIC EXPOSED CLG	2.7	1.3																
EXPOSED FLOOR	2.6	0.4																
BASEMENT/CRAWL HEAT LOSS																		
SLAB ON GRADE HEAT LOSS																		
SUBTOTAL HT LOSS																		
SUB TOTAL HT GAIN																		
LEVEL FACTOR / MULTIPLIER																		
AIR CHANGE HEAT LOSS																		
AIR CHANGE HEAT GAIN																		
DUCT LOSS																		
DUCT GAIN																		
HEAT GAIN PEOPLE	240																	
HEAT GAIN APPLIANCES/LIGHTS																		
TOTAL HT LOSS BTU/H																		
TOTAL HT GAIN x 1.3 BTU/H																		

ROOM USE			OFFICE		FM/DN		KIT		GRT		CATER		PWD		FOY		MUD						WOB		BAS			
EXP. WALL			32		30		47		83		19		11		68		21						73		171			
CLG. HT.			11		11		11		11		11		11		11		11						10		10			
FACTORS																												
GRS.WALL AREA	LOSS	GAIN	355		333		522		921		211		122		755		233						737		1214			
GLAZING			LOSS	GAIN	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	0	0	0	0	0	0	0	0	12	255	192			0	0	0	0	0	0	
EAST	21.3	41.6	67	1426	2784	0	0	0	0	0	0	0	0	0	102	2171	4238	0	0	0			0	0	0	0	0	
SOUTH	21.3	24.9	0	0	0	69	1468	1718	0	0	0	0	0	0	0	0	0	0	0			0	0	0	8	170	199	
WEST	21.3	41.6	0	0	0	0	0	0	120	2554	4986	108	2298	4488	14	298	582	0	0	0			169	3596	7022	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	
DOORS	25.2	4.3	0	0	0	0	0	0	20	505	85	0	0	0	10	252	43	0	0	0			20	505	85	20	505	85
NET EXPOSED WALL	4.5	0.8	288	1286	217	264	1178	198	382	1703	287	813	3630	611	187	834	140	122	545	92			640	2855	481	221	987	166
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	375	481	220	0	0	0	0	0	0			116	149	68	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0
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								3470			
SLAB ON GRADE HEAT LOSS			0		0		0		0		0		0		0		0						1216					
SUBTOTAL HT LOSS			2712		2646		4762		6409		1384		545		5503		1242						7764		5991			
SUB TOTAL HT GAIN			3001		1916		5358		5319		765		92		4843		358						7519		595			
LEVEL FACTOR / MULTIPLIER	0.30	0.57			0.30 0.57		0.30 0.57		0.30 0.57		0.30 0.57		0.30 0.57		0.30 0.57		0.30 0.57						0.50 1.75					
AIR CHANGE HEAT LOSS			1550		1513		2722		3664		792		312		3146		710								24016			
AIR CHANGE HEAT GAIN			222		142		397		394		57		7		358		26								601			
DUCT LOSS			0		0		0		0		0		0		0		0								0			
DUCT GAIN			0		0		0		0		0		0		0		0								0			
HEAT GAIN PEOPLE	240	0	0		0		0		0		0		0		0		0						0		0			
HEAT GAIN APPLIANCES/LIGHTS			1371		1371		1371		1371		0		0		0		0								0			
TOTAL HT LOSS BTU/H			4262		4159		7484		10073		2176		856		8649		1952						8981		30007			
TOTAL HT GAIN x 1.3 BTU/H			5972		4458		9264		9209		1068		128		6761		500						9775		1555			

SITE NAME: PINE VALLEY PH 2										OPT ELEVATOR - WOB										DATE Apr-22										WINTER NATURAL AIR CHANGE RATE 0.410										HEAT LOSS AT °F. 76										CSA-F280-12																			
BUILDER: GOLD PARK HOMES										TYPE: 6002 - KINGSVIEW										GFA: 5526										LO# 96145										SUMMER NATURAL AIR CHANGE RATE 0.137										HEAT GAIN AT °F. 13										SB-12 PACKAGE A1									
ROOM USE		EXP. WALL		CLG. HT.		PRI		ENS		PWIC-1		PWIC-2		BED-2		WIC-2		ENS-2		BED-3		WIC-3		ENS-3																																													
						21		35		0		0		14		0		5		39		0		5																																													
						9		9		9		9		9		9		9		9		9		9																																													
FACTORS																																																																					
GRS.WALL AREA		LOSS		GAIN		191		319		0		0		127		0		46		355		0		46																																													
GLAZING		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	0	0	0	0	0	426	319	0	0	0	9	192	144	0	0	0	9	192	144																																									
EAST		21.3	41.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	79	1681	3283	0	0	0	0	0	0																																								
SOUTH		21.3	24.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
WEST		21.3	41.6	44	936	1828	28	596	1163	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																								
NET EXPOSED WALL		4.5	0.8	147	656	111	291	1296	218	0	0	0	0	107	479	81	0	0	37	163	27	276	1231	207	0	0	37	163	27																																								
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	440	565	259	304	390	179	52	67	31	165	212	97	285	366	167	43	55	25	65	83	38	386	495	227	43	55	25	65	83	38																																				
NO ATTIC EXPOSED CLG		2.7	1.3	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																																					
EXPOSED FLOOR		2.6	0.4	0	0	0	0	0	0	0	0	0	55	140	24	218	556	94	43	110	18	65	166	28	296	755	127	43	110	18	65	166	28																																				
BASEMENT/CRAWL HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0		0		0		0		0																																					
SLAB ON GRADE HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0		0		0		0		0																																					
SUBTOTAL HT LOSS				2157		2282		67		352		1827		165		604		237		4163		165		604																																													
SUB TOTAL HT GAIN				2197		1560		31		121		661		44				3844		44		237																																															
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																																										
AIR CHANGE HEAT LOSS				1136		1202		35		185		962		87		318		2192		87		318																																															
AIR CHANGE HEAT GAIN				163		115		2		9		49		3		18		285		3		18																																															
DUCT LOSS				0		0		0		54		279		25		92		635		25		92																																															
DUCT GAIN				0		0		0		13		232		5		25		574		5		25																																															
HEAT GAIN PEOPLE		240	2	480		0		0		0		0		1	240		0		0	0	1	240		0		0	0	0	0	0	0	0																																					
HEAT GAIN APPLIANCES/LIGHTS				1371		0		0		0		1371		0		1371		0		1371		0		1371		0																																											
TOTAL HT LOSS BTU/H				3293		3484		102		591		3067		277		1014		6990		277		1014		364																																													
TOTAL HT GAIN x 1.3 BTU/H				5475		2179		43		185		3320		67																																																							

ROOM USE			BED-4			ENS-4			LAUN			BED-5			ENS-5											
EXP. WALL			31			5			7			14			7											
CLG. HT.			9			9			9			9			9											
FACTORS																										
GRS.WALL AREA			LOSS			GAIN			282			46			64			127			64					
GLAZING			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN			LOSS			GAIN		
NORTH	21.3	16.0	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	67	1426	2784	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
SOUTH	21.3	24.9	0	0	0	9	192	224	9	192	224	20	426	498	9	192	224	0	0	0	0	0	0			
WEST	21.3	41.6	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			
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			
NET EXPOSED WALL	4.5	0.8	215	960	162	37	163	27	55	244	41	107	479	81	55	244	41	0	0	0	0	0	0			
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EXPOSED CLG	1.3	0.6	332	426	195	56	72	33	220	282	129	362	465	213	78	100	46	0	0	0	0	0	0			
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	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	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																										
SUB TOTAL HT GAIN																										
LEVEL FACTOR / MULTIPLIER			0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53		0.20	0.53										
AIR CHANGE HEAT LOSS																										
AIR CHANGE HEAT GAIN																										
DUCT LOSS																										
DUCT GAIN																										
HEAT GAIN PEOPLE	240		1			240	0		0			1			240	0										
HEAT GAIN APPLIANCES/LIGHTS																										
TOTAL HT LOSS BTU/H																										
TOTAL HT GAIN x 1.3 BTU/H																										

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

OPT ELEVATOR - WOB
TYPE: 6002 - KINGSVIEW

DATE: Apr-22

GFA: 5526 LO# 96145

FURNACE 1

HEATING CFM 1575 COOLING CFM 1575
TOTAL HEAT LOSS 78,601 TOTAL HEAT GAIN 48,690
AIR FLOW RATE CFM 20.04 AIR FLOW RATE CFM 32.35

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
= 81679 BTUH**
\$*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 = **1575**
CFM @ .6" E.S.P.

TEMPERATURE RISE 50 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	17	8
R/A	0	0	0	4	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	19	20	21	22	23	24
ROOM NAME	FOY	FOY	FOY	OFFCE	OFFCE	FM/DN	FM/DN	GRT	GRT	GRT	KIT	KIT	KIT	KIT	CATER	MUD	PWD	BAS	BAS	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.88	2.88	2.88	2.13	2.13	2.08	2.08	3.36	3.36	3.36	1.87	1.87	1.87	1.87	2.18	1.95	0.86	4.87	4.87	4.87	4.87	4.87	4.87	4.87
CFM PER RUN HEAT	58	58	58	43	43	42	42	67	67	67	37	37	37	37	44	39	17	98	98	98	98	98	98	98
RM GAIN MBH.	2.25	2.25	2.25	2.99	2.99	2.23	2.23	3.07	3.07	3.07	2.32	2.32	2.32	2.32	1.07	0.50	0.13	1.42	1.42	1.42	1.42	1.42	1.42	1.42
CFM PER RUN COOLING	73	73	73	97	97	72	72	99	99	99	75	75	75	75	35	16	4	46	46	46	46	46	46	46
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	58	60	52	51	58	37	27	45	45	36	31	32	32	42	49	36	32	36	24	41	28	28	49	41
EQUIVALENT LENGTH	150	180	150	160	190	110	170	120	110	110	190	140	130	110	120	120	120	120	150	110	130	130	160	110
TOTAL EFFECTIVE LENGTH	208	240	202	211	248	147	197	165	155	146	221	172	162	152	169	156	152	156	174	151	158	158	209	151
ADJUSTED PRESSURE	0.08	0.07	0.09	0.08	0.07	0.12	0.09	0.1	0.1	0.11	0.08	0.1	0.11	0.11	0.1	0.11	0.11	0.1	0.09	0.11	0.1	0.1	0.08	0.11
ROUND DUCT SIZE	6	6	5	6	6	5	5	6	6	6	6	6	6	6	4	4	4	6	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	296	296	426	219	219	308	308	342	342	342	189	189	189	189	505	447	195	500	500	500	500	500	500	500
COOLING VELOCITY (ft/min)	372	372	536	495	495	529	529	505	505	505	382	382	382	382	402	184	46	235	235	235	235	235	235	235
OUTLET GRILL SIZE	4X10	4X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	A	B	B	C	C	C	E	E	E	E	E	E	B	E	E	C	C	B	A	B

RUN #	25
ROOM NAME	BAS
RM LOSS MBH.	4.87
CFM PER RUN HEAT	98
RM GAIN MBH.	1.42
CFM PER RUN COOLING	46
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH.	33
EQUIVALENT LENGTH	110
TOTAL EFFECTIVE LENGTH	143
ADJUSTED PRESSURE	0.11
ROUND DUCT SIZE	6
HEATING VELOCITY (ft/min)	500
COOLING VELOCITY (ft/min)	235
OUTLET GRILL SIZE	4X10
TRUNK	C

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	358	0.07	9.9	14	x	8	460	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.06	0	0	x	8	0				
TRUNK B	655	0.07	12.4	18	x	8	655	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.06	0	0	x	8	0				
TRUNK C	495	0.10	10.2	12	x	8	743	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.06	0	0	x	8	0				
TRUNK D	1150	0.07	15.3	28	x	8	739	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.06	0	0	x	8	0				
TRUNK E	427	0.08	10.2	12	x	8	641	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.06	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	0.06	0	0	x	8	0				

RETURN AIR #	1	2	3	4												BR
AIR VOLUME	185	380	460	185	0	0	0	0	0	0	0	0	0	0	0	365
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.	58	53	44	34	1	1	1	1	1	1	1	1	1	1	1	15
EQUIVALENT LENGTH	195	200	150	160	0	0	0	0	0	0	0	0	0	0	0	140
TOTAL EFFECTIVE LH	253	253	194	194	1	1	1	1	1	1	1	1	1	1	1	155
ADJUSTED PRESSURE	0.06	0.06	0.08	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.10
ROUND DUCT SIZE	8	10.5	10.5	7.5	0	0	0	0	0	0	0	0	0	0	0	9.1
INLET GRILL SIZE	8	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	X
INLET GRILL SIZE	24	30	30	14	0	0	0	0	0	0	0	0	0	0	0	30

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

OPT ELEVATOR - WOB
TYPE: 6002 - KINGSVIEW

DATE: Apr-22

GFA: 5526 LO# 96145

FURNACE 2

HEATING CFM 1110 COOLING CFM 1110
TOTAL HEAT LOSS 29,055 TOTAL HEAT GAIN 33,116
AIR FLOW RATE CFM 38.2 AIR FLOW RATE CFM 33.52

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
= 32133 BTUH**
\$LENNOX
ML196UH045XE36B
FAN SPEED 45
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	22	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 #	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
ROOM NAME	PRI	PRI	ENS	ENS	PWIC-1	PWIC-2	BED-2	BED-2	ENS-2	WIC-2	WIC-3	ENS-3	BED-3	BED-3	BED-3	BED-4	BED-4	BED-4	ENS-4	LAUN	BED-5	ENS-5
RM LOSS MBH.	1.65	1.65	1.31	2.18	0.10	0.59	1.53	1.53	1.01	0.28	0.28	1.01	2.33	2.33	2.33	1.43	1.43	1.43	0.65	1.10	2.09	0.82
CFM PER RUN HEAT	63	63	50	83	4	23	59	59	39	11	11	39	89	89	89	55	55	55	25	42	80	31
RM GAIN MBH.	2.74	2.74	0.82	1.36	0.04	0.19	1.66	1.66	0.36	0.07	0.07	0.36	2.74	2.74	2.74	2.16	2.16	2.16	0.40	2.33	3.20	0.43
CFM PER RUN COOLING	92	92	27	46	1	6	56	56	12	2	2	12	92	92	92	72	72	72	13	78	107	15
ADJUSTED PRESSURE	0.16	0.16	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.15	0.15	0.17
ACTUAL DUCT LGH.	55	67	61	57	29	26	40	42	43	31	40	47	57	53	50	59	79	72	60	49	47	55
EQUIVALENT LENGTH	200	170	170	160	170	180	190	200	110	130	140	120	160	170	180	150	190	170	160	160	170	200
TOTAL EFFECTIVE LENGTH	255	237	231	217	199	206	230	242	153	161	180	167	217	223	230	209	269	242	220	209	217	255
ADJUSTED PRESSURE	0.06	0.07	0.07	0.07	0.09	0.08	0.07	0.07	0.11	0.11	0.1	0.1	0.07	0.07	0.07	0.08	0.06	0.07	0.08	0.08	0.07	0.07
ROUND DUCT SIZE	6	6	5	6	4	4	5	5	4	4	4	4	6	6	6	6	6	6	4	5	6	4
HEATING VELOCITY (ft/min)	321	321	367	423	46	264	433	433	447	126	126	447	454	454	454	280	280	280	287	308	408	356
COOLING VELOCITY (ft/min)	469	469	198	235	11	69	411	411	138	23	23	138	469	469	469	367	367	367	149	573	546	172
OUTLET GRILL SIZE	4X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	3X10
TRUNK	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	A	A	A	A	A	A	B

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	312	0.06	9.7	14	x	8	401	TRUNK G	0	0.00	0	0	8
TRUNK B	435	0.06	11	14	x	8	559	TRUNK H	0	0.00	0	0	8
TRUNK C	802	0.06	13.9	22	x	8	656	TRUNK I	0	0.00	0	0	8
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	8
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	8
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT		VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8
TRUNK P	0	0.05	0	0	x	8
TRUNK Q	0	0.05	0	0	x	8
TRUNK R	0	0.05	0	0	x	8
TRUNK S	0	0.05	0	0	x	8
TRUNK T	0	0.05	0	0	x	8
TRUNK U	0	0.05	0	0	x	8
TRUNK V	0	0.05	0	0	x	8
TRUNK W	270	0.05	9.7	12	x	8
TRUNK X	1110	0.05	16.4	32	x	8
TRUNK Y	550	0.05	12.6	20	x	8
TRUNK Z	420	0.05	11.4	16	x	8
DROP	1110	0.05	16.4	24	x	10

RETURN AIR #

	1	2	3	4	5	6										
AIR VOLUME	270	155	135	110	130	310	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	90	31	48	78	91	75	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	110	135	175	200	150	195	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	200	166	223	278	241	270	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.09	0.07	0.05	0.06	0.05	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	8.9	6.8	6.8	6.9	7	10.2	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	14	14	14	30	0	0	0	0	0	0	0	0	0	0

TYPE: 6002 - KINGSVIEW
SITE NAME: PINE VALLEY PH 2

LO # 96145
OPT 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>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Table 9.32.3.A.	TOTAL	<u>222.6</u> cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL		<u>95.4</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>222.6</u>	cfm
Less Principal Ventil. Capacity	<u>150</u>	cfm
Required Supplemental Capacity	<u>72.6</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
PWD	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#: 96145	Model: 6002 - KINGSVIEW	Builder: GOLD PARK HOMES	Date: 2022-04-14																																																									
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>2602</td><td>10</td><td>26280.2</td></tr> <tr><td>First</td><td>2602</td><td>11</td><td>28882.2</td></tr> <tr><td>Second</td><td>3415</td><td>9</td><td>31076.5</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>86,238.9 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2442.0 m³</td></tr> </tbody> </table>			Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2602	10	26280.2	First	2602	11	28882.2	Second	3415	9	31076.5	Third	0	9	0	Fourth	0	9	0	Total:			86,238.9 ft³	Total:			2442.0 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.410</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.137</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	0.410	SUMMER NATURAL AIR CHANGE RATE	0.137	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																																																									
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.410 x 678.34 x 42 °C x 1.2 = 14077 W = 48031 Btu/h			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.137 x 678.34 x 7 °C x 1.2 = 795 W = 2714 Btu/h																																																									
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																									
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \quad \times 2 \text{ HRV / ERV's}$ 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)																																																												
$HL_{airr} = Level \text{ Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
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	48,031	13,756	1.746																																																								
2	0.3		25,204	0.572																																																								
3	0.2		18,246	0.526																																																								
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: 6002 - KINGSVIEW	OPT ELEVATOR - WOB	BUILDER: GOLD PARK HOMES
SFQT: 5526	LO# 96145	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):	86238.9	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.1 ft
LENGTH: 69.0 ft	WIDTH: 53.0 ft	EXPOSED PERIMETER:	171.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	73.0 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	-

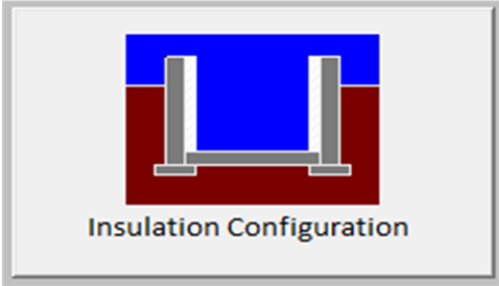
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

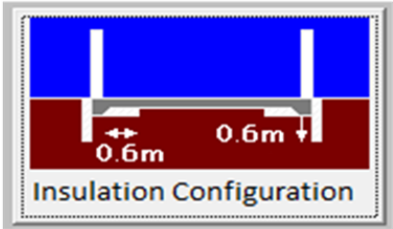
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	6.1	
Floor Width (m):	16.2	
Exposed Perimeter (m):	52.1	
Wall Height (m):	3.1	
Depth Below Grade (m):	1.93	
Window Area (m ²):	0.7	
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):		1017

TYPE: 6002 - KINGSVIEW
LO# 96145

OPT 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):	3.0	
Width (m):	16.2	
Exposed Perimeter (m):	22.3	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		356

TYPE: 6002 - KINGSVIEW
LO# 96145

OPT ELEVATOR - WOB

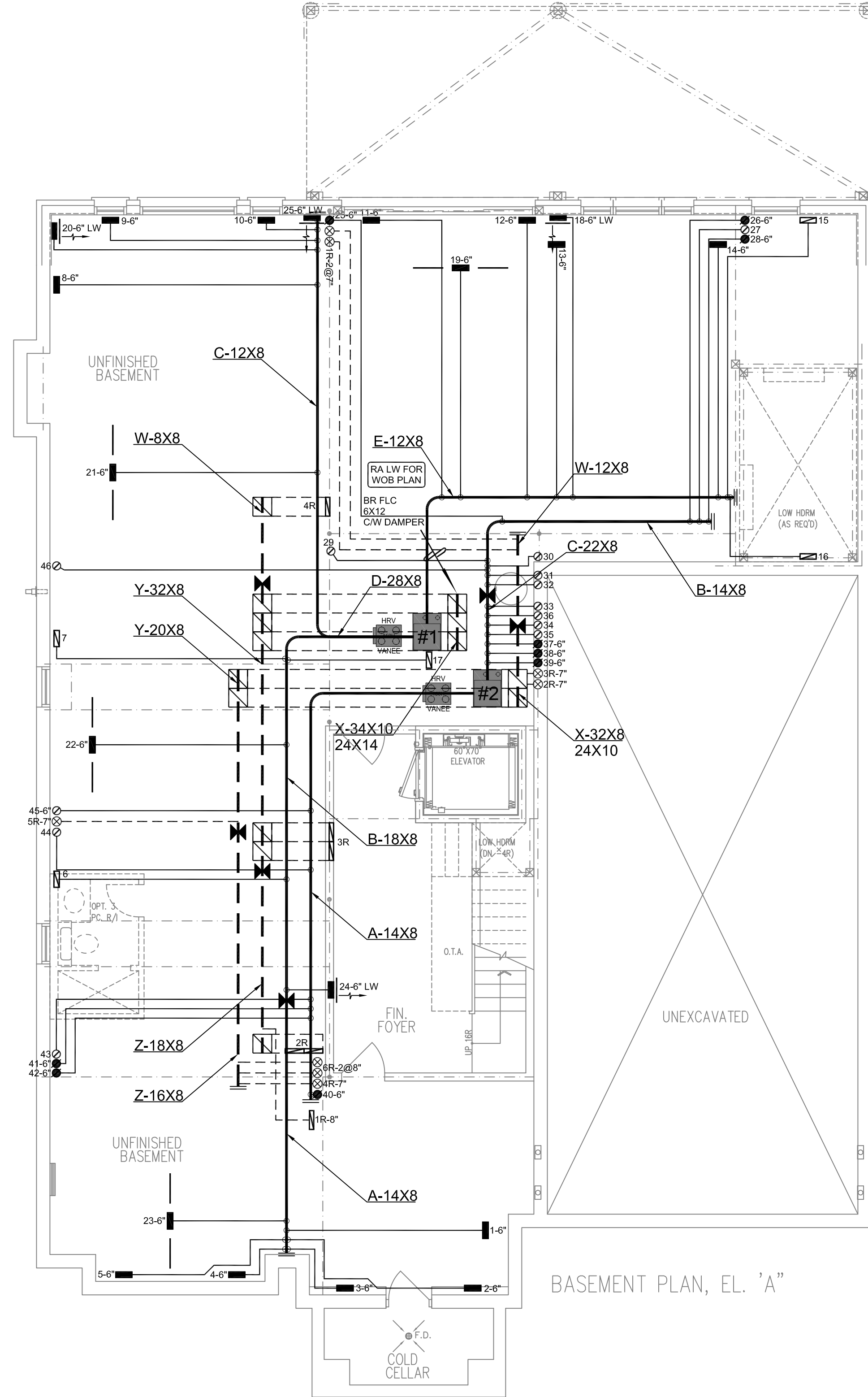
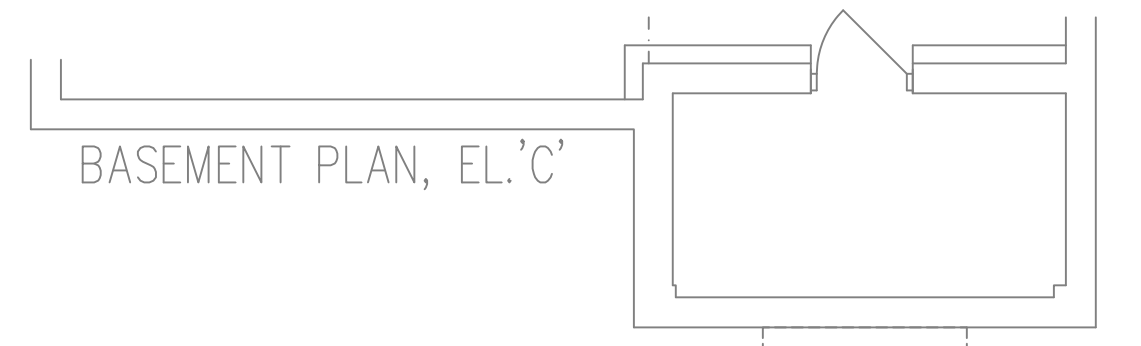
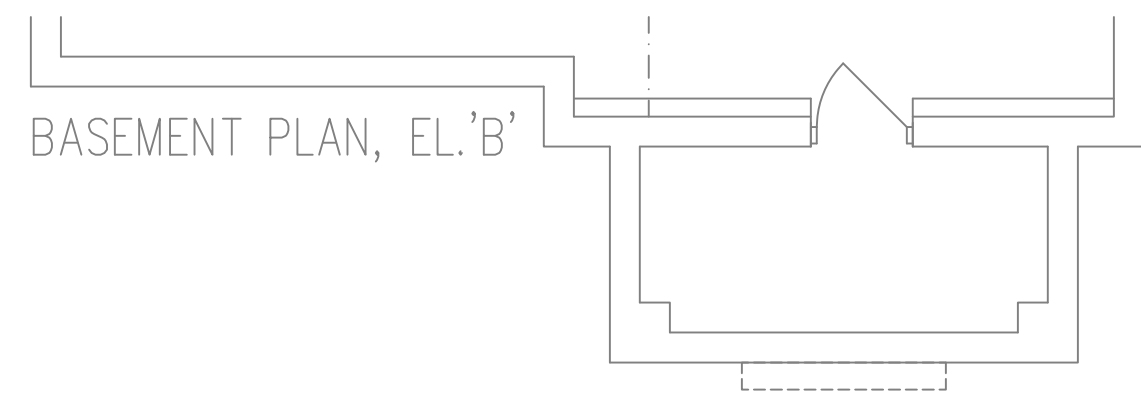
Air Infiltration Residential Load Calculator

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):	9.24			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	2442.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.		3255.3 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):	0.410			
Cooling Air Leakage Rate (ACH/H):	0.137			

TYPE: 6002 - KINGSVIEW
LO# 96145

OPT ELEVATOR - WOB



FURNACE 1
LENNOX ML196UH090XE48C
85,600 BTU/H OUTPUT
4.0 TONS A/C @ 1575 cfm

FURNACE 2
LENNOX ML196UH045XE36B
42,800 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

	S/A	R/A	FANS
2ND	22	6	6
1ST	17	4	2
BAS	8	1	0

HVAC LEGEND	
	OUTLET BY AIRMAX
	4"x10" SUPPLY GRILLE - 8' BOOT
	4"x10" SUPPLY GRILLE - 4' BOOT
	FLEX DUCT
	HMI SUPPLY AIR STACK
	1400 RETURN AIR GRILLE
	3000 RETURN AIR GRILLE
	FLOOR RETURN AIR GRILLE
	RETURN STACK ABOVE
	RETURN AIR STACK
	REDUCER
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	LINT TRAP by REVERSOMATIC
	EXHAUST FAN
	DRYER BOOSTER FAN PROVIDES ACCESS PANEL, see PAGE
	DIRECT VENT
	LOW WALL
	HIGH WALL
	CEILING
	MOTORIZED ZONE DAMPER
	EXHAUST PIPE
	CONCENTRIC VENT KIT
	CONCENTRIC HRV or ERV VENT KIT
	SINGLE WALL BOX by REVERSOMATIC
	DOUBLE WALL BOX by REVERSOMATIC
	TRIPLE WALL BOX by REVERSOMATIC
	CONCENTRIC HRV VENT by REVERSOMATIC

I UNDERTAKE, ON BEHALF OF MYSELF AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM
EXCLUDED FROM THE DESIGN WORK. I AM NOT A REGISTERED PROFESSIONAL ENGINEER.
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Hvac Designs Ltd.

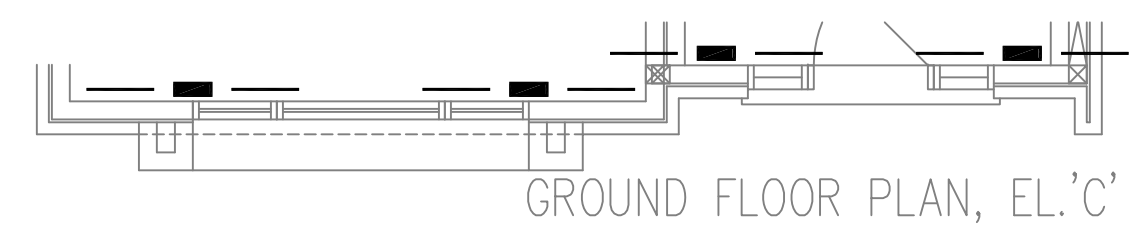
1	ISSUED FOR PERMIT	APRIL 2022	AK
No.	Revision	Date	By

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HVACDESIGNS LTD.
375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6002 - KINGSVIEW
OPT ELEVATOR - WOB
5526 SQFT

Sheet Title: BASEMENT HVAC LAYOUT	Checked By: MO
Drawn By: AK	Scale: 3/16"=1'-0"
Date: APRIL 2022	Sheet No. 1
LO # 96145	

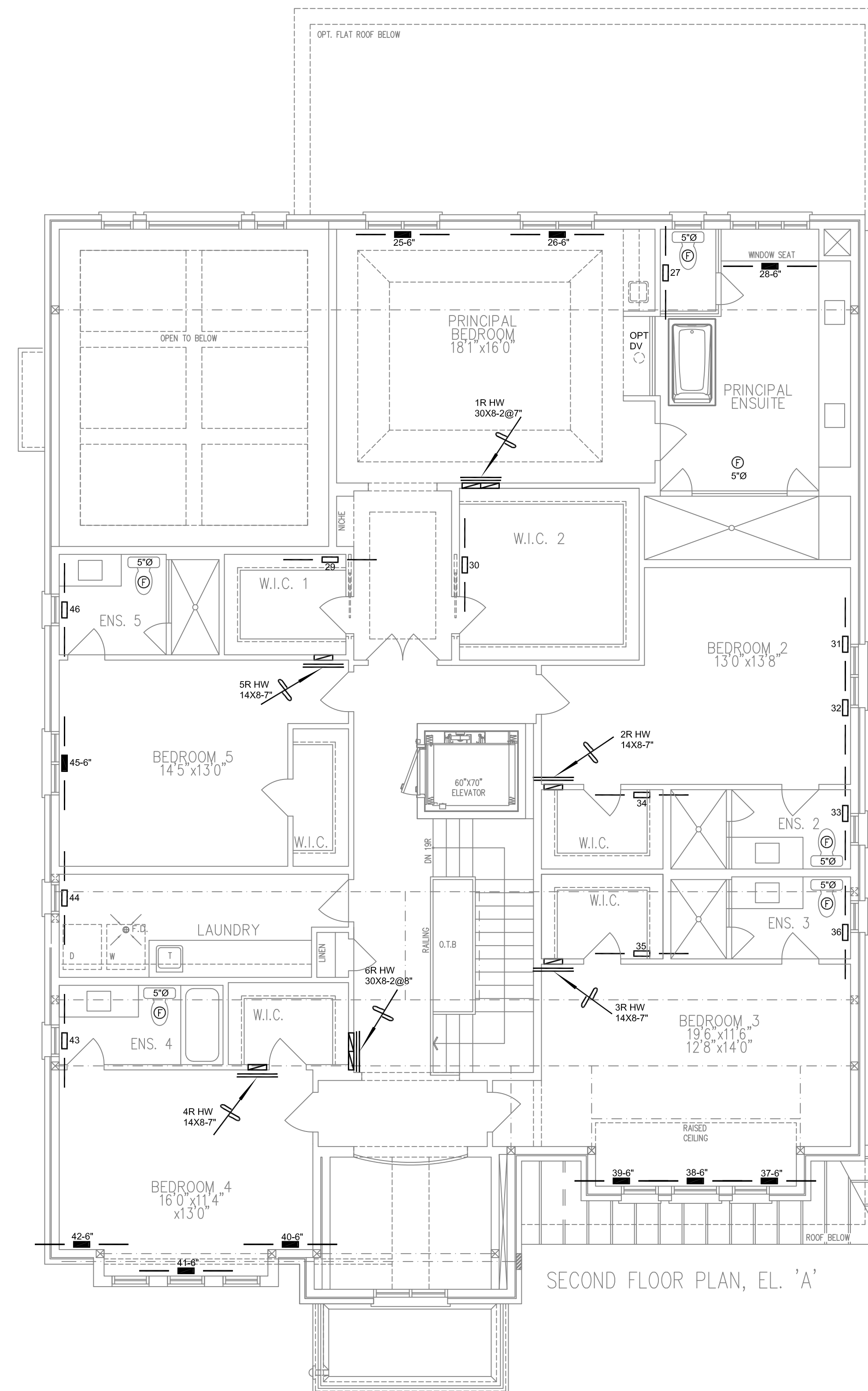
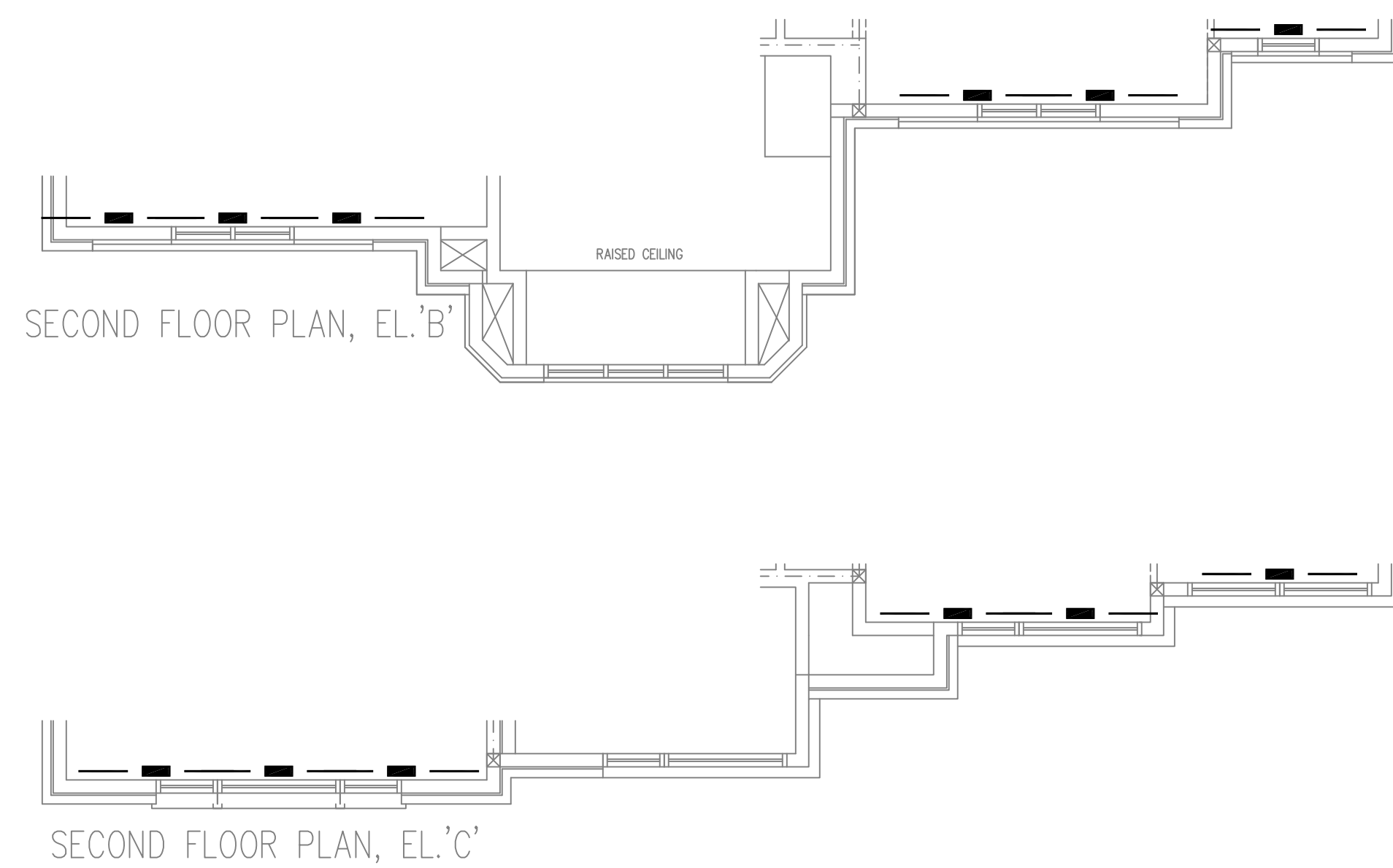


I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND A QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke, BCIN# 19669
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375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvcdesigns.ca Web: www.hvcdesigns.ca			
Specializing In Residential Mechanical Design Services			
Client GOLDPARK HOMES			
Project Name PINE VALLEY PH2 VAUGHAN, ONTARIO			
6002 - KINGSVIEW OPT ELEVATOR - WOB 5526 SQFT			
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FIRST FLOOR HVAC LAYOUT			
Sheet No.	AK	Checked By	MO
Date	3/16"=1'-0"		Sheet No.
Date	APRIL 2012		2
LO #	96145		



HVAC LEGEND	
	OUTLET BY AIRMAX
	4"x10" SUPPLY GRILLE - 5' BOOT
	4"x10" SUPPLY GRILLE - 6' BOOT
	FLEX DUCT
	HV SUPPLY AIR STACK
	1400 RETURN AIR GRILLE
	2000 RETURN AIR GRILLE
	FLOOR RETURN AIR GRILLE
	RETURN STACK ABOVE
	RETURN AIR STACK
	REDUCER
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	LIMP TRAP by REVEREOMATIC
	EXHAUST FAN
	DRYER BOOSTER FAN PROVIDE ACCESS PANEL as Req'd
	DIRECT VENT
	LOW WALL
	HIGH WALL
	CEILING
	MOTORIZED ZONE DAMPER
	EXHAUST PIPE
	CONCENTRIC VENT KIT
	CONCENTRIC HRV by ERV VENT KIT
	SINGLE WALL BOX by REVEREOMATIC
	DOUBLE WALL BOX by REVEREOMATIC
	TRIPLE WALL BOX by REVEREOMATIC
	CONCENTRIC HRV VENT by REVEREOMATIC

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

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



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No.	Revision	Date	By

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Client **GOLDPARK HOMES**

Project Name PINE VALLEY PH2
VAUGHAN, ONTARIO

6002 - KINGSVIEW

OPT ELEVATOR - WOB
5526 SQFT

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Sheet Title SECOND FLOOR HVAC LAYOUT		
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Scale 3/16"=1'-0"		Sheet No.
Date APRIL 2022		3
LO # 96145		