Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information

Building number, street name			Unit no.	Lot/con.
Municipality	**Postal code**	**Plan number/ other description**		
BRAMPTON				

B. Individual who reviews and takes responsibility for design activities

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

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

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

Description of designer's work	
HEAT LOSS / GAIN CALCULATIONS **DUCT SIZING** **RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY** **RESIDENTIAL SYSTEM DESIGN per CSA-F280-12**	**Model:** 7001 - ELEV C OPT IN-LAW **Project:** VALES OF HUMBER SOUTH

D. Declaration of Designer

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

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

Individual BCIN: _____
Firm BCIN: _____

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

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

❑ The design work is exempt from the registration and qualification requirements of the Building Code.
Basis for exemption from registration and qualification: _____

I certify that:

1. The information contained in this schedule is true to the best of my knowledge.
2. I have submitted this application with the knowledge and consent of the firm.

July 9, 2024
Date

Michael O'Rourke
Signature of Designer

NOTE:

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

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SITE NAME: VALES OF HUMBER SOUTH | OPT IN-LAW | DATE Jul-24 | WINTER NATURAL AIR CHANGE RATE 0.241 | HEAT LOSS ΔT °F. 74 | CSA-F280-12
BUILDER: ROYAL PINE HOMES | TYPE: 7001 - ELEV C | GFA: 5590 | LO# 95345 | SUMMER NATURAL AIR CHANGE RATE 0.078 | HEAT GAIN ΔT °F. 11 | SB-12 PERFORMANCE

ROOM USE			GREAT			KIT			PANT			DIN			LIV			FOY			IN-LAW			PWD-1			PWD-2			MD/LN				
EXP. WALL			48			32			20			26			30			20			22			3			8			33				
CLG. HT.			21			11			11			11			11			23			11			11			11			12				
	FACTORS																																	
GRS.WALL AREA	LOSS	GAIN	1008			352			220			286			330			460			242			33			88			396				
GLAZING			LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN	LOSS		GAIN		
NORTH	20.8	15.5	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	25	519	387		
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	0	34	706	1396	33	686	1355	34	706	1396	0	0	0	0	0	0	0	0	0		
SOUTH	20.8	24.4	0	0	0	0	0	0	0	0	0	39	810	951	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
WEST	20.8	41.0	192	3989	7881	107	2223	4392	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SKYLT.	34.1	100.3	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		
DOORS	24.7	3.7	0	0	0	20	493	73	0	0	0	0	0	0	0	0	0	60	1479	219	0	0	0	0	0	0	0	0	0	40	986	146		
NET EXPOSED WALL	3.5	0.5	816	2829	419	225	780	116	220	763	113	247	856	127	296	1026	152	367	1272	189	208	721	107	33	114	17	88	305	45	331	1148	170		
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	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		
EXPOSED CLG	1.3	0.6	503	630	280	0	0	0	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	1.2	10	27	12	0	0	0	0	0	0	0	0	0	0	0	0	80	215	95	0	0	0	0	0	0	0	0	0	0	0	0		
EXPOSED FLOOR	2.5	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	0	0	0	0		
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			0			0			0				
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			0			0			0				
SUBTOTAL HT LOSS				7475			3496			763			1667			1733			3652			1428			114			305			2653				
SUB TOTAL HT GAIN					8593			4581			113			1078			1548			1858			1503			17			45			703			
LEVEL FACTOR / MULTIPLIER			0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37		0.30	0.37			
AIR CHANGE HEAT LOSS				2788			1304			285			622			646			1362			533			43			114			990				
AIR CHANGE HEAT GAIN					462			246			6			58			83			100			81			1			2			38			
DUCT LOSS				0			0			0			0			0			0			0			0			0			0				
DUCT GAIN					0			0			0			0			0			0			0			0			0			0			
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0	0		0	1		240	0		0	0		0	0		0			
HEAT GAIN APPLIANCES/LIGHTS					944			944			0			944			944			0			944			0			0			944			
TOTAL HT LOSS BTU/H				10264			4800			1047			2288			2379			5014			1960			157			419			3643				
TOTAL HT GAIN x 1.3 BTU/H					12999			7503			155			2705			3348			2545			3598			23			62			2191			

ROOM USE			I-ENS			BAS		
EXP. WALL			11			250		
CLG. HT.			11			10		
	FACTORS							
GRS.WALL AREA	LOSS	GAIN	121			1750		
GLAZING			LOSS		GAIN	LOSS		GAIN
NORTH	20.8	15.5	0	0	0	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0
SOUTH	20.8	24.4	0	0	0	12	249	293
WEST	20.8	41.0	0	0	0	12	249	493
SKYLT.	34.1	100.3	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	20	493	73
NET EXPOSED WALL	3.5	0.5	121	420	62	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	750	2635	391
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			8939	
SLAB ON GRADE HEAT LOSS				0				
SUBTOTAL HT LOSS				420			12566	
SUB TOTAL HT GAIN					62			1249
LEVEL FACTOR / MULTIPLIER			0.30	0.37		0.50	1.17	
AIR CHANGE HEAT LOSS				156			14738	
AIR CHANGE HEAT GAIN					3			67
DUCT LOSS				0			0	
DUCT GAIN					0			0
HEAT GAIN PEOPLE	240		0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					0			
TOTAL HT LOSS BTU/H				576			27304	
TOTAL HT GAIN x 1.3 BTU/H					85			1711

TOTAL HEAT GAIN BTU/H: 66126 | TONS: 5.51 | LOSS DUE TO VENTILATION LOAD BTU/H: 6010 | STRUCTURAL HEAT LOSS: 84507 | TOTAL COMBINED HEAT LOSS BTU/H: 90517

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

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

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ROOM USE			PRI			ENS			DRESS			BED-2			BED-3			BED-4			BED-5			RETR			ENS-2			ENS-3		
EXP. WALL			25			27			11			13			20			24			30			10			6			20		
CLG. HT.			10			10			10			10			11			10			10			10			10			10		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	250			270			110			130			220			240			300			100			60			200		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0	27	561	418	0	0	0	0	0	0	0	0	0	0	0	0	9	187	139	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	0	16	340	672	32	665	1314	32	665	1314	0	0	0	0	0	0	28	582	1149
SOUTH	20.8	24.4	0	0	0	32	665	781	8	166	195	0	0	0	0	0	0	0	0	0	0	0	0	18	374	439	0	0	0	0	0	0
WEST	20.8	41.0	54	1122	2217	23	478	944	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	34.1	100.3	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
DOORS	24.7	3.7	0	0	0	0	0	0	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	3.5	0.5	196	680	101	215	745	111	102	354	52	103	357	53	204	706	105	208	721	107	268	929	138	82	284	42	51	177	26	172	596	88
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	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
EXPOSED CLG	1.3	0.6	546	684	304	180	226	100	165	207	92	325	407	181	211	264	118	352	441	196	216	271	120	310	388	173	66	83	37	91	114	51
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	50	134	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0	0	20	50	7	261	650	96	30	75	11	0	0	0	0	0	0	66	164	24	91	227	34
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0			0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0			0			0			0			0			0	
SUBTOTAL HT LOSS				2486			2114			727			1375			2094			1902			1865			1047			611			1519	
SUB TOTAL HT GAIN					2622			1936			340			659			1050			1628			1572			654			227			1322
LEVEL FACTOR / MULTIPLIER			0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33	
AIR CHANGE HEAT LOSS				830			706			243			459			700			635			623			350			204			507	
AIR CHANGE HEAT GAIN					141			104			18			35			56			88			85			35			12			71
DUCT LOSS				0			0			0			183			279			254			0			0			81			203	
DUCT GAIN					0			0			0			188			229			290			0			0			24			139
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	1		240	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					944			0			0			944			944			944			944			944			0			0
TOTAL HT LOSS BTU/H				3316			2820			969			2018			3073			2791			2488			1396			896			2229	
TOTAL HT GAIN x 1.3 BTU/H					5443			2652			465			2687			3275			4146			3693			2123			341			1992

ROOM USE			ENS-4			SHARED			WIC-4			STUDY			HALL		
EXP. WALL			0			6			6			0			0		
CLG. HT.			10			10			10			10			10		
	FACTORS																
GRS.WALL AREA	LOSS	GAIN	0			60			60			0			0		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	20.8	41.0	0	0	0	0	0	0	16	332	657	0	0	0	0	0	0
SOUTH	20.8	24.4	0	0	0	9	187	220	0	0	0	0	0	0	0	0	0
WEST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.	34.1	100.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	3.5	0.5	0	0	0	51	177	26	44	153	23	0	0	0	0	0	0
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	70	88	39	90	113	50	42	53	23	86	108	48	397	497	221
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	40	100	15	0	0	0	42	105	16	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS				0			0			0			0			0	
SLAB ON GRADE HEAT LOSS				0			0			0			0			0	
SUBTOTAL HT LOSS				187			477			642			108			497	
SUB TOTAL HT GAIN					54			296			718			48			221
LEVEL FACTOR / MULTIPLIER			0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33		0.20	0.33	
AIR CHANGE HEAT LOSS				63			159			214			36			166	
AIR CHANGE HEAT GAIN					3			16			39			3			12
DUCT LOSS				25			0			86			0			0	
DUCT GAIN					6			0			76			0			0
HEAT GAIN PEOPLE	240		0		0	0		0	0		0	0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					0			0			0			0			0
TOTAL HT LOSS BTU/H				275			636			942			144			664	
TOTAL HT GAIN x 1.3 BTU/H					81			405			1082			66			303

TOTAL HEAT GAIN BTU/H: 66126 **TONS:** 5.51 **LOSS DUE TO VENTILATION LOAD BTU/H:** 6010 **STRUCTURAL HEAT LOSS:** 84507 **TOTAL COMBINED HEAT LOSS BTU/H:** 90517

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Michael O'Rourke

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SITE NAME: VALES OF HUMBER SOUTH
BUILDER: ROYAL PINE HOMES

OPT IN-LAW
TYPE: 7001 - ELEV C

DATE: Jul-24

GFA: 5590 LO# 95345

FURNACE 1

HEATING CFM	1105	COOLING CFM	1105	**FACTORY**	furnace pressure	0.6
TOTAL HEAT LOSS	59,851	TOTAL HEAT GAIN	36,925	**INSTALLED**	furnace filter	0
AIR FLOW RATE CFM	18.46	AIR FLOW RATE CFM	29.93		a/c coil pressure	0.25
					available pressure for s/a & r/a	0.35

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 62857 BTUH

CARRIER
59SC6A080M17--16 **80**

AFUE = 97 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = **78,000**

FAN SPEED	
LOW	0
MEDLOW	1105
MEDIUM	1265
MEDIUM HIGH	0
HIGH	0

DESIGN CFM = **1105**
CFM @ .6 " E.S.P.

TEMPERATURE RISE 65 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	21	8
R/A	0	0	0	5	1

plenum pressure s/a	0.18	r/a pressure	0.17
max s/a dif press. loss	0.01	r/a grille press. Loss	0.02
min adjusted pressure s/a	0.17	adjusted pressure r/a	0.15

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	GREAT	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	PANT	DIN	DIN	LIV	LIV	FOY	FOY	IN-LAW	IN-LAW	PWD-1	PWD-2	MD/LN	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.05	2.05	2.05	2.05	2.05	1.60	1.60	1.60	1.05	1.14	1.14	1.19	1.19	2.51	2.51	0.98	0.98	0.16	0.42	3.64	3.41	3.41	3.41	3.41
CFM PER RUN HEAT	38	38	38	38	38	30	30	30	19	21	21	22	22	46	46	18	18	3	8	67	63	63	63	63
RM GAIN MBH.	2.60	2.60	2.60	2.60	2.60	2.50	2.50	2.50	0.15	1.35	1.35	1.67	1.67	1.27	1.27	1.80	1.80	0.02	0.06	2.19	0.21	0.21	0.21	0.21
CFM PER RUN COOLING	78	78	78	78	78	75	75	75	5	40	40	50	50	38	38	54	54	1	2	66	6	6	6	6
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	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	31	25	21	23	28	35	47	53	55	50	62	78	74	78	82	81	87	31	11	18	53	38	21	25
EQUIVALENT LENGTH	100	100	120	140	120	110	90	110	100	120	110	100	120	150	130	120	130	120	170	140	110	100	130	130
TOTAL EFFECTIVE LENGTH	131	125	141	163	148	145	137	163	155	170	172	178	194	228	212	201	217	151	181	158	163	138	151	155
ADJUSTED PRESSURE	0.13	0.14	0.12	0.11	0.12	0.12	0.13	0.11	0.11	0.1	0.1	0.1	0.09	0.08	0.08	0.09	0.08	0.11	0.1	0.11	0.11	0.12	0.11	0.11
ROUND DUCT SIZE	**6**	**6**	**6**	**6**	**6**	**6**	**6**	5	4	4	4	5	5	5	5	5	5	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	194	194	194	194	194	153	153	220	218	241	241	162	162	338	338	132	132	34	92	492	463	463	463	463
COOLING VELOCITY (ft/min)	398	398	398	398	398	382	382	551	57	459	459	367	367	279	279	396	396	11	23	485	44	44	44	44
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	F	F	F	E	E	E	E	D	D	C	C	A	A	A	B	B	B	E	E	F	D	E	E	F

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	I-ENS
RM LOSS MBH.	3.41	3.41	3.41	3.41	0.58
CFM PER RUN HEAT	63	63	63	63	11
RM GAIN MBH.	0.21	0.21	0.21	0.21	0.09
CFM PER RUN COOLING	6	6	6	6	3
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	52	58	71	78	60
EQUIVALENT LENGTH	110	110	110	100	120
TOTAL EFFECTIVE LENGTH	162	168	181	178	180
ADJUSTED PRESSURE	0.11	0.1	0.1	0.1	0.1
ROUND DUCT SIZE	5	5	5	5	4
HEATING VELOCITY (ft/min)	463	463	463	463	126
COOLING VELOCITY (ft/min)	44	44	44	44	34
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	A	B	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	153	0.08	6.9	8	x	8	344	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	156	0.08	7	6	x	8	468	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	477	0.08	10.6	14	x	8	613	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	112	0.11	5.7	8	x	8	252	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	862	0.08	13.3	20	x	8	776	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	244	0.11	7.6	10	x	8	439	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	0	0.06	0	0	x	8	0
TRUNK X	1105	0.06	15.6	26	x	10	612
TRUNK Y	775	0.06	13.7	22	x	8	634
TRUNK Z	515	0.06	11.8	16	x	8	579
DROP	1105	0.06	15.6	24	x	10	663

RETURN AIR #	1	2	3	4	5												**BR**
AIR VOLUME	330	155	360	130	130	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
ACTUAL DUCT LGH.	15	55	55	63	60	1	1	1	1	1	1	1	1	1	1	1	16
EQUIVALENT LENGTH	145	205	200	205	165	0	0	0	0	0	0	0	0	0	0	0	185
TOTAL EFFECTIVE LH	160	260	255	268	225	1	1	1	1	1	1	1	1	1	1	1	201
ADJUSTED PRESSURE	0.09	0.06	0.06	0.06	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.07
ROUND DUCT SIZE	9	7.5	10.3	7	6.8	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	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
INLET GRILL SIZE	30	14	30	14	14	0	0	0	0	0	0	0	0	0	0	0	0

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Michael O'Rourke

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SITE NAME: VALES OF HUMBER SOUTH — OPT IN-LAW
BUILDER: ROYAL PINE HOMES — TYPE: 7001 - ELEV C — DATE: Jul-24 — GFA: 5590 — LO# 95345 — **FURNACE 2**

HEATING CFM	925	COOLING CFM	925	**FACTORY**	
TOTAL HEAT LOSS	24,656	TOTAL HEAT GAIN	28,755	**INSTALLED**	
AIR FLOW RATE CFM	37.52	AIR FLOW RATE CFM	32.17		

furnace pressure	0.6
furnace filter	0
a/c coil pressure	0.26
available pressure for s/a & r/a	0.34
plenum pressure s/a	0.18
max s/a dif press. loss	0.02
min adjusted pressure s/a	0.16
r/a pressure	0.16
r/a grille press. Loss	0.02
adjusted pressure r/a	0.14

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 27661 BTUH

CARRIER
59SC6A040M14--10 **40**
AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = **39,000**

FAN SPEED	
LOW	0
MEDLOW	545
MEDIUM	770
MEDIUM HIGH	925
HIGH	0

DESIGN CFM = **925** CFM @ .6 " E.S.P.
TEMPERATURE RISE 39 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	22	0	0
R/A	0	0	7	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	15	16	17	18	19	20	21
ROOM NAME	PRI	PRI	PRI	ENS	ENS	DRESS	BED-2	BED-2	ENS-2	WIC-4	BED-3	BED-3	ENS-3	BED-4	BED-4	ENS-4	BED-5	BED-5	SHARED	RETR
RM LOSS MBH.	1.11	1.11	1.11	2.11	0.70	0.97	1.01	1.01	0.90	0.94	1.54	1.54	2.23	1.40	1.40	0.27	1.24	1.24	0.64	1.40
CFM PER RUN HEAT	41	41	41	79	26	36	38	38	34	35	58	58	84	52	52	10	47	47	24	52
RM GAIN MBH.	1.81	1.81	1.81	1.99	0.66	0.47	1.34	1.34	0.34	1.08	1.64	1.64	1.99	2.07	2.07	0.08	1.85	1.85	0.41	2.12
CFM PER RUN COOLING	58	58	58	64	21	15	43	43	11	35	53	53	64	67	67	3	59	59	13	68
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	84	69	63	90	85	85	43	38	33	41	37	42	49	64	58	39	94	88	80	92
EQUIVALENT LENGTH	190	200	210	160	170	200	180	180	110	110	120	130	130	190	220	110	170	170	170	190
TOTAL EFFECTIVE LENGTH	274	269	273	250	255	285	223	218	143	151	157	172	179	254	278	149	264	258	250	282
ADJUSTED PRESSURE	0.06	0.06	0.06	0.07	0.07	0.06	0.07	0.08	0.12	0.11	0.11	0.1	0.09	0.07	0.06	0.11	0.06	0.06	0.07	0.06
ROUND DUCT SIZE	5	5	5	**6**	4	5	5	4	4	4	5	5	**6**	**6**	**6**	4	**6**	**6**	4	**6**
HEATING VELOCITY (ft/min)	301	301	301	403	298	264	279	436	390	402	426	426	428	265	265	115	240	240	275	265
COOLING VELOCITY (ft/min)	426	426	426	326	241	110	316	493	126	402	389	389	326	342	342	34	301	301	149	347
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10
TRUNK	A	A	A	A	A	A	B	B	B	D	D	B	B	C	C	D	C	C	C	C

RUN #	40	42
ROOM NAME	STUDY	HALL
RM LOSS MBH.	0.14	0.66
CFM PER RUN HEAT	5	25
RM GAIN MBH.	0.07	0.30
CFM PER RUN COOLING	2	10
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH.	55	54
EQUIVALENT LENGTH	170	180
TOTAL EFFECTIVE LENGTH	225	234
ADJUSTED PRESSURE	0.07	0.07
ROUND DUCT SIZE	4	4
HEATING VELOCITY (ft/min)	57	287
COOLING VELOCITY (ft/min)	23	115
OUTLET GRILL SIZE	3X10	3X10
TRUNK	C	C

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	264	0.06	9.2	10	x	8	475	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	516	0.06	11.8	16	x	8	581	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	304	0.06	9.6	12	x	8	456	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	407	0.06	10.8	18	x	8	407	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.05	0	0	x	8	0
TRUNK P	0	0.05	0	0	x	8	0
TRUNK Q	0	0.05	0	0	x	8	0
TRUNK R	0	0.05	0	0	x	8	0
TRUNK S	0	0.05	0	0	x	8	0
TRUNK T	0	0.05	0	0	x	8	0
TRUNK U	0	0.05	0	0	x	8	0
TRUNK V	0	0.05	0	0	x	8	0
TRUNK W	0	0.05	0	0	x	8	0
TRUNK X	925	0.05	15.3	28	x	8	595
TRUNK Y	510	0.05	12.3	18	x	8	510
TRUNK Z	210	0.05	8.8	10	x	8	378
DROP	925	0.05	15.3	24	x	10	555

RETURN AIR #	1	2	3	4	5	6	7										**BR**
AIR VOLUME	225	95	200	105	105	75	120	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
ACTUAL DUCT LGH.	46	42	54	66	89	60	53	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	165	245	205	210	215	205	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	221	207	299	271	299	275	258	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.07	0.05	0.05	0.05	0.05	0.06	14.32	14.32	14.32	14.32	14.32	14.32	14.32	14.32	14.32	14.32
ROUND DUCT SIZE	8.6	6	8.6	6.8	6.8	6	6.8	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	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	X
INLET GRILL SIZE	30	14	30	14	14	14	14	0	0	0	0	0	0	0	0	0	0

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

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TYPE: 7001 - ELEV C LO # 95345
SITE NAME: VALES OF HUMBER SOUTH OPT IN-LAW

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES 9.32.3.1(1)

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

HEATING SYSTEM

[✓] Forced Air [ ] Non Forced Air

[ ] Electric Space Heat

HOUSE TYPE 9.32.1(2)

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

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

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

TOTAL VENTILATION CAPACITY 9.32.3.3(1)

Basement + Master Bedroom	2	@ 21.2 cfm	42.4	cfm
Other Bedrooms	5	@ 10.6 cfm	53	cfm
Kitchen & Bathrooms	9	@ 10.6 cfm	95.4	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	254.4	cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED 9.32.3.4.(1)

6 Bedrooms

As Per Ashrea 62.2 Dwelling- Unit Ventilation

4.1.1 Total Ventilation Rate

Q_tot=0.03A_floor+7.5(N_br+1)

TOTAL 220.2 cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	254.4	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	104.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE V150H Location: BSMT

150.0 cfm [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
150.0 CFM	X	74 F	X	1.08	X	0.25

SUPPLEMENTAL FANS BY INSTALLING CONTRACTOR

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

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE V150H INSTALL 2 HRV / ERV's

150 cfm high 35 cfm low

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

LOCATION OF INSTALLATION

Lot: Concession

Township Plan:

Address

Roll # Building Permit #

BUILDER: ROYAL PINE HOMES

Name:

Address:

City:

Telephone #: Fax #:

INSTALLING CONTRACTOR

Name:

Address:

City:

Telephone #: Fax #:

DESIGNER CERTIFICATION

I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.

Name: HVAC Designs Ltd.

Signature: Michael O'Rourke.

HRAI # 001820

Date: July-24

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

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CSA F280-12 Residential Heat Loss and Heat Gain Calculations

Formula Sheet (For Air Leakage / Ventiliation Calculation)

LO#: 95345 Model: 7001 - ELEV C Builder: ROYAL PINE HOMES Date: 7/9/2024

Volume Calculation

House Volume

Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)
Bsmt	2793	10	27930
First	2793	11	30723
Second	3336	10	33360
Third	0	9	0
Fourth	0	9	0
		Total:	92,013.0 ft³
		Total:	2605.5 m³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.241
SUMMER NATURAL AIR CHANGE RATE	0.078

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

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

0.241 x 723.76 x 41 °C x 1.2 = 8639 W

= **29475 Btu/h**

6.2.6 Sensible Gain due to Air Leakage

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

= 0.078 x 723.76 x 6 °C x 1.2 = 416 W

= **1421 Btu/h**

5.2.3.2 Heat Loss due to Mechanical Ventilation

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

x 2 HRV / ERV's

300 CFM x 74 °F x 1.08 x 0.25 = **6010 Btu/h**

6.2.7 Sensible heat Gain due to Ventilation

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

300 CFM x 11 °F x 1.08 x 0.25 = **891 Btu/h**

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

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

Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL_{clevel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	29,475	12,566	1.173
2	0.3		23,705	0.373
3	0.2		17,649	0.334
4	0		0	0.000
5	0		0	0.000

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

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 7001 - ELEV C OPT IN-LAW **BUILDER:** ROYAL PINE HOMES
SFQT: 5590 **LO#** 95345 **SITE:** VALES OF HUMBER SOUTH

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.60

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft^3):	92013.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	7
INTERIOR LIGHTING LOAD (Btu/h/ft^2):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 63.0 ft	WIDTH: 62.0 ft	EXPOSED PERIMETER:	250.0 ft

2012 OBC - COMPLIANCE PACKAGE **Component**	**Compliance Package SB-12 PERFORMANCE**	
	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+1.5	21.40
Basement Walls Minimum RSI (R)-Value	20	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	1.6	-
Skylights Maximum U-Value	2.6	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.9	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE

Michael O'Rourke

HVAC Designs Ltd.
375 Finley Ave, Suite 202
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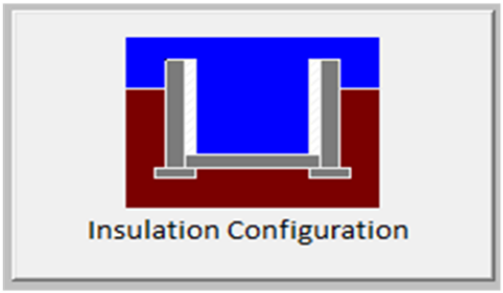
905-619-2300

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
Site Description	
Soil Conductivity:	Normal conductivity: dry sand, loam, clay
Water Table:	Normal (7-10 m, 23-33 ft)

Foundation Dimensions		
Floor Length (m):	**19.2**	 Insulation Configuration
Floor Width (m):	**18.9**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**3.0**	
Depth Below Grade (m):	**2.13**	
Window Area (m^2):	**2.2**	
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):	**2619**	

TYPE: 7001 - ELEV C OPT IN-LAW
LO# 95345

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Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description	
Province:	Ontario
Region:	Brampton
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):	7.32
Building Configuration	
Type:	Detached
Number of Stories:	Two
Foundation:	Full
House Volume (m^3):	2605.5
Air Leakage/Ventilation	
Air Tightness Type:	Energy Star Detached (2.5 ACH)
Custom BDT Data:	ELA @ 10 Pa. 2432.2 cm^2
	2.50 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply 70.8 / Total Exhaust 70.8
Flue Size	
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.241**
Cooling Air Leakage Rate (ACH/H):	**0.078**

TYPE: 7001 - ELEV C OPT IN-LAW

LO# 95345

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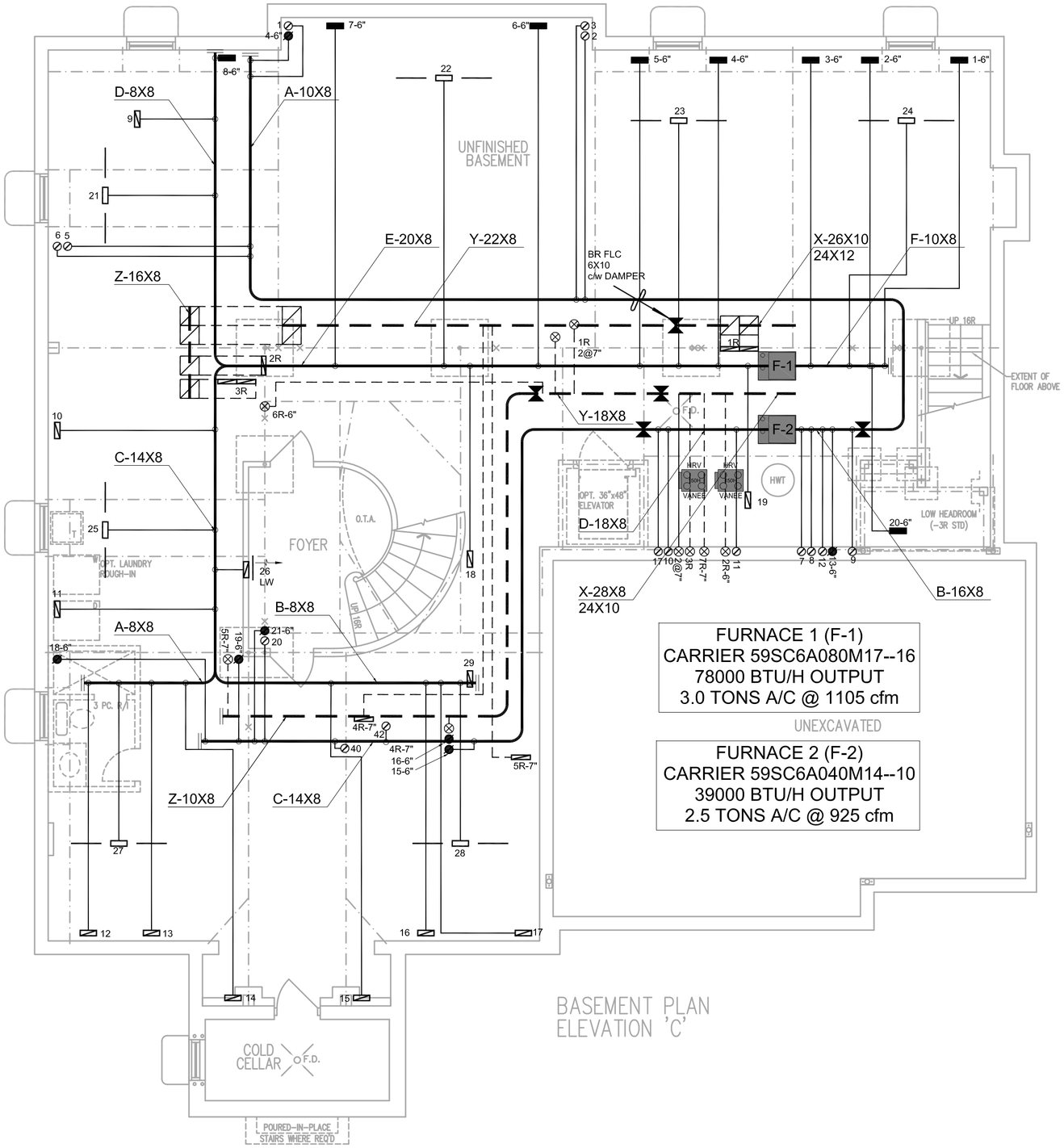

BASEMENT PLAN
ELEVATION 'C'

HVAC LEGEND

	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
	6" SUPPLY AIR BOOT ABOVE
	SUPPLY AIR STACK
	6" SUPPLY AIR STACK
	14X8 RETURN AIR GRILLE
	30X8 RETURN AIR GRILLE
	FLOOR RETURN AIR GRILLE
	RETURN STACK ABOVE
	RETURN AIR STACK
	REDUCER
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	FLEX DUCT
	EXHAUST FAN
LT	LINT TRAP by REVERSOMATIC
DV	DIRECT VENT
LW	LOW WALL
HW	HIGH WALL
CLG.	CEILING
Z.D.	MOTORIZED ZONE DAMPER
M.D.	MOTORIZED 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
DF	DRYER BOOSTER FAN

No.	Revision	Date	By
3	UPDATED EQUIPMENT	JUL/2024	JW
2	REVISED TO PERFORMANCE PATH	APR/2022	KB
1	ISSUED FOR PERMIT	MAR/2022	EG

SB-12 PERFORMANCE PACKAGE

I Michael O'Rourke have reviewed and take responsibility for the design work and am qualified under division C.3.2.5 of the building code.

Michael O'Rourke BCIN # 19669
HVAC Designs Ltd.

	S/A	R/A	FANS
2ND	22	7	6
1ST	21	5	5
BAS	8	1	0

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Specializing in Residential Mechanical Design Services

Client: ROYAL PINE HOMES
Project Name: VALES OF HUMBER SOUTH
BRAMPTON, ONTARIO
7001 - ELEV C
OPT IN-LAW

Sheet Title	BASEMENT HEATING LAYOUT		
Drawn By	EG	Checked By	MO
Scale	3/16"=1'-0"	Sheet No.	1
Date	MARCH 2022		3
LO #	95345		

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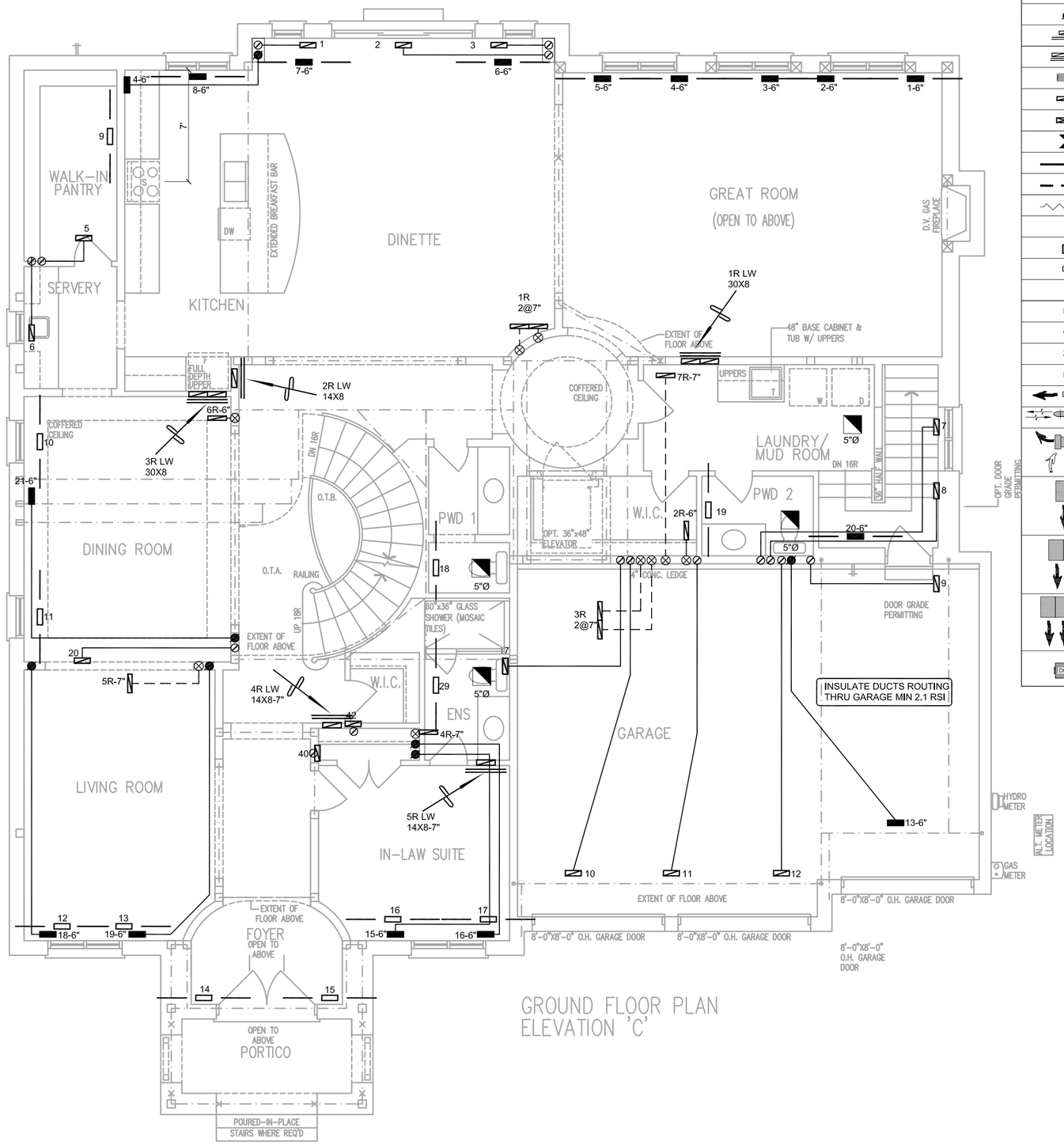

GROUND FLOOR PLAN
ELEVATION 'C'

HVAC LEGEND

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	SUPPLY AIR GRILLE 6" BOOT
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Client: ROYAL PINE HOMES

Project Name: VALES OF HUMBER SOUTH
BRAMPTON, ONTARIO
7001 - ELEV C
OPT IN-LAW

Sheet Title: FIRST FLOOR HEATING LAYOUT
Drawn By: EG
Checked By: MO
Scale: 3/16"=1'-0"
Date: MARCH 2022
LO #: 95345
Sheet No.: 2 / 3

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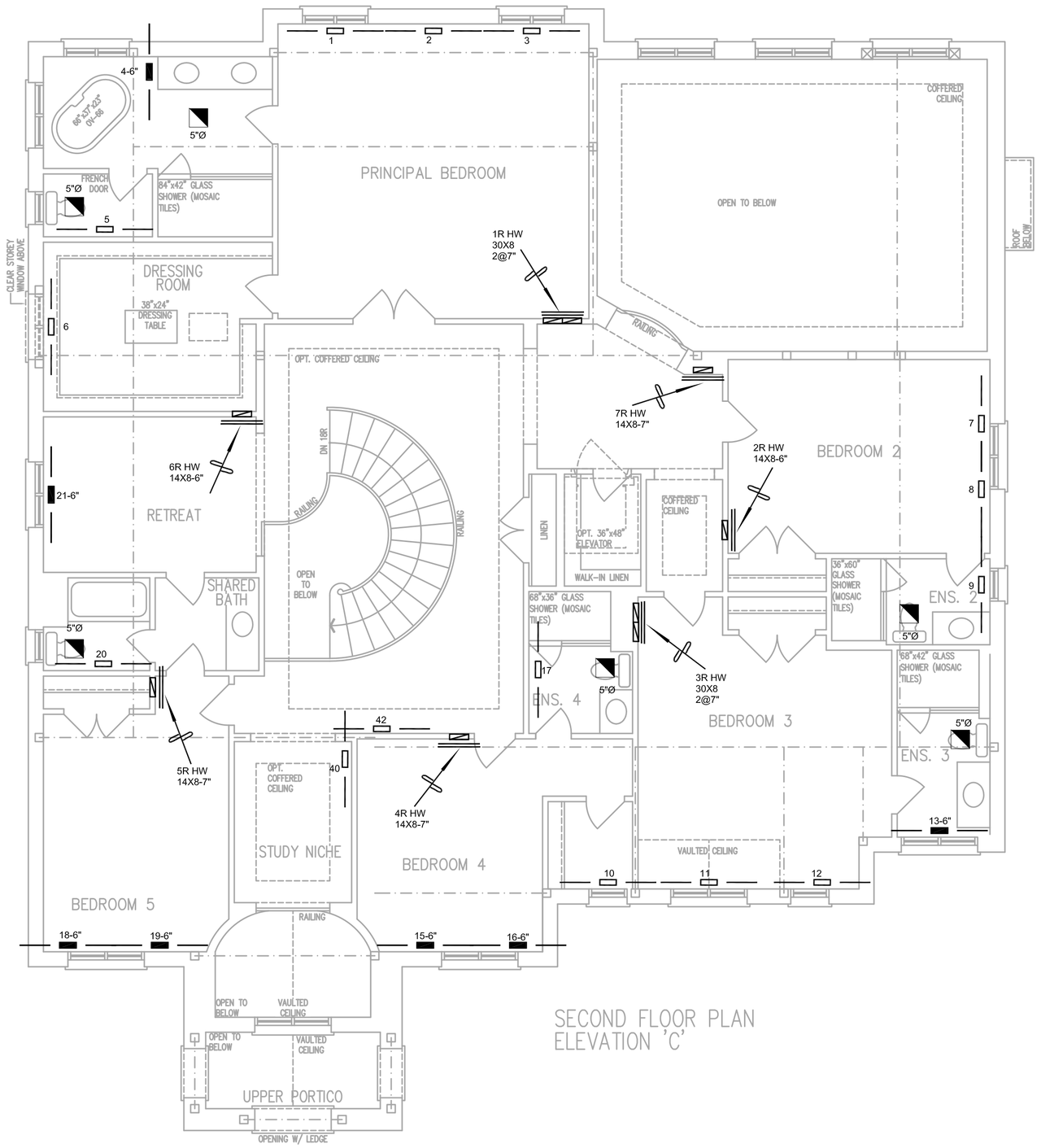

SECOND FLOOR PLAN
ELEVATION 'C'

HVAC LEGEND

	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
	6" SUPPLY AIR BOOT ABOVE
	SUPPLY AIR STACK
	6" SUPPLY AIR STACK
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Project Name: VALES OF HUMBER SOUTH
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Sheet Title	SECOND FLOOR HEATING LAYOUT		
Drawn By	EG	Checked By	MO
Scale	3/16"=1'-0"	Sheet No.	3
Date	MARCH 2022		3
LO #	95345		