

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 BRAMPTON	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: 7003 OPT IN-LAW Project: VALES OF HUMBER SOUTH		
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.				
July 10, 2024				
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: VALES OF HUMBER SOUTH		OPT IN-LAW		DATE Jul-24		WINTER NATURAL AIR CHANGE RATE 0.241		HEAT LOSS AT °F. 74		CSA-F280-12	
BUILDER: ROYAL PINE HOMES		TYPE: 7003		GFA: 6169		LO# 95349		SUMMER NATURAL AIR CHANGE RATE 0.078		SB-12 PERFORMANCE	
ROOM USE		GREAT	KIT	DIN	LIV	FOY	IN-LAW	I-ENS	MUD	LAUN	
EXP. WALL		52	59	19	40	13	29	9	32	7	
CLG. HT.		11	11	21	11	11	11	11	11	11	
FACTORS											
GRS.WALL AREA	LOSS GAIN	572	649	399	440	143	319	99	352	77	
GLAZING		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	
EAST	20.8 41.0	0 0 0	0 0 0	0 0 0	41 852 1683	24 499 985	41 852 1683	0 0 0	0 0 0	0 0 0	
SOUTH	20.8 24.4	0 0 0	0 0 0	86 1787 2098	8 166 195	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
WEST	20.8 41.0	102 2119 4187	100 2078 4105	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	
DOORS	24.7 3.7	0 0 0	0 0 0	0 0 0	0 0 0	22 542 80	0 0 0	0 0 0	20 493 73	0 0 0	
NET EXPOSED WALL	3.5 0.5	470 1630 242	549 1904 282	313 1085 161	391 1356 201	97 336 50	278 964 143	99 343 51	332 1151 171	77 267 40	
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	
EXPOSED CLG	1.3 0.6	0 0 0	0 0 0	285 357 159	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	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	
BASEMENT/CRAWL HEAT LOSS		0	0	0	0	0	0	0	0	0	
SLAB ON GRADE HEAT LOSS		0	0	0	0	0	0	0	0	0	
SUBTOTAL HT LOSS		3776	3981	3229	2374	1377	1816	343	1644	267	
SUB TOTAL HT GAIN			4440	4387	2418	2079	1115	1826	244	40	
LEVEL FACTOR / MULTIPLIER	0.30 0.49		0.30 0.49	0.30 0.49	0.30 0.49	0.30 0.49	0.30 0.49	0.30 0.49	0.30 0.49	0.30 0.49	
AIR CHANGE HEAT LOSS		1832	1932	1567	1152	668	881	167	798	130	
AIR CHANGE HEAT GAIN		262	259	143	123	66	108	3	14	2	
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	1	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS		1064	1064	1064	1064	0	1064	0	0	1064	
TOTAL HT LOSS BTU/H		5608	5913	4796	3525	2046	2697	510	2442	397	
TOTAL HT GAIN x 1.3 BTU/H		7497	7423	4712	4246	1536	4209	70	336	1438	

ROOM USE												BAS
EXP. WALL												242
CLG. HT.												10
FACTORS												
GRS.WALL AREA	LOSS GAIN											1694
GLAZING												LOSS GAIN
NORTH	20.8 15.5											0 0 0
EAST	20.8 41.0											0 0 0
SOUTH	20.8 24.4											12 249 293
WEST	20.8 41.0											12 249 493
SKYLT.	34.1 100.3											0 0 0
DOORS	24.7 3.7											20 493 73
NET EXPOSED WALL	3.5 0.5											0 0 0
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.5											726 2551 378
EXPOSED CLG	1.3 0.6											0 0 0
NO ATTIC EXPOSED CLG	2.7 1.2											0 0 0
EXPOSED FLOOR	2.5 0.4											0 0 0
BASEMENT/CRAWL HEAT LOSS												8717
SLAB ON GRADE HEAT LOSS												
SUBTOTAL HT LOSS												12259
SUB TOTAL HT GAIN												1237
LEVEL FACTOR / MULTIPLIER												0.50 1.24
AIR CHANGE HEAT LOSS												15208
AIR CHANGE HEAT GAIN												73
DUCT LOSS												0
DUCT GAIN												0
HEAT GAIN PEOPLE	240											0
HEAT GAIN APPLIANCES/LIGHTS												0
TOTAL HT LOSS BTU/H												27468
TOTAL HT GAIN x 1.3 BTU/H												1702

TOTAL HEAT GAIN BTU/H: 73591

TONS: 6.13

LOSS DUE TO VENTILATION LOAD BTU/H: 10858

STRUCTURAL HEAT LOSS: 88565

TOTAL COMBINED HEAT LOSS BTU/H: 99423

SITE NAME: VALES OF HUMBER SOUTH										OPT IN-LAW										DATE Jul-24										WINTER NATURAL AIR CHANGE RATE 0.241										HEAT LOSS AT °F. 74										CSA-F280-12																			
BUILDER: ROYAL PINE HOMES										TYPE: 7003										GFA: 6169										LO# 95349										SUMMER NATURAL AIR CHANGE RATE 0.078										HEAT GAIN ΔT °F. 11										SB-12 PERFORMANCE									
ROOM USE			PR/ST			ENS			WIC-1			WIC-2			BED-2			BED-3			BED-4			BED-5			ENS-2			ENS-3																																							
EXP. WALL			59			34			8			0			14			24			14			51			12			0																																							
CLG. HT.			11			10			10			10			10			10			10			11			10			10																																							
FACTORS																																																																					
GRS.WALL AREA			LOSS GAIN			649			340			80			0			140			240			140			561			120			0																																				
GLAZING			LOSS GAIN			LOSS GAIN			LOSS GAIN			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	28	582	433	0	0	0	0	0	0	24	499	371	24	499	371	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	0	0	0	0	0	0	0	0	32	665	1314	40	831	1642	84	1745	3448	0	0	0	0	0	0	0	0	0																																	
SOUTH			20.8	24.4	8	166	195	0	0	0	0	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			20.8	41.0	96	1994	3941	40	831	1642	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	332	657	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	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	9	222	33	0	0	0	0	0	0	0	0	0																																		
NET EXPOSED WALL			3.5	0.5	545	1890	280	272	943	140	80	277	41	0	0	116	402	60	184	638	95	100	347	51	468	1623	241	104	361	53	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																		
EXPOSED CLG			1.3	0.6	1199	1502	668	288	361	160	88	110	49	176	221	98	350	439	195	350	439	195	346	434	193	420	526	234	78	98	43	90	113	50	0	0																																	
NO ATTIC EXPOSED CLG			2.7	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98	263	117	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	150	373	55	250	622	92	100	249	37	200	498	74	60	149	22	0	0	0	0																																		
BASEMENT/CRAWL HEAT LOSS						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																														
SUBTOTAL HT LOSS						5553			2717			388			221			1713			2862			1860			4877			940			113																																				
SUB TOTAL HT GAIN						5084			2375			90			98			681			2067			1923			4146			776			50																																				
LEVEL FACTOR / MULTIPLIER			0.20	0.24			0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24		0.20	0.24																																		
AIR CHANGE HEAT LOSS						1344			657			94			53			414			693			450			1180			228			27																																				
AIR CHANGE HEAT GAIN						300			140			5			6			40			122			114			245			46			3																																				
DUCT LOSS						0			0			0			0			213			356			231			606			117			0																																				
DUCT GAIN						0			0			0			0			203			349			334			570			82			0																																				
HEAT GAIN PEOPLE			240		2	480	0	0	0	0	0	0	0	0	1	240		1	240		1	240		1	240		0	0	0	0	0	0	0	0	0																																		
HEAT GAIN APPLIANCES/LIGHTS						1064			0			0			0			1064			1064			1064			1064			1064			0			0			0																														
TOTAL HT LOSS BTU/H						6896			3374			481			274			2340			3911			2541			6663			1284			140																																				
TOTAL HT GAIN x 1.3 BTU/H						9007			3270			124			135			2897			4995			4777			8144			1175			69																																				

ROOM USE			ENS-4			ENS-5			WIC-3												
EXP. WALL			20			7			19												
CLG. HT.			11			10			10												
FACTORS																					
GRS.WALL AREA	LOSS	GAIN	220			70			190												
GLAZING			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN											
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0										
EAST	20.8	41.0	51	1060	2093	0	0	0	14	291	575										
SOUTH	20.8	24.4	0	0	0	8	166	195	0	0	0										
WEST	20.8	41.0	0	0	0	0	0	0	0	0	0										
SKYLT.	34.1	100.3	0	0	0	0	0	0	0	0	0										
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0										
NET EXPOSED WALL	3.5	0.5	169	586	87	62	215	32	176	610	90										
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0										
EXPOSED CLG	1.3	0.6	106	133	59	105	132	59	90	113	50										
NO ATTIC EXPOSED CLG	2.7	1.2	20	54	24	0	0	0	0	0	0										
EXPOSED FLOOR	2.5	0.4	126	314	47	0	0	0	90	224	33										
BASEMENT/CRAWL HEAT LOSS			0			0			0												
SLAB ON GRADE HEAT LOSS			0			0			0												
SUBTOTAL HT LOSS			2146			513			1238												
SUB TOTAL HT GAIN			2310			286			749												
LEVEL FACTOR / MULTIPLIER		0.20	0.24			0.20	0.24		0.20	0.24											
AIR CHANGE HEAT LOSS			519			124			300												
AIR CHANGE HEAT GAIN			136			17			44												
DUCT LOSS			267			0			154												
DUCT GAIN			245			0			79												
HEAT GAIN PEOPLE	240		0			0			0												
HEAT GAIN APPLIANCES/LIGHTS			0			0			0												
TOTAL HT LOSS BTU/H			2932			637			1691												
TOTAL HT GAIN x 1.3 BTU/H			3498			393			1134												

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

TYPE: 7003
OPT IN-LAW

DATE: Jul-24

GFA: 6169 LO# 95349

FURNACE 1

HEATING CFM 1105 COOLING CFM 1105
TOTAL HEAT LOSS 55,400 TOTAL HEAT GAIN 33,168
AIR FLOW RATE CFM 19.95 AIR FLOW RATE CFM 33.32

FACTORY furnace pressure 0.6
INSTALLED furnace filter 0.00
a/c coil pressure 0.25
available pressure
for s/a & r/a 0.35

FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 60829 BTUH
CARRIER
59SC6A080M17--16
80

AFUE = 97 %

INPUT (BTU/H) = 80,000

OUTPUT (BTU/H) = **78,000**

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	20	9
R/A	0	0	0	5	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	GREAT	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	DIN	LIV	LIV	LIV	FOY	IN-LAW	IN-LAW	I-ENS	MUD	LAUN	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.40	1.40	1.40	1.40	1.48	1.48	1.48	1.48	1.60	1.60	1.60	1.18	1.18	1.18	2.05	1.35	1.35	0.51	2.44	0.40	3.05	3.05	3.05	3.05
CFM PER RUN HEAT	28	28	28	28	29	29	29	29	32	32	32	23	23	23	41	27	27	10	49	8	61	61	61	61
RM GAIN MBH.	1.87	1.87	1.87	1.87	1.86	1.86	1.86	1.86	1.57	1.57	1.57	1.42	1.42	1.42	1.54	2.10	2.10	0.07	0.34	1.44	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	62	62	62	62	62	62	62	62	52	52	52	47	47	47	51	70	70	2	11	48	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.	47	40	36	30	24	24	24	36	37	33	39	60	57	54	53	68	72	58	48	42	31	18	33	43
EQUIVALENT LENGTH	100	130	90	120	130	120	130	120	170	130	110	140	130	130	170	180	170	120	140	130	100	130	110	120
TOTAL EFFECTIVE LENGTH	147	170	126	150	154	144	154	156	207	163	149	200	187	184	223	248	242	178	188	172	131	148	143	163
ADJUSTED PRESSURE	0.12	0.1	0.14	0.11	0.11	0.12	0.11	0.11	0.08	0.11	0.12	0.09	0.09	0.09	0.08	0.07	0.07	0.1	0.09	0.1	0.13	0.12	0.12	0.11
ROUND DUCT SIZE	5	5	4	5	5	5	5	5	4	4	5	5	5	5	5	6	6	4	4	4	4	5	5	5
HEATING VELOCITY (ft/min)	206	206	321	206	213	213	213	213	235	367	367	169	169	169	301	138	138	115	562	92	700	448	448	448
COOLING VELOCITY (ft/min)	455	455	711	455	455	455	455	455	382	597	597	345	345	345	374	357	357	23	126	551	69	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	B	B	C	C	C	F	F	F	E	E	E	E	E	E	F	A	A	C	C	B	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	3.05	3.05	3.05	3.05	3.05
CFM PER RUN HEAT	61	61	61	61	61
RM GAIN MBH.	0.19	0.19	0.19	0.19	0.19
CFM PER RUN COOLING	6	6	6	6	6
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	33	38	42	53	65
EQUIVALENT LENGTH	180	130	100	150	180
TOTAL EFFECTIVE LENGTH	213	168	142	203	245
ADJUSTED PRESSURE	0.08	0.1	0.12	0.08	0.07
ROUND DUCT SIZE	5	5	5	5	5
HEATING VELOCITY (ft/min)	448	448	448	448	448
COOLING VELOCITY (ft/min)	44	44	44	44	44
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10
TRUNK	F	F	B	E	E

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE											
		TRUNK	STATIC	ROUND	RECT							TRUNK	STATIC	ROUND	RECT						
		CFM	PRESS.	DUCT	DUCT							CFM	PRESS.	DUCT	DUCT						
</																					

RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	150	310	130	130	120	0	0	0	0	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	0.15	0.15	0.15
ACTUAL DUCT LGH.	44	30	20	58	71	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	160	145	145	195	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	204	175	165	253	271	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.08	0.09	0.06	0.05	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	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.1	9	6.3	7	7.1	0	0	0	0	0	0	0	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	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	30	14	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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

TYPE: 7003
OPT IN-LAW

DATE: Jul-24

GFA: 6169 LO# 95349

FURNACE 2

HEATING CFM 1300 COOLING CFM 1300
TOTAL HEAT LOSS 33,165 TOTAL HEAT GAIN 39,618
AIR FLOW RATE CFM 39.2 AIR FLOW RATE CFM 32.81

FACTORY furnace pressure 0.6
INSTALLED furnace filter 0.00
a/c coil pressure 0.29
available pressure
for s/a & r/a 0.31

FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 38594 BTUH
CARRIER
59SC6A060M17--16
FAN SPEED 60
LOW 0
MEDLOW 790
MEDIUM 975
MEDIUM HIGH 1140
HIGH 1300

AFUE = 97 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = **58,000**

DESIGN CFM = **1300**
CFM @ .6" E.S.P.

TEMPERATURE RISE 41 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	27	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	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	PR/ST	PR/ST	PR/ST	PR/ST	ENS	ENS	ENS	WIC-1	WIC-2	BED-2	BED-2	ENS-2	BED-3	BED-3	BED-3	ENS-3	WIC-3	BED-4	BED-4	BED-4	ENS-4	ENS-4	BED-5	BED-5
RM LOSS MBH.	1.72	1.72	1.72	1.72	1.12	1.12	1.12	0.48	0.27	1.17	1.17	1.28	1.30	1.30	1.30	0.14	1.69	0.85	0.85	0.85	1.47	1.47	1.67	1.67
CFM PER RUN HEAT	68	68	68	68	44	44	44	19	11	46	46	50	51	51	51	5	66	33	33	33	57	57	65	65
RM GAIN MBH.	2.25	2.25	2.25	2.25	1.09	1.09	1.09	0.12	0.14	1.45	1.45	1.17	1.66	1.66	1.66	0.07	1.13	1.59	1.59	1.59	1.75	1.75	2.04	2.04
CFM PER RUN COOLING	74	74	74	74	36	36	36	4	4	48	48	39	55	55	55	2	37	52	52	52	57	57	67	67
ADJUSTED 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	0.15	0.15	0.15
ACTUAL DUCT LGH.	68	73	45	41	47	52	47	37	30	53	61	43	96	96	98	76	100	84	88	92	86	96	79	75
EQUIVALENT LENGTH	200	200	190	190	110	160	140	130	120	150	160	160	150	140	180	160	160	200	210	220	140	150	160	160
TOTAL EFFECTIVE LENGTH	268	273	235	231	157	212	187	167	150	203	221	203	246	236	278	236	260	284	298	312	226	246	239	235
ADJUSTED PRESSURE	0.06	0.06	0.06	0.07	0.1	0.07	0.08	0.09	0.1	0.07	0.07	0.07	0.06	0.06	0.05	0.06	0.06	0.05	0.05	0.05	0.07	0.06	0.06	0.06
ROUND DUCT SIZE	6	6	6	6	5	5	5	4	4	6	6	5	5	5	6	4	6	6	6	6	5	5	6	6
HEATING VELOCITY (ft/min)	347	347	347	347	323	323	323	218	126	235	235	367	374	374	260	57	337	168	168	168	419	419	331	331
COOLING VELOCITY (ft/min)	377	377	377	377	264	264	264	46	46	245	245	286	404	404	280	23	189	265	265	265	419	419	342	342
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	4X10	4X10
TRUNK	C	C	E	E	E	D	D	E	E	D	D	D	C	C	B	C	B	A	A	A	B	B	A	A

RUN #	25	26	27
ROOM NAME	BED-5	BED-5	ENS-5
RM LOSS MBH.	1.67	1.67	0.64
CFM PER RUN HEAT	65	65	25
RM GAIN MBH.	2.04	2.04	0.39
CFM PER RUN COOLING	67	67	13
ADJUSTED PRESSURE	0.15	0.15	0.15
ACTUAL DUCT LGH.	69	73	60
EQUIVALENT LENGTH	180	180	160
TOTAL EFFECTIVE LENGTH	249	253	220
ADJUSTED PRESSURE	0.06	0.06	0.07
ROUND DUCT SIZE	6	6	4
HEATING VELOCITY (ft/min)	331	331	287
COOLING VELOCITY (ft/min)	342	342	149
OUTLET GRILL SIZE	4X10	4X10	3X10
TRUNK	A	A	C

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	359	0.05	10.7	16	x	8	404	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0
TRUNK B	590	0.05	12.9	20	x	8	531	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0
TRUNK C	858	0.05	14.9	26	x	8	594	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0
TRUNK D	230	0.07	8.4	8	x	8	518	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0
TRUNK E	440	0.06	11.1	14	x	8	566	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	0

RETURN AIR #	1	2	3	4	5	6	7											BR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
AIR VOLUME	240	115	210	115	210	210	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 7003
SITE NAME: VALES OF HUMBER SOUTH

LO # 95349
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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>5</u> @ 10.6 cfm	<u>53</u> cfm
Kitchen & Bathrooms	<u>8</u> @ 10.6 cfm	<u>84.8</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>233.2</u> 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		<u>237.6</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>233.2</u>	cfm
Less Principal Ventil. Capacity	<u>271</u>	cfm
Required Supplemental Capacity	<u>-37.8</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE G3000H ECM
Location:	BSMT
<u>271.0</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
271.0 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 G3000H ECM	INSTALL 2 HRV / ERV's
<u>271</u>	cfm high	<u>50</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:	
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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	July-24

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																	
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																	
LO#: 95349		Model: 7003		Builder: ROYAL PINE HOMES				Date: 7/10/2024																																																									
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>2783</td><td>10</td><td>27830</td></tr> <tr><td>First</td><td>2783</td><td>11</td><td>30613</td></tr> <tr><td>Second</td><td>3651</td><td>10</td><td>36510</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>94,953.0 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2688.8 m³</td></tr> </tbody> </table>					Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2783	10	27830	First	2783	11	30613	Second	3651	10	36510	Third	0	9	0	Fourth	0	9	0	Total:			94,953.0 ft³	Total:			2688.8 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%;">0.241</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.078</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>-19</td> <td>41</td> <td>74</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>30</td> <td>6</td> <td>11</td> </tr> </table>					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
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																														
Bsmt	2783	10	27830																																																														
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5.2.3.1 Heat Loss due to Air Leakage					6.2.6 Sensible Gain due to Air Leakage																																																												
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.241 x 746.88 x 41 °C x 1.2 = 8915 W = 30417 Btu/h					$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.078 x 746.88 x 6 °C x 1.2 = 430 W = 1466 Btu/h																																																												
5.2.3.2 Heat Loss due to Mechanical Ventilation					6.2.7 Sensible heat Gain due to Ventilation																																																												
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ 542 CFM x 74 °F x 1.08 x 0.25 = 10858 Btu/h					$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 542 CFM x 11 °F x 1.08 x 0.25 = 1,610 Btu/h																																																												
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																	
$HL_{airr} = Level \ Factor \times HL_{airbv} \times \{ (HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}) \}$																																																																	
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*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: 7003	OPT IN-LAW	BUILDER: ROYAL PINE HOMES
SFQT: 6169	LO# 95349	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):	94953.0	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: 64.0 ft	WIDTH: 57.0 ft	EXPOSED PERIMETER:	242.0 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	-

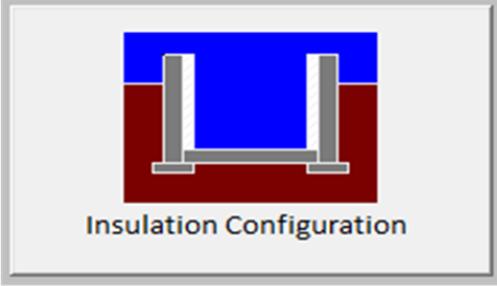
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



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):	19.5	 Insulation Configuration
Floor Width (m):	17.4	
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):		2554

TYPE: 7003
LO# 95349

OPT IN-LAW

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):	2688.8			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2510.0 cm ²		
	2.50	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	127.9	127.9		
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: 7003
LO# 95349

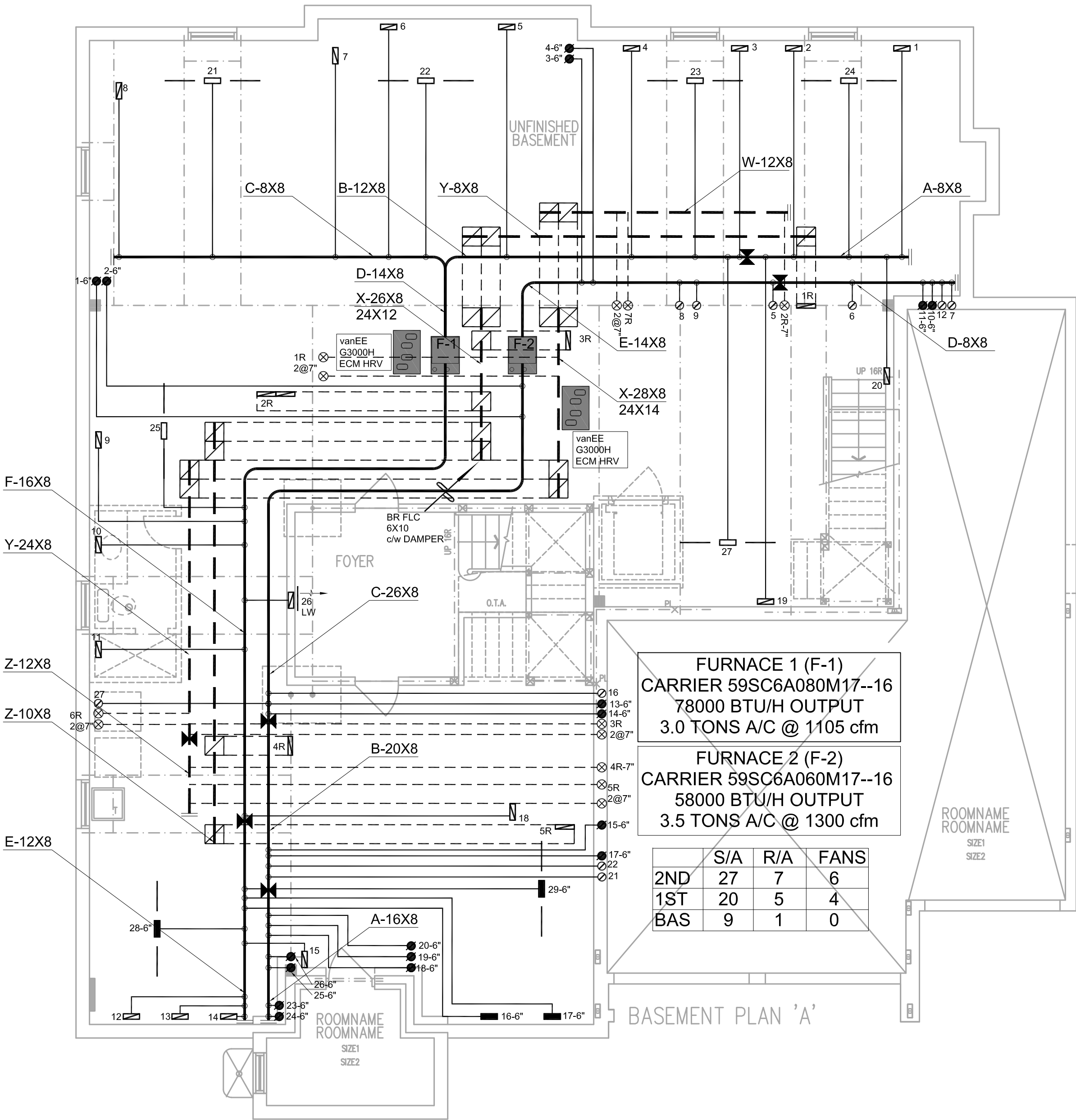
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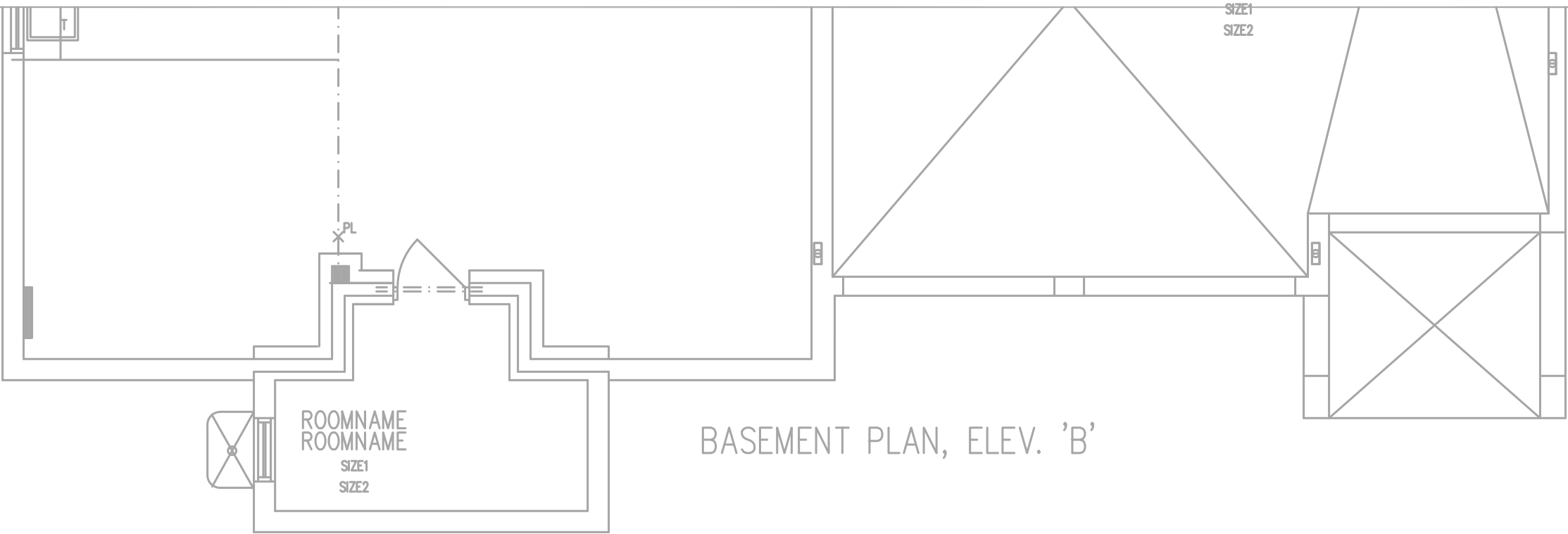
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	S/A	R/A	FANS
2ND	27	7	6
1ST	20	5	4
BAS	9	1	0

HVAC LEGEND	
	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
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	6" SUPPLY AIR BOOT ABOVE
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	REDUCER
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	FLEX DUCT
	EXHAUST FAN
	LINT TRAP by REVERSOMATIC
	DIRECT VENT
	LOW WALL
	HIGH WALL
	CEILING
	MOTORIZED ZONE DAMPER
	MOTORIZED DAMPER
	EXHAUST PIPE
	CONCENTRIC VENT KIT
	CONCENTRIC HRV or ERV VENT KIT
	SINGLE WALL BOX by REVERSOMATIC
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	DRYER BOOSTER FAN



3	REVISED AS PER CAD	JULY/2024	HR
2	REVISED TO PERFORMANCE PATH	APR/2022	KB
1	ISSUED FOR PERMIT	MAR/2022	EG
No.	Revision	Date	By

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Michael O'Rourke BCIN# 19689 HVAC Designs Ltd.

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Specializing in Residential Mechanical Design Services

Client ROYAL PINE HOMES

Project Name VALES OF HUMBER SOUTH BRAMPTON, ONTARIO

7003 - OPT IN-LAW
6169 SQFT

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Sheet Title BASEMENT HEATING LAYOUT

Drawn By HR Checked By MO

Scale 3/16"=1'-0" Sheet No.

Date MARCH 2022

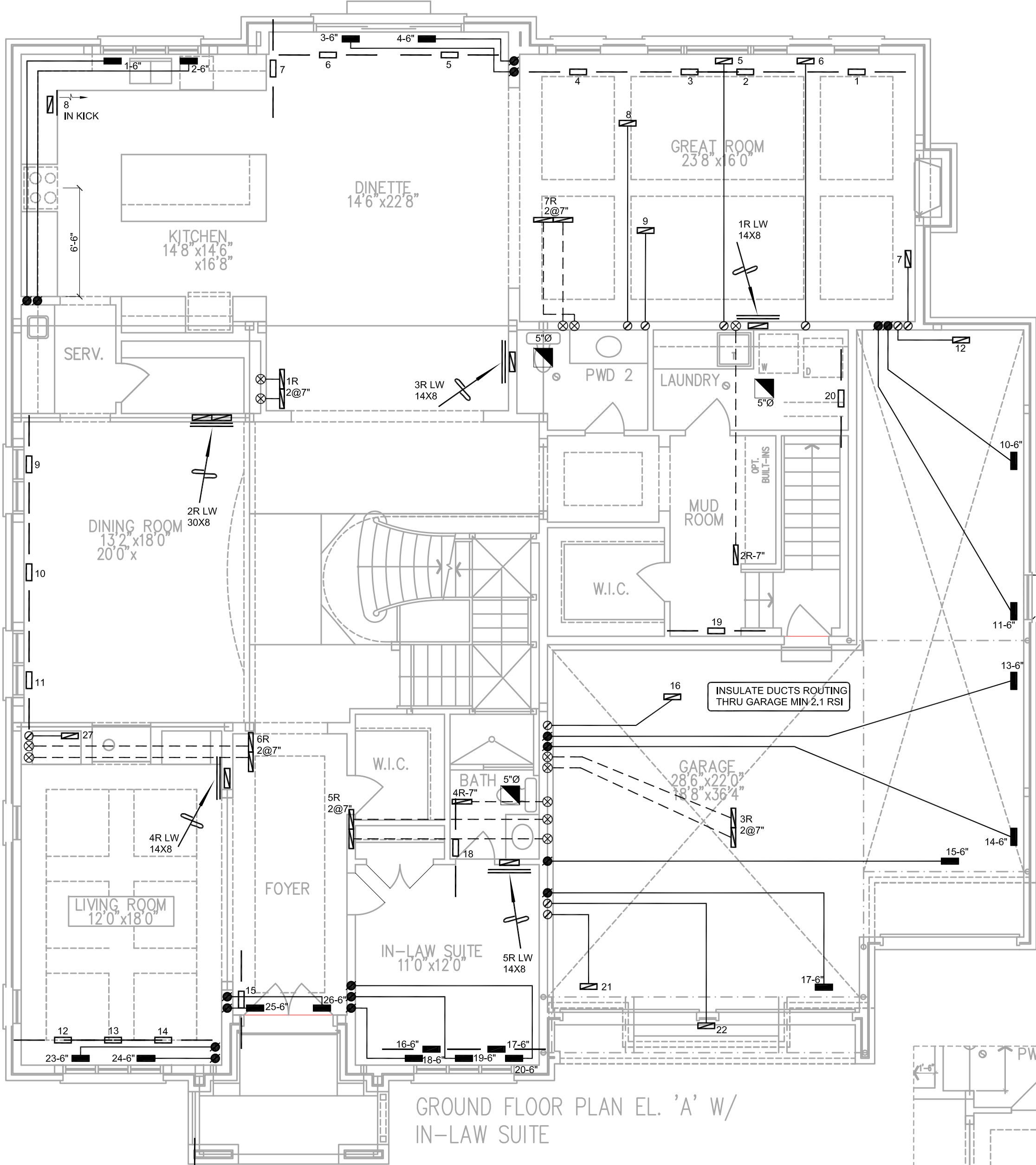
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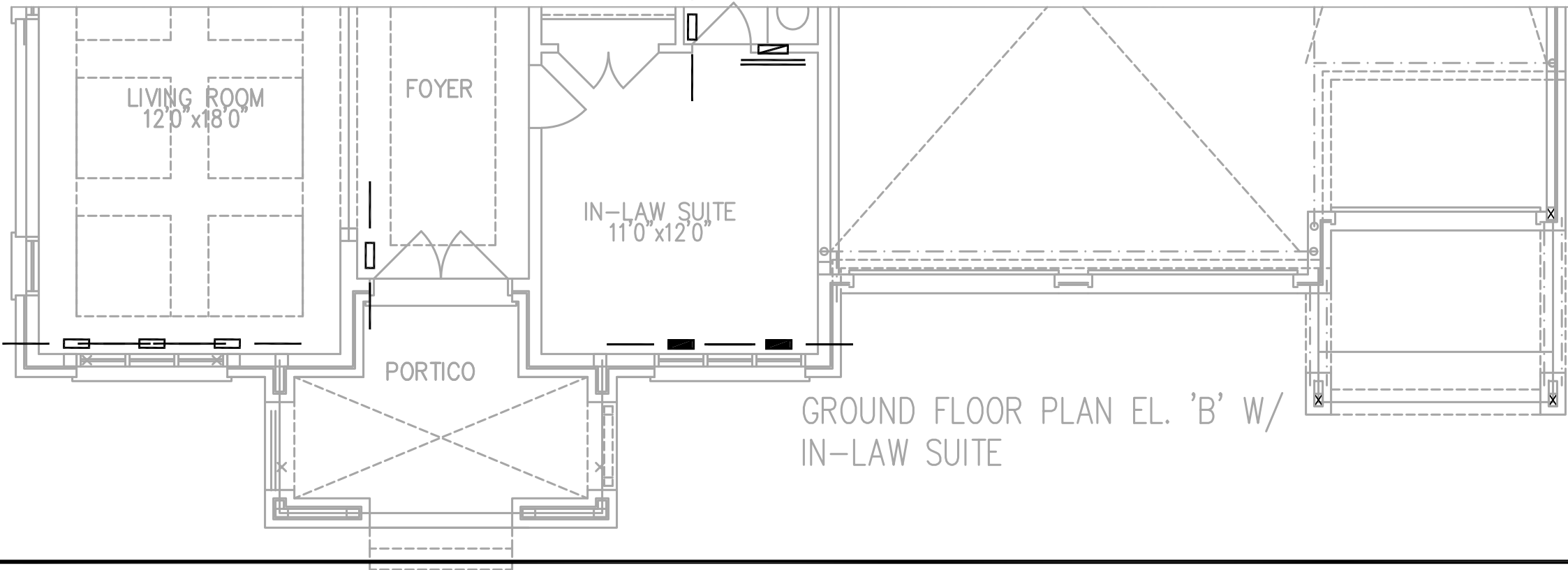
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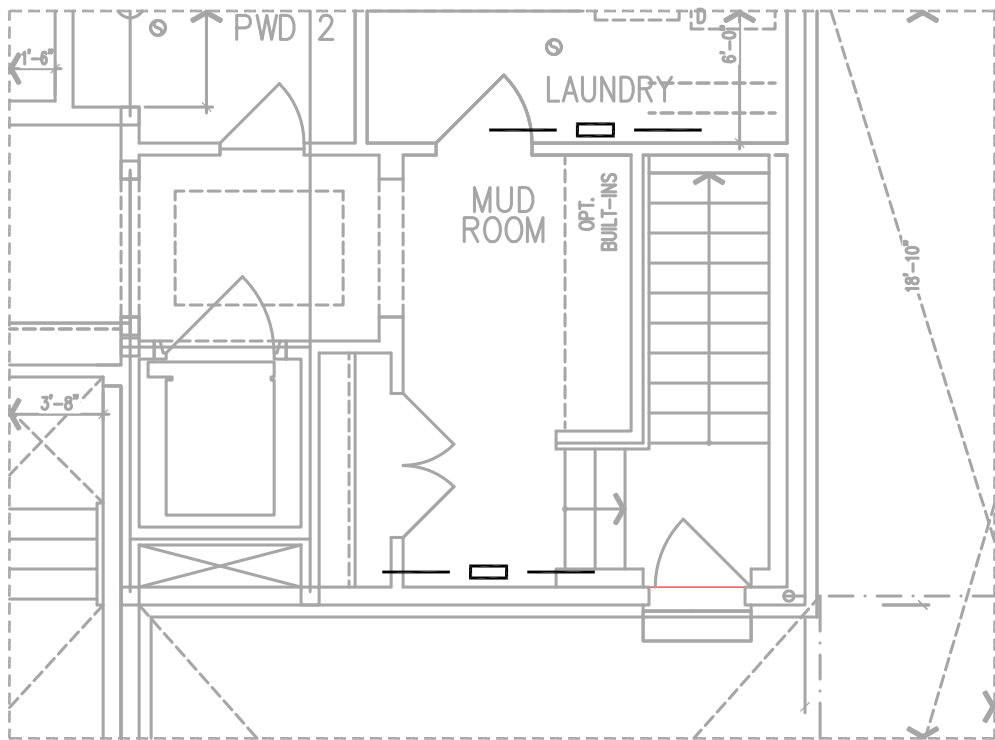
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GROUND FLOOR PLAN EL. 'A' W/
IN-LAW SUITE



GROUND FLOOR PLAN EL. 'B' W/
IN-LAW SUITE



PART. GROUND FLOOR PLAN
W/ ELEVATOR COND.
('B' SIMILAR)

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
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	14X8 RETURN AIR GRILLE
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Specializing in Residential Mechanical Design Services

Client ROYAL PINE HOMES

Project Name VALES OF HUMBER SOUTH
BRAMPTON, ONTARIO

7003 - OPT IN-LAW
6169 SQFT

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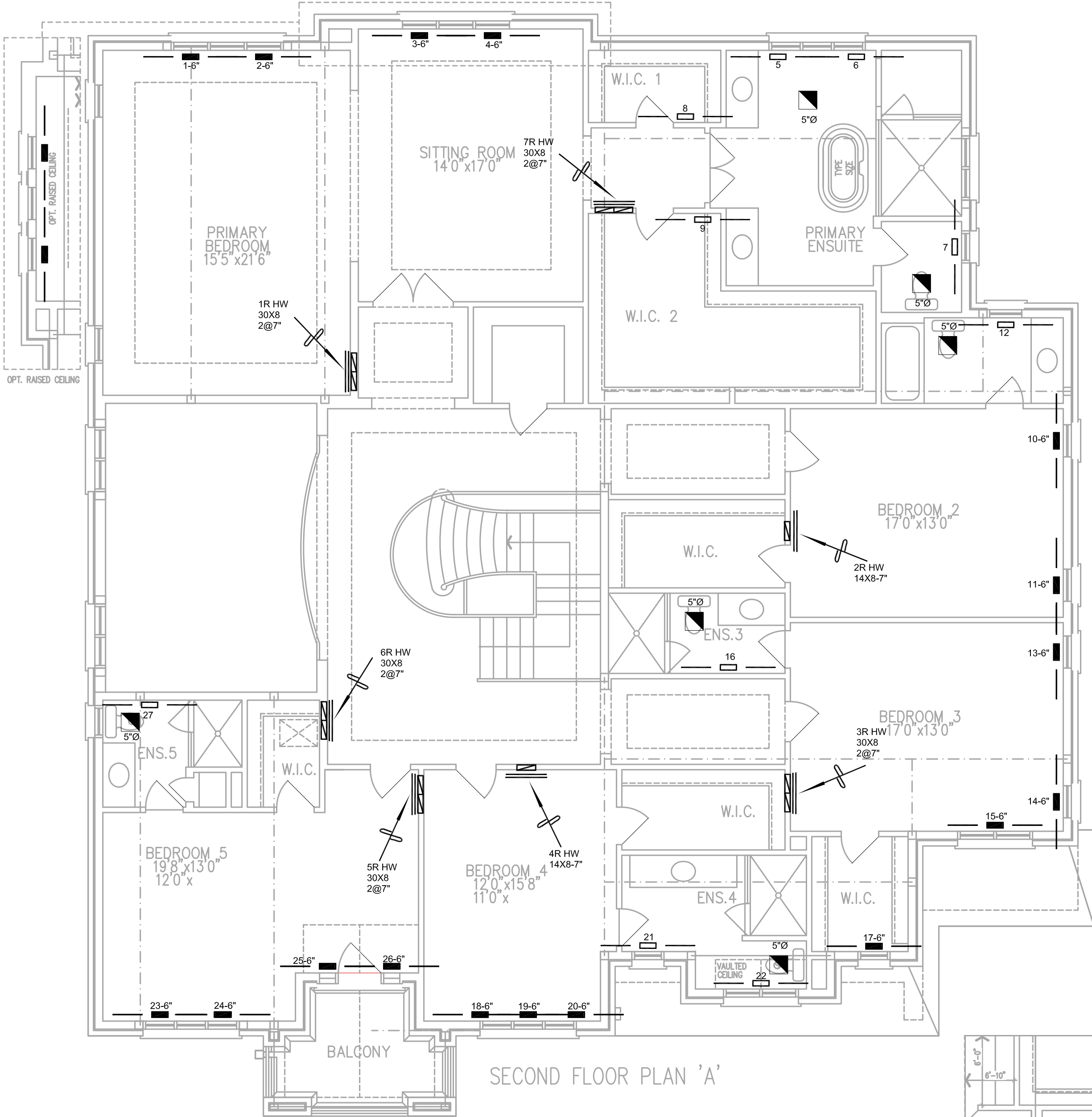
Sheet Title	FIRST FLOOR	HEATING LAYOUT
Drawn By	HR	Checked By MO
Scale	3/16"=1'-0"	Sheet No.
Date	MARCH 2022	2
LO #	95349	3

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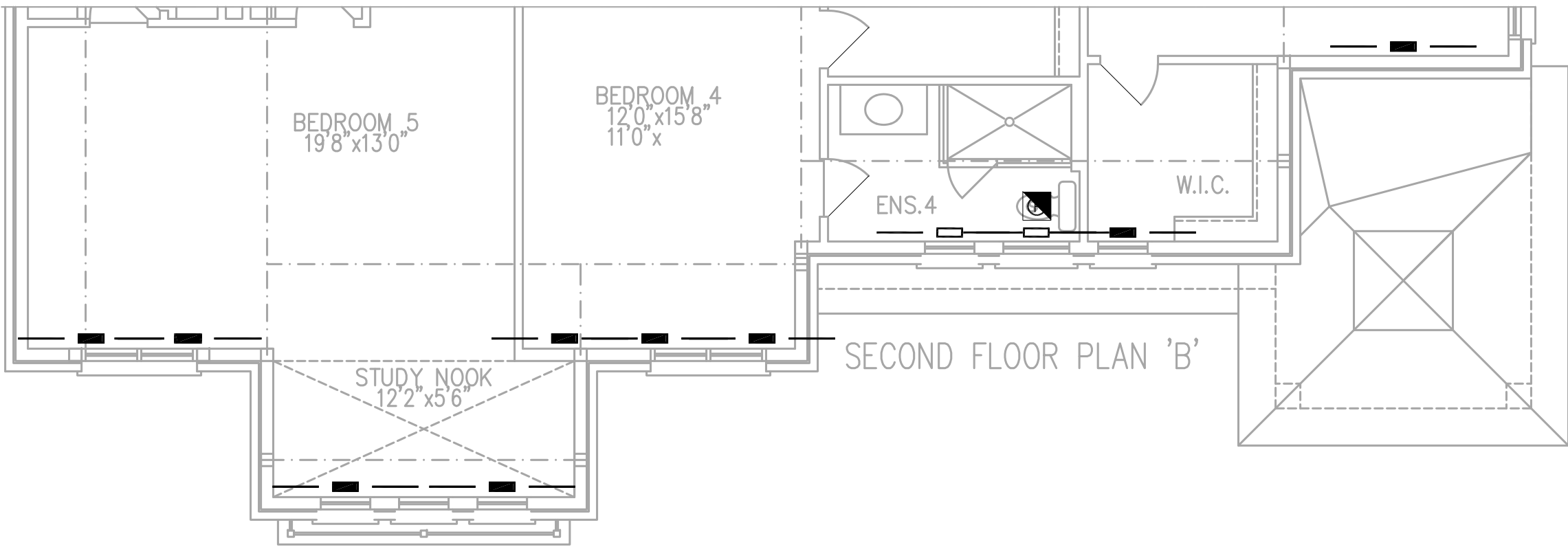
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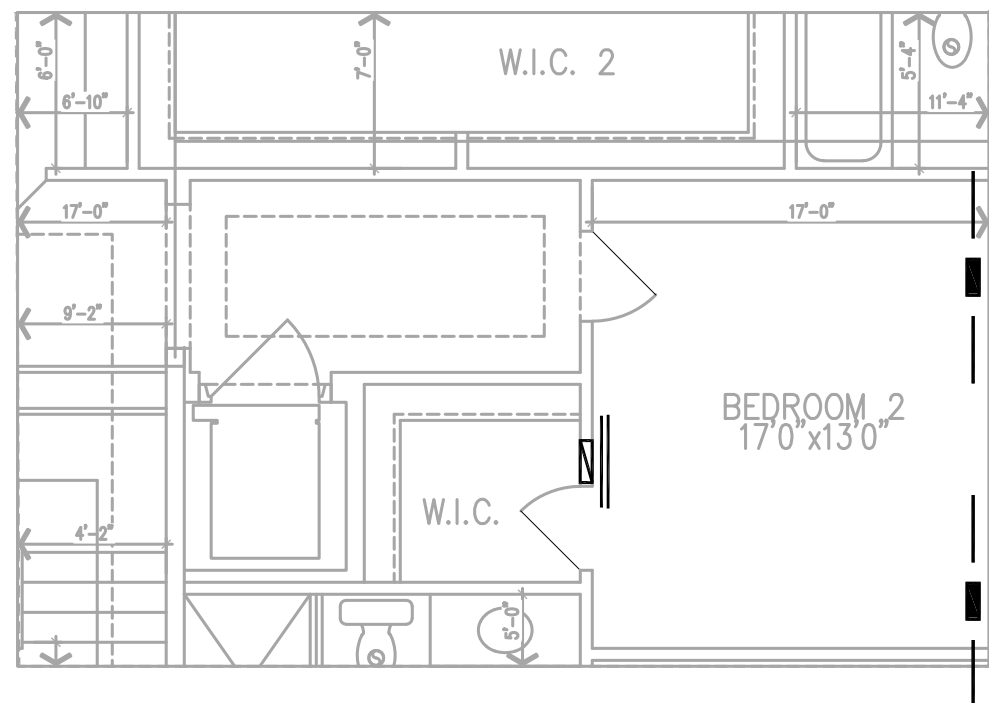
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SECOND FLOOR PLAN 'A'



SECOND FLOOR PLAN 'B'



PART. SECOND FLOOR PLAN
W/ ELEVATOR COND.
('B' SIMILAR)

HVAC LEGEND	
	SUPPLY AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT
	LINEAR BAR or LINEAR SLOT GRILLE
	SUPPLY AIR BOOT ABOVE
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SECOND FLOOR		HEATING LAYOUT	
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