


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@hvacdsgns.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]			
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings			
<input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection			
<input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> 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: 5008 OPT 2ND Project: VALES OF HUMBER SOUTH	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
<input type="checkbox"/> 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: _____			
<input checked="" type="checkbox"/> 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>			
<input type="checkbox"/> 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 11, 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
 BUILDER: ROYAL PINE HOMES

OPT 2ND
 TYPE: 5008

GFA: 4382

DATE Jul-24
 LO# 95287

WINTER NATURAL AIR CHANGE RATE 0.234
 SUMMER NATURAL AIR CHANGE RATE 0.076

HEAT LOSS ΔT °F. 74
 HEAT GAIN ΔT °F. 11

CSA-F280-12
 SB-12 PERFORMANCE

ROOM USE	STUDY		GREAT			KIT			DIN			LIV			FOY			LAUN					
EXP. WALL	30		27			44			16			40			19			41					
CLG. HT.	11		11			11			11			11			21			13					
FACTORS																							
GRS.WALL AREA	330		297			484			176			440			399			533					
GLAZING	LOSS GAIN		LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN					
NORTH	20.8	15.5	0	0	0	12	249	186	0	0	0	0	0	0	0	0	0	0	16	332	248		
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	63	1309	2586	54	1122	2217	0	0	0	
SOUTH	20.8	24.4	0	0	0	12	249	293	42	873	1025	26	540	634	0	0	0	0	0	0	0	0	
WEST	20.8	41.0	36	748	1478	36	748	1478	71	1475	2914	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	
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	740	110	25	616	91
NET EXPOSED WALL	3.5	0.5	294	1019	151	237	822	122	371	1286	191	150	520	77	377	1307	194	315	1092	162	492	1706	253
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
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	10	27	12	0	0	0	0	0	0	0	0	56	150	67	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
BASEMENT/CRAWL HEAT LOSS	0		0			0			0			0			0			0					
SLAB ON GRADE HEAT LOSS	0		0			0			0			0			0			0					
SUBTOTAL HT LOSS	1767		2095			3634			1060			2616			3104			2655					
SUB TOTAL HT GAIN	1629		2090			4130			711			2780			2555			592					
LEVEL FACTOR / MULTIPLIER	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	
AIR CHANGE HEAT LOSS	632		749			1299			379			935			1109			949					
AIR CHANGE HEAT GAIN	87		111			220			38			148			136			31					
DUCT LOSS	0		0			0			0			0			0			0					
DUCT GAIN	0		0			0			0			0			0			0					
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS	923		923			923			923			923			923			923					
TOTAL HT LOSS BTU/H	2399		2844			4933			1439			3551			4213			3603					
TOTAL HT GAIN x 1.3 BTU/H	3430		4061			6854			2174			5006			3498			2010					

ROOM USE	STUDY		GREAT			KIT			DIN			LIV			FOY			LAUN					
EXP. WALL	30		27			44			16			40			19			41					
CLG. HT.	11		11			11			11			11			21			13					
FACTORS																							
GRS.WALL AREA	330		297			484			176			440			399			533					
GLAZING	LOSS GAIN		LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN					
NORTH	20.8	15.5	0	0	0	12	249	186	0	0	0	0	0	0	0	0	0	0	16	332	248		
EAST	20.8	41.0	0	0	0	0	0	0	0	0	0	0	0	63	1309	2586	54	1122	2217	0	0	0	
SOUTH	20.8	24.4	0	0	0	12	249	293	42	873	1025	26	540	634	0	0	0	0	0	0	0	0	
WEST	20.8	41.0	36	748	1478	36	748	1478	71	1475	2914	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	
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	740	110	25	616	91
NET EXPOSED WALL	3.5	0.5	294	1019	151	237	822	122	371	1286	191	150	520	77	377	1307	194	315	1092	162	492	1706	253
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
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	10	27	12	0	0	0	0	0	0	0	0	56	150	67	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
BASEMENT/CRAWL HEAT LOSS	0		0			0			0			0			0			0					
SLAB ON GRADE HEAT LOSS	0		0			0			0			0			0			0					
SUBTOTAL HT LOSS	1767		2095			3634			1060			2616			3104			2655					
SUB TOTAL HT GAIN	1629		2090			4130			711			2780			2555			592					
LEVEL FACTOR / MULTIPLIER	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	0.30	0.36	
AIR CHANGE HEAT LOSS	632		749			1299			379			935			1109			949					
AIR CHANGE HEAT GAIN	87		111			220			38			148			136			31					
DUCT LOSS	0		0			0			0			0			0			0					
DUCT GAIN	0		0			0			0			0			0			0					
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS	923		923			923			923			923			923			923					
TOTAL HT LOSS BTU/H	2399		2844			4933			1439			3551			4213			3603					
TOTAL HT GAIN x 1.3 BTU/H	3430		4061			6854			2174			5006			3498			2010					

TOTAL HEAT GAIN BTU/H: 53668 TONS: 4.47 LOSS DUE TO VENTILATION LOAD BTU/H: 6010 STRUCTURAL HEAT LOSS: 63749 TOTAL COMBINED HEAT LOSS BTU/H: 69760



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

OPT 2ND
 TYPE: 5008

GFA: 4382

DATE Jul-24
 LO# 95287

WINTER NATURAL AIR CHANGE RATE 0.234
 SUMMER NATURAL AIR CHANGE RATE 0.076

HEAT LOSS ΔT °F. 74
 HEAT GAIN ΔT °F. 11

CSA-F280-12
 SB-12 PERFORMANCE

ROOM USE	EXP. WALL	CLG. HT.	PRI	ENS	BED-5	MEDIA	BED-2	BED-3	BATH-1	BED-4	BATH-2
GRS.WALL AREA	252		216	126	189	160	400	90	144	90	
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	9 187 139	9 187 139	0 0 0	24 499 371	0 0 0	0 0 0	9 187 139	0 0 0	0 0 0	
EAST	20.8 41.0	0 0 0	0 0 0	0 0 0	0 0 0	39 810 1601	57 1184 2340	0 0 0	0 0 0	0 0 0	
SOUTH	20.8 24.4	9 187 220	0 0 0	18 374 439	0 0 0	0 0 0	0 0 0	0 0 0	18 374 439	0 0 0	
WEST	20.8 41.0	26 540 1067	18 374 739	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	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	
NET EXPOSED WALL	3.5 0.5	208 721 107	189 655 97	108 374 56	165 572 85	121 420 62	343 1189 176	81 281 42	126 437 65	90 312 46	
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	404 506 225	143 179 80	210 263 117	441 553 246	344 431 192	260 326 145	60 75 33	320 401 178	150 188 84	
NO ATTIC EXPOSED CLG	2.7 1.2	0 0 0	0 0 0	0 0 0	0 0 0	30 81 36	75 201 90	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	374 931 138	0 0 0	60 149 22	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		2142	1395	1012	1623	2673	2901	692	1212	500	
SUB TOTAL HT GAIN		1758	1055	612	702	2029	2750	236	682	130	
LEVEL FACTOR / MULTIPLIER		0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	0.20 0.27	
AIR CHANGE HEAT LOSS		570	371	269	432	711	772	184	322	133	
AIR CHANGE HEAT GAIN		94	56	33	37	108	146	13	36	7	
DUCT LOSS		0	0	0	0	338	0	88	0	0	
DUCT GAIN		0	0	0	0	330	0	25	0	0	
HEAT GAIN PEOPLE	240	2	480	0	1	240	0	1	240	0	
HEAT GAIN APPLIANCES/LIGHTS		923	0	923	923	923	923	0	923	0	
TOTAL HT LOSS BTU/H		2711	1767	1281	2055	3722	3672	964	1534	633	
TOTAL HT GAIN x 1.3 BTU/H		4231	1444	2349	2161	4718	5278	356	2446	178	

ROOM USE	EXP. WALL	CLG. HT.	ENS-5	WIC-2
GRS.WALL AREA	153		0	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	20.8 15.5	0 0 0	0 0 0	
EAST	20.8 41.0	0 0 0	14 291 575	
SOUTH	20.8 24.4	0 0 0	0 0 0	
WEST	20.8 41.0	9 187 369	0 0 0	
SKYLT.	34.1 100.3	0 0 0	0 0 0	
DOORS	24.7 3.7	0 0 0	0 0 0	
NET EXPOSED WALL	3.5 0.5	144 499 74	-14 -49 -7	
NET EXPOSED BSMT WALL ABOVE GR	3.5 0.5	0 0 0	0 0 0	
EXPOSED CLG	1.3 0.6	70 88 39	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	0	
SLAB ON GRADE HEAT LOSS		0	0	
SUBTOTAL HT LOSS		774	242	
SUB TOTAL HT GAIN		482	567	
LEVEL FACTOR / MULTIPLIER		0.20 0.27	0.20 0.27	
AIR CHANGE HEAT LOSS		206	64	
AIR CHANGE HEAT GAIN		26	30	
DUCT LOSS		0	0	
DUCT GAIN		0	0	
HEAT GAIN PEOPLE	240	0	0	
HEAT GAIN APPLIANCES/LIGHTS		0	0	
TOTAL HT LOSS BTU/H		980	307	
TOTAL HT GAIN x 1.3 BTU/H		661	777	

TOTAL HEAT GAIN BTU/H: 53668 TONS: 4.47 LOSS DUE TO VENTILATION LOAD BTU/H: 6010 STRUCTURAL HEAT LOSS: 63749 TOTAL COMBINED HEAT LOSS BTU/H: 69760



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

OPT 2ND
 TYPE: 5008

DATE: Jul-24

GFA: 4382 LO# 95287

FURNACE 1

HEATING CFM 975 COOLING CFM 975
 TOTAL HEAT LOSS 44,124 TOTAL HEAT GAIN 28,623
 AIR FLOW RATE CFM 22.1 AIR FLOW RATE CFM 34.06

FACTORY INSTALLED
 furnace pressure 0.6
 furnace filter 0
 a/c coil pressure 0.21
 available pressure for s/a & r/a 0.39

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 47129 BTUH

CARRIER 59SC6A060M17--16
CARRIER 60
 FAN SPEED 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 = **975**
 CFM @ .6" E.S.P.
 TEMPERATURE RISE 55 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	14	7
R/A	0	0	0	3	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	21	22	23	24
ROOM NAME	STUDY	STUDY	GREAT	GREAT	KIT	KIT	KIT	DIN	LIV	LIV	LIV	FOY	FOY	LAUN	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.20	1.20	1.42	1.42	1.64	1.64	1.64	1.44	1.18	1.18	1.18	2.11	2.11	3.60	3.02	3.02	3.02	3.02
CFM PER RUN HEAT	27	27	31	31	36	36	36	32	26	26	26	47	47	80	67	67	67	67
RM GAIN MBH.	1.72	1.72	2.03	2.03	2.28	2.28	2.28	2.17	1.67	1.67	1.67	1.75	1.75	2.01	0.23	0.23	0.23	0.23
CFM PER RUN COOLING	58	58	69	69	78	78	78	74	57	57	57	60	60	68	8	8	8	8
ADJUSTED PRESSURE	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
ACTUAL DUCT LGH.	47	41	39	25	24	30	20	31	48	43	38	44	39	42	23	31	37	26
EQUIVALENT LENGTH	160	150	160	140	110	110	100	100	120	110	100	130	100	160	100	140	100	110
TOTAL EFFECTIVE LENGTH	207	191	199	165	134	140	120	131	168	153	138	174	139	202	123	171	137	136
ADJUSTED PRESSURE	0.09	0.1	0.1	0.12	0.14	0.14	0.16	0.15	0.11	0.13	0.14	0.11	0.14	0.1	0.16	0.11	0.14	0.14
ROUND DUCT SIZE	5	5	5	5	5	5	5	5	5	5	5	5	5	6	5	5	5	5
HEATING VELOCITY (ft/min)	198	198	228	228	264	264	264	235	191	191	191	345	345	408	492	492	492	492
COOLING VELOCITY (ft/min)	426	426	507	507	573	573	573	543	419	419	419	441	441	347	59	59	59	59
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10
TRUNK	A	A	A	A	A	A	B	D	C	C	C	C	D	B	B	A	B	B

ROOM NAME	BAS	BAS	BAS
RM LOSS MBH.	3.02	3.02	3.02
CFM PER RUN HEAT	67	67	67
RM GAIN MBH.	0.23	0.23	0.23
CFM PER RUN COOLING	8	8	8
ADJUSTED PRESSURE	0.19	0.19	0.19
ACTUAL DUCT LGH.	27	26	39
EQUIVALENT LENGTH	140	100	120
TOTAL EFFECTIVE LENGTH	167	126	159
ADJUSTED PRESSURE	0.12	0.15	0.12
ROUND DUCT SIZE	5	5	5
HEATING VELOCITY (ft/min)	492	492	492
COOLING VELOCITY (ft/min)	59	59	59
OUTLET GRILL SIZE	3X10	3X10	3X10
TRUNK	D	D	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	255	0.09	8,2	12	x	8	383	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.08	0	0	x	8	0
TRUNK B	572	0.09	11,16	x	8	644	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.08	0	0	x	8	0	
TRUNK C	192	0.11	7,8	x	8	432	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.08	0	0	x	8	0	
TRUNK D	405	0.11	9,2	12	x	8	608	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.08	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.08	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	0.08	0	0	x	8	0

RETURN AIR #	1	2	3	BR													
AIR VOLUME	205	360	360	0	0	0	0	0	0	0	0	0	0	0	0	0	50
PLENUM 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
ACTUAL DUCT LGH.	43	23	23	1	1	1	1	1	1	1	1	1	1	1	1	1	18
EQUIVALENT LENGTH	130	145	150	0	0	0	0	0	0	0	0	0	0	0	0	0	190
TOTAL EFFECTIVE LH	173	168	173	1	1	1	1	1	1	1	1	1	1	1	1	1	208
ADJUSTED PRESSURE	0.10	0.10	0.10	16.72	16.72	16.72	16.72	16.72	16.72	16.72	16.72	16.72	16.72	16.72	16.72	0.08	
ROUND DUCT SIZE	7.3	9	9	0	0	0	0	0	0	0	0	0	0	0	0	4.6	
INLET GRILL SIZE	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
INLET GRILL SIZE	14	30	30	0	0	0	0	0	0	0	0	0	0	0	0	14	

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

OPT 2ND
 TYPE: 5008

DATE: Jul-24

GFA: 4382

LO# 95287

FURNACE 2

HEATING CFM 770 COOLING CFM 770
 TOTAL HEAT LOSS 19,626 TOTAL HEAT GAIN 24,600
 AIR FLOW RATE CFM 39.23 AIR FLOW RATE CFM 31.3

FACTORY INSTALLED
 furnace pressure 0.6
 furnace filter 0
 a/c coil pressure 0.26
 available pressure for s/a & r/a 0.34

FURNACE HEAT LOSS + HRV / ERV HEAT LOSS = 22631 BTUH

CARRIER 59SC6A026M14--10
CARRIER 26
 FAN SPEED LOW 0
 MEDLOW 545
 MEDIUM 770
 MEDIUM HIGH 0
 HIGH 0

AFUE = 96 %
 INPUT (BTU/H) = 26,000
 OUTPUT (BTU/H) = **25,000**
 DESIGN CFM = **770**
 CFM @ .6" E.S.P.
 TEMPERATURE RISE 30 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	18	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
ROOM NAME	ENS-5	PRI	PRI	ENS	MEDIA	MEDIA	BATH-1	BED-2	BED-2	WIC-2	BED-3	BED-3	BATH-2	BED-4	BED-4	BATH-1	BED-5	BED-5
RM LOSS MBH.	0.98	1.36	1.36	1.77	1.03	1.03	0.48	1.86	1.86	0.31	1.84	1.84	0.63	0.77	0.77	0.48	0.64	0.64
CFM PER RUN HEAT	38	53	53	69	40	40	19	73	73	12	72	72	25	30	30	19	25	25
RM GAIN MBH.	0.66	2.12	2.12	1.44	1.08	1.08	0.18	2.36	2.36	0.78	2.64	2.64	0.18	1.22	1.22	0.18	1.17	1.17
CFM PER RUN COOLING	21	66	66	45	34	34	6	74	74	24	83	83	6	38	38	6	37	37
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	41	69	53	58	56	54	59	58	62	68	62	59	57	67	31	60	49	44
EQUIVALENT LENGTH	160	150	140	160	170	190	140	140	150	110	170	150	110	150	160	140	170	170
TOTAL EFFECTIVE LENGTH	201	219	193	218	226	244	199	198	212	178	232	209	167	217	191	200	219	214
ADJUSTED PRESSURE	0.08	0.08	0.09	0.08	0.07	0.07	0.08	0.08	0.08	0.09	0.07	0.08	0.1	0.08	0.09	0.08	0.08	0.08
ROUND DUCT SIZE	4	5	5	5	5	5	4	6	6	4	6	6	4	4	5	4	4	4
HEATING VELOCITY (ft/min)	436	389	389	507	294	294	218	372	372	138	367	367	287	344	220	218	287	287
COOLING VELOCITY (ft/min)	241	485	485	330	250	250	69	377	377	275	423	423	69	436	279	69	424	424
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	C	C	C	C	C	C	B	A	A	B	A	A	B	B	B	B	C	C

RUN #	ROOM NAME	RM LOSS MBH.	CFM PER RUN HEAT	RM GAIN MBH.	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH.	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE					
TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	
CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	CFM	PRESS.	DUCT	DUCT	(ft/min)	
TRUNK A	290	0.07	9.1	10	x	8	522	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	425	0.07	10.5	14	x	8	546	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	343	0.07	9.7	12	x	8	515	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	0	0.00	0	0	x	8	0	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR #	1	2	3	4	5	6	7	BR										
AIR VOLUME	85	80	80	75	75	300	80	0	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	0.14
ACTUAL DUCT LGH.	62	57	61	82	66	64	58	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	180	175	175	220	215	215	165	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	242	232	236	302	281	279	223	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.06	0.06	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	14.32
ROUND DUCT SIZE	6	5.9	5.9	6	6	10.1	5.9	0	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	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0

TYPE: 5008
 SITE NAME: VALES OF HUMBER SOUTH

LO # 95287
 OPT 2ND

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>6</u>	@ 10.6 cfm	<u>63.6</u>	cfm
Other Rooms	<u>7</u>	@ 10.6 cfm	<u>74.2</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	95.4	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

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	<input checked="" type="checkbox"/>	3.5
BATH-1	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
BATH-2	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	3.5
BATH-3	BY INSTALLING CONTRACTOR	50	<input checked="" type="checkbox"/>	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 HVI Approved
 @ 32 deg F (0 deg C)

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 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#: 95287	Model: 5008	Builder: ROYAL PINE HOMES	Date: 7/11/2024																																																													
Volume Calculation			Air Change & Delta T Data																																																													
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4">House Volume</th> </tr> <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>2059</td> <td>10</td> <td>20590</td> </tr> <tr> <td>First</td> <td>2059</td> <td>11</td> <td>22649</td> </tr> <tr> <td>Second</td> <td>2398</td> <td>9</td> <td>21582</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>64,821.0 ft³</td> </tr> <tr> <td colspan="3" style="text-align: right;">Total:</td> <td>1835.5 m³</td> </tr> </tbody> </table>			House Volume				Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)	Bsmt	2059	10	20590	First	2059	11	22649	Second	2398	9	21582	Third	0	9	0	Fourth	0	9	0	Total:			64,821.0 ft ³	Total:			1835.5 m ³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.234</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.076</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="5">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> </thead> <tbody> <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> </tbody> </table>		WINTER NATURAL AIR CHANGE RATE	0.234	SUMMER NATURAL AIR CHANGE RATE	0.076	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-19	41	74	Summer DTDc	24	30	6	11
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5.2.3.1 Heat Loss due to Air Leakage			6.2.6 Sensible Gain due to Air Leakage																																																													
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ <p>0.234 x 509.87 x 41°C x 1.2 = 5912 W</p> <p>= 20170 Btu/h</p>			$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ <p>= 0.076 x 509.87 x 6°C x 1.2 = 285 W</p> <p>= 972 Btu/h</p>																																																													
5.2.3.2 Heat Loss due to Mechanical Ventilation			6.2.7 Sensible heat Gain due to Ventilation																																																													
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ <p>300 CFM x 74°F x 1.08 x 0.25 = 6010 Btu/h</p>			$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ <p>300 CFM x 11°F x 1.08 x 0.25 = 891 Btu/h</p>																																																													
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 _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																												
1	0.5	20,170	11,056	0.912																																																												
2	0.3		16,931	0.357																																																												
3	0.2		15,165	0.266																																																												
4	0		0	0.000																																																												
5	0		0	0.000																																																												
<p>*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0</p>																																																																
				Michael O'Rourke BCIN# 19669 																																																												

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5008	OPT 2ND	BUILDER: ROYAL PINE HOMES
SFQT: 4382	LO# 95287	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

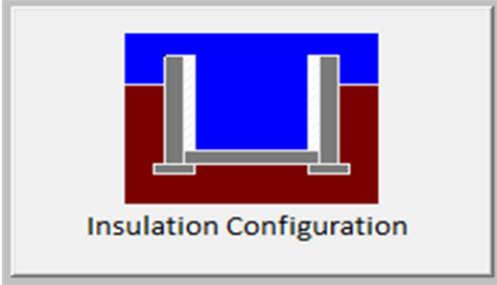
ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	2.50	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	TIGHT	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	64821.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.70	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	7.0 ft
LENGTH: 66.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	216.0 ft

2012 OBC - COMPLIANCE PACKAGE	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):	20.1	 <p>Insulation Configuration</p>
Floor Width (m):	12.8	
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):	2282	

TYPE: 5008
 LO# 95287

OPT 2ND

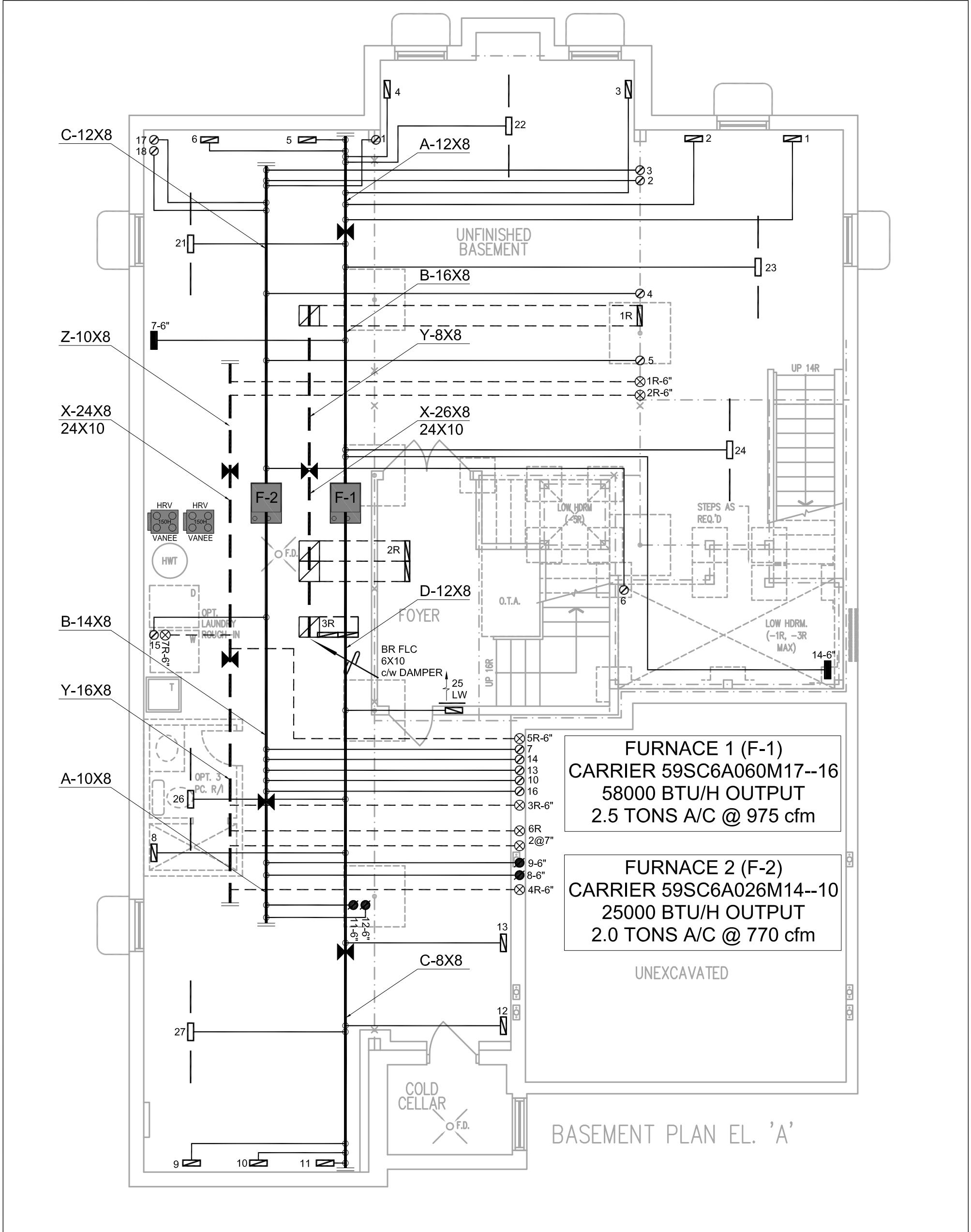
Air Infiltration Residential Load Calculator

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):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1835.5			
Air Leakage/Ventilation				
Air Tightness Type:	Energy Star Detached (2.5 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1713.5 cm ²		
	2.50	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):	0.234			
Cooling Air Leakage Rate (ACH/H):	0.076			

TYPE: 5008
 LO# 95287

OPT 2ND



HVAC LEGEND						REVISIONS	
— □ —	SUPPLY AIR GRILLE	— ■ —	6" SUPPLY AIR BOOT ABOVE	— ▨ —	14"x8" RETURN AIR GRILLE	3.	
— ■ —	SUPPLY AIR GRILLE 6" BOOT	○	SUPPLY AIR STACK FROM 2nd FLOOR	— ▨ —	30"x8" RETURN AIR GRILLE	2.	UPDATED EQUIPMENT JUL/2024
— ■ —	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	— ▨ —	FRA- FLOOR RETURN AIR GRILLE	1.	REVISED TO PERFORMANCE PATH APR/2022
				— ▨ —	REDUCER	No.	Description Date

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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
 Michael O'Rourke BCIN # 19669
 HVAC Designs Ltd.

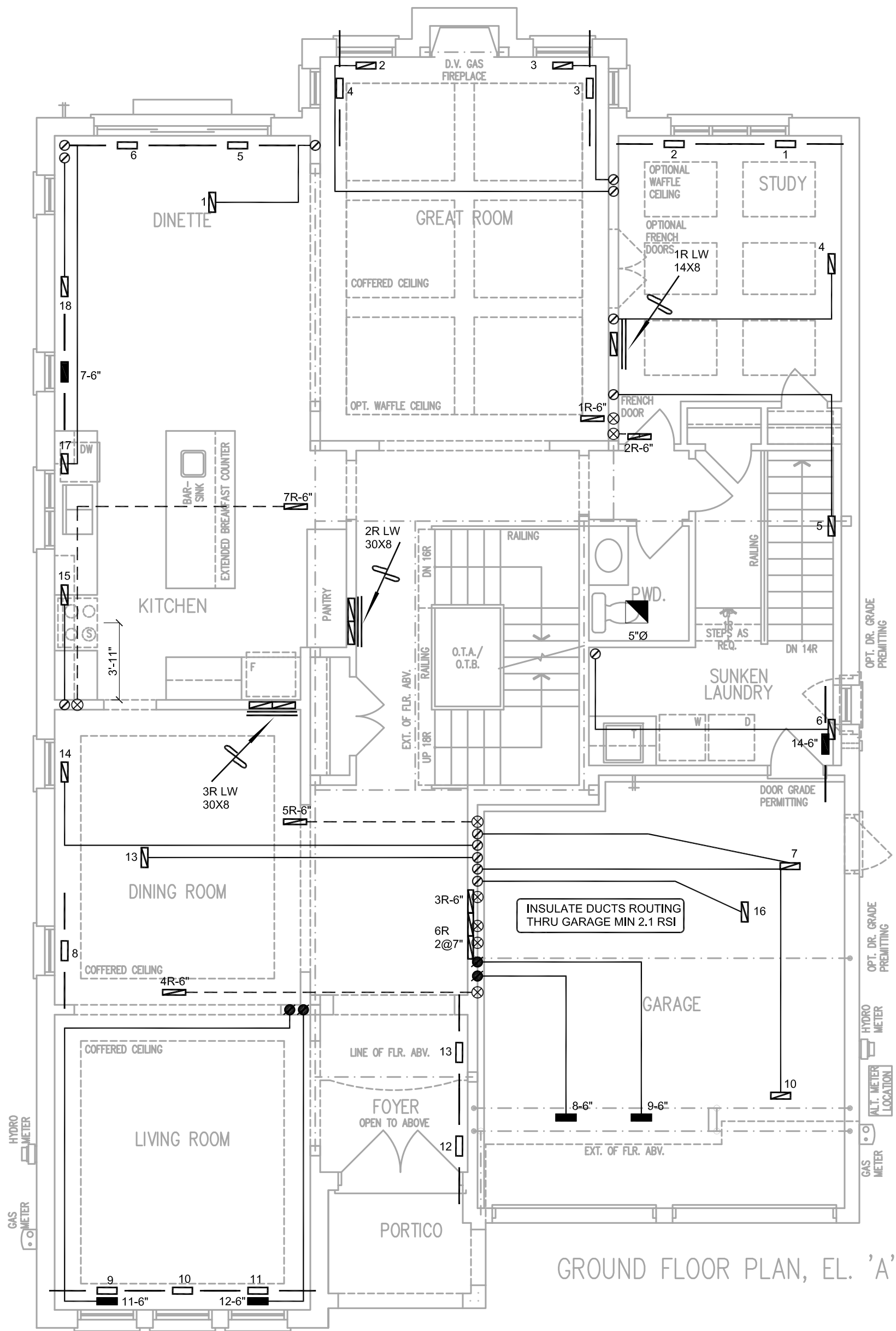
SB-12 PERFORMANCE

Client
ROYAL PINE HOMES
 Project Name
VALES OF HUMBER SOUTH BRAMPTON, ONTARIO
 OPT 2ND
 5008 4382 sqft

HVACDESIGNS LTD.
 375 Finley Ave. Suite 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
 Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

	S/A	R/A	FANS
2ND	18	7	4
1ST	14	3	2
BAS	7	1	0

Sheet Title
BASEMENT HEATING LAYOUT
 Date MAR/2022
 Scale 3/16" = 1'-0"
 BCIN# 19669
LO# 95287



GROUND FLOOR PLAN, EL. 'A'

HVAC LEGEND						REVISIONS	
— □ —	SUPPLY AIR GRILLE	■	6" SUPPLY AIR BOOT ABOVE	▩	14"x8" RETURN AIR GRILLE	3.	
— ■ —	SUPPLY AIR GRILLE 6" BOOT	○	SUPPLY AIR STACK FROM 2nd FLOOR	▩	30"x8" RETURN AIR GRILLE	2.	UPDATED EQUIPMENT
▩	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▩	FRA- FLOOR RETURN AIR GRILLE	1.	REVISED TO PERFORMANCE PATH
				▩	REDUCER	No.	Description
							Date

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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
 Michael O'Rourke BCIN # 19669
 HVAC Designs Ltd.

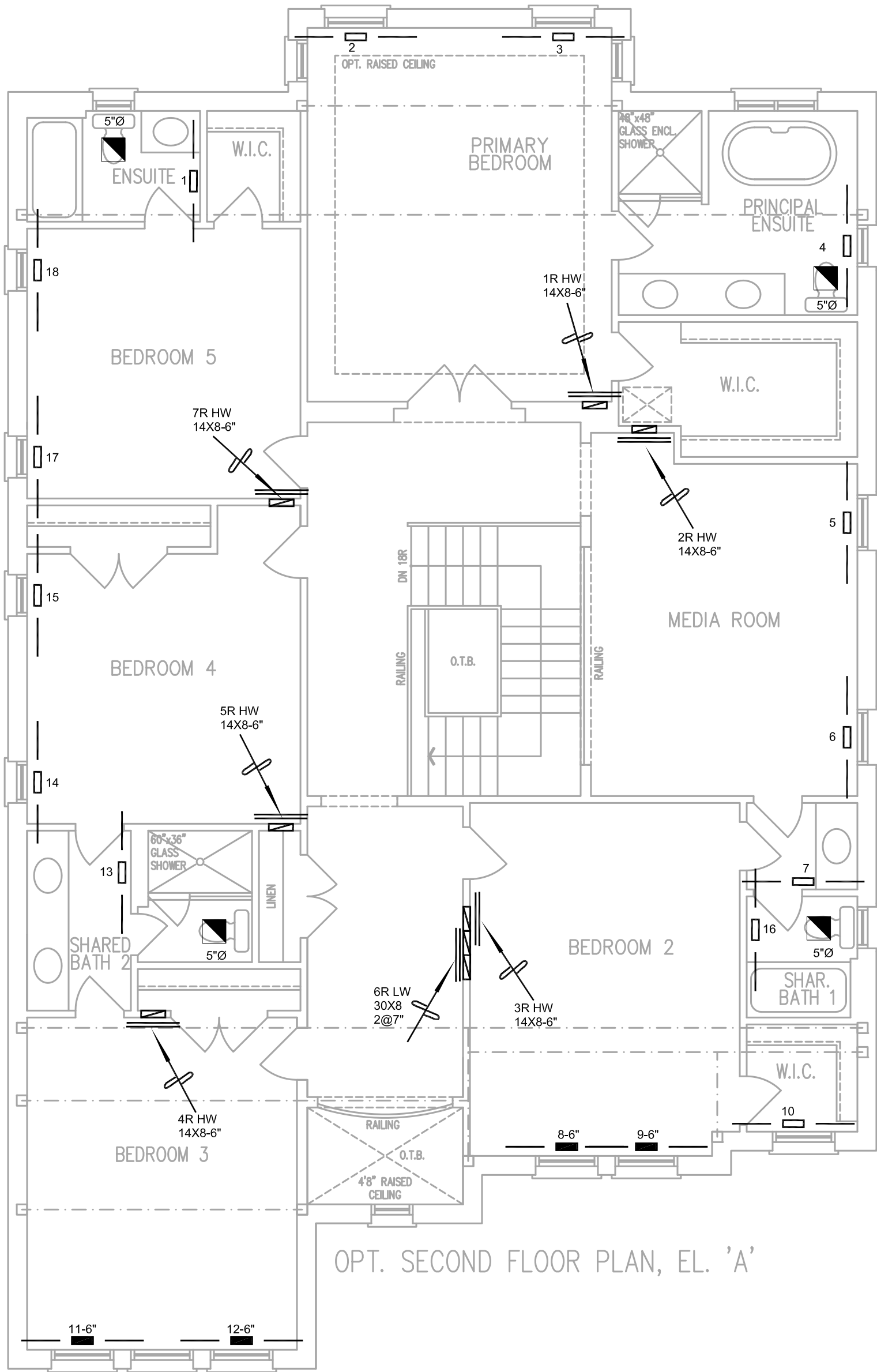
SB-12 PERFORMANCE

Client
ROYAL PINE HOMES
 Project Name
VALES OF HUMBER SOUTH BRAMPTON, ONTARIO
 OPT 2ND
 5008
 4382 sqft

HVAC DESIGNS LTD.
 375 Finley Ave. Suite 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
 Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

	S/A	R/A	FANS
2ND	18	7	4
1ST	14	3	2
BAS	7	1	0

Sheet Title
FIRST FLOOR HEATING LAYOUT
 Date MAR/2022
 Scale 3/16" = 1'-0"
 BCIN# 19669
LO# 95287



OPT. SECOND FLOOR PLAN, EL. 'A'

HVAC LEGEND						REVISIONS	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	3.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	2.	UPDATED EQUIPMENT JUL/2024
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE	1.	REVISED TO PERFORMANCE PATH APR/2022
					REDUCER	No.	Description Date

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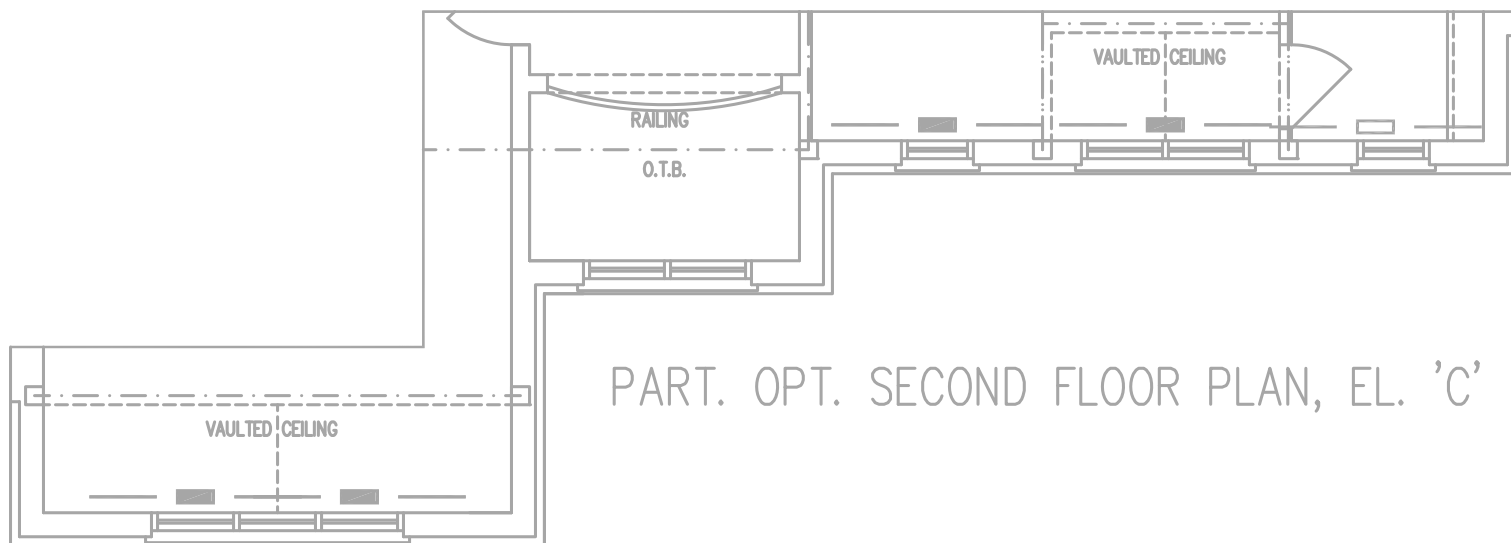
SB-12 PERFORMANCE

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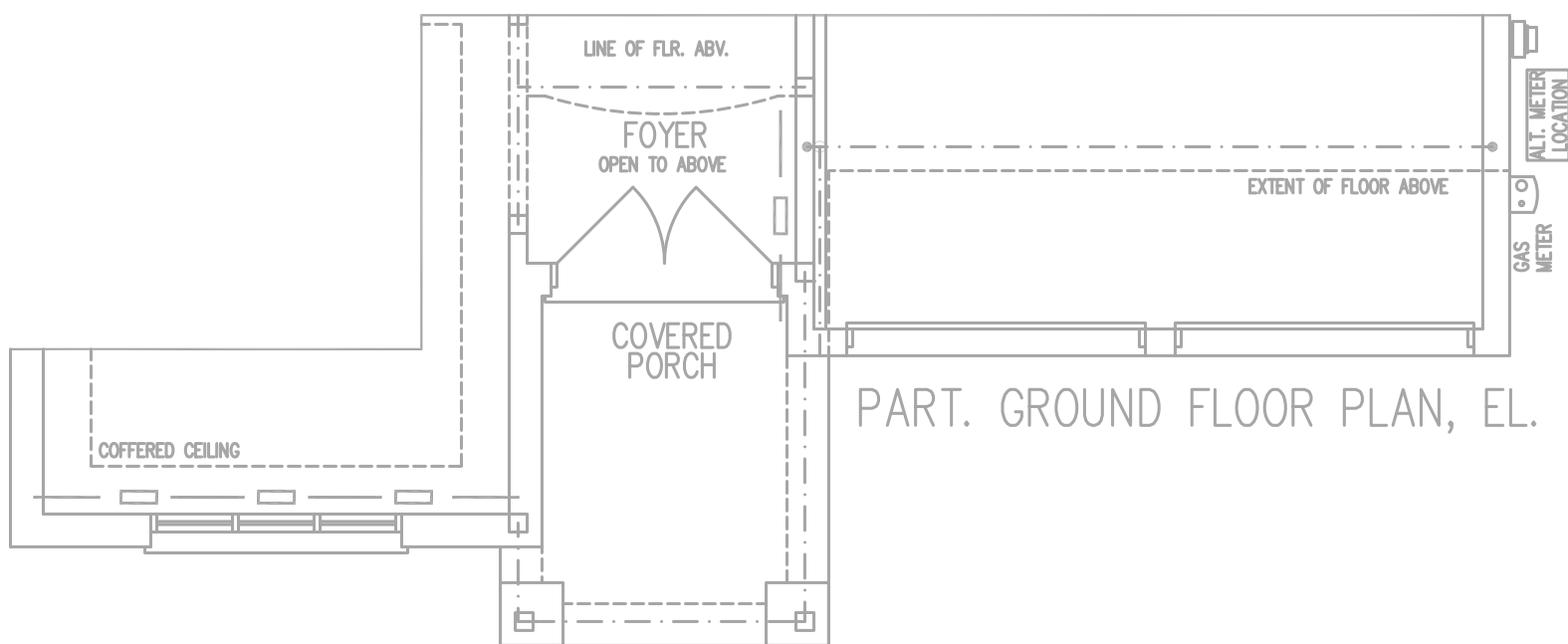
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	S/A	R/A	FANS
2ND	18	7	4
1ST	14	3	2
BAS	7	1	0

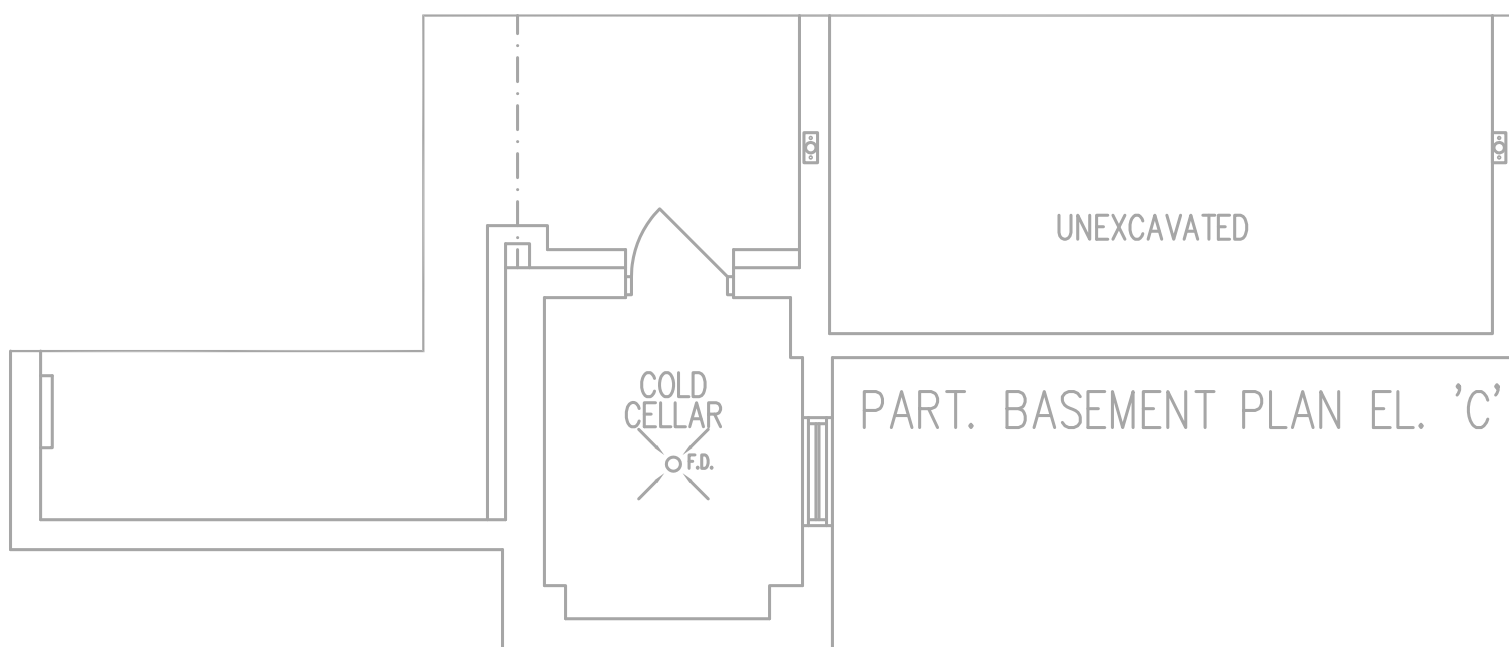
Sheet Title
SECOND FLOOR HEATING LAYOUT
 Date MAR/2022
 Scale 3/16" = 1'-0"
 BCIN# 19669
LO# 95287



PART. OPT. SECOND FLOOR PLAN, EL. 'C'



PART. GROUND FLOOR PLAN, EL. 'C'



PART. BASEMENT PLAN EL. 'C'

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.	UPDATED EQUIPMENT	JUL/2024
1.	REVISED TO PERFORMANCE PATH	APR/2022

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Michael O'Rourke
Michael O'Rourke BCIN # 19669
HVAC Designs Ltd.

SB-12 PERFORMANCE

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	S/A	R/A	FANS
2ND	18	7	4
1ST	14	3	2
BAS	7	1	0

Sheet Title
ELEVATION C HEATING LAYOUT

Date **MAR/2022**

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

BCIN# **19669**

LO# **95287**