

MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL

Housetype 40-4 Barbour Corner

File # 3082A

Builder	Esquire
Address	
City	
Phone	

Principal Ventilation Capacity			
Master Bed	1	31.8 cfm	31.8
Other Bed	3	15.9 cfm	47.7
Total cfm			79.5

Combustion Appliances	
☒ a) Direct Vent (sealed combust) Including fireplaces	
☐ b) Positive venting induced draft (exclude fireplace)	
☐ c) Natural Draft, B vent or induced draft fireplaces	
☐ d) Solid Fuel	
☐ e) No Combustion Appliances	

Total Ventilation Capacity			
Bsmt & Master	2	21.2 cfm	42.4
Other Bed	3	10.6 cfm	31.8
Bath & Kitchen	4	10.6 cfm	42.4
Other Rooms	5	10.6 cfm	53
Room Count cfm			169.6
Air Change TVC= HouseVol.X0.3/60			142.3

Heating System	
☒ Forced Air	
☐ Non Forced Air	
☐ Electric Space Heat	

Principal Exhaust Fan Capacity		
Make	Model	Location
Broan or Equivalent	684N	Bath
90cfm/2.5 Sones/ HVI listed		

Housetype	
☒ I - Type a or b appliances only, no solid fuel	
☐ II - Type I with solid fuel (including fireplace)	
☐ III - Type C appliance	
☐ IV - Type I or II with electric space heat	
☐ Other - Type I,II, or IV no forced air	

Supplemental Ventilation Capacity		
TVC room or air change (which larger)		170
Less Principal Exhaust Capacity		90
Required Supp.Vent Capacity	CFM	80

System Design Option	
☒ Exhaust Only/Forced air system	
☒ HRV Simplified Connection to Forced Air System	
☐ HRV with ducting to forced air system	
☐ HRV fully ducted/ not coupled with forced air sys.	
☐ Part 6 design CSA F326-M91	
☒ Part 9.9.32.3.1	

Supplemental Fans			
Location	cfm	Model	Sones
Ens	50	Broan 650	2.5
Pwd	50	Broan 650	2.5
all fans HVI listed			

Heat Recovery Ventilator	
Model	
Venmar Vanee 60H	
Cfm High	150 Cfm Low
Sensible effective @ 0 C	72 %
HRV is HVI listed	

Designer Certification	
I have reviewed and take responsibility for this design and am qualified as an "other designer" as required by the OBC 3.2.5 as it relates to residential HVAC design	
Alexis Dearie-Vonk	<i>Alexis Dearie-Vonk</i>
BCIN# 27098	HRAI# 3986

NEWRES HVAC DESIGN

9 Hurontario St
Orangeville Ont
L9W 1Y8
416-320-5870

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A. Doane-Vorlo

Customer	Esquire
Housetype	40-4 Barbour Corner
File #	3082A
Date	Dec-14
Township	Clarington

Eff	Ens		Mas		Br2		Hall		Bath		Laun		Br3		Br4		Kit		Liv/Din		Pvd		Foy		Fam						Bsmt	
	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss	Act	Loss
Fac	10		21	15	14	14	6	11	12	12	21	15	4	8	12																32	
	8		17	12	7	7	14	12	10	12	10	18	14	14	18																32	
	80		357	180	98	98	84	132	120	252	270	56	112	216																1024		
	8		8	8	17	8	8	8	8	9	9	9	9	9	9															8		
	18		44	12	7	24	7	23	10	45	24	18	22	40																151		
	144		352	96	119	192	56	184	80	405	216	162	198	360																		
22.0	116	390	322	1083	76	256	97	326	167	562	48	161	160	598	64	215	333	1120	168	565	152	511	174	585	330	1110						
Windows																																
E.W	16	378	30	709			25	591	8	189	24	567	37	875			10	236	24	567	30	709								6	142	
S													35	827																3	71	
N	12	284		20	473	22	520					16	378																	6	142	
Skylight	3.13																															
Door	4				21	389								42	777															21	389	
Ceiling	50.0	80	118	528	180	266	98	145	98	145	84	124	132	195	120	178																
Cold Flr	31.0										84	201	132	315																		
Header	22.0																45	151	24	81	18	61	22	74	40	135						
Bsmt Floor	1.0																													1024	1086	
A.Grd wall	5.2																													375	1953	
B.Grd wall	37.4													98	348															151	5647	
Duct Loss	10%																															
Peop/App			1	1							1		1	1	1	1																
Total Cond.		1171	2321	995	1380	1298		773	2741	771		2974	1781				1197	2392													9380	
Air Leak		494	979	420	582	548		326	1157	325		1255	751				505	1009													3958	
Tot.Rm-Loss BTU	1665	3300	1415	1962	1845	1100	3898	1097	4229	2532	1702	3402	2778																		11338	

Total Structure Heat Loss
Ventilation Loss
TOTAL HEAT LOSS BTU

13135	\	31126			0.42
3349	x	0.053	x	74	13135
1596	y	1.08	x	74	13554

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Heat Gain Calculation

Customer
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 40-4 Barbour Corner
 3082A
 Dec-14
 Clarington

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 Alexs Dearie-Vonk BCIN# 27098 HPAI# 5986
Alexs Dearie-Vonk

Heat loss AT 74 Heat Gain AT 11 Bsmr AT 22

Fac	Ens		Mas		Br2		Hall		Bath		Laun		Br3		Br4		Kit		Liv/Din		Pwd		Foy		Fam						Bsmt		
	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	Act	Gain	
Width	10		21		15		14		14		6		11		12		21		15		4		8		12							32	
Length	8		17		12		7		7		14		12		10		12		18		14		14		18							32	
Area	80		357		180		98		98		84		132		120		252		270		56		112		216							1024	
Height	8		8		8		17		8		8		8		8		9		9		9		9		9							8	
LnFtWall	18		44		12		7		24		7		23		10		45		24		18		22		40							151	
Gr.Wall	144		352		96		119		192		56		184		80		405		216		162		198		360								
Net Wall	22	116	74	322	205	76	48	97	62	167	106	48	31	160	102	64	41	333	212	168	107	152	97	174	111	330	210						
Windows																																	
E.W	36.01	16	576	30	1080				25	900	8	288	24	864			37	1332			10	360	24	864	30	1080					6	216	
S	21.77																35	762													3	65	
N	13.97	12	168													16	224			48	671										6	84	
Skylight	62.23																																
Door	4																															21	74
Ceiling	50	80	67	357	300	180	151	98	82	98	82	84	71	132	111	120	101																
Cold Fir	31											84	24	132	38																151	96	
Header	22																																
Bsmt Floor																																	
A.Grd wall	0.5																																
B.Grd wall																																	
Total Cond		885		1585		479		525		1089		414		1262		365		2335		793		542		1209		1316						704	
Air Leak.		123		221		67		73		152		58		176		51		325		110		75		168		183						98	
Peop/App			1	240		1	240					1	1195	1	240	1	240	1	1604	1	240												
Late Gain		302		614		236		179		372		500		503		197		1279		343		185		413		450						241	
Total Rm Gain BTU		1310		2659		1021		777		1612		2166		2181		853		5543		1486		802		1791		1948						1043	

Total Structure Heat Gain	25194
Ventilation	2619
Total Heat Gain BTU	27813

People @240	1200	& kitchen	1504	& Laundry	1195	3999
Latent Multiplier (3)	8758	Air Leakage	3949	X	0.051	X 11
Ventilation Gain		TVC * 1.08 * 1.3 * HG^T	2619		1879	1879
					ALHGM	1879 \ 13502
						0.14

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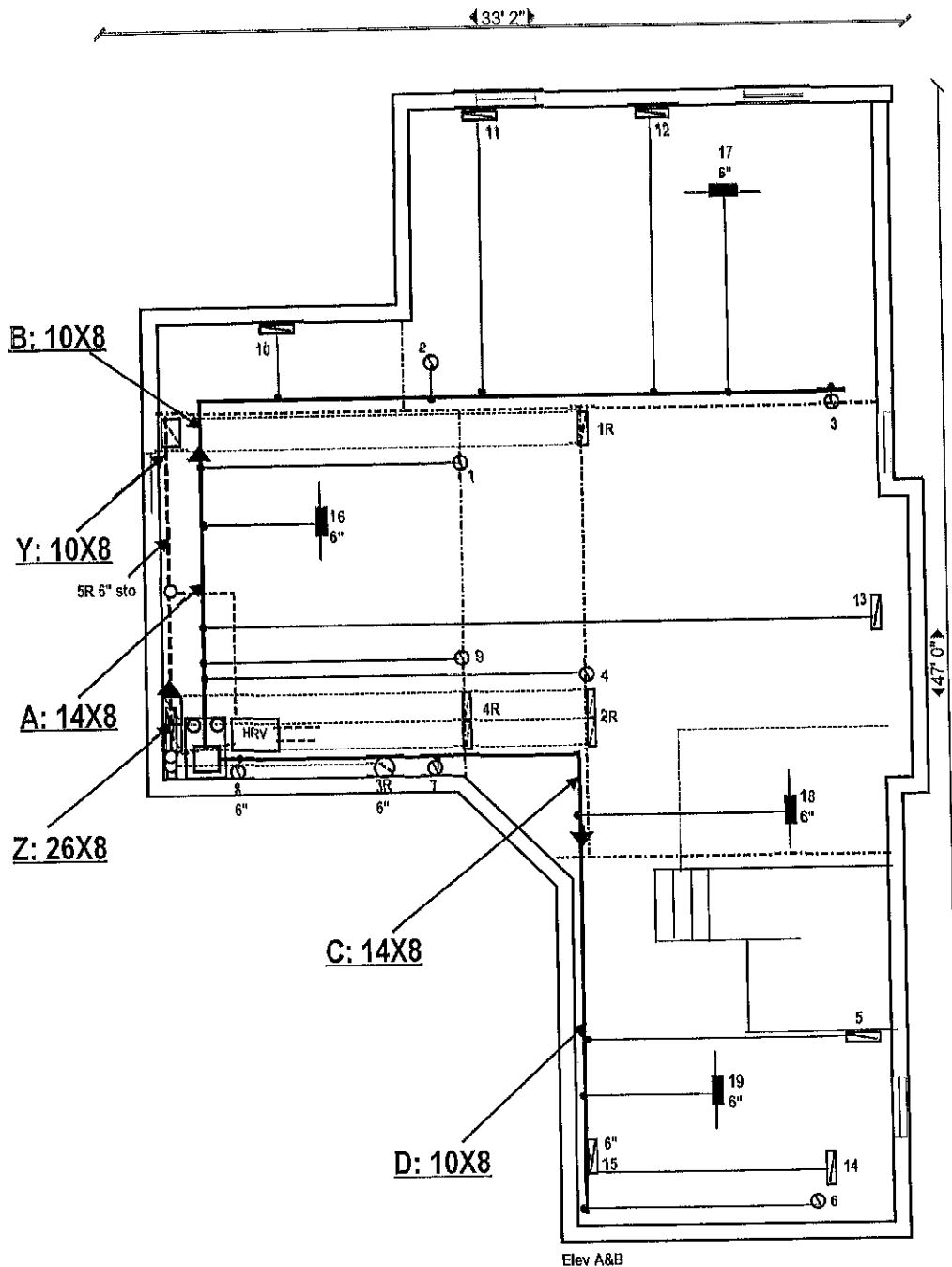
Customer	Esquire
Housetype	10-4 Barbour Corne
File #	3082A
Date	Dec-14
Township	Clarington

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Equipment	
Manufacturer	Carrier
Furnace	59SC060
Output	58000
AirFlow	910
AC Size	2.5

Supply Air Pres	0.15
S.Air Plenum Pres	0.14
Diffuser Loss	0.01
System Static	0.5

Return Air Pres	0.15
R-Air Plenum Pres	0.11
Diffuser Loss	0.04



2381 SF

(Or Equivalent Furnace)

All runs 5" unless otherwise specified

UNIT DATA		
Make	Carrier	Model 59SC060
Input	60000 BTU	Output 58000 BTU
Cooling	2.5 Tons	Fan 910 Cfm
No. of Runs	S/A	R/A
2nd Floor	8	3
1st Floor	7	1
Basement	4	1

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Alexis Dearn-Vonk

Alexis Dearn-Vonk 27098 3986
BCIN HRAI

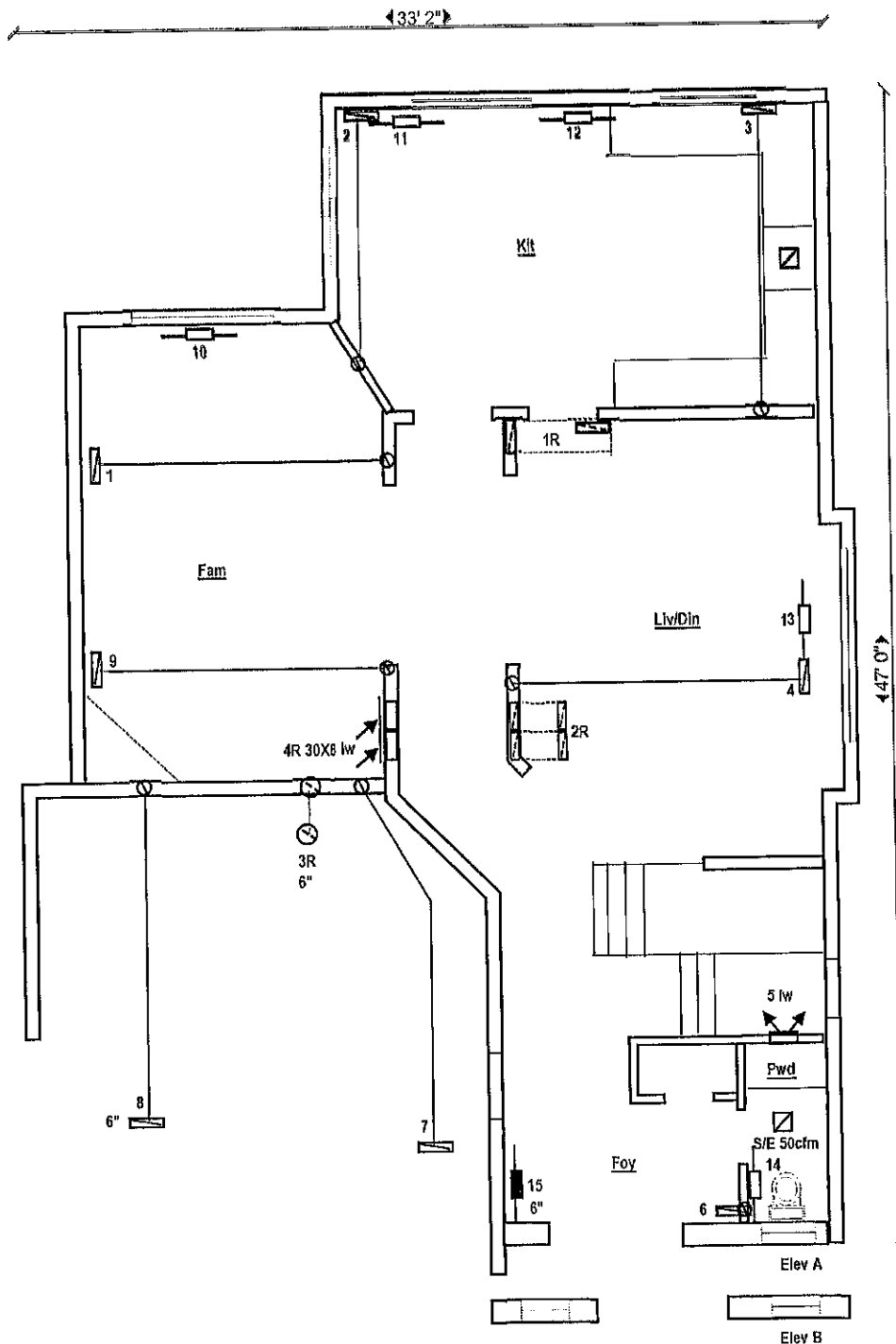
J Package

Cell.w Attic	R50	Heated Slab	R10
Cell.w/o Attic	R31	Windows	R3.13
Exp.Floor	R31	Skylights	U2.8
Walls	R22	Furn Eff	94%
B.G.Slab	R10	HRV Eff	72%

Northglen-Clarington

HRV: Venmar Vanea 60H

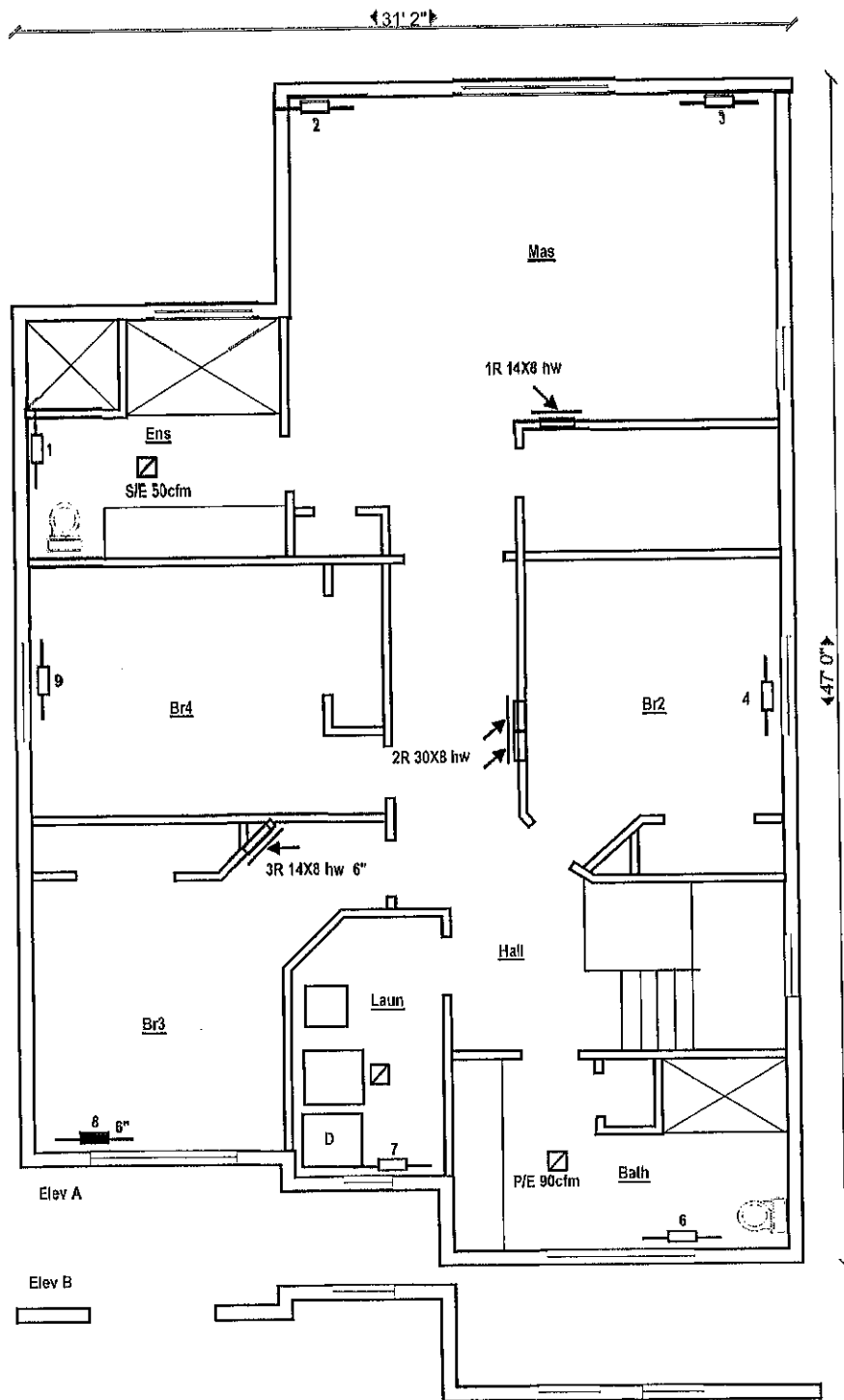
Type	40-4 Barbour Corner	NewRes HVAC Design 9 Hurontario st Orangeville On L9W 1Y8 Phone (416) 320-5870
Floor	Basement	
Scale	3/16"=1'0"	Client Esquire
Date	Aug-13	
Revised	Dec-14	LO# 3082A



All runs 5" unless otherwise specified

Northglenn-Clarington

Make		UNIT DATA Model		I have reviewed and take responsibility for this design and am qualified as an "other designer" as described by the OBC Div.C, Part 3, ss 3.2.5 in relation to HVAC design. <i>Alexis Dearie-Vonk</i> Alexis Dearie-Vonk 27098 3986 BCIN HRAI	Type 40-4 Barbour Corner		NewRes HVAC Design	
Input		Output			Floor First		9 Hurontario st Orangeville On L9W 1Y8 Phone (416) 320-5870	
Cooling		Fan			Scale 3/16"=1'0"		Client Esquire	
Tons		Cfm			Date Aug-13		LO# 3082A	
No. of Runs		S/A			R/A			
2nd Floor								
1st Floor								
Basement								



All runs 5" unless otherwise specified

Northglen-Clarington

UNIT DATA		I have reviewed and take responsibility for this design and am qualified as an "other designer" as described by the OBC Div.C, Part 3, ss 3.2.5 in relation to HVAC design.	Type 40-4 Barbour Corner		NewRes HVAC Design 9 Hurontario st Orangeville On L9W 1Y8 Phone (416) 320-5870
Make	Model		Floor	Second	
Input	BTU		Output	BTU	
Cooling	Tons		Fan	Cfm	
No. of Runs	S/A			R/A	
2nd Floor				Alexis Dearth-Vonk 27038 3986 BCIN HRAI	Client Esquire LO# 3082A
1st Floor					
Basement					