

MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL

Housetype 37-7 Newcastle Walko

File # 6033A

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	5	10.6 cfm	53
Other Rooms	4	10.6 cfm	42.4
		Room Count cfm	169.6
Air Change TVC= HouseVol.X0.3/60			155.5

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
Ens2	50	Broan 650	2.5
all fans HVI listed			

Heat Recovery Ventilator	
Model	Venmar Vanee 60H
Cfm High	150 Cfm Low 36
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

Heat Loss Calculation

I have reviewed and take responsibility for this design & am qualified as an "other designer" as required by the OBC 3.2.5 as it relates to residential HVAC design.
Alexis Dearie-Vonk BCIN# 27098 HRA# 3986
Alexis Dearie-Vonk

Customer Esquire
House# 37-7 Newcastle Walk
File # 6033A
Date Nov-14
Township Clarington

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

Heat loss °F 76 f Heat Gain °F 11 f Bsmr °F 22 f

Eff	Ens		Mas		Ens2		Br2		Br3		Bath		Br4		Laun		Kit		Fam		Din		Pvd		Foy		Mud		Bsmr	
	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		
Width	10		15		12		12		12		8		12		11		13		14		12		12		12		14		32	
Length	18		14		5		11		18		16		13		9		20		15		15		13		6		5		33	
Area	180		210		60		132		216		128		156		99		260		210		180		156		72		70		1056	
Height	8		8		8		8		9		8		8		8		9		9		9		9		9		9		8	
LnFtWall	28		36		5		11		32		10		25		9		33		29		15		26		24		19		162	
Gr.Wall	224		288		40		88		288		80		200		72		297		261		195		234		216		171			
Net Wall	22.0	196	677	248	857	32	111	72	249	256	884	70	242	180	622	64	221	245	846	209	722	115	397	228	788	188	649	171	591	
Windows																														
E.W	20	486	32	777					32	777	10	243	20	486															84	2040
S	8	194	8	194											8	194			8	194									9	219
N					8	194	16	388											16	388	20	486	6	146					4	97
Skylight	3.13																													
Door	4		21	399																									21	399
Ceiling	50.0	180	274	210	319	60	91	132	201	216	328	128	195	156	237	99	150													
Cold Flr	31.0																													
Header	22.0																													
Bsmr Floor	1.0																													
A.Grd wall	5.3																													
B.Grd wall	37.4																													
Duct Loss	10%																													
Peop/App		1			1		1		1				1		1		1		1											
Total Cond.		1631	2546	396	838	1990	1138	1978	566	2223	2085	935	1023	2210	1454														13347	
Air Leak		699	1092	170	359	853	488	848	243	954	894	401	439	948	624														5725	
Tot.Rm.Loss BTU		2330	3638	566	1197	2843	1626	2826	809	3177	2979	1336	1462	3158	2078														19073	

ALHLM	14738	\	34360																											
Air Leakage	3659	x	0.053	x	76																									
Vent Loss	169.6	x	1.08	x	76																									

Total Structure Heat Loss 49098
Ventilation Loss 13921
TOTAL HEAT LOSS BTU 63019

Heat Gain Calculation

19W 1Y8

Heat loss ΔT Heat Gain q

100-11159

77

Customer	Esquire
House type	37-7 Newcastle Walkou
File #	6033A
	Nov 10

Clarington

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People @240	1200	& kitchen	1604	& laundry	1185	3999	
Latent Multiplier (.3)	9933		Air Leakage	3659	X	0.051	X 11
Ventilation Gain		TVC * 1.08 * 1.3 * HGAT				2619	ALHGM 2053 \ 16341
							0.13

Total Structure Heat Gain
Ventilation
Total Heat Gain BTU

29110
2619
31729

Duct Calculation

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Alexis Dearie-Yonk

Alexis Dearie-Yonk BCIN# 27098 HR#1 3986

Customer	Esquire
Housetype	-7 Newcastle Walk
File #	6033A
Date	Nov-14
Township	Clarington

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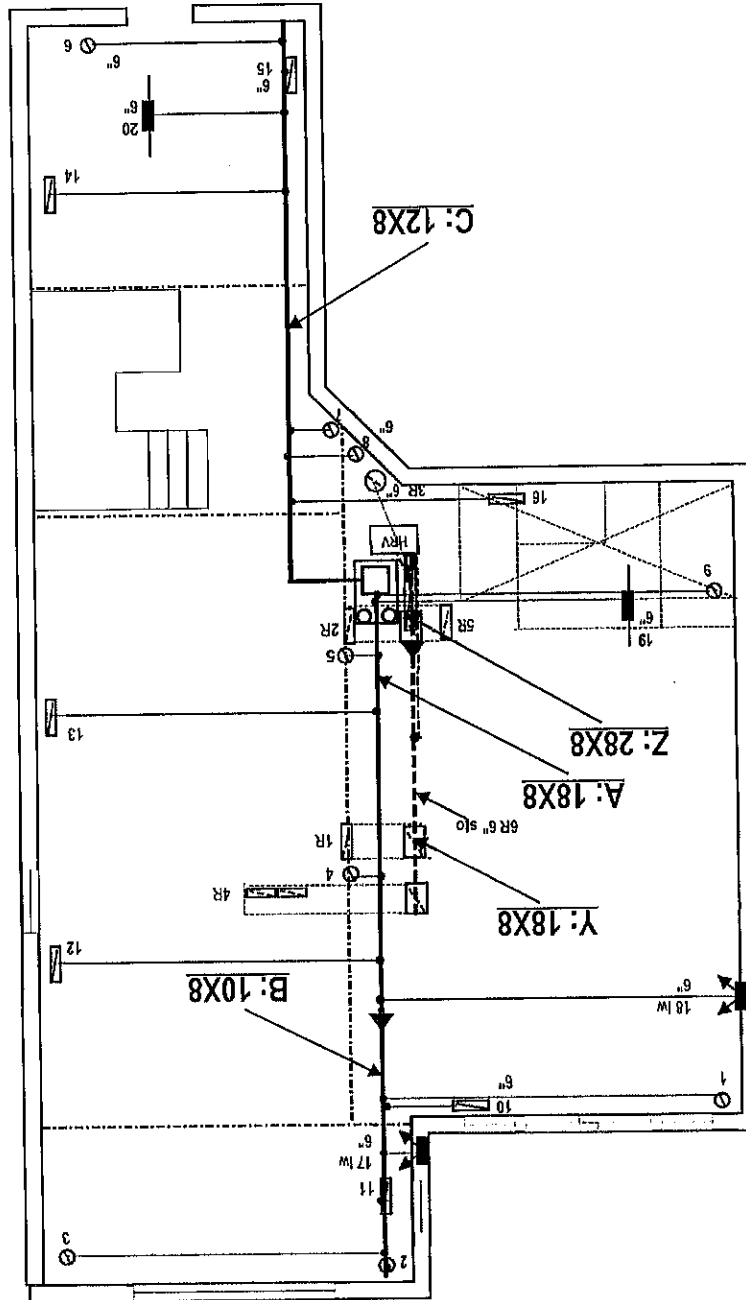
Equipment	
Manufacturer	Carrier
Furnace	595C080
Output	78000
AirFlow	1010
AC Size	2.5

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

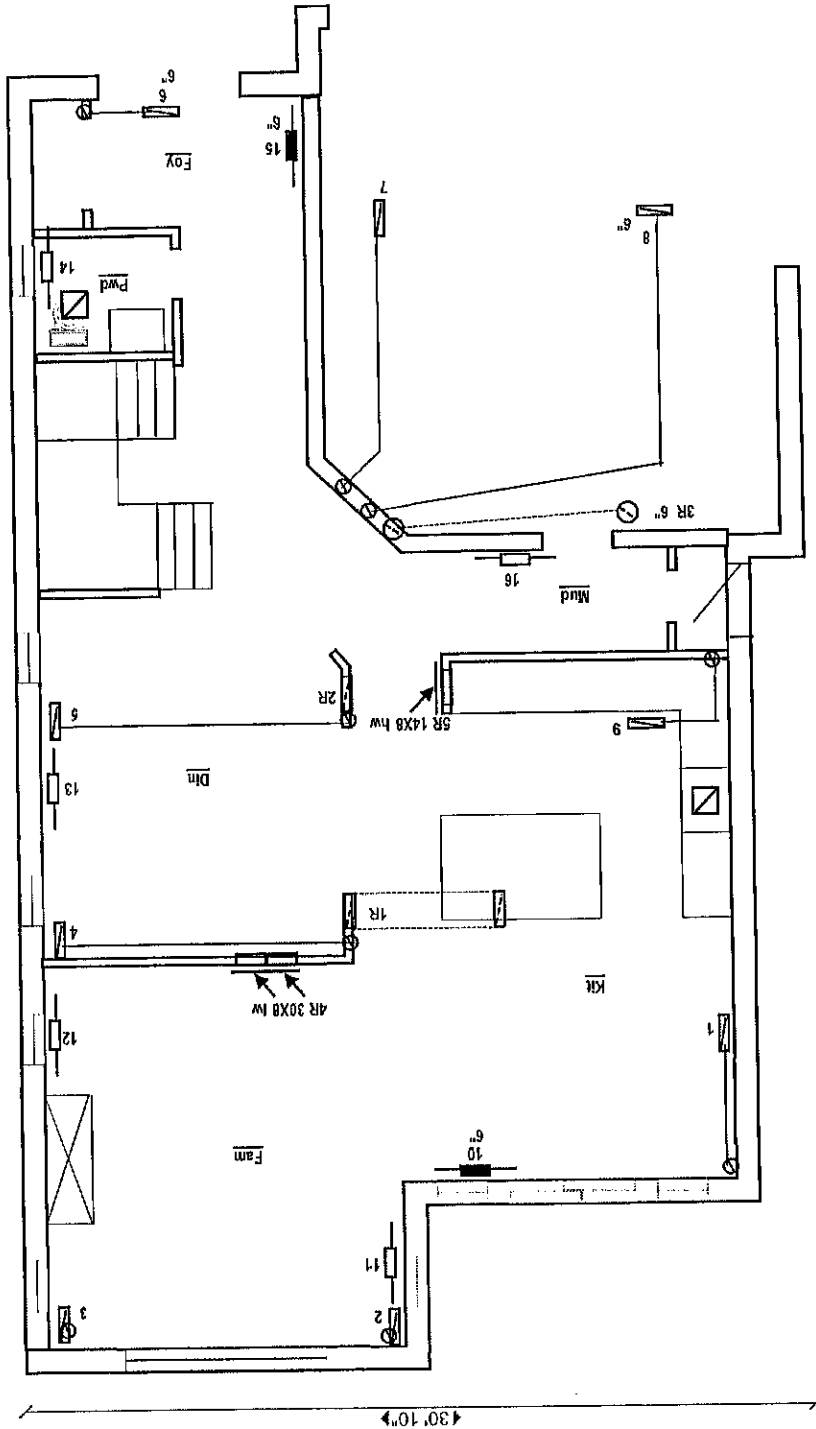
Heat Loss: 63019 BTU
Heat Gain: 31729 BTU
2385 SF
(Or Equivalent Furnace)
All runs 5" unless otherwise specified

Package		Northglenn-Clarington		HRV: Venmar Vane6 60H	
R50	Heated Slab	R10	Heated Slab	R10	HRV Eff
R49	Cell,w/ Attic	R31	Windows	R22	Furn Eff
R48	Cell,w/o Attic	R31	Skyights	R22	Furn Eff
R47	Exp.Floor	R31	Skyights	R22	Furn Eff
R46	Walls	R22	Furn Eff	R10	HRV Eff
R45	B.G.Slab	R10	HRV Eff		



Make	UNIT DATA	Model	
Input	BTU	Output	BTU
Cooling	Tons	Fan	Cfm
No. of Runs	S/A	R/A	
2nd Floor			
1st Floor			
Basement			
I have reviewed and take responsibility for this design and am qualified as an "other designer" as described by the OBC D.W.C. Part 3, as 3.2.5 in relation to HVAC design.			
Alexis Dearth-Venk BCIN 27099 HRAI 3986			
Revised	Date	Client	LO#
	Nov-14	Esquire Homes	6033A
Scale	3/16"=1'0"	Phone (416) 320-5870	
Floor	First	9 Hurontario St Orangeville On L9W 1Y8	
Type	37-7 Newcastle WOB	HVAC Design	NewRes

All runs 5" unless otherwise specified
 Northlen-Clarington



All runs 5" unless otherwise specified

