

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			Lot:	
40-7			Lot/con.	
Municipality Newcastle (Bowmanville)	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design	gn activities			
Name David DaCosta		Firm	gtaDesigns Inc.	
Street address 2985 Drew Roa	d, Suite 202		Unit no.	Lot/con.
Municipality	Postal code	Province	E-mail	
Mississauga	L4T 0A4	Ontario	dave@gtadesi	gns.ca
Telephone number (905) 671-9800	Fax number (647) 494-9643	Cell number (416) 268-6	320
C. Design activities undertaken by individual identified in S				
☐ House ☑ HVAC – H	louge		☐ Building Structural	
☐ Small Buildings ☐ Building Si			Building StructuralPlumbing – House	
	Lighting and Po	wer.	☐ Plumbing – All Buildings	,
☐ Complex Buildings ☐ Fire Protection,		WCI	☐ On-site Sewage System	
Description of designer's work Mod	del Certification	1	Project #:	15-34B
Heating and Cooling Load Calculations		Builder	1.0,000	
Air System Design		Project	Northglen	
Residential mechanical ventilation Design Summary		Model		
Residential System Design per CAN/CSA-F280-12 Residential New Construction - Forced Air		SB-12	40-7 Package D	
D. Declaration of Designer		3D-12	rackage D	
David DaCosta (print name) I review and take responsibility for 3.2.4 Division C of the Building Co classes/categories.	the design work de. I am qualifie	•	istered under subsection	
Individual BCIN			•	
Firm BCIN:			1	
Individual BCIN	3296	34		
Basis for exemp	otion from registr	ation: D	ivision C 3.2.4.1. (4)	
☐ The design work is exempt from th	e registration ar	d qualification requirer	ments of the Building Code.	
Basis for exemp	tion from registr	ation and qualification:		
I certify that: 1. The information contained in this schedule is true to the best of 2. I have submitted this application with the knowledge and conse	, ,			
March 18, 2015		Mana Ho		
Date		Signature of Des	signer	

NOTE:

Page 1

- 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 qualifications under Subsections 3.2.4. and 3.2.5.of Division C.
- 2. Schedule 1 does not require to be completed a holder of a license, temporay license, or a certificate of authorization, issed 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 licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

Page 2

Heat loss and gain calcul	ation summary sheet CSA-F280-M12 Standard Form No. 1
These documents issued for the use of	Project No.
and may not be used by any other persons without authorization. Docum	
Building	Location
Address (Model): 40-7	Site: Northglen
Model:	Lot:
City and Province: Newcastle (Bowmanville)	Postal code:
Calculation	is based on
Dimensional information based on:	n/a
Attachment: Detached	Front facing: East/West Assumed? Yes
No. of Levels: 3 Ventilated? Included	Air tightness: 1961- Present (ACH=3.57) Assumed? Yes
Weather location: Newcastle (Bowmanville)	Wind exposure: Shelterd
HRV?	Internal shading: Light-translucent Occupants: 6
Sensible Eff. at -25C 0 Apparent Effect. at -0C 0	Units: Imperial
Heating design conditions	Cooling design conditions
Outdoor temp -4.0 Indoor temp: 72 Mean soil tem 50	Outdoor temp 86 Indoor temp: 75 Latitude: 44
Above grade walls	Below grade walls
Style A: As per Selected OBC SB12 Package D R 24	Style A: As per Selected OBC SB12 Package D R 20
Style B: Existing Walls (When Applicable) R 12	Style B:
Style C:	Style C:
Style D:	Style D:
Floors on soil	Ceilings
Style A: As per Selected OBC SB12 Package D	Style A: As per Selected OBC SB12 Package D R 50
Style B:	Style B: As per Selected OBC SB12 Package D R 31
Exposed floors	Style C:
Style A: As per Selected OBC SB12 Package D R 31	Doors
Style B:	Style A: As per Selected OBC SB12 Package D R 3.01
Windows	Style B:
Style A: As per Selected OBC SB12 Package D R 3.15	Style C:
Style B: Existing Windows (When Applicable) R 1.99	Skylights
Style C:	Style A: As per Selected OBC SB12 Package D R 2.03
Style D:	Style B:
Attached documents: As per Shedule 1	
Notes: Residential New	Construction - Forced Air
Calculations	performed by
Name: David DaCosta	Postal code: L4T 0A4
Company: gtaDesigns Inc.	Telephone: (905) 671-9800
Address: 2985 Drew Road, Suite 202	Fax: (416) 268-6820
City: Mississauga	E-mail dave@gtadesigns.ca



Air System Design

Package D

Builder: Date: March 18, 2015

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

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

15-34B

Project #

	411			· · ·			40	_				S	ystem	1		of the Bui	ilding C	ode.	other de	Man	140		bocotion					
Project: Nor	thglen		_	Model:			40	-/								Individua	I BCIN:	32964		- 6000		t ₅ L		David Da	Costa			Page 3
DESIGN LOAD SPECIFICATION	NS		Į	AIR DIST	RIBUTION	N & PRES	SURE					FURNAC	E/AIR HA	NDLER [DATA:			BOILER/W	VATER H	EATER D	ATA:			4	VC UNIT	DATA:		
Level 1 Net Load	16,717	btu/h		Equipmer	nt Externa	al Static F	Pressure		0.5 '	'w.c.		Make		Am	ana			Make				Туре			Amana		2.0	Γon
Level 2 Net Load	16,079	btu/h		Additiona	l Equipm	ent Press	sure Drop)	0.225 '	'w.c.		Model		GMEC96	0603BNA			Model						(Cond		2.0	
Level 3 Net Load	14,819	btu/h		Available	Design P	ressure			0.275 '	w.c.		nput Btu	/h	600	000			Input Btu/	/h					(Coil		2.0	
Level 4 Net Load	0	btu/h		Return Br	anch Lor	ngest Effe	ective Le	ngth	300 f	ft		Output B	tu/h	570	000			Output Bt	u/h									
Total Heat Loss	47,614	btu/h		R/A Plenu	m Press	ure			0.138 '	'w.c.	- 1	E.s.p.		0.	50	" W.C.		Min.Outpu	ut Btu/h			AWH						
Total Heat Gain	23,924	btu/h		S/A Plenu	m Pressi	ıre			0.14 '	'w.c.	,	Water Te	mp			deg. F.							wer DAT	A:				
Total Heat Loss + 10%	52,376	Btuh.		Heating A	ir Flow P	roportion	ning Fact	or	0.0246	cfm/btuh		AFUE		95	%			Blower Sp	peed Sele	ected:	T4	4		E	Blower Ty	pe l	СМ	
Building Volume Vb	32232	ft³		Cooling A	ir Flow P	roportion	ning Fact	er	0.0403	cfm/btuh		Aux. Hea	t												(Brushle	ess DC O	BC 12.3.1	.5.(2))
Ventilation Load	7,047	Btuh.				- 1	R/A Temp)	70 0	deg. F.	;	SB-12 Pa	ckage	Packa	age D			Heating C	heck	1170	fm			(Cooling C	heck	963	fm
Ventilation PVC	75	cfm					S/A Temp)	115 (deg. F.																		
Supply Branch and Grill Sizing				Diffuser lo	oss	0.01	"w.c.				•	Temp. Ri	se>>>	45	deg. F.			Selected of	cfm>	1170	cfm		(Cooling A	ir Flow R	ate _	963	fm
							Level 1	Outlets													Level 2	Outlets						
S/A Outlet No.	17	18	19	20											9	10	11	12	13	14	15	16						
Room Use	BASE	BASE	BASE	BASE											LIV/DIN	ITCHEN	LAUND	FOYER	WIC	PWD	STUDY	PLEN						
Btu/Outlet	4179	4179	4179	4179											3289	3213	1825	2641	906	506	1153	2545						
Heating Airflow Rate CFM	103	103	103	103											81	79	45	65	22	12	28	63						
Cooling Airflow Rate CFM	16	16	16	16											104	110	73	104	16	9	86	9						
Duct Design Pressure	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Actual Duct Length	22	20	25	27											35	31	15	20	25	19	18	39						
Equivalent Length	140	90	140	140	90	90	90	90	90	90	90	90	90	90	110	110	150	100	120	170	140	170	90	90	90	90	90	90
Total Effective Length	162	110	165	167	90	90	90	90	90	90	90	90	90	90	145	141	165	120	145	189	158	209	90	90	90	90	90	90
Adjusted Pressure	0.08	0.12	0.08	0.08	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.09	0.08	0.11	0.09	0.07	0.08	0.06	0.14	0.14	0.14	0.14	0.14	0.14
Duct Size Round	6	6	6	6											6	6	5	6	4	3	6	6						
Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	C	Α	В	В											В	В	A	С	С	С	Α	C						
							Level 3	Outlets													Level 4	Outlets						
S/A Outlet No.	1	2	3	4	5	6	7	8						-														-
Room Use	MASTER	NSUITE	BED 2	BATH	GREAT	GREAT	BED 3	BED 4																				
Btu/Outlet	2839	1594	1332	891	2404	2404	2146	1210																				
Heating Airflow Rate CFM	70	39	33	22	59	59	53	30																				
Cooling Airflow Rate CFM	85	31	33	12	62	62	60	41																				
Duct Design Pressure	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Actual Duct Length	56	54	32	41	49	45	37	31																				
Equivalent Length	120	170	140	140	150	170	200	140	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Total Effective Length	176	224	172	181	199	215	237	171	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Adjusted Pressure	0.07	0.06	0.08	0.07	0.07	0.06	0.05	80.0	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	0.14	0.14
Duct Size Round	6	5	4	4	6	6	6	5																				
Outlet Size	4x10	3x10	3x10	3x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	В	В	Α	Α	С	С	С	Α																				
Return Branch And Grill Sizing			Grill Pres	sure Loss		0.02	"w.c						Return T	runk Duc	t Sizina					9	Supply T	runk Duct	Sizina					
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	-	Trunk			Press. I	Round	Rect.	Size	_	Гrunk			Press. F	Round	Rect.	Size	
Inlet Air Volume CFM	90	150	150	390	150	160	13		5.1													•						
Duct Design Pressure	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12		Drop		1170	0.05	17.0	24x12		,	4		734	0.06	14.0	22x8	18x10	
Actual Duct Length	40	26	42	15	15	14	40	J.12	J.12	J.12	J.12		Z		1103	0.05	17.0		22x12		3		474	0.06	12.0	16x8	12x10	
Equivalent Length	170	175	175	185	185	175	145	70	70	70	70		Y		640	0.05	13.0		14x10	,			436	0.05	12.0	16x8	12x10	
Total Effective Length	210	201	217	200	200	189	185	70	70	70	70		X		163	0.05	8.5		107	ì			700	0.00	12.0	1000	12410	
Adjusted Pressure	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.17	0.17	0.17	0.17		w W		103	0.00	0.3	0.00	107	-	E							
Duct Size Round	0.06	0.06 8	0.05	0.06 11	0.06	0.06 7	0.06	0.17	0.17	0.17	0.17		vv V								-							
Inlet Size	8	8	8	8	8	FLC	CAV						v U								- 3							
" "		_		-	-		X	x	**				T .							,	_							
Inlet Size	14	x 14	x 14	х 30	x 14	х	×	×	х	x	х		s S								•							
muct Size	14	14	14	30	14								s R							'								
													κ 0								,							



Total Heat Loss

Total Heat Gain

47,614 btu/h

23,924 btu/h

Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

		Builder:					Date:		Ma	arch 18, 2	015				We	ather Data	Newcastle	(Bowman)	ille) 44	-4.0	86 52	50			Project	#
12 OBC		Project:	Northg	en			lodel: _			40-7			-	System 1	He	at Loss ^T	76 deg. I	:	It gain ^T	11 (deg. F	GTA	A: 2532			
	Level 1				BASE																					
Run	ft. exposed wall A			138 A			Α			Α		Α		Α	Α		Α		Α		Α			Α		Α
	ft. exposed wall B			E			В			В		В		В	В		В		В		В			В		В
	Ceiling height			3.5			A			AG		AG		AG	AG		AG		AG		AG	à		AG		AG
	Floor area			1012				rea		Area		Area		Area	Area		Area		Area		Ar			Area		Area
-	xposed Ceilings A			.0.2			A			A		A		A	A		A		A		A			A		A
	xposed Ceilings B			É			В			В		В		В	В		В		В		В			В		В
-	Exposed Floors				Fir		FI			Fir		Flr		Fir	Flr		Fir		Fir		Fir			Fir		Fir
	Gross Exp Wall A			483						• • •		• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •		• • • • • • • • • • • • • • • • • • • •		• • • •		• • •			• ••		• • •
	Gross Exp Wall B			400																						
	Components	R-Values Lo	ss Gain	lι	Loss	Gain	L	oss Gai	n	Loss	Gain	Loss	Gain	Loss Gair	Loss	Gain	Loss	Gain	Loss	Gain	Lo	ss Gai	n	Loss	Gain	Loss
	North Shaded	3.15	24.13 11.31	1																						
	East/West	3.15	24.13 27.75	5	121	139																				
	South	3.15	24.13 21.28		362																					
	Existing Windows	1.99	38.19 22.15		002	0.0																				
	Skylight	2.03	37.44 88.23																							
	Doors	3.01	25.25 3.65	21	530	77																				
N	et exposed walls A	13.79	5.51 0.80		330	353																				
	et exposed walls B	8.50	8.94 1.29	772		555																				
	xposed Ceilings A	50.00	1.52 0.76	1																						
	Exposed Ceilings B		3.32 1.66																							
	Exposed Floors	22.05	3.45 0.23																							
adation Cand	luctive Heatloss				8382																					
	Heat Loss	Slab On Gra	ide (A)		9394																					
Conductive	Heat Coss				5354	887																				
Leakage	Heat Loss/Gain		0.4518 0.0094		4244	001																				
Leakage						70																				
ntilation	Case 1	Х	0.33 0.08 82.08 11.88	-	3078	70																				
illiation	Case 2		0.19 0.08																							
			239			239																				
	Heat Gain People	4 05		1		239																				
	Appliances Loads	1 =.25 per																								
	Duct and Pipe loss		10%		16717																					
	Duct and Pipe loss 16,717 1,566	Tota] L	16717	1566	K	ITCHEN		LAUNT		FOYE	R	WIC	PV	VD.	STILL	ny.	PLE	N						
el 1 HL Total I 1 HG Total I 1 HG Total Run	Level 2 If. exposed wall A ft. exposed wall B	Tota	10% I HL for per room	31 <i>A</i>	LIV/DIN	1566	28 A B			LAUNE 4 A B		FOYE 24 A B	R	WIC 10 A B	5 A B	VD	STU 9 A B	DY	PLE 50 A B	N	A B			A B		A B
I 1 HL Total I 1 HG Total Run	Duct and Pipe loss 16,717 1,566 Level 2 ft. exposed wall A ft. exposed wall B Ceiling height	Tota	10% I HL for per room	31 A E 10	LIV/DIN A B	1566	28 A B 10		10	4 A B)	24 A B 10	R	10 A B 10	5 A B 10		9 A B 10	DY	50 A B 2	N	В			В		В
I 1 HL Total 1 HG Total Run Run	Duct and Pipe loss 16,717 1,566 Level 2 ft. exposed wall A ft. exposed wall B Ceiling height Floor area	Tota	10% I HL for per room	31 A E 10 272 A	LIV/DIN A B Area	1566	28 A B 10 322 A	rea	10	4 A B D 4 Area)	24 A B 10 97 Area	R	10 A B 10 16 Area	5 A B 10 27 Area		9 A B 10 132 Area	DY	50 A B 2 345 Area	N	B Ar	ea		B Area		B Area
1 1 HL Total 1 HG Total Run Run	Level 2 ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A	Tota	10% I HL for per room	31 A E 10 272 A	LIV/DIN A B Area A	1566	28 A B 10 322 A	rea	10	4 A B D 4 Area A		24 A B 10 97 Area A	R	10 A B 10 16 Area A	5 A B 10 27 Area A		9 A B 10 132 Area A	DY	50 A B 2 345 Area A	N	B Ar A	ea		B Area A		B Area A
1 1 HL Total 1 HG Total Run Run	Level 2 ft. exposed wall 8 Ceiling height Floor area exposed Ceilings A kxposed Ceilings B	Tota	10% I HL for per room	31 / E 10 272 /	LIV/DIN A B Area A	1566	28 A B 10 322 A A B	rea	10	4 A B D 4 Area A B	,	24 A B 10 97 Area A B	R	10 A B 10 16 Area A B	5 A B 10 27 Area A B		9 A B 10 132 Area A B	DY	50 A B 2 345 Area A B	N	B Ar A B			B Area A B		B Area A B
1 HL Total 1 HG Total Run Run E	Level 2 If. exposed wall A ft. exposed wall B Celling height Floor area Exposed Ceilings B Exposed Floors	Tota	10% I HL for per room	31 A E 10 272 A E F	LIV/DIN A B Area A	1566	28 A B 10 322 A A B	rea	10 104	4 A B D 4 Area A B Fir		24 A B 10 97 Area A B Fir	R	10 A B 10 16 Area A B Fir	5 A B 10 27 Area A B Fir		9 A B 10 132 Area A B Flr	ру	50 A B 2 345 Area A B 345 Fir	N	B Ar A			B Area A		B Area A
1 HL Total 1 HG Total Run Run E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall A	Tota	10% I HL for per room	31 / E 10 272 /	LIV/DIN A B Area A B	1566	28 A B 10 322 A A B	rea	10	4 A B D 4 Area A B Fir		24 A B 10 97 Area A B	R	10 A B 10 16 Area A B	5 A B 10 27 Area A B		9 A B 10 132 Area A B	YC	50 A B 2 345 Area A B	N	B Ar A B			B Area A B		B Area A B
1 HL Total 1 HG Total Run Run E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B	Total H	I HL for per room G per room x1.3	31 A E 10 272 A E F 310	LIV/DIN A B Area A B Fir	1566	28 A B 10 322 A A B FI 280	rea	10 104 240	4 A B D 4 Area A B Fir		24 A B 10 97 Area A B Fir		10 A B 10 16 Area A B Fir	5 A B 10 27 Area A B Fir 50		9 A B 10 132 Area A B Fir		50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Floors Gross Exp Wall A Gross Exp Wall B Components	Total H	I HL for per room G per room x1.3	31 A E 10 272 A E F 310	LIV/DIN A B Area A B Fir	1566	28 A B 10 322 A A B FI 280	rea	10 104 240	4 A B D 4 Area A B Fir	Gain	24 A B 10 97 Area A B Fir	R	10 A B 10 16 Area A B Fir	5 A B 10 27 Area A B Fir 50		9 A B 10 132 Area A B Flr	OY	50 A B 2 345 Area A B 345 Fir	N	B Ar A B Fir			B Area A B Fir	Gain	B Area A B
1 HL Total 1 HG Total Run Run E	Level 2 1 ft. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components North Shaded	Total H	I HL for per room G per room x1.3 ss Gain 24.13 11.31	31 / E 10 272 / E F 310	LIV/DIN A B Area A B B Fir	1566	28 A B 10 322 A A B FI 280	rea Ir oss Gai	104 104 240 in	4 A B D 4 Area A B Fir		24 A B 10 97 Area A B Fir 240	Gain	10 A B 10 16 Area A B Fir 100 Loss Gair	5 A B 10 27 Area A B FIr 50		9 A B 10 132 Area A B Fir		50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E	Level 2 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West	Total H Total H R-Values L 3.15	10% 10%	31 / E 10 272 / / E 310	LIV/DIN A B Area A B B Fir	1566 N Gain	28 A B 10 322 A A B FI 280	rea Ir oss Gai	240 in	4 A B D 4 Area A B Fir	Gain	24 A B 10 97 Area A B Fir	Gain	10 A B 10 16 Area A B Fir 100 Loss Gair	5 A B 10 27 Area A B Fir 50	Gain	9 A B 10 132 Area A B Fir 90 Loss	Gain	50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E	Level 2 If. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West	R-Values Lo 3.15 3.15 3.15	10% 10%	31 / E 10 272 / / E 310	LIV/DIN A B Area A B B Fir	1566 N Gain	28 A B 10 322 A A B FI 280	rea Ir oss Gai	104 104 240 in	4 A B D 4 Area A B Fir	Gain	24 A B 10 97 Area A B Fir 240	Gain	10 A B 10 16 Area A B Fir 100 Loss Gair	5 A B 10 27 Area A B Fir 50		9 A B 10 132 Area A B Fir	Gain	50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E	Level 2 1 ft. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Ceilings A exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows	R-Values Lo 3.15 3.15 3.15 3.15	SS Gain 24.13 21.23 24.13 22.13 24.13 22.23	31 / E 10 272 / / E 310	LIV/DIN A B Area A B B Fir	1566 N Gain	28 A B 10 322 A A B FI 280	rea Ir oss Gai	240 in	4 A B D 4 Area A B Fir	Gain	24 A B 10 97 Area A B Fir 240	Gain	10 A B 10 16 Area A B Fir 100 Loss Gair	5 A B 10 27 Area A B Fir 50	Gain	9 A B 10 132 Area A B Fir 90 Loss	Gain	50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E	Level 2 Ift. exposed wall A fit. exposed wall A fit. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight	R-Values Lo 3.15 3.15 3.15 2.03	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 38.34 88.23	31	LIV/DIN A B Area A B B Fir	1566 N Gain	28 A B 10 322 A A B FI 280	rea Ir oss Gai	240 in	4 A B D 4 Area A B Fir	Gain	24 A B 10 97 Area A B Fir 240 Loss	Gain 583	10 A B 10 16 Area A B Fir 100 Loss Gair	5 A B 10 27 Area A B Fir 50	Gain	9 A B 10 132 Area A B Fir 90 Loss	Gain	50 A B 2 345 Area A B 345 Fir 100		B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run	Level 2 If. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Floors Gross Exp Wall A Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors	R-Values Lo 3.15 3.15 3.15 1.99 2.03	SS Gain 24.13 11.31 24.13 12.13 24.13 12.13 24.13 27.75 38.19 22.15 37.44 88.23 37.44 88.23	31 / E 10 272 / / 272 / 310 L	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in 6 971	4 A B B D A A A A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 2	5 A B 10 27 Area A B Fir 50 Loss	Gain 45 128	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run	Level 2 Ift. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13	SS Gain 24.13 11.31 24.13 21.75 24.13 21.28 24.13 22.75 24.14 22.55 37.44 88.23 25.25 3.65 5.02 0.73	31 / E 10 272 / / 272 / 310 L	LIV/DIN A B Area A B B Fir	1566 N Gain	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in	4 A B B D A A A B B Fir D Loss Loss	Gain	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 2	5 A B 10 27 Area A B Fir 50 Loss	Gain	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A	R-Values Lo 3.15 3.15 3.15 3.15 3.01 1.93 2.03 3.01	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 37.44 88.25 5.02 0.773	31	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in 6 971	4 A B B D A A A A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B I I I I I I I I I I I I I I I I I	5 A B 10 27 Area A B Fir 50 Loss	Gain 45 128	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E	Level 2 If t. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls A	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50	10% 1 10% 1 1 1 1 1 1 1 1 1	31 / E 10 272 / / E 310 L	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in 6 971	4 A B B D A A A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B I I I I I I I I I I I I I I I I I	5 A B 10 27 Area A B Fir 50 Loss	Gain 45 128	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total 1 HG Total Run E E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B exposed Ceilings A et exposed walls B exposed Ceilings A	R-Values Lo 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 2.286	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 37.44 88.23 25.25 3.65 5.02 0.73 8.94 1.29 1.52 0.76	31	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in 6 971	4 A B B D A A A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B I I I I I I I I I I I I I I I I I	5 A B 10 27 Area A B Fir 50 Loss	Gain 45 128	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100 Loss	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total 1 HG Total Run E E	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed ceilings A et exposed ceilings A et exposed walls A et exposed ceilings A et exposed ceilings A exposed Ceilings B Exposed Floors	R-Values Lo 3.15 3.15 3.15 3.15 3.01 1.99 2.03 3.01 15.13 8.50 50.00 22.86	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 30.74 88.29 5.02 0.73 3.29 1.52 0.76 3.32 1.66	31	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir ooss Gai 844 314	240 in 6 971	4 A B B D A A A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583	10 A B B I I I I I I I I I I I I I I I I I	5 A B 10 27 Area A B Fir 50 Loss	Gain 45 128	9 A B 10 132 Area A B Fir 90 Loss	Gain 3 426	50 A B 2 345 Area A B 345 Fir 100	Gain	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run E E E Min Ni E E E E E E E E E E E E E E E E E E	Level 2 If. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Ceilings B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A exposed Ceilings A exposed Ceilings B exposed Floors unctive Heatloss	R-Values Lo 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 2.286	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 30.74 88.29 5.02 0.73 3.29 1.52 0.76 3.32 1.66	31	LIV/DIN A B B Area A B C C C C C C C C C C C C C C C C C C	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir oss Gai	240 in 6 971	4 A B B D D A Area A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507 204 1025	Gain 583 555 148	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 67 44 2	Gain 45 128 21 32	9 A B 10 132 Area A B Flr 90 Loss 20 48	Gain 3 426 2 51	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118	Gain 2 73	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni E E dation Cond	Level 2 Ift. exposed wall A ift. exposed wall A ift. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B exposed Ceilings B exposed Ceilings B Exposed Floors et exposed walls A et exposed Ceilings B Exposed Floors Lettive Heatloss Heat Loss	R-Values Lo 3.15 3.15 3.15 3.15 3.01 1.99 2.03 3.01 15.13 8.50 50.00 22.86	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 30.74 88.29 5.02 0.73 3.29 1.52 0.76 3.32 1.66	31	LIV/DIN A B Area A B B Fir Loss	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir soss Gai 844 314 1165 2323	240 in 69 971 277	4 A B B D A A A B B Fir D Loss 6 145	Gain 68 170	24 A B 10 97 Area A B Fir 240 Loss 21 507	Gain 583 555 148	10 A B 10 10 16 Area A B Fir 100 Loss Gair 92 462	5 A B 10 27 Area A B Fir 50 Loss 6 1 1 67 44 2	Gain 45 128 21 32	9 A B 10 132 Area A B Fir 90 Loss 20 48	Gain 3 426 2 51	50 A B 2 345 Area A B 345 Fir 100 Loss	Gain 2 73	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
Ni. Ni. Ni. Addition Conductive	Level 2 If. exposed wall A ft. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings A exposed Ceilings A exposed Ceilings B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A exposed Ceilings A exposed Ceilings B exposed Floors unctive Heatloss	R-Values Lo 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gra	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 30.74 88.29 5.02 0.73 3.29 1.52 0.76 3.32 1.66	31	LIV/DIN A B B Area A B C C C C C C C C C C C C C C C C C C	1566 N Gain 832 277	28 A B 10 322 A A B FI 280 L (rea ir soss Gai 844 314 1165 2323	240 in 6 971	4 A B B D D A Area A B B Fir D Loss 6 145	Gain 68	24 A B 10 97 Area A B Fir 240 Loss 21 507 204 1025	Gain 583 55 148 786	10 A B 10 10 16 Area A B Fir 100 Loss Gair 92 462	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 1 67 44 2	Gain 45 128 21 32	9 A B 10 132 Area A B Fir 90 Loss 20 48	Gain 3 426 2 51 4 476	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118	Gain 2 73 9 78 1 151	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni Ni E E dation Cond	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed ceilings A xposed Ceilings B Exposed Ceilings B Exposed Ceilings A to exposed walls A et exposed walls B Exposed Ceilings A xposed Ceilings A xposed Ceilings A xposed Floors uctive Heatloss Heat Loss Heat Loss Heat Gain	R-Values Lo 3.15 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gra	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 37.44 88.22 25.25 3.65 5.02 0.73 8.94 1.25 1.52 0.76 3.32 1.66 3.45 0.23 dd (x) x	31 A E 10 272 A A E 310 L L 313 30 13	LIV/DIN A A B B Area A B B Fir Loss 724 314	Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	rea lr sss Gai 844 314 1165 2323 1 515	240 n 971 277 169 234	4 A B B O O O O O O O O O O O O O O O O O	Gain 68 170 238	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 55 148 786 7	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169	Gain 2 73 9 78 1 151 5 1	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni Ni Conductive Leakage	Level 2 Ift. exposed wall A fit. exposed walls A fit exposed wall B Cellings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls B exposed Cellings A et exposed walls B Exposed Floors United Walls A fit exposed Walls A fit exposed Walls A fit exposed Gross Exp Wall B Exposed Walls B Exposed Floors texposed Walls B Exposed Floors text ex	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 2.286 22.86 22.86 23.80 On Gra	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 37.44 88.23 25.25 3.65 3.05 3.02 1.76 3.32 1.66 3.45 0.23 de (x) x 0.2219 0.0094 0.16 0.08	31 / E 10 272 / / E 310 L L 300 13	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	rea lr sss Gai 844 314 1165 2323 1 515	240 n e 971 277	4 A B B D D A A A B B Fir D Loss 14 1175	Gain 68 170 238 2	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 55 148 786 7	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118	Gain 2 73 9 78 1 151 5 1	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni Ni Conductive Leakage	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed ceilings A exposed Ceilings B Exposed Floors uctive Heatloss Heat Loss Heat Gain Heat Loss/Gain Heat Loss/Gain Losse 2	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 2.286 22.86 22.86 23.80 On Gra	SS Gain 24.13 11.31 24.13 12.75 24.13 27.75 3.819 22.15 37.44 88.22 25.25 3.65 5.02 0.73 8.94 1.25 1.52 0.76 3.32 1.66 3.45 0.20 de (x) x 0.2219 0.0094	31 A E 10 10 272 A E F 310 13 13 13 13 14 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	rea lr sss Gai 844 314 1165 2323 1 515	240 n 971 277 169 234	4 A B B O O O O O O O O O O O O O O O O O	Gain 68 170 238 2	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 55 148 786 7	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169	Gain 2 73 9 78 1 151 5 1	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni Ni Conductive Leakage	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed ceilings B Exposed Floors et exposed walls A et exposed deilings B Exposed Floors texposed Ceilings B Exposed Floors uctive Heatloss Heat Loss Heat Gain Heat Loss(Gain Case 1 Case 2 Case 2	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 2.286 22.86 22.86 23.80 On Gra	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 37.44 88.23 25.25 3.65 3.05 3.02 1.76 3.32 1.66 3.45 0.23 de (x) x 0.2219 0.0094 0.16 0.08	31 A E 10 10 272 A E F 310 13 13 13 13 14 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	rea lr sss Gai 844 314 1165 2323 1 515	240 n 971 277 169 234	4 A B B O O O O O O O O O O O O O O O O O	Gain 68 170 238 2	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 55 148 786 7	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169	Gain 2 73 9 78 1 151 5 1	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Ni Ni Ni Conductive Leakage	Level 2 Ift. exposed wall A fit. exposed wall B Celling height Floor area exposed Cellings B Exposed Floors Gross Exp Wall A Components North Shaded East/West South Existing Windows Skylight Doors et exposed Cellings B Exposed Cellings B Exposed Floors Gross Exp Wall B A Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Cellings A exposed Cellings B Exposed Cellings B Exposed Floors (uctive Heatloss Heat Casse 1 Case 2 Case 3 Heat Gain People	R-Values Lo 3.15 3.15 3.15 3.15 3.9 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gra	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 38.19 22.15 37.44 82.25 5.02 0.77 3.32 1.66 3.45 0.23 dde (x) x 0.2219 0.0094 0.16 0.08 82.08 11.88 0.19 0.08	31 A E 10 10 272 A E F 310 13 13 13 13 14 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	1566 N Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	1165 2323 1 515 374	104 240 n 6 971 277 169 234 416 13 112	4 A B D D D D D D D D D D D D D D D D D D	Gain 68 170 238 2 19	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 555 148 786 7 62	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4 4 38	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169	Gain 2 73 9 78 1 151 5 1	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
I 1 HL Total 1 HG Total Run Run Ni Ni E E Indation Cond Conductive Leakage ntilation	Level 2 If. exposed wall A ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed walls A et exposed walls A et exposed walls A et exposed floors tections and the exposed floors tections and the exposed floors tective Heatloss Heat Loss Heat Loss Heat Cain Case 2 Case 3 Heat Gain People Appliances Loads	R-Values Lo 3.15 3.15 3.15 3.15 3.9 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gra	SS Gain 24.13 11.31 24.13 21.28 38.19 22.15 37.44 88.39 1.22 5.02 0.77 3.32 1.66 3.45 0.23 dde (x) x 0.2219 0.0094 0.16 0.06 82.08 11.88 0.19 0.08	31 A E 10 10 272 A E F 310 13 13 13 13 14 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	Gain 832 277 194	28 A B B 10 322 A A A B FI FI 13 55 13 5 13 2 232	1165 2323 1 515 374	104 240 n 6 971 277 169 234 416 13 112	4 A B D D D D D D D D D D D D D D D D D D	Gain 68 170 238 2	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 55 148 786 7	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 222 6 1 67 44 2	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 476 5 4	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169	Gain 2 73 9 78 1 151 5 1 1 2 12	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
I 1 HL Total 1 HG Total Run Run Ni Ni E E Indation Cond Conductive Leakage ntilation	Level 2 Ift. exposed wall A fit. exposed wall B Celling height Floor area exposed Cellings B Exposed Floors Gross Exp Wall A Components North Shaded East/West South Existing Windows Skylight Doors et exposed Cellings B Exposed Cellings B Exposed Floors Gross Exp Wall B A Components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Cellings A exposed Cellings B Exposed Cellings B Exposed Floors (uctive Heatloss Heat Casse 1 Case 2 Case 3 Heat Gain People	R-Values Lo 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50 50.00 22.86 22.05 Slab On Gra X	SS Gain G per room x 1.3 SS Gain 24.13 11.31 24.13 27.75 38.19 22.15 37.44 88.23 1.52 0.76 3.32 1.66 3.345 0.62 3.45 0.62 3.46 (x) x 0.2219 0.0094 0.008 82.08 11.88 0.19 0.06 82.08 11.88 0.19 0.06 2.33 cent 4538	31 A E 10 10 272 A E F 310 13 13 13 13 14 15 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	LIV/DIN A A B B Area A B B Fir Loss 724 314 1341	1566 N Gain 832 277 194 1303 1203	28 A B B I I I I I I I I I I I I I I I I I	1165 2323 1 515 374	104 240 n 6 971 277 169 234 416 13 112	4 A B D D D D D D D D D D D D D D D D D D	Gain 68 170 238 2 19	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 555 148 786 7 62	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 :	5 A B 10 27 Area A B Fir 50 Loss 6 1 1 67 44 2 2 889 3 3 23	Gain 45 128 21 32 66 160 81 2	9 A B 10 132 Area A B Fir 90 Loss 20 48 70 35	Gain 3 426 2 51 4 4 476 5 4 4 38	50 A B 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169 37 27	Gain 2 73 9 78 1 151 5 1 2 12	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir
1 HL Total 1 HG Total Run Run Run Ni Ni E E E Indation Cond Conductive Leakage Intilation	Level 2 Ift. exposed wall A Ift. exposed wall A Ift. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors et exposed ceilings A et exposed Ceilings B Exposed Floors It is the component of the component	R-Values Lo 3.15 3.15 3.15 3.15 3.15 3.15 3.01 1.513 8.50 50.00 22.86 22.05 Slab On Gra X	SS Gain 24.13 11.31 24.13 27.75 24.13 21.28 37.44 88.23 25.25 3.65 3.02 0.73 8.94 1.29 1.52 0.76 3.45 0.23 de (x) x 0.2219 0.0094 0.16 0.08 82.08 11.88 0.09 0.16 0.08 82.08 11.88 0.23 cent 4538	31 A	LIV/DIN A B B Area A B B Flir 1341 1341 2379 528 383	1566 N Gain 832 277 194 1303 1203	28 A B B I I I I I I I I I I I I I I I I I	rea	104 240 n 6 971 277 169 234 416 13 112	4 A B B D O O O O O O O O O O O O O O O O O	Gain 68 170 238 2 19	24 A B 10 97 Area A B Fir 240 Loss 21 507 15 379 204 1025	Gain 583 555 148 786 7 62	10 A B B 10 10 16 Area A B Fir 100 Loss Gair 8 193 : : : : : : : : : : : : : : : : : : :	5 A B 10 27 Area A B Fir 50 Loss 6 1 1 67 44 2 2 889 3 3 23	Gain 45 128 21 32 66 160 81 2 59 13	9 A B 10 132 Area A B Fir 90 Loss 20 48 11 11 11 11 11 11	Gain 3 426 2 51 4 4 476 5 4 4 38	50 A B 2 2 345 Area A B 345 Fir 100 Loss 100 50 345 118 169 27	Gain 2 73 9 78 1 151 5 1 2 12	B Ar A B Fir	,		B Area A B Fir	Gain	B Area A B Fir

Division C subsection 3.2.5. of the Building Code. Individual BCIN:

Mana Alexa

David DaCosta

Package D

32964



Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

										egiadesigns.ca			
		Builder:		Date	:	March 18, 2015			Weather Data	Newcastle (Bowman	ville) 44 -4.0 8	6 52 50	Project # 15-34B
2012 OBC		Project:	Northglen	Mode	:	40-7		System 1	Heat Loss ^T	76 deg. F	Ht gain ^T 11 o	leg. F GTA: 25	32 Page 5
	11 2				ENSUITE	BED 2	5.711		555.0	252.4			
Run	ft. exposed wall A		MA 35 A	STER 1	9 A	13 A	BATH 11 A	GREAT 44 A	BED 3 23 A	BED 4 11 A	A	Α	Α Α
	ft. exposed wall B		В В		В	В	В	В В	В	В	В	В	В В
	Ceiling height		8		8	8	8	10	8	8			
_	Floor area		267 Are		5 Area	156 Area	90 Area	322 Area	175 Area	145 Area	Area	Area	Area Area
	xposed Ceilings A xposed Ceilings B		267 A B	8	5 A B	156 A B	90 A B	322 A B	175 A B	145 A B	A B	A B	A A B B
-	Exposed Floors		Fir		Fir	Fir	Fir	Fir	Flr	Flr	Fir	Fir	Fir Fir
	Gross Exp Wall A		280	15	2	104	88	440	184	88			
	Gross Exp Wall B Components	R-Values Loss	Gain Los	s Gain	Loss Gain	Loss Gain	Loss Ga	ain Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain Loss Gain
	North Shaded	3.15 24.13		1				79					
	East/West	3.15 24.13		579 666 1	0 241 27	,		60 1448 1665	10 241 277				
	South Existing Windows	3.15 24.13 1.99 38.19							10 241 213	16 386 340			
	Skylight	2.03 37.44											
	Doors	3.01 25.25											
	et exposed walls A	15.13 5.02		286 186 13	2 663 9	88 442 6	4 81 407	59 380 1909 276	164 824 119	72 362 52			
	et exposed walls B exposed Ceilings A	8.50 8.94 50.00 1.52		406 203 8	5 129 6	156 237 11	9 90 137	68 322 489 245	175 266 133	145 220 110			
E	xposed Ceilings B	22.86 3.32	1.66							1			
	Exposed Floors	22.05 3.45	0.23										
Foundation Cond	Heat Loss		2	271	1275	1065	713	3846	1572	968			
Total Conductive	Heat Gain			1055	55	36	3	206 2186	742	503			
Air Leakage	Heat Loss/Gain	0.1450		329 10	185			2 558 21	228 7	140 5			
Ventilation	Case 1	X 0.11 82.08		239 83	134 4	112 2	9 75	16 404 172	165 58	102 40			
	Case 3	0.19											
	Heat Gain People	4 25 4	239 2	478		1 23	9		1 239	1 239			
	Appliances Loads Duct and Pipe loss	1 =.25 percent	4538 10%						1 180 104				
Level 3 HL Total	14,819	Total HL for	r per room 2	839	1594	1332	891	4808	2146	1210			
Level 3 HG Total	9,621	Total HG per r	oom x 1.3	2114	78	82	5	292 3092	1496	1022			
D.m.	Level 4 ft. exposed wall A		А		A	A	Α	Α	Α	Α	A	A	Α Α
	ft. exposed wall B		В		В	В	В	В	В	В	В	В	В В
	Ceiling height												
_	Floor area		Are	a	Area	Area	Area	Area	Area	Area	Area	Area	Area Area
	xposed Ceilings A xposed Ceilings B		A B		A B	A B	A B	A B	A B	A B	A B	A B	A A B B
-	Exposed Floors		Fir		Fir	Fir	Fir	Fir	Flr	Flr	Fir	Fir	Fir Fir
	Gross Exp Wall A												
	Gross Exp Wall B Components	R-Values Loss	Gain Los	s Gain	Loss Gain	Loss Gain	Loss Ga	ain Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain Loss Gain
	North Shaded	3.15 24.13			Juli			2350 54.11					
	East/West	3.15 24.13											
	South Existing Windows	3.15 24.13 1.99 38.19											
	Skylight	2.03 37.44											
	Doors	3.01 25.25	3.65										
	et exposed walls A	15.13 5.02											
	et exposed walls B exposed Ceilings A	8.50 8.94 50.00 1.52											
	xposed Ceilings B	22.86 3.32	1.66										
	Exposed Floors	22.05 3.45	0.23										
Foundation Cond	luctive Heatloss Heat Loss												
Total Conductive	Heat Gain												
Air Leakage	Heat Loss/Gain	0.0000											
Ventilation	Case 1	X 0.00 82.08											
	Case 3	0.19											
	Heat Gain People		239										
	Appliances Loads	1 =.25 percent	4538										
Level 4 HL Total	Duct and Pipe loss 0	Total HL for	10% per room										
Level 4 HG Total	0	Total HG per r											

Total Heat Loss 47,614 **Total Heat Gain** 23,924 btu/h I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under

Division C subsection 3.2.5. of the Building Code. Individual BCIN:

Mana Aleta

David DaCosta

Package D



Part 6 design

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

Project # 15-34B Page 6

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under

Division C subsection 3.2.5. of the Building Code. Individual BCIN: 32964 David DaCosta Newcastle (Bowmanville) 40-7 Project: Model: RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93 **Total Ventilation Capacity 9.32.3.3(1)** Location of Installation Lot # Plan # Bsmt & Master Bdrm 2 @ 20 cfm 40 cfm Township Other Bedrooms @ 10 cfm 30 cfm Newcastle (Bowmanville) Bathrooms & Kitchen 4 @ 10 cfm 40 cfm Permit # Other rooms Roll# (a) 10 cfm 50 cfm Total 160 Address Principal Ventilation Capacity 9.32.3.4(1) Builder Name Master bedroom 1 @ 30 cfm 30 cfm Other bedrooms @ 15 cfm 45 cfm Address 75 Total City Principal Exhaust Fan Capacity Tel Fax Make Model Location Broan 684N Ensuite **Installing Contractor** Name 90 cfm 2.5 Sones **Heat Recovery Ventilator** Address Make City Model cfm high 0 cfm low Tel Fax Sensible efficiency @ -25 deg C 0 Sensible efficiency @ 0 deg C 0 Combustion Appliances 9.32.3.1(1) **Supplemental Ventilation Capacity** Direct vent (sealed combustion) only a) Positive venting induced draft (except fireplaces) b) Total ventilation capacity 160.0 Natural draft, B-vent or induced draft fireplaces Less principal exhaust capacity 75.0 c) Solid fuel (including fireplaces) REQUIRED supplemental vent. Capacity d) 85.0 cfm No combustion Appliances e) Supplemental Fans 9.32.3.5. **Heating System** Location cfm Model Sones x Forced air Bath 90 684N 2.5 Non forced air **PWD** 90 684N 2.5 Electric space heat (if over 10% of heat load) House Type 9.32.3.1(2) Type a) or b) appliances only, no solid fuel all fans HVI listed Make Broan or Equiv. Type I except with solid fuel (including fireplace) Ш **Designer Certification** Any type c) appliance Ш Type I or II either electric space heat IV I hereby certify that this ventilation system has been designed Type I, II or IV no forced air Other in accordance with the Ontario Building Code. System Design Option Name David DaCosta X Exhaust only / forced air system 2 HRV WITH DUCTING / forced air system Signature HRV simplified connection to forced air system 3 4 HRV full ducting/not coupled to forced air system HRAI# 5190 BCIN# 32964

Date

March 18, 2015

gtaDesigns

Energy Efficiency Design Summary

(Part 9 Residential)

Mane Alexa

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643 e-mail dave@gtadesigns.ca

Project # 15-34B

Page 7 This form is used to summarize the energy efficiency design of the project. Information on completing this form is on the reverse For use by Principal Authority Application No: Model/Certification Number A. Project Information Building number, street name Unit number Lot/Con 40-7 Municipality Postal code Reg. Plan number / other description Newcastle (Bowmanville) **B.** Compliance Option ☑ SB-12 Prescriptive [SB-12 - 2.1.1.] Table: Package: A B C D E F G H I J K L M ☐ SB-12 Performance* [SB-12 - 2.1.2.] Attach energy performance calculations using an approved software ☐ Energy Star®* [SB-12 - 2.1.3.] * Attach BOP form ☐ EnerGuide 80® * House must be evaluated by NRCan advisor and meet a rating of 80 C. Project Design Conditions **Space Heating Fuel Source** Climatic Zone (SB-1): **Heating Equipment** Zone 1 (< 5000 degree days) ☑ Gas ☐ Propane □ Solid Fuel Zone 2 (≥ 5000 degree days) ☐ ≥ 78% < 90% AFUE ☐ Oil ☐ Electric Earth Energy Windows+Skylights+Glass Doors Other Building Conditions ☐ ICF Basement □ Walkout Basement ☐ Log/Post&Beam Gross Wall Area = 300 m² % Windows+ 10% ☐ ICF Above Grade ☐ Slab-on-ground Gross Window+ Area = 31 m² D. Building Specifications [provide values and ratings of the energy efficiency components proposed, or attach Energy Star BOP form] **Building Component** RSI / R values **Efficiency Building Component** Thermal Insulation Windows & Doors¹ Ceiling with Attic Space Windows/Sliding Glass Doors 50 1.8 Ceiling without Attic Space Skylights 31 2.8 **Exposed Floor** Mechanicals 31 Walls Above Grade 94% Space Heating Equip.2 24 **Basement Walls** HRV Efficiency (%) 20 0% Slab (all >600mm below grade) DHW Heater (EF) 0.67 Х NOTES Slab (edge only ≤600mm below grade) 10 1. Provide U-Value in W/m2.K, or ER rating Slab (all ≤600mm below grade, or heated) 10 2. Provide AFUE or indicate if condensing type combined system used E. Performance Design Verification [complete applicable sections if SB-12 Performance, Energy Star or Energy St SB-12 Performance: The annual energy consumption using Subsection 2.1.1. SB-12 Package_ _____ is_____ Gj (1 Gj =1000Mj) The annual energy consumption of this house as designed is The software used to simulate the annual energy use of the building is:_ The building is being designed using an air leakage of ___ _ air changes per hour @50Pa. Energy Star: BOP form attached. The house will be labeled on completion by: Energy Star and EnerGuide80: Evaluator/Advisor/Rater Name: Evaluator/Advisor/Rater Licence #: F. Designers [names of designers who are responsible for the building code design and whose plans accompany the permit application] Architectural Mechanical

David DaCosta



Total Ventilation

Load

6156

0.19

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Project # 15-34B

e-mail dave@gtadesigns.ca Page 8 System 1 Project: Newcastle (Bowmanville) Model: 40-7 Air Leakage Calculations **Building Air Leakage Heat Loss Building Air Leakage Heat Gain** LRairh HL^T LRairh ۷b HG^T В ۷b **HLleak** В **HG Leak** 0.018 0.193 32232 76 8489 0.018 0.017 32232 106 11 Air Leakage Calculations Air Leakage Calculations Levels Air Leakage Heat Loss/Gain Multiplier Table (Section 11) 1 2 3 4 Level Building **Level Conductive** Air Leakage Heat Loss Level (LF) (LF) (LF) (LF) **Heat Loss** Multiplier Factor (L 9394 0.4518 1 0.5 1.0 0.6 0.5 0.4 2 0.3 11479 0.2219 0.3 0.3 0.4 8489 11710 0.1450 3 0.2 0.2 0.2 4 0 0 0.0000 0.1 Levels this Dwelling Air Leakage Heat Gain **HG LEAK** 106 0.0094 3 BUILDING CONDUCTIVE HEAT GAIN 11314 **Ventilation Calculations Ventilation Heat Loss** Ventilation Heat Gain Vent Vent **Ventilation Heat Loss Ventilation Heat Gain** С PVC HL^T (1-E) HRV HLbvent PVC HG^T **HGbvent** С 6156 891 1.08 75 76 1.00 1.1 75 11 Case 1 Case 1 Ventilation Heat Loss (Exhaust only Systems) Ventilation Heat Gain (Exhaust Only Systems) Case 1 - Exhaust Only Case 1 - Exhaust Only Multiplier Case LVL Cond. HL **HGbvent** 891 Level LF **HLbvent** Multiplier 0.08 Building 9394 1 0.5 0.33 11314 11479 2 0.3 0.16 6156 3 0.2 11710 0.11 0 4 0 0.00 Case 2 Case 2 Ventilation Heat Loss (Direct Ducted Systems) **Ventilation Heat Gain (Direct Ducted Systems)** Case Multiplier Multiplier Case С HL^T (1-E) HRV С HG^T 82.08 11.88 1.08 1.08 Case 3 Case 3 **Ventilation Heat Loss (Forced Air Systems)** Ventilation Heat Gain (Forced Air Systems) Case Case **HLbvent** Multiplier Vent Heat Gain Multiplier

HGbvent

891

HG*1.3

891

0.08

Residential Foundation Thermal Load Calculator

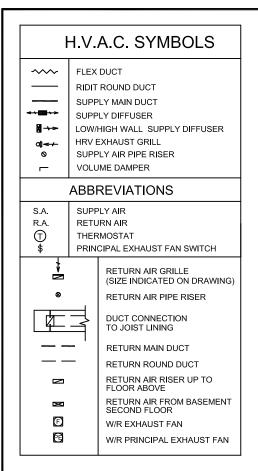
Supplemental tool for CAN/CSA-F280

Weat	her Sta	tion Description
Province:	Ontario	▼
Region:	Newcastle	(Bowmanville)
	Site D	escription
Soil Conductivity:	High cond	uctivity: moist soil
Water Table:	Normal (7	7-10 m, 23-33 Ft)
Fou	undatio	n Dimensions
Floor Length (m):	14.52	
Floor Width (m):	6.52	
Exposed Perimeter (m):	42.06	
Wall Height (m):	2.74	
Depth Below Grade (m):	1.68	Insulation Configuration
Window Area (m²):	1.86	
Door Area (m²):	1.95	
	Radi	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	23	
	Desig	n Months
Heating Month	1	
	Founda	ation Loads
Heating Load (Watts):		2457

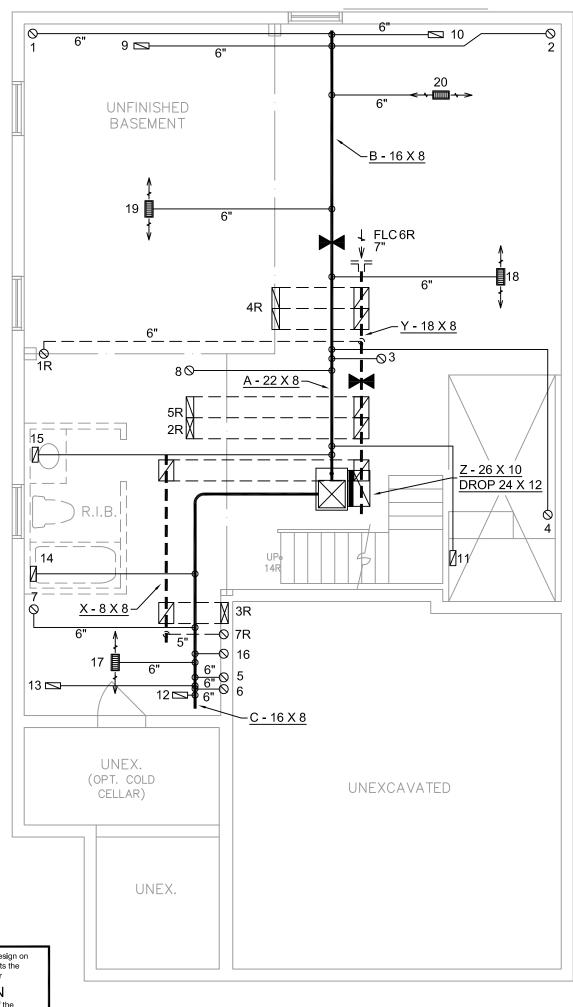
Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather 9	Station Description
Province:	Ontario ▼
Region:	Newcastle (Bowmanville) ▼
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Loc	cal Shielding
Building Site:	Suburban, forest ▼
Walls:	Heavy ▼
Flue:	Heavy ▼
Highest Ceiling Height (m):	6.55
Buildin	g Configuration
Type:	Detached ▼
Number of Stories:	Two
Foundation:	Full ▼
House Volume (m³):	912.81
Air Leak	kage/Ventilation
Air Tightness Type:	Present (1961-) (ACH=3.57) ▼
Overtone BDT Deter	ELA @ 10 Pa. 135.83 cm ²
Custom BDT Data:	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust:
	0 37.5
	Flue Size
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Envelope	e Air Leakage Rate
Heating Air Leakage Rate (ACH	/H): 0.193
Cooling Air Leakage Rate (ACH)	/H): 0.017



ZONE 1 COMPLIAN PACKAGE "D" REF. TABLE	
SPACE HEATING EFFICEINCY(%)	94%
HRV EFFICEINCY(%)	N/A
DHW EFFICIENCY(EF)	.67
CEILING WITH ATTIC SPACE	R-50
WALLS ABOVE GRADE	R-24
EXPOSED FLOORS	R-31
BASEMENT WALLS	R-20
WINDOWS AND SLIDING GLASS DOORS U-VALUE	1.8



The undersigned has reviewed and takes responsibility for this design on behalf of GTA Designs Inc. and has the qualifications and meets the requirements set out in the Building Code to be a designer

QUALIFICATION INFORMATION

Required unless design is exempt under Division C 3.2.5.1 of the Ontario building code

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO

BUILDING CODE.

ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12

UNDERCUT ALL DOORS 1" MIN. HEATING CONTRACTOR MUST WORK FROM APPROVED

ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSABILITY OF GTA DESIGNS. GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING

gtaDesigns

2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT. L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

UNIT MAKE AMANA	
GMEC960603	
UNIT HEATING INPUT 60,000	BTU/HR.
UNIT HEATING OUTPUT 57,000	BTU/HR.
A/C COOLING CAPACITY 2.0	TONS.
FAN SPEED 1170	CFM

47,434

BTU/HR.

HEAT-LOSS

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	2
1ST FLOOR	8	3	2
BASEMENT	4	1	
SI OOD DI AV			
FLOOR PLAN: BASEM	1ENT	-	

D. DACOSTA

15-34B

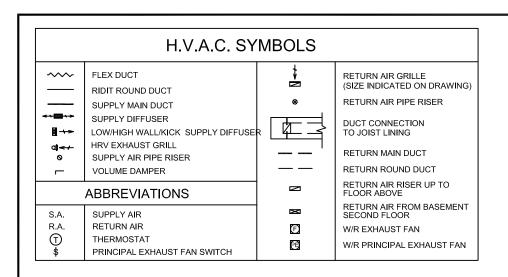
2532

1/3

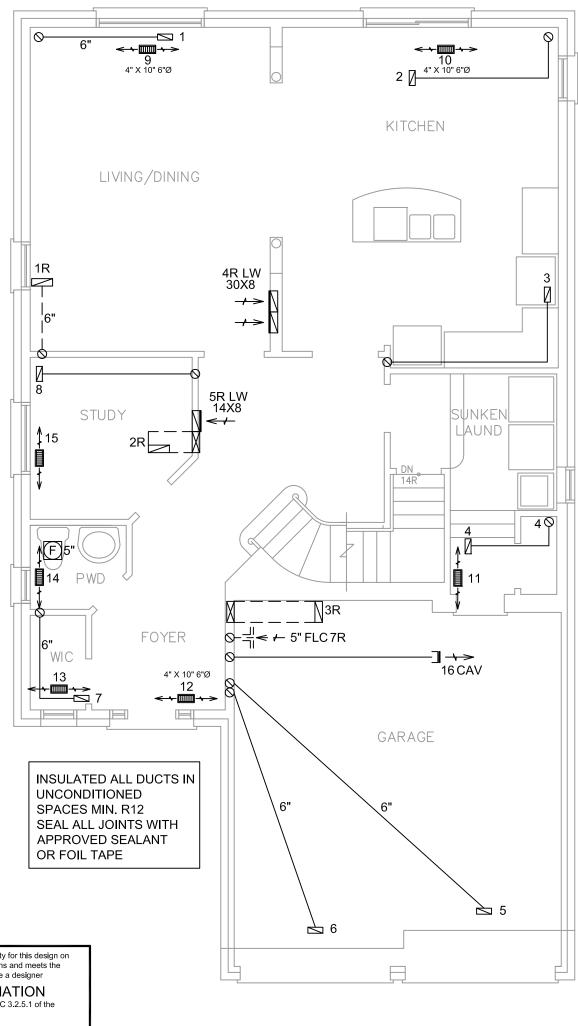
	MARCH 18, 2015
Ш	CLIENT:
	HIGHCASTLE/DELPARK
П	PROJECT:
	40-7
	NORTHGLEN
	CLARINGTON, ON.
П	00415

3/16" = 1"-0"

OBC 2012



CIRCULATION FAN SWITCH TO BE CENTRALLY LOCATED



The undersigned has reviewed and takes responsibility for this design on behalf of GTA Designs Inc. and has the qualifications and meets the requirements set out in the Building Code to be a designer

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INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

HEATING CONTRACTOR MUST WORK FROM APPROVED ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

RESPONSABILITY OF GTA DESIGNS.
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING

gtaDesigns

2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT.

L4T 0A4 TEL: 416-268-6820 email: dave@gtadesigns.ca web: www.gtadesigns.ca

HEAT-LOSS	BTU/HR.	
UNIT MAKE		ŀ
UNIT MODEL		ŀ
UNIT HEATING INPUT	BTU/HR.	ŀ
UNIT HEATING OUTPUT	BTU/HR.	Ī
A/C COOLING CAPACITY	TONS.	ŀ
FAN SPEED	CFM	l
		-

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR			
1ST FLOOR			
BASEMENT			

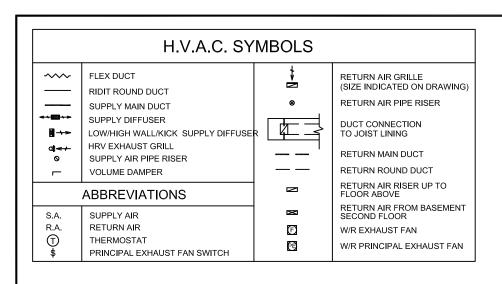
FLOOR PLAN:

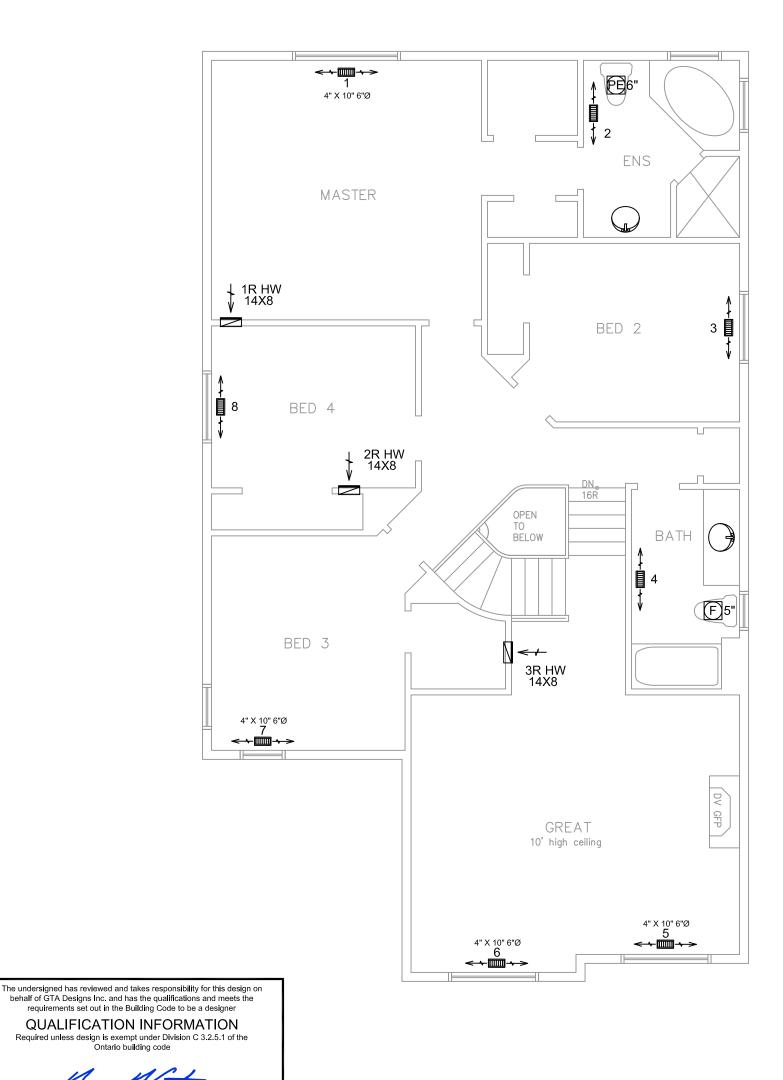
GROUND FLOOR D. DACOSTA 12-119 2/3

OBC 2012 MARCH 18, 2015 HIGHCASTLE/DELPARK

PROJECT: 40-7 NORTHGLEN CLARINGTON, ON.

3/16" = 1"-0"





NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO

BUILDING CODE. ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

SPECIFIED.

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

HEATING CONTRACTOR MUST WORK FROM APPROVED PLANS. ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

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MAY OCCUR WITH IN THE DWELLING

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		-
HEAT-LOSS	BTU/HR.	ľ
UNIT MAKE		ŀ
UNIT MODEL		ŀ
UNIT HEATING INPUT	BTU/HR.	ŀ
UNIT HEATING OUTPUT	BTU/HR.	Ī
A/C COOLING CAPACITY	TONS.	ŀ
FAN SPEED	CFM	I
•		_

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR			
1ST FLOOR			
BASEMENT			

FLOOR PLAN: SECOND FLOOR D. DACOSTA 12-119 3/3

MARCH 18, 2015 CLIENT: HIGHCASTLE/DELPARK PROJECT:

OBC 2012

40-7 NORTHGLEN CLARINGTON, ON.

SCALE: 3/16" = 1"-0"