

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	Northg	glen		Unit no.	Lot/con.
	40-2	2			
Municipality Bov	vmanville	Postal code	Plan number/ other description		
B. Individual who reviews an	d takes responsibility for desig	gn activities			
Name	David Da Costa		Firm	GTA Designs In	c.
Street address	2984 Drew Roa	d, Suite 202	<u> </u>	Unit no.	Lot/con.
Municipality		Postal code	Province	E-mail	<u>I</u>
. ,	Mississauga	L4T 0A4	Ontario	dave@gtade	signs.ca
Telephone number		Fax number	•	Cell number	
905-67			7-494-9643		
C. Design activities undertak	en by individual identified in S	ection B. [Bu	illding Code Table	3.5.2.1 of Division C	
☐ House	⊠ HVAC – H	louse		☐ Building Structural	
Small Buildings	☐ Building Se	ervices		☐ Plumbing – House	
Large Buildings	Detection,	Lighting and Po	wer	☐ Plumbing – All Building	gs
Complex Buildings	☐ Fire Protect	ction		☐ On-site Sewage Syste	ms
Description of designer's worl	K Mod	del Certification	n	Project #	: 15-34
Heating and Cooling Load Calcula			Builder	Highcastle Hom	
Air System Design			Project	Bowmanville	
Residential mechanical ventilation Design Summary Northglen					
Residential System Design per C	AN/CSA-F280-12		00.40	40-2	
D. Declaration of Designer			SB-12	Package D	
b. Beclaration of Besigner	David Danasta	-11 414 /			
' <u></u>	David Dacosta	declare that (choose one as appro	priate):	
	(print name)				
	I review and take responsibility for	•	•		
	3.2.4 Division C of the Building Cocclasses/categories.	ae. i am quaime	u, and the fiffi is regist	ered, in the appropriate	
	Individual BCIN:	:			
	Firm BCIN:			•	
	FIIII BCIN.			•	
X	I review and take responsibility for "other designer" under subsection				
	Individual BCIN:	329	64		
	Basis for exemp	tion from registi	ration:	Division C 3.2.4.1. (4)	
	The design work is exempt from the			nents of the Building Code.	_
	Basis for exemp	tion from registr	ration and qualification:		
Logratify that:					
I certify that: 1. The information contained in	n this schedule is true to the best of n	nv knowledae			
	ation with the knowledge and consent				
по принадания принадания			Mane 14	1/2/	
Febru	ary 13, 2015		Mare 14	C 6 7	_
	Date		Signature of De	signer	

NOTE:

- 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, temporary 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.



Air System Design

Package D

Builder: Highcastle Homes Date: February 13, 2015

Northglen
Project: Bowmanville Model: 40-2

System 1

2986 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 of the Building Code

Project #

15-34

Project: Boy	vmanville		1	Model:			North	_				Sy	stem '	1			he Build	ling Code 32967		me A			avid DaC				P	age 2
DESIGN LOAD SPECIFICATION			I [AIR DISTR	IBUTION	& PRES	SURE					FURNAC	E/AIR HA	NDLER I	DATA:		[BOILER/N	VATER H	EATER D	ATA:			7	VC UNIT	DATA:		
Level 1 Net Load Level 2 Net Load Level 3 Net Load Level 4 Net Load Total Heat Loss	36,311	btu/h btu/h btu/h btu/h		Equipmen Additional Available I Return Bra R/A Plenur	Equipme Design Pl anch Lon m Pressu	ent Press ressure igest Effe ire	ure Drop		0.5 " 0.225 " 0.275 " 300 f 0.138 "	w.c. w.c. t w.c.	 	Make Model Input Btu Output B E.s.p.	/h tu/h	Ama 3MEC960 400 384 0.5	402BNA 00 00 0	" W.C.		Make Model Input Btu Output Bt Min.Outp	tu/h			Type		(Amana Cond Coil		1.5 T 1.5 1.5	Ton
Total Heat Gain Ventilation PVC		cfm		S/A Plenur Heating Ai	r Flow Pi	roportion	-		0.14 " 0.0213 d	fm/btuh		Water Te AFUE		969		deg. F.		Blower S	peed Sel	ected:	W		wer DATA		Blower Ty	/pe	ECM	
Building Volume Vb Total Heat Loss + 10%	22674 1 39,942			Cooling Ai	ir Flow P	•	R/A Temp)		leg. F.		Aux. Hea SB-12 Pa		Packa	ge D			Heating C	heck	773	cfm			C	Cooling C	heck	773 c	fm
Supply Branch and Grill Sizing	9			Diffuser lo	ss	0.01	S/A Temp "w.c.)	116 0	leg. F.	•	Temp. Ri	se>>> _	46	deg. F.			Selected	cfm>	773	W	2	(Cooling A	ir Flow F	tate _	773 c	fm
						Le	vel 1 Outl	ests													Level 2 C	Outlets						
S/A Outlet No.	14	15	16	17											8	9	10	11	12	13								
Room Use	BASE	BASE		BASE												GREAT	DIN	FOY	PWD	PLEN								
Btu/Outlet	2587	2587	2587	2587											3194	2435	2445	3635	1315	1189								
Outlet Airflow Rate CFM	55	55	55	55											68	52	52	77	28	25								
Cooling Airflow Rate CFM	8	8	8	8			0.40	0.40	0.40		0.40		0.40	0.40	122	90	75	54	9	5	0.40	0.40			0.40	0.40	0.40	0.40
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
Actual Duct Length	33	16	22	40											36	20	4	45	38	9								
Equivalent Length	120	120	100	125	90	90	90	90	90	90	90	90	90	90	130	140	100	115	110	120	90	90	90	90	90	90	90	90
Total Effective Length	153	136	122	165	90	90	90	90	90	90	90	90	90	90	166	160	104	160	148	129	90	90	90	90	90	90	90	90
Adjusted Pressure	0.08	0.10		0.08	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.08	0.08	0.13	0.08	0.09	0.10	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Duct Size Round	6	6	6	6	5	5	5	5	5	5	5	5	5	5	6	6	6	6	5	5	5	5	5	5	5	5	5	5
Outlet Size	4x10	4x10		4x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10
Trunk	С	Α	A	В			vel 3 Out	lata							С	D	D	В	С	D	Level 4 C	N.:41a4a						
S/A Outlet No.		2	3	5	6	Le	vei 3 Out	iets													Level 4 C	Jutiets						
	MACT	ENS	_	BED 3	•	BED 4	I ALIND																					
Room Use	MAST				BATH		916																					
Btu/Outlet	2837	1495		2372	1253	1528 33	19																					
Outlet Airflow Rate CFM	60 93	32 26	29 35	51 61	27 62	33 48	19 60																					
Cooling Airflow Rate CFM 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
Actual Duct Length	42	25	22	15	54	55	38	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
Equivalent Length	145	25 110	90	130	145	115	110	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Total Effective Length	187	135	112	145	199	170	148	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Adjusted Pressure	0.07	0.10	0.12	0.09	0.07	0.08	0.09	0.14	0.14	0.14	0.14	90 0.14	0.14	0.14	0.14	90 0.14	0.14	90 0.14	0.14	90 0.14	0.14	0.14	0.14	90 0.14	0.14	0.14	0.14	0.14
Duct Size Round	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Outlet Size	4x10	3x10		3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10	3x10
Trunk	4×10	3×10	3×10	D	JA 10	JA 10	3×10	3710	3210	3710	3710	3710	37.10	3710	3710	3710	37.10	3710	3710	3710	3710	3710	3710	3710	3710	3710	3710	JAIU
TTUIK																												
Return Branch And Grill Sizing	n		Grill Pres	ssure Loss		0.02	"w.c						Return Ti	runk Duc	t Sizina					9	Supply T	runk Duc	ct Sizina					
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	_	Trunk			Press. I	Round	Rect.	Size		Trunk			ress. F	Round	Rect. S	Size	
Inlet Air Volume CFM	120	120	120	278	110	25		• • • • • • • • • • • • • • • • • • • •	• • • • • • • • • • • • • • • • • • • •					•	.				0.20								J.=U	
Duct Design Pressure	0.12	0.12		0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12		Orop		773	0.05	14.5	24x10		1	Δ		533	0.06	12.5	18x8		
Actual Duct Length	38	29	28	17	32	6	V	02	V	0.12	0				773	0.05	14.5	24x8	18x10	í			403	0.06	11.0	14X8		
Equivalent Length	200	185	190	145	190	130	70	70	70	70	70	,			508	0.05	12.5	18X8					151	0.06	8.0	8x8		
Total Effective Length	238	214	218	162	222	136	70	70	70	70	70	3	-		500	5.05	. 2.3	. 3/10		ì			240	0.06	9.0	8x8		
Adjusted Pressure	0.05	0.05		0.07	0.05	0.09	0.17	0.17	0.17	0.17	0.17		N								-		240	0.00	5.0	CAU		
Duct Size Round	7	7	7	2x8	7	5	3.11	J. 17	V.11	J.17	J. 17	,									_							
Inlet Size	8	8	8	8	FLC	8						į.																
" "	X	X	X	X	X	X	х	х	х	х	v	-								ì	_							
Inlet Size	14	14	14	30	X	14			^	^		,									•							
	14	14		30		17						ì									J							



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: H	lighcastle Homes	Date:	February 13, 2015				e-man dave @gta	idesigns.ca		Project # 15-34
	Builder. 1	ilgiteastie Homes	Date.	Northglen							110,000 # 10-04
2012 OBC	Project:	Bowmanville	Model:	40-2		System 1	Heat Loss ^T	76 deg. F	Ht gain ^T 11	I deg. F GTA: 1846	Page 3
Level 1		BASE									
Run ft. exposed wall A		134 A	Α	Α	Α	Α	Α	Α	A	A A	Α
Run ft. exposed wall B		В	В	В	В	В	В	В	В	В	В
Ceiling height		2 AG	2 AG	2 AG	2 AG	2 AG	2 AG	2 AG	2 AG	2 AG 2 AG	2 AG
Floor area Exposed Ceilings A		772 Area	Area	Area	Area	Area	Area	Area	Area	Area Area	Area
Exposed Ceilings A Exposed Ceilings B		A B	A B	A B	A B	A B	A B	A B	A B	A A B	A B
Exposed Floors		Fir	Fir	Fir	Flr	Fir	Fir	Flr	Fir	Fir Fir	Flr
Gross Exp Wall A		268									
Gross Exp Wall B		<u> </u>									
Components North Shaded		Gain Loss G	ain Loss	Gain Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain
East/West			83								
South			128								
Existing Windows	1.99 38.19										
Skylight			77								
Doors Net exposed walls A		3.65 21 530 0.80 238	190								
Net exposed walls B											
Exposed Ceilings A											
Exposed Ceilings B											
Exposed Floors Foundation Conductive Heatloss	22.86 3.32 Slab On Grade (x)										
Hoat Loce		4852									
Total Conductive Heat Coss			478								
Air Leakage Heat Loss/Gain			21								
Ventilation Case 2											
Case 3			47								
Heat Gain People		239									
Appliances Loads		3308									
Duct and Pipe loss Level 1 HL Total 10,349	Total HL fo	10% or per room 10349									
Level 1 HG Total 709	Total HG per i		709								
						<u> </u>	<u> </u>				
Level 2		KIT	GREA	T DIN	FOY	PWD	PLEN				
Run ft. exposed wall A		31 A	27 A	26 A	37 A	9 A	26 A	Α	Α	A	Α
Run ft. exposed wall B		В	В	В	В	В	В	В	В	В	В
Ceiling height		10	10	10	10	10	2	10	10	10 10	10
Floor area Exposed Ceilings A		218 Area A	191 Area A	153 Area A	101 Area A	94 Area A	160 Area A	Area A	Area A	Area Area A A	Area A
Exposed Ceilings A		B	B	B	B	В	В	B	В	B B	B
Exposed Floors		Fir	Fir	Fir	Fir	Fir	160 Fir	Fir	Fir	Fir Fir	Fir
Gross Exp Wall A		310	270	260	370	90	52				
Gross Exp Wall B Components		Gain Loss G	ain Loss	Gain Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain Loss	Gain Loss Gain
North Shaded			LUSS	17 410 193		LOSS Gain	LOSS Gain	LOSS Gain	LOSS Gain		Cos Can
East/West			832 14 338		15 362 416						
South					4 97 85						
Existing Windows	1.99 38.19 2.03 37.44	22.15 88.23									
Skylight Doors					10 252 37	21 530 77					
Net exposed walls A			204 256 1286	186 243 1221 17			52 261 38				
Net exposed walls B											
Exposed Ceilings A											\perp
Exposed Ceilings B Exposed Floors							160 532 35				
Foundation Conductive Heatloss	Slab On Grade (x)						332 33				
Total Conductive Heat Loss		2130	1624		2424	877	793				
Heat Gain		0.0440 598	1036	575 369			73				
Air Leakage Heat Loss/Gain Case 1			46 456	25 458 10	6 681 35	246 6	223 3				
Ventilation Case 2											
Case 3	x 0.22	0.10 466	102 355	56 357 36	6 530 77	192 12	173 7				
Heat Gain People		239 3308 1	927 4	927 1	7						
Appliances Loads Duct and Pipe loss		10%	827 1	827 1 82	'						
Level 2 HL Total 14,213	Total heat loss fo	r per room 3194	2435	2445	3635	1315	1189				
Level 2 HG Total 7,628	Total heat gain per i	room x 1.4	2614	1928 1623	3 1167	188	108				

 Total Heat Loss
 36,311

 Total Heat Gain
 16,621

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

Mane Alexander David DaCosta



Heatloss/Gain Calculations CSA-F280-12

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 Fax: 647-494-9643

	0										e-mail dave@gtad	designs.ca				
		Builder: H	lighcastle Homes		Date:	Februa	ry 13, 2015			<u></u>					Project #	15-34
2012 OBC		Desirate	Bowmanville				rthglen		System 1				44 1 5 074	1010		
2012 060		Project:	Bowmanville		odel:		40-2			Heat Loss ^T	76 deg. F	Ht gain ^T	11 deg. F GTA:	1846		Page 4
_ L	Level 3			MAST	ENS		BED 2	BED 3	BATH	BED 4	LAUND					
	. exposed wall A . exposed wall B		30 A		19 A B	13 A B		29 A B	11 A B	14 A B	5 A B	A B	A B	A B	A B	
ivuii it.	Ceiling height		8	•	8	8		8	8	8	8	8	8	8	8	
	Floor area		243 A		95 Area	98 A		132 Area	95 Area	154 Area	99 Area	Area	Area	Area	Area	
	oosed Ceilings A		243 A		95 A	98 A		132 A	95 A	154 A	99 A	Α	A	Α	Α	
	osed Ceilings B Exposed Floors		E	3 Flr	B Flr	B F		B Flr	B Flr	B Fir	B Fir	B Flr	B Flr	B Flr	B Flr	
	Fross Exp Wall A		240		152	104		232	88	112	40	FII	FII	FII	FII	
	ross Exp Wall B								•							
	Components			oss Gain	Loss	Gain L	oss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss G	ain Loss Gain	Loss G	Sain Loss	Gain
	North Shaded East/West	3.15 24.13 3.15 24.13		507 583	7 169	194	338 158	15 362 41	6 15 362 416	8	15 362 41	6				
	South	3.15 24.13		307 303	1 103	134		15 302 41	0 13 302 410	14 338 298	13 302 41					
Ex	xisting Windows	1.99 38.19														
	Skylight	2.03 37.44													\rightarrow	
Net 6	Doors exposed walls A	3.01 25.25 15.13 5.02		1100 159	145 728	105 90	452 65 2	217 1090 15	8 73 367 53	3 98 492 71	25 126 1	8				
	exposed walls B	8.50 8.94	1.29													
	oosed Ceilings A	50.00 1.52		369 185	95 144	72 98	149 74	132 201 10	0 95 144 72	2 154 234 117	99 150 7	75				
	osed Ceilings B Exposed Floors	22.86 3.32 22.86 3.32														
Foundation Conduc		22.00 3.32	0.22													
Total Conductive	Heat Loss			1976	1042		939	1653	873	1064	638					
Air Leakage	Heat Gain Heat Loss/Gain	0.2168	0.0440	927 428 41	226	372 16	298 204 13	358 3	[4] 541 [6] 189 24		138 2	22				
All Leakage	Case 1	0.1203		720 71	220	.0	204 13	330	109 24	7 251 21	130 2	.2				
Ventilation	Case 2	82.08	11.88													
	Case 3 leat Gain People	x 0.22	239 2	432 91 478	228	37	205 29 239	361 6	6 191 53		140 5	50				
	ppliances Loads	1 =.25 percent	3308	4/8		1	239	1 23	1 414	1 239	1 41	4				
Due	ct and Pipe loss		10%													
Level 3 HL Total	11,749	Total HL fo		2837	1495		1348	2372	1253	1528	916					
Level 3 HG Total	8,284	Total HG per r	room x 1.3	1997		552	754	131	2 1342	2 1033	129	04				
D #	Level 4															
	. exposed wall A . exposed wall B		A	3	A B	A B		A B	A B	A B	A B	A B	A B	A B	A B	
	Ceiling height							_	_	_		_	_	_	_	
_	Floor area			Area	Area		rea	Area	Area	Area	Area	Area	Area	Area	Area	
	oosed Ceilings A oosed Ceilings B		A		A B	A B		A B	A B	A B	A B	A B	A B	A B	A B	
	Exposed Floors			- Flr	Fir	F		Flr	Fir	Fir	Fir	Flr	Fir	Fir	Flr	
G	Fross Exp Wall A															
G	Fross Exp Wall B	R-Values Loss	Gain L	eee Cein	1	Cain I	ena Cain	Less Cain	Lana Cain	Laca Cain	Less Cain	Lana C	nin Lana Cain	1.000 0	ain Less	Cain
	North Shaded	3.15 24.13		oss Gain	Loss	Gain L	oss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss G	ain Loss Gain	Loss G	Sain Loss	Gain
	East/West	3.15 24.13	27.75													
	South	3.15 24.13														
Ex	xisting Windows Skylight	1.99 38.19 2.03 37.44														
	Doors	3.01 25.25														
	exposed walls A	15.13 5.02	0.73													
	exposed walls B cosed Ceilings A	8.50 8.94 50.00 1.52														
	oosed Ceilings A	22.86 3.32														
	Exposed Floors	22.86 3.32														
Foundation Conduc																
Total Conductive	Heat Loss Heat Gain															
Air Leakage	Heat Loss/Gain	0.0000														
Ventil-ti	Case 1	0.00														
Ventilation	Case 2 Case 3	82.08 x 0.22														
н	leat Gain People		239													
Ap	ppliances Loads	1 =.25 percent	3308													
Level 4 HL Total	ct and Pipe loss	T-4-110 (10%													
Level 4 HC Total	0	Total HL fo														
	-				-											

Total Heat Loss 36,311 b
Total Heat Gain 16,621 b

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 Mans Hall David DaCosta



4

Part 6 design

HRV full ducting/not coupled to forced air system

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. of the Building Code. Individual BCIN: 32964 David DaCosta Northglen 40-2 Project: **Bowmanville** Model: Page RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93 Location of Installation Total Ventilation Capacity 9.32.3.3(1) Lot # Plan # Bsmt & Master Bdrm 2 @ 20 cfm 40 cfm 2 @ 10 cfm Township 20 cfm Other Bedrooms Bowmanville Bathrooms & Kitchen 4 @ cfm 10 cfm 40 Roll # Permit # Other rooms 4 @ 10 cfm 40 cfm Total 140 Address Principal Ventilation Capacity 9.32.3.4(1) Builder Master bedroom @ 30 cfm 30 cfm Name 1 Highcastle Homes Other bedrooms @ 15 cfm 30 cfm 2 Address Total 60 City **Principal Exhaust Fan Capacity** Tel Fax Make Location 684N Broan Ens **Installing Contractor** Name 90 cfm 2.5 Sones Address Heat Recovery Ventilator Make City Model cfm high cfm low Sensible efficiency @ -25 deg C 0% Tel Fax HRV is HVI listed Combustion Appliances 9.32.3.1(1) Supplemental Ventilation Capacity Direct vent (sealed combustion) only a) Positive venting induced draft (except fireplaces) Total ventilation capacity 140.0 b) Natural draft. B-vent or induced draft fireplaces C) Less principal exhaust capacity 60.0 d) Solid fuel (including fireplaces) REQUIRED supplemental vent. Capacity 80.0 cfm e) No combustion Appliances Supplemental Fans 9.32.3.5. **Heating System** Location Model Sones Bath 50 770 2.5 Forced air Non forced air Pwd 50 770 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 Ш Any type c) appliance **Designer Certification** Type I or II either electric space heat I٧ I hereby certify that this ventilation system has been designed Other Type I, II or IV no forced air in accordance with the Ontario Building Code. System Design Option Name David Da Costa Exhaust only / forced air system Marie Hotel HRV WITH DUCTING / forced air system 2 Signature 3 HRV simplified connection to forced air system

HRAI#

Date

5190

February 13, 2015

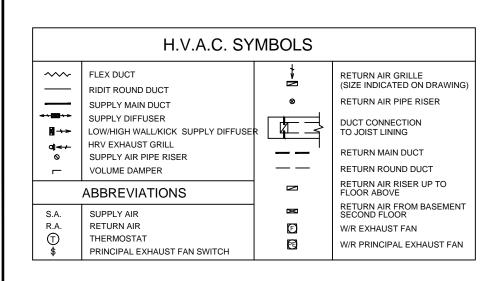
BCIN#

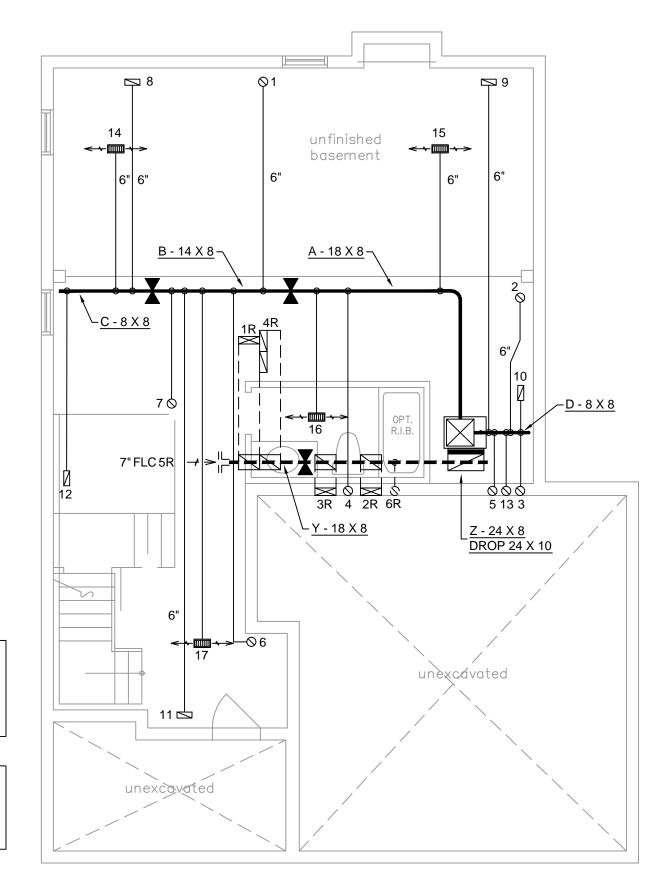
32964



Energy Efficiency Design Summary (Part 9 Residential)

			For u	se bv Princi	pal Authority							
Application No:					Model/Certification Number							
у фриосион гис												
A Due is at Information												
A. Project Information	on		Ne	orthglen		Unit numbe	er	Lot/Con				
			140	40-2								
Municipality			Postal code		Reg. Plan number / oth	er descriptio	on					
Bowmar	iville											
B. Compliance Option	nn .											
☑ SB-12 Prescriptive	Table:	Package: A B (CDFF	GHI.	IKIM	Package D						
					energy performance							
☐ Energy Star®* [SE		,			BOP form			y a app	7.04.00			
☐ EnerGuide 80® *					must be evaluated	bv NRCai	n advisor	and meet	a rating of 80			
C. Project Design Co	onditions					.,			g			
Climatic Zone (SB		Heati	ng Equip	ment		Space H	eating Fu	el Source				
✓ Zone 1 (< 5000 degree			≥ 90% AF		☑ Gas		Propane		Solid Fuel			
☐ Zone 2 (≥ 5000 degree			≥ 78% < 9	0% AFUE	□ Oil		Electric		Earth Energy			
Windows	+Skylights+Glas	ee Doore					uilding Co		<u>. </u>			
	T T	33 00013			☐ ICF Basement				☐ Log/Post&Beam			
Gross Wall Area =	240 m²	% V	Vindows+	<u>7%</u>	☐ ICF Above Grade		Slab-on-gr		Log/i ostabeam			
Gross Window+ Area = D. Building Speci	18 m ²	do valuos a	and ratings	of the open					ar BOD forml			
Building Con		uc values t		values		ing Comp		1 Livergy Ou	Efficiency			
Thermal Insulation	пропоп		1101711	Tuluoo	Windows & Door		30110111					
Ceiling with Attic Space			F	50	Windows/Sliding (ors		1.8			
Ceiling without Attic Space				31	Skylights				2.8			
				31	Mechanicals				2.0			
Exposed Floor							Space Heating Equip. ²					
Walls Above Grade		Walls Above Grade			Space Heating Eq	uip.²			94%			
			2	24	Space Heating Eq HRV Efficiency (%				94%			
Walls Above Grade	ade)		2	24								
Walls Above Grade Basement Walls Slab (all >600mm below gra	-		2	24 20 x	HRV Efficiency (% DHW Heater (EF) NOTES	5)			0.67			
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INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12 SEAL ALL JOINTS WITH APPROVED SEALANT OR FOIL TAPE

ALL DUCTWORK LOCATED IN CONDITIONED SPACES MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)

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

Costa Mane Mc B.C.I.N. 32964

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO

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 RESPONSABILITY OF GTA DESIGNS.

RESPONSABILITY OF GIA 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	36,311	BTU/HR.
UNIT MAKE	AMANA	
UNIT MODEL GME	C960402E	
UNIT HEATING	40,000	BTU/HR.
UNIT HEATING	38,400	BTU/HR.
A/C COOLING C	APACITÝ 1.5	TONS.
FAN SPEED	773	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	7	3	3
1ST FLOOR	6	2	2
BASEMENT	4	1	

FLOOR PLAN: BASEMENT

DRAWN BY
D. DACOSTA
LAYOUT NO.
15-34

DRAWING NO.
1/3

FEBRUARY 13, 2015

LIENT:
HIGHCASTLE HOMES

ROJECT:

40-2 NORTHGLEN BOWMANVILLE, ON.

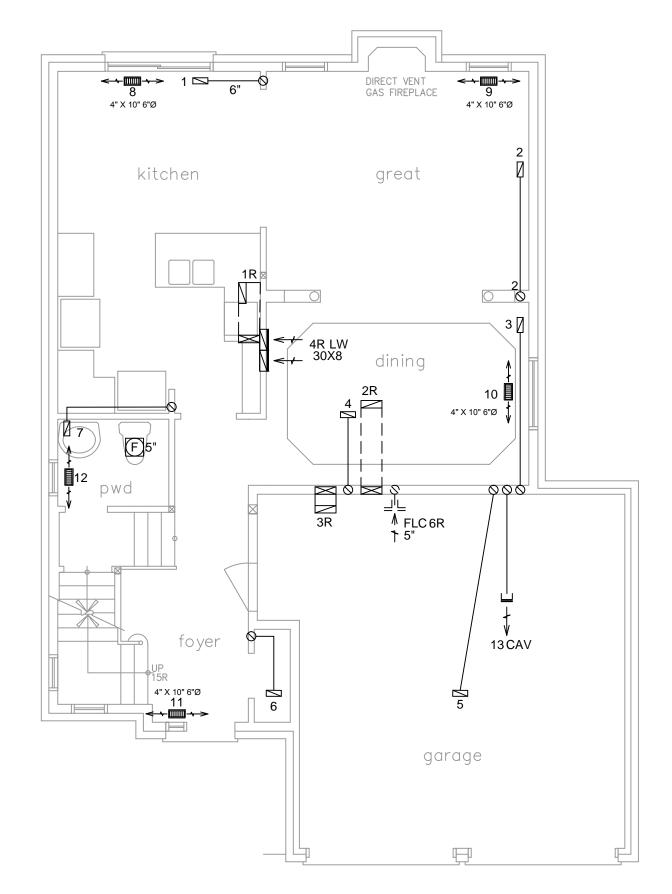
3/16" = 1"-0"

H.V.A.C. SYMBOLS							
	FLEX DUCT RIDIT ROUND DUCT SUPPLY MAIN DUCT SUPPLY DIFFUSER LOW/HIGH WALL/KICK SUPPLY DIFFUSE HRV EXHAUST GRILL SUPPLY AIR PIPE RISER VOLUME DAMPER	*	RETURN AIR GRILLE (SIZE INDICATED ON DRAWING RETURN AIR PIPE RISER DUCT CONNECTION TO JOIST LINING RETURN MAIN DUCT RETURN ROUND DUCT				
	ABBREVIATIONS	Ø	RETURN AIR RISER UP TO FLOOR ABOVE				
S.A. R.A. T	SUPPLY AIR RETURN AIR THERMOSTAT PRINCIPAL EXHAUST FAN SWITCH	≥ () ()	RETURN AIR FROM BASEMENT SECOND FLOOR W/R EXHAUST FAN W/R PRINCIPAL EXHAUST FAN				

CIRCULATION FAN SWITCH TO BE CENTRALLY LOCATED

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12 SEAL ALL JOINTS WITH APPROVED SEALANT OR FOIL TAPE

ALL DUCTWORK LOCATED IN CONDITIONED SPACES MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)



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

David Da Costa

B.C.I.N. 32964

Signature of Designer

OBC 2012

FEBRUARY 13, 2015

HIGHCASTLE HOMES

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

NOTES

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



2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT

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

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

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

GROUND FLOOR

D. DACOSTA LAYOUT NO. 15-34 PROJECT:

40-2

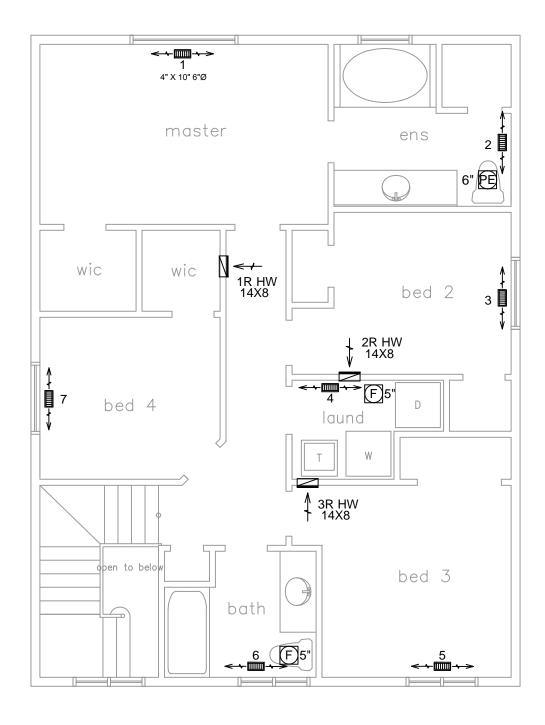
NORTHGLEN

BOWMANVILLE, ON.

2/3

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

H.V.A.C. SYMBOLS							
	FLEX DUCT RIDIT ROUND DUCT SUPPLY MAIN DUCT SUPPLY DIFFUSER LOW/HIGH WALL/KICK SUPPLY DIFFUSE HRV EXHAUST GRILL SUPPLY AIR PIPE RISER VOLUME DAMPER	***************************************	RETURN AIR GRILLE (SIZE INDICATED ON DRAWING RETURN AIR PIPE RISER DUCT CONNECTION TO JOIST LINING RETURN MAIN DUCT RETURN ROUND DUCT				
	ABBREVIATIONS		RETURN AIR RISER UP TO FLOOR ABOVE				
S.A. R.A. T	SUPPLY AIR RETURN AIR THERMOSTAT PRINCIPAL EXHAUST FAN SWITCH	≥ 6 6	RETURN AIR FROM BASEMENT SECOND FLOOR W/R EXHAUST FAN W/R PRINCIPAL EXHAUST FAN				



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QUALIFICATION INFORMATION

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David Da Costa

B.C.I.N. 32964

Signature of Designer

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "D" REF. TABLE 2.1.1.2.A

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gtaDesigns

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

			_
# OF RUNS	S/A	R/A	FANS
	_		
3RD FLOOR			
2ND FLOOR			
ZND FLOOR			
1ST FLOOR			
BASEMENT			
LOOR PLAN:			
SECOND FLOOR			
RAWN BY	BY SQFT		

1846 INĠ NO.

3/3

D. DACOSTA AYOUT NO.

<u>15-3</u>4

FEBRUARY 13, 2015

CLIENT:
HIGHCASTLE HOMES

PROJECT:

40-2
NORTHGLEN
BOWMANVILLE, ON.

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