

#### **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					
Build	ing number, street name				Lot:	
		FP Town 2 -			Lot/con.	
	cipality	Clarington	Postal code	Plan number/ other description		
		d takes responsibility for desig	gn activities	I		
Nam		David DaCosta		Firm	gtaDesigns Inc.	
	et address	2985 Drew Roa	d, Suite 202		Unit no.	Lot/con.
Muni	cipality	Mississauga	Postal code L4T 0A4	Province Ontario	E-mail dave@gtades	signs.ca
Tele	phone number	<u> </u>	Fax number		Cell number	
C.	(905) 67			') 494-9643	(416) 268-6	6820
C.	Design activities undertak	en by individual identified in S	ection b. [bu	illuling Code Table .	5.5.2.1 OF DIVISION C	
	☐ House	ĭ HVAC – H	louse		■ Building Structural	
	☐ Small Buildings	☐ Building Se	ervices		☐ Plumbing – House	
	☐ Large Buildings		Lighting and Po	wer	☐ Plumbing – All Building	
	☐ Complex Buildings	☐ Fire Protect			☐ On-site Sewage System	
Des	cription of designer's work	K Mod	del Certification	1	Project #	
Hoot	ing and Cooling Load Calcula	ations		Builder	Layout # Delpark/Highcastle H	
	ystem Design	ations		Project	Northglen	omes
	dential mechanical ventilation	n Design Summary		Model	J	
	dential System Design per CA				FP Town 2 - Bradfo	ord
Resi D.	dential New Construction - For Declaration of Designer	orced Air		SB-12	Package D	
<i>D</i> .	l Decide at long of Designer	Dovid DoCosto	dealare that (a	haaa ana aa annra	enriata):	
	<u> </u>	David DaCosta	ueciare mai (c	choose one as appro	priate).	
		(print name)				
		I review and take responsibility for a 3.2.4 Division C of the Building Cocclasses/categories.				
		Individual BCIN:			•	
		Firm BCIN:			_	
	X	I review and take responsibility for "other designer" under subsection	•		. 0,	
		Individual BCIN:	3296	64		
		Basis for exemp	tion from registr	ation:	Division C 3.2.4.1. (4)	-
		The design work is exempt from the	e registration and	d qualification requiren	nents of the Building Code.	
		Basis for exemp	tion from registr	ation and qualification:		
I cert	ify that:					
1.	•	n this schedule is true to the best of n	ny knowledge.			
2.	I have submitted this applica	ation with the knowledge and consent	of the firm.			
	June	e 17, 2015		Mane 14	Contraction of the contraction o	
		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.

Schedule 1 does not require to be completed a holder of a license, temporay license, or a certificate of authorization, issed by the
Ontario Associstion 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

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Heat loss and gain calcul	lation summary sheet CSA-F280-M12 Standard Form No. 1
These documents issued for the use of Delpa	ark/Highcastle Homes Layout No.
and may not be used by any other persons without authorization. Docum	nents for permit and/or construction are signed in red. JB-00695
Building	Location
Address (Model): FP Town 2 - Bradford	Site: Northglen
Model:	Lot:
City and Province: Clarington	Postal code:
Calculation	ns based on
Dimensional information based on:	assidy & Co. Dwgs Dated Apr/2013
Attachment: Townhome	Front facing: East/West Assumed? Yes
No. of Levels: 3 Ventilated? Included	Air tightness: 1961- Present (ACH=3.57) Assumed? Yes
Weather location: <b>Durham</b>	Wind exposure: Shelterd
HRV?	Internal shading: Light-translucent Occupants: 4
Sensible Eff. at -25C <b>0</b> Apparent Effect. at -0C <b>0</b>	Units: Imperial Area Sq. ft 1053
Heating design conditions	Cooling design conditions
Outdoor temp -4.0 Indoor temp: 72 Mean soil tem 48	Outdoor temp 84 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



Builder: Delpark/Highcastle Homes

#### Air System Design

2015

SB-12 Package D June 17, 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.

Page 3 Project #

ŧ	PJ-00022
ŧ	JB-00695

Project: Nort	hglen			Model:		FP T	own 2 -	- Bradfo	rd			Sy	stem 1	1		of the Bui Individual	_		Man	n Ad			David DaC			ject # yout #		00022 00695
DESIGN LOAD SPECIFICATION				AIR DISTE	RIBUTION						 F	URNACE	/AIR HAN	NDLER DA				BOILER/W	VATER HE	EATER DA	ATA:				VC UNIT I			
DEGICINE COAD OF EGIT TO ATTOM			Ľ	AIIC DIOTI	<del>(IDO HOIL</del>	a i keo	JOILE					ORNAGE	AIR HAI	VDELIK DA	117.		I.	BOILLIGI	VAILKIIL	-ATEN DA	ia.			15	70 OMIT E	DATA.		
Level 1 Net Load	6,972	otu/h	I	Equipmen	t Externa	I Static P	ressure		0.5 "	w.c.	N	/lake		Ama	na			Make			T	уре		-	Amana		1.5 T	on
Level 2 Net Load	7,158	otu/h		Additiona	l Equipme	ent Press	ure Drop		0.225 "		N	/lodel	G	MEC960	302BNA			Model						c	Cond		1.5	
Level 3 Net Load	5,585			Available	-				0.275 "			nput Btu/		3000				Input Btu/						C	Coil		1.5	
Level 4 Net Load		otu/h		Return Br		-	ctive Len	gth	300 f			Output Bt	u/h	2880				Output Bt			_							
Total Heat Loss	19,715			R/A Plenu					0.138 "			E.s.p		0.50		" W.C.		Min.Outpu	ut Btu/h		Α	WH	212					
Total Heat Gain Total Heat Loss + 10%	12,179 I 21,687 I			S/A Plenu Heating A			Faata		0.14 " 0.0315 c			Vater Ten AFUE	ıp	96%		deg. F.		Blower Sp	and Cala	-4- d.	T2		wer DATA		Names To		ECM	
Building Volume Vb	13126 1			neating A Cooling A			-		0.0510			Arue Aux. Heat		967	'o			Diower St	beed Selec	ctea:				-	Blower Ty	•	ECIVI BC 12.3.1	5 (2))
Ventilation Load	5,521		,	occining A			R/A Temp			leg. F.		SB-12 Pac	kage	Packag	ge D			Heating C	heck	621 c	fm				Cooling Cl		621 c	
Ventilation PVC	60						/A Temp			leg. F.									_							-		
Supply Branch and Grill Sizing				Diffuser lo	oss _	0.01 "	w.c.			•	1	Temp. Ris	e>>>	<u>43</u> d	leg. F.			Selected of	cfm>	621 c	fm		c	cooling A	ir Flow Ra	ate _	621 c	fm
[							Level 1 C	Outlets													Level 2 O	utlets						
S/A Outlet No.	8 CAV	11	12 BASE	13 BASE											6	7 GRT	9	10										
Room Use Btu/Outlet	1259	BASE 1904	1904	1904											KIT 2294	2403	FOY 2008	PWD 454										
Heating Airflow Rate CFM	40	60	60	60											72	76	63	14										
Cooling Airflow Rate CFM	2	18	18	18											78	109	102	36										
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	34	17	10	16											18	17	20	20										
Equivalent Length	120	100	160	130	90	90	90	90	90	90	90	90	90	90	130	110	100	140	90	90	90	90	90	90	90	90	90	90
Total Effective Length	154	117	170	146	90	90	90	90	90	90	90	90	90	90	148	127	120	160	90	90	90	90	90	90	90	90	90	90
Adjusted Pressure	0.08	0.11	0.08	0.09	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.09	0.10	0.11	0.08	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Duct Size Round	5	5	5	5											6	6	6	4										
Outlet Size	3x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	В	Α	В	В											Α	A	В	В										
S/A Outlet No.		2	3	4	5		Level 3 C	Outlets													Level 4 O	utlets						
Room Use		MAST	BED 2	BED 3	BATH																							
Btu/Outlet		2320	1692	1459	114																							
Heating Airflow Rate CFM					4																							
		73	53																									
=		73 99	53 73	46 64	3																							0.13
Cooling Airflow Rate CFM	0.13	99	73	64	3	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	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	
Cooling Airflow Rate CFM Duct Design Pressure	<b>0.13</b> 90	99 0.13	73 0.13	64 0.13	3 0.13	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	0.13 90	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	<b>0.13</b>	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	0.13 90	90
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length		99 0.13 34	73 0.13 33	64 0.13 41	3 0.13 37																							90 90
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length	90	99 0.13 34 110	73 0.13 33 110	64 0.13 41 130	3 0.13 37 180	90	90	90	90	90	90	90	90	90	90	90	90	90 90	90	90	90	90	90	90	90	90	90	
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length	90 <b>90</b>	99 0.13 34 110 144	73 0.13 33 110 143	64 0.13 41 130 171	3 0.13 37 180 217	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 90	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size	90 <b>90</b>	99 0.13 34 110 144 0.09 6 4x10	73 0.13 33 110 143 0.09 6 4x10	64 0.13 41 130 171 0.08 5 3x10	3 0.13 37 180 217 0.06 2 3x10	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 90	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 <b>90</b>	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90 90	90
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	90 90 0.14	99 0.13 34 110 144 0.09	73 0.13 33 110 143 0.09	64 0.13 41 130 171 0.08	3 0.13 37 180 217 0.06 2	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk	90 90 0.14	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B	64 0.13 41 130 171 0.08 5 3x10	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size	90 90 0.14	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B	64 0.13 41 130 171 0.08 5 3x10	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14	90 90 0.14	90 90 0.14 4x10	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing	90 90 0.14 4x10	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B	64 0.13 41 130 171 0.08 5 3x10 B	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14 4x10	90 90 0.14 4x10 w.c	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 upply Tru	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No.	90 90 0.14 4x10	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres	64 0.13 41 130 171 0.08 5 3x10 B	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14 4x10	90 90 0.14 4x10 w.c	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 upply Tru	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM	90 90 0.14 4x10 1R 145	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225	64 0.13 41 130 171 0.08 5 3x10 B sure Loss	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14 4x10 0.02 "	90 90 0.14 4x10 w.c	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 eeturn Tri runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 upply Tru	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure	90 90 0.14 4x10 1R 145 0.12	99 0.13 34 110 144 0.09 6 4x10 A	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12	3 0.13 37 180 217 0.06 2 3x10 B	90 90 0.14 4x10 0.02 "	90 90 0.14 4x10 w.c	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 Return Tri runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round	90 90 0.14 4x10 Rect. :	90 90 0.14 4x10	90 90 0.14 4x10 <u>S</u> T	90 90 0.14 4x10 upply Tru	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length	90 90 0.14 4x10 1R 145 0.12 28 175 203	99 0.13 34 110 144 0.09 6 4x10 A 2R 100 0.12 38 175 213	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190	90 90 0.14 4x10 0.02 " 6R 0.12 70	90 90 0.14 4x10 w.c 7R 0.12	90 90 0.14 4x10 8R 0.12	90 90 0.14 4x10 9R 0.12 70	90 90 0.14 4x10	90 90 0.14 4x10	90 90 0.14 4x10 <u>F</u> T	90 90 0.14 4x10 eturn Tru trunk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06	99 0.13 34 110 144 0.09 6 4x10 A 2R 100 0.12 38 175 213 0.06	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161 0.07	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06	90 90 0.14 4x10 0.02 ". 6R 0.12	90 90 0.14 4x10 w.c 7R 0.12	90 90 0.14 4x10 8R 0.12	90 90 0.14 4x10 9R 0.12	90 90 0.14 4x10 10R 0.12	90 90 0.14 4x10 11R 0.12	90 90 0.14 4x10 <u>F</u> T	90 90 0.14 4x10 eturn Tru trunk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06 7.5	99 0.13 34 110 144 0.09 6 4x10 A 2R 100 0.12 38 175 213	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05 5.0	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06 6.0	90 90 0.14 4x10 0.02 " 6R 0.12 70	90 90 0.14 4x10 7R 0.12 70 70	90 90 0.14 4x10 8R 0.12 70	90 90 0.14 4x10 9R 0.12 70	90 90 0.14 4x10 10R 0.12 70	90 90 0.14 4x10 11R 0.12 70	90 90 0.14 4x10 <u>F</u> T	90 90 0.14 4x10 Return Tru runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T A B C	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06	99 0.13 34 110 144 0.09 6 4x10 A 2R 100 0.12 38 175 213 0.06	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161 0.07 8.5 6	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06	90 90 0.14 4x10 0.02 " 6R 0.12 70	90 90 0.14 4x10 7R 0.12 70 70	90 90 0.14 4x10 8R 0.12 70	90 90 0.14 4x10 9R 0.12 70	90 90 0.14 4x10 10R 0.12 70	90 90 0.14 4x10 11R 0.12 70	90 90 0.14 4x10 <u>F</u> T	90 90 0.14 4x10 eeturn Tro runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T A B C C D E F G	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size " "	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06 7.5 8	99 0.13 34 110 144 0.09 6 4x10 A  2R 100 0.12 38 175 213 0.06 6.0 8 x	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161 0.07 8.5 6 x	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05 5.0	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06 6.0	90 90 0.14 4x10 0.02 " 6R 0.12 70	90 90 0.14 4x10 7R 0.12 70 70	90 90 0.14 4x10 8R 0.12 70	90 90 0.14 4x10 9R 0.12 70	90 90 0.14 4x10 10R 0.12 70	90 90 0.14 4x10 11R 0.12 70	90 90 0.14 4x10 E Z Y X V V	90 90 0.14 4x10 Return Tri runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 S T A A B C C D E F	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06 7.5 8	99 0.13 34 110 144 0.09 6 4x10 A 2R 100 0.12 38 175 213 0.06 6.0 8	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161 0.07 8.5 6	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05 5.0 FLC	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06 6.0 FLC	90 90 0.14 4x10 0.02 " 6R 0.12 70 70 0.17	90 90 0.14 4x10 7R 0.12 70 70	90 90 0.14 4x10 8R 0.12 70	90 90 0.14 4x10 9R 0.12 70 70	90 90 0.14 4x10 10R 0.12 70 70 0.17	90 90 0.14 4x10 11R 0.12 70 70 0.17	90 90 0.14 4x10 <u>F</u> T Z Z Y X V V V U	90 90 0.14 4x10 deturn Tri runk	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T A B C C D E F G	90 90 0.14 4x10 upply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14
Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Outlet Size Trunk  Return Branch And Grill Sizing R/A Inlet No. Inlet Air Volume CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round Inlet Size " "	90 90 0.14 4x10 1R 145 0.12 28 175 203 0.06 7.5 8	99 0.13 34 110 144 0.09 6 4x10 A  2R 100 0.12 38 175 213 0.06 6.0 8 x	73 0.13 33 110 143 0.09 6 4x10 B Grill Pres 3R 225 0.12 11 150 161 0.07 8.5 6 x	64 0.13 41 130 171 0.08 5 3x10 B sure Loss 4R 40 0.12 25 205 230 0.05 5.0 FLC	3 0.13 37 180 217 0.06 2 3x10 B 5R 111 0.12 15 175 190 0.06 6.0 FLC	90 90 0.14 4x10 0.02 " 6R 0.12 70 70 0.17	90 90 0.14 4x10 7R 0.12 70 70	90 90 0.14 4x10 8R 0.12 70	90 90 0.14 4x10 9R 0.12 70 70	90 90 0.14 4x10 10R 0.12 70 70 0.17	90 90 0.14 4x10 11R 0.12 70 70 0.17	90 90 0.14 4x10 E Z Y X V V	90 90 0.14 4x10 eeturn Tri runk erop	90 90 0.14 4x10 unk Duct	90 90 0.14 4x10 Sizing CFM 621	90 90 0.14 4x10 Press. F	90 90 0.14 4x10 Round 13.5 13.5	90 90 0.14 4x10 Rect. 24x10 20x8	90 90 0.14 4x10 Size	90 90 0.14 4x10 <u>S</u> T A B C C D E F G	90 90 0.14 4x10 supply Tru runk	90 90 0.14 4x10	90 90 0.14 4x10 t Sizing CFM F	90 90 0.14 4x10 Press. F	90 90 0.14 4x10	90 90 0.14 4x10 Rect.	90 90 0.14 4x10 Size	90 0.14



Total Heat Loss

Total Heat Gain

19,715 btu/h

12,179 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:	Delpark/Highcas	tle Homes		Date:		June 1	7, 2015			_			Weath	her Data	Durha	m	44	-4.0	84 20	48.2					Page 4
2012 OBC	Project:	Northgle	en	Mo	odel:		FP Town 2	- Bradford	l			Syster	n 1	Heat	Loss ^T	76 deg. F	Ht ga	ain ^T	9.2	deg. F	GTA:	1053		Project # Layout #	PJ-( JB-(	00022 00695
Run ft. exposed wall Run ft. exposed wall Run ft. exposed wall Ceiling heigh Floor are Exposed Ceilings / Exposed Ceilings l Exposed Floor	A 3 t a A 3		BASE 38 A B 2.0 AG 442 Area A B Fir	Ē	CA' A B 1.0 AG 175 Area A B	V	A B AG Area A B Fir	1	A B A A B	i.G i.rea	•	A B AG Area A B		A B AG Area A B		A B AG Area A B Flr		A B AG Area A B		A B AG Area A B Fir		A A B	3 AG Area A		A B AG Area A B	
Gross Exp Wall	4		76				• •		•	-		• •						• ••		•						
Gross Exp Wall E Component: North Shade	s R-Values	Loss Gain 24.13 10.74	Loss	Gain	Loss	Gain	Los	s Gain		oss (	Sain	Loss	Gain	Loss	Gain	Loss G	ain	Loss	Gain	Loss	Gain		oss (	Gain	Loss (	Gain
East/Wes  South Existing Window Skyligh Door	3.15 h 3.15 s 1.99 t 2.03	24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06	3 72	82																						
Net exposed walls I Net exposed walls I Exposed Ceilings I Exposed Ceilings I Exposed Floor	A 13.79 B 8.50 A 50.00 B 22.86 S 22.05	5.51 0.67 8.94 1.08 1.52 0.72 3.32 1.58	73	49	175 60	3 25																				
Foundation Conductive Heatloss  Total Conductive Heat Loss	s	Grade (x)	2664 2737	,	60																					
Heat Gair Air Leakage Heat Loss/Gair	n	0.3504 0.0036	959		21																					
Ventilation Case Case	2	0.74     0.12       82.08     9.94       0.40     0.12	2018	3 16	44	5 3																				
Heat Gain People Appliances Loads		239 percent 2730	1.0	683																						
Duct and Pipe loss	To	10% otal HL for per room I HG per room x 1.3	5713	1077	125	9 37																				
Level 2 Run ft. exposed wall A	A		KIT 10 A		GR 23 A	т	18 A	OY	4 A			Α		Α		Α		A		Α		А			A	
Run ft. exposed wall E Ceiling heigh			B 10.0		B 10.0		B 10.0		10.0			В		В		В		В		В		В	ı		В	
Floor area	a		168 Area		167 Area		70 Area	1	21 A			Area		Area		Area		Area		Area			Area		Area	
Exposed Ceilings			A B		A B		A B		A B			A B		A B		A B		A B		A B		A B			A B	
Exposed Ceilings E Exposed Floor: Gross Exp Wall <i>I</i>	s		Fir 100		Fir 230		В Fir 180		Б Fi 40			Fir		Fir		Fir		Flr		Fir		F			Fir	
Gross Exp Wall E		Loss Gain	Loss	Gain	Loss	Gain	Los	s Gain	L	oss (	Gain Gain	Loss	Gain	Loss	Gain	Loss G	ain	Loss	Gain	Loss	Gain	L	.oss (	Gain	Loss (	Gain
North Shaded			35 844	951	27 65	1 734	12	290 32	6 6	145	163															
South	h 3.15	24.13 20.71	33 644	951	21 65	1 734	12	290 32	0 0	145	103															
Existing Windows Skyligh	t 2.03	38.19 21.24 37.44 87.34																								
Doors Net exposed walls A		25.25 3.06 5.02 0.61	21 530 44 221		203 102	0 123		328 4 779 9		171	21															
Net exposed walls E Exposed Ceilings	8.50	8.94 1.08 1.52 0.72																								
Exposed Ceilings E	3 22.86	3.32 1.58																								
Exposed Floors Foundation Conductive Heatloss	Slab On 0	3.45 0.15 Grade (x) x																								
Total Conductive Heat Loss Heat Gain	S		1596	1042	167	857		396 46	0	316	184															
Air Leakage Heat Loss/Gair Case		0.1410 0.0036 0.30 0.12	225 474	5 4	23 49	6 3			2	44 94	1 22															
Ventilation Case :	2	82.08 9.94 0.40 0.12																								
Heat Gain People Appliances Loads	s 1 =.25 p				1.0	683	1.5	102	4 0.5		341															
Duct and Pipe loss Level 2 HL Total 7,158	s	10% otal HL for per room	2294	ı	240	3	2	008		454																
Level 2 HG Total 6,376		I HG per room x 1.3							1 1										1							
	Tota	i no per room x 1.3	ļ	1522		2139	l	200	3		712				1				<del>                                     </del>			<b>⊣</b> ⊢				

 $\label{eq:Division C} \textbf{Division C subsection 3.2.5. of the Building Code. Individual BCIN:}$ 

Mana Alexa

David DaCosta

Package D



Total Heat Loss

Total Heat Gain

19,715

12,179

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

Mana Matte

David DaCosta

Package D

	Builder:	Delpark/Highcastle	Homes	D	ate:	Ji	une 17, 201	5		Weather Data	Durham	44	-4.0 84 20	48.2			
2012 OBC	Project:	Northglen		Мо	odel:		own 2 - Brad	,	System 1	Heat Loss ^T	76 dea. F	Ht gain ^T	9.2 deg. F	GTA:	1053	Project # Layout #	PJ-00022 JB-00695
		Northgien								11041 2000 1		ga	0.2 dog. 1	0.7.0		_uyout #	
Level 3			MAST		BED 2		BED 3	BATH	_			_					_
Run ft. exposed wall A Run ft. exposed wall B			23 A B		13 A B	12	2 A B	A B	A B	A B	A B	A B	A B		A B		A B
Ceiling height		8	3.0		8.0	8.0		8.0			_						_
Floor area			10 Area		185 Area		1 Area	55 Area	Area	Area	Area	Area	Area	1	Area		Area
Exposed Ceilings A		2	10 A		185 A		1 A	55 A	Α	Α	Α	Α	Α		Α		A
Exposed Ceilings B			В		В		В	В	В	В	В	В	В		В		В
Exposed Floors			Flr		Flr		Flr	Flr	Fir	Flr	Flr	Flr	Flr		Flr		Fir
Gross Exp Wall A		1	84		104	96	6										
Gross Exp Wall B		oss Gain	Loss	Gain	Loss	Gain	Loss G	ain Loss G	ain Loss Gain	Loss Gain	Loss Gair	Loss	Gain Loss	s Gain	Loss	Gain	Loss Gain
North Shaded		24.13 10.74	1033	Juni	2033	Cam	L033 C	2033	ani Eoss Cum	LOSS Cam	LO33 Cuii		Cam Los	Jani	7		LOSS Cam
East/West	3.15		24 579	652	18 434	489 18	8 434	489									
South		24.13 20.71															
Existing Windows		38.19 21.24															
Skylight		37.44 87.34															
Doors	3.01 15.13	25.25 3.06 5.02 0.61 1	60 804	97	86 432	52 78	392	47									
Net exposed walls A Net exposed walls B		8.94 1.08	004	91	432	32 /8	392	41									
Exposed Ceilings A			10 319	152	185 281	134 161	1 245	117 55 84	40								
Exposed Ceilings B	22.86	3.32 1.58															
Exposed Floors	22.05	3.45 0.15															
Foundation Conductive Heatloss  Total Conductive Heat Loss			1702		1147		1071	84									
Total Conductive Heat Coss Heat Gain			1702	902	1147	675	1071	653	40								
Air Leakage Heat Loss/Gain		0.1169 0.0036	199	3	134	2	125	2 10	0								
Case 1	х	0.25 0.12	419	108	282	81	263	78 21	5								
Ventilation Case 2		82.08 9.94															
Case 3		0.40 0.12	2	478	1	239 1		239									
		230															
Heat Gain People		239 ercent 2730	2	4/0	- 1	200		200									
Heat Gain People Appliances Loads Duct and Pipe loss	1 =.25 pe	ercent 2730 10%		476	1 128	100		233									
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585	1 =.25 pe	ercent 2730 10% tal HL for per room	2320		1 128 1692	100	1459	114	58								
Heat Gain People Appliances Loads Duct and Pipe loss	1 =.25 pe	ercent 2730 10%		1938		100	1459		58								
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585	1 =.25 pe	ercent 2730 10% tal HL for per room				100	1459	114	58								
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A	1 =.25 pe	ercent 2730 10% tal HL for per room	2320 A		1692 A	100	A	114 1265	A	A	A	A	A		A		A
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall A	1 =.25 pe	ercent 2730 10% tal HL for per room	2320		1692	100		114		A B	A B	A B	A B		A B		A B
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height	1 =.25 pe	ercent 2730 10% tal HL for per room	2320 A B		1692 A B	100	A B	114 A B	A B	В	В	В	В		В		В
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area	1 =.25 pe	ercent 2730 10% tal HL for per room	2320 A B		A B Area	100	A B Area	114 A B Area	A B Area	B Area	B Area	B Area	B Area		B Area		B Area
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A	1 =.25 pe	ercent 2730 10% tal HL for per room	A B Area A		A B Area A	100	A B Area A	114 A B	A B Area A	B Area A	B Area A	B Area A	B Area A	•	B Area A		B Area A
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area	1 =.25 pe	ercent 2730 10% tal HL for per room	2320 A B		A B Area	100	A B Area	114 A B Area A	A B Area	B Area	B Area	B Area	B Area	1	B Area		B Area
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A	1 =.25 pe	ercent 2730 10% tal HL for per room	A B Area A B		A B Area A B	100	A B Area A B	114 A B Area A B	A B Area A B	B Area A B	B Area A B	B Area A B	B Area A B	1	B Area A B		B Area A B
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4  Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A Cross Exp Wall A Gross Exp Wall A	1 =.25 pe	rcent 2730 10% lal HL for per room HG per room x 1.3	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall A Gross Exp Wall B Components	1 = .25 pe Total Total	orcent 2730 10% 10% 10% 10% 10% 10% 10% 10% 10% 10	A B Area A B Fir		A B Area A B FIr	100	A B Area A B Fir	A B Area A B Fir	A B Area A B	B Area A B	B Area A B	B Area A B Fir	B Area A B		B Area A B Fir		B Area A B
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Gross Exp Wall A Gross Exp Wall B Components North Shaded	1 = .25 pe Torotal Total  R-Values L 3.15	oss   Gain   27.33   27.34   2	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall A Gross Exp Wall B Components North Shaded EastWest	1 = .25 pe Torotal Total  R-Values L 3.15	orcent 2730 10% 10% 10% 10% 10% 10% 10% 10% 10% 10	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South	1 = 25 pe  Total  Total  R-Values L  3.15  3.15  3.15  1.99	oss Gain 24.13 10.74 24.13 20.71 38.19 21.24	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4  Run ft. exposed wall A Run 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 South	R-Values L 3.15 3.15 3.15 2.03	oss Gain 24.13 10.74 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4  Run ft. exposed wall A  Run ft. exposed wall B  Ceiling height Floor area Exposed Ceilings A  Exposed Ceilings B  Exposed Floors Gross Exp Wall B  Components North Shaded EastWest South Existing Windows Skylight Doors	R-Values L 3.15 3.15 3.15 3.15 3.15 3.20 3.31	oss Gain 24.13 10.74 24.13 10.74 24.13 22.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A	R-Values L 3.15 3.15 3.15 3.15 3.25 1.99 2.03 3.01 15.13	oss Gain 24.13 10.74 24.13 20.71 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total  Level 3 HG Total  Level 3 HG Total  Level 4 Agun ft. exposed wall Agun ft. exposed wall Agun ft. exposed wall Bage Ceilings Agun ft. exposed Ceilings Agun ft. exposed Ceilings Agun ft. exposed Ceilings Agun ft. exposed Films Bage Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls Agun ft. exposed Ceilings Agun ft. exposed Walls Agun ft. exposed Walls Agun ft. exposed Ceilings Agun ft. exposed Ceil	R-Values L 3.15 3.15 3.15 1.99 2.03 3.01 15.13 8.50	oss Gain 24.13 10.74 24.13 12.71 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.14 3.27 24.15 20.71 36.19 21.24 37.44 87.34 5.52 3.06 5.02 0.61 5.94 1.08	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total  Level 3 HG Total  Level 4  Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings B 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 Net exposed walls A Net exposed walls A Net exposed Ceilings A Exposed Ceilings A Rexposed Ceilings A Rexposed Ceilings A Exposed Ceilings A Exposed Ceilings A	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	oss Gain  24.13 10.74  24.13 20.71  24.13 20.71  24.13 20.71  24.13 20.71  38.19 21.24  37.44 87.34  25.25 3.06  5.02 0.61  8.94 1.08  1.52 0.72  3.32 1.58	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A Net exposed walls A Net exposed walls A Net exposed walls A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	oss Gain 24.13 10.74 24.13 12.71 24.13 27.18 24.13 27.18 24.13 27.18 24.13 27.18 24.14 3.27 24.15 20.71 36.19 21.24 37.44 87.34 5.52 3.06 5.02 0.61 5.94 1.08	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Components North Shaded EastWest South Existing Windows Skylight Doors Net exposed walls A Net exposed walls B Exposed Ceilings A	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	oss Gain  24.13 10.74  24.13 20.71  24.13 20.71  24.13 20.71  24.13 20.71  38.19 21.24  37.44 87.34  25.25 3.06  5.02 0.61  8.94 1.08  1.52 0.72  3.32 1.58	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Components North Shaded EastWest South Existing Windows Skylight Doors Net exposed walls A Net exposed walls B Exposed Ceilings A Exposed Cei	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86	oss Gain  24.13 10.74  24.13 20.71  24.13 20.71  24.13 20.71  24.13 20.71  38.19 21.24  37.44 87.34  25.25 3.06  5.02 0.61  8.94 1.08  1.52 0.72  3.32 1.58	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 H. Total Level 3 HG Total  Level 3 HG Total  Level 4 Ass  Level 4 Run ft. exposed wall Ass Ceiling height Floor area Exposed Ceilings AExposed Ceilings AExposed Ceilings AExposed Ceilings AExposed Ceilings AExposed Floors Gross Exp Wall AExposed Floors Gross Exp Wall BEXPOSED South Existing Windows Skylight Existing Windows Skylight Doors Net exposed walls AExposed Ceilings AEXpos	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 3.20 2.03 3.01 2.2.86 2.05	oss Gain 24.13 10.74 24.13 10.74 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total  Level 3 HG Total  Level 4  Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A Net exposed Ceilings A Exposed Ceilings B Exposed Floors Foundation Conductive Heat Loss Heat Gain Air Leakage Heat Loss/Gain Case 1	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86 22.05	oss Gain  24.13 10.74  24.13 27.18  24.13 27.18  24.13 27.18  24.13 27.18  24.13 20.71  38.19 21.24  37.44 87.34  25.25 3.06  5.02 0.61  8.94 1.08  1.52 0.72  3.32 1.58  3.45 0.15  0.000 0.0036  0.000 0.0036	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Components North Shaded EastWest South Existing Windows Skyligh Doors Net exposed walls A Net exposed walls B Exposed Ceilings A Exposed Ceilings B Exposed Ceilings A Exposed Floors Foundation Conductive Heatloss Total Conductive Heat Loss Heat Loss/Gain Heat Loss/Gain Heat Loss/Gain	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86 22.05	oss Gain 24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 0.000 0.0036 0.000 0.0036 0.000 0.0036 0.00 0.012 82.08 9.94	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run 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 Net exposed walls A Net exposed walls A Net exposed Ceilings B Exposed Floors Foundation Conductive Heat Loss Total Conductive Heat Loss Heat Case 1 Ventilation Case 2 Case 3	R-Values L 3.15 3.15 3.15 3.15 3.15 3.20 2.286 22.05	oss Gain 24.13 10.74 24.13 10.74 24.13 20.71 38.19 21.24 37.44 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15 0.0000 0.0036 0.00 0.12	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Components North Shaded EastWest South Existing Windows Skyligh Doors Net exposed walls A Net exposed walls B Exposed Ceilings A Exposed Ceilings B Exposed Ceilings A Exposed Floors Foundation Conductive Heatloss Total Conductive Heat Loss Heat Loss/Gain Heat Loss/Gain Heat Loss/Gain	R-Values L 3.15 3.15 3.15 3.15 3.15 3.15 3.15 3.20 3.01 15.13 8.50 50.00 22.86 22.05	oss Gain  24.13 10.74 24.13 27.18 24.13 27.18 24.13 27.18 24.13 20.71 38.14 87.34 25.25 3.06 5.02 0.61 8.94 1.08 1.52 0.72 3.32 1.58 3.45 0.15  0.000 0.0036 0.000 0.0036 0.000 0.012 82.08 9.94 0.40 0.12	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total 5,585 Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 3 HG Total 4,688  Level 4 Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A Net exposed Ceilings B Exposed Floors Foundation Conductive Heat Loss Heat Gain Air Leakage Heat Loss/Gain Air Leakage Heat Casin Air Leakage Heat Casin Air Leakage Heat Casin Air Leakage Heat Loss/Gain Air Leakage Heat Casin Air Leakage Heat Casin Air Leakage Heat Casin Air Leakage Heat Loss/Gain Air Leakage Heat Daylear Appliances Loads Duct and Pipe loss Duct and Pipe loss	R-Values L 3.15 3.15 3.15 3.15 3.15 2.03 3.01 15.13 8.50 50.00 22.86 22.05	oss Gain  24.13 10.74  24.13 10.74  24.13 20.71  38.19 21.24  37.44 87.34  25.25 3.66  5.02 0.61  8.94 1.08  1.52 0.72  3.32 1.58  3.45 0.15  0.000 0.0036  0.00 0.12  82.08 9.94  0.40 0.12  239  streent 2730	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir
Heat Gain People Appliances Loads Duct and Pipe loss Level 3 HL Total Level 3 HG Total  Level 3 HG Total  Run ft. exposed wall A Run ft. exposed wall A Run ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A Run ft. exposed wall A Run ft. exposed wall A Run ft. exposed wall B Coilings B Exposed Floors Gross Exp Wall B Components North Shaded East/West South Existing Windows Skylight Doors Net exposed walls A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors Foundation Conductive Heatloss Total Conductive Heat Loss/Gain Air Leakage Case 1 Ventilation Case 2 Case 3 Heat Gain People Appliances Loads	R-Values L 3.15 3.15 3.15 3.15 3.15 3.19 2.03 3.01 15.13 8.50 50.00 22.86 22.05	oss Gain	A B Area A B Fir	1938	A B Area A B Fir	100 1427 2015	A B Area A B Fir	A B Area A B Fir	A B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir	B Area A B Fir		B Area A B Fir		B Area A B Fir

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



Roll#

Address

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

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Project # e-mail dave@gtadesigns.ca Layout # JB-00695 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 Package: Package D Project: Clarington Model: FP Town 2 - Bradford RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93 Location of Installation Lot# Plan # Township Clarington

	Builder	
Name		
	Delpark/Highcastle Homes	
Address		
City		
,		
Tel	Fax	

Permit #

	Installing Contractor	
Name		
Address		
City		
Tel	Fax	

		Combustion Appliances 9.32.3.1(1)
a)		Direct vent (sealed combustion) only
b)	Х	Positive venting induced draft (except fireplaces)
c)		Natural draft, B-vent or induced draft fireplaces
d)		Solid fuel (including fireplaces)
e)		No combustion Appliances

	Heating System
Х	Forced air
	Non forced air
	Electric space heat (if over 10% of heat load)

		House Type 9.32.3.1(2)
I	Х	Type a) or b) appliances only, no solid fuel
II		Type I except with solid fuel (including fireplace)
Ш		Any type c) appliance
IV		Type I or II either electric space heat
Other		Type I, II or IV no forced air

		System Design Option
1	Х	Exhaust only / forced air system
2		HRV WITH DUCTING / forced air system
3		HRV simplified connection to forced air system
4		HRV full ducting/not coupled to forced air system
		Part 6 design
		·

Total Ventilation	Total Ventilation Capacity 9.32.3.3(1)					
Bsmt & Master Bdrm	2	@	20	cfm	40	cfm
Other Bedrooms	2	@	10	cfm	20	cfm
Bathrooms & Kitchen	3	@	10	cfm	30	cfm
Other rooms	1	@	10	cfm	10	cfm
			Total	1	100	
				;		

Principal Ventilation Capacity 9.32.3.4(1)						
Master bedroom Other bedrooms	1 2	@		cfm cfm		cfm cfm

Principal Exhaust Fan Capacity					
Make	Model	Location			
Broan	684N	Ensuite			
90 cfm		2.5 Sones			

Heat Recovery Ventilator				
Make				
Model				
	cfm high	0 cfm low		
Sensible effic	<u>0</u>			
Sensible effic	Sensible efficiency @ 0 deg C 0			

Supplemental Ventilation Capacity				
Total ventilation capacity Less principal exhaust capacity REQUIRED supplemental vent. Capacity	100.0 60.0 40.0 cfm			

Supplemental Fans 9.32.3.5.						
Location	cfm	Model	Sones			
Pwd.	50	770				
all fans HVI listed	Make	Broan	or Equiv.			

Designer Certification			
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.			
Name	David Da	aCosta	
Signature	Mane	14C+	7
HRAI#	5190	BCIN#	32964
Date	June 17	, 2015	

# gtaDesigns

# **Energy Efficiency Design Summary**

(Part 9 Residential)

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

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Project # PJ-00022

e-mail dave@gtadesigns.ca								Layout #	JB-00695
This form is use	d to summarize th	ne energy			he project. Information	on on completing th	is form is or	n the reverse	
Application No:				400 by 1 111	Model/Certification Number				
A. Project Informat	ion								
Building number, street name						Unit number	Lot/Con		
			FP Tow	n 2 - Brad	lford				
Municipality Claring	iton		Postal code	9	Reg. Plan number / other	er description	•		
B. Compliance Opt	ion		ı		l .				
☑ SB-12 Prescripti		1.]		Table:	Package: A B C	CDEFGHI	JKLM	Packag	je D
☐ SB-12 Performa	nce* [SB-12 - 2.	1.2.]		* Attach	energy performance	e calculations usin	g an appro	oved software	
☐ Energy Star®* [	SB-12 - 2.1.3.]			* Attach I	BOP form				
☐ EnerGuide 80®	*			* House i	must be evaluated b	by NRCan advisor	and meet	a rating of 80	
C. Project Design (	Conditions								
Climatic Zone (S	,		ing Equip			Space Heating			
☑ Zone 1 (< 5000 deg		<b>V</b>	≥ 90% AF	UE	☑ Gas	☐ Propane		Solid Fuel	
☐ Zone 2 (≥ 5000 deg	ree days)		≥ 78% < 9	00% AFUE	☐ Oil	☐ Electric		Earth Energy	
Window	s+Skylights+Gl	ass Doors	3			Other Building	Conditions	onditions	
Gross Wall Area =	94 m²	0/.	Windows+	14%	☐ ICF Basement	☐ Walkout	Basement	☐ Log/Post&B	eam
Gross Window+ Area =	13 m²	/0	70 WIIIdows+ <u>1470</u>		☐ ICF Above Grade	☐ Slab-on-g			
D. Building Specifications [provide values and ratings of the energy efficiency components proposed, or attach Energy Star BOP form]									
Building Co	mponent		RSI/R	values	Buildi	ng Component		Efficiency F	Ratings
Thermal Insulation			T		Windows & Doors			•	
Ceiling with Attic Space				50	Windows/Sliding Glass Doors			1.8	
Ceiling without Attic Space	<del></del>			31	Skylights			2.8	
Exposed Floor				31	Mechanicals			0.40/	
Walls Above Grade Basement Walls				24	Space Heating Equip. <sup>2</sup>			94%	
Slab (all >600mm below g	rado)			20	HRV Efficiency (%) DHW Heater (EF)			0%	
`				X	NOTES			0.67	
Slab (edge only ≤600mm l			1	10	1. Provide U-Value in W/m2.K, or ER rating				
Slab (all ≤600mm below g				10	Provide AFUE or indicate if condensing type combined system used				
	e Design Verif	<b>cation</b> [c	omplete ap	plicable sec	tions if SB-12 Performa	ance, Energy Star or	EnerGuide8	0 options used]	
SB-12 Performance:			05.40.5			0. // 0. /000	•••		
The annual energy consump	_			-	IS	Gj (1 Gj =1000N	<b>1</b> J)		
The annual energy consump		_		-					
The software used to simular				-	er hour @50Pa		_		
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 EnerGuide		will be lab	eled on co	inpletion b	y				
Evaluator/Advisor/Rater Name:					Evaluator/Advisor/Rater Licence #:				
F. Designers	[names of designe	ers who are	responsible	e for the bui	Iding code design and v	whose plans accomp	any the perm	nit application]	
Architectural					Mechanical				
					David DaCos	sta 🥢	Tane 1	46 <del>4</del>	



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

Page 8 PJ-00022 Project #

JB-00695 Layout #

	kage: Package D ject: Clarington		/stem: //odel:		FP	Syste Town 2		d	
		Air Leakage (	Calculat	ions					
	Building Air Leakage Heat I           B         LRairh         Vb         HL^           0.018         0.130         13126         76	T HLleak		Building B 0.018	Air Leakaç LRairh 0.008	ge Heat Ga Vb 13126	in HG^T 9.2	HG Leak	
						Lev	/els		п
	Air Leakage Heat Loss/Gain Multi				1	2	3	4	
	Level Factor (LF)         Building Air         Level Conducting Heat Loss           1         0.5         3340	ve Air Leakage Ho Multiplio 0.3504	er		(LF)	(LF) 0.6	(LF) 0.5	(LF) 0.4	
	2 0.3 3 0.2 2340 4979 4004	0.1410 0.1169		·	1.0	0.4	0.3 0.2	0.3 0.2	ш
	4 0 0	0.0000 Air Leakage Ho		. L		Levels this	s Dwelling	0.1	
	HG LEAK 18 BUILDING CONDUCTIVE HEAT GAIN 496	0.0036				;	3		
	Ventilation Calculations								
	Ventilation Heat Loss				Ventila	ation Heat G	ain		
Vent	Ventilation Heat Loss           C         PVC         HL^T         (1-E) HRV           1.08         60         76         1.00	HLbvent 4925	C 1.1	PVC 60	entilation HG^T 9.2	HGb	vent 96		Vent
	Case 1					Case 1			
	Ventilation Heat Loss (Exhaust only Sy	rstems)		Ventila	tion Heat G	ain (Exhaust	Only Syster	ns)	
Case 1	Case 1 - Exhaust Only           Level         LF         HLbvent         LVL Cond. HL           1         0.5         3340           2         0.3         4979           3         0.2         4004           4         0         0	. Multiplier 0.74 0.30 0.25 0.00	HG	e 1 - Exha bvent ilding	596 4969		iplier 12		Case 1
	Case 2					Case 2			
2	Ventilation Heat Loss (Direct Ducted S	ystems)	Ventilation Heat Gain (Direct Ducted Systems)				2		
Case	の C HI ^T (1-E) HRV			C 1.08	HG^T 9.2		iplier 94		Case
	Case 3					Case 3			
3	Ventilation Heat Loss (Forced Air Systems)			Venti	lation Heat	Gain (Forced	l Air System	s)	3
Case	Total Ventilation Load 4925	Multiplier 0.40		Sbvent 596	HG*1.3		eat Gain 96	Multiplier 0.12	Case
	Foundation Conductive Heatloss	Level 1	781	,	Watts	26	664	Btu/h	

# **Envelope Air Leakage Calculator**

Supplemental tool for CAN/CSA-F280

Weather Station Do	escription		
Province:	Ontario	~	
Region:	Durham	~	
Weather Station Location:	Open flat terrain, grass	₹	
Anemometer height (m):	10		
Local Shieldi	ing		
Building Site:	Suburban, forest	•	
Walls:	Heavy	•	
Flue:	Heavy	•	
Highest Ceiling Height (m):			5.79
Building Configu	ıration	6.4	
Type:	Semi-Detached	Ŧ	
Number of Stories:	Two	T	
Foundation:	Full		
House Volume (m³):	566.3	46	67.03
Air Leakage/Ven	tilation		
Air Tightness Type:	Present (1961-) (ACH=3.57)	T	
	ELA @ 10 Pa. 135.33	cm²	
Custom BDT Data:	3.57 ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust		
	0 30		
Flue Size			
Flue #:	#1 #2 #3	#	4
Diameter (mm):	0 0 0		0
Envelope Air Leak	age Rate		
Heating Air Leakage Rate (ACH/H):	0.142		
Cooling Air Leakage Rate (ACH/H):	0.010		

# **Residential Foundation Thermal Load Calculator**

Supplemental tool for CAN/CSA-F280

Weather Station Description					
Province:	Ontario	▼			
Region:	Durham	▼			
	Site D	escription			
Soil Conductivity:	High conductivity: moist soil ▼				
Water Table:	Normal (7	7-10 m, 23-33 Ft)			
Fou	ındatio	n Dimensions			
Floor Length (m):	13.27				
Floor Width (m):	4.10				
Exposed Perimeter (m):	33.53				
Wall Height (m):	2.74				
Depth Below Grade (m):	2.13	Insulation Configuration			
Window Area (m²):	0.28				
Door Area (m²):	0.00				
	Radi	ant Slab			
Heated Fraction of the Slab:	0				
Fluid Temperature (°C):	23				
Design Months					
Heating Month	1				
	Foundation Loads				
Heating Load (Watts): 1260					

FLEX DUCT RIDIT ROUND DUCT SUPPLY DIFFUSER

LOW/HIGH WALL/KICK SUPPLY DIFFUSER HRV EXHAUST GRILL 0 SUPPLY AIR PIPE RISER VOLUME DAMPER



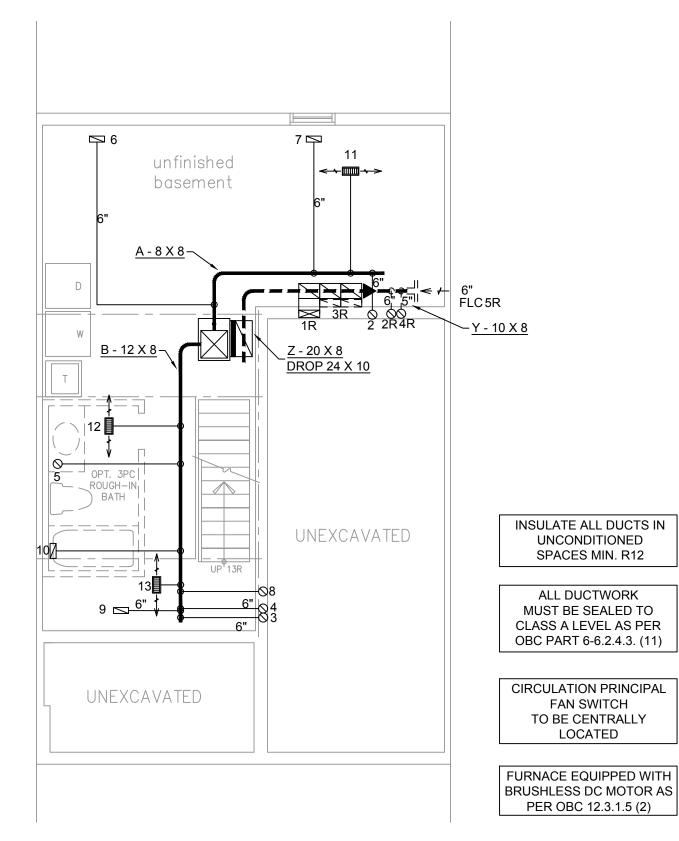
RETURN AIR PIPE RISER RETURN ROUND DUCT

DUCT CONNECTION

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) RETURN AIR RISER UP TO FLOOR ABOVE RETURN AIR FROM BASEMENT SECOND FLOOR

R.A. 1

SUPPLY AIR RETURN AIR THERMOSTAT PRINCIPAL EXHAUST FAN SWITCH W/R & PRINCIPAL EXHAUST FAN



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

B.C.I.N. 32964
Signature of Designer

## **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



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.
	19,715	
UNIT MAKE	•	OR EQUAL.
	AMANA	
UNIT MODEL		OR EQUAL.
GME	EC960302B	NA
UNIT HEATING INF	PUT	BTU/HR.
	30,000	
UNIT HEATING OU	ITPUT	BTU/HR.
	28,800	
A/C COOLING CAP	PACITY	TONS.
	1.5	
FAN SPEED		CFM
	621	

# OF RUNS	S/A	R/A	FANS	l
3RD FLOOR				
2ND FLOOR	4	2	1	l
1ST FLOOR	5	2	2	l
BASEMENT	3	1		
FLOOR PLAN:				ı

FLOOR PLAN	BASE	
DRAWN BY:	CHECKED: DD	1053
JB-0	0695	DRAWING NO. M1

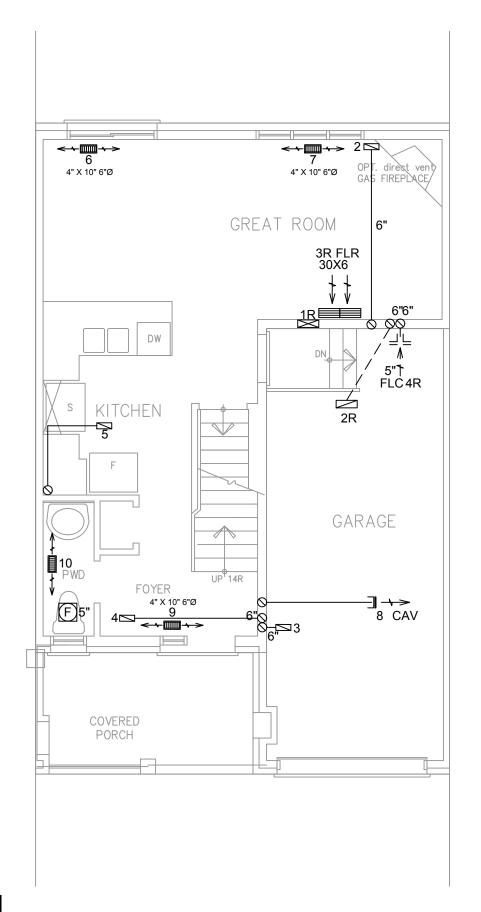
PACKAGE "D" REF. TABLE 2.1.1.2.A JUNE 17, 2015 DELPARK HIGHCASTLE MODEL: FP TOWN 2 - BRADFORD

**OBC 2012** 

**ZONE 1 COMPLIANCE** 

NORTHGLEN BOWMANVILLE, ONT. 3/16" = 1"-0"

RETURN AIR GRILLE DUCT CONNECTION FLEX DUCT LOW/HIGH WALL/KICK SUPPLY DIFFUSER (SIZE INDICATED ON DRAWING) RETURN AIR RISER UP TO FLOOR ABOVE HRV EXHAUST GRILL RIDIT ROUND DUCT @ ⊘ RETURN AIR PIPE RISER SUPPLY AIR PIPE RISER 8 SUPPLY DIFFUSER RETURN AIR FROM BASEMENT SECOND FLOOR VOLUME DAMPER RETURN ROUND DUCT



INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

SUPPLY AIR

RETURN AIR

THERMOSTAT

PRINCIPAL EXHAUST FAN SWITCH

W/R & PRINCIPAL EXHAUST FAN

R.A.

1

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

CIRCULATION PRINCIPAL FAN SWITCH TO BE CENTRALLY LOCATED

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QUALIFICATION INFORMATION

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

David Da Costa

Signature of Designer

B.C.I.N. 32964

**OBC 2012** 

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

### NOTES

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SPECIFIED.
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EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION
MAY OCCUR WITH IN THE DWELLING

# gtaDesigns

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

19,715	lŀ
UNIT MAKE OR EQUAL.	11
AMANA	lŀ
UNIT MODEL OR EQUAL.	1 L
GMEC960302BNA	Ш
UNIT HEATING INPUT BTU/HR.	lŀ
30,000	lL
UNIT HEATING OUTPUT BTU/HR.	۱.
28,800	П
A/C COOLING CAPACITY TONS.	lŀ
1.5	Ш
FAN SPEED CFM	Ιŀ
621	Ш

HEAT-LOSS

BTU/HR.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	4	2	1
1ST FLOOR	5	2	2
BASEMENT	3	1	
FLOOR PLAN: GROUND FLOOR			
	OOET		-

DD

JB-00695

RB

1053

**M2** 

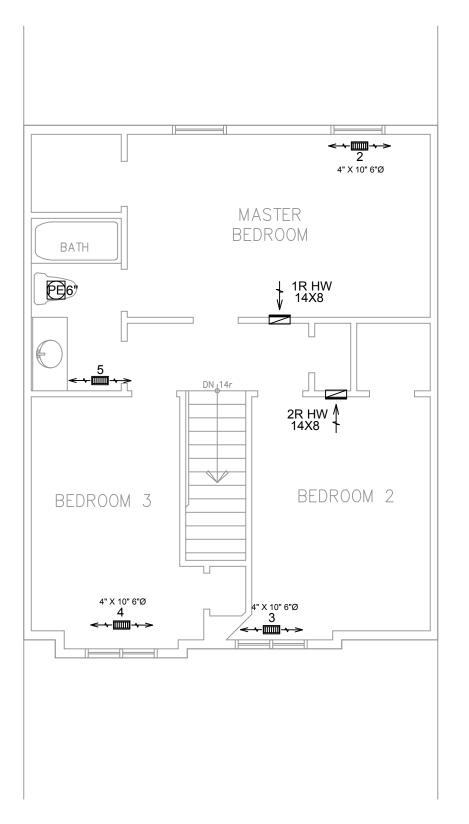
	DELPARK HIGHCASTLE
Ш	MODEL:
	FP TOWN 2 - BRADFORD
	PROJECT:

JUNE 17, 2015

NORTHGLEN
BOWMANVILLE,ONT.

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

DUCT CONNECTION TO JOIST LINING RETURN AIR GRILLE SUPPLY AIR  $\stackrel{\downarrow}{=}$ LOW/HIGH WALL/KICK SUPPLY DIFFUSER FLEX DUCT RETURN AIR (SIZE INDICATED ON DRAWING) R.A. HRV EXHAUST GRILL RIDIT ROUND DUCT **a**l<del><</del> + RETURN AIR RISER UP TO FLOOR ABOVE ① THERMOSTAT 0 SUPPLY AIR PIPE RISER 8 RETURN AIR PIPE RISER PRINCIPAL EXHAUST FAN SWITCH W/R & PRINCIPAL EXHAUST FAN SUPPLY DIFFUSER VOLUME DAMPER RETURN ROUND DUCT



INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

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

CIRCULATION PRINCIPAL **FAN SWITCH** TO BE CENTRALLY LOCATED

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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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MAY OCCUR WITH IN THE DWELLING

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19,715	
UNIT MAKE	OR EQUAL.
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28,800	
A/C COOLING CAPACITY	TONS.
1.5	
FAN SPEED	CFM
621	

BTU/HR.

RΒ

DD JB-00695

HEAT-LOSS

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	4	2	1
1ST FLOOR	5	2	2
BASEMENT	3	1	
SECOND	FLO	OR	

1053

M3

DATE:
JUNE 17, 2015
CLIENT:
DELPARK HIGHCASTLE
MODEL:
FP TOWN 2 - BRADFORD
FF TOWN Z - BRADFORL

NORTHGLEN BOWMANVILLE, ONT. 3/16" = 1"-0"