

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 Sonom	na 4		Lot:	154
SD25-4 Lo	ot 154		Lot/con.	
Municipality Bradford	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design	gn activities			
Name David DaCosta		Firm	gtaDesigns Inc.	
Street address 2985 Drew Roa	d, Suite 202		Unit no.	Lot/con.
Municipality	Postal code	Province	E-mail	
Mississauga Telephone number	L4T 0A4 Fax number	Ontario	hvac@gtadesi Cell number	gns.ca
(905) 671-9800	I ax Hullibel		Cell Humber	
C. Design activities undertaken by individual identified in S	ection B. [Bu	ilding Code Table 3	.5.2.1 of Division C]	
☐ House ☑ HVAC – H	ouse		☐ Building Structural	
☐ Small Buildings ☐ Building Se	ervices		☐ Plumbing – House	
	Lighting and Pov	wer	☐ Plumbing – All Buildings	
☐ Complex Buildings ☐ Fire Protect	tion		☐ On-site Sewage System	S
Description of designer's work Mod	del Certification	1	Project #:	PJ-00041
Heating and Onellow Lead Orbestelland	Х	Duilden	Layout #:	JB-07272
Heating and Cooling Load Calculations Main Air System Design Alternate	^	Builder Project	Bayview Wellingto Green Valley East	
Residential mechanical ventilation Design Summary Area Sq ft:	2185		Sonoma 4	
Residential System Design per CAN/CSA-F280-12		Model	SD25-4 Lot 154	
Residential New Construction - Forced Air		SB-12	Package A1	
D. Declaration of Designer				
David DaCosta	declare that (c	choose one as appro	priate):	
(print name)				
☐ I review and take responsibility for t				
3.2.4 Division C of the Building Coc classes/categories.	ie. i am quaimed	i, and the iirm is registe	ered, in the appropriate	
Individual BCIN:				
Firm BCIN:				
Tilli Boile.			ı	
	•			
Individual BCIN:	3296	64		
Basis for exemp	tion from registra	ation: D	ivision C 3.2.4.1. (4)	
☐ The design work is exempt from the	e registration and	d qualification requirem	ents of the Building Code.	
Basis for exemp	tion from registra	ation and qualification:		
I certify that:				
The information contained in this schedule is true to the best of n	ny knowledge.			
I have submitted this application with the knowledge and consent	of the firm.			
June 25, 2021		Mane So		
Date		Signature of Des	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, 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 e-mail hvac@gtadesigns.ca

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These documents issued for the use of and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red. Building Location	Heat loss and gain calcul	ation summary sheet CSA-F280-M12 Standard
Sulding Location	These documents issued for the use of	
Address (Model) SD25-4 Lot 154	and may not be used by any other persons without authorization. Document	s for permit and/or construction are signed in red. JB-07272
Address (Model) SD25-4 Lot 154	Building	Location
City and Province: Bradford		
Calculations Dimensional information based on: VA3 Design11/May/2012 Attachment: Semi	Model: Sonoma 4	Lot: 154
Dimensional information based on: Attachment: Semi	City and Province: Bradford	Postal code:
Attachment: Semi	Calculation	s based on
No. of Levels: 3 Ventilated? Included Air tightness: 1961-Present (ACH=3.57) Assumed? Yes	Dimensional information based on:	VA3 Design11/May/2012
Weather location: Bradford	Attachment: Semi	Front facing: East/West Assumed? Yes
HRV? VanEE 65H HRV Internal shading: Light-translucent Occupants: 5	No. of Levels: 3 Ventilated? Included	Air tightness: 1961-Present (ACH=3.57) Assumed? Yes
Sensible Eff. at -25C	Weather location: Bradford	Wind exposure: Sheltered
Sensible Eff. at -0C 75%	HRV? VanEE 65H HRV	Internal shading: Light-translucent Occupants: 5
Heating design conditions Cooling design conditions	Sensible Eff. at -25C 60% Apparent Effect. at -0C 83%	Units: Imperial Area Sq ft: 2185
Outdoor temp	Sensible Eff. at -0C 75%	
Above grade walls	Heating design conditions	Cooling design conditions
Style A:	Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 48	Outdoor temp 86 Indoor temp: 75 Latitude: 44
Style B: Style C: Style D: Style A: As per Selected OBC SB12 Package A1 Style A: As per Selected OBC SB12 Package A1 R 31 Exposed floors Style C: Style A: As per Selected OBC SB12 Package A1 R 31 Doors Style B: Style C: Style B: Style B: Style C: Style B: Style B: Style C: Style B: Style	Above grade walls	Below grade walls
Style C: Style D: Style A: As per Selected OBC SB12 Package A1 R 60 Style B: Style B: As per Selected OBC SB12 Package A1 R 31 Style A: As per Selected OBC SB12 Package A1 R 31 As per Selected OBC SB12 Package A1 R 31 Doors Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 As per Selected OBC SB12 Package A1 R 4.00 Style B: Style B: Style B: Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 As per Selected OBC SB12 Package A1 R 4.00 Style B:	Style A: As per OBC SB12 Package A1 R 22	Style A: As per OBC SB12 Package A1 R 20ci
Style D: Style D: Style D: Style D: Ceilings	Style B:	Style B:
Style A:	Style C:	Style C:
Style A: As per Selected OBC SB12 Package A1 Style A: As per Selected OBC SB12 Package A1 R 60 Style B: Style B: As per Selected OBC SB12 Package A1 R 31 Exposed floors Style C: Style A: As per Selected OBC SB12 Package A1 R 31 Windows Style B: Style B: Style B: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style B: S	Style D:	Style D:
Style B: Style B: As per Selected OBC SB12 Package A1 R 31 Exposed floors Style C: Style A: As per Selected OBC SB12 Package A1 R 31 Windows Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 Windows Style B: Style B: Style B: Style B: Style C: Style B: Style C: Style B: Style C: Style B: Style B: Style C: Style B: Attached documents: As per Selected OBC SB12 Package A1 R 2.03 Style D: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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	Floors on soil	Ceilings
Exposed floors Style A: As per Selected OBC SB12 Package A1 R 31 Doors Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 Windows Style B: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Skylights Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Style A: As per Selected OBC SB12 Package A1	Style A: As per Selected OBC SB12 Package A1 R 60
Style A: As per Selected OBC SB12 Package A1 R 31 Doors Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 Windows Style B: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Skylights Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: As per Selected OBC SB12 Package A1 R 2.03	Style B:	Style B: As per Selected OBC SB12 Package A1 R 31
Style B: Style A: As per Selected OBC SB12 Package A1 R 4.00 Windows Style B: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Style B: Style B: Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values Notes: Residential New Construction - Forced Air Calculations performed by Name: David DaCosta Postal code: L4T 0A4 Company: gtaDesigns Inc. Address: 2985 Drew Road, Suite 202 Fax:	Exposed floors	Style C:
Windows Style B: Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Skylights Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Style A: As per Selected OBC SB12 Package A1 R 3	1 Doors
Style A: As per Selected OBC SB12 Package A1 R 3.55 Style C: Style B: Skylights Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Style B: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Style B:	Style A: As per Selected OBC SB12 Package A1 R 4.00
Style B: Style C: Style D: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Windows	Style B:
Style C: Style A: As per Selected OBC SB12 Package A1 R 2.03 Style D: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values Notes: Residential New Construction - Forced Air Calculations performed by Name: David DaCosta Postal code: L4T 0A4 Company: gtaDesigns Inc. Address: 2985 Drew Road, Suite 202 Fax:	Style A: As per Selected OBC SB12 Package A1 R 3.5	5 Style C:
Style D: Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Style B:	Skylights
Attached documents: As per Shedule 1 Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values 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:	Style C:	Style A: As per Selected OBC SB12 Package A1 R 2.03
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:	Style D:	Style B:
Calculations performed by Name: David DaCosta Postal code: L4T 0A4 Company: gtaDesigns Inc. Telephone: (905) 671-9800 Address: 2985 Drew Road, Suite 202 Fax:	Attached documents: As per Shedule 1 Heat Loss	Gain Caculations based on CSA-F280-12 Effective R-Values
Name: David DaCosta Postal code: L4T 0A4 Company: gtaDesigns Inc. Telephone: (905) 671-9800 Address: 2985 Drew Road, Suite 202 Fax:	Notes: Residential New	Construction - Forced Air
Company: gtaDesigns Inc. Telephone: (905) 671-9800 Address: 2985 Drew Road, Suite 202 Fax:	Calculations	performed by
Address: 2985 Drew Road, Suite 202 Fax:	Name: David DaCosta	Postal code: L4T 0A4
· · · · · · · · · · · · · · · · · · ·	Company: gtaDesigns Inc.	Telephone: (905) 671-9800
City: Mississauga E-mail hvac@gtadesigns.ca	Address: 2985 Drew Road, Suite 202	Fax:
1	City: Mississauga	E-mail hvac@gtadesigns.ca



Builder: Bayview Wellington

Air System Design

2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 e-mail hvac@gtadesigns.ca

SB-12 Package A1

Date: June 25, 2021 Sonoma 4

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 #

PJ-00041

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Project: Green V	/alley Eas	st		Model:			Sonor SD25-4 L					Sys	stem 1			uilding Co idividual E		32964	Man	ne 160	A		David DaCo	sta		ject # yout #	PJ. JB.	-07272
DESIGN LOAD SPECIFICATION	S		7	AIR DISTR	RIBUTION	& PRESS	URE				F	URNACE/A	IR HANDI	LER DAT	A :		Е	OILER/W	ATER HEA	TER DAT	A:			Α	/C UNIT D	ATA:		
Level 1 Net Load Level 2 Net Load Level 3 Net Load Level 4 Net Load Total Heat Loss	13,240 k 13,803 k 12,589 k	otu/h otu/h otu/h		Equipmen Additiona Available Return Br	nt External I Equipme Design Pro	Static Pront Pressuressure	essure	h	0.5 "\ 0.225 "\ 0.275 "\ 300 ft 0.138 "\	w.c.	M M In	ake odel put Btu/h utput Btu/l .s.p.	А	Amar MEC9606 6000 5760 0.50	a 03ANA D	w.c.	N N III	Make Model nput Btu/h Dutput Btu Min.Outpu	ı ı/h		ту	/pe WH		A	imana cond		2.5 T 2.5 2.5	on
Total Heat Gain	24,338 h				m Pressur				0.14 "\			ater Temp		0.00		eg. F.	Γ̈́	пп.оигри	- Dtu/II				wer DATA:					
Building Volume Vb Ventilation Load Ventilation PVC	25324 f 1,188 E 79.5 d	t³ Stuh.	ŀ	Heating A	ir Flow Pro	oportionir oportionir	-		0.0234 ct 0.0382 ct 70 dc 127 dc	im/btuh im/btuh eg. F.	A	FUE ux. Heat B-12 Packa	ge	96% Package				Blower Spo	eed Selecto	ed: 929 cf	W2 fm			C	cooling Ch	ess DC OE eck	CM BC 12.3.1.5 929 c	
Supply Branch and Grill Sizing			I	Diffuser Ic	oss _	0.01	"w.c.				T	emp. Rise>	^{>>} =	<u>57</u> d	eg. F.		S	Selected c	fm> _	929 cf	fm		C	ooling Ai	r Flow Rate	e =	<u>929</u> c	fm
							Leve	el 1													Level	2						
S/A Outlet No.	1	2	3	4											5	6	7	8	9	10								
Room Use	BASE	BASE	BASE	BASE											KIT	KIT	LIV	DIN	PWD	FOY								
Btu/Outlet	3310	3310	3310	3310											2373	2373	1798	3278	736	3246								
Heating Airflow Rate CFM	78	78	78	78											56	56	42	77	17	76								
Cooling Airflow Rate CFM	11	11	11	11											99	99	118	109	21	59								
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	29	23	19	36											35	32	18	27	36	42								
Equivalent Length	80	110	110	140	70	70	70	70	70	70	70	70	70	70	70	110	110	80	130	120	70	70	70	70	70	70	70	70
Total Effective Length	109	133	129	176	70	70	70	70	70	70	70	70	70	70	105	142	128	107	166	162	70	70	70	70	70	70	70	70
Adjusted Pressure	0.12	0.10	0.10	0.07	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.12	0.09	0.10	0.12	0.08	0.08	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Duct Size Round	6	6	6	6	4::40	4:-40	4::40	4::40	4:-40	4:-40	4:-40	4:-40	4-40	4::40	6	6	6	6	4	6	4:-40	440	4:-40	440	440	4::40	440	440
Outlet Size Trunk	4x10 C	4x10	4x10 Δ	4x10 B	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10 C	4x10 D	4x10 A	4x10 A	3x10 B	4x10 B	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk		<u> </u>	^				Leve	el 3											В		Level	4						
																						-						
S/A Outlet No.	11	12	13	14	15	16	17	18																				
S/A Outlet No. Room Use	11 MAST	12 MAST	13 LAUND	14 BED 2	15 BED 3	16 BATH	17 BED 4	18 ENS																				
Room Use	MAST	MAST	LAUND	BED 2	BED 3	BATH	BED 4	ENS																				
Room Use Btu/Outlet	MAST 1971	MAST 1971	LAUND 97		BED 3 2407	BATH 1015	BED 4 1241	ENS 1288						•														
Room Use Btu/Outlet Heating Airflow Rate CFM	MAST 1971 46	MAST 1971 46	LAUND	BED 2 2600	BED 3 2407 56	BATH	BED 4	ENS 1288 30						•														
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM	MAST 1971 46 71	MAST 1971 46 71	97 2 2	BED 2 2600 61 50	BED 3 2407 56 58	BATH 1015 24 34	BED 4 1241 29 54	ENS 1288 30 42	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
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure	MAST 1971 46 71 0.13	MAST 1971 46 71 0.13	97 2 2 0.13	BED 2 2600 61 50 0.13	BED 3 2407 56 58 0.13	BATH 1015 24 34 0.13	BED 4 1241 29 54 0.13	ENS 1288 30 42 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
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length	MAST 1971 46 71 0.13 50	MAST 1971 46 71 0.13 38	97 2 2 2 0.13 28	BED 2 2600 61 50 0.13 65	BED 3 2407 56 58 0.13	BATH 1015 24 34 0.13 36	BED 4 1241 29 54 0.13 33	ENS 1288 30 42 0.13 37																				
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure	MAST 1971 46 71 0.13	MAST 1971 46 71 0.13	97 2 2 0.13	BED 2 2600 61 50 0.13	BED 3 2407 56 58 0.13	BATH 1015 24 34 0.13	BED 4 1241 29 54 0.13	ENS 1288 30 42 0.13	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70	0.13 70 70
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length	MAST 1971 46 71 0.13 50 110	MAST 1971 46 71 0.13 38 110	97 2 2 0.13 28 130 158	BED 2 2600 61 50 0.13 65 140 205	BED 3 2407 56 58 0.13 55 150 205	BATH 1015 24 34 0.13 36 110	BED 4 1241 29 54 0.13 33 120 153	ENS 1288 30 42 0.13 37 100 137	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length	MAST 1971 46 71 0.13 50 110	MAST 1971 46 71 0.13 38 110	2 2 0.13 28 130	BED 2 2600 61 50 0.13 65 140	BED 3 2407 56 58 0.13 55 150	BATH 1015 24 34 0.13 36 110	BED 4 1241 29 54 0.13 33 120	ENS 1288 30 42 0.13 37 100	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure	MAST 1971 46 71 0.13 50 110 160 0.08	MAST 1971 46 71 0.13 38 110 148 0.09	97 2 2 0.13 28 130 158 0.08	BED 2 2600 61 50 0.13 65 140 205 0.06	BED 3 2407 56 58 0.13 55 150 205 0.06	BATH 1015 24 34 0.13 36 110	BED 4 1241 29 54 0.13 33 120 153 0.08	ENS 1288 30 42 0.13 37 100 137 0.09	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70	70 70
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Adjusted Pressure Duct Size Round	MAST 1971 46 71 0.13 50 110 160 0.08 6	MAST 1971 46 71 0.13 38 110 148 0.09 6	2 2 0.13 28 130 158 0.08 2	BED 2 2600 61 50 0.13 65 140 205 0.06 6	BED 3 2407 56 58 0.13 55 150 205 0.06 6	BATH 1015 24 34 0.13 36 110 146 0.09	BED 4 1241 29 54 0.13 33 120 153 0.08	ENS 1288 30 42 0.13 37 100 137 0.09	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM Cooling Airflow Rate CFM Duct Design Pressure Actual Duct Length Equivalent Length Total Effective Length Autual Duct Length Outlet Size Round Outlet Size Trunk	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 upply Trur	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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.	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10	70 70 0.19	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19	70 70 0.19	70 70 0.19 4x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 <u>Re</u> Tr	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Re Tro	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 upply Trur	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40	BED 3 2407 56 58 0.13 55 150 0.06 6 4x10 B 5R 150 0.12 37	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 Re Tri	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10	70 70 0.19 4x10 <u>Si</u> Ti	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM Pi	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10 4x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10	70 70 0.19 4x10 11R 0.12	70 70 0.19 4x10 Ree Tro	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 <u>Si</u> Ti A B	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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 Equivalent Length Total Effective Length	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 50	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 Re Tr Dr Z Y	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 <u>Si</u> Ti	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing CFM Pi	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10 4x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 160 0.07	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12	70 70 0.19 4x10	70 70 0.19 4x10 11R 0.12	70 70 0.19 4x10 Ree Tri Dr Z Y X	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 <u>Si</u> Ti A B	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160 0.07 7.0	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12 9.5	LAUND 97 2 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05 6.0	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05 8.0	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 50	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 Ree Tr: Dr Z Y X W V	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 Si Ti A B C C D E F	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160 0.07 7.0 FLC	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12 9.5 8	LAUND 97 2 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05 6.0 8	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05 8.0 8	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07 7.5 8	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 0.24	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50 50 0.24	70 70 0.19 4x10 11R 0.12 50 50 0.24	70 70 0.19 4x10 Ree Trr Dr Z Y X W V U	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 Si Ti A B C C D E F G	70 70 0.19 4x10 upply Trur	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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 " "	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160 0.07 7.0	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12 9.5 8 x	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05 6.0 8 x	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05 8.0 8	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07 7.5 8 x	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 50	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50	70 70 0.19 4x10 11R 0.12 50	70 70 0.19 4x10 Rea Trr	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 Si Ti A B C C D E F	70 70 0.19 4x10 upply Trur	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160 0.07 7.0 FLC	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12 9.5 8	LAUND 97 2 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05 6.0 8	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05 8.0 8	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07 7.5 8	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 0.24	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50 50 0.24	70 70 0.19 4x10 11R 0.12 50 50 0.24	70 70 0.19 4x10 Real Tropics Y X W V U T S	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 Si Ti A B C C D E F G	70 70 0.19 4x10 upply Trur	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19
Room Use Btu/Outlet Heating Airflow Rate CFM 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 " "	MAST 1971 46 71 0.13 50 110 160 0.08 6 4x10 D 1R 155 0.12 5 155 160 0.07 7.0 FLC	MAST 1971 46 71 0.13 38 110 148 0.09 6 4x10 C 2R 369 0.12 12 90 102 0.12 9.5 8 x	LAUND 97 2 2 0.13 28 130 158 0.08 2 3x10 C Grill Press 3R 105 0.12 62 190 252 0.05 6.0 8 x	BED 2 2600 61 50 0.13 65 140 205 0.06 6 4x10 B sure Loss 4R 150 0.12 40 195 235 0.05 8.0 8	BED 3 2407 56 58 0.13 55 150 205 0.06 6 4x10 B 5R 150 0.12 37 140 177 0.07 7.5 8 x	BATH 1015 24 34 0.13 36 110 146 0.09 4 3x10 A 0.02 6R 0.12 50 0.24	BED 4 1241 29 54 0.13 33 120 153 0.08 5 3x10 A "w.c 7R 0.12 50 50	ENS 1288 30 42 0.13 37 100 137 0.09 4 3x10 D	70 70 0.19 4x10 9R 0.12 50	70 70 0.19 4x10 10R 0.12 50 50 0.24	70 70 0.19 4x10 11R 0.12 50 50 0.24	70 70 0.19 4x10 Rea Trr	70 70 0.19 4x10 turn Trun	70 70 0.19 4x10 nk Duct Si	70 70 0.19 4x10 zing P	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$	70 70 0.19 4x10	70 70 0.19 4x10 Si Ti A B C C D E F G	70 70 0.19 4x10 upply Trui	70 70 0.19 4x10	70 70 0.19 4x10 Sizing Pi 537 288 392	70 70 0.19 4x10 ress. R	70 70 0.19 4x10	70 70 0.19 4x10 Rect. \$ 18x8 12x8 12x8	70 70 0.19 4x10 4x10 10x10 10x10	70 70 0.19



Total Heat Loss

Total Heat Gain

39,632 btu/h

24,338 btu/h

Heatloss/Gain Calculations CSA-F280-12

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

e-mail hvac@gtadesigns.ca

	Run ft. exposed Run ft. exposed Ceiling Floc Exposed Ceil Exposed Ceil Exposed Ceil Exposed Gross Exp Gross Exp Compp North S Eas	well 1 wall A wall B height or area lings A lings B Floors Wall A Wall B onents R-Values twest 3.55		reen Valley	108 A B 4.5 A 911 A	.G .rea	Мо	A B		SD2	25-4 Lot 15		Α	-		tem 1	F	leat Loss ^T			11		GTA:			out #	PJ-00041 JB-07272
Mark New Control Mark New Co	Run ft. exposed Run ft. exposed Ceiling Floc Exposed Ceil Exposed Ceil Exposed Geil Exposed Geil Exposed Gross Exp Gross Exp Compt North S Eas	wall A wall B height or area lings A ings B Floors Wall A Wall B onents R-Values thaded 3.55 t/West 3.55	I oss I		108 A B 4.5 A 911 A B	.G .rea		В					Α									Δ		Α		Δ	
Purple No. Section Color Purple No.	Run ft. exposed Run ft. exposed Ceiling Floc Exposed Ceil Exposed Ceil Exposed Geil Exposed Geil Exposed Gross Exp Gross Exp Compt North S Eas	wall A wall B height or area lings A ings B Floors Wall A Wall B onents R-Values thaded 3.55 t/West 3.55	I nee I		108 A B 4.5 A 911 A B	.G .rea		В					Α									Δ		Α		Δ	
## Broke reason works Fig.	Run ft. exposed Ceiling Floc Exposed Ceil Exposed Ceil Exposed Gross Exp Gross Exp Gross Exp Compt North S Eas	wall B height or area lings A ings B Floors Wall A Wall B onents R-Values shaded 3.55 t/West 3.55	I nee I		4.5 A 911 A A B	.G .rea		В							Δ		Δ		Δ	Δ							
Company Comp	Ceiling Floc Exposed Ceil Exposed Ceil Exposed Gross Exp Gross Exp Compp North S Eas WOB Wil	height or area lings A lings B Floors Wall A Wall B onents R-Values shaded 3.55 t/West 3.55	l oss I		4.5 A 911 A A B	.G .rea																					
Figure F	Floc Exposed Ceil Exposed Ceil Exposed Ceil Exposed Gross Exp Gross Exp Compe North S Eas	or area lings A lings B Floors Wall A Wall B onents R-Values chaded 3.55 t/West 3.55	l nee - I		911 A A B	rea		4.3 AG		4.5																	
Exposed Cittings A	Exposed Ceil Exposed Ceil Exposed Gross Exp' Gross Exp' Compt North S Eas	lings A ings B Floors Wall A Wall B onents R-Values Shaded 3.55 t/West 3.55	l nee		A B			A=0								_											
Engree Chillips Fig. Fig	Exposed Cell Exposed Gross Exp Gross Exp Gross Exp North S Eas	ings B Floors Wall A Wall B onents R-Values Shaded 3.55 t/West 3.55	Loss		В				a							а		a			1						
Expected Florida Fig. Fi	Exposed Gross Exp Gross Exp Compt North S Eas	Floors Wall A Wall B onents R-Values haded 3.55 t/West 3.55	Loss																								
Control Cont	Gross Exp Gross Exp Compe North S Eas	Wall A Wall B onents R-Values shaded 3.55 t/West 3.55	Loss																								
## Control Con	Gross Exp Compt Compt North S Eas WOB Wit	Wall B onents R-Values shaded 3.55 t/West 3.55	Loss			Ir		Flr			Flr		Flr		Flr		Flr		Fir	Flr		Flr		Flr		Flr	
March Marc	Compe North S Eas WOB Win	onents R-Values Shaded 3.55 t/West 3.55	1 088		486																						
Memory March Mar	North S Eas WOB Win	5haded 3.55 t/West 3.55	Loss																								
Seathers 325 2525 2526 5 344 425 5 6 6 6 6 6 6 6 6	Eas WOB Win SI	t/West 3.55	LU33	Gain	L	oss G	ain	Los	s Gain		Loss G	Gain	Loss	Gain	Lo	s Gain	Los	s Gain	Loss Gai	n Los	s Gain	Loss	Gain	Loss	Gain	Loss	Gain
Section 3-26 22-20 22-	WOB Win SI		22.93	11.62																							
Separate	WOB Win SI		22.93	29.56	15	344	443																				
Most System 1961 1962 1963 1962 27 28 1965	WOB Wii	South 3.55																									
Solity 1	SI																										
Marie Mari																											
Met expensed work in 1					24	427	EO																				
Met emproed works 1763 478 478 478 488 4						421																		4			
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Exposed Calling Sept 7255 7241 737 75500 7																								4	4		
Exposed Front 29.08 27.7 0.17 0.17 0.18 0.09																									\perp		
Marca Conductions		ings B 27.65																						4			
Test Caption Test			2.73	0.17																							
March Company Compan	Foundation Conductive Heatl	oss				5600																					
March Company Compan	Total Conductive Hea	it Loss				6440																					
All case 1,000 0,0016	Her	at Gain					801																				
Case 2			1.0090	0.0345		6497																					
Verilisticn Case 2																											
Head and Proping March M																											
Metal Case Progress 239 Age						303	61																				
Agaillances Looks 1 = 25 percent 3660 100			0.03			303	01																	4			
Dutt and Pipe loss 13,240 70tal 11,00																											
Level H Total 1,157			percent																					4	4		
Level 1,577 Total 160 Total 1,577 Total 160 150 150 150 10.0																											
Level 2 Nun't, exposed wall A SA SA SA SA SA SA SA						13240																		4	4		
Exposed Cellings A	Run ft. exposed Run ft. exposed Ceiling	wall A wall B height			10.0			15 A B 10.0		10.0	A B	1	6 A B 10.0		24 A B 11.0		B 10.0		B 10.0	В		B 10.0		В		В	
Exposed Ceilings B Exposed Ceili	Flor	or area			294 A	rea		250 Are	a	260	Area		33 Area		69 Are	a	Are	a	Area	Are	a	Area		Area		Area	
Exposed Ceilings B Exposed Ceili	Exposed Ceil	ings A			Α			5 A			Α		Α		Α		Α		Α	Α		Α		Α		Α	
Exposed Floors Fig.					В			В			В		В		В		В		В	В		В		В		В	
Gross Exp Wall A Corporates (RY shalles) Loss Gain Corporates (RY shalles)					F	lr		Flr			Flr		Flr		Flr		Flr		Flr	Flr		Fir		Flr		Flr	
Gross Exp Wall B Components RValues Uoss Gain																											
Components R-Values Loss Gain Loss																											
Hard Shaded 3.55 2.233 2.256 5 2.230 2.256 5 2.230 2.256 5 2.230 2.256 5 2.230 2.256 5 2.230 2.256 5 2.256 2.256 2.256 5 2.256 2.256 5 2.256 2.256 5 2.256 2.256 5 2.256 2.256 5 2.256 2.256 2.256 5 2.256			Loss	Gain	- 1	oss G	ain	Los	s Gain		Loss G	Sain	Loss	Gain	Lo	s Gain	Los	s Gain	Loss Gai	n los	s Gain	Loss	Gain	Loss	Gain	Loss	Gain
EastWest 3.55 22.93 29.56 32 734 946 28 828 32 734 946 12 275 355 257 518					Ē					7 [1	1				1	T		T C	T		
South 3.55 2.23 2.25 55 126 1238 5 126 1238 5 126 1238 5 126 1238 5 126 1238 5 126 128 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 128 5 126 5 126 5 126 5 126 5 126 5 126 128 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 128 5 126 126 5 126 5 126 5 126 5 126 5 126 5 126 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 5 126 1					22	724	046	20	642 92	0 22	724	946	12 275	255	12	275 255											
Existing Windows 1.99 40.90 23.56 Skylight 2.03 40.10 88.23									02	- 02	. 54	0.40		300													
Skylight 2.03 40.10 88.23 2.75 2.94 1.73 2.75 2.95 1.29 2.75 2.94 1.75 2.95 2.95 1.29 2.95 2					33	.201	.200									510											
Net exposed walls A 17.03 4.78 0.65 2.78 170 122 583 79 227 1085 147 48 229 31 208 994 134 13.80 13.80 1.29 1.37 1.04 1.28 1.2																											
Net exposed walls A											40-	F0			04	407								-			
Net exposed Valids B 8.50 9.58 1.29 1.37 0.64 5 7 3 5 7						405-	4=-																				
Exposed Ceilings A 59.22 1.37 0.64 Spread Ceilings B 27.65 2.94 1.37 Spread Ceilings B 27.65 2.94 Spread Ceilings B					263	1257	170	122	583 7	9 227	1085	147	48 229	31	208	994 134											
Exposed Ceilings B 27.65 2.94 1.37 Supposed Ceilings B 27.65 2.94 1.37 Supposed Ceilings 29.80 27.73 0.17 Supposed C	Net exposed v																							4			
Exposed Floors 29.80 2.73 0.17 Foundation Conductive Heatloss								5	7	3														\perp	\perp		
Foundation Conductive Heatloss X 3252 3252 1232 2246 505 386 2224 1064																								4			
Total Conductive Heat Loss			2.73																						\perp		
Heat Gain				X																				4			
Heat Gain 2353 910 1150 386 1064						3252		1			2246		505														
Case 1	Hea	at Gain					2353			0		1150		386													
Case 1	Air Leakage Heat Los	s/Gain	0.4122	0.0345		1340	81		508 3	1	926	40	208	13		917 37											
Ventilation																											
Case 3 x 0.05 0.08 153 179 58 69 106 88 24 29 105 81																											
Heat Gain People 239						153	179		58 6	9	106	88	24	20		105 81											
Appliances Loads 1 = 25 percent 3660 1.5 1373 1.5 1373 1.0 915			0.03			133	113		30	-	100	30	24	23													
Duct and Pipe loss 10% Level HL Total 13,803 Total HL for per room 4745 1798 3278 736 3246	i icai Galli i		nercent		1.5		1372	15	127	3 10		915															
Level HL Total 13,803 Total HL for per room 4745 1798 3278 736 3246			JUI UCIIL		1.5		13/3	1.5	137	1.0		313															
	Appliances		otal UL fi			4745			700		2270		700			246								-			
1	Appliances Duct and Pip		OLD THE TOP	per room		4/40		1	198		32/8		/36														
Level HG Total 13,224 Total HG per room x1.3 5182 3098 2850 557 1537	Appliances Duct and Pip Level HL Total 13,80						F400					2050															

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under 32964

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

Name Alexa

David DaCosta

SB-12 Package Package A1



39,632

24,338

btu/h

Total Heat Loss

Total Heat Gain

Heatloss/Gain Calculations CSA-F280-12

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

e-mail hvac@gtadesigns.ca

		Builder:	Bayview We	ington		Date:		June 25, 20					Weather Data	Bradfor	d 44	-9.4	86 22	48.2		Danie -	
2012 OBC		Project:	Green Valle	/ East	м	odel:		Sonoma D25-4 Lot			System 1		Heat Loss ^T	81.4 deg. F	Ht gain ^T	11 (deg. F	GTA:	2185	Projec Layou	
	Level 3			MAST		LAU	ND	BED 2	,	BED 3	BATH		BED 4	ENS							
Run	ft. exposed wall A			31 A		A		11 A	25 <i>A</i>		9 A	9 A		10 A	Α		Α		Α		Α
Run	ft. exposed wall B			В		В		В	. E	В	В	В	3	В	В		В		В		В
	Ceiling height Floor area			8.0 363 Area		8.0 53 Area		1.0 29 Area	8.0 139 <i>A</i>	Area	8.0 69 Area	9.0 109 A	Area	9.0 103 Area	8.0 Area		8.0 Area		8.0 Area		8.0 Area
	Exposed Ceilings A			363 A		53 A		29 A	139 A	A	69 A	109 A	A	103 A	Α		Α		Α		Α
E:	Exposed Ceilings B Exposed Floors			B Flr		B Flr	1	B 53 Flr	12 F		B Fir	B F		B Flr	B Flr		B Fir		B Flr		B Flr
	Gross Exp Wall A			248		• • •		B8	200		72	81		90	• • •		• • •		• • •		• • •
	Gross Exp Wall B Components F	R-Values L	oss Gain	Loss	Gain	Loss	Gain	Loss	Gain L	Loss Gain	Loss Ga	in I	oss Gain	Loss Ga	in Loss	Gain	Loss	Gain	Loss	Gain	Loss
	North Shaded	3.55	22.93 11.62	LUSS	Gain	LUSS		35 803		504 256			.055 Gain	Loss Ga	III LOSS	Gain	LUSS	Gain	LUSS	Gain	LUSS
	East/West	3.55	22.93 29.56	26 596					13	298 384	18 413	532 22	504 650	22 504	650						
	South Existing Windows	3.55 1.99	22.93 22.50 40.90 23.66	45 1032	1013																
	Skylight	2.03	40.10 88.23																		
Na	Doors et exposed walls A	4.00 17.03	20.35 2.75 4.78 0.65	177 846	114			53 253	34 165	789 107	54 258	35 59	282 38	68 325	44						
	et exposed walls B	8.50	9.58 1.29	177 040	114			233	34 103	703 10	34 230	33 39	202 30	00 323	44						
	xposed Ceilings A	59.22	1.37 0.64	363 499	233	53 7	3 34 2	29 315	147 139	191 89	69 95	44 109	150 70	103 142	66						
E	Exposed Ceilings B Exposed Floors	27.65 29.80	2.94 1.37 2.73 0.17				1	53 418	26 12	33 2											
oundation Cond	ductive Heatloss																				
otal Conductive	Heat Loss Heat Gain			2973	2128	7	34	1789	614	1815	766	611	936 758	971	760						
Air Leakage	Heat Loss/Gain		0.2788 0.0345	829		- 2	20 1	499		506 29		21	261 26	271	26						
Ventilation	Case 1		0.03 0.08																		
Ventuation	Case 2 Case 3	х	14.95 11.88 0.05 0.08	140	162		3 3	84	47	86 64	36	47	44 58	46	58						
	Heat Gain People		239	2	478			1	239 1	239		1	239								
	Heat Gain People Appliances Loads	1 =.25 pe	239 ercent 3660	2	478			1 229		239		1	239								
	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4	1 =.25 pe	239	3942			49	1 229 2600	85 1308	2407	1015	882	1241 1406		1098						
evel HL Total .evel HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area	1 =.25 pe	239 ercent 3660 10% tal HL for per room	3942 A B		A B Area		A B Area	85 1308	2407 1520 A B Area	A B Area	A B	1241 1406	A B Area	A B Area		A B Area		A B Area		A B Area
Eevel HL Total evel HG Total Run Run	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If t. exposed wall A of t. exposed wall B Ceiling height Floor area Exposed Ceilings A	1 =.25 pe	239 ercent 3660 10% tal HL for per room	A B Area A		A B Area A		A B Area A	1308 E	2407 1520 A B A	A B Area A	A B A	1241 1406	A B Area A	A B Area A		B Area A		B Area A		B Area A
evel HL Total evel HG Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors	1 =.25 pe	239 ercent 3660 10% tal HL for per room	3942 A B		A B Area		A B Area	85 1308	2407 1520 A B Area	A B Area	A B	1241 1406	A B Area	A B Area		B Area		B Area		B Area
evel HL Total evel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall A	1 =.25 pe	239 ercent 3660 10% tal HL for per room	A B Area A B		A B Area A B		A B Area A B	85 1308	2407 1520 A B Area A	A B Area A B	A B A A B	1241 1406	A B Area A B	A B Area A B		B Area A B		B Area A B		B Area A B
cevel HL Total evel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I	1 =.25 pe Tof Total	ercent 3660 10% tal HL for per room HG per room x 1.3	A B Area A B		A B Area A B		A B Area A B Fir	85 1308	2407 1520 A B Area A	A B Area A B	A B A A B F	1241 1406	A B Area A B	A B Area A B Fir	Gain	B Area A B	Gain	B Area A B	Gain	B Area A B
evel HL Total evel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded	1 =.25 per Tool Total	239 ercent 3660 107 108 tal HL for per room HG per room x 1.3	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
revel HL Total vel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 In t. exposed wall A In t. exposed wall A Ceiling height Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded EastWest South	1 =.25 pe Tof Total	239 er cent 3660 10% tal HL for per room x 1.3 MG per room x 1.3 OSS Gain 22.93 11.62 22.93 22.50	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
revel HL Total vel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 1.99	239 ercent 3660 3660 10% tal HL for per room x 1.3 oss Gain 22.93 11.62 22.93 29.56 22.93 22.56 40.90 23.66	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
cevel HL Total evel HG Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 In t. exposed wall A In t. exposed wall A Ceiling height Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded EastWest South	1 =.25 per Total Total R-Values L 3.55 3.55 3.55	239 er cent 3660 10% tal HL for per room x 1.3 MG per room x 1.3 OSS Gain 22.93 11.62 22.93 22.50	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Eevel HL Total Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A off. exposed wall B Exposed Ceilings A Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed walls A	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03	oss Gain 22.93 11.62 22.93 29.56 22.93 29.56 40.90 83.23 20.35 2.75 4.78 0.65	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Eevel HL Total Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A off. exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded EastWest South Existing Windows Skylight Doors et exposed walls A et exposed walls B	1 = .25 per Total Total R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50	oss Gain 22.93 11.62 22.93 22.93 22.93 22.90 40.90 23.66 40.10 88.23 20.35 2.75 4.78 9.58 1.29	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
revel HL Total vel HG Total Run Run Run E E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall A Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed Walls A et exposed walls B et exposed ceilings A exposed Ceilings B	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.23 20.35 2.75 4.78 0.65 9.58 1.29 1.37 0.64 2.94 1.37	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run Run Run E	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 If exposed wall A of the exposed ceilings A exposed Ceilings A exposed Ceilings A exposed Ceilings A components North Shaded East/West South Existing Windows Skylight Doors et exposed walls A et exposed Walls A et exposed Ceilings A exposed Floors	1 =.25 pe Total Total R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.23 20.35 2.75 4.78 0.65 9.58 1.29 1.37 0.64	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall A Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed deilings A Exposed Ceilings B Exposed Floors Sudden Shaded East/West South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings B Exposed Ceilings B Exposed Floors ductive Heatloss Heat Loss	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.23 20.35 2.75 4.78 0.65 9.58 1.29 1.37 0.64 2.94 1.37	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run Run Ne Ne Ne Doundation Conductive	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 If exposed wall A If exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Floors Gross Exp Wall A Gross Exp Wall B Components I North Shaded EastWest South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Exposed Floors Incomponents I Exposed Floors Heat Loss Heat Loss Heat Loss Heat Loss	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	oss Gain 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 22.93 23.95 22.93 20.35 275 4.78 0.65 2.94 1.37 0.64 2.94 1.37 0.17	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run Run Ne	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall A Exposed Ceilings B Exposed Ceilings B Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed deilings A Exposed Ceilings B Exposed Floors Sudden Shaded East/West South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings B Exposed Ceilings B Exposed Floors ductive Heatloss Heat Loss	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.23 20.35 2.75 4.78 0.65 9.58 1.29 1.37 0.64 2.94 1.37	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 In t. exposed wall A fit. exposed wall A Ceiling height Floor area Exposed Ceilings A Exposed Ceilings A Exposed Ceilings A Exposed Floors Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Exposed Floors South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings A Exposed Ceilings A Exposed Ceilings B Exposed Floors ductive Heatloss Heat Loss Heat Gain Heat Loss/Gain Case 1 Case 2	1 =.25 pe Total Total R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65 29.80	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.23 20.35 2.75 4.78 0.65 4.78 0.65 2.94 1.37 2.73 0.17 0.0000 0.0345 0.00 0.0345 14.95 11.88	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Run Run Ne E E Coundation Conductive Air Leakage Ventilation	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A If. exposed wall A Exposed Ceiling height Floor area Exposed Ceilings B Exposed Ceilings B Exposed Floors Exp Wall B Components I North Shaded East/West Skylight Existing Windows Skylight Existing Windows Skylight Exposed Floors Exposed Ceilings B Exposed Floors Exposed Floors Exposed Ceilings B Exposed Ceilings B Exposed Floors Exposed Floors Exposed Ceilings B Exposed Floors Expos	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65	oss Gain 22.93 11.62 22.93 29.56 22.93 29.56 22.93 29.56 40.10 88.23 20.35 2.75 4.78 0.65 9.58 1.29 1.37 0.64 2.94 1.37 2.73 0.17 0.0000 0.0345 0.00 0.08 14.95 11.88	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Level HL Total evel HG Total Run Run Ne E Foundation Conductive Air Leakage Ventilation	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 Level 4 If. exposed wall A fit. exposed wall A fit. exposed wall A Gross Exp Wall B Exposed Ceilings B Exposed Ceilings A Exposed Ceilings A Exposed Selvings B Exposed Floors Gross Exp Wall B Gross Exp Wall B Gross Exp Wall B Horth Shaded East/West South Existing Windows Skylight Existing Windows Skylight Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Ceilings A Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Ceilings B Exposed Floors ductive Heatloss Heat Loss Heat Gain Heat Loss/Gain Case 1 Case 2 Case 3 Heat Gain People Appliances Loads	1 =.25 pe Total Total R-Values L 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65 29.80	oss Gain 22.93 11.62 22.93 22.50 40.90 23.66 40.10 88.22 20.35 2.75 4.78 0.65 9.58 1.37 0.64 2.94 1.37 2.73 0.17 0.0000 0.0345 0.00 0.08 14.95 11.88 0.05 0.08 9.75 11.89 0.05 0.08	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir
Level HL Total evel HG Total Run Run Ne E Foundation Conductive Air Leakage Ventilation	Heat Gain People Appliances Loads Duct and Pipe loss 12,589 9,957 If exposed wall A If exposed wall B Ceiling height Floor area Exposed Ceilings B Exposed Ceilings A Exposed Ceilings A Gross Exp Wall A Gross Exp Wall B Components I North Shaded East/West South Existing Windows Skylight Doors et exposed walls A Exposed Ceilings A Exposed Floors Iuctive Heatloss Heat Loss Heat Gain Heat Loss/Gain Heat Loss/Gain Loss 2 Case 2 Case 3 Heat Gain People	1 = .25 pe Total Total R-Values L 3.55 3.55 3.55 3.55 1.99 2.03 4.00 17.03 8.50 59.22 27.65 29.80 x	oss Gain 1.62 1.03 1.04 1.04 1.05 1.08 1.09 1.05 1.0	A B Area A B Fir	3694	A B Area A B Fir	49	A B Area A B Fir	85 1308	2407 1526 A B Area A B B	A B Area A B Fir	A B A A B F	1241 1406	A B Area A B Fir	A B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir	Gain	B Area A B Fir

32964

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

Name Met

David DaCosta

Package A1



2985 Drew Road, Suite 202, Mississauga, Ontario L4T 0A4 Tel: 905-671-9800 e-mail hvac@gtadesigns.ca

Project # Layout #

Page 6 PJ-00041 JB-07272

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Individual BCIN: 32964 Mane Attento

Division C subsection 3.2.5. of the Building Code.

System Design Option Exhaust only / forced air system

HRV WITH DUCTING / forced air system

Part 6 design

HRV simplified connection to forced air system

HRV full ducting/not coupled to forced air system

2

3 Х

4

David DaCosta

Combustion Appliances 3.2.3.1(1) Sensible efficiency @ 1.29 cfm Sensible efficiency @ 2.50 eg C Sensible efficiency & 2.50 eg C Sens	Package: Project:	Package A1 Bradford	Model:	SD25-4 Lot 15	4
Location of Installation	1 10,000.				T
Location of Installation Lot # Plan #					
Barnt & Master Bdrm 2 @ 212 cfm 42.4		For systems serving one awening unit & com	onning to the Ontario Building	Code, 0.1eg 332/12	
Barnt & Master Bdrm 2 @ 21.2 cfm 42.4		Location of Installation	Total Ve	entilation Capacity 9.32.3.3	(1)
Bathrooms & Kitchen 4 @ 10.6 cfm 42.4 Address Address Address Address Address		Plan #			
Total 159		Bradford		· - · · ·	
Principal Ventilation Capacity 9.32.3.4(1)	Roll #	Permit #	Other rooms		
Master bedroom	Address				
Master bedrooms		Ruildor	Principal \	Ventilation Capacity 9.32.3	3.4(1)
Total Tota	Name				
Principal Exhaust Fan Capacity Make Model Location	Address				
Make Model Location	City				
VanEE 65H HRV Base	Tel	Fax			
Address Address Address City Tel Fax Combustion Appliances 9.32.3.1(1) a) X Direct vent (sealed combustion) only b) Positive venting induced draft (except fireplaces) c) No combustion Appliances Begin Forced air Non forced air Electric space heat (if over 10% of heat load) Tel Forced air Type 9.32.3.1(2) I X Type a) or b) appliances only, no solid fuel Tel Fax Heat Recovery Ventilator Make VanEE Model 65H HRV Sensible efficiency @ 0 deg C 609% Sensible efficiency @ 0 deg C 765% Note: Installer to balance HRV/ERV to within 10 percent of PV Supplemental Ventilation Capacity Total ventilation capacity 159.0 Less principal exhaust capacity 79.5 REQUIRED supplemental vent. Capacity 79.5 REQUIRED supplemental Fans 9.32.3.5. Location cfm Model Sones Ens 50 XB50 0.3 Bath 50 XB50 0.3 Bath 50 XB50 0.3			VanEE	65H HRV	
Address City Make VanEE Model 65H HRV 129 cfm high 80 composition for sensible efficiency © -25 deg C 60% Sensible efficiency © 0 deg C 75% Note: Installer to balance HRV/ERV to within 10 percent of PV Combustion Appliances 9.32.3.1(1) a) X Direct vent (sealed combustion) only b) Positive venting induced draft (except fireplaces) c) Natural draft, B-vent or induced draft fireplaces d) Solid fuel (including fireplaces) e) No combustion Appliances X Forced air Non forced air Electric space heat (if over 10% of heat load) Required Fire Recovery Ventilator Make VanEE Model 65H HRV 129 cfm high 80 composition for sensible efficiency © -25 deg C 60% Sensible efficiency © -25 deg C 75% Note: Installer to balance HRV/ERV to within 10 percent of PV Total ventilation capacity Less principal exhaust capacity 79.5 REQUIRED supplemental vent. Capacity 79.5 REQUIRED supplemental Fans 9.32.3.5. Location cfm Model Sones Ens 50 XB50 0.3 Bath 50 XB50 0.3 Bath 50 XB50 0.3 Bath 50 XB50 0.3 Bath 50 XB50 or Equiv.		Installing Contractor			
Make VanEE	Name		129 cfm		Sones or Equiv.
Model G5H HRV 129 cfm high 80 c Sensible efficiency @ -25 deg C 60% Sensible efficiency @ 0 deg C 75% Note: Installer to balance HRV/ERV to within 10 percent of PV Supplemental Ventilation Capacity	Address		He	eat Recovery Ventilator	
Tel Fax Sensible efficiency @ -25 deg C 60% Sensible efficiency @ 0 deg C 75% Note: Installer to balance HRV/ERV to within 10 percent of PV Supplemental Ventilation Capacity Combustion Appliances 9.32.3.1(1)	01:				
Sensible efficiency @ -25 deg C 60% Sensible efficiency @ 0 deg C 75%	City				80 cfm low
Note: Installer to balance HRV/ERV to within 10 percent of PV Combustion Appliances 9.32.3.1(1)	Tel	Fax	Sensible efficiency @ -	-25 deg C	60%
a) x Direct vent (sealed combustion) only b) Positive venting induced draft (except fireplaces) c) Natural draft, B-vent or induced draft fireplaces d) Solid fuel (including fireplaces) e) No combustion Appliances X Forced air			Note: Installer to bala	nce HRV/ERV to within 10 p	
b) Positive venting induced draft (except fireplaces) c) Natural draft, B-vent or induced draft fireplaces d) Solid fuel (including fireplaces) e) No combustion Appliances X Forced air Non forced air Electric space heat (if over 10% of heat load) X Type a) or b) appliances only, no solid fuel	a) v		Supple	mental Ventilation Capaci	ty
Supplemental Fans 9.32.3.5. Location Cfm Model Sones	b)	Positive venting induced draft (except fireplaces) Natural draft, B-vent or induced draft fireplaces Solid fuel (including fireplaces)	Less principal exhaust	capacity	79.5
Heating System X Forced air Ens 50 XB50 0.3	e)	No combustion Appliances			
X Forced air Ens 50 XB50 0.3 Non forced air Electric space heat (if over 10% of heat load) Electric space heat (if over 10% of heat load) House Type 9.32.3.1(2) I X Type a) or b) appliances only, no solid fuel all fans HVI listed Make Broan or Equiv.			Sup	plemental Fans 9.32.3.5.	
Non forced air Electric space heat (if over 10% of heat load) House Type 9.32.3.1(2) I x Type a) or b) appliances only, no solid fuel Bath 50 XB50 0.3 Bath 50 XB50 0.3					Sones
House Type 9.32.3.1(2) I x Type a) or b) appliances only, no solid fuel all fans HVI listed Make Broan or Equiv.	X	Non forced air			
I x Type a) or b) appliances only, no solid fuel all fans HVI listed Make Broan or Equiv.		Electric space fleat (ii over 10% of fleat load)			
		**	all fans HVI listed	Make Broan	or Equiv.
III Any type c) appliance Designer Certification	<u> </u>	, ,	Г	Designer Certification	
IV Type I or II either electric space heat I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	IV	Type I or II either electric space heat	I hereby certify that this	s ventilation system has bee	n designed

	Designer (Certification	
I hereby certify t	hat this ventilatio	n system has been	designed
in accordance w	ith the Ontario B	uilding Code.	J
		J	
Name	David D	aCosta	
	1.11	16CH 0	
Signature	Lane	The care	
-			
HRAI#	5190	BCIN#	32964
Date	June 25	5, 2021	
	•		

♦GTA\DESIGNS

Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

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Project # PJ-00041 Layout # JB-07272

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

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code using the prescriptive method described in Subsection 3.1.1. of SB-12. This form is applicable where the ratio of gross area of windows/sidelights/skylights/glazing in doors and sliding glass doors to the gross area of peripheral walls is not more than 22%.

				For use by Prince	cipal Authori	ity				
Application	n No:				<u> </u>	rtification Nur	nber			
Α.	Project Information									
Building n	umber, street name			Sonoma 4			Unit numb	ber	Lot/Con	
			SE	25-4 Lot 154						
Municipali	y Bradford			Postal code	Reg. Plan	number / oth	er descrip	otion		
В.	Prescriptive Compliance [indica	ate the bui	lding cod	e compliance pacl	age being e	employed in	the house	e design]		
	SB-12 Prescriptive (input design pa	ckage):		<u>Pac</u>	kage A1			Table:	3.1.1.2.	<u>7</u>
C.	Project Design Conditions									
	Climatic Zone (SB-1):		Heat. E	quip. Efficiency	1		Spac	e Heating F	uel Sourc	е
✓	Zone 1 (< 5000 degree days)		√ ≥ 92	2% AFUE	V	Gas		Propane		Solid Fuel
	Zone 2 (≥ 5000 degree days)		_ ≥ 8	4% < 92% AFUE		Oil		Electric		Earth Energy
F	Ratio of Windows, Skylights & Glas	s (W, S	& G) to \	Wall Area			Other	Building Cha	aracterist	ics
Arono	f Walls = 320.41 m ² or 3448.9	ft²			☐ Log/F	Post&Beam		ICF Above	Grade	☐ ICF Basement
Alea o	1 Walls = <u>320.41</u> III 01 <u>3440.9</u>	11-	W,S &	G % = <u>12.0%</u>	☐ Slab	on-ground	[]	Walkout Ba	sement	
					☑ Air C	onditioning	1.1	Combo Unit	:	
Area of	$W, S \& G = \underline{38.554} \text{ m}^2 \text{ or } \underline{415.0}$	ft²	Utilize \		Air S	ourced Heat	Pump (A	ASHP)		
			Avera	aging 🗹 No	☐ Grou	ind Source F	leat Pum	p (GSHP)		
D.	Building Specifications [provide	values ar	nd ratings	of the energy effi	ciency comp	onents prop	osed]			
	Energy Efficiency Substitutions									
	ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5))									
	Combined space heating and domestic	water he	ating syst	ems (3.1.1.2(7) / 3	3.1.1.3.(7))					
	Airtightness substitution(s)		Table 3.1	.1.4.B Required	d:			Permitted S	Substitution	:
	Airtightness test required		Table 3.1	.1.4.C Required	d:			Permitted S		
(F	Refer to Design Guide Attached)			Require	d:			Permitted S	Substitution	:
	Building Component			il/R-Values or n U-Value¹		Build	ding Cor	mponent		Efficiency Ratings
Therma	l Insulation	Nom	inal	Effective	Windov	vs & Door	'S Provid	le U-Value ⁽¹⁾ o	r ER rating	
Ceiling v	vith Attic Space	60	0	59.22	Window	s/Sliding Gl	ass Doc	ors		1.6
Ceiling v	vithout Attic Space	3	1	27.65	Skylights	3				2.8
Exposed	Floor	3	1	29.80	Mechar	nicals				
	oove Grade	22		17.03		Equip.(AFU				96%
Baseme	nt Walls		20.0ci	21.12	HRV Eff	iciency (SR	E% at 0°	C)		75%
Slab (all	>600mm below grade)	х	(х	DHW He	eater (EF)				0.80
_ `	ge only ≤600mm below grade)	10	0	11.13	DWHR (CSA B55.1	(min. 42%	efficiency))		#Showers 2
Slab (all	≤600mm below grade, or heated)	10	0	11.13	Combine	ed Heating	System			
(1) U valu	e to be provided in either W/(m²·K) or Bt	u/(h·ft·F) b	ut not bo	h.						
Ε.	Designer(s) [name(s) & BCIN(s), if	applicable	, of perso		rmation her		antiate th	at design meet	ts building	code]
Name				BCIN		Signature		1	.10	,
	David DaCosta			32	964			Mane	/\$C=	₹ 7



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Project # PJ-00041
Layout # JB-07272

Package:Package A1System:System 1Project:BradfordModel:SD25-4 Lot 154

Air Leakage Calculations **Building Air Leakage Heat Loss Building Air Leakage Heat Gain** HL^T В LRairh Vb HLleak В LRairh ٧b HG^T **HG** Leak 0.018 0.350 25324 81.4 12995 0.085 25324 Levels Air Leakage Heat Loss/Gain Multiplier Table (Section 11) 1 2 3 4 Level Building Level Conductive Air Leakage Heat Loss Level (LF) (LF) (LF) (LF) Multiplier Factor (LF) **Heat Loss** Level 1 0.5 6440 1.0090 1.0 0.6 0.5 0.4 Level 2 0.4122 0.3 9459 0.3 0.3 0.4 12995 0.2788 Level 3 0.2 9322 0.2 0.2 Level 4 0 0.0000 Air Leakage Heat Gain Levels this Dwelling **HG LEAK** 428 0.0345 3 **BUILDING CONDUCTIVE HEAT GAIN** 12409 Ventilation Calculations **Ventilation Heat Loss Ventilation Heat Gain** Vent Vent **Ventilation Heat Loss** Ventilation Heat Gain **PVC** (1-E) HRV HLbvent PVC HG^T **HGbvent** 1.08 81.4 0.17 1188 79.5 944 79.5 11 Case 1 Case 1 **Ventilation Heat Loss (Exhaust only Systems)** Ventilation Heat Gain (Exhaust Only Systems) Case 1 - Exhaust Only Case 1 - Exhaust Only Multiplier Case Case LVL Cond. HL HGbvent 944 Level LF HLbvent Multiplier 0.08 Level 1 0.5 6440 0.09 Building 12409 Level 2 9459 0.3 0.04 1188 9322 Level 3 0.2 0.03 Level 4 0 0 0.00 Case 2 Case 2 **Ventilation Heat Loss (Direct Ducted Systems)** Ventilation Heat Gain (Direct Ducted Systems) Case Multiplier Multiplier C HL^T (1-E) HRV С HG^T 14.95 11.88 1.08 81.4 0.17 1.08 11 Case 3 Case 3 Ventilation Heat Loss (Forced Air Systems) **Ventilation Heat Gain (Forced Air Systems)** Case Vent Heat Gain **HLbvent** Multiplier Multiplier HGbvent HG*1.3 Total Ventilation Load 1188 0.05 944 0.08 944 Foundation Conductive Heatloss Level 1 Level 1 1641 Watts 5600 Btu/h **Foundation Conductive Heatloss Level 2** Level 2 Watts Btu/h Slab on Grade Foundation Conductive Heatloss Watts Btu/h Walk Out Basement Foundation Conductive Heatloss Watts Btu/h

Envelope Air Leakage Calculator

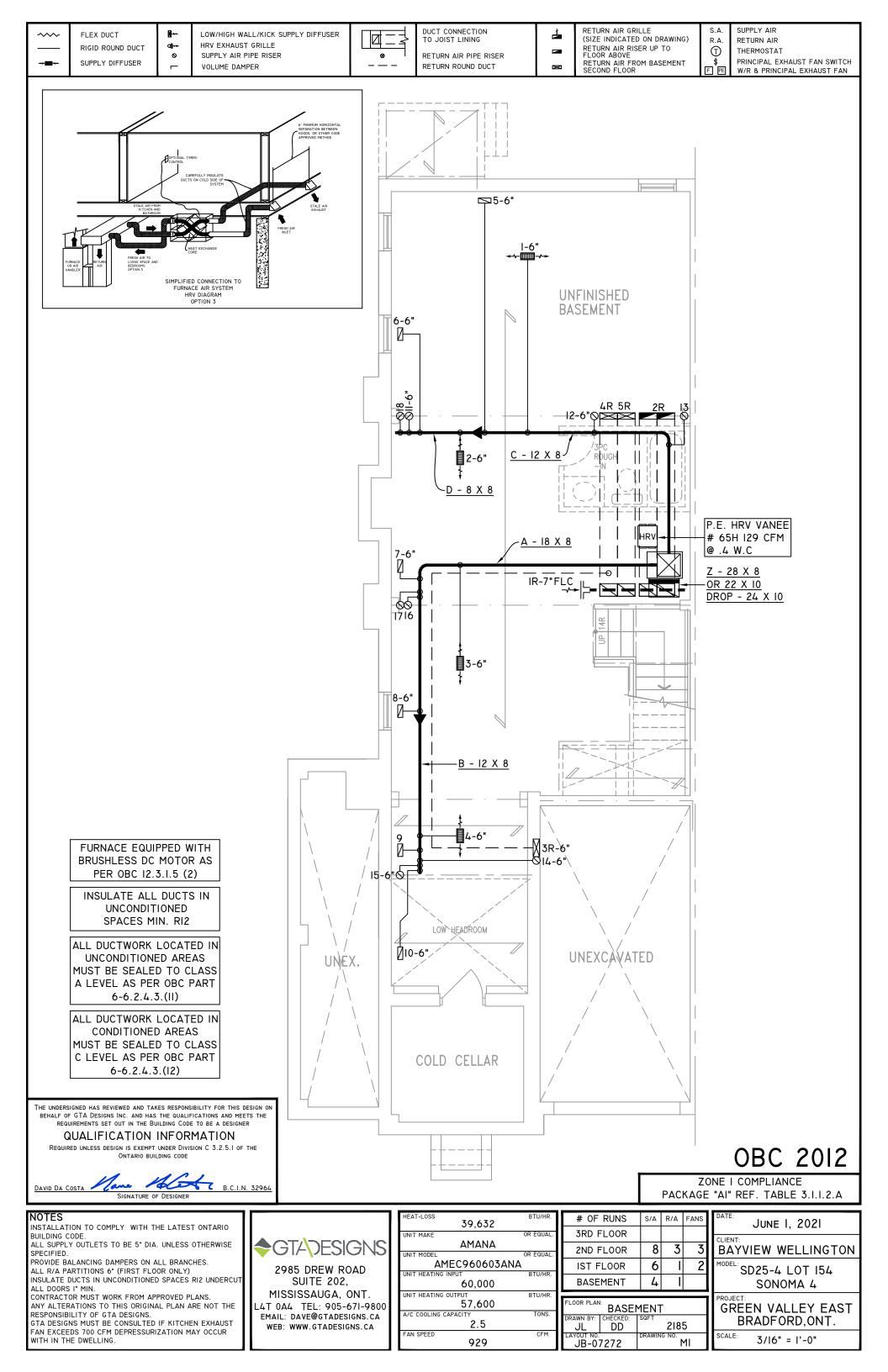
Supplemental tool for CAN/CSA-F280

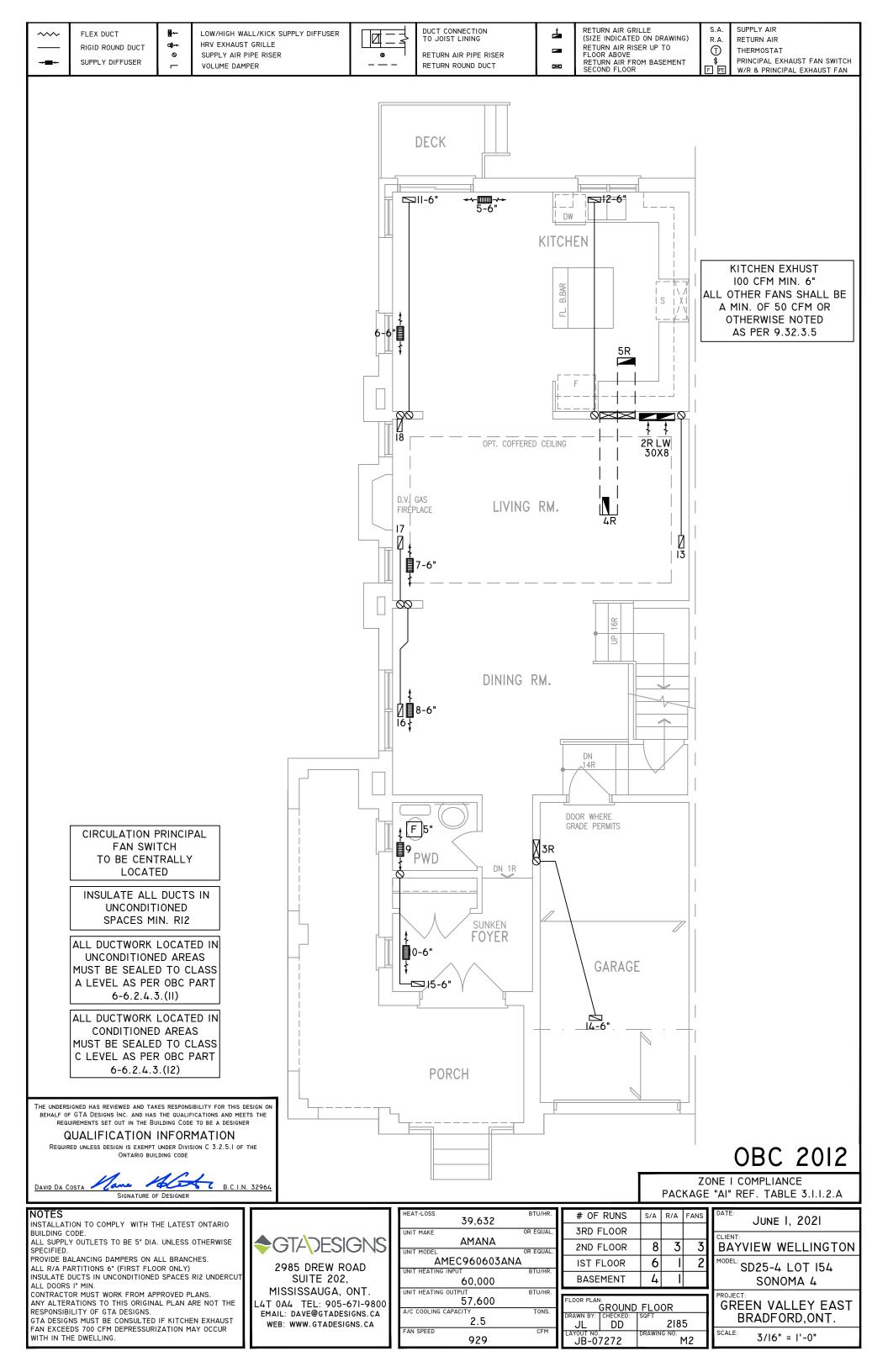
Weather Station	Description
Province:	Ontario
Region:	Bradford ▼
Weather Station Location:	Open flat terrain, grass
Anemometer height (m):	10
Local Shie	lding
Building Site:	Suburban, forest ▼
Walls:	Heavy ▼
Flue:	Heavy ▼
Highest Ceiling Height (m):	7.32
Building Confi	guration
Type:	Semi-Detached
Number of Stories:	Two
Foundation:	Shallow
House Volume (m³):	717.16
Air Leakage/Ve	entilation
Air Tightness Type:	Present (1961-) (ACH=3.57)
	ELA @ 10 Pa. 322.44 cm ²
Custom BDT Data:	3.57 ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply: Total Exhaust:
· ·	39.75
Flue #:	#1 #2 #3 #4
Diameter (mm):	0 0 0 0
Heating Air Leakage Rate (ACH/H):	0.350
Cooling Air Leakage Rate (ACH/H):	0.085

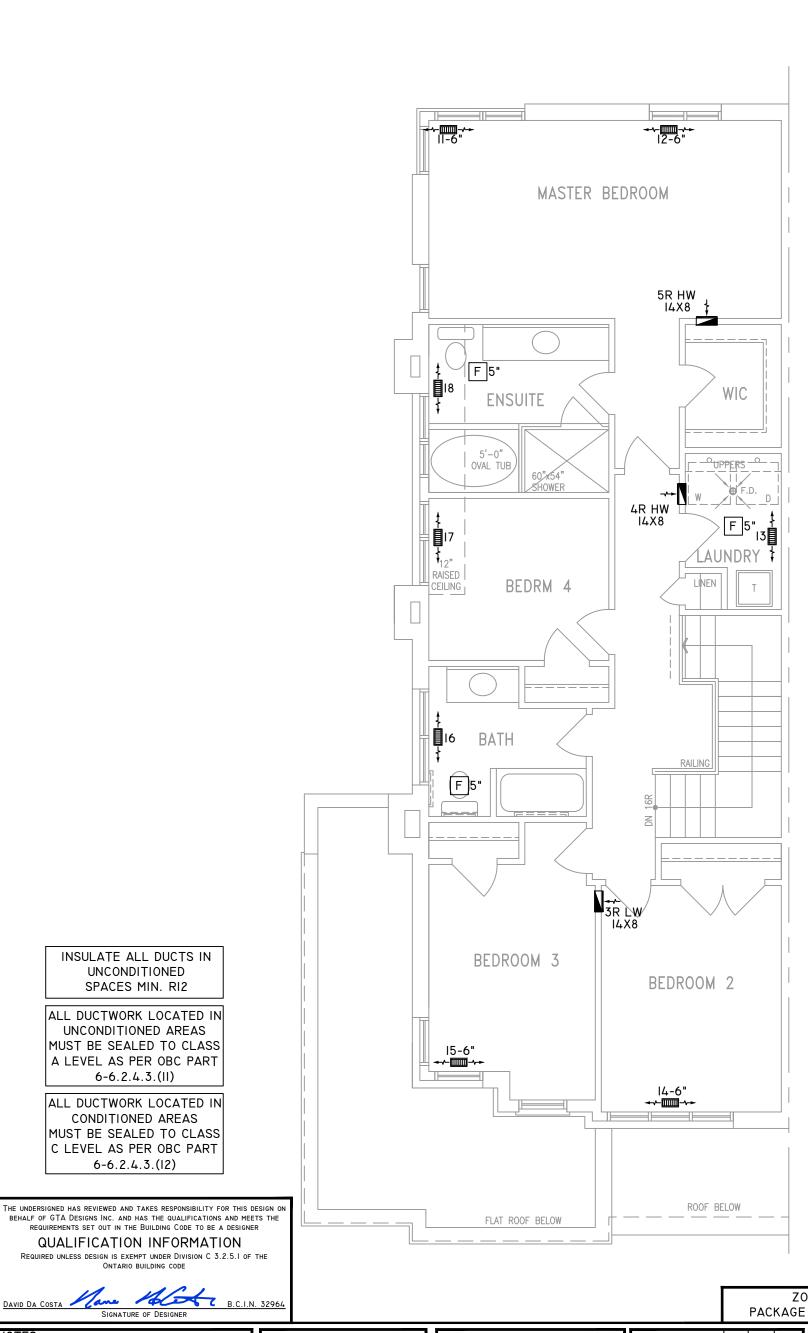
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weat	her Sta	tion Description
Province:		Ontario
Region:		Bradford ▼
	Site D	escription
Soil Conductivity:		High conductivity: moist soil ▼
Water Table:		Normal (7-10 m, 23-33 Ft) ▼
Fou	ındatio	on Dimensions
Floor Length (m):	17.80	
Floor Width (m):	4.75	
Exposed Perimeter (m):	32.92	
Wall Height (m):	2.59	
Depth Below Grade (m):	1.22	Insulation Configuration
Window Area (m²):	1.67	
Door Area (m²):	1.95	
	Radi	ant Slab
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
	Desig	n Months
Heating Month	1	
	Founda	ation Loads
Heating Load (Watts):		1641







DUCT CONNECTION TO JOIST LINING

8

RETURN AIR PIPE RISER

RETURN ROUND DUCT

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)

RETURN AIR FROM BASEMENT SECOND FLOOR

RETURN AIR RISER UP TO FLOOR ABOVE

占

SUPPLY AIR

RETURN AIR

THERMOSTAT

PRINCIPAL EXHAUST FAN SWITCH

R.A.

1

OBC 2012

ZONE I COMPLIANCE PACKAGE "AI" REF. TABLE 3.1.1.2.A

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE

FLEX DUCT

RIGID ROUND DUCT

SUPPLY DIFFUSER

LOW/HIGH WALL/KICK SUPPLY DIFFUSER

HRV EXHAUST GRILLE

VOLUME DAMPER

SUPPLY AIR PIPE RISER

a]⊶ ⊘

PROVIDE BALANCING DAMPERS ON ALL BRANCHES. ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)

INSULATE DUCTS IN UNCONDITIONED SPACES RIZ UNDERCUT ALL DOORS I* MIN. CONTRACTOR MUST WORK FROM APPROVED PLANS.
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE

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

♦GTA\DESIGNS

2985 DREW ROAD SUITE 202,

MISSISSAUGA, ONT. L4T 0A4 TEL: 905-671-9800 EMAIL: DAVE@GTADESIGNS.CA WEB: WWW.GTADESIGNS.CA

HEAT-LOSS 39,632	BTU/HR.
39,032	
UNIT MAKE	OR EQUAL.
AMANA	
UNIT MODEL	OR EQUAL.
AMEC960603AN	
UNIT HEATING INPUT	BTU/HR.
60,000	
UNIT HEATING OUTPUT	BTU/HR.
57,600	
A/C COOLING CAPACITY	TONS.
2.5	
FAN SPEED	CFM
929	

				=
# OF RUNS	S/A	R/A	FANS	
3RD FLOOR				
2ND FLOOR	8	3	3	
IST FLOOR	6	I	2	١
BASEMENT	4	-		
				. H.
FLOOR PLAN: SECOND	FI O	ΩR		

DD

JB-07272

2185

M3

Jun	NE I, 2021
CLIENT: BAYVIEW	WELLINGTON
	-4 LOT 154 ΝΟΜΔ 4

GREEN VALLEY EAST BRADFORD, ONT. 3/16" = 1'-0"