

TOWN OF BRADFORD WEST GWILLIMBURY BUILDING DEPARTMENT PLANS EXAMINED ONTARIO BUILDING CODE APPLIES DATE: 2024-04-23

INSPECTOR: SE

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information				
Building number, street name			Lot:	
THWU-	·16E		Lot/con.	
Municipality Bradford	Postal code	Plan number/ other description		
B. Individual who reviews and takes responsibility for design				
Name David DaCosta		Firm	gtaDesigns Inc.	
Street address 2985 Drew Roa	d, Suite 202		Unit no.	₋ot/con.
Municipality		Province	E-mail	
Mississauga	L4T 0A4	Ontario	dave@gtadesig	<u>jns.ca</u>
Telephone number (905) 671-9800	Fax number (647	7) 494-9643	Cell number (416) 268-68	320
C. Design activities undertaken by individual identified in S		•	` ,	20
☐ House ☑ HVAC – H	Isuaa		Duilding Structural	
☐ House ☐ HVAC – H			Building StructuralPlumbing – House	ļ
	Lighting and Pov	wer	☐ Plumbing – All Buildings	ļ
☐ Complex Buildings ☐ Fire Protect	0 0	WOI	☐ On-site Sewage Systems	} }
Description of designer's work Mod	del Certification	1	Project #:	PJ-00204
3			Layout #:	JB-04879
Heating and Cooling Load Calculations Main	Х	Builder	Bayview Wellington	1
Air System Design Alternate		Project	Green Valley	
Residential mechanical ventilation Design Summary Area Sq ft: Residential System Design per CAN/CSA-F280-12	1919	Model	THWU-16E	
Residential New Construction - Forced Air	ŀ	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.	de. I am qualified	d, and the firm is registe	ered, in the appropriate	
Individual BCIN:	:			
			•	
Firm BCIN:			•	
	-	•		
Individual BCIN:	3296	64		
Basis for exemp	otion from registra	ation:	Division C 3.2.4.1. (4)	
☐ The design work is exempt from the	e registration and	d qualification requirem	nents of the Building Code.	
Basis for exemp	otion from registr	ration and qualification:		
I certify that:				
The information contained in this schedule is true to the best of m	ny knowledge.			
I have submitted this application with the knowledge and consent	t of the firm.			
December 12, 2023		Mare So	Etc	
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.



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Page 2

Heat loss and gain calcul	ation summary sheet CSA-F280-M12 Standard								
These documents issued for the use of Ba	ayview Wellington Layout No.								
and may not be used by any other persons without authorization. Document									
Building I									
Address (Model): THWU-16E	Site: Green Valley								
Model:	Lot:								
City and Province: Bradford	Postal code:								
Calculations									
Dimensional information based on:	VA3 DESIGN22/May/2018								
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: Bradford	Wind exposure: Sheltered								
HRV? LifeBreath RNC155	Internal shading: Light-translucent Occupants: 5								
Sensible Eff. at -25C 71% Apparent Effect. at -0C 84%	Units: Imperial Area Sq ft: 1919								
Sensible Eff. at -0C 75%	, , , , , , , , , , , , , , , , , , ,								
Heating design conditions	Cooling design conditions								
Outdoor temp -9.4 Indoor temp: 72 Mean soil tem; 48	Outdoor temp 86 Indoor temp: 75 Latitude: 44								
Above grade walls	Below grade walls								
Style A: As per OBC SB12 Package A1 R 22	Style A: As per OBC SB12 Package A1 R 20ci								
· · · · · · · · · · · · · · · · · · ·	Style B:								
Style C:	Style C:								
Style D:	Style D:								
Floors on soil	Ceilings								
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	Doors								
Style B:	Style A: As per Selected OBC SB12 Package A1 R 4.00								
Windows	Style B:								
	Style C:								
Style B: Existing Windows (When Applicable) R 1.99									
Style C:	Style A: As per Selected OBC SB12 Package A1 R 2.03								
Style D:	Style B:								
<u>'</u>	in Caculations based on CSA-F280-12 Effective R-Values								
·	Construction - Forced Air								
Calculations p									
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								
	and Ogranos.gridiou								

Inlet Size

Trunk

30

14



Air System Design

SB-12 Package A1

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 PJ-00204

Bayview Wellington December 12, 2023 Builder: Date: of the Building Code. Project # System 1 Mane 14CIN JB-04879 **Green Valley** THWU-16E Individual BCIN: 32964 David DaCosta Lavout # Project: Model: A/C UNIT DATA: DESIGN LOAD SPECIFICATIONS AIR DISTRIBUTION & PRESSURE FURNACE/AIR HANDLER DATA: BOILER/WATER HEATER DATA: Level 1 Net Load 10,818 btu/h **Equipment External Static Pressure** 0.5 "w.c. Make 2.0 Ton Amana Make Туре Amana Level 2 Net Load 11,485 btu/h **Additional Equipment Pressure Drop** 0.225 "w.c. Model AMEC960403ANA Model Cond.--2.0 9,797 btu/h Level 3 Net Load Available Design Pressure 0.275 "w.c. Input Btu/h 40000 Input Btu/h Coil -2.0 Return Branch Longest Effective Length 38400 Level 4 Net Load 0 btu/h 300 ft Output Btu/h Output Btu/h R/A Plenum Pressure 0.50 " W C Min.Output Btu/h ΔWH 32.100 btu/h 0 138 "w c Total Heat Loss E.s.p. Blower DATA: Total Heat Gain 18,291 btu/h S/A Plenum Pressure 0.14 "w.c. Water Temp deg. F. W2 Combo System HL + 10% 35,310 Btuh. Heating Air Flow Proportioning Factor 0.0241 cfm/btuh AFUE Blower Speed Selected: ECM 96% **Blower Type Building Volume Vb** Cooling Air Flow Proportioning Factor 0.0422 cfm/btuh (Brushless DC OBC 12.3.1.5.(2)) 22130 ft³ Aux. Heat Ventilation Load 1.118 Btuh. R/A Temp SB-12 Package Package A1 Heating Check 772 cfm Cooling Check 772 cfm 70 dea. F. Ventilation PVC 79.5 cfm S/A Temp 116 deg. F. Supply Branch and Grill Sizing Diffuser loss 772 cfm **Cooling Air Flow Rate** 772 cfm 0.01 "w.c. Temp. Rise>>> 46 deg. F. Selected cfm> Level 1 Level 2 S/A Outlet No. 2 5 Room Use BASE BASE BASE KIT/FAM KIT/FAM LAUN PWD FOY Btu/Outlet 3606 3606 3606 3175 3175 793 654 3687 Heating Airflow Rate CFM 87 87 87 76 76 19 16 89 Cooling Airflow Rate CFM 39 39 39 113 113 59 14 42 **Duct Design Pressure** 0.13 **Actual Duct Length** 29 10 14 41 29 2 25 **Equivalent Length** 70 90 100 70 70 70 70 70 70 70 70 70 70 70 100 70 100 100 110 70 70 70 70 70 70 70 70 70 Total Effective Length 99 100 114 70 70 70 70 70 70 70 70 70 70 141 99 102 105 135 70 70 70 70 70 70 70 70 70 70 Adjusted Pressure 0.13 0.13 0.11 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.09 0.13 0.13 0.12 0.10 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 0.19 **Duct Size Round** 6 6 **Outlet Size** 4x10 4x10 4x10 4x10 4x10 4x10 4x10 4x10 4x10 3x10 3x10 4x10 Trunk Level 4 Level 3 S/A Outlet No. 10 13 14 9 11 12 Room Use MAST RFD 4 **BATH** BFD 3 RFD 2 FNS Btu/Outlet 2723 1284 764 2089 2119 818 Heating Airflow Rate CFM 65 31 18 50 51 20 96 43 15 Cooling Airflow Rate CEN 64 69 28 **Duct Design Pressure** 0.13 **Actual Duct Length** 46 17 10 68 **Equivalent Length** 110 100 90 150 110 140 70 **Total Effective Length** 70 70 70 70 70 70 156 117 100 184 208 70 70 70 70 70 70 70 70 70 70 70 70 70 146 70 70 70 **Adjusted Pressure** 0.08 0.11 0.13 0.07 0.09 0.06 0.19 **Duct Size Round** 6 6 Outlet Size 4x10 3x10 4x10 3x10 3x10 4x10 Trunk R C R Return Branch And Grill Sizing Grill Pressure Loss 0.02 "w.c **Return Trunk Duct Sizing** Supply Trunk Duct Sizing R/A Inlet No. CFM 1R 2R 3R 4R 5R 6R 7R 8R 9R 10R 11R Trunk CFM Press. Round Rect. Size Trunk Press. Round Rect. Size Inlet Air Volume CFM 130 312 105 105 120 **Duct Design Pressure** 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 0.12 772 0.05 14.5 24x10 461 0.06 11.5 14x8 12x10 Drop Α 522 0.05 238 0.06 5 34 37 28 z 12.5 R a n RYR 10y7 **Actual Duct Length** 5 18_Y8 14x10 **Equivalent Length** 115 125 185 180 135 50 50 50 50 50 50 Υ c 311 0.07 10.0 12x8 10x10 50 50 50 **Total Effective Length** 120 130 219 217 163 50 50 50 Х D w Adjusted Pressure 0.10 0.09 0.05 0.05 0.07 0.24 0.24 0.24 0.24 0.24 0.24 Ε Duct Size Round 6.0 9.5 6.0 6.0 7.0 ν F Inlet Size FLC G 8 н

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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:	Bay	view Welli	ngton		Dat	te:		Decen	nber 12,	2023							Weath	er Data	Bra	dford	44	-9.4	86 22	48.2					Page 4
	2012 OBC		Project:		Green Vall	еу		Mode	el:		TH	HWU-16	E			-	Syst	em 1		Heat I	Loss ^T 8	31.4 deg. F		Ht gain ^T	11	deg. F	GTA:	1919		Project :	# P. # Ji	J-00204 3-04879
	Rur	Level 1 n ft. exposed wall A n ft. exposed wall B Ceiling height Floor area Exposed Ceilings A Exposed Ceilings B				104 A B 3.5 AG 791 Ard A B		3	A B B.5 AG Area A B		3.5 /	A B AG Area A		3.5	A B AG Area A		A B 3.5 AG Area A B		;	A B 3.5 AG Area A B		A B 3.5 AG Area A B		A B 3.5 AG Area A B		A B 3.5 AG Area A B	i	A B 3.5 AG An A B		3.	A B 5 AG Area A B	
	•	Exposed Floors Gross Exp Wall A				Fir 364			Flr			Flr			Fir		Flr			Flr		Flr		Flr		Flr		Fir			Fir	
		Gross Exp Wall B	- · ·	I. I.																									_			
		Components North Shaded	3.55	22.93	9ain 10.91		ss Gai		Loss	Gain	Ė	Loss	Gain		Loss	Gain	Loss	Gain		Loss	Gain	Loss	Gain	Loss	Gain	Los	s Gain		ss Ga	ain	Loss	Gain
		East/West South	3.55 3.55	22.93	27.35 20.89	23	527	629																								
		WOB Windows Skylight	3.15 2.03		28.32 88.23																											
	N	Doors let exposed walls A	4.00 21.13		2.75 0.52	341		178																								
	N	let exposed walls B Exposed Ceilings A	14.49 59.22	5.62 1.37	0.76																											
		Exposed Ceilings B	22.86	3.56	1.66																											
	Foundation Cond	Exposed Floors ductive Heatloss		2.73 e () or Abo	0.17		4750																									
	Total Conductive	Heat Loss Heat Gain						807																								
	Air Leakage	Heat Loss/Gain Case 1		0.9946 0.11	0.0417 0.11		5249	34																								
	Ventilation	Case 2 Case 3	x	14.07 0.06	11.88 0.11		291	92																								
		Heat Gain People Appliances Loads	1 =.25	percent	239 3200	1.5	1	200																								
	Level 1 HL Total	Duct and Pipe loss 10,818		otal HL for p	10%		0818																									
	Level 1 HG Total		Tota	al HG per ro	om x 1.3	L		772			L												ш						\perp	\Box		
١																																
7	Pur	Level 2 n ft. exposed wall A				KI 61 A	T/FAM		LAUN 8 A	ı	6 /	PWD		28	FOY		А			Α		Α		A		А		Α			A	
_		n ft. exposed wall B Ceiling height				B 10.0		46	B 0.0			В			В		B 10.0		4	B 0.0		B 10.0		B 10.0		B 10.0		10.0		10.0	В	
5		Floor area				621 Ar	ea		63 Area		30 /	Area		73			Area		.,	Area		Area		Area		Area	a	Ar	ea	10.	Area	
		Exposed Ceilings A Exposed Ceilings B				A B			A B			A B		1	A B		A B			A B		A B		A B		A B		A B			A B	
=		Exposed Floors Gross Exp Wall A				Flr 610			Flr 80		60	Flr		364	Fir		Flr			Flr		Flr		Flr		Flr		Fir			Flr	
>		Gross Exp Wall B Components	R-Values	Loss (Gain	Lo	ss Gai	n	Loss	Gain	ا	Loss	Gain	<u> </u>	Loss	Gain	Loss	Gain		Loss	Gain	Loss	Gain	Loss	Gain	Los	s Gain	Lo	ss Ga	ain	Loss	Gain
_		North Shaded East/West	3.55 3.55		10.91 27.35	80	1834 2	188						13	298	356																
		South Existing Windows	3.55 1.99		20.89 22.15				9 206	188	9	206	188																			
		Skylight Doors	2.03 4.00	40.10	88.23 2.75									36	733	99																
		let exposed walls A let exposed walls B	17.03 8.50		0.65 1.29	530	2533	342	71 339	46	51	244	33		1506																	
		Exposed Ceilings A	59.22	1.37	0.64																											
		Exposed Ceilings B Exposed Floors	29.80	2.73	0.17																											
	Total Conductive	ductive Heatloss Heat Loss	On Grade	e () or Abo	х		4368		546			450			2536																	
	Air Leakage	Heat Gain Heat Loss/Gain		0.3987	0.0417			531 106	218	234 10		179	221 9		1011	658 27																
	Ventilation	Case 1 Case 2		0.04 14.07	0.11 11.88																											
		Case 3 Heat Gain People	x	0.06	0.11 239		241	289	30	27		25	25		140	75																
		Appliances Loads Duct and Pipe loss	1 =.25	percent	3200 10%	1.5	1	200 1	.0	800																						
	Level 2 HL Total Level 2 HG Total	11,485		otal HL for p	per room		6350 5	363	793	1391		654	332		3687	989																
	,	-,				L				,														L								

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

Total Heat Loss 32,100 btu/h Total Heat Gain 18,291 btu/h Division C subsection 3.2.5. of the Building Code. Individual BCIN:

David DaCosta

SB-12 Package Package A1





Heatloss/Gain Calculations CSA-F280-12

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							e-mail dave@g	tadesigns.ca				
	Builder: Bayview We	ellington Dat	e: Dec	ember 12, 2023			Weather Data	Bradford	44 -9.4 86	22 48.2		Page 5
2012 OBC	Project: Green Va	alley Mode	el:	THWU-16E		System 1	Heat Loss ^T 81	1.4 deg. F H	lt gain ^T 11 de	g. F GTA: 191	Project # 9 Layout #	PJ-00204 JB-04879
Laural 2			DED /	5		250	5110					
Level 3 Run ft. exposed wall A		MAST 28 A	BED 4	BATH 9 A 2	BED 3 4 A	BED 2 10 A	ENS 6 A	Α	A	A	Α	Α
Run ft. exposed wall B		В В	В	В 2	В	В	В	В	В	В	В	В
Ceiling height		8.0 8	.0 8.0	0 8.		8.0		3.0		3.0 8.	0.8	
Floor area					8 Area	205 Area	102 Area	Area	Area	Area	Area	Area
Exposed Ceilings A Exposed Ceilings B		319 A 1 ⁻	19 A 69 B	9 A 12 B	8 A B	205 A B	102 A B	A B	A B	A B	A B	A B
Exposed Floors		Fir	Fir		0 Fir	135 Flr	Flr	Fir	Flr	Fir		Flr
Gross Exp Wall A		224 10	04 72	2 19	2	80	48					
Gross Exp Wall B	R-Values Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain
North Shaded	3.55 22.93 10.91		LOSS Cum	LUSS Cum	LOSS Cum	LUSS CUIII	LUSS CUIII	LUSS Cum	LUSS Cum	LUSS Cam	LUSS Cum	LUSS Cum
East/West	3.55 22.93 27.35	28 642 766		2	2 504 602	22 504 602	13 298 356					
South Existing Windows	3.55 22.93 20.89 1.99 40.90 22.15		16 367 334 7	7 161 146								
Existing Windows Skylight	2.03 40.10 88.23											
Doors	4.00 20.35 2.75	i i										
Net exposed walls A	17.03 4.78 0.65 8.50 9.58 1.29		88 421 57 65	311 42 17	0 813 110	58 277 37	35 167 23					
Net exposed walls B Exposed Ceilings A			19 164 76 69	95 44 12	8 176 82	205 282 132	102 140 65					
Exposed Ceilings B	22.86 3.56 1.66	3										
Exposed Floors	29.80 2.73 0.17			2	0 55 3	135 369 23						
Total Conductive Heat Loss Heat Loss		2017	951	566	1548	1432	606					
Heat Gain Air Leakage Heat Loss/Gain	0.2949 0.0417	1097 7 595 46	280 20	167 10	797 456 33	793 422 33	179 19					
Case 1	0.03 0.11		200 20	107	430 33	422 33	179 19					
Ventilation Case 2	14.07 11.88		50 50	24 27	05 04	70 00	00 51					
Case 3 Heat Gain People	x 0.06 0.11		52 53 1 239	31 27	85 91 1 239	79 90 1 239	33 51					
Appliances Loads Duct and Pipe loss	1 =.25 percent 3200 10%					1 185 103						
Level 3 HL Total 9,797	Total HL for per room	2723	1284	764	2089	2119	818					
Level 3 HG Total 7,444	Total HG per room x 1.3	2270	1013	349	1508	1637	667					
Level 4												
Run ft. exposed wall A		Α	A	A	Α	Α	Α	Α	Α	Α	Α	Α
Run ft. exposed wall B		В	В	В	В	В	В	В	В	В	В	В
Ceiling height Floor area		Area	Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A		A	A	A	A	A	A	A	A	A	A	A
Exposed Ceilings B		В	В	В	В	В	В	В	В	В	В	В
Exposed Floors Gross Exp Wall A		Flr	Flr	Flr	Fir	Fir	Fir	Fir	Fir	Fir	Fir	Fir
Gross Exp Wall B												
	R-Values Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain	Loss Gain
North Shaded East/West	3.55 22.93 10.91 3.55 22.93 27.35											
South	3.55 22.93 20.89	9										
Existing Windows	1.99 40.90 22.15											
Skylight Doors	2.03 40.10 88.23 4.00 20.35 2.75											
Net exposed walls A	17.03 4.78 0.65	5										
Net exposed walls B Exposed Ceilings A												
Exposed Ceilings A Exposed Ceilings B												
Exposed Floors												
Foundation Conductive Heatloss Total Conductive Heat Loss												
Heat Gain												
Air Leakage Heat Loss/Gain Case 1	0.0000 0.0417 0.00 0.11											
Ventilation Case 2	14.07 11.88	3										
Case 3 Heat Gain People	x 0.06 0.11											
Appliances Loads	1 =.25 percent 3200											
Duct and Pipe loss	10%	ó										
Level 4 HL Total 0 Level 4 HG Total 0	Total HL for per room Total HG per room x 1.3											
,												

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

32,100 Total Heat Loss btu/h Total Heat Gain 18,291

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

Mare Alet

David DaCosta

SB-12 Package Package A1

1 2

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System Design Option

HRV WITH DUCTING / forced air system

HRV simplified connection to forced air system

HRV full ducting/not coupled to forced air system

Exhaust only / forced air system

Part 6 design

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

Project # Layout #

David DaCosta

December 12, 2023

BCIN#

5190

32964

Name

Signature

HRAI#

Date

Page 6 PJ-00204 JB-04879

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: Mane ALEX-C David DaCosta Package: Package A1

Project:	Bradford	Model:	THWU-16E	
	RESIDENTIAL MECHANICAL For systems serving one dwelling unit & col			
Lot #	Location of Installation Plan #	Total Ve	entilation Capacity 9.32.3.	3(1)
Lot # Township	· · · · · · · · · · · · · · · · · · ·	Bsmt & Master Bdrm Other Bedrooms	2 @ 21.2 cfr 3 @ 10.6 cfr	
Township	Bradford	Bathrooms & Kitchen	4 @ 10.6 cfr	
Roll #	Permit #	Other rooms	3 @ 10.6 cfr Total	m 31.8 cfm 148.4
Address				
		Principal \	Ventilation Capacity 9.32.	3.4(1)
Name	Builder	Master bedroom	1 @ 31.8 cfr	m 31.8 cfm
Name	Bayview Wellington	Other bedrooms	3 @ 15.9 cfr	
Address	Daynon from g.c.	0.000	Total	79.5
City				
T_1	Fav		ipal Exhaust Fan Capacit	•
Tel	Fax	Make	Model	Location
	Installing Contractor	LifeBreath	RNC155	Base
Name	Installing Contractor	132 cfm		Sones or Equiv.
Address		Не	eat Recovery Ventilator	
		Make	LifeBreath	
City		Model	RNC155	 ,
Tel	Fax	Sensible efficiency @ -	132 cfm high	80 cfm low 71%
I CI	I ax	Sensible efficiency @ (71% 75%
	_		ance HRV/ERV to within 10	
	Combustion Appliances 9.32.3.1(1)		emental Ventilation Capac	
a) <u>x</u>	Direct vent (sealed combustion) only	# 1. 1	•.	440.4
b)	Positive venting induced draft (except fireplaces) Natural draft, B-vent or induced draft fireplaces	Total ventilation capaci Less principal exhaust	•	148.4 79.5
c) d)	Solid fuel (including fireplaces)	REQUIRED supplement	. ,	68.9 cfm
e)	No combustion Appliances	112401112 04pp	mar voini Sapasii,	
		Sup	pplemental Fans 9.32.3.5.	
	Heating System	Location	cfm Model	Sones
Х	Forced air	Ens	50 XB50	0.3
	Non forced air	Bath	50 XB50	0.3
	Electric space heat (if over 10% of heat load)			
	House Type 9.32.3.1(2)			
		all fans HVI listed	Make Broan	or Equiv.
l x	Type a) or b) appliances only, no solid fuel			
I X	Type a) or b) appliances only, no solid fuel Type I except with solid fuel (including fireplace)	ali laris l'IVI listeu	Make Broan	or Equiv.
l —	Type I except with solid fuel (including fireplace) Any type c) appliance		Designer Certification	'
ш	Type I except with solid fuel (including fireplace)	I hereby certify that this		'

REVIEWED



Energy Efficiency Design Summary: Prescriptive Method

(Building Code Part 9, Residential)

Page 7

Project # PJ-00204 Layout # JB-04879

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 Princi	pal Authori	У							
Application No:					Model/Cer	tification Nu	ımber						
A. Project Information													
Building number, street name							Unit num	ber	Lot/Con				
			THWU-	16E									
Municipality Bradford			Postal co		Reg. Plan	number / ot	her descri	otion	ı				
Bradioid													
B. Prescriptive Compliance [indica	te the bu	ilding cod	e complia	nce packa	ige being e	mployed in	the hous	e design]					
SB-12 Prescriptive (input design pa	ckage):			Pack	<u>ckage A1</u> Table: <u>3.1.1.2.A</u>								
C. Project Design Conditions													
Climatic Zone (SB-1):		Heat. E	quip. Ef	ficiency			Spa	ce Heating F	uel Sour	ce			
✓ Zone 1 (< 5000 degree days)		√ ≥ 92	2% AFUE		V	Gas		Propane		Solid Fuel			
Zone 2 (≥ 5000 degree days)		_ ≥ 8	34% < 929	% AFUE		Oil		Electric		Earth Energy			
Ratio of Windows, Skylights & Glas	s (W, S	& G) to	Wall Are	а			Other	Building Ch	aracteris	tics			
A () M -	42				☐ Log/P	ost&Beam		ICF Above	Grade	☐ ICF Basement			
Area of Walls = <u>286.09</u> m ² or <u>3079.4</u>	ft²	W,S &	.G % =	<u>8%</u>	☐ Slab-	on-ground	1	Walkout Ba	sement				
					☑ Air Co	onditioning	1	Combo Uni	t				
Area of W, S & G = <u>22.482</u> m ² or <u>242.0</u>	ft²	Utilize \	Vindow	☐ Yes	☐ Air S	ourced Hea	at Pump (A	ASHP)					
		Avera	aging	☑ No	☐ Grou	nd Source	Heat Pum	p (GSHP)					
D. Building Specifications [provide	values a	nd ratings	s of the er	nergy effici	ency comp	onents pro	posed]						
Energy Efficiency Substitutions													
☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5))													
☐ Combined space heating and domestic	water he	eating sys	tems (3.1.	.1.2(7) / 3.	1.1.3.(7))								
☐ Airtightness substitution(s)		Table 3.	1.1.4.B	Required:				Permitted S	Substitution	า:			
Airtightness test required		Table 3.	1 1 4 C	Required:	: Permitted Substitution:								
(Refer to Design Guide Attached)		. 00.0 01		Required:				Permitted S	Substitution	ո։			
Building Component			SI/R-Valu n U-Valu			Buil	ding Co	mponent		Efficiency Ratings			
Thermal Insulation	Non	ninal	Effe	ective	Window	rs & Doo	rs Provid	le U-Value ⁽¹⁾ c	r ER rating				
Ceiling with Attic Space	6	0			Windows	/Sliding G	Blass Doo	ors		1.6			
Ceiling without Attic Space	3	1			Skylights					2.8			
Exposed Floor	3	1			Mechan	icals							
Walls Above Grade	22				Heating I	Equip.(AFI	UE)			96%			
Basement Walls		20.0ci			HRV Effi	ciency (SF	RE% at 0°	C)		75%			
Slab (all >600mm below grade)	2	x			DHW He	ater (EF)				0.80			
Slab (edge only ≤600mm below grade)	1	0			DWHR (CSA B55.1	(min. 42%	efficiency))		#Showers 2			
Slab (all ≤600mm below grade, or heated)	1	0			Combine	d Heating	System						
(1) U value to be provided in either W/(m²·K) or Bt	u/(h·ft·F) b	out not bo	th.										
E. Designer(s) [name(s) & BCIN(s), if	applicable	e, of perso	on(s) prov	iding infor	mation her	ein to subst	tantiate th	at design mee	ts building	code]			
Name				BCIN		Signature			, ,	? ,			
David DaCosta				329	964			Mane	14C=	₹ 7			



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Page PJ-00204 Project # JB-04879 Layout #

Package: Package A1 System: System 1 Project: **Bradford** Model: THWU-16E

Air Leakage Calculations

Building Air Leakage Heat Loss												
В	LRairh	Vb	HL^T	HLleak								
0.018	0.324	22130	81.4	10499								

	Building Air Leakage Heat Gain											
В	LRairh	Vb	HG^T	HG Leak								
0.018	0.079	22130	11	346								

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)												
Level	Level	Building	Level Conductive	Air Leakage Heat Loss								
Level	Factor (LF)	Air	Heat Loss	Multiplier								
Level 1	0.5		5278	0.9946								
Level 2	0.3	10499	7900	0.3987								
Level 3	0.2	10499	7120	0.2949								
Level 4	0		0	0.0000								

		Air Leakage Heat Gain
HG LEAK	346	0.0417
BUILDING CONDUCTIVE HEAT GAIN	8281	0.0417

Levels										
1	2	3	4							
(LF)	(LF)	(LF)	(LF)							
1.0	0.6	0.5	0.4							
	0.4	0.3	0.3							
		0.2	0.2							
			0.1							

Levels this Dwelling	
3	

Ventilation Calculations

Ventilation Heat Loss								
C DVO III AT (4 E) HBV/ HI byont								
1.08	79.5	81.4	0.16	1118				

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Ventilation Heat Loss

Ventilation Heat Gain							
С	PVC	HG^T	HGbvent				
1.1	79.5	11	944				

Ventilation Heat Gain

Case 1

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only								
LF	HLbvent	LVL Cond. HL	Multiplier					
0.5		5278	0.11					
0.3	1 4440	7900	0.04					

Case 1 - Exhaust Only								
Level	LF	HLbvent	LVL Cond. HL	Multiplier				
Level 1	0.5	1118	5278	0.11				
Level 2	0.3		7900	0.04				
Level 3	0.2	1110	7120	0.03				
Level 4	0		0	0.00				

Case 1 - Exh	aust Only	Multiplier	
HGbvent	944	0.11	
Building	8281	0.11	

Ventilation Heat Loss (Direct Ducted Systems)					
	Multiplier				

			Multiplier	
С	HL^T	(1-E) HRV	14.07	
1.08	81.4	0.16		

		Multiplier
С	HG^T	11.88
1.08	11	11.00

HG*1.3

Case 3 Ventilation Heat Loss (Forced Air Systems)

	HLbvent	Multiplier
Total Ventilation Load	1118	0.06

Ventilation Heat Gain (Forced Air Systems)	

Vent Heat Gain

944

Multiplier

0.11

Btu/h

Case 3

Case 2 **Ventilation Heat Gain (Direct Ducted Systems)**

				944	1			1
Foundation	Conductive Heatle	oss Level 1		1392	Watts	4750	Btu/h	

HGbvent

Mare Alite

Farmadatian	O1-		1141		7
Foundation	Conal	ıctıve	Heatioss	Level	2

Envelope Air Leakage Calculator

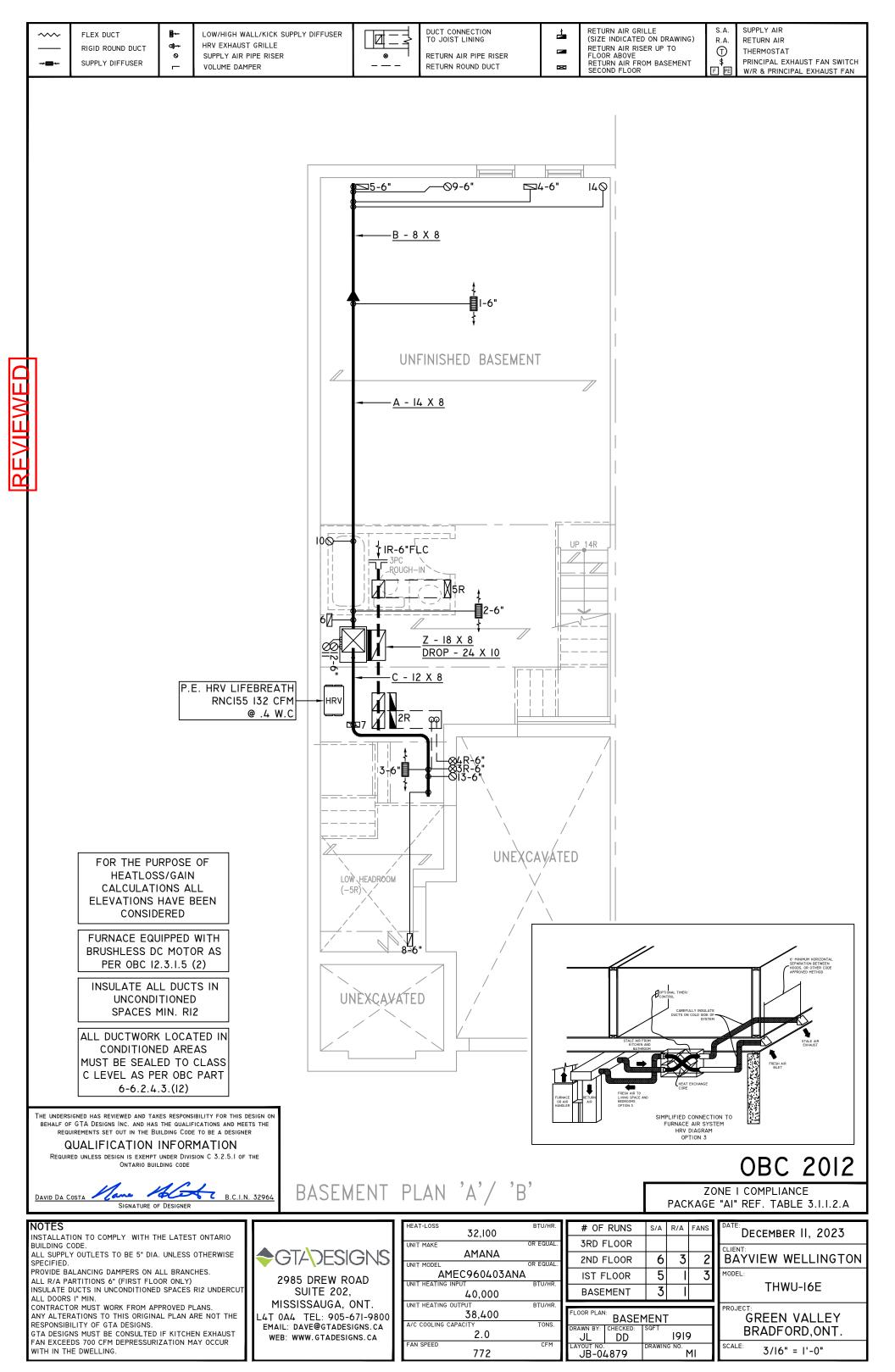
Supplemental tool for CAN/CSA-F280

Weather Station	Description		
Province:	Ontario		
Region:	Bradford ▼		
Weather Station Location:	Open flat terrain, grass		
Anemometer height (m):	10		
Local Shiel	ding		
Building Site:	Suburban, forest		
Walls:	Heavy ▼		
Flue:	Heavy ▼		
Highest Ceiling Height (m):	6.55		
Building Confi	guration		
Туре:	Semi-Detached		
Number of Stories:	Two		
Foundation:	Shallow		
House Volume (m³):	626.71		
Air Leakage/Ve	entilation		
Air Tightness Type:	Present (1961-) (ACH=3.57)		
	ELA @ 10 Pa. 322.44 cm²		
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):	0.324		
Cooling Air Leakage Rate (ACH/H):	0.079		

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	ince: Ontario		
Region:		Bradford ▼	
	Site D	escription	
Soil Conductivity:		High conductivity: moist soil ▼	
Water Table:		Normal (7-10 m, 23-33 Ft) ▼	
Fou	ındatio	n Dimensions	
Floor Length (m):	17.02		
Floor Width (m):	4.32		
Exposed Perimeter (m):	31.70		
Wall Height (m):	2.59		
Depth Below Grade (m):	1.52	Insulation Configuration	
Window Area (m²):	2.14		
Door Area (m²):	0.00		
	Radi	ant Slab	
Heated Fraction of the Slab:	0		
Fluid Temperature (°C):	33		
	Desig	n Months	
Heating Month	1		
	Founda	ntion Loads	
Heating Load (Watts): 1392			



FLEX DUCT RIGID ROUND DUCT SUPPLY DIFFUSER

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

> KITCHEN EXHAUST 100 CFM MIN. 6"



F 5"

2R LW 30X8

WIC

6 LAUNDRY

PWD

5R

FOYER

DUCT CONNECTION TO JOIST LINING RETURN AIR PIPE RISER RETURN ROUND DUCT

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) 4 RETURN AIR RISER UP TO FLOOR ABOVE RETURN AIR FROM BASEMENT SECOND FLOOR \mathbf{x}

R.A

1

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

-**__**_ 4-6' OPT. COFFERED CEILING 14 🖟 **FAMILY** KITCHEN

5R

UP 16R

14R

3R-6"

DOOR WHERE GRADE PERMITS

4R-6"

FOR THE PURPOSE OF **HEATLOSS/GAIN** CALCULATIONS ALL

CONDITIONED AREAS C LEVEL AS PER OBC PART 6-6.2.4.3.(12)

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

GROUND FLOOR PLAN 'A'

OBC 2012

ZONE I COMPLIANCE PACKAGE "AI" REF. TABLE 3.I.I.2.A

WITH IN THE DWELLING.

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

PROVIDE BALANCING DAMPERS ON ALL BRANCHES.

ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES RI2 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 GTADESIGNS 2985 DREW ROAD

SUITE 202, MISSISSAUGA, ONT. L4T 0A4 TEL: 905-671-9800 EMAIL: DAVE@GTADESIGNS.CA WEB: WWW.GTADESIGNS.CA

HEAT-LOSS 32,100	BTU/HR.	
UNIT MAKE	OR EQUAL.	
AMANA		
UNIT MODEL	OR EQUAL.	
AMEC960403ANA		
UNIT HEATING INPUT	BTU/HR.	
40,000		
UNIT HEATING OUTPUT	BTU/HR.	
38,400		FLO
A/C COOLING CAPACITY	TONS.	DRA
2.0		DRA
FAN SPEED	CFM	LAY
772		١,

# OF RUNS	S/A	R/A	FANS	[
3RD FLOOR				_
2ND FLOOR	6	3	2	
IST FLOOR	5	I	3	1
BASEMENT	3	-		
				Ī
FLOOR PLAN: GROUND	FLO	OR		

OOR PLAN	l:			
	ĞROUND	FLO	OR	
AWN BY:	CHECKED:	SQFT		
II	DD		1919)
UL UA		88411111		
YOUT NO.		DRAWIN	G NO.	40
. IR-0	/. X / Q	l .	r	4/

DECEMBER II, 2023 BAYVIEW WELLINGTON MODEL: THWU-I6E

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

CIRCULATION PRINCIPAL FAN SWITCH 12-6 TO BE CENTRALLY LOCATED INSULATE ALL DUCTS IN **GARAGE** UNCONDITIONED SPACES MIN. RI2 **PORCH** ALL DUCTWORK LOCATED IN MUST BE SEALED TO CLASS

q

ELEVATIONS HAVE BEEN CONSIDERED

FLEX DUCT RIGID ROUND DUCT SUPPLY DIFFUSER

LOW/HIGH WALL/KICK SUPPLY DIFFUSER HRV EXHAUST GRILLE q⊩ 0 SUPPLY AIR PIPE RISER VOLUME DAMPER



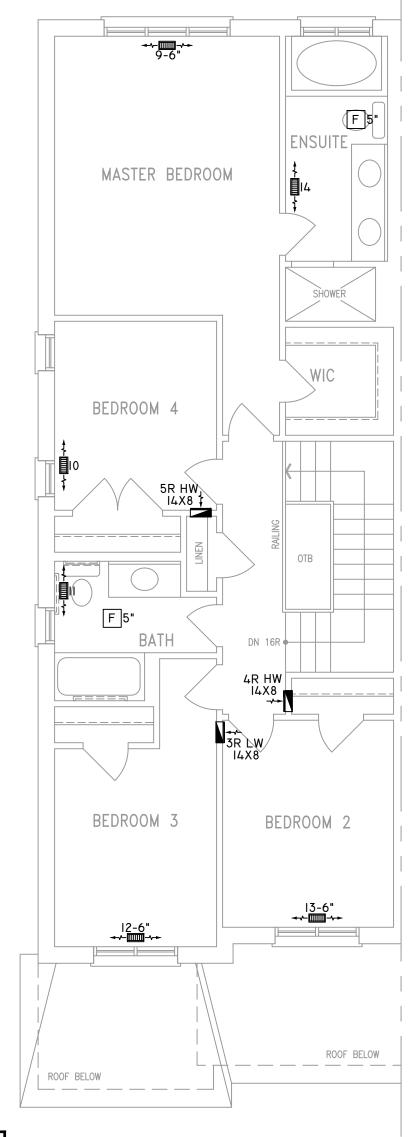
DUCT CONNECTION TO JOIST LINING RETURN AIR PIPE RISER RETURN ROUND DUCT

4 \boxtimes

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

R.A ➀

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



FOR THE PURPOSE OF HEATLOSS/GAIN CALCULATIONS ALL ELEVATIONS HAVE BEEN CONSIDERED

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. RI2

ALL DUCTWORK LOCATED IN CONDITIONED AREAS MUST BE SEALED TO CLASS C LEVEL AS PER OBC PART 6-6.2.4.3.(12)

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 $$\operatorname{\textsc{Ontario}}$$ building code

Ane 1866 B.C.I.N. 32964

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

SPECIFIED. PROVIDE BALANCING DAMPERS ON ALL BRANCHES. ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY) INSULATE DUCTS IN UNCONDITIONED SPACES RI2 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.



2985 DREW ROAD SUITE 202, MISSISSAUGA, ONT. L4T 0A4 TEL: 905-671-9800 EMAIL: DAVE@GTADESIGNS.CA

WEB: WWW.GTADESIGNS.CA

HEAT-LOSS	BTU/HR.
32,100	
UNIT MAKE	OR EQUAL.
AMANA	
UNIT MODEL	OR EQUAL.
AMEC960403ANA	
UNIT HEATING INPUT	BTU/HR.
40,000	
UNIT HEATING OUTPUT	BTU/HR.
38,400	
A/C COOLING CAPACITY	TONS.
2.0	
FAN SPEED	CFM
772	

# OF RUNS	S/A	R/A	FANS		
3RD FLOOR				╟	
2ND FLOOR	6	3	2		
IST FLOOR	5	I	3		
BASEMENT	3	-			
				ì	
FLOOR PLAN: SECOND		٥.		П	
SECOND	FLU	UR			

DD

JB-04879

1919

M3

DECEMBER II, 2023 **BAYVIEW WELLINGTON** MODEL: THWU-I6E PROJECT

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

FLEX DUCT
RIGID ROUND DUCT
SUPPLY DIFFUSER

Ø+-Ø+-

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

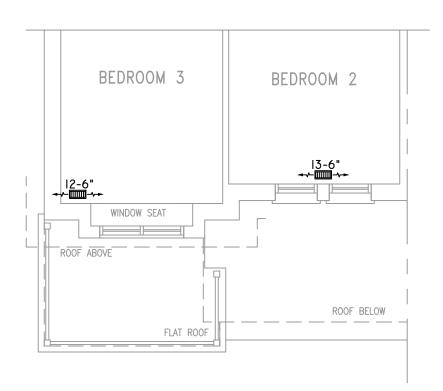


DUCT CONNECTION
TO JOIST LINING

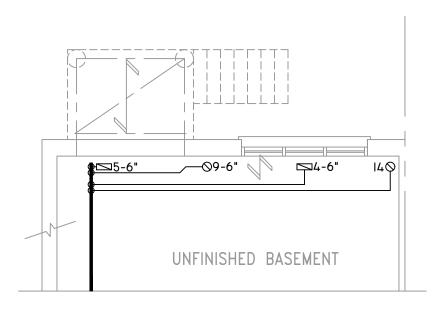
RETURN AIR PIPE RISER RETURN ROUND DUCT RET (SIZ

RETURN AIR GRILLE (SIZE INDICATED ON DRAWING) RETURN AIR RISER UP TO FLOOR ABOVE RETURN AIR FROM BASEMENT SECOND FLOOR S.A. R.A. T

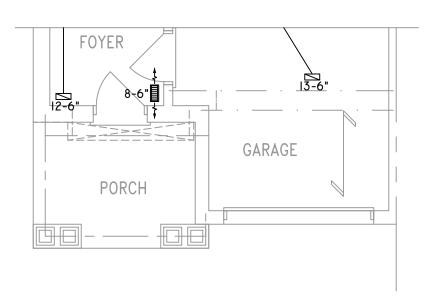
SUPPLY AIR
RETURN AIR
THERMOSTAT
PRINCIPAL EXHAUST FAN SWITCH
W/R & PRINCIPAL EXHAUST FAN



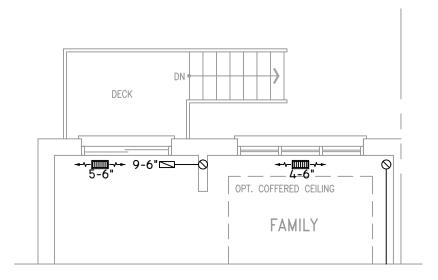
PARTIAL SECOND FLOOR PLAN 'B'



PARTIAL BASEMENT PLAN W.O.D. CONDITION (9R OR GREATER)



PARTIAL GROUND FLOOR PLAN 'B'



PARTIAL GROUND FLOOR PLAN W.O.D. CONDITION (9R OR GREATER)

THE UNDERSIGNED HAS REVIEWED AND TAKES RESPONSIBILITY FOR THIS DESIGN ON BEHALF OF GTA DESIGNS INC. AND HAS THE QUALIFICATIONS AND MEETS THE REQUIREMENTS SET OUT IN THE BUILDING CODE TO BE A DESIGNER QUALIFICATION INFORMATION

REQUIRED UNLESS DESIGN IS EXEMPT UNDER DIVISION C 3.2.5.1 OF THE ONTARIO BUILDING CODE

DAVID DA COSTA

B.C.I.N. 32964

OBC 2012

ZONE I COMPLIANCE PACKAGE "AI" REF. TABLE 3.I.I.2.A

NOTES

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

PROVIDE BALANCING DAMPERS ON ALL BRANCHES.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES RI2 UNDERCUT

ALL DOORS I" MIN.
CONTRACTOR MUST WORK FROM APPROVED PLANS.
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HEAT-LOSS	BTU/HR.
32,100	
UNIT MAKE	OR EQUAL.
AMANA	
UNIT MODEL	OR EQUAL.
AMEC960403AI	NΑ
UNIT HEATING INPUT	BTU/HR.
40,000	
UNIT HEATING OUTPUT	BTU/HR.
38,400	
A/C COOLING CAPACITY	TONS.
2.0	
FAN SPEED	CFM
772	

DA	FANS	R/A	S/A	RUNS	# OF
CI				LOOR	3RD F
CL E	2	3	6	FLOOR	2ND F
M	3	I	5	LOOR	IST F
		ı	3	MENT	BASE
PF		۱(S)		ARTIAL	
	9	1919	SQFT	DD	DRAWN BY:
so	DRAWING NO.				JB-04

	I NET : TABLE 0.1.1.2.A
DA	DECEMBER II, 2023
cL E	BAYVIEW WELLINGTON
MO	THWU-I6E
PR	GREEN VALLEY BRADFORD,ONT.

3/16" = 1'-0"