


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 Barossa 3 S38-3 Lot 145				Lot: 145	
Municipality Bradford				Postal code	Plan number/ other description
B. Individual who reviews and takes responsibility for design activities					
Name David DaCosta			Firm gtaDesigns Inc.		
Street address 2985 Drew Road, Suite 202				Unit no.	Lot/con.
Municipality Mississauga		Postal code L4T 0A4	Province Ontario	E-mail hvac@gtadesigns.ca	
Telephone number (905) 671-9800		Fax number		Cell number	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]					
<input type="checkbox"/> House		<input checked="" type="checkbox"/> HVAC – House		<input type="checkbox"/> Building Structural	
<input type="checkbox"/> Small Buildings		<input type="checkbox"/> Building Services		<input type="checkbox"/> Plumbing – House	
<input type="checkbox"/> Large Buildings		<input type="checkbox"/> Detection, Lighting and Power		<input type="checkbox"/> Plumbing – All Buildings	
<input type="checkbox"/> Complex Buildings		<input type="checkbox"/> Fire Protection		<input type="checkbox"/> On-site Sewage Systems	
Description of designer's work			Model Certification		Project #:
					PJ-00041
					Layout #:
					JB-07268
Heating and Cooling Load Calculations		Main	X	Builder	Bayview Wellington
Air System Design		Alternate		Project	Green Valley East
Residential mechanical ventilation Design Summary		Area Sq ft:	2522	Model	Barossa 3
Residential System Design per CAN/CSA-F280-12					S38-3 Lot 145
Residential New Construction - Forced Air				SB-12	Package A1
D. Declaration of Designer					
<p>I, <u>David DaCosta</u> declare that (choose one as appropriate):</p> <p style="text-align: center;">(print name)</p> <p><input type="checkbox"/> I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 Division C of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.</p> <p style="margin-left: 150px;">Individual BCIN: _____</p> <p style="margin-left: 150px;">Firm BCIN: _____</p> <p><input checked="" type="checkbox"/> I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code.</p> <p style="margin-left: 150px;">Individual BCIN: <u>32964</u></p> <p style="margin-left: 150px;">Basis for exemption from registration: <u>Division C 3.2.4.1. (4)</u></p> <p><input type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code.</p> <p style="margin-left: 150px;">Basis for exemption from registration and qualification:</p>					
<p>I certify that:</p> <ol style="list-style-type: none"> The information contained in this schedule is true to the best of my knowledge. I have submitted this application with the knowledge and consent of the firm. 					
<p><u>June 25, 2021</u></p> <p>Date</p>			<p></p> <p>Signature of Designer</p>		

NOTE:

- 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, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited licence to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Heat loss and gain calculation summary sheet				CSA-F280-M12 Standard Form No. 1	
These documents issued for the use of Bayview Wellington				Layout No.	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				JB-07268	
Building Location					
Address (Model): S38-3 Lot 145			Site: Green Valley East		
Model: Barossa 3			Lot: 145		
City and Province: Bradford			Postal code:		
Calculations based on					
Dimensional information based on:			VA3 Design11/May/2012		
Attachment: Detached			Front facing: East/West		Assumed? Yes
No. of Levels: 3 Ventilated? Included			Air tightness: 1961-Present (ACH=3.57)		Assumed? Yes
Weather location: Bradford			Wind exposure: Sheltered		
HRV? VanEE 65H HRV			Internal shading: Light-translucent		Occupants: 5
Sensible Eff. at -25C 60%		Apparent Effect. at -0C 83%		Units: Imperial	Area Sq ft: 2522
Sensible Eff. at -0C 75%					
Heating design conditions			Cooling design conditions		
Outdoor temp -9.4 Indoor temp: 72 Mean soil temp: 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 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 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:		
City: Mississauga			E-mail hvac@gtadesigns.ca		

Builder: **Bayview Wellington**

Date: **June 25, 2021**

Project: **Green Valley East**

Model: **Barossa 3
S38-3 Lot 145**

System 1

I review and take responsibility for the design work and am qualified in the appropriate category as an "other designer" under Division C subsection 3.2.5. of the Building Code.
Individual BCIN: 32964 *David DaCosta* David DaCosta

Page 3
Project # **PJ-00041**
Layout # **JB-07268**

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	21,843 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	3.0 Ton
Level 2 Net Load	18,239 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	AMEC960803BNA	Model		Cond.-----	3.0
Level 3 Net Load	18,046 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	80000	Input Btu/h		Coil -----	3.0
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	76800	Output Btu/h			
Total Heat Loss	58,129 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50 " W.C.	Min.Output Btu/h	AWH		
Total Heat Gain	30,117 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp	deg. F.	Blower DATA:			
		Heating Air Flow Proportioning Factor	0.0202 cfm/btuh	AFUE	96%	Blower Speed Selected:	W2	Blower Type	ECM
Building Volume Vb	32090 ft³	Cooling Air Flow Proportioning Factor	0.0389 cfm/btuh	Aux. Heat				(Brushless DC OBC 12.3.1.5.(2))	
Ventilation Load	1,188 Btuh.	R/A Temp	70 deg. F.	SB-12 Package	Package A1	Heating Check	1172 cfm	Cooling Check	1172 cfm
Ventilation PVC	79.5 cfm	S/A Temp	131 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	61 deg. F.	Selected cfm>	1172 cfm	Cooling Air Flow Rate	1172 cfm

Level 1												Level 2											
S/A Outlet No.	1	2	3	4	5							6	7	8	9	10	11						
Room Use	BASE	BASE	BASE	BASE	BASE							KIT	KIT	GRT	LAUND	FOY	DIN						
Btu/Outlet	4369	4369	4369	4369	4369							2012	2012	3586	2362	4265	4002						
Heating Airflow Rate CFM	88	88	88	88	88							41	41	72	48	86	81						
Cooling Airflow Rate CFM	32	32	32	32	32							108	108	105	42	103	101						
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
Actual Duct Length	53	40	24	29	20							34	31	46	24	27	6						
Equivalent Length	110	140	90	70	130	70	70	70	70	70	70	80	130	120	170	120	130	70	70	70	70	70	70
Total Effective Length	163	180	114	99	150	70	70	70	70	70	70	114	161	166	194	147	136	70	70	70	70	70	70
Adjusted Pressure	0.08	0.07	0.11	0.13	0.09	0.19	0.19	0.19	0.19	0.19	0.19	0.11	0.08	0.08	0.07	0.09	0.10	0.19	0.19	0.19	0.19	0.19	0.19
Duct Size Round	6	6	6	6	6							6	6	6	5	6	6						
Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	B	B	A	A	C							A	B	B	C	C	A						

Level 3										Level 4													
S/A Outlet No.	12	13	14	15	16	17	18	19	20	21													
Room Use	MAST	MAST	BED 2	BATH	BED 3	BED 3	LOFT	BED 4	ENS 2	ENS													
Btu/Outlet	1709	1709	1757	1681	1759	1759	3874	1375	640	1784													
Heating Airflow Rate CFM	34	34	35	34	35	35	78	28	13	36													
Cooling Airflow Rate CFM	49	49	34	28	49	49	100	40	13	32													
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
Actual Duct Length	49	62	54	41	42	38	37	34	24	30													
Equivalent Length	150	140	180	160	140	130	120	150	120	140	70	70	70	70	70	70	70	70	70	70	70	70	70
Total Effective Length	199	202	234	201	182	168	157	184	144	170	70	70	70	70	70	70	70	70	70	70	70	70	70
Adjusted Pressure	0.07	0.06	0.06	0.06	0.07	0.08	0.08	0.07	0.09	0.08	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
Duct Size Round	5	5	5	4	5	5	6	5	3	4													
Outlet Size	3x10	3x10	3x10	3x10	3x10	3x10	4x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	B	B	B	C	C	C	C	A	A	A													

Return Branch And Grill Sizing		Grill Pressure Loss		0.02 "w.c.							
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R
Inlet Air Volume CFM	220	387	160	105	150	150					
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
Actual Duct Length	25	21	34	35	55	41					
Equivalent Length	110	165	150	105	200	140	50	50	50	50	50
Total Effective Length	135	186	184	140	255	181	50	50	50	50	50
Adjusted Pressure	0.09	0.06	0.06	0.08	0.05	0.06	0.24	0.24	0.24	0.24	0.24
Duct Size Round	8.0	11.0	8.0	6.0	8.0	8.0					
Inlet Size	FLC	8	8	8	8	8					
" "	x	x	x	x	x	x	x	x	x	x	x
Inlet Size	9X6	30	14	14	14	14					
Trunk	X	Y	X	Z	Y	Y					

Return Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
Drop	1172	0.05	17.0	24x12
Z	1172	0.05	17.0	26x10 22x12
Y	1067	0.05	16.5	32x8 24x10
X	380	0.06	11.0	14x8 10x10
W				
V				
U				
T				
S				
R				
Q				

Supply Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
A	767	0.06	14.0	22x8 18x10
B	393	0.06	11.0	14x8 10x10
C	405	0.06	11.0	14x8 10x10
D				
E				
F				
G				
H				
I				
J				
K				

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Barossa 3 S38-3 Lot 145

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 2522

Project # PJ-00041
Layout # JB-07268

Level 1

BASE

Run ft. exposed wall A	114	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall B	40	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0	AG	7.0
Floor area	881	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	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	798												
Gross Exp Wall B	400												

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62														
East/West	3.55	22.93	29.56														
South	3.55	22.93	22.50	6	138	135											
WOB Windows	3.55	22.93	27.86	76	1743	2117											
Skylight	2.03	40.10	88.23														
Doors	4.00	20.35	2.75	21	427	58											
Net exposed walls A	21.12	3.85	0.52	771		402											
Net exposed walls B	17.03	4.78	0.65	324	1549	209											
Exposed Ceilings A	59.22	1.37	0.64														
Exposed Ceilings B	27.65	2.94	1.37														
Exposed Floors	29.80	2.73	0.17														
Foundation Conductive Heatloss																	
Total Conductive																	
Air Leakage																	
Ventilation																	
Case 1		0.05	0.06														
Case 2		14.95	11.88														
Case 3	x	0.03	0.06	374	171												
Heat Gain People			239														
Appliances Loads	1 = 25 percent		4056														
Duct and Pipe loss			10%														
Level HL Total	21,843			21843													
Level HG Total	4,175				4175												

Level 2

KIT

GRT

LAUND

FOY

DIN

Run ft. exposed wall A	31	A	33	A	18	A	26	A	44	A	A	A	A	A	A	A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height	10.0		10.0		12.0		11.0		10.0		10.0		10.0		10.0		10.0
Floor area	226	Area	225	Area	69	Area	79	Area	424	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	310		330		216		286		440								
Gross Exp Wall B																	

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62														
East/West	3.55	22.93	29.56														
South	3.55	22.93	22.50	63	1445	1862				42	963	1241					
Existing Windows	1.99	40.90	23.66														
Skylight	2.03	40.10	88.23														
Doors	4.00	20.35	2.75														
Net exposed walls A	17.03	4.78	0.65	247	1181	160				288	1377	186					
Net exposed walls B	8.50	9.58	1.29														
Exposed Ceilings A	59.22	1.37	0.64														
Exposed Ceilings B	27.65	2.94	1.37														
Exposed Floors	29.80	2.73	0.17														
Foundation Conductive Heatloss			x														
Total Conductive																	
Air Leakage																	
Ventilation																	
Case 1		0.03	0.06														
Case 2		14.95	11.88														
Case 3	x	0.03	0.06	85	119					76	84						
Heat Gain People			239														
Appliances Loads	1 = 25 percent		4056														
Duct and Pipe loss			10%														
Level HL Total	18,239			4024						3586							
Level HG Total	14,540				5527						2700						

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

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

32964

Name

David DaCosta

SB-12 Package

Package A1

Total Heat Loss	58,129	btu/h
Total Heat Gain	30,117	btu/h

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Barossa 3 S38-3 Lot 145

System 1

Weather Data Bradford 44 -9.4 86 22 48.2

Heat Loss ^T 81.4 deg. F Ht gain ^T 11 deg. F GTA: 2522

Project # PJ-00041
Layout # JB-07268

Level 3

	MAST	BED 2	BATH	BED 3	LOFT	BED 4	ENS 2	ENS				
Run ft. exposed wall A	30 A	18 A	15 A	23 A	30 A	13 A	6 A	22 A	A	A	A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height	11.0	9.0	9.0	9.0	11.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Floor area	295 Area	166 Area	74 Area	172 Area	269 Area	132 Area	69 Area	113 Area	Area	Area	Area	Area
Exposed Ceilings A	295 A	166 A	74 A	172 A	269 A	132 A	69 A	113 A	A	A	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	9 Flr	74 Flr	172 Flr	12 Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	330	162	135	207	330	117	54	198				
Gross Exp Wall B												

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62																
East/West	3.55	22.93	29.56	32	734	946	16	367	186	11	252	325	39	894	1153	42	963	1241	
South	3.55	22.93	22.50																
Existing Windows	1.99	40.90	23.66																
Skylight	2.03	40.10	88.23																
Doors	4.00	20.35	2.75																
Net exposed walls A	17.03	4.78	0.65	298	1424	192	146	698	94	124	593	80	168	803	109	279	1334	180	101
Net exposed walls B	8.50	9.58	1.29																
Exposed Ceilings A	59.22	1.37	0.64	295	405	189	166	228	107	74	102	47	172	236	110	269	370	173	132
Exposed Ceilings B	27.65	2.94	1.37																
Exposed Floors	29.80	2.73	0.17				9	25	2	74	202	12	172	470	29	12	33	2	
Foundation Conductive Heatloss																			
Total Conductive																			
Heat Loss																			
Heat Gain																			
Air Leakage	Heat Loss/Gain	0.3009	0.0409																
Case 1		0.02	0.06																
Case 2		14.95	11.88																
Case 3	x	0.03	0.06																
Heat Gain People			239	2	83	78	1	43	23		37	27	1	78	82		94	106	1
Appliances Loads	1 =.25 percent		4056																
Duct and Pipe loss			10%																
Level HL Total	18,046																		
Level HG Total	11,402																		

Level 4

	A	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall A	A	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall B	B	B	B	B	B	B	B	B	B	B	B	B	B
Ceiling height													
Floor area	Area	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	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A													
Gross Exp Wall B													

Components	R-Values	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain	Loss	Gain
North Shaded	3.55	22.93	11.62																
East/West	3.55	22.93	29.56																
South	3.55	22.93	22.50																
Existing Windows	1.99	40.90	23.66																
Skylight	2.03	40.10	88.23																
Doors	4.00	20.35	2.75																
Net exposed walls A	17.03	4.78	0.65																
Net exposed walls B	8.50	9.58	1.29																
Exposed Ceilings A	59.22	1.37	0.64																
Exposed Ceilings B	27.65	2.94	1.37																
Exposed Floors	29.80	2.73	0.17																
Foundation Conductive Heatloss																			
Total Conductive																			
Heat Loss																			
Heat Gain																			
Air Leakage	Heat Loss/Gain	0.0000	0.0409																
Case 1		0.00	0.06																
Case 2		14.95	11.88																
Case 3	x	0.03	0.06																
Heat Gain People			239																
Appliances Loads	1 =.25 percent		4056																
Duct and Pipe loss			10%																
Level HL Total	0																		
Level HG Total	0																		

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

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

32964

David DaCosta

David DaCosta

SB-12 Package

Package A1

Total Heat Loss	58,129	btu/h
Total Heat Gain	30,117	btu/h

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

Individual BCIN: 32964

David DaCosta

Package: Package A1
Project: Bradford
Model: S38-3 Lot 145

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.reg 332/12

Location of Installation	
Lot #	Plan #
Township	Bradford
Roll #	Permit #
Address	

Builder	
Name	Bayview Wellington
Address	
City	
Tel	Fax

Installing Contractor	
Name	
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)		Natural draft, B-vent or induced draft fireplaces
d)		Solid fuel (including fireplaces)
e)		No combustion Appliances

Heating System		
x	Forced air	
	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
II		Type I except with solid fuel (including fireplace)
III		Any type c) appliance
IV		Type I or II either electric space heat
Other		Type I, II or IV no forced air

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

Total Ventilation Capacity 9.32.3.3(1)				
Bsmt & Master Bdrm	2	@	21.2 cfm	42.4 cfm
Other Bedrooms	3	@	10.6 cfm	31.8 cfm
Bathrooms & Kitchen	5	@	10.6 cfm	53 cfm
Other rooms	5	@	10.6 cfm	53 cfm
Total				180.2

Principal Ventilation Capacity 9.32.3.4(1)				
Master bedroom	1	@	31.8 cfm	31.8 cfm
Other bedrooms	3	@	15.9 cfm	47.7 cfm
Total				79.5

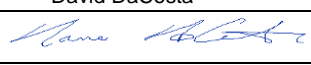
Principal Exhaust Fan Capacity				
Make	Model		Location	
VanEE	65H HRV		Base	
129 cfm			Sones	or Equiv.

Heat Recovery Ventilator			
Make	VanEE		
Model	65H HRV		
	129 cfm high		80 cfm low
Sensible efficiency @ -25 deg C			60%
Sensible efficiency @ 0 deg C			75%

Note: Installer to balance HRV/ERV to within 10 percent of PVC

Supplemental Ventilation Capacity				
Total ventilation capacity			180.2	
Less principal exhaust capacity			79.5	
REQUIRED supplemental vent. Capacity			100.7 cfm	

Supplemental Fans 9.32.3.5.			
Location	cfm	Model	Sones
Ens	50	XB50	0.3
Ens 2	50	XB50	0.3
Bath	50	XB50	0.3
<i>all fans HVI listed</i>	Make	Broan	or Equiv.

Designer Certification			
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.			
Name	David DaCosta		
Signature			
HRAI #	5190	BCIN #	32964
Date	June 25, 2021		



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

Energy Efficiency Design Summary: Prescriptive Method (Building Code Part 9, Residential)

Page 7
 Project # PJ-00041
 Layout # JB-07268

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 Principal Authority

Application No:

Model/Certification Number

A. Project Information

Building number, street name Barossa 3 S38-3 Lot 145		Unit number	Lot/Con
Municipality Bradford	Postal code	Reg. Plan number / other description	

B. Prescriptive Compliance [indicate the building code compliance package being employed in the house design]

SB-12 Prescriptive (input design package): Package A1 Table: 3.1.1.2.A

C. Project Design Conditions

Climatic Zone (SB-1):	Heat. Equip. Efficiency	Space Heating Fuel Source		
<input checked="" type="checkbox"/> Zone 1 (< 5000 degree days) <input type="checkbox"/> Zone 2 (≥ 5000 degree days)	<input checked="" type="checkbox"/> ≥ 92% AFUE <input type="checkbox"/> ≥ 84% < 92% AFUE	<input checked="" type="checkbox"/> Gas <input type="checkbox"/> Oil	<input type="checkbox"/> Propane <input type="checkbox"/> Electric	<input type="checkbox"/> Solid Fuel <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics		
Area of Walls = <u>400.68</u> m ² or <u>4312.9</u> ft ²	W,S & G % = <u>10.9%</u>	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> Slab-on-ground <input checked="" type="checkbox"/> Air Conditioning <input type="checkbox"/> Air Sourced Heat Pump (ASHP) <input type="checkbox"/> Ground Source Heat Pump (GSHP)		
Area of W, S & G = <u>43.663</u> m ² or <u>470.0</u> ft ²	Utilize Window Averaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> ICF Above Grade <input checked="" type="checkbox"/> Walkout Basement <input type="checkbox"/> Combo Unit		

D. Building Specifications [provide values and ratings of the energy efficiency components proposed]

Energy Efficiency Substitutions			
<input type="checkbox"/> ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5)) <input type="checkbox"/> Combined space heating and domestic water heating systems (3.1.1.2(7) / 3.1.1.3.(7))			
<input type="checkbox"/> Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)	<input type="checkbox"/> Table 3.1.1.4.B Required:		Permitted Substitution:
	<input type="checkbox"/> Table 3.1.1.4.C Required:		Permitted Substitution:
Building Component	Minimum RSI/R-Values or Maximum U-Value ¹		Efficiency Ratings
Thermal Insulation	Nominal	Effective	Windows & Doors Provide U-Value ⁽¹⁾ or ER rating
Ceiling with Attic Space	60	59.22	Windows/Sliding Glass Doors
Ceiling without Attic Space	31	27.65	Skylights
Exposed Floor	31	29.80	Mechanicals
Walls Above Grade	22	17.03	Heating Equip.(AFUE)
Basement Walls	20.0ci	21.12	HRV Efficiency (SRE% at 0°C)
Slab (all >600mm below grade)	x	x	DHW Heater (EF)
Slab (edge only ≤600mm below grade)	10	11.13	DWHR (CSA B55.1 (min. 42% efficiency))
Slab (all ≤600mm below grade, or heated)	10	11.13	Combined Heating System

(1) U value to be provided in either W/(m²·K) or Btu/(h·ft²·°F) but not both.

E. Designer(s) [name(s) & BCIN(s), if applicable, of person(s) providing information herein to substantiate that design meets building code]

Name David DaCosta	BCIN 32964	Signature
------------------------------	----------------------	---------------

Package:
Project:

Package A1
Bradford

System:
Model:

System 1
S38-3 Lot 145

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.422	32090	81.4	19844

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.104	32090	11	658

Air Leakage Heat Loss/Gain Multiplier Table (Section 11)				
Level	Level Factor (LF)	Building Air	Level Conductive Heat Loss	Air Leakage Heat Loss Multiplier
Level 1	0.5	19844	11547	0.8592
Level 2	0.3		11900	0.5003
Level 3	0.2		13188	0.3009
Level 4	0		0	0.0000

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

HG LEAK		658	Air Leakage Heat Gain	
BUILDING CONDUCTIVE HEAT GAIN		16103	0.0409	

Levels this Dwelling	
3	

Ventilation Calculations

Vent	Ventilation Heat Loss					Ventilation Heat Gain				Vent	
	Ventilation Heat Loss					Ventilation Heat Gain					
	C	PVC	HL^T	(1-E) HRV	HLbvent	C	PVC	HG^T	HGbvent		
	1.08	79.5	81.4	0.17	1188	1.1	79.5	11	944		
Case 1					Case 1						
Case 1	Ventilation Heat Loss (Exhaust only Systems)					Ventilation Heat Gain (Exhaust Only Systems)					Case 1
	Case 1 - Exhaust Only					Case 1 - Exhaust Only		Multiplier			
	Level	LF	HLbvent	LVL Cond. HL	Multiplier	HGbvent	944	0.06			
	Level 1	0.5	1188	11547	0.05	Building	16103				
	Level 2	0.3		11900	0.03						
Level 3	0.2	13188		0.02							
Level 4	0	0		0.00							
Case 2					Case 2						
Case 2	Ventilation Heat Loss (Direct Ducted Systems)					Ventilation Heat Gain (Direct Ducted Systems)					Case 2
				Multiplier				Multiplier			
	C	HL^T	(1-E) HRV	14.95		C	HG^T	11.88			
	1.08	81.4	0.17			1.08	11				
Case 3					Case 3						
Case 3	Ventilation Heat Loss (Forced Air Systems)					Ventilation Heat Gain (Forced Air Systems)					Case 3
			HLbvent	Multiplier				Vent Heat Gain	Multiplier		
	Total Ventilation Load		1188	0.03		HGbvent	HG*1.3	944	0.06		
						944	1				

Foundation Conductive Heatloss Level 1	Level 1	2068	Watts	7057	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		186	Watts	634	Btu/h

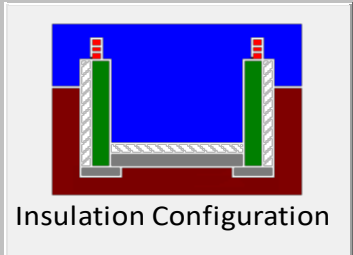
Envelope Air Leakage Calculator

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 Shielding				
Building Site:	Suburban, forest ▼			
Walls:	Heavy ▼			
Flue:	Heavy ▼			
Highest Ceiling Height (m):	9.45			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Shallow			
House Volume (m ³):	908.79			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. ▼ 322.44 cm ²			
	3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	39.75		39.75	
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Heating Air Leakage Rate (ACH/H):		0.422		
Cooling Air Leakage Rate (ACH/H):		0.104		

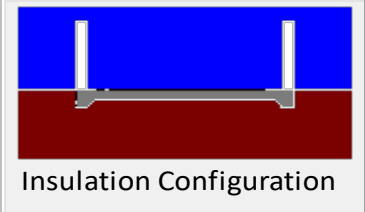
Residential Foundation Thermal Load Calculator

















Supplemental tool for CAN/CSA-F280

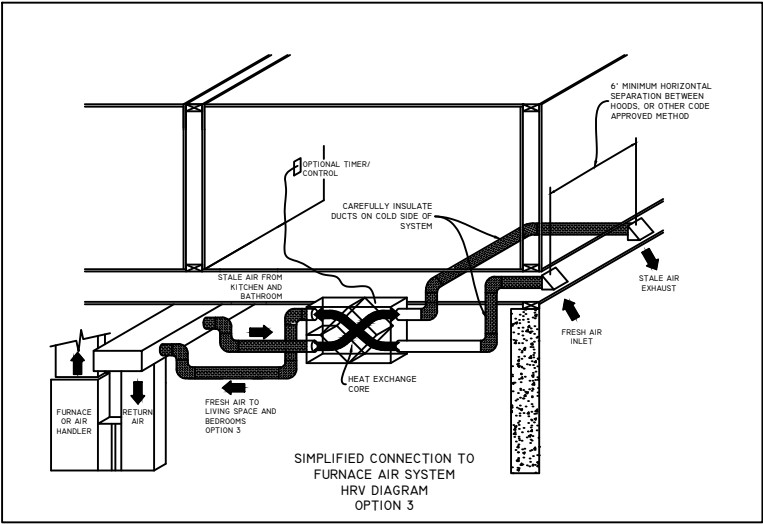
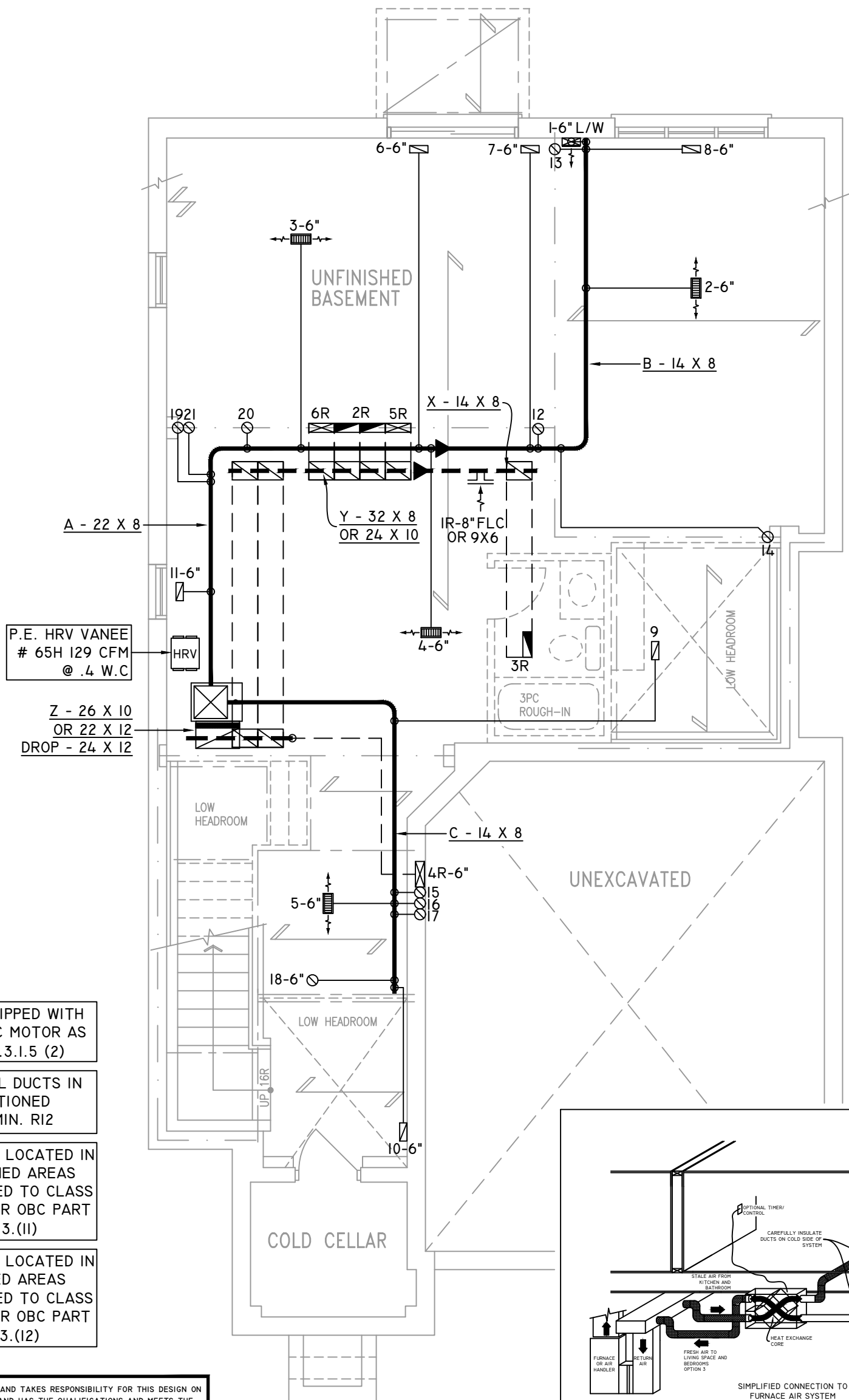
Weather Station Description		
Province:	Ontario	▼
Region:	Bradford	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	17.18	 <p>Insulation Configuration</p>
Floor Width (m):	4.76	
Exposed Perimeter (m):	34.75	
Wall Height (m):	3.05	
Depth Below Grade (m):	0.91	
Window Area (m ²):	0.56	
Door Area (m ²):	1.95	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2068

Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	▼
Region:	Bradford	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Floor Dimensions		
Length (m):	9.22	 Insulation Configuration
Width (m):	1.45	
Exposed Perimeter (m):	12.19	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		186


	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR		THERMOSTAT
			VOLUME DAMPER						PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN



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

QUALIFICATION INFORMATION

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

DAVID DA COSTA  B.C.I.N. 32964
SIGNATURE OF DESIGNER

OBC 2012

ZONE I COMPLIANCE
PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES

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 R12 UNDERCUT ALL DOORS 1" 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.





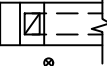













2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

HEAT-LOSS	58,129	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1172	CFM

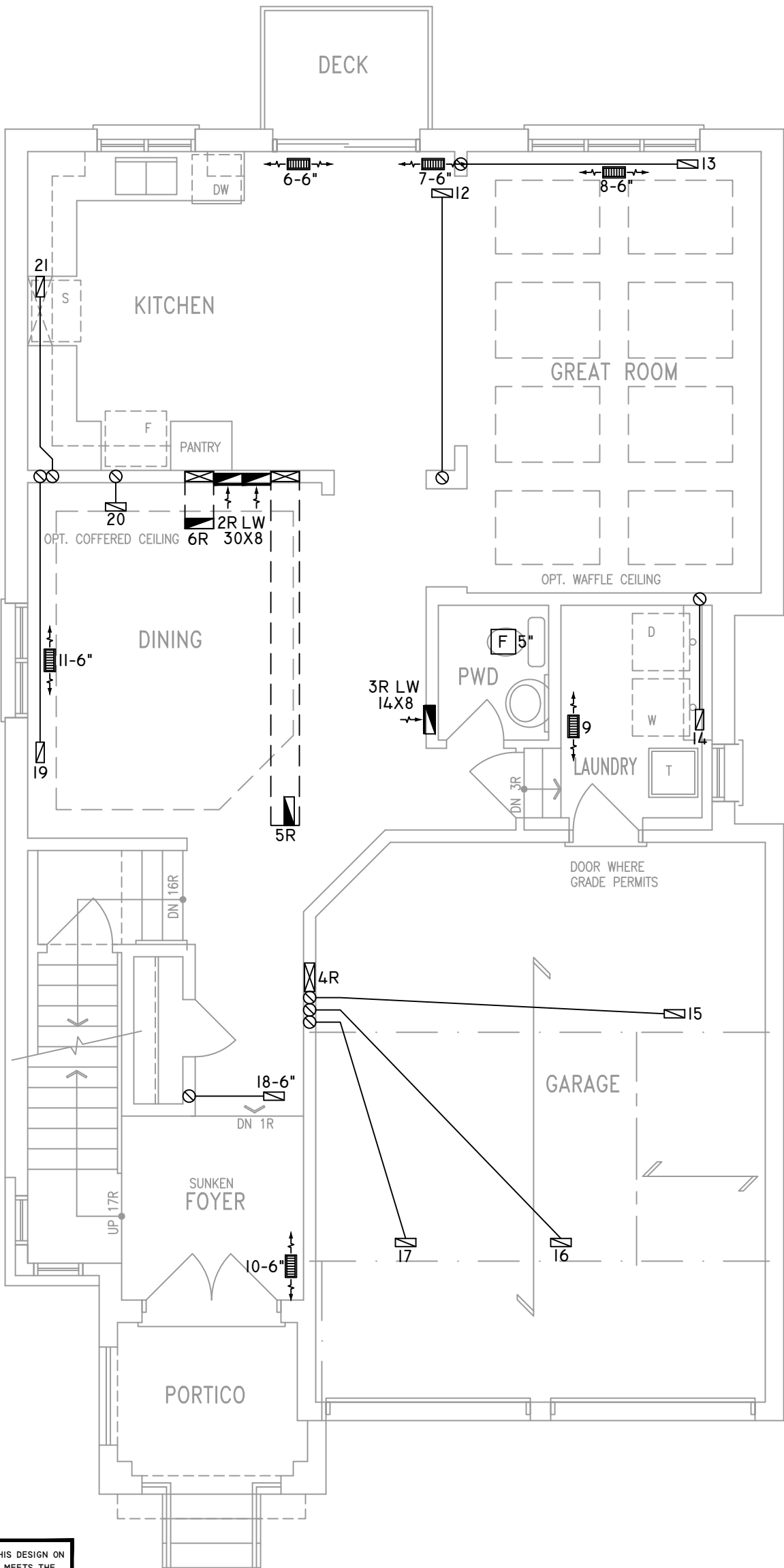
# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN:	BASEMENT
DRAWN BY:	JL
CHECKED:	DD
LAYOUT NO.	JB-07268
SQFT	2522
DRAWING NO.	MI

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 145 BAROSSA 3
PROJECT:	GREEN VALLEY EAST BRADFORD, ONT.
SCALE:	3/16" = 1'-0"

	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR		THERMOSTAT
			VOLUME DAMPER				PRINCIPAL EXHAUST FAN SWITCH		W/R & PRINCIPAL EXHAUST FAN

KITCHEN EXHUST
100 CFM MIN. 6"
ALL OTHER FANS SHALL BE
A MIN. OF 50 CFM OR
OTHERWISE NOTED
AS PER 9.32.3.5



CIRCULATION PRINCIPAL
FAN SWITCH
TO BE CENTRALLY
LOCATED

INSULATE ALL DUCTS IN
UNCONDITIONED
SPACES MIN. R12

ALL DUCTWORK LOCATED IN
UNCONDITIONED AREAS
MUST BE SEALED TO CLASS
A LEVEL AS PER OBC PART
6-6.2.4.3.(II)

ALL DUCTWORK LOCATED IN
CONDITIONED AREAS
MUST BE SEALED TO CLASS
C LEVEL AS PER OBC PART
6-6.2.4.3.(I2)

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QUALIFICATION INFORMATION

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

DAVID DA COSTA  B.C.I.N. 32964
SIGNATURE OF DESIGNER

OBC 2012

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

NOTES

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 R12 UNDERCUT ALL DOORS 1" 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.



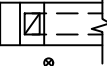







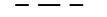






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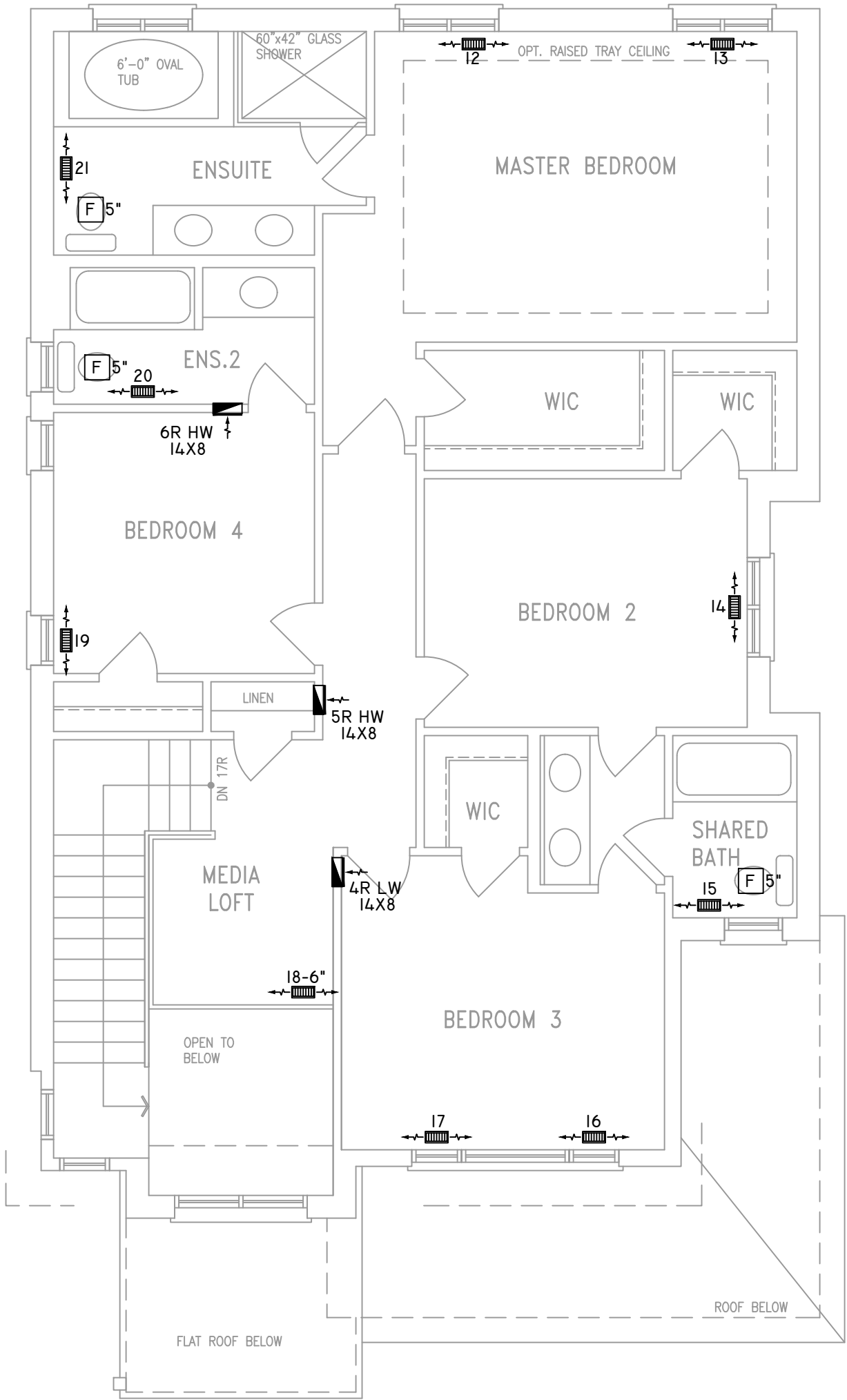
HEAT-LOSS	58,129	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1172	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN:		
GROUND FLOOR		
DRAWN BY:	CHECKED:	SQFT
JL	DD	2522
LAYOUT NO.	DRAWING NO.	
JB-07268	M2	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 145 BAROSSA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"

	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN ROUND DUCT		RETURN AIR FROM BASEMENT SECOND FLOOR		THERMOSTAT
			VOLUME DAMPER				PRINCIPAL EXHAUST FAN SWITCH		W/R & PRINCIPAL EXHAUST FAN




- INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12
- ALL DUCTWORK LOCATED IN UNCONDITIONED AREAS MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3.(11)
- 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 ONTARIO BUILDING CODE

DAVID DA COSTA



B.C.I.N. 32964

SIGNATURE OF DESIGNER

OBC 2012

ZONE I COMPLIANCE
PACKAGE "A1" REF. TABLE 3.1.1.2.A

NOTES
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 R12 UNDERCUT ALL DOORS 1" 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.



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HEAT-LOSS	58,129	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	3.0	TONS.
FAN SPEED	1172	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	3	3
1ST FLOOR	6	2	2
BASEMENT	5	1	

FLOOR PLAN: SECOND FLOOR		
DRAWN BY: JL	CHECKED: DD	SQFT 2522
LAYOUT NO. JB-07268	DRAWING NO. M3	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 145 BAROSSA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"