


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 Sonoma 4 SD25-4 Lot 154				Lot: 154	
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-07272
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:	2185	Model	Sonoma 4
Residential System Design per CAN/CSA-F280-12					SD25-4 Lot 154
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. 					
<u>June 25, 2021</u> Date			 Signature of Designer		

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-07272	
Building Location					
Address (Model): SD25-4 Lot 154			Site: Green Valley East		
Model: Sonoma 4			Lot: 154		
City and Province: Bradford			Postal code:		
Calculations based on					
Dimensional information based on:			VA3 Design11/May/2012		
Attachment: Semi			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: 2185
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: **Sonoma 4
SD25-4 Lot 154**

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

Project # **PJ-00041**
Layout # **JB-07272**

Page 3

DESIGN LOAD SPECIFICATIONS

Level 1 Net Load	13,240 btu/h
Level 2 Net Load	13,803 btu/h
Level 3 Net Load	12,589 btu/h
Level 4 Net Load	0 btu/h
Total Heat Loss	39,632 btu/h
Total Heat Gain	24,338 btu/h

Building Volume Vb	25324 ft³
Ventilation Load	1,188 Btu/h.
Ventilation PVC	79.5 cfm
Supply Branch and Grill Sizing	

AIR DISTRIBUTION & PRESSURE

Equipment External Static Pressure	0.5 "w.c.
Additional Equipment Pressure Drop	0.225 "w.c.
Available Design Pressure	0.275 "w.c.
Return Branch Longest Effective Length	300 ft
R/A Plenum Pressure	0.138 "w.c.
S/A Plenum Pressure	0.14 "w.c.
Heating Air Flow Proportioning Factor	0.0234 cfm/btuh
Cooling Air Flow Proportioning Factor	0.0382 cfm/btuh
R/A Temp	70 deg. F.
S/A Temp	127 deg. F.
Diffuser loss	0.01 "w.c.

FURNACE/AIR HANDLER DATA:

Make	Amana
Model	AMEC960603ANA
Input Btu/h	60000
Output Btu/h	57600
E.s.p.	0.50 " W.C.
Water Temp	deg. F.
AFUE	96%
Aux. Heat	
SB-12 Package	Package A1
Temp. Rise>>>	57 deg. F.

BOILER/WATER HEATER DATA:

Make	Type	Amana	2.5 Ton
Model	Cond.-----		2.5
Input Btu/h	Coil -----		2.5
Output Btu/h			
Min.Output Btu/h	AWH		
Blower DATA:			
Blower Speed Selected:	W2	Blower Type	ECM
		(Brushless DC OBC 12.3.1.5.(2))	
Heating Check	929 cfm	Cooling Check	929 cfm
Selected cfm>	929 cfm	Cooling Air Flow Rate	929 cfm

	Level 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				
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				
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				
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				
Duct Size Round	6	6	6	6											6	6	6	6	4	6										
Outlet Size	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10				
Trunk	C	D	A	B											C	D	A	A	B	B										

	Level 3								Level 4																
S/A Outlet No.	11	12	13	14	15	16	17	18																	
Room Use	MAST	MAST	LAUND	BED 2	BED 3	BATH	BED 4	ENS																	
Btu/Outlet	1971	1971	97	2600	2407	1015	1241	1288																	
Heating Airflow Rate CFM	46	46	2	61	56	24	29	30																	
Cooling Airflow Rate CFM	71	71	2	50	58	34	54	42																	
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
Actual Duct Length	50	38	28	65	55	36	33	37																	
Equivalent Length	110	110	130	140	150	110	120	100	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Total Effective Length	160	148	158	205	205	146	153	137	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
Adjusted Pressure	0.08	0.09	0.08	0.06	0.06	0.09	0.08	0.09	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	0.19	0.19	0.19	
Duct Size Round	6	6	2	6	6	4	5	4																	
Outlet Size	4x10	4x10	3x10	4x10	4x10	3x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Trunk	D	C	C	B	B	A	A	D																	

Return Branch And Grill Sizing	Grill Pressure Loss										
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R
Inlet Air Volume CFM	155	369	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	5	12	62	40	37						
Equivalent Length	155	90	190	195	140	50	50	50	50	50	50
Total Effective Length	160	102	252	235	177	50	50	50	50	50	50
Adjusted Pressure	0.07	0.12	0.05	0.05	0.07	0.24	0.24	0.24	0.24	0.24	0.24
Duct Size Round	7.0	9.5	6.0	8.0	7.5						
Inlet Size	FLC	8	8	8	8						
" "	x	x	x	x	x	x	x	x	x	x	x
Inlet Size		30	14	14	14						
Trunk	Z	Z	Z	Z	Z						

Return Trunk Duct Sizing	CFM	Press.	Round	Rect. Size
Trunk				
Drop	929	0.05	15.5	24x10
Z	929	0.05	15.5	28x8 22x10
Y				
X				
W				
V				
U				
T				
S				
R				
Q				

Supply Trunk Duct Sizing	CFM	Press.	Round	Rect. Size
Trunk				
A	537	0.06	12.5	18x8 14x10
B	288	0.06	10.0	12x8 10x10
C	392	0.08	10.5	12x8 10x10
D	210	0.08	8.5	8x8 107
E				
F				
G				
H				
I				
J				
K				

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Sonoma 4 SD25-4 Lot 154

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: 2185

Project # PJ-00041
Layout # JB-07272

Level 1

BASE

Run ft. exposed wall A	108	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	4.5	AG	4.5	AG	4.5	AG	4.5	AG	4.5	AG	4.5	AG	4.5
Floor area	911	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	486												
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	15	344	443											
South	3.55	22.93	22.50	3	69	68											
WOB Windows	3.55	22.93	27.86														
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	447		233											
Net exposed walls B	17.03	4.78	0.65														
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	1.0090	0.0345														
Ventilation	Case 1		0.09	0.08													
	Case 2		14.95	11.88													
	Case 3	x	0.05	0.08	303	61											
Heat Gain People			239														
Appliances Loads	1 = 25 percent		3660														
Duct and Pipe loss			10%														
Level HL Total	13,240		Total HL for per room	13240													
Level HG Total	1,157		Total HG per room x 1.3		1157												

Level 2

KIT

LIV

DIN

PWD

FOY

Run ft. exposed wall A	35	A	15	A	28	A	6	A	24	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		10.0		10.0		11.0		10.0		10.0		10.0		10.0
Floor area	294	Area	250	Area	260	Area	33	Area	69	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	A	A	5	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	350		150		280		60		264								
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	32	734	946				12	275	355					
South	3.55	22.93	22.50	55	1261	1238				23	527	518					
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	263	1257	170				21	427	58					
Net exposed walls B	8.50	9.58	1.29							48	229	31					
Exposed Ceilings A	59.22	1.37	0.64							208	994	134					
Exposed Ceilings B	27.65	2.94	1.37														
Exposed Floors	29.80	2.73	0.17														
Foundation Conductive Heatloss			x														
Total Conductive	Heat Loss																
	Heat Gain																
Air Leakage	Heat Loss/Gain	0.4122	0.0345														
Ventilation	Case 1		0.04	0.08													
	Case 2		14.95	11.88													
	Case 3	x	0.05	0.08													
Heat Gain People			239														
Appliances Loads	1 = 25 percent		3660														
Duct and Pipe loss			10%														
Level HL Total	13,803		Total HL for per room	4745													
Level HG Total	13,224		Total HG per room x 1.3		5182												

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	39,632	btu/h
Total Heat Gain	24,338	btu/h

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Sonoma 4 SD25-4 Lot 154

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: 2185

Project # PJ-00041
Layout # JB-07272

Level 3

	MAST	LAUND	BED 2	BED 3	BATH	BED 4	ENS						
Run ft. exposed wall A	31 A	A	11 A	25 A	9 A	9 A	10 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	8.0	8.0	8.0	8.0	8.0	9.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0
Floor area	363 Area	53 Area	229 Area	139 Area	69 Area	109 Area	103 Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	363 A	53 A	229 A	139 A	69 A	109 A	103 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	153 Flr	12 Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	248		88	200	72	81	90						
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	26	596	769													
South	3.55	22.93	22.50	45	1032	1013													
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	177	846	114													
Net exposed walls B	8.50	9.58	1.29																
Exposed Ceilings A	59.22	1.37	0.64	363	499	233	53	73	34	229	315	147	139	191	89	69	95	44	109
Exposed Ceilings B	27.65	2.94	1.37																
Exposed Floors	29.80	2.73	0.17																
Foundation Conductive Heatloss																			
Total Conductive				2973				73		1789		614		1815		766		936	
Air Leakage	Heat Loss/Gain	0.2788	0.0345	829	73			20	1	499	21			506	29	213	21	261	26
Ventilation	Case 1		0.03																
	Case 2		14.95																
	Case 3	x	0.05																
Heat Gain People			239	2	140	162		3	3	84	47			86	64	36	47	44	58
Appliances Loads	1 =.25 percent		3660							1	239	1			239				
Duct and Pipe loss			10%							1	229			85					
Level HL Total	12,589			3942				97		2600				2407		1015		1241	
Level HG Total	9,957				3694				49		1308				1520		882		1406

Level 4

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																			
Air Leakage	Heat Loss/Gain	0.0000	0.0345																
Ventilation	Case 1		0.00																
	Case 2		14.95																
	Case 3	x	0.05																
Heat Gain People			239																
Appliances Loads	1 =.25 percent		3660																
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	39,632	btu/h
Total Heat Gain	24,338	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:** SD25-4 Lot 154

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	4	@	10.6 cfm	42.4 cfm
Other rooms	4	@	10.6 cfm	42.4 cfm
Total				<u>159</u>

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				<u>79.5</u>

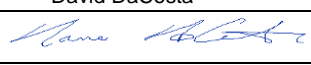
Principal Exhaust Fan Capacity				
Make	Model		Location	
VanEE	65H HRV		Base	
129 cfm			Sones	or Equiv.

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		159.0
Less principal exhaust capacity		79.5
REQUIRED supplemental vent. Capacity		<u>79.5</u> cfm

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

Designer Certification			
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.			
Name	David 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-07272

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	Sonoma 4 SD25-4 Lot 154	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"/> Propane <input type="checkbox"/> Solid Fuel <input type="checkbox"/> Oil <input type="checkbox"/> Electric <input type="checkbox"/> Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area	Other Building Characteristics	
Area of Walls = <u>320.41</u> m ² or <u>3448.9</u> ft ²	W, S & G % = <u>12.0%</u>	<input type="checkbox"/> Log/Post&Beam <input type="checkbox"/> ICF Above Grade <input type="checkbox"/> ICF Basement <input type="checkbox"/> Slab-on-ground Walkout Basement <input checked="" type="checkbox"/> Air Conditioning Combo Unit
Area of W, S & G = <u>38.554</u> m ² or <u>415.0</u> ft ²	Utilize Window <input type="checkbox"/> Yes Averaging <input checked="" type="checkbox"/> No	<input type="checkbox"/> Air Sourced Heat Pump (ASHP) <input type="checkbox"/> Ground Source Heat Pump (GSHP)

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		Building Component	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	1.6
Ceiling without Attic Space	31	27.65	Skylights	2.8
Exposed Floor	31	29.80	Mechanicals	
Walls Above Grade	22	17.03	Heating Equip.(AFUE)	96%
Basement Walls	20.0ci	21.12	HRV Efficiency (SRE% at 0°C)	75%
Slab (all >600mm below grade)	x	x	DHW Heater (EF)	0.80
Slab (edge only ≤600mm below grade)	10	11.13	DWHR (CSA B55.1 (min. 42% efficiency))	#Showers 2
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	BCIN	Signature
David DaCosta	32964	

Package:
Project:

Package A1
Bradford

System:
Model:

System 1
SD25-4 Lot 154

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.350	25324	81.4	12995

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.085	25324	11	428

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	12995	6440	1.0090
Level 2	0.3		9459	0.4122
Level 3	0.2		9322	0.2788
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		Air Leakage Heat Gain	
	428		0.0345
BUILDING CONDUCTIVE HEAT GAIN		12409	

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	0.08			
	Level 1	0.5	1188	6440	0.09	Building	12409				
	Level 2	0.3		9459	0.04						
Level 3	0.2	9322		0.03							
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	0.05		HGbvent	HG*1.3	944	0.08		
						944	1				

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

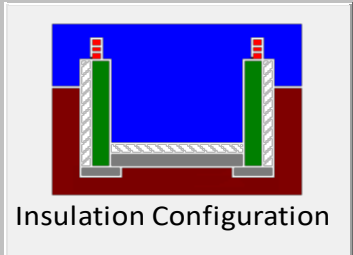
Envelope Air Leakage Calculator



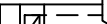



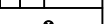



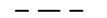





Supplemental tool for CAN/CSA-F280

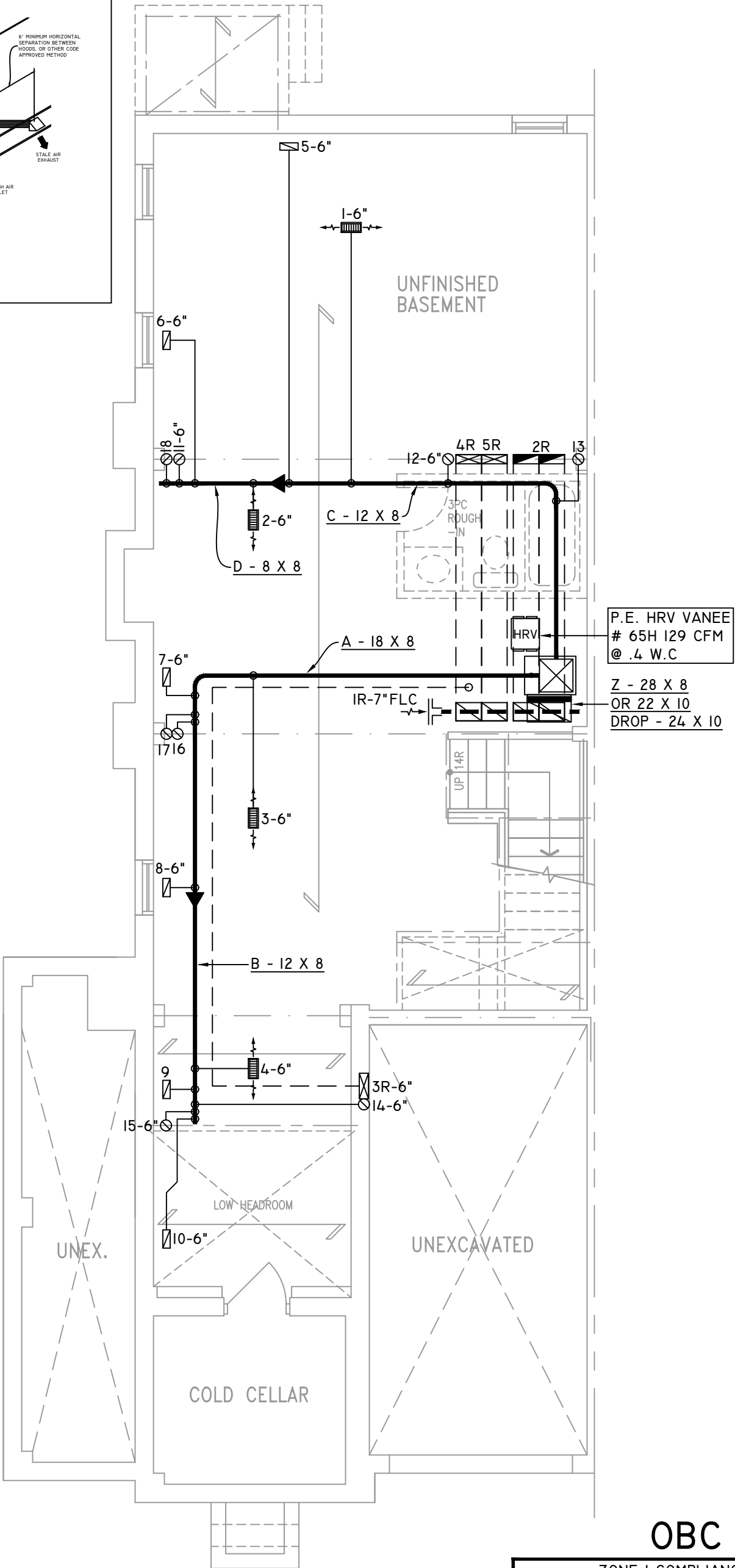
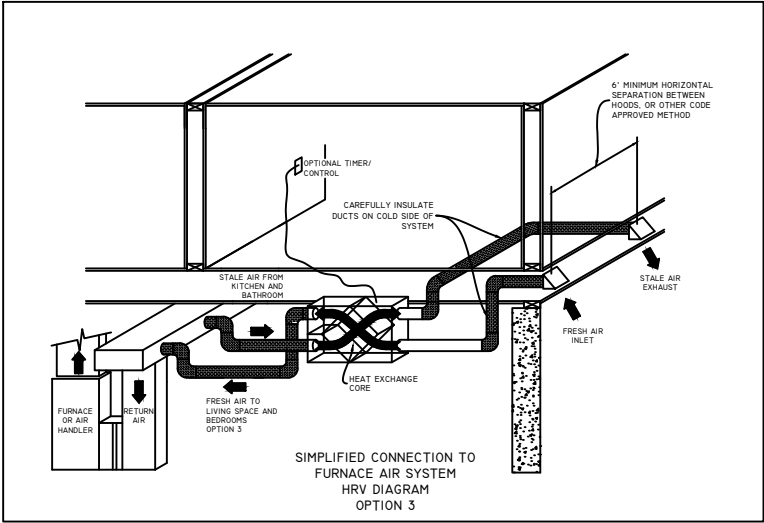
Weather Station Description				
Province:	Ontario ▼			
Region:	Bradford ▼			
Weather Station Location:	Open flat terrain, grass ▼			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest ▼			
Walls:	Heavy ▼			
Flue:	Heavy ▼			
Highest Ceiling Height (m):	7.32			
Building Configuration				
Type:	Semi-Detached			
Number of Stories:	Two			
Foundation:	Shallow			
House Volume (m ³):	717.16			
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):		0.350		
Cooling Air Leakage Rate (ACH/H):		0.085		

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):	17.80	 <p>Insulation Configuration</p>
Floor Width (m):	4.75	
Exposed Perimeter (m):	32.92	
Wall Height (m):	2.59	
Depth Below Grade (m):	1.22	
Window Area (m ²):	1.67	
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):		1641

	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



P.E. HRV VANE
65H 129 CFM
@ .4 W.C

Z - 28 X 8
OR 22 X 10
DROP - 24 X 10

FURNACE EQUIPPED WITH
BRUSHLESS DC MOTOR AS
PER OBC 12.3.1.5 (2)

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.(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.





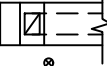







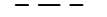





2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

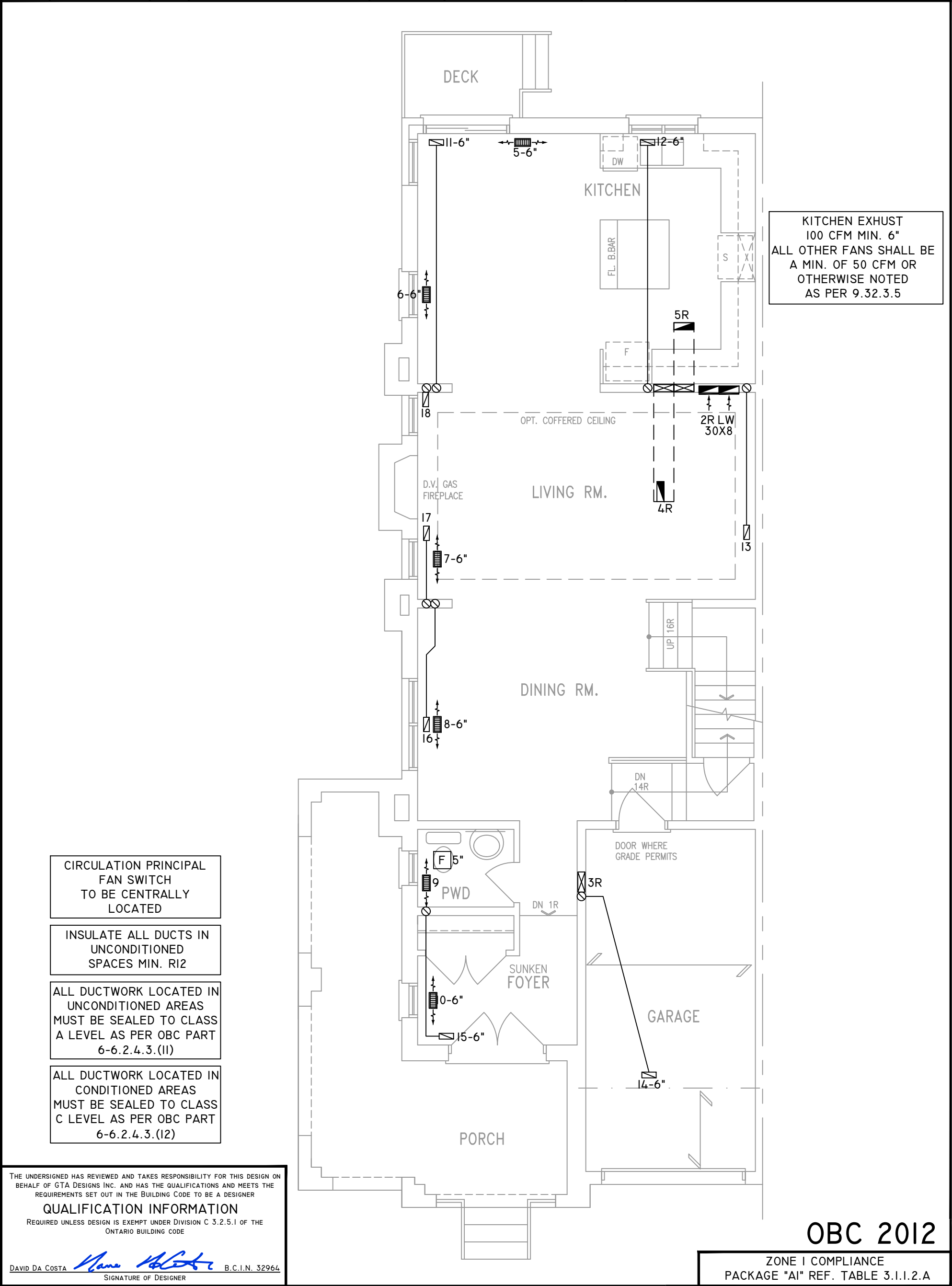
HEAT-LOSS	39,632	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	3
1ST FLOOR	6	1	2
BASEMENT	4	1	

FLOOR PLAN: BASEMENT	
DRAWN BY: JL	CHECKED: DD
LAYOUT NO. JB-07272	DRAWING NO. MI
SQFT 2185	

DATE:	JUNE 1, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-4 LOT 154 SONOMA 4
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



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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

NOTES

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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.

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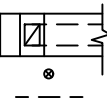













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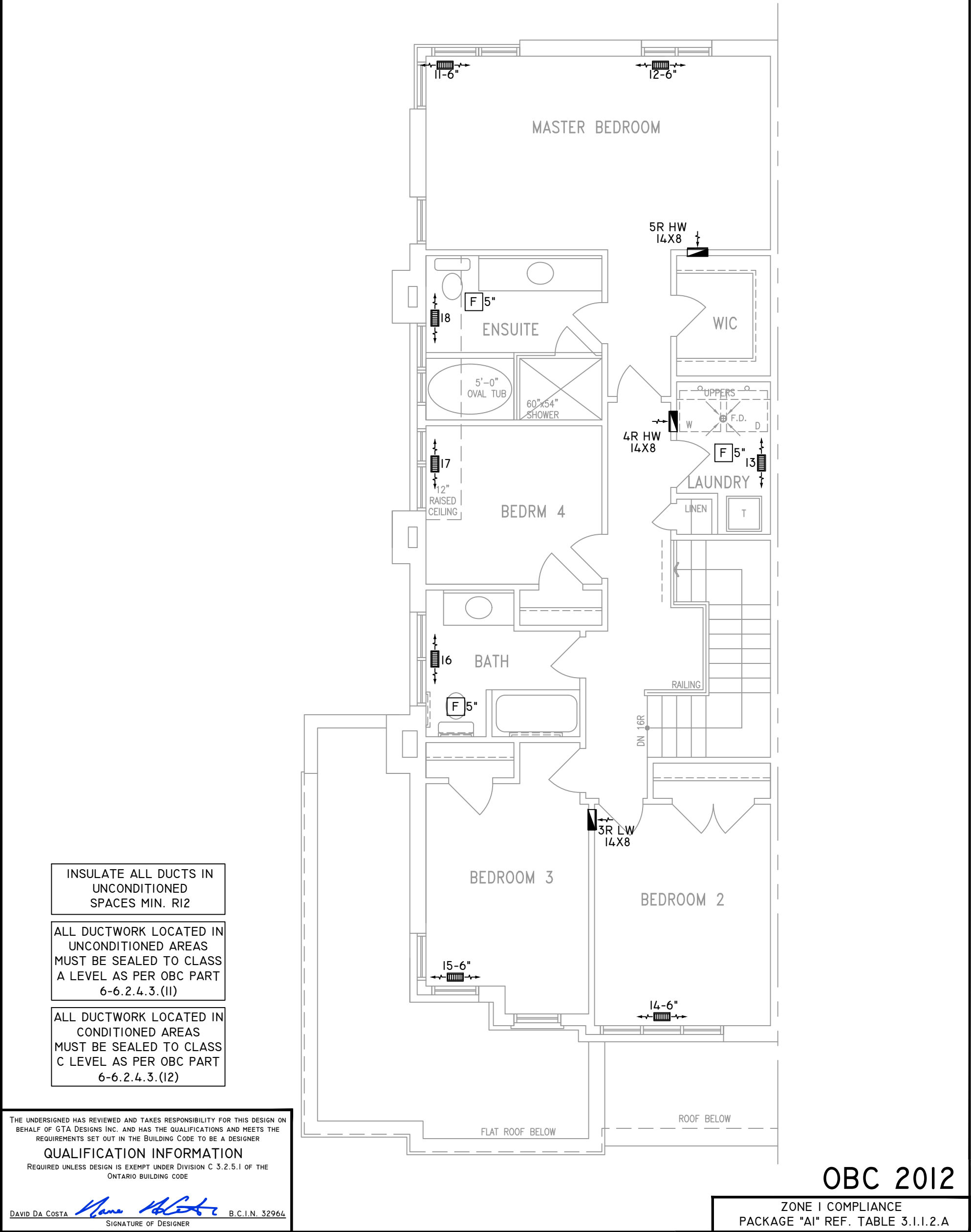
HEAT-LOSS	39,632	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	3
1ST FLOOR	6	1	2
BASEMENT	4	1	

FLOOR PLAN:	
GROUND FLOOR	
DRAWN BY: JL	CHECKED: DD
SQFT 2185	
LAYOUT NO. JB-07272	DRAWING NO. M2

DATE:	JUNE 1, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-4 LOT 154 SONOMA 4
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



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.

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

HEAT-LOSS	39,632	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960603ANA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	929	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	8	3	3
1ST FLOOR	6	1	2
BASEMENT	4	1	

FLOOR PLAN: SECOND FLOOR		
DRAWN BY: JL	CHECKED: DD	SQFT 2185
LAYOUT NO. JB-07272	DRAWING NO. M3	

DATE:	JUNE 1, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-4 LOT 154 SONOMA 4
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"