


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

<b>A. Project Information</b>					
Building number, street name <b>Barossa 3</b> <b>S38-3 Lot 147</b>				Lot:	147
				Lot/con.	
Municipality <b>Bradford</b>		Postal code	Plan number/ other description		
<b>B. Individual who reviews and takes responsibility for design activities</b>					
Name <b>David DaCosta</b>			Firm <b>gtaDesigns Inc.</b>		
Street address <b>2985 Drew Road, Suite 202</b>				Unit no.	Lot/con.
Municipality <b>Mississauga</b>		Postal code <b>L4T 0A4</b>	Province <b>Ontario</b>	E-mail <a href="mailto:hvac@gtadesigns.ca">hvac@gtadesigns.ca</a>	
Telephone number <b>(905) 671-9800</b>		Fax number		Cell number	
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]</b>					
<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	
<b>Description of designer's work</b>				<b>Model Certification</b>	<b>Project #:</b> <b>PJ-00041</b>
					<b>Layout #:</b> <b>JB-07273</b>
Heating and Cooling Load Calculations		<b>Main</b>	<b>X</b>	Builder	<b>Bayview Wellington</b>
Air System Design		<b>Alternate</b>		Project	<b>Green Valley East</b>
Residential mechanical ventilation Design Summary		<b>Area Sq ft:</b>	<b>2593</b>	Model	<b>Barossa 3</b>
Residential System Design per CAN/CSA-F280-12					<b>S38-3 Lot 147</b>
Residential New Construction - Forced Air				SB-12	<b>Package A1</b>
<b>D. Declaration of Designer</b>					
<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"> <li>The information contained in this schedule is true to the best of my knowledge.</li> <li>I have submitted this application with the knowledge and consent of the firm.</li> </ol>					
<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.

<b>Heat loss and gain calculation summary sheet</b>				CSA-F280-M12 Standard Form No. 1	
These documents issued for the use of <b>Bayview Wellington</b>				Layout No.	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				<b>JB-07273</b>	
<b>Building Location</b>					
Address (Model): <b>S38-3 Lot 147</b>			Site: <b>Green Valley East</b>		
Model: <b>Barossa 3</b>			Lot: <b>147</b>		
City and Province: <b>Bradford</b>			Postal code:		
<b>Calculations based on</b>					
Dimensional information based on:			<b>VA3 Design11/May/2012</b>		
Attachment: <b>Detached</b>			Front facing: <b>East/West</b>		Assumed? <b>Yes</b>
No. of Levels: <b>3</b> Ventilated? <b>Included</b>			Air tightness: <b>1961-Present (ACH=3.57)</b>		Assumed? <b>Yes</b>
Weather location: <b>Bradford</b>			Wind exposure: <b>Sheltered</b>		
HRV? <b>VanEE</b> <b>65H HRV</b>			Internal shading: <b>Light-translucent</b>		Occupants: <b>5</b>
Sensible Eff. at -25C <b>60%</b>		Apparent Effect. at -0C <b>83%</b>		Units: <b>Imperial</b>	Area Sq ft: <b>2593</b>
Sensible Eff. at -0C <b>75%</b>					
<b>Heating design conditions</b>			<b>Cooling design conditions</b>		
Outdoor temp <b>-9.4</b> Indoor temp: <b>72</b> Mean soil temp: <b>48</b>			Outdoor temp <b>86</b> Indoor temp: <b>75</b> Latitude: <b>44</b>		
<b>Above grade walls</b>			<b>Below grade walls</b>		
Style A: <b>As per OBC SB12</b> <b>Package A1</b> <b>R</b> <b>22</b>			Style A: <b>As per OBC SB12</b> <b>Package A1</b> <b>R</b> <b>20ci</b>		
Style B:			Style B:		
Style C:			Style C:		
Style D:			Style D:		
<b>Floors on soil</b>			<b>Ceilings</b>		
Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b>			Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>60</b>		
Style B:			Style B: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>31</b>		
<b>Exposed floors</b>			Style C:		
Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>31</b>			<b>Doors</b>		
Style B:			Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>4.00</b>		
<b>Windows</b>			Style B:		
Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>3.55</b>			Style C:		
Style B:			<b>Skylights</b>		
Style C:			Style A: <b>As per Selected OBC SB12</b> <b>Package A1</b> <b>R</b> <b>2.03</b>		
Style D:			Style B:		
Attached documents: <b>As per Shedule 1</b>		<b>Heat Loss/Gain Caculations based on CSA-F280-12 Effective R-Values</b>			
Notes: <b>Residential New Construction - Forced Air</b>					
<b>Calculations performed by</b>					
Name: <b>David DaCosta</b>			Postal code: <b>L4T 0A4</b>		
Company: <b>gtaDesigns Inc.</b>			Telephone: <b>(905) 671-9800</b>		
Address: <b>2985 Drew Road, Suite 202</b>			Fax:		
City: <b>Mississauga</b>			E-mail <b>hvac@gtadesigns.ca</b>		



Project # PJ-00041  
Layout # JB-07273

**David DaCosta**

Supply Trunk Duct Sizing					
Trunk	CFM	Press.	Round	Rect. Size	
A	791	0.06	14.5	24x8	18x10
B	405	0.06	11.0	14x8	10x10
C	381	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 147

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: 2593

## Level 1

Run ft. exposed wall A	103	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Run ft. exposed wall B	51	B	B	B	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	AG	7.0	AG
Floor area	714	Area	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	A	A	A
Exposed Ceilings 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
Gross Exp Wall A	721															
Gross Exp Wall B	510															

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	5	115	113											
WOB Windows	3.55	22.93	27.86	81	1857	2257											
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	695		362											
Net exposed walls B	17.03	4.78	0.65	429	2051	277											
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																	
Heat Gain People																	
Appliances Loads	1 = 25 percent		3842	0.5		480											
Duct and Pipe loss			10%														
Level HL Total	21,829			21829													
Level HG Total	5,028				5028												

## Level 2

Run ft. exposed wall A	31	A	33	A	18	A	26	A	44	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
Ceiling height	11.0		11.0		13.0		12.0		11.0		11.0		11.0		11.0	
Floor area	226	Area	225	Area	69	Area	79	Area	424	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
Exposed Ceilings 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
Gross Exp Wall A	341		363		234		312		484							
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	Loss	Gain																			
North Shaded	3.55	22.93	11.62	74	1697	2187	46	1055	1360	11	252	128	31	711	916	30	688	675																						
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	267	1276	172	317	1515	205	21	427	58	32	651	88	454	2170	293																						
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			x																																					
Total Conductive	Heat Loss																						2973	2360	2570	1564	1645	316	2552	1165	2858	968								
	Heat Gain																																							
Air Leakage	Heat Loss/Gain		0.4684	1392	101	1204	67	771	14	1195	50	1339	41																											
Ventilation	Case 1		0.03	98	146	85	97	54	20	84	72	94	60																											
	Case 2		14.95																																					
	Case 3		0.03																																					
Heat Gain People			239	1.5	1441	3858	2247	0.5	480	3832	1.0	960	2639																											
Appliances Loads		1 = 25 percent	3842																																					
Duct and Pipe loss			10%																																					
Level HL Total		18,914	Total HL for per room																																					
Level HG Total		12,900	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

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

32964

Name

David DaCosta

SB-12 Package

Package A1

Total Heat Loss	57,319	btu/h
Total Heat Gain	28,688	btu/h

2012 OBC

Builder: Bayview Wellington

Date: June 25, 2021

Project: Green Valley East

Model: Barossa 3 S38-3 Lot 147

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: 2593

Project # PJ-00041  
Layout # JB-07273

## 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	32 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	10.0	8.0	8.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Floor area	295 Area	166 Area	74 Area	172 Area	268 Area	131 Area	69 Area	113 Area	Area	Area	Area	Area
Exposed Ceilings A	295 A	166 A	74 A	172 A	268 A	131 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	300	144	120	207	256	104	48	176				
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													
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	268	1281	173	128	612	83	112	535	72	173	827	112	226	1080	146	88
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	268	368	172	131
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	0.3331	0.0428																
Case 1		0.02	0.06																
Case 2		14.95	11.88																
Case 3	x	0.03	0.06																
Heat Gain People			239																
Appliances Loads	1 =.25 percent		3842																
Duct and Pipe loss			10%																
Level HL Total	16,576			3306				1682						2964				1322	
Level HG Total	10,761				2500				852						2357				1030

## Level 4

Run ft. exposed wall 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
Ceiling height												
Floor 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
Exposed Ceilings 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
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	0.0428																
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		3842																
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	57,319	btu/h
Total Heat Gain	28,688	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 147

## 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

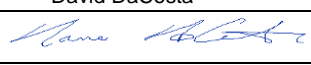
Principal Exhaust Fan Capacity				
Make	Model		Location	
VanEE	65H HRV		Base	
129 cfm			Sones or Equiv.	

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
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-07273

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 <b>Barossa 3 S38-3 Lot 147</b>		Unit number	Lot/Con
Municipality <b>Bradford</b>	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>401.33</u> m <sup>2</sup> or <u>4319.9</u> ft <sup>2</sup>	W,S & G % = <u>10.0%</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>40.319</u> m <sup>2</sup> or <u>434.0</u> ft <sup>2</sup>	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 <sup>1</sup>		Building Component
<b>Thermal Insulation</b>	Nominal	Effective	<b>Windows &amp; Doors</b> Provide U-Value <sup>(1)</sup> 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	<b>Mechanicals</b>
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
			Efficiency Ratings
			1.6
			2.8
			96%
			75%
			0.80
			#Showers 2

(1) U value to be provided in either W/(m<sup>2</sup>·K) or Btu/(h·ft<sup>2</sup>·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 <b>David DaCosta</b>	BCIN <b>32964</b>	Signature 
------------------------------	----------------------	---------------

Package:  
Project:

Package A1  
Bradford

System:  
Model:

System 1  
S38-3 Lot 147

## Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.422	31807	81.4	19669

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.104	31807	11	653

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	19669	11612	0.8469
Level 2	0.3		12598	0.4684
Level 3	0.2		11808	0.3331
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		653	Air Leakage Heat Gain	
BUILDING CONDUCTIVE HEAT GAIN		15248	0.0428	

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	11612	0.05	Building	15248				
	Level 2	0.3		12598	0.03						
	Level 3	0.2		11808	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	1857	Watts	6336	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		242	Watts	826	Btu/h



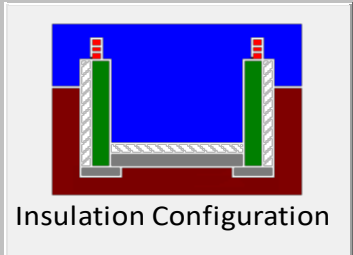
# Envelope Air Leakage Calculator

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 <sup>3</sup> ):	900.77			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. ▼ 322.44 cm <sup>2</sup>			
	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		

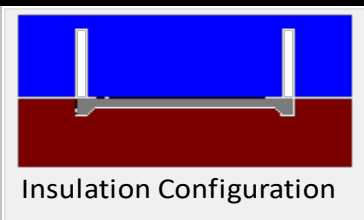
# Residential Foundation Thermal Load Calculator

















Supplemental tool for CAN/CSA-F280

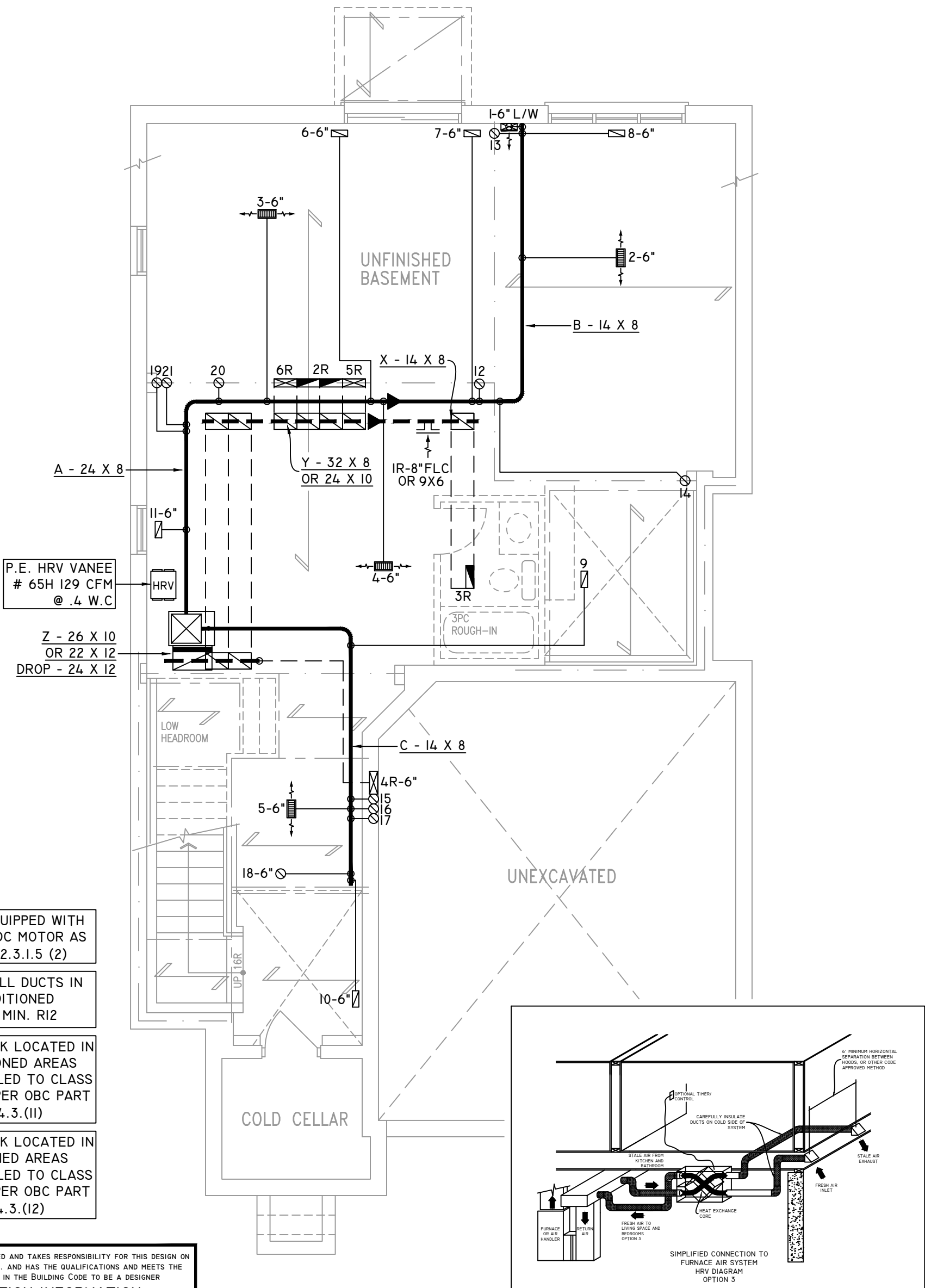
Weather Station Description		
Province:	Ontario ▼	
Region:	Bradford ▼	
Site Description		
Soil Conductivity:	High conductivity: moist soil ▼	
Water Table:	Normal (7-10 m, 23-33 Ft) ▼	
Foundation Dimensions		
Floor Length (m):	16.17	 <p>Insulation Configuration</p>
Floor Width (m):	4.10	
Exposed Perimeter (m):	31.39	
Wall Height (m):	3.05	
Depth Below Grade (m):	0.91	
Window Area (m <sup>2</sup> ):	0.46	
Door Area (m <sup>2</sup> ):	1.95	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1857

# 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):	9.21	 Insulation Configuration
Width (m):	3.14	
Exposed Perimeter (m):	15.54	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		242

	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



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.





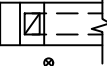













2985 DREW ROAD  
SUITE 202,  
MISSISSAUGA, ONT.  
L4T 0A4 TEL: 905-671-9800  
EMAIL: DAVE@GTADESIGNS.CA  
WEB: WWW.GTADESIGNS.CA

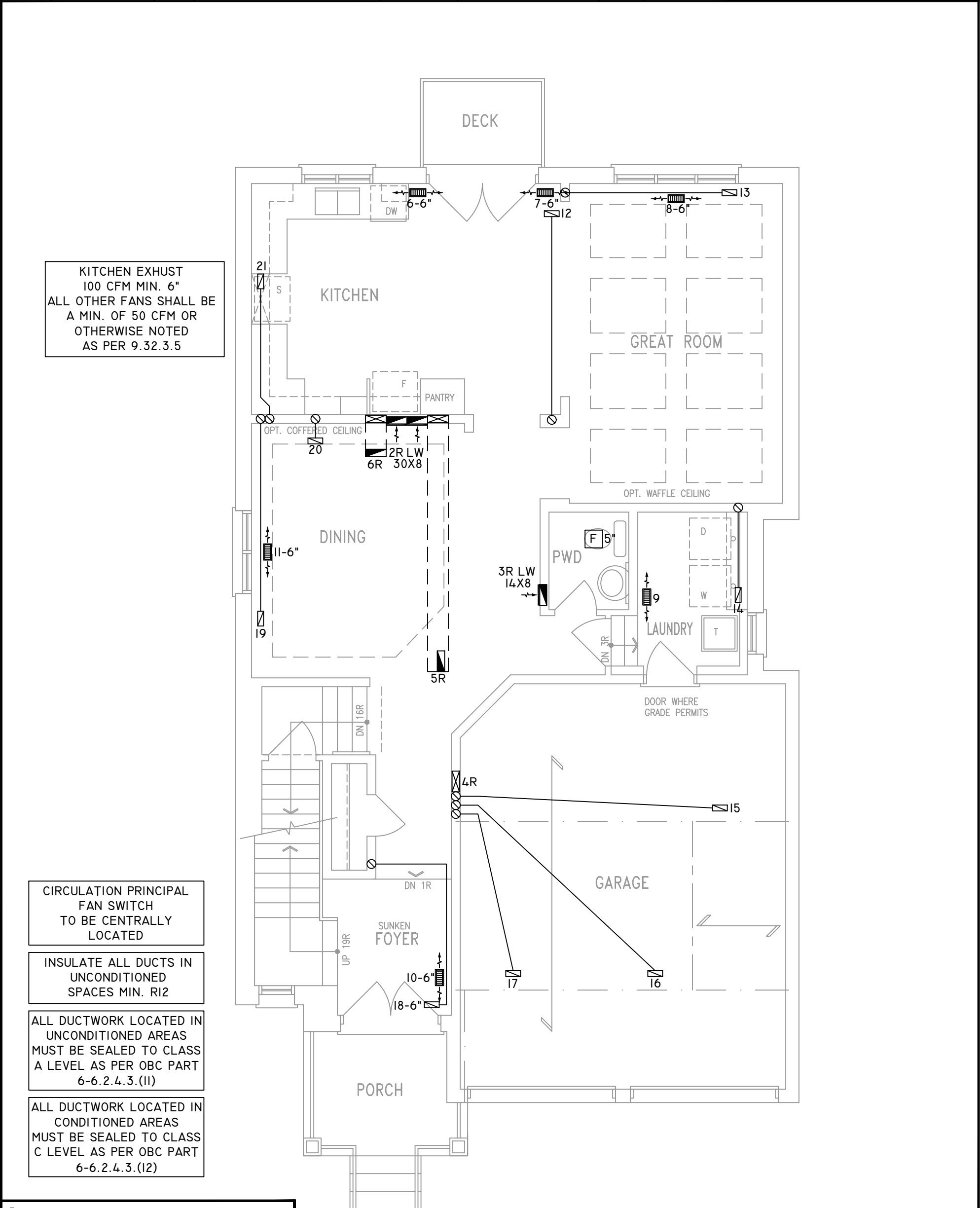
HEAT-LOSS	57,319	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC960803BNA	OR EQUAL.
UNIT HEATING INPUT	80,000	BTU/HR.
UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1172	CFM

# 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-07273
SQFT	2593
DRAWING NO.	MI

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 147 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



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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

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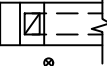







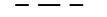





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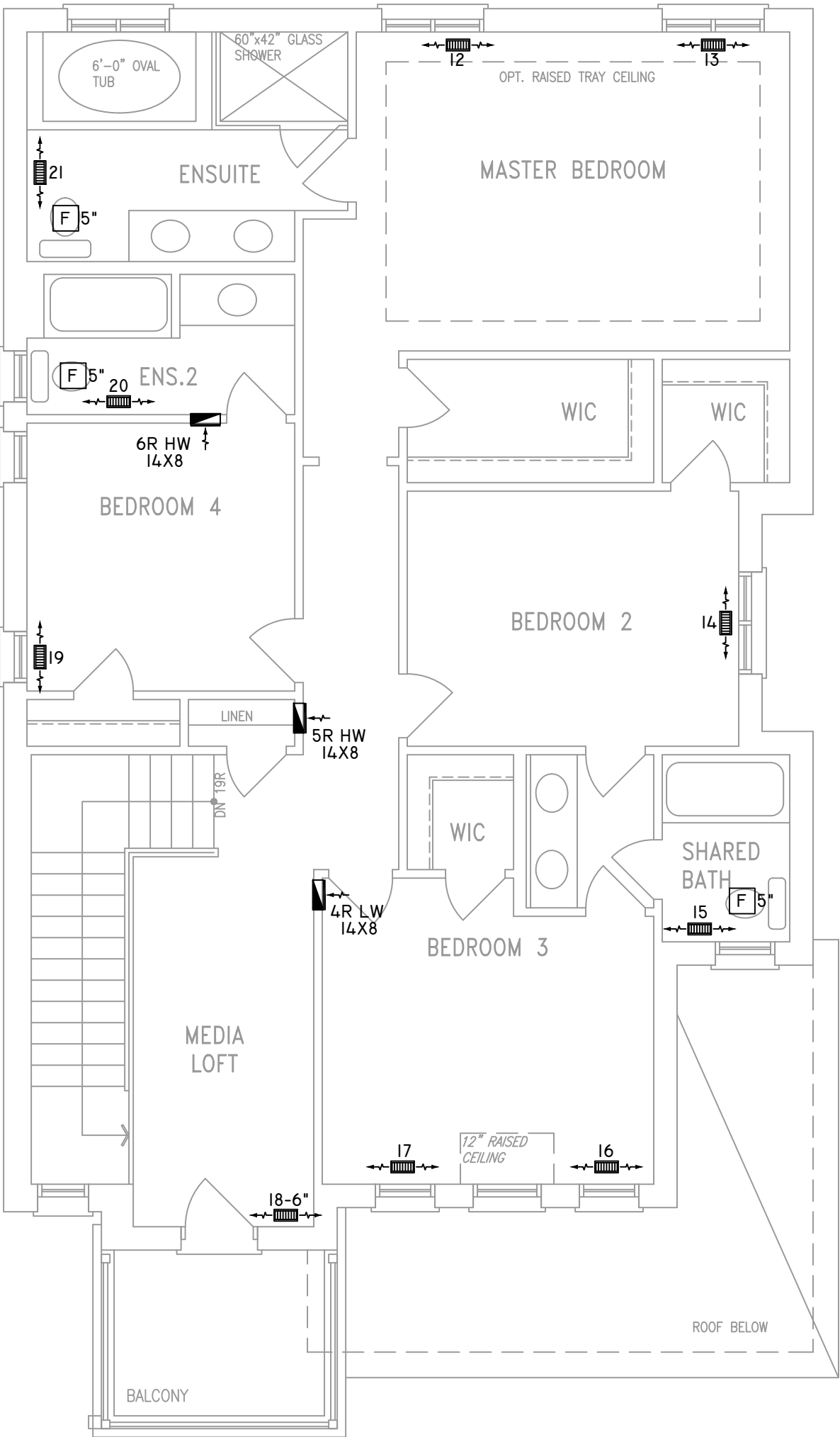
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UNIT HEATING OUTPUT	76,800	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1172	CFM

# 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: JL	CHECKED: DD	SQFT 2593
LAYOUT NO. JB-07273	DRAWING NO. M2	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 147 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.(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**

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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**

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A/C COOLING CAPACITY	2.5	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 2593
LAYOUT NO. JB-07273	DRAWING NO. M3	

DATE:	JUNE 25, 2021
CLIENT:	BAYVIEW WELLINGTON
MODEL:	S38-3 LOT 147 BAROSSA 3
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SCALE:	3/16" = 1'-0"