

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 3 SD25-3				Lot: Lot/con. 	
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 dave@gtadesigns.ca	
Telephone number (905) 671-9800		Fax number (647) 494-9643		Cell number (416) 268-6820	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]					
☐ House		☒ HVAC – House		☐ Building Structural	
☐ Small Buildings		☐ Building Services		☐ Plumbing – House	
☐ Large Buildings		☐ Detection, Lighting and Power		☐ Plumbing – All Buildings	
☐ Complex Buildings		☐ Fire Protection		☐ On-site Sewage Systems	
Description of designer's work				Model Certification	
				Project #:	PJ-00204
				Layout #:	JB-04397
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:	2062	Model	Sonoma 3
Residential System Design per CAN/CSA-F280-12					SD25-3
Residential New Construction - Forced Air				SB-12	Package A1
D. Declaration of Designer					
I, <u>David DaCosta</u> declare that (choose one as appropriate): (print name) ☐ 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. Individual BCIN: _____ Firm BCIN: _____ ☒ 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. Individual BCIN: <u>32964</u> Basis for exemption from registration: <u>Division C 3.2.4.1. (4)</u> ☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification:					
I certify that: 1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.					
<u>February 15, 2018</u> Date			<u></u> 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-04397	
Building Location					
Address (Model): SD25-3			Site: Green Valley East		
Model: Sonoma 3			Lot:		
City and Province: Bradford			Postal code:		
Calculations based on					
Dimensional information based on:			VA3 Design Sept/2016		
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? LifeBreath		RNC155	Internal shading: Light-translucent		Occupants: 5
Sensible Eff. at -25C 71%		Apparent Effect. at -0C 84%	Units: Imperial		Area Sq ft: 2062
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: Existing Walls (When Applicable) R 12			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: Existing Windows (When Applicable) R 1.99			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: (416) 268-6820		
City: Mississauga			E-mail: dave@gtadesigns.ca		

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Builder: **Bayview Wellington**

Date: **February 15, 2018**

Project: **Green Valley East**

Model: **Sonoma 3 SD25-3**

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-00204**
Layout # **JB-04397**

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	12,390 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	2.0 Ton
Level 2 Net Load	13,764 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	AMEC96-0603BNA	Model		Cond.-----	2.0
Level 3 Net Load	12,244 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	60000	Input Btu/h		Coil -----	2.0
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	57600	Output Btu/h			
Total Heat Loss	38,397 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50	" W.C.			
Total Heat Gain	23,274 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp		deg. F.			
Combo System HL + 10%	42,237 Btu/h	Heating Air Flow Proportioning Factor	0.0305 cfm/btuh	AFUE	96%				
Building Volume Vb	24189 ft³	Cooling Air Flow Proportioning Factor	0.0414 cfm/btuh	Aux. Heat					
Ventilation Load	1,118 Btu/h	R/A Temp	70 deg. F.	SB-12 Package	Package A1				
Ventilation PVC	79.5 cfm	S/A Temp	116 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	46 deg. F.				

	Level 1													Level 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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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	200	500	155	105	105	105					
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	13	26	46	46	48	35					
Equivalent Length	110	165	210	205	180	190	50	50	50	50	50
Total Effective Length	123	191	256	251	228	225	50	50	50	50	50
Adjusted Pressure	0.10	0.06	0.05	0.05	0.05	0.05	0.24	0.24	0.24	0.24	0.24
Duct Size Round	8.0	12.0	8.0	6.0	6.0	6.0					
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	Z	Z	Z	Y	Y	Y					

Return Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
Drop	1170	0.05	17.0	24x12
Z	1170	0.05	17.0	26x10 22x12
Y	315	0.05	10.5	12x8 10x10
X				
W				
V				
U				
T				
S				
R				
Q				

Supply Trunk Duct Sizing				
Trunk	CFM	Press.	Round	Rect. Size
A	660	0.07	13.0	18x8 14x10
B	178	0.08	8.0	8x8 8x7
C	374	0.07	10.5	12x8 10x10
D	511	0.07	12.0	16x8 12x10
E	227	0.07	9.0	8x8 10x7
F				
G				
H				
I				
J				
K				

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2012 OBC	Builder: Bayview Wellington	Date: February 15, 2018	System 1	Weather Data	Bradford	44	-9.4	86	22	48.2		Page 4
	Project: Green Valley East	Model: Sonoma 3 SD25-3		Heat Loss ^T	81.4 deg. F	Ht gain ^T		11 deg. F	GTA: 2062	Project # Layout #	PJ-00204 JB-04397	

Level 1				BASE															
Run ft. exposed wall A	111	A		A		A		A		A		A		A		A		A	
Run ft. exposed wall B	B			B		B		B		B		B		B		B		B	
Ceiling height	3.9	AG		3.9	AG	3.9	AG	3.9	AG	3.9	AG	3.9	AG	3.9	AG	3.9	AG	3.9	AG
Floor area	853	Area		Area		Area		Area		Area		Area		Area		Area		Area	
Exposed Ceilings A	A			A		A		A		A		A		A		A		A	
Exposed Ceilings B	B			B		B		B		B		B		B		B		B	
Exposed Floors	Flr			Flr		Flr		Flr		Flr		Flr		Flr		Flr		Flr	
Gross Exp Wall A	433																		
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	10.91	23	527	629													
East/West	3.55	22.93	27.35	3	69	63													
South	3.55	22.93	20.89																
WOB Windows	3.15	25.84	28.32																
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	386		201													
Net exposed walls B	14.49	5.62	0.76																
Exposed Ceilings A	59.22	1.37	0.64																
Exposed Ceilings B	22.86	3.56	1.66																
Exposed Floors	29.80	2.73	0.17																
Foundation Conductive Heatloss	On Grade () or Above ()			5246															
Total Conductive	Heat Loss			6269															
Air Leakage	Heat Loss/Gain	0.9316	0.0334	5841		32													
Ventilation	Case 1	0.09	0.08																
	Case 2	14.07	11.88																
	Case 3	x	0.04	280		77													
Heat Gain People			239																
Appliances Loads	1 = .25 percent		3435																
Duct and Pipe loss			10%																
Level 1 HL Total	12,390		Total HL for per room	12390															
Level 1 HG Total	1,377		Total HG per room x 1.3			1377													

Level 2				BREAK DINKIT LIV FOY MUD PWD															
Run ft. exposed wall A	25	A		19	A		12	A		29	A		20	A		6	A		A
Run ft. exposed wall B	B			B			B		B		B		B		B		B		B
Ceiling height	10.0			10.0			10.0		11.0		12.0		12.0		10.0		10.0		10.0
Floor area	150	Area		235	Area		235	Area		93	Area		110	Area		25	Area		Area
Exposed Ceilings A	A			A			A		A		A		A		A		Area		Area
Exposed Ceilings B	B			B			B		B		B		B		B		B		B
Exposed Floors	Flr			Flr			Flr		Flr		Flr		Flr		Flr		Flr		Flr
Gross Exp Wall A	250			190			120		319		240		72						
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	10.91	42	963	1149		39	894	1067		20	459	547					
East/West	3.55	22.93	27.35	39	894	815		24	550	501		24	550	501					
South	3.55	22.93	20.89																
Existing Windows	1.99	40.90	22.15																
Skylight	2.03	40.10	88.23																
Doors	4.00	20.35	2.75						25	509	69	21	427	58					
Net exposed walls A	17.03	4.78	0.65	169	808	109		127	607	82	96	459	62	274	1310	177	219	1047	141
Net exposed walls B	8.50	9.58	1.29														72	344	47
Exposed Ceilings A	59.22	1.37	0.64																
Exposed Ceilings B	22.86	3.56	1.66																
Exposed Floors	29.80	2.73	0.17																
Foundation Conductive Heatloss	On Grade () or Above ()		x																
Total Conductive	Heat Loss			2665					2052		1009		2277		1474		344		
Air Leakage	Heat Loss/Gain	0.3568	0.0334	951		69			732		55		360		19		812		26
Ventilation	Case 1	0.03	0.08																
	Case 2	14.07	11.88																
	Case 3	x	0.04	119		168			92		134		45		46		102		64
Heat Gain People			239																
Appliances Loads	1 = .25 percent		3435																
Duct and Pipe loss			10%																
Level 2 HL Total	13,764		Total HL for per room	3735		4120			2875		4066		1414		1933		3191		1149
Level 2 HG Total	11,623		Total HG per room x 1.3														2066		289

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Total Heat Loss	38,397	btu/h
Total Heat Gain	23,274	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:
SD25-3

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) | ☒ | 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

- | | |
|-------------------------------------|--|
| ☒ | Forced air |
| ☐ | Non forced air |
| ☐ | Electric space heat (if over 10% of heat load) |

House Type 9.32.3.1(2)

- | | | |
|-------|-------------------------------------|---|
| I | ☒ | 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 | ☐ | Exhaust only / forced air system |
| 2 | ☐ | HRV WITH DUCTING / forced air system |
| 3 | ☒ | 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
LifeBreath	RNC155	Base
132 cfm		Sones or Equiv.

Heat Recovery Ventilator

Make	LifeBreath
Model	RNC155
	132 cfm high
	80 cfm low
Sensible efficiency @ -25 deg C	71%
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.

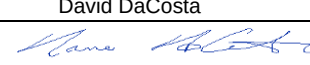
Location	cfm	Model	Sones
Ens	50	XB50	0.3
Bath	50	XB50	0.3

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 February 15, 2018

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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-00204
 Layout # JB-04397

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 3 SD25-3		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		
☒ Zone 1 (< 5000 degree days) ☐ Zone 2 (≥ 5000 degree days)	☒ ≥ 92% AFUE ☐ ≥ 84% < 92% AFUE	☒ Gas ☐ Oil	☐ Propane ☐ Electric	☐ Solid Fuel ☐ Earth Energy
Ratio of Windows, Skylights & Glass (W, S & G) to Wall Area		Other Building Characteristics		
Area of Walls = <u>325.64</u> m ² or <u>3505.2</u> ft ²	W, S & G % = <u>11%</u>	☐ Log/Post&Beam ☐ Slab-on-ground ☒ Air Conditioning ☐ Air Sourced Heat Pump (ASHP) ☐ Ground Source Heat Pump (GSHP)	☐ ICF Above Grade ☐ Walkout Basement ☐ Combo Unit	☐ ICF Basement
Area of W, S & G = <u>35.209</u> m ² or <u>379.0</u> ft ²	Utilize Window Averaging ☐ Yes ☒ No			

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

Energy Efficiency Substitutions			
☐ ICF (3.1.1.2.(5) & (6) / 3.1.1.3.(5)) ☐ Combined space heating and domestic water heating systems (3.1.1.2(7) / 3.1.1.3.(7))			
☐ Airtightness substitution(s) Airtightness test required (Refer to Design Guide Attached)	☐ Table 3.1.1.4.B Required:		Permitted Substitution:
	☐ 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		Windows/Sliding Glass Doors 1.6
Ceiling without Attic Space	31		Skylights 2.8
Exposed Floor	31		Mechanicals
Walls Above Grade	22		Heating Equip. (AFUE) 96%
Basement Walls	20.0ci		HRV Efficiency (SRE% at 0°C) 75%
Slab (all >600mm below grade)	x		DHW Heater (EF) 0.80
Slab (edge only ≤600mm below grade)	10		DWHR (CSA B55.1 (min. 42% efficiency)) #Showers 2
Slab (all ≤600mm below grade, or heated)	10		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
------------------------------	----------------------	---------------

Form authorized by OHBA, OBOA, LMCBO. Revised December 1, 2016.

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Package: Package A1 System: System 1
Project: Bradford Model: SD25-3

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL^T	HLleak
0.018	0.330	24189	81.4	11681

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG^T	HG Leak
0.018	0.081	24189	11	388

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	11681	6269	0.9316
Level 2	0.3		9821	0.3568
Level 3	0.2		8981	0.2601
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	
	388		0.0334
BUILDING CONDUCTIVE HEAT GAIN			11619

Levels this Dwelling	
3	

Ventilation Calculations

Ventilation Heat Loss

Ventilation Heat Loss				
C	PVC	HL^T	(1-E) HRV	HLbvent
1.08	79.5	81.4	0.16	1118

Ventilation Heat Gain

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

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Case 1 - Exhaust Only				
Level	LF	HLbvent	LVL Cond. HL	Multiplier
Level 1	0.5	1118	6269	0.09
Level 2	0.3		9821	0.03
Level 3	0.2		8981	0.02
Level 4	0		0	0.00

Case 1

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only		Multiplier	
HGbvent	944	0.08	
Building	11619		

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

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

Case 2

Ventilation Heat Gain (Direct Ducted Systems)

C	HG^T	Multiplier
1.08	11	11.88

Case 3

Ventilation Heat Loss (Forced Air Systems)

HLbvent		Multiplier
Total Ventilation Load	1118	0.04

Case 3

Ventilation Heat Gain (Forced Air Systems)

Vent Heat Gain		Multiplier
HGbvent	HG*1.3	0.08
944	1	

Foundation Conductive Heatloss Level 1

1537 Watts 5246 Btu/h

Foundation Conductive Heatloss Level 2

Watts Btu/h

Envelope Air Leakage Calculator

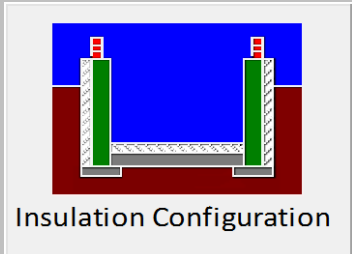
Supplemental tool for CAN/CSA-F280

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):	6.68			
Building Configuration				
Type:	Semi-Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	685.03			
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): 0.330				
Cooling Air Leakage Rate (ACH/H): 0.081				

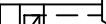
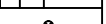
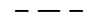
SITE COPY

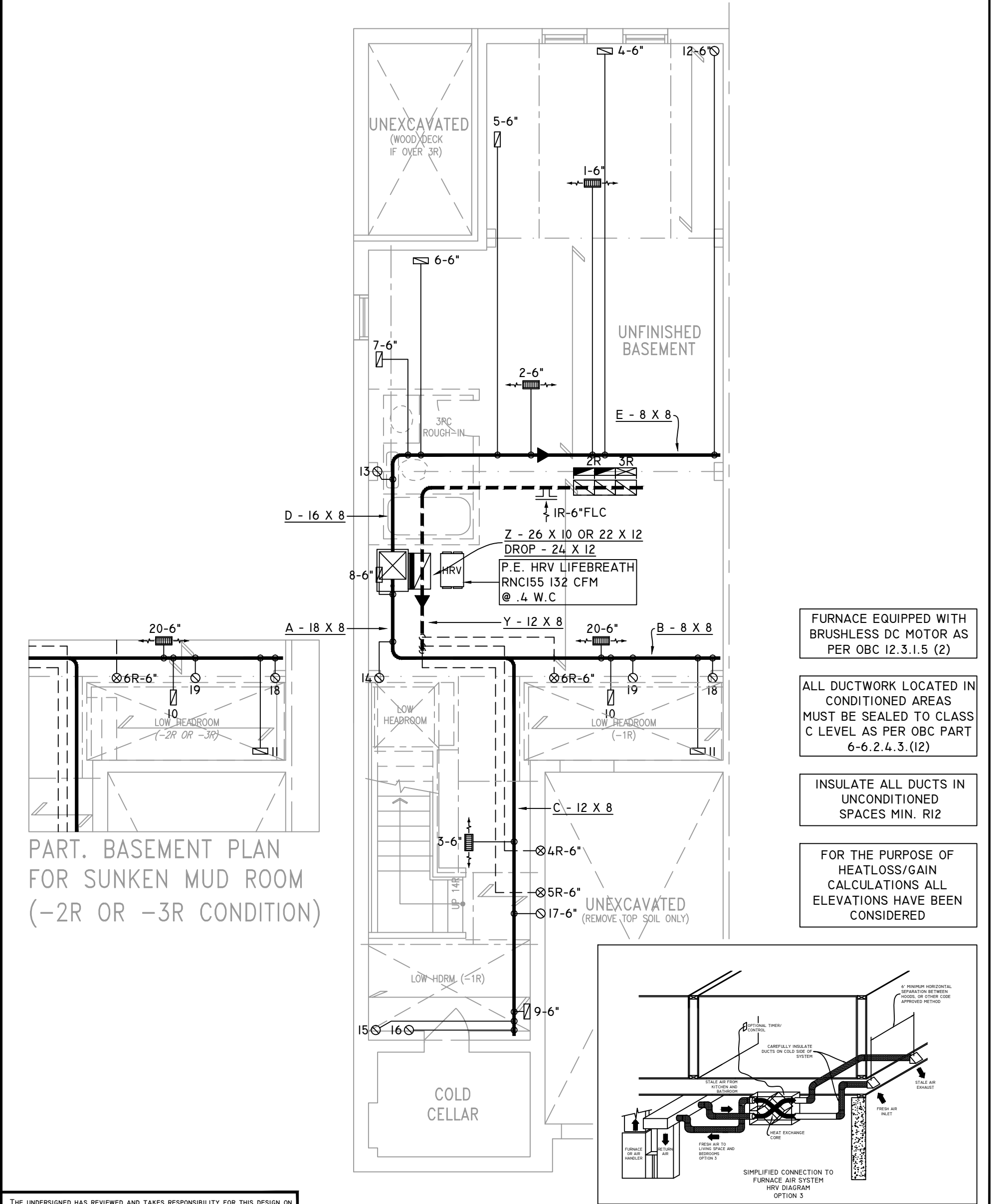
Residential Foundation Thermal Load Calculator

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):	18.80	 Insulation Configuration
Floor Width (m):	4.22	
Exposed Perimeter (m):	33.83	
Wall Height (m):	2.74	
Depth Below Grade (m):	1.55	
Window Area (m ²):	2.42	
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):		1537

SITE COPY

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

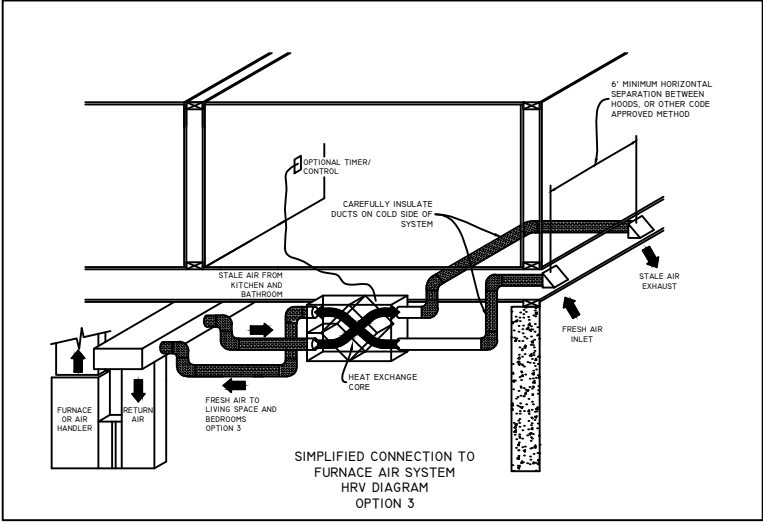


FURNACE EQUIPPED WITH
BRUSHLESS DC MOTOR AS
PER OBC 12.3.1.5 (2)

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

INSULATE ALL DUCTS IN
UNCONDITIONED
SPACES MIN. R12

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



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

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.

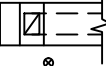
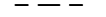
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSIBILITY OF GTA DESIGNS.

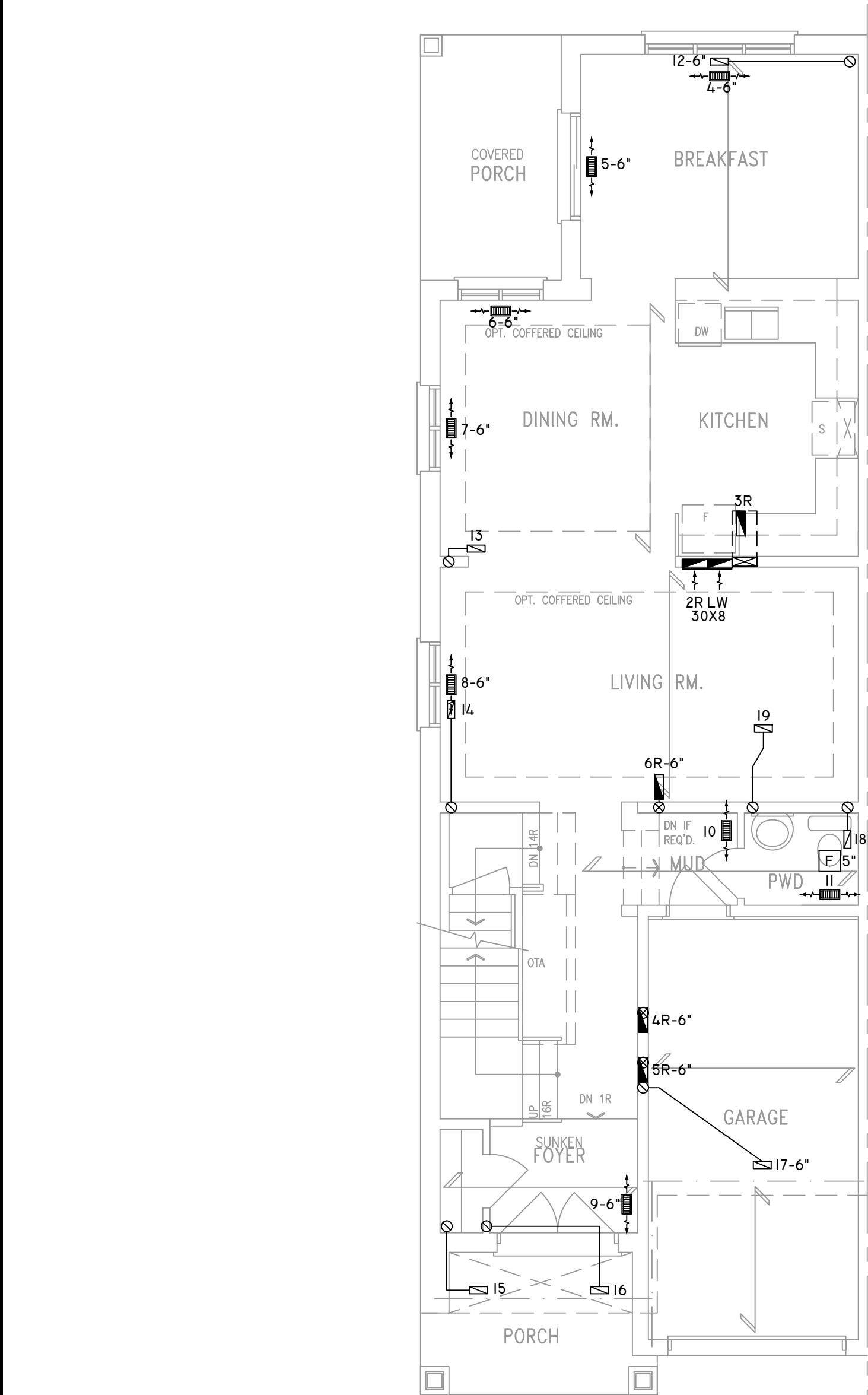
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING.



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

HEAT-LOSS	38,397	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC96-0603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	1170	CFM

	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 EXHAUST
100 CFM MIN. 6"

CIRCULATION PRINCIPAL
FAN SWITCH
TO BE CENTRALLY
LOCATED

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

INSULATE ALL DUCTS IN
UNCONDITIONED
SPACES MIN. R12

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

GROUND FLOOR PLAN 'A'

SITE COPY

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.



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

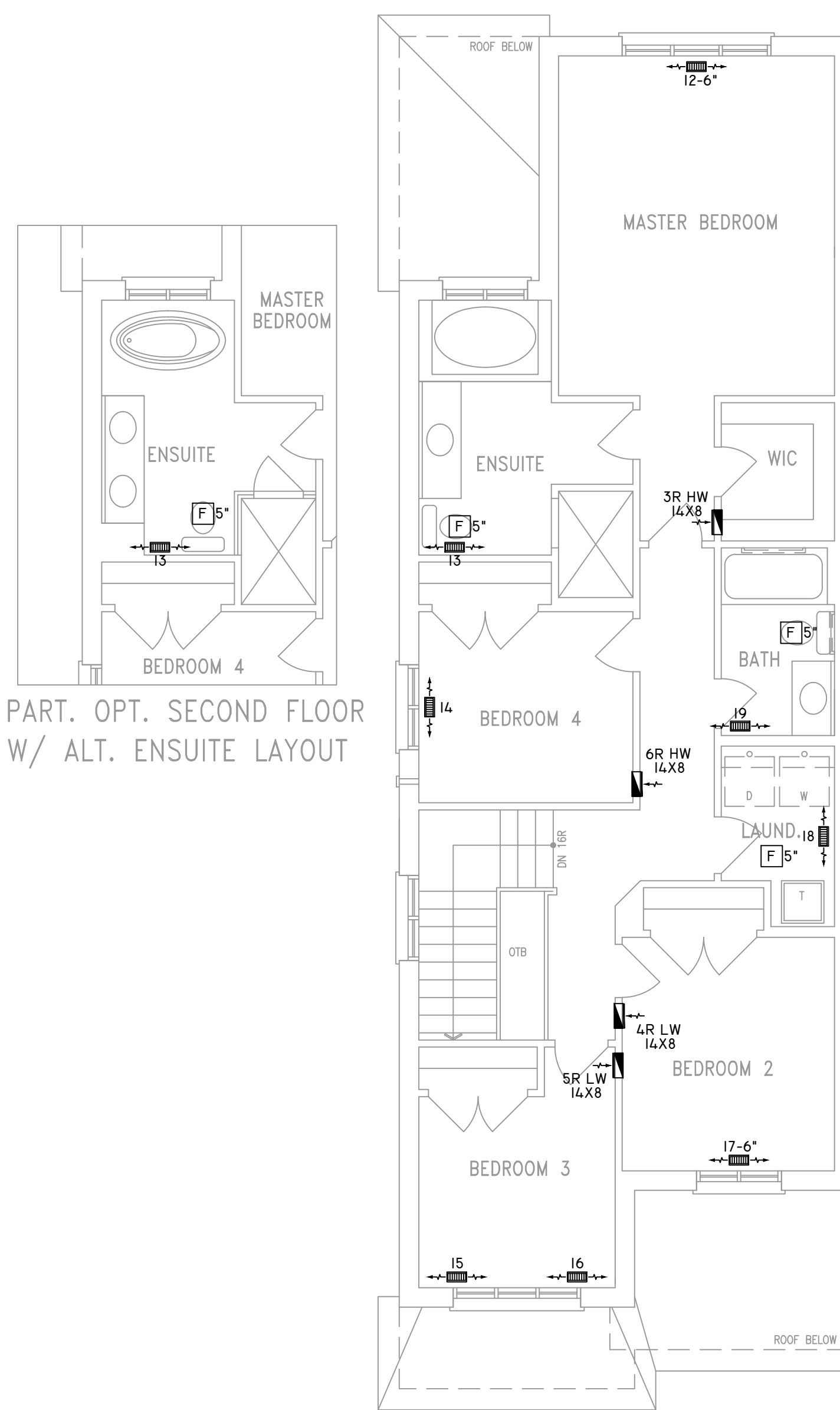
HEAT-LOSS	38,397	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC96-0603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	1170	CFM

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

FLOOR PLAN: GROUND FLOOR	
DRAWN BY: AM	CHECKED: DD
LAYOUT NO. JB-04397	SGFT 2062
	DRAWING NO. M2

DATE:	FEBRUARY 15, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-3 SONOMA 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 RISER UP TO FLOOR ABOVE	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		SUPPLY AIR PIPE RISER		RETURN AIR PIPE RISER		RETURN AIR FROM BASEMENT SECOND FLOOR	R.A.	RETURN AIR
	SUPPLY DIFFUSER		VOLUME DAMPER		RETURN ROUND DUCT		THERMOSTAT		PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN



PART. OPT. SECOND FLOOR
W/ ALT. ENSUITE LAYOUT

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

INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12

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

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

SECOND FLOOR PLAN 'A'

SITE COPY

OBC 2012

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

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

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ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)

INSULATE DUCTS IN UNCONDITIONED SPACES RIZ UNDERCUT ALL DOORS 1" MIN.

CONTRACTOR MUST WORK FROM APPROVED PLANS.

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

 **GTADESIGNS**

2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.

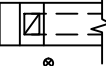
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

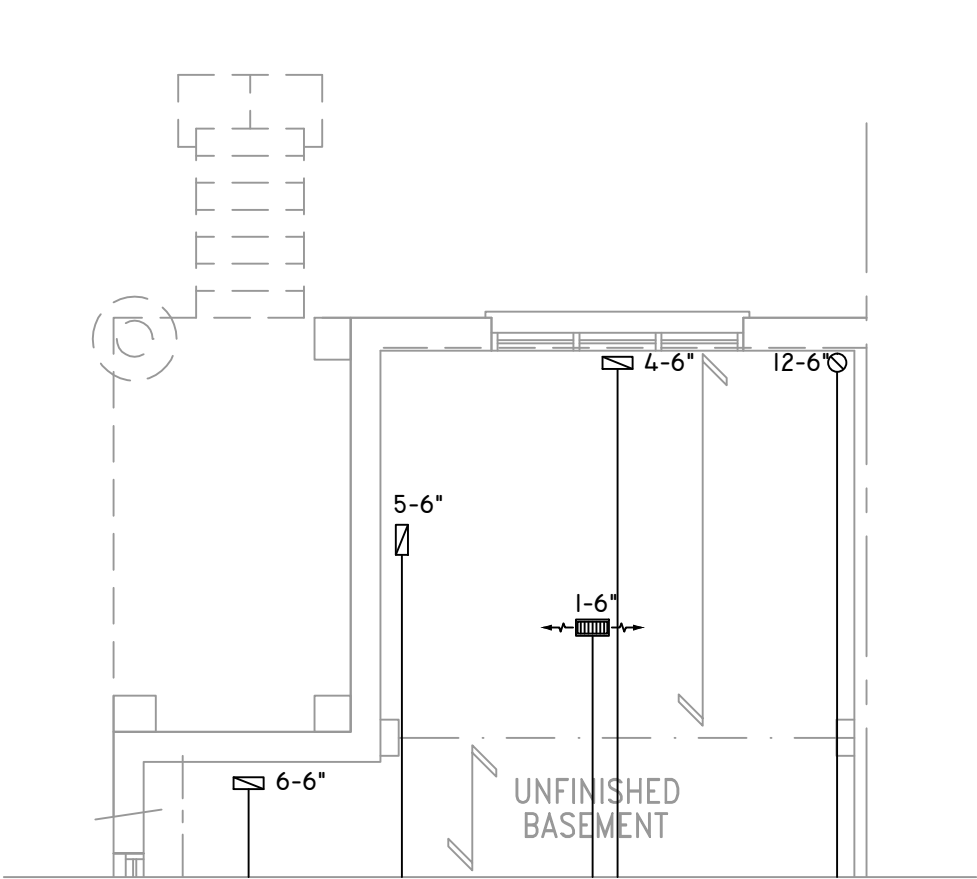
HEAT-LOSS	38,397	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC96-0603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	1170	CFM

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

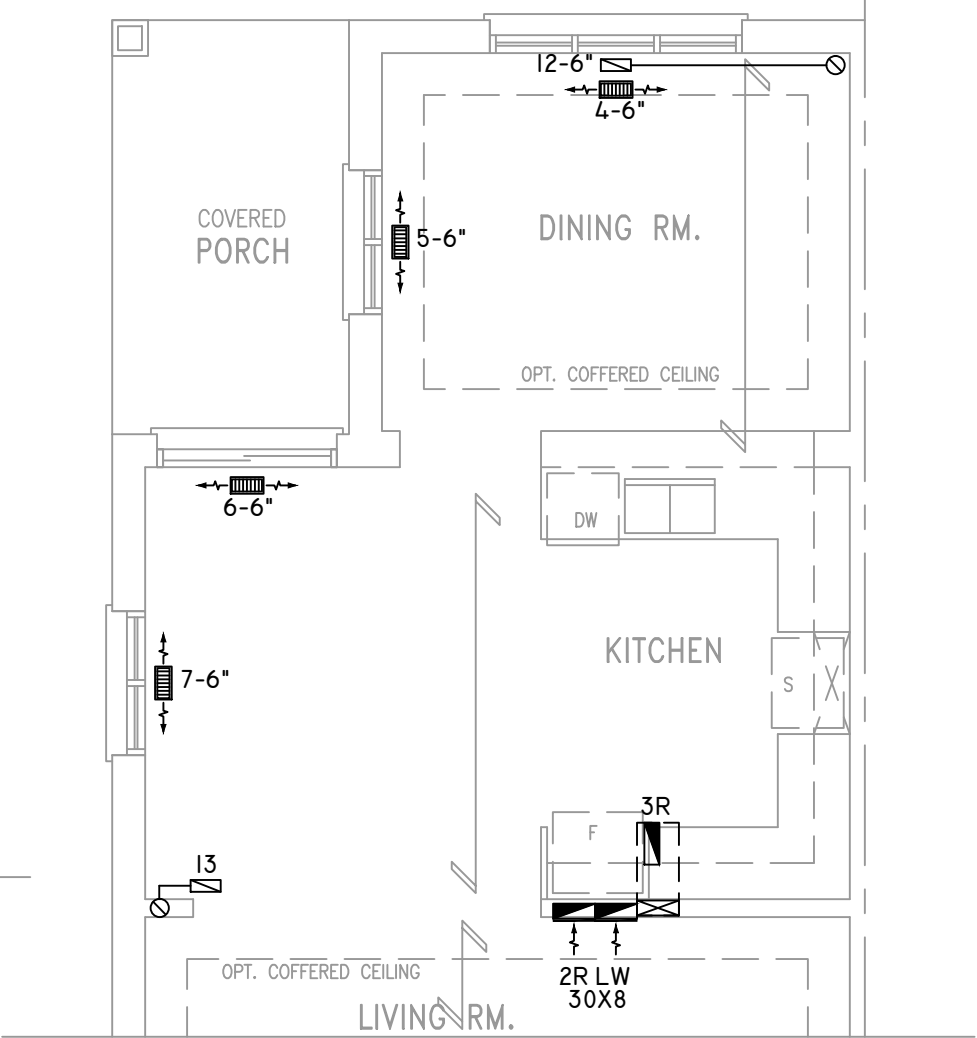
FLOOR PLAN:		
SECOND FLOOR		
DRAWN BY:	CHECKED:	SQFT
AM	DD	2062
LAYOUT NO.	DRAWING NO.	
JB-04397	M3	

DATE:	FEBRUARY 15, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-3 SONOMA 3
PROJECT:	GREEN VALLEY EAST BRADFORD, ONT.
SCALE:	3/16" = 1'-0"

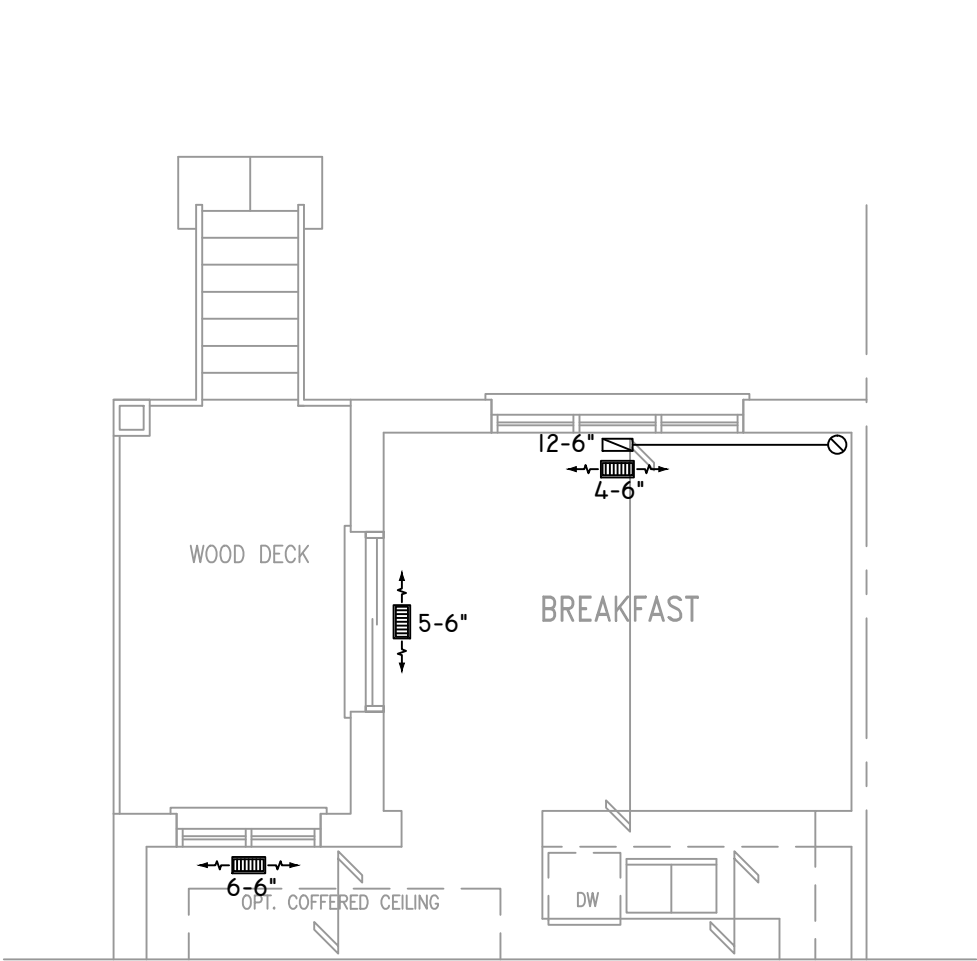
	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN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



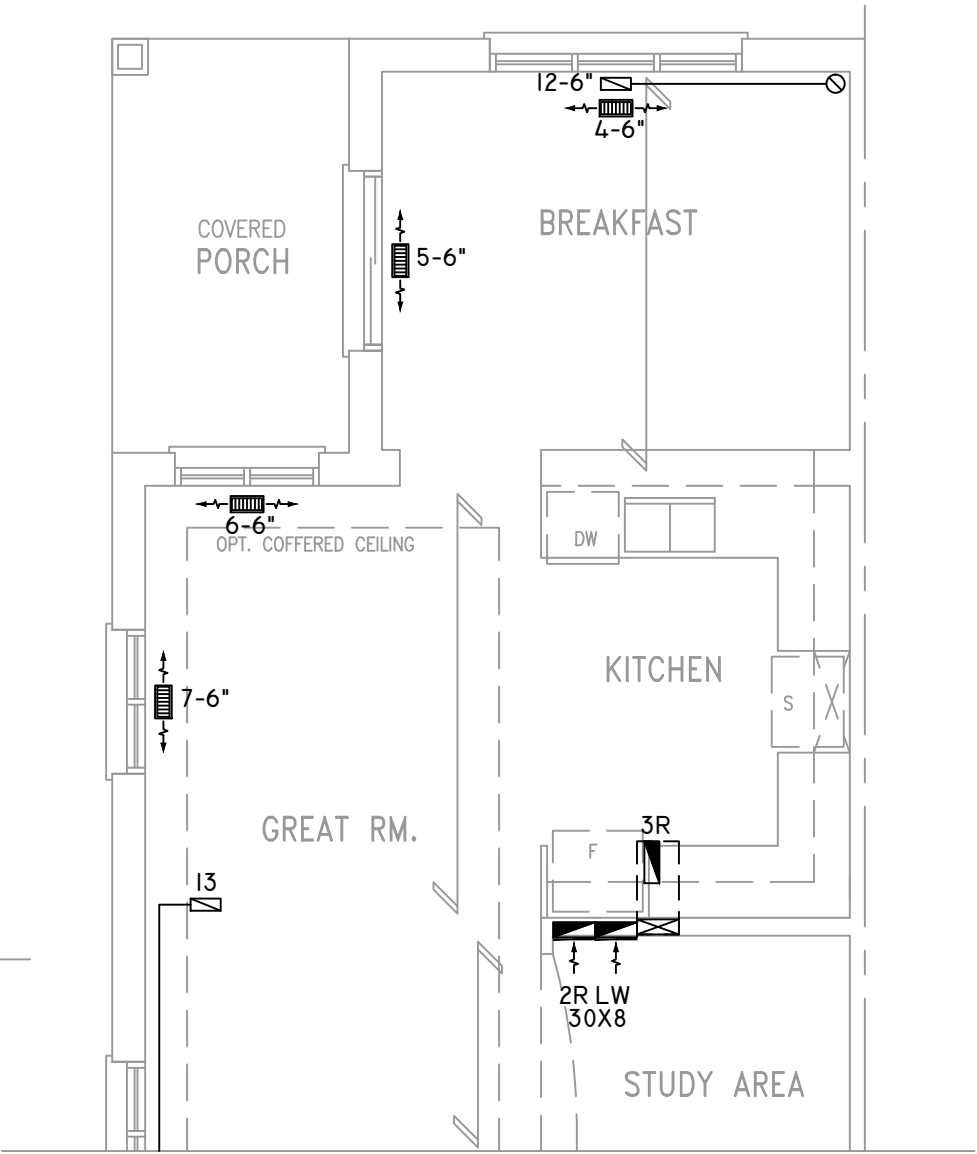
PART. BASEMENT PLAN W/
9R OR MORE W.O.D. CONDITION



PART. OPT. ALT. GROUND FLOOR
LAYOUT EL. 'A', 'B' & 'C'



PART. GROUND FLOOR PLAN W/
9R OR MORE W.O.D. CONDITION



PART. OPT. ALT. 2 GROUND
FLOOR LAYOUT EL. 'A', 'B' & 'C'

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

SITE COPY

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.
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INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.
CONTRACTOR MUST WORK FROM APPROVED PLANS.
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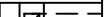
2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

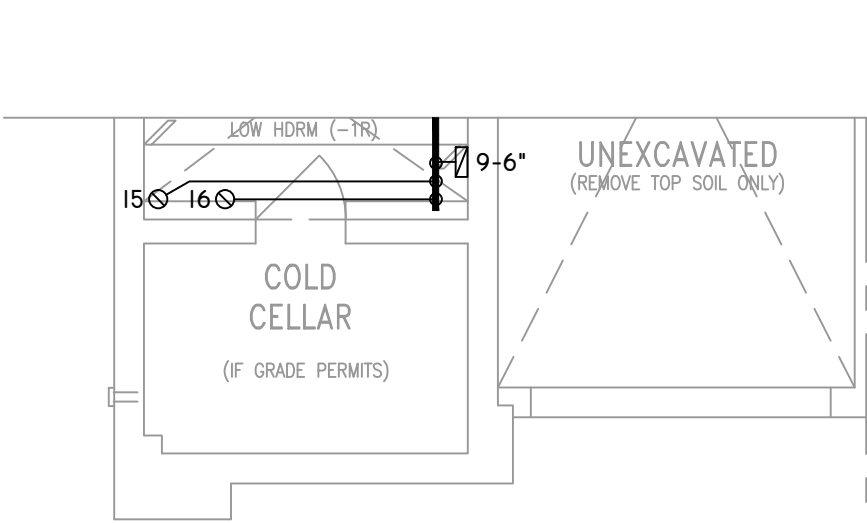
HEAT-LOSS	38,397	BTU/HR.
UNIT MAKE	AMANA	OR EQUAL.
UNIT MODEL	AMEC96-0603BNA	OR EQUAL.
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.0	TONS.
FAN SPEED	1170	CFM

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

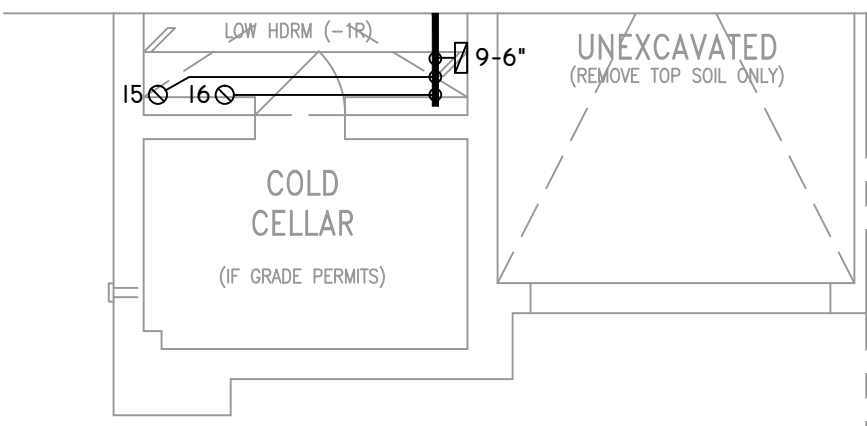
FLOOR PLAN: PARTIAL PLAN(S)	
DRAWN BY: AM	CHECKED: DD
LAYOUT NO: JB-04397	DRAWING NO: M4

DATE:	FEBRUARY 15, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-3 SONOMA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"

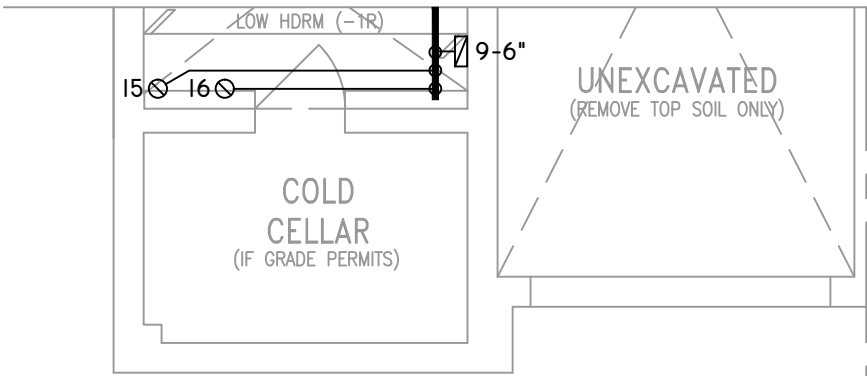
	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIGID ROUND DUCT		HRV EXHAUST GRILLE		RETURN AIR PIPE RISER		RETURN AIR RISER UP TO FLOOR ABOVE	R.A.	RETURN AIR
	SUPPLY DIFFUSER		SUPPLY AIR PIPE RISER		RETURN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



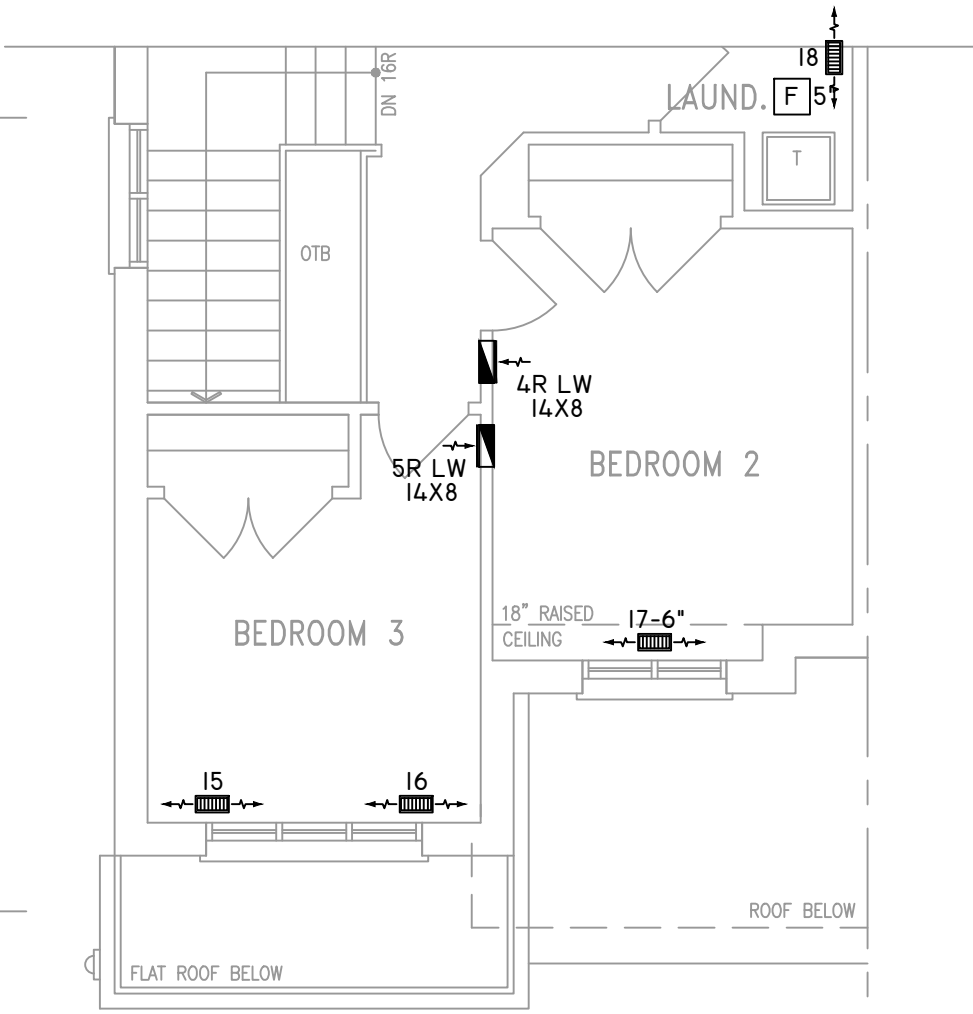
PART. BASEMENT PLAN 'C MOD'



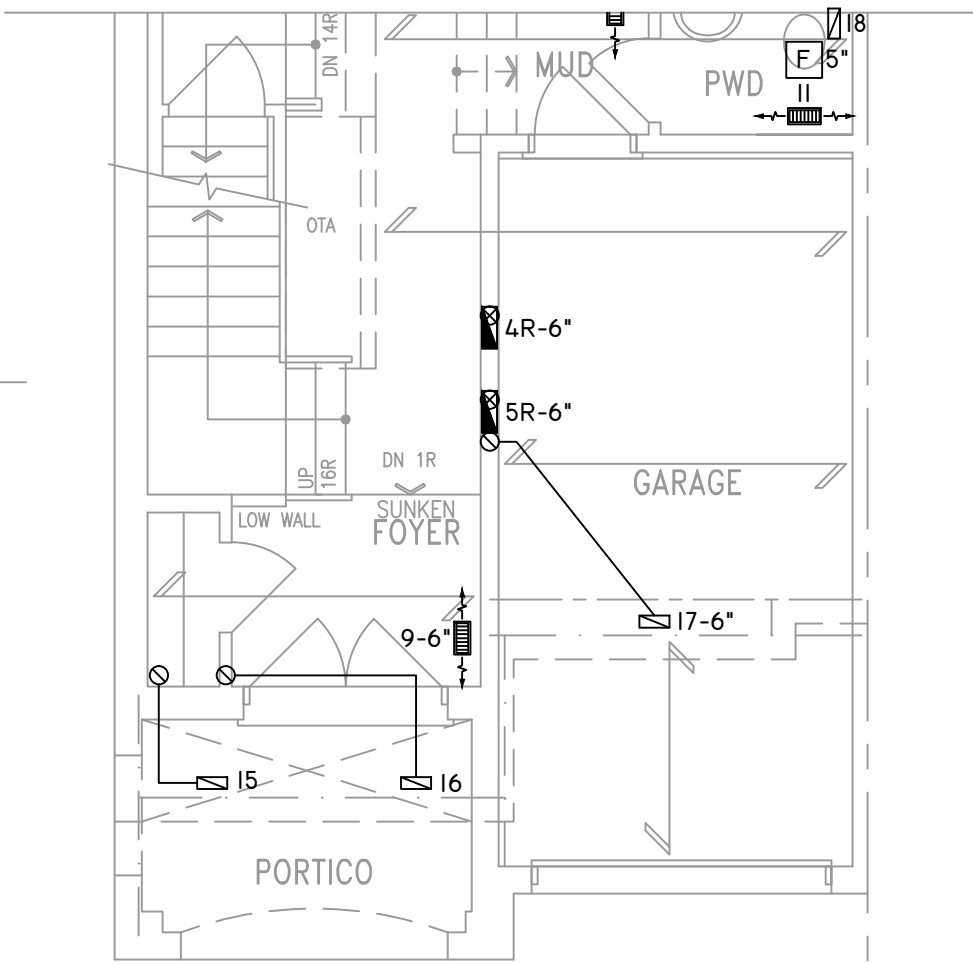
PART. BASEMENT PLAN 'C'



PART. BASEMENT PLAN 'B'



PART. SECOND FLOOR PLAN 'B'



PART. GROUND FLOOR PLAN 'B'

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QUALIFICATION INFORMATION

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DAVID DA COSTA



B.C.I.N. 32964

SIGNATURE OF DESIGNER

SITE COPY

OBC 2012

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

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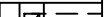
2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
EMAIL: DAVE@GTADESIGNS.CA
WEB: WWW.GTADESIGNS.CA

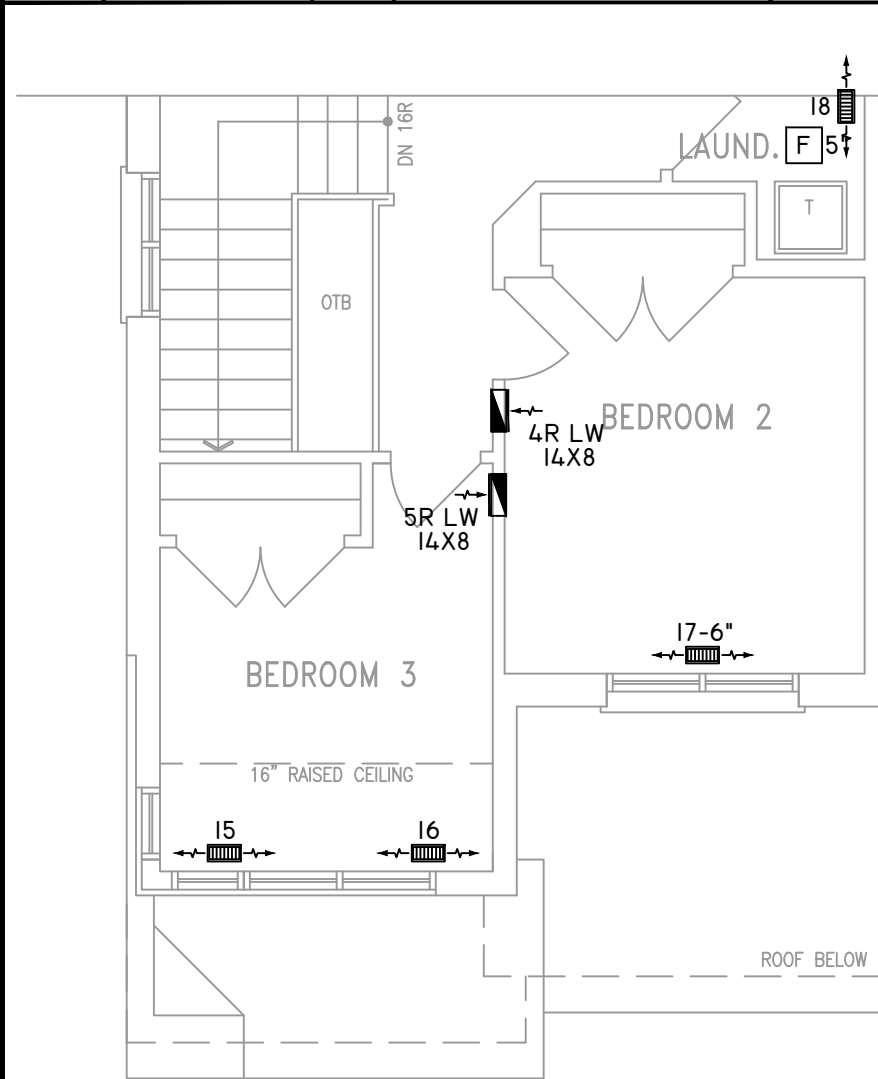
HEAT-LOSS	38,397	BTU/HR.
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UNIT HEATING OUTPUT	57,600	BTU/HR.
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FAN SPEED	1170	CFM

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

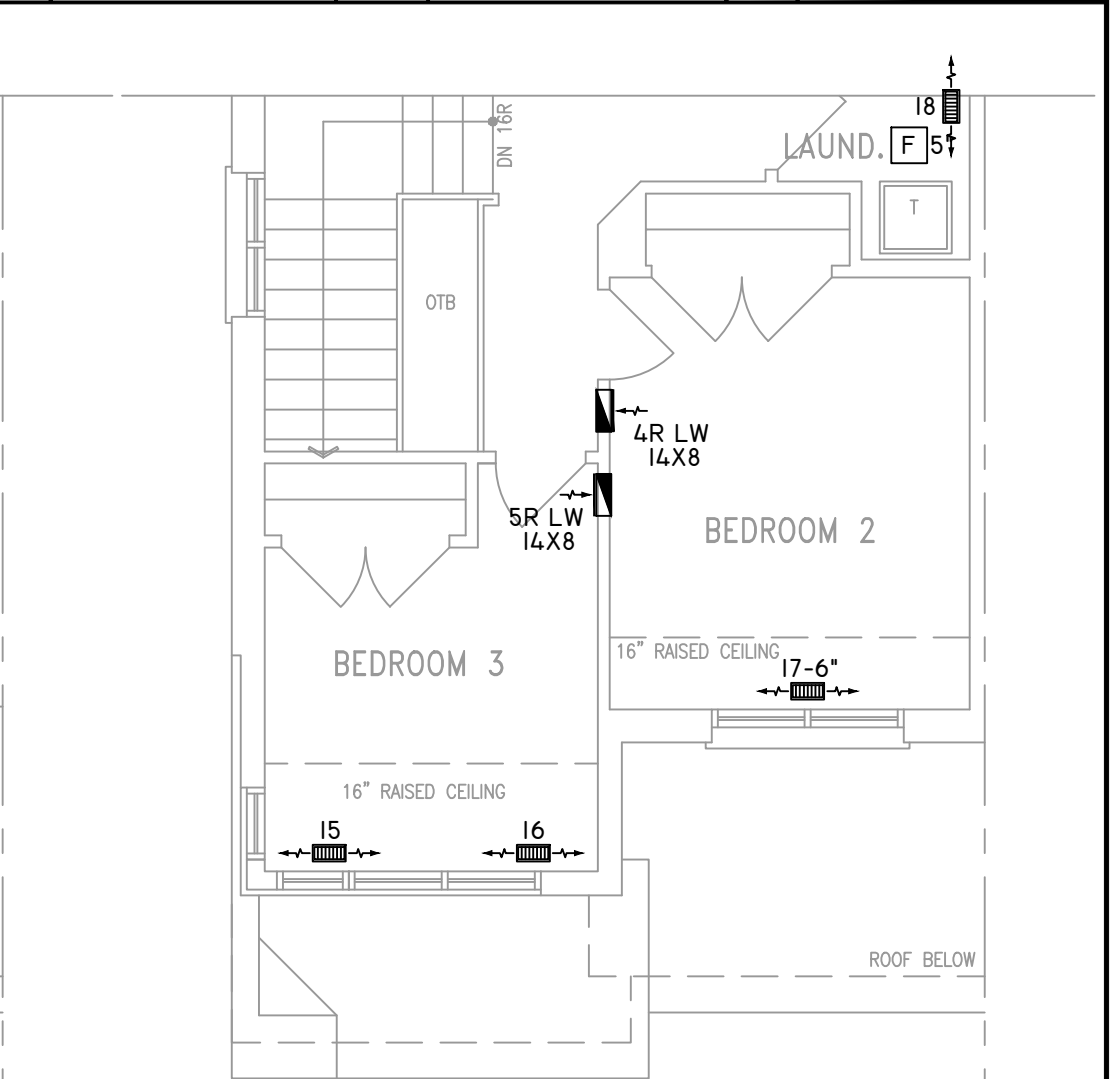
FLOOR PLAN:	
PARTIAL PLAN(S)	
DRAWN BY: AM	CHECKED: DD
LAYOUT NO. JB-04397	DRAWING NO. M5
SQFT 2062	

DATE:	FEBRUARY 15, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-3 SONOMA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"

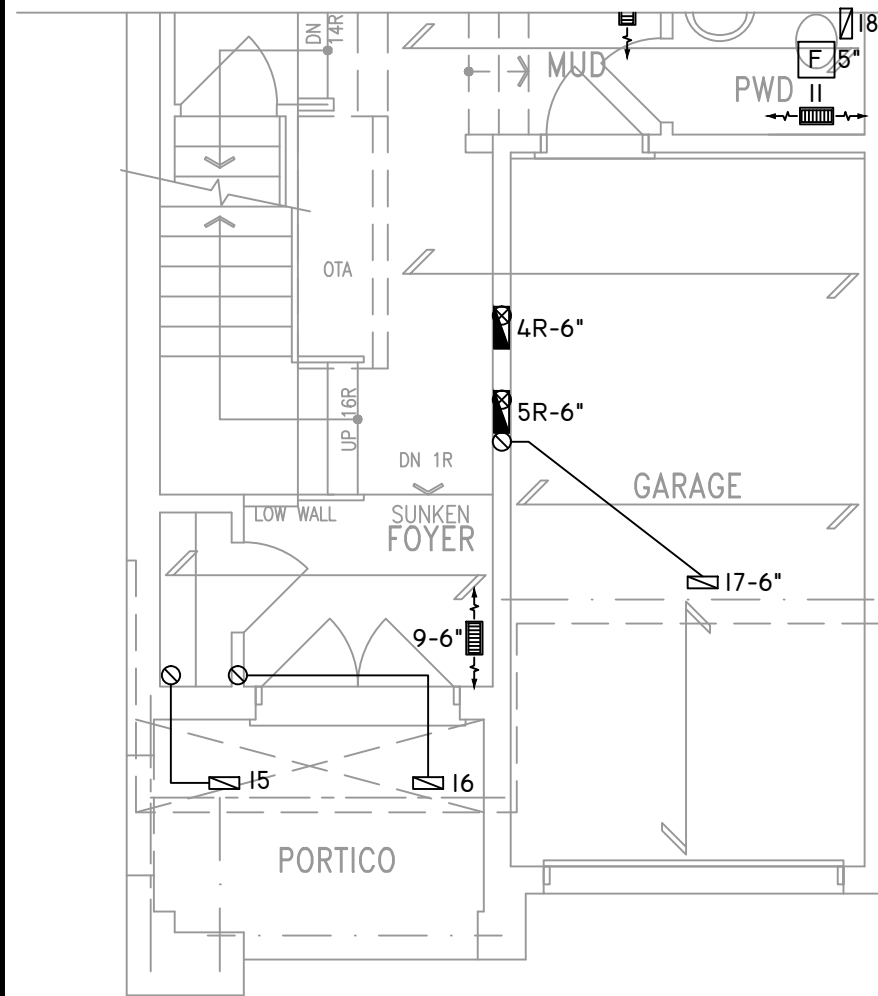
	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
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			VOLUME DAMPER						PRINCIPAL EXHAUST FAN SWITCH
									W/R & PRINCIPAL EXHAUST FAN



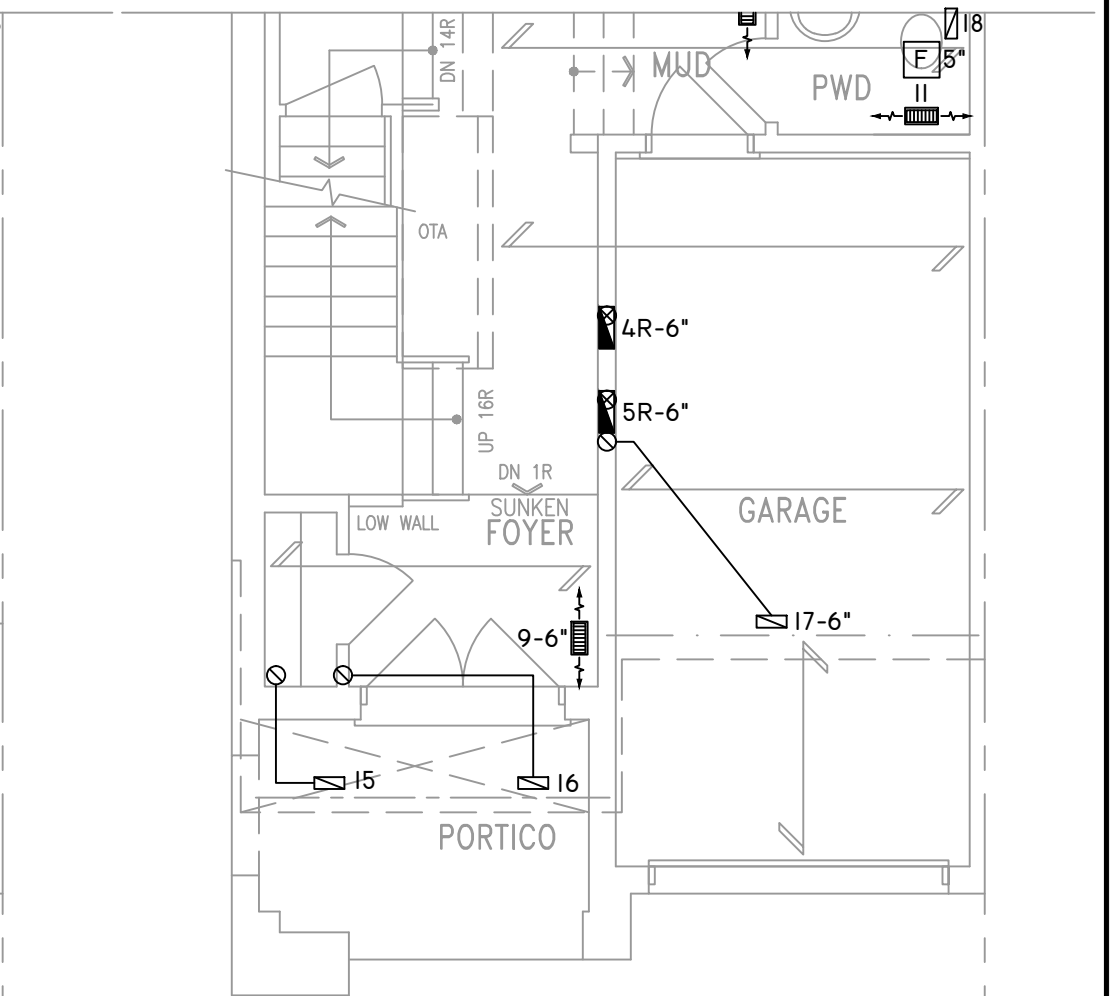
PART. SECOND FLOOR PLAN 'C'



PART. SECOND FLOOR PLAN 'C MOD'



PART. GROUND FLOOR PLAN 'C'



PART. GROUND FLOOR PLAN 'C MOD'

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

SITE COPY

OBC 2012

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

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FAN SPEED	1170	CFM

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

FLOOR PLAN:	PARTIAL PLAN(S)
DRAWN BY:	AM DD
CHECKED:	DD
LAYOUT NO.	JB-04397
DATE:	2062
DRAWING NO.	M6

DATE:	FEBRUARY 15, 2018
CLIENT:	BAYVIEW WELLINGTON
MODEL:	SD25-3 SONOMA 3
PROJECT:	GREEN VALLEY EAST BRADFORD,ONT.
SCALE:	3/16" = 1'-0"