

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 87-2 - ELEV.C			Lot:	
			Lot/con.	
Municipality Brampton	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-00067
				Layout #:
				JB-02102
Heating and Cooling Load Calculations		Builder	Highcastle Homes	
Air System Design		Project	Riverwalk Phase 2	
Residential mechanical ventilation Design Summary		Model	87-2 - ELEV.C	
Residential System Design per CAN/CSA-F280-12		SB-12	Package J	
Residential New Construction - Forced Air				
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>May 12, 2016</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 Highcastle Homes				Layout No.	
and may not be used by any other persons without authorization. Documents for permit and/or construction are signed in red.				JB-02102	
Building Location					
Address (Model): 87-2 - ELEV.C			Site: Riverwalk Phase 2		
Model:			Lot:		
City and Province: Brampton			Postal code:		
Calculations based on					
Dimensional information based on:			N/A		
Attachment: Detached			Front facing: East/West		Assumed? Yes
No. of Levels: 3		Ventilated? Included	Air tightness: 1961- Present (ACH=3.57)		Assumed? Yes
Weather location: Brampton			Wind exposure: Shelterd		
HRV? VanEE		60H	Internal shading: Light-translucent		Occupants: 7
Sensible Eff. at -25C 55%		Apparent Effect. at -0C 68%	Units: Imperial		Area Sq ft: 6402
Sensible Eff. at -0C 65%					
Heating design conditions			Cooling design conditions		
Outdoor temp -2.2 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 Selected OBC SB12 Package J R 22			Style A: As per Selected OBC SB12 Package J R 12		
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 J			Style A: As per Selected OBC SB12 Package J R 50		
Style B:			Style B: As per Selected OBC SB12 Package J R 31		
Exposed floors			Style C:		
Style A: As per Selected OBC SB12 Package J R 31			Doors		
Style B:			Style A: As per Selected OBC SB12 Package J R 3.01		
Windows			Style B:		
Style A: As per Selected OBC SB12 Package J R 3.15			Style C:		
Style B: Existing Windows (When Applicable) R 1.99			Skylights		
Style C:			Style A: As per Selected OBC SB12 Package J R 2.03		
Style D:			Style B:		
Attached documents: As per Shedule 1					
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		

Builder: **Highcastle Homes**

Date: **May 12, 2016**

Project: **Riverwalk Phase 2**

Model: **87-2 - ELEV.C**

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-00067**
Layout # **JB-02102**

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	16,219 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	2.5 Ton
Level 2 Net Load	15,870 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	GMEC96-0603BNA	Model		Cond.-----	2.5
Level 3 Net Load	21,287 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	60000	Input Btu/h		Coil -----	2.5
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	57600	Output Btu/h			
Total Heat Loss	53,376 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50 " W.C.	Min.Output Btu/h	AWH		
Total Heat Gain	28,198 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp	deg. F.	Blower DATA:			
Combo System HL + 10%	58,713 Btu/h	Heating Air Flow Proportioning Factor	0.0200 cfm/btuh	AFUE	96%	Blower Speed Selected:	Y	Blower Type	ECM
Building Volume Vb	38008 ft³	Cooling Air Flow Proportioning Factor	0.0378 cfm/btuh	Aux. Heat				(Brushless DC OBC 12.3.1.5.(2))	
Ventilation Load	3,940 Btu/h.	R/A Temp	70 deg. F.	SB-12 Package	Package J	Heating Check	1066 cfm	Cooling Check	1066 cfm
Ventilation PVC	105 cfm	S/A Temp	120 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	50 deg. F.	Selected cfm>	1066 cfm	Cooling Air Flow Rate	1066 cfm

	Level 1														Level 2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Duct Design 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.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	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

	Level 3											Level 4												
	14	15	16	17	18	19	20	21	22															
S/A Outlet No.	BED 4	BED 4	ENS 4	BED 5	BED 5	BED 5	ENS 5	BED 2	BED 2															
Room Use	3069	3069	786	2257	2257	2257	93	3749	3749															
Btu/Outlet	61	61	16	45	45	45	2	75	75															
Heating Airflow Rate CFM	84	84	14	73	73	73	2	65	65															
Cooling Airflow Rate CFM	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
Duct Design Pressure	64	54	52	46	54	66	40	26	26															
Actual Duct Length	150	130	140	150	175	185	130	140	110	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Equivalent Length	214	184	192	196	229	251	170	166	136	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Total Effective Length	0.06	0.07	0.07	0.07	0.06	0.05	0.08	0.08	0.10	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Adjusted Pressure	6	6	3	6	6	6	2	6	6															
Duct Size Round	4x10	4x10	3x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10
Outlet Size	A	A	A	C	C	C	D	D	D															
Trunk																								

Return Branch And Grill Sizing	Grill Pressure Loss											0.02 "w.c.
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	
Inlet Air Volume CFM	180	206	206	158	158	158						
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	9	20	32	40	40	25						
Equivalent Length	130	170	180	205	170	205	70	70	70	70	70	
Total Effective Length	139	190	212	245	210	230	70	70	70	70	70	
Adjusted Pressure	0.08	0.06	0.06	0.05	0.06	0.05	0.17	0.17	0.17	0.17	0.17	
Duct Size Round	7.0	8.5	8.5	8.5	8.0	8.5						
Inlet Size	FLC	8	8	8	8	8						
" "	x	x	x	x	x	x	x	x	x	x	x	
Inlet Size		14	14	14	14	14						
Trunk	Z	Z				Z						

Return Trunk Duct Sizing	Trunk	CFM	Press.	Round	Rect. Size
Drop		1066	0.05	16.5	24x10
Z		544	0.05	13.0	18x8 14x10
Y					
X					
W					
V					
U					
T					
S					
R					
Q					

Supply Trunk Duct Sizing	Trunk	CFM	Press.	Round	Rect. Size
A		719	0.05	14.5	24x8 18x10
B		485	0.05	12.5	18x8 14x10
C		229	0.05	9.5	10x8
D		347	0.08	10.0	12x8 10x10
E					
F					
G					
H					
I					
J					
K					

2012 OBC

Builder: Highcastle Homes

Date: May 12, 2016

Project: Riverwalk Phase 2

Model: 87-2 - ELEV.C

System 1

Weather Data Brampton 44 -2.2 86 20 48.2

Heat Loss ^T 74.2 deg. F Ht gain ^T 11 deg. F GTA: 6402

Project # PJ-00067
Layout # JB-02102

Level 1

BASE

Run ft. exposed wall A	102	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	2.0	AG	2.0	AG	2.0	AG	2.0	AG	2.0	AG	2.0	AG	2.0
Floor area	1159	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	204												
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	3.15	23.56	11.31														
East/West	3.15	23.56	27.75														
South	3.15	23.56	21.28	3	71	64											
Existing Windows	1.99	37.29	22.15														
Skylight	2.03	36.55	88.23														
Doors	3.01	24.65	3.65	21	518	77											
Net exposed walls A	8.50	8.73	1.29	180		233											
Net exposed walls B	8.50	8.73	1.29														
Exposed Ceilings A	50.00	1.48	0.76														
Exposed Ceilings B	22.86	3.25	1.66														
Exposed Floors	22.05	3.37	0.23														
Foundation Conductive Heatloss	On Grade () or Abo			7005													
Total Conductive	Heat Loss			7593													
	Heat Gain				374												
Air Leakage	Heat Loss/Gain	1.0568	0.0503	8025	19												
Ventilation	Case 1		0.18		0.09												
	Case 2		25.64		11.88												
	Case 3	x	0.08		0.09	601	34										
Heat Gain People					239												
Appliances Loads	1 =.25 percent				5017												
Duct and Pipe loss					10%												
Level 1 HL Total	16,219		Total HL for per room	16219													
Level 1 HG Total	554		Total HG per room x 1.3		554												

Level 2

DEN

PWD

FOY

LIV

DIN

Run ft. exposed wall A	43	A	6	A	10	A	33	A	19	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	11.0		11.0		11.0		11.0		11.0		11.0		11.0		11.0		11.0
Floor area	351	Area	66	Area	177	Area	297	Area	338	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
Exposed Ceilings B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	473		66		110		363		209								
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	3.15	23.56	11.31														
East/West	3.15	23.56	27.75	34	801	943											
South	3.15	23.56	21.28	10	236	213	7	165	149								
Existing Windows	1.99	37.29	22.15														
Skylight	2.03	36.55	88.23														
Doors	3.01	24.65	3.65	48	1183	175											
Net exposed walls A	14.49	5.12	0.76	381	1951	289	59	302	45	61	312	46	299	1531	227	209	1070
Net exposed walls B	8.50	8.73	1.29														
Exposed Ceilings A	50.00	1.48	0.76														
Exposed Ceilings B	22.86	3.25	1.66														
Exposed Floors	22.05	3.37	0.23														
Foundation Conductive Heatloss	On Grade () or Abo																
Total Conductive	Heat Loss			4171				467		1497			3039			1070	
	Heat Gain				1621			194		731			2003			159	
Air Leakage	Heat Loss/Gain	0.4700	0.0503	1960	82			220	10	704	37		1428	101		503	8
Ventilation	Case 1		0.08		0.09												
	Case 2		25.64		11.88												
	Case 3	x	0.08		0.09	330	147	37	18	119	66		241	181		85	14
Heat Gain People					239												
Appliances Loads	1 =.25 percent				5017												
Duct and Pipe loss					10%												
Level 2 HL Total	15,870		Total HL for per room	6461				724		2320			4708			1658	
Level 2 HG Total	13,502		Total HG per room x 1.3		4034			287		1085			7046			1050	

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

SB-12 Package

Package J

Total Heat Loss	53,376	btu/h
Total Heat Gain	28,198	btu/h

2012 OBC

Builder: Highcastle Homes

Date: May 12, 2016

Project: Riverwalk Phase 2

Model: 87-2 - ELEV.C

System 1

Weather Data Brampton 44 -2.2 86 20 48.2

Heat Loss ^T 74.2 deg. F Ht gain ^T 11 deg. F GTA: 6402

Project # PJ-00067
Layout # JB-02102

Level 3

Run ft. exposed wall A	50	A	9	A	47	A	51	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
Ceiling height	10.0		9.0		10.0		10.0		9.0		9.0		9.0		9.0
Floor area	518	Area	48	Area	532	Area	49	Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	518	A	48	A	532	A	49	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
Exposed Floors	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	500		81		470		510								
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		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain		Loss	Gain	
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Level 4

Run ft. exposed wall A	A	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	B	B
Ceiling height															
Floor area	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
Exposed Ceilings 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
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
North Shaded	3.15	23.56	11.31														
East/West	3.15	23.56	27.75														
South	3.15	23.56	21.28														
Existing Windows	1.99	37.29	22.15														
Skylight	2.03	36.55	88.23														
Doors	3.01	24.65	3.65														
Net exposed walls A	14.49	5.12	0.76														
Net exposed walls B	8.50	8.73	1.29														
Exposed Ceilings A	50.00	1.48	0.76														
Exposed Ceilings B	22.86	3.25	1.66														
Exposed Floors	22.05	3.37	0.23														
Foundation Conductive Heatloss																	
Total Conductive																	
Heat Loss																	
Heat Gain																	
Air Leakage	Heat Loss/Gain	0.0000	0.0503														
Ventilation	Case 1		0.00														
Case 2			25.64														
Case 3	x		0.08														
Heat Gain People			239														
Appliances Loads	1 =.25 percent		5017														
Duct and Pipe loss			10%														
Level 4 HL Total	0																
Level 4 HG Total	0																

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

32964

David DaCosta

David DaCosta

SB-12 Package

Package J

Total Heat Loss	53,376	btu/h
Total Heat Gain	28,198	btu/h

Package: Package J System: System 1
Project: Brampton Model: 87-2 - ELEV.C

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL ^{AT}	HL ^{leak}
0.018	0.316	38008	74.2	16049

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG ^{AT}	HG ^{Leak}
0.018	0.092	38008	11	694

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	16049	7593	1.0568
Level 2	0.3		10244	0.4700
Level 3	0.2		16154	0.1987
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	
	694		0.0503
BUILDING CONDUCTIVE HEAT GAIN			13799

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	105	74.2	0.32	2693	1.1	105	11	1247		
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	1247	0.09			
	Level 1	0.5	2693	7593	0.18	Building	13799				
	Level 2	0.3		10244	0.08						
	Level 3	0.2		16154	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	25.64		C	HG^T	11.88			
	1.08	74.2	0.32			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		2693	0.08		HGbvent		HG*1.3	1247	0.09	
					1247		1				

Foundation Conductive Heatloss Level 1

2053

Watts

7005

Btu/h

Foundation Conductive Heatloss Level 2

Watts

Btu/h

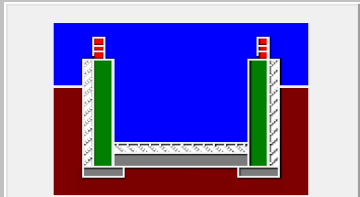
Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario ▼			
Region:	Brampton ▼			
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):	6.71			
Building Configuration				6.4
Type:	Detached ▼			
Number of Stories:	Two ▼			
Foundation:	Full ▼			
House Volume (m ³):	566.3 1076.39			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57) ▼			
Custom BDT Data:	ELA @ 10 Pa. ▼ 185.83 cm ² 3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	52.5		52.5	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Envelope Air Leakage Rate				
Heating Air Leakage Rate (ACH/H):		0.316		
Cooling Air Leakage Rate (ACH/H):		0.092		

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	▼
Region:	Brampton	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	17.69	 Insulation Configuration
Floor Width (m):	6.09	
Exposed Perimeter (m):	31.09	
Wall Height (m):	2.74	
Depth Below Grade (m):	2.13	
Window Area (m ²):	0.28	
Door Area (m ²):	1.95	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	29	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2053

Builder: **Highcastle Homes**

Date: **May 12, 2016**

Project: **Riverwalk Phase 2**

Model: **87-2 - ELEV. C**

System 2

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

Page 3
Project # **PJ-00067**
Layout # **JB-02102**

DESIGN LOAD SPECIFICATIONS		AIR DISTRIBUTION & PRESSURE		FURNACE/AIR HANDLER DATA:		BOILER/WATER HEATER DATA:		A/C UNIT DATA:	
Level 1 Net Load	20,064 btu/h	Equipment External Static Pressure	0.5 "w.c.	Make	Amana	Make	Type	Amana	2.5 Ton
Level 2 Net Load	18,366 btu/h	Additional Equipment Pressure Drop	0.225 "w.c.	Model	GMEC96-0603BNA	Model		Cond.-----	2.5
Level 3 Net Load	14,470 btu/h	Available Design Pressure	0.275 "w.c.	Input Btu/h	60000	Input Btu/h		Coil -----	2.5
Level 4 Net Load	0 btu/h	Return Branch Longest Effective Length	300 ft	Output Btu/h	57600	Output Btu/h			
Total Heat Loss	52,901 btu/h	R/A Plenum Pressure	0.138 "w.c.	E.s.p.	0.50 " W.C.	Min.Output Btu/h	AWH		
Total Heat Gain	26,334 btu/h	S/A Plenum Pressure	0.14 "w.c.	Water Temp	deg. F.	Blower DATA:			
Combo System HL + 10%	58,191 Btu/h	Heating Air Flow Proportioning Factor	0.0202 cfm/btuh	AFUE	96%	Blower Speed Selected:	Y	Blower Type	ECM
Building Volume Vb	43336 ft³	Cooling Air Flow Proportioning Factor	0.0405 cfm/btuh	Aux. Heat				(Brushless DC OBC 12.3.1.5.(2))	
Ventilation Load	3,940 Btu/h.	R/A Temp	70 deg. F.	SB-12 Package	Package J	Heating Check	1066 cfm	Cooling Check	1066 cfm
Ventilation PVC	105 cfm	S/A Temp	120 deg. F.						
Supply Branch and Grill Sizing		Diffuser loss	0.01 "w.c.	Temp. Rise>>>	50 deg. F.	Selected cfm>	1066 cfm	Cooling Air Flow Rate	1066 cfm

	Level 1														Level 2														
S/A Outlet No.	1	2	3	4	5	21									6	7	8	9	10	11	12								
Room Use	BASE	BASE	BASE	BASE	BASE	STAIR									KIT	KIT	FAM	FAM	FAM	MUD	LAUN								
Btu/Outlet	3497	3497	3497	3497	3497	2581									2939	2939	2159	2159	2159	2638	3374								
Heating Airflow Rate CFM	70	70	70	70	70	52									59	59	44	44	44	53	68								
Cooling Airflow Rate CFM	24	24	24	24	24	3									92	92	97	97	97	16	83								
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	0.13	0.13	
Actual Duct Length	12	26	46	39	59	60									41	53	52	68	58	10	16								
Equivalent Length	130	100	130	120	130	140	90	90	90	90	90	90	90	90	150	110	150	110	100	120	100	90	90	90	90	90	90		
Total Effective Length	142	126	176	159	189	200	90	90	90	90	90	90	90	90	191	163	202	178	158	130	116	90	90	90	90	90	90		
Adjusted Pressure	0.09	0.10	0.07	0.08	0.07	0.07	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.07	0.08	0.06	0.07	0.08	0.10	0.11	0.14	0.14	0.14	0.14	0.14	0.14		
Duct Size Round	6	6	6	6	6	5									6	6	6	6	6	5	6								
Outlet Size	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10		
Trunk	A	A	B	B	C	C									B	B	C	C	C	A	A								

	Level 3														Level 4													
S/A Outlet No.	13	14	15	16	17	18	19	20																				
Room Use	MAST	MAST	BED 3	ENS 3	ENS 2	BED 6	WC	ENS																				
Btu/Outlet	2158	2158	2639	1303	753	3182	707	1569																				
Heating Airflow Rate CFM	43	43	53	26	15	64	14	32																				
Cooling Airflow Rate CFM	68	68	75	20	7	71	16	48																				
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	62	70	72	83	27	27	42	51																				
Equivalent Length	160	140	110	140	170	190	130	110	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90			
Total Effective Length	222	210	182	223	197	217	172	161	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90			
Adjusted Pressure	0.06	0.06	0.07	0.06	0.07	0.06	0.08	0.08	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14			
Duct Size Round	6	6	6	4	3	6	3	5																				
Outlet Size	4x10	4x10	4x10	3x10	3x10	4x10	3x10	3x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10	4x10			
Trunk	B	B	B	C	A	A	A	A																				

Return Branch And Grill Sizing	Grill Pressure Loss											0.02 "w.c.
R/A Inlet No.	1R	2R	3R	4R	5R	6R	7R	8R	9R	10R	11R	
Inlet Air Volume CFM	210	382	158	158	158							
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	10	48	25	57	61							
Equivalent Length	130	175	125	170	200	70	70	70	70	70	70	
Total Effective Length	140	223	150	227	261	70	70	70	70	70	70	
Adjusted Pressure	0.08	0.05	0.08	0.05	0.05	0.17	0.17	0.17	0.17	0.17	0.17	
Duct Size Round	8.0	11.5	7.5	8.5	8.5							
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	Y	Z	Y	Y							

Return Trunk Duct Sizing	Trunk	CFM	Press.	Round	Rect. Size
Drop		1066	0.05	16.5	24x10
Z		1066	0.05	16.5	32x8 24x10
Y		698	0.05	14.0	22x8 18x10
X					
W					
V					
U					
T					
S					
R					
Q					

Supply Trunk Duct Sizing	Trunk	CFM	Press.	Round	Rect. Size
A		1066	0.06	16.0	30x8 22x10
B		679	0.06	13.5	20x8 16x10
C		279	0.06	10.0	12x8 10x10
D					
E					
F					
G					
H					
I					
J					
K					

2012 OBC

Builder: Highcastle Homes

Date: May 12, 2016

Project: Riverwalk Phase 2

Model: 87-2 - ELEV. C

System 2

Weather Data Brampton 44 -2.2 86 20 48.2

Heat Loss ^T 74.2 deg. F Ht gain ^T 11 deg. F GTA: 6402

Project # PJ-00067
Layout # JB-02102

Level 3

	MAST	BED 3	ENS 3	ENS 2	BED 6	WC	ENS							
Run ft. exposed wall A	24 A	21 A	15 A	8 A	27 A	7 A	9 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
Ceiling height	10.0	9.0	9.0	9.0	10.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
Floor area	679 Area	275 Area	52 Area	67 Area	252 Area	24 Area	188 Area	Area	Area	Area	Area	Area	Area	Area
Exposed Ceilings A	679 A	275 A	52 A	67 A	252 A	24 A	188 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
Exposed Floors	Flr	Flr	Flr	15 Flr	20 Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr	Flr
Gross Exp Wall A	240	189	135	72	270	63	81							
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	3.15	23.56	11.31																
East/West	3.15	23.56	27.75	40	942	1110	24	565	666	7	165	194							
South	3.15	23.56	21.28																
Existing Windows	1.99	37.29	22.15																
Skylight	2.03	36.55	88.23																
Doors	3.01	24.65	3.65																
Net exposed walls A	14.49	5.12	0.76	200	1024	152	165	845	125	128	655	97	72	369	55	250	1280	190	56
Net exposed walls B	8.50	8.73	1.29																
Exposed Ceilings A	50.00	1.48	0.76	679	1008	516	275	408	209	52	77	40	67	99	51	252	374	192	24
Exposed Ceilings B	22.86	3.25	1.66																
Exposed Floors	22.05	3.37	0.23																
Foundation Conductive Heatloss																			
Total Conductive	Heat Loss			2974				1818			898			519		2193		487	
	Heat Gain				1778			1000			331			109		941		255	
Air Leakage	Heat Loss/Gain	0.3671	0.0685	1092	122			668	69		329	23		190	7	805	64	179	17
Ventilation	Case 1	0.05	0.11																
	Case 2	25.64	11.88																
	Case 3	x	0.08	251	192			153	108		76	36		44	12	185	102	41	28
Heat Gain People			239	2	478		1	239								1	239		
Appliances Loads	1 =.25 percent		5710																
Duct and Pipe loss			10%																
Level 3 HL Total	14,470		Total HL for per room	4317				2639			1303			753		3182		707	
Level 3 HG Total	9,173		Total HG per room x 1.3		3340			1840			506			167		1750		390	

Level 4

Run ft. exposed wall A	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	B
Ceiling height														
Floor 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
Exposed Ceilings 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
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	3.15	23.56	11.31																
East/West	3.15	23.56	27.75																
South	3.15	23.56	21.28																
Existing Windows	1.99	37.29	22.15																
Skylight	2.03	36.55	88.23																
Doors	3.01	24.65	3.65																
Net exposed walls A	14.49	5.12	0.76																
Net exposed walls B	8.50	8.73	1.29																
Exposed Ceilings A	50.00	1.48	0.76																
Exposed Ceilings B	22.86	3.25	1.66																
Exposed Floors	22.05	3.37	0.23																
Foundation Conductive Heatloss																			
Total Conductive	Heat Loss																		
	Heat Gain																		
Air Leakage	Heat Loss/Gain	0.0000	0.0685																
Ventilation	Case 1	0.00	0.11																
	Case 2	25.64	11.88																
	Case 3	x	0.08																
Heat Gain People			239																
Appliances Loads	1 =.25 percent		5710																
Duct and Pipe loss			10%																
Level 4 HL Total	0		Total HL for per room																
Level 4 HG Total	0		Total HG per room x 1.3																

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

32964

David DaCosta

David DaCosta

SB-12 Package

Package J

Total Heat Loss	52,901	btu/h
Total Heat Gain	26,334	btu/h

Package: Project: Package J Brampton System: Model: System 2 87-2 - ELEV. C

Air Leakage Calculations

Building Air Leakage Heat Loss				
B	LRairh	Vb	HL ^{AT}	HL ^{leak}
0.018	0.316	43336	74.2	18299

Building Air Leakage Heat Gain				
B	LRairh	Vb	HG ^{AT}	HG ^{Leak}
0.018	0.092	43336	11	792

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	18299	10066	0.9090
Level 2	0.3		11874	0.4623
Level 3	0.2		9969	0.3671
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	
	792		0.0685
BUILDING CONDUCTIVE HEAT GAIN			11552

Levels this Dwelling	
3	

Ventilation Calculations

Ventilation Heat Loss

Ventilation Heat Loss				
C	PVC	HL ^{AT}	(1-E) HRV	HL ^{bvent}
1.08	105	74.2	0.32	2693

Ventilation Heat Gain

Ventilation Heat Gain			
C	PVC	HG ^{AT}	HG ^{bvent}
1.1	105	11	1247

Case 1

Ventilation Heat Loss (Exhaust only Systems)

Case 1 - Exhaust Only				
Level	LF	HL ^{bvent}	LVL Cond. HL	Multiplier
Level 1	0.5	2693	10066	0.13
Level 2	0.3		11874	0.07
Level 3	0.2		9969	0.05
Level 4	0		0	0.00

Case 1

Ventilation Heat Gain (Exhaust Only Systems)

Case 1 - Exhaust Only		Multiplier	
HG ^{bvent}	1247	0.11	
Building	11552		

Case 2

Ventilation Heat Loss (Direct Ducted Systems)

C	HL ^{AT}	(1-E) HRV	Multiplier
1.08	74.2	0.32	25.64

Case 2

Ventilation Heat Gain (Direct Ducted Systems)

C	HG ^{AT}	Multiplier
1.08	11	11.88

Case 3

Ventilation Heat Loss (Forced Air Systems)

HL ^{bvent}		Multiplier
Total Ventilation Load	2693	0.08

Case 3

Ventilation Heat Gain (Forced Air Systems)

Vent Heat Gain		Multiplier
HG ^{bvent}	HG*1.3	0.11
1247	1	

Foundation Conductive Heatloss Level 1

2846 Watts 9712 Btu/h

Foundation Conductive Heatloss Level 2

Watts Btu/h

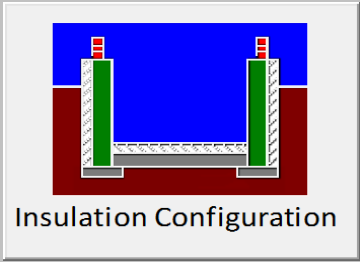
Envelope Air Leakage Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario ▼			
Region:	Brampton ▼			
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):	6.71			
Building Configuration				6.4
Type:	Detached ▼			
Number of Stories:	Two ▼			
Foundation:	Full ▼			
House Volume (m ³):	566.3 1227.28			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57) ▼			
Custom BDT Data:	ELA @ 10 Pa. ▼ 185.83 cm ² 3.57 ACH @ 50 Pa			
Mechanical Ventilation (L/s):	Total Supply:		Total Exhaust:	
	52.5		52.5	
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Envelope Air Leakage Rate				
Heating Air Leakage Rate (ACH/H):		0.316		
Cooling Air Leakage Rate (ACH/H):		0.092		

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	▼
Region:	Brampton	▼
Site Description		
Soil Conductivity:	High conductivity: moist soil	▼
Water Table:	Normal (7-10 m, 23-33 Ft)	▼
Foundation Dimensions		
Floor Length (m):	25.55	 Insulation Configuration
Floor Width (m):	5.54	
Exposed Perimeter (m):	45.72	
Wall Height (m):	2.74	
Depth Below Grade (m):	2.13	
Window Area (m ²):	1.39	
Door Area (m ²):	0.00	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	29	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2846

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

Package: Package J
Project: Brampton Model: 87-2 - ELEV. C

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

For systems serving one dwelling unit & conforming to the Ontario Building Code, O.geg 159/93

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

Builder	
Name	Highcastle Homes
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	@	20	cfm
Other Bedrooms	5	@	10	cfm
Bathrooms & Kitchen	7	@	10	cfm
Other rooms	6	@	10	cfm
Total				220

Principal Ventilation Capacity 9.32.3.4(1)				
Master bedroom	1	@	30	cfm
Other bedrooms	5	@	15	cfm
Total				105

Principal Exhaust Fan Capacity			
Make	Model	Location	
VanEE	60H	Base	
107 cfm		Sones	

Heat Recovery Ventilator			
Make	VanEE		
Model	60H		
	107 cfm high		53 cfm low
Sensible efficiency @ -25 deg C			55%
Sensible efficiency @ 0 deg C			65%

Supplemental Ventilation Capacity		
Total ventilation capacity		220.0
Less principal exhaust capacity		105.0
REQUIRED supplemental vent. Capacity		115.0 cfm

Supplemental Fans 9.32.3.5.			
Location	cfm	Model	Sones
ENS 1	50	770	2.5
ENS 2	50	770	2.5
ENS 3	50	770	2.5
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	<i>David DaCosta</i>		
HRAI #	5190	BCIN #	32964
Date	May 12, 2016		



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

Residential Mechanical Ventilation Record (W2)

CSA (F326) Mechanical Ventilation

May 12, 2016

Project Information

Project #: JB-00854 Site/Location: Brampton Notes:
Model/Add.: 87-2 Builder/Client: Highcastle Homes

Heating System/ Combustion Appliances	☒ Forced Air	☐ Non-Forced Air	Roll #:	Permit #:	Location	
	☐ Electric	☒ Gas	☐ Oil	☐ Other		Lot & Plan:
	☐ No Combustion Appliances		No Depressurization Limit			Civic Address:
	☐ Solid Fuel (Including Fireplace)		5 Pa. Depress. Limit			Name: House ID#:
Exhaust Equipment	☒ Direct Vent (Sealed Combustion)		No Depressurization Limit		Builder	
	☐ Positive Venting Induced Draft		5 Pa. Depress. Limit			Address: City: P.C.:
	☐ Natural Draft or B-Vent Atmospheric		5 Pa. Depress. Limit			Phone: Fax:
	Lowest Depressurization Limit		Pa.			Email Address:
Total Ventilation Capacity (TVC)	☒ Clothes Dryer(s)		(150 CFM Default)		Designer	
	☐ Downdraft Cook Top		(220 CFM Default)			Name: David DaCosta HRAI #: 5190
	☐ Other (Exhaust)		(Over 150 CFM)			Address: 2985 Drew Road, Suite 202
	Depressurization Test/Calc. Required?		☐ Yes	☒ No		City: Mississauga P.C.:
Exhaust Capacity	Basement & Master Bedroom		2 @ 20 CFM	40 CFM	Installation Checklist	
	Other Bedrooms		5 @ 10 CFM	50 CFM		Name: David DaCosta HRAI #: 5190
	Bedrooms & Kitchen		7 @ 10 CFM	70 CFM		Address: 2985 Drew Road, Suite 202
	Other Hab. Rooms		6 @ 10 CFM	60 CFM		City: Mississauga P.C.:
Total Ventilation Capacity (TVC)		220 CFM		Phone: 905-671-9800 Fax: 647-494-9643		
TVC System	Minimum Continuous Exhaust				Measured TVC System	
	Kitchen(s) @ 60 CFM =		CFM			Email Address: dave@gtadesigns.ca Other:
	Bathrooms(s) @ 20 CFM =		CFM			I certify this ventilation system design to be in accordance with:
	Total		CFM			☒ CSA F326 M-91
Additional (Exhaust) Equipment	Minimum Intermittent Exhaust				Installer	
	Kitchen(s) 1 @ 100 CFM =		100 CFM			☐ R-2000
	Bathrooms(s) 6 @ 50 CFM =		300 CFM			Signature: <i>David DaCosta</i> Date: May 12, 2016
	Total		400 CFM			
Location: Base		Manufacturer/Model: VanEE 60H HVI Listed		Control Functioning		Fans Operating and Clean
Design Airflow 107 CFM High 53 CFM Low		HRV/ERV 65 % Sensible Efficiency @ 0°C watts		Filters Clean		Flow Measuring Stations
HRV/ERV 55 % Sensible Efficiency @ -25°C watts		TVC System Supply Airflow Measured		Dampers Accessible		Insulated Ducts Sealed
		CFM High CFM Low		Drain Loop and Connection		Label Supply/Exhaust Hood
		TVC System Exhaust Airflow Measured		Distribution to all habitable rooms (non-forced air)		
		CFM High CFM Low		☐ Forced Air System		☐ Contin. Mode
				☐ Kitchen Intake Grease Filter		☐ Kitchen Exh. 40" to Range
				☐ Exhaust 4" Above Grade		☐ Supply 18" above Grade
				☐ Supply Intake 6' from Exhaust (Recommended)		
				☐ Supply Intake 3' from Exhaust		
Location: Model: CFM: Sones:		Name: HRAI:		TVC System Supply Airflow Measured		Measured TVC System
Ens 1 770 50 2.5		Address:		CFM High CFM Low		
Ens 2 770 50 2.5		City: P.C.:		TVC System Exhaust Airflow Measured		
Ens 3 770 50 2.5		Phone: Fax:		CFM High CFM Low		
Fan Manufacturer: Broan or Equiv. HVI Listed		Email Address:		I Certify this Ventilation System install to be in Accordance with:		Installer
				CSA F326 M-91		
				R-2000		
				Signature: Date:		

Prepared By: David DaCosta	HRAI #: 5190	Model/Address: 87-2
Signature: <i>David DaCosta</i>	Date: May 12, 2016	Job #: JB-00854 Official Use:

Project Information

Project #: JB-00854 Site/Location: Brampton Notes:
Model/Add.: 87-2 Builder/Client: Highcastle Homes

Floor Area	Line #									
Total Floor Area: <u>6402</u> ft ²	301									
(Total Heated Floor Area Including Basement; Count Crawl Space as 1/2 actual Area)										
Assumed Air Changes Per Hour at 50 Pascal's										
<table style="width: 100%;"> <tr> <td>Tight R-2000 0.5 ACH</td> <td>Typical R-2000 1.0 ACH</td> <td>Prairies/North (New) 1.0 ACH</td> </tr> <tr> <td>Atlantic (New) 1.5 ACH</td> <td>Other Provinces (New) 1.4 ACH</td> <td>Older Homes 2.5 ACH</td> </tr> <tr> <td>or actual test _____</td> <td></td> <td>House ACH50 <u>1.4</u></td> </tr> </table>	Tight R-2000 0.5 ACH	Typical R-2000 1.0 ACH	Prairies/North (New) 1.0 ACH	Atlantic (New) 1.5 ACH	Other Provinces (New) 1.4 ACH	Older Homes 2.5 ACH	or actual test _____		House ACH50 <u>1.4</u>	302
Tight R-2000 0.5 ACH	Typical R-2000 1.0 ACH	Prairies/North (New) 1.0 ACH								
Atlantic (New) 1.5 ACH	Other Provinces (New) 1.4 ACH	Older Homes 2.5 ACH								
or actual test _____		House ACH50 <u>1.4</u>								
Combustion Appliance Depressurization Limit										
<table style="width: 100%;"> <tr> <td>If Spillage Susceptible -5 Pa.</td> <td>Flow Factor 0.022</td> <td>Depressurization Limit @ TVCC -5 Pa.</td> </tr> <tr> <td>If Non-Spillage Susceptible -10 Pa.</td> <td>Flow Factor 0.037</td> <td></td> </tr> </table>	If Spillage Susceptible -5 Pa.	Flow Factor 0.022	Depressurization Limit @ TVCC -5 Pa.	If Non-Spillage Susceptible -10 Pa.	Flow Factor 0.037		303			
If Spillage Susceptible -5 Pa.	Flow Factor 0.022	Depressurization Limit @ TVCC -5 Pa.								
If Non-Spillage Susceptible -10 Pa.	Flow Factor 0.037									
Flow Factor <u>0.022</u>	304									
Allowable Net Exhaust										
Floor Area (301) <u>6402</u> ft ² x ACH50 (302) <u>1.4</u> x Flow Factor (304) <u>0.022</u> = _____ Allowable Net Exhaust @ TVCC <u>197</u> CFM	305									
Actual Net Exhaust										
TVCC Exhaust <u>220</u> CFM	306									
minus										
TVCC Supply <u>107</u> CFM	307									
Actual Net Exhaust @ TVCC <u>113</u> CFM	308									
Note: If Supply is greater than Exhaust, use worksheet # W-3B										
Required Make-Up Air Flow										
Actual Net Exhaust @ TVCC (Line 308) <u>113</u> CFM										
minus										
Allowable Net Exhaust @ TVCC (Line 305) <u>197</u> CFM										
Required Make-Up Airflow @ TVCC <u>0</u> CFM	309									
At Depressurization Limit (Line 303) <u>-5</u> Pa.										
Description of Make-Up Air System										
Make-Up Air is not Required										
On-Site Depressurization Test	310									
☐ Required ☒ Not Required										

Prepared By: David DaCosta	HRAI #: 5190	Model/Address: 87-2
Signature: 	Date: May 12, 2016	Job #: JB-00854 Official Use:

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

Page 7
Project # PJ-00067
Layout # JB-02102

This form is used by a designer to demonstrate that the energy efficiency design of a house complies with the building code

For use by Principal Authority

Application No:	Model/Certification Number
-----------------	----------------------------

A. Project Information

Building number, street name	Unit number	Lot/Con
87-2 - ELEV. C		
Municipality Brampton	Postal code	Reg. Plan number / other description

B. Compliance Option

☒ SB-12 Prescriptive [SB-12 - 2.1.1.]	A B C D E F G H I J K L M or 2.1.1.10 (Additions)	Package J
☐ prescriptive trade-offs used (Specify 2.1.1.2. or 2.1.1.3. sentences being employed):		
☐ SB-12 Performance* [SB-12 - 2.1.2.]	* Attach energy performance calculations using an approved software	
☐ Energy Star®* [SB-12 - 2.1.3.]	* Attach Builder Option Package [BOP] form	
☐ EnerGuide 80® *	* House must be evaluated by NRCAN advisor and meet a rating of 80	

C. Project Design Conditions

Climatic Zone (SB-1):	Heating Equipment	Space Heating Fuel Source		
☒ Zone 1 (< 5000 degree days)	☒ ≥ 90% AFUE	☒ Gas	☐ Propane	☐ Solid Fuel
☐ Zone 2 (≥ 5000 degree days)	☐ ≥ 78% < 90% AFUE	☐ Oil	☐ Electric	☐ Earth Energy

Windows+Skylights+Glass Doors	Other Building Conditions
Area of Walls = 268 m ²	☐ ICF Basement ☐ Walkout Basement ☐ Log/Post&Beam
Area of W,S&G = 27 m ²	☐ ICF Above Grade ☐ Slab-on-ground
W,S & G % = 10%	

D. Building Specifications [provide values and ratings of the energy efficiency components proposed, or attach Energy Star BOP form]

Building Component	RSI / R values	Building Component	Efficiency Ratings
Thermal Insulation		Windows & Doors¹	
Ceiling with Attic Space	50	Windows/Sliding Glass Doors	1.8
Ceiling without Attic Space	31	Skylights	2.8
Exposed Floor	31	Mechanicals	
Walls Above Grade	22	Heating Equip.(AFUE or condensing type)	94%
Basement Walls	12	HRV Efficiency (SRE% at 0° C)	60%
Slab (all >600mm below grade)	x	DHW Heater (EF)	0.67
Slab (edge only ≤600mm below grade)	10	DWHR (CSA B55.1 Efficiency)	
Slab (all ≤600mm below grade, or heated)	10		

E. Performance Design Verification [complete applicable sections if SB-12 Performance, Energy Star or EnerGuide80 options used]

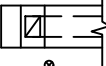
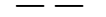
SB-12 Performance:
The annual energy consumption using Subsection 2.1.1. SB-12 Package _____ is _____ Gj (1 Gj =1000Mj)
The annual energy consumption of this house as designed is _____ Gj
The software used to simulate the annual energy use of the building is: _____
The building is being designed using an air leakage of _____ air changes per hour @50Pa.

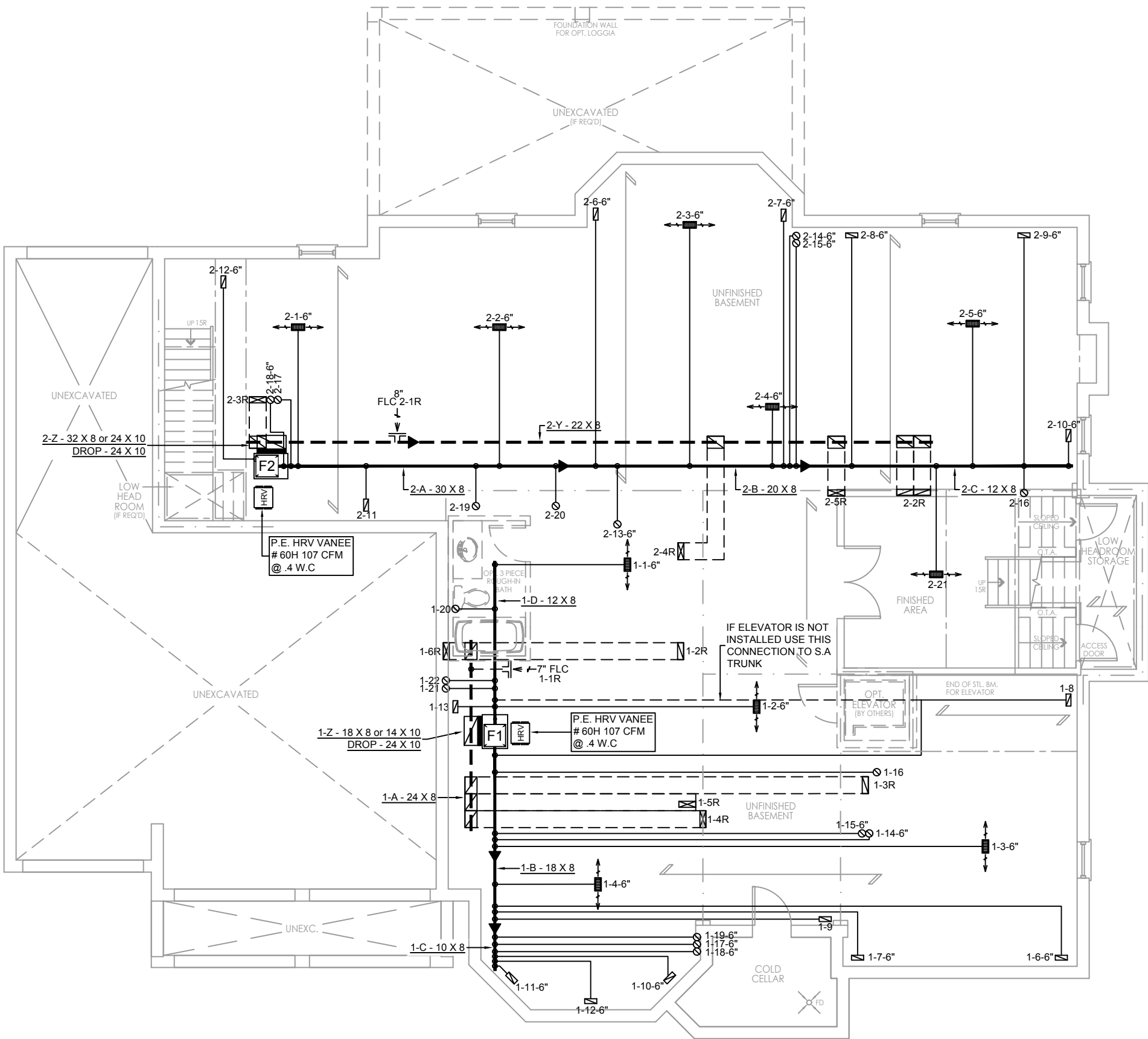
Energy Star: Submit the BOP form with Energy Advisor's certification on completion.

Energy Star and EnerGuide80:
Evaluator/Advisor/Rater Name: _____ Evaluator/Advisor/Rater Licence #: _____

F. House Designer [name & BCIN, if applicable, of person providing information herein to substantiate that design meets building code]

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

	FLEX DUCT		LOW/HIGH WALL/KICK SUPPLY DIFFUSER		DUCT CONNECTION TO JOIST LINING		RETURN AIR GRILLE (SIZE INDICATED ON DRAWING)	S.A.	SUPPLY AIR
	RIDIT 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

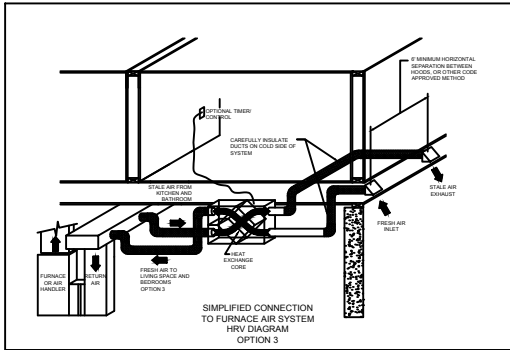


SYSTEM 1 (F1)

HEAT-LOSS	53,376	BTU/HR.
UNIT MAKE	AMANA	
UNIT MODEL	GMEC96-0603BNA	
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1066	CFM

SYSTEM 2 (F2)

HEAT-LOSS	52,901	BTU/HR.
UNIT MAKE	AMANA	
UNIT MODEL	GMEC96-0603BNA	
UNIT HEATING INPUT	60,000	BTU/HR.
UNIT HEATING OUTPUT	57,600	BTU/HR.
A/C COOLING CAPACITY	2.5	TONS.
FAN SPEED	1066	CFM



- FURNACE EQUIPPED WITH BRUSHLESS DC MOTOR AS PER OBC 12.3.1.5 (2)
- INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12
- ALL DUCTWORK MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)
- 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

OBC 2012

ZONE 1 COMPLIANCE
PACKAGE "J" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12
UNDERCUT ALL DOORS 1" MIN.
HEATING CONTRACTOR MUST WORK FROM APPROVED PLANS.
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSABILITY OF GTA DESIGNS.
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHAUST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING



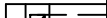
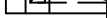
2985 DREW ROAD
SUITE 202,
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L4T 0A4 TEL: 905-671-9800
email: dave@gtadesigns.ca
web: www.gtadesigns.ca

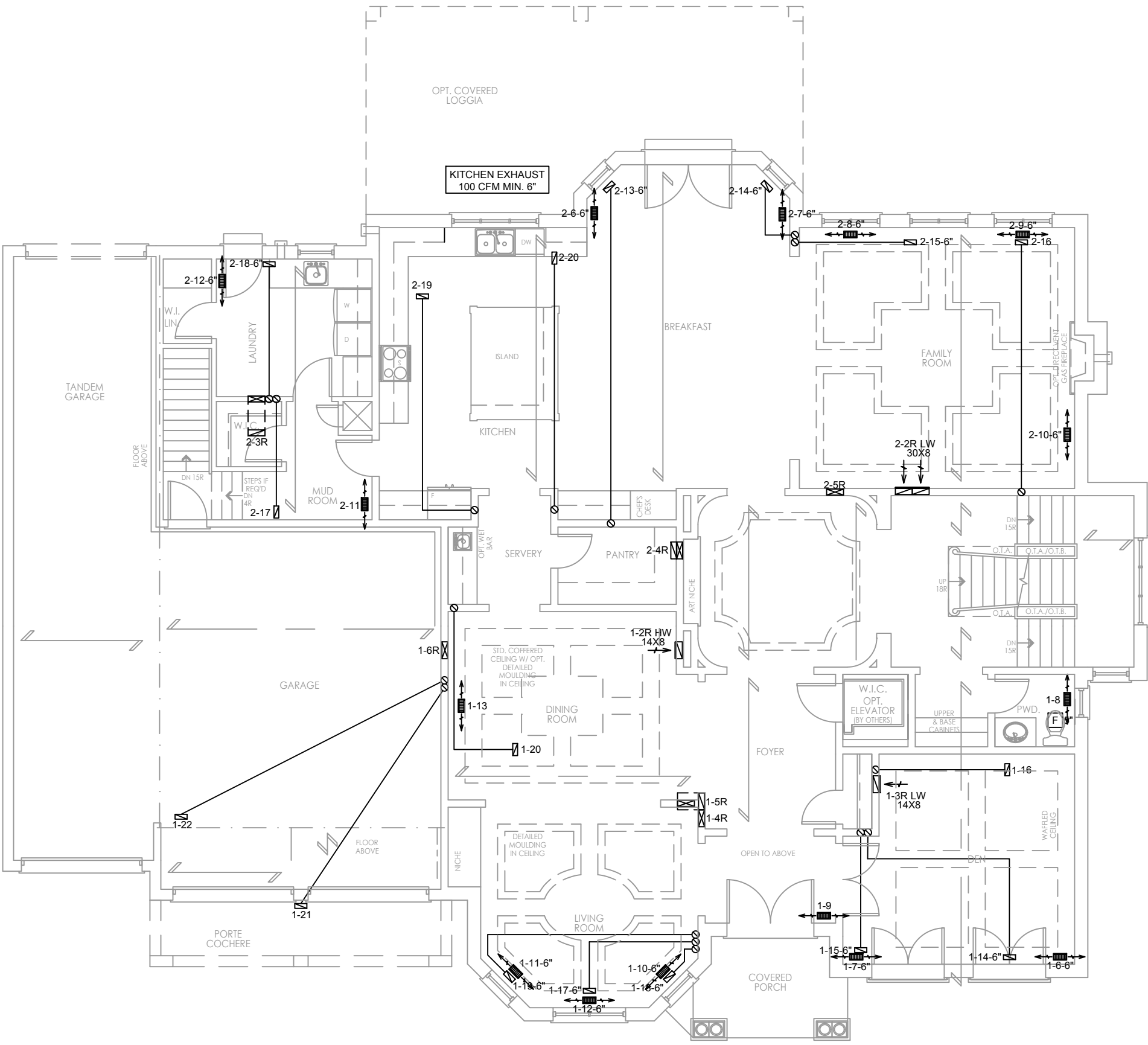
HEAT-LOSS	BTU/HR.
UNIT MAKE	
UNIT MODEL	
UNIT HEATING INPUT	BTU/HR.
UNIT HEATING OUTPUT	BTU/HR.
A/C COOLING CAPACITY	TONS.
FAN SPEED	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	17	6	6
1ST FLOOR	15	3	2
BASEMENT	10	2	

FLOOR PLAN:			BASEMENT	
DRAWN BY:		CHECKED:	SOFT	
JL		DD	6402	
LAYOUT NO.			DRAWING NO.	
JB-02102			M1	

DATE:	MAY 12, 2016
CLIENT:	HIGHCASTLE HOMES
MODEL:	87-2
PROJECT:	RIVERWALK PHASE 2 BRAMPTON, ONT
SCALE:	1/8" = 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
	RIDIT ROUND DUCT		HRV EXHAUST GRILL		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



- CIRCULATION PRINCIPAL FAN SWITCH TO BE CENTRALLY LOCATED
- INSULATE ALL DUCTS IN UNCONDITIONED SPACES MIN. R12
- ALL DUCTWORK MUST BE SEALED TO CLASS A LEVEL AS PER OBC PART 6-6.2.4.3. (11)
- 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

OBC 2012

ZONE 1 COMPLIANCE
PACKAGE "J" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.
ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.
ALL R/A PARTITIONS 6" (FIRST FLOOR ONLY)
INSULATE DUCTS IN UNCONDITIONED SPACES R12
UNDERCUT ALL DOORS 1" MIN.
HEATING CONTRACTOR MUST WORK FROM APPROVED PLANS.
ANY ALTERATIONS TO THIS ORIGINAL PLAN ARE NOT THE RESPONSABILITY OF GTA DESIGNS.
GTA DESIGNS MUST BE CONSULTED IF KITCHEN EXHUAST FAN EXCEEDS 700 CFM DEPRESSURIZATION MAY OCCUR WITH IN THE DWELLING

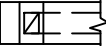
 **gtaDesigns**
2985 DREW ROAD
SUITE 202,
MISSISSAUGA, ONT.
L4T 0A4 TEL: 905-671-9800
email: dave@gtadesigns.ca
web: www.gtadesigns.ca

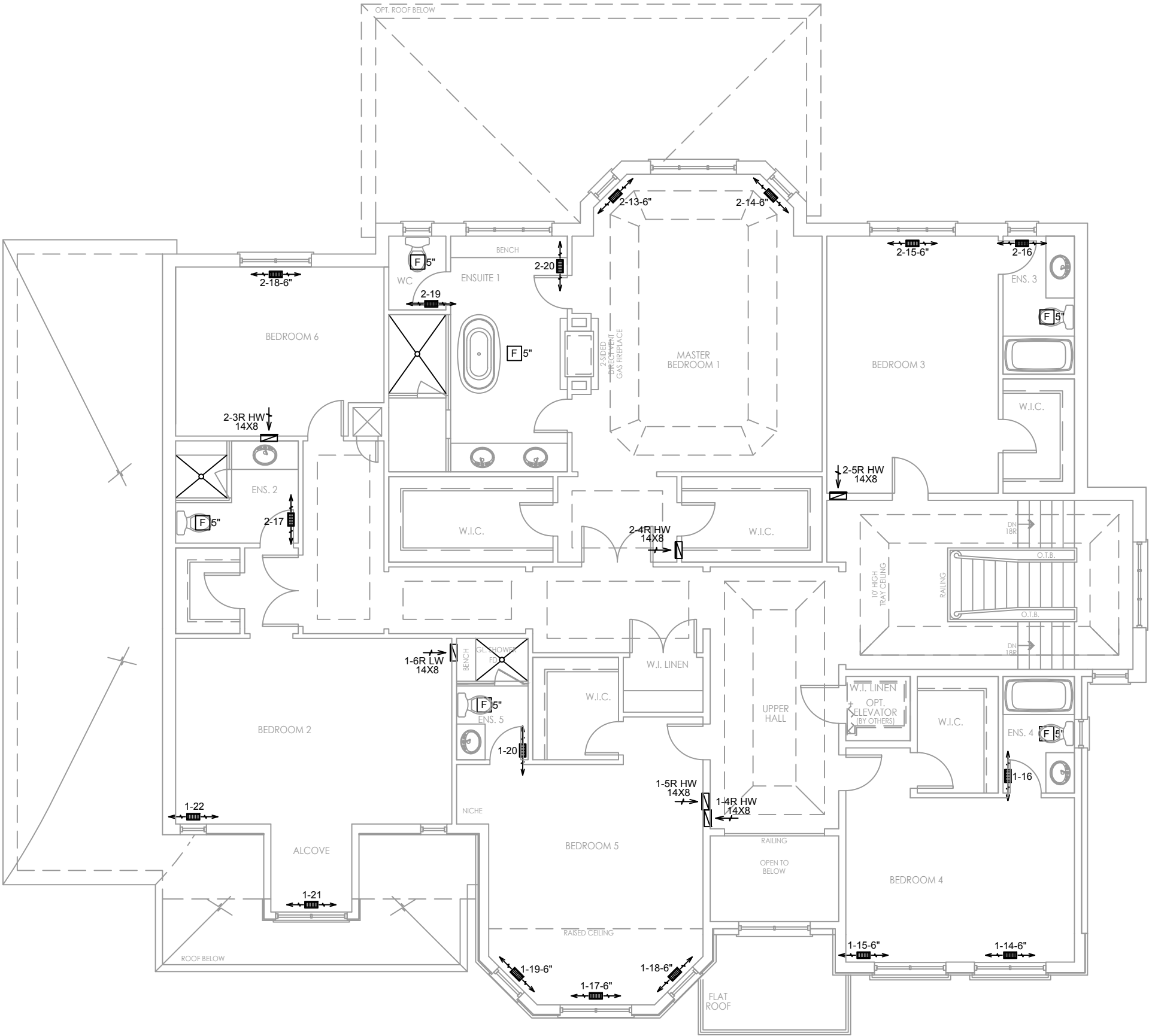
HEAT-LOSS	BTU/HR.
UNIT MAKE	
UNIT MODEL	
UNIT HEATING INPUT	BTU/HR.
UNIT HEATING OUTPUT	BTU/HR.
A/C COOLING CAPACITY	TONS.
FAN SPEED	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	17	6	6
1ST FLOOR	15	3	2
BASEMENT	10	2	

FLOOR PLAN: GROUND FLOOR	
DRAWN BY: JL	CHECKED: DD
LAYOUT NO. JB-02102	DRAWING NO. M2

DATE:	MAY 12, 2016
CLIENT:	HIGHCASTLE HOMES
MODEL:	87-2
PROJECT:	RIVERWALK PHASE 2 BRAMPTON, ONT
SCALE:	1/8" = 1"-0"

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



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

OBC 2012

ZONE 1 COMPLIANCE PACKAGE "J" REF. TABLE 2.1.1.2.A

NOTES

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE.

ALL SUPPLY OUTLETS TO BE 5" DIA. UNLESS OTHERWISE SPECIFIED.

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

INSULATE DUCTS IN UNCONDITIONED SPACES R12 UNDERCUT ALL DOORS 1" MIN.

HEATING CONTRACTOR MUST WORK FROM APPROVED PLANS.

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

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	BTU/HR.
UNIT MAKE	
UNIT MODEL	
UNIT HEATING INPUT	BTU/HR.
UNIT HEATING OUTPUT	BTU/HR.
A/C COOLING CAPACITY	TONS.
FAN SPEED	CFM

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	17	6	6
1ST FLOOR	15	3	2
BASEMENT	10	2	

FLOOR PLAN: SECOND FLOOR	
DRAWN BY: JL	CHECKED: DD
LAYOUT NO. JB-02102	DRAWING NO. 6402 M3

DATE: MAY 12, 2016
CLIENT: HIGHCASTLE HOMES
MODEL: 87-2
PROJECT: RIVERWALK PHASE 2 BRAMPTON, ONT
SCALE: 1/8" = 1'-0"