

Schedule 1: Designer Information

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				Unit no.	Lot/con.
Municipality BRAMPTON	Postal code	Plan number/ other description			
B. Individual who reviews and takes responsibility for design activities					
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.			
Street address 375 FINLEY AVE			Unit no. 202	Lot/con. N/A	
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdsgns.ca		
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()			
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]					
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems					
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12			Model: LIANA 2 LOT 17 Project: GRANELLI HOME CORP		
D. Declaration of Designer					
I, <u>MICHAEL O'ROURKE</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. of 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>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 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.					
January 11, 2019			 Signature of Designer		
Date					

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 qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by 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 license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: GRANELL HOME CORP				LOT 17		DATE: Jan-19		WINTER NATURAL AIR CHANGE RATE 0.336		HEAT LOSS AT °F. 74		CSA-F280-12	
BUILDER: GREENYORK HOMES				TYPE: LIANA 2		LO# 81141		SUMMER NATURAL AIR CHANGE RATE 0.119		HEAT GAIN AT °F. 14		SB-12 PACKAGE A1	
ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2			
GRS.WALL AREA	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
GLAZING	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
NORTH	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
EAST	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
SOUTH	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
WEST	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8			
SKYL.T.	36.4	102.1	36.4	102.1	36.4	102.1	36.4	102.1	36.4	102.1			
DOORS	24.7	4.7	24.7	4.7	24.7	4.7	24.7	4.7	24.7	4.7			
NET EXPOSED WALL	4.4	0.8	268	1124	212	186	810	153	90	392			
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0			
EXPOSED CLG	1.3	0.6	262	316	153	133	167	81	124	155			
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0			
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0			
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0			
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0			
SUBTOTAL HT LOSS	2063	1622	0.20	0.28	1413	980	1413	980	547	149			
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0	0			
LEVEL FACTOR / MULTIPLIER	571	142	0	0	0	0	0	0	0	0			
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0			
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0			
DUCT LOSS	0	0	0	0	0	0	0	0	0	0			
DUCT GAIN	0	0	0	0	0	0	0	0	0	0			
HEAT GAIN PEOPLE	240	0	2	480	0	0	0	0	0	0			
HEAT GAIN APPLIANCES/LIGHTS	723	0	0	0	0	0	0	0	0	0			
TOTAL HT LOSS BTU/H	2634	1804	0	0	0	0	0	0	0	0			
TOTAL HT GAIN x 1.3 BTU/H	3558	1386	0	0	0	0	0	0	0	0			

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
GRS.WALL AREA	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
GLAZING	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
NORTH	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
EAST	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
SOUTH	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
WEST	20.8	16.3	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
SKYL.T.	36.4	102.1	36.4	102.1	36.4	102.1	36.4	102.1	36.4	102.1	36.4	102.1	36.4
DOORS	24.7	4.7	24.7	4.7	24.7	4.7	24.7	4.7	24.7	4.7	24.7	4.7	24.7
NET EXPOSED WALL	4.4	0.8	237	1033	195	600	2614	493	288	54	250	1089	206
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	1822	1154	0.30	0.41	742	101	344	723	2564	1804	1386	1804	1386
SUB TOTAL HT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0
LEVEL FACTOR / MULTIPLIER	742	101	0	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240	0	2	480	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	723	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTU/H	2564	1804	0	0	0	0	0	0	0	0	0	0	0
TOTAL HT GAIN x 1.3 BTU/H	3558	1386	0	0	0	0	0	0	0	0	0	0	0

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMESLOT 17
TYPE: LIANA 2

DATE: Jan-19

GFA: 2284 LO# 81141

HEATING CFM 970 COOLING CFM 970
TOTAL HEAT LOSS 42,659 TOTAL HEAT GAIN 29,770
AIR FLOW RATE CFM 22.74 AIR FLOW RATE CFM 32.58AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000#CARRIER
59SP5A-60-12 60
FAN SPEED LOW 0
MEDLOW 785
MEDIUM 845
MEDIUM HIGH 970
HIGH 1030

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	4
R/A	0	0	5	2	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5'Ø unless noted otherwise on layout.

ROOM NAME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
MBR	1.32	1.80	0.70	1.49	1.61	1.15	0.64	1.49	1.61	1.32	0.51	0.12	2.56	2.03	2.03	2.03	2.48	0.40	3.12	3.59	3.59	3.59	3.59	3.59
CFM PER RUN HEAT	30	41	16	34	37	26	14	34	37	30	12	58	46	46	46	46	56	9	71	82	82	82	82	82
RM GAIN MBH	1.93	1.39	0.21	1.96	2.21	2.04	0.43	1.96	2.21	1.93	0.14	2.57	2.16	2.16	2.16	2.16	1.41	0.08	0.97	0.46	0.46	0.46	0.46	0.46
CFM PER RUN COOLING	63	45	7	64	72	66	14	64	72	63	4	84	71	71	71	71	46	2	32	15	15	15	15	15
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	29	23	36	50	41	20	50	45	52	46	45	28	35	35	29	39	34	33	32	37	32	32	25	35
EQUIVALENT LENGTH	190	160	190	150	120	130	150	140	140	160	150	130	140	140	140	160	140	150	110	150	110	110	150	120
TOTAL EFFECTIVE LENGTH	219	183	226	200	161	150	200	185	192	206	195	158	175	175	169	199	174	183	142	187	142	142	175	155
ADJUSTED PRESSURE	0.08	0.09	0.08	0.09	0.11	0.11	0.09	0.09	0.09	0.08	0.09	0.1	0.1	0.1	0.1	0.1	0.09	0.1	0.09	0.12	0.09	0.11	0.09	0.1
ROUND DUCT SIZE	5	4	4	5	5	6	4	5	5	5	4	6	5	5	5	5	5	4	5	6	6	6	6	6
HEATING VELOCITY (ft/min)	220	470	184	250	272	133	161	250	272	220	138	296	338	338	338	338	411	103	521	418	418	418	418	418
COOLING VELOCITY (ft/min)	463	516	80	470	529	337	161	470	529	463	46	428	521	521	521	521	338	23	235	76	76	76	76	76
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10
TRUNK	B	E	B	D	D	E	D	D	C	A	D	D	D	A	A	A	B	C	C	A	A	B	D	C

RUN

ROOM NAME

RM LOSS MBH

CFM PER RUN HEAT

RM GAIN MBH

CFM PER RUN COOLING

ADJUSTED PRESSURE

ACTUAL DUCT LGH

EQUIVALENT LENGTH

ADJUSTED PRESSURE

ROUND DUCT SIZE

HEATING VELOCITY (ft/min)

COOLING VELOCITY (ft/min)

OUTLET GRILL SIZE

TRUNK

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	250	0.08	8.3	8	563	TRUNK G	0	0.00	0	0	0	TRUNK O	0	0.06	0	0	8
TRUNK B	434	0.08	10.3	12	651	TRUNK H	0	0.00	0	0	0	TRUNK P	0	0.06	0	0	8
TRUNK C	199	0.09	7.4	8	448	TRUNK I	0	0.00	0	0	0	TRUNK Q	0	0.06	0	0	8
TRUNK D	470	0.09	10.3	12	705	TRUNK J	0	0.00	0	0	0	TRUNK R	0	0.06	0	0	8
TRUNK E	971	0.08	13.9	22	794	TRUNK K	0	0.00	0	0	0	TRUNK S	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	0	TRUNK T	0	0.06	0	0	8
												TRUNK U	0	0.06	0	0	8
												TRUNK V	0	0.06	0	0	8
												TRUNK W	0	0.06	0	0	8
												TRUNK X	970	0.06	14.9	26	8
												TRUNK Y	340	0.06	10.1	12	8
												TRUNK Z	0	0.06	0	0	8
												DROP	970	0.06	14.9	24	10

RETURN AIR

AIR VOLUME	85	15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH	43	53	55	42	39	18	34	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	175	215	175	165	220	135	200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	218	288	230	207	259	153	234	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.07	0.06	0.06	0.07	0.06	0.10	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	5.8	6	6	5.8	6	8.7	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: LIANA 2
SITE NAME: GRANELLI HOME CORP

LO # 81141
LOT 17

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

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 gas fireplace	
d) ☐	Solid Fuel (including fireplaces)	
e) ☐	No Combustion Appliances	

HEATING SYSTEM	
☒	Forced Air
☐	Non Forced Air
☐	Electric Space Heat

HOUSE TYPE		9.32.1(2)
☒	I Type a) or b) appliance only, no solid fuel	
☐	II Type I except with solid fuel (including fireplaces)	
☐	III Any Type c) appliance	
☐	IV Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐	1 Exhaust only/Forced Air System	
☐	2 HRV with Ducting/Forced Air System	
☒	3 HRV Simplified/connected to forced air system	
☐	4 HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	169.6 cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL	79.5	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	169.6	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	90.1	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	LIFEBREATH RNC5-HEX
Location:	BSMT
79.5 cfm	3.0 sones
☒	HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	ΔT °F	FACTOR	% LOSS
79.5 CFM	74 F	1.08	0.24

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
LAUN	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	LIFEBREATH RNC5-HEX	
108 cfm high	59 cfm low	
76 % Sensible Efficiency	☒	
@ 32 deg F (0 deg C)	HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER:		GREENYORK HOMES
Name:		
Address:		
City:		
Telephone #:	Fax #:	

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	
HRAI #	001820
Date:	January-19

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: LIANA 2	LOT 17	BUILDER: GREENYORK HOMES
SFQT: 2284	LO# 81141	SITE: GRANELLI HOME CORP

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-2	OUTDOOR DESIGN TEMP.	86
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	72

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft³):	31793.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 44.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	148.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

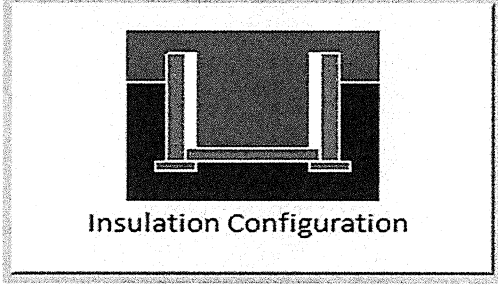
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	13.4	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.9	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1475

TYPE: LIANA 2
LO# 81141

LOT 17

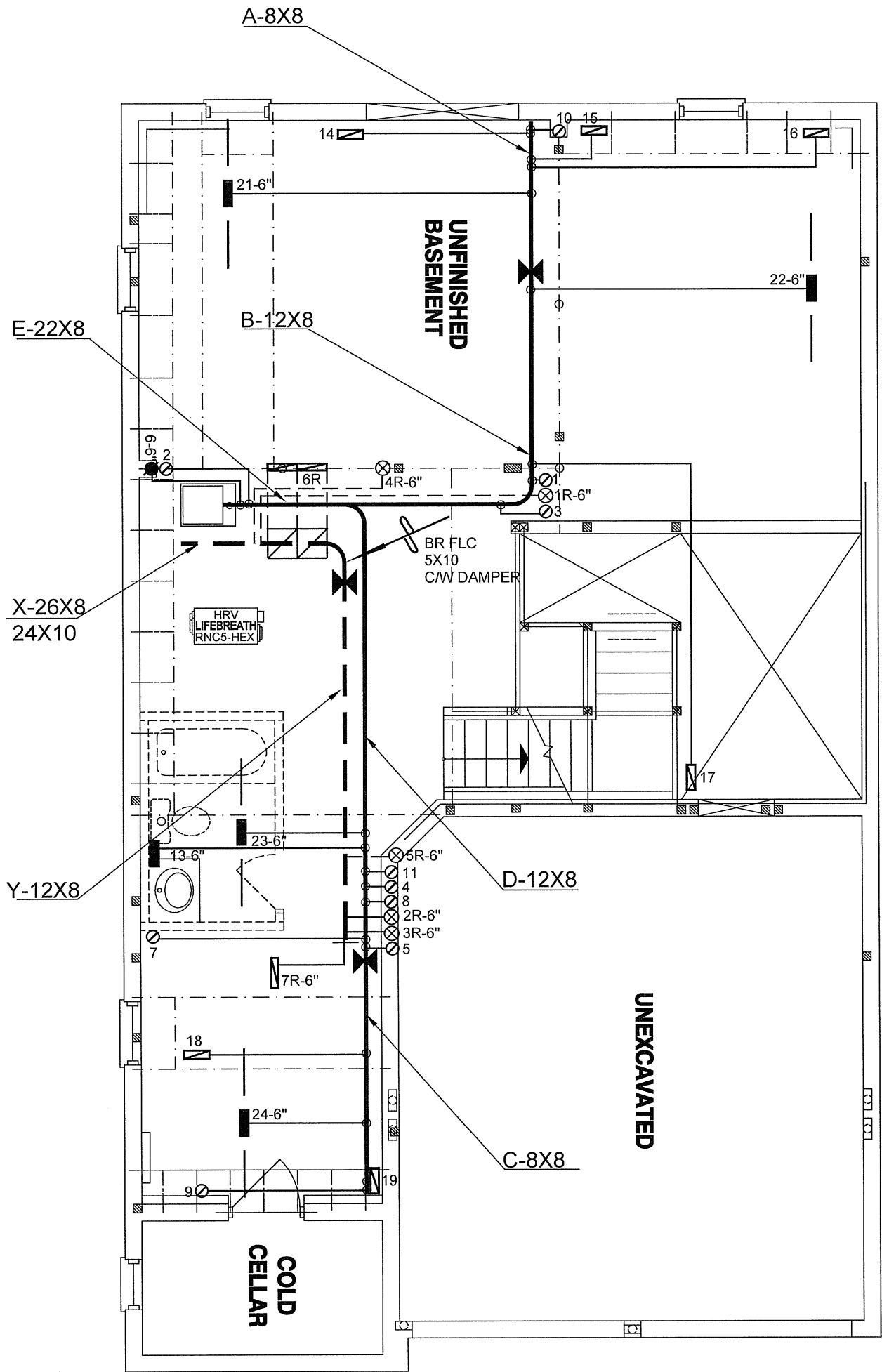
Air Infiltration Residential Load Calculator

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):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	900.3			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1200.1 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.335			
Cooling Air Leakage Rate (ACH/H):	0.119			

TYPE: LIANA 2
LO# 81141

LOT 17



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 17
CSA-F280-12
PACKAGE A1

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No. Description Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS

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Client
GREENYORK HOMES

Project Name
**GRANELLI HOMES CORP
BRAMPTON, ONTARIO**

LIANA 2 - LOT 17 2284 sqft

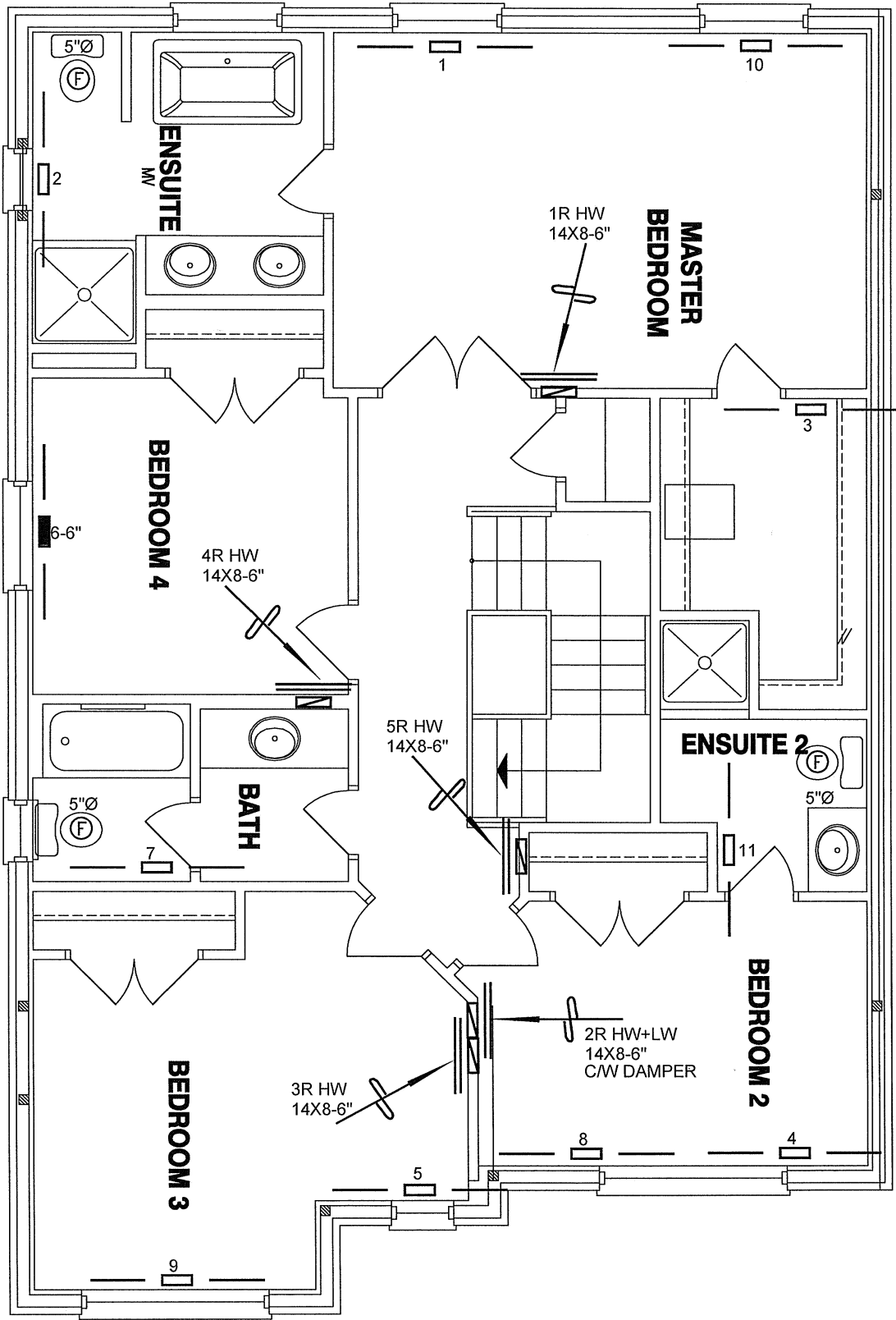
HVACDESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario
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Email: info@hvacdsgns.ca
Web: www.hvacdsgns.ca
Specializing in Residential Mechanical Design Services

Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.

HEAT LOSS 44188 BTU/H UNIT DATA	# OF RUNS S/A R/A FANS
MAKE CARRIER	3RD FLOOR
MODEL 59SP5A-60-12	2ND FLOOR 11 5 3
INPUT 60 MBTU/H	1ST FLOOR 7 2 3
OUTPUT 58 MBTU/H	BASEMENT 4 1 0
COOLING 2.5 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A
FAN SPEED 970 cfm @ 0.6" w.c.	

Sheet Title BASEMENT HEATING LAYOUT	
Date	JAN/2019
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	81141



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Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	
GREENYORK HOMES			SECOND FLOOR	
Project Name			HEATING	
GRANELLI HOMES CORP			LAYOUT	
BRAMPTON, ONTARIO			Date JAN/2019	
		Scale 3/16" = 1'-0"		
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LIANA 2 - LOT 17 2284 sqft		LO#	81141	