

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 3 LOT 23 Project: GRANELLI HOME CORP	
D. Declaration of Designer			
I <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ 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.

SITE NAME: GRANELLI HOME CORP BULDER: GREENYORK HOMES TYPE: LIANA 3 LOT 23 DATE: Jan-19 LO# 81143 WINTER NATURAL AIR CHANGE RATE 0.336 HEAT LOSS AT "F" 74 CSA-F80-12
BUILDER: GREENYORK HOMES TYPE: LIANA 3 LOT 23 DATE: Jan-19 LO# 81143 SUMMER NATURAL AIR CHANGE RATE 0.119 HEAT GAIN AT "F" 14 SB-12 PACKAGE A 1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	NET	WIC	BED-2	BED-3	BED-4	BATH	WINTER NATURAL AIR CHANGE RATE	HEAT LOSS AT "F"
GRS.WALL AREA	36	9	188	135	135	0	15	33	28	12	7	0.336	74
GLAZING	21	9	188	135	135	0	15	33	28	12	7	0.119	14
NORTH	0	0	0	0	0	0	0	0	0	0	0		
EAST	0	0	0	0	0	0	0	0	0	0	0		
SOUTH	0	0	0	0	0	0	0	0	0	0	0		
WEST	0	0	0	0	0	0	0	0	0	0	0		
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0		
DOORS	0	0	0	0	0	0	0	0	0	0	0		
NET EXPOSED WALL	243	177	771	146	135	688	111	258	1002	489	63		
NET EXPOSED BMT WALL ABOVE GR	296	1290	243	177	771	146	111	258	1002	489	63		
EXPOSED CLG	3.5	0.7	0	0	0	0	0	0	0	0	0		
NO ATTIC EXPOSED CLG	320	401	195	110	138	67	150	228	150	188	91		
EXPOSED FLOOR	2.7	1.3	0	0	0	0	0	0	20	54	26		
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	228	568	107	40		
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0		
SUBTOTAL HT LOSS	2272	1611	1158	716	776	202	202	2788	1800	1247	607		
SUB TOTAL HT GAIN	0.20	0.27	0.20	0.27	0.20	0.27	0.20	0.27	0.20	0.27	0.20		
LEVEL FACTOR / MULTIPLIER	617	617	314	64	211	18	18	787	489	281	165		
AIR CHANGE HEAT LOSS	0	145	0	0	0	0	0	364	229	0	77		
AIR CHANGE HEAT GAIN	2	480	0	0	0	0	0	1	240	1	0		
DUCT LOSS	2889	644	1473	987	987	286	286	3899	2518	1315	849		
HEAT GAIN PEOPLE	240	240	0	0	0	0	0	316	224	0	35		
HEAT GAIN APPLIANCES/LIGHTS	644	644	0	0	0	0	0	644	644	240	0		
TOTAL HT LOSS BTU/H	3744	3744	1013	4228	4228	286	286	4524	3208	2036	505		
TOTAL HT GAIN x 1.3 BTU/H													

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LOSS	GAIN	NET	KIT	FAM	LAUN	W/R	FOY	WINTER NATURAL AIR CHANGE RATE	HEAT LOSS AT "F"
GRS.WALL AREA	176	176	176	176	176	0	33	32	27	10	31	0.336	74
GLAZING	11	11	11	11	11	0	11	11	12	11	11	0.119	14
NORTH	0	0	0	0	0	0	0	0	0	0	0		
EAST	0	0	0	0	0	0	0	0	0	0	0		
SOUTH	0	0	0	0	0	0	0	0	0	0	0		
WEST	0	0	0	0	0	0	0	0	0	0	0		
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0		
DOORS	0	0	0	0	0	0	0	0	0	0	0		
NET EXPOSED WALL	148	645	122	312	1359	256	312	319	1325	101	341		
NET EXPOSED BMT WALL ABOVE GR	148	645	122	312	1359	256	312	319	1325	101	341		
EXPOSED CLG	3.5	0.7	0	0	0	0	0	0	0	0	0		
NO ATTIC EXPOSED CLG	320	401	195	110	138	67	150	228	150	188	91		
EXPOSED FLOOR	2.7	1.3	0	0	0	0	0	0	20	54	26		
BASEMENT/CRAWL HEAT LOSS	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		
SUBTOTAL HT LOSS	1227	828	828	2419	2393	2419	2419	2075	1818	627	2347		
SUB TOTAL HT GAIN	0.30	0.40	0.30	0.40	0.30	0.40	0.30	0.40	0.30	0.40	0.30		
LEVEL FACTOR / MULTIPLIER	496	496	978	978	978	215	978	839	735	253	948		
AIR CHANGE HEAT LOSS	0	74	0	0	0	0	0	0	0	0	0		
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0	0	0	0		
DUCT LOSS	0	0	0	0	0	0	0	0	0	0	0		
HEAT GAIN PEOPLE	240	240	0	0	0	0	0	0	0	0	0		
HEAT GAIN APPLIANCES/LIGHTS	644	644	0	0	0	0	0	644	644	240	0		
TOTAL HT LOSS BTU/H	1722	1722	2011	4228	4228	286	286	4524	3208	2036	505		
TOTAL HT GAIN x 1.3 BTU/H													

TOTAL HEAT GAIN BTU/H: 29605 TONS: 2.47 LOSS DUE TO VENTILATION LOAD BTU/H: 1529 STRUCTURAL HEAT LOSS: 43057 TOTAL COMBINED HEAT LOSS BTU/H: 44686

Michael O'Rourke

SITE NAME: GRANELL HOME CORP
BUILDER: GREENYORK HOMESLOT 23
TYPE: LIANA 3

DATE: Jan-19

GFA: 2292 LO# 81143

HEATING CFM 970 COOLING CFM 970
TOTAL HEAT LOSS 43,057 TOTAL HEAT GAIN 29,316
AIR FLOW RATE CFM 22.53 AIR FLOW RATE CFM 33.09furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35#CARRIER
59SP5A-60-12 60
FAN SPEED 0
LOW
MEDIUM 845
HIGH 970AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000
DESIGN CFM = 970
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	8	4
R/A	0	0	4	2	1

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

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

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	DIN	KIT	KIT	KIT	KIT	FAM	LAUN	W/R	FOY	FAM	BAS	BAS	BAS	BAS
RM LOSS MBH	1.44	1.47	0.99	1.95	1.26	1.31	0.85	1.95	1.26	1.44	1.72	1.70	1.70	1.70	1.70	1.46	2.55	0.88	3.30	1.46	3.59	3.59	3.59	3.59
CFM PER RUN HEAT	33	33	22	44	28	30	19	44	28	33	39	38	38	38	38	33	57	20	74	33	81	81	81	81
RM GAIN MBH	1.87	1.01	0.29	2.26	1.60	2.04	0.51	2.26	1.60	1.87	2.01	2.11	2.11	2.11	2.11	1.58	1.32	0.44	0.79	1.58	0.51	0.51	0.51	0.51
CFM PER RUN COOLING	62	34	9	75	53	67	17	75	53	62	67	70	70	70	70	52	44	15	26	52	17	17	17	17
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	34	60	36	47	45	22	24	51	44	49	12	26	26	26	26	35	32	21	32	40	31	21	14	27
EQUIVALENT LENGTH	150	160	160	140	170	150	140	140	150	150	170	140	140	140	140	140	130	150	150	160	160	170	170	150
TOTAL EFFECTIVE LENGTH	184	220	196	187	215	172	164	191	194	198	182	166	166	166	166	175	162	171	182	200	211	181	184	177
ADJUSTED PRESSURE	0.09	0.08	0.09	0.09	0.08	0.1	0.1	0.09	0.09	0.09	0.09	0.1	0.1	0.1	0.1	0.1	0.11	0.1	0.09	0.09	0.08	0.09	0.09	0.09
ROUND DUCT SIZE	5	4	4	5	5	5	4	5	5	5	5	5	5	5	5	4	5	4	5	4	6	6	6	6
HEATING VELOCITY (ft/min)	242	379	252	323	206	220	218	323	206	242	286	279	279	279	279	379	419	229	543	379	413	413	413	413
COOLING VELOCITY (ft/min)	455	390	103	551	389	492	195	551	389	455	492	514	514	514	514	597	323	172	191	597	87	87	87	87
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	C	B	B	E	D	C	E	E	D	A	E	C	C	C	C	A	B	D	D	A	A	C	E	D

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
1	TRUNK A	180	0.08	7.4	8	0.08	323	206	220	218	323	206	242	455	390
2	TRUNK B	112	0.08	6.2	8	0.08	10.9	14	8	658	14	8	520	458	103
3	TRUNK C	512	0.08	10.9	14	0.08	8.1	8	520	14	8	589	0	0	0.00
4	TRUNK D	231	0.08	10.5	14	0.08	10.5	14	8	589	0	0	0	0	0.00
5	TRUNK E	458	0.08	10.5	14	0.08	10.5	14	8	589	0	0	0	0	0.00
6	TRUNK F	0	0.00	0	0	0.00	0	0	0	0.00	0	0	0	0	0.00

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	180	0.08	7.4	8	405	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK B	112	0.08	6.2	8	252	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK C	512	0.08	10.9	14	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK D	231	0.08	10.5	14	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK E	458	0.08	10.5	14	8	0	0.00	0	0	0	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0	0	0.00	0	0	0	0	0.00	0	0	0
RETURN AIR #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AIR VOLUME	135	95	95	95	135	260	0	0	0	0	0	0	0	0	0
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
ACTUAL DUCT LGH	54	48	46	46	44	23	34	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	240	135	175	180	185	235	1	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LENGTH	294	183	221	224	208	269	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.08	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	7.5	5.8	6	6	6.8	9.1	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	14	14	30	0	0	0	0	0	0	0	0

TYPE: LIANA 3
SITE NAME: GRANELLI HOME CORP

LO # 81143
LOT 23

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	4 @ 10.6 cfm	42.4 cfm
Other Rooms	4 @ 10.6 cfm	42.4 cfm
Table 9.32.3.A.	TOTAL	159.0 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	159	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	79.5	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
79.5 CFM	74 F
X	X
FACTOR	% LOSS
1.08	0.24

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
BATH	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:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	January-19

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: LIANA 3	LOT 23	BUILDER: GREENYORK HOMES
SFQT: 2292	LO# 81143	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):	31870.0	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: 29.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	148.0 ft

2012 OBC - COMPLIANCE PACKAGE

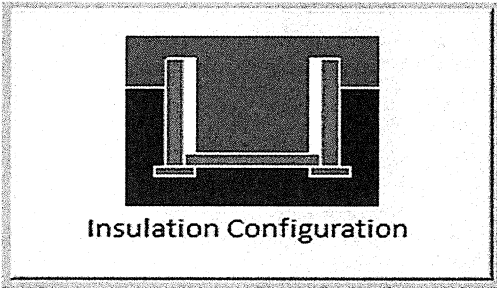
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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):	8.8	 Insulation Configuration
Floor Width (m):	13.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.4	
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):		1442

TYPE: LIANA 3
LO# 81143

LOT 23

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):	902.5			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1203.0 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 3
LO# 81143

LOT 23

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.

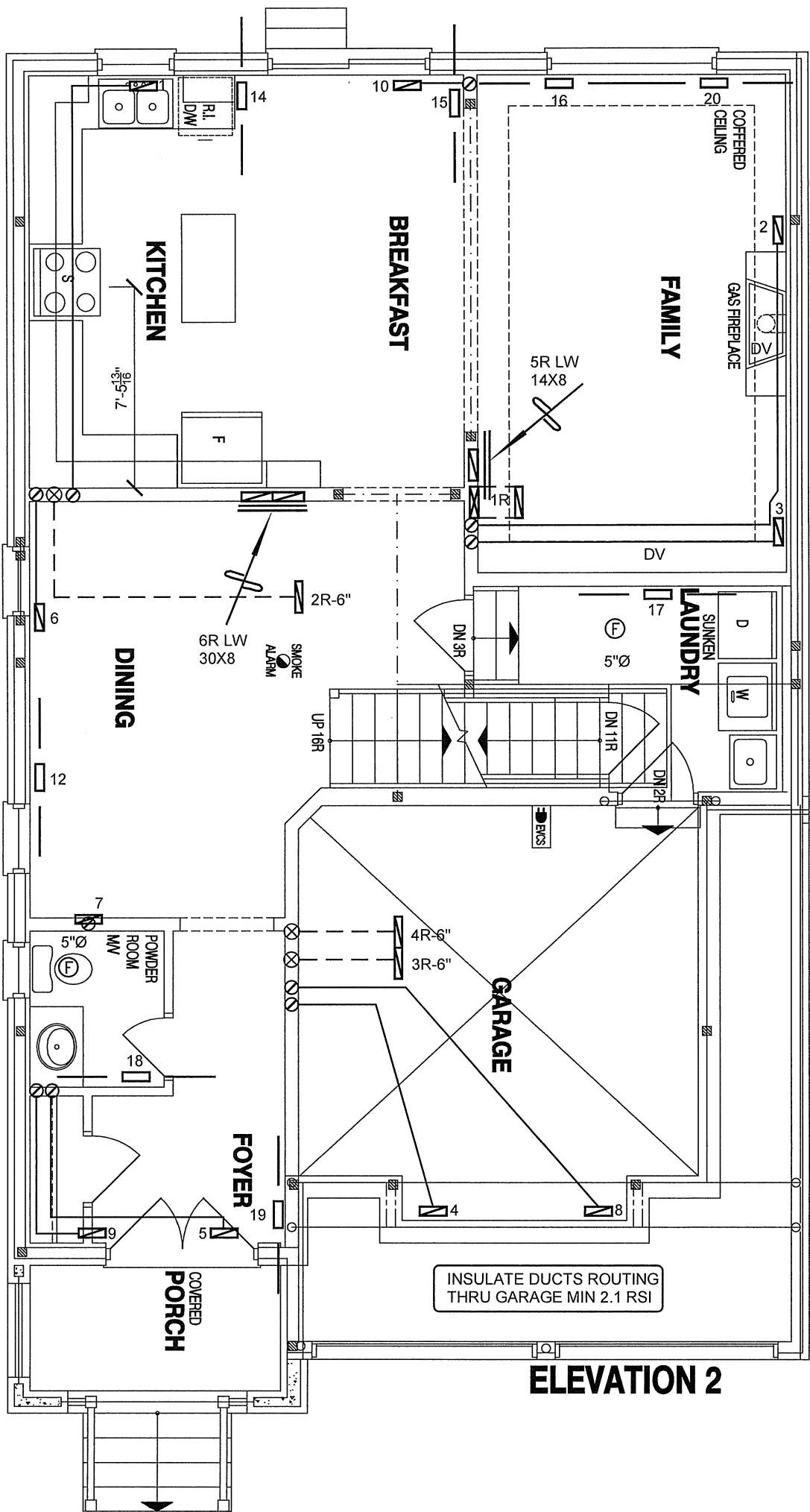
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 23
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		 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	HEAT LOSS 44586 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			MAKE CARRIER	2ND FLOOR	10	4	2	Date JAN/2019 Scale 3/16" = 1'-0" BCIN# 19669 LO# 81143	
			MODEL 59SP5A-60-12	1ST FLOOR	8	2	3		
			INPUT 60 MBTU/H	BASEMENT	4	1	0		
			OUTPUT 58 MBTU/H	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					
LIANA 3 - LOT 23 2292 sqft		COOLING 2.5 TONS							
		FAN SPEED 970 cfm @ 0.6" w.c.							
		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.							



ELEVATION 2

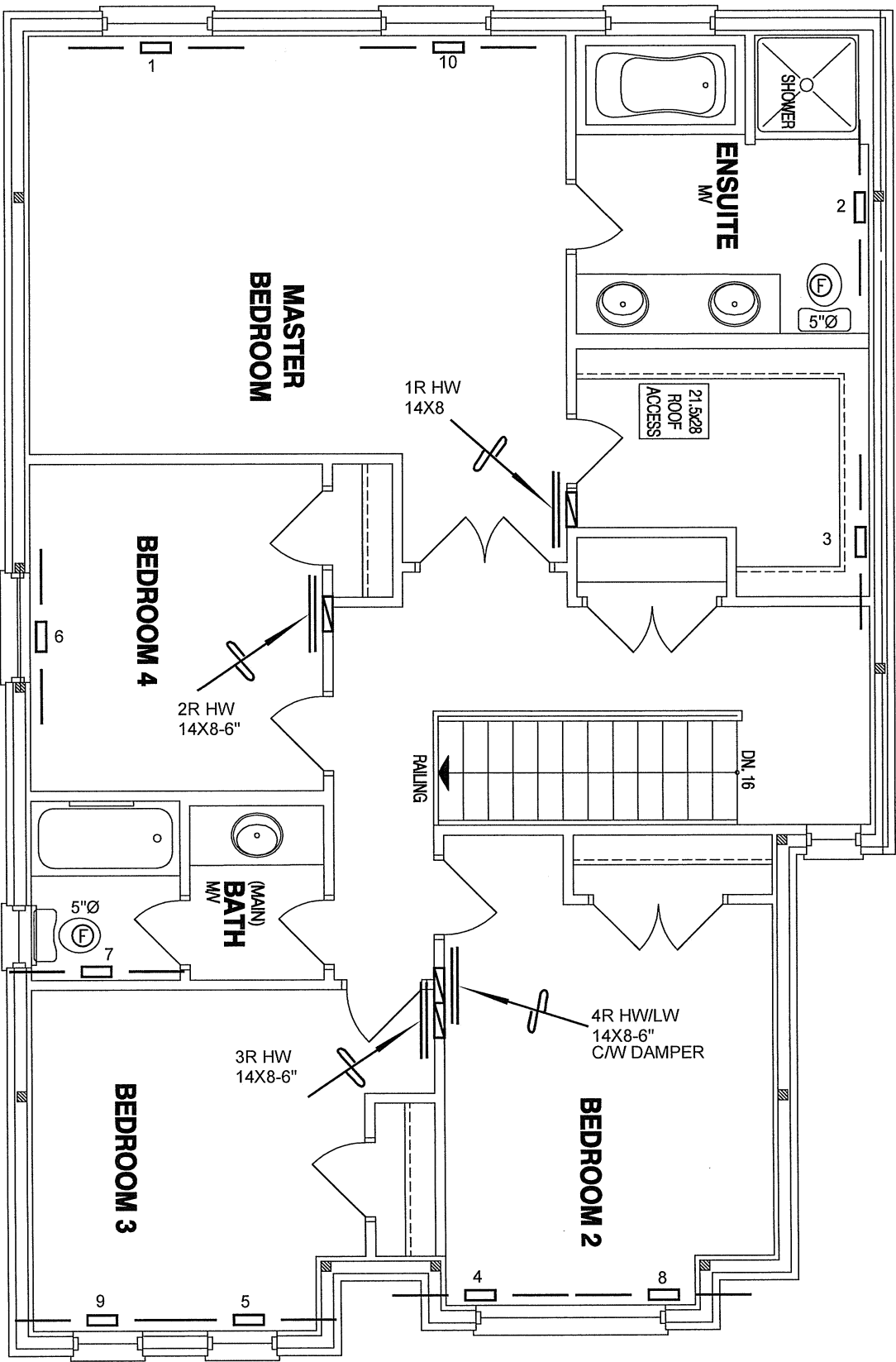
LOT 23
CSA-F280-12
PACKAGE A1

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.

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		 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			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2019
GRANELLI HOMES CORP BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
LIANA 3 - LOT 23 2292 sqft			BCIN# 19669	
		LO#	81143	



LOT 23
CSA-F280-12
PACKAGE A1

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.

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

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Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			Date JAN/2019	
			Scale 3/16" = 1'-0"	
			BCIN# 19669	
LIANA 3 - LOT 23 2292 sqft		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.		