

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@hvacdesigns.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: AMELIA 3 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.				
June 19, 2018				
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 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
 BUILDER: GREENYORK HOMES
 TYPE: AMELIA 3
 DATE: Jun-18
 LO# 78889
 GFA: 2870
 WINTER NATURAL AIR CHANGE RATE 0.336
 SUMMER NATURAL AIR CHANGE RATE 0.119
 HEAT LOSS AT °F. 74
 HEAT GAIN AT °F. 14
 CSA-F280-12
 SB-12 PACKAGE A1

ROOM USE	EXP. WALL CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-3	ENS-4	TOTAL HT GAIN x 1.3 BTU/H
GRS.WALL AREA	216	333	216	46	108	279	225	144	207	90	
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	
NORTH	20.8 16.3	0 0	0 0	0 0	15 312 245	0 0	0 0	0 0	0 0	0 0	
EAST	20.8 41.9	0 0	0 0	0 0	0 0	87 1184 2388	0 0	0 0	23 478 983	0 0	
SOUTH	20.8 26.2	0 0	0 0	0 0	0 0	0 0	27 561 981	0 0	8 168 202	0 0	
WEST	20.8 41.9	30 623 1287	13 270 845	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
SKYLT.	35.4 102.1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
DOORS	24.7 4.7	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
NET EXPOSED WALL	4.4 0.8	303 1320 249	196 860 160	48 196 37	93 405 76	222 967 183	198 863 163	144 627 118	176 767 146	82 307 67	
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.7	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	
EXPOSED CLG	1.3 0.6	287 335 182	130 163 78	125 187 78	203 264 123	213 267 129	245 307 149	117 147 71	49 61 30	0 0	
NO ATTIC EXPOSED CLG	2.7 1.3	0 0	0 0	0 0	0 0	30 51 39	0 0	0 0	25 67 33	0 0	
EXPOSED FLOOR	2.6 0.6	0 0	0 0	0 0	0 0	243 606 114	0 0	50 124 23	0 0	0 0	
BASEMENT/CRAWL HEAT LOSS		0 0	0 0	0 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 0	0 0	0 0	
SUBTOTAL HT LOSS		2278	1449	353	971	3104	1731	899	1539	523	
SUB TOTAL HT GAIN		0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	0.20 0.28	
LEVEL FACTOR / MUL TIPLIER		846	411	100	276	880	491	255	436	148	
AIR CHANGE HEAT LOSS		141	84	10	38	242	84	115	116	23	
AIR CHANGE HEAT GAIN		0	0	0	0	388	0	0	0	0	
DUCT LOSS		0	0	0	0	388	0	0	0	0	
DUCT GAIN		0	0	0	0	388	0	0	0	0	
HEAT GAIN PEOPLE	240	2	480	0	1	240	1	240	0	0	
HEAT GAIN APPLIANCES/LIGHTS		648	0	0	648	648	648	0	0	0	
TOTAL HT LOSS BTU/H		2924	1860	453	1247	4382	2221	1269	1976	672	
TOTAL HT GAIN x 1.3 BTU/H		3818	1380	189	1752	5695	2555	330	1935	380	

ROOM USE	EXP. WALL CLG. HT.	LV/DN	LIB	KTBR	FAM	LAUN	WIR	FOY	MUD	WUB	BAS
GRS.WALL AREA	253	187	253	440	383	0	165	330	164	163	930
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	20.8 16.3	38 789 920	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EAST	20.8 41.9	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SOUTH	20.8 26.2	0 0	19 395 479	19 395 479	0 0	0 0	0 0	7 146 293	7 146 293	0 0	0 0
WEST	20.8 41.9	0 0	0 0	68 1413 2848	38 789 1692	0 0	0 0	0 0	0 0	0 0	0 0
SKYLT.	36.4 102.1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DOORS	24.7 4.7	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NET EXPOSED WALL	4.4 0.8	149 648 122	234 1020 192	353 1638 290	325 1416 257	0 0	165 719 136	40 986 185	20 493 93	20 493 93	20 493 93
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.7	0 0	0 0	0 0	0 0	0 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	92 116 66	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 0	0 0	0 0	0 0	0 0
EXPOSED FLOOR	2.6 0.6	0 0	0 0	0 0	0 0	25 62 12	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 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 0	0 0	0 0	0 0
SUBTOTAL HT LOSS		1439	1414	3346	2206	178	719	2365	1192	106	
SUB TOTAL HT GAIN		0.30 0.44	0.30 0.44	0.30 0.44	0.30 0.44	0.20 0.28	0.30 0.44	0.30 0.44	0.30 0.44	0.30 0.44	
LEVEL FACTOR / MUL TIPLIER		629	618	1462	964	50	314	1033	521	202	
AIR CHANGE HEAT LOSS		63	57	307	158	6	12	80	42	0	
AIR CHANGE HEAT GAIN		0	0	0	0	23	0	0	0	0	
DUCT LOSS		0	0	0	0	72	0	0	0	0	
DUCT GAIN		0	0	0	0	72	0	0	0	0	
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS		648	648	648	648	648	648	0	0	0	
TOTAL HT LOSS BTU/H		2067	2032	4807	3169	251	1033	3398	1712	1179	
TOTAL HT GAIN x 1.3 BTU/H		1890	1790	5545	3464	1032	191	1004	692	263	

TOTAL HEAT GAIN BTU/H: 38253
 TONS: 3.02
 LOSS DUE TO VENTILATION LOAD BTU/H: 1629
 STRUCTURAL HEAT LOSS: 53460
 TOTAL COMBINED HEAT LOSS BTU/H: 54989

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMES

TYPE: AMELIA 3

DATE: Jun-18

68682 #07

HEATING CFM	1030	COOLING CFM	1030
TOTAL HEAT LOSS	53,460	TOTAL HEAT GAIN	35,964
AIR FLOW RATE CFM	19,27	AIR FLOW RATE CFM	28,64

furnace pressure	0.05
a/c coil pressure	0.2
available pressure	

#CARRIER 60
59SP5A-60-12
FAN SPEED

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 58,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	8	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.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	24
ROOM NAME	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	ENS-3	BED-3	MBR	ENS-4	LV/DN	LIB	KT/BR	KT/BR	FAM	LAUN	W/R	FOY	MUD	BAS	BAS	
RM LOSS MBH.	1.86	0.45	1.25	2.19	2.22	1.27	1.98	2.19	1.46	0.67	2.03	2.03	2.40	2.40	0.25	1.03	3.40	1.71	4.50	4.50	4.50	
CFM PER RUN HEAT	28	36	9	24	42	24	38	42	28	13	40	39	46	46	61	5	20	65	33	87	87	
RM GAIN MBH.	1.91	1.39	0.16	1.78	2.85	0.33	1.94	2.85	1.91	0.38	1.89	1.79	2.97	2.97	3.46	1.03	0.19	1.00	0.69	0.48	0.48	
CFM PER RUN COOLING	55	40	5	51	82	73	9	55	82	55	11	54	51	85	99	30	5	29	20	14	14	
ADJUSTED PRESSURE	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	
ACTUAL DUCT LGH.	49	53	35	56	35	50	61	52	43	11	23	50	37	37	33	42	9	38	10	46	30	
EQUIVALENT LENGTH	150	170	160	210	130	180	140	120	150	180	110	140	110	130	190	150	170	110	170	110	150	
TOTAL EFFECTIVE LENGTH	199	223	195	233	186	215	190	201	172	193	223	121	163	160	167	223	192	179	148	180	156	
ADJUSTED PRESSURE	0.09	0.08	0.09	0.07	0.09	0.08	0.09	0.09	0.09	0.08	0.14	0.11	0.1	0.1	0.07	0.09	0.1	0.12	0.1	0.09	0.11	
ROUND DUCT SIZE	5	4	4	6	6	4	5	6	5	4	5	6	6	6	6	4	4	5	6	6	6	
HEATING VELOCITY (ft/min)	206	413	103	122	214	219	275	279	214	206	149	286	235	235	311	57	229	477	379	444	444	
COOLING VELOCITY (ft/min)	404	459	57	260	418	372	103	404	418	404	126	386	374	433	505	344	57	213	229	71	71	
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	
TRUNK	A	B	A	D	C	B	C	C	B	B	B	D	A	A	A	C	B	C	D	A	A	

25	RUN #
BAS	ROOM NAME
4.50	RM LOSS MBH
87	CFM PER RUN HEAT
0.48	RM GAIN MBH
14	CFM PER RUN COOLING
0.16	ADJUSTED PRESSURE
37	ACTUAL DUCT LGH
120	EQUIVALENT LENGTH
157	TOTAL EFFECTIVE LENGTH
0.1	ADJUSTED PRESSURE
6	ROUND DUCT SIZE
444	HEATING VELOCITY (ft/min)
71	COOLING VELOCITY (ft/min)
4X10	OUTLET GRILL SIZE
C	TRUNK

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK					TRUNK					TRUNK					TRUNK				
CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
364	0.07	12	12	8	546	0	0	0	8	0	0.06	0	0	0	0	0.06	0	0	8
TRUNK A				X	TRUNK G				X	TRUNK P					TRUNK Q				X
544	0.07	11.5	16	8	TRUNK H	0	0.00	0	8	0	0.06	0	0	0	TRUNK R	0	0.06	0	8
TRUNK B				X	TRUNK I	0	0.00	0	X	TRUNK S	0	0.00	0	0	TRUNK T	0	0.06	0	X
303	0.09	8.7	10	X	TRUNK J	0	0.00	0	X	TRUNK U	0	0.00	0	0	TRUNK V	0	0.06	0	8
TRUNK C				X	TRUNK K	0	0.00	0	X	TRUNK W	0	0.00	0	0	TRUNK X	0	0.06	0	X
486	0.07	11.1	14	8	625	0	0.00	0	8	0	0.06	0	0	0	TRUNK Y	0	0.06	0	8
TRUNK D				X	TRUNK L	0	0.00	0	X	TRUNK Z	0	0.00	0	0	TRUNK AA	0	0.06	0	X
TRUNK E	0	0	0	X	0	0	0	0	8	0	0.06	0	0	0	TRUNK AB	0	0.06	0	8
TRUNK F	0	0	0	X	TRUNK M	0	0.00	0	8	0	0.06	0	0	0	TRUNK AC	0	0.06	0	8

[illegible]

TYPE: AMELIA 3
SITE NAME: GRANELL HOME CORP

LO # 78989

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	6	@ 10.6 cfm	63.6	cfm
Other Rooms	6	@ 10.6 cfm	63.6	cfm
Table 9.32.3.A.		TOTAL	201.4	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	201.4	cfm
Less Principal Ventil. Capacity	79.5	cfm
Required Supplemental Capacity	121.9	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	X	74 F	X	1.08	X	0.24

SUPPLEMENTAL FANS

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3
W/R	QTXEN050C	50	☒	0.3

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:

June-18

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C. 3.2.5 OF THE BUILDING CODE
INDIVIDUAL BCIN: 19669  MICHAEL O'ROURKE

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** AMELIA 3**BUILDER:** GREENYORK HOMES**SFQT:** 2970**LO#** 78989**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 (ft ³):	41553.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.50	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 56.0 ft	WIDTH: 30.0 ft	EXPOSED PERIMETER:	155.0 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	-

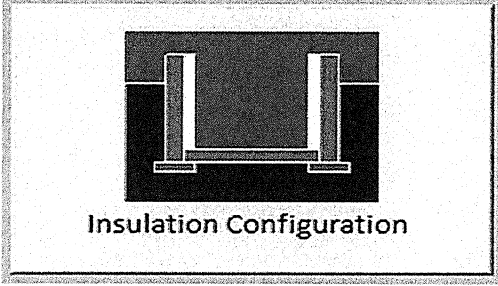
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

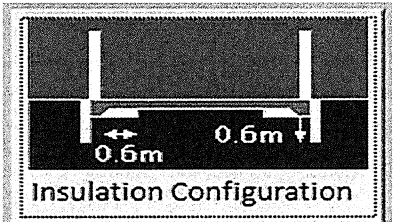
Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	17.1	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	47.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.6	
Door Area (m ²):	3.7	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1561	

TYPE: AMELIA 3

LO# 78989

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		
Length (m):	4.6	 Insulation Configuration
Width (m):	0.6	
Exposed Perimeter (m):	5.2	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		31

TYPE: AMELIA 3

LO# 78989



HVAC Designs Ltd.
375 Finley Ave, Suite 202
Ajax ON, L1S 2E2
905-619-2300

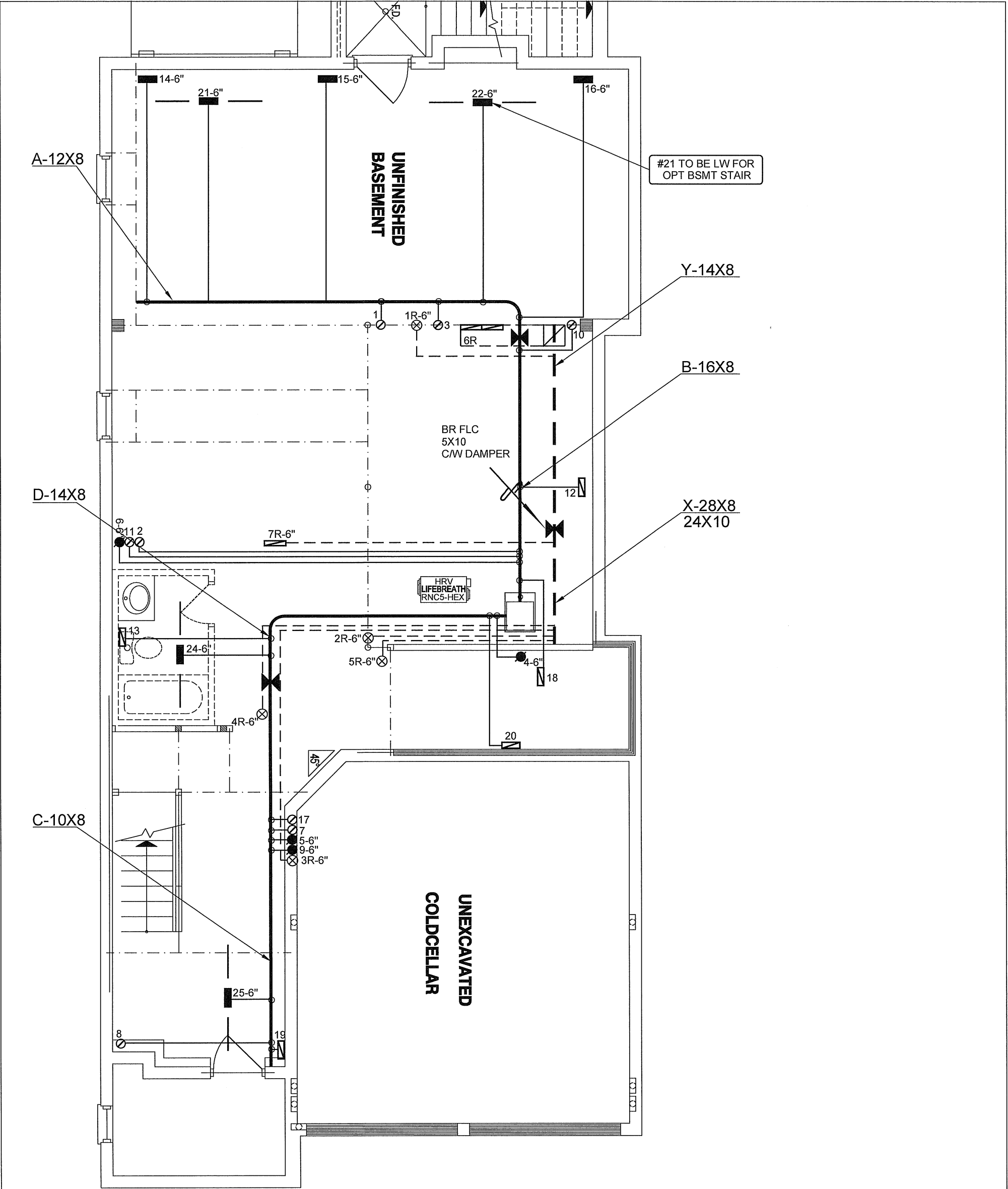
Air Infiltration Residential Load Calculator

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):	1176.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1568.5 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: AMELIA 3

LO# 78989



I MICHAEL O'ROURKE HAVE REVIEW 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.

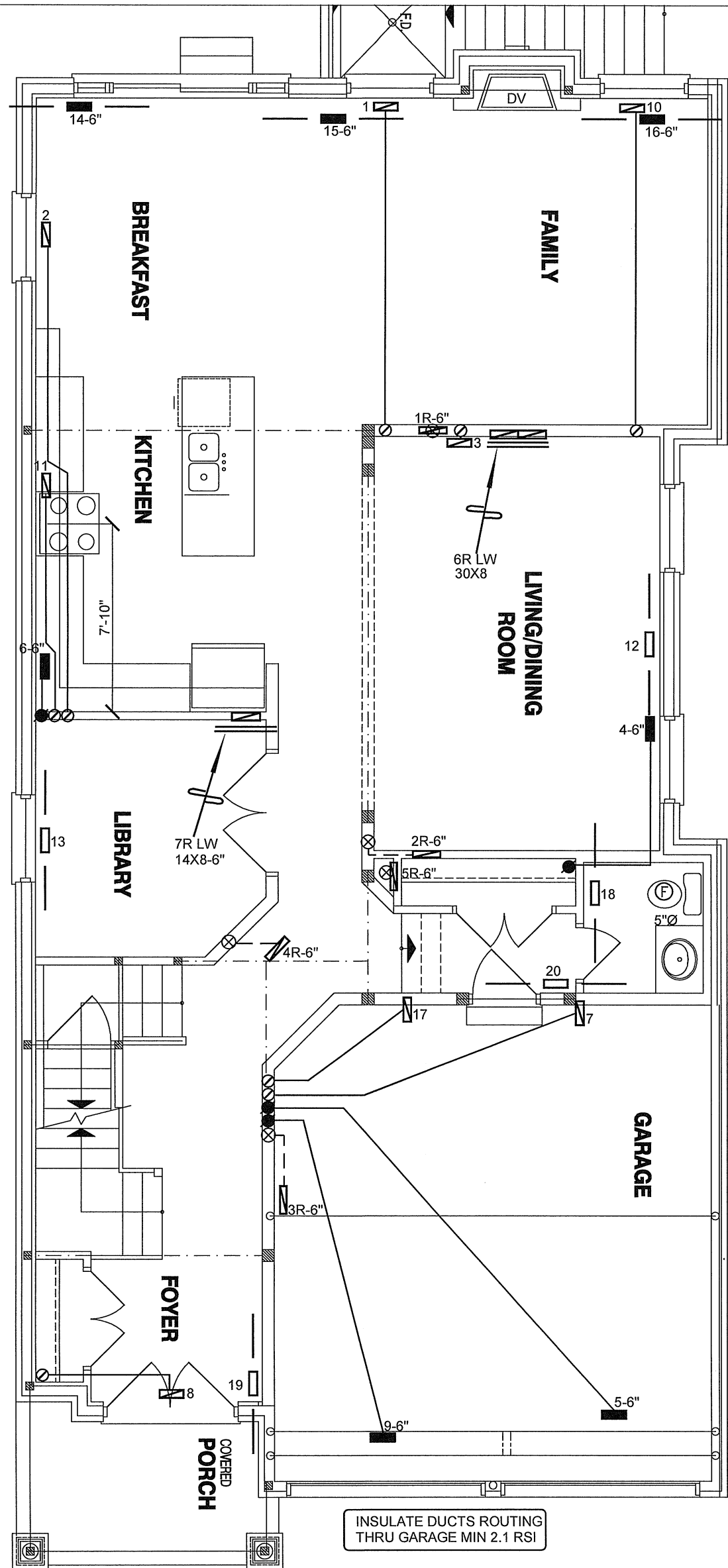
CSA-F280-12

PACKAGE A1

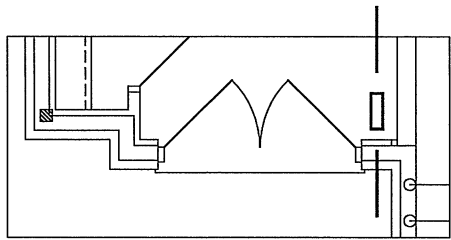
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 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		 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.	HEAT LOSS 54989 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GREENYORK HOMES			MAKE	CARRIER	3RD FLOOR				BASEMENT HEATING LAYOUT	
Project Name			MODEL	59SP5A-60-12	2ND FLOOR	12	5	5		
GRANELLI HOMES CORP BRAMPTON, ONTARIO			INPUT	60 MBTU/H	1ST FLOOR	8	2	2		
AMELIA 3			OUTPUT	58 MBTU/H	BASEMENT	4	1	0	Date	JUNE/2018
2970 sqft			COOLING	3.0 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				Scale	3/16" = 1'-0"
			FAN SPEED	1030 cfm @ 0.6" w.c.					BCIN# 19669	
							LO# 78989			



ELEVATION 1



ELEVATION 2

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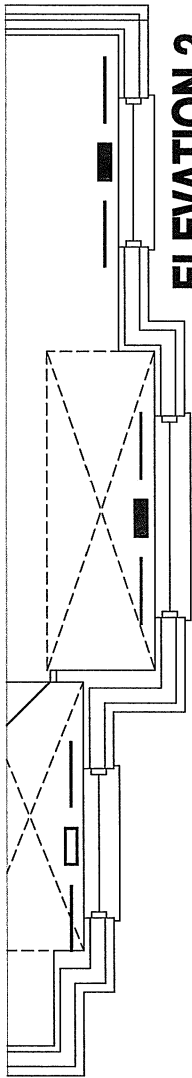
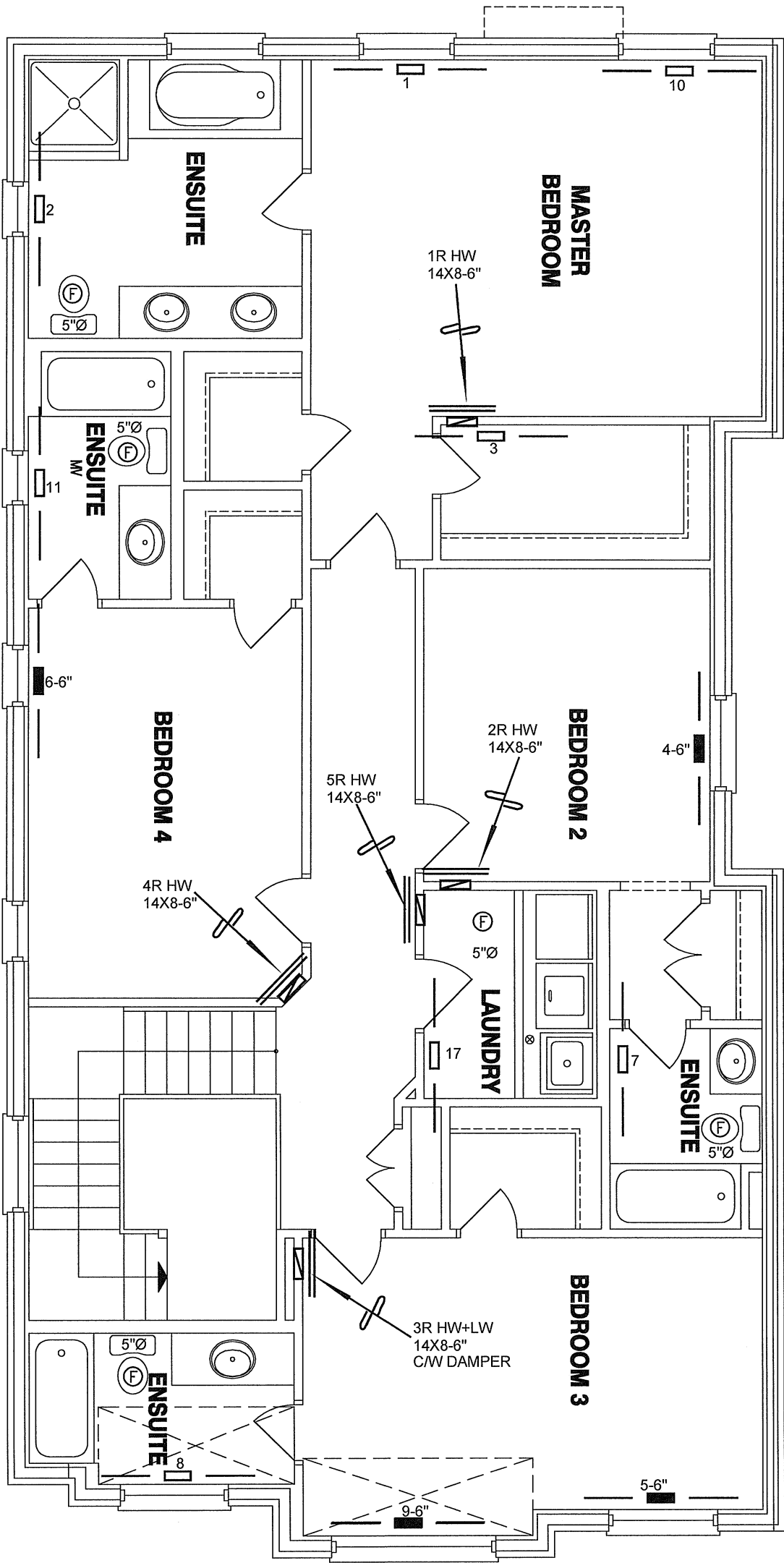
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

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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GREENYORK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			Date	JUNE/2018
AMELIA 32970 sqft			Scale	3/16" = 1'-0"
		BCIN# 19669		
		LO#	78989	



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

CSA-F280-12

PACKAGE A1

HVAC LEGEND						3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	
	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

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GREENYORK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JUNE/2018
GRANELLI HOMES CORP BRAMPTON, ONTARIO			Scale	3/16" = 1'-0"
AMELIA 3			BCIN# 19669	
2970 sqft			LO#	78989