

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 LOT 14 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.

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

SITE NAME: GRANELLI HOME CORP			LOT 14		DATE: Jan-19		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F. 74		CSA-F280-12											
BUILDER: GREENYORK HOMES			TYPE: AMELIA 3		LO# 81140		SUMMER NATURAL AIR CHANGE RATE		HEAT GAIN AT °F. 14		SB-12 PACKAGE A											
ROOM USE			MGR		ENS		WIC		BED-2		BED-3		BED-4		ENS-2		ENS-3		BED-5		BATH	
EXP. WALL			37	9	24	9	5	9	12	9	31	9	25	9	16	23	10	9	9	10	9	
CLG. HT.																						
FACTORS																						
LOSS																						
GAIN																						
GRS.WALL AREA			333		216		45		108		279		144		207		90		90			
GLAZING																						
NORTH			0	0	0	0	0	0	15	312	245	0	0	0	0	0	0	0	0	0	0	0
EAST			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST			0	0	8	166	202	0	0	0	0	0	23	478	580	0	0	8	166	202	15	312
SKYL.T.			30	823	1257	13	270	545	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS			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	303	1320	249	195	850	160	45	196	37	93	405	76	222	967	183	202	880	166
NET EXPOSED BSMT WALL ABOVE GR			3.5	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	267	335	162	130	163	79	125	157	76	203	254	123	213	267	129	150	188	91
NO ATTIC EXPOSED CLG			2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	30	81	39	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			2278		1449		353		971		3104		1546		838		213		1539		789	
SUB TOTAL HT GAIN																						
LEVEL FACTOR / MUL.TIPLIER			0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26	0.20	0.26
AIR CHANGE HEAT LOSS			602		383		93		257		820		409		237		407		1372		513	
AIR CHANGE HEAT GAIN																						
DUCT LOSS			0		0		0		0		392		0		114		18		116		43	
DUCT GAIN																						
HEAT GAIN PEOPLE			240		0		0		0		383		0		0		23		0		0	
HEAT GAIN APPLANCES/LIGHTS					480		0		0		240		1		240		0		0		1	
TOTAL HT LOSS BTU/H			2880		499		0		1228		4317		1954		489		0		1946		997	
TOTAL HT GAIN x 1.3 BTU/H			3525		1350		446															

ROOM/USE	LVDN	LIB	KTBR	FAM	LAUN	W/R	FOY	MUD	WUB	BAS
EXP. WALL	17	23	40	33	0	15	30	14	17	156
CLG. HT.	11	11	11	11	9	11	11	11	9	9
FACTORS										
GRS.WALL AREA	187	253	440	363	0	165	330	154	163	1008
GLAZING	38	0	0	0	0	0	0	0	0	0
NORTH	789	620	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	149	649	122	234	1020	192	353	1538
NET EXPOSED BSMT WALL ABOVE GR	3.5	0.7	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0
EXPOSED FLOOR	0	0	0	0	0	0	0	0	0	0
CEMENT/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	1439	1414	3346	2206	178	719	2355	1192	106	5017
SUB TOTAL HT GAIN	742	672	3618	1859	68	136	712	491	1179	7120
LEVEL FACTOR / MULTIPLIER	0.30	0.30	0.43	0.30	0.20	0.43	0.30	0.43	202	0.50
AIR CHANGE HEAT LOSS	619	609	1440	949	47	308	1018	513	0	1.10
AIR CHANGE HEAT GAIN	63	57	306	157	6	11	60	42	0	9084
DUCT LOSS	0	0	0	0	22	0	0	0	0	70
DUCT GAIN	0	0	0	0	57	0	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	499	459	499	499	499	0	0	0	0	0
TOTAL HT LOSS BTU/H	2058	2023	4785	3155	247	1028	3382	1706	1179	16215
TOTAL HT GAIN x 1.3 BTU/H	1695	1596	5750	3270	819	191	1004	892	263	1554

TOTAL HEAT GAIN BTU/H:

TONS: 3.00

LOSS DUE TO VENTILATION LOAD BTU/H: 1835

STRUCTURAL HEAT LOSS: 53461

TOTAL COMBINED HEAT LOSS BTU/H: 55296

SITE NAME: GRANELLI HOME CORP
BUILDER: GREENYORK HOMES

HEATING CFM 1030
TOTAL HEAT LOSS 53,461
AIR FLOW RATE CFM 19.27

TYPE: AMELIA 3
furnace pressure 0.6
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

DATE: Jan-19

GFA: 2970 LO# 81140

#CARRIER 59SP5A-60-12
FAN SPEED 60
LOW 0
MEDIUM 785
HIGH 845
DESIGN CFM = 1030
CFM @ 6" E.S.P.

ROOM NAME	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th	15th	16th	17th	18th	19th	20th	21st	22nd	23rd	24th
COOLING CFM	1030																							
TOTAL HEAT GAIN	35,643																							
AIR FLOW RATE CFM	28.9																							

All S/A diffusers 4"x10" unless noted otherwise on layout.
All S/A runs 5'10" 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
RM LOSS MBH	1.44	1.83	0.45	1.23	2.16	0.84	1.25	1.95	2.16	1.44	1.00	2.06	2.02	2.39	2.39	3.15	0.25	1.03	3.38	1.70	4.35	4.35	1.95	4.35
CFM PER RUN HEAT	28	35	9	24	42	16	24	38	42	28	19	40	39	46	46	61	5	20	65	33	84	84	38	84
RM GAIN MBH	1.81	1.39	0.16	1.59	2.74	0.47	0.33	1.93	2.74	1.81	1.68	1.70	1.60	2.88	2.88	3.27	0.82	0.19	1.00	0.69	0.45	0.45	2.14	0.45
CFM PER RUN COOLING	52	40	5	46	79	14	10	56	79	52	49	49	46	83	83	95	24	6	29	20	13	13	62	13
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	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.16
ACTUAL DUCT LGH.	49	53	35	23	56	35	50	61	52	43	43	11	23	50	37	33	42	9	38	10	46	30	35	20
EQUIVALENT LENGTH	150	170	160	210	130	240	140	120	120	150	180	110	140	110	130	190	150	170	110	170	110	150	120	130
TOTAL EFFECTIVE LENGTH	199	223	195	233	186	275	190	201	172	193	223	121	163	160	167	223	192	179	148	180	156	180	155	150
ADJUSTED PRESSURE	0.09	0.08	0.09	0.07	0.09	0.06	0.09	0.09	0.09	0.1	0.09	0.14	0.11	0.1	0.1	0.07	0.09	0.1	0.12	0.1	0.1	0.09	0.11	0.11
ROUND DUCT SIZE	4	4	4	6	5	5	4	5	5	4	5	5	5	6	6	6	4	4	5	4	6	6	5	6
HEATING VELOCITY (ft/min)	321	402	103	122	308	117	275	279	308	321	140	294	286	235	235	311	57	229	477	379	428	279	428	428
COOLING VELOCITY (ft/min)	597	459	57	235	580	103	115	411	580	597	360	360	338	423	423	484	275	69	213	229	66	66	455	66
OUTLET GRILL SIZE	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	3X10	4X10
TRUNK	A	B	A	D	C	B	C	C	C	B	B	B	D	A	A	A	C	B	C	D	A	A	D	D

ROOM NAME	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
RM LOSS MBH	4.35																							
CFM PER RUN HEAT	84																							
RM GAIN MBH	0.45																							
CFM PER RUN COOLING	13																							
ADJUSTED PRESSURE	0.16																							
ACTUAL DUCT LGH.	37																							
EQUIVALENT LENGTH	120																							
TOTAL EFFECTIVE LENGTH	157																							
ADJUSTED PRESSURE	0.1																							
ROUND DUCT SIZE	6																							
HEATING VELOCITY (ft/min)	428																							
COOLING VELOCITY (ft/min)	66																							
OUTLET GRILL SIZE	4X10																							
TRUNK	C																							

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	358	0.07	9.9	12	8	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.06	0	0	8
TRUNK B	516	0.06	11.8	16	8	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.06	0	0	8
TRUNK C	300	0.09	8.7	10	8	TRUNK I	0	0.00	0	0	8	TRUNK Q	0	0.06	0	0	8
TRUNK D	518	0.07	11.3	14	8	TRUNK J	0	0.00	0	0	8	TRUNK R	0	0.06	0	0	8
TRUNK E	0	0.00	0	0	8	TRUNK K	0	0.00	0	0	8	TRUNK S	0	0.06	0	0	8
TRUNK F	0	0.00	0	0	8	TRUNK L	0	0.00	0	0	8	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	1030	0.06	15.2	28	8
												TRUNK Y	445	0.06	11.1	14	8
												TRUNK Z	0	0.06	0	0	8
												DRCP	1030	0.06	15.2	24	10

RETURN AIR #		1	2	3	4	5	6	7																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
AIR VOLUME		95	85	85	95	85	350	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: AMELIA 3
SITE NAME: GRANELL HOME CORP

LO # 81140
LOT 14

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	4 @ 10.6 cfm	42.4 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	212.0 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		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	116.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: LIFE BREATH RNC5-HEX	Location: BSMT
95.4 cfm	3.0 sones
☒ HVI Approved	

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

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	☒
ENS-2	QTXEN050C	50	☒
BATH	QTXEN050C	50	☒
W/R	QTXEN050C	50	☒

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: LIFE BREATH 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: AMELIA 3	LOT 14	BUILDER: GREENYORK HOMES
SFQT: 2970	LO# 81140	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):	41553.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.5 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	-

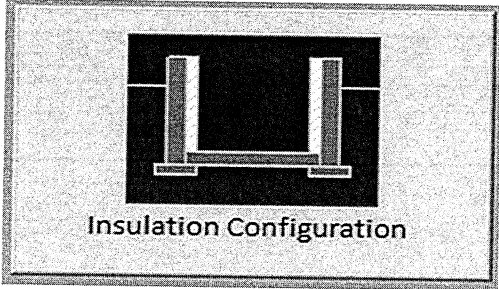
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

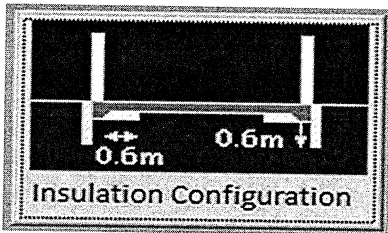
Weather Station Description		
Province:	Ontario	
Region:	Brampton	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	17.1	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	47.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.98	
Window Area (m ²):	1.1	
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):		1470

TYPE: AMELIA 3
LO# 81140

LOT 14

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# 81140

LOT 14

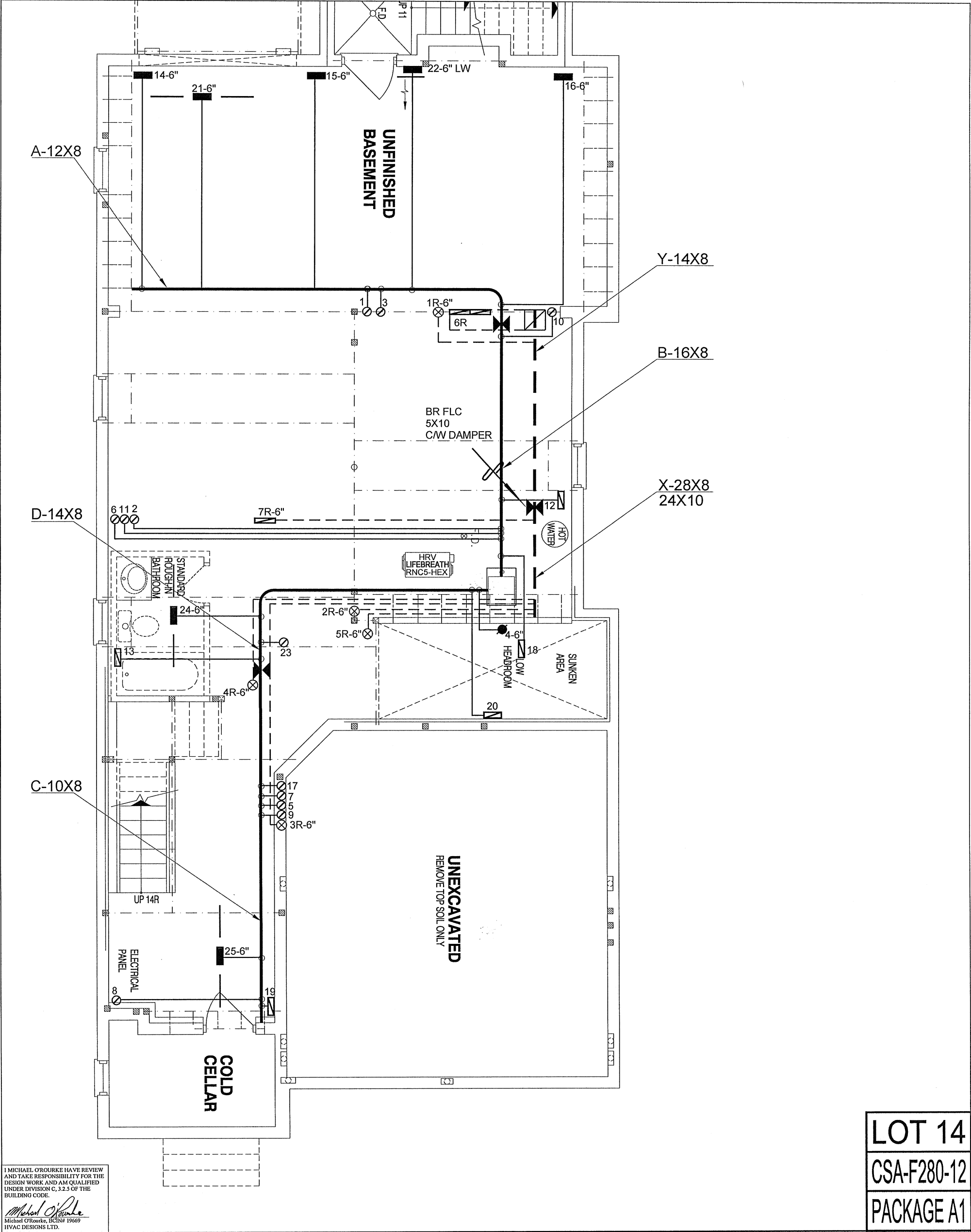
Air Infiltration Residential Load Calculator

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):	6.86		
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	
	45.0	45.0	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
	#4	0	
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.330		
Cooling Air Leakage Rate (ACH/H):	0.117		

TYPE: AMELIA 3
LO# 81140

LOT 14



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.

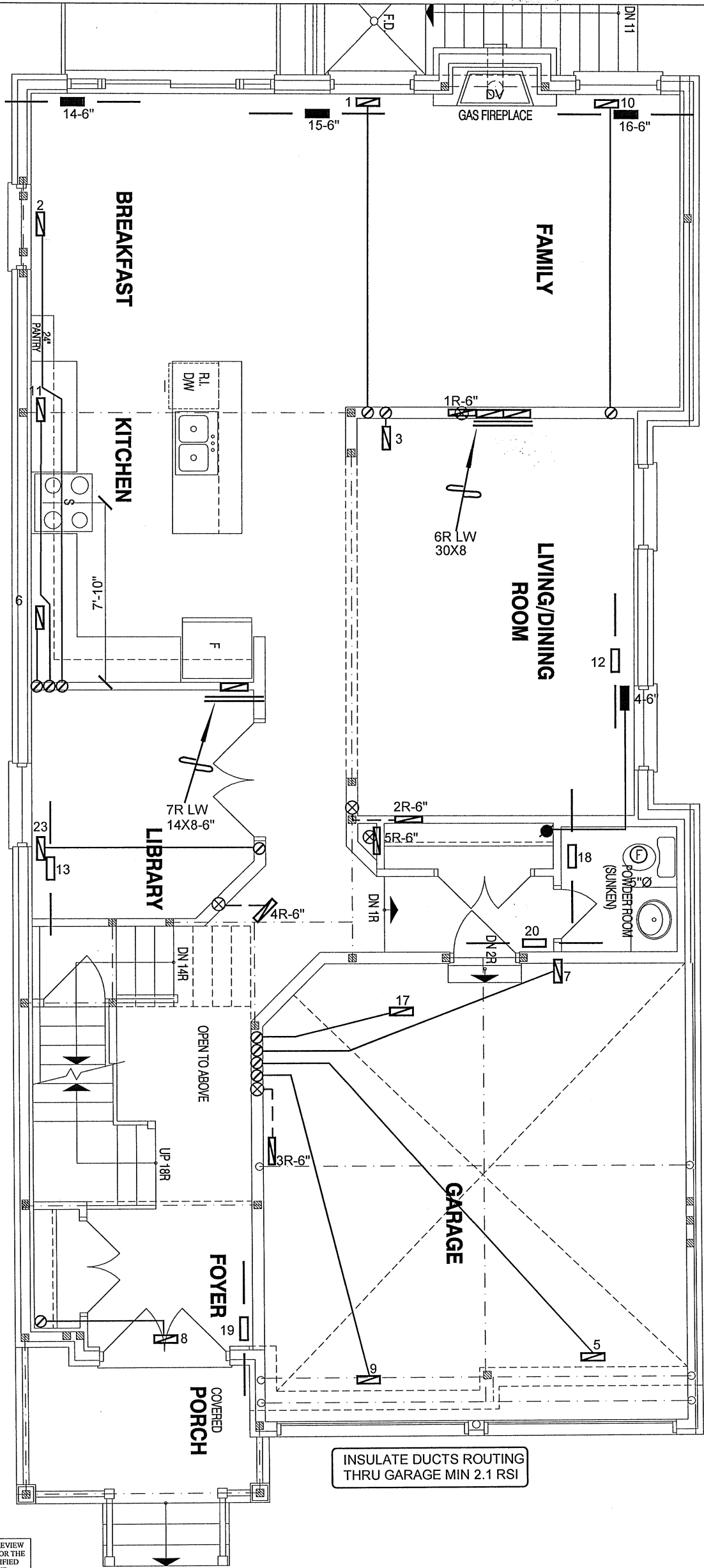
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOT 14
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
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER		Date
							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 55296 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	3RD FLOOR				Date JAN/2019	
			MODEL 59SP5A-60-12	2ND FLOOR	13	5	5		
			INPUT 60 MBTU/H	1ST FLOOR	8	2	2		
			OUTPUT 58 MBTU/H	BASEMENT	4	1	0		
LOT 14 AMELIA 3 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# 81140		



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

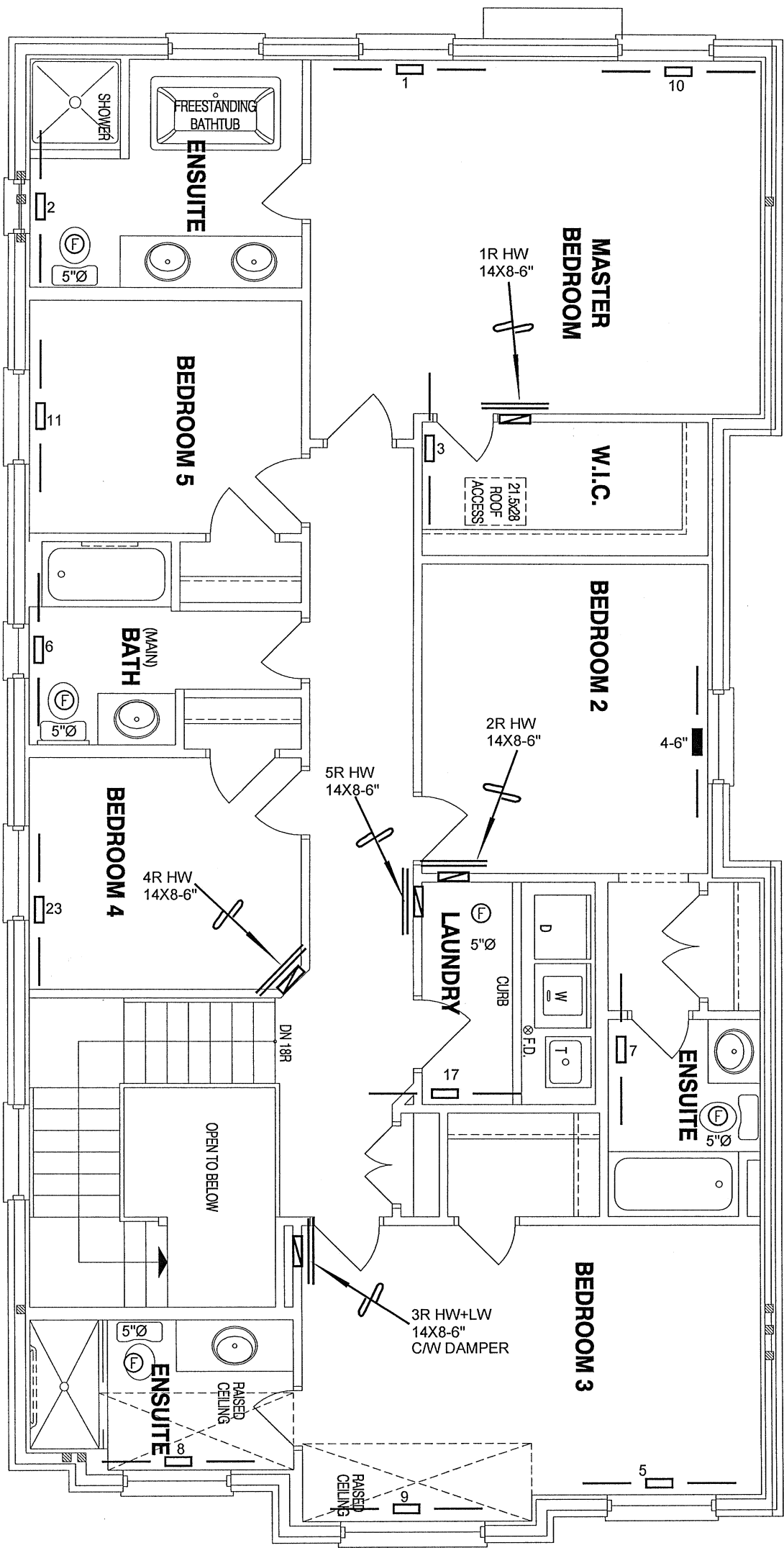
LOT 14
CSA-F280-12
PACKAGE A1

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	Sheet Title FIRST FLOOR HEATING LAYOUT		
Project Name GRANELLI HOMES CORP BRAMPTON, ONTARIO			Date JAN/2019	Scale 3/16" = 1'-0"	
LOT 14 AMELIA 3		2970 sqft	BCIN# 19669		
			LO#	81140	
		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.			

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.



LOT 14
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	
	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				Date	JAN/2019	
GRANELLI HOMES CORP BRAMPTON, ONTARIO				Scale	3/16" = 1'-0"	
LOT 14 AMELIA 3				BCIN# 19669		
2970 sqft				LO#	81140	