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		Firm	
MICHAEL O'ROURKE		**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	☒ 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
HEAT LOSS / GAIN CALCULATIONS
DUCT SIZING
RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY
RESIDENTIAL SYSTEM DESIGN per CSA-F280-12

Model: YORK 3

Project: DEGREY DRIVE

D. Declaration of Designer

I MICHAEL O'ROURKE 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: 19669
Basis for exemption from registration and qualification: O.B.C SENTENCE 3.2.4.1 (4)

☐ 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.

April 18, 2017
Date

Signature of Designer

NOTE:

1. 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.

2. 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.

HVAC DESIGNS LTD.

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SITE NAME: DEGREY DRIVE — DATE: Apr-17 — WINTER NATURAL AIR CHANGE RATE 0.345 — HEAT LOSS ΔT °F. 74 — CSA-F280-12
BUILDER: GREENYORK HOMES — TYPE: YORK 3 — GFA: 3922 — LO# 73720 — SUMMER NATURAL AIR CHANGE RATE 0.122 — HEAT GAIN ΔT °F. 14 — SB-12 PACKAGE A1

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH			BED-5			WIC-2			ENS-4/5		
EXP. WALL			36			42			10			13			14			28			25			12			11			9		
CLG. HT.			10			10			10			10			10			10			10			10			10			10		
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	360			420			100			130			140			280			250			120			110			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	0	0	0	16	332	261	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	28	582	1173	42	873	1759	12	249	503	0	0	0	20	416	838	0	0	0
SOUTH	20.8	25.2	0	0	0	0	0	0	8	166	202	0	0	0	0	0	0	0	0	0	0	0	0	16	332	404	0	0	0	7	145	177
WEST	20.8	41.9	46	956	1927	36	748	1508	0	0	0	0	0	0	0	0	0	0	0	0	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	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	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.8	314	1368	258	384	1673	316	92	401	76	114	497	94	112	488	92	238	1037	196	238	1037	196	104	453	85	90	392	74	83	362	68
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	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	410	514	249	277	347	168	159	199	97	260	326	158	215	269	131	193	242	117	105	132	64	252	316	153	48	60	29	180	226	109
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	19	51	25	17	46	22	7	19	9	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.6	0	0	0	0	0	0	0	0	0	94	234	44	225	560	106	0	0	0	112	279	53	0	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			2838			2768			766			1389			1950			2197			1715			1101			868			733		
SUB TOTAL HT GAIN				2434			1992			374			557			1526			2094			824			642			941			354	
LEVEL FACTOR / MULTIPLIER			0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32		0.20	0.32	
AIR CHANGE HEAT LOSS				907			885			245			444			623			702			548			362			277			234	
AIR CHANGE HEAT GAIN					244			200			38			56			153			210			83			64			94			36
DUCT LOSS				0			0			0			183			257			0			226			0			0			0	
DUCT GAIN					0			0			0			163			270			0			91			0			0			0
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0	1		240	0		0	1		240
HEAT GAIN APPLIANCES/LIGHTS					778			0			0			778			778			778			0			778			0			0
TOTAL HT LOSS BTU/H			3745			3653			1011			2016			2831			2899			2490			1453			1145			967		
TOTAL HT GAIN x 1.3 BTU/H				5117			2849			535			2332			3857			4319			1296			2242			1346			819	

ROOM USE			DIN			OFF			KT/FM			PANT			LAUN			W/R			FOY									WUB			BAS		
EXP. WALL			30			28			65			25			29			6			19									26			204		
CLG. HT.			11			11			11			11			12			11			11									9			9		
	FACTORS																																	
GRS.WALL AREA	LOSS	GAIN	330			308			715			275			348			66			209									234			1224		
GLAZING			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	14	291	228	0	0	0	8	166	130	0	0	0	0	0	0							0	0	0	9	187	147
EAST	20.8	41.9	0	0	0	48	997	2011	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
SOUTH	20.8	25.2	28	582	707	0	0	0	14	291	353	0	0	0	0	0	0	8	166	202	0	0	0							0	0	0	0	0	0
WEST	20.8	41.9	0	0	0	0	0	0	107	2223	4482	0	0	0	0	0	0	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	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	40	986	186							20	493	93	20	493	93
NET EXPOSED WALL	4.4	0.8	302	1316	248	260	1133	214	680	2527	477	275	1198	226	340	1481	280	68	253	48	169	736	139							214	932	176	0	0	0
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	0							0	0	0	612	2150	406
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	19	51	25	18	48	23	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	0	0	0	0	0	0	0	0	0	0	0	0	0							0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0												7261		
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0									0					
SUBTOTAL HT LOSS			1898			2181			5380			1198			1648			419			1722									1425			10091		
SUB TOTAL HT GAIN				955			2249			5564			226			410			250			325									269			645	
LEVEL FACTOR / MULTIPLIER			0.30	0.54		0.30	0.54		0.30	0.54		0.30	0.54		0.30	0.54		0.30	0.54		0.30	0.54										0.50	1.13	
AIR CHANGE HEAT LOSS				1028			1182			2915			649			893			227			933												13046		
AIR CHANGE HEAT GAIN					96			226			558			23			41			25			33													92
DUCT LOSS				0			0			0			0			0			0			0												0		
DUCT GAIN					0			0			0			0			0			0			0													0
HEAT GAIN PEOPLE	240		0		0	0		0	1		240	0		0	0		0	0		0	0		0							0		0	0		0
HEAT GAIN APPLIANCES/LIGHTS					778			778			778			778			778			0			0									0			778
TOTAL HT LOSS BTU/H			2926			3363			8295			1847			2540			646			2656									1425			23137		
TOTAL HT GAIN x 1.3 BTU/H				2377			4228			9282			1335			1598			357			465									350			1970	

TOTAL HEAT GAIN BTU/H: 47198 — TONS: 3.93 — LOSS DUE TO VENTILATION LOAD BTU/H: 2785 — STRUCTURAL HEAT LOSS: 69047 — TOTAL COMBINED HEAT LOSS BTU/H: 71832

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.

Michael O'Rourke

INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.

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SITE NAME: DEGREY DRIVE
BUILDER: GREENYORK HOMES

TYPE: YORK 3 DATE: Apr-17 GFA: 3922 LO# 73720

HEATING CFM	1540	COOLING CFM	1540	furnace pressure	0.6
TOTAL HEAT LOSS	69,047	TOTAL HEAT GAIN	46,673	furnace filter	0.05
AIR FLOW RATE CFM	22.3	AIR FLOW RATE CFM	33	a/c coil pressure	0.2
				available pressure for s/a & r/a	0.35
				plenum pressure s/a	0.18
				max s/a dif press. loss	0.02
				min adjusted pressure s/a	0.16
				r/a pressure	0.17
				r/a grille press. Loss	0.02
				adjusted pressure r/a	0.15

#CARRIER
59SP5A-80-16 80
FAN SPEED
LOW 0
MEDLOW 975
MEDIUM 1200
MEDIUM HIGH 1370
HIGH 1540

AFUE = 97 %
INPUT (BTU/H) = 80,000
OUTPUT (BTU/H) = 78,000
DESIGN CFM = 1540
CFM @ .6 " E.S.P.
TEMPERATURE RISE 47 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	15	11	6
R/A	0	0	5	3	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	BATH	BED-4	MBR	ENS-4/5	OFF	OFF	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	BED-5	BED-3	WIC-2	ENS	DIN
RM LOSS MBH.	1.87	1.83	1.01	2.02	1.42	1.45	1.25	1.25	1.45	1.87	0.97	1.68	1.68	2.07	2.07	2.07	2.54	0.65	2.66	1.45	1.42	1.15	1.83	2.93
CFM PER RUN HEAT	42	41	23	45	32	32	28	28	32	42	22	37	37	46	46	46	57	14	59	32	32	26	41	65
RM GAIN MBH.	2.56	1.42	0.54	2.33	1.93	2.16	0.65	0.65	2.16	2.56	0.82	2.11	2.11	2.32	2.32	2.32	1.60	0.36	0.46	2.24	1.93	1.35	1.42	2.38
CFM PER RUN COOLING	84	47	18	77	64	71	21	21	71	84	27	70	70	77	77	77	53	12	15	74	64	44	47	78
ADJUSTED PRESSURE	0.16	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	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	48	35	24	55	52	55	62	52	50	58	34	35	38	30	38	38	47	20	45	22	56	51	45	11
EQUIVALENT LENGTH	180	150	180	180	140	160	160	170	150	170	120	110	120	90	150	140	90	160	150	190	150	140	150	160
TOTAL EFFECTIVE LENGTH	228	185	204	235	192	215	222	222	200	228	154	145	158	120	188	178	137	180	195	212	206	191	195	171
ADJUSTED PRESSURE	0.07	0.09	0.08	0.07	0.09	0.08	0.08	0.08	0.09	0.07	0.11	0.12	0.11	0.14	0.09	0.1	0.13	0.1	0.09	0.08	0.08	0.09	0.09	0.1
ROUND DUCT SIZE	6	4	4	6	5	5	4	4	5	6	4	5	5	5	5	5	4	4	5	5	5	4	4	5
HEATING VELOCITY (ft/min)	214	470	264	229	235	235	321	321	235	214	252	272	272	338	338	338	654	161	433	235	235	298	470	477
COOLING VELOCITY (ft/min)	428	539	207	393	470	521	241	241	521	428	310	514	514	565	565	565	608	138	110	543	470	505	539	573
OUTLET GRILL SIZE	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	D	D	C	D	D	C	A	D	C	C	B	A	A	A	C	C	B	D	C	B	D

RUN #	25	26	27	28	29	30	31	32
ROOM NAME	KT/FM	PANT	BAS	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.07	1.85	4.09	4.09	4.09	4.09	4.09	4.09
CFM PER RUN HEAT	46	41	91	91	91	91	91	91
RM GAIN MBH.	2.32	1.33	0.39	0.39	0.39	0.39	0.39	0.39
CFM PER RUN COOLING	77	44	13	13	13	13	13	13
ADJUSTED PRESSURE	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	48	12	39	29	13	20	21	33
EQUIVALENT LENGTH	100	140	110	90	100	180	100	150
TOTAL EFFECTIVE LENGTH	148	152	149	119	113	200	121	183
ADJUSTED PRESSURE	0.12	0.11	0.11	0.14	0.14	0.08	0.13	0.09
ROUND DUCT SIZE	5	4	5	5	5	6	5	6
HEATING VELOCITY (ft/min)	338	470	668	668	668	464	668	464
COOLING VELOCITY (ft/min)	565	505	95	95	95	66	95	66
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10
TRUNK	A	B	A	B	B	A	D	C

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 A	461	0.07	10.8	14	x	8	593	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	867	0.07	13.7	22	x	8	709	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	328	0.08	9.2	10	x	8	590	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	671	0.07	12.5	18	x	8	671	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR TRUNK SIZE

	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)
TRUNK O	0	0.06	0	0	x	8	0
TRUNK P	0	0.06	0	0	x	8	0
TRUNK Q	0	0.06	0	0	x	8	0
TRUNK R	0	0.06	0	0	x	8	0
TRUNK S	0	0.06	0	0	x	8	0
TRUNK T	0	0.06	0	0	x	8	0
TRUNK U	0	0.06	0	0	x	8	0
TRUNK V	0	0.06	0	0	x	8	0
TRUNK W	0	0.06	0	0	x	8	0
TRUNK X	1540	0.06	17.7	32	x	10	693
TRUNK Y	310	0.06	9.7	12	x	8	465
TRUNK Z	330	0.06	9.9	12	x	8	495
DROP	1540	0.06	17.7	24	x	14	660

RETURN AIR #	1	2	3	4	5	6	7	8								BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	175	95	155	95	175	155	300	135	0	0	0	0	0	0	0	255
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
ACTUAL DUCT LGH.	52	57	53	59	63	43	21	38	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	155	145	185	145	150	150	145	225	0	0	0	0	0	0	0	185
TOTAL EFFECTIVE LH	207	202	238	204	213	193	166	263	1	1	1	1	1	1	1	199
ADJUSTED PRESSURE	0.07	0.07	0.06	0.07	0.07	0.08	0.09	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.07
ROUND DUCT SIZE	7.5	6	7.5	6	7.5	7	8.7	7.1	0	0	0	0	0	0	0	8.7
INLET GRILL SIZE	8	8	8	8	8	8	8	8	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	14	30	14	0	0	0	0	0	0	0	30

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.

Michael O'Rourke. INDIVIDUAL BCIN: 19669 MICHAEL O'ROURKE

HVAC DESIGNS LTD.

375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: YORK 3 LO # 73720
SITE NAME: DEGREY DRIVE

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	5	@ 10.6 cfm	53	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
More than 5 - Part 6	TOTAL	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY 9.32.3.5.

Total Ventilation Capacity	201.4	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	62.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 60H-V+ Location: BSMT

139.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
139.0 CFM	X	74 F	X	1.08	X	0.25

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
ENS-4/5	QTXEN050C	50	✓	0.3
W/R	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 60H-V+

139 cfm high 50 cfm low

75 % 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: Michael O'Rourke.

HRAI # 001820

Date: April-17

I REVIEW AND TAKE RESPONIBILITY 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. MICHAEL O'ROURKE

HVAC DESIGNS LTD.
375 Finley Ave. Suite 202 Ajax, ON L1S 2E2
Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: YORK 3 **BUILDER:** GREENYORK HOMES
SFQT: 3922 **LO#** 73720 **SITE:** DEGREY DRIVE

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):	57040.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 60.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	204.0 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	29.8
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

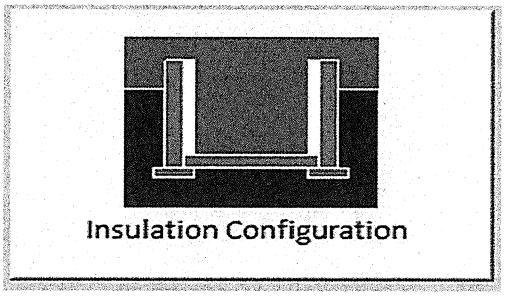
Michael O'Rourke

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

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 dand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	**18.3**	
Floor Width (m):	**12.8**	
Exposed Perimeter (m):	**0.0**	
Wall Height (m):	**2.7**	
Depth Below Grade (m):	**1.83**	
Window Area (m^2):	**0.8**	
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):		**2127**



Insulation Configuration

TYPE: YORK 3
LO# 73720

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

Air Infiltration Residential Load Calculator

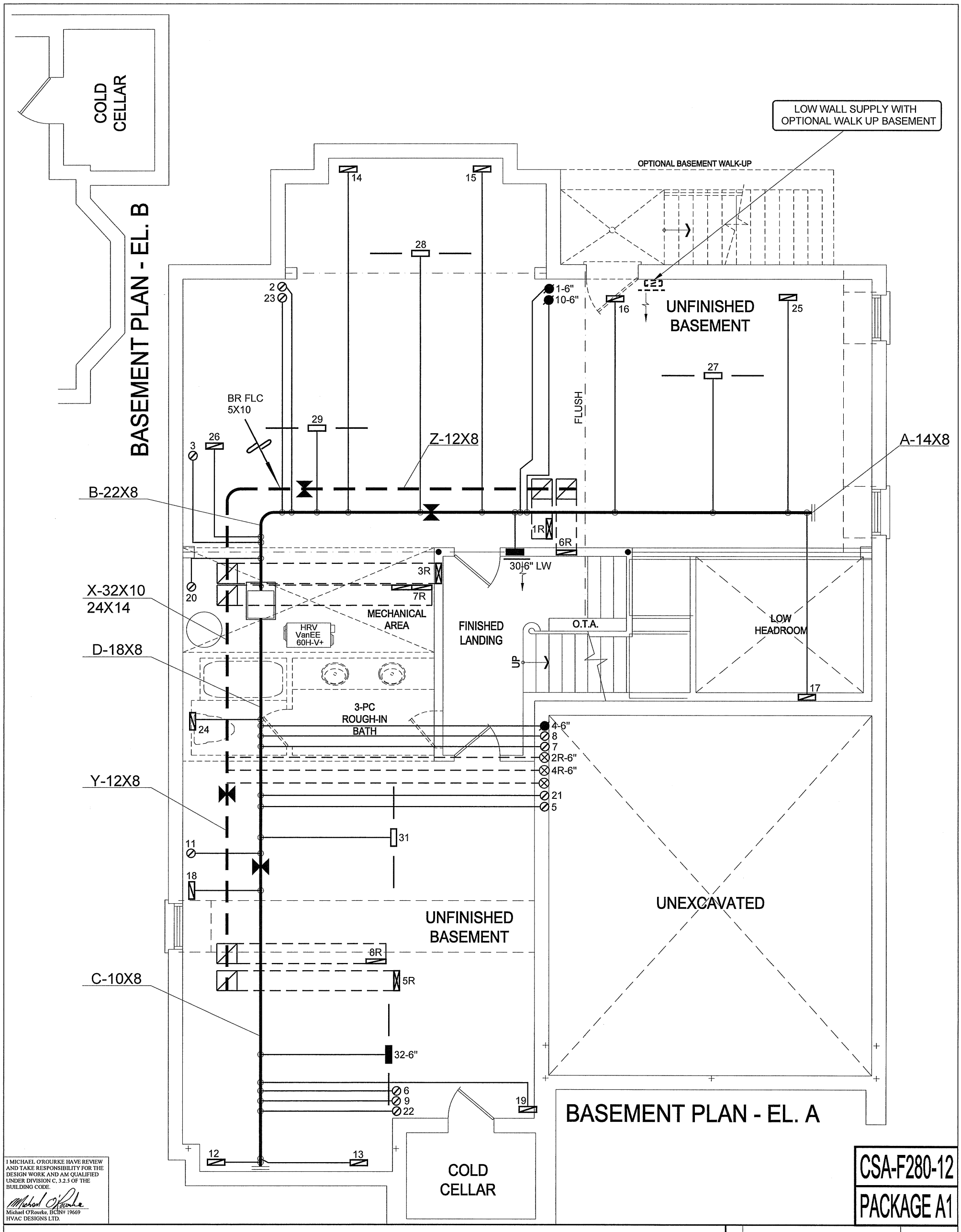
Supplemental tool for CAN/CSA-F280

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):	7.32	
Building Configuration		
Type:	Detached	
Number of Stories:	Two	
Foundation:	Full	
House Volume (m^3):	1615.2	
Air Leakage/Ventilation		
Air Tightness Type:	Present (1961-) (3.57 ACH)	
Custom BDT Data:	ELA @ 10 Pa.	2153.1 cm^2
	3.57	ACH @ 50 Pa
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust
	65.6	65.6

Flue Size					
Flue #:	#1	#2	#3	#4	
Diameter (mm):	0	0	0	0	

Natural Infiltration Rates	
Heating Air Leakage Rate (ACH/H):	**0.345**
Cooling Air Leakage Rate (ACH/H):	**0.122**

TYPE: YORK 3
LO# 73720



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, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE A1

HVAC LEGEND

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

No.	Description	Date
3.		
2.		
1.		

REVISIONS

Client

ARIA COMFORT SYSTEMS

Project Name

GREENYORK HOMES
DEGREY DRIVE
BRAMPTON, ONTARIO

YORK 3 3922 sqft

HVAC DESIGNS LTD.
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 71832 BTU/H		
UNIT DATA		
MAKE	CARRIER	
MODEL	59SP5A-80-16	
INPUT	80	MBTU/H
OUTPUT	78	MBTU/H
COOLING	4.0	TONS
FAN SPEED	1540	cfm @ 0.5" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	15	5	4
1ST FLOOR	11	3	2
BASEMENT	6	1	0

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

Sheet Title

BASEMENT HEATING LAYOUT

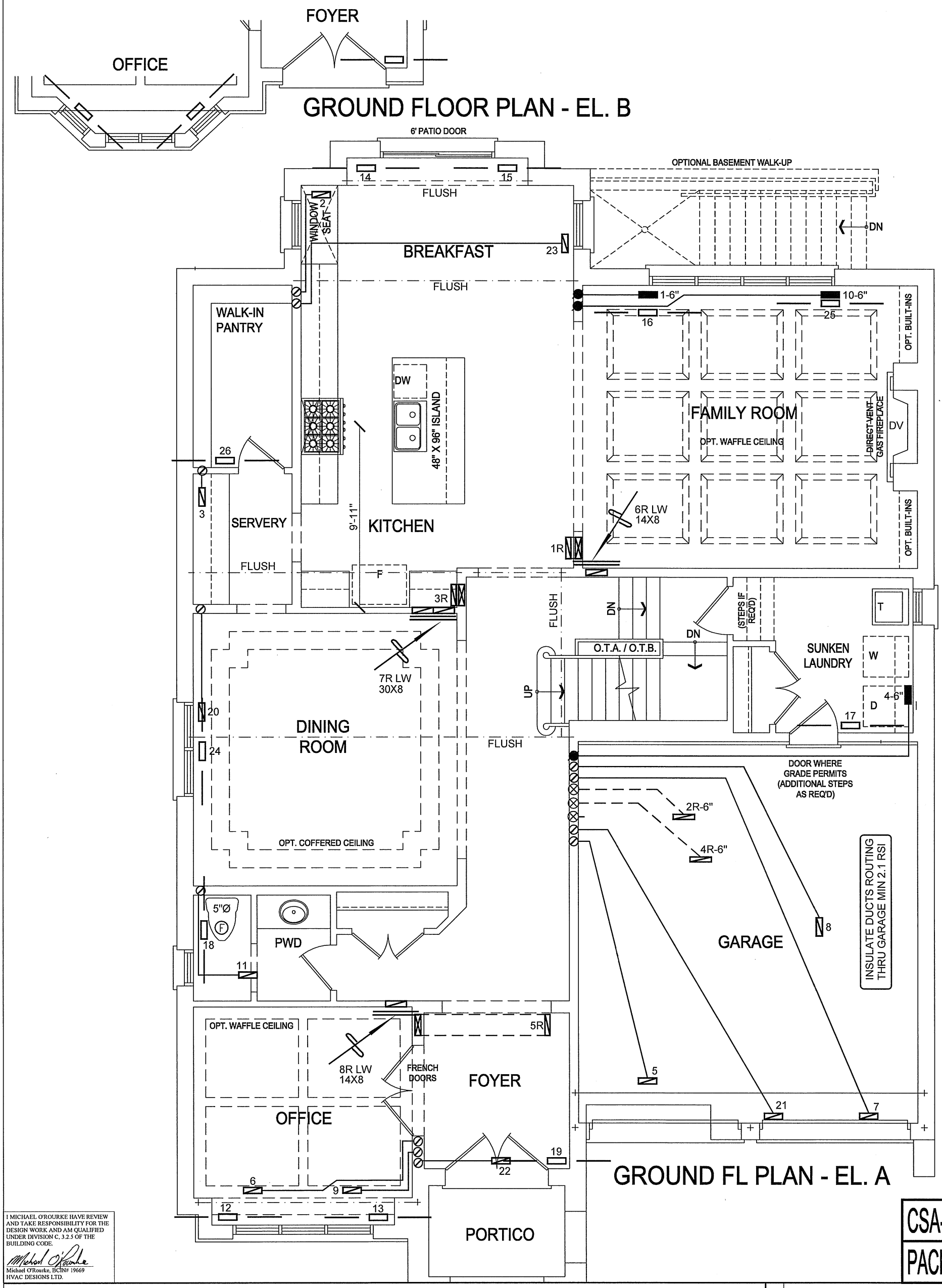
Date APR/2017

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 73720

GROUND FLOOR PLAN - EL. B



GROUND FL PLAN - EL. A

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CSA-F280-12

PACKAGE A1

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— ▬ —	FLOOR SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▱	30"x8" RETURN AIR GRILLE	▱	RETURN AIR STACK 2nd FLOOR
▱	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▭	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

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DEGREY DRIVE
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YORK 3 3922 sqft

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Sheet Title

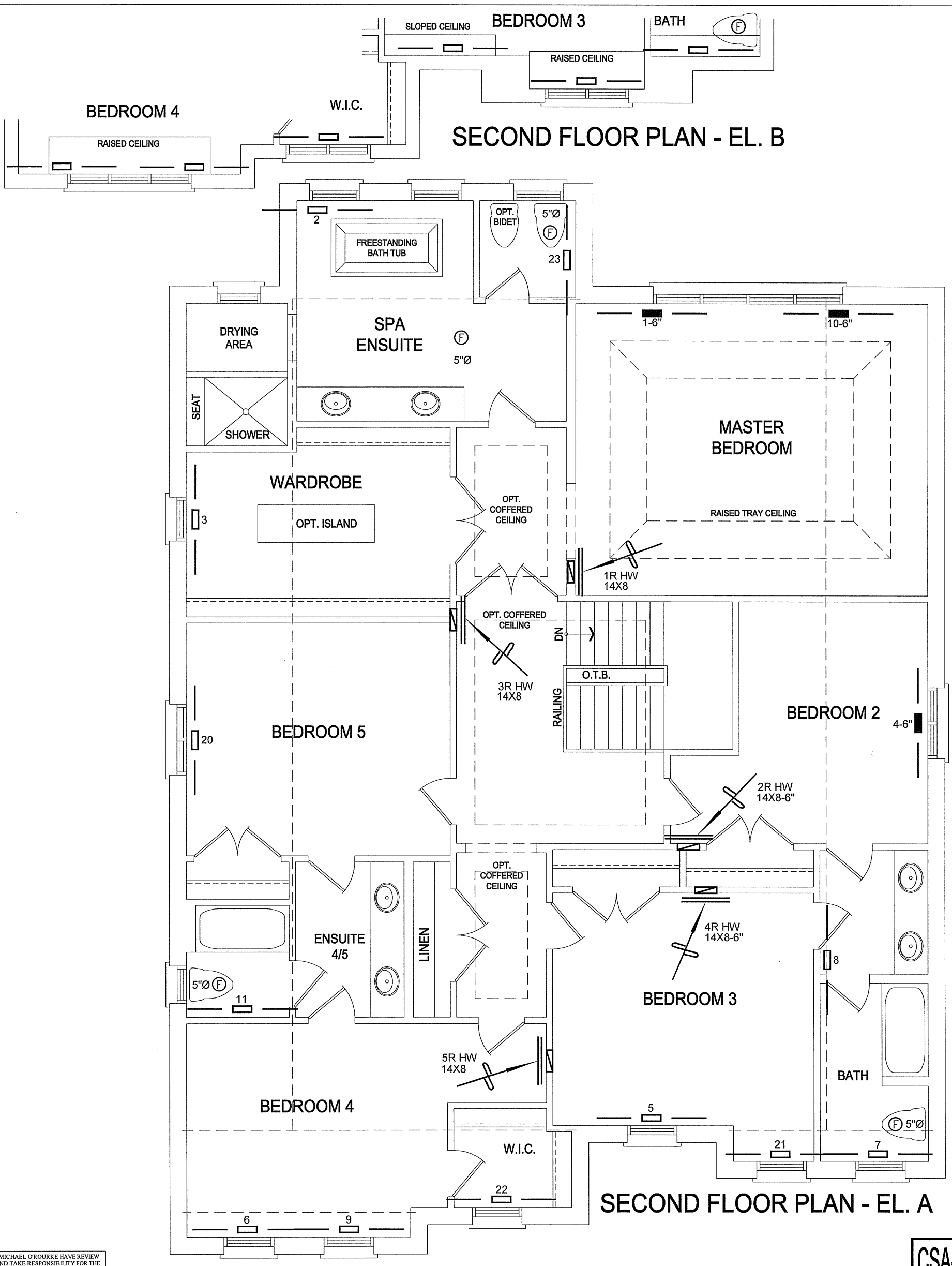
FIRST FLOOR HEATING LAYOUT

Date APR/2017

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 73720



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CSA-F280-12

PACKAGE A1

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— ▬ —	FLOOR SUPPLY AIR GRILLE 6" BOOT	⊘	SUPPLY AIR STACK FROM 2nd FLOOR	▱	30"x8" RETURN AIR GRILLE	⊠	RETURN AIR STACK 2nd FLOOR
▱	SUPPLY AIR BOOT ABOVE	●	6" SUPPLY AIR STACK 2nd FLOOR	▤	FRA- FLOOR RETURN AIR GRILLE	⧗	REDUCER

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3.		
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REVISIONS

Client

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Project Name

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DEGREY DRIVE
BRAMPTON, ONTARIO

YORK 3 3922 sqft

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Sheet Title

SECOND FLOOR HEATING LAYOUT

Date APR/2017

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 73720