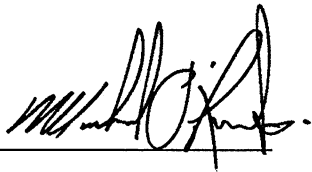


Schedule 1: Designer Information

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. 8
Municipality VAUGHAN	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	☒ 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: 42-5 Project: KLEINBURG GLEN	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4.of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5.of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. I have submitted this application with the knowledge and consent of the firm.			
<u>March 7, 2017</u> 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.

SITE NAME: KLEINBURG GLEN BUILDER: GOLD PARK HOMES				TYPE: 42-5		GFA: 3562		DATE: Mar-17 LO# 73002		WINTER NATURAL AIR CHANGE RATE 0.330 SUMMER NATURAL AIR CHANGE RATE 0.121		HEAT LOSS ΔT °F. 76 HEAT GAIN ΔT °F. 16		CSA-F280-12 SB-12 PACKAGE A1		
ROOM USE		MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	ENS-2	DEN						
EXP. WALL CLG. HT.		37 10	30 9	9 9	14 9	33 10	12 9	7 9	12 9	20 10						
FACTORS																
GRS.WALL AREA		370	270	81	126	330	108	63	108	200						
GLAZING		LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN						
NORTH	21.3 16.9	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	16 340 270	6 128 101	0 0 0	0 0 0						
EAST	21.3 42.4	32 681 1358	7 149 297	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0						
SOUTH	21.3 25.8	0 0 0	0 0 0	0 0 0	16 340 413	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0						
WEST	21.3 42.4	0 0 0	0 0 0	0 0 0	0 0 0	44 936 1868	0 0 0	0 0 0	0 0 0	6 128 155						
SKYLT.	21.3 87.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	16 340 413						
DOORS	25.2 5.3	0 0 0	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		4.5 0.9	338 1508 318	242 1080 227	81 351 76	110 491 103	286 1276 269	92 411 86	57 254 54	102 455 96						
NET EXPOSED BSMT WALL ABOVE GR		3.6 0.8	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	184 821 173						
EXPOSED CLG		1.3 0.6	336 431 216	224 287 144	135 173 87	238 305 153	216 277 139	207 266 133	126 162 81	0 0 0						
NO A/TTC EXPOSED CLG		2.7 1.4	0 0 0	0 0 0	0 0 0	44 121 60	0 0 0	0 0 0	0 0 0	0 0 0						
EXPOSED FLOOR		2.6 0.5	0 0 0	0 0 0	8 20 4	260 663 140	5 13 3	90 230 48	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 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 0	0 0 0	0 0 0						
SUBTOTAL HT LOSS		2621	1953	535	1157	3274	1029	773	875	1162						
SUB TOTAL HT GAIN		1891	1023	163	673	2475	492	284	397	586						
LEVEL FACTOR / MULTIPLIER		0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.20 0.33	0.30 0.38						
AIR CHANGE HEAT LOSS		867	650	177	383	1083	341	256	290	439						
AIR CHANGE HEAT GAIN		146	79	13	62	191	38	22	31	45						
DUCT LOSS		0	0	0	154	436	137	103	0	0						
DUCT GAIN		0	0	0	170	364	160	31	0	0						
HEAT GAIN PEOPLE		2	0	0	1	1	1	0	0	0						
HEAT GAIN APPLIANCES/LIGHTS		733	0	0	733	733	733	0	0	0						
TOTAL HT LOSS BTU/H		3488	2613	712	1694	4793	1507	1132	1165	1601						
TOTAL HT GAIN x 1.3 BTU/H		4225	1432	228	2428	5203	2148	437	556	1772						

ROOM USE	EXP. WALL CLG. HT.	LVDN	KTGR	LAUN	WR	FOY	MUD	BAS									
GRS.WALL AREA	FACTORS	240	730	108	88	850	308	1188									
GLAZING	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN									
NORTH	21.3 16.9	33 702 557	0 0 0	0 0 0	0 0 0	0 0 0	8 170 135	18 383 304									
EAST	21.3 42.4	0 0 0	141 3000 5985	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0									
SOUTH	21.3 25.8	33 702 851	0 0 0	6 128 155	0 0 0	0 0 0	0 0 0	0 0 0									
WEST	21.3 42.4	0 0 0	0 0 0	0 0 0	0 0 0	64 1362 2717	0 0 0	0 0 0									
SKYLT.	21.3 87.5	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0									
DOORS	25.2 5.3	0 0 0	10 252 53	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0									
NET EXPOSED WALL	4.5 0.9	174 777 163	579 2584 644	102 455 96	88 393 83	766 3418 720	280 1260 263	20 505 106									
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.8	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	0 0 0	0 0 0	204 262 131	0 0 0	0 0 0	0 0 0	0 0 0									
NO A/TTC EXPOSED CLG	2.7 1.4	0 0 0	20 55 27	0 0 0	0 0 0	148 407 203	0 0 0	0 0 0									
EXPOSED FLOOR	2.6 0.5	0 0 0	0 0 0	24 61 13	0 0 0	0 0 0	0 0 0	0 0 0									
BASEMENT/CRAWL HEAT LOSS																	
SLAB ON GRADE HEAT LOSS																	
SUBTOTAL HT LOSS		2181	5892	906	393	5692	1925	9801									
SUB TOTAL HT GAIN		1571	5610	394	83	3746	504	860									
LEVEL FACTOR / MUL TIPLIER		0.30 0.38	0.30 0.38	0.20 0.33	0.30 0.38	0.30 0.38	0.30 0.38	0.50									
AIR CHANGE HEAT LOSS		825	2227	300	148	2162	728	10865									
AIR CHANGE HEAT GAIN		121	509	30	6	289	39	66									
DUCT LOSS		0	0	121	0	0	0	0									
DUCT GAIN		0	0	116	0	0	0	0									
HEAT GAIN PEOPLE	240	733	733	733	0	0	0	0									
HEAT GAIN APPLIANCES/LIGHTS		3005	8119	1326	541	7844	2552	20666									
TOTAL HT LOSS BTU/H		3153	8119	1655	116	5245	1659	1204									
TOTAL HT GAIN x 1.3 BTU/H		3153	8119	1655	116	5245	1659	1204									

TOTAL HEAT GAIN BTU/H: 42258

TONS: 3.52

LOSS DUE TO VENTILATION LOAD BTU/H: 2852

STRUCTURAL HEAT LOSS: 62859

TOTAL COMBINED HEAT LOSS BTU/H: 65712

Michael O'Rourke

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 42-5

DATE: Mar-17

GFA: 3552

LO# 73002

HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 62,859 TOTAL HEAT GAIN 41,667
AIR FLOW RATE CFM 30.12 AIR FLOW RATE CFM 30.12

EL296UH090XE48C
FAN SPEED LOW 0
MEDIUM 1105
HIGH 1255

^LENNOX

90

AFUE = 96 %

INPUT (BTU/H) = 88,000

OUTPUT (BTU/H) = 85,000

DESIGN CFM = 1255

CFM @ 6" E.S.P.

TEMPERATURE RISE 63 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	12	10	5
R/A	0	0	4	3	1

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

All S/A runs 5'0" 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	1.74	1.31	0.71	1.69	2.40	1.51	1.13	1.31	2.40	1.74	1.17	1.50	1.50	2.71	2.71	2.71	KT/GR	KT/GR	KT/GR	KT/GR	KT/GR	KT/GR	KT/GR	KT/GR
CFM PER RUN HEAT	35	26	14	34	48	30	23	26	48	35	23	30	30	54	54	54	54	54	54	54	54	54	54	54
RM GAIN MBH	2.11	0.72	0.23	2.43	2.60	2.15	0.44	0.72	2.60	2.11	0.56	1.58	1.58	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40	3.40
CFM PER RUN COOLING	64	22	7	73	78	65	13	22	78	64	17	47	47	102	102	102	102	102	102	102	102	102	102	102
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	0.17	0.17	0.17	0.17
EQUIVALENT LENGTH	150	190	180	150	120	130	140	190	120	180	150	100	110	130	100	100	190	120	120	120	120	120	120	120
TOTAL EFFECTIVE LENGTH	191	235	217	193	165	160	177	237	161	229	189	119	131	166	128	128	231	192	152	182	135	137	106	113
ADJUSTED PRESSURE	0.09	0.07	0.08	0.09	0.1	0.11	0.1	0.07	0.11	0.08	0.09	0.14	0.13	0.1	0.13	0.07	0.07	0.09	0.11	0.09	0.12	0.12	0.15	0.14
ROUND DUCT SIZE	5	4	4	5	5	5	4	4	5	5	4	4	4	6	5	5	6	4	4	5	5	5	5	5
HEATING VELOCITY (ft/min)	257	298	161	250	352	220	264	298	352	257	264	344	344	275	396	396	275	298	126	389	609	609	609	609
COOLING VELOCITY (ft/min)	470	252	80	536	573	477	149	252	573	470	195	539	539	520	749	520	520	574	34	580	367	51	51	51
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	B	D	E	C	E	A	E	A	B	C	C	A	A	A	A	D	D	E	B	C	C	E

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	4.13	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92	1.80	3.92
CFM PER RUN HEAT	83	78	32	83	78	32	83	78	32	83	78	32	83	78	32	83	78	32	83	78	32	83	78	32
RM GAIN MBH	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77	0.24	2.62	1.77
CFM PER RUN COOLING	7	79	53	7	79	53	7	79	53	7	79	53	7	79	53	7	79	53	7	79	53	7	79	53
ADJUSTED PRESSURE	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17	0.16	0.17	0.17
EQUIVALENT LENGTH	110	130	130	110	130	130	110	130	130	110	130	130	110	130	130	110	130	130	110	130	130	110	130	130
TOTAL EFFECTIVE LENGTH	145	153	153	145	153	153	145	153	153	145	153	153	145	153	153	145	153	153	145	153	153	145	153	153
ADJUSTED PRESSURE	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
ROUND DUCT SIZE	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4	5	5	4
HEATING VELOCITY (ft/min)	609	573	367	609	573	367	609	573	367	609	573	367	609	573	367	609	573	367	609	573	367	609	573	367
COOLING VELOCITY (ft/min)	51	580	608	51	580	608	51	580	608	51	580	608	51	580	608	51	580	608	51	580	608	51	580	608
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	D	D	E	D	D	E	D	D	E	D	D	E	D	D	E	D	D	E	D	D	E	D	D	E

SUPPLY AIR TRUNK SIZE												RETURN 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	258	0.07	8.7	10	8	TRUNK G	0	0.00	0	0	8	TRUNK O	0	0.05	0	0	8						
TRUNK B	487	0.07	11.1	14	8	TRUNK H	0	0.00	0	0	8	TRUNK P	0	0.05	0	0	8						
TRUNK C	660	0.07	12.4	18	8	TRUNK I	0	0.00	0	0	8	TRUNK Q	0	0.05	0	0	8						
TRUNK D	310	0.09	8.8	10	8	TRUNK J	0	0.00	0	0	8	TRUNK R	0	0.05	0	0	8						
TRUNK E	597	0.09	11.2	14	8	TRUNK K	0	0.00	0	0	8	TRUNK S	0	0.05	0	0	8						
TRUNK F	0	0.00	0	0	0	TRUNK L	0	0.00	0	0	8	TRUNK T	0	0.05	0	0	8						
RETURN AIR #	1	2	3	4	6	7	BR																
AIR VOLUME	155	150	145	75	175	0	0	0	0	0	0	0	TRUNK W	0	0.05	0	0	8					
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0	0	0	0	0	0	TRUNK X	750	0.05	14.2	24	8					
ACTUAL DUCT LGH.	38	36	37	44	22	23	19	1	1	1	1	1	TRUNK Y	505	0.05	12.2	18	8					
EQUIVALENT LENGTH	150	175	225	230	145	145	135	0	0	0	0	0	TRUNK Z	0	0.05	0	0	8					
TOTAL EFFECTIVE LH	188	211	262	274	167	168	154	1	1	1	1	1	DROP	1255	0.05	17.2	24	11					
ADJUSTED PRESSURE	0.08	0.07	0.06	0.05	0.09	0.09	0.10	14.80	14.80	14.80	14.80	14.80											
ROUND DUCT SIZE	7	7.1	7.3	6	7.1	7.1	6.9	0	0	0	0	0											
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0											
INLET GRILL SIZE	14	14	14	14	14	14	14	0	0	0	0	0											

TYPE: 42-5
SITE NAME: KLEINBURG GLEN

LO # 73002

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a) ☒	Direct vent (sealed combustion) only	
b) ☐	Positive venting induced draft (except fireplaces)	
c) ☐	Natural draft, B-vent or induced draft gas fireplace	
d) ☐	Solid Fuel (including fireplaces)	
e) ☐	No Combustion Appliances	

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

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

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

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	3 @ 10.6 cfm	31.8 cfm
Kitchen & Bathrooms	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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	79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	139	cfm
Required Supplemental Capacity	51.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 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 76 F	X 1.08	X 0.25

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

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 60H-V+		
139 cfm high	50 cfm low	
75 % Sensible Efficiency	☒	HVI Approved
@ 32 deg F (0 deg C)		

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

BUILDER:	
GOLD PARK 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:	March-17

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** 42-5**BUILDER:** GOLD PARK HOMES**SFQT:** 3552**LO#** 73002**SITE:** KLEINBURG GLEN**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
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):	48448.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 65.0 ft	WIDTH: 34.0 ft	EXPOSED PERIMETER:	198.0 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

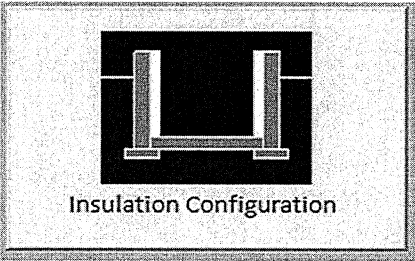
MICHAEL O'ROURKE



CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																					
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$= 0.121 \times 381.08 \times 9^\circ\text{C} \times 1.2 = 491 \text{ W}$	$= 1676 \text{ Btu/h}$																																																																				
6.2.7 Sensible heat Gain due to Ventilation																																																																					
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																					
$139 \text{ CFM} \times 76^\circ\text{F} \times 1.08 \times 0.25 = 2852 \text{ Btu/h}$	$139 \text{ CFM} \times 16^\circ\text{F} \times 1.08 \times 0.25 = 600 \text{ Btu/h}$																																																																				
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																					
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Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	19.8	 Insulation Configuration
Floor Width (m):	10.4	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m ²):	1.7	
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):		1985

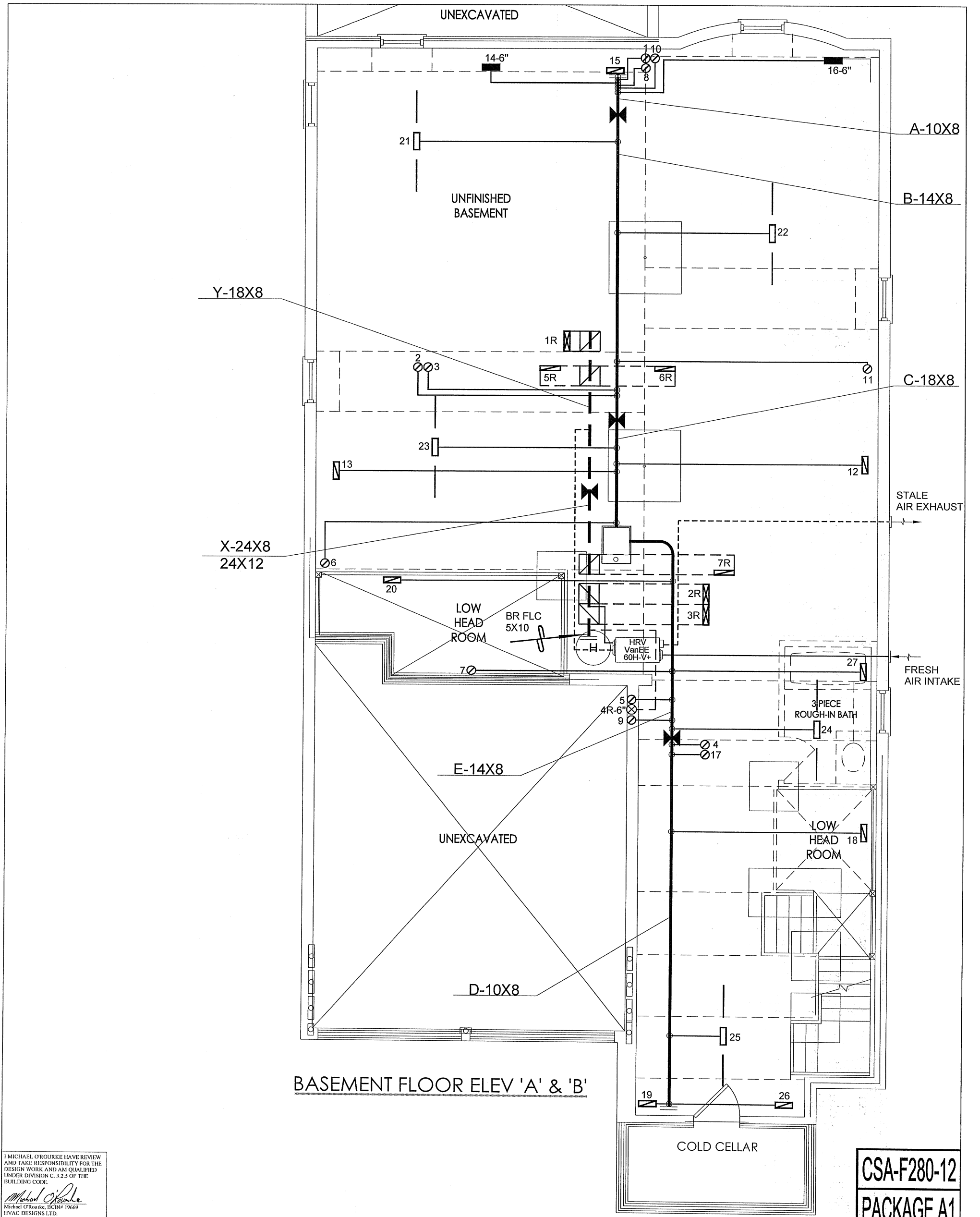
TYPE: 42-5
LO# 73002

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
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):	6.71			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1371.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1828.8 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):	0.330			
Cooling Air Leakage Rate (ACH/H):	0.121			

TYPE: 42-5
LO# 73002



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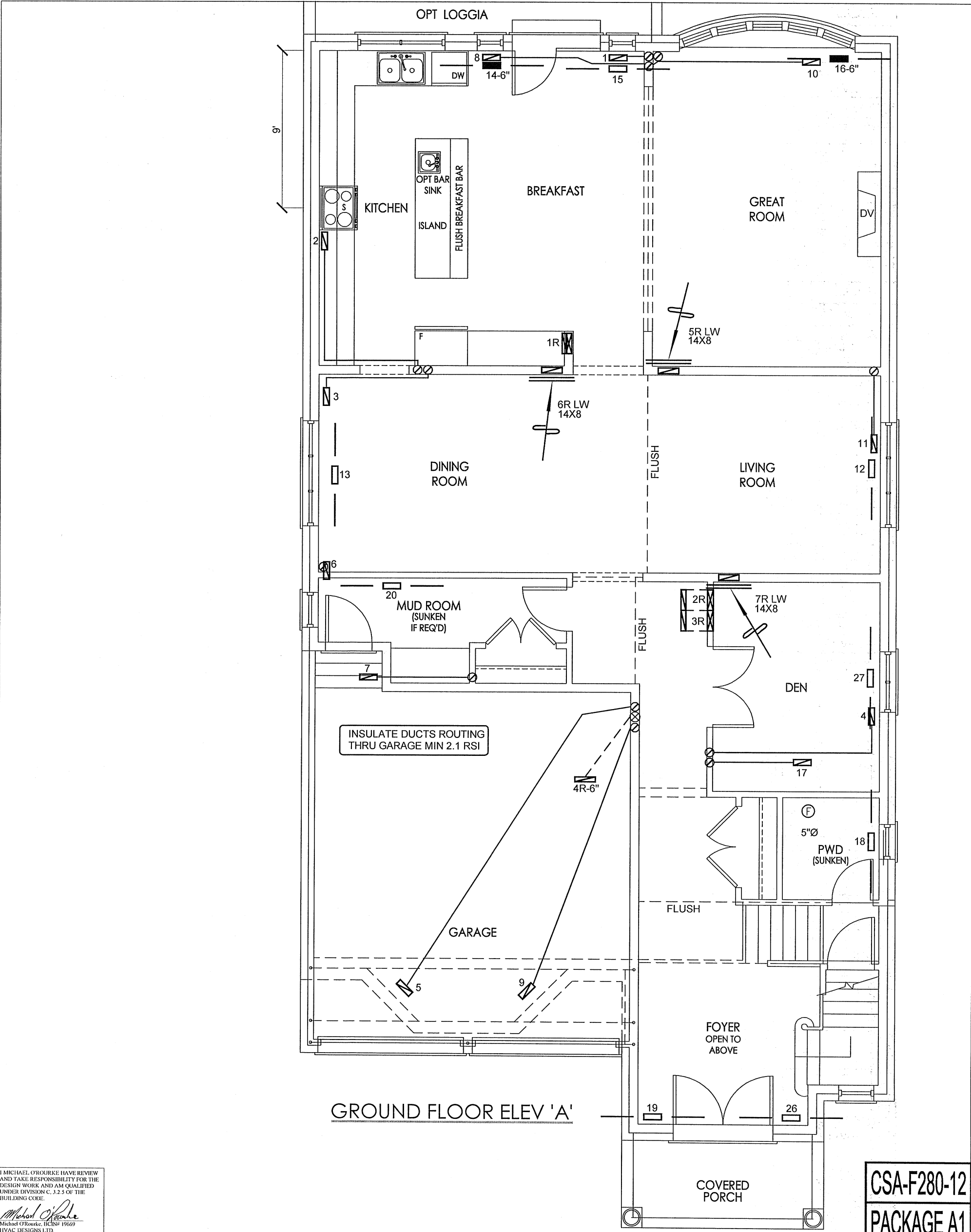
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
PACKAGE A1

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	FLOOR 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 - Unit 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 65712 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title		
GOLD PARK HOMES			MAKE LENNOX		3RD FLOOR				BASEMENT HEATING LAYOUT		
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			MODEL EL296UH090XE48C		2ND FLOOR				12	4	4
			INPUT 88 MBTU/H		1ST FLOOR				10	3	2
42-5 3552 sqft			OUTPUT 85 MBTU/H		BASEMENT				5	1	0
		COOLING 3.5 TONS		ALL S/A DIFFUSERS 4"x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A				Date MAR/2017			
		FAN SPEED 1255 cfm @ 0.5" w.c.						Scale 3/16" = 1'-0"			
								BCIN# 19669			
								LO#	73002		



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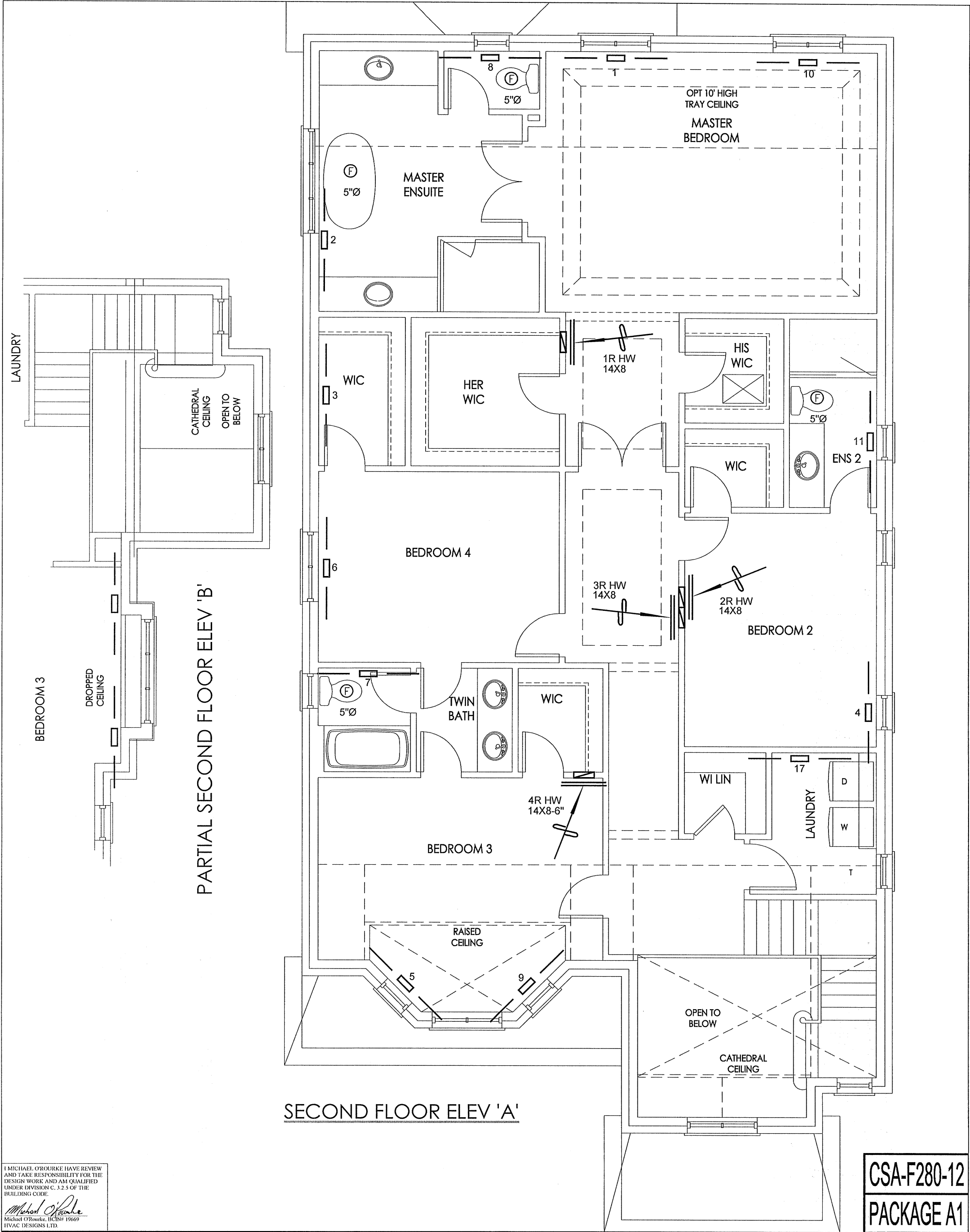
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CSA-F280-12
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GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	MAR/2017
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
42-5			BCIN# 19669	
3552 sqft			LO#	73002



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CSA-F280-12
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Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			Date MAR/2017	Scale 3/16" = 1'-0"
42-5 3552 sqft		BCIN# 19669		
		LO#	73002	
		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.		