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 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@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: 38-5 – OPT 5 BED

Project: KLEINBURG GLEN

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.

January 29, 2016
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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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

SITE NAME: KLEINBURG GLEN | DATE: Jan-16 | WINTER NATURAL AIR CHANGE RATE 0.322 | HEAT LOSS ΔT °F. 76 | CSA-F280-12
BUILDER: GOLD PARK HOMES | TYPE: 38-5 OPT 5 BED | GFA: 2805 | LO# 67105 | SUMMER NATURAL AIR CHANGE RATE 0.098 | HEAT GAIN ΔT °F. 16 | SB-12 PACKAGE J

ROOM USE			MBR			ENS			WIC			BED-2			BED-3			BED-4			BATH				BED-5			BATH-2				
EXP. WALL			31			8			6			26			14			18			9				11			22				
CLG. HT.			10			9			9			9			9			10			9				9			9				
	FACTORS																															
GRS.WALL AREA	LOSS	GAIN	310			72			54			234			126			180			81				99			198				
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		
NORTH	24.1	17.5	0	0	0	0	0	0	0	0	0	0	0	0	16	385	279	0	0	0	7	169	122		0	0	0	0	0	0		
EAST	24.1	43.0	24	578	1033	0	0	0	0	0	0	16	385	689	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		
SOUTH	24.1	26.4	0	0	0	20	482	528	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		16	385	422	0	0	0		
WEST	24.1	43.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	602	1076	0	0	0		0	0	0	8	193	344		
SKYLT.	24.1	88.1	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	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	3.5	0.7	286	988	208	52	180	38	54	187	39	218	753	159	110	380	80	155	535	113	74	256	54		83	287	60	190	656	138		
NET EXPOSED BSMT WALL ABOVE GR	6.3	1.3	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		
EXPOSED CLG	1.5	0.8	234	356	178	120	182	91	90	137	68	165	251	125	182	277	138	214	325	163	108	164	82		176	268	134	105	160	80		
NO ATTIC EXPOSED CLG	2.5	1.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	59	29	0	0	0		0	0	0	0	0	0		
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	204	500	105	0	0	0		68	167	35	98	240	51		
BASEMENT/CRAWL HEAT LOSS			0			0			0			0			0			0			0				0			0				
SLAB ON GRADE HEAT LOSS			0			0			0			0			0			0			0				0			0				
SUBTOTAL HT LOSS			1922			844			323			1389			1042			2022			588				1106			1249				
SUB TOTAL HT GAIN					1419			657			108			973			498			1486			258			651			613		
LEVEL FACTOR / MULTIPLIER			0.20	0.31		0.20	0.31		0.20	0.31		0.20	0.31		0.20	0.31		0.20	0.31		0.20	0.31			0.20	0.31		0.20	0.31			
AIR CHANGE HEAT LOSS			587			258			99			424			318			618			180				338			381				
AIR CHANGE HEAT GAIN					88			41			7			60			31			92			16			40			38		
DUCT LOSS			502			0			0			0			0			264			0				144			163				
DUCT GAIN					131			0			0			0			0			245			0			156			65		
HEAT GAIN PEOPLE	240		2		480	0		0	0		0	1		240	1		240	1		240	0		0		1		240	0		0		
HEAT GAIN APPLIANCES/LIGHTS					630			0			0			630			630			630			0				630			0		
TOTAL HT LOSS BTU/H			3011			1102			422			1814			1360			2904			768				1589			1793				
TOTAL HT GAIN x 1.3 BTU/H					3571			907			149			2473			1818			3500			356			2233			931		

ROOM USE			HALL			DIN			KIT/GRT				LAUN.			PWDR			FOY			DEN						BAS		
EXP. WALL			12			12			82				7			12			44			11						180		
CLG. HT.			9			10			10				11			11			10			10						9		
	FACTORS																													
GRS.WALL AREA	LOSS	GAIN	108			120			820				77			132			440			110						1080		
GLAZING				LOSS	GAIN		LOSS	GAIN		LOSS	GAIN			LOSS	GAIN		LOSS	GAIN		LOSS	GAIN		LOSS	GAIN					LOSS	GAIN
NORTH	24.1	17.5	7	169	122	0	0	0	0	0	0		8	193	140	0	0	0	0	0	0	0	0	0				4	96	70
EAST	24.1	43.0	0	0	0	0	0	0	113	2723	4864		0	0	0	0	0	0	0	0	0	0	0	0				8	193	344
SOUTH	24.1	26.4	0	0	0	22	530	581	0	0	0		0	0	0	8	193	211	0	0	0	22	530	581				8	193	211
WEST	24.1	43.0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	34	819	1463	0	0	0				0	0	0
SKYLT.	24.1	88.1	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
DOORS	25.2	5.3	0	0	0	0	0	0	0	0	0		20	505	106	0	0	0	42	1060	223	0	0	0				20	505	106
NET EXPOSED WALL	3.5	0.7	101	349	73	98	339	71	707	2442	514		49	169	36	124	428	90	364	1257	265	88	304	64				0	0	0
NET EXPOSED BSMT WALL ABOVE GR	6.3	1.3	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0				540	3420	720
EXPOSED CLG	1.5	0.8	132	201	100	0	0	0	12	18	9		0	0	0	0	0	0	92	140	70	0	0	0				0	0	0
NO ATTIC EXPOSED CLG	2.5	1.2	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	40	98	49	0	0	0				0	0	0
EXPOSED FLOOR	2.5	0.5	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0				0	0	0
BASEMENT/CRAWL HEAT LOSS			0			0			0				0			0			0			0						7570		
SLAB ON GRADE HEAT LOSS			0			0			0				0			0			0			0								
SUBTOTAL HT LOSS			718			869			5183				867			621			3375			834						11977		
SUB TOTAL HT GAIN					296			652			5387				282			301			2070			645						1452
LEVEL FACTOR / MULTIPLIER			0.20	0.31		0.30	0.44		0.30	0.44			0.30	0.44		0.30	0.44		0.30	0.44		0.30	0.44					0.50	0.71	
AIR CHANGE HEAT LOSS			219			380			2265				379			271			1475			364						8556		
AIR CHANGE HEAT GAIN					18			40			333				17			19			128			40						90
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	0		0		0		0	0		0	0		0	0		0				0		0
HEAT GAIN APPLIANCES/LIGHTS					630			630			630				630			0			0			630						0
TOTAL HT LOSS BTU/H			938			1248			7448				1246			892			4850			1198						20533		
TOTAL HT GAIN x 1.3 BTU/H					1227			1718			8254				1208			416			2858			1708						2004

TOTAL HEAT GAIN BTU/H: 35924 TONS: 2.99 LOSS DUE TO VENTILATION LOAD BTU/H: 2815 STRUCTURAL HEAT LOSS: 53115 TOTAL COMBINED HEAT LOSS BTU/H: 55931

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

HVA DESIGNS LTD.

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SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 38-5 OPT 5 BED DATE: Jan-16 GFA: 2805 LO# 67105

HEATING CFM	1100	COOLING CFM	1100	furnace pressure	0.6	
TOTAL HEAT LOSS	53,115	TOTAL HEAT GAIN	35,331	furnace filter	0.05	
AIR FLOW RATE CFM	20.71	AIR FLOW RATE CFM	31.13	a/c coil pressure	0.2	
				available pressure for s/a & r/a	0.35	
				plenum pressure s/a	0.18	r/a pressure 0.17
				max s/a dif press. loss	0.03	r/a grille press. Loss 0.02
				min adjusted pressure s/a	0.15	adjusted pressure r/a 0.15

.LENNOX
EL195UH070XE36B 70
AFUE = 95.0 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = **63,000**

FAN SPEED	
LOW	0
MEDLOW	0
MEDIUM	995
MEDIUM HIGH	1100
HIGH	1200

DESIGN CFM = **1100**
CFM @ .6 " E.S.P.
TEMPERATURE RISE 53 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	10	8	5
R/A	0	0	4	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	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
ROOM NAME	BED-2	MBR	ENS	BATH	BED-4	BED-5	BATH-2	WIC	BED-3	HALL	DIN	KIT/GRT	KIT/GRT	KIT/GRT	LAUN.	PWDR	FOY	DEN	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.81	3.01	1.10	0.77	2.90	1.59	1.79	0.42	1.36	0.94	1.25	2.48	2.48	2.48	1.25	0.89	4.85	1.20	4.11	4.11	4.11	4.11
CFM PER RUN HEAT	38	62	23	16	60	33	37	9	28	19	26	51	51	51	26	18	100	25	85	85	85	85
RM GAIN MBH.	2.47	3.57	0.91	0.36	3.50	2.23	0.93	0.15	1.82	1.23	1.72	2.75	2.75	2.75	1.21	0.42	2.86	1.71	0.40	0.40	0.40	0.40
CFM PER RUN COOLING	77	111	28	11	109	70	29	5	57	38	53	86	86	86	38	13	89	53	12	12	12	12
ADJUSTED PRESSURE	0.17	0.15	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	55	53	26	40	44	42	44	41	27	35	31	38	30	45	11	24	35	21	39	32	16	16
EQUIVALENT LENGTH	120	160	160	180	130	190	180	170	170	140	100	130	110	110	140	110	90	110	100	120	120	130
TOTAL EFFECTIVE LENGTH	175	213	186	220	174	232	224	211	197	175	131	168	140	155	151	134	125	131	139	152	136	146
ADJUSTED PRESSURE	0.1	0.07	0.09	0.08	0.09	0.07	0.08	0.08	0.09	0.1	0.13	0.1	0.12	0.1	0.11	0.13	0.13	0.13	0.12	0.11	0.12	0.11
ROUND DUCT SIZE	5	**6**	4	4	**6**	5	4	4	5	4	4	5	5	5	4	4	5	4	5	5	5	5
HEATING VELOCITY (ft/min)	279	316	264	184	306	242	424	103	206	218	298	374	374	374	298	207	734	287	624	624	624	624
COOLING VELOCITY (ft/min)	565	566	321	126	556	514	333	57	419	436	608	631	631	631	436	149	653	608	88	88	88	88
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	B	C	C	E	E	E	B	E	E	C	B	B	A	C	D	D	E	A	B	C	E

RUN #	25
ROOM NAME	BAS
RM LOSS MBH.	4.11
CFM PER RUN HEAT	85
RM GAIN MBH.	0.40
CFM PER RUN COOLING	12
ADJUSTED PRESSURE	0.16
ACTUAL DUCT LGH.	36
EQUIVALENT LENGTH	100
TOTAL EFFECTIVE LENGTH	136
ADJUSTED PRESSURE	0.12
ROUND DUCT SIZE	5
HEATING VELOCITY (ft/min)	624
COOLING VELOCITY (ft/min)	88
OUTLET GRILL SIZE	3X10
TRUNK	D

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	174	0.10	6.9	6	x	8	522	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	258	0.07	8.7	10	x	8	464	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	608	0.07	12	16	x	8	684	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	203	0.12	7	6	x	8	609	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	490	0.07	11.1	14	x	8	630	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	1100	0.06	15.6	28	x	8	**707**
TRUNK Y	415	0.06	10.8	14	x	8	534
TRUNK Z	260	0.06	9.1	10	x	8	468
DROP	1100	0.06	15.6	24	x	10	660

RETURN AIR #	1	2	3	4	5	6	7									BR
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
AIR VOLUME	130	130	140	85	130	155	130	0	0	0	0	0	0	0	0	200
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.	65	53	55	57	44	34	33	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	200	175	135	165	195	145	215	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	265	228	190	222	239	179	248	1	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.06	0.06	0.08	0.07	0.06	0.08	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	7	7	6.7	5.8	7	7	7	0	0	0	0	0	0	0	0	7.5
INLET GRILL SIZE	8	8	8	8	8	8	8	0	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	14	0	0	0	0	0	0	0	0	14

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

HVAC DESIGNS LTD.

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Tel: 905.619.2300 Fax: 905.619.2375
Web: www.hvacdesigns.ca E-mail: info@hvacdesigns.ca

TYPE: 38-5 OPT 5 BED LO # 67105
SITE NAME: KLEINBURG GLEN

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	4	@ 10.6 cfm	42.4	cfm
Table 9.32.3.A.		TOTAL	180.2	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	180.2	cfm
Less Principal Ventil. Capacity	98	cfm
Required Supplemental Capacity	82.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY

Model: VANEE 60H Location: BSMT

98.0 cfm 3.0 sones [✓] HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION

CFM		ΔT °F		FACTOR		% LOSS
98.0 CFM	X	76 F	X	1.08	X	0.35

SUPPLEMENTAL FANS NUTONE

Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	✓	0.3
BATH	QTXEN050C	50	✓	0.3
BATH-2	QTXEN050C	50	✓	0.3
PWDR	QTXEN050C	50	✓	0.3

HEAT RECOVERY VENTILATOR 9.32.3.11.

Model: VANEE 60H

98 cfm high 50 cfm low

65 % Sensible Efficiency @ 32 deg F (0 deg C) [✓] HVI Approved

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:

HRAI # 001820

Date: January-16

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

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: 38-5 OPT 5 BED **BUILDER:** GOLD PARK HOMES
SFQT: 2805 **LO#** 67105 **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:	WEST	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):	39080.0	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: 30.0 ft	EXPOSED PERIMETER:	180.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component	Compliance Package J
Ceiling with Attic Space Minimum RSI (R)-Value	50
Ceiling Without Attic Space Minimum RSI (R)-Value	31
Exposed Floor Minimum RSI (R)-Value	31
Walls Above Grade Minimum RSI (R)-Value	22
Basement Walls Minimum RSI (R)-Value	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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10
Windows and Sliding Glass Doors Maximum U-Value	1.8
Skylights Maximum U-Value	2.8
Space Heating Equipment Minimum AFUE	0.94
HRV Minimum Efficiency	60%
Domestic Hot Water Heater Minimum EF	0.67

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MICHAEL O'ROURKE

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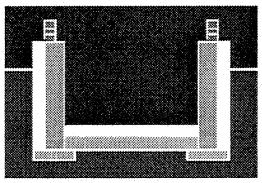
Residential Foundation Thermal Load Calculator

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):	18.3	 Insulation Configuration
Floor Width (m):	9.1	
Exposed Perimeter (m):	0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.8	
Window Area (m^2):	1.9	
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):	**2218**	

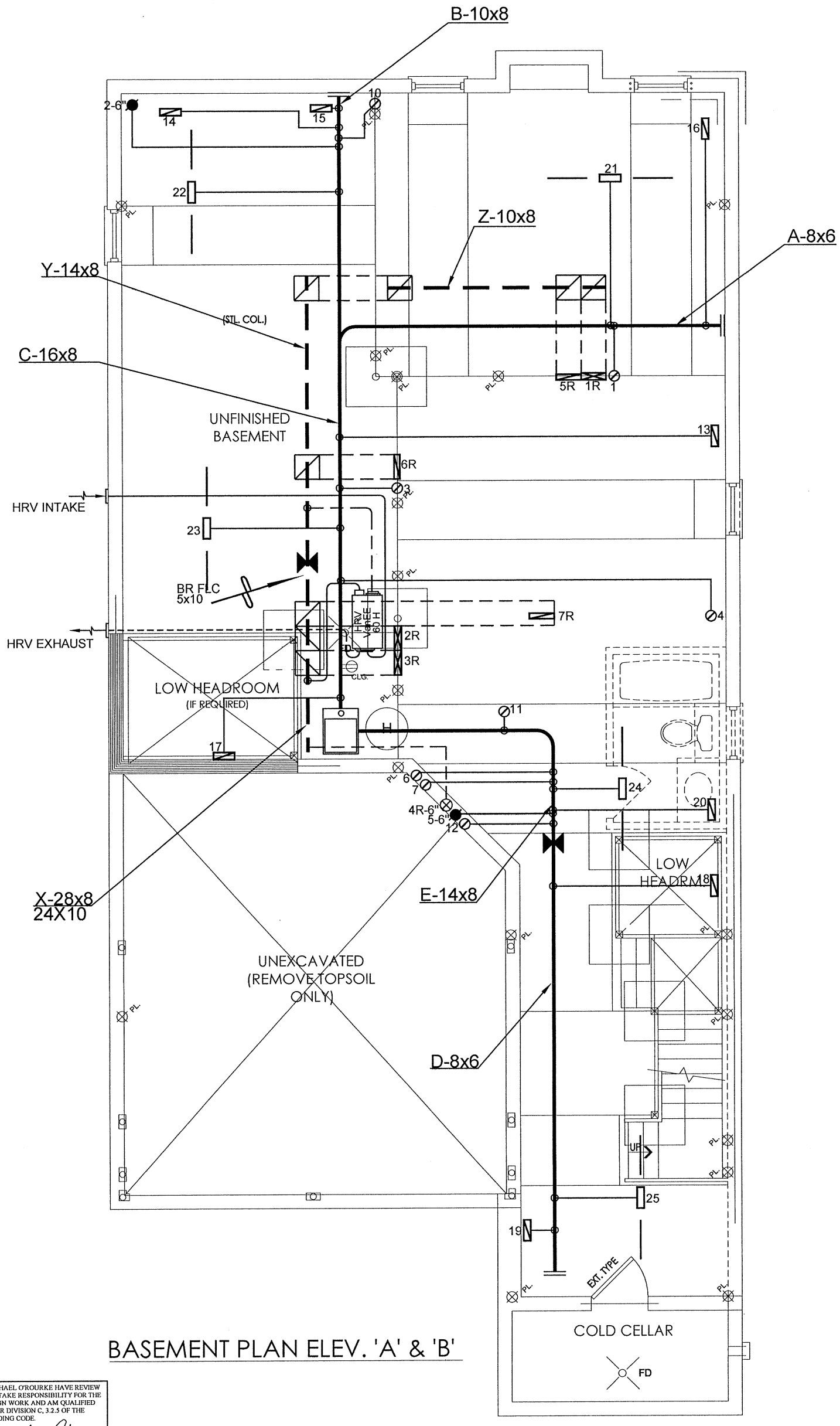
54.8 2.6 146.06 146.06

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:	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):	1106.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa	716.43 cm^2		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply:	Total Exhaust:		
	0	0		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Change Rate (ACH/H):	**0.322**			
Cooling Air Change Rate (ACH/H):	**0.098**			



BASEMENT PLAN ELEV. 'A' & 'B'

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 J

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
GOLD PARK HOMES

Project Name
KLEINBURG GLEN
VAUGHAN, ONTARIO

38-5 OPT 5 BED 2805 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
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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.

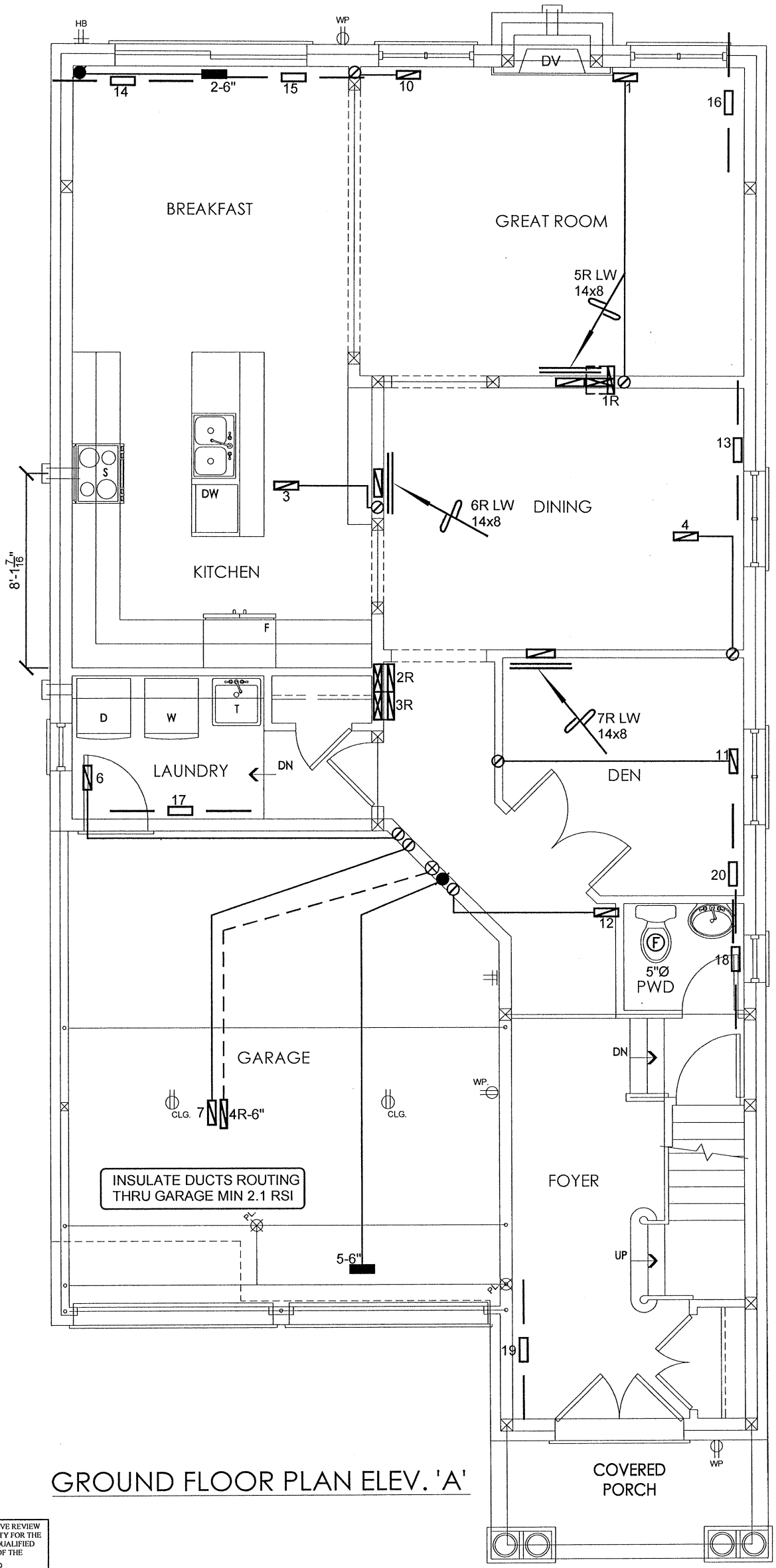
HEAT LOSS 55931 BTU/H	
UNIT DATA	
MAKE	LENNOX
MODEL	EL195UH070XE36B-70
INPUT	66 MBTU/H
OUTPUT	63 MBTU/H
COOLING	3.0 TONS
FAN SPEED	1100 cfm @ 0.6" w.c.

# OF RUNS	S/A	R/A	FANS
3RD FLOOR			
2ND FLOOR	10	4	3
1ST FLOOR	8	3	2
BASEMENT	5	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 JAN/2016
Scale 3/16" = 1'-0"
BCIN# 19669
LO# 67105



GROUND FLOOR PLAN ELEV. 'A'

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HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE J

HVAC LEGEND

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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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REVISIONS

Client
GOLD PARK HOMES

Project Name
KLEINBURG GLEN
VAUGHAN, ONTARIO

38-5 OPT 5 BED 2805 sqft

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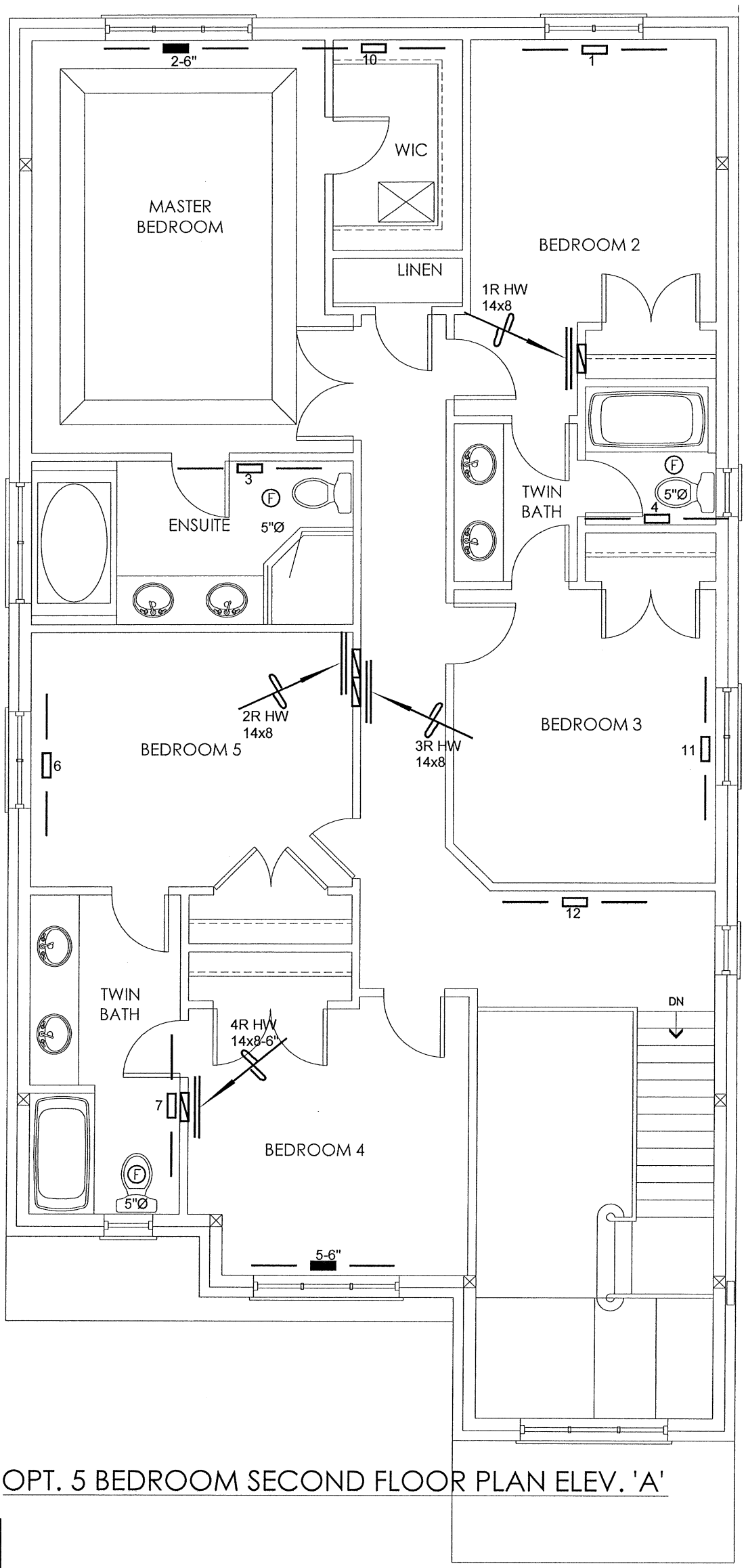
Sheet Title
FIRST FLOOR HEATING LAYOUT

Date JAN/2016

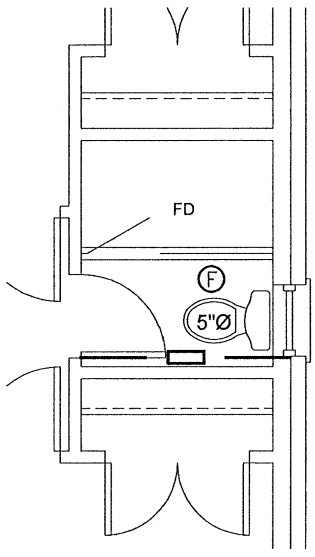
Scale 3/16" = 1'-0"

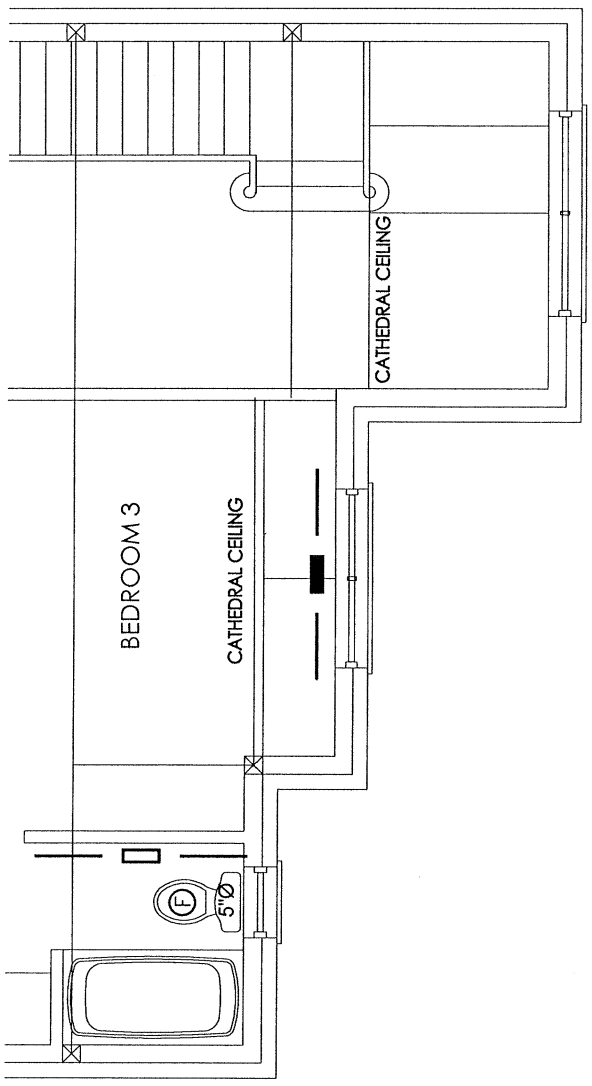
BCIN# 19669

LO# 67105



PARTIAL OPT. 5 BEDROOM PLAN W/ TWIN BATH EL. 'A'&'B'





PART. STD. & OPT. SECOND FLOOR PLAN ELEV. 'B'

OPT. 5 BEDROOM SECOND FLOOR PLAN ELEV. 'A'

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

CSA-F280-12

PACKAGE J

HVAC LEGEND

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REVISIONS

Client

GOLD PARK HOMES

Project Name

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Sheet Title

SECOND FLOOR HEATING LAYOUT

Date JAN/2016

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 67105