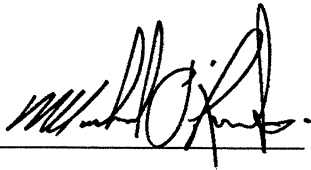


Schedule 1: Designer Information

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@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]																
<table style="width: 100%; border: none;"> <tr> <td>☐ House</td> <td>☒ HVAC – House</td> <td>☐ Building Structural</td> </tr> <tr> <td>☐ Small Buildings</td> <td>☐ Building Services</td> <td>☐ Plumbing – House</td> </tr> <tr> <td>☐ Large Buildings</td> <td>☐ Detection, Lighting and Power</td> <td>☐ Plumbing – All Buildings</td> </tr> <tr> <td>☐ Complex Buildings</td> <td>☐ Fire Protection</td> <td>☐ On-site Sewage Systems</td> </tr> </table>					☐ 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
☐ 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: 25-6 – OPT 2ND 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>January 21, 2016</u> Date		 Signature of Designer														

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

SITE NAME: KLEINBURG GLEN BUILDING: GOLD PARK HOMES										TYPE: 25-6		OPT. 2ND		DATE: Jan-16		WINTER NATURAL AIR CHANGE RATE		HEAT LOSS AT °F.		CSA-F280-12 SB-12 PACKAGE J	
ROOM USE		MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		ENS-2		WIR-2		HALL	
EXP. WALL		34		23		7		24		29		47		5		9		14		79	
CLG. HT.		10		9		9		9		9		9		9		9		10		10	
FACTORS		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN	
GRS.WALL AREA		340		207		63		216		261		423		45		81		133		751	
GLAZING		0		0		0		0		0		0		0		0		0		0	
NORTH		24.1 17.5		0		0		0		0		0		0		0		0		0	
EAST		24.1 43.0		18 434 775		0		0		0		0		0		0		0		0	
SOUTH		24.1 26.4		0		0		0		16 385 422		0		0		7 169 185		0		0	
WEST		24.1 43.0		0		0		0		0		42 1012 1808		0		0		0		0	
SKYL.T.		24.1 88.1		0		0		0		0		0		0		0		0		0	
DOORS		25.2 5.3		0		0		0		0		0		0		0		0		0	
NET EXPOSED WALL		3.5 0.7		189 653 137		63 218 46		200 691 145		245 846 178		381 1316 277		45 155 33		74 256 54		133 459 97		731 2524 531	
NET EXPOSED BSMT WALL ABOVE GR		6.3 1.3		0		0		0		0		0		0		0		0		0	
EXPOSED CLG		2.5 0.8		120 182 91		56 85 43		190 289 144		280 426 213		231 351 176		65 99 49		63 96 48		0		0	
NO ATTIC EXPOSED CLG		1.5 1.2		0		0		0		0		0		0		0		0		0	
EXPOSED FLOOR		2.5 0.5		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		2092		1269		303		1365		1657		2679		254		520		459		3029	
SUB TOTAL HT GAIN		0		0		0		0		0		0		0		0		0		0	
LEVEL FACTOR / MULTIPLIER		0.10 0.16		0.10 0.16		0.10 0.16		0.10 0.16		0.10 0.16		0.10 0.16		0.10 0.16		0.10 0.16		0.30 0.68		0.30 0.68	
AIR CHANGE HEAT LOSS		342		208		50		223		271		439		42		85		313		2064	
AIR CHANGE HEAT GAIN		97		64		6		46		52		145		5		18		6		41	
DUCT LOSS		0		0		0		0		0		0		0		0		0		0	
DUCT GAIN		0		0		0		0		0		0		0		0		0		0	
HEAT GAIN PEOPLE		240		1		0		1		240 1		240 1		0		0		0		0	
HEAT GAIN APPLIANCES/LIGHTS		427		0		0		427		427		427		427		0		0		0	
TOTAL HT LOSS BTU/H		2434		1477		352		1589		1929		3118		296		605		773		5093	
TOTAL HT GAIN x 1.3 BTU/H		3262		1700		122		1852		1992		3994		668		396		134		1437	

ROOM USE EXP. WALL CLG. HT.	DEN	FORM	KT/IFM	LAUN	WIR	FOY	GRY	BAS									
FACTORS LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN									
GRS.WALL AREA	224	172	671	86	43	465	722	1066									
GLAZING	0	0	0	0	0	0	0	0									
NORTH	24.1 17.5	0	0	0	0	0	0	0									
EAST	24.1 43.0	0	0	0	0	0	0	0									
SOUTH	24.1 26.4	0	0	0	0	0	0	0									
WEST	24.1 43.0	0	0	0	0	0	0	0									
SKYL.T.	24.1 88.1	0	0	0	0	0	0	0									
DOORS	25.2 5.3	0	0	0	0	0	0	0									
NET EXPOSED WALL	3.5 0.7	184 634 134	587 2027 427	86 297 63	29 100 21	396 1368 288	659 2277 479	0									
NET EXPOSED BSMT WALL ABOVE GR	6.3 1.3	0	0	0	0	0	0	0									
EXPOSED CLG	1.5 0.8	0	0	0	0	0	0	0									
NO ATTIC EXPOSED CLG	2.5 1.2	14 34 17	0	0	0	0	0	0									
EXPOSED FLOOR	2.5 0.5	132 324 68	60 147 31	63 154 33	54 132 28	0	0	0									
BASEMENT/CRAWL HEAT LOSS	0	0	0	0	0	0	0	0									
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0									
SUBTOTAL HT LOSS	1956	1312	4221	452	570	3097	3818	8766									
SUB TOTAL HT GAIN	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.20 0.29	0.30 0.68	0.40									
LEVEL FACTOR / MULTIPLIER	559	375	1207	129	163	886	2602	6639									
AIR CHANGE HEAT LOSS	125	49	166	6	27	51	156	44									
AIR CHANGE HEAT GAIN	0	0	0	0	0	0	0	0									
DUCT LOSS	249	124	342	77	45	0	0	0									
DUCT GAIN	0	0	0	1	0	0	1	0									
HEAT GAIN PEOPLE	240	427	240	240	0	0	240	0									
HEAT GAIN APPLIANCES/LIGHTS	2767	1855	5971	639	806	3983	6419	15424									
TOTAL HT LOSS BTU/H	3563	1777	4889	1098	637	1091	4237	955									
TOTAL HT GAIN x 1.3 BTU/H																	

SITE NAME: KLEINBURG GLEN
BUILDER: GOLD PARK HOMES

TYPE: 25-6 OPT. 2ND

DATE: Jan-16

GFA: 3019 LO# 66898

HEATING CFM 1100 COOLING CFM 1100
TOTAL HEAT LOSS 55,529 TOTAL HEAT GAIN 33,904
AIR FLOW RATE CFM 19.81 AIR FLOW RATE CFM 32.54

LENNOX

AFUE = 95.0 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,000

FAN SPEED 0

DESIGN CFM = 1100
CFM @ .6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	9	8	4	3
R/A	0	4	3	1	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	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	BED-4	ENS-2	DEN	FORM	KT/FM	KT/FM	KT/FM	LAUN	W/R	FOY	GRT	BAS	BAS	BAS	GRT
RM LOSS MBH	2.43	1.48	0.35	1.59	1.93	1.56	0.30	1.56	0.61	2.77	1.86	1.99	1.99	1.99	0.64	0.81	3.98	3.21	5.14	5.14	5.14	3.21
CFM PER RUN HEAT	48	29	7	31	38	31	6	31	12	55	37	39	39	39	13	16	79	64	102	102	102	64
RM GAIN MBH	3.26	1.70	0.12	1.85	1.99	2.00	0.67	2.00	0.40	3.56	1.78	1.63	1.63	1.63	1.10	0.64	1.09	2.12	0.32	0.32	0.32	2.12
CFM PER RUN COOLING	106	55	4	60	65	65	22	65	13	116	58	53	53	53	36	21	35	69	10	10	10	69
ADJUSTED PRESSURE	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.17
EQUIVALENT LENGTH	56	52	53	53	73	86	62	86	71	70	45	35	43	54	59	47	68	17	13	21	44	27
ROUND DUCT SIZE	6	5	4	5	5	5	4	6	4	6	5	5	4	4	4	4	6	4	5	6	6	4
HEATING VELOCITY (ft/min)	245	213	80	228	279	228	69	158	138	280	272	286	447	447	149	184	403	734	749	520	520	734
COOLING VELOCITY (ft/min)	540	404	46	441	477	477	252	331	149	591	426	389	608	608	413	241	178	792	73	51	51	792
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10	3X10
TRUNK	C	C	C	B	B	A	B	A	A	A	B	C	C	C	A	B	A	E	E	F	F	E

TEMPERATURE RISE 53 °F

RUN # 25

ROOM NAME HALL

RM LOSS MBH 5.09

CFM PER RUN HEAT 101

RM GAIN MBH 1.44

CFM PER RUN COOLING 47

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) 515

COOLING VELOCITY (ft/min) 240

OUTLET GRILL SIZE 4X10

TRUNK F

SUPPLY AIR TRUNK SIZE

TRUNK	CFM	RECT	ROUND	STATIC	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
TRUNK A	221	0.05	9	10.6	8	TRUNK G	0.00	0	0	0	TRUNK H	0.00	0	0	0	TRUNK I	0.00	0	0	0
TRUNK B	349	0.05	14	8	398	TRUNK J	0.00	0	0	0	TRUNK K	0.00	0	0	0	TRUNK L	0.00	0	0	0
TRUNK C	201	0.07	8	8	449	TRUNK M	0.00	0	0	0	TRUNK N	0.00	0	0	0	TRUNK O	0.00	0	0	0
TRUNK D	550	0.05	12.6	14	566	TRUNK P	0.00	0	0	0	TRUNK Q	0.00	0	0	0	TRUNK R	0.00	0	0	0
TRUNK E	230	0.14	7	6	690	TRUNK S	0.00	0	0	0	TRUNK T	0.00	0	0	0	TRUNK U	0.00	0	0	0
TRUNK F	320	0.10	8.7	10	576	TRUNK V	0.00	0	0	0	TRUNK W	0.00	0	0	0	TRUNK X	0.00	0	0	0

RETURN AIR #

TRUNK	CFM	RECT	ROUND	STATIC	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
TRUNK A	221	0.05	9	10.6	8	TRUNK G	0.00	0	0	0	TRUNK H	0.00	0	0	0	TRUNK I	0.00	0	0	0
TRUNK B	349	0.05	14	8	398	TRUNK J	0.00	0	0	0	TRUNK K	0.00	0	0	0	TRUNK L	0.00	0	0	0
TRUNK C	201	0.07	8	8	449	TRUNK M	0.00	0	0	0	TRUNK N	0.00	0	0	0	TRUNK O	0.00	0	0	0
TRUNK D	550	0.05	12.6	14	566	TRUNK P	0.00	0	0	0	TRUNK Q	0.00	0	0	0	TRUNK R	0.00	0	0	0
TRUNK E	230	0.14	7	6	690	TRUNK S	0.00	0	0	0	TRUNK T	0.00	0	0	0	TRUNK U	0.00	0	0	0
TRUNK F	320	0.10	8.7	10	576	TRUNK V	0.00	0	0	0	TRUNK W	0.00	0	0	0	TRUNK X	0.00	0	0	0

TYPE: 25-6
SITE NAME: KLEINBURG GLEN

LO # 66898
OPT: 2ND

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>6</u> @ 10.6 cfm	<u>63.6</u> cfm
Other Rooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</u> 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	<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>95</u>	cfm
Required Supplemental Capacity	<u>117.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 50H	Location: BSMT
<u>95.0</u> cfm	<u>3.0</u> sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
95.0 CFM	X 76 F	X 1.08	X	0.34

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
BATH	QTXEN050C	50	☒	0.3
ENS-2	QTXEN050C	50	☒	0.3
W/R	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 50H		
<u>95</u> cfm high	<u>48</u> cfm low	
<u>66</u> % 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:	January-16

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 25-6	OPT. 2ND	BUILDER: GOLD PARK HOMES
SFQT: 3019	LO# 66898	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):	4
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 (ft³):	32986.4	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:	6.5 ft
LENGTH: 63.0 ft	WIDTH: 19.0 ft	EXPOSED PERIMETER:	164.0 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

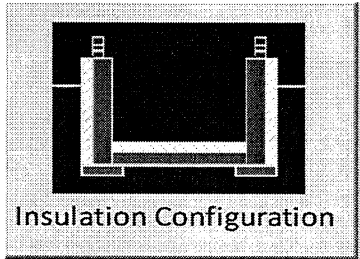
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



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):	19.2	 Insulation Configuration
Floor Width (m):	5.8	
Exposed Perimeter (m):	0	
Wall Height (m):	2.7	
Depth Below Grade (m):	2	
Window Area (m ²):	1.1	
Door Area (m ²):	0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1820	

50

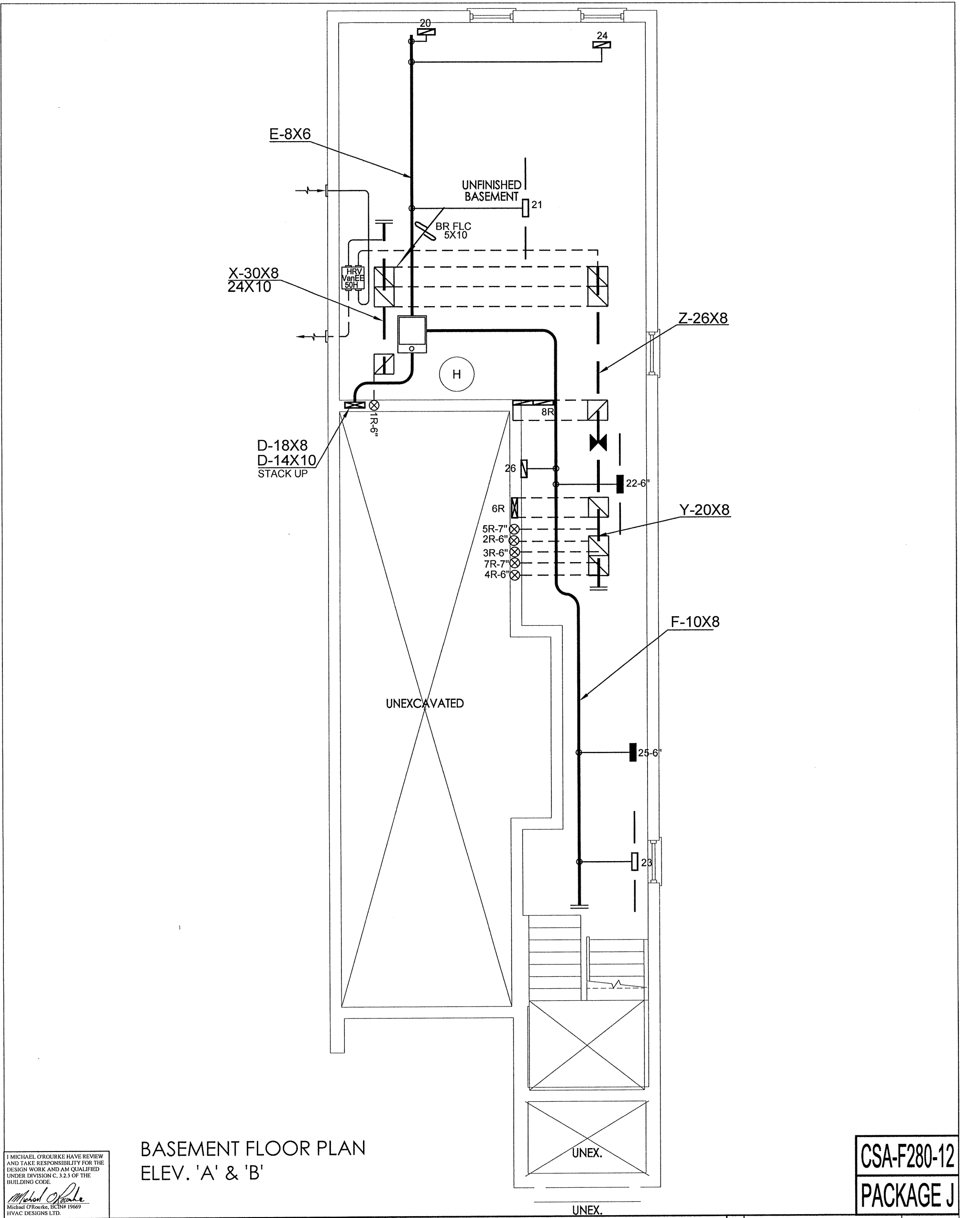
2.6 133.9

135

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):	8.93			
Building Configuration				
Type:	Detached			
Number of Stories:	Three			
Foundation:	Full			
House Volume (m ³):	934.1			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (ACH=3.57)			
Custom BDT Data:	ELA @ 10 Pa. 716.42 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):		0.370		
Cooling Air Change Rate (ACH/H):		0.117		



I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

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

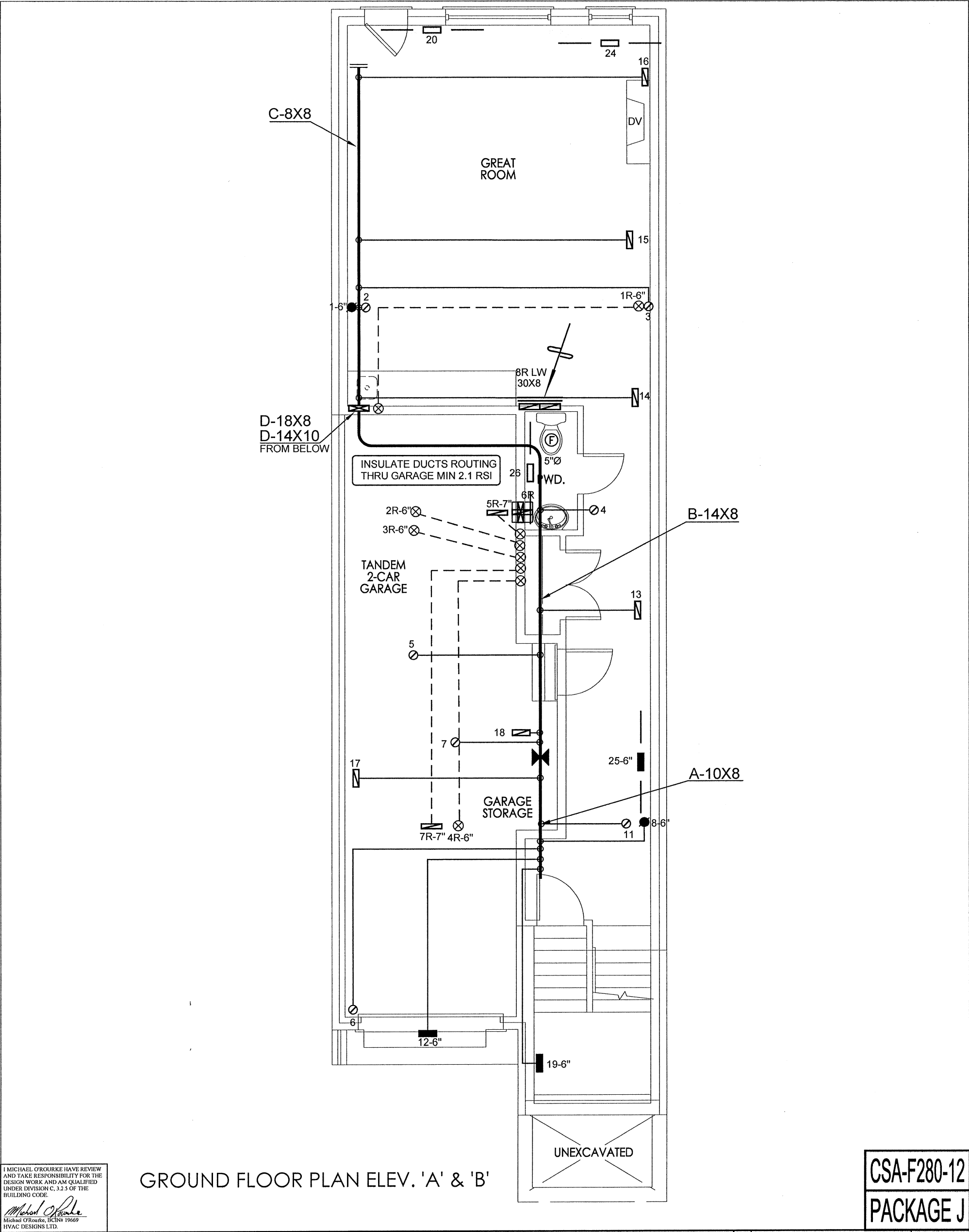
BASEMENT FLOOR PLAN
ELEV. 'A' & 'B'

CSA-F280-12
PACKAGE J

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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client		HVACDESIGNS 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 58180 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS				Sheet Title BASEMENT HEATING LAYOUT	
GOLD PARK HOMES			MAKE LENNOX		3RD FLOOR 9 4 3					
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			MODEL EL195UH070XE36B-70		2ND FLOOR 8 3 2					
			INPUT 66 MBTU/H		1ST FLOOR 4 1 1					
			OUTPUT 63 MBTU/H		BASEMENT 3 1 0					
			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					
25-6 OPT. 2ND 3019 sqft		FAN SPEED 1100 cfm @ 0.6" w.c.						Date JAN/2016		
								Scale 3/16" = 1'-0"		
								BCIN# 19669		
								LO# 66898		



GROUND FLOOR PLAN ELEV. 'A' & 'B'

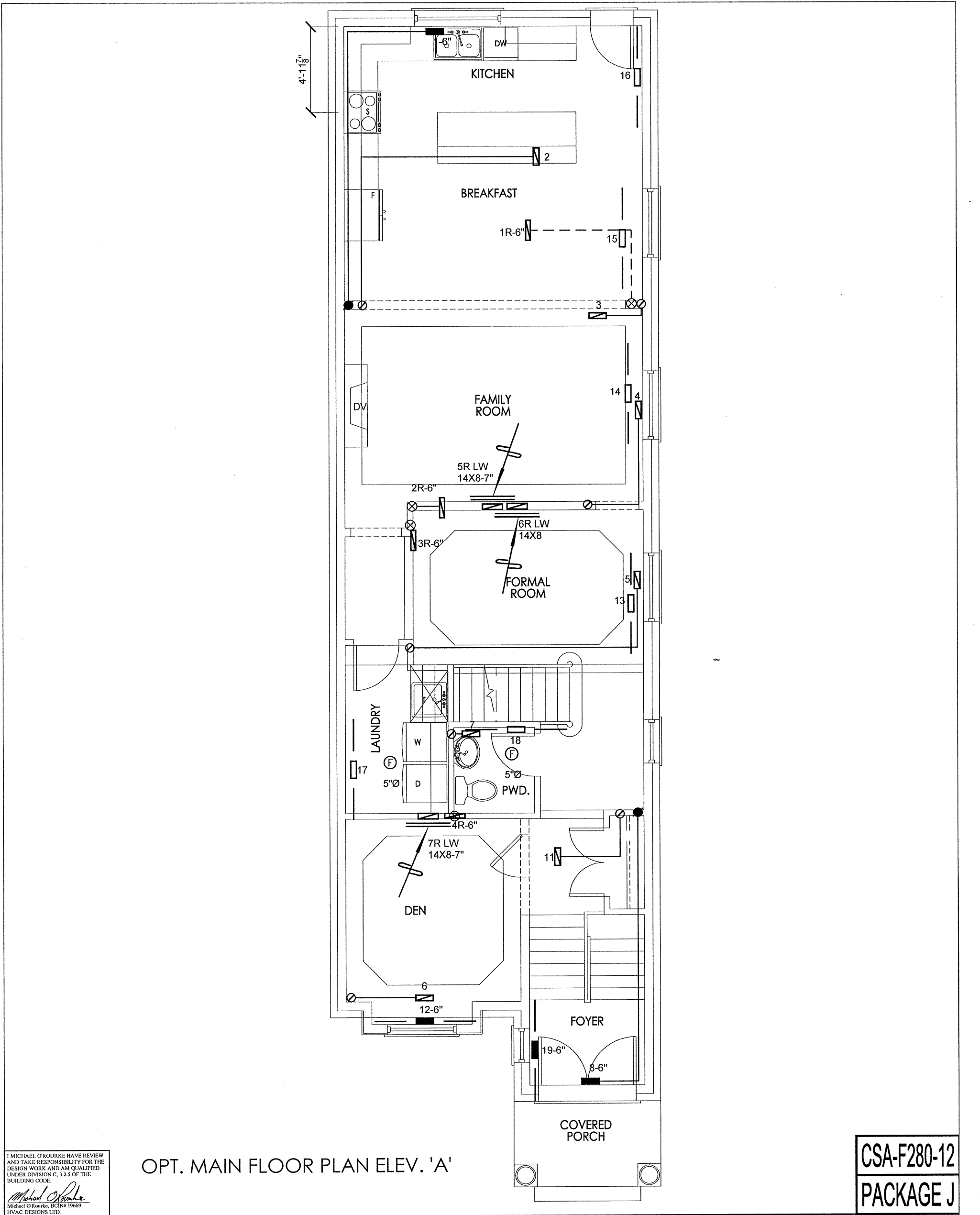
CSA-F280-12
PACKAGE J

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.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.		
	FLOOR 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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client		 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	
GOLD PARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2016
KLEINBURG GLEN VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
25-6 OPT. 2ND 3019 sqft			BCIN# 19669	
		LO#	66898	



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.

OPT. MAIN FLOOR PLAN ELEV. 'A'

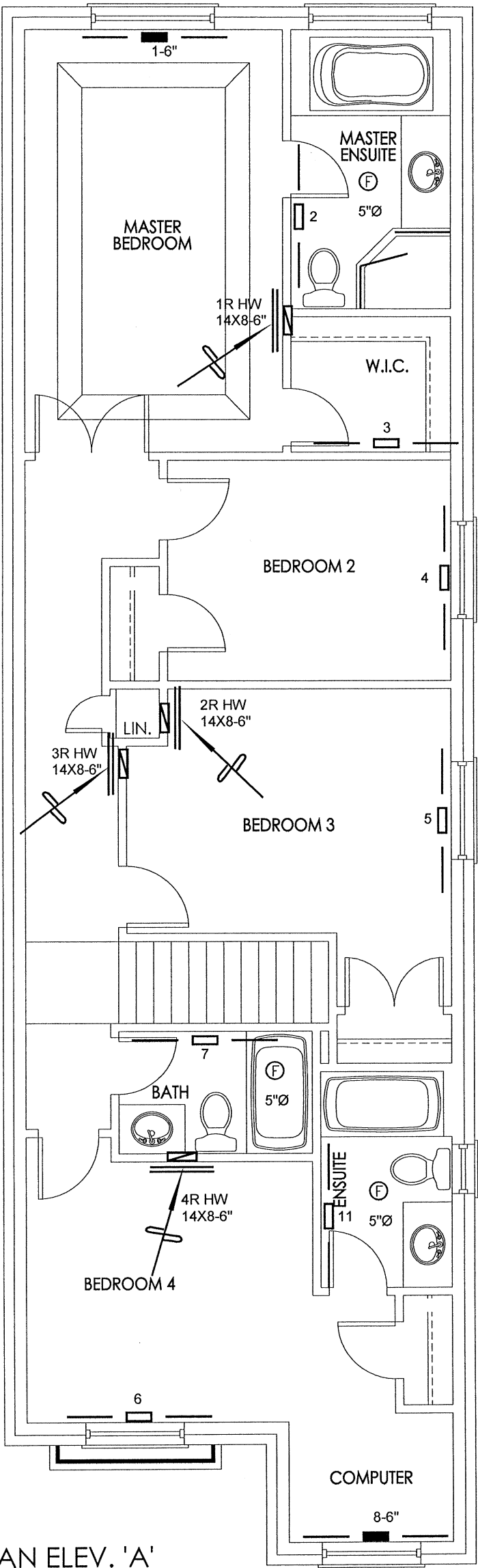
CSA-F280-12
PACKAGE J

HVAC LEGEND								3.		
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	2.		
	FLOOR 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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client GOLD PARK 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 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.	Sheet Title SECOND FLOOR HEATING LAYOUT	
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			Date JAN/2016	
25-6 OPT. 2ND 3019 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO#	66898

SECOND FLOOR PLAN ELEV. 'A'



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.

CSA-F280-12
PACKAGE J

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		

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.© AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client GOLD PARK 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 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.	Sheet Title THIRD FLOOR HEATING LAYOUT	
Project Name KLEINBURG GLEN VAUGHAN, ONTARIO			Date JAN/2016	
25-6 OPT. 2ND 3019 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 66898	