

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 (WOODBIDGE)	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 ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5013 - ELEV B - RIVERVIEW WO/ LOFT Project: PINE VALLEY PH 2	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that: - The information contained in this schedule is true to the best of my knowledge. - I have submitted this application with the knowledge and consent of the firm.			
May 5, 2022 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: PINE VALLEY PH 2										WO/LOFT		DATE May-22		WINTER NATURAL AIR CHANGE RATE 0.340		HEAT LOSS AT °F. 76		CSA-F280-12										
BUILDER: GOLD PARK HOMES										TYPE: 5013 - ELEV B - RIVERVIEW		GFA: 4501		LO# 9630		SUMMER NATURAL AIR CHANGE RATE 0.114		HEAT GAIN AT °F. 13		SB-12 PACKAGE A1								
ROOM USE	PBR	ENS	WIC	BED-2	BED-3	BED-4	LO# 9630	ENS-3	ENS-2	ENS-4	WIC-E																	
EXP. WALL	37	16	10	18	12	47		25	11	7	8																	
CLG. HT.	9	9	9	9	9	9		9	9	9	9																	
FACTORS																												
GRS.WALL AREA	333	144	90	162	108	423		225	99	63	72																	
GLAZING	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS		LOSS	LOSS	LOSS	LOSS																	
NORTH	0	0	0	0	0	0		0	0	0	0																	
EAST	0	0	0	0	0	0		0	0	0	0																	
SOUTH	0	0	0	0	0	0		0	0	0	0																	
WEST	0	30	638	747	6	128	149	0	0	0	0																	
SKYLT.	46	979	1911	0	0	0	0	0	0	0	0																	
SKYLT.	37.2	101.5	0	0	0	0	0	0	0	0	0																	
DOORS	0	0	0	0	0	0	0	0	0	0	0																	
DOORS	0	0	0	0	0	0	0	0	0	0	0																	
NET EXPOSED WALL	4.5	114	509	86	84	375	63	142	634	107	33	147	25	326	1455	245	213	951	160	89	397	67	53	237	40	66	295	50
NET EXPOSED BSMT WALL ABOVE GR	3.6	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
EXPOSED CLG	1.3	0.6	340	436	200	256	329	150	89	114	52	286	367	168	224	287	132	310	398	182	127	163	75	255	327	150	107	137
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0	0	26	71	33	35	96	44	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.6	0.4	0	0	0	0	0	0	0	0	0	204	520	88	250	638	107	0	0	0	59	150	25	135	344	58	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	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	0
SUBTOTAL HT LOSS	2696	1476	617	1947	2740	4092		1519	1282	587		434	759	466	352		800	489		1922	664		1160				780	372
SUB TOTAL HT GAIN		2327		983				0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20
LEVEL FACTOR / MULTIPLIER	0.20	0.36	0.20	0.36	0.20	0.36		0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20	0.36	0.20
AIR CHANGE HEAT LOSS	980	537	224	708	996	1488		552	466	213		30	53		24		19											
AIR CHANGE HEAT GAIN		161	68	47				207	175	0		46	81		0		0											
DUCT LOSS	0	0	0	265	374	0		0																				
DUCT GAIN	0	0	0	186	478	0		0																				
HEAT GAIN PEOPLE	2	480	0	1	240	1		0				240	240		1		0		0		0		0		0		0	0
HEAT GAIN APPLIANCES/LIGHTS		892	0	892	892	892		0				892	892				0		0		0		0		0		0	0
TOTAL HT LOSS BTU/H		3676	2012	2920	4110	5581		2279	1922	800		664	1160		489		780											
TOTAL HT GAIN x 1.3 BTU/H		5018	1387	368	6337	6408																						

ROOM USE	GRT	DIN	KT/BF	OFF	LND	FOY	MUD	LOB	BAS
EXP. WALL	55	32	59	30	0	21	34	53	226
CLG. HT.	11	11	11	11	9	11	11	10	10
FACTORS									
GRS.WALL AREA	605	352	649	330	0	231	374	530	1582
GLAZING	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS	LOSS
NORTH	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	25	532	0	0
WEST	0	28	38	0	0	0	0	0	0
SKYLT.	192	4086	102	0	0	0	0	0	0
SKYLT.	37.2	101.5	2171	4238	0	0	0	20	426
DOORS	0	0	0	0	0	0	0	831	0
DOORS	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.5	324	509	282	0	30	757	510	0
NET EXPOSED BSMT WALL ABOVE GR	3.6	0	0	0	0	176	785	0	0
EXPOSED CLG	1.3	397	0	0	0	0	0	0	0
EXPOSED FLOOR	2.7	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.6	0	0	0	0	0	0	0	0
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	6438	2042	5251	2280	165	2075	2085	2702	8003
SUB TOTAL HT GAIN		8522		2206	58	1299	351	1214	10592
LEVEL FACTOR / MULTIPLIER	0.30	0.48	0.30	0.48	0.20	0.30	0.48	0.50	0.50
AIR CHANGE HEAT LOSS	3080	977	2512	1091	60	993	997	16083	585
AIR CHANGE HEAT GAIN		590	386	153	4	90	24	125	125
DUCT LOSS	0	0	0	0	23	0	0	0	0
DUCT GAIN	0	0	0	0	95	0	0	0	0
HEAT GAIN PEOPLE	0	0	0	0	892	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS		892	892	892	892	3068	3082	2702	26675
TOTAL HT LOSS BTU/H		9519	7763	3371	248		488	1579	923
TOTAL HT GAIN x 1.3 BTU/H		13005	2467	4226	1364				

TOTAL HEAT GAIN BTU/H: 60617 TONS: 5.05 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 84366 TOTAL COMBINED HEAT LOSS BTU/H: 90522

Michael O'Rourke

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

WO/ LOFT
TYPE: 5013 - ELE
furnace pressure

DATE: May-22

GFA: 4501 LO# 96630

FURNACE 1

HEATING CFM	1110	COOLING CFM	1110
TOTAL HEAT LOSS	59,197	TOTAL HEAT GAIN	33,391
AIR FLOW RATE CFM	18.75	AIR FLOW RATE CFM	33.24

furnace pressure	0.05	FURNACE HEAT LOSS +
furnace filter	0.05	HRV / ERV HEAT LOSS
a/c coil pressure	0.2	= 62275 BTUH
available pressure		

ML196UH070XE36B
FAN SPEED
\$LENNOX 70

AFUE = 96 %
INPUT (BTU/H) = 66,000
OUTPUT (BTU/H) = 63,900

	RUN COUNT	4th	3rd	2nd	1st	Bas
	S/A	0	0	0	12	6
	R/A	0	0	0	2	1

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

All S/A runs 5"Ø unless noted otherwise on layout.

19	20	21	22	23	24
FOY	GRT	GRT	GRT	GRT	DIN
3.07	2.38	2.38	2.38	3.02	3.02
58	45	45	45	45	57
1.81	3.25	3.25	3.25	3.25	2.47
60	108	108	108	108	82
0.17	0.15	0.15	0.15	0.15	0.16
47	56	49	45	38	27
100	110	150	130	150	140
147	166	199	175	188	167
0.12	0.09	0.08	0.09	0.08	0.1
5	6	6	6	6	5
426	229	229	229	229	419
441	551	551	551	551	602
3X10	4X10	4X10	4X10	3X10	3X10
F	D	D	D	D	F
TRUNK					

25	26	27	28	29	30	31	32	33	34	35	36
KT/BF	KT/BF	KT/BF	OFF	OFF	MUD	BAS	BAS	BAS	BAS	BAS	BAS
ROOM NAME											
RM LOSS MBH	2.59	2.59	1.69	1.69	3.08	4.90	4.90	4.90	4.90	4.90	4.90
CFM PER RUN HEAT	49	49	32	32	58	92	92	92	92	92	92
RM GAIN MBH	2.97	2.97	2.11	2.11	0.49	0.42	0.42	0.42	0.42	0.42	0.42
CFM PER RUN COOLING	99	99	70	70	16	14	14	14	14	14	14
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	34	39	31	65	21	51	37	32	16	15	49
EQUIVALENT LENGTH	100	140	170	130	120	140	140	130	130	130	130
TOTAL EFFECTIVE LENGTH	134	179	201	195	180	161	177	162	146	145	179
ADJUSTED PRESSURE	0.12	0.09	0.08	0.09	0.11	0.11	0.09	0.1	0.11	0.11	0.09
ROUND DUCT SIZE	6	6	6	5	5	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	250	250	250	235	426	469	469	469	469	469	469
COOLING VELOCITY (ft/min)	505	505	514	514	117	71	71	71	71	71	71
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNKS	E	E	F	F	F	D	D	F	F	F	F

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	0	0	0	8	TRUNK G	0	0	0	8	TRUNK O	0	0	0	8
TRUNK B	0	0	0	8	TRUNK H	0	0	0	8	TRUNK P	0	0	0	8
TRUNK C	0	0	0	8	TRUNK I	0	0	0	8	TRUNK Q	0	0	0	8
TRUNK D	364	0.08	9.6	8	TRUNK J	0	0	0	8	TRUNK R	0	0	0	8
TRUNK E	695	0.12	12.2	8	TRUNK K	0	0	0	8	TRUNK S	0	0	0	8
TRUNK F	421	0.08	9.8	8	TRUNK L	0	0	0	8	TRUNK T	0	0	0	8

[illegible]

TYPE: 5013 - ELEV B - RIVERVIEW
SITE NAME: PINE VALLEY PH 2

LO # 96630
WO/ LOFT

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	6 @ 10.6 cfm	63.6 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
TOTAL		79.5 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	180.2	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	30.2	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
150.0 cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
150.0 CFM	X 76 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR	
Location	Model	cfm	HVI
ENS	BY INSTALLING CONTRACTOR	50	✓
ENS-2	BY INSTALLING CONTRACTOR	50	✓
ENS-3	BY INSTALLING CONTRACTOR	50	✓
ENS-4	BY INSTALLING CONTRACTOR	50	✓

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H	INSTALL 2 HRV / ERV's	
150	cfm high	35 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:	May-22

CSA F280-12 Residential Heat Loss and Heat Gain Calculations									
Formula Sheet (For Air Leakage / Ventilation Calculation)									
LO#: 96630		Model: 5013 - ELEV B - RIVERVIEW		Builder: GOLD PARK HOMES		Date: 2022-05-05			
Volume Calculation				Air Change & Delta T Data					
House Volume									
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)						
Bsmt	2122	10	21220						
First	2122	11	23342						
Second	2778	9	25002						
Third	0	9	0						
Fourth	0	9	0						
Total:		69,564.0 ft³							
Total:		1969.8 m³							
6.2.6 Sensible Gain due to Air Leakage									
$HG_{salb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$									
0.340	x	547.18	x	42 °C	x	1.2	=	9427 W	
								=	32167 Btu/h
5.2.3.2 Heat Loss due to Mechanical Ventilation									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$									
300 CFM	x	76 °F	x	1.08	x	0.25	=	6156 Btu/h	
								=	1,037 Btu/h
6.2.7 Sensible heat Gain due to Ventilation									
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$									
300 CFM	x	13 °F	x	1.08	x	0.25	=	1,037 Btu/h	
								=	1,037 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)									
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$									
Level		Level Factor (LF)		HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)		Level Conductive Heat Loss: (HL _{clevel})		Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	
1	0.5					13,293		1.210	
2	0.3					20,170		0.478	
3	0.2			32,167		17,692		0.364	
4	0					0		0.000	
5	0					0		0.000	
*HLairbv = Air leakage heat loss + ventilation heat loss **For a balanced or supply only ventilation system HLairve = 0									
								Michael O'Rourke BCIN# 19669 	

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5013 - ELEV B - RIVERVIEW	WO/ LOFT	BUILDER: GOLD PARK HOMES
SFQT: 4501	LO# 96630	SITE: PINE VALLEY PH 2

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

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):	69564.0	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:	7.0 ft
LENGTH: 70.0 ft	WIDTH: 43.0 ft	EXPOSED PERIMETER:	226.0 ft

2012 OBC - COMPLIANCE PACKAGE

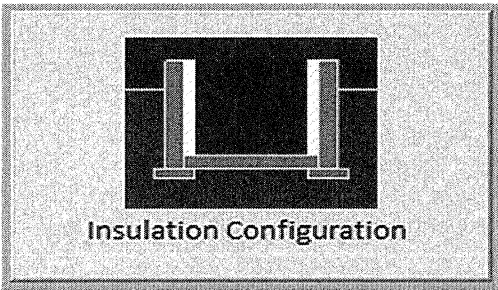
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value	-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value	10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value	10	11.13
Windows and Sliding Glass Doors Maximum U-Value	0.28	-
Skylights Maximum U-Value	0.49	-
Space Heating Equipment Minimum AFUE	0.96	-
HRV Minimum Efficiency	75%	-
Domestic Hot Water Heater Minimum EF	0.8	-

INDIVIDUAL BCIN: 19669
MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	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):	21.3	 Insulation Configuration
Floor Width (m):	13.1	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	2.5	
Door Area (m ²):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		2345

TYPE: 5013 - ELEV B - RIVERVIEW
LO# 96630

WO/ LOFT

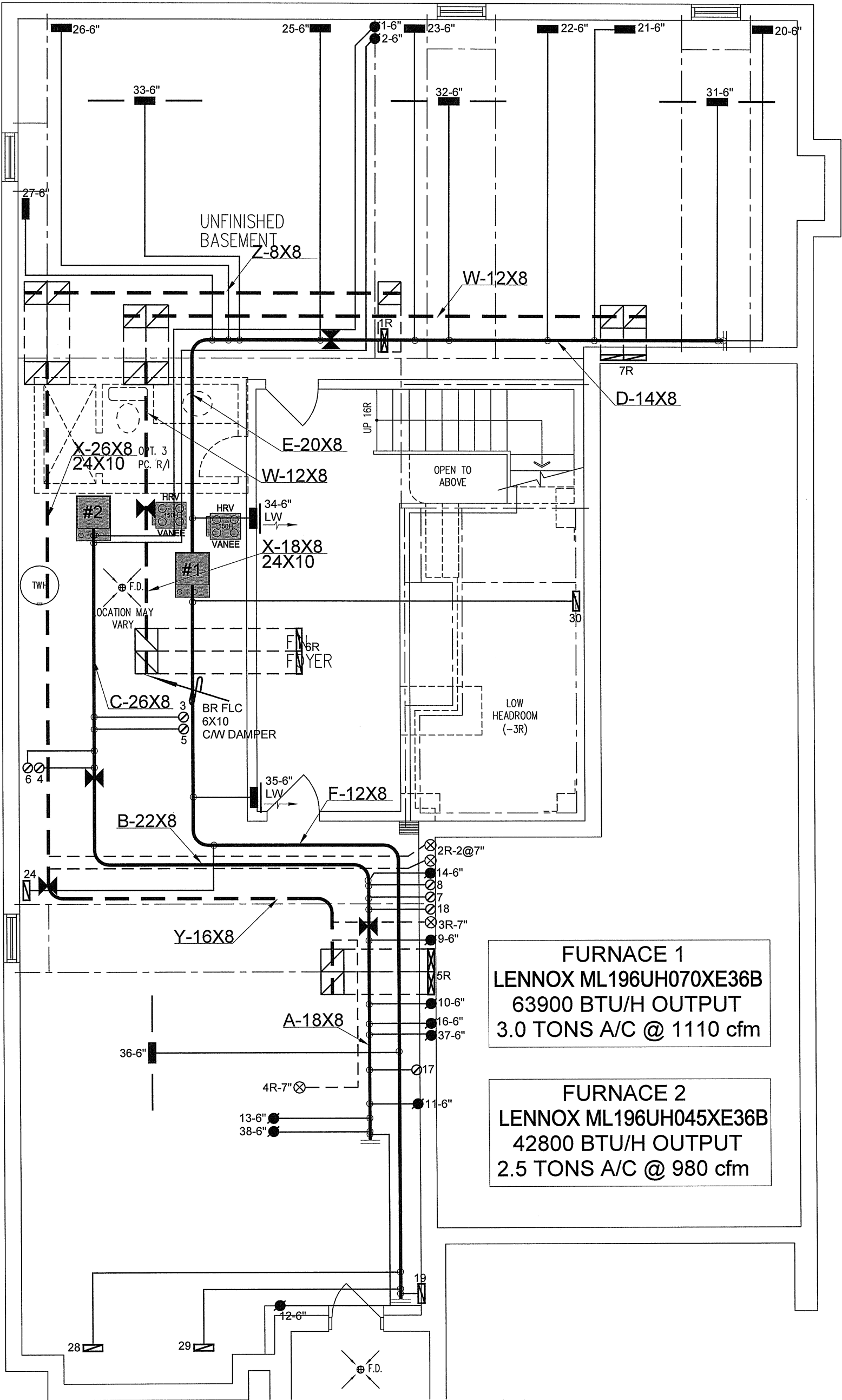
Air Infiltration Residential Load Calculator

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):	7.01			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1969.8			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2625.8 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	70.8	70.8		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.340			
Cooling Air Leakage Rate (ACH/H):	0.114			

TYPE: 5013 - ELEV B - RIVERVIEW
LO# 96630

WO/ LOFT



I MICHAEL O'ROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.3 OF THE BUILDING CODE.

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

LOD
WOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND				3.
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE	1.
	SUPPLY AIR GRILLE 6" BOOT		6" SUPPLY AIR STACK FROM 2nd FLOOR	No.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR	Date
	14"x8" RETURN AIR GRILLE		30"x8" RETURN AIR GRILLE	REVISIONS
	RETURN AIR STACK ABOVE		RETURN AIR STACK 2nd FLOOR	
	REDUCER			

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.

FURNACE 1
LENNOX ML196UH070XE36B
63900 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

FURNACE 2
LENNOX ML196UH045XE36B
42800 BTU/H OUTPUT
2.5 TONS A/C @ 980 cfm

BASEMENT PLAN, EL. 'B'

Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO**

**RIVERVIEW - WO/ LOFT
5013 - ELEV B 4501 sqft**

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.

	S/A	R/A	FANS
2ND	19	5	6
1ST	12	2	2
BAS	6	1	0

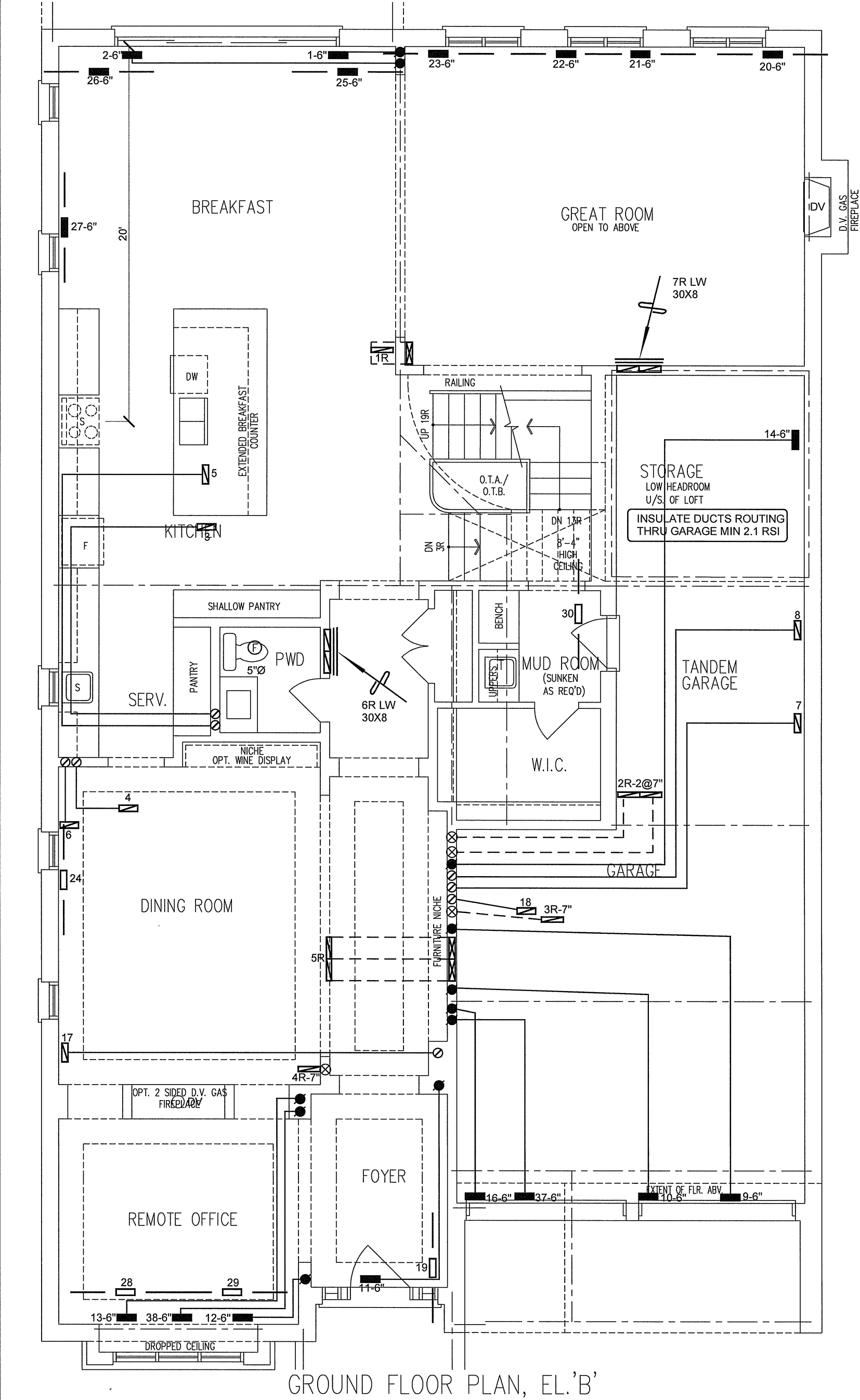
Sheet Title
**BASEMENT
HEATING
LAYOUT**

Date
MAY/2022

Scale
3/16" = 1'-0"

BCIN# 19669

LO# **96630**



GROUND FLOOR PLAN, EL. '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
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD
WOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND			3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE	1.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR	No.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR	
	FRA - FLOOR RETURN AIR GRILLE		RETURN AIR STACK ABOVE	
	REDUCER		RETURN AIR STACK 2nd FLOOR	Date
REVISIONS				

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Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO**

**RIVERVIEW - WO/ LOFT
5013 - ELEV B 4501 sqft**

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L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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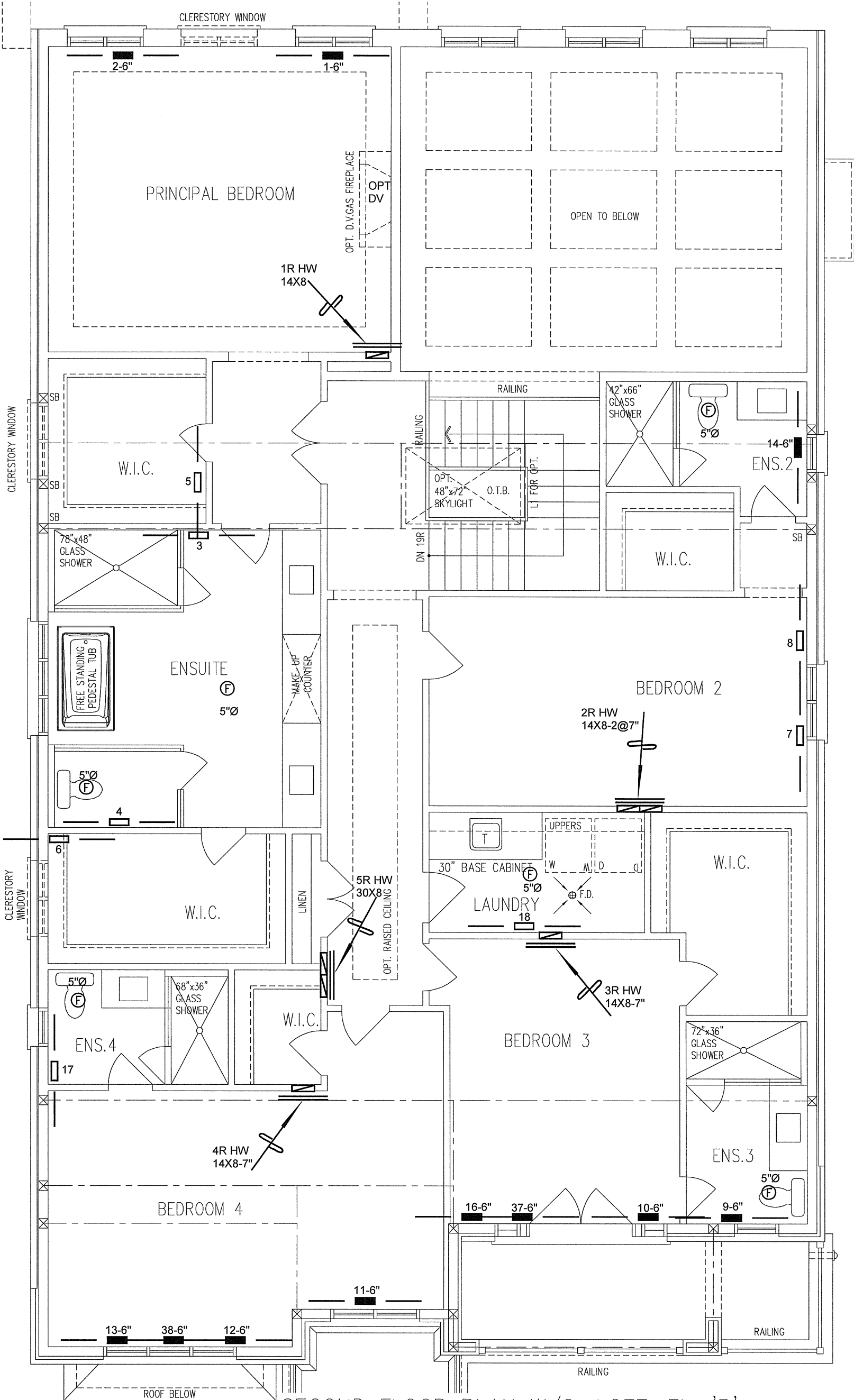
Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date
MAY/2022

Scale
3/16" = 1'-0"

BCIN# 19669

LO# 96630



SECOND FLOOR PLAN W/O. LOFT, EL. 'B'

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.

LOD
WOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND			3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	3.
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE	2.
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR	1.
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR	No.
			FRA - FLOOR RETURN AIR GRILLE	
			RETURN AIR STACK 2nd FLOOR	
			REDUCER	
REVISIONS			Description	Date

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Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO**

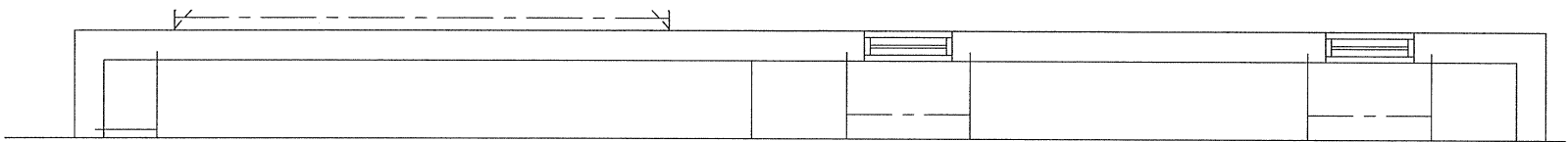
**RIVERVIEW - WO/ LOFT
5013 - ELEV B 4501 sqft**

HVACDESIGNS LTD.

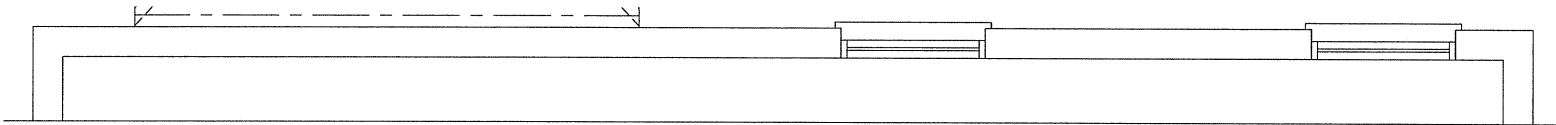
375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
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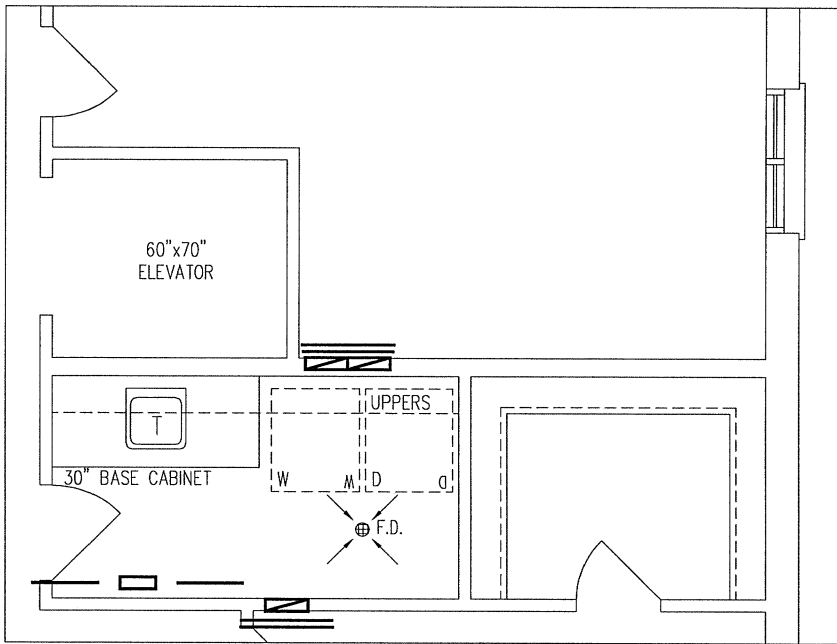
Sheet Title	
SECOND FLOOR HEATING LAYOUT	
Date	MAY/2022
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	96630



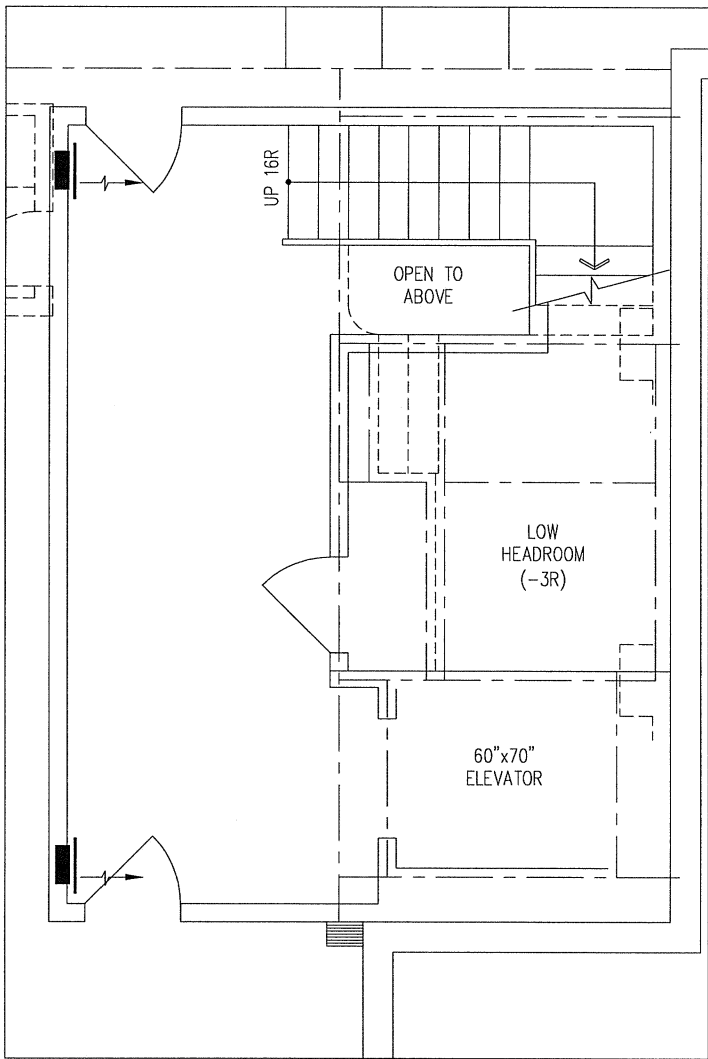
PART. BASEMENT PLAN ELEV. 'B' - W.O.D. COND.



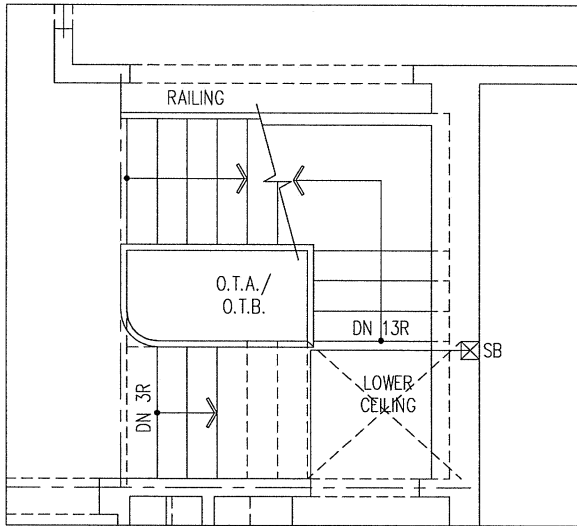
PART. BASEMENT PLAN ELEV. 'B' - L.O.D. COND.



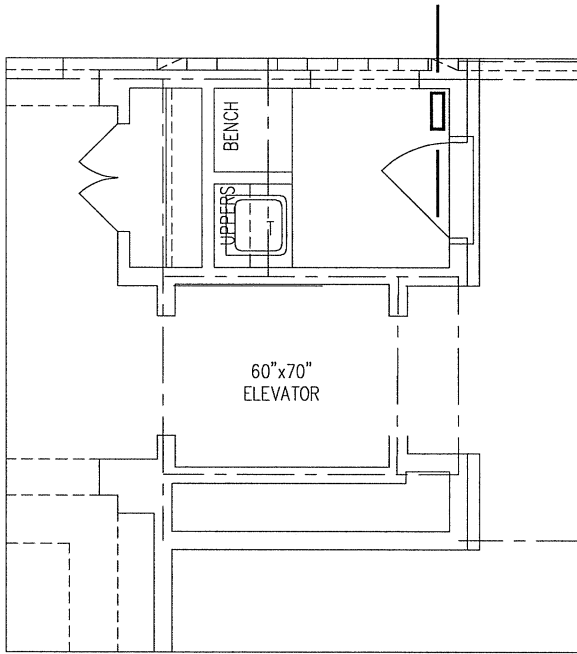
PART. SECOND FLOOR PLAN W/O.
LOFT W/ ELEVATOR, EL. 'B'



PART BASEMENT FLOOR PLAN, W/
OPT. ELEVATOR, EL. 'B'



PART. GROUND FLOOR PLAN, W/
NO LOFT CONDITION, EL. 'B'



PART. GROUND FLOOR PLAN, W/
OPT. ELEVATOR, EL. '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
Michael O'Rourke, ECHM 19669
HVAC DESIGNS LTD.

LOD
WOD
CSA-F280-12
PACKAGE A1

HVAC LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR
	14"x8" RETURN AIR GRILLE		30"x6" RETURN AIR GRILLE
	FRA-FLOOR RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	REDUCER		RETURN AIR STACK 2nd FLOOR
		REVISIONS	
		No.	Description
		Date	

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Client
GOLD PARK HOMES

Project Name
**PINE VALLEY PH 2
VAUGHAN, ONTARIO**

**RIVERVIEW - WO/ LOFT
5013 - ELEV B 4501 sqft**

HVACDESIGNS LTD.
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Sheet Title
**STRIP PLAN
HEATING
LAYOUT**

Date
MAY/2022

Scale
3/16" = 1'-0"

BCIN# 19669

LO# 96630