

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@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 ☐ 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 OPT 5 BED Project: PINE VALLEY PH 2		
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.				
May 5, 2022		 Signature of Designer		
Date				

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.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY PH 2										DATE May-22										HEAT LOSS AT °F. 76										CSA-F280-12									
BUILDER: GOLD PARK HOMES										TYPE: 9013 - ELEV B - RIVERVIEW										WINTER NATURAL AIR CHANGE RATE 0.340										SUMMER NATURAL AIR CHANGE RATE 0.114									
ROOM USE										LOF 96631										LOFT										ENS-3									
EXP. WALL										BED-2										ENS-2										BED-5									
CLG. HT.										WIC										LOST										ENS-5									
FACTORS										ENS										LOST										LOST									
GRS.WALL AREA										PBR										LOST										LOST									
GLAZING										LOST										LOST										LOST									
NORTH										21.3										21.3										21.3									
EAST										21.3										21.3										21.3									
SOUTH										21.3										21.3										21.3									
WEST										21.3										21.3										21.3									
SKYL.T.										37.2										37.2										37.2									
DOORS										25.2										25.2										25.2									
NET EXPOSED WALL										4.5										4.5										4.5									
NET EXPOSED BENT WALL ABOVE GR										3.6										3.6										3.6									
NO ATTIC EXPOSED CLG										1.3										1.3										1.3									
EXPOSED FLOOR										2.7										2.7										2.7									
BASEMENT/CRAWL HEAT LOSS										2.6										2.6										2.6									
SLAB ON GRADE HEAT LOSS										2.6										2.6										2.6									
SUBTOTAL HT LOSS										2686										2686										2686									
SUB TOTAL HT GAIN										2327										2327										2327									
LEVEL FACTOR / MULTIPLIER										0.20										0.20										0.20									
AIR CHANGE HEAT LOSS										926										926										926									
AIR CHANGE HEAT GAIN										159										159										159									
DUCT LOSS										0										0										0									
DUCT GAIN										0										0										0									
HEAT GAIN PEOPLE										240										240										240									
HEAT GAIN APPLIANCES/LIGHTS										480										480										480									
TOTAL HT LOSS BTU/H										1024										1024										1024									
TOTAL HT GAIN x 1.3 BTU/H										3622										3622										3622									
TOTAL HT GAIN BTU/H										5187										5187										5187									

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

OPT 5 BED
TYPE: 5013 - ELEV
furnace pressure

DATE: May-22

06631

ELIMINACE

	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.

ROOM NAME	19	20	21	22	23	24
ROOM LOSS MBH.	FOY	GRT	GRT	GRT	DIN	GRT
CFM PER RUN HEAT	3.07	45	2.38	2.38	3.02	3.02
RM GAIN MBH.	58	45	45	45	57	57
CFM PER RUN COOLING	1.80	3.29	3.29	3.29	2.84	2.84
ADJUSTED PRESSURE	59	107	107	107	107	86
ACTUAL DUCT LGH.	0.17	0.15	0.15	0.15	0.15	0.16
EQUIVALENT LENGTH	47	56	49	45	38	27
TOTAL EFFECTIVE LENGTH	100	110	150	130	150	140
ADJUSTED PRESSURE	147	166	199	175	188	167
ROUND DUCT SIZE	4	6	6	6	0.08	0.1
HEATING VELOCITY (ft/min)	665	229	229	229	229	419
COOLING VELOCITY (ft/min)	677	546	546	546	546	631
OUTLET GRILL SIZE	3X10	4X10	4X10	4X10	4X10	3X10
TRUNK	F	D	D	D	D	F

Run #	25	26	27	28	29	30	31	32	33	34	35	36
Room Name	KT/BF	KT/BF	KT/BF	OFF	OFF	MUD	BAS	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.59	2.59	2.59	1.59	1.69	3.08	4.90	4.90	4.90	4.90	4.90	4.90
CFM PER RUN HEAT	49	49	49	32	32	58	92	92	92	92	92	92
RM GAIN MBH.	3.02	3.02	3.02	2.20	2.20	0.49	0.42	0.42	0.42	0.42	0.42	0.42
CFM PER RUN COOLING	98	98	98	72	72	16	14	14	14	14	14	14
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH.	34	39	31	65	60	21	51	37	32	16	15	49
EQUIVALENT LENGTH	100	140	170	130	120	140	110	140	130	130	130	130
TOTAL EFFECTIVE LENGTH	134	179	201	195	180	161	161	177	162	146	145	179
ADJUSTED PRESSURE	0.12	0.09	0.08	0.09	0.1	0.11	0.11	0.09	0.1	0.11	0.11	0.09
ROUND DUCT SIZE	6	6	6	5	5	5	6	6	6	6	6	6
HEATING VELOCITY (ft/min)	250	250	250	235	235	426	469	469	469	469	469	469
COOLING VELOCITY (ft/min)	500	500	500	529	529	117	71	71	71	71	71	71
OUTLET GRILL SIZE	4X10	4X10	4X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10
TRUNK	E	E	E	F	F	F	D	D	E	E	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 A	0	0	0	8	TRUNK G	0	0	0	8
TRUNK B	0	0	0	8	TRUNK H	0	0	0	8
TRUNK C	0	0	0	8	TRUNK I	0	0	0	8
TRUNK D	364	9.6	14	8	TRUNK J	0	0	0	8
TRUNK E	695	12.2	20	8	TRUNK K	0	0	0	8
TRUNK F	421	9.8	13	8	TRUNK L	0	0	0	8

[illegible]

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

OPT 5 BED

TYPE: 5013 - ELEV B - RIVERVIEW

DATE: May-22

LO# 98631

FURNACE 2

HEATING CFM 980 COOLING CFM 980
TOTAL HEAT LOSS 26,213 TOTAL HEAT GAIN 31,336
AIR FLOW RATE CFM 37.39 AIR FLOW RATE CFM 31.27FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 29291 BTUH
furnace pressure 0.6
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35ML196UH045XE36B
FAN SPEED LOW 620
MEDIUM 980
HIGH 1110\$LENNOX 45
AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	20	0	0
R/A	0	0	6	0	0

plenum pressure s/a 0.18

max s/a diff press. loss 0.02

min adjusted pressure s/a 0.16

r/a pressure 0.17

r/a grille press. loss 0.02

adjusted pressure r/a 0.15

All S/A diffusers 4"X10" unless noted otherwise on layout.

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

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
ROOM NAME	PBR	PBR	ENS	ENS	WIC	ENS-5	BED-2	BED-2	ENS-3	BED-3	ENS-4	BED-4	BED-4	LOFT	ENS-2	BED-3	BED-5	LND
RM LOSS MBH	1.81	1.81	0.99	0.99	0.88	0.82	1.04	1.04	2.25	1.35	1.12	1.79	1.79	1.89	1.04	1.35	0.79	0.31
CFM PER RUN HEAT	68	68	37	37	33	31	39	39	84	50	42	67	67	71	39	50	29	12
RM GAIN MBH	2.59	2.59	0.68	0.68	0.39	0.40	1.34	1.34	1.16	2.34	0.37	2.17	2.17	2.13	0.41	2.34	2.13	1.59
CFM PER RUN COOLING	81	81	21	21	12	12	42	42	36	73	12	68	68	67	13	73	67	50
ADJUSTED PRESSURE	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH	52	63	48	16	51	19	72	77	78	69	66	66	73	84	65	64	75	46
EQUIVALENT LENGTH	210	190	255	130	245	120	170	180	200	190	180	190	170	190	170	180	130	176
TOTAL EFFECTIVE LENGTH	262	253	303	146	296	139	242	257	278	259	249	256	243	274	235	244	235	176
ADJUSTED PRESSURE	0.06	0.06	0.06	0.12	0.06	0.12	0.07	0.07	0.06	0.07	0.07	0.07	0.07	0.06	0.07	0.07	0.07	0.1
ROUND DUCT SIZE	6	6	4	4	4	4	5	5	6	6	6	6	6	6	5	6	6	4
HEATING VELOCITY (ft/min)	347	347	424	424	379	356	286	286	428	255	214	342	362	362	286	255	148	138
COOLING VELOCITY (ft/min)	413	413	241	241	138	138	308	308	184	372	61	347	347	342	95	372	342	574
OUTLET GRILL SIZE	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10
TRUNK	C	C	C	C	C	C	B	B	A	A	A	A	A	A	B	A	A	B

RUN #	37	38
ROOM NAME	BED-3	BED-4
RM LOSS MBH	1.35	1.79
CFM PER RUN HEAT	50	67
RM GAIN MBH	2.34	2.17
CFM PER RUN COOLING	73	68
ADJUSTED PRESSURE	0.17	0.17
ACTUAL DUCT LGH	67	71
EQUIVALENT LENGTH	190	170
TOTAL EFFECTIVE LENGTH	257	241
ADJUSTED PRESSURE	0.07	0.07
ROUND DUCT SIZE	6	6
HEATING VELOCITY (ft/min)	255	342
COOLING VELOCITY (ft/min)	372	347
OUTLET GRILL SIZE	4X10	4X10
TRUNK	A	A

TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)	TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)
TRUNK A	506	0.06	11.7	0.06	0	569	TRUNK G	0	0.00	0	0	0	0
TRUNK B	706	0.06	13.2	0.06	0	578	TRUNK H	0	0.00	0	0	0	0
TRUNK C	980	0.00	0	0.00	0	0	TRUNK I	0	0.00	0	0	0	0
TRUNK D	0	0.00	0	0.00	0	0	TRUNK J	0	0.00	0	0	0	0
TRUNK E	0	0.00	0	0.00	0	0	TRUNK K	0	0.00	0	0	0	0
TRUNK F	0	0.00	0	0.00	0	0	TRUNK L	0	0.00	0	0	0	0

RETURN AIR #	1	2	3	4	5	8
AIR VOLUME	155	115	115	115	335	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0
ACTUAL DUCT LGH	62	78	79	75	69	1
EQUIVALENT LENGTH	170	235	195	245	230	0
TOTAL EFFECTIVE LENGTH	232	313	274	320	299	1
ADJUSTED PRESSURE	0.06	0.05	0.05	0.05	0.05	14.80
ROUND DUCT SIZE	7.5	7	7	7	10.5	0
INLET GRILL SIZE	X	X	X	X	X	0
INLET GRILL SIZE	14	14	14	14	30	0

TRUNK	CFM	RECT	DUCT	STATIC PRESS.	ROUND DUCT	VELOCITY (ft/min)
TRUNK O	0	0.05	0	0.05	0	0
TRUNK P	0	0.05	0	0.05	0	0
TRUNK Q	0	0.05	0	0.05	0	0
TRUNK R	0	0.05	0	0.05	0	0
TRUNK S	0	0.05	0	0.05	0	0
TRUNK T	0	0.05	0	0.05	0	0
TRUNK U	0	0.05	0	0.05	0	0
TRUNK V	0	0.05	0	0.05	0	0
TRUNK W	0	0.05	0	0.05	0	0
TRUNK X	825	0.05	14.7	0.05	14.7	8
TRUNK Y	450	0.05	11.7	0.05	11.7	8
TRUNK Z	155	0.05	7.8	0.05	7.8	8
DROP	980	0.05	15.7	0.05	15.7	10

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

LO # 96631
OPT 5 BED

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	7 @ 10.6 cfm	74.2 cfm
Other Rooms	5 @ 10.6 cfm	53.0 cfm
Table 9.32.3.A.	TOTAL	212.0 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	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	212	cfm
Less Principal Ventil. Capacity	150	cfm
Required Supplemental Capacity	62.0	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	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5

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#: 96631		Model: 5013 - ELEV B - RIVERVIEW		Builder: GOLD PARK HOMES		Date: 2022-05-05																																																			
Volume Calculation				Air Change & Delta T Data																																																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr> <td>Bsmt</td> <td>2122</td> <td>10</td> <td>21220</td> </tr> <tr> <td>First</td> <td>2122</td> <td>11</td> <td>23342</td> </tr> <tr> <td>Second</td> <td>2778</td> <td>9</td> <td>25002</td> </tr> <tr> <td>Third</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Fourth</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>69,564.0 ft³</td> </tr> <tr> <td colspan="2" style="text-align: right;">Total:</td> <td></td> <td>1969.8 m³</td> </tr> </tbody> </table>				Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2122	10	21220	First	2122	11	23342	Second	2778	9	25002	Third	0	0	0	Fourth	0	0	0	Total:			69,564.0 ft³	Total:			1969.8 m³	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="4" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> </tr> </thead> <tbody> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> </tr> </tbody> </table>						Design Temperature Difference					Tin °C	Tout °C	ΔT °C	Winter DTDh	22	-20	42	Summer DTDc	24	31	7
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																						
Bsmt	2122	10	21220																																																						
First	2122	11	23342																																																						
Second	2778	9	25002																																																						
Third	0	0	0																																																						
Fourth	0	0	0																																																						
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Winter DTDh	22	-20	42																																																						
Summer DTDc	24	31	7																																																						
5.2.3.1 Heat Loss due to Air Leakage				6.2.6 Sensible Gain due to Air Leakage																																																					
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$				$HG_{sals} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																					
0.340 x 547.18 x 42 °C x 1.2 = 9427 W				0.114 x 547.18 x 7 °C x 1.2 = 534 W																																																					
= 32167 Btu/h				= 1821 Btu/h																																																					
5.2.3.2 Heat Loss due to Mechanical Ventilation				6.2.7 Sensible heat Gain due to Ventilation																																																					
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$				$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																					
300 CFM x 76 °F x 1.08 x 0.25 = 6156 Btu/h				300 CFM x 13 °F x 1.08 x 0.25 = 1,037 Btu/h																																																					
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																									
$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclvel} + HL_{bgclvel})\}$																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairb Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{clvel})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">32,167</td> <td>13,293</td> <td>1.210</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>20,170</td> <td>0.478</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>18,722</td> <td>0.344</td> </tr> <tr> <td>4</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> <tr> <td>5</td> <td>0</td> <td>0</td> <td>0.000</td> </tr> </tbody> </table>										Level	Level Factor (LF)	HLairb Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{clvel})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	32,167	13,293	1.210	2	0.3	20,170	0.478	3	0.2	18,722	0.344	4	0	0	0.000	5	0	0	0.000																						
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*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairbv = 0																																																									

Michael O'Rourke
BCIN# 19669



HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5013 - ELEV B - RIVERVIEW	OPT 5 BED	BUILDER: GOLD PARK HOMES
SFQT: 4501	LO# 96631	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:	6
INTERIOR LIGHTING LOAD (Btu/h/ft²):	1.75	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	-

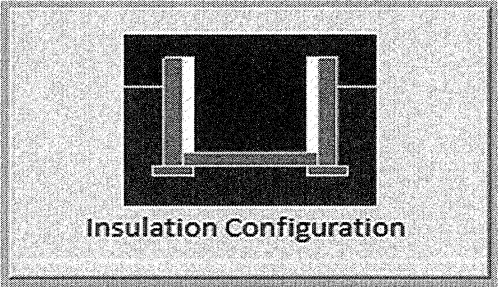
INDIVIDUAL BCIN: 19669

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# 96631

OPT 5 BED

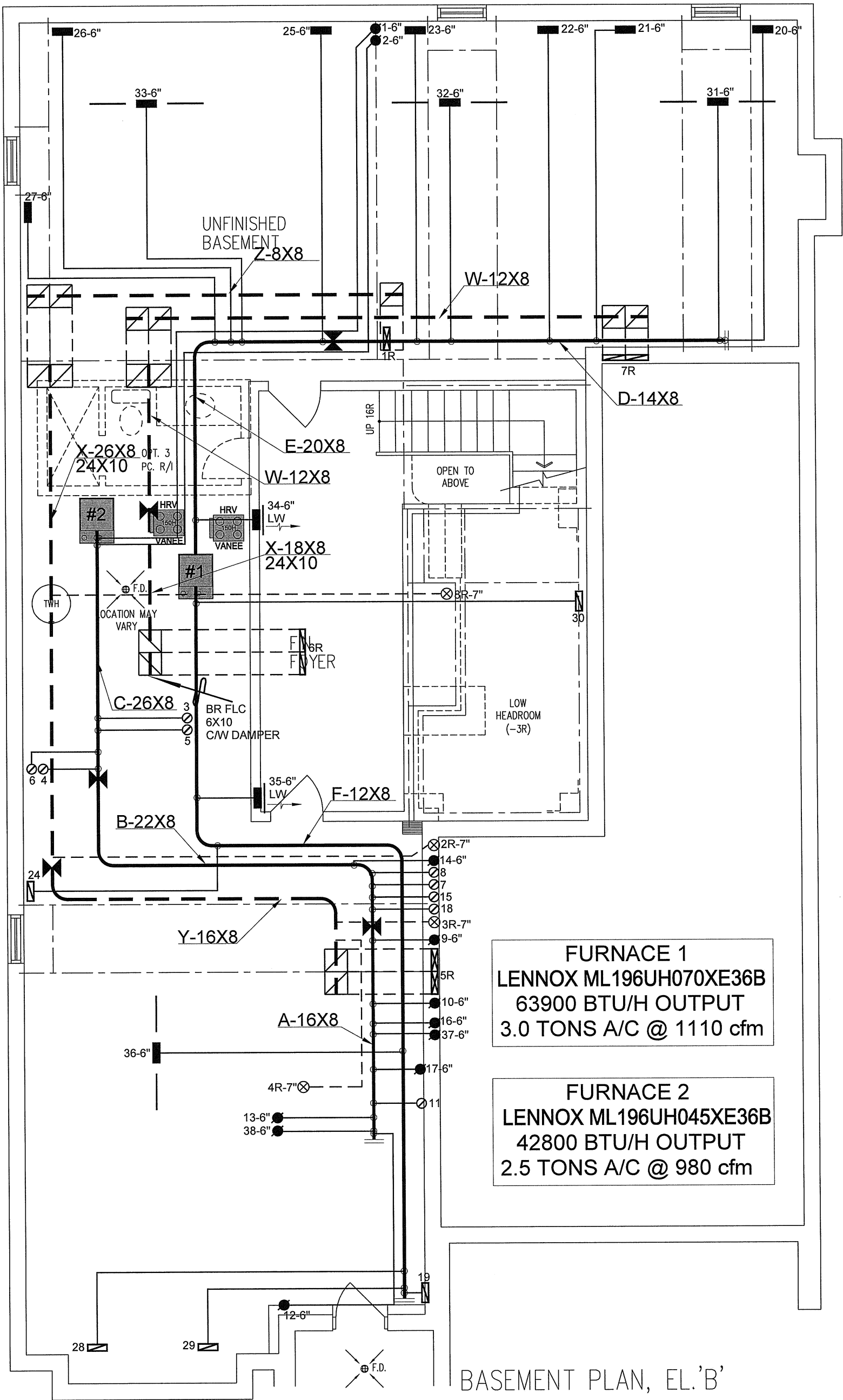
Air Infiltration Residential Load Calculator

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# 96631

OPT 5 BED



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

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

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 - OPT 5 BED
5013 - ELEV B 4501 sqft

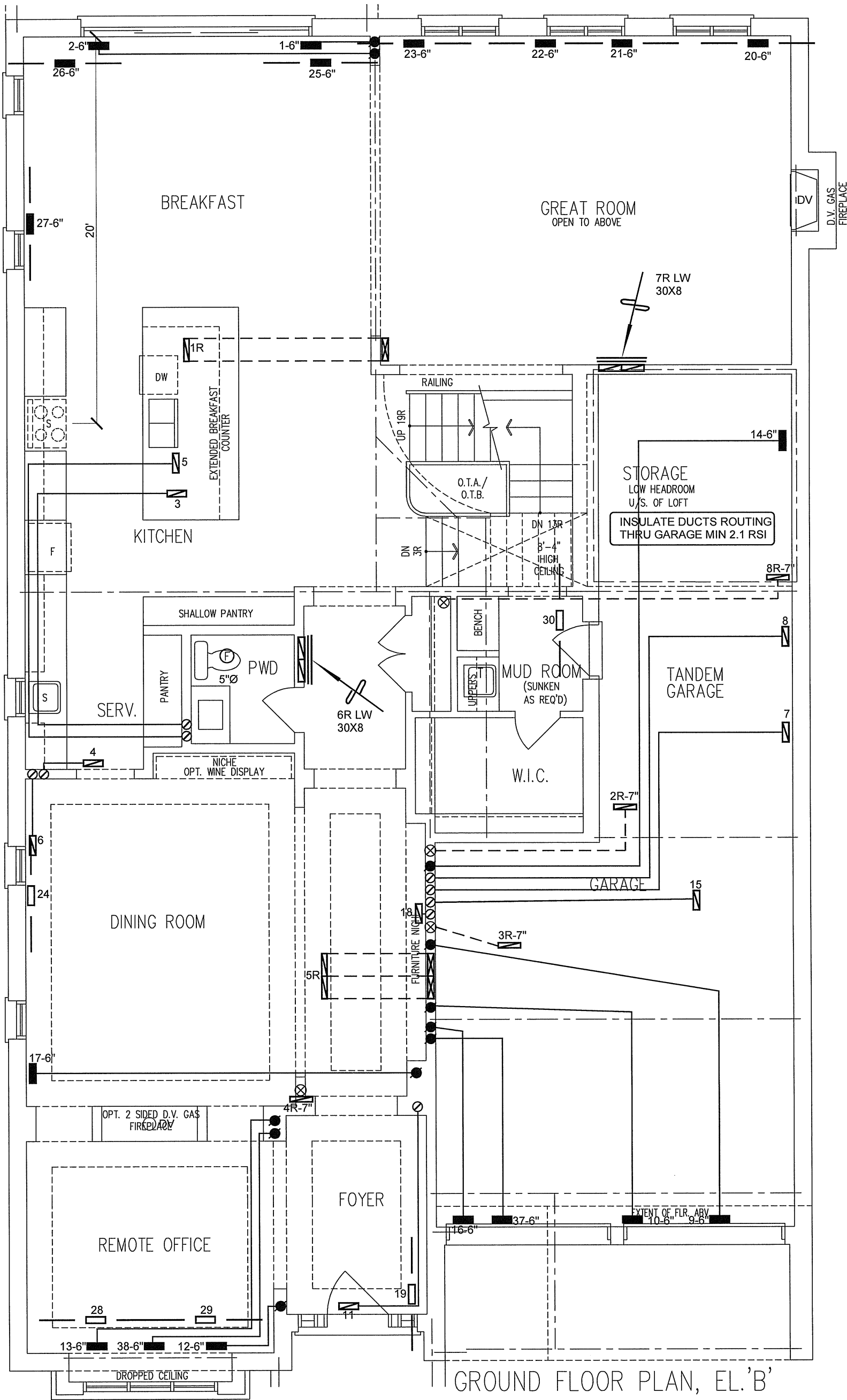
HVACDESIGNS LTD.

375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
Web: www.hvacdsgns.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	20	6	6
1ST	12	2	2
BAS	6	1	0

BASEMENT HEATING LAYOUT	
Date	MAY/2022
Scale	3/16" = 1'-0"
BCIN# 19669	
LO#	96631



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
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CSA-F280-12
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HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA - FLOOR RETURN AIR GRILLE		
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		REDUCER		Date

REVISIONS

Client
GOLD PARK HOMES

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

**RIVERVIEW - OPT 5 BED
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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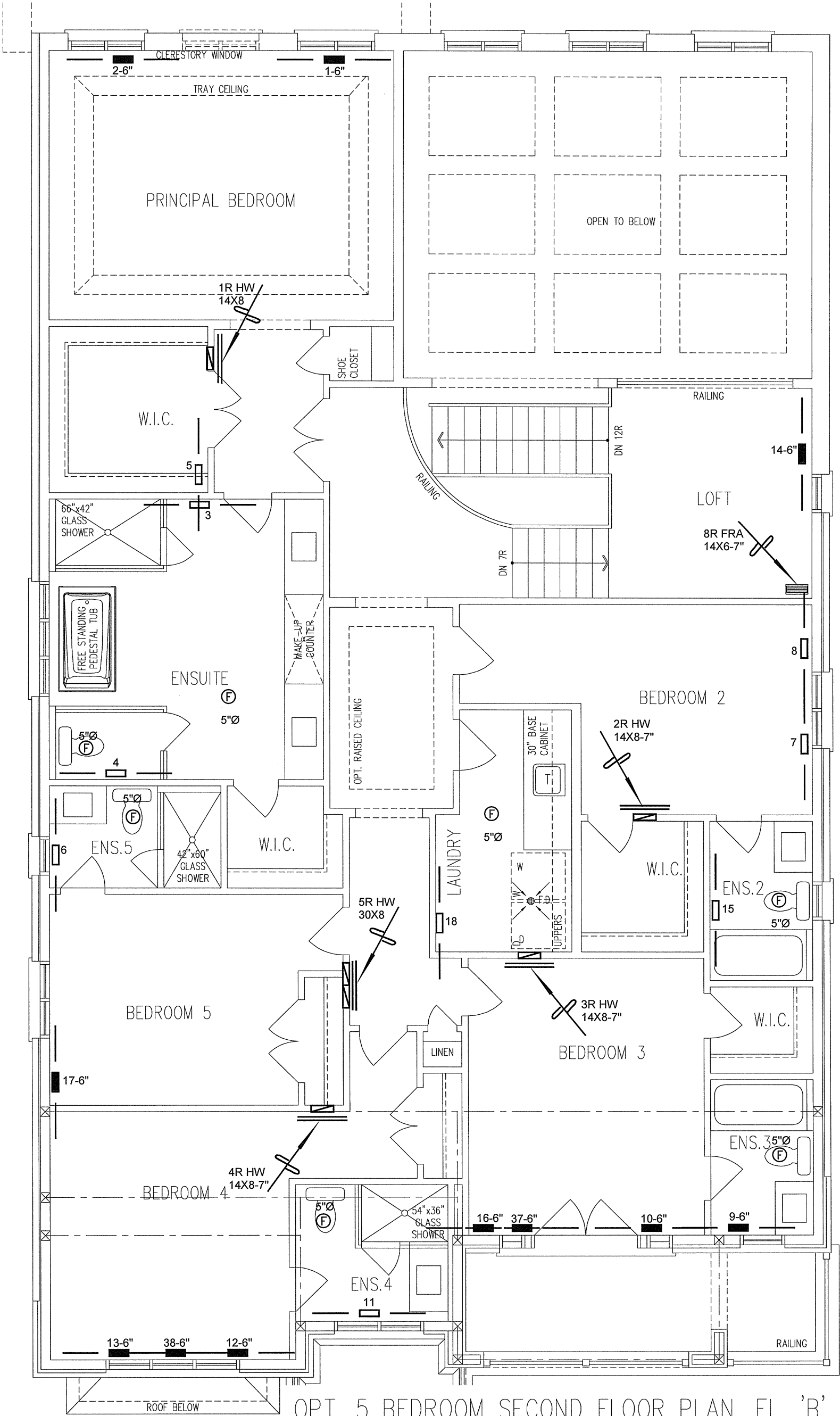
Sheet Title
**FIRST FLOOR
HEATING
LAYOUT**

Date
MAY/2022

Scale
3/16" = 1'-0"

BCIN# 19669

LO# 96631



OPT. 5 BEDROOM SECOND 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
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Michael O'Rourke, BCIN# 19669
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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	
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR	
	14"x8" RETURN AIR GRILLE		30"x8" RETURN AIR GRILLE	
	RETURN AIR STACK ABOVE		RETURN AIR STACK 2nd FLOOR	
	REDUCER			
REVISIONS			Description	Date

Client
GOLD PARK HOMES

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

**RIVERVIEW - OPT 5 BED
5013 - ELEV B 4501 sqft**

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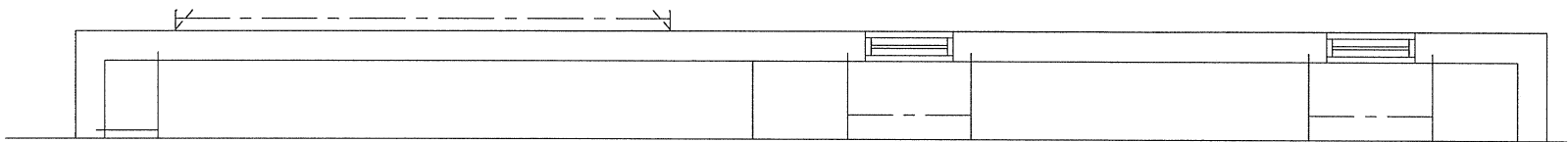
Sheet Title
**SECOND FLOOR
HEATING
LAYOUT**

Date
MAY/2022

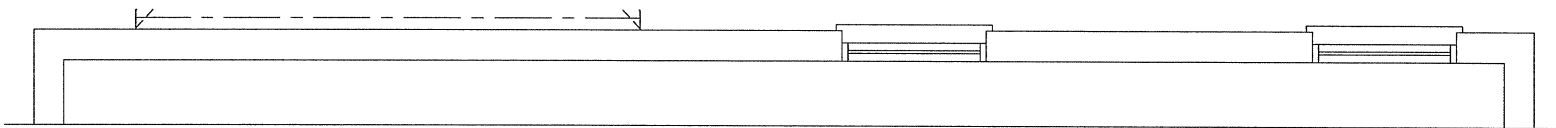
Scale
3/16" = 1'-0"

BCIN# 19669

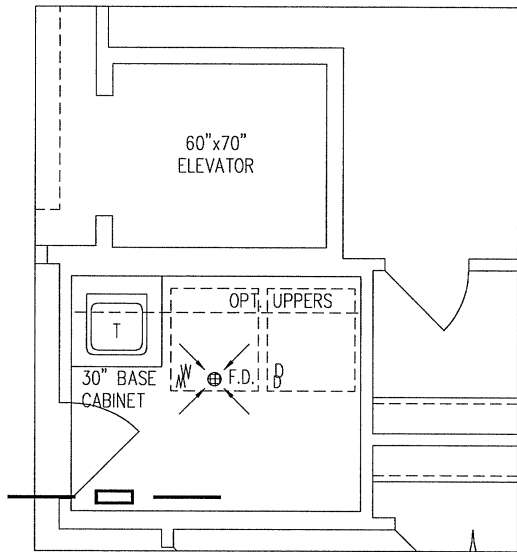
LO# 96631



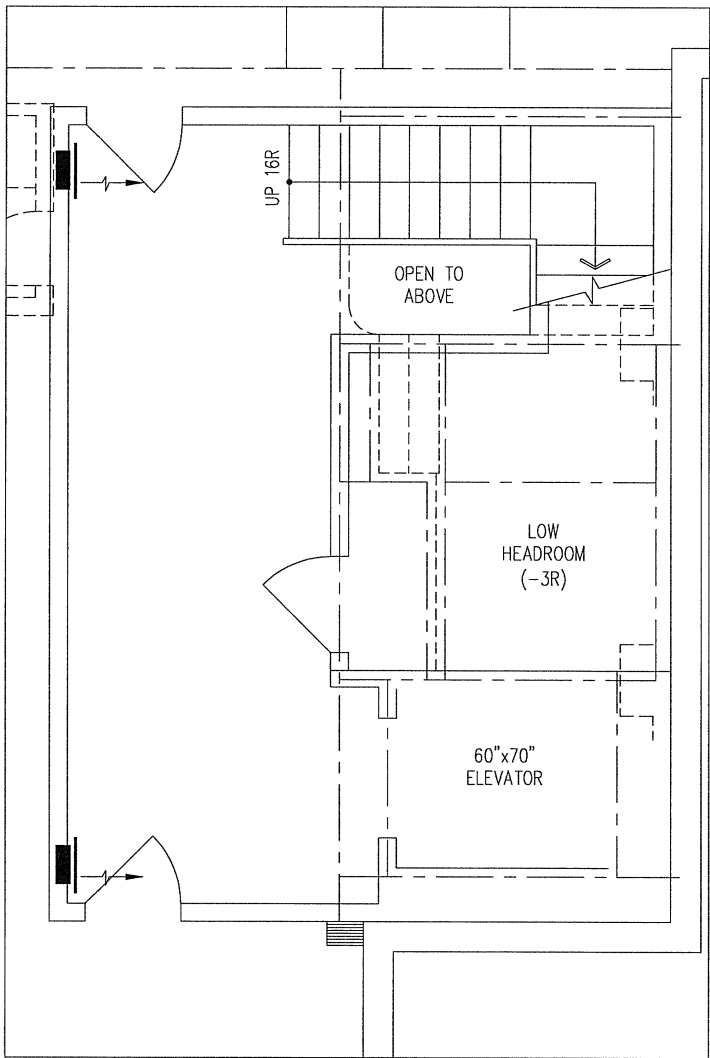
PART. BASEMENT PLAN ELEV. 'B' - W.O.D. COND.



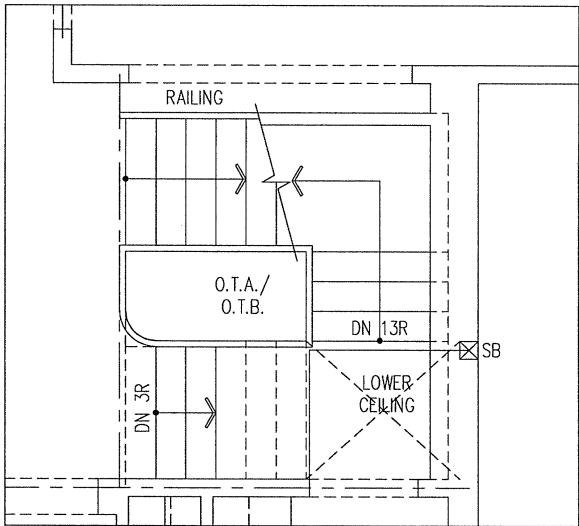
PART. BASEMENT PLAN ELEV. 'B' - L.O.D. COND.



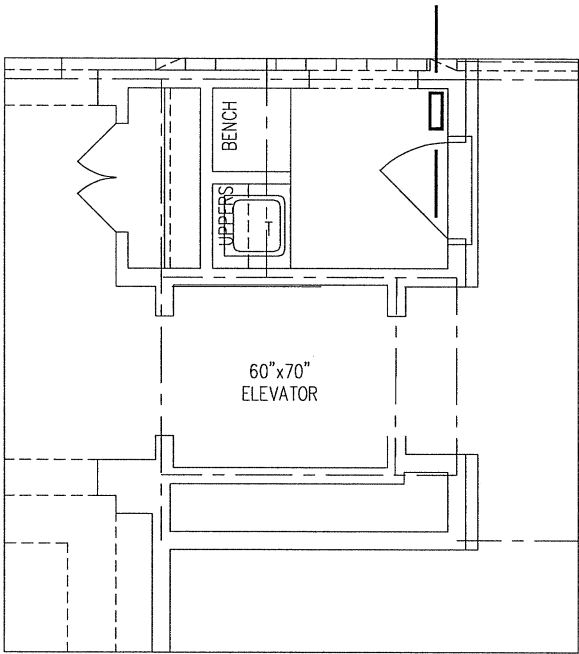
PART. OPT. 5 BEDROOM
SECOND FLOOR W/ ELEVATOR,
EL. 'B'



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, 3.2.3 OF THE
BUILDING CODE.

Michael O'Rourke
Michael O'Rourke, B.C.N.R. 19669
HVAC DESIGNS LTD.

LOD

WOD

CSA-F280-12

PACKAGE A1

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

Client
GOLD PARK HOMES

Project Name
PINE VALLEY PH 2
VAUGHAN, ONTARIO

RIVERVIEW - OPT 5 BED
5013 - ELEV B 4501 sqft

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Sheet Title
STRIP PLAN
HEATING
LAYOUT

Date MAY/2022

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 96631