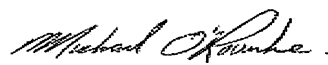


Schedule 1: Designer Information

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: 3103 END 1 - OPT 4-BED Project: PINE VALLEY DRIVE	
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 3, 2021			
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.

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

SITE NAME: PINE VALLEY DRIVE
BUILDER: GOLD PARK HOMES
END 1 - OPT 4-BED
TYPE: 3103
DATE: May-21
LO# 90627
WINTER NATURAL AIR CHANGE RATE 0.336
SUMMER NATURAL AIR CHANGE RATE 0.109
HEAT LOSS AT °F. 76
HEAT GAIN AT °F. 13
CSA-F280-12
SB-12 PACKAGE A1

ROOM USE EXP. WALL CLG. HT.	ENS 6 9	BED-4 25 9	ENS 54 LOSS GAIN	BED-2 17 9	BED-3 38 9	MBR 12 9	ENS-4 12 9	LAUN 0 9	BATH 6 9	B-BTH 18 9
GRS.WALL AREA GLAZING	21.3 16.0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NORTH	21.3 41.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EAST	21.3 41.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SOUTH	21.3 24.9	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
WEST	21.3 41.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SKYLT.	37.2 101.5	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DOORS	25.2 4.3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NET EXPOSED WALL	4.5 0.8	209 933	157 41	183 31	1272 214	76 339	57 108	482 81	0 0	0 0
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EXPOSED CLG	1.3 0.6	156 200	92 102	131 60	204 262	120 156	200 92	209 268	123 123	27 97
NO ATTIC EXPOSED CLG	2.7 1.3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EXPOSED FLOOR	2.6 0.4	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 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
SUBTOTAL HT LOSS		1473 914	1983 1701	2867 2608	1507 1282	682 589	860 835	0.20 0.26	0.50 1.39	16 16
SUB TOTAL HT GAIN		0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26	0.20 0.26
LEVEL FACTOR / MULTIPLIER		390 60	524 111	758 171	339 99	180 11	227 59	227 59	227 59	822 822
AIR CHANGE HEAT LOSS		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
AIR CHANGE HEAT GAIN		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DUCT LOSS		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DUCT GAIN		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
HEAT GAIN PEOPLE	240	1	240 0	240 1	240 1	240 2	480 0	0 0	95 0	0 0
HEAT GAIN APPLIANCES/LIGHTS		674 0	674 0	674 0	674 0	674 0	674 0	674 0	674 0	674 0
TOTAL HT LOSS BTU/H		1863 2454	2758 3899	3625 4800	1621 3587	863 239	1196 1364	1114 324	1196 1364	1411 23
TOTAL HT GAIN x 1.3 BTU/H										

ROOM USE EXP. WALL CLG. HT.	K/D/G 93 11	PWD 7 13	FOY 35 13	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
GRS.WALL AREA GLAZING	1023	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NORTH	21.3 16.0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EAST	21.3 41.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SOUTH	21.3 24.9	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
WEST	21.3 41.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
SKYLT.	37.2 101.5	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DOORS	25.2 4.3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NET EXPOSED WALL	4.5 0.8	915 4083	688 82	366 62	44 1111	187 293	390 1740	0 0	0 0	0 0
NET EXPOSED BSMT WALL ABOVE GR	3.6 0.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EXPOSED CLG	1.3 0.6	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
NO ATTIC EXPOSED CLG	2.7 1.3	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
EXPOSED FLOOR	2.6 0.4	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 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
SUBTOTAL HT LOSS		6382 5025	557 286	3298 1353	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41
SUB TOTAL HT GAIN		0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41	0.30 0.41
LEVEL FACTOR / MULTIPLIER		2606 329	228 19	1347 89	1347 89	1347 89	1347 89	1347 89	1347 89	1347 89
AIR CHANGE HEAT LOSS		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
AIR CHANGE HEAT GAIN		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DUCT LOSS		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
DUCT GAIN		0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
HEAT GAIN PEOPLE	240	1	240 0	240 1	240 1	240 2	480 0	0 0	95 0	0 0
HEAT GAIN APPLIANCES/LIGHTS		674 0	674 0	674 0	674 0	674 0	674 0	674 0	674 0	674 0
TOTAL HT LOSS BTU/H		8988 7837	785 396	4645 1874	0.50 1.39	0.50 1.39	0.50 1.39	0.50 1.39	0.50 1.39	0.50 1.39
TOTAL HT GAIN x 1.3 BTU/H										

TOTAL HEAT GAIN BTU/H: 29544 TONS: 2.46 LOSS DUE TO VENTILATION LOAD BTU/H: 1631 STRUCTURAL HEAT LOSS: 40170 TOTAL COMBINED HEAT LOSS BTU/H: 41801

Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

**SITE NAME: PINE VALLEY DRIVE
BUILDER: GOLD PARK HOMES**

END 1 - OPT 4-BED
TYPE: 3103

DATE: May-21

GFA:	2240	LO#	90627
------	------	-----	-------

HEATING CFM	980	COOLING CFM	980
TOTAL HEAT LOSS	40,170	TOTAL HEAT GAIN	29,269
AIR FLOW RATE CFM	24.4	AIR FLOW RATE CFM	33.48

furnace filter	0.05
a/c coil pressure	0.2
available pressure	0.35

ML196UH045XE36B 45
FAN SPEED
LOW 620

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,800

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = 42,800

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	5
R/A	0	0	4	1	1

atm pressure s/a	0.18
s/a dif press. loss	0.02

pressure	0.17
Loss, Loss	0.02

LOW	685
MEDLOW	980
MEDIUM	1110
MEDIUM HIGH	

DESIGN CFM = $\frac{98}{\text{CFM @ .6" E.S.}}$

$$\text{DESIGN CFM} = \frac{980}{\text{CFM @ .6" E.S.P.}}$$

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
BED-4	MBR	BED-2	BED-3	BED-2	BED-3
ROOM MBH.	1.86	0.81	1.38	1.38	1.81
RM LOSS MBH.	45	20	34	34	44
CFM PER RUN HEAT	2.45	1.79	1.95	1.95	2.40
RM GAIN MBH	82	60	65	65	80
CFM PER RUN COOLING	0.16	0.17	0.17	0.17	0.17
ADJUSTED PRESSURE	48	54	61	55	59
ACTUAL DUCT LGH.	150	130	140	120	150
EQUIVALENT LENGTH	184	201	203	202	196
TOTAL EFFECTIVE LENGTH	0.08	0.09	0.09	0.08	0.08
ADJUSTED PRESSURE	5	5	5	6	6
ROUND DUCT SIZE	229	147	250	250	224
HEATING VELOCITY (ft/min)	418	441	477	477	408
COOLING VELOCITY (ft/min)	4X10	3X10	3X10	3X10	4X10
OUTLET GRILL SIZE	B	A	A	B	C
TRUNK	4X10	3X10	3X10	3X10	4X10
	1	2	3	4	5
BED-3	LAUN	ENS-4	ENS-3	BED-3	BED-3
MBR	8	8	8	8	8
ENS	10	10	10	10	10
BATH	11	11	11	11	11
K/D/G	12	12	12	12	12
K/D/G	13	13	13	13	13
K/D/G	14	14	14	14	14
K/D/G	15	15	15	15	15
PWD	18	18	18	18	18
FOY	19	19	19	19	19
FOY	20	20	20	20	20
BAS	21	21	21	21	21
BAS	22	22	22	22	22
BAS	23	23	23	23	23
BAS	24	24	24	24	24
HIGH	0	0	0	0	0
TEMPERATURE RISE	40	40	40	40	40
°F					

ROOM NAME	25
RM LOSS MBH.	B-BTH
CFM PER RUN HEAT	1.41
RM GAIN MBH.	34
CFM PER RUN COOLING	0.02
ADJUSTED PRESSURE	1
ACTUAL DUCT LGH.	0.17
EQUIVALENT LENGTH	16
TOTAL EFFECTIVE LENGTH	100
ADJUSTED PRESSURE	116
ROUND DUCT SIZE	0.15
HEATING VELOCITY (ft/min)	4
COOLING VELOCITY (ft/min)	390
OUTLET GRILL SIZE	11
TRUNK	3X10
	D

[illegible]

TYPE: 3103
SITE NAME: PINE VALLEY DRIVE

LO # 90627
END 1 - OPT 4-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	<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>2</u> @ 10.6 cfm	<u>21.2</u> cfm
Table 9.32.3.A.	TOTAL	<u>159.0</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
TOTAL		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>159</u>	cfm
Less Principal Ventil. Capacity	<u>79.5</u>	cfm
Required Supplemental Capacity	<u>79.5</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>79.5</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM		ΔT °F		FACTOR	% LOSS
79.5 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-4	BY INSTALLING CONTRACTOR	50	☒	3.5
BATH	BY INSTALLING CONTRACTOR	50	☒	3.5
PWD	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H		
<u>150</u>	cfm high	<u>35</u> cfm low
<u>75</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:	May-21

CSA F280-12 Residential Heat Loss and Heat Gain Calculations			
Formula Sheet (For Air Leakage / Ventilation Calculation)			
LO#: 90627	Model: 3103	Builder: GOLD PARK HOMES	Date: 5/3/2021
Volume Calculation		Air Change & Delta T Data	
House Volume		WINTER NATURAL AIR CHANGE RATE	0.336
Level	Floor Area (ft²)	Floor Height (ft)	SUMMER NATURAL AIR CHANGE RATE
Bsmt	910	9	0.109
First	910	11	
Second	1364	9	
Third	0	9	
Fourth	0	9	
	Total:	30,476.0 ft³	
	Total:	863.0 m³	
Design Temperature Difference			
	Tin °C	Tout °C	ΔT °C
Winter DTDh	22	-20	42
Summer DTDc	24	31	7
			ΔT °F
			76
			13
6.2.6 Sensible Gain due to Air Leakage			
$HG_{satb} = LR_{aire} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$			
0.336	x	239.72	x
		7 °C	x
		1.2	=
			224 W
			=
			763 Btu/h
6.2.7 Sensible heat Gain due to Ventilation			
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$			
80 CFM	x	13 °F	x
		1.08	x
		0.25	=
			275 Btu/h
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)			
$HL_{airrr} = Level Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$			
Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)
1	0.5	13,936	4,998
2	0.3		1,394
3	0.2		10,237
4	0		0.408
5	0		10,539
			0.264
			0
			0.000
			0
			0.000
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0			

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 3103	END 1 - OPT 4-BED	BUILDER: GOLD PARK HOMES
SFQT: 2240	LO# 90627	SITE: PINE VALLEY DRIVE

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

BUILDING DATA

ATTACHMENT:	ATTACHED	# 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):	30476.0	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:	7.5 ft
LENGTH: 43.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	132.0 ft

2012 OBC - COMPLIANCE PACKAGE**Component****Compliance Package
A1****Nominal Min. Eff.**

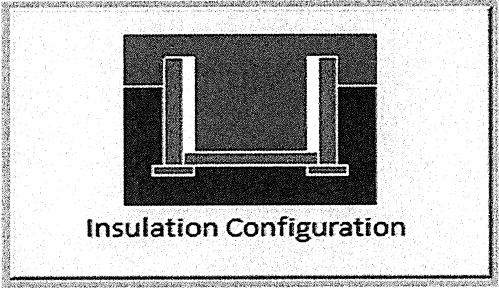
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 ci	21.12
Below Grade Slab Entire surface > 600 mm below 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	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):	13.1	 Insulation Configuration
Floor Width (m):	9.8	
Exposed Perimeter (m):	40.2	
Wall Height (m):	2.7	
Depth Below Grade (m):	2.29	
Window Area (m ²):	0.7	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		1058

TYPE: 3103
LO# 90627

END 1 - OPT 4-BED

Air Infiltration Residential Load Calculator

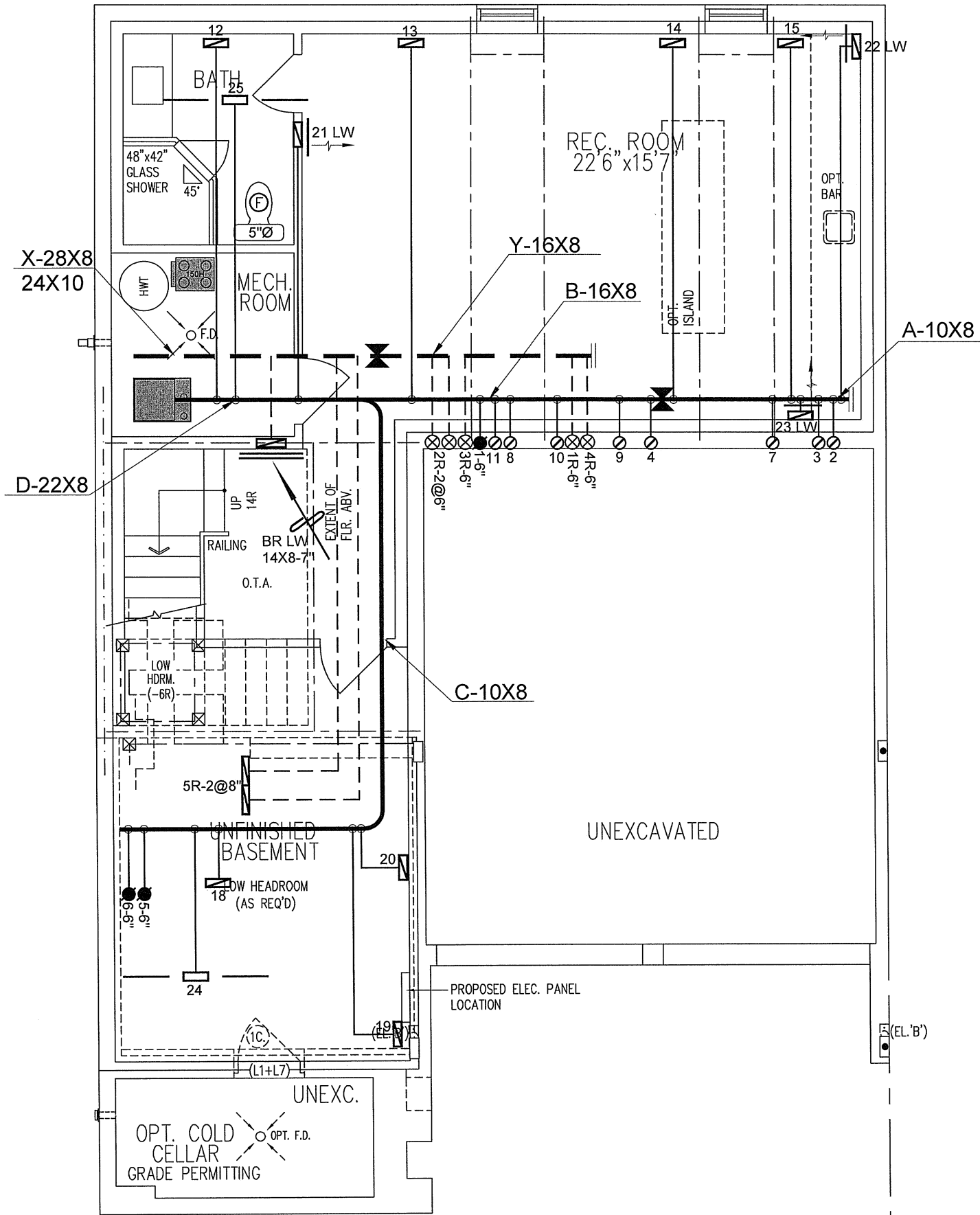
Supplemental tool for CAN/CSA-F280

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):	6.55			
Building Configuration				
Type:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	863.0			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1150.4 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	37.5	37.5		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.336			
Cooling Air Leakage Rate (ACH/H):	0.109			

TYPE: 3103
LO# 90627

END 1 - OPT 4-BED

UNEXCAVATED



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.

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

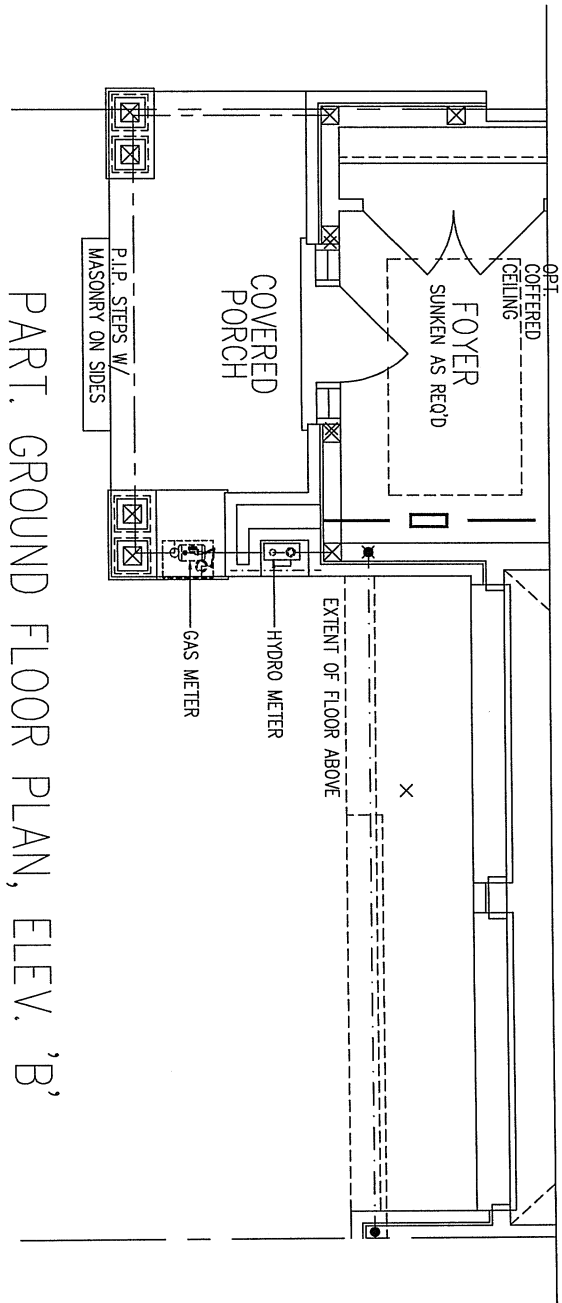
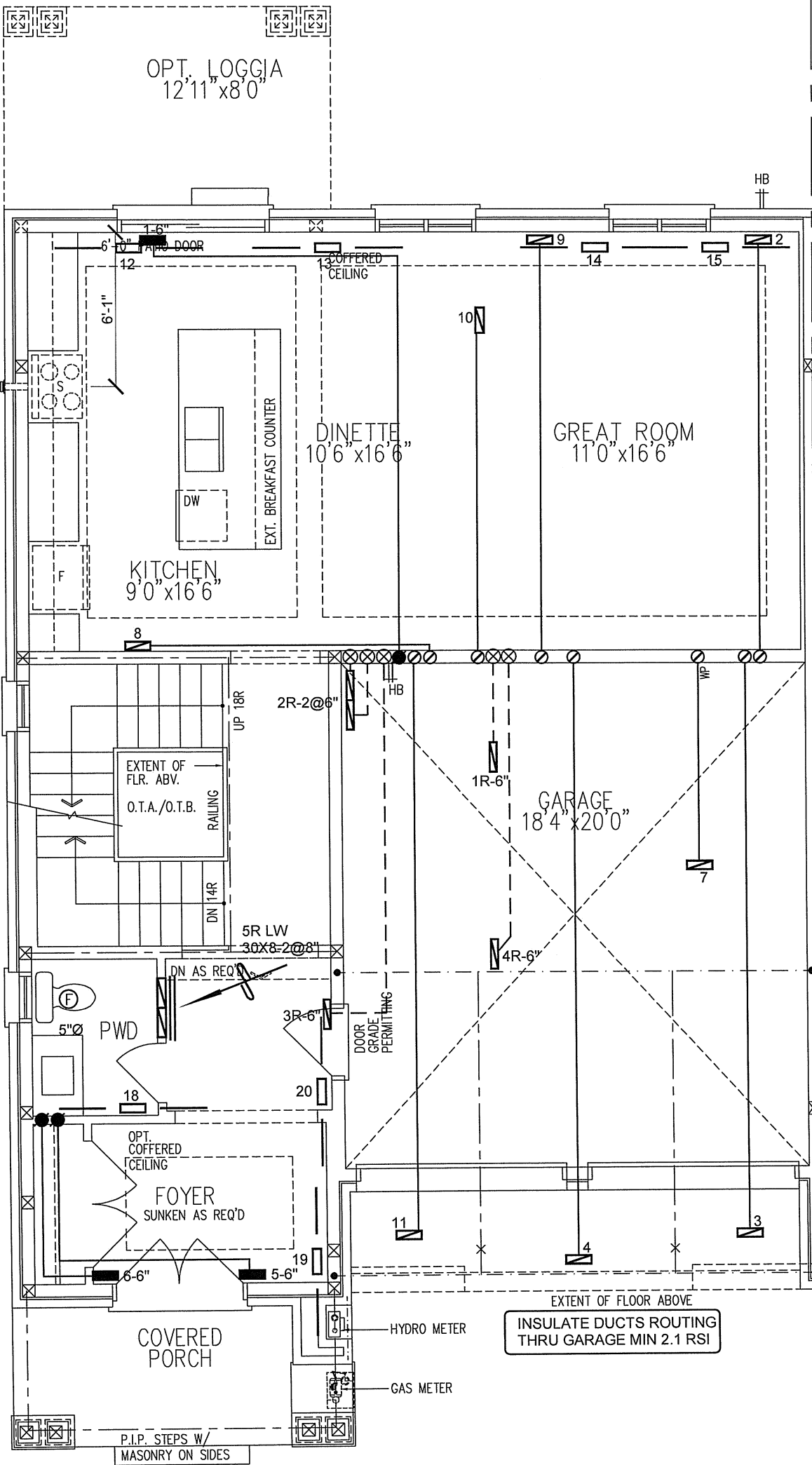
CSA-F280-12

PACKAGE A1

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	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 41801 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title BASEMENT HEATING LAYOUT	
Project Name PINE VALLEY DRIVE VAUGHAN, ONTARIO			MAKE LENNOX		3RD FLOOR				
			MODEL ML196UH045XE36B		2ND FLOOR				
			INPUT 44 MBTU/H		1ST FLOOR				
			OUTPUT 42.8 MBTU/H		BASEMENT				
OPT 4-BED 3103 - END 1 2240 sqft			COOLING 2.5 TONS		ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5'Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A			Date APR/2021	
			FAN SPEED 980 cfm @ 0.6" w.c.					Scale 3/16" = 1'-0"	
							BCIN# 19669		
							LO# 90627		



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.

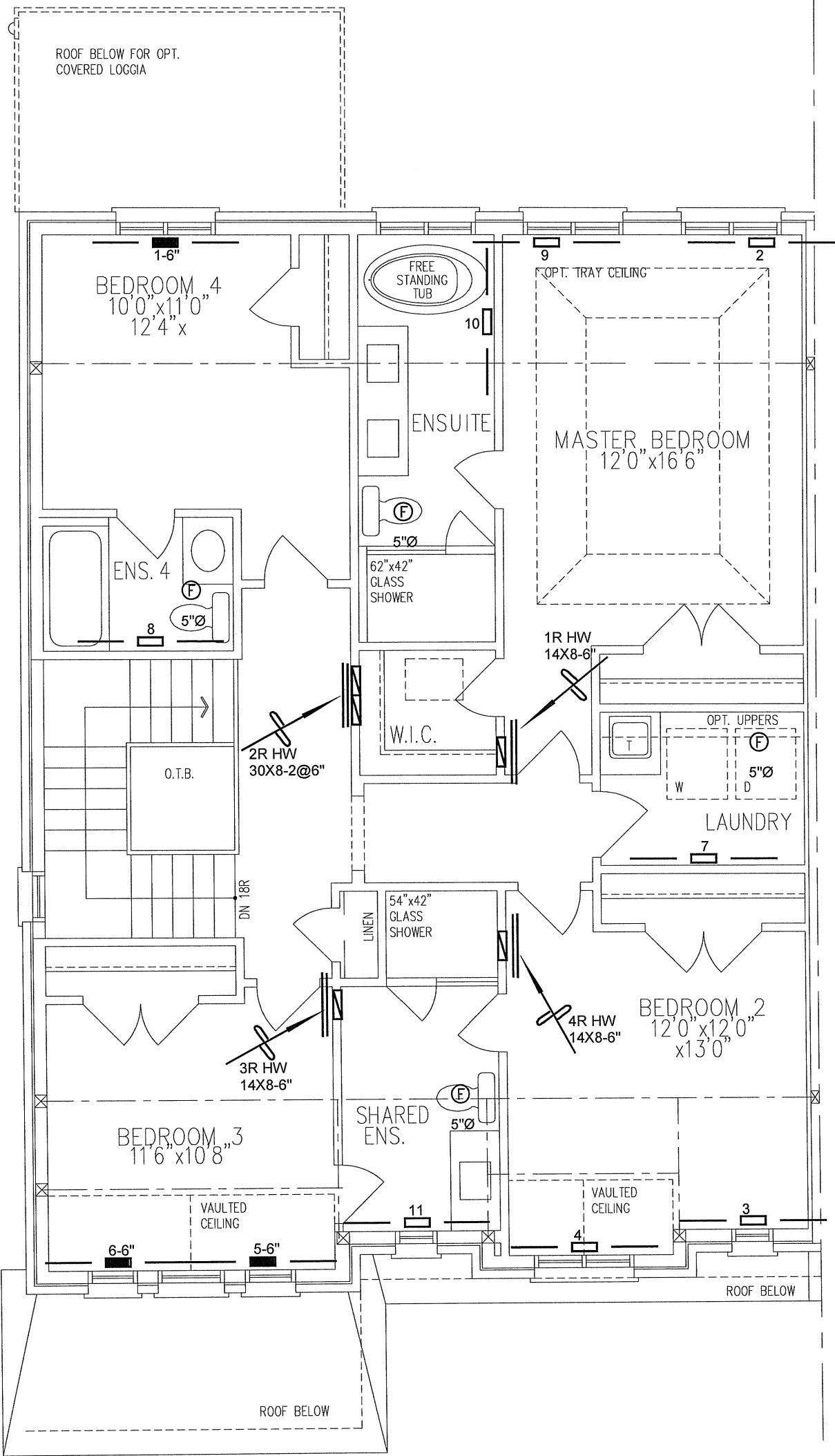
GROUND FLOOR PLAN, ELEV. 'A'

CSA-F280-12
PACKAGE A1

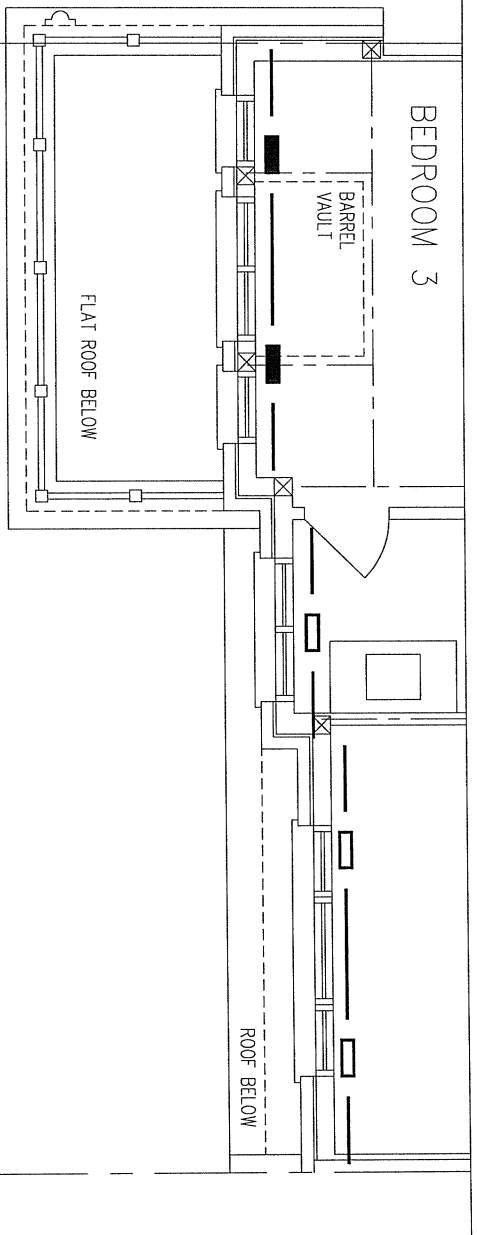
HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	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	APR/2021
PINE VALLEY DRIVE VAUGHAN, ONTARIO			Scale	3/16" = 1'-0"
OPT 4-BED 3103 - END 1			BCIN# 19669	
2240 sqft	LO# 90627			



PART. SECOND FLOOR PLAN, ELEV. 'B'



4-BEDROOM
IS STANDARD

CSA-F280-12
PACKAGE A1

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. 4-BEDROOM FLOOR PLAN, ELEV. 'A'
(ELEV. 'B' SIMILAR)

HVAC LEGEND							3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	
	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 SECOND FLOOR HEATING LAYOUT	
Project Name PINE VALLEY DRIVE VAUGHAN, ONTARIO			Date APR/2021	
OPT 4-BED 3103 - END 1			Scale 3/16" = 1'-0"	
2240 sqft			BCIN# 19669	
			LO#	90627