


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]			
<input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> 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: 4202- ROSEDALE OPT. 5 BED - WOB Project: PINE VALLEY & TESTON	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> (print name)		declare that (choose one as appropriate):	
<input type="checkbox"/> 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: _____			
<input checked="" type="checkbox"/> 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>			
<input type="checkbox"/> 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.			
September 11, 2018 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 & TESTON OPT. 5 BED - WOB DATE: 9-9-18 DATE: 9-9-18 DATE: 9-9-18
 BUILDER: GOLD PARK HOMES TYPE: 4202-ROSEDALE LO# 78974 LO# 78974 LO# 78974
 WINTER NATURAL AIR CHANGE RATE 0.407 HEAT LOSS AT °F. 76 CSA-F280-12
 SUMMER NATURAL AIR CHANGE RATE 0.137 HEAT GAIN AT °F. 13 SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	MBR	ENS	KT/IGT	BED-2	BED-3	BED-4	ENS-2	BED-5	ENS-3	ENS-4/6
GRS. WALL AREA	340			340	333		108	324	144	0	117	81	54
GLAZING					LOSS GAIN		LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	21.3	16.0	0	0	0	18	383	288	0	0	0	9	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	24.9	0	0	0	0	0	0	38	809	946	0	0
WEST	21.3	41.6	54	1149	2244	0	0	0	0	0	18	383	448
SKYL.T.	37.2	101.5	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
NET EXPOSED WALL	4.8	0.8	286	1276	216	316	1406	237	106	473	80	72	321
NET EXPOSED BSMT WALL ABOVE GR	3.8	0.6	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	286	366	167	210	270	123	240	308	141	45	68
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.4	0	0	0	144	387	62	280	714	120	0	0
BASEMENT/CRAWL HEAT LOSS			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
SUBTOTAL HT LOSS			2781	2626	1108	551	1445	3411	1590	1167	1068	685	349
SUB TOTAL HT GAIN			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			1006		742	49	187	154	240	1	382	247	126
AIR CHANGE HEAT LOSS			0	234	99	1	1	484	0	12	0	93	0
DUCT LOSS			0	0	0	0	0	387	240	0	0	0	0
HEAT GAIN PEOPLE	240		2	480	0	704	704	704	704	0	704	0	0
HEAT GAIN APPLIANCES/LIGHTS			3798	704	2800	2162	2208	5104	2163	597	1440	1026	475
TOTAL HT LOSS BTU/H				8257	1689			6540	2879	165	2118	379	127

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	DIN	KT/IGT	LAUN	PWD	FOY	MUD	WIC	WOB	BAS
GRS. WALL AREA	187			187	1100	288	180	649	180	64	430	1113
GLAZING					LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN	LOSS GAIN
NORTH	21.3	16.0	0	0	10	213	160	0	0	0	26	0
EAST	21.3	41.6	0	0	0	0	0	0	0	0	563	416
SOUTH	21.3	24.9	34	724	29	617	722	0	0	0	0	0
WEST	21.3	41.6	0	0	123	2617	5111	0	0	0	0	0
SKYL.T.	37.2	101.5	0	0	0	0	0	0	0	0	98	2085
DOORS	25.2	4.3	0	0	10	252	43	0	0	0	0	0
NET EXPOSED WALL	4.8	0.8	163	683	928	4141	697	57	1439	242	20	505
NET EXPOSED BSMT WALL ABOVE GR	3.8	0.6	0	0	0	0	0	592	2642	445	160	714
EXPOSED CLG	1.3	0.6	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
EXPOSED FLOOR	2.8	0.4	0	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			1406	962	7841	2556	803	4081	1219	563	562	2660
SUB TOTAL HT GAIN			0.30	0.60	0.30	0.60	0.30	0.60	0.30	0.60	0.30	0.60
LEVEL FACTOR / MULTIPLIER			837		4670	921	478	0.30	0.60	0.20	4872	4782
AIR CHANGE HEAT LOSS			0	86	0	192	0	0.30	0.60	0.20	0	0
AIR CHANGE HEAT GAIN			0	0	0	0	0	2430	726	203	0	0
DUCT LOSS			0	0	0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS			2244	704	12511	3478	1282	6511	1845	843	5523	20018
TOTAL HT LOSS BTU/H				2276	10446	3966	192	973	1208	186	6224	1988

TOTAL HEAT GAIN BTU/H: 48254

TONS: 4.02

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 73817

TOTAL COMBINED HEAT LOSS BTU/H: 77087

SITE NAME: PINE VALLEY & TESTON
BUILDER: GOLD PARK HOMES

OPT. 5 BED - WOB
TYPE: 4202-ROSEDALE

DATE: Sep-18

GFA: 3785 LO# 79974

HEATING CFM	1525	COOLING CFM	1525
TOTAL HEAT LOSS	73,917	TOTAL HEAT GAIN	47,718
AIR FLOW RATE CFM	20.63	AIR FLOW RATE CFM	31.96

furnace filter	0.05
a/c coil pressure	0.2
available pressure	

**^LENNOX
EL296UH090XE48C 90
FAN SPEED**

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = 85,000

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	16	9	6
R/A	0	0	5	2	1

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

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

[illegible]

ROOM NAME	25	26	27	28	30	31	32	33
RM LOSS MBH	1.70	1.74	4.26	3.26	0.84	BED-3	BAS	ENS-4/5
CFM PER RUN HEAT	35	36	88	67	17	35	88	10
RM GAIN MBH	1.85	1.96	1.37	0.49	0.20	1.85	1.37	0.13
CFM PER RUN COOLING	59	63	44	16	6	59	44	4
ADJUSTED PRESSURE	0.17	0.17	0.16	0.17	0.17	0.17	0.16	0.17
ACTUAL DUCT LGH	45	57	33	40	60	58	22	39
EQUIVALENT LENGTH	140	150	180	150	150	160	120	140
TOTAL EFFECTIVE LENGTH	185	207	213	190	210	218	142	179
ADJUSTED PRESSURE	0.09	0.08	0.08	0.09	0.08	0.08	0.11	0.1
ROUND DUCT SIZE	5	5	6	5	4	5	5	4
HEATING VELOCITY (ft/min)	257	264	449	492	195	257	646	115
COOLING VELOCITY (ft/min)	433	463	224	117	69	433	323	46
OUTLET GRILL SIZE	3X10	3X10	4X10	3X10	B	F	C	3X10
TRUNKS	F	D	D	D	B	E	C	C

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK		STATIC PRESS.		ROUND DUCT		RECT DUCT		VELOCITY (ft/min)		TRUNK CFM		STATIC PRESS.		ROUND DUCT		RECT DUCT		VELOCITY (ft/min)	
TRUNK A	276	0.08	8.7	10	X	8	497	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK B	313	0.07	9.4	10	X	8	563	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK C	891	0.07	13.9	22	X	8	729	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK D	382	0.07	10.1	12	X	8	573	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK E	636	0.07	12.2	18	X	8	636	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK F	0	0.00	0	0	Y	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK G	0	0.00	0	0	Y	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK H	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK I	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK J	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK K	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK L	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK M	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK N	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK O	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK P	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK Q	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK R	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK S	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK T	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK U	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK V	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK W	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK X	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK Y	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0
TRUNK Z	0	0.00	0	0	X	8	0	0	0	0	0	0.00	0	0	0	0	0	0	0

[illegible]

TYPE: 4202- ROSEDALE
SITE NAME: PINE VALLEY & TESTON

LO # 79974
OPT. 5 BED - WOB

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	<input checked="" type="checkbox"/> Direct vent (sealed combustion) only	
b)	<input type="checkbox"/> Positive venting induced draft (except fireplaces)	
c)	<input type="checkbox"/> Natural draft, B-vent or induced draft gas fireplace	
d)	<input type="checkbox"/> Solid Fuel (including fireplaces)	
e)	<input type="checkbox"/> No Combustion Appliances	

HEATING SYSTEM	
<input checked="" type="checkbox"/> Forced Air	<input type="checkbox"/> Non Forced Air
<input type="checkbox"/> Electric Space Heat	

HOUSE TYPE		9.32.1(2)
<input checked="" type="checkbox"/> I	Type a) or b) appliance only, no solid fuel	
<input type="checkbox"/> II	Type I except with solid fuel (including fireplaces)	
<input type="checkbox"/> III	Any Type c) appliance	
<input type="checkbox"/> IV	Type I, or II with electric space heat	
<input type="checkbox"/>	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
<input type="checkbox"/> 1	Exhaust only/Forced Air System	
<input type="checkbox"/> 2	HRV with Ducting/Forced Air System	
<input checked="" type="checkbox"/> 3	HRV Simplified/connected to forced air system	
<input type="checkbox"/> 4	HRV with Ducting/non forced air system	
<input type="checkbox"/>	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	6 @ 10.6 cfm	63.6 cfm
Other Rooms	7 @ 10.6 cfm	74.2 cfm
Table 9.32.3.A.	TOTAL	222.6 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	222.6	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	67.6	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANE 65H	Location: BSMT
155.0 cfm	3.0 sones
<input checked="" type="checkbox"/> HVI Approved	

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

SUPPLEMENTAL FANS		NUTONE	
Location	Model	cfm	HVI
ENS	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-2	QTXEN050C	50	<input checked="" type="checkbox"/>
ENS-4/5	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	64 cfm low	
75 % Sensible Efficiency	<input checked="" type="checkbox"/> 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:	September-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																																											
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																																											
LO#: 79974		Model: 4202- ROSEDALE		Builder: GOLD PARK HOMES		Date: 9/11/2018																																																																					
Volume Calculation				Air Change & Delta T Data																																																																							
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5.2.3.1 Heat Loss due to Air Leakage				6.2.6 Sensible Gain due to Air Leakage																																																																							
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$				$HG_{satb} = LR_{aire} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$																																																																							
0.407 x 433.22 x 42 °C x 1.2 = 8931 W				= 0.137 x 433.22 x 7 °C x 1.2 = 505 W																																																																							
= 30472 Btu/h				= 1722 Btu/h																																																																							
5.2.3.2 Heat Loss due to Mechanical Ventilation				6.2.7 Sensible heat Gain due to Ventilation																																																																							
$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$				$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$																																																																							
155 CFM x 76 °F x 1.08 x 0.25 = 3181 Btu/h				155 CFM x 13 °F x 1.08 x 0.25 = 536 Btu/h																																																																							
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																																											
$HL_{airr} = Level Factor \times HL_{airbv} \times \{(HL_{qgcr} + HL_{bgcr}) \div (HL_{qglevel} + HL_{bglevel})\}$																																																																											
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Level</th> <th>Level Factor (LF)</th> <th>HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)</th> <th>Level Conductive Heat Loss: (HL_{level})</th> <th>Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)</th> </tr> <tr> <td>1</td> <td>0.5</td> <td rowspan="5" style="text-align: center; vertical-align: middle;">30,472</td> <td>9,753</td> <td>1.562</td> </tr> <tr> <td>2</td> <td>0.3</td> <td>15,351</td> <td>0.596</td> </tr> <tr> <td>3</td> <td>0.2</td> <td>16,904</td> <td>0.361</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> </table>										Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)	1	0.5	30,472	9,753	1.562	2	0.3	15,351	0.596	3	0.2	16,904	0.361	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 HLairve = 0																																																																											

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4202- ROSEDALE	OPT. 5 BED - WOB	BUILDER: GOLD PARK HOMES
SFQT: 3785	LO# 79974	SITE: PINE VALLEY & TESTON

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:	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):	55077.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
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: 68.0 ft	WIDTH: 33.0 ft	EXPOSED PERIMETER:	159.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	43.0 ft

2012 OBC - COMPLIANCE PACKAGE

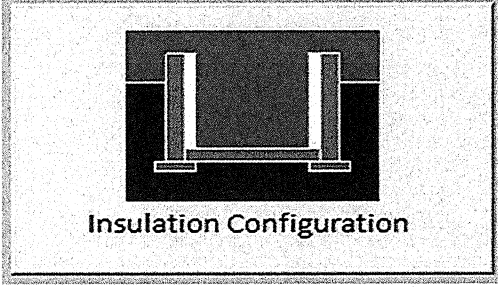
Component	Compliance Package A1	
	Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value	60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value	31	27.65
Exposed Floor Minimum RSI (R)-Value	31	29.80
Walls Above Grade Minimum RSI (R)-Value	22	17.03
Basement Walls Minimum RSI (R)-Value	20 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

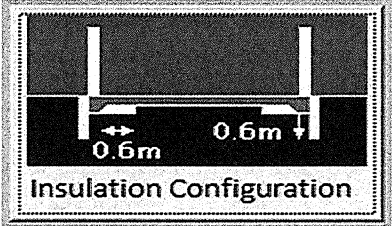
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.6	 Insulation Configuration
Floor Width (m):	10.1	
Exposed Perimeter (m):	48.5	
Wall Height (m):	3.0	
Depth Below Grade (m):	1.79	
Window Area (m ²):	0.0	
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):		750

TYPE: 4202- ROSEDALE
LO# 79974

OPT. 5 BED - WOB

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		
Length (m):	1.5	 Insulation Configuration
Width (m):	10.1	
Exposed Perimeter (m):	13.1	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		162

TYPE: 4202- ROSEDALE
LO# 79974

OPT. 5 BED - WOB

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):	9.14			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1559.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2079.0 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	73.2	73.2		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.407			
Cooling Air Leakage Rate (ACH/H):	0.137			

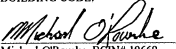
TYPE: 4202- ROSEDALE
LO# 79974








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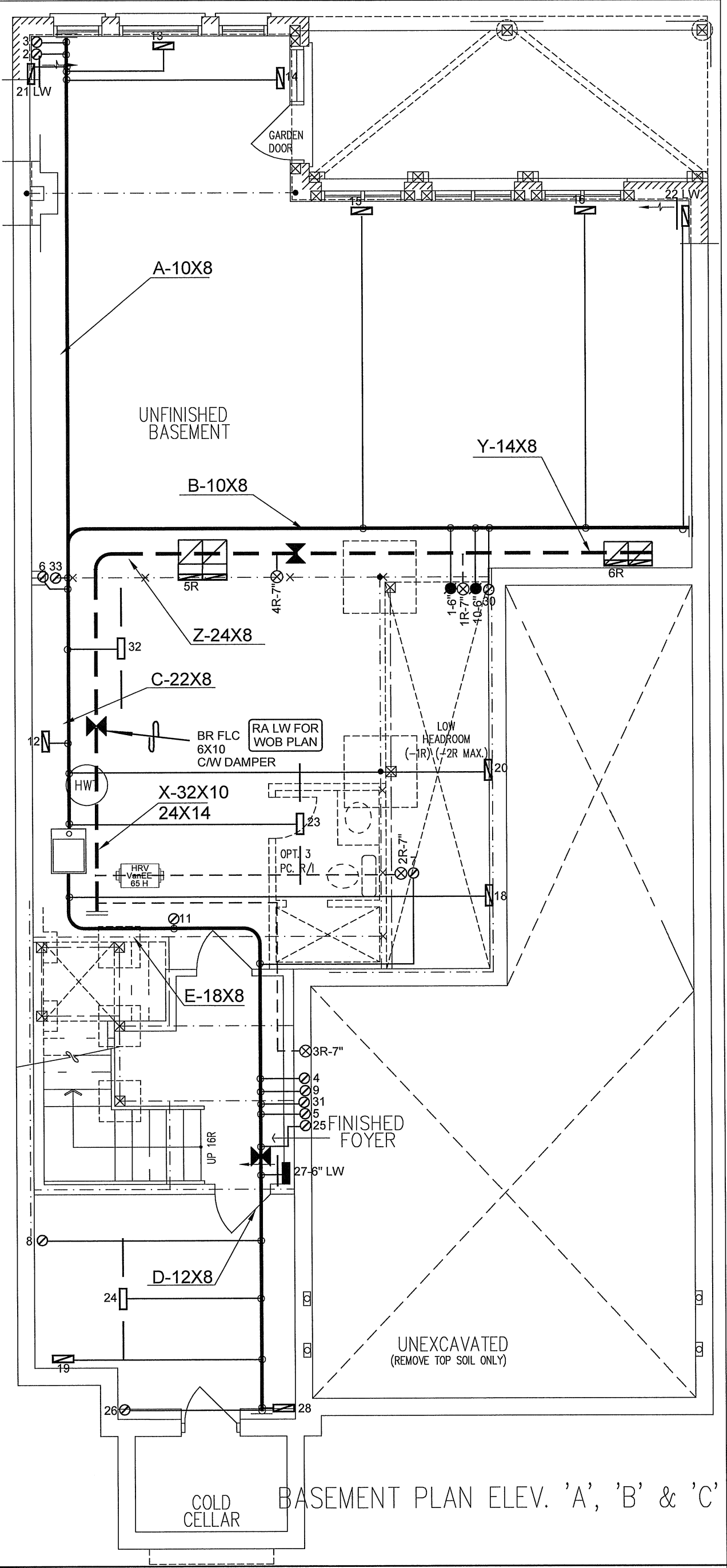
CSA-F280-12

WOB

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, BCIN# 19669
HVAC DESIGNS LTD.

HVAC LEGEND		
SYMBOL	DESCRIPTION	
	SUPPLY AIR GRILLE	2.
	SUPPLY AIR BOOT ABOVE	1.
	SUPPLY AIR STACK FROM 2nd FLOOR	Description
	6" SUPPLY AIR STACK 2nd FLOOR	
	FRA- FLOOR RETURN AIR GRILLE	Date
	RETURN AIR STACK ABOVE	
	REDUCER	















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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@hvacdsgns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO		HEAT LOSS 77097 BTU/H UNIT DATA MAKE LENNOX MODEL EL296UH090XE48C INPUT 88 MBTU/H OUTPUT 85 MBTU/H COOLING 4.0 TONS FAN SPEED 1525 cfm @ 0.6" w.c.	
OPT. 5 BED ROSEDALE 4202 - WOB		# OF RUNS S/A R/A FANS 3RD FLOOR 2ND FLOOR 16 5 5 1ST FLOOR 9 2 2 BASEMENT 6 1 0 ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A	
3785 sqft		Sheet Title BASEMENT HEATING LAYOUT Date SEPT/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 79974	
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.			

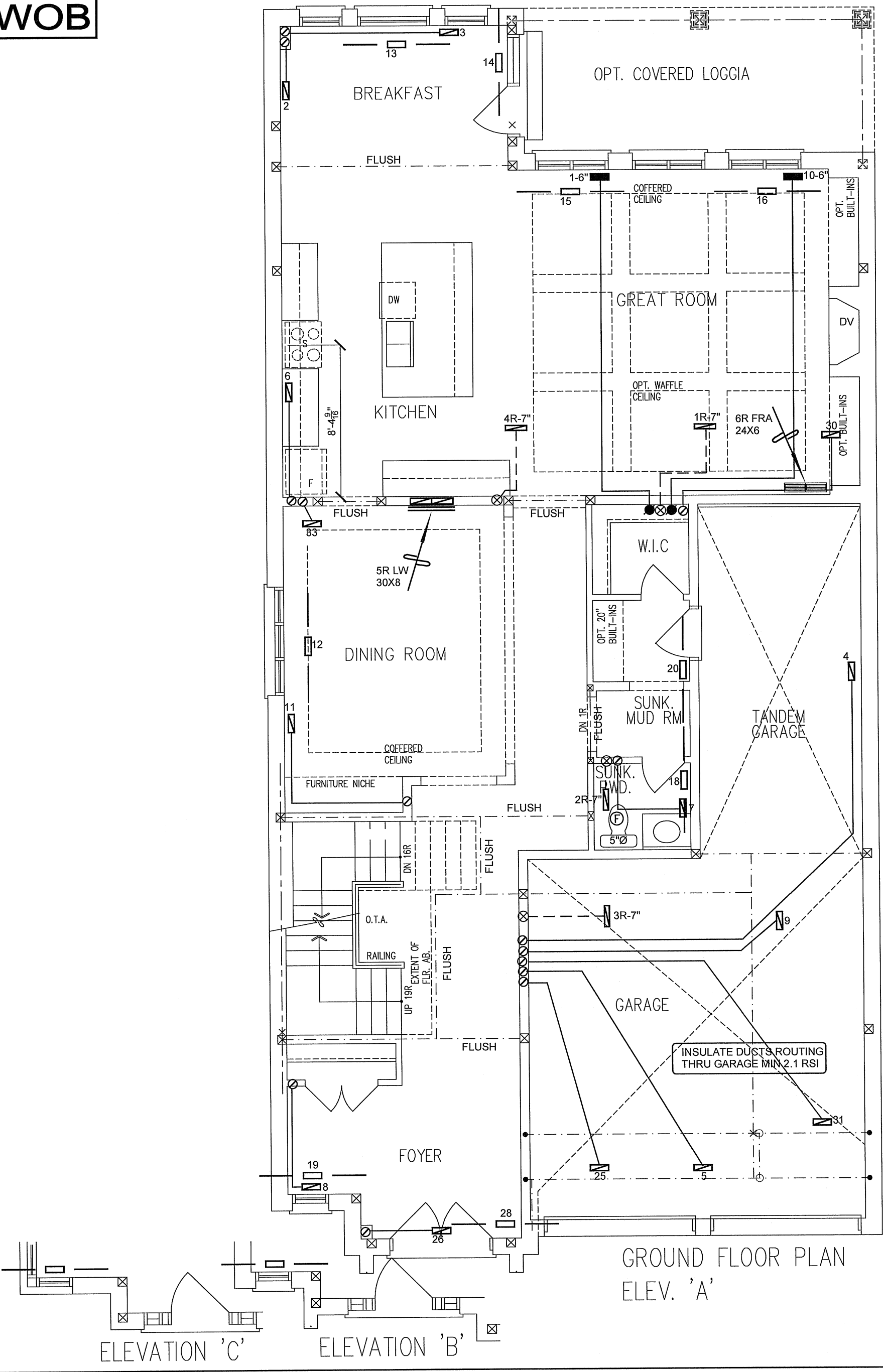
CSA-F280-12
PACKAGE A1

WOB

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

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			



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Client GOLD PARK HOMES		<div>HVACDESIGNS LTD.</div> <div>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</div>	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT. 5 BED ROSEDALE 4202 - WOB			Date SEPT/2018	Scale 3/16" = 1'-0"
3785 sqft		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.	BCIN# 19669	
			LO#	79974

CSA-F280-12

WOB












PACKAGE A1

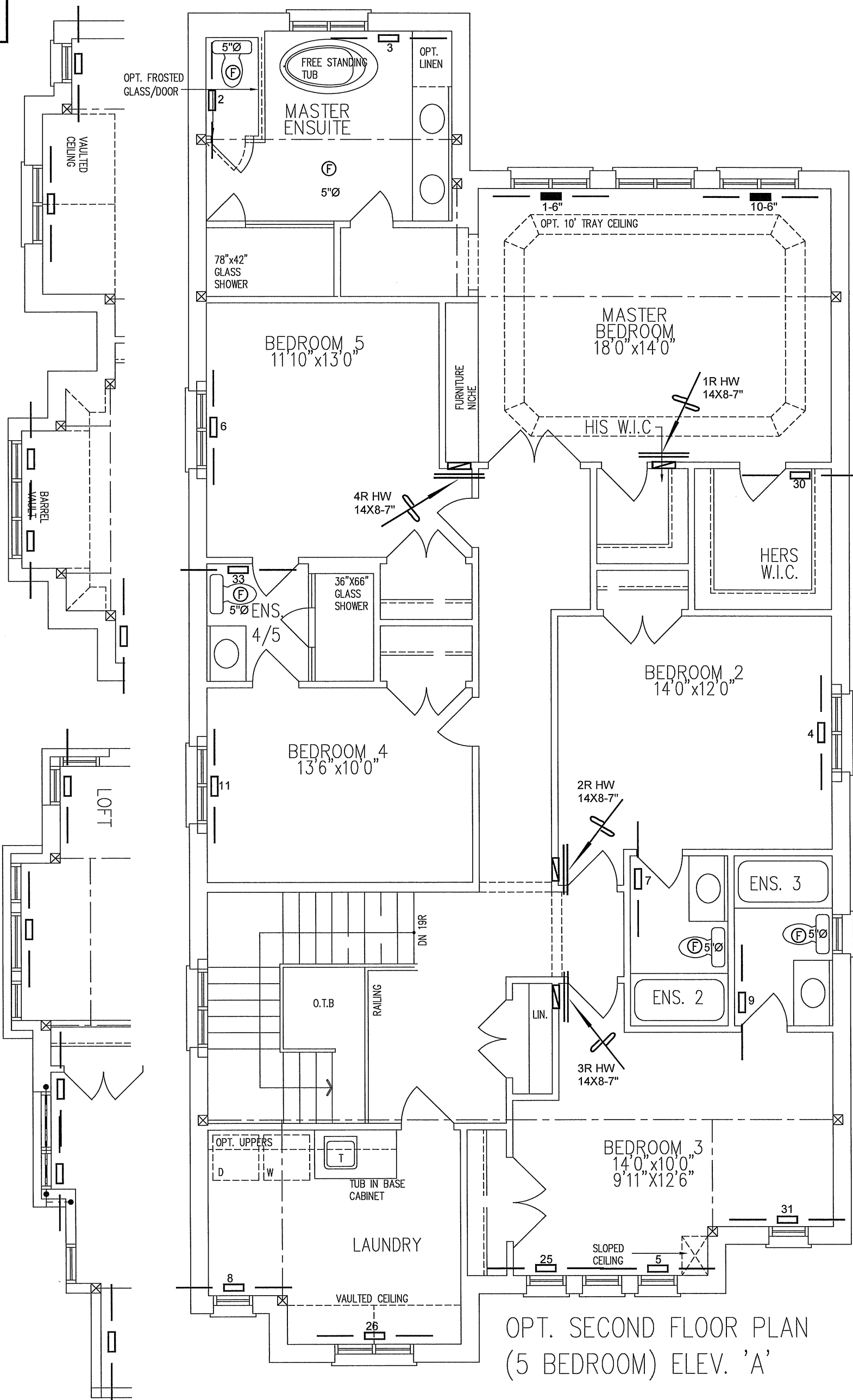
I MICHAEL O'ROURKE HAVE REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.


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

PARTIAL SECOND FLOOR PLAN – ELEVATION 'B'

PARTIAL SECOND FLOOR PLAN – ELEVATION 'C'

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
HVAC LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	14"x8" RETURN AIR GRILLE		30"x8" RETURN AIR GRILLE
	RETURN AIR STACK ABOVE		RETURN AIR STACK 2nd FLOOR
	REDUCER		
REVISIONS		No.	Description
			Date



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Client

GOLD PARK HOMES

Project Name

PINE VALLEY & TESTON
VAUGHAN, ONTARIO
OPT. 5 BED
ROSEDALE
4202 - WOB


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.

Sheet Title

SECOND FLOOR
HEATING
LAYOUT

Date

SEPT/2018

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

79974

3785 sqft