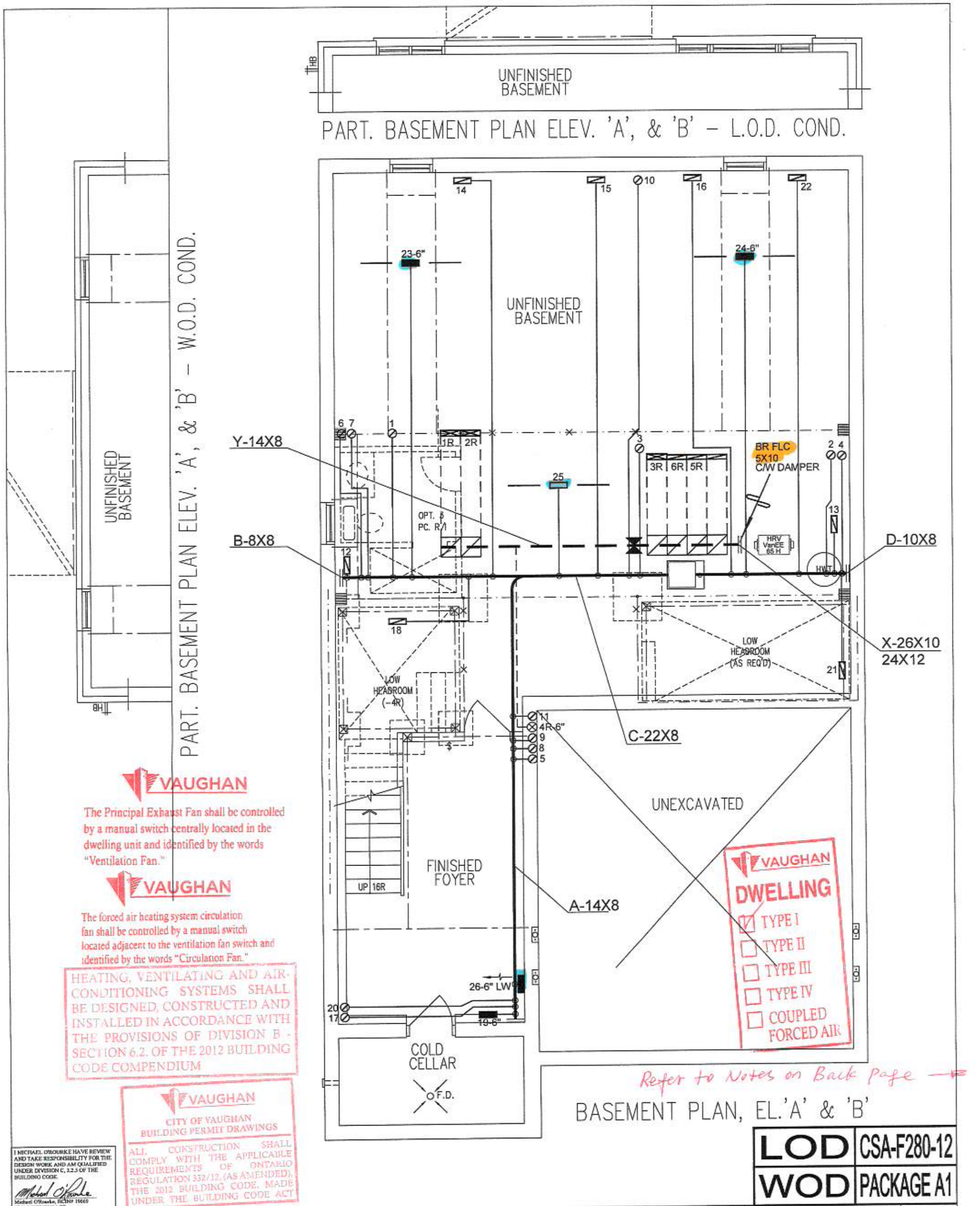




HVAC LEGEND							
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client	GOLD PARK HOMES	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 58934 BTU/H UNIT DATA	# OF RUNS S/A R/A FANS	Sheet Title BASEMENT HEATING LAYOUT		
			MAKE LENNOX	3RD FLOOR			
Project Name	PINE VALLEY & TESTON VAUGHAN, ONTARIO		MODEL EL296UH090XE48C	2ND FLOOR	13	4	3
			INPUT 88 MBTU/H	1ST FLOOR	9	2	2
THE SUMMERDALE 4001	2840 sqft		OUTPUT 85 MBTU/H	BASEMENT	4	1	0
			COOLING 3.5 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			
			FAN SPEED 1255 cfm @ 0.5" w.g.				

1.

2.

3.

DECK CONDITIONS ADDED

OCT/2018

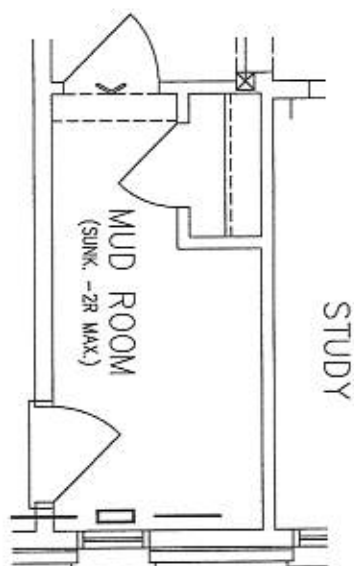
Description

Date

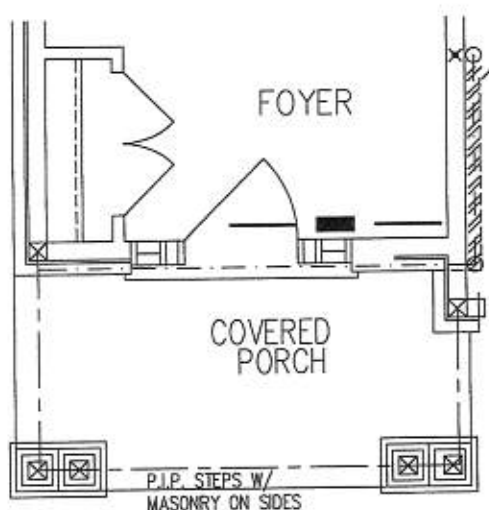
REVISIONS

HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS SHALL BE DESIGNED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF DIVISION B - SECTION 6.2. OF THE 2012 BUILDING CODE COMPENDIUM

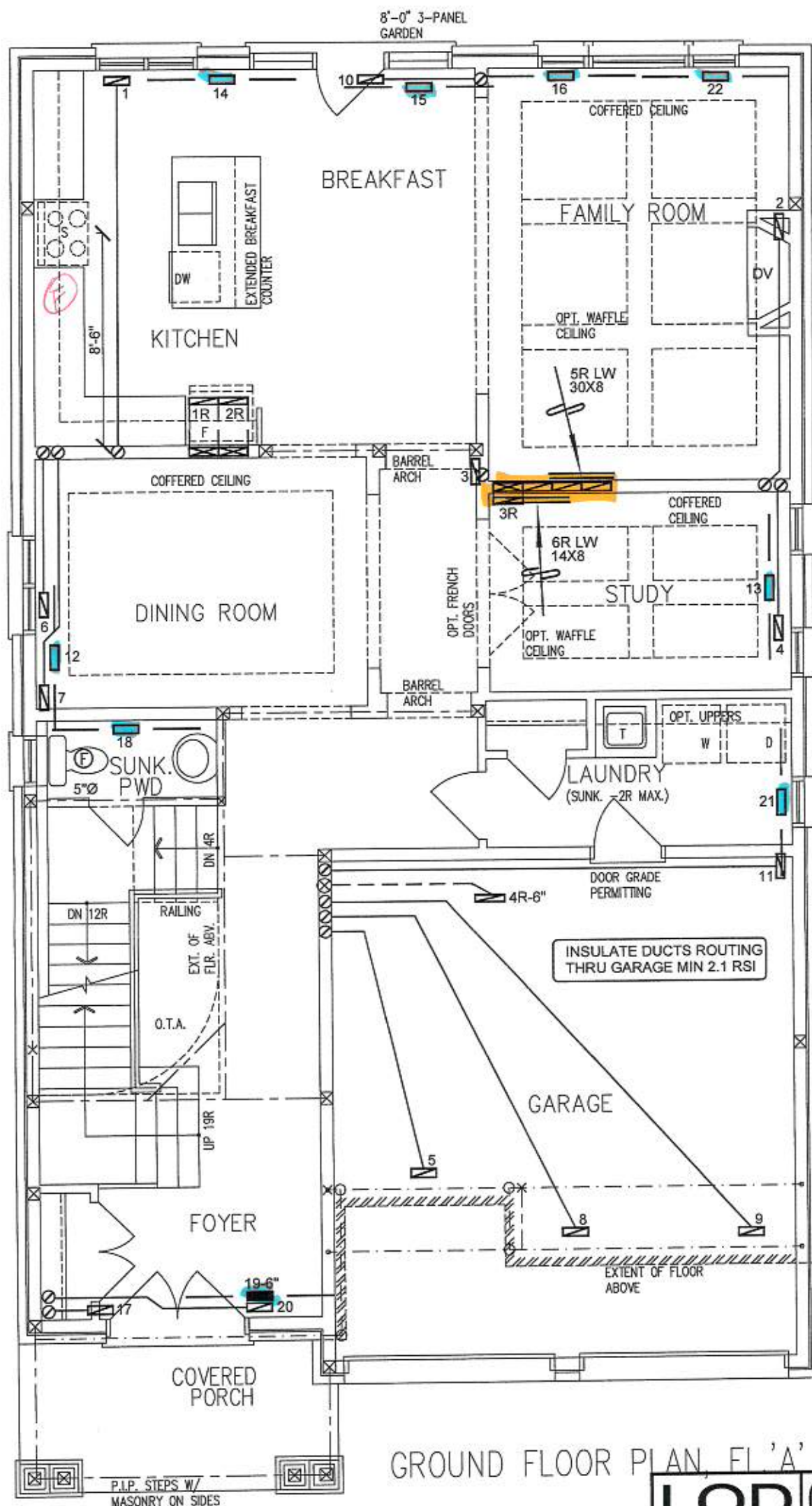
PART. GROUND FLOOR MUDROOM FOR OPT.
SECOND FLOOR LAUNDRY



VAUGHAN
CITY OF VAUGHAN
BUILDING PERMIT DRAWINGS
ALL CONSTRUCTION SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF ONTARIO REGULATION 332/12 (AS AMENDED), THE 2012 BUILDING CODE, MADE UNDER THE BUILDING CODE ACT



GROUND FLOOR PLAN, EL. 'B'



GROUND FLOOR PLAN, EL. 'A'

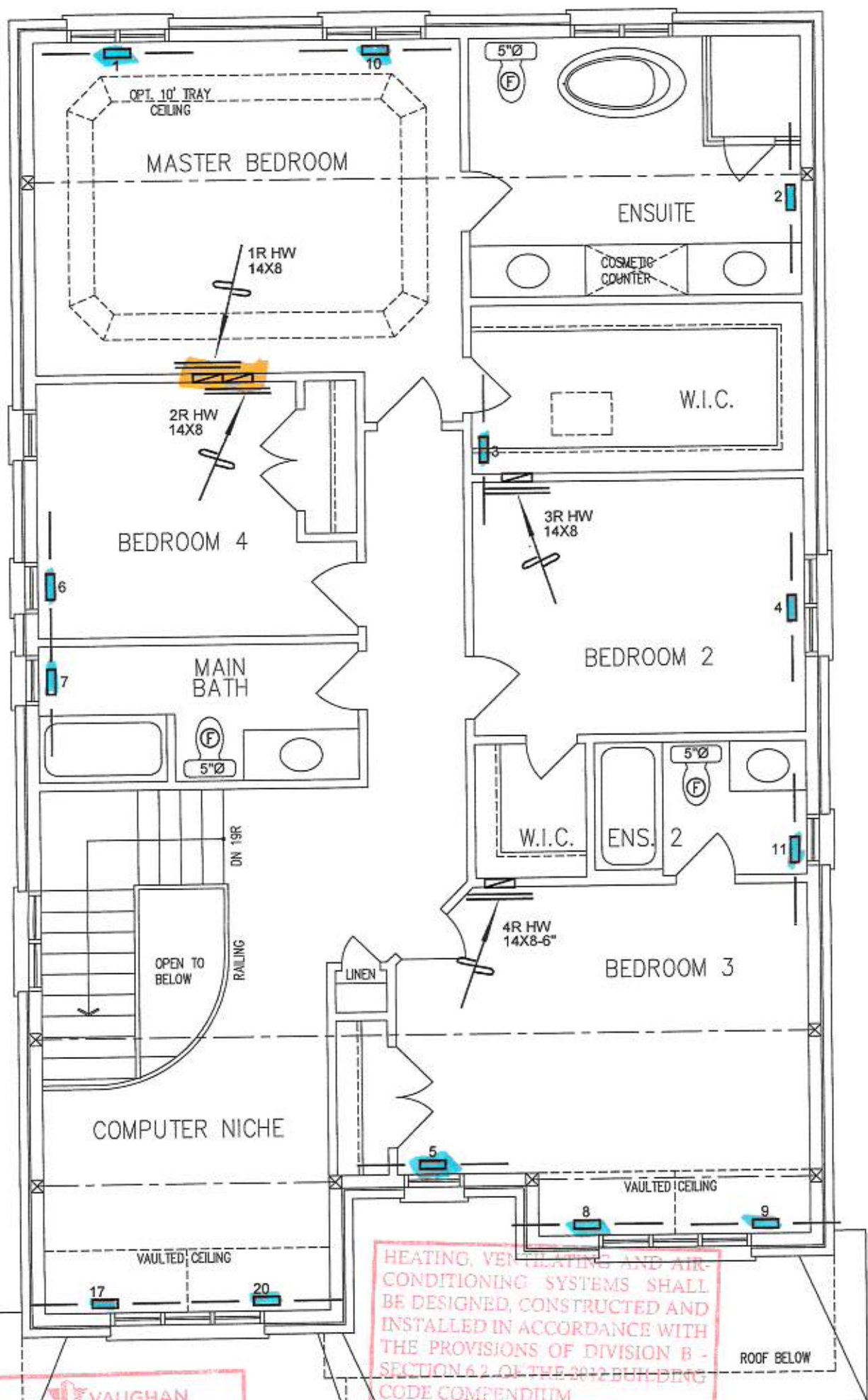
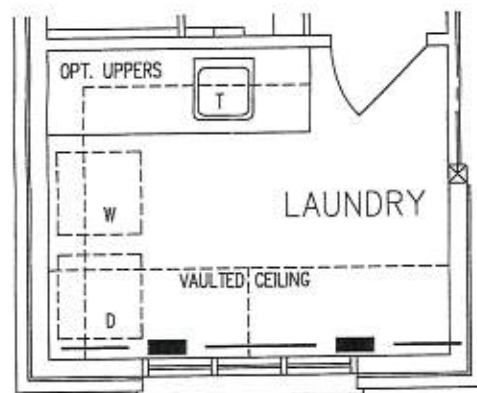
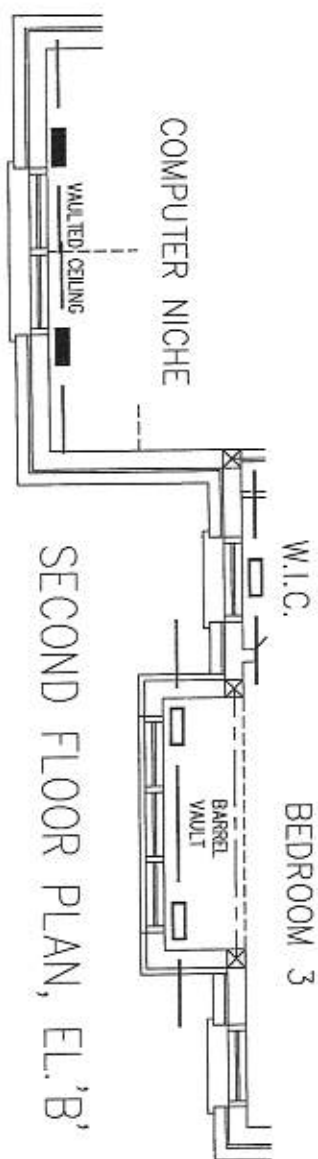
I MICHAEL O'BROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
Michael O'Brourke
Michael O'Brourke, BCIN# 19669
HVAC DESIGNS LTD.

LOD CSA-F280-12
WOD PACKAGE A1

HVAC LEGEND						3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER

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Client GOLD PARK HOMES		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.	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO			Date JAN/2018	
THE SUMMERDALE 4001 2840 sqft			Scale 3/16" = 1'-0"	
			BCIN# 19669	
			LO# 77456	



VAUGHAN
CITY OF VAUGHAN
BUILDING PERMIT DRAWINGS
ALL CONSTRUCTION SHALL
CONFORM WITH THE APPLICABLE
REQUIREMENTS OF ONTARIO
REGULATION 330/12 (AS AMENDED)
THE 2012 BUILDING CODE, MADE
UNDER THE BUILDING CODE ACT

HEATING, VENTILATING AND AIR-
CONDITIONING SYSTEMS SHALL
BE DESIGNED, CONSTRUCTED AND
INSTALLED IN ACCORDANCE WITH
THE PROVISIONS OF DIVISION B -
SECTION 6.2 OF THE 2012 BUILDING
CODE COMPENDIUM

PART. SECOND FLOOR PLAN
W/ OPT. LAUNDRY, EL. 'A'

PART. SECOND FLOOR PLAN
W/ OPT. LAUNDRY, EL. 'B'

SECOND FLOOR PLAN, EL. 'A'

LOD CSA-F280-12
WOD 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, R.C.N. 19669
HVAC DESIGNS LTD.

HVAC LEGEND								3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.	
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED
	FLOOR 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

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ONTARIO BUILDING CODE.

Client

GOLD PARK HOMES

Project Name

**PINE VALLEY & TESTON
VAUGHAN, ONTARIO**

**THE SUMMERDALE
4001**

HVAC DESIGNS 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.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**

Date

JAN/2018

Scale

3/16" = 1'-0"

BCIN# 19669

LO#

77456

20-120001-610-00-CM

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 65M-4647						
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: 4001 THE SUMMERDALE Project: PINE VALLEY & TESTON						
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: _____		FOR OFFICE USE ONLY CITY OF VAUGHAN BUILDING STANDARDS DEPARTMENT PLANS EXAMINATION RECEIVED FEB 20 2018 O.B.C SENTENCE 3.2.4.1 (4) <table border="1" style="width: 100%;"> <thead> <tr> <th>DATE REVIEWED</th> <th>INITIAL</th> </tr> </thead> <tbody> <tr> <td>Feb 24/20</td> <td>uh</td> </tr> </tbody> </table>			DATE REVIEWED	INITIAL	Feb 24/20	uh
DATE REVIEWED	INITIAL							
Feb 24/20	uh							
☒ 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: 19669 Basis for exemption from registration and qualification: _____								
☐ 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.								
October 5, 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.

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

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

TYPE: 4001 THE SUMMERDALE

GFA: 2840

DATE: Oct-18
LO# 77486WINTER NATURAL AIR CHANGE RATE 0.341
SUMMER NATURAL AIR CHANGE RATE 0.124HEAT LOSS ΔT °F. 78
HEAT GAIN ΔT °F. 16CSA-P280-12
SB-12 PACKAGE A1

SOLDIER: GOLD PARK HOMES			TYPE: 4501 THE SUMMERDALE										GPA: 2840		LOF: 77486		SUMMER NATURAL AIR CHANGE RATE: 0.124										HEAT GAIN ΔT °F: 16		SB-12 PACKAGE A	
ROOM USE	EXP. WALL	CLG. HT.	MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH		CHILN		ENS-2											
			32		27		7		11		37		11		8		40		6											
			10		9		9		9		9		9		9		9		9											
FACTORS			320		248		84		100		337		109		88		384		88											
			LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN				
GRS.WALL AREA	21.3	18.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
GLAZING	21.3	42.4	0	0	0	0	0	0	0	0	73	1653	3695	0	0	0	44	336	1855	0	0	0	0	0	0	0				
NORTH	21.3	28.7	0	0	0	0	0	0	0	0	0	0	0	20	426	816	8	170	206	30	428	816	0	0	0	0				
EAST	21.3	42.4	38	786	1526	18	383	763	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
SOUTH	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
WEST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
DOORS	25.2	6.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
NET EXPOSED WALL	4.6	0.9	284	1267	263	228	1016	211	84	284	88	32	388	76	264	1177	246	80	387	74	47	208	43	306	1339	276				
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	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	262	323	181	180	231	116	105	135	87	176	228	112	271	348	173	176	228	112	98	123	61	258	331	188				
NO ATTIC EXPOSED CLG	2.7	1.4	0	0	0	0	0	0	0	0	0	0	0	0	28	77	38	0	0	0	0	0	0	28	77	38				
EXPOSED FLOOR	2.8	0.6	0	0	0	0	0	0	0	0	0	0	0	0	289	783	159	0	0	0	0	0	0	23	50	12				
BASEMENT/CRAWL HEAT LOSS			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					
SUBTOTAL HT LOSS					2367			1630			419			976			2918			1009			601			3187				
SUB TOTAL HT GAIN						1850			1038			126		491			3709			701			310			2874				
LEVEL FACTOR / MULTIPLIER	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					
AIR CHANGE HEAT LOSS			802			416			107			240		1091			266			128			308			148				
AIR CHANGE HEAT GAIN				182			102			12		46		346			86			29			268			24				
DUCT LOSS			0			0			0			0		492			0			0			398			73				
DUCT GAIN			0			0			0			0		0			0			0			367			28				
HEAT GAIN PEOPLE	240	2	460	0	0	0	0	0	1	240	1	240	1	240	1	240	0	0	0	0	0	0	0	0	0	0				
HEAT GAIN APPLIANCES/LIGHTS			526	0	0	0	0	0	0	526	0	526	0	526	0	526	0	0	0	0	0	0	526	0	0	0				
TOTAL HT LOSS BTU/H			2969		2047			526		1224		5410		1267		830			4374			802			399					
TOTAL HT GAIN x 1.3 BTU/H			4079		1648			179		1693		6894		1992		441			8244			399			399					

ROOM USE			DIN		STDY		KT/FM		LN/MD		W/R		FOY				LOD		BAS	
EXP. WALL			18		9		87		20		4		55				42		168	
CLG. HT.			11		11		11		13		11		11				9		9	
FACTORS																				
GRS.WALL AREA	LOSS	GAIN																		
GLAZING	198		LOSS		GAIN		99		737		280		44		605		382		1277	
							LOSS		GAIN		LOSS		GAIN		LOSS		GAIN		LOSS	
NORTH	21.3	16.8	0	0	0	20	426	336	0	0	0	9	192	161	0	0	0	0	0	0
EAST	21.3	42.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	21.3	28.7	24	511	818	0	0	0	0	0	0	0	0	7	149	180	0	0	0	3
WEST	21.3	42.4	0	0	0	0	0	0	135	2873	5723	0	0	0	0	0	0	0	0	64
SKYLT.	37.2	103.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77
DOORS	25.2	6.2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.6	0.9	174	777	161	79	363	73	602	2687	559	20	505	198	0	0	0	40	1510	219
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.7	0	0	0	0	0	0	231	1031	214	37	165	34	665	2821	524	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	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.8	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS																				
SLAB ON GRADE HEAT LOSS																				
SUBTOTAL HT LOSS				1267			778			889			1727			3531				
SUB TOTAL HT GAIN					779		410				6281		471		215		734			
LEVEL FACTOR / MULTIPLIER	0.30	0.42				0.30	0.42		0.30	0.42		0.30	0.42		0.30	0.42				
AIR CHANGE HEAT LOSS				544			329			2300			730			133		1493		
AIR CHANGE HEAT GAIN					73		38				594		44		20		68			
DUCT LOSS				0			0			0			0			0				
DUCT GAIN				0			0			0			0			0				
HEAT GAIN PEOPLE	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				526			526			526			526			0		0	0	0
TOTAL HT LOSS BTU/H				1831			1107			7909			2458			5024				
TOTAL HT GAIN x 1.3 BTU/H					1791		1265			9811				1382		306		1043		

CITY OF VAUGHAN
MILITARY GRADE DRAWINGS
ALL CONSTRUCTION SHALL
CONFORM WITH THE APPLICABLE
REQUIREMENTS OF ONTARIO
REGULATION 617/04 AS AMENDED
THE 2012 BUILDING CODE, NAABO
UNDER THE BUILDING CODE ACT

VAUGHAN



TOTAL HEAT GAIN BTU/H:

41753

TONS: 1.48

LOSS DUE TO VENTILATION LOAD BTU/H: 3181

STRUCTURAL HEAT LOSS: 55764

TOTAL COMBINED HEAT LOSS BTU/H: 58934

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

TYPE: 4001 THE SUMMERDALE

DATE: Oct-18

GFA: 2840

LO# 77456

HEATING CFM 1255 COOLING CFM 1255
TOTAL HEAT LOSS 55,754 TOTAL HEAT GAIN 41,092
AIR FLOW RATE CFM 22.51 AIR FLOW RATE CFM 30.54

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

EL296UH090XE48C ALENNOX 90

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

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	13	9	4
R/A	0	0	4	2	1

plenium pressure s/a 0.18 r/a pressure 0.17
max s/a dif press. loss 0.03 r/a grille press. Loss 0.02
min adjusted pressure s/a 0.15 adjusted pressure r/a 0.15

FAN SPEED LOW 0
MEDLOW 0
MEDIUM 1105
MEDIUM HIGH 1255
HIGH 1525

DESIGN CFM = 1255
CFM @ 6" E.S.P.

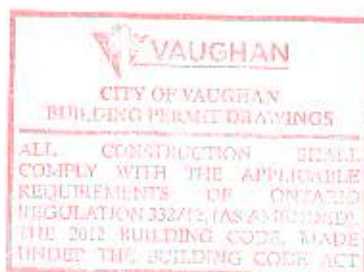
TEMPERATURE RISE 63 °F

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	19	20	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-3	BED-3	MBR	ENS-2	DIN	STDY	KT/FM	KT/FM	KT/FM	CMLN	W/R	FOY	CM/LN	LN/MD	KT/FM	BAS	BAS
RM LOSS MBH	1.48	2.05	0.53	1.22	1.80	1.27	0.63	1.80	1.80	1.48	0.80	1.83	1.11	1.98	1.98	1.98	2.19	0.45	5.02	2.19	2.46	1.98	4.43	4.43
CFM PER RUN HEAT	33	46	12	28	41	29	14	41	41	33	18	41	25	45	45	45	49	10	113	49	55	45	100	100
RM GAIN MBH	2.04	1.55	0.18	1.69	2.30	1.99	0.44	2.30	2.30	2.04	0.40	1.79	1.27	2.40	2.40	2.40	2.62	0.30	1.04	2.62	1.35	2.40	0.81	0.81
CFM PER RUN COOLING	62	47	5	52	70	61	13	70	70	62	12	55	39	73	73	73	80	9	32	80	41	73	25	25
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH.	55	28	24	24	51	49	53	56	61	44	55	36	5	40	32	26	65	42	48	71	12	23	38	19
EQUIVALENT LENGTH	150	140	190	120	150	110	120	160	170	180	140	120	130	130	150	130	160	100	140	140	110	120	130	150
TOTAL EFFECTIVE LENGTH	205	188	214	144	201	159	173	216	231	204	235	178	125	170	162	178	195	202	146	211	122	143	168	169
ADJUSTED PRESSURE	0.08	0.1	0.08	0.12	0.09	0.11	0.1	0.08	0.07	0.08	0.07	0.1	0.14	0.1	0.11	0.1	0.09	0.09	0.1	0.08	0.14	0.12	0.1	0.1
ROUND DUCT SIZE	5	4	4	4	5	5	4	5	5	5	4	4	4	5	5	5	5	4	6	5	4	5	6	6
HEATING VELOCITY (ft/min)	242	528	138	321	301	213	161	301	301	242	207	470	287	330	330	330	360	115	576	360	631	330	510	510
COOLING VELOCITY (ft/min)	455	539	57	597	514	448	149	514	514	455	138	631	447	536	536	536	587	103	163	587	470	536	127	127
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	4X10
TRUNK	B	D	C	D	A	B	B	A	A	C	A	B	D	B	C	D	A	B	A	A	D	D	B	D

RUN #	25	26
ROOM NAME	BAS	BAS
RM LOSS MBH	4.43	4.43
CFM PER RUN HEAT	100	100
RM GAIN MBH	0.81	0.81
CFM PER RUN COOLING	25	25
ADJUSTED PRESSURE	0.16	0.16
ACTUAL DUCT LGH.	27	50
EQUIVALENT LENGTH	110	160
TOTAL EFFECTIVE LENGTH	137	210
ADJUSTED PRESSURE	0.12	0.08
ROUND DUCT SIZE	5	6
HEATING VELOCITY (ft/min)	734	510
COOLING VELOCITY (ft/min)	184	127
OUTLET GRILL SIZE	3X10	4X10
TRUNK	C	A



SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	452	0.07	10.8	14	581
TRUNK B	272	0.08	8.6	8	612
TRUNK C	914	0.07	14	22	748
TRUNK D	344	0.10	8.9	10	619
TRUNK E	0	0.00	0	0	0
TRUNK F	0	0.00	0	0	0

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	0
TRUNK H	0	0.00	0	0	0
TRUNK I	0	0.00	0	0	0
TRUNK J	0	0.00	0	0	0
TRUNK K	0	0.00	0	0	0
TRUNK L	0	0.00	0	0	0

RETURN AIR

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
AIR VOLUME	155	155	155	95	365	135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	58	57	40	59	21	22	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	190	185	225	145	145	185	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	248	242	265	204	166	207	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.06	0.06	0.06	0.07	0.09	0.07	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80
ROUND DUCT SIZE	7.5	7.5	7.5	6	9.3	6.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TYPE: 4001 THE SUMMERDALE
SITE NAME: PINE VALLEY & TESTON

LO # 77456

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	5 @ 10.6 cfm	53 cfm
Other Rooms	6 @ 10.6 cfm	63.6 cfm
Table 9.32.3.A.	TOTAL	190.8 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	190.8	cfm
Less Principal Vent. Capacity	155	cfm
Required Supplemental Capacity	35.8	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
155.0 cfm	3.0 sones
☒	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 Sones
ENS	QTXEN050C	50	✓ 0.3
BATH	QTXEN050C	50	✓ 0.3
ENS-2	QTXEN050C	50	✓ 0.3
W/R	QTXEN050C	50	✓ 0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE 65H		
155 cfm high	64 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:	
HRAI #	001820
Date:	October-18

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 4001 THE SUMMERDALE

BUILDER: GOLD PARK HOMES

SFQT: 2840

LO# 77456

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)	72

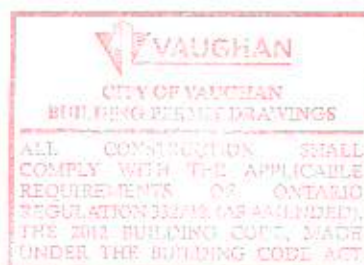
BUILDING DATA

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):	40095.0	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:	6.1 ft
LENGTH: 52.0 ft	WIDTH: 32.0 ft	EXPOSED PERIMETER:	168.0 ft

2012 OBC - COMPLIANCE PACKAGE

Component

Ceiling with Attic Space Minimum RSI (R)-Value
Ceiling Without Attic Space Minimum RSI (R)-Value
Exposed Floor Minimum RSI (R)-Value
Walls Above Grade Minimum RSI (R)-Value
Basement Walls Minimum RSI (R)-Value
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
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value
Windows and Sliding Glass Doors Maximum U-Value
Skylights Maximum U-Value
Space Heating Equipment Minimum AFUE
HRV Minimum Efficiency
Domestic Hot Water Heater Minimum EF



Compliance Package

A1

Nominal	Min. Eff.
60	59.22
31	27.65
31	29.80
22	17.03
20 ci	21.12
-	-
10	10
10	11.13
0.28	-
0.49	-
0.96	-
75%	-
0.8	-

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

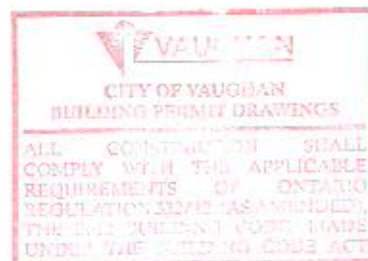
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	15.8	
Floor Width (m):	9.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.8	
Depth Below Grade (m):	1.86	
Window Area (m ²):	3.1	
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):	1620	

TYPE: 4001 THE SUMMERDALE
LO# 77456

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):	0.0	
Width (m):	0.0	
Exposed Perimeter (m):	0.0	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		0

TYPE: 4001 THE SUMMERDALE
LO# 77456

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):	7.04			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1135.4			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1513.5 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):	0.341			
Cooling Air Leakage Rate (ACH/H):	0.124			

TYPE: 4001 THE SUMMERDALE
LO# 77456