


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]				
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <input type="checkbox"/> House <input type="checkbox"/> Small Buildings <input type="checkbox"/> Large Buildings <input type="checkbox"/> Complex Buildings </div> <div style="width: 30%;"> <input checked="" type="checkbox"/> HVAC – House <input type="checkbox"/> Building Services <input type="checkbox"/> Detection, Lighting and Power <input type="checkbox"/> Fire Protection </div> <div style="width: 30%;"> <input type="checkbox"/> Building Structural <input type="checkbox"/> Plumbing – House <input type="checkbox"/> Plumbing – All Buildings <input type="checkbox"/> On-site Sewage Systems </div> </div>				
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 5005 - KNIGHTSWOOD OPT. 5 BED Project: PINE VALLEY & TESTON		
D. Declaration of Designer				
I <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): <small>(print name)</small>				
<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 10, 2018		 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 & TESTON OPT. 5 BED DATE: Sep-18 WINTER NATURAL AIR CHANGE RATE 0.360 HEAT LOSS AT °F. 76 CSA-F280-12
BUILDER: GOLD PARK HOMES TYPE: 8005 - KNIGHTSWOOD LO# 77481 SUMMER NATURAL AIR CHANGE RATE 0.118 HEAT GAIN AT °F. 13 SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LIB	MR	ENS	WIC	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	ENS-4	BED-5
GRS.WALL AREA	45	11	455	455	280	60	374	374	407	260	60	90	40	70	140
GLAZING	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
EAST	21.3	41.5	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
WEST	21.3	41.5	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	37.2	101.5	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
NET EXPOSED WALL	448	1986	334	266	1142	192	286	1276	1366	230	52	39	40	62	122
NET EXPOSED BMT WALL ABOVE GR	3.8	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	440	269	204	102	216	277	329	160	60	77	140	105	384
NO ATTIC EXPOSED CLG	2.7	1.3	0	0	0	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	0	0	0
BASEMENT/CRAWL HEAT LOSS	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
SUBTOTAL HT LOSS	3615	2571	2128	1725	399	105	4104	4261	4340	2207	532	586	716	582	1787
SUB TOTAL HT GAIN	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20	0.30	0.20
LEVEL FACTOR / MULTIPLIER	1080	191	123	119	7	262	481	544	654	0	82	76	93	22	232
AIR CHANGE HEAT LOSS	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
DUCT LOSS	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
HEAT GAIN PEOPLE	2	480	0	0	0	0	1	240	240	1	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	635	635	0	0	0	0	635	635	635	635	903	837	1022	756	2554
TOTAL HT LOSS BTU/H	4695	6170	2764	2403	518	972	5864	6377	6200	2866	903	837	1022	756	2554
TOTAL HT GAIN x 1.3 BTU/H															

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LIB	DIN	KIT/IGT	CAB	LAUN	PWD	FOY	MUD	LOD	BAS
GRS.WALL AREA	341	341	341	341	341	341	341	341	341	341	341	341	341
GLAZING	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
EAST	21.3	41.5	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
WEST	21.3	41.5	0	0	0	0	0	0	0	0	0	0	0
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	428	1272	214	318	1419	239	369	1647	277	323	196	875	147
NET EXPOSED BMT WALL ABOVE GR	3.8	0.6	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
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	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
SLAB ON GRADE HEAT LOSS	0	0	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL HT LOSS	2464	2541	2143	1086	7315	6595	4719	84	228	558	1380	1512	10560
SUB TOTAL HT GAIN	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.30	0.44	0.60
LEVEL FACTOR / MULTIPLIER	1092	181	941	78	3213	471	2146	8	223	1370	606	17	15966
AIR CHANGE HEAT LOSS	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
DUCT LOSS	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
HEAT GAIN PEOPLE	0	0	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	635	635	635	635	635	635	635	635	635	635	635	635	635
TOTAL HT LOSS BTU/H	3546	4365	3084	2338	10527	10011	7032	1037	729	4490	1886	1512	26546
TOTAL HT GAIN x 1.3 BTU/H													

TOTAL HEAT GAIN BTU/H: 60572 TONS: 5.05 LOSS DUE TO VENTILATION LOAD BTU/H: 3161 STRUCTURAL HEAT LOSS: 88620 TOTAL COMBINED HEAT LOSS BTU/H: 92001

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

OPT. 5 BED

TYPE: 5005 - KNIGHTSWOOD

DATE: Sep-18

GFA: 4472 LO# 77481

HEATING CFM	1955	COOLING CFM	1955
TOTAL HEAT LOSS	88,820	TOTAL HEAT GAIN	60,036
AIR FLOW RATE CFM	22.01	AIR FLOW RATE CFM	32.56

EL296UH110XE60C 110
FAN SPEED
LOW 0
MEDIUM 1380
HIGH 1505
DESIGN CFM = 1955
CFM @ 8" E.S.P.

AFUE = 96 %
INPUT (BTU/H) = 110,000
OUTPUT (BTU/H) = 106,000

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

All S/A runs 5/8" 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	BED-5	BED-2	BED-3	BED-4	ENS-2	WIC-2	ENS-3	MBR	ENS-4	LIB	DIN	KIT/GT	KIT/GT	KIT/GT	LAUN	PWD	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	2.35	2.18	2.55	2.55	2.07	2.87	0.90	0.84	1.02	2.35	0.76	1.77	3.08	2.63	2.63	2.63	0.39	0.73	4.49	1.99	4.01	4.01	4.01	4.01
CFM PER RUN HEAT	52	48	56	43	45	63	20	18	22	52	17	39	68	58	58	58	9	16	99	44	88	88	88	88
RM GAIN MBH	2.58	1.90	2.26	2.29	2.59	2.81	0.35	0.18	0.26	2.58	0.43	2.18	2.34	2.50	2.50	2.50	1.04	0.32	0.78	1.15	0.45	0.45	0.45	0.45
CFM PER RUN COOLING	84	62	74	75	84	92	11	6	9	84	14	71	76	81	81	81	34	10	25	37	15	15	15	15
ADJUSTED PRESSURE	0.15	0.16	0.16	0.16	0.15	0.15	0.16	0.16	0.16	0.15	0.16	0.16	0.16	0.15	0.15	0.15	0.16	0.16	0.15	0.16	0.15	0.15	0.15	0.15
EQUIVALENT LENGTH	200	200	170	160	170	160	200	150	170	170	150	140	103	120	140	110	200	170	210	160	150	120	103	90
TOTAL EFFECTIVE LENGTH	270	270	223	209	245	208	247	198	223	234	209	197	132	172	209	164	236	243	250	207	217	180	157	128
ADJUSTED PRESSURE	0.05	0.06	0.07	0.07	0.06	0.07	0.06	0.08	0.07	0.06	0.07	0.08	0.12	0.09	0.07	0.09	0.07	0.06	0.08	0.07	0.08	0.07	0.09	0.11
ROUND DUCT SIZE	6	5	5	5	6	6	4	4	4	6	4	5	5	5	6	5	4	4	6	4	6	6	5	5
HEATING VELOCITY (ft/min)	265	352	411	316	229	321	229	207	252	265	195	286	499	426	296	426	103	184	505	505	449	449	646	646
COOLING VELOCITY (ft/min)	428	455	543	551	428	469	126	69	103	428	161	521	558	595	413	595	390	115	127	424	76	76	110	110
OUTLET GRILL SIZE	4X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10
TRUNK	D	C	F	G	F	E	E	G	G	D	E	F	E	D	B	C	G	A	F	C	A	B	D	E

RUN #	25	26	27	28	29	30	31	32	33	34	35	36	37	38
ROOM NAME	BAS	BAS	BED-2	BED-2	BED-3	BED-3	LIB	KIT/GT	CAB	CAB	CAB	WIC	ENS	BAS
RM LOSS MBH	4.01	4.01	1.95	1.95	2.07	2.07	1.77	2.63	2.34	2.34	2.34	0.52	0.58	4.01
CFM PER RUN HEAT	88	88	43	43	45	45	39	58	52	52	52	11	13	88
RM GAIN MBH	0.45	0.45	2.29	2.29	2.59	2.59	2.18	2.50	2.47	2.47	2.47	0.97	0.50	0.45
CFM PER RUN COOLING	15	15	75	75	84	84	71	81	80	80	80	32	16	15
ADJUSTED PRESSURE	0.15	0.15	0.16	0.16	0.15	0.15	0.16	0.15	0.16	0.16	0.16	0.16	0.16	0.15
EQUIVALENT LENGTH	110	150	170	160	170	200	160	120	150	130	140	200	190	140
TOTAL EFFECTIVE LENGTH	144	200	222	215	250	263	211	175	219	201	222	256	248	163
ADJUSTED PRESSURE	0.1	0.07	0.07	0.07	0.06	0.06	0.07	0.08	0.07	0.08	0.07	0.06	0.06	0.09
ROUND DUCT SIZE	5	6	5	5	6	6	5	5	6	5	6	4	4	5
HEATING VELOCITY (ft/min)	646	449	316	316	229	229	286	426	265	382	265	126	149	646
COOLING VELOCITY (ft/min)	110	76	551	551	428	428	521	595	408	587	408	367	184	110
OUTLET GRILL SIZE	3X10	4X10	3X10	3X10	4X10	4X10	3X10	3X10	4X10	3X10	4X10	3X10	3X10	3X10
TRUNK	G	F	G	G	F	F	F	B	A	A	A	C	C	E

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY	TRUNK	STATIC	ROUND	RECT	VELOCITY
CFM	PRESS	DUCT	DUCT	(ft/min)	CFM	PRESS	DUCT	DUCT	(ft/min)	CFM	PRESS	DUCT	DUCT	(ft/min)	CFM	PRESS	DUCT	DUCT	(ft/min)
TRUNK A	260	0.06	9.1	10	8	0.06	12.9	20	599	666	0.06	0.06	0.06	0	0	0.05	0	0	8
TRUNK B	204	0.07	8	8	8	0.07	20.3	38	741	1955	0.05	0.05	0.05	0	0	0.05	0	0	8
TRUNK C	638	0.06	12.7	18	8	0.06	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8
TRUNK D	250	0.05	9.4	10	8	0.05	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8
TRUNK E	1288	0.05	17.3	28	8	0.05	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8
TRUNK F	400	0.06	10.7	14	8	0.06	0	0	0	0	0.00	0	0	0	0	0.05	0	0	8
RETURN AIR #	1	2	3	4	5	6	7	8	9	0	0	0	0	0	0	0	0	0	0
AIR VOLUME	115	130	125	115	280	185	350	300	85	0	0	0	0	0	0	0	0	0	0
PLENUM PRESSURE	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
ACTUAL DUCT LGH	84	51	62	59	47	49	30	51	49	1	1	1	1	1	1	1	1	1	1
EQUIVALENT LENGTH	200	135	155	185	135	140	170	195	175	0	0	0	0	0	0	0	0	0	0
TOTAL EFFECTIVE LH	284	186	217	244	182	189	200	246	224	1	1	1	1	1	1	1	1	1	1
ADJUSTED PRESSURE	0.05	0.07	0.06	0.05	0.07	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
ROUND DUCT SIZE	7	6.8	6.9	7	9	7.7	9.8	10.1	6	0	0	0	0	0	0	0	0	0	0
INLET GRILL SIZE	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
INLET GRILL SIZE	14	14	14	14	30	14	30	30	14	0	0	0	0	0	0	0	0	0	0

TYPE: 5005 - KNIGHTSWOOD
SITE NAME: PINE VALLEY & TESTON

LO # 77481
OPT. 5 BED

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	7 @ 10.6 cfm	74.2 cfm
Other Rooms	8 @ 10.6 cfm	84.8 cfm
Table 9.32.3.A.	TOTAL	243.8 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		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	243.8	cfm
Less Principal Ventil. Capacity	155	cfm
Required Supplemental Capacity	88.8	cfm

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

PRINCIPAL EXHAUST HEAT LOSS CALCULATION			
CFM	$\Delta T \cdot F$	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	QTXEN050C	50	<input checked="" type="checkbox"/>
PWD	QTXEN050C	50	<input checked="" type="checkbox"/>

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

Specializing in Residential Mechanical Design Services

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 5005 - KNIGHTSWOOD	OPT. 5 BED	BUILDER: GOLD PARK HOMES
SFQT: 4472	LO# 77481	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):	67083.0	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: 77.0 ft	WIDTH: 42.0 ft	EXPOSED PERIMETER:	238.0 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	-

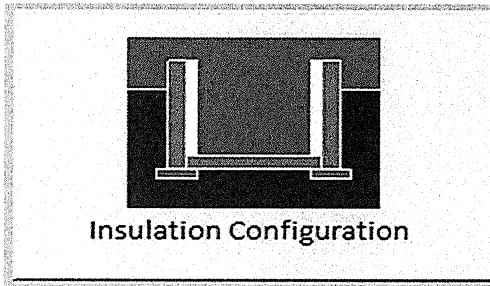
INDIVIDUAL BCIN: 19669

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):	23.5	 Insulation Configuration
Floor Width (m):	12.8	
Exposed Perimeter (m):	0.0	
Wall Height (m):	3.0	
Depth Below Grade (m):	2.13	
Window Area (m ²):	3.2	
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):	2453	

TYPE: 5005 - KNIGHTSWOOD
LO# 77481

OPT. 5 BED

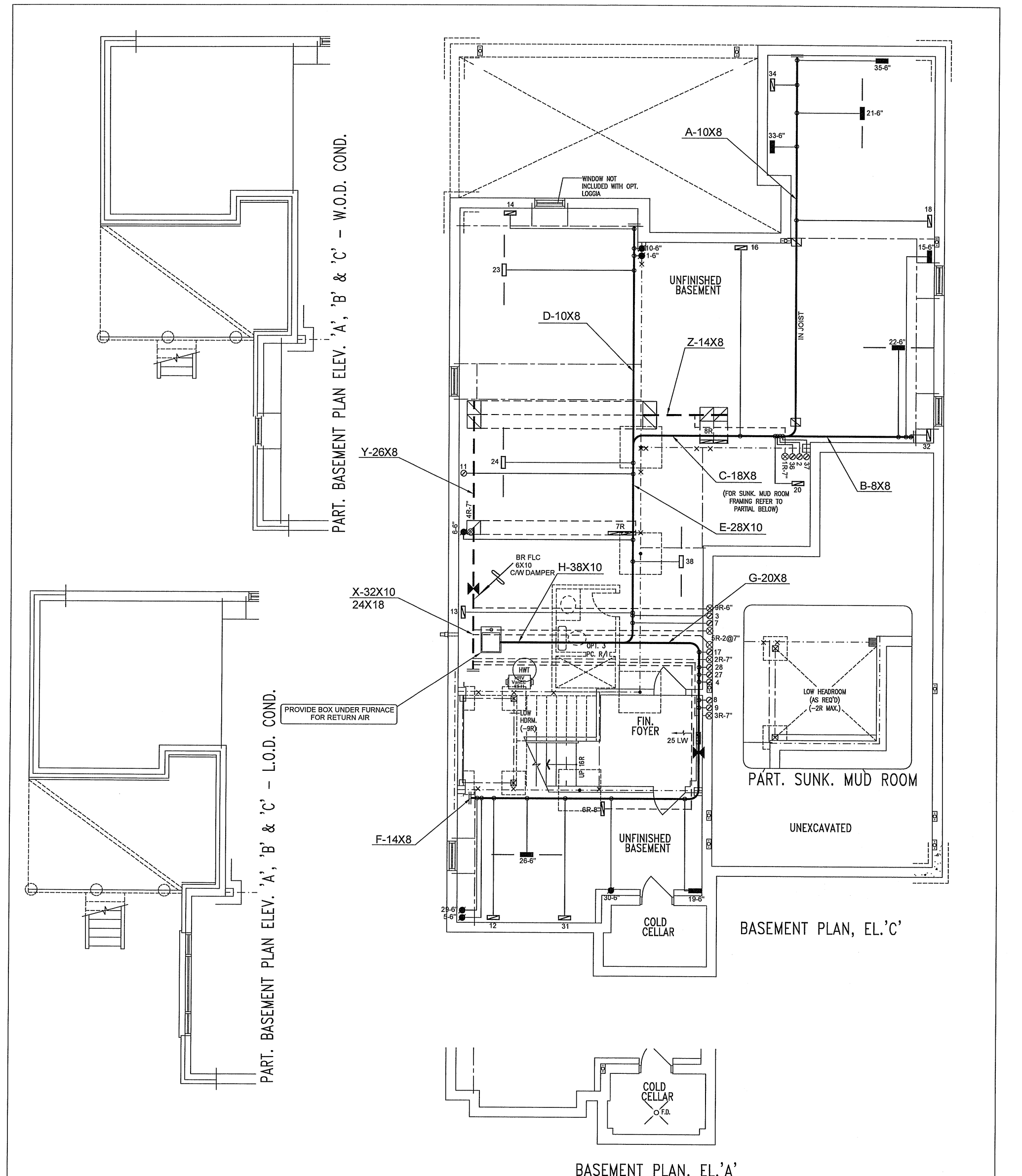
Air Infiltration Residential Load Calculator

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):	7.32			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	1899.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	2532.2 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):	0.350			
Cooling Air Leakage Rate (ACH/H):	0.118			

TYPE: 5005 - KNIGHTSWOOD
LO# 77481

OPT. 5 BED



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

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

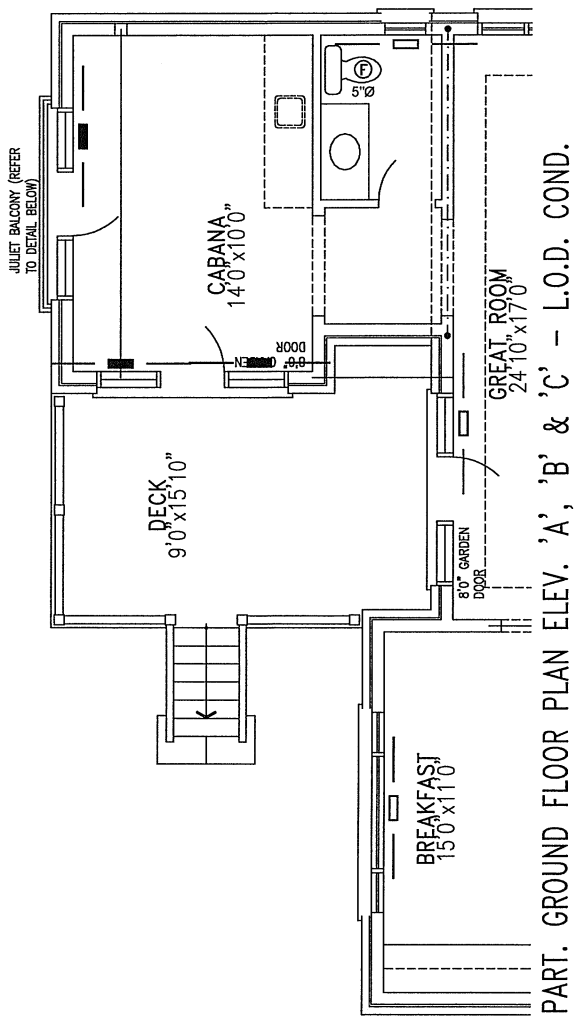
CSA-F280-12

PACKAGE A1

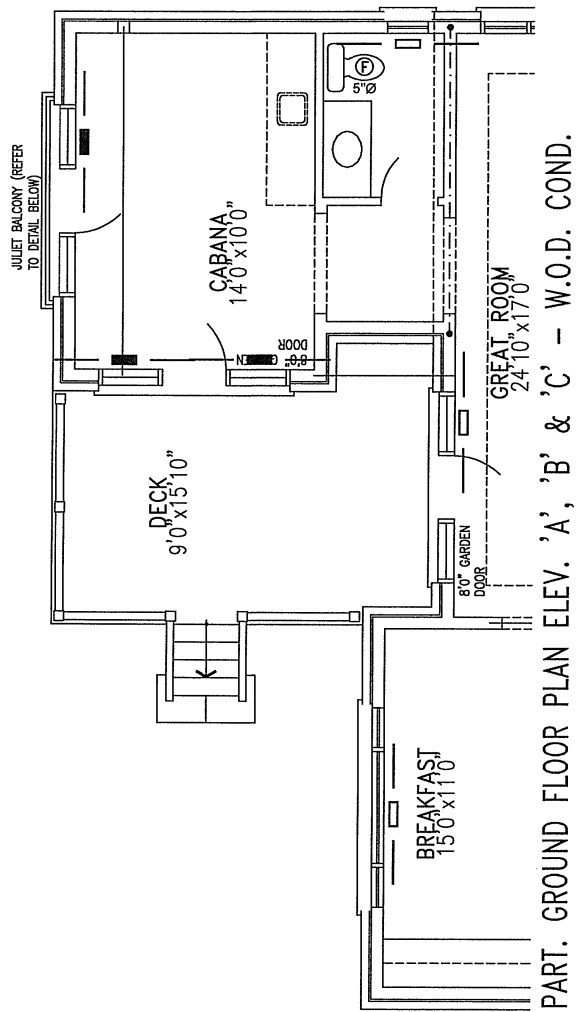
HVAC LEGEND							3.			
							2.			
	FLOOR SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.	DECK CONDITIONS ADDED	SEPT/2018
	FLOOR SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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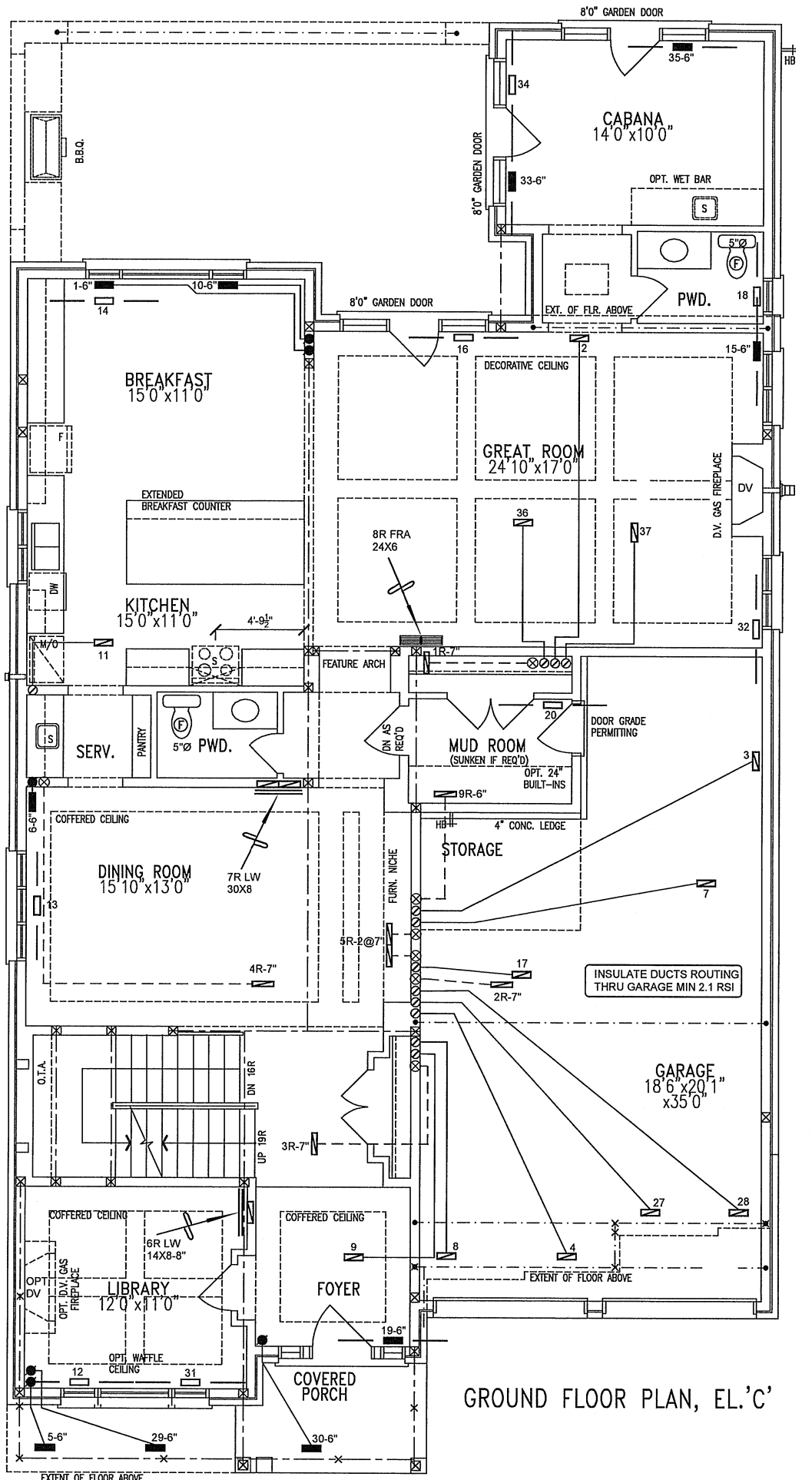
Client	GOLDPARK HOMES	Project Name PINE VALLEY & TESTON VAUGHAN, ONTARIO OPT. 5 BED KNIGHTSWOOD 5005	4472 sqft	<div><div>HVACDESIGNS LTD.</div><div>375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services</div></div>	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 91846 BTU/H	# OF RUNS	S/A	R/A	FANS	Sheet Title BASEMENT HEATING LAYOUT
						UNIT DATA	3RD FLOOR				
						MAKE LENNOX	2ND FLOOR	18	6	7	Scale 1/8" = 1'-0"
						MODEL EL296UH110XE60C	1ST FLOOR	13	3	3	BCIN# 19669
						INPUT 110 MBTU/H	BASEMENT	7	1	0	LO# 77481
						OUTPUT 106 MBTU/H	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				
						COOLING 5.0 TONS					
						FAN SPEED 1955 cfm @ 0.6" w.c.					



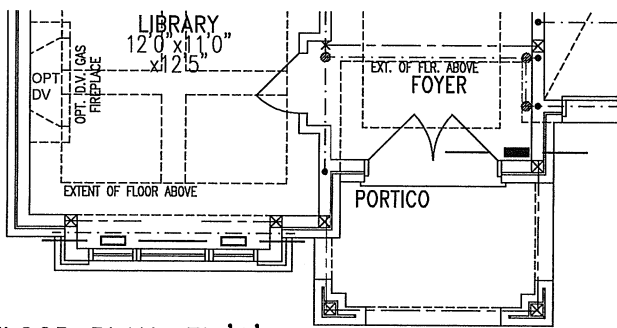
PART. GROUND FLOOR PLAN ELEV. 'A', 'B' & 'C' - L.O.D. COND.



PART. GROUND FLOOR PLAN ELEV. 'A', 'B' & 'C' - W.O.D. COND.



GROUND FLOOR PLAN, EL.'C'



GROUND FLOOR PLAN, EL.'A'

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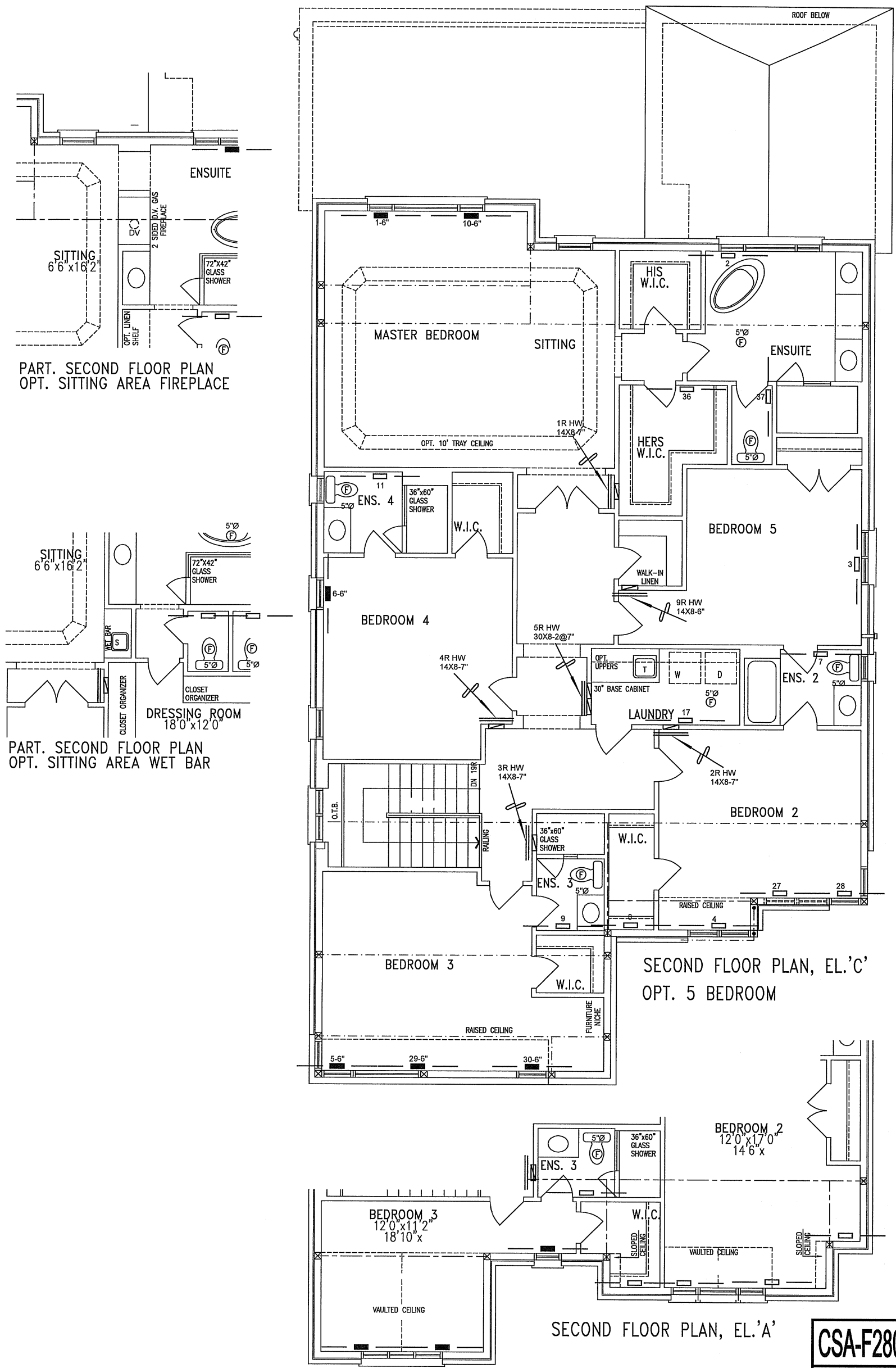
Michael O'Rourke
Michael O'Rourke, BCIN# 19669
HVAC DESIGNS LTD.

CSA-F280-12
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	1. DECK CONDITIONS ADDED
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	No. Description Date

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Client		<div></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> <div>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.</div>	Sheet Title	
GOLDPARK HOMES			FIRST FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT. 5 BED KNIGHTSWOOD 5005			BCIN# 19669	
4472 sqft		LO#	77481	



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.

CSA-F280-12
PACKAGE A1

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
							REVISIONS		

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GOLDPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	JAN/2018
PINE VALLEY & TESTON VAUGHAN, ONTARIO			Scale	1/8" = 1'-0"
OPT. 5 BED KNIGHTSWOOD			BCIN# 19669	
5005	4472 sqft		LO#	77481