

SITE NAME: THURTING BUILDING GROUP

BUILDER: GREENPARK HOMES TYPE: GEORGIAN 3 DATE Feb-19 LOF 77395 WINTER NATURAL AIR CHANGE RATE 0.347 HEAT LOSS AT °F. 12 CSA-F90-12

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	ENS	WIC	BED-2	BED-3	BED-4	ENS-203	WIC-4	ENS-4	BED-5	ENS-5
GRS.WALL AREA	363			279	144	261	189	281	189	45	54	198	0
GLAZING													
NORTH	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.3	0.5	323	1373	161	241	1025	156	149	533	96	221	940
NET EXPOSED WALL ABOVE GR	3.4	0.5	0	0	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	362	443	202	228	279	127	256	313	143	225	276
EXPOSED FLOOR	2.6	1.2	0	0	0	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.4	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	2598			1945	1120	497	1972	822	0.20	0.36	551	740	2101
SUB TOTAL HT GAIN	0.20	0.36		0.20	0.36		0.20	0.36	0.20	0.36		0.20	0.36
LEVEL FACTOR / MULTIPLIER	563			634	303	704	50	173	417	160	183	2144	240
AIR CHANGE HEAT LOSS	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
DUCT LOSS	0			0	0	0	0	0	0	0	0	0	0
DUCT GAIN	0			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	617			0	0	0	0	0	0	0	0	0	0
TOTAL HT LOSS BTUH	3660			2640	1545	2943	2476	2813	1744	610	694	3330	428
TOTAL HT GAIN x 1.3 BTUH						3984		4813	562			1484	

ROOM USE	EXP. WALL	CLG. HT.	FACTORS	LVDN	KIT	STUDY	LAUN	PND	FOY	GYN	BAS
GRS.WALL AREA	444			410	510	260	180	60	80	246	672
GLAZING											
NORTH	0	0	0	0	0	0	0	0	0	0	0
EAST	0	0	0	0	0	0	0	0	0	0	0
SOUTH	0	0	0	0	0	0	0	0	0	0	0
WEST	0	0	0	0	0	0	0	0	0	0	0
SKYL.T.	0	0	0	0	0	0	0	0	0	0	0
DOORS	0	0	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.3	0.5	348	1479	225	306	1301	139	413	1756	267
NET EXPOSED WALL ABOVE GR	3.4	0.5	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.2	0.6	342	896	408	0	0	0	0	0	0
EXPOSED FLOOR	2.4	0.4	0	0	0	0	0	0	0	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	4321			3485	3319	2463	1557	255	1132	1742	6024
SUB TOTAL HT GAIN	0.20	0.36		0.20	0.36		0.20	0.36	0.20	0.36	
LEVEL FACTOR / MULTIPLIER	1851			1500	1688	1050	671	110	487	2216	7652
AIR CHANGE HEAT LOSS	0			0	0	0	0	0	0	0	0
AIR CHANGE HEAT GAIN	0			0	0	0	0	0	0	0	0
DUCT LOSS	0			0	0	0	0	0	0	0	0
DUCT GAIN	0			0	0	0	0	0	0	0	0
HEAT GAIN PEOPLE	240			0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS	617			0	0	0	0	0	0	0	0
TOTAL HT LOSS BTUH	6182			4985	5381	3523	2228	365	1620	3357	13586
TOTAL HT GAIN x 1.3 BTUH						4416		481	237	891	1387

TOTAL HEAT GAIN BTUH: 45556

TONS: 3.33

LOSS DUE TO VENTILATION LOAD BTUH: 3030

STRUCTURAL HEAT LOSS: 65418

TOTAL COMBINED HEAT LOSS BTUH: 68448

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C.3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL ECR: 19659

MICHAEL O'ROURKE

SITE COPY

19-0250

SITE NAME: TIBURTINO BUILDING GROUP
BUILDER: GREENPARK HOMES

TYPE: GEORGIAN 3
furnace pressure 0.6

DATE: Feb-19

GFA: 3830 LO#

FURNACE 1

HEATING CFM	710	COOLING CFM	710
TOTAL HEAT LOSS	33,203	TOTAL HEAT GAIN	19,660
AIR FLOW RATE CFM	21.38	AIR FLOW RATE CFM	36.11

GMVC960403BNA 40
FAN SPEED
~GOODMAN
AFUE = 96 %
INPUT (BTUH) = 40,000
OUTPUT (BTUH) = 38,400

AFUE = 96 %

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

R/A	0	0	2
All S/A diffusers 4"x10" unless noted otherwise on layout.			

TEMPERATURE RISE 50 °F

TRUNK	1	2	3	10	12	14	15	20	21
ROOM NAME	MBR	ENS	WIC	MBR	FAM	KIT	KIT	FAM	BAS
RM LOSS MBH	1.22	1.32	1.49	1.22	2.06	2.77	2.77	2.06	4.56
CFM PER RUN HEAT	26	28	32	26	44	59	59	44	98
RM GAIN MBH	1.51	0.77	0.89	1.51	2.37	2.21	2.21	2.37	0.46
CFM PER RUN COOLING	55	28	25	55	88	80	80	86	16
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.16	0.16
ACTUAL DUCT LGH	68	29	16	55	50	38	47	66	27
EQUIVALENT LENGTH	130	140	160	150	160	190	190	160	190
TOTAL EFFECTIVE LENGTH	196	169	176	206	210	228	237	226	217
ADJUSTED PRESSURE	0.09	0.1	0.1	0.08	0.08	0.08	0.07	0.07	0.07
ROUND DUCT SIZE	5	4	4	5	6	5	5	6	6
HEATING VELOCITY (ft/min)	191	321	367	191	224	435	435	224	500
COOLING VELOCITY (ft/min)	404	321	287	404	438	587	587	438	82
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	4X10	4X10
TRUNK	A	A	A	A	B	B	B	B	B

25	29	35	36	37
ENS	BAS	BAS	FAM	MBR
1.32	4.56	4.56	2.06	1.22
28	98	98	44	26
0.77	0.46	0.46	2.37	1.51
28	16	16	86	55
0.17	0.16	0.16	0.16	0.17
24	64	26	57	53
180	140	190	150	150
204	204	216	207	203
0.08	0.08	0.08	0.08	0.08
4	6	6	6	5
321	500	500	224	191
321	82	82	438	404
3X10	4X10	4X10	4X10	3X10
A	B	B	B	A

SUPPLY AIR TRUNK SIZE										RETURN AIR TRUNK SIZE									
TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)	TRUNK CFM	TRUNK	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)			
TRUNK A	0.08	10.5	14	8	461	TRUNK G	0.00	0	0	8	0	TRUNK O	0.06	0	0	8			
TRUNK B	0.07	11.5	16	8	544	TRUNK H	0.00	0	0	8	0	TRUNK P	0.06	0	0	8			
TRUNK C	0.07	12.8	20	8	710	TRUNK I	0.00	0	0	8	0	TRUNK Q	0.06	0	0	8			
TRUNK D	0	0	0	8	0	TRUNK J	0.00	0	0	8	0	TRUNK R	0.06	0	0	8			
TRUNK E	0.00	0	0	8	0	TRUNK K	0.00	0	0	8	0	TRUNK S	0.06	0	0	8			
TRUNK F	0.00	0	0	8	0	TRUNK L	0.00	0	0	8	0	TRUNK T	0.06	0	0	8			
												TRUNK U	0.06	0	0	8			
												TRUNK V	0.06	0	0	8			
												TRUNK W	0.06	0	0	8			
												TRUNK X	0.06	13.3	24	8			
												TRUNK Y	0.06	11.1	14	8			
												TRUNK Z	0.06	0	0	8			
												DROP	0.06	13.3	24	10			

RETURN AIR #									
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
TR VOLUME	120	15	320	0.15	0.15	0.15	0.15	0.15	0.15
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TR VOLUME	120	15	320	0.15	0.15				

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Rourke

INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE

**SITE NAME: TIBURTINO BUILDING GROUP
BUILDER: GREENPARK HOMES**

TYPE: GEORGIAN.3

DATE: Feb-19

GFA: 3830

LO# 77395

FURNACE 2

HEATING CFM 710
TOTAL HEAT LOSS 32,215
AIR FLOW RATE CFM 22.04

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

AFUE = 96 %
INPUT (BTU/H) = 40,000
OUTPUT (BTU/H) = 38,400
DESIGN CFM = 710
CFM @ 6" E.S.P. = 974

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

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

All S/A runs 5/2 unless noted otherwise on layout.

TEMPERATURE RISE 50 °F

RUN #	ROOM NAME	RM LOSS MBH	CFM PER RUN HEAT	RM GAIN MBH	CFM PER RUN COOLING	ADJUSTED PRESSURE	EQUIVALENT LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
4	BED-2	2.94	124	1.24	31	0.17	160	0.07	5	477	198	3X10	A
5	BED-3	2.94	124	1.24	31	0.17	160	0.07	5	477	198	3X10	A
6	BED-4	2.94	124	1.24	31	0.17	160	0.07	5	477	198	3X10	A
7	ENS-2/3	1.74	38	1.74	38	0.17	160	0.07	5	477	198	3X10	A
8	WIC-4	0.61	13	0.61	13	0.17	160	0.07	5	477	198	3X10	A
9	BED-3	1.24	27	1.24	27	0.17	160	0.07	5	477	198	3X10	B
10	WIC-4	0.61	13	0.61	13	0.17	160	0.07	5	477	198	3X10	B
11	ENS-4	0.69	15	0.69	15	0.17	160	0.07	5	477	198	3X10	B
12	LVDN	2.49	55	2.49	55	0.17	160	0.07	5	477	198	3X10	D
13	LVDN	2.49	55	2.49	55	0.17	160	0.07	5	477	198	3X10	D
14	LVDN	2.49	55	2.49	55	0.17	160	0.07	5	477	198	3X10	D
15	FOY	1.62	36	1.62	36	0.17	160	0.07	5	477	198	3X10	D
16	STUDY	1.76	39	1.76	39	0.17	160	0.07	5	477	198	3X10	C
17	LAUN	2.23	49	2.23	49	0.17	160	0.07	5	477	198	3X10	C
18	PWD	0.36	8	0.36	8	0.17	160	0.07	5	477	198	3X10	C
19	FOY	1.62	36	1.62	36	0.17	160	0.07	5	477	198	3X10	D
20	GYM	3.96	87	3.96	87	0.17	160	0.07	5	477	198	3X10	C
21	ENS-5	0.43	9	0.43	9	0.17	160	0.07	5	477	198	3X10	D
22	ENS-5	0.43	9	0.43	9	0.17	160	0.07	5	477	198	3X10	D
23	GYM	3.96	87	3.96	87	0.17	160	0.07	5	477	198	3X10	C
24	ENS-5	0.43	9	0.43	9	0.17	160	0.07	5	477	198	3X10	D

RUN #	ROOM NAME	26	27	28	30
	BED-4	1.41	2.49	3.83	1.76
	RM LOSS MBH.	31	55	84	39
	CFM PER RUN HEAT	2.01	2.69	1.48	2.23
	RM GAIN MBH.	55	74	41	61
	CFM PER RUN COOLING	0.17	0.17	0.16	0.17
	ADJUSTED PRESSURE	54	34	13	50
	ACTUAL DUCT LGH.	170	160	190	170
	EQUIVALENT LENGTH	224	194	203	220
	TOTAL EFFECTIVE LENGTH	0.08	0.08	0.08	0.08
	ADJUSTED PRESSURE	5	5	6	5
	ROUND DUCT SIZE	228	404	428	286
	HEATING VELOCITY (ft/min)	404	543	209	448
	COOLING VELOCITY (ft/min)	3X10	3X10	4X10	3X10
	OUTLET GRILL SIZE	B	D	D	C
	TRUNKS				

TYPE: GEORGIAN 3
 SITE NAME: TIBURTINO BUILDING GROUP

LO # 77395

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting (induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐	Other: Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	2 @ 21.2 cfm	42.4 cfm
Other Bedrooms	4 @ 10.6 cfm	42.4 cfm
Kitchen & Bathrooms	6 @ 10.6 cfm	63.6 cfm
Other Rooms	9 @ 10.6 cfm	95.4 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: VANE 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 72 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		NUTONE		
Location	Model	cfm	HVI	Sones
ENS	QTXEN050C	50	☒	0.3
ENS-2/3	QTXEN050C	50	☒	0.3
ENS-4	QTXEN050C	50	☒	0.3
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANE 65H		
155 cfm high	84 cfm low	
75 % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GREENPARK 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:	February-19

 I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
 INDIVIDUAL BCIN: 19659 *Michael O'Rourke* MICHAEL O'ROURKE

HEAT LOSS AND GAIN SUMMARY SHEET**MODEL:** GEORGIAN 3**BUILDER:** GREENPARK HOMES**SFQT:** 3830**LO#** 77395**SITE:** TIBURTINO BUILDING GROUP**DESIGN ASSUMPTIONS**

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	0	OUTDOOR DESIGN TEMP.	86
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):	54480.0	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:	6.0 ft
LENGTH: 48.0 ft	WIDTH: 45.0 ft	EXPOSED PERIMETER:	186.0 ft

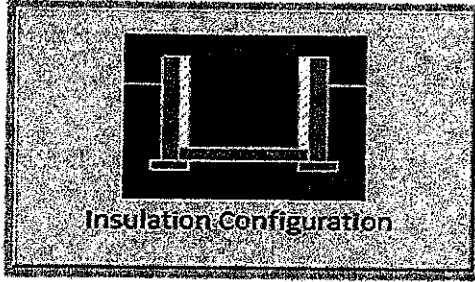
2012 OBC - COMPLIANCE PACKAGE

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*Michael O'Rourke*

Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Oakville	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	14.6	 Insulation Configuration
Floor Width (m):	13.7	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	5.8	
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):	1755	

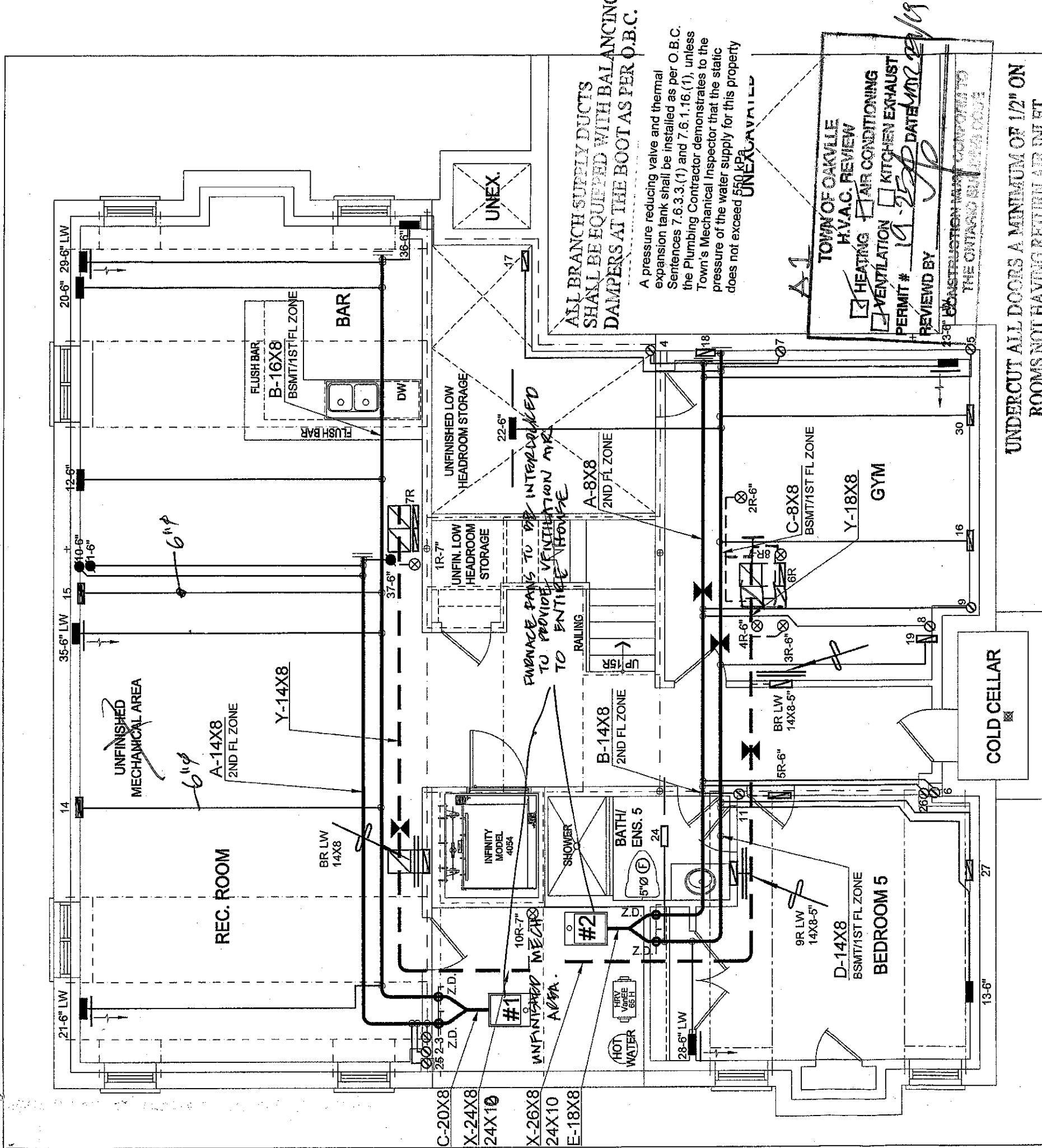
TYPE: GEORGIAN 3
LO# 77395

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Oakville		
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):	6.71		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1542.7		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	2056.5 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
Diameter (mm):	0	0	0
	#4	0	
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.347		
Cooling Air Leakage Rate (ACH/H):	0.100		

TYPE: GEORGIAN 3
LO# 77395



UNDERCUT ALL DOORS A MINIMUM OF 1/2" ON
ROOMS NOT HAVING RETURN AIR INLET

BASEMENT ELEVATION A & B

FURNACE 2
GOODMAN GMVC960403BNA-40
38,400 BTU/H OUTPUT
2.0 TONS A/C @ 710 cfm

FURNACE 1
GOODMAN GMVC960403BNA-40
38,400 BTU/H OUTPUT
2.0 TONS A/C @ 710 cfm

RECEIVED
MAR 12 2019
BUILDING DEPARTMENT
TOWN OF OAKVILLE

CSA-F280-12
PACKAGE A1

FURNACE 1
GOODMAN GMVC960403BNA-40
38,400 BTU/H OUTPUT
2.0 TONS A/C @ 710 cfm

FURNACE 2
GOODMAN GMVC960403BNA-40
38,400 BTU/H OUTPUT
2.0 TONS A/C @ 710 cfm

Z.D. = MOTORIZED ZONE DAMPER

UNDERCUT ALL DOORS A MINIMUM OF 1/2" ON
ROOMS NOT HAVING RETURN AIR INLET

HVAC LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		14"x8" RETURN AIR GRILLE
	SUPPLY AIR GRILLE 6" BOOT		30"x8" RETURN AIR GRILLE
	SUPPLY AIR BOOT ABOVE		FRA- FLOOR RETURN AIR GRILLE

REVISIONS			
No.	Description	Date	
1.	REVISED TO 2 FURNACE ZONE DESIGN	FEB/2019	

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GREENPARK HOMES
TIBURTINO BUILDING CORP
OAKVILLE, ONTARIO
Lot 7
GEORGIAN 3 3830 sqft

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@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.

BASEMENT HEATING LAYOUT			
S/A	R/A	FANS	
2ND	14	6	4
1ST	12	3	3
BAS	6	3	1

Sheet Title

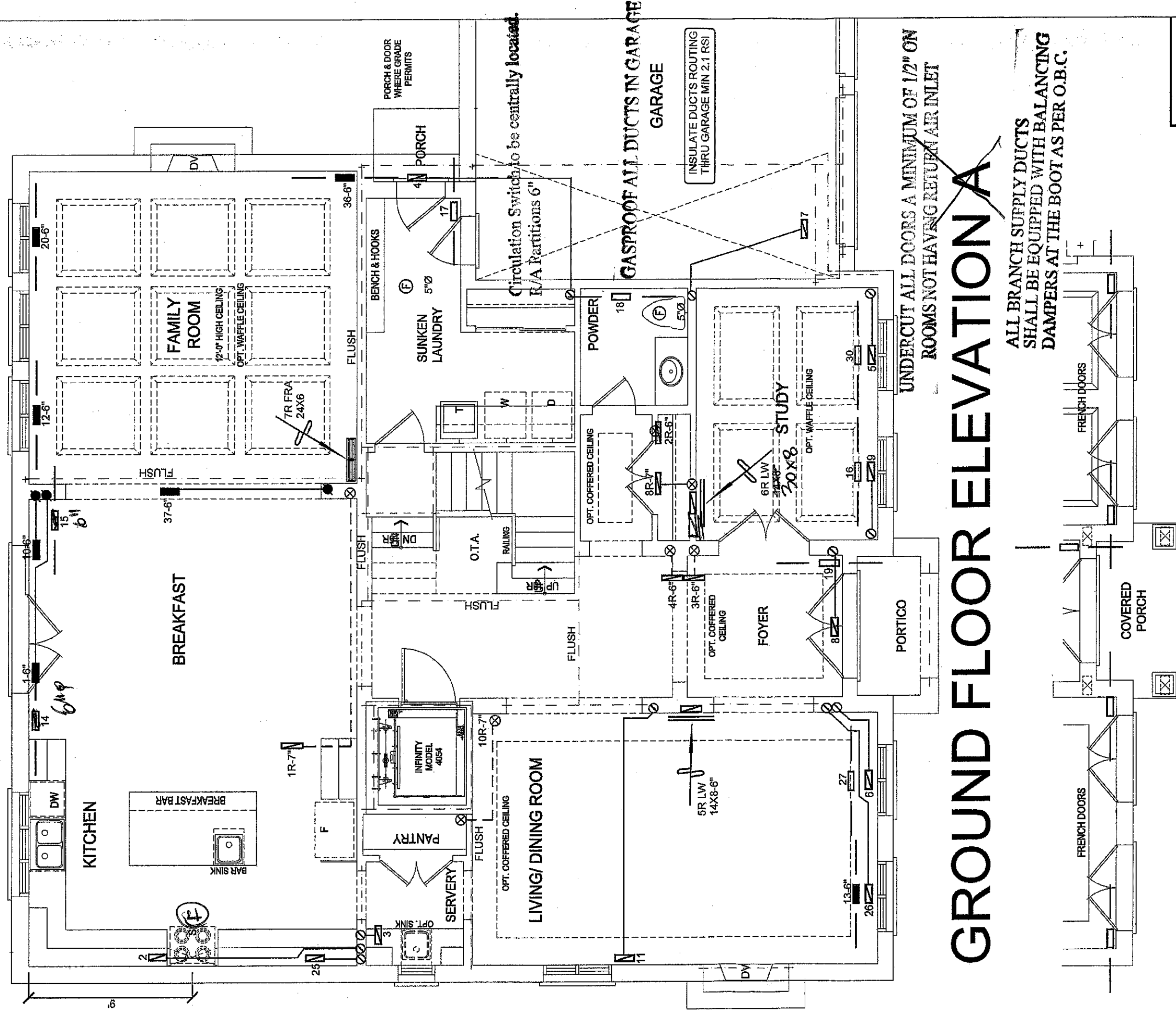
BASEMENT HEATING LAYOUT

Date JAN/2018

Scale 3/16" = 1'-0"

BCIN# 19669

LO# 77395



GROUND FLOOR ELEVATION A

ALL BRANCH SUPPLY DUCTS
SHALL BE EQUIPPED WITH BALANCING
DAMPERS AT THE BOOT AS PER O.B.C.

I HEREBY AUTHORIZE THE DESIGN AND TAKE RESPONSIBILITY FOR THE 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.

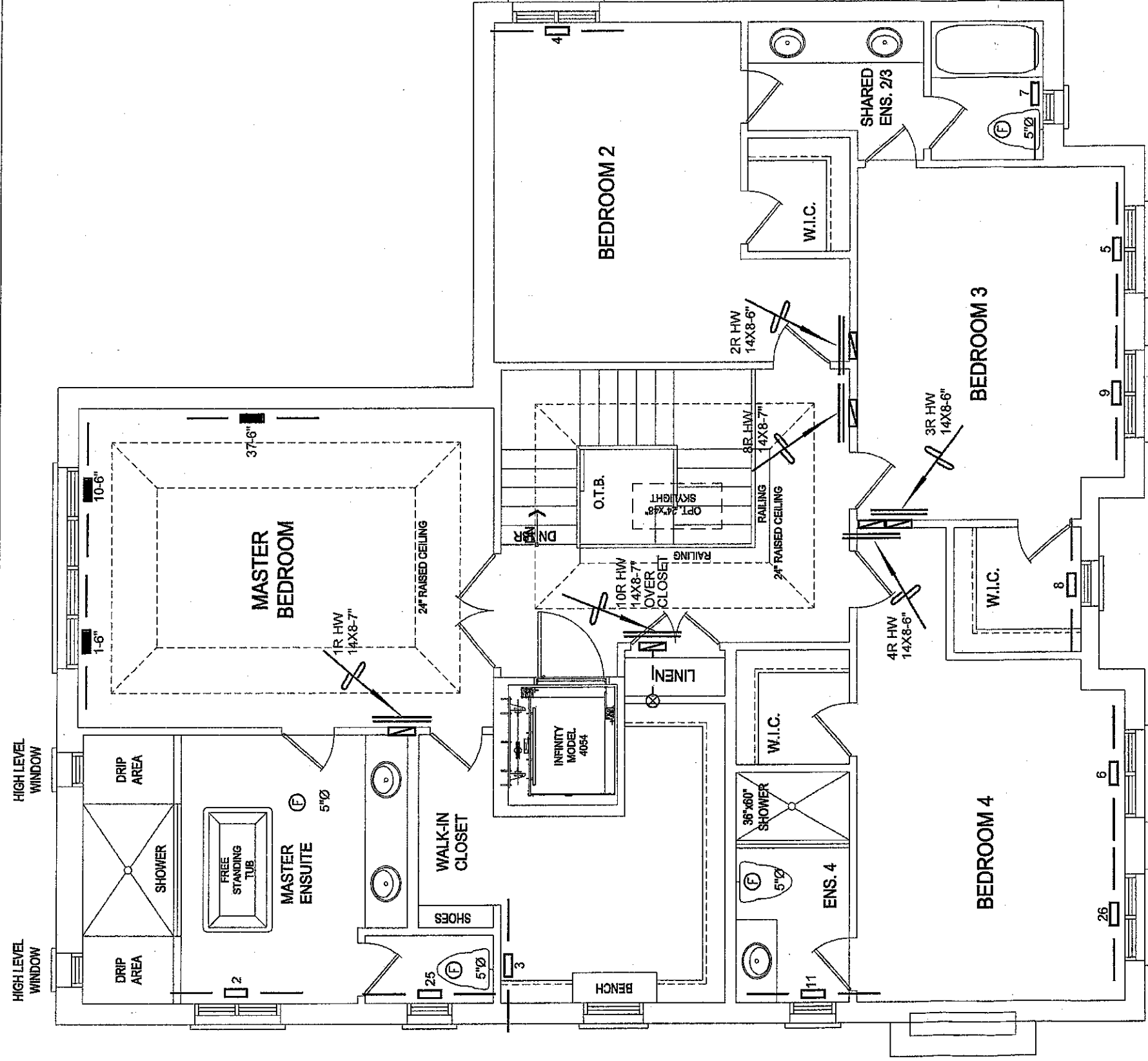
CSA-F280-12
PACKAGE A1

GROUND FLOOR ELEVATION B

HVAC LEGEND				3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SUPPLY AIR GRILLE		14\"/>		RETURN AIR STACK ABOVE
	SUPPLY AIR GRILLE 6\"/>		SUPPLY AIR STACK FROM 2nd FLOOR		RETURN AIR STACK 2nd FLOOR
	SUPPLY AIR BOOT ABOVE		6\"/>		REDUCER

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GREENPARK HOMES		FIRST FLOOR HEATING LAYOUT	
TIBURTINO BUILDING CORP OAKVILLE, ONTARIO		Date JAN/2018	
Lot 7		Scale 3/16" = 1'-0"	
GEORGIAN 3		BCIN# 19669	
3830 sqft		LO# 77395	



SECOND FLOOR ELEVATION A & B

UNDERCUT ALL DOORS A MINIMUM OF 1/2" ON ROOMS NOT HAVING RETURN AIR INLET

ALL BRANCH SUPPLY DUCTS SHALL BE EQUIPPED WITH BALANCING DAMPERS AT THE BOOT AS PER O.B.C.

1. MICHAEL COLEMAN ENGINEERING
DESIGN WORK AND ANY QUALIFIED
BUILDING CODE.
Hvac
HVAC DESIGNS LTD.

CSA-F280-12

PACKAGE A1

HVAC LEGEND				3.	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
— □ —	SUPPLY AIR GRILLE	— □ —	14"X8" RETURN AIR GRILLE	— □ —	RETURN AIR STACK ABOVE
— ■ —	SUPPLY AIR GRILLE 6" BOOT	— ■ —	30"X6" RETURN AIR GRILLE	— ■ —	RETURN AIR STACK 2nd FLOOR
— ■ —	SUPPLY AIR BOOT ABOVE	— ■ —	FRA- FLOOR RETURN AIR GRILLE	— ■ —	REDUCER

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Client		Sheet Title	
GREENPARK HOMES		SECOND FLOOR HEATING LAYOUT	
Project Name		Date	JAN/2018
TIBURTINO BUILDING CORP		Scale	3/16" = 1'-0"
OAKVILLE, ONTARIO		BCIN#	19669
Lot 7		LO#	77395
GEORGIAN 3		3830 sqft	



375 Finley Ave. Suite 202 - Ajax, Ontario
L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdsgns.ca
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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.