

SITE NAME: MINNEAPOLIS HOMES CORP
BUILDER: GREENPARK HOMES

OPT 5 BED
TYPE: SANDSTONE 2A
GFA: 2998

DATE: Aug-18
LO# 79592

WINTER NATURAL AIR CHANGE RATE 0.354
SUMMER NATURAL AIR CHANGE RATE 0.115

HEAT LOSS AT °F. 74
HEAT GAIN AT °F. 11

CSA-F280-12
SB-12 PACKAGE A1

ROOM USE	EXP. WALL	CLG. HT.	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-5	ENS-2
FACTORS	10	9	9	9	9	9	9	10	9	9	24
GRS.WALL AREA	LOSS	GAIN	340	207	72	168	72	400	72	171	216
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS
NORTH	20.8	15.5	0	0	0	0	0	0	0	0	0
EAST	20.8	41.8	0	0	0	0	0	0	0	0	0
SOUTH	20.8	24.4	0	0	0	0	0	0	0	0	0
WEST	20.8	41.8	32	665	1314	14	291	575	7	145	287
SKYL.T.	36.4	100.7	0	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	308	1342	199	184	892	119	65	283	42
NET EXPOSED BMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	285	357	159	130	163	72	88	110	49
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS											
SLAB ON GRADE HEAT LOSS											
SUBTOTAL HT LOSS			2364		1442		539		1063		1234
SUB TOTAL HT GAIN				1671		986		378		409	
LEVEL FACTOR / MULTIPLIER	0.20	0.28			0.20	0.28		0.20	0.28		0.20
AIR CHANGE HEAT LOSS			671		409		153		302		350
AIR CHANGE HEAT GAIN				109		64		25		27	
DUCT LOSS											
DUCT GAIN											
HEAT GAIN PEOPLE	240		2	480	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				550		0		0		0	
TOTAL HT LOSS BTU/H			3035		1852		692		1501		1743
TOTAL HT GAIN x 1.3 BTU/H				3654		1365		524		1753	

ROOM USE	EXP. WALL	CLG. HT.	LIV	KIT	FAM	WIR	FOY	MUD	WOD	BAS
FACTORS	10	10	10	10	10	10	11	10	11	178
GRS.WALL AREA	LOSS	GAIN	810	390	370	70	154	280	369	1314
GLAZING	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN	LOSS	GAIN
NORTH	20.8	15.5	0	0	0	0	0	0	0	0
EAST	20.8	41.8	39	810	1001	0	0	0	0	0
SOUTH	20.8	24.4	20	416	488	0	0	0	0	0
WEST	20.8	41.8	0	0	0	0	0	0	0	0
SKYL.T.	36.4	100.7	0	0	0	0	0	0	0	0
DOORS	24.7	3.7	0	0	0	0	0	0	0	0
NET EXPOSED WALL	4.4	0.6	551	2401	356	324	1412	295	339	1438
NET EXPOSED BMT WALL ABOVE GR	3.5	0.5	0	0	0	0	0	0	0	0
EXPOSED CLG	1.3	0.6	0	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG	2.7	1.2	0	0	0	0	0	0	0	0
EXPOSED FLOOR	2.5	0.4	0	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS										
SLAB ON GRADE HEAT LOSS										
SUBTOTAL HT LOSS			3627		2783		2918		1867	
SUB TOTAL HT GAIN				2445		1672		1058		122
LEVEL FACTOR / MULTIPLIER	0.20	0.46			0.20	0.46		0.20	0.46	
AIR CHANGE HEAT LOSS			1672		191		122		14	
AIR CHANGE HEAT GAIN				160		0		0		0
DUCT LOSS										
DUCT GAIN										
HEAT GAIN PEOPLE	240		0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS				550		0		0		0
TOTAL HT LOSS BTU/H			5298		4066		3364		550	
TOTAL HT GAIN x 1.3 BTU/H				4101		4757		3391		293

ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC
JAN 22 2019
CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA

TOTAL HEAT GAIN BTU/H: 35255

TONS: 2.94

LOSS DUE TO VENTILATION LOAD BTU/H: 1911

STRUCTURAL HEAT LOSS: 54078

TOTAL COMBINED HEAT LOSS BTU/H: 55989

Michael O'Rourke

SITE NAME: MINNISALE HOMES CORP
BUILDER: GREENPARK HOMES

OPT 5 BED
TYPE: SANDSTONE 2A

DATE: Aug-18

GFA: 2998 LO# 79592

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 54,078 TOTAL HEAT GAIN 34,971
AIR FLOW RATE CFM 20.91 AIR FLOW RATE CFM 32.34

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

#GOODMAN
GMCE960603BNA 60
FAN SPEED LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600
DESIGN CFM = 1131
CFM @ 6" E.S.P.

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	8	4
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.

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

RUN #	1	2	3	4	5	6	7	8	10	11	12	13	14	15	18	19	20	21	22	23	24
ROOM NAME	ENS	MBR	MBR	BED-5	ENS-2	BED-4	BED-3	BED-4	WIC	BATH	LIV	LIV	KIT	KIT	W/R	FOY	MUD	BAS	BAS	BAS	BAS
RM LOSS MBH	1.85	1.52	1.52	1.99	2.49	1.83	1.74	1.83	0.69	0.72	2.65	2.65	2.03	2.03	0.61	2.31	2.38	4.60	4.60	4.60	4.60
CFM PER RUN HEAT	39	32	32	42	52	38	36	38	14	15	55	55	43	43	13	48	50	96	96	96	96
RM GAIN MBH	1.37	1.83	1.83	2.36	2.42	2.15	2.71	2.15	0.52	0.37	2.05	2.05	2.38	2.38	0.29	0.64	1.05	0.34	0.34	0.34	0.34
CFM PER RUN COOLING	44	59	59	76	78	70	88	70	17	12	66	66	77	77	9	21	34	11	11	11	11
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.16
ACTUAL DUCT LGH	50	38	32	49	48	56	28	64	57	50	51	54	41	21	33	36	27	23	24	34	41
EQUIVALENT LENGTH	140	140	190	160	170	170	170	170	170	140	190	170	160	140	170	140	150	170	190	140	170
TOTAL EFFECTIVE LENGTH	190	178	222	209	218	226	198	234	227	190	241	224	201	161	203	176	177	193	214	174	211
ADJUSTED PRESSURE	0.09	0.1	0.08	0.08	0.08	0.08	0.08	0.07	0.08	0.09	0.07	0.08	0.09	0.11	0.08	0.1	0.1	0.08	0.08	0.09	0.08
ROUND DUCT SIZE	4	5	5	5	5	5	6	5	4	4	5	5	5	5	4	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	447	235	235	308	382	279	184	279	161	172	404	404	316	316	149	551	574	489	489	489	489
COOLING VELOCITY (ft/min)	505	433	433	558	573	514	449	514	195	138	485	485	565	565	103	241	390	56	56	56	56
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	E	A	A	D	B	C	B	A	C	B	B	A	A	E	B	E	A	E	C	B

RUN #	25	26
ROOM NAME	FAM	BED-2
RM LOSS MBH	3.35	1.50
CFM PER RUN HEAT	70	31
RM GAIN MBH	3.30	1.75
CFM PER RUN COOLING	107	57
ADJUSTED PRESSURE	0.15	0.17
ACTUAL DUCT LGH	16	39
EQUIVALENT LENGTH	110	190
TOTAL EFFECTIVE LENGTH	126	229
ADJUSTED PRESSURE	0.12	0.08
ROUND DUCT SIZE	6	5
HEATING VELOCITY (ft/min)	357	228
COOLING VELOCITY (ft/min)	546	419
OUTLET GRILL SIZE	4X10	3X10
TRUNK	E	C

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SUPPLY AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK A	309	0.08	9	10	8
TRUNK B	330	0.07	9.6	10	8
TRUNK C	508	0.07	11.3	14	8
TRUNK D	869	0.07	13.8	22	8
TRUNK E	261	0.08	8.5	8	8
TRUNK F	0	0.00	0	0	8

RETURN AIR TRUNK SIZE

TRUNK	CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT	VELOCITY (ft/min)
TRUNK G	0	0.00	0	0	8
TRUNK H	0	0.00	0	0	8
TRUNK I	0	0.00	0	0	8
TRUNK J	0	0.00	0	0	8
TRUNK K	0	0.00	0	0	8
TRUNK L	0	0.00	0	0	8
TRUNK O	0	0.05	0	0	8
TRUNK P	0	0.05	0	0	8
TRUNK Q	0	0.05	0	0	8
TRUNK R	0	0.05	0	0	8
TRUNK S	0	0.05	0	0	8
TRUNK T	0	0.05	0	0	8
TRUNK U	0	0.05	0	0	8
TRUNK V	0	0.05	0	0	8
TRUNK W	0	0.05	0	0	8
TRUNK X	1131	0.05	16.5	32	8
TRUNK Y	856	0.05	14.9	26	8
TRUNK Z	0	0.05	0	0	8
DROP	1131	0.05	16.5	24	10

RETURN AIR

	1	2	3	4	5	6	7																BR
AIR VOLUME	155	120	75	75	155	280	85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
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	43	45	55	62	46	56	29	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	185	145	225	245	150	250	225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	228	190	280	307	196	306	254	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	159
ADJUSTED PRESSURE	0.06	0.06	0.05	0.05	0.08	0.05	0.06	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	0.09
ROUND DUCT SIZE	7.5	6.3	6	6	7	9.8	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7.3
INLET GRILL SIZE	8	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
INLET GRILL SIZE	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14

TYPE: SANDSTONE 2A
 SITE NAME: MINNISALE HOMES CORP

 LO # 79592
 OPT 5 BED

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

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

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

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

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/on 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	4 @ 10.6 cfm	42.4 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		95.4 cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	190.8	cfm
Less Principal Ventil. Capacity	95.4	cfm
Required Supplemental Capacity	95.4	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE 65H	Location: BSMT
95.4 cfm	3.0 series ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION	
CFM	$\Delta T \cdot F$
95.4 CFM X	74 F X
FACTOR 1.08	% LOSS 0.25

SUPPLEMENTAL FANS		PANASONIC	
Location	Model	cfm	HVI
ENS	FV-05-11VK1	50	☒
BATH	FV-05-11VK1	50	☒
W/R	FV-05-11VK1	50	☒

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: 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:	August-18

CSA F280-12 Residential Heat Loss and Heat Gain Calculations
Formula Sheet (For Air Leakage / Ventilation Calculation)

LO#: 79592

Model: SANDSTONE 2A

Builder: GREENPARK HOMES

Date: 8/12/2018

Volume Calculation
House Volume

Level	Floor Area (ft ²)	Floor Height (ft)	Volume (ft ³)
Bsmt	1331	9	11979
First	1331	10	13310
Second	1667	9	15003
Third	0	9	0
Fourth	0	9	0
Total:			40,292.0 ft ³
Total:			1140.9 m ³

Air Change & Delta T Data

WINTER NATURAL AIR CHANGE RATE	0.354
SUMMER NATURAL AIR CHANGE RATE	0.115

Design Temperature Difference

	Tin °C	Tout °C	ΔT °C	ΔT °F
Winter DTDh	22	-19	41	74
Summer DTDc	24	30	6	11

5.2.3.1 Heat Loss due to Air Leakage

$$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$$

0.354 x 316.93 x 41 °C x 1.2 = 5554 W

= 18949 Btu/h

6.2.6 Sensible Gain due to Air Leakage

$$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$$

0.115 x 316.93 x 6 °C x 1.2 = 268 W

= 913 Btu/h

5.2.3.2 Heat Loss due to Mechanical Ventilation

$$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

95 CFM x 74 °F x 1.08 x 0.25 = 1911 Btu/h

6.2.7 Sensible heat Gain due to Ventilation

$$HL_{vaib} = PVC \times DTD_h \times 1.08 \times (1 - E)$$

95 CFM x 11 °F x 1.08 x 0.25 = 283 Btu/h

5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)

$$HL_{airr} = \text{Level Factor} \times HL_{airbv} \times ((HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel}))$$

Level	Level Factor (LF)	HLairbv Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HL _{level})
1	0.5	18,949	8,918	1.062
2	0.3		12,332	0.461
3	0.2		13,357	0.284
4	0		0	0.000
5	0		0	0.000

*HLairbv = Air leakage heat loss + ventilation heat loss

*For a balanced or supply only ventilation system HLairve = 0

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HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: SANDSTONE 2A	OPT 5 BED	BUILDER: GREENPARK HOMES
SFQT: 2998	LO# 79592	SITE: MINNISALE HOMES CORP

DESIGN ASSUMPTIONS

HEATING	*F	COOLING	*F
OUTDOOR DESIGN TEMP.	-2	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):	40292.0	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: 52.0 ft	WIDTH: 37.0 ft	EXPOSED PERIMETER:	178.0 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

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**Compliance Package
A1**

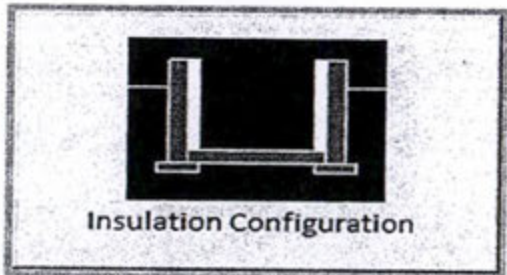
Nominal	Min. Eff.
60	59.22
31	27.65
31	29.80
22	17.03
20 ci	21.12
-	-
10	10
10	11.13
0.28	-
0.49	-
0.96	-
75%	-
0.8	-

INDIVIDUAL BCIN: 19669
 MICHAEL O'ROURKE

Michael O'Rourke

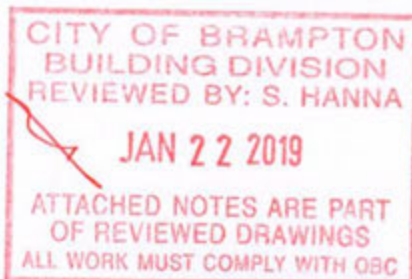
Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Brampton	
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	 Insulation Configuration
Floor Width (m):	11.3	
Exposed Perimeter (m):	0.0	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	1.7	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):	1821	

TYPE: SANDSTONE 2A
LO# 79592

OPT 5 BED



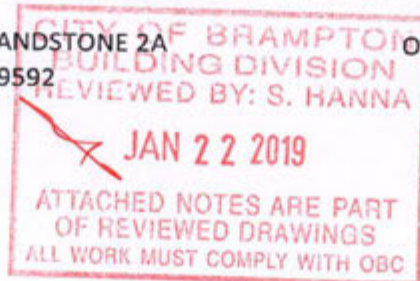
Air Infiltration Residential Load Calculator

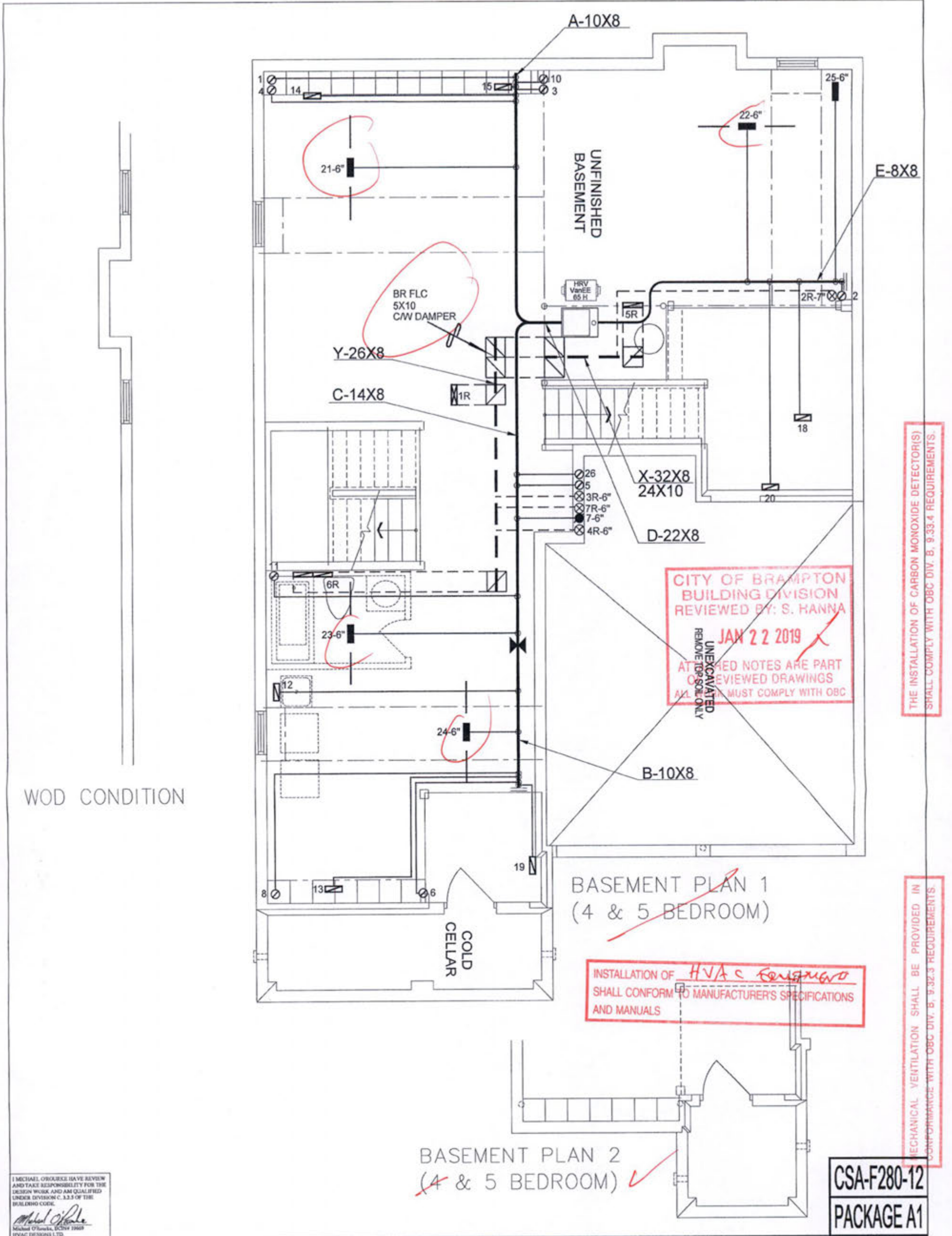
Supplemental tool for CAN/CSA-F280

Weather Station Description			
Province:	Ontario		
Region:	Brampton		
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):	7.62		
Building Configuration			
Type:	Detached		
Number of Stories:	Two		
Foundation:	Full		
House Volume (m ³):	1140.9		
Air Leakage/Ventilation			
Air Tightness Type:	Present (1961-) (3.57 ACH)		
Custom BDT Data:	ELA @ 10 Pa.	1520.9 cm ²	
	3.57	ACH @ 50 Pa	
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust	
	45.0	45.0	
Flue Size			
Flue #:	#1	#2	#3
Diameter (mm):	0	0	0
Natural Infiltration Rates			
Heating Air Leakage Rate (ACH/H):	0.354		
Cooling Air Leakage Rate (ACH/H):	0.115		

TYPE: SANDSTONE 2A
LO# 79592

OPT 5 BED





I MICHAEL OROURKE HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C.3.3.3 OF THE BUILDING CODE.

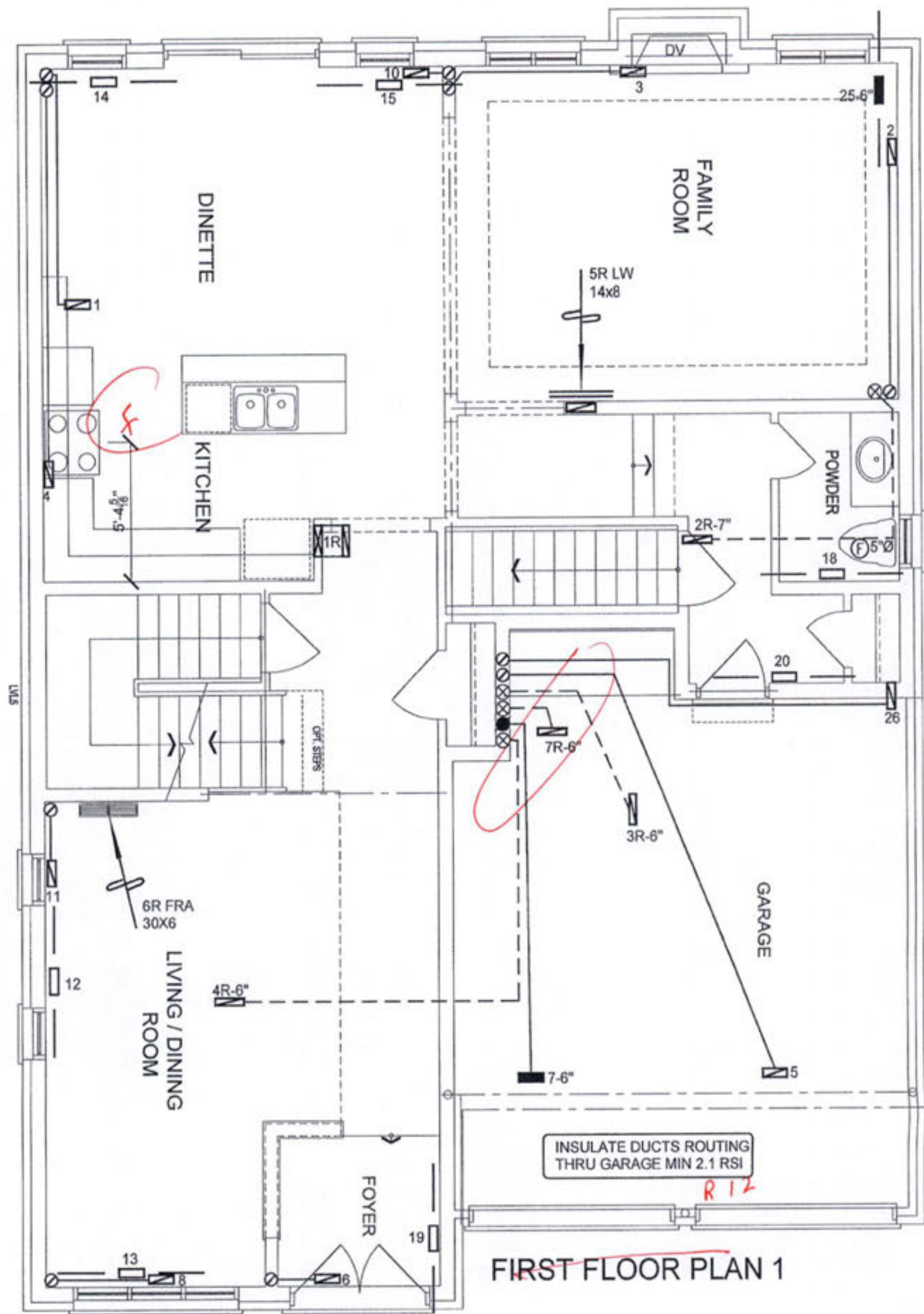
Michael O'Rourke
Michael O'Rourke, BCMA 1969
HVAC DESIGNS LTD.

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
						No.	Description
						Date	

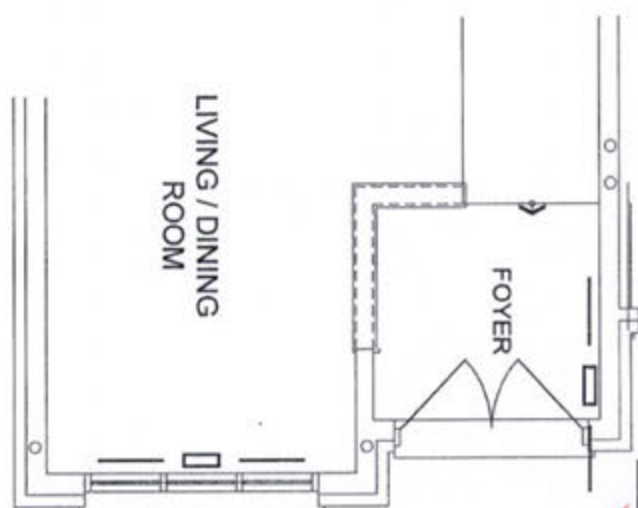
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Client	HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	HEAT LOSS 55989 BTU/H UNIT DATA	# OF RUNS S/A R/A FANS	Sheet Title BASEMENT HEATING LAYOUT Date AUG/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 79592			
GREENPARK HOMES		MAKE GOODMAN	3RD FLOOR				
Project Name		MODEL GMEC960603BNA	2ND FLOOR		11	5	3
MINNISALE HOMES CORP BRAMPTON, ONTARIO LOT 25		INPUT 60 MBTUH	1ST FLOOR		9	2	2
OPT 2ND SANDSTONE 2A 2998 sqft		OUTPUT 57.6 MBTUH	BASEMENT		4	1	0
	COOLING 3.0 TONS	ALL S/A DIFFUSERS 4 "x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5/2 UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A					
	FAN SPEED 1131 cfm @ 0.5" w.c.						

THIS INSTALLATION OF A GAS FIREPLACE IS REGULATED UNDER THE T.S.S.A. BY C.S.A. B149.1 NATURAL GAS AND PROPANE INSTALLATION CODE CALL ENBRIDGE FOR INSPECTION AT 1-800-785-1314



CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA
JAN 22 2019
ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC



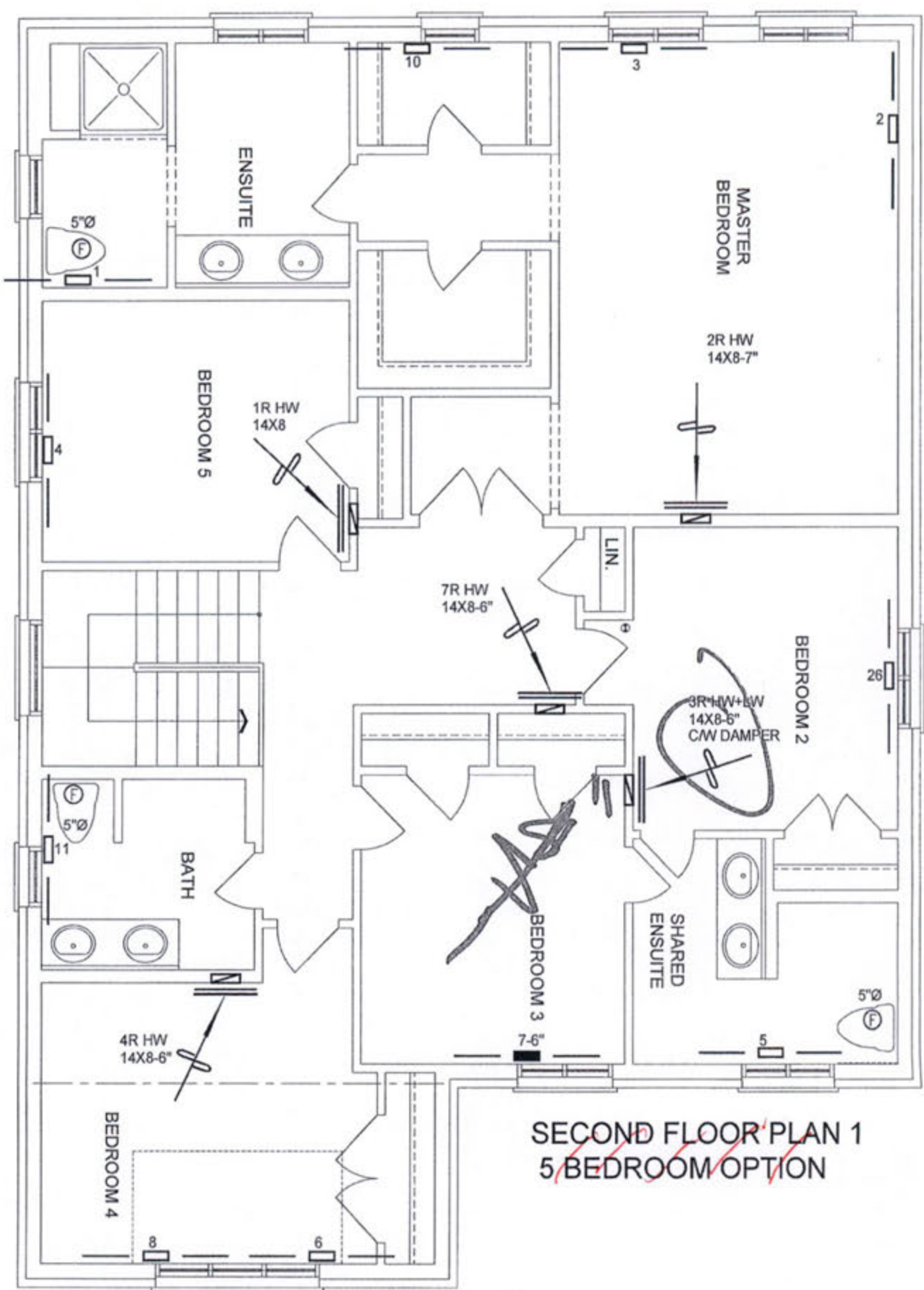
CSA-F280-12
PACKAGE A1

I MICHAEL O'BROCK HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C. 32.3 OF THE BUILDING CODE.
Michael O'Brock
MICHAEL O'BROCK, ENGINEER (1969)
HVAC DESIGNS LTD.

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
							REVISIONS
							No. Description Date

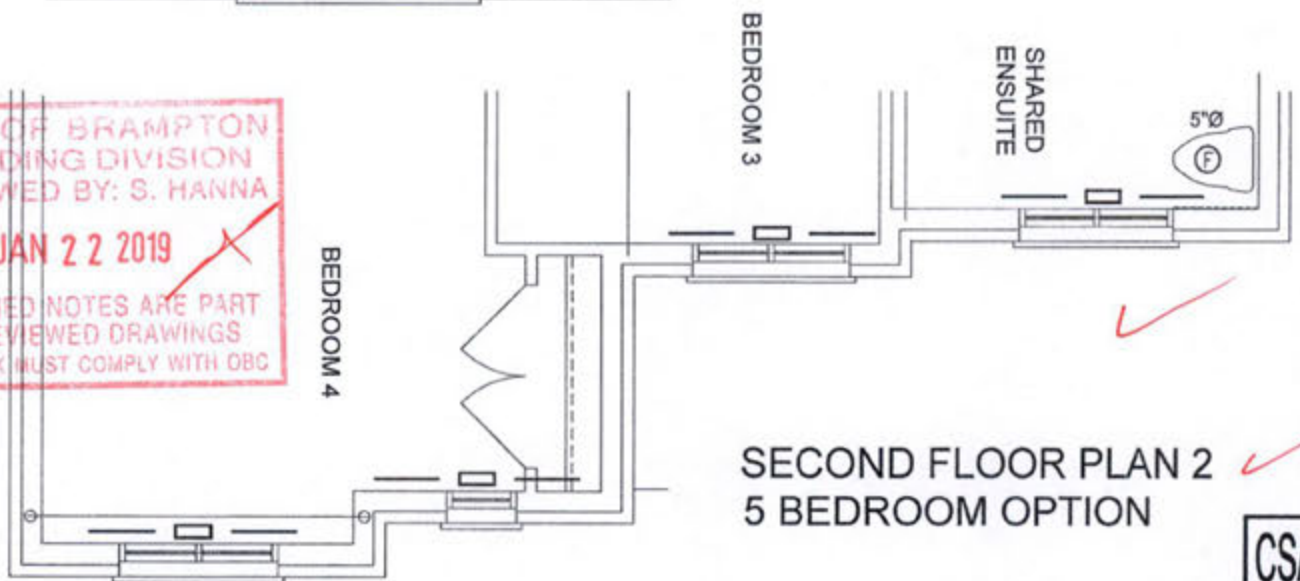
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Client GREENPARK HOMES		HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacadesigns.ca Web: www.hvacadesigns.ca Specializing in Residential Mechanical Design Services	Sheet Title FIRST FLOOR HEATING LAYOUT	
Project Name MINNISALE HOMES CORP BRAMPTON, ONTARIO LOT 25 OPT 2ND SANDSTONE 2A 2998 sqft			Date AUG/2018 Scale 3/16" = 1'-0" BCIN# 19669 LO# 79592	
		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.		



SECOND FLOOR PLAN 1
5 BEDROOM OPTION

CITY OF BRAMPTON
BUILDING DIVISION
REVIEWED BY: S. HANNA
JAN 22 2019
ATTACHED NOTES ARE PART
OF REVIEWED DRAWINGS
ALL WORK MUST COMPLY WITH OBC



SECOND FLOOR PLAN 2
5 BEDROOM OPTION

CSA-F280-12
PACKAGE A1

I MICHAEL O'SOUBEK HAVE REVIEWED
AND TAKE RESPONSIBILITY FOR THE
DESIGN WORK AND AM QUALIFIED
UNDER DIVISION C, 3.2.5 OF THE
BUILDING CODE.
Michael O'Soobe
Michael O'Soobe, P.Eng. 1966
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.	
	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	

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD. AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED STANDARDS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

Client	HVACDESIGNS LTD. 375 Finley Ave. Suite 202 - Ajax, Ontario L1S 2E2 Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375 Email: info@hvacdesigns.ca Web: www.hvacdesigns.ca Specializing in Residential Mechanical Design Services Installation to comply with the latest Ontario Building Code. All supply branch outlets shall be equipped with a manual balancing damper. Ductwork which passes through the garage or unheated spaces shall be adequately insulated and be gas-proofed.	Sheet Title	SECOND FLOOR HEATING LAYOUT	
GREENPARK HOMES		Date	AUG/2018	
Project Name		Scale	3/16" = 1'-0"	
MINNISALE HOMES CORP BRAMPTON, ONTARIO LOT 25		BCIN# 19669		
OPT 2ND SANDSTONE 2A 2998 sqft		LO#	79592	