

SITE NAME: RUSSEL GARDENS				LOT 218-1				DATE: Jan-18				WINTER NATURAL AIR CHANGE RATE 0.321				HEAT LOSS ΔT °F. 71				CSA-F280-12							
BUILDER: GREENPARK HOMES				TYPE: HIGHGROVE SE				GFA: 2264				LO# 77195				SUMMER NATURAL AIR CHANGE RATE 0.115				HEAT GAIN ΔT °F. 14				SB-12 PACKAGE A1			
ROOM USE				MBR		ENS		WIC		BED-2		BED-3		BED-4		BATH											
EXP. WALL				26		21		7		18		34		14		6											
CLG. HT.				9		9		9		9		9		9		9											
FACTORS																											
GRS.WALL AREA		LOSS GAIN		234		189		63		162		306		126		54											
GLAZING				LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN											
NORTH		19.8	15.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EAST		19.8	39.1	0	0	0	0	0	0	0	30	593	1174	40	791	1565	0	0	0	0	0	0	0	0	0	0	0
SOUTH		19.8	23.7	0	0	0	0	0	0	0	0	0	0	11	217	260	20	395	473	7	138	166					
WEST		19.8	39.1	31	613	1213	13	257	509	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SKYLT.		34.6	102.0	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		23.5	4.6	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		4.1	0.8	203	842	164	176	730	143	63	261	51	132	547	107	255	1057	207	106	439	86	47	195	38			
NET EXPOSED BSMT WALL ABOVE GR		3.3	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		1.2	0.6	285	340	172	110	131	66	70	83	42	154	184	93	216	258	131	210	250	127	90	107	54			
NO ATTIC EXPOSED CLG		2.6	1.3	0	0	0	0	0	0	0	0	0	0	0	0	40	102	52	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR		2.4	0.5	0	0	0	0	0	0	0	0	0	154	365	71	20	47	9	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	
SLAB ON GRADE HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0		0	
SUBTOTAL HT LOSS				1794		1118		345		1689		2472		1085		441											
SUB TOTAL HT GAIN				1550		718		93		1445		2223		686		258											
LEVEL FACTOR / MULTIPLIER		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27		0.20 0.27											
AIR CHANGE HEAT LOSS		477		297		92		449		657		288		117		25											
AIR CHANGE HEAT GAIN		148		68		9		138		212		65		25													
DUCT LOSS		0		0		0		214		313		0		0													
DUCT GAIN		0		0		0		242		327		0		0													
HEAT GAIN PEOPLE		240	2	480	0	0	0	0	1	240	1	240	1	240	0	240	0	0	0	0	0	0	0	0	0	0	0
HEAT GAIN APPLIANCES/LIGHTS		598		0		0		598		598		598		598		598		598		598		598		598		598	
TOTAL HT LOSS BTU/H		2271		1415		436		2351		3442		1373		558													
TOTAL HT GAIN x 1.3 BTU/H		3607		1022		133		3461		4680		2066		367													

ROOM USE			LV/DN			KT/FM			LAUN			PWD			FOY			BAS		
EXP. WALL			60			61			0			8			14			106		
CLG. HT.			10			10			9			10			11			9		
FACTORS																				
GRS.WALL AREA			600			610			0			80			154			636		
LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN			LOSS GAIN		
GLAZING																				
NORTH			19.8	15.4	0	0	0	0	0	0	0	0	0	0	0	0	0	10	198	154
EAST			19.8	39.1	29	573	1134	0	0	0	0	0	0	0	0	0	0	0	0	0
SOUTH			19.8	23.7	33	652	781	11	217	260	0	0	0	8	158	189	0	0	0	0
WEST			19.8	39.1	0	0	0	87	1720	3403	0	0	0	0	0	0	0	0	0	0
SKYLT.			34.6	102.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DOORS			23.5	4.6	20	469	92	0	0	0	0	0	0	0	0	0	25	586	115	20
NET EXPOSED WALL			4.1	0.8	518	2147	420	512	2123	415	0	0	0	72	298	58	129	535	105	0
NET EXPOSED BSMT WALL ABOVE GR			3.3	0.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	318
EXPOSED CLG			1.2	0.6	0	0	0	0	0	0	176	210	106	0	0	0	0	0	0	0
NO ATTIC EXPOSED CLG			2.6	1.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EXPOSED FLOOR			2.4	0.5	0	0	0	0	0	0	88	208	41	0	0	0	0	0	0	0
BASEMENT/CRAWL HEAT LOSS					0			0		0			0			0			3430	
SLAB ON GRADE HEAT LOSS					0			0		0			0			0				
SUBTOTAL HT LOSS					3842			4060		418			457			1121			5160	
SUB TOTAL HT GAIN					2427			4079		147			248			219			453	
LEVEL FACTOR / MULTIPLIER			0.30	0.39		0.30	0.39		0.20	0.27		0.30	0.39		0.30	0.39		0.50	1.21	
AIR CHANGE HEAT LOSS					1512			1598		111			180			441			6218	
AIR CHANGE HEAT GAIN						231		389			14		24			21			43	
DUCT LOSS					0			0		53			0			0			0	
DUCT GAIN						0		0			76		0			0			0	
HEAT GAIN PEOPLE			240		0		0	0	0	0	0	0	0	0	0	0	0	0	0	
HEAT GAIN APPLIANCES/LIGHTS						598		598			598		0			0			0	
TOTAL HT LOSS BTU/H					5354			5658		582			636			1562			11378	
TOTAL HT GAIN x 1.3 BTU/H					4232			6584		1085			353			312			64	

TOTAL HEAT GAIN BTU/H: 29065

TONS: 2.42

LOSS DUE TO VENTILATION LOAD BTU/H: 2650

STRUCTURAL HEAT LOSS: 37017

TOTAL COMBINED HEAT LOSS BTU/H: 39667

SITE NAME: RUSSEL GARDENS
BUILDER: GREENPARK HOMES

LOT 218-1
TYPE: HIGHGROVE 5E

DATE: Jan-18

GFA: 2264 LO# 77195

HEATING CFM 1131 COOLING CFM 1131
TOTAL HEAT LOSS 37,017 TOTAL HEAT GAIN 28,547
AIR FLOW RATE CFM 30.55 AIR FLOW RATE CFM 39.62

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

#GOODMAN
GMEC960603BNA 60

AFUE = 96 %
INPUT (BTU/H) = 60,000
OUTPUT (BTU/H) = 57,600

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	11	7	5
R/A	0	0	4	2	1

plenum pressure s/a 0.18
max s/a dif press. loss 0.02
min adjusted pressure s/a 0.16

r/a pressure 0.17
r/a grille press. Loss 0.02
adjusted pressure r/a 0.15

FAN SPEED
LOW
MEDLOW
MEDIUM
MEDIUM HIGH
HIGH 1131

DESIGN CFM = 1131
CFM @ .6" E.S.P.

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	12	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	MBR	ENS	WIC	BED-2	BED-3	BED-4	BATH	BED-2	BED-3	MBR	LV/DN	LV/DN	KT/FM	KT/FM	KT/FM	LAUN	PWD	FOY	BAS	BAS	BAS	BAS
RM LOSS MBH.	1.14	1.41	0.44	1.18	1.72	1.37	0.56	1.18	1.72	1.14	2.68	2.68	1.89	1.89	1.89	0.58	0.64	1.56	2.28	2.28	2.28	2.28
CFM PER RUN HEAT	35	43	13	36	53	42	17	36	53	35	82	82	58	58	58	18	19	48	70	70	70	70
RM GAIN MBH.	1.80	1.02	0.13	1.73	2.34	2.07	0.37	1.73	2.34	1.80	2.12	2.12	2.19	2.19	2.19	1.09	0.35	0.31	0.13	0.13	0.13	0.13
CFM PER RUN COOLING	71	40	5	69	93	82	15	69	93	71	84	84	87	87	87	43	14	12	5	5	5	5
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.16	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	42	46	36	46	47	22	28	52	43	51	18	27	24	33	40	37	8	32	23	29	11	10
EQUIVALENT LENGTH	140	170	160	120	140	150	140	130	170	160	140	90	120	130	140	130	120	140	140	90	110	130
TOTAL EFFECTIVE LENGTH	182	216	196	166	187	172	168	182	213	211	158	117	144	163	180	167	128	172	163	119	121	140
ADJUSTED PRESSURE	0.09	0.08	0.09	0.1	0.09	0.09	0.1	0.09	0.08	0.08	0.1	0.14	0.11	0.1	0.09	0.1	0.13	0.1	0.11	0.14	0.14	0.12
ROUND DUCT SIZE	5	4	4	5	6	5	4	5	6	5	5	5	5	5	5	4	4	4	5	5	5	5
HEATING VELOCITY (ft/min)	257	493	149	264	270	308	195	264	270	257	602	602	426	426	426	207	218	551	514	514	514	514
COOLING VELOCITY (ft/min)	521	459	57	507	474	602	172	507	474	521	617	617	639	639	639	493	161	138	37	37	37	37
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10
TRUNK	A	A	B	D	C	B	D	D	C	A	C	C	A	A	A	D	D	C	A	B	B	D

RUN #	25
ROOM NAME	BAS
RM LOSS MBH.	2.28
CFM PER RUN HEAT	70
RM GAIN MBH.	0.13
CFM PER RUN COOLING	5
ADJUSTED PRESSURE	0.17
ACTUAL DUCT LGH.	21
EQUIVALENT LENGTH	130
TOTAL EFFECTIVE LENGTH	151
ADJUSTED PRESSURE	0.11
ROUND DUCT SIZE	5
HEATING VELOCITY (ft/min)	514
COOLING VELOCITY (ft/min)	37
OUTLET GRILL SIZE	3X10
TRUNK	C

SUPPLY AIR TRUNK SIZE														RETURN AIR TRUNK SIZE													
	TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)		TRUNK CFM	STATIC PRESS.	ROUND DUCT	RECT DUCT			VELOCITY (ft/min)				
TRUNK A	357	0.08	9.5	10	x	8	643	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.06	0	0	x	8	0				
TRUNK B	552	0.08	11.2	14	x	8	710	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.06	0	0	x	8	0				
TRUNK C	388	0.08	9.8	12	x	8	582	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.06	0	0	x	8	0				
TRUNK D	584	0.08	11.5	16	x	8	657	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.06	0	0	x	8	0				
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.06	0	0	x	8	0				
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.06	0	0	x	8	0				

RETURN AIR #	1	2	3	4	5	6	0	0	0	0	0	0	0	0	0	BR
AIR VOLUME	120	85	85	175	320	180	0	0	0	0	0	0	0	0	0	166
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
ACTUAL DUCT LGH.	47	52	43	40	22	24	1	1	1	1	1	1	1	1	1	14
EQUIVALENT LENGTH	175	145	165	160	155	150	0	0	0	0	0	0	0	0	0	215
TOTAL EFFECTIVE LH	222	197	208	200	177	174	1	1	1	1	1	1	1	1	1	229
ADJUSTED PRESSURE	0.07	0.08	0.07	0.07	0.08	0.09	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.06
ROUND DUCT SIZE	6.6	5.6	5.8	7.5	9.2	7.2	0	0	0	0	0	0	0	0	0	7.7
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	14	14	14	14	30	14	0	0	0	0	0	0	0	0	0	24

TYPE: HIGHGROVE 5E
SITE NAME: RUSSEL GARDENS

LO # 77195
LOT 218-1

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	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>3</u> @ 10.6 cfm	<u>31.8</u> cfm
Kitchen & Bathrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Other Rooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Table 9.32.3.A.	TOTAL	<u>159.0</u> 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		<u>79.5</u> cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>159</u>	cfm
Less Principal Ventil. Capacity	<u>139</u>	cfm
Required Supplemental Capacity	<u>20.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model:	VANEE 60H-V+ Location: BSMT
<u>139.0</u> cfm	<u>3.0</u> sones ☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION					
CFM		ΔT °F		FACTOR	% LOSS
139.0 CFM	X	71 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
PWD	QTXEN050C	50	☒	0.3

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model:	VANEE 60H-V+	
<u>139</u> cfm high	<u>50</u> cfm low	
<u>75</u> % 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:	January-18

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL:	HIGHGROVE 5E	LOT 218-1	BUILDER:	GREENPARK HOMES
SFQT:	2264	LO#	77195	SITE: RUSSEL GARDENS

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	1	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	74

BUILDING DATA

ATTACHMENT:	ATTACHED	# 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 (ft ³):	30676.0	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	5
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.27	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	6.0 ft
LENGTH: 52.0 ft	WIDTH: 26.0 ft	EXPOSED PERIMETER:	106.0 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	-

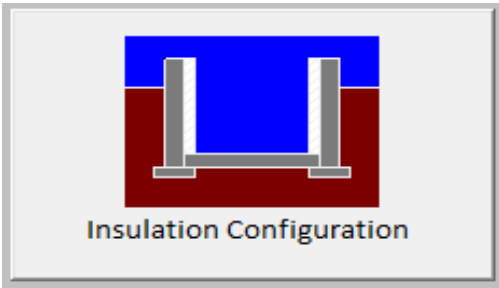
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Hamilton	
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):	7.9	
Exposed Perimeter (m):	32.3	
Wall Height (m):	2.7	
Depth Below Grade (m):	1.83	
Window Area (m ²):	0.9	
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):		1005

TYPE: HIGHGROVE 5E
LO# 77195

LOT 218-1

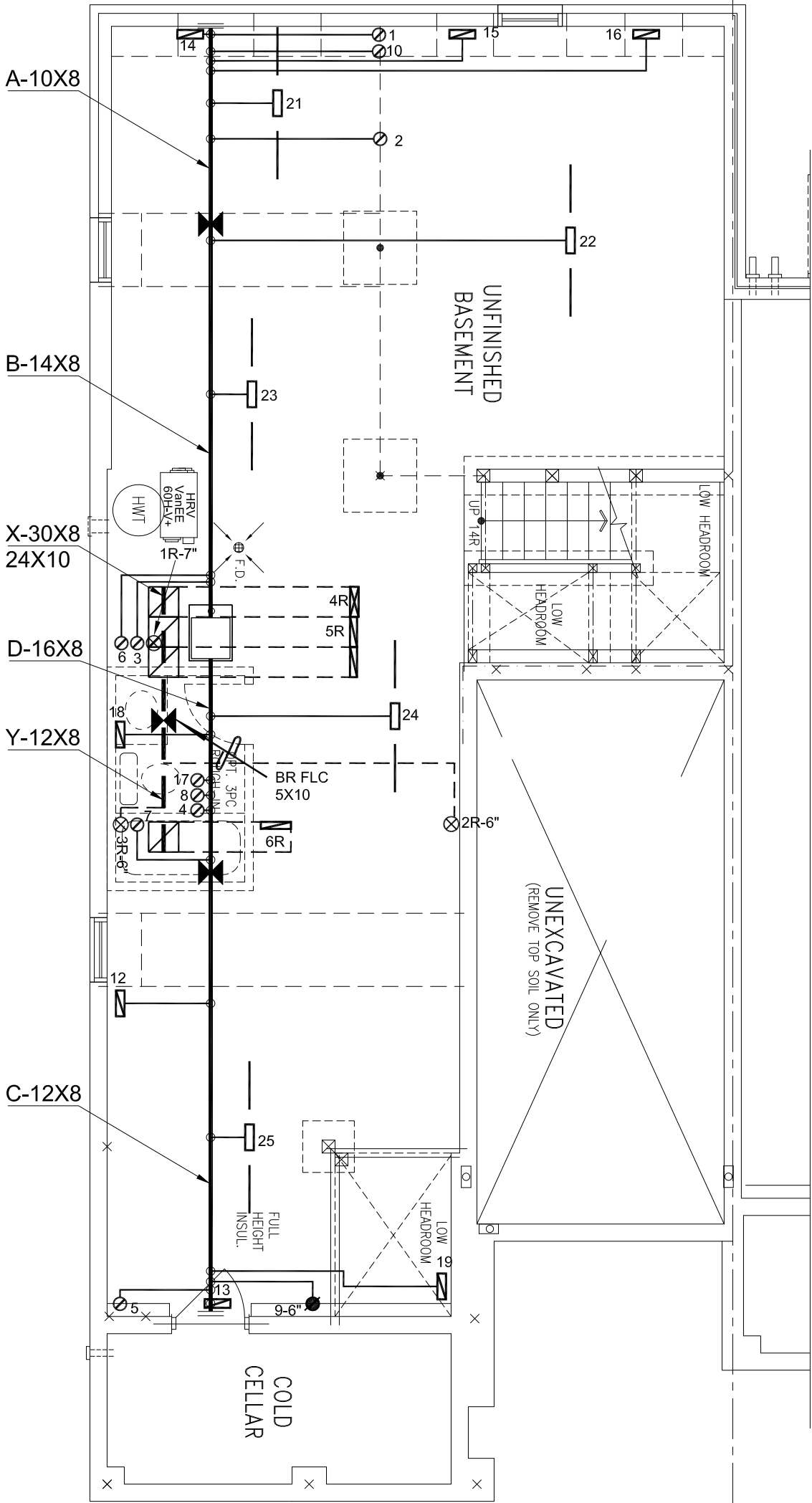
Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Hamilton			
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:	Semi			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	868.6			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	1157.9 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	65.6	65.6		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.321			
Cooling Air Leakage Rate (ACH/H):	0.115			

TYPE: HIGHGROVE 5E
LO# 77195

LOT 218-1



BASEMENT PLAN ELEV. '2'
LOT 218-1

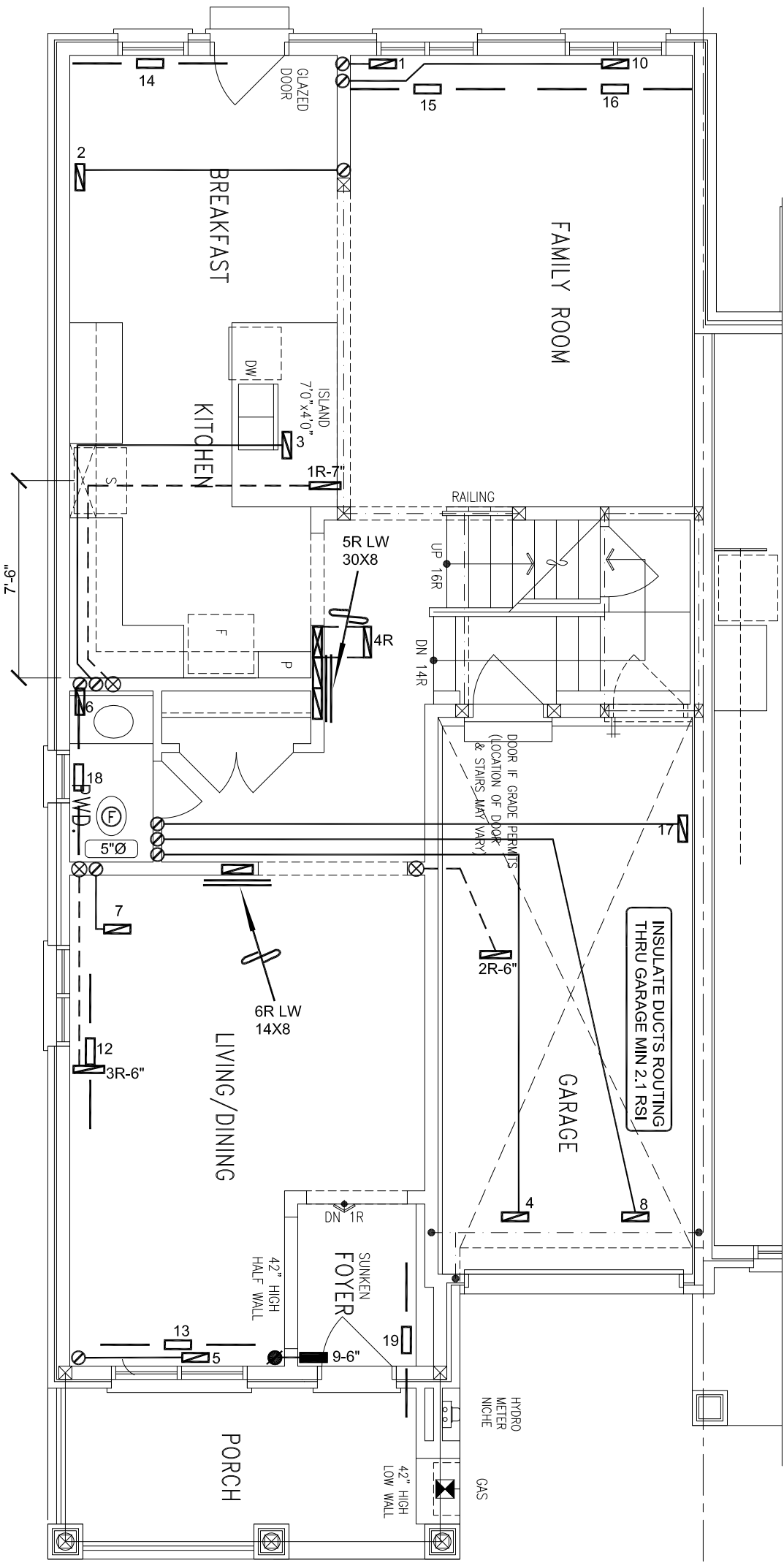
CSA-F280-12
PACKAGE A1

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

HVAC LEGEND								3.		
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	2.		
	SUPPLY AIR GRILLE		6" SUPPLY AIR BOOT ABOVE		14"x8" RETURN AIR GRILLE		RETURN AIR STACK ABOVE	1.		
	SUPPLY AIR GRILLE 6" BOOT		SUPPLY AIR STACK FROM 2nd FLOOR		30"x8" RETURN AIR GRILLE		RETURN AIR STACK 2nd FLOOR	No.	Description	Date
	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Client	 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 39667 BTU/H UNIT DATA		# OF RUNS S/A R/A FANS			Sheet Title		
GREENPARK HOMES		MAKE GOODMAN	3RD FLOOR					BASEMENT HEATING LAYOUT	
Project Name		MODEL GMEC960603BNA	2ND FLOOR		11	4	3		
RUSSEL GARDENS HAMILTON, ONTARIO		INPUT 60 MBTU/H	1ST FLOOR		7	2	2		
LOT 218-1 HIGHGROVE 5E 2264 sqft	OUTPUT 57.6 MBTU/H	BASEMENT		5	1	0	Date	DEC/2017	
	COOLING 2.5 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					Scale	3/16" = 1'-0"	
	FAN SPEED 1131 cfm @ 0.6" w.c.						BCIN# 19669		
							LO#	77195	



GROUND FLOOR PLAN ELEV. '2'
LOT 218-1

CSA-F280-12
PACKAGE A1

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	SUPPLY AIR BOOT ABOVE		6" SUPPLY AIR STACK 2nd FLOOR		FRA- FLOOR RETURN AIR GRILLE		REDUCER	REVISIONS		

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Project Name			FIRST FLOOR HEATING LAYOUT	
LOT 218-1 HIGHGROVE 5E 2264 sqft			Date	DEC/2017
		Scale	3/16" = 1'-0"	
		BCIN# 19669		
		LO#	77195	

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CSA-F280-12
PACKAGE A1

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GREENPARK HOMES			SECOND FLOOR HEATING LAYOUT	
Project Name			Date	DEC/2017
RUSSEL GARDENS HAMILTON, ONTARIO			Scale	3/16" = 1'-0"
LOT 218-1			BCIN# 19669	
HIGHGROVE 5E 2264 sqft			LO#	77195