

PROJECT												
Title	Gove Residence	Bedrooms	3	Address Type	Lot Information							
Building Type	User	Conditioned Area	2051	Lot #								
Owner	Scott & Kay Gove	Total Stories	1	Block/SubDivision								
# of Units	1	Worst Case	Yes	PlatBook								
Builder Name	Premier Builders	Rotate Angle	90	Street								
Permit Office	Columbia County	Cross Ventilation		County	Columbia							
Jurisdiction		Whole House Fan		City State Zip	Lake City FL							
Family Type	Single-family											
New/Existing	New (From Plans)											
Comment												

CLIMATE										
✓	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	2.5 %	Int Design Temp Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range
	FL, Gainesville	FL_GAINESVILLE_REGI	2	32	92	70	75	1305.5	51	Medium

BLOCKS			
Number	Name	Area	Volume
1	Block1	1972	17748

SPACES										
Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	1972	17748	Yes	6	3	1	Yes	Yes	Yes

FLOORS											
✓	#	Floor Type	Space	Perimeter	R-Value	Area			Tile	Wood	Carpet
	1	Slab-On-Grade Edge Insulatio	Main	217 ft	0	1972 ft²			0.33	0.33	0.34

ROOF												
✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor	SA Tested	Emitt	Emitt Tested	Deck Insul	Pitch (deg)
	1	Hip	Composition shingles	2370 ft²	0 ft²	Dark	0.96	No	0.9	No	0	33.7

ATTIC							
✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
	1	Full attic	Vented	300	1972 ft²	N	N

CEILING							
✓	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
	1	Under Attic (Vented)	Main	30	1972 ft²	0.11	Wood

WALLS															
✓	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
	1	N=>E	Exterior	Concrete Block - Int Insul	Main	13	62	4	9	4	581 8 ft²		0	0 75	0
	2	E=>S	Exterior	Concrete Block - Int Insul	Main	13	46		9	4	429 3 ft²		0	0 75	0
	3	S=>W	Exterior	Concrete Block - Int Insul	Main	13	62	4	9	4	581 8 ft²		0	0 75	0
	4	W=>N	Exterior	Concrete Block - Int Insul	Main	13	40	8	9	4	379 6 ft²		0	0 75	0

DOORS											
✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
	1	N=>E	Insulated	Main	None	0 400000	3	0	6	8	20 ft²
	2	S=>W	Insulated	Main	None	0 400000	3	0	6	8	20 ft²

WINDOWS													
Orientation shown is the entered orientation (=>) changed to Worst Case													
✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Area	Overhang Depth	Separation	Int Shade	Screening
	1	N=>E	1	Vinyl	Low-E Double	Yes	0 3	0 3	60 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	2	N=>E	1	Vinyl	Low-E Double	Yes	0 3	0 3	40 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	3	E=>S	2	Vinyl	Low-E Double	Yes	0 3	0 3	30 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	4	S=>W	3	Vinyl	Low-E Double	Yes	0 3	0 3	45 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	5	S=>W	3	Vinyl	Low-E Double	Yes	0 3	0 3	13 3 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	6	S=>W	3	Vinyl	Low-E Double	Yes	0 3	0 3	7 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	7	W=>N	4	Vinyl	Low-E Double	Yes	0 3	0 3	15 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None
	8	W=>N	4	Vinyl	Low-E Double	Yes	0 3	0 3	16 0 ft²	1 ft 6 in	1 ft 0 in	Drapes/blinds	None

INFILTRATION								
#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0 000500	2586 2	141 98	267 02	0 3850	8 7433

HEATING SYSTEM							
✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
	1	Electric Heat Pump	None	HSPF 7 8	31 97 kBtu/hr	1	sys#1

COOLING SYSTEM									
✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
	1	Central Unit	None	SEER 13	31 3 kBtu/hr	1080 cfm	0 75	1	sys#1

HOT WATER SYSTEM											
✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation		
	1	Electric	None	Main	0.92	80 gal	60 gal	120 deg	None		

SOLAR HOT WATER SYSTEM							
✓	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
	None	None			ft²		

DUCTS												
✓	#	---- Supply ----		---- Return - -		Leakage Type	Air Handler	CFM25 IN	CFM25 OUT	QN	RLF	HVAC # Heat Cool
	1	Attic	6	394	4 ft	Attic	98.6 ft²	Default Leakage	Main	cfm	(Default)	1 1

TEMPERATURES													
Programable Thermostat Y												Ceiling Fans	
Cooling Heating Venting	[X] Jan [] Jan [] Jan	[X] Feb [] Feb [] Feb	[] Mar [X] Mar [X] Mar	[] Apr [] Apr [X] Apr	[] May [] May [] May	[X] Jun [] Jun [] Jun	[X] Jul [] Jul [] Jul	[X] Aug [] Aug [] Aug	[X] Sep [] Sep [] Sep	[] Oct [X] Oct [] Oct	[] Nov [X] Nov [X] Nov	[X] Dec [] Dec [] Dec	
Thermostat Schedule	HERS 2006 Reference												
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66
Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66

MECHANICAL VENTILATION							
Type	Supply CFM	Exhaust CFM	Fan Watts	HRV	Heating System	Run Time	Cooling System
None	0	0		0	1 - Electric Heat Pump	0%	1 - Central Unit

Florida Code Compliance Checklist

Florida Department of Business and Professional Regulations
Residential Whole Building Performance Method

ADDRESS Lake City, FL,	PERMIT #
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MANDATORY REQUIREMENTS SUMMARY - See individual code sections for full details.

COMPONENT	SECTION	SUMMARY OF REQUIREMENT(S)	CHECK
Air leakage	402 4	To be caulked, gasketed, weatherstripped or otherwise sealed Recessed lighting IC-rated as meeting ASTM E 283 Windows and doors = 0.30 cfm/sq ft Testing or visual inspection required Fireplaces gasketed doors & outdoor combustion air Must complete envelope leakage report or visually verify Table 402 4 2	
Thermostat & controls	403 1	At least one thermostat shall be provided for each separate heating and cooling system Where forced-air furnace is primary system, programmable thermostat is required Heat pumps with supplemental electric heat must prevent supplemental heat when compressor can meet the load	
Ducts	403 2 2	All ducts, air handlers, filter boxes and building cavities which form the primary air containment passageways for air distribution systems shall be considered ducts or plenum chambers shall be constructed and sealed in accordance with Section 503 2 7 2 of this code	
	403 3 3	Building framing cavities shall not be used as supply ducts	
Water heaters	403 4	Heat trap required for vertical pipe risers Comply with efficiencies in Table 403 4 3 2 Provide switch or clearly marked circuit breaker (electric) or shutoff (gas) Circulating system pipes insulated to = R-2 + accessible manual OFF switch	
Mechanical ventilation	403 5	Homes designed to operate at positive pressure or with mechanical ventilation systems shall not exceed the minimum ASHRAE 62 level No make-up air from attics, crawlspaces, garages or outdoors adjacent to pools or spas	
Swimming Pools & Spas	403 9	Pool pumps and pool pump motors with a total horsepower (HP) of = 1 HP shall have the capability of operating at two or more speeds Spas and heated pools must have vapor-retardant covers or a liquid cover or other means proven to reduce heat loss except if 70% of heat from site-recovered energy Off/timer switch required Gas heaters minimum thermal efficiency=78% (82% after 4/16/13) Heat pump pool heaters minimum COP= 4.0	
Cooling/heating equipment	403 6	Sizing calculation performed & attached Minimum efficiencies per Tables 503 2 3 Equipment efficiency verification required Special occasion cooling or heating capacity requires separate system or variable capacity system Electric heat >10kW must be divided into two or more stages	
Ceilings/knee walls	405 2 1	R-19 space permitting	

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 75

The lower the EnergyPerformance Index, the more efficient the home

, Lake City, FL,

1 New construction or existing	New (From Plans)		9 Wall Types	Insulation	Area
2 Single family or multiple family	Single-family		a Concrete Block - Int Insul Exterior	R=13 0	1972 40 ft ²
3 Number of units if multiple family	1		b N/A	R=	ft ²
4 Number of Bedrooms	3		c N/A	R=	ft ²
5 Is this a worst case?	Yes		d N/A	R=	ft ²
6 Conditioned floor area (ft ²)	2051		10 Ceiling Types	Insulation	Area
7 Windows**	Description	Area	a Under Attic (Vented)	R=30 0	1972 00 ft ²
a U-Factor	Dbl U=0 30	226 33 ft ²	b N/A	R=	ft ²
SHGC	SHGC=0 30		c N/A	R=	ft ²
b U-Factor	N/A	ft ²	11 Ducts		R ft ²
SHGC			a Sup Attic Ret Attic AH Main	6	394 4
c U-Factor	N/A	ft ²	12 Cooling systems	kBtu/hr	Efficiency
SHGC			a Central Unit	31 3	SEER 13 00
d U-Factor	N/A	ft ²	13 Heating systems	kBtu/hr	Efficiency
SHGC			a Electric Heat Pump	32 0	HSPF 7 80
Area Weighted Average Overhang Depth		1 500 ft	14 Hot water systems		Cap 80 gallons
Area Weighted Average SHGC		0 300	a Electric		EF 0 92
8 Floor Types	Insulation	Area	b Conservation features		
a Slab-On-Grade Edge Insulation	R=0 0	1972 00 ft ²	None		
b N/A	R=	ft ²	15 Credits		Pstat
c N/A	R=	ft ²			

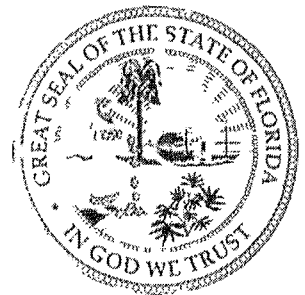
I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature _____

Date _____

Address of New Home _____

City/FL Zip _____



*Note This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida EnergyGauge Rating. Contact the EnergyGauge Hotline at (321) 638-1492 or see the EnergyGauge web site at energygauge.com for information and a list of certified Raters. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section 303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Florida Code Summary Report

Scott & Kay Gove

Title Gove Residence
FLAsBuilt

TMY City FL_GAINESVILLE_R
Elec Util Florida Average
Gas Util Florida Average
Run Date

Lake City, FL,
Registration #

<u>Energy Uses</u>	<u>Reference Home</u>	<u>Proposed Home</u>	<u>e-Ratio</u>
Heating	4 03 MBtu	1 38 MBtu	0 34
Cooling	12 90 MBtu	10 16 MBtu	0 79
Hot Water	9 77 MBtu	8 97 MBtu	0 92
Total	26 69 MBtu	20 51 MBtu	0 77

<u>Building Loads</u>	<u>Reference Home</u>	<u>Proposed Home</u>	<u>e-Ratio</u>
Heating	6 72 MBtu	2 29 MBtu*	0 34
Cooling	30 83 MBtu	24 29 MBtu*	0 79
Hot Water	8 34 MBtu	7 66 MBtu*	0 92
Total	45 89 MBtu	34 25 MBtu	0 75

* normalized modified loads

Glass/Floor Area 0 115

Total Proposed Modified Loads 34 25
Total Reference Loads 45 89

PASS

Residential System Sizing Calculation

Summary

Scott & Kay Gove

Project Title
Gove Residence

Lake City, FL

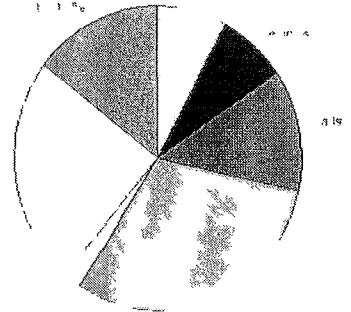
12/8/2013

Location for weather data. Gainesville, FL - Defaults Latitude(29.7) Altitude(152 ft) Temp Range(M)			
Humidity data. Interior RH (50%) Outdoor wet bulb (77F) Humidity difference(54gr)			
Winter design temperature(MJ8 99%)	33 F	Summer design temperature(MJ8 99%)	92 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	37 F	Summer temperature difference	17 F
Total heating load calculation	30813 Btuh	Total cooling load calculation	30026 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	103.8 31969	Sensible (SHR = 0.75)	103.8 23475
Heat Pump + Auxiliary(0.0kW)	103.8 31969	Latent	105.6 7825
		Total (Electric Heat Pump)	104.2 31300

WINTER CALCULATIONS

Winter Heating Load (for 1972 sqft)

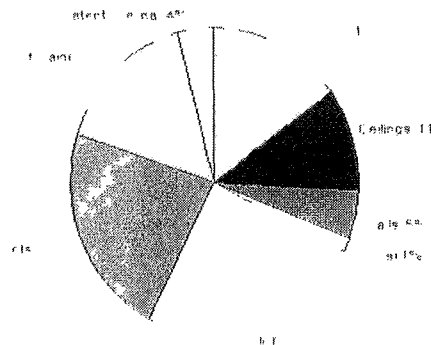
Load component		Load	
Window total	226 sqft	2512	Btuh
Wall total	1706 sqft	4046	Btuh
Door total	40 sqft	592	Btuh
Ceiling total	1972 sqft	2324	Btuh
Floor total	1972 sqft	9474	Btuh
Infiltration	182 cfm	7381	Btuh
Duct loss		4484	Btuh
Subtotal		30813	Btuh
Ventilation	0 cfm	0	Btuh
TOTAL HEAT LOSS		30813	Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 1972 sqft)

Load component		Load	
Window total	226 sqft	4538	Btuh
Wall total	1706 sqft	1531	Btuh
Door total	40 sqft	448	Btuh
Ceiling total	1972 sqft	3266	Btuh
Floor total		0	Btuh
Infiltration	137 cfm	2543	Btuh
Internal gain		4780	Btuh
Duct gain		5512	Btuh
Sens Ventilation	0 cfm	0	Btuh
Blower Load		0	Btuh
Total sensible gain		22618	Btuh
Latent gain(ducts)		1214	Btuh
Latent gain(infiltration)		4994	Btuh
Latent gain(ventilation)		0	Btuh
Latent gain(internal/occupants/other)		1200	Btuh
Total latent gain		7408	Btuh
TOTAL HEAT GAIN		30026	Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY

DATE

[Signature]
12-8-13

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Scott & Kay Gove

Project Title
Gove Residence
Building Type User

Lake City, FL

12/8/2013

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference 37.0 F (MJ8 99%)

This calculation is for Worst Case. The house has been rotated 270 degrees.

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.30	Vinyl	0.30	W	60.0		11.1	666 Btuh
2	2, NFRC 0.30	Vinyl	0.30	W	40.0		11.1	444 Btuh
3	2, NFRC 0.30	Vinyl	0.30	N	30.0		11.1	333 Btuh
4	2, NFRC 0.30	Vinyl	0.30	E	45.0		11.1	500 Btuh
5	2, NFRC 0.30	Vinyl	0.30	E	13.3		11.1	148 Btuh
6	2, NFRC 0.30	Vinyl	0.30	E	7.0		11.1	78 Btuh
7	2, NFRC 0.30	Vinyl	0.30	S	15.0		11.1	166 Btuh
8	2, NFRC 0.30	Vinyl	0.30	S	16.0		11.1	178 Btuh
Window Total					226.3(sqft)			2512 Btuh
Walls	Type	Ornt	Ueff	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	462		2.37	1095 Btuh
2	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	399		2.37	947 Btuh
3	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	496		2.37	1177 Btuh
4	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	349		2.37	827 Btuh
Wall Total					1706(sqft)			4046 Btuh
Doors	Type	Storm	Ueff		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.400)		20		14.8	296 Btuh
2	Insulated - Exterior, n		(0.400)		20		14.8	296 Btuh
Door Total					40(sqft)			592 Btuh
Ceilings	Type/Color/Surface		Ueff	R-Value	Area	X	HTM=	Load
1	Vented Attic/D/Shing		(0.032)	30.0/0.0	1972		1.2	2324 Btuh
Ceiling Total					1972(sqft)			2324 Btuh
Floors	Type		Ueff	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	217.0 ft(perim.)		43.7	9474 Btuh
Floor Total					1972 sqft			9474 Btuh
Envelope Subtotal								18949 Btuh
Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio		CFM=	Load
	Natural		0.62	17748	1.00		182.2	7381 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att) (DLM of 0.170)							4484 Btuh
All Zones	Sensible Subtotal All Zones							30813 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Scott & Kay Gove

Project Title.

Gove Residence

Lake City, FL

Building Type User

12/8/2013

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	30813 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	30813 Btuh

EQUIPMENT

1. Electric Heat Pump	#	31969 Btuh
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Key Window types NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or Glass as 'Clear' or 'Tint' (Uses U Factor and SHGC defaults)
U - (Window U Factor)
HTM (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

Scott & Kay Gove

Project Title
Gove Residence
Building Type User

Lake City, FL

12/8/2013

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference 37.0 F (MJ8 99%)

This calculation is for Worst Case. The house has been rotated 270 degrees.

Component Loads for Room #1: Main

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.30	Vinyl	0.30	W	60.0		11.1	666 Btuh
2	2, NFRC 0.30	Vinyl	0.30	W	40.0		11.1	444 Btuh
3	2, NFRC 0.30	Vinyl	0.30	N	30.0		11.1	333 Btuh
4	2, NFRC 0.30	Vinyl	0.30	E	45.0		11.1	500 Btuh
5	2, NFRC 0.30	Vinyl	0.30	E	13.3		11.1	148 Btuh
6	2, NFRC 0.30	Vinyl	0.30	E	7.0		11.1	78 Btuh
7	2, NFRC 0.30	Vinyl	0.30	S	15.0		11.1	166 Btuh
8	2, NFRC 0.30	Vinyl	0.30	S	16.0		11.1	178 Btuh
Window Total					226.3(sqft)			2512 Btuh
Walls	Type	Ornt.	Ueff	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	462		2.37	1095 Btuh
2	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	399		2.37	947 Btuh
3	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	496		2.37	1177 Btuh
4	Conc Blk,Hollow - Ext		(0.064)	13.0/0.0	349		2.37	827 Btuh
Wall Total					1706(sqft)			4046 Btuh
Doors	Type	Storm	Ueff.		Area	X	HTM=	Load
1	Insulated - Exterior, n		(0.400)		20		14.8	296 Btuh
2	Insulated - Exterior, n		(0.400)		20		14.8	296 Btuh
Door Total					40(sqft)			592 Btuh
Ceilings	Type/Color/Surface		Ueff	R-Value	Area	X	HTM=	Load
1	Vented Attic/D/Shing		(0.032)	30.0/0.0	1972		1.2	2324 Btuh
Ceiling Total					1972(sqft)			2324 Btuh
Floors	Type		Ueff	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	217.0 ft(perim)		43.7	9474 Btuh
Floor Total					1972 sqft			9474 Btuh
Room Envelope Subtotal								18949 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio		CFM=	
	Natural		0.62	17748	1.00		182.2	7381 Btuh
Duct load	Average sealed, Supply(R6.0 Attic) Return(R6.0 Attic) (DLM of 0.170)							4484 Btuh
Room #1	Sensible Room Subtotal							30813 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Scott & Kay Gove

Project Title.

Gove Residence

Lake City, FL

Building Type User

12/8/2013

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss	30813 Btuh
	Ventilation Sensible Heat Loss	0 Btuh
	Total Heat Loss	30813 Btuh

EQUIPMENT

1. Electric Heat Pump	#	31969 Btuh
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Key Window types NFRC (Requires U Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U Factor and SHGC defaults)

U - (Window U Factor)

HTM (ManualJ Heat Transfer Multiplier)



Version 8

System Sizing Calculations - Summer

Residential Load With Passive Component Detail

Scott & Kay Gove

Project Title
Gove Residence

Lake City, FL

12/8/2013

Reference City, Gainesville, FL Temperature Difference 17 OF(MJ8 99%) Humidity difference 54gr.
This calculation is for Worst Case. The house has been rotated 270 degrees.

Component Loads for Whole House

Window	Type*					Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.30, 0.30	B-L	No	W	1.5ft	1.0ft	60.0	2.9	57.1	8	24	1392 Btuh	
2	2 NFRC	0.30, 0.30	B-L	No	W	1.5ft	1.0ft	40.0	1.5	38.5	8	24	936 Btuh	
3	2 NFRC	0.30, 0.30	B-L	No	N	1.5ft	1.0ft	30.0	0.0	30.0	8	8	242 Btuh	
4	2 NFRC	0.30, 0.30	B-L	No	E	1.5ft	1.0ft	45.0	2.2	42.8	8	24	1044 Btuh	
5	2 NFRC	0.30, 0.30	B-L	No	E	1.5ft	1.0ft	13.3	0.5	12.8	8	24	312 Btuh	
6	2 NFRC	0.30, 0.30	B-L	No	E	1.5ft	1.0ft	7.0	0.7	6.3	8	24	156 Btuh	
7	2 NFRC	0.30, 0.30	B-L	No	S	1.5ft	1.0ft	15.0	15.0	0.0	8	10	121 Btuh	
8	2 NFRC	0.30, 0.30	B-L	No	S	1.5ft	1.0ft	16.0	16.0	0.0	8	10	129 Btuh	
Excursion												205 Btuh		
Window Total						226 (sqft)						4538 Btuh		
Walls	Type					U-Value		R-Value		Area(sqft)		HTM		Load
								Cav/Sheath						
1	Concrete	Blk,Hollow	Ext			0.06	13.0/0.0		461.8		0.9		414 Btuh	
2	Concrete	Blk,Hollow	Ext			0.06	13.0/0.0		399.3		0.9		358 Btuh	
3	Concrete	Blk,Hollow	Ext			0.06	13.0/0.0		496.4		0.9		446 Btuh	
4	Concrete	Blk,Hollow	- Ext			0.06	13.0/0.0		348.6		0.9		313 Btuh	
Wall Total						1706 (sqft)						1531 Btuh		
Doors	Type									Area (sqft)		HTM		Load
1	Insulated	Exterior								20.0		11.2		224 Btuh
2	Insulated	- Exterior								20.0		11.2		224 Btuh
Door Total						40 (sqft)						448 Btuh		
Ceilings	Type/Color/Surface					U-Value		R-Value		Area(sqft)		HTM		Load
1	Vented Attic	DarkShingle				0.032		30.0/0.0		1972.0		1.66		3266 Btuh
Ceiling Total						1972 (sqft)						3266 Btuh		
Floors	Type							R-Value		Size		HTM		Load
1	Slab On Grade							0.0		1972 (ft-perimeter)		0.0		0 Btuh
Floor Total						1972.0 (sqft)						0 Btuh		
Envelope Subtotal													9783 Btuh	
Infiltration	Type					Average ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural(Adjusted for ventilation)					0.46		17748		1		136.7		
Internal gain						Occupants		Btuh/occupant		Appliance		Load		
	<td colspan="2">6</td> <td colspan="2">X 230</td> <td colspan="2">+</td> <td colspan="2">3400</td> <td>4780 Btuh</td>					6		X 230		+		3400		4780 Btuh
Sensible Envelope Load													17106 Btuh	
Duct load	Average sealed, Supply(R6.0 Attic), Return(R6.0 Attic)										(DGM of 0.322)		5512 Btuh	
Sensible Load All Zones													22618 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Scott & Kay Gove

Project Title
Gove Residence

Climate.FL_GAINESVILLE_REGIONAL_A

Lake City, FL

12/8/2013

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	17106 Btuh
	Sensible Duct Load	5512 Btuh
	Total Sensible Zone Loads	22618 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	22618 Btuh
	Latent infiltration gain (for 54 gr humidity difference)	4994 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1214 Btuh
	Latent occupant gain (6.0 people @ 200 Btuh per person)	1200 Btuh
	Latent other gain	0 Btuh
	Latent total gain	7408 Btuh
	TOTAL GAIN	30026 Btuh

EQUIPMENT

1 Central Unit	#	31300 Btuh
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*Key Window types (Panels - Number and type of panes of glass)
 (SHGC - Shading coefficient of glass as SHGC numerical value)
 (U - Window U-Factor)
 (InSh - Interior shading device - none(No) Blinds(B), Draperies(D) or Roller Shades(R))
 For Blinds Assume medium color half closed
 For Draperies Assume medium weave half closed
 For Roller shades Assume translucent half closed
 (IS - Insect screen - none(N), Full(F) or Half(½))
 (Ornt - compass orientation)



Version 8

System Sizing Calculations - Summer

Residential Load Room by Room Component Detail

Scott & Kay Gove

Project Title:
Gove Residence

Lake City, FL

12/8/2013

Reference City: Gainesville, FL Temperature Difference 17.0F(MJ8 99%) Humidity difference: 54gr
This calculation is for Worst Case. The house has been rotated 270 degrees.

Component Loads for Room #1: Main

Window	Type*					Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.30	0.30	B-L	No	W	1.5ft	1.0ft	60.0	2.9	57.1	8	24	1392 Btuh
2	2 NFRC	0.30	0.30	B-L	No	W	1.5ft	1.0ft	40.0	1.5	38.5	8	24	936 Btuh
3	2 NFRC	0.30	0.30	B-L	No	N	1.5ft	1.0ft	30.0	0.0	30.0	8	8	242 Btuh
4	2 NFRC	0.30	0.30	B-L	No	E	1.5ft	1.0ft	45.0	2.2	42.8	8	24	1044 Btuh
5	2 NFRC	0.30	0.30	B-L	No	E	1.5ft	1.0ft	13.3	0.5	12.8	8	24	312 Btuh
6	2 NFRC	0.30	0.30	B-L	No	E	1.5ft	1.0ft	7.0	0.7	6.3	8	24	156 Btuh
7	2 NFRC	0.30	0.30	B-L	No	S	1.5ft	1.0ft	15.0	15.0	0.0	8	10	121 Btuh
8	2 NFRC	0.30	0.30	B-L	No	S	1.5ft	1.0ft	16.0	16.0	0.0	8	10	129 Btuh
Window Total								226 (sqft)					4333 Btuh	
Walls	Type					U-Value		R-Value		Area(sqft)		HTM		Load
								Cav/Sheath						
1	Concrete Blk,Hollow - Ext					0.06		13.0/0.0		461.8		0.9		414 Btuh
2	Concrete Blk,Hollow - Ext					0.06		13.0/0.0		399.3		0.9		358 Btuh
3	Concrete Blk,Hollow Ext					0.06		13.0/0.0		496.4		0.9		446 Btuh
4	Concrete Blk,Hollow Ext					0.06		13.0/0.0		348.6		0.9		313 Btuh
Wall Total								1706 (sqft)					1531 Btuh	
Doors	Type									Area (sqft)		HTM		Load
1	Insulated Exterior									20.0		11.2		224 Btuh
2	Insulated - Exterior									20.0		11.2		224 Btuh
Door Total								40 (sqft)					448 Btuh	
Ceilings	Type/Color/Surface					U-Value		R-Value		Area(sqft)		HTM		Load
1	Vented Attic/DarkShingle					0.032		30.0/0.0		1972.0		1.66		3266 Btuh
Ceiling Total								1972 (sqft)					3266 Btuh	
Floors	Type							R-Value		Size		HTM		Load
1	Slab On Grade							0.0		1972 (ft perimeter)		0.0		0 Btuh
Floor Total								1972.0 (sqft)					0 Btuh	
											Zone Envelope Subtotal.		9577 Btuh	
Infiltration	Type					Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural					0.46		17748		1.00		136.7		
Internal gain						Occupants		Btuh/occupant		Appliance		Load		
						6		X 230		+ 3400		4780 Btuh		
											Sensible Envelope Load		16901 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0 Attic)											(DGM of 0.322)		Load
											Sensible Zone Load		22346 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

Scott & Kay Gove

Project Title
Gove Residence

Climate FL_GAINESVILLE_REGIONAL_A

Lake City, FL

12/8/2013

The following window Excursion will be assigned to the system loads.

Windows	July excursion for System 1		205 Btuh
		Excursion Subtotal	205 Btuh
Duct load			66 Btuh
		Sensible Excursion Load	272 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Scott & Kay Gove

Project Title
Gove Residence

Climate FL_GAINESVILLE_REGIONAL_A

Lake City, FL

12/8/2013

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	17106 Btuh
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	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	22618 Btuh
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	Latent other gain	0 Btuh
	Latent total gain	7408 Btuh
	TOTAL GAIN	30026 Btuh

EQUIPMENT

1. Central Unit	#	31300 Btuh
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*Key Window types (Panels Number and type of panes of glass)
 (SHGC - Shading coefficient of glass as SHGC numerical value)
 (U Window U-Factor)
 (InSh Interior shading device none(No), Blinds(B) Draperies(D) or Roller Shades(R))
 For Blinds Assume medium color half closed
 For Draperies Assume medium weave half closed
 For Roller shades Assume translucent half closed
 (IS - Insect screen none(N), Full(F) or Half(1/2))
 (Ornt compass orientation)



Version 8