FORM 405-10

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name	Gasparrine Residence	Builder Name	TBA
Street:		Permit Office	Columbia County
City, State, Zip	, FL ,	Permit Number	
Owner	Frank Gasparrini	Jurisdiction	
Design Location	FL, Gainesville		

1	New construction or existing	New (From Plans)
2	Single family or multiple family	Single-family
3	Number of units, if multiple family	1
4	Number of Bedrooms	4
5	Is this a worst case?	No
6	Conditioned floor area above grade (ft²)	2895
	Conditioned floor area below grade (ft²)	0

7 Windows(303 0 sqft)	Description	Area
a U-Factor	Dbl, U=0.55	303 00 ft²
SHGC	SHGC=0 50	
b U-Factor	N/A	ft²
SHGC		
c U-Factor	N/A	ft²
SHGC:		
d U-Factor	N/A	ft²
SHGC		
Area Weighted Average Overhang Depth		1 777 ft.
Area Weighted Average SHGC		0 500

8 Floor Types (2895 0 sqft)	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	1800 00 ft²
b Raised Floor	R=19.0	1095 00 ft²
c N/A	R=	ft²

9 Wall Types (2720 0 sqft)	Insulation	Area
a Frame - Steel, Exterior	R=30.0	2720 00 ft²
b. N/A	R=	ft²
c N/A	R=	ft²
d. N/A	R=	ft²

10 Ceiling Types (2895 0 sqft.)	Insulation	Area
a. Cathedral/Single Assembly (Unvented)	R=30 0	1835.00 ft²
b Roof Deck (Unvented)	R=30 0	1060 00 ft²
c. N/A	R=	ft²

11 Ducts	R	ft²
a Sup RoomsInBlock1, Ret RoomsInBlock1, AH	6	579

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	36 0	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	36 0	HSPF 7 70

14 Hot water systems	
a Electric	Cap 50 gallons
	EF 0 920
b Conservation features	
None	
15 Credits	CF, Pstat

Glass/Floor Area: 0.105

Total Proposed Modified Loads: 44.19
Total Standard Reference Loads: 64.90

PASS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.

PREPARED BY: William H. Fillmore
DATE: 7/5/12

I hereby certify that this building, as designed, is in compliance with the Florida Energy Code

OWNER/AGENT: _____
DATE. _____

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL: _____
DATE. _____

- **Compliance requires completion of a Florida Air Barrier and Insulation Inspection Checklist**

COLUMBIA COUNTY BUILDING DEPARTMENT
Received for FILE COPY
Code Compliance
PLANS EXAMINER

PROJECT

Title	Gasparrine Residence	Bedrooms	4	Address Type	Street Address
Building Type	FLProp2010	Conditioned Area	2895	Lot #	
Owner	Frank Gasparrini	Total Stories	2	Block/SubDivision	
# of Units	1	Worst Case	No	PlatBook	
Builder Name	TBA	Rotate Angle	0	Street	
Permit Office	Columbia County	Cross Ventilation		County	Columbia
Jurisdiction.		Whole House Fan		City, State, Zip	, FL ,
Family Type	Single-family				
New/Existing	New (From Plans)				
Comment					

CLIMATE

√	Design Location	TMY Site	IECC Zone	Design Temp 97.5 %	Design Temp 2 5 %	Int Design Temp Winter	Int Design Temp 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	2895	23160

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	RoomsInBlock1	2895	23160	Yes	4	4	1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	RoomsInBlock1	170 ft	0	1800 ft²	----	1	0	0
_____	2	Raised Floor	RoomsInBlock1	-----	----	1095 ft²	19	0 1	0 9	0

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor	SA Tested	Emitt	Emitt Tested	Deck Insul	Pitch (deg)
_____	1	Gable or shed	Metal	1855 ft²	224 ft²	Medium	0 96	No	0 9	No	30	14

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	No attic	Unvented	0	1800 ft²	N	N

CEILING

√	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
_____	1	Cathedral/Single Assembly (Unvented)	RoomsInBlock1	30	740 ft²	0 11	Metal
_____	2	Under Attic (Unvented)	RoomsInBlock1	30	1060 ft²	0 11	Metal
_____	3	Cathedral/Single Assembly (Unvented)	RoomsInBlock1	30	1095 ft²	0 11	Metal

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
_____	1	N	Exterior	Frame - Steel	RoomsInBloc	30	45		8		360 ft²		0.23	0.75	0
_____	2	S	Exterior	Frame - Steel	RoomsInBloc	30	45		8		360 ft²		0 23	0 75	0
_____	3	E	Exterior	Frame - Steel	RoomsInBloc	30	40		8		320 ft²		0 23	0 75	0
_____	4	W	Exterior	Frame - Steel	RoomsInBloc	30	40		8		320 ft²		0 23	0 75	0
_____	5	N	Exterior	Frame - Steel	RoomsInBloc	30	45		8		360 ft²		0 23	0 75	0
_____	6	S	Exterior	Frame - Steel	RoomsInBloc	30	45		8		360 ft²		0 23	0.75	0
_____	7	E	Exterior	Frame - Steel	RoomsInBloc	30	40		8		320 ft²		0 23	0 75	0
_____	8	W	Exterior	Frame - Steel	RoomsInBloc	30	40		8		320 ft²		0 23	0.75	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
_____	1	N	Wood	RoomsInBloc	None	0 460000	12		7		84 ft²
_____	2	S	Wood	RoomsInBloc	None	0.460000	12		7		35 ft²
_____	3	E	Wood	RoomsInBloc	None	0.460000	12		7		21 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storms	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
_____	1	N	1	Metal	Double (Tinted)	Yes	0 55	0 5	N	18 ft²	2 ft 0 in	15 ft 0 in	HERS 2006	None
_____	2	N	1	Metal	Double (Tinted)	Yes	0 55	0 5	N	60 ft²	2 ft 0 in	9 ft 4 in	HERS 2006	None
_____	3	N	1	Metal	Double (Tinted)	Yes	0 55	0 5	N	30 ft²	2 ft 0 in	10 ft 0 in	HERS 2006	None
_____	4	S	2	Metal	Double (Tinted)	Yes	0 55	0.5	N	30 ft²	2 ft 0 in	18 ft 0 in	HERS 2006	None
_____	5	N	5	Metal	Double (Tinted)	Yes	0 55	0.5	N	90 ft²	2 ft 0 in	9 ft 4 in	HERS 2006	None
_____	6	S	6	Metal	Double (Tinted)	Yes	0 55	0.5	N	30 ft²	2 ft 0 in	10 ft 4 in	HERS 2006	None
_____	7	W	4	Metal	Double (Tinted)	Yes	0 55	0 5	N	30 ft²	0 ft 6 in	16 ft 4 in	HERS 2006	None
_____	8	W	8	Metal	Double (Tinted)	Yes	0 55	0 5	N	15 ft²	0 ft 6 in	8 ft 4 in	HERS 2006	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	BySpaces	Proposed SLA	0 000360	1699 7	93.312	175 48	0 3412	7 0821

HEATING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump	None	HSPF 7.7	36 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit	None	SEER 13	36 kBtu/hr	1080 cfm	0 75	1	sys#1

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Electric	None	RoomsInBlock1	0 92	50 gal	70 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 ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	Cool
_____	1	RoomsInBloc	6	579 ft²	RoomsInBloc	144 75	DSE=0 88	RoomsInBl	0 0 cfm	0 00 %	0.00	0.60	1	1

TEMPERATURES

Programable Thermostat Y Ceiling Fans

Cooling	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Heating	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec
Venting	[X] Jan	[X] Feb	[X] Mar	[X] Apr	[X] May	[X] Jun	[X] Jul	[X] Aug	[X] Sep	[X] Oct	[X] Nov	[X] Dec

Thermostat Schedule / Schedule Type	HERS 2006 Reference	Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

MECHANICAL VENTILATION

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

FORM 405-10

Florida Code Compliance Checklist

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

ADDRESS:	PERMIT #:
, FL,	

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	403.2.2 403.3.3	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. 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* = 68

The lower the EnergyPerformance Index, the more efficient the home.

, , FL,

1	New construction or existing	New (From Plans)
2	Single family or multiple family	Single-family
3	Number of units, if multiple family	1
4.	Number of Bedrooms	4
5.	Is this a worst case?	No
6.	Conditioned floor area (ft²)	2895

7 Windows**	Description	Area
a U-Factor: SHGC:	Dbl, U=0 55 SHGC=0 50	303 00 ft²
b U-Factor: SHGC:	N/A	ft²
c. U-Factor: SHGC	N/A	ft²
d U-Factor SHGC	N/A	ft²

Area Weighted Average Overhang Depth 1 777 ft.
Area Weighted Average SHGC 0.500

8. Floor Types	Insulation	Area
a Slab-On-Grade Edge Insulation	R=0 0	1800 00 ft²
b Raised Floor	R=19.0	1095 00 ft²
c N/A	R=	ft²

9 Wall Types	Insulation	Area
a. Frame - Steel, Exterior	R=30.0	2720 00 ft²
b N/A	R=	ft²
c N/A	R=	ft²
d N/A	R=	ft²

10 Ceiling Types	Insulation	Area
a Cathedral/Single Assembly (Unvented)	R=30 0	1835.00 ft²
b Roof Deck (Unvented)	R=30 0	1060 00 ft²
c. N/A	R=	ft²

11 Ducts	R	ft²
a Sup RoomsInBlock1, Ret RoomsInBlock1, AH	6	579

12 Cooling systems	kBtu/hr	Efficiency
a Central Unit	36 0	SEER 13 00

13 Heating systems	kBtu/hr	Efficiency
a Electric Heat Pump	36 0	HSPF·7 70

14 Hot water systems
a Electric — Cap 50 gallons, EF 0 92

b Conservation features
None

15 Credits — CF, Pstat

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.

Residential System Sizing Calculation

Summary

Frank Gasparrini

, FL

Project Title:
Gasparrine Residence

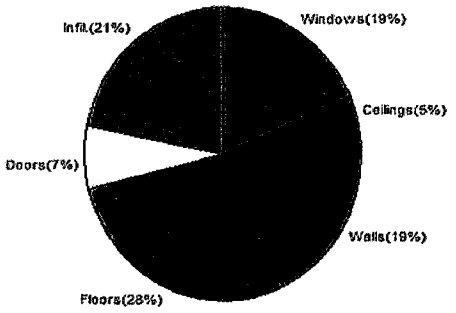
7/3/2012

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	**33177**	**Btuh**	**Total cooling load calculation**	**24340**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	108.5	36000	Sensible (SHR = 0.75)	144.2	27000
Heat Pump + Auxiliary(0.0kW)	108.5	36000	Latent	160.3	9000
			Total (Electric Heat Pump)	147.9	36000

WINTER CALCULATIONS

Winter Heating Load (for 2895 sqft)

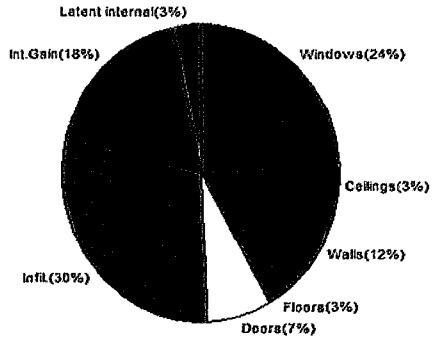
Load component			Load	
Window total	303	sqft	6166	Btuh
Wall total	2277	sqft	6273	Btuh
Door total	140	sqft	2383	Btuh
Ceiling total	2895	sqft	1786	Btuh
Floor total	See detail report		9454	Btuh
Infiltration	176	cfm	7115	Btuh
Duct loss			0	Btuh
Subtotal			**33177**	**Btuh**
Ventilation	0	cfm	0	Btuh
TOTAL HEAT LOSS			**33177**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 2895 sqft)

Load component			Load	
Window total	303	sqft	5926	Btuh
Wall total	2277	sqft	2933	Btuh
Door total	140	sqft	1803	Btuh
Ceiling total	2895	sqft	633	Btuh
Floor total			659	Btuh
Infiltration	132	cfm	2452	Btuh
Internal gain			4320	Btuh
Duct gain			0	Btuh
Sens Ventilation	0	cfm	0	Btuh
Blower Load			0	Btuh
Total sensible gain			**18725**	**Btuh**
Latent gain(ducts)			0	Btuh
Latent gain(infiltration)			4814	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			800	Btuh
Total latent gain			**5614**	**Btuh**
TOTAL HEAT GAIN			**24340**	**Btuh**



Powered by ACCA MANUAL J 8th Edition

EnergyGauge® System Sizing
PREPARED BY: William H. Fuer
DATE 7/5/12