RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENT CHECKLIST

Florida Department of Business and Professional Regulation – Residential Total UA Alternative Prescriptive Method

Applications for compliance with the 2010 Florida Building Code, Energy Conservation via the residential Total UA Alternative prescriptive method should include:

- □ ***Total UA Report including Table 402B (two pages)***
- □ ***Input Summary Report (usually 4 pages however the number of pages may be greater)***
- □ ***Energy Performance Level (EPL) Display Card (one page)***

Required Prior to CO for Total UA:

- □ ***A completed Air Distribution System Test Report (usually one page)***
- □ ***If the building air leakage has been tested, a completed Envelope Leakage Test Report (usually one page), otherwise a completed Air Barrier and Insulation Inspection Component Criteria checklist (Table 402.4.2 – one page)***

EnergyGauge®- USRCSB v3.0

Total UA Report

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method

Project Name:	2010 FL Code Project Fail	Builder Name:	Green Builder
Street:	Anyplace	Permit Office:	
City, State, Zip:	Jacksonville, FL	Permit Number:	
Owner:	FSEC	Jurisdiction:	3000
Design Location:	FL, Jacksonville		

1. New construction or existing	New (From Plans)	4. Number of Bedrooms	3
2. Single family or multiple family	Single-family	5. Conditioned floor area above grade (ft2)	2000
3. Number of units, if multiple family		6. Conditioned floor area below grade (ft2)	0

Proposed UA	
Windows	195.0
Doors	18.4
Walls	92.9
Floor	0.0
Ceiling	62.3
Overall UA	**368.6**

Baseline UA	
Windows	195.0
Doors	26.0
Walls	90.2
Floor	0.0
Ceiling	70.0
Overall UA	**381.2**

Compliance Criteria

Overall UA	368.61	PASS	
Window-to-Floor Area	15.0%	PASS	
Window SHGC	0.400	FAIL	Maximum Windows SHGC must be <= 0.30
Duct and Air Handler Location		FAIL	Ducts and Air handlers must be in conditioned space.
Roof Reflectance	0.20	FAIL	Roof reflectance must be => 0.25 and tested
Wall Area (ft2)	1100.0		
Ceiling Area (ft2)	2000.0	PASS	
Floor Area (ft2)	2000.0	PASS	
Common Wall Mass R		N/A	There are no common mass walls in this building
Common Wall Frame R		N/A	There are no common frame walls in this building
Common Floor Low R		N/A	There are no common floors in this building
Common Ceiling Low R		N/A	There are no common ceilings in this building
Window Area (ft2)	300.0		
Door Area (ft2)	40.0		

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

PREPARED BY: _____

DATE: _____

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: _____

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Total UA Method

TABLE 402B MANDATORY REQUIREMENTS			
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.	
Ceilings/knee walls	405.2.1	R-19 space permitting.	
Programmable thermostat	403.1.1	Where forced-air furnace is primary system, programmable thermostat is required.	
Air distribution system	403.2	Ducts in attics or on roofs insulated to R-8; other ducts R-6. Ducts not in conditioned space tested to Qn=0.03 by Class 1 BERS rater.	
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.	
Swimming pools & spas	403.9	Spas and heated pools must have vapor-retardent 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 seperate system or variable capacity system. Electric heat >10kW must be divided into two or more stages.	
Lighting equipment	404.1	At least 50% of permanently installed lighting fixtures shall be high efficacy lamps.	

Building Input Summary Report

PROJECT

Title:	2010 FL Code Project Fail	Bedrooms:	3	Address Type:	Street Address
Building Type:	User	Bathrooms:	0	Lot #	
Owner:	FSEC	Conditioned Area:	2000 sq.ft.	Block/SubDivision:	
# of Units:	1	Total Stories:	1	PlatBook:	
Builder Name:	Green Builder	Worst Case:	No	Street:	Anyplace
Permit Office:	1000	Rotate Angle:	0	County:	Duval
Jurisdiction:	3000	Cross Ventilation:	No	City, State, Zip:	Jacksonville , FL ,
Family Type:	Single-family	Whole House Fan:	No		
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2012	Shielding:	Suburban		
Comment:	Florida Code Example				

CLIMATE

Design Location	Tmy Site	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, Jacksonville	FL_JACKSONVILLE_INTL_ARPT	32	93	70	75	1281	49	Medium

UTILITY RATES

Fuel	Unit	Utility Name	Monthly Fixed Cost	$/Unit
Electricity	kWh	MyFloridaAverage	0	0.12
Natural Gas	Therm	MyFloridaAverage	0	1.72
Fuel Oil	Gallon	Florida Default	0	1.1
Propane	Gallon	Florida Default	0	1.4

SURROUNDINGS

Ornt	Type	Shade Trees Height	Shade Trees Width	Shade Trees Distance	Adjacent Buildings Exist	Adjacent Buildings Height	Adjacent Buildings Width	Adjacent Buildings Distance
N	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
E	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SE	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
S	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
SW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
W	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft
NW	None	0 ft	0 ft	0 ft		0 ft	0 ft	0 ft

FLOORS

#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
1	Slab-On-Grade Edge Insulation	Main	190 ft	0	2000 ft²	----	0.2	0	0.8

ROOF

#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
1	Gable or shed	Composition shingles	2108 ft²	332 ft²	Medium	0.8	Yes	0.9	No	0	18.4

Building Input Summary Report

ATTIC

#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
1	Full attic	Vented	300	2000 ft²	Y	N

CEILING

#	Ceiling Type	Space	R-Value	Area	Framing Fraction	Truss Type
1	Under Attic ()	Main	30	2000 ft²	0.11	Wood

WALLS

Wall orientation below is as entered. Actual orientation is modified by rotate angle shown in "Project" section above.

#	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 - Wood	Main	13	50		8		400 ft²	0	0.23	0.6	0
2	E	Exterior	Frame - Wood	Main	13	40		8		320 ft²	0	0.23	0.6	0
3	S	Exterior	Frame - Wood	Main	13	50		8		400 ft²	0	0.23	0.6	0
4	W	Exterior	Frame - Wood	Main	13	20		8		160 ft²	0	0.23	0.6	0
5	W	Garage	Frame - Wood	Main	13	20		8		160 ft²	0	0.23	0.01	0

DOORS

#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
1	N	Wood	Main	None	0.46	6		6	8	40 ft²

WINDOWS

#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Storm	Area	Overhang Depth	Overhang Separation	Interior Shade	Screening
1	N	1	Vinyl	Low-E Double	Yes	0.65	0.4	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
2	E	2	Vinyl	Low-E Double	Yes	0.65	0.4	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
3	S	3	Vinyl	Low-E Double	Yes	0.65	0.4	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None
4	W	4	Vinyl	Low-E Double	Yes	0.65	0.4	N	75 ft²	0 ft 0 in	0 ft 0 in	HERS 2006	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	Space(s)
1	Wholehouse	Best Guess	0.000300	1573.8	86.400	162.48	0.2310	5.9017	All

GARAGE

#	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
1	384 ft²	384 ft²	64 ft	8 ft	(invalid)

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
No Added Mass	0 ft²	0 ft	0.3	Main

Building Input Summary Report

HEATING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Ductless	Block
1	Natural Gas Furnace	None	AFUE: 0.78	30 kBtu/hr	False	1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Ductless	Block
1	PTAC and Room Unit	None	EER: 9.3	135 kBtu/hr	4050 cfm	0.75	False	1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Credits
1	Natural Gas	None	Main	0.59	40 gal	60 gal	120 deg	None

SOLAR HOT WATER

Collector Type	Collector Tilt	Azimuth	Surface Area	Loss Coef.	Absorp. Prod.	Trans Corr.	Tank Volume	Tank U-Value	Tank Surf Area	Heat Exch Eff	PV Pumped	Pump Energy

DUCTS

DUCT #	Supply Location	Supply R-Value	Supply Area	Return Location	Return Area	Number	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC # Heat	HVAC # Cool
1	Attic	6	400 ft²	Main	0 ft²	2	Proposed Qn	Main	60.0 cfm	1.48 %	0.03	0.60	1	1

TEMPERATURES

Programable Thermostat: N Ceiling Fans: N

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

Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)	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
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	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68
Heating (WEH)	AM	68	68	68	68	68	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	68	68

Building Input Summary Report

APPLIANCES & LIGHTING

Appliance Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
Ceiling Fans (Summer)	AM	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.33	0.33	0.33	0.33	0.33
% Released: 100	PM	0.33	0.33	0.33	0.33	0.33	1	0.9	0.9	0.9	0.9	0.9	0.65
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Clothes Washer	AM	0.105	0.081	0.047	0.047	0.081	0.128	0.256	0.57	0.849	1	0.977	0.872
% Released: 60	PM	0.779	0.698	0.605	0.57	0.581	0.57	0.57	0.57	0.57	0.488	0.43	0.198
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dishwasher	AM	0.139	0.05	0.028	0.024	0.029	0.09	0.169	0.303	0.541	0.594	0.502	0.443
% Released: 60	PM	0.377	0.396	0.335	0.323	0.344	0.448	0.791	1	0.8	0.597	0.383	0.281
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Dryer	AM	0.2	0.1	0.05	0.05	0.05	0.075	0.2	0.375	0.5	0.8	0.95	1
% Released: 10	PM	0.875	0.85	0.8	0.625	0.625	0.6	0.575	0.55	0.625	0.7	0.65	0.375
Annual Use: 44 Therms/Yr		Peak Value: 1 kBTU/Hr											
Lighting	AM	0.16	0.15	0.16	0.18	0.23	0.45	0.4	0.26	0.19	0.16	0.12	0.11
% Released: 90	PM	0.16	0.17	0.25	0.27	0.34	0.55	0.55	0.88	1	0.86	0.51	0.28
Annual Use: 2055 kWh/Yr		Peak Value: 671 Watts											
Miscellaneous	AM	0.48	0.47	0.47	0.47	0.47	0.47	0.64	0.71	0.67	0.61	0.55	0.53
% Released: 90	PM	0.52	0.5	0.5	0.5	0.59	0.73	0.79	0.99	1	0.96	0.77	0.55
Annual Use: 2439 kWh/Yr		Peak Value: 447 Watts											
Pool Pump	AM	0	0	0	0	0	0	0	0	0	1	1	1
% Released: 0	PM	1	1	1	1	0	0	0	0	0	0	0	0
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											
Range	AM	0.057	0.057	0.057	0.057	0.057	0.114	0.171	0.286	0.343	0.343	0.343	0.4
% Released: 100	PM	0.457	0.343	0.286	0.4	0.571	1	0.857	0.429	0.286	0.229	0.171	0.114
Annual Use: 24 Therms/Yr		Peak Value: 1 kBTU/Hr											
Refrigeration	AM	0.85	0.78	0.75	0.73	0.73	0.73	0.75	0.75	0.8	0.8	0.8	0.8
% Released: 100	PM	0.88	0.85	0.85	0.83	0.88	0.95	1	0.98	0.95	0.93	0.9	0.85
Annual Use: 775 kWh/Yr		Peak Value: 106 Watts											
Well Pump	AM	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.1	0.1	0.1	0.1	0.1
% Released: 0	PM	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Annual Use: 0 kWh/Yr		Peak Value: 0 Watts											

BLOCKS

Number	Name	Area	Volume	
1	Block1	2000	16000	16000

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
1	Main	2000	16000	Yes	4	3	Yes	Yes	Yes