

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: SIERRA C 12 - JACKSONVILLE Street: City, State, Zip: , FL , Owner: MARONDA HOMES Design Location: FL, Jacksonville		Builder Name: MARONDA HOMES Permit Office: Permit Number: Jurisdiction:	
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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?: Yes 6. Conditioned floor area above grade (ft²): 2427 Conditioned floor area below grade (ft²): 0 7. Windows (185.0 sqft.) <table style="width: 100%;"> <tr> <th>Description</th> <th>Area</th> </tr> <tr> <td>a. U-Factor: Dbl, U=0.56 SHGC: SHGC=0.35</td> <td>185.00 ft²</td> </tr> <tr> <td>b. U-Factor: N/A SHGC:</td> <td>ft²</td> </tr> <tr> <td>c. U-Factor: N/A SHGC:</td> <td>ft²</td> </tr> <tr> <td>d. U-Factor: N/A SHGC:</td> <td>ft²</td> </tr> </table> Area Weighted Average Overhang Depth: 1.000 ft. Area Weighted Average SHGC: 0.350 8. Floor Types (2427.0 sqft.) <table style="width: 100%;"> <tr> <th>Insulation</th> <th>Area</th> </tr> <tr> <td>a. Slab-On-Grade Edge Insulation R=0.0</td> <td>2427.00 ft²</td> </tr> <tr> <td>b. N/A R=</td> <td>ft²</td> </tr> <tr> <td>c. N/A R=</td> <td>ft²</td> </tr> </table>	Description	Area	a. U-Factor: Dbl, U=0.56 SHGC: SHGC=0.35	185.00 ft²	b. U-Factor: N/A SHGC:	ft²	c. U-Factor: N/A SHGC:	ft²	d. U-Factor: N/A SHGC:	ft²	Insulation	Area	a. Slab-On-Grade Edge Insulation R=0.0	2427.00 ft²	b. N/A R=	ft²	c. N/A R=	ft²	9. Wall Types (2165.3 sqft.) <table style="width: 100%;"> <tr> <th>Insulation</th> <th>Area</th> </tr> <tr> <td>a. Concrete Block - Int Insul, Exterior R=4.1</td> <td>1820.00 ft²</td> </tr> <tr> <td>b. Frame - Wood, Adjacent R=13.0</td> <td>345.33 ft²</td> </tr> <tr> <td>c. N/A R=</td> <td>ft²</td> </tr> <tr> <td>d. N/A R=</td> <td>ft²</td> </tr> </table> 10. Ceiling Types (2427.0 sqft.) <table style="width: 100%;"> <tr> <th>Insulation</th> <th>Area</th> </tr> <tr> <td>a. Under Attic (Vented) R=30.0</td> <td>2427.00 ft²</td> </tr> <tr> <td>b. N/A R=</td> <td>ft²</td> </tr> <tr> <td>c. N/A R=</td> <td>ft²</td> </tr> </table> 11. Ducts <table style="width: 100%;"> <tr> <th>R</th> <th>ft²</th> </tr> <tr> <td>a. Sup: Attic, Ret: Main, AH: Main</td> <td>6 480</td> </tr> </table> 12. Cooling systems <table style="width: 100%;"> <tr> <th>kBtu/hr</th> <th>Efficiency</th> </tr> <tr> <td>a. Central Unit</td> <td>41.0 SEER:14.00</td> </tr> </table> 13. Heating systems <table style="width: 100%;"> <tr> <th>kBtu/hr</th> <th>Efficiency</th> </tr> <tr> <td>a. Electric Heat Pump</td> <td>41.0 HSPF:8.00</td> </tr> </table> 14. Hot water systems <table style="width: 100%;"> <tr> <td>a. Electric</td> <td>Cap: 50 gallons</td> </tr> <tr> <td>b. Conservation features</td> <td>EF: 0.900</td> </tr> <tr> <td>None</td> <td></td> </tr> </table> 15. Credits Pstat	Insulation	Area	a. Concrete Block - Int Insul, Exterior R=4.1	1820.00 ft²	b. Frame - Wood, Adjacent R=13.0	345.33 ft²	c. N/A R=	ft²	d. N/A R=	ft²	Insulation	Area	a. Under Attic (Vented) R=30.0	2427.00 ft²	b. N/A R=	ft²	c. N/A R=	ft²	R	ft²	a. Sup: Attic, Ret: Main, AH: Main	6 480	kBtu/hr	Efficiency	a. Central Unit	41.0 SEER:14.00	kBtu/hr	Efficiency	a. Electric Heat Pump	41.0 HSPF:8.00	a. Electric	Cap: 50 gallons	b. Conservation features	EF: 0.900	None	
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Glass/Floor Area: 0.076	Total Proposed Modified Loads: 37.35	PASS
	Total Standard Reference Loads: 49.64	

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code. KENNETH WAYNE CAMPBELL JR PREPARED BY: _____ DATE: 8/17/12	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.
I hereby certify that this building, as designed, is in compliance with the Florida Energy Code. KENNETH WAYNE CAMPBELL JR OWNER/AGENT: _____ DATE: 8/17/12	BUILDING OFFICIAL: _____ DATE: _____



Compliance requires certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with 403.2.2.1.1.

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

Maronda Homes Inc.
6800 Southpoint Pkwy
Suite 300
Jacksonville, FL 32216
(904) 296-1490 ph

LOT 32 TIMBERLANDS
350 SW MULBERRY DR
LAKE CITY FL 32024



PROJECT

Title: SIERRA C 12 - JACKSONVIL	Bedrooms: 4	Address Type: Street Address
Building Type: User	Conditioned Area: 2427	Lot #
Owner: MARONDA HOMES	Total Stories: 1	Block/SubDivision:
# of Units: 1	Worst Case: Yes	PlatBook:
Builder Name: MARONDA HOMES	Rotate Angle: 225	Street:
Permit Office:	Cross Ventilation: No	County: Columbia
Jurisdiction:	Whole House Fan: No	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, Jacksonville	FL_JACKSONVILLE_INT	2	32	93	70	75	1281	49	Medium

BLOCKS

Number	Name	Area	Volume
1	Block1	2427	19416

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	Main	2427	19416	Yes	5	4	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	R-Value	Area	Tile	Wood	Carpet
✓	1	Slab-On-Grade Edge Insulatio	Main	234 ft	0	2427 ft²	0	0.3	0.7

ROOF

✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
✓	1	Hip	Composition shingles	2714 ft²	0 ft²	Medium	0.85	No	0.9	No	0	26.6

ATTIC

✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
✓	1	Full attic	Vented	150	2427 ft²	N	N

CEILING

✓	#	Ceiling Type	Space	R-Value	Area	Framing Frac	Truss Type
✓	1	Under Attic (Vented)	Main	30	2427 ft²	0.07	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=>SW	Exterior	Concrete Block - Int Insul	Main	4.1	26	0	9	4	242.6666		0	0.6	0
2	E=>NW	Exterior	Concrete Block - Int Insul	Main	4.1	66	0	9	4	616 ft²		0	0.6	0
3	S=>NE	Exterior	Concrete Block - Int Insul	Main	4.0999	55		9	4	513.3333		0	0.600000	0
4	W=>SE	Exterior	Concrete Block - Int Insul	Main	4.0999	48		9	4	448 ft²		0	0.600000	0
5	N=>SW	Garage	Frame - Wood	Main	13	37		9	4	345.3333	0	0.19	0.01	0

DOORS

✓ #	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
1	S=>NE	Insulated	Main	None	0.16	3		8		24 ft²
2	N=>SW	Insulated	Main	None	0.16	3		8		16.66666

WINDOWS

Orientation shown is the entered orientation (=>) changed to Worst Case.

✓ #	Ornt	Wall ID	Frame	Panels	NFRC	U-Factor	SHGC	Area	Overhang Depth	Separation	Int Shade	Screening
1	N=>SW	1	TIM	Low-E Double	Yes	0.56	0.35	20 ft²	1 ft 0 in	5 ft 0 in	Drapes/blinds	None
2	N=>SW	1	TIM	Low-E Double	Yes	0.56	0.35	20 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
3	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
4	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
5	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
6	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
7	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	40 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
8	S=>NE	3	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
9	W=>SE	4	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None
10	W=>SE	4	TIM	Low-E Double	Yes	0.56	0.35	15 ft²	1 ft 0 in	2 ft 0 in	Drapes/blinds	None

GARAGE

✓ #	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
1	575 ft²	575 ft²	66 ft	9 ft	0

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Best Guess	0.000300	1909.8	104.84	197.17	0.2310	5.9017

HEATING SYSTEM

✓ #	System Type	Subtype	Efficiency	Capacity	Block	Ducts
1	Electric Heat Pump	None	HSPF: 8	41 kBtu/hr	1	sys#1

COOLING SYSTEM

#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
1	Central Unit	None	SEER: 14	41 kBlu/hr	cfm	0.76	1	sys#1

HOT WATER SYSTEM

#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
1	Electric	None	Garage	0.9	50 gal	70 gal	120 deg	None

SOLAR HOT WATER SYSTEM

FSEC	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
None	None			ft²		

DUCTS

#	Location	Supply R-Value	Area	Location	Return Area	Leakage Type	Air Handler	CFM 25	Percent Leakage	QN	RLF	HVAC #
1	Attic	6	480 ft²	Main	25 ft²	Default Leakage	Main	(Default)	(Default) %			1 1

TEMPERATURES

Programmable Thermostat: Y

Ceiling Fans:

Cooling	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Heating	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec
Venting	☒ Jan	☒ Feb	☒ Mar	☒ Apr	☒ May	☒ Jun	☒ Jul	☒ Aug	☒ Sep	☒ Oct	☒ Nov	☒ Dec

Thermostat Schedule: HERS 2006 Reference

Schedule Type		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

Florida Code Compliance Checklist

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

ADDRESS:

, FL,

PERMIT #:

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.	N/A
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.

, , 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=4.1	1820.00 ft ²
3. Number of units, if multiple family	1		b. Frame - Wood, Adjacent	R=13.0	345.33 ft ²
4. Number of Bedrooms	4		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)	2427		10. Ceiling Types	Insulation	Area
7. Windows**	Description	Area	a. Under Attic (Vented)	R=30.0	2427.00 ft ²
a. U-Factor:	Dbl, U=0.56	185.00 ft ²	b. N/A	R=	ft ²
SHGC:	SHGC=0.35		c. N/A	R=	ft ²
b. U-Factor:	N/A	ft ²	11. Ducts		
SHGC:			a. Sup: Attic, Ret: Main, AH: Main	R	ft ²
c. U-Factor:	N/A	ft ²		6	480
SHGC:			12. Cooling systems	kBtu/hr	Efficiency
d. U-Factor:	N/A	ft ²	a. Central Unit	41.0	SEER:14.00
SHGC:			13. Heating systems	kBtu/hr	Efficiency
Area Weighted Average Overhang Depth:	1.000 ft.		a. Electric Heat Pump	41.0	HSPF:8.00
Area Weighted Average SHGC:	0.350		14. Hot water systems		
8. Floor Types	Insulation	Area	a. Electric	Cap: 50 gallons	
a. Slab-On-Grade Edge Insulation	R=0.0	2427.00 ft ²	b. Conservation features	EF: 0.9	
b. N/A	R=	ft ²	None		
c. N/A	R=	ft ²	15. Credits		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) on this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: KENNETH WAYNE CAMPBELL JR.

Date: 8/17/12

Address of New Home: 350 SW MULBERRY DR City/FL Zip: LAKE CITY FL 32024



*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.

LOT 32 TIMBERLANDS

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

350 SW MULBERRY DR

EnergyGauge® USA - FlaRes2010 Section 405.4.1 Compliant Software

Maronda Homes Inc.
6800 Southpoint Pkwy
Suite 300
Jacksonville, FL 32216
(904) 296-1490 ph

Project Information

For: SIERRA, MARONDA HOMES

Notes:

Design Information

Weather: Jacksonville, FL, US

Winter Design Conditions

Outside db	32 °F
Inside db	70 °F
Design TD	38 °F

Summer Design Conditions

Outside db	93 °F
Inside db	75 °F
Design TD	18 °F
Daily range	M
Relative humidity	50 %
Moisture difference	52 gr/lb

Heating Summary

Structure	29391 Btuh
Ducts	7214 Btuh
Central vent (100 cfm)	4197 Btuh
Humidification	0 Btuh
Piping	0 Btuh
Equipment load	40803 Btuh

Sensible Cooling Equipment Load Sizing

Structure	22413 Btuh
Ducts	7391 Btuh
Central vent (100 cfm)	1956 Btuh
Blower	0 Btuh

Infiltration

Method	Simplified
Construction quality	Tight
Fireplaces	0

Latent Cooling Equipment Load Sizing

Structure	2776 Btuh
Ducts	1572 Btuh
Central vent (100 cfm)	3552 Btuh
Equipment latent load	7900 Btuh

	Heating	Cooling
Area (ft²)	2427	2427
Volume (ft³)	21843	21843
Air changes/hour	0.11	0.06
Equiv. AVF (cfm)	40	22

Equipment total load	38961 Btuh
Req. total capacity at 0.76 SHR	3.4 ton

Heating Equipment Summary

Make	TEMPSTAR
Trade	HEAT PUMP
Model	N4H342
AHRI ref no.	
Efficiency	8 HSPF
Heating input	
Heating output	0 Btuh @ 47°F
Temperature rise	0 °F
Actual air flow	1420 cfm
Air flow factor	0.039 cfm/Btuh
Static pressure	0.50 in H2O
Space thermostat	

Cooling Equipment Summary

Make	TEMPSTAR
Trade	HEAT PUMP
Cond	N4H342
Coil	FXM4X42
AHRI ref no.	
Efficiency	12.0 EER, 14 SEER
Sensible cooling	31160 Btuh
Latent cooling	9840 Btuh
Total cooling	41000 Btuh
Actual air flow	1420 cfm
Air flow factor	0.048 cfm/Btuh
Static pressure	0.50 in H2O
Load sensible heat ratio	0.80

Bold/italic values have been manually overridden

Printout certified by ACCA to meet all requirements of Manual J 8th Ed.