FORM R405-2023

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Lot 54 Crosswinds	Builder Name:	Rhett Smithey
Street:		Permit Office:	Columbia County
City, State, Zip:	Lake City, FL, 32024	Permit Number:	
Owner:		Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing	New (From Plans)
2. Single family or multiple family	Detached
3. Number of units, if multiple family	1
4. Number of Bedrooms	3
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	1595
Conditioned floor area below grade (ft²)	0

7. Windows(240.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.35	240.00 ft²
SHGC:	SHGC=0.26	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.625 ft
Area Weighted Average SHGC:		0.260

8. Skylights	Description	Area
U-Factor:(AVG)	N/A	N/A ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R= 0.0	1595.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1557.0 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=13.0	1362.00 ft²
b. Frame - Wood, Adjacent	R=13.0	195.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(1674.8 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	1674.80 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	1783 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage	6	399
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	21.2	SEER2:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	25.3	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 40 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, Pstat

Glass/Floor Area: 0.150

Total Proposed Modified Loads: 42.40

Total Baseline Loads: 44.81

PASS

NOTE: Proposed residence must have annual total normalized Modified Loads that are less than or equal to 95 percent of the annual total loads of the standard reference design in order to comply.

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

PREPARED BY: _____

DATE: 12 / 6 / 2024

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.

GREAT SEAL OF THE STATE OF FLORIDA — IN GOD WE TRUST

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 R403.3.2.1.

- Default duct leakage does not require a Duct Leakage Test Report.

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires a PERFORMANCE envelope leakage test report with envelope leakage no greater than 5.00 ACH50 (R402.4.1.2).

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Lot 54 Crosswinds			Address type:	Lot
Building Type:	User	Bedrooms:	3	Lot #:	54
Owner:		Conditioned Area:	1595	Block/SubDivision:	Crosswinds
Builder Home ID:		Total Stories:	1	PlatBook:	
Builder Name:	Rhett Smithey	Worst Case:	No	Street:	
Permit Office:	Columbia County	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:	Yes	City, State, Zip:	Lake City, FL, 32024
Family Type:	Detached	Whole House Fan:	No		
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2025	Shielding:	Suburban		
Comment:					

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, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	1595	14355 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Main	1595	14355	Yes	6	3	Yes	Yes	Yes

FLOORS (Total Exposed Area = 1595 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	Main	177.4	1595 sqft	0	---	0.304	2 (ft)/0 (ft)	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Hip	Composition shingles	1783 ft²	0 ft²	Medium	Y	0.96	No	0.9	No	0	26.57

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Full attic	Vented	300	1595 ft²	Y	N

CEILING (Total Exposed Area = 1675 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	Main	38.0	Double Batt	1674.8ft²	0.024	0.11	Wood

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INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 1557 sq.ft.)

✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___ 1	S	Exterior	Frame - Wood	Main	13.0	17.0	0	9.0	0	153.0	0.084		0.23	0.75	0 %
___ 2	W	Exterior	Frame - Wood	Main	13.0	8.0	0	9.0	0	72.0	0.094		0.23	0.75	0 %
___ 3	S	Exterior	Frame - Wood	Main	13.0	2.0	8	9.0	0	24.0	0.094		0.23	0.75	0 %
___ 4	S	Garage	Frame - Wood	Main	13.0	21.0	8	9.0	0	195.0	0.094		0.23	0.75	0 %
___ 5	E	Exterior	Frame - Wood	Main	13.0	43.0	0	9.0	0	387.0	0.094		0.23	0.75	0 %
___ 6	N	Exterior	Frame - Wood	Main	13.0	24.0	4	9.0	0	219.0	0.094		0.23	0.75	0 %
___ 7	W	Exterior	Frame - Wood	Main	13.0	8.0	0	9.0	0	72.0	0.094		0.23	0.75	0 %
___ 8	N	Exterior	Frame - Wood	Main	13.0	17.0	0	9.0	0	153.0	0.094		0.23	0.75	0 %
___ 9	W	Exterior	Frame - Wood	Main	13.0	31.0	4	9.0	0	282.0	0.094		0.23	0.75	0 %

DOORS (Total Exposed Area = 40 sq.ft.)

✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___ 1	S	Exterior	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²
___ 2	S	Garage	Insulated	Main	None	0.46	3.00	0	6.00	8	20.0ft²

WINDOWS (Total Exposed Area = 240 sq.ft.)

✓ #	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Storm	Total Area (ft²)	Same Units	Width (ft)	Height (ft)	--Overhang-- Depth (ft)	Sep. (ft)	Interior Shade	Screen
___ 1	S	1	Vinyl	Low-E Double	Y	0.35	0.26	N	N	30.0	2	3.00	5.00	10.5	1.0	None	None
___ 2	E	5	Vinyl	Low-E Double	Y	0.35	0.26	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___ 3	N	6	Vinyl	Low-E Double	Y	0.35	0.26	N	N	45.0	3	3.00	5.00	1.5	1.0	None	None
___ 4	N	8	Metal	Low-E Double	Y	0.35	0.26	N	N	60.0	3	3.00	6.67	9.5	1.0	None	None
___ 5	W	9	Vinyl	Low-E Double	Y	0.35	0.26	N	N	75.0	5	3.00	5.00	1.5	1.0	None	None

INFILTRATION

✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00029	1196	65.63	123.21	0.1027	5.0	All	14355 cu ft

GARAGE

✓ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	498 ft²	498 ft²	66 ft	9 ft	1

MASS

✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Main

HEATING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___ 1	Electric Heat Pump	None/Single		HSPF2: 8.80	25.3		0.00	0.00	0.00	sys#1	1

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INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

✓	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___	1	Central Unit	None/Single		SEER2:15.0	21.2	630	0.75	sys#1	1

HOT WATER SYSTEM

✓	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Garage	0.92 (0.92)	40.00 gal	40 gal	120 deg	Standard	None	12

		Recirculation System	Recirc Control Type	Loop length	Branch length	Pump power	DWHR	Facilities Connected	Equal Flow	DWHR Eff	Other Credits
___	1	No		NA	NA	NA	No	NA	NA	NA	None

DUCTS

✓	Duct #	Supply Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat	HVAC # Cool
___	1	Attic	6.0	399 ft²	Attic	6.0	80 ft²	Default Leakage	Garage	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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

FORM R405-2023

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 95

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

,Lake City,FL,32024

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2. Single family or multiple family		Detached
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5. Is this a worst case?		No
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a. Central Unit	21.2	SEER2:15.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	25.3	HSPF2:8.80

16. Hot Water Systems	
a. Electric	Cap: 40 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CV, 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: 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 Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

**Label required by Section R303.1.3 of the Florida Building Code, Energy Conservation, if not DEFAULT.

Envelope Leakage Test Report (Blower Door Test)
Residential Prescriptive, Performance or ERI Method Compliance
2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction:	Permit #:

Job Information

Builder:	Rhett Smithey	Community:		Lot:	54
Address:					
City:	Lake City	State:	FL	Zip:	32024

Air Leakage Test Results *Passing results must meet either the Performance, Prescriptive, or ERI Method*

○ **PRESCRIPTIVE METHOD**-The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 Pascals) in Climate Zones 1 and 2.

● **PERFORMANCE or ERI METHOD**-The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on Form R405-2023 (Performance) or R406-2023 (ERI), section labeled as infiltration, sub-section ACH50.

ACH(50) specified on Form R405-2023-Energy Calc (Performance) or R406-2023 (ERI): 5.000

_____ x 60 ÷ 14355 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

☐ When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.

Method for calculating building volume:
- ○ Retrieved from architectural plans
- ● Code software calculated
- ○ Field measured and calculated

R402.4.1.2 Testing. The building or dwelling unit shall be tested and verified as having an air leakage rate not exceeding seven air changes per hour in Climate Zones 1 and 2, and three air changes per hour in Climate Zones 3 through 8. Dwelling units with an air leakage rate less than three air changes per hour shall be provided with whole-house mechanical ventilation in accordance with Section R403.6.1 of this code and Section M1507.3 if the *Florida Building Code, Residential*. Testing shall be conducted in accordance with ANSI/RESNET/ICC 380 and reported at a pressure of 0.2 inch w.g. (50 Pascals). Testing shall be conducted by either individuals as defined in Section 553.993(5) or (7), *Florida Statues*, or individuals licensed as set forth in Section 489.105(3)(f), (g), or (i) or an approved third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the *code official*. Testing shall be performed at any time after creation of all penetrations of the *building thermal envelope*.

During testing:

1. Exterior windows and doors, fireplace and stove doors shall be closed, but not sealed, beyond the intended weatherstripping or other infiltration control measures.
2. Dampers including exhaust, intake, makeup air, back draft and flue dampers shall be closed, but not sealed beyond intended infiltration control measures.
3. Interior doors, if installed at the time of the test, shall be open.
4. Exterior doors for continuous ventilation systems and heat recovery ventilators shall be closed and sealed.
5. Heating and cooling systems, if installed at the time of the test, shall be turned off.
6. Supply and return registers, if installed at the time of the test, shall be fully open.
7. If an attic is both sealed and insulated at the roof deck, interior access doors and hatches between the conditioned space volume and the attic shall be opened during the test and the volume of the attic shall be added to the conditioned space volume for purposes of reporting the infiltration volume and calculating the air leakage of the home.

Testing Company

Company Name: _____ Phone: _____

I hereby verify that the above Air Leakage results are in accordance with the 2023 8th Edition Florida Building Code Energy Conservation requirements according to the compliance method selected above.

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____