FORM R405-2022 Supplement

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Metcalf Residence	Builder Name:	
Street:		Permit Office:	
City, State, Zip:	, FL,	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	1
5. Is this a worst case?	No
6. Conditioned floor area above grade (ft²)	796
Conditioned floor area below grade (ft²)	0

7. Windows(102.0 sqft.)	Description	Area
a. U-Factor:	Dbl, U=0.26	102.00 ft²
SHGC:	SHGC=0.20	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		1.500 ft
Area Weighted Average SHGC:		0.200

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	796.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Types(1365.0 sqft.)	Insulation	Area
a. Frame - Steel, Exterior	R=13.0	840.00 ft²
b. Frame - Wood, Adjacent	R=13.0	525.00 ft²
c. N/A		
d. N/A		

11. Ceiling Types(796.0 sqft.)	Insulation	Area
a. Single assembly, with (Unvented)	R=30.0	796.00 ft²
b. N/A		
c. N/A		

12. Roof(Metal, Unvent)	Deck R=0.0	839 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Main, Ret: Garage, AH: Garage	6	194
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	24.0	SEER2:16.00

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	24.0	HSPF2:8.20

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. Credits	CF, Pstat

Glass/Floor Area: 0.128

Total Proposed Modified Loads: 26.37

Total Baseline Loads: 27.03

PASS

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

PREPARED BY: _____

DATE: 8-9-23

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

OWNER/AGENT: Oliver Metcalf

DATE: 8.10.23

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 certification by the air handler unit manufacturer that the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.

- Compliance with a proposed duct leakage Qn requires a PERFORMANCE Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.030 Qn for whole house.

- 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 4.73 ACH50 (R402.4.1.2).

FORM R405-2022S

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Metcalf Residence			Address type:	Street Address
Building Type:	User	Bedrooms:	1	Lot #:	---
Owner:		Conditioned Area:	796	Block/SubDivision:	---
Builder Home ID:		Total Stories:	1	PlatBook:	---
Builder Name:		Worst Case:	No	Street:	
Permit Office:		Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:		City, State, Zip:	,
Family Type:	Detached	Whole House Fan:			FL,
New/Existing:	New (From Plans)	Terrain:	Rural		
Year Construct:	2023	Shielding:	Moderate/Rural		
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	796	7164 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	Main	796	7164	Yes	2	1	Yes	Yes	Yes

FLOORS (Total Exposed Area = 796 sq.ft.)

√	#	Floor Type	Space	Exposed Perim	Perimeter R-Value	Area	U-Factor	Joist R-Value	Tile	Wood	Carpet
___	1	Slab-On-Grade Edge Ins	Main	151.66	0	796 ft	0.535	---	0.20	0.20	0.60

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Gable or shed	Metal	839 ft²	132 ft²	Light	N	0.6	No	0.9	No	0	18.43

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	No attic	Unvented	0	796 ft²	N	N

CEILING (Total Exposed Area = 796 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Single assembly, with airspace(Unvented)	Main	30.0	Blown	796.0ft²	0.055	0.11	Wood

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INPUT SUMMARY CHECKLIST REPORT

WALLS (Total Exposed Area = 1365 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	N	Exterior	Frame - Steel	Main	13.0	26.0	0	9.0	0	234.0	0.215		0.23	0.75	0 %
___ 2	E	Garage	Frame - Wood	Main	13.0	58.0	4	9.0	0	525.0	0.094		0.23	0.75	0 %
___ 3	S	Exterior	Frame - Steel	Main	13.0	17.0	4	9.0	0	156.0	0.215		0.23	0.75	0 %
___ 4	W	Exterior	Frame - Steel	Main	13.0	50.0	0	9.0	0	450.0	0.215		0.23	0.75	0 %

DOORS (Total Exposed Area = 153 sq.ft.)

√ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___ 1	N	Exterior	Insulated	Main	None	0.40	3.00	0	6.00	8	20.0ft²
___ 2	E	Garage	Insulated	Main	None	0.40	3.00	0	6.00	8	20.0ft²
___ 3	S	Exterior	Insulated	Main	None	0.40	6.00	0	6.00	8	40.0ft²
___ 4	W	Exterior	Insulated	Main	None	0.40	3.00	0	6.00	8	20.0ft²
___ 5	W	Exterior	Insulated	Main	None	0.40	3.00	0	6.00	8	20.0ft²
___ 6	W	Exterior	Insulated	Main	None	0.40	5.00	0	6.00	8	33.3ft²

WINDOWS (Total Exposed Area = 102 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	3	Vinyl	Low-E Double	Y	0.26	0.20	N	N	30.0	2	3.00	5.00	1.5	2.3	None	None
___ 2	W	4	Vinyl	Low-E Double	Y	0.26	0.20	N	N	60.0	4	3.00	5.00	1.5	2.3	None	None
___ 3	W	4	Vinyl	Low-E Double	Y	0.26	0.20	N	N	12.0	1	4.00	3.00	1.5	2.3	None	None

INFILTRATION

√ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00027	565	30.98	58.17	0.0972	4.7	All	7164 cu ft

GARAGE

√ #	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___ 1	1120 ft²	1120 ft²	87 ft	14 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: 8.20	24.0		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		SEER2:16.0	24.0	720	0.85	sys#1	1

HOT WATER SYSTEM

√	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Main	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	99

		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	RLF	HVAC # Heat	HVAC # Cool
___	1	Main	6.0	194 ft²	Garage	6.0	48 ft²	Prop. Leak Free	Garage	---	---	0.03	0.50	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	80	80	78	78	78	78	78	78	78	78
___	Cooling (WEH)	AM	78	78	78	78	78	78	78	78	80	80	80	80
		PM	80	80	80	80	78	78	78	78	78	78	78	78
___	Heating (WD)	AM	65	65	65	65	65	65	65	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	68	68
___	Heating (WEH)	AM	65	65	65	65	65	65	65	68	68	68	68	68
		PM	68	68	68	68	68	68	68	68	68	68	68	68

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 98

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

,,FL,

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15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	24.0	HSPF2:8.20

16. Hot Water Systems	
a. Electric	Cap: 50 gallons
	EF: 0.920
b. Conservation features	
	None
17. 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: Oliver Metcalf Date: 8.10.23

Address of New Home: City/FL Zip: ,FL,

*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.