

## **RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST**

### **Florida Department of Business and Professional Regulation Simulated Performance Alternative (Performance) Method**

**Applications for compliance with the 2023 Florida Building Code, Energy Conservation via the Residential Simulated Performance Alternative shall include:**

- This checklist*
- Form R405-2023 report*
- Input summary checklist that can be used for field verification (usually four pages/may be greater)*
- Energy Performance Level (EPL) Display Card (one page)*
- HVAC system sizing and selection based on ACCA Manual S or per exceptions provided in Section R403.7*
- Mandatory Requirements (five pages)*

#### **Required prior to CO:**

- Air Barrier and Insulation Inspection Component Criteria checklist (Table R402.4.1.1 - one page)*
- A completed 2023 Envelope Leakage Test Report (usually one page); exception in R402.4 allows dwelling units of R-2 Occupancies and multiple attached single family dwellings to comply with Section C402.5*
- If Form R405 duct leakage type indicates anything other than "default leakage", then a completed 2023 Duct Leakage Test Report - Performance Method (usually one page)*

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION


Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name: Rogers - 787 SW Heron Dr Street: 787 SW Heron Dr City, State, Zip: Fort White, FL, 32038 Owner: Design Location: FL, Gainesville	Builder Name: Permit Office: Columbia County Permit Number: Jurisdiction: 221000 County: Columbia(Florida Climate Zone 2)
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Glass/Floor Area: 0.182	Total Proposed Modified Loads: 26.21	<b>PASS</b>
	Total Baseline Loads: 29.77	

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.

<p>I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code.</p> <p>PREPARED BY: <u>Eric Stauble E-Calcs Plus, Inc</u></p> <p>DATE: <u>February 19, 2026</u></p> <p>I hereby certify that this building, as designed, is in compliance with the Florida Energy Code.</p> <p>OWNER/AGENT: _____</p> <p>DATE: _____</p>	<p>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.</p> <div style="text-align: center;">  </div> <p>BUILDING OFFICIAL: _____</p> <p>DATE: _____</p>
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- 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 6.00 ACH50 (R402.4.1.2).

# INPUT SUMMARY CHECKLIST REPORT

PROJECT											
Title:	Rogers - 787 SW Heron Dr			Address type:	Street Address						
Building Type:	User		Bedrooms:	2		Lot #:	---				
Owner:				Conditioned Area:	800		Block/SubDivision:	---			
Builder Home ID:				Total Stories:	1		PlatBook:	---			
Builder Name:				Worst Case:	No		Street:	787 SW Heron Dr			
Permit Office:	Columbia County		Rotate Angle:	90		County:	Columbia				
Jurisdiction:	221000		Cross Ventilation:	No		City, State, Zip:	Fort White, FL, 32038				
Family Type:	Detached		Whole House Fan:	No							
New/Existing:	New (From Plans)		Terrain:	Suburban							
Year Construct:			Shielding:	Suburban							
Comment:											
CLIMATE											
<input checked="" type="checkbox"/> Design Location	Tmy Site		Design Temp	97.5% 2.5%		Int Design Temp	Winter Summer		Heating Degree Days	Design Moisture	Daily temp Range
___ FL, Gainesville	FL_GAINESVILLE_REGIONA		32	92		70	75		1305.5	51	Medium
BLOCKS											
<input checked="" type="checkbox"/> Number	Name	Area	Volume								
___ 1	Entire House	800	6400 cu ft								
SPACES											
<input checked="" type="checkbox"/> Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated		
___ 1	MBR	169	1352	No	2	1	Yes	Yes	Yes		
___ 2	WIC	42	336	No	0		Yes	Yes	Yes		
___ 3	BA	56	448	No	0		Yes	Yes	Yes		
___ 4	Pwdr	35	280	No	0		Yes	Yes	Yes		
___ 5	BR2	99	792	No	1	1	Yes	Yes	Yes		
___ 6	AC	9	72	No	0		Yes	Yes	Yes		
___ 7	Kit Liv Din	390	3120	Yes	0		Yes	Yes	Yes		
FLOORS <span style="float: right;">(Total Exposed Area = 800 sq.ft.)</span>											
<input checked="" type="checkbox"/> #	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	U-Factor Joist	Slab Insul. Vert/Horiz	Tile	Wood	Carpet	
___ 1	Slab-On-Grade Edge Ins	MBR	26	169 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 2	Slab-On-Grade Edge Ins	WIC	13	42 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 3	Slab-On-Grade Edge Ins	BA	8	56 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 4	Slab-On-Grade Edge Ins	Pwdr	5	35 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 5	Slab-On-Grade Edge Ins	BR2	12	99 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 6	Slab-On-Grade Edge Ins	AC	1	9 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	
___ 7	Slab-On-Grade Edge Ins	Kit Liv Din	56	390 sqft	0.0	---	0.710	2 (ft)/0 (ft)	1.00	0.00	

# INPUT SUMMARY CHECKLIST REPORT

ROOF															
✓ #	Type	Materials	Roof Area	Gable Area	Framing. Fract.	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)		
___ 1	Hip	Metal	843 ft²	0 ft²	0.11	Medium	N	0.75	No	0.9	No	0	18.43		
ATTIC															
✓ #	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC									
___ 1	Full attic	Vented	150	800 ft²	N	N									
CEILING (Total Exposed Area = 800 sq.ft.)															
✓ #	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type							
___ 1	Flat ceiling under attic(Vented)	MBR	38.0	Blown	169.0ft²	0.049	0.10	Wood							
___ 2	Flat ceiling under attic(Vented)	WIC	38.0	Blown	42.0ft²	0.049	0.10	Wood							
___ 3	Flat ceiling under attic(Vented)	BA	38.0	Blown	56.0ft²	0.049	0.10	Wood							
___ 4	Flat ceiling under attic(Vented)	Pwdr	38.0	Blown	35.0ft²	0.049	0.10	Wood							
___ 5	Flat ceiling under attic(Vented)	BR2	38.0	Blown	99.0ft²	0.049	0.10	Wood							
___ 6	Flat ceiling under attic(Vented)	AC	38.0	Blown	9.0ft²	0.049	0.10	Wood							
___ 7	Flat ceiling under attic(Vented)	Kit Liv Din	38.0	Blown	390.0ft²	0.049	0.10	Wood							
WALLS (Total Exposed Area = 960 sq.ft.)															
Note: First wall orientation below is as entered. Actual orientation is modified by the rotate angle (90 degrees) as shown in the "Project" section on page 1.															
✓ #	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___ 1	N=>E	Exterior	Conc. Blk - Int Ins	MBR	4.1	13.0	0	8.0	0	104.0	0.149	0	0	0.45	0.0 %
___ 2	E=>S	Exterior	Conc. Blk - Int Ins	MBR	4.1	13.0	0	8.0	0	104.0	0.149	0	0	0.45	0.0 %
___ 3	N=>E	Exterior	Conc. Blk - Int Ins	WIC	4.1	7.0	0	8.0	0	56.0	0.149	0	0	0.45	0.0 %
___ 4	W=>N	Exterior	Conc. Blk - Int Ins	WIC	4.1	6.0	0	8.0	0	48.0	0.149	0	0	0.45	0.0 %
___ 5	W=>N	Exterior	Conc. Blk - Int Ins	BA	4.1	8.0	0	8.0	0	64.0	0.149	0	0	0.45	0.0 %
___ 6	W=>N	Exterior	Conc. Blk - Int Ins	Pwdr	4.1	5.0	0	8.0	0	40.0	0.149	0	0	0.45	0.0 %
___ 7	E=>S	Exterior	Conc. Blk - Int Ins	BR2	4.1	12.0	0	8.0	0	96.0	0.149	0	0	0.45	0.0 %
___ 8	E=>S	Exterior	Conc. Blk - Int Ins	Kit Liv Din	4.1	15.0	0	8.0	0	120.0	0.149	0	0	0.45	0.0 %
___ 9	S=>W	Exterior	Conc. Blk - Int Ins	Kit Liv Din	4.1	20.0	0	8.0	0	160.0	0.149	0	0	0.45	0.0 %
___ 10	W=>N	Exterior	Conc. Blk - Int Ins	Kit Liv Din	4.1	21.0	0	8.0	0	168.0	0.149	0	0	0.45	0.0 %
DOORS (Total Exposed Area = 0 sq.ft.)															
✓ #	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area				

# INPUT SUMMARY CHECKLIST REPORT

WINDOWS (Total Exposed Area = 145 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	N=>E	1	Vinyl	Low-E Double	Y 0.34	0.21	N	N	16.7	1	3.33	5.00	2.0	0.5	None	None
___ 2	E=>S	2	Vinyl	Low-E Double	Y 0.32	0.24	N	N	12.0	3	2.00	2.00	2.0	0.5	None	None
___ 3	W=>N	5	Vinyl	Low-E Double	Y 0.34	0.21	N	N	8.0	1	4.00	2.00	2.0	0.5	None	None
___ 4	E=>S	7	Vinyl	Low-E Double	Y 0.34	0.21	N	N	16.7	1	3.33	5.00	2.0	0.5	None	None
___ 5	E=>S	8	Vinyl	Low-E Double	Y 0.34	0.21	N	N	27.1	1	5.42	5.00	2.0	0.5	None	None
___ 6	S=>W	9	Vinyl	Low-E Double	Y 0.34	0.21	N	N	16.0	2	4.00	2.00	2.0	0.5	None	None
___ 7	S=>W	9	Vinyl	Low-E Double	Y 0.30	0.19	N	N	20.0	1	3.00	6.67	2.0	0.5	None	None
___ 8	W=>N	10	Vinyl	Low-E Double	Y 0.34	0.21	N	N	11.1	1	3.33	3.33	2.0	0.5	None	None
___ 9	W=>N	10	Vinyl	Low-E Double	Y 0.30	0.19	N	N	17.8	1	2.67	6.67	2.0	0.5	None	None

INFILTRATION										
✓ #	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___ 1	Wholehouse	Proposed ACH(50)	0.00030	640	35.11	65.92	0.1176	6.0	All	6400 cu ft

MASS					
✓ #	Mass Type	Area	Thickness	Furniture Fraction	Space
___ 1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	MBR
___ 2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	WIC
___ 3	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	BA
___ 4	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Pwdr
___ 5	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	BR2
___ 6	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	AC
___ 7	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	Kit Liv Din

HEATING SYSTEM										
✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry Power Volt Current		Ducts	Block	
___ 1	Electric Heat Pump	Split/Single		HSPF2: 7.50	22.4	0.00	0.00	0.00	sys#1	1

COOLING SYSTEM									
✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___ 1	Central Unit	Split/Single		SEER2:15.2	22.4	0	0.75	sys#1	1

HOT WATER SYSTEM											
✓ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixt. Flow	Trap	Pipe Ins.	Pipe length
___ 1	Electric	Tankless	Exterior	0.99 (0.99)	1.0 gal	50 gal	120 deg	Standard	Yes	None	50
	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	

# INPUT SUMMARY CHECKLIST REPORT

<b>DUCTS</b>															
✓ Duct #	-----Supply-----			-----Return-----			Leakage Type	AHU Location	CFM 25 TOT OUT	QN OUT	AHU SEALED	RLF	HVAC #		
	Location	R-Value	Area	Location	R-Value	Area							Heat	Cool	
___ 1	Attic	6.0	159 ft²	Attic	6.0	39 ft²	Default Leakage	AC	(Default)	(Default)			1	1	
<b>TEMPERATURES</b>															
Programable Thermostat: Y						Ceiling Fans: N									
Cooling	<input type="checkbox"/> Jan	<input type="checkbox"/> Feb	<input type="checkbox"/> Mar	<input type="checkbox"/> Apr	<input type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input type="checkbox"/> Oct	<input type="checkbox"/> Nov	<input type="checkbox"/> Dec			
Heating	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input type="checkbox"/> Apr	<input type="checkbox"/> May	<input type="checkbox"/> Jun	<input type="checkbox"/> Jul	<input type="checkbox"/> Aug	<input type="checkbox"/> Sep	<input type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec			
Venting	<input type="checkbox"/> Jan	<input type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input type="checkbox"/> May	<input type="checkbox"/> Jun	<input type="checkbox"/> Jul	<input type="checkbox"/> Aug	<input type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input type="checkbox"/> Dec			
Thermostat Schedule: HERS 2006 Reference															
✓ Schedule Type		1	2	3	4	5	6	Hours		7	8	9	10	11	12
___ Cooling (WD)	AM PM	78 80	78 80	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	80 78	80 78	80 78	80 78
___ Cooling (WEH)	AM PM	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78	78 78
___ Heating (WD)	AM PM	66 68	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66
___ Heating (WEH)	AM PM	66 68	66 68	66 68	66 68	66 68	66 68	68 68	68 68	68 68	68 68	68 68	68 68	68 66	68 66

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

## ESTIMATED ENERGY PERFORMANCE INDEX\* = 88

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

787 SW Heron Dr, Fort White, FL, 32038

<p>1. New construction or existing                  2. Single family or multiple family                  3. Number of units, if multiple family                  4. Number of Bedrooms                  5. Is this a worst case?                  6. Conditioned floor area above grade (ft<sup>2</sup>)                     Conditioned floor area below grade (ft<sup>2</sup>)                  7. Windows**</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%;">Description</td> <td style="width: 20%;">Area</td> <td style="width: 40%;"></td> </tr> <tr> <td>a. U-Factor:</td> <td>Dbl, U=0.34</td> <td>95.53 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>SHGC:</td> <td>SHGC=0.21</td> <td></td> <td></td> </tr> <tr> <td>b. U-Factor:</td> <td>Dbl, U=0.30</td> <td>37.78 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>SHGC:</td> <td>SHGC=0.19</td> <td></td> <td></td> </tr> <tr> <td>c. 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Concrete Block - Int Insul, Exterior                  b. N/A                  c. N/A                  d. N/A                  11. Ceiling Types(800.0 sqft.)                  a. Flat ceiling under att (Vented)                  b. N/A                  c. N/A                  12. Roof(Metal, Vented)                  13. Ducts, location &amp; insulation level                  a. Sup: Attic, Ret: Attic, AH: AC                  b.                  c.                  14. Cooling Systems                  a. Central Unit                  15. Heating Systems                  a. Electric Heat Pump                  16. Hot Water Systems                  a. ElectricTankless                  b. Conservation features                  17. Credits</p>	<table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">Insulation</td> <td style="width: 20%;">Area</td> <td style="width: 60%;"></td> </tr> <tr> <td>R=4.1</td> <td>960.00 ft<sup>2</sup></td> <td></td> </tr> <tr> <td colspan="3">11. 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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: 787 SW Heron Dr City/FL Zip: Fort White, FL, 32038



\*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.

# Florida Building Code, Energy Conservation, 8th Edition (2023)

## Mandatory Requirements for Residential Performance, Prescriptive and ERI Methods

ADDRESS: 787 SW Heron Dr  
Fort White, FL 32038

Permit Number:

### MANDATORY REQUIREMENTS - See individual code sections for full details.

#### SECTION R401 GENERAL

- R401.3 Energy Performance Level (EPL) display card - (Mandatory).** The building official shall require that an energy performance level (EPL) display card be completed and certified by the builder to be accurate and correct before final approval of the building for occupancy. Florida law (Section 553.9085, Florida Statutes) requires the EPL display card to be included as an addendum to each sales contract for both presold and nonpresold residential buildings. The EPL display card contains information indicating the energy performance level and efficiencies of components installed in a dwelling unit. The building official shall verify that the EPL display card completed and signed by the builder accurately reflects the plans and specifications submitted to demonstrate code compliance for the building. A copy of the EPL display card can be found in Appendix RD.

#### SECTION R402 BUILDING THERMAL ENVELOPE

- R402.2.10.1 Slab-on-grade floor insulation installation (Mandatory).** Where installed, the insulation shall extend downward from the top of the slab on the outside or inside of the foundation wall. Insulation located below grade shall be extended the distance provided in Table R402.1.2, or the distance of the proposed design as applicable, by any combination of vertical insulation, insulation extending under the slab or insulation extending out from the building. Insulation extending away from the building shall be protected by pavement or by not less than 10 inches (254 mm) of soil. The top edge of the insulation installed between the exterior wall and the edge of the interior slab shall be permitted to be cut at a 45-degree (0.79 rad) angle away from the exterior wall.
- R402.2.11.1 Crawl space walls insulation installation (Mandatory).** Where crawl space wall insulation is installed, it shall be permanently fastened to the wall and extend downward from the floor to the finished grade level and then vertically and/or horizontally for at least an additional 24 inches (610 mm). Exposed earth in unvented crawl space foundations shall be covered with a continuous Class I vapor retarder in accordance with the Florida Building Code, Building, or Florida Building Code, Residential, as applicable. All joints of the vapor retarder shall overlap by 6 inches (153 mm) and be sealed or taped. The edges of the vapor retarder shall extend not less than 6 inches (153 mm) up the stem wall and shall be attached to the stem wall.
- R402.4 Air leakage (Mandatory).** The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.5.
  - Exception:** Dwelling units of R-2 Occupancies and multiple attached single family dwellings shall be permitted to comply with Section C402.5.
- R402.4.1 Building thermal envelope.** The building thermal envelope shall comply with Sections R402.4.1.1 and R402.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction.
- R402.4.1.1 Installation.** The components of the building thermal envelope as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1, as applicable to the method of construction. Where required by the code official, an approved third party shall inspect all components and verify compliance.
- 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 of 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 Statutes, 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.

**Exception:** Testing is not required for additions, alterations, renovations, or repairs, of the building thermal envelope of existing buildings in which the new construction is less than 85 percent 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, backdraft 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 air 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 an infiltration volume and calculating the air leakage of the home.

## Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

- R402.4.2 Fireplaces.** New wood-burning fireplaces shall have tight-fitting flue dampers or doors, and outdoor combustion air. Where using tight-fitting doors on factory-built fireplaces listed and labeled in accordance with UL 127, the doors shall be tested and listed for the fireplace. Where using tight-fitting doors on masonry fireplaces, the doors shall be listed and labeled in accordance with UL 907.
- R402.4.3 Fenestration air leakage.** Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m<sup>2</sup>), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m<sup>2</sup>), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

**Exception:** Site-built windows, skylights and doors.
- R402.4.4 Rooms containing fuel - burning appliances.** In Climate Zones 3 through 8, where open combustion air ducts provide combustion air to open combustion fuel burning appliances, the appliances and combustion air opening shall be located outside the building thermal envelope or enclosed in a room, isolated from inside the thermal envelope. Such rooms shall be sealed and insulated in accordance with the envelope requirements of Table R402.1.2, where the walls, floors and ceilings shall meet not less than the basement wall R-value requirement. The door into the room shall be fully gasketed and any water lines and ducts in the room insulated in accordance with Section R403. The combustion air duct shall be insulated where it passes through conditioned space to a minimum of R-8.

**Exceptions:**

  1. Direct vent appliances with both intake and exhaust pipes installed continuous to the outside.
  2. Fireplaces and stoves complying with Section R402.4.2 and Section R1006 of the Florida Building Code, Residential.
- R402.4.5 Recessed lighting.** Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and labeled as having an air leakage rate not more than 2.0 cfm (0.944 L/s) when tested in accordance with ASTM E283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.
- R402.4.6 Air-sealed electrical and communication boxes.** Air-sealed electrical and communication boxes that penetrate the air barrier of the building thermal envelope shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. Air-sealed boxes shall be buried in or surrounded by insulation. Air-sealed boxes shall be marked in accordance with NEMA OS 4. Air-sealed boxes shall be installed in accordance with the manufacturer's instructions.

## SECTION R403 SYSTEMS

### R403.1 Controls

- R403.1.1 Thermostat provision (Mandatory).** At least one thermostat shall be provided for each separate heating and cooling system
- R403.1.3 Heat pump supplementary heat (Mandatory).** Heat pumps with supplementary electric-resistance heaters shall have controls that limit supplemental heat operation to only those times when one of the following applies:
  1. The vapor compression cycle cannot provide the necessary heating energy to satisfy the thermostat setting.
  2. The heat pump is operating in defrost mode.
  3. The vapor compression cycle malfunctions.
  4. The thermostat malfunctions
- R403.3.2 Sealing (Mandatory).** All ducts, air handlers, filter boxes and building cavities that 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 C403.2.9.2 of the Commercial Provisions of this code and shall be shown to meet duct tightness criteria below.

Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC 380 by either individuals as defined in Section 553.993(5) or (7), Florida Statutes, or individuals licensed as set forth in Section 489.105(3)(f), (g) or (i), Florida Statutes, to be "substantially leak free" in accordance with Section R403.3.3.
- R403.3.2.1 Sealed air handler.** Air handlers shall have a manufacturer's designation for an air leakage of no more than 2 percent of the design airflow rate when tested in accordance with ASHRAE 193.
- R403.3.3 Duct testing (Mandatory).** Ducts shall be pressure tested to determine air leakage by one of the following methods:
  1. Rough-in test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the system, including the manufacturer's air handler enclosure if installed at the time of the test. All registers shall be taped or otherwise sealed during the test.
  2. Postconstruction test: Total leakage shall be measured with a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. Registers shall be taped or otherwise sealed during the test.

**Exceptions;**

  1. A duct air leakage test shall not be required where the ducts and air handlers are located entirely within the building thermal envelope.
  2. Duct testing is not mandatory for buildings complying by Section 405 of this code. Duct leakage testing is required for Section R405 compliance where credit is taken for leakage, and a duct air leakage Q<sub>n</sub> to the outside of less than 0.080 (where Q<sub>n</sub> = duct leakage to the outside in cfm per 100 square feet of conditioned floor area tested at 25 Pascals) is indicated in the compliance report for the proposed design.

A written report of the results of the test shall be signed by the party conducting the test and provided to the code official

# Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

- R403.3.5 Building cavities (Mandatory).** Building framing cavities shall not be used as ducts or plenums
- R403.4 Mechanical system piping insulation (Mandatory).** Mechanical system piping capable of carrying fluids above 105°F (41°C) or below 55°F (13°C) shall be insulated to a minimum of R-3.
- R403.4.1 Protection of piping insulation.** Piping insulation exposed to weather shall be protected from damage, including that caused by sunlight, moisture, equipment maintenance and wind, and shall provide shielding from solar radiation that can cause degradation of the material. Adhesive tape shall not be permitted.
- R403.5.1 Heated water circulation and temperature maintenance systems (Mandatory).** If heated water circulation systems are installed, they shall be in accordance with Section R403.5.1.1. Heat trace temperature maintenance systems shall be in accordance with Section R403.5.1.2. Automatic controls, temperature sensors and pumps shall be accessible. Manual controls shall be readily accessible.
- R403.5.1.1 Circulation systems.** Heated water circulation systems shall be provided with a circulation pump. The system return pipe shall be a dedicated return pipe or a cold water supply pipe. Gravity and thermosiphon circulation systems shall be prohibited. Controls for circulating hot water system pumps shall start the pump based on the identification of a demand for hot water within the occupancy. The controls shall automatically turn off the pump when the water in the circulation loop is at the desired temperature and when there is no demand for hot water.
- R403.5.1.2 Heat trace systems.** Electric heat trace systems shall comply with IEEE 515.1 or UL 515. Controls for such systems shall automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping in accordance with the times when heated water is used in the occupancy.
- R403.5.2 Demand recirculation water systems (Mandatory).** Where installed, demand recirculation water systems shall have controls that comply with both of the following:
  1. The control shall start the pump upon receiving a signal from the action of a user of a fixture or appliance, sensing the presence of a user of a fixture or sensing the flow of hot or tempered water to a fixture fitting or appliance.
  2. The control shall limit the temperature of the water entering the cold water piping to 104°F (40°C).
- R403.5.5 Heat traps (Mandatory).** Storage water heaters not equipped with integral heat traps and having vertical pipe risers shall have heat traps installed on both the inlets and outlets. External heat traps shall consist of either a commercially available heat trap or a downward and upward bend of at least 3 ½ inches (89 mm) in the hot water distribution line and cold water line located as close as possible to the storage tank.
- R403.5.6 Water heater efficiencies (Mandatory).**
  - R403.5.6.1.1 Automatic controls.** Service water-heating systems shall be equipped with automatic temperature controls capable of adjustment from the lowest to the highest acceptable temperature settings for the intended use. The minimum temperature setting range shall be from 100°F to 140°F (38°C to 60°C).
  - R403.5.6.1.2 Shut down.** A separate switch or a clearly marked circuit breaker shall be provided to permit the power supplied to electric service systems to be turned off. A separate valve shall be provided to permit the energy supplied to the main burner(s) of combustion types of service water-heating systems to be turned off.
  - R403.5.6.2 Water-heating equipment.** Water-heating equipment installed in residential units shall meet the minimum efficiencies of Table C404.2 in Chapter 4 of the Florida Building Code, Energy Conservation, Commercial Provisions, for the type of equipment installed. Equipment used to provide heating functions as part of a combination system shall satisfy all stated requirements for the appropriate water-heating category. Solar water heaters shall meet the criteria of Section R403.5.6.2.1.
  - R403.5.6.2.1 Solar water-heating systems.** Solar systems for domestic hot water production are rated by the annual solar energy factor of the system. The solar energy factor of a system shall be determined from the Florida Solar Energy Center Directory of Certified Solar Systems. Solar collectors shall be tested in accordance with ISO Standard 9806, Test Methods for Solar Collectors, and SRCC Standard TM-1, Solar Domestic Hot Water System and Component Test Protocol. Collectors in installed solar water-heating systems should meet the following criteria:
    1. Be installed with a tilt angle between 10 degrees and 40 degrees of the horizontal; and
    2. Be installed at an orientation within 45 degrees of true south.
- R403.6 Mechanical ventilation (Mandatory).** The building shall be provided with ventilation that meets the requirements of the Florida Building Code, Residential, or Florida Building Code, Mechanical, as applicable, or with other approved means of ventilation including: Natural, Infiltration or Mechanical means. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating.

# Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

**R403.6.1 Whole-house mechanical ventilation system fan efficacy.** When installed to function as a whole-house mechanical ventilation system, fans shall meet the efficacy requirements of Table R403.6.1.

**Exception:** Where an air handler that is integral to tested and listed HVAC equipment is used to provide whole-house mechanical ventilation, the air handler shall be powered by an electronically commutated motor.

**TABLE R403.6.1  
WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM FAN EFFICACY**

FAN LOCATION	AIRFLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY <sup>a</sup> (CFM/WATT)	AIRFLOW RATE MAXIMUM (CFM)
HRV or ERV	Any	1.2 cfm/watt	Any
Range hoods	Any	2.8 cfm/watt	Any
In-line fan	Any	3.8 cfm/watt	Any
Bathroom, utility room	10	2.8 cfm/watt	<90
Bathroom, utility room	90	3.5 cfm/watt	Any

For SI: 1 cfm = 28.3 L/min.

a. When tested in accordance with HVI Standard 916

**R403.6.2 Ventilation Air.** Residential buildings designed to be operated at a positive indoor pressure or for mechanical ventilation shall meet the following criteria:

1. The design air change per hour minimums for residential buildings in ASHRAE 62.2, Ventilation for Acceptable Indoor Air Quality, shall be the maximum rates allowed for residential applications.
2. No ventilation or air-conditioning system make-up air shall be provided to conditioned space from attics, crawlspaces, attached enclosed garages or outdoor spaces adjacent to swimming pools or spas.
3. If ventilation air is drawn from enclosed space(s), then the walls of the space(s) from which air is drawn shall be insulated to a minimum of R-11 and the ceiling shall be insulated to a minimum of R-19, space permitting, or R-10 otherwise.

**R403.7 Heating and cooling equipment.**

**R403.7.1 Equipment sizing (Mandatory).** Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the equipment loads calculated in accordance with ACCA Manual J or other approved heating and cooling calculation methodologies, based on building loads for the directional orientation of the building. The manufacturer and model number of the outdoor and indoor units (if split system) shall be submitted along with the sensible and total cooling capacities at the design conditions described in Section R302.1. This Code does not allow designer safety factors, provisions for future expansion or other factors that affect equipment sizing. System sizing calculations shall not include loads created by local intermittent mechanical ventilation such as standard kitchen and bathroom exhaust systems. New or replacement heating and cooling equipment shall have an efficiency rating equal to or greater than the minimum required by federal law for the geographic location where the equipment is installed.

# Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

- R403.7.1.1 Cooling equipment capacity.** Cooling only equipment shall be selected so that its total capacity is not less than the calculated total load but not more than 1.15 times greater than the total load calculated according to the procedure selected in Section R403.7, or the closest available size provided by the manufacturer's product lines. The corresponding latent capacity of the equipment shall not be less than the calculated latent load.
- The published value for AHRI total capacity is a nominal, rating-test value and shall not be used for equipment sizing. Manufacturer's expanded performance data shall be used to select cooling-only equipment. This selection shall be based on the outdoor design dry-bulb temperature for the load calculation (or entering water temperature for water-source equipment), the blower CFM provided by the expanded performance data, the design value for entering wet-bulb temperature and the design value for entering dry-bulb temperature.

Design values for entering wet-bulb and dry-bulb temperatures shall be for the indoor dry bulb and relative humidity used for the load calculation and shall be adjusted for return side gains if the return duct(s) is installed in an unconditioned space.

**Exceptions:**

1. Attached single- and multiple-family residential equipment sizing may be selected so that its cooling capacity is less than the calculated total sensible load but not less than 80 percent of that load.
2. When signed and sealed by a Florida-registered engineer, in attached single- and multiple-family units, the capacity of equipment may be sized in accordance with good design practice.

**R403.7.1.2 Heating equipment capacity.**

- R403.7.1.2.1 Heat pumps.** Heat pump sizing shall be based on the cooling requirements as calculated according to Section R403.7.1.1, and the heat pump total cooling capacity shall not be more than 1.15 times greater than the design cooling load even if the design heating load is 1.15 times greater than the design cooling load.
- R403.7.1.2.2 Electric resistance furnaces.** Electric resistance furnaces shall be sized within 4 kW of the design requirements calculated according to the procedure selected in Section R403.7.1.
- R403.7.1.2.3 Fossil fuel heating equipment.** The capacity of fossil fuel heating equipment with natural draft atmospheric burners shall not be less than the design load calculated in accordance with Section R403.7.1.
- R403.7.1.3 Extra capacity required for special occasions.** Residences requiring excess cooling or heating equipment capacity on an intermittent basis, such as anticipated additional loads caused by major entertainment events, shall have equipment sized or controlled to prevent continuous space cooling or heating within that space by one or more of the following options:
1. A separate cooling or heating system is utilized to provide cooling or heating to the major entertainment areas.
  2. A variable capacity system sized for optimum performance during base load periods is utilized.
- R403.8 Systems serving multiple dwelling units (Mandatory).** Systems serving multiple dwelling units shall comply with Sections C403 and C404 of the Florida Building Code, Energy Conservation—Commercial Provisions in lieu of Section R403.
- R403.9 Snow melt and ice system controls (Mandatory).** Snow- and ice-melting systems, supplied through energy service to the building, shall include automatic controls capable of shutting off the system when the pavement temperature is above 50°F (10°C), and no precipitation is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F (4.8°C).
- 403.10 Pools and permanent spa energy consumption (Mandatory).** The energy consumption of pools and permanent spas shall be in accordance with Sections R403.10.1 through R403.10.5.
- R403.10.1 Heaters.** The electric power to heaters shall be controlled by a readily accessible on-off switch that is an integral part of the heater mounted on the exterior of the heater, or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater.
- Gas-fired heaters shall not be equipped with continuously burning ignition pilots.
- R403.10.2 Time switches.** Time switches or other control methods that can automatically turn off and on according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

**Exceptions:**

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- and waste-heat-recovery pool heating systems
3. Where pumps are powered exclusively from on-site renewable generation.

## Florida Building Code, Energy Conservation, Mandatory Requirements (2023 Continued)

- R403.10.3 Covers.** Outdoor heated swimming pools and outdoor permanent spas shall be equipped with a vapor-retardant cover on or at the water surface or a liquid cover or other means proven to reduce heat loss.
- Exception:** Where more than 70 percent of the energy for heating, computed over an operation season, is from site-recovered energy, such as from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.
- R403.10.4 Gas- and oil-fired pool and spa heaters.** All gas- and oil-fired pool and spa heaters shall have a minimum thermal efficiency of 82 percent for heaters manufactured on or after April 16, 2013, when tested in accordance with ANSI Z 21.56. Pool heaters fired by natural or LP gas shall not have continuously burning pilot lights.
- R403.10.5 Heat pump pool heaters.** Heat pump pool heaters shall have a minimum COP of 4.0 when tested in accordance with AHRI 1160, Table 2, Standard Rating Conditions-Low Air Temperature. A test report from an independent laboratory is required to verify procedure compliance. Geothermal swimming pool heat pumps are not required to meet this standard.
- R403.11 Portable spas (Mandatory).** The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP-14
- R403.13 Dehumidifiers (Mandatory).** If installed, a dehumidifier shall conform to the following requirements:
1. The minimum rated efficiency of the dehumidifier shall be greater than 1.7 liters/ kWh if the total dehumidifier capacity for the house is less than 75 pints/day and greater than 2.38 liters/kWh if the total dehumidifier capacity for the house is greater than or equal to 75 pints/day.
  2. The dehumidifier shall be controlled by a sensor that is installed in a location where it is exposed to mixed house air.
  3. Any dehumidifier unit located in unconditioned space that treats air from conditioned space shall be insulated to a minimum of R-2.
  4. Condensate disposal shall be in accordance with Section M1411.3.1 of the Florida Building Code, Residential.
- R403.13.1 Ducted dehumidifiers.** Ducted dehumidifiers shall, in addition to conforming to the requirements of Section R403.13, conform to the following requirements:
1. If a ducted dehumidifier is configured with return and supply ducts both connected into the supply side of the cooling system, a backdraft damper shall be installed in the supply air duct between the dehumidifier inlet and outlet duct.
  2. If a ducted dehumidifier is configured with only its supply duct connected into the supply side of the central heating and cooling system, a backdraft damper shall be installed in the dehumidifier supply duct between the dehumidifier and central supply duct.
  3. A ducted dehumidifier shall not be ducted to or from a central ducted cooling system on the return duct side upstream from the central cooling evaporator coil.
  4. Ductwork associated with a dehumidifier located in unconditioned space shall be insulated to a minimum of R-6.

## SECTION R404 ELECTRICAL POWER AND LIGHTING SYSTEMS

- R404.1 Lighting equipment (Mandatory).** All permanently installed luminaires, excluding those in kitchen appliances, shall have an efficacy of at least 45 lumens-per-watt or shall utilize lamps with an efficacy of not less than 65 lumens-per-watt.
- R404.1.1 Lighting equipment (Mandatory).** Fuel gas lighting systems shall not have continuously burning pilot lights.

SECTION R405  
SIMULATED PERFORMANCE ALTERNATIVE  
(PERFORMANCE)

- R405.2 Mandatory requirements.** Compliance with this section requires that the mandatory provisions identified in Section R401.2 be met. All supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6, except site-wrapped supply ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-8.
- R405.2.1 Ceiling insulation.** Ceilings shall have an insulation level of at least R-19, space permitting. For the purposes of this code, types of ceiling construction that are considered to have inadequate space to install R-19 include single assembly ceilings of the exposed deck and beam type and concrete deck roofs. Such ceiling assemblies shall be insulated to at least a level of R-10.
- R405.2.2 Building air leakage testing.** Building or dwelling air leakage testing shall be in accordance with Sections R402.4 through R402.4.1.2. If an air leakage rate below seven air changes per hour at a pressure of 0.2 inch w.g. (50 pascals) is specified for the proposed design, testing shall verify the air leakage rate does not exceed the air leakage rate of the proposed design instead of seven air changes per hour.
- R405.2.3 Duct air leakage testing.** In cases where duct air leakage lower than the default  $Q_n$  to outside of 0.080 (where  $Q_n$  = duct leakage to the outside in cfm per 100 square feet of conditioned floor area tested at 25 Pascals) is specified for the proposed design, testing in accordance with Section R403.3.2 shall verify a duct air leakage rate not exceeding the leakage rate of the proposed design. Otherwise, in accordance with Section R403.3.3, duct testing is not mandatory for buildings complying by Section R405.

SECTION R406  
ENERGY RATING INDEX  
COMPLIANCE ALTERNATIVE

- R406.2 Mandatory requirements.** Compliance with this section requires that the provisions identified in Sections R401 through R404 labeled as “mandatory” and Section R403.5.3 of the 2015 International Energy Conservation Code be met. For buildings that do not utilize on-site renewable power production for compliance with this section, the building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table 402.1.1 or 402.1.3 of the 2009 International Energy Conservation Code. For buildings that utilize on-site renewable power production for compliance with this section, the building thermal envelope shall be greater than or equal to levels of efficiency and Solar Heat Gain Coefficient in Table R402.1.2 or Table R402.1.4 of the 2015 International Energy Conservation Code.
  - Exception:** Supply and return ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-6.
- R406.2.1 Site-wrapped supply ducts.** Site-wrapped supply ducts not completely inside the building thermal envelope shall be insulated to a minimum of R-8.

2023 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA-TABLE 402.4.1.1<sup>a</sup>

Project Name: Rogers - 787 SW Heron Dr		Builder Name:	
Street: 787 SW Heron Dr		Permit Office: Columbia County	
City, State, Zip: Fort White, FL, 32038		Permit Number:	
Owner:		Jurisdiction: 221000	
Design Location: FL, Gainesville		County: Columbia(Florida Climate Zone 2)	
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA	CHECK
General requirements	A continuous air barrier shall be installed in the building envelope. The exterior thermal envelope contains a continuous air barrier. Breaks or joints in the air barrier shall be sealed.	Air-permeable insulation shall not be used as a sealing material.	CH
Ceiling/attic	The air barrier in any dropped ceiling/soffit shall be aligned with the insulation and any gaps in the air barrier shall be sealed. Access openings, drop down stairs or knee wall doors to unconditioned attic spaces shall be sealed.	The insulation in any dropped ceiling/soffit shall be aligned with the air barrier.	
Walls	The junction of the foundation and sill plate shall be sealed. The junction of the top plate and the top of exterior walls shall be sealed. Knee walls shall be sealed.	Cavities within corners and headers of frame walls shall be insulated by completely filling the cavity with a material having a thermal resistance of R-3 per inch minimum. Exterior thermal envelope insulation for framed walls shall be installed in substantial contact and continuous alignment with the air barrier.	
Windows, skylights and doors	The space between window/door jambs and framing, and skylights and framing shall be sealed.		
Rim joists	Rim joists shall include the air barrier.	Rim joists shall be insulated.	
Floors (including above-garage and cantilevered floors)	The air barrier shall be installed at any exposed edge of insulation.	Floor framing cavity insulation shall be installed to maintain permanent contact with the underside of subfloor decking, or floor framing cavity insulation shall be permitted to be in contact with the top side of sheathing, or continuous insulation installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.	
Crawl space walls	Exposed earth in unvented crawl spaces shall be covered with a Class I vapor retarder with overlapping joints taped.	Where provided instead of floor insulation, insulation shall be permanently attached to the crawlspace walls.	
Shafts, penetrations	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space shall be sealed.		
Narrow cavities		Batts in narrow cavities shall be cut to fit, or narrow cavities shall be filled by insulation that on installation readily conforms to the available cavity spaces.	
Garage separation	Air sealing shall be provided between the garage and conditioned spaces.		
Recessed lighting	Recessed light fixtures installed in the building thermal envelope shall be sealed to the finished surface.	Recessed light fixtures installed in the building thermal envelope shall be air tight and IC rated.	
Plumbing and wiring		Batt insulation shall be cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.	
Shower/tub on exterior wall	The air barrier installed at exterior walls adjacent to showers and tubs shall separate them from the showers and tubs.	Exterior walls adjacent to showers and tubs shall be insulated.	
Electrical, communication, and other equipment boxes, housings, and enclosures	Boxes, housings, and enclosures that penetrate the air barrier shall be caulked, taped, gasketed, or otherwise sealed to the air barrier element being penetrated. All concealed openings into the box, housing, or enclosure shall be sealed. The continuity of the air barrier shall be maintained around boxes, housings, and enclosures that penetrate the air barrier. Alternatively, air-sealed boxes shall be installed in accordance with R402.4.6	Boxes, housings, and enclosures shall be buried in or surrounded by tightly fitted insulation.	
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the sub-floor, wall covering or ceiling penetrated by the boot.		
Concealed sprinklers	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.		

a. In addition, inspection of log walls shall be in accordance with the provisions of ICC-400.

# Envelope Leakage Test Report (Blower Door Test)

## Residential Prescriptive, Performance or ERI Method Compliance

### 2023 Florida Building Code, Energy Conservation, 8th Edition

Jurisdiction: 221000	Permit #:
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#### Job Information

Builder:	Community:	Lot: NA
Address: 787 SW Heron Dr		
City: Fort White	State: FL	Zip: 32038

#### 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):* 6.000

$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div 6400 = \text{ACH}(50)$ <div style="text-align: center; margin-top: 10px;"> <input type="checkbox"/> <b>PASS</b> </div> <p><input type="checkbox"/> When ACH(50) is less than 3, Mechanical Ventilation installation must be verified by building department.</p>	<p><u>Method for calculating building volume:</u></p> <p><input type="radio"/> Retrieved from architectural plans</p> <p><input checked="" type="radio"/> Code software calculated</p> <p><input type="radio"/> Field measured and calculated</p>
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**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 Statutes*, 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: \_\_\_\_\_



# Manual S Compliance Report

## Entire House

### E-Calcs Plus, Inc

Job: Rogers - 787 SW Heron Dr  
 Date: Feb 13, 2026  
 By: E-Calcs Plus, Inc

Serving all of Florida Phone: 833.322.5271 Email: eric@ecalcsplus.com Web: www.ecalcsplus.com License: HERS Rater ID# 0757810

## Project Information

For: Rogers - 787 SW Heron Dr  
 787 SW Heron Dr, Fort White, FL 32038

## Cooling Equipment

### Design Conditions

Outdoor design DB:	91.9°F	Sensible gain:	16355 Btuh	Entering coil DB:	76.8°F
Outdoor design WB:	76.2°F	Latent gain:	2717 Btuh	Entering coil WB:	63.5°F
Indoor design DB:	75.0°F	Total gain:	19071 Btuh		
Indoor RH:	50%	Estimated airflow:	747 cfm		

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP  
 Manufacturer: Carrier Model: 27SCA524AC0300+FJ5ANXB24L00  
 Actual airflow: 747 cfm  
 Sensible capacity: 18403 Btuh 113% of load  
 Latent capacity: 3422 Btuh 126% of load  
 Total capacity: 21825 Btuh 114% of load SHR: 84%

## Heating Equipment

### Design Conditions

Outdoor design DB:	33.0°F	Heat loss:	15895 Btuh	Entering coil DB:	70.0°F
Indoor design DB:	70.0°F				

### Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP  
 Manufacturer: Carrier Model: 27SCA524AC0300+FJ5ANXB24L00  
 Actual airflow: 0 cfm  
 Output capacity: 18507 Btuh 116% of load Capacity balance: 24 °F  
 Supplemental heat required: 0 Btuh Economic balance: -92 °F

Backup equipment type: Elec strip  
 Manufacturer: Carrier Model: AFUE 100  
 Actual airflow: 0 cfm  
 Output capacity: 5.0 kW 107% of load Temp. rise: 50 °F

Meets all requirements of ACCA Manual S.





**Project Summary**  
*Entire House*  
**E-Calcs Plus, Inc**

Job: Rogers - 787 SW Heron Dr  
 Date: Feb 13, 2026  
 By: E-Calcs Plus, Inc

Serving all of Florida Phone: 833.322.5271 Email: eric@ecalcsplus.com Web: www.ecalcsplus.com License: HERS Rater ID# 0757810

**Project Information**

For: Rogers - 787 SW Heron Dr  
 787 SW Heron Dr, Fort White, FL 32038

Notes:

**Design Information**

Weather: Gainesville Rgnl, FL, US

**Winter Design Conditions**

Outside db 33 °F  
 Inside db 70 °F  
 Design TD 37 °F

Ventilation Method ASHRAE 62.2-2010

**Heating Summary**

Structure 13852 Btuh  
 Ducts (R-6.0) 2042 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Humidification 0 Btuh  
 Piping 0 Btuh  
 Equipment load 15895 Btuh

**Infiltration**

Method Simplified  
 Construction quality Semi-tight  
 Fireplaces 0

	Heating	Cooling
Area (ft <sup>2</sup> )	800	800
Volume (ft <sup>3</sup> )	6400	6400
Air changes/hour	0.41	0.22
Equiv. AVF (cfm)	44	23

**Heating Equipment Summary**

Make Carrier  
 Trade COMFORT 15 SEER2 HP  
 Model 27SCA524AC0300  
 AHRI ref 214101251  
 Efficiency 7.5 HSPF2  
 Heating input  
 Heating output 22800 Btuh @ 47°F  
 Temperature rise 0 °F  
 Actual air flow 0 cfm  
 Air flow factor 0 cfm/Btuh  
 Static pressure 0.50 in H2O  
 Space thermostat  
 Capacity balance point = 24 °F  
 Backup: Carrier AFUE 100  
 Input = 5 kW, Output = 17061 Btuh, 100 AFUE

**Summer Design Conditions**

Outside db 92 °F  
 Inside db 75 °F  
 Design TD 17 °F  
 Daily range M  
 Relative humidity 50 %  
 Moisture difference 47 gr/lb

**Sensible Cooling Equipment Load Sizing**

Structure 12339 Btuh  
 Ducts (R-6.0) 4016 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Blower 0 Btuh  
 Use manufacturer's data y  
 Rate/swing multiplier 1.00  
 Equipment sensible load 16355 Btuh

**Latent Cooling Equipment Load Sizing**

Structure 1744 Btuh  
 Ducts 972 Btuh  
 Central vent (0 cfm) 0 Btuh  
 Equipment latent load 2717 Btuh  
**Equipment Total Load (Sen+Lat)** 19071 Btuh  
 Req. total capacity at 0.75 SHR 1.8 ton

**Cooling Equipment Summary**

Make Carrier  
 Trade COMFORT 15 SEER2 HP  
 Cond 27SCA524AC0300  
 Coil FJ5ANXB24L00  
 AHRI ref 214101251  
 Efficiency 12.0 EER2, 15.2 SEER2  
 Sensible cooling 16800 Btuh  
 Latent cooling 5600 Btuh  
 Total cooling 22400 Btuh  
 Actual air flow 747 cfm  
 Air flow factor 0.046 cfm/Btuh  
 Static pressure 0.50 in H2O  
 Load sensible heat ratio 0.86

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





# Load Short Form

## Entire House

### E-Calcs Plus, Inc

Job: Rogers - 787 SW Heron Dr  
 Date: Feb 13, 2026  
 By: E-Calcs Plus, Inc

Serving all of Florida Phone: 833.322.5271 Email: eric@ecalcsplus.com Web: www.ecalcsplus.com License: HERS Rater ID# 0757810

## Project Information

For: Rogers - 787 SW Heron Dr  
 787 SW Heron Dr, Fort White, FL 32038

## Design Information

	Htg	Clg	Method	Infiltration
Outside db (°F)	33	92		Simplified
Inside db (°F)	70	75	Construction quality	Semi-tight
Design TD (°F)	37	17	Fireplaces	0
Daily range	-	M		
Inside humidity (%)	50	50		
Moisture difference (gr/lb)	33	47		

### HEATING EQUIPMENT

Make Carrier  
 Trade COMFORT 15 SEER2 HP  
 Model 27SCA524AC0300  
 AHRI ref 214101251

Efficiency 7.5 HSPF2  
 Heating input  
 Heating output 22800 Btuh @ 47°F  
 Temperature rise 0 °F  
 Actual air flow 0 cfm  
 Air flow factor 0 cfm/Btuh  
 Static pressure 0.50 in H2O  
 Space thermostat  
 Capacity balance point = 24 °F

Backup: Carrier AFUE 100  
 Input = 5 kW, Output = 17061 Btuh, 100 AFUE

### COOLING EQUIPMENT

Make Carrier  
 Trade COMFORT 15 SEER2 HP  
 Cond 27SCA524AC0300  
 Coil FJ5ANXB24L00  
 AHRI ref 214101251

Efficiency 12.0 EER2, 15.2 SEER2  
 Sensible cooling 16800 Btuh  
 Latent cooling 5600 Btuh  
 Total cooling 22400 Btuh  
 Actual air flow 747 cfm  
 Air flow factor 0.046 cfm/Btuh  
 Static pressure 0.50 in H2O  
 Load sensible heat ratio 0.86

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
MBR	169	3421	3674	0	168
WIC	42	1549	490	0	22
BA	56	1053	467	0	21
Pwdr	35	617	222	0	10
BR2	99	1641	1754	0	80
AC	9	0	0	0	0
Kit Liv Din	390	7614	9748	0	445

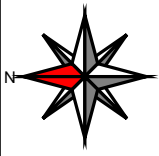
Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.



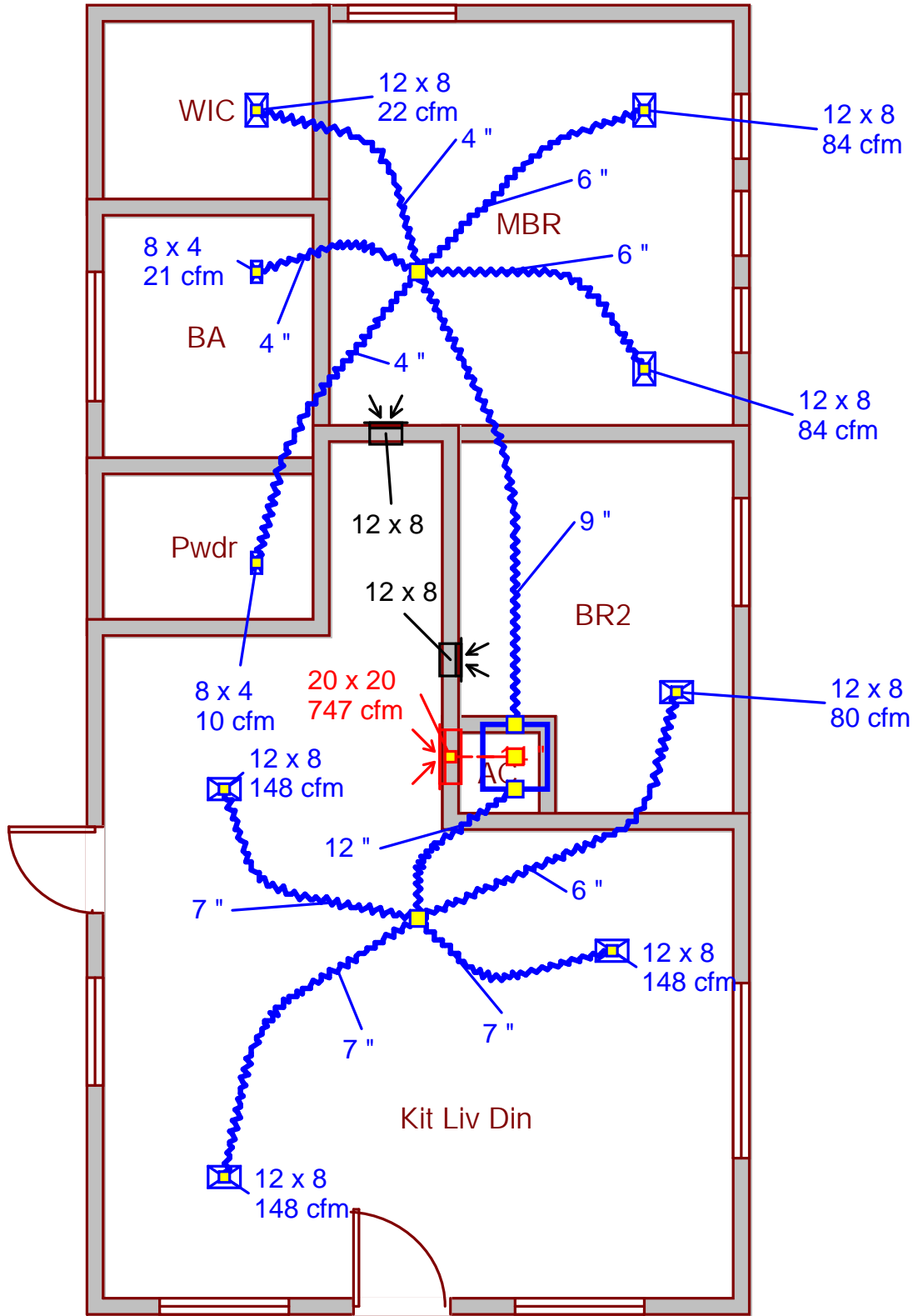
Entire House	p	800	15895	16355	0	747
Other equip loads			0	0		
Equip. @ 1.00 RSM				16355		
Latent cooling				2717		
TOTALS		800	15895	19071	0	747

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.





# First Floor



**Job #: Rogers - 787 SW Heron Dr**  
**Performed by E-Calcs Plus, Inc for:**

Rogers - 787 SW Heron Dr  
787 SW Heron Dr  
Fort White, FL 32038

**E-Calcs Plus, Inc**

Serving all of Florida

Phone: 833.322.5271 License: HERS Rater ID# 0757810  
www.ecalcsplus.com eric@ecalcsplus.com

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# Duct System Summary

## Entire House

### E-Calcs Plus, Inc

Job: Rogers - 787 SW Heron Dr  
 Date: Feb 13, 2026  
 By: E-Calcs Plus, Inc

Serving all of Florida Phone: 833.322.5271 Email: eric@ecalcsplus.com Web: www.ecalcsplus.com License: HERS Rater ID# 0757810

## Project Information

For: Rogers - 787 SW Heron Dr  
 787 SW Heron Dr, Fort White, FL 32038

	Heating	Cooling
External static pressure	0.50 in H2O	0.50 in H2O
Pressure losses	0.16 in H2O	0.16 in H2O
Available static pressure	0.34 in H2O	0.34 in H2O
Supply / return available pressure	0.241 / 0.099 in H2O	0.241 / 0.099 in H2O
Lowest friction rate	0.160 in/100ft	0.160 in/100ft
Actual air flow	0 cfm	747 cfm
Total effective length (TEL)		212 ft

## Supply Branch Detail Table

Name	Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
BA	c 467	0	21	0.166	4.0	0x0	VIFx	20.1	125.0	st1
BR2	c 1754	0	80	0.169	6.0	0x0	VIFx	17.3	125.0	st2
Kit Liv Din	c 3249	0	148	0.170	7.0	0x0	VIFx	16.5	125.0	st2
Kit Liv Din-A	c 3249	0	148	0.173	7.0	0x0	VIFx	13.8	125.0	st2
Kit Liv Din-B	c 3249	0	148	0.175	7.0	0x0	VIFx	12.5	125.0	st2
MBR	c 1837	0	84	0.162	6.0	0x0	VIFx	23.3	125.0	st1
MBR-A	c 1837	0	84	0.162	6.0	0x0	VIFx	23.5	125.0	st1
Pwdr	c 222	0	10	0.160	4.0	0x0	VIFx	25.2	125.0	st1
WIC	c 490	0	22	0.163	4.0	0x0	VIFx	23.0	125.0	st1

## Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st2	Peak AVF	0	525	0.169	669	12.0	0 x 0	VinIFlx	
st1	Peak AVF	0	222	0.160	502	9.0	0 x 0	VinIFlx	

## Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb1	0x0	0	747	62.0	0.160	699	14.0	0x 0		RtFg	