

**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)

# INPUT SUMMARY CHECKLIST REPORT

PROJECT														
Title:	Davis - XXX TBD				Address type	Street Address								
Building Type	User				Bedrooms	1		Lot #	---					
Owner.					Conditioned Area.	660		Block/SubDivision	---					
Builder Home ID.					Total Stories	1		PlatBook.	---					
Builder Name.					Worst Case	Yes		Street.	XXX					
Permit Office.	Lake City				Rotate Angle.	270		County.	Columbia					
Jurisdiction	221200				Cross Ventilation	No		City, State, Zip	Lake City, FL, 32064					
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	660	6600 cu ft										
SPACES														
<input checked="" type="checkbox"/>	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated				
___	1	BA1	80	800	No	0		Yes	Yes	Yes				
___	2	Laundry	48	480	No	0		Yes	Yes	Yes				
___	3	Kit Liv Din	532	5320	Yes	2	1	Yes	Yes	Yes				
FLOORS (Total Exposed Area = 660 sq.ft.)														
<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	BA1	18	80 sqft	0 0	---	0 710	2 (ft)/0 (ft)	1 00	0 00	0 00		
___	2	Slab-On-Grade Edge Ins	Laundry	6	48 sqft	0 0	---	0 710	2 (ft)/0 (ft)	1 00	0 00	0 00		
___	3	Slab-On-Grade Edge Ins	Kit Liv Din	80	532 sqft	0 0	---	0 710	2 (ft)/0 (ft)	1 00	0 00	0 00		
ROOF														
<input checked="" type="checkbox"/>	#	Type	Materials	Roof Area	Gable Area	Framing Fract	Roof Color	Rad Barr	Solar Absor	SA Tested	Emitt Tested	Emitt Tested	Deck Insul	Pitch (deg)
___	1	Gable or Shed	Composition shingles	696 ft²	110 ft²	0 11	Medium	N	0 85	No	0 9	No	0	18.43
ATTIC														
<input checked="" type="checkbox"/>	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC							
___	1	Full attic	Vented	150	660 ft²	N	N							

# INPUT SUMMARY CHECKLIST REPORT

## COOLING SYSTEM

✓ #	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	Air Flow cfm	SHR	Duct	Block
___ 1	Central Unit	Split/Single		SEER2:17.0	17.0	0	0.80	Ductless	1

## HOT WATER SYSTEM

✓ #	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixt Flow	Trap	Pipe Ins	Pipe length
___ 1	Electric	None	Exterior	0.95 (0.93)	40.0 gal	40 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	

## DUCTS

✓ Duct #	Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	AHU Location	CFM 25 TOTIOUT	QN OUT	AHU SEALED	RLF	HVAC # Heat Cool

## TEMPERATURES

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	Schedule Type	HERS 2006 Reference	1	2	3	4	5	6	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	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
___ 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 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 66	68 66

# ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

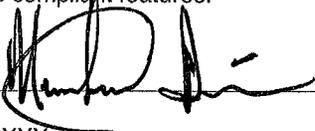
## ESTIMATED ENERGY PERFORMANCE INDEX\* = 69

The lower the Energy Performance Index, the more efficient the home

XXX, Lake City, FL, 32064

<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>63.17 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>40.00 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. U-Factor:</td> <td>N/A</td> <td>ft<sup>2</sup></td> <td></td> </tr> <tr> <td>SHGC:</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Area Weighted Average Overhang Depth:</td> <td>6.535 ft</td> <td></td> </tr> <tr> <td colspan="2">Area Weighted Average SHGC:</td> <td>0.202</td> <td></td> </tr> </table> <p>8. Skylights</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>U-Factor:(AVG)</td> <td>N/A</td> <td>N/A ft<sup>2</sup></td> <td></td> </tr> <tr> <td>SHGC(AVG)</td> <td>N/A</td> <td></td> <td></td> </tr> </table> <p>9. Floor Types</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%;">Insulation</td> <td style="width: 20%;">Area</td> <td style="width: 40%;"></td> </tr> <tr> <td>a. Slab-On-Grade Edge</td> <td>R= 0.0</td> <td>660.00 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>b. N/A</td> <td>R=</td> <td>ft<sup>2</sup></td> <td></td> </tr> <tr> <td>c. N/A</td> <td>R=</td> <td>ft<sup>2</sup></td> <td></td> </tr> </table>		Description	Area		a. U-Factor:	Dbl, U=0.34	63.17 ft <sup>2</sup>		SHGC:	SHGC=0.21			b. U-Factor:	Dbl, U=0.30	40.00 ft <sup>2</sup>		SHGC:	SHGC=0.19			c. U-Factor:	N/A	ft <sup>2</sup>		SHGC:				Area Weighted Average Overhang Depth:		6.535 ft		Area Weighted Average SHGC:		0.202			Description	Area		U-Factor:(AVG)	N/A	N/A ft <sup>2</sup>		SHGC(AVG)	N/A				Insulation	Area		a. Slab-On-Grade Edge	R= 0.0	660.00 ft <sup>2</sup>		b. N/A	R=	ft <sup>2</sup>		c. N/A	R=	ft <sup>2</sup>		<p>10. Wall Types(1040.0 sqft )</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Frame - Wood, Exterior</td> <td style="width: 20%;">Insulation</td> <td style="width: 20%;">Area</td> <td style="width: 40%;"></td> </tr> <tr> <td>b. N/A</td> <td>R=13.0</td> <td>1040.00 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>c. N/A</td> <td></td> <td></td> <td></td> </tr> <tr> <td>d. N/A</td> <td></td> <td></td> <td></td> </tr> </table> <p>11. Ceiling Types(660.0 sqft.)</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Flat ceiling under att (Vented)</td> <td style="width: 20%;">Insulation</td> <td style="width: 20%;">Area</td> <td style="width: 40%;"></td> </tr> <tr> <td>b. N/A</td> <td>R=38.0</td> <td>660.00 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>c. N/A</td> <td></td> <td></td> <td></td> </tr> </table> <p>12. Roof(Comp Shingles, Vented) Deck R=0.0</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Ducts, location &amp; insulation level</td> <td style="width: 20%;">R</td> <td style="width: 20%;">Area</td> <td style="width: 40%;"></td> </tr> <tr> <td>b. a.</td> <td></td> <td>696 ft<sup>2</sup></td> <td></td> </tr> <tr> <td>b. b.</td> <td></td> <td>ft<sup>2</sup></td> <td></td> </tr> <tr> <td>c. c.</td> <td></td> <td></td> <td></td> </tr> </table> <p>14. Cooling Systems</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Central Unit</td> <td style="width: 20%;">kBtu/hr</td> <td style="width: 20%;">Efficiency</td> <td style="width: 40%;"></td> </tr> <tr> <td></td> <td>17.0</td> <td>SEER2:17.00</td> <td></td> </tr> </table> <p>15. Heating Systems</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Electric Heat Pump</td> <td style="width: 20%;">kBtu/hr</td> <td style="width: 20%;">Efficiency</td> <td style="width: 40%;"></td> </tr> <tr> <td></td> <td>17.0</td> <td>HSPF2:9.00</td> <td></td> </tr> </table> <p>16. Hot Water Systems</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;">a. Electric</td> <td style="width: 20%;"></td> <td style="width: 20%;">Cap: 40 gallons</td> <td style="width: 40%;"></td> </tr> <tr> <td></td> <td></td> <td>EF-0.950</td> <td></td> </tr> <tr> <td>b. Conservation features</td> <td></td> <td></td> <td></td> </tr> </table> <p>17. Credits</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 20%;"></td> <td style="width: 20%;"></td> <td style="width: 20%;">None</td> <td style="width: 40%;"></td> </tr> <tr> <td></td> <td></td> <td>Pstat</td> <td></td> </tr> </table>	a. Frame - Wood, Exterior	Insulation	Area		b. N/A	R=13.0	1040.00 ft <sup>2</sup>		c. N/A				d. N/A				a. Flat ceiling under att (Vented)	Insulation	Area		b. N/A	R=38.0	660.00 ft <sup>2</sup>		c. N/A				a. Ducts, location & insulation level	R	Area		b. a.		696 ft <sup>2</sup>		b. b.		ft <sup>2</sup>		c. c.				a. Central Unit	kBtu/hr	Efficiency			17.0	SEER2:17.00		a. Electric Heat Pump	kBtu/hr	Efficiency			17.0	HSPF2:9.00		a. Electric		Cap: 40 gallons				EF-0.950		b. Conservation features						None				Pstat	
	Description	Area																																																																																																																																															
a. U-Factor:	Dbl, U=0.34	63.17 ft <sup>2</sup>																																																																																																																																															
SHGC:	SHGC=0.21																																																																																																																																																
b. U-Factor:	Dbl, U=0.30	40.00 ft <sup>2</sup>																																																																																																																																															
SHGC:	SHGC=0.19																																																																																																																																																
c. U-Factor:	N/A	ft <sup>2</sup>																																																																																																																																															
SHGC:																																																																																																																																																	
Area Weighted Average Overhang Depth:		6.535 ft																																																																																																																																															
Area Weighted Average SHGC:		0.202																																																																																																																																															
	Description	Area																																																																																																																																															
U-Factor:(AVG)	N/A	N/A ft <sup>2</sup>																																																																																																																																															
SHGC(AVG)	N/A																																																																																																																																																
	Insulation	Area																																																																																																																																															
a. Slab-On-Grade Edge	R= 0.0	660.00 ft <sup>2</sup>																																																																																																																																															
b. N/A	R=	ft <sup>2</sup>																																																																																																																																															
c. N/A	R=	ft <sup>2</sup>																																																																																																																																															
a. Frame - Wood, Exterior	Insulation	Area																																																																																																																																															
b. N/A	R=13.0	1040.00 ft <sup>2</sup>																																																																																																																																															
c. N/A																																																																																																																																																	
d. N/A																																																																																																																																																	
a. Flat ceiling under att (Vented)	Insulation	Area																																																																																																																																															
b. N/A	R=38.0	660.00 ft <sup>2</sup>																																																																																																																																															
c. N/A																																																																																																																																																	
a. Ducts, location & insulation level	R	Area																																																																																																																																															
b. a.		696 ft <sup>2</sup>																																																																																																																																															
b. b.		ft <sup>2</sup>																																																																																																																																															
c. c.																																																																																																																																																	
a. Central Unit	kBtu/hr	Efficiency																																																																																																																																															
	17.0	SEER2:17.00																																																																																																																																															
a. Electric Heat Pump	kBtu/hr	Efficiency																																																																																																																																															
	17.0	HSPF2:9.00																																																																																																																																															
a. Electric		Cap: 40 gallons																																																																																																																																															
		EF-0.950																																																																																																																																															
b. Conservation features																																																																																																																																																	
		None																																																																																																																																															
		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: 24 Nov 25

Address of New Home: XXX

City/FL Zip: Lake City, FL, 32064



\*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. XXX Lake City, FL 32064	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)

- 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)

- R403.7.1.1 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.

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.



## Project Information

For Davis - XXX TBD  
XXX, Lake City, FL 32064

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

### 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

### Heating Summary

Structure 11395 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
  
Humidification 0 Btuh  
Piping 0 Btuh  
Equipment load 11395 Btuh

### Infiltration

Method Simplified  
Construction quality Semi-tight  
Fireplaces 0

	Heating	Cooling
Area (ft <sup>2</sup> )	660	660
Volume (ft <sup>3</sup> )	6600	6600
Air changes/hour	0.41	0.22
Equiv. AVF (cfm)	45	24

### Sensible Cooling Equipment Load Sizing

Structure 12257 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
  
Blower 0 Btuh  
  
Use manufacturer's data y  
Rate/swing multiplier 1.00  
Equipment sensible load 12257 Btuh

### Latent Cooling Equipment Load Sizing

Structure 1168 Btuh  
Ducts 0 Btuh  
Central vent (0 cfm) 0 Btuh  
  
Equipment latent load 1168 Btuh  
  
**Equipment Total Load (Sen+Lat)** 13424 Btuh  
Req. total capacity at 0.80 SHR 1.3 ton

### Heating Equipment Summary

Make Daikin  
Trade DAIKIN  
Model 2MX18AXVU  
AHRI ref 207216088  
  
Efficiency 9 HSPF2  
Heating input  
Heating output 17000 Btuh @ 47°F  
Temperature rise 33 °F  
Actual air flow 467 cfm  
Air flow factor 0.041 cfm/Btuh  
Static pressure 0.50 in H2O  
Space thermostat  
Capacity balance point = 20 °F

### Cooling Equipment Summary

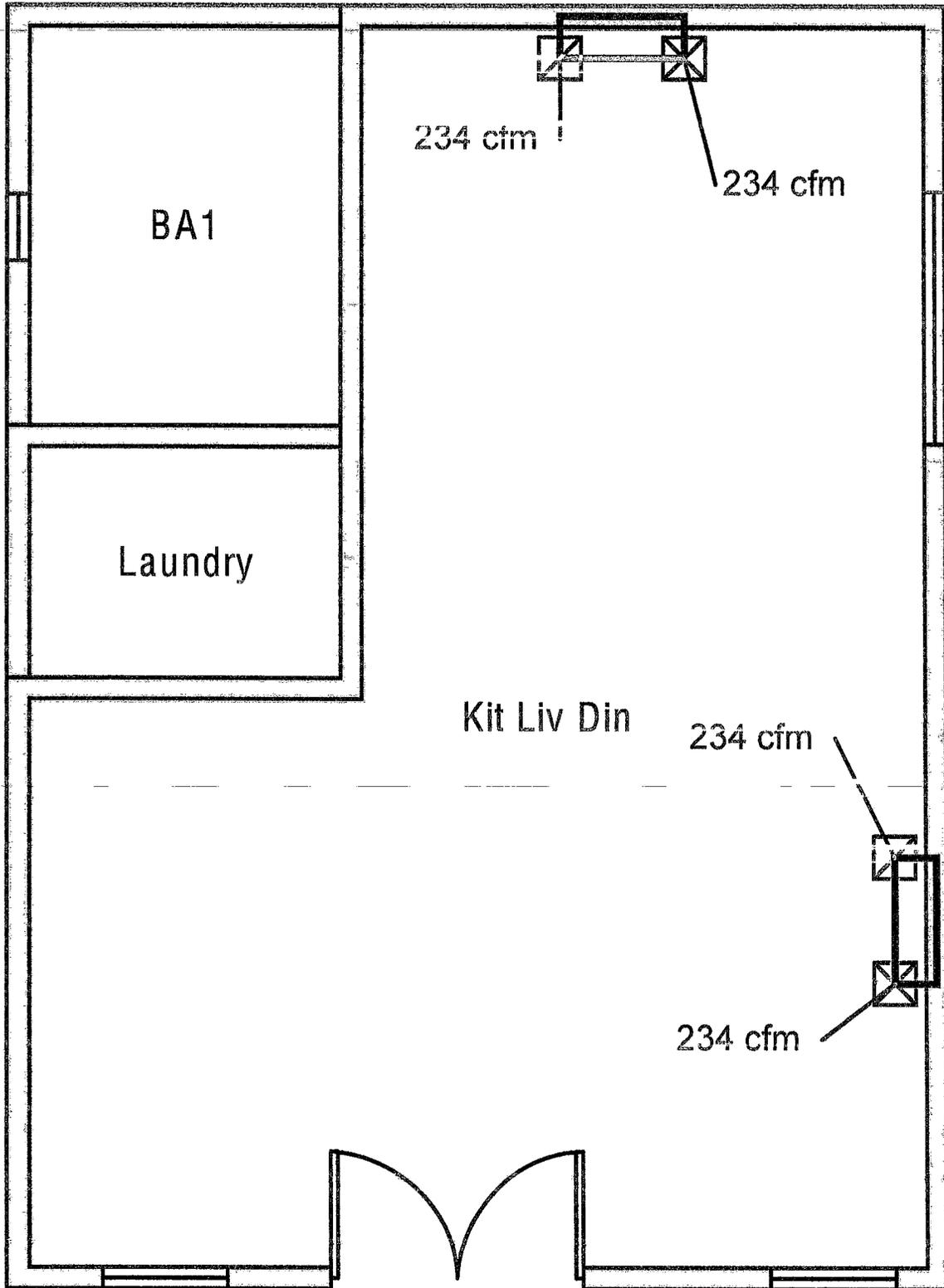
Make Daikin  
Trade DAIKIN  
Cond 2MX18AXVU  
Coil 2 ea CTX07AXVJU  
AHRI ref 207216088  
Efficiency 10.0 EER2, 17 SEER2  
Sensible cooling 13600 Btuh  
Latent cooling 3400 Btuh  
Total cooling 17000 Btuh  
Actual air flow 467 cfm  
Air flow factor 0.038 cfm/Btuh  
Static pressure 0.50 in H2O  
Load sensible heat ratio 0.91

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





# First Floor



**Job #: Davis - XXX TBD**  
**Performed by E-Calcs Plus, Inc for:**  
Davis - XXX TBD  
XXX  
Lake City FL 32064

**E-Calcs Plus, Inc**  
Serving all of Florida  
Phone 833 322 5271 License HERS Rater ID# 07  
www.ecalcsplus.com eric@ecalcsplus.com

Scale. 1/4" = 1'-0"  
Page 1  
Right-Suite@ Universal 2025  
25 0 03 RSU63879  
2025-Nov-21 12 40 22  
D:\Davis - XXX TBD 11 20 2025



E-Calcs  
Plus, Inc.

**Static Pressure and Friction Rate**  
*Entire House*  
**E-Calcs Plus, Inc**

Job: Davis - XXX TBD  
Date: Nov 17, 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 Davis - XXX TBD  
XXX, Lake City, FL 32064

**Available Static Pressure**

	Heating (in H <sub>2</sub> O)	Cooling (in H <sub>2</sub> O)
External static pressure	0 50	0 50
Pressure losses		
Coil	0	0
Heat exchanger	0	0
Supply diffusers	0 03	0 03
Return grilles	0 03	0 03
Filter	0 10	0 10
Humidifier	0	0
Balancing damper	0	0
Other device	0	0
Available static pressure	0 34	0 34

**Total Effective Length**

	Supply (ft)	Return (ft)
Measured length of run-out	0	0
Measured length of trunk	0	0
Equivalent length of fittings	0	0
Total length	0	0
Total effective length	0	0

**Friction Rate**

	Heating (in/100ft)	Cooling (in/100ft)
Supply Ducts	0 < 0 06	0 < 0 06
Return Ducts	0 < 0 06	0 < 0 06

**Fitting Equivalent Length Details**

Supply TotalEL=0  
Return TotalEL=0



wrightsoft

Right-Suite® Universal 2025 25 0 03 RSU63879

Davis - XXX TBD\Davis - XXX TBD 11 20 2025.rup Calc = MJ8 Front Door faces E

2025-Nov-21 12:40:13

Page 1



**Manual S Compliance Report**  
*Entire House*  
**E-Calcs Plus, Inc**

Job: Davis - XXX TBD  
 Date: Nov 17, 2025  
 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 Davis - XXX TBD  
 XXX, Lake City, FL 32064

**Cooling Equipment**

**Design Conditions**

Outdoor design DB	91 9°F	Sensible gain	12257	Btuh	Entering coil DB	75 0°F
Outdoor design WB	76 2°F	Latent gain	1168	Btuh	Entering coil WB	62 5°F
Indoor design DB	75 0°F	Total gain	13424	Btuh		
Indoor RH	50%	Estimated airflow	467	cfm		

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

Equipment type	Split ASHP				
Manufacturer	Daikin	Model	2MX18AXVU+2 ea CTX07AXVJU		
Actual airflow	467	cfm			
Sensible capacity	13877	Btuh	113% of load		
Latent capacity	1334	Btuh	114% of load		
Total capacity	15211	Btuh	113% of load SHR 91%		

**Heating Equipment**

**Design Conditions**

Outdoor design DB	33 0°F	Heat loss	11395	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	Daikin	Model	2MX18AXVU+2 ea CTX07AXVJU		
Actual airflow	467	cfm			
Output capacity	17000	Btuh	149% of load		
Supplemental heat required	0	Btuh			Capacity balance 20 °F
					Economic balance -99 °F

Meets all requirements of ACCA Manual S