FORM R405-2023

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	Neylon Residence	Builder Name:	
Street:	356 SE Nature Drive	Permit Office:	Columbia County
City, State, Zip:	Lake City, FL,	Permit Number:	
Owner:	Francis & Margaret Neylon	Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia(Florida Climate Zone 2)

1. New construction or existing			New (From Plans)
2. Single family or multiple family			Detached
3. Number of units, if multiple family			1
4. Number of Bedrooms			6
5. Is this a worst case?			No
6. Conditioned floor area above grade (ft²)			5280
Conditioned floor area below grade (ft²)			0
7. Windows(833.5 sqft.)	Description		Area
a. U-Factor:	Dbl, U=0.36		833.50 ft²
SHGC:	SHGC=0.25		
b. U-Factor:	N/A		ft²
SHGC:			
c. U-Factor:	N/A		ft²
SHGC:			
Area Weighted Average Overhang Depth:			4.335 ft
Area Weighted Average SHGC:			0.250
8. Skylights	Description		Area
U-Factor:(AVG)	N/A		N/A ft²
SHGC(AVG):	N/A		
9. Floor Types		Insulation	Area
a. Crawlspace		R= 19.0	3247.00 ft²
b. Floor Over Other Space		R= 19.0	2033.00 ft²
c. N/A		R=	ft²

10. Wall Types(4594.8 sqft.)		Insulation	Area
a. Frame - Wood, Exterior		R=19.0	4037.50 ft²
b. Frame - Wood, Adjacent		R=19.0	557.25 ft²
c. N/A			
d. N/A			
11. Ceiling Types(3571.7 sqft.)		Insulation	Area
a. Flat ceiling under att (Vented)		R=38.0	3571.70 ft²
b. N/A			
c. N/A			
12. Roof(Comp. Shingles, Vented)		Deck R=0.0	4227 ft²
13. Ducts, location & insulation level		R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage		6	1320
b.			
c.			
14. Cooling Systems		kBtu/hr	Efficiency
a. Central Unit		63.7	SEER2:15.50
15. Heating Systems		kBtu/hr	Efficiency
a. Electric Heat Pump		58.9	HSPF2:8.80
16. Hot Water Systems			
a. Electric			Cap: 50 gallons
			EF: 0.920
b. Conservation features			None
17. Credits			CV, Pstat

Glass/Floor Area: 0.158

Total Proposed Modified Loads: 127.50

Total Baseline Loads: 138.43

PASS

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

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

PREPARED BY: _____

DATE: 11 / 06 / 2024

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

OWNER/AGENT: _____

DATE: 1/24/25

Review of the plans and specifications covered by this calculation indicates compliance with the Florida Energy Code. Before construction is completed this building will be inspected for compliance with Section 553.908 Florida Statutes.

BUILDING OFFICIAL _____

DATE: _____

Columbia County Building Department — Plans Reviewed for Code Compliance — State of Florida

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

- 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 7.00 ACH50 (R402.4.1.2).

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	Neylon Residence			Address type:	Street Address
Building Type:	User	Bedrooms:	6	Lot #:	---
Owner:	Francis & Margaret Neylon	Conditioned Area:	5280	Block/SubDivision:	---
Builder Home ID:		Total Stories:	2	PlatBook:	---
Builder Name:		Worst Case:	No	Street:	356 SE Nature Drive
Permit Office:	Columbia County	Rotate Angle:	0	County:	Columbia
Jurisdiction:		Cross Ventilation:	Yes	City, State, Zip:	Lake City,
Family Type:	Detached	Whole House Fan:	No		FL,
New/Existing:	New (From Plans)	Terrain:	Suburban		
Year Construct:	2024	Shielding:	Suburban		
Comment:					

CLIMATE

√	Design Location	Tmy Site	Design Temp 97.5%	Design Temp 2.5%	Int Design Temp Winter	Int Design Temp Summer	Heating Degree Days	Design Moisture	Daily temp Range
___	FL, Gainesville	FL_GAINESVILLE_REGIONA	32	92	70	75	1305.5	51	Medium

BLOCKS

√	Number	Name	Area	Volume
___	1	Block1	5280	45487 cu ft

SPACES

√	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Finished	Cooled	Heated
___	1	1st Floor	3247	29223	Yes	6	1	Yes	Yes	Yes
___	2	2nd Floor	2033	16264	No	10	5	Yes	Yes	Yes

FLOORS (Total Exposed Area = 3247 sq.ft.)

√	#	Floor Type	Space	Exposed Perim(ft)	Area	R-Value Perim.	R-Value Joist	U-Factor	Slab Insul. Vert/Horiz	Tile	Wood	Carpet
___	1	Crawlspace	1st Floor	305.67	3247 sqft	0	19	0.047	-------	0.00	0.00	1.00
___	2	Floor Over Other Space	2nd Floor	---	2033 sqft	---	19	0.046	-------	0.00	0.00	1.00

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
___	1	Hip	Composition shingles	4227 ft²	0 ft²	Medium	Y	0.96	No	0.9	No	0	39.81

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
___	1	Partial cathedral ceiling	Vented	300	3247 ft²	Y	N

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

CEILING (Total Exposed Area = 3572 sq.ft.)

√	#	Ceiling Type	Space	R-Value	Ins. Type	Area	U-Factor	Framing Frac.	Truss Type
___	1	Flat ceiling under attic(Vented)	1st Floor	38.0	Double Batt	1335.4ft²	0.024	0.11	Wood
___	2	Flat ceiling under attic(Vented)	2nd Floor	38.0	Double Batt	2236.3ft²	0.024	0.11	Wood

WALLS (Total Exposed Area = 4595 sq.ft.)

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area sq.ft.	U-Factor	Sheath R-Value	Frm. Frac.	Solar Absor.	Below Grade
___	1	N	Exterior	Frame - Wood	1st Floor	19.0	16.0	4	9.0	0	147.0	0.061		0.23	0.75	0 %
___	2	N	Exterior	Frame - Wood	1st Floor	19.0	40.0	2	9.0	0	361.5	0.061		0.23	0.75	0 %
___	3	W	Garage	Frame - Wood	1st Floor	19.0	33.0	11	9.0	0	305.3	0.061		0.23	0.75	0 %
___	4	N	Garage	Frame - Wood	1st Floor	19.0	28.0	0	9.0	0	252.0	0.061		0.23	0.75	0 %
___	5	W	Exterior	Frame - Wood	1st Floor	19.0	20.0	0	9.0	0	180.0	0.061		0.23	0.75	0 %
___	6	S	Exterior	Frame - Wood	1st Floor	19.0	34.0	0	9.0	0	306.0	0.061		0.23	0.75	0 %
___	7	E	Exterior	Frame - Wood	1st Floor	19.0	9.0	0	9.0	0	81.0	0.061		0.23	0.75	0 %
___	8	S	Exterior	Frame - Wood	1st Floor	19.0	15.0	6	9.0	0	139.5	0.061		0.23	0.75	0 %
___	9	E	Exterior	Frame - Wood	1st Floor	19.0	8.0	0	9.0	0	72.0	0.061		0.23	0.75	0 %
___	10	S	Exterior	Frame - Wood	1st Floor	19.0	23.0	8	9.0	0	213.0	0.061		0.23	0.75	0 %
___	11	W	Exterior	Frame - Wood	1st Floor	19.0	9.0	6	9.0	0	85.5	0.061		0.23	0.75	0 %
___	12	S	Exterior	Frame - Wood	1st Floor	19.0	16.0	10	9.0	0	151.5	0.061		0.23	0.75	0 %
___	13	E	Exterior	Frame - Wood	1st Floor	19.0	45.0	10	9.0	0	412.5	0.061		0.23	0.75	0 %
___	14	N	Exterior	Frame - Wood	2nd Floor	19.0	64.0	2	8.0	0	513.3	0.061		0.23	0.75	0 %
___	15	W	Exterior	Frame - Wood	2nd Floor	19.0	12.0	2	8.0	0	97.3	0.061		0.23	0.75	0 %
___	16	N	Exterior	Frame - Wood	2nd Floor	19.0	9.0	6	8.0	0	76.0	0.061		0.23	0.75	0 %
___	17	W	Exterior	Frame - Wood	2nd Floor	19.0	16.0	5	8.0	0	131.3	0.061		0.23	0.75	0 %
___	18	S	Exterior	Frame - Wood	2nd Floor	19.0	9.0	6	8.0	0	76.0	0.061		0.23	0.75	0 %
___	19	W	Exterior	Frame - Wood	2nd Floor	19.0	5.0	4	8.0	0	42.7	0.061		0.23	0.75	0 %
___	20	S	Exterior	Frame - Wood	2nd Floor	19.0	24.0	0	8.0	0	192.0	0.061		0.23	0.75	0 %
___	21	W	Exterior	Frame - Wood	2nd Floor	19.0	10.0	5	8.0	0	83.3	0.061		0.23	0.75	0 %
___	22	S	Exterior	Frame - Wood	2nd Floor	19.0	16.0	0	8.0	0	128.0	0.061		0.23	0.75	0 %
___	23	E	Exterior	Frame - Wood	2nd Floor	19.0	8.0	0	8.0	0	64.0	0.061		0.23	0.75	0 %
___	24	S	Exterior	Frame - Wood	2nd Floor	19.0	24.0	2	8.0	0	193.3	0.061		0.23	0.75	0 %
___	25	E	Exterior	Frame - Wood	2nd Floor	19.0	36.0	4	8.0	0	290.7	0.061		0.23	0.75	0 %

DOORS (Total Exposed Area = 44 sq.ft.)

√	#	Ornt	Adjacent To	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___	1	W	Garage	Insulated	1st Floor	None	0.46	3.00	0	8.00	0	24.0ft²
___	2	E	Exterior	Insulated	1st Floor	None	0.46	2.00	6	8.00	0	20.0ft²

WINDOWS (Total Exposed Area = 834 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)	--Overhang-- Sep. (ft)	Interior Shade	Screen
___	1	N	1	Vinyl	Low-E Double	Y	0.36	0.25	N	N	18.0	1	3.00	6.00	1.5	1.0	None	None
___	2	N	2	Vinyl	Low-E Double	Y	0.36	0.25	N	N	108.0	6	3.00	6.00	9.5	1.0	None	None
___	3	N	2	TIM	Low-E Double	Y	0.36	0.25	N	N	40.0	1	6.00	6.67	9.5	1.0	None	None
___	4	S	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	108.0	6	3.00	6.00	1.5	1.0	None	None
___	5	S	6	Vinyl	Low-E Double	Y	0.36	0.25	N	N	6.0	1	2.00	3.00	1.5	1.0	None	None
___	6	S	8	Vinyl	Low-E Double	Y	0.36	0.25	N	N	54.0	3	3.00	6.00	1.5	9.0	None	None
___	7	E	9	TIM	Low-E Double	Y	0.36	0.25	N	N	24.0	1	3.00	8.00	6.5	1.0	None	None
___	8	S	10	Vinyl	Low-E Double	Y	0.36	0.25	N	N	60.0	4	2.50	6.00	9.5	1.0	None	None
___	9	S	10	TIM	Low-E Double	Y	0.36	0.25	N	N	48.0	1	6.00	8.00	9.5	1.0	None	None
___	10	W	11	Vinyl	Low-E Double	Y	0.36	0.25	N	N	48.0	1	6.00	8.00	6.5	1.0	None	None
___	11	S	12	Vinyl	Low-E Double	Y	0.36	0.25	N	N	54.0	3	3.00	6.00	1.5	1.0	None	None

INPUT SUMMARY CHECKLIST REPORT

WINDOWS(Continued)

___	12E	13	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___	13N	14	Vinyl	Low-E Double	Y	0.36	0.25	N	N	90.0	6	3.00	5.00	1.0	1.0	None	None
___	14N	14	Vinyl	Low-E Double	Y	0.36	0.25	N	N	48.0	6	2.00	4.00	1.5	1.0	None	None
___	15W	17	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___	16S	22	Vinyl	Low-E Double	Y	0.36	0.25	N	N	30.0	2	3.00	5.00	1.5	1.0	None	None
___	17S	24	Vinyl	Low-E Double	Y	0.36	0.25	N	N	37.5	3	5.00	2.50	1.5	1.0	None	None

INFILTRATION

√	#	Scope	Method	SLA	CFM50	ELA	EqLA	ACH	ACH50	Space(s)	Infiltration Test Volume
___	1	Wholehouse	Proposed ACH(50)	0.00038	5307	291.15	546.60	0.1864	7.0	All	45487 cu ft

GARAGE

√	#	Floor Area	Roof Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___	1	771 ft²	771 ft²	68 ft	9 ft	1

MASS

√	#	Mass Type	Area	Thickness	Furniture Fraction	Space
___	1	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	1st Floor
___	2	Default(8 lbs/sq.ft.)	0 ft²	0 ft	0.30	2nd Floor

HEATING SYSTEM

√	#	System Type	Subtype/Speed	AHRI #	Efficiency	Capacity kBtu/hr	----Geothermal HeatPump---- Entry	Power	Volt	Current	Ducts	Block
___	1	Electric Heat Pump	None/Single		HSPF2: 8.80	58.9		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	None/Single		SEER2:15.5	63.7	1920	0.75	sys#1	1

HOT WATER SYSTEM

√	#	System Type	Subtype	Location	EF(UEF)	Cap	Use	SetPnt	Fixture Flow	Pipe Ins.	Pipe length
___	1	Electric	None	Garage	0.92 (0.92)	50.00 gal	40 gal	120 deg	Standard	None	12

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

FORM R405-2023

INPUT SUMMARY CHECKLIST REPORT

DUCTS

✓ Duct #	Supply Location	Supply R-Value	Supply Area	Return Location	Return R-Value	Return Area	Leakage Type	Air Handler	CFM 25 TOT	CFM 25 OUT	QN OUT	RLF	HVAC # Heat	HVAC # Cool
___ 1	Attic	6.0	1320 ft²	Attic	6.0	264 ft²	Default Leakage	Garage	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y Ceiling Fans: N

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

✓ Thermostat Schedule: HERS 2006 Reference

Schedule Type		Hours 1	2	3	4	5	6	7	8	9	10	11	12
___ Cooling (WD)	AM	78	78	78	78	78	78	78	78	80	80	80	80
	PM	80	80	78	78	78	78	78	78	78	78	78	78
___ Cooling (WEH)	AM	78	78	78	78	78	78	78	78	78	78	78	78
	PM	78	78	78	78	78	78	78	78	78	78	78	78
___ Heating (WD)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66
___ Heating (WEH)	AM	66	66	66	66	66	68	68	68	68	68	68	68
	PM	68	68	68	68	68	68	68	68	68	68	66	66

FORM R405-2023

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 92

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

356 SE Nature Drive,Lake City,FL,

1. New construction or existing		New (From Plans)
2. Single family or multiple family		Detached
3. Number of units, if multiple family		1
4. Number of Bedrooms		6
5. Is this a worst case?		No
6. Conditioned floor area above grade (ft²)		5280
Conditioned floor area below grade (ft²)		0

7. Windows**	Description	Area
a. U-Factor:	Dbl, U=0.36	833.50 ft²
SHGC:	SHGC=0.25	
b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		4.335 ft
Area Weighted Average SHGC:		0.250

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

9. Floor Types	Insulation	Area
a. Crawlspace	R= 19.0	3247.00 ft²
b. Floor Over Other Space	R= 19.0	2033.00 ft²
c. N/A	R=	ft²

10. Wall Types(4594.8 sqft.)	Insulation	Area
a. Frame - Wood, Exterior	R=19.0	4037.50 ft²
b. Frame - Wood, Adjacent	R=19.0	557.25 ft²
c. N/A		
d. N/A		

11. Ceiling Types(3571.7 sqft.)	Insulation	Area
a. Flat ceiling under att (Vented)	R=38.0	3571.70 ft²
b. N/A		
c. N/A		

12. Roof(Comp. Shingles, Vented)	Deck R=0.0	4227 ft²

13. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: Garage	6	1320
b.		
c.		

14. Cooling Systems	kBtu/hr	Efficiency
a. Central Unit	63.7	SEER2:15.50

15. Heating Systems	kBtu/hr	Efficiency
a. Electric Heat Pump	58.9	HSPF2:8.80

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

I certify that this home has complied with the Florida Energy Efficiency Code for Building Construction through the above energy saving features which will be installed (or exceeded) in this home before final inspection. Otherwise, a new EPL Display Card will be completed based on installed Code compliant features.

Builder Signature: _____ Date: 1/24/25

Address of New Home: 356 SE Nature Drive City/FL Zip: Lake City,FL,

*Note: This is not a Building Energy Rating. If your Index is below 70, your home may qualify for energy efficient mortgage (EEM) incentives if you obtain a Florida Energy Rating. For information about the Florida Building Code, Energy Conservation, contact the Florida Building Commission's support staff.

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

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

Jurisdiction:	Permit #:

Job Information

Builder: Community: Lot: NA

Address: 356 SE Nature Drive

City: Lake City State: FL Zip:

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): 7.000

_____ x 60 ÷ 45487 = _____
CFM(50) Building Volume ACH(50)

☐ **PASS**

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

Method for calculating building volume:

○ Retrieved from architectural plans

● Code software calculated

○ Field measured and calculated

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

During testing:

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

Testing Company

Company Name: _____ Phone: _____

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

Signature of Tester: _____ Date of Test: _____

Printed Name of Tester: _____

License/Certification #: _____ Issuing Authority: _____

Residential System Sizing Calculation

Summary

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title:
Neylon Residence

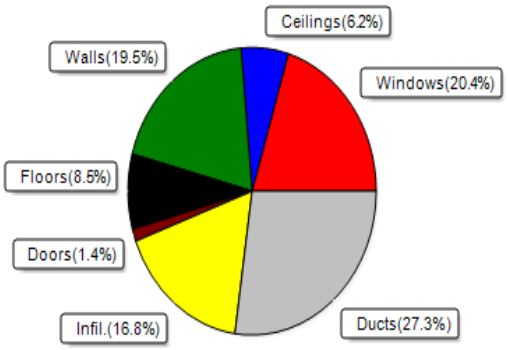
11/6/2024

Location for weather data: Gainesville, FL - Defaults: Latitude(29.7) Altitude(152 ft.) Temp Range(M)					
Humidity data: Interior RH (50%) Outdoor wet bulb (79F) Humidity difference(54gr.)					
Winter design temperature(MJ8 99%/Cu)	33	F	Summer design temperature(MJ8 99%/Cu)	99	F
Winter setpoint	70	F	Summer setpoint	75	F
Winter temperature difference	37	F	Summer temperature difference	24	F
Total heating load calculation	**54512**	**Btuh**	**Total cooling load calculation**	**70464**	**Btuh**
Submitted heating capacity	% of calc	Btuh	Submitted cooling capacity	% of calc	Btuh
Total (Electric Heat Pump)	108.1	58934	Sensible (SHR = 0.75)	83.8	47770
Heat Pump + Auxiliary(0.0kW)	108.1	58934	Latent	118.5	15923
			Total (Electric Heat Pump)	90.4	63694

WINTER CALCULATIONS

Winter Heating Load (for 5280 sqft)

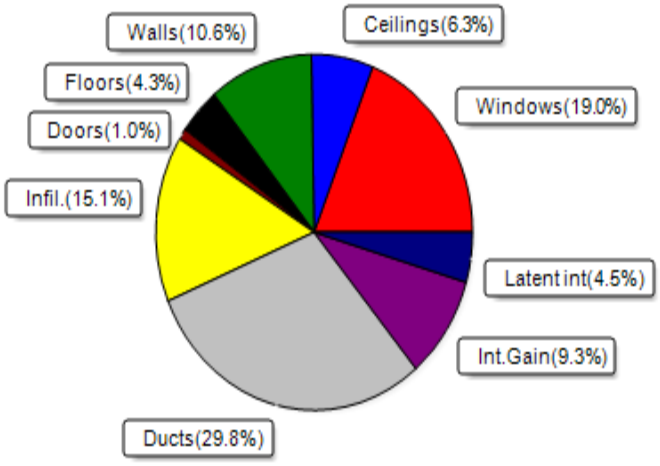
Load component			Load	
Window total	834	sqft	11102	Btuh
Wall total	3717	sqft	10628	Btuh
Door total	44	sqft	749	Btuh
Ceiling total	3572	sqft	3354	Btuh
Floor total	See detail report		4624	Btuh
Infiltration	226	cfm	9160	Btuh
Duct loss			14894	Btuh
Subtotal			**54512**	**Btuh**
Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
TOTAL HEAT LOSS			**54512**	**Btuh**



SUMMER CALCULATIONS

Summer Cooling Load (for 5280 sqft)

Load component			Load	
Window total	834	sqft	13377	Btuh
Wall total	3717	sqft	7484	Btuh
Door total	44	sqft	708	Btuh
Ceiling total	3572	sqft	4442	Btuh
Floor total			3017	Btuh
Infiltration	170	cfm	4456	Btuh
Internal gain			6580	Btuh
Duct gain			16963	Btuh
Sens.Ventilation	Ex:0 cfm; Sup:0 cfm		0	Btuh
Blower Load			0	Btuh
Total sensible gain			**57028**	**Btuh**
Latent gain(ducts)			4038	Btuh
Latent gain(infiltration)			6198	Btuh
Latent gain(ventilation)			0	Btuh
Latent gain(internal/occupants/other)			3200	Btuh
Total latent gain			**13436**	**Btuh**
TOTAL HEAT GAIN			**70464**	**Btuh**



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Columbia County Building Department — Plans Reviewed for Code Compliance — State of Florida

EnergyGauge® System Sizing
PREPARED BY: _____
DATE: 11 / 06 / 2024

System Sizing Calculations - Winter

Residential Load - Whole House Component Details

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title:
Neylon Residence
Building Type: User

11/6/2024

Reference City: Gainesville, FL (Defaults) Winter Temperature Difference: 37.0 °F (MJ8 99%/Cu)
Winter Setpoint: 70 °F (Required Manual J default)

Component Loads for Whole House

Window	Panes/Type	Frame	U	Orientation	Area(sqft) X	HTM=	Load
1	2, NFRC 0.25	Vinyl	0.36	N	18.0	13.3	240 Btuh
2	2, NFRC 0.25	Vinyl	0.36	N	108.0	13.3	1439 Btuh
3	2, NFRC 0.25	TIM	0.36	N	40.0	13.3	533 Btuh
4	2, NFRC 0.25	Vinyl	0.36	S	108.0	13.3	1439 Btuh
5	2, NFRC 0.25	Vinyl	0.36	S	6.0	13.3	80 Btuh
6	2, NFRC 0.25	Vinyl	0.36	S	54.0	13.3	719 Btuh
7	2, NFRC 0.25	TIM	0.36	E	24.0	13.3	320 Btuh
8	2, NFRC 0.25	Vinyl	0.36	S	60.0	13.3	799 Btuh
9	2, NFRC 0.25	TIM	0.36	S	48.0	13.3	639 Btuh
10	2, NFRC 0.25	Vinyl	0.36	W	48.0	13.3	639 Btuh
11	2, NFRC 0.25	Vinyl	0.36	S	54.0	13.3	719 Btuh
12	2, NFRC 0.25	Vinyl	0.36	E	30.0	13.3	400 Btuh
13	2, NFRC 0.25	Vinyl	0.36	N	90.0	13.3	1199 Btuh
14	2, NFRC 0.25	Vinyl	0.36	N	48.0	13.3	639 Btuh
15	2, NFRC 0.25	Vinyl	0.36	W	30.0	13.3	400 Btuh
16	2, NFRC 0.25	Vinyl	0.36	S	30.0	13.3	400 Btuh
17	2, NFRC 0.25	Vinyl	0.36	S	37.5	13.3	500 Btuh
	Window Total				833.5(sqft)		11102 Btuh

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
1	Frame - Wood	- Ext	(0.077)	19.0/0.0	129	2.86	369 Btuh
2	Frame - Wood	- Ext	(0.077)	19.0/0.0	214	2.86	610 Btuh
3	Frame - Wood	- Adj	(0.077)	19.0/0.0	281	2.86	804 Btuh
4	Frame - Wood	- Adj	(0.077)	19.0/0.0	252	2.86	720 Btuh
5	Frame - Wood	- Ext	(0.077)	19.0/0.0	180	2.86	515 Btuh
6	Frame - Wood	- Ext	(0.077)	19.0/0.0	192	2.86	549 Btuh
7	Frame - Wood	- Ext	(0.077)	19.0/0.0	61	2.86	174 Btuh
8	Frame - Wood	- Ext	(0.077)	19.0/0.0	86	2.86	244 Btuh
9	Frame - Wood	- Ext	(0.077)	19.0/0.0	48	2.86	137 Btuh
10	Frame - Wood	- Ext	(0.077)	19.0/0.0	105	2.86	300 Btuh
11	Frame - Wood	- Ext	(0.077)	19.0/0.0	38	2.86	107 Btuh
12	Frame - Wood	- Ext	(0.077)	19.0/0.0	98	2.86	279 Btuh
13	Frame - Wood	- Ext	(0.077)	19.0/0.0	383	2.86	1094 Btuh
14	Frame - Wood	- Ext	(0.077)	19.0/0.0	375	2.86	1073 Btuh
15	Frame - Wood	- Ext	(0.077)	19.0/0.0	97	2.86	278 Btuh
16	Frame - Wood	- Ext	(0.077)	19.0/0.0	76	2.86	217 Btuh
17	Frame - Wood	- Ext	(0.077)	19.0/0.0	101	2.86	290 Btuh
18	Frame - Wood	- Ext	(0.077)	19.0/0.0	76	2.86	217 Btuh
19	Frame - Wood	- Ext	(0.077)	19.0/0.0	43	2.86	122 Btuh
20	Frame - Wood	- Ext	(0.077)	19.0/0.0	192	2.86	549 Btuh
21	Frame - Wood	- Ext	(0.077)	19.0/0.0	83	2.86	238 Btuh
22	Frame - Wood	- Ext	(0.077)	19.0/0.0	98	2.86	280 Btuh
23	Frame - Wood	- Ext	(0.077)	19.0/0.0	64	2.86	183 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title:
Neylon Residence
Building Type: User

11/6/2024

Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area X	HTM=	Load
24	Frame - Wood	- Ext	(0.077)	19.0/0.0	156	2.86	446 Btuh
25	Frame - Wood	- Ext	(0.077)	19.0/0.0	291	2.86	831 Btuh
	Wall Total				3717(sqft)		10628 Btuh
Doors	Type	Storm	Ueff.		Area X	HTM=	Load
1	Insulated - Garage,	n	(0.460)		24	17.0	408 Btuh
2	Insulated - Exterior,	n	(0.460)		20	17.0	340 Btuh
	Door Total				44(sqft)		749Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area X	HTM=	Load
1	Flat ceil/D/Shing		(0.025)	38.0/0.0	1335	0.94	1254 Btuh
2	Flat ceil/D/Shing		(0.025)	38.0/0.0	2236	0.94	2100 Btuh
	Ceiling Total				3572(sqft)		3354Btuh
Floors	Type		Ueff.	R-Value	Size X	HTM=	Load
1	Stem/Crawlsp(Carpet)(v)		(0.049)	19.0/0.0	3247.0 sqft	1.4	4624 Btuh
2	Interior		(0.049)	19.0	2033.0 sqft	0.0	0 Btuh
	Floor Total				5280 sqft		4624 Btuh
					Envelope Subtotal:		30457 Btuh

Infiltration	Type	Wholehouse	ACH	Volume(cuft)	Wall Ratio	CFM=	
	Natural		0.30	45487	1.00	226.1	9160 Btuh
Duct load	Average sealed, R6.0, Supply(Att), Return(Att)				(DLM of 0.376)		14894 Btuh
All Zones				**Sensible Subtotal All Zones**			**54512 Btuh**

WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss		54512 Btuh
	Ventilation Sens. Heat Loss	(Ex:0 cfm; Sup:0 cfm)	0 Btuh
	Total Heat Loss		54512 Btuh

EQUIPMENT

1. Electric Heat Pump	#	58934 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title:
Neylon Residence
Building Type: User

11/6/2024

Key: Window types - NFRC (Requires U-Factor and Shading coefficient(SHGC) of glass as numerical values)
or - Glass as 'Clear' or 'Tint' (Uses U-Factor and SHGC defaults)
U - (Window U-Factor)
HTM - (ManualJ Heat Transfer Multiplier)

Version 8

System Sizing Calculations - Summer

Residential Load - Whole House Component Details

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title:
Neylon Residence

11/6/2024

Reference City: Gainesville, FL (Defaults)
Humidity difference: 54gr.

Temperature Difference: 24.0F(MJ8 99%/Cu)
Summer Setpoint: 75 °F (Required Manual J default)

Component Loads for Whole House

	Type*					Overhang		Window Area(sqft)			HTM		Load	
Window	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	18.0	0.0	18.0	14	14	250	Btuh
2	2 NFRC	0.25, 0.36		No	No	N	9.5ft.	1.0ft.	108.0	0.0	108.0	14	14	1501	Btuh
3	2 NFRC	0.25, 0.36		No	No	N	9.5ft.	1.0ft.	40.0	0.0	40.0	14	14	556	Btuh
4	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	108.0	108.0	0.0	14	16	1501	Btuh
5	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	6.0	6.0	0.0	14	16	83	Btuh
6	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	9.0ft.	54.0	0.0	54.0	14	16	856	Btuh
7	2 NFRC	0.25, 0.36		No	No	E	6.5ft.	1.0ft.	24.0	13.2	10.8	14	33	537	Btuh
8	2 NFRC	0.25, 0.36		No	No	S	9.5ft.	1.0ft.	60.0	60.0	0.0	14	16	834	Btuh
9	2 NFRC	0.25, 0.36		No	No	S	9.5ft.	1.0ft.	48.0	48.0	0.0	14	16	667	Btuh
10	2 NFRC	0.25, 0.36		No	No	W	6.5ft.	1.0ft.	48.0	26.4	21.6	14	33	1075	Btuh
11	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	54.0	54.0	0.0	14	16	751	Btuh
12	2 NFRC	0.25, 0.36		No	No	E	1.5ft.	1.0ft.	30.0	1.5	28.5	14	33	955	Btuh
13	2 NFRC	0.25, 0.36		No	No	N	1.0ft.	1.0ft.	90.0	0.0	90.0	14	14	1251	Btuh
14	2 NFRC	0.25, 0.36		No	No	N	1.5ft.	1.0ft.	48.0	0.0	48.0	14	14	667	Btuh
15	2 NFRC	0.25, 0.36		No	No	W	1.5ft.	1.0ft.	30.0	1.5	28.5	14	33	955	Btuh
16	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	30.0	30.0	0.0	14	16	417	Btuh
17	2 NFRC	0.25, 0.36		No	No	S	1.5ft.	1.0ft.	37.5	37.5	0.0	14	16	521	Btuh
	Window Total								834 (sqft)					13377	Btuh

Walls	Type	U-Value	R-Value Cav/Sheath	Area(sqft)	HTM	Load	
1	Frame - Wood - Ext	0.08	19.0/0.0	129.0	2.0	263	Btuh
2	Frame - Wood - Ext	0.08	19.0/0.0	213.5	2.0	436	Btuh
3	Frame - Wood - Adj	0.08	19.0/0.0	281.3	1.9	522	Btuh
4	Frame - Wood - Adj	0.08	19.0/0.0	252.0	1.9	467	Btuh
5	Frame - Wood - Ext	0.08	19.0/0.0	180.0	2.0	367	Btuh
6	Frame - Wood - Ext	0.08	19.0/0.0	192.0	2.0	392	Btuh
7	Frame - Wood - Ext	0.08	19.0/0.0	61.0	2.0	124	Btuh
8	Frame - Wood - Ext	0.08	19.0/0.0	85.5	2.0	174	Btuh
9	Frame - Wood - Ext	0.08	19.0/0.0	48.0	2.0	98	Btuh
10	Frame - Wood - Ext	0.08	19.0/0.0	105.0	2.0	214	Btuh
11	Frame - Wood - Ext	0.08	19.0/0.0	37.5	2.0	77	Btuh
12	Frame - Wood - Ext	0.08	19.0/0.0	97.5	2.0	199	Btuh
13	Frame - Wood - Ext	0.08	19.0/0.0	382.5	2.0	780	Btuh
14	Frame - Wood - Ext	0.08	19.0/0.0	375.3	2.0	766	Btuh
15	Frame - Wood - Ext	0.08	19.0/0.0	97.3	2.0	199	Btuh
16	Frame - Wood - Ext	0.08	19.0/0.0	76.0	2.0	155	Btuh
17	Frame - Wood - Ext	0.08	19.0/0.0	101.3	2.0	207	Btuh
18	Frame - Wood - Ext	0.08	19.0/0.0	76.0	2.0	155	Btuh
19	Frame - Wood - Ext	0.08	19.0/0.0	42.7	2.0	87	Btuh
20	Frame - Wood - Ext	0.08	19.0/0.0	192.0	2.0	392	Btuh
21	Frame - Wood - Ext	0.08	19.0/0.0	83.3	2.0	170	Btuh
22	Frame - Wood - Ext	0.08	19.0/0.0	98.0	2.0	200	Btuh
23	Frame - Wood - Ext	0.08	19.0/0.0	64.0	2.0	131	Btuh
24	Frame - Wood - Ext	0.08	19.0/0.0	155.8	2.0	318	Btuh
25	Frame - Wood - Ext	0.08	19.0/0.0	290.7	2.0	593	Btuh
	Wall Total			3717 (sqft)		7484	Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title: Neylon Residence

Climate:FL_GAINESVILLE_REGIONAL_A

11/6/2024

Doors	Type			Area (sqft)	HTM	Load
1	Insulated - Garage			24.0	16.1	386 Btuh
2	Insulated - Exterior			20.0	16.1	322 Btuh
	Door Total			44 (sqft)		708 Btuh
Ceilings	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
1	Vented Attic/DarkShingle/RB	0.025	38.0/0.0	1335.4	1.24	1661 Btuh
2	Vented Attic/DarkShingle/RB	0.025	38.0/0.0	2236.3	1.24	2781 Btuh
	Ceiling Total			3572 (sqft)		4442 Btuh
Floors	Type		R-Value	Size	HTM	Load
1	Stem/Crawlsp(Carpet)(v)		19.0	3247 (sqft)	0.9	3017 Btuh
2	Interior		19.0	2033 (sqft)	0.0	0 Btuh
	Floor Total			5280.0 (sqft)		3017 Btuh
					Envelope Subtotal:	29028 Btuh

Infiltration	Type	Average ACH	Volume(cuft)	Wall Ratio	CFM=	Load
	Natural	0.22	45487	1	169.6	4456 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		16	X 230	+	2900	6580 Btuh
					Sensible Envelope Load:	40065 Btuh
Duct load	Average sealed,Supply(R6.0-Attic), Return(R6.0-Attic)				(DGM of 0.423)	16963 Btuh
					Sensible Load All Zones	**57028 Btuh**

Manual J Summer Calculations

Residential Load - Component Details (continued)

Francis & Margaret Neylon
356 SE Nature Drive
Lake City, FL

Project Title: Neylon Residence

Climate:FL_GAINESVILLE_REGIONAL_A

11/6/2024

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	**Sensible Envelope Load All Zones**	**40065**	**Btuh**
	Sensible Duct Load	16963	Btuh
	Total Sensible Zone Loads	**57028**	**Btuh**
	Sensible ventilation (Ex:0 cfm; Sup:0 cfm)	0	Btuh
	Blower	0	Btuh
	Total sensible gain	**57028**	**Btuh**
	Latent infiltration gain (for 54 gr. humidity difference)	6198	Btuh
	Latent ventilation gain	0	Btuh
	Latent duct gain	4038	Btuh
	Latent occupant gain (16.0 people @ 200 Btuh per person)	3200	Btuh
	Latent other gain	0	Btuh
	Latent total gain	**13436**	**Btuh**
	TOTAL GAIN	**70464**	**Btuh**

EQUIPMENT

1. Central Unit	#	63694 Btuh

*Key: Window types (Panes - Number and type of panes of glass)
(SHGC - Shading coefficient of glass as SHGC numerical value)
(U - Window U-Factor)
(InSh - Interior shading device: none(No), Blinds(B), Draperies(D) or Roller Shades(R))
- For Blinds: Assume medium color, half closed
For Draperies: Assume medium weave, half closed
For Roller shades: Assume translucent, half closed
(IS - Insect screen: none(N), Full(F) or Half(½))
(Ornt - compass orientation)

Version 8