FORM R405-2020

FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

Project Name:	HYDRA ENGINEERING & CONSTRUCTION CHANC	Builder Name:	
Street:	417 SW LONCALA LOOP	Permit Office:	
City, State, Zip:	FORT WHITE , FL , 32038	Permit Number:	
Owner:	HYDRA ENGINEERING & CONSTRUCTION	Jurisdiction:	
Design Location:	FL, Gainesville	County:	Columbia (Florida Climate Zone 2)

1. New construction or existing	New (From Plans)			
2. Single family or multiple family	Detached			
3. Number of units, if multiple family	1			
4. Number of Bedrooms	1			
5. Is this a worst case?	No			
6. Conditioned floor area above grade (ft²)	1056			
Conditioned floor area below grade (ft²)	0			
7. Windows(139.2 sqft.)	Description		Area	
a. U-Factor:	Dbl, U=0.33		139.17	ft²
SHGC:	SHGC=0.28			
b. U-Factor:	N/A			ft²
SHGC:				
c. U-Factor:	N/A			ft²
SHGC:				
Area Weighted Average Overhang Depth:			1.000	ft.
Area Weighted Average SHGC:			0.280	
8. Skylights			Area	
c. U-Factor:(AVG)	N/A			ft²
SHGC(AVG):	N/A			
9. Floor Types (788.0 sqft.)		Insulation	Area	
a. Slab-On-Grade Edge Insulation		R=0.0	788.00	ft²
b. N/A		R=		ft²
c. N/A		R=		ft²

10. Wall Type(1488.0 sqft.)	Insulation	Area	
a. Frame - Wood, Exterior	R=13.0	1208.00	ft²
b. Interior Frame - Wood, Interior	R=13.0	280.00	ft²
c. N/A	R=		ft²
d. N/A	R=		ft²
11. Ceiling Types (788.0 sqft.)	Insulation	Area	
a. Under Attic (Vented)	R=30.0	788.00	ft²
b. N/A	R=		ft²
c. N/A	R=		ft²
12. Ducts		R	ft²
a. Sup: Attic, Ret: Attic, AH: 1ST FLOOR		6	421
13. Cooling systems	kBtu/hr	Efficiency	
a. Central Unit	24.0	SEER:14.00	
14. Heating systems	kBtu/hr	Efficiency	
a. Electric Heat Pump	24.0	HSPF:8.20	
15. Hot water systems			
a. Electric		Cap: 40 gallons	
		EF: 0.920	
b. Conservation features			
None			
16. Credits		CF, Pstat	

Glass/Floor Area: 0.132

Total Proposed Modified Loads: 30.02

Total Baseline Loads: 30.97

PASS

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

PREPARED BY: Kenneth W. Flowers

DATE: 5-10-21

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

OWNER/AGENT: _____

DATE: _____

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

BUILDING OFFICIAL: _____

DATE: _____

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

- Compliance requires an Air Barrier and Insulation Inspection Checklist in accordance with R402.4.1.1 and this project requires an envelope leakage test report with envelope leakage no greater than 5.83 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	HYDRA ENGINEERING & C	Bedrooms:	1	Address Type:	Street Address
Building Type:	User	Conditioned Area:	1056	Lot #	
Owner Name:	HYDRA ENGINEERING & C	Total Stories:	2	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:		Rotate Angle:	0	Street:	417 SW LONCALA LO
Permit Office:		Cross Ventilation:	No	County:	Columbia
Jurisdiction:		Whole House Fan:	No	City, State, Zip:	FORT WHITE , FL , 32038
Family Type:	Detached				
New/Existing:	New (From Plans)				
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_REGI	32	92	70	75	1305.5	51	Medium

BLOCKS

Number	Name	Area	Volume
1	Entire House	1056	8448

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	1ST FLOOR	788	6304	No	2	1	1	Yes	Yes	Yes
2	BONUS	268	2144	No	2		1	Yes	Yes	Yes

FLOORS

√	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	1ST FLOOR	81 ft		788 ft²	----	0	0	1

ROOF

√	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Gable or Shed	Composition shingles	881 ft²	198 ft²	Medium	Y	0.4	No	0.4	No	0	26.57

ATTIC

√	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	Full attic	Vented	300	788 ft²	Y	N

CEILING

√	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Vented)	1ST FLOOR	30	Blown	520 ft²	0.1	Wood
_____	2	Under Attic (Vented)	BONUS	30	Blown	268 ft²	0.1	Wood

INPUT SUMMARY CHECKLIST REPORT

WALLS

√	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	Width In	Height Ft	Height In	Area	Sheathing R-Value	Framing Fraction	Solar Absor	Below Grade%
___	1	N	Exterior	Frame - Wood	1ST FLOOR	13	22	0	8	0	176.0 ft²	0	0.19	0.4	0
___	2	E	Exterior	Frame - Wood	1ST FLOOR	13	36	0	8	0	288.0 ft²	0	0.19	0.4	0
___	3	S	Exterior	Frame - Wood	1ST FLOOR	13	22	0	8	0	176.0 ft²	0	0.19	0.4	0
___	4	W	Exterior	Frame - Wood	1ST FLOOR	13	1	0	8	0	8.0 ft²	0	0.19	0.4	0
___	5	W	1ST FLO	Interior Frame - Wood	1ST FLOOR	13	35	0	8	0	280.0 ft²	0	0.25	0.8	0
___	6	N	Exterior	Frame - Wood	BONUS	13	22	0	8	0	176.0 ft²	0	0.19	0.4	0
___	7	E	Exterior	Frame - Wood	BONUS	13	13	0	8	0	104.0 ft²	0	0.19	0.4	0
___	8	S	Exterior	Frame - Wood	BONUS	13	22	0	8	0	176.0 ft²	0	0.19	0.4	0
___	9	W	Exterior	Frame - Wood	BONUS	13	13	0	8	0	104.0 ft²	0	0.19	0.4	0

DOORS

√	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	Width In	Height Ft	Height In	Area
___	1	S	Insulated	1ST FLOOR	None	.4	3		7		21 ft²

WINDOWS

Orientation shown is the entered, Proposed orientation.

√	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Overhang Separation	Int Shade	Screening
___	1	N	1	Vinyl	Low-E Double	Yes	0.33	0.28	N	30.0 ft²	1 ft 0 in	1 ft 0 in	None	None
___	2	E	2	Vinyl	Low-E Double	Yes	0.33	0.28	N	6.0 ft²	1 ft 0 in	1 ft 0 in	None	None
___	3	E	2	Vinyl	Low-E Double	Yes	0.33	0.28	N	12.0 ft²	1 ft 0 in	1 ft 0 in	None	None
___	4	E	2	Vinyl	Low-E Double	Yes	0.33	0.28	N	30.0 ft²	1 ft 0 in	1 ft 0 in	None	None
___	5	S	3	Vinyl	Low-E Double	Yes	0.33	0.28	N	14.2 ft²	1 ft 0 in	1 ft 0 in	None	None
___	6	S	3	Vinyl	Low-E Double	Yes	0.33	0.28	N	17.0 ft²	1 ft 0 in	1 ft 0 in	None	None
___	7	E	7	Vinyl	Low-E Double	Yes	0.33	0.28	N	30.0 ft²	1 ft 0 in	1 ft 0 in	None	None

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.000296	820.3	45	84.49	.1506	5.8259

HEATING SYSTEM

√	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
___	1	Electric Heat Pump/	Split	Singl	HSPF:8.2	24 kBtu/hr	1	sys#1

COOLING SYSTEM

√	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
___	1	Central Unit/	Split	Singl	SEER: 14	24 kBtu/hr	cfm	0.7	1	sys#1

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INPUT SUMMARY CHECKLIST REPORT

HOT WATER SYSTEM

√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
____	1	Electric	None	1ST FLOOR	0.92	40 gal	60.9 gal	120 deg	None

SOLAR HOT WATER SYSTEM

√	FSEC Cert #	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
____	None	None			ft²		

DUCTS

√	#	---- Supply ---- Location	R-Value	Area	---- Return ---- Location	Area	Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat	Cool
____	1	Attic	6	421 ft²	Attic	143 ft²	Default Leakage	1ST FLOO	(Default)	(Default)			1	1

TEMPERATURES

Programable Thermostat: Y

Ceiling Fans:

	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

MASS

Mass Type	Area	Thickness	Furniture Fraction	Space
Default(8 lbs/sq.ft.	0 ft²	0 ft	0.3	1ST FLOOR
Default(8 lbs/sq.ft.	ft²	ft	0.3	BONUS

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ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 97

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

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b. U-Factor:	N/A	ft²
SHGC:		
c. U-Factor:	N/A	ft²
SHGC:		
d. U-Factor:	N/A	ft²
SHGC:		
Area Weighted Average Overhang Depth:		1.000 ft.
Area Weighted Average SHGC:		0.280
8. Skylights	Description	Area
a. U-Factor(AVG):	N/A	ft²
SHGC(AVG):	N/A	

9. Floor Types	Insulation	Area
a. Slab-On-Grade Edge Insulation	R=0.0	788.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

10. Wall Type and Insulation	Insulation	Area
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b. Interior Frame - Wood, Interior	R=13.0	280.00 ft²
c. N/A	R=	ft²
d. N/A	R=	ft²

11. Ceiling Type and insulation level	Insulation	Area
a. Under Attic (Vented)	R=30.0	788.00 ft²
b. N/A	R=	ft²
c. N/A	R=	ft²

12. Ducts, location & insulation level	R	ft²
a. Sup: Attic, Ret: Attic, AH: 1ST FLOOR	6	421

13. Cooling systems	kBtu/hr	Efficiency
a. Central Unit	24.0	SEER:14.00

14. Heating systems	kBtu/hr	Efficiency
a. Electric Heat Pump	24.0	HSPF:8.20

15. Hot water systems	
a. Electric	Cap: 40 gallons EF: 0.92
b. Conservation features	
None	
Credits (Performance method)	CF, Pstat

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

Builder Signature: _____ Date: _____

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

*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.