

RESIDENTIAL ENERGY CONSERVATION CODE DOCUMENTATION CHECKLIST

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

Applications for compliance with the 2020 Florida Building Code, Energy Conservation via the Residential Simulated Performance Alternative shall include:

- ☒ This checklist
- ☒ Form R405-2020 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 2020 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 2020 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: NEW RESIDENCE PINECREST 2 MAIN HOUSE
 Street: 9841 SW 73RD COURT
 City, State, Zip: PINECREST, FL, 33156
 Owner: ELIGES INVESTORS CONSTRUCTION
 Design Location: FL, Miami

Builder Name:
 Permit Office:
 Permit Number:
 Jurisdiction:
 County: Miami-Dade (Florida Climate Zone 1)

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)	4294
Conditioned floor area below grade (ft²)	0
7. Windows (2389.7 sqft.)	Description Area
a. U-Factor:	Dbl, U=0.40 2389.70 ft²
SHGC:	SHGC=0.19
b. U-Factor:	N/A ft²
SHGC:	
c. U-Factor:	N/A ft²
SHGC:	
Area Weighted Average Overhang Depth:	0.000 ft.
Area Weighted Average SHGC:	0.190
8. Skylights	Area
c. U-Factor:(AVG)	N/A ft²
SHGC(AVG):	N/A
9. Floor Types (4294.0 sqft.)	Insulation Area
a. Slab-On-Grade Edge Insulation	R=0.0 2240.00 ft²
b. Floor Over Other Space	R=0.0 1246.00 ft²
c. other (see details)	R= 808.00 ft²

10. Wall Types (5940.3 sqft.)	Insulation Area
a. Concrete Block - Int Insul, Exterior	R=5.0 5526.20 ft²
b. Concrete Block - Int Insul, Adjacent	R=5.0 414.17 ft²
c. N/A	R= ft²
d. N/A	R= ft²
11. Ceiling Types (2947.0 sqft.)	Insulation Area
a. Roof Deck (Unvented)	R=30.0 2947.00 ft²
b. N/A	R= ft²
c. N/A	R= ft²
12. Ducts	R ft²
3 additional duct system(s)	6 60
b. Sup: Attic, Ret: foyer living dining, AH: foyer living	6 200
c. Sup: Attic, Ret: 2nd Floor master bed, AH: 2nd Flo	(see details)
13. Cooling systems	kBtu/hr Efficiency
a. Central Unit	12.0 SEER:16.00
b. Central Unit	48.0 SEER:17.00
3 additional cooling systems	(see details)
14. Heating systems	kBtu/hr Efficiency
a. Electric Heat Pump	13.6 HSPF:10.00
b. Electric Strip Heat	34.0 COP:1.00
3 additional heating systems	(see details)
15. Hot water systems	
a. Propane	Cap: 40 gallons
	EF: 0.990
b. Conservation features	
None	
16. Credits	Pstat

Glass/Floor Area: 0.557

Total Proposed Modified Loads: 215.61

Total Baseline Loads: 217.35

PASS

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

PREPARED BY: _____
 DATE: _____

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 6.00 ACH50 (R402.4.1.2).

INPUT SUMMARY CHECKLIST REPORT

PROJECT

Title:	NEW RESIDENCE PINECRE	Bedrooms:	6	Address Type:	Street Address
Building Type:	User	Conditioned Area:	4294	Lot #	
Owner Name:	ELIGES INVESTORS CONST	Total Stories:	2	Block/Subdivision:	
# of Units:	1	Worst Case:	No	PlatBook:	
Builder Name:		Rotate Angle:	0	Street:	9841 SW 73RD COURT
Permit Office:		Cross Ventilation:		County:	Miami-Dade
Jurisdiction:		Whole House Fan:		City, State, Zip:	PINECREST ,
Family Type:	Detached				FL , 33156
New/Existing:	New (From Plans)				
Comment:					

CLIMATE

✓	Design Location	TMY Site	Design Temp		Int Design Temp		Heating	Design	Daily Temp
			97.5 %	2.5 %	Winter	Summer	Degree Days	Moisture	Range
_____	FL, Miami	FL_MIAMI_INTL_AP	51	90	70	75	149.5	56	Low

BLOCKS

Number	Name	Area	Volume
1	Block1	274	2740
2	Block2	893	18753
3	Block3	1073	10730
4	Block4	1082	9738
5	Block5	972	8748

SPACES

Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated
1	multi purpose room	274	2740	No	2	1	1	Yes	Yes	Yes
2	foyer living dining	893	18753	No	6	0	1	Yes	Yes	Yes
3	family kitchen laundr	1073	10730	Yes	6	1	1	Yes	Yes	Yes
4	2nd Floor master be	1082	9738	No	2	1	1	Yes	Yes	Yes
5	2nd Floor bed 1 2 3	972	8748	No	4	3	1	Yes	Yes	Yes

FLOORS

✓	#	Floor Type	Space	Perimeter	Perimeter R-Value	Area	Joist R-Value	Tile	Wood	Carpet
_____	1	Slab-On-Grade Edge Insulatio	multi purpose roo	44.5 ft	0	274 ft²	----	0	0	1
_____	2	Slab-On-Grade Edge Insulatio	foyer living dining	76 ft	0	893 ft²	----	0	0	1
_____	3	Slab-On-Grade Edge Insulatio	family kitchen laun	129 ft	0	1073 ft²	----	0	0	1
_____	4	Floor Over Other Space	2nd Floor master	----	----	274 ft²	0	0	0	1
_____	5	Floor over Garage	2nd Floor master	----	----	429 ft²	0	0	0	1
_____	6	Raised Floor	2nd Floor master	----	----	379 ft²	0	0	0	1
_____	7	Floor Over Other Space	2nd Floor bed 1 2	----	----	972 ft²	0	0	0	1

INPUT SUMMARY CHECKLIST REPORT

ROOF													
✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Rad Barr	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
_____	1	Flat	Concrete	3059 ft²	128 ft²	Medium	N	0.96	No	0.9	No	0	4.8

ATTIC							
✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC
_____	1	No attic	Unvented	0	3048 ft²	N	N

CEILING								
✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type
_____	1	Under Attic (Unvented)	foyer living dining	30	Blown	893 ft²	0.11	Wood
_____	2	Under Attic (Unvented)	2nd Floor master	30	Blown	1082 ft²	0.11	Wood
_____	3	Under Attic (Unvented)	2nd Floor bed 1 2	30	Blown	972 ft²	0.11	Wood

WALLS															
✓	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
_____	1	N	Exterior	Concrete Block - Int Insu	multi purpose	5	12		10		120.0 ft²		0	0.1	0
_____	2	S	Exterior	Concrete Block - Int Insu	multi purpose	5	7	5	10		74.2 ft²		0	0.1	0
_____	3	E	Exterior	Concrete Block - Int Insu	multi purpose	5	25		10		250.0 ft²		0	0.1	0
_____	4	E	Garage	Concrete Block - Int Insu	multi purpose	5	22		10		220.0 ft²		0	0.1	0
_____	5	E	Exterior	Concrete Block - Int Insu	foyer living din	5	38		21		798.0 ft²		0	0.1	0
_____	6	W	Exterior	Concrete Block - Int Insu	foyer living din	5	38		21		798.0 ft²		0	0.1	0
_____	7	S	Garage	Concrete Block - Int Insu	foyer living din	5	19	5	10		194.2 ft²		0	0.1	0
_____	8	N	Exterior	Concrete Block - Int Insu	family kitchen	5	35		10		350.0 ft²		0	0.1	0
_____	9	S	Exterior	Concrete Block - Int Insu	family kitchen	5	58		10		580.0 ft²		0	0.1	0
_____	10	E	Exterior	Concrete Block - Int Insu	family kitchen	5	18		10		180.0 ft²		0	0.1	0
_____	11	W	Exterior	Concrete Block - Int Insu	family kitchen	5	18		10		180.0 ft²		0	0.1	0
_____	12	N	Exterior	Concrete Block - Int Insu	2nd Floor mas	5	38		9		342.0 ft²		0	0.1	0
_____	13	S	Exterior	Concrete Block - Int Insu	2nd Floor mas	5	12		9		108.0 ft²		0	0.1	0
_____	14	E	Exterior	Concrete Block - Int Insu	2nd Floor mas	5	36		9		324.0 ft²		0	0.1	0
_____	15	W	Exterior	Concrete Block - Int Insu	2nd Floor mas	5	28		9		252.0 ft²		0	0.1	0
_____	16	N	Exterior	Concrete Block - Int Insu	2nd Floor bed	5	35		9		315.0 ft²		0	0.1	0
_____	17	S	Exterior	Concrete Block - Int Insu	2nd Floor bed	5	58		9		522.0 ft²		0	0.1	0
_____	18	E	Exterior	Concrete Block - Int Insu	2nd Floor bed	5	18	6	9		166.5 ft²		0	0.1	0
_____	19	W	Exterior	Concrete Block - Int Insu	2nd Floor bed	5	18	6	9		166.5 ft²		0	0.1	0

DOORS											
✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
_____	1	W	Wood	foyer living din	None	.46	6		10		60 ft²
_____	2	S	Insulated	foyer living din	None	.46	3		7		21 ft²

INPUT SUMMARY CHECKLIST REPORT

WINDOWS

Orientation shown is the entered, Proposed orientation.

✓	#	Ornt	Wall ID	Frame	Panes	NFRC	U-Factor	SHGC	Imp	Area	Overhang Depth	Separation	Int Shade	Screening
_____	1	S	2	Metal	Double (Clear)	Yes	0.4	0.19	Y	30.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	2	E	3	Metal	Double (Clear)	Yes	0.4	0.19	Y	95.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	3	E	3	Metal	Double (Clear)	Yes	0.4	0.19	Y	30.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	4	E	5	Metal	Double (Clear)	Yes	0.4	0.19	Y	216.9 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	5	E	5	Metal	Double (Clear)	Yes	0.4	0.19	Y	494.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	6	W	6	Metal	Double (Clear)	Yes	0.4	0.19	Y	494.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	7	W	6	Metal	Double (Clear)	Yes	0.4	0.19	Y	49.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	8	W	6	Metal	Double (Clear)	Yes	0.4	0.19	Y	66.8 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	9	N	9	Metal	Double (Clear)	Yes	0.4	0.19	Y	180.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	10	S	10	Metal	Double (Clear)	Yes	0.4	0.19	Y	27.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	11	S	10	Metal	Double (Clear)	Yes	0.4	0.19	Y	24.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	12	S	10	Metal	Double (Clear)	Yes	0.4	0.19	Y	6.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	13	E	11	Metal	Double (Clear)	Yes	0.4	0.19	Y	80.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	14	W	12	Metal	Double (Clear)	Yes	0.4	0.19	Y	27.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	15	N	13	Metal	Double (Clear)	Yes	0.4	0.19	Y	36.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	16	E	15	Metal	Double (Clear)	Yes	0.4	0.19	Y	27.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	17	E	15	Metal	Double (Clear)	Yes	0.4	0.19	Y	108.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	18	W	16	Metal	Double (Clear)	Yes	0.4	0.19	Y	108.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	19	N	17	Metal	Double (Clear)	Yes	0.4	0.19	Y	162.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	20	S	18	Metal	Double (Clear)	Yes	0.4	0.19	Y	54.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	21	S	18	Metal	Double (Clear)	Yes	0.4	0.19	Y	48.0 ft²	0 ft 0 in	0 ft 0 in	None	None
_____	22	W	19	Metal	Double (Clear)	Yes	0.4	0.19	Y	27.0 ft²	0 ft 0 in	0 ft 0 in	None	None

GARAGE

✓	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____	1	429 ft²	429 ft²	43 ft	10 ft	1

INFILTRATION

#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
1	Wholehouse	Proposed ACH(50)	.00045	5070.9	278.2	522.3	.1956	6

HEATING SYSTEM

✓	#	System Type	Subtype	Speed	Efficiency	Capacity	Block	Ducts
_____	1	Electric Heat Pump/	None	Single	HSPF:10	13.6 kBtu/hr	1	sys#1
_____	2	Electric Strip Heat/	None		COP:1	34 kBtu/hr	2	sys#2
_____	3	Electric Strip Heat/	None		COP:1	27 kBtu/hr	3	sys#3
_____	4	Electric Strip Heat/	None		COP:1	17 kBtu/hr	4	sys#4
_____	5	Electric Strip Heat/	None		COP:1	27 kBtu/hr	5	sys#5

INPUT SUMMARY CHECKLIST REPORT

COOLING SYSTEM

✓	#	System Type	Subtype	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____	1	Central Unit/	None	Single	SEER: 16	12 kBtu/hr	360 cfm	0.75	1	sys#1
_____	2	Central Unit/	None	Single	SEER: 17	48 kBtu/hr	1440 cfm	0.75	2	sys#2
_____	3	Central Unit/	None	Single	SEER: 17	24 kBtu/hr	720 cfm	0.75	3	sys#3
_____	4	Central Unit/	None	Single	SEER: 17	24 kBtu/hr	720 cfm	0.75	4	sys#4
_____	5	Central Unit/	None	Single	SEER: 17	24 kBtu/hr	720 cfm	0.75	5	sys#5

HOT WATER SYSTEM

✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation
_____	1	Propane	None	Exterior	0.99	40 gal	100 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 ----			---- Return ----		Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC #	
		Location	R-Value	Area	Location	Area							Heat	Cool
_____	1	Attic	6	60 ft²	multi purpose	20 ft²	Default Leakage	multi purpos	(Default)	(Default)			1	1
_____	2	Attic	6	200 ft²	foyer living din	20 ft²	Default Leakage	foyer living	(Default)	(Default)			2	2
_____	3	Attic	6	180.08 f	2nd Floor mas	45.02 ft	Default Leakage	2nd Floor m	(Default)	(Default)			3	3
_____	4	Attic	6	180.08 f	2nd Floor bed	45.02 ft	Default Leakage	2nd Floor b	(Default)	(Default)			4	4
_____	5	Attic	6	180.08 f	2nd Floor bed	45.02 ft	Default Leakage	2nd Floor b	(Default)	(Default)			5	5

TEMPERATURES

Programable Thermostat: Y										Ceiling Fans:														
Cooling	☐	Jan	☐	Feb	☐	Mar	☐	Apr	☐	May	☒	Jun	☒	Jul	☒	Aug	☒	Sep	☐	Oct	☐	Nov	☐	Dec
Heating	☒	Jan	☒	Feb	☒	Mar	☐	Apr	☐	May	☐	Jun	☐	Jul	☐	Aug	☐	Sep	☐	Oct	☒	Nov	☒	Dec
Venting	☐	Jan	☐	Feb	☒	Mar	☒	Apr	☐	May	☐	Jun	☐	Jul	☐	Aug	☐	Sep	☒	Oct	☒	Nov	☐	Dec

INPUT SUMMARY CHECKLIST REPORT

Thermostat Schedule: HERS 2006 Reference		Hours											
Schedule Type		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		FurnitureFraction		Space					
Default(8 lbs/sq.ft.		0 ft²		0 ft		0.3		multi purpose room					
Default(8 lbs/sq.ft.		0 ft²		0 ft		0.3		foyer living dining					
Default(8 lbs/sq.ft.		0 ft²		0 ft		0.3		family kitchen laundr					
Default(8 lbs/sq.ft.		0 ft²		0 ft		0.3		2nd Floor master be					
Default(8 lbs/sq.ft.		0 ft²		0 ft		0.3		2nd Floor bed 1 2 3					

ENERGY PERFORMANCE LEVEL (EPL) DISPLAY CARD

ESTIMATED ENERGY PERFORMANCE INDEX* = 99

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

9841 SW 73RD COURT, PINECREST, FL, 33156

1. New construction or existing	New (From Plans)	10. Wall Type and Insulation	Insulation	Area
2. Single family or multiple family	Detached	a. Concrete Block - Int Insul, Exterior	R=5.0	5526.20 ft²
3. Number of units, if multiple family	1	b. Concrete Block - Int Insul, Adjacent	R=5.0	414.17 ft²
4. Number of Bedrooms	6	c. N/A	R=	ft²
5. Is this a worst case?	No	d. N/A	R=	ft²
6. Conditioned floor area (ft²)	4294	11. Ceiling Type and insulation level	Insulation	Area
7. Windows**	Description	a. Roof Deck (Unvented)	R=30.0	2947.00 ft²
a. U-Factor:	Dbl, U=0.40	b. N/A	R=	ft²
SHGC:	SHGC=0.19	c. N/A	R=	ft²
b. U-Factor:	N/A	12. Ducts, location & insulation level	R	ft²
SHGC:		3 additional duct system(s)	6	60
c. U-Factor:	N/A	b. Sup: Attic, Ret: foyer living dining, AH: foyer living	6	200
SHGC:		c. Sup: Attic, Ret: 2nd Floor master bed, AH: 2nd Flo	(see details)	
d. U-Factor:	N/A	13. Cooling systems	kBtu/hr	Efficiency
SHGC:		a. Central Unit	12.0	SEER:16.00
Area Weighted Average Overhang Depth:	0.000 ft.	b. Central Unit	48.0	SEER:17.00
Area Weighted Average SHGC:	0.190	3 additional cooling systems	(see details)	
8. Skylights	Description	14. Heating systems	kBtu/hr	Efficiency
a. U-Factor(AVG):	N/A	a. Electric Heat Pump	13.6	HSPF:10.00
SHGC(AVG):	N/A	b. Electric Strip Heat	34.0	COP:1.00
9. Floor Types	Insulation	3 additional heating systems	(see details)	
a. Slab-On-Grade Edge Insulation	R=0.0	15. Hot water systems	Cap: 40 gallons	
b. Floor Over Other Space	R=0.0	a. Propane	EF: 0.99	
c. other (see details)	R=	b. Conservation features	None	
	Area			
	2240.00 ft²			
	1246.00 ft²			
	808.00 ft²			
		Credits (Performance method)		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.

Florida Building Code, Energy Conservation, 7th Edition (2020)

Mandatory Requirements for Residential Performance, Prescriptive and ERI Methods

ADDRESS: 9841 SW 73RD COURT
PINECREST, FL, 33156

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

R402.4 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. 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.

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/m²), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m²), 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.

MANDATORY REQUIREMENTS - (Continued)

- ☐ **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.

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 having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.

- ☒ **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_n to the outside of less than 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 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.

- ☒ **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.

MANDATORY REQUIREMENTS - (Continued)



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.



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.



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.

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

FAN LOCATION	AIRFLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY ^a (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	2.8 cfm/watt	Any
Bathroom, utility room	10	1.4 cfm/watt	<90
Bathroom, utility room	90	2.8 cfm/watt	Any

For SI: 1 cfm = 28.3 L/min.

a. When tested in accordance with HVI Standard 916

MANDATORY REQUIREMENTS - (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).



R403.10 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.

- ☐ **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).** Not less than 90 percent of the lamps in permanently installed luminaires 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.

2020 - AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA

TABLE 402.4.1.1
AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA^a

Project Name: NEW RESIDENCE PINECREST 2 MAIN HOUSE Street: 9841 SW 73RD COURT City, State, Zip: PINECREST , FL , 33156 Owner: ELIGES INVESTORS CONSTRUCTION Design Location: FL, Miami			Builder Name: Permit Office: Permit Number: Jurisdiction:	CHECK
COMPONENT	AIR BARRIER CRITERIA	INSULATION INSTALLATION CRITERIA		
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.	✓	
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/phone box on exterior walls	The air barrier shall be installed behind electrical or communication boxes or air-sealed boxes shall be installed.		✓	
HVAC register boots	HVAC supply and return register boots that penetrate building thermal envelope shall be sealed to the sub-floor, wall covering or		✓	
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.

Residential System Sizing Calculation

Summary

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

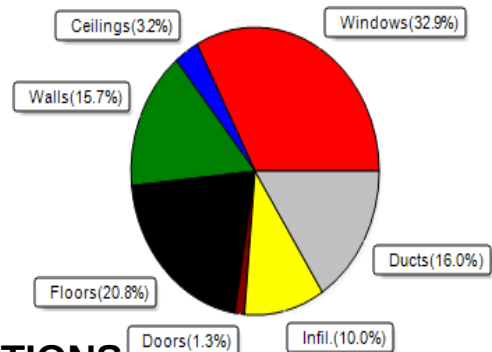
8/25/2022

Location for weather data: Miami, FL - Defaults: Latitude(25.82) Altitude(7 ft.) Temp Range(H)			
Humidity data: Interior RH (50%) Outdoor wet bulb (78F) Humidity difference(57gr.)			
Winter design temperature(MJ8 99%)	52 F	Summer design temperature(MJ8 99%)	92 F
Winter setpoint	70 F	Summer setpoint	75 F
Winter temperature difference	18 F	Summer temperature difference	17 F
Total heating load calculation	52253 Btuh	Total cooling load calculation	122548 Btuh
Submitted heating capacity	% of calc Btuh	Submitted cooling capacity	% of calc Btuh
Total (Electric Heat Pump)	227.0 118600	Sensible (SHR = 0.75)	90.8 99000
Heat Pump + Auxiliary(0.0kW)	227.0 118600	Latent	243.9 33000
		Total (Electric Heat Pump)	107.7 132000

WINTER CALCULATIONS

Winter Heating Load (for 4294 sqft)

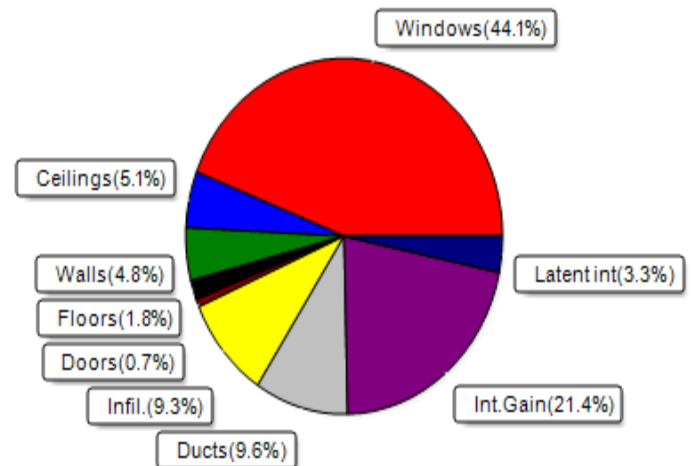
Load component	Load
Window total 2390 sqft	17206 Btuh
Wall total 3470 sqft	8217 Btuh
Door total 81 sqft	671 Btuh
Ceiling total 2947 sqft	1689 Btuh
Floor total See detail report	10894 Btuh
Infiltration 264 cfm	5236 Btuh
Duct loss	8342 Btuh
Subtotal	52253 Btuh
Ventilation 0 cfm	0 Btuh
TOTAL HEAT LOSS	52253 Btuh



SUMMER CALCULATIONS

Summer Cooling Load (for 4294 sqft)

Load component	Load
Window total 2390 sqft	54065 Btuh
Wall total 3470 sqft	5858 Btuh
Door total 81 sqft	857 Btuh
Ceiling total 2947 sqft	6288 Btuh
Floor total	2176 Btuh
Infiltration 198 cfm	3709 Btuh
Internal gain	26200 Btuh
Duct gain	9865 Btuh
Sens. Ventilation 0 cfm	0 Btuh
Blower Load	0 Btuh
Total sensible gain	109017 Btuh
Latent gain(ducts)	1844 Btuh
Latent gain(infiltration)	7687 Btuh
Latent gain(ventilation)	0 Btuh
Latent gain(internal/occupants/other)	4000 Btuh
Total latent gain	13531 Btuh
TOTAL HEAT GAIN	122548 Btuh



8th Edition

EnergyGauge® System Sizing

PREPARED BY: _____

DATE: _____

System Sizing Calculations - Summer

Residential Load - Room by Room Component Details

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

8/25/2022

Reference City: Miami, FL

Temperature Difference: 17.0F(MJ8 99%)

Humidity difference: 57gr.

Component Loads for Room #1: multi purpose room

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
1	2 NFRC	0.19, 0.40	No	No	S		0.0ft.	0.0ft.	30.0	0.0	30.0	11	12	345 Btuh	
2	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	95.0	0.0	95.0	11	25	2406 Btuh	
3	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	30.0	0.0	30.0	11	25	760 Btuh	
Window Total									155 (sqft)					3511 Btuh	
Walls	Type						U-Value		R-Value		Area(sqft)		HTM		Load
									Cav/Sheath						
	1 Concrete Blk,Hollow - Ext						0.13		5.0/0.0		120.0		1.6		194 Btuh
	2 Concrete Blk,Hollow - Ext						0.13		5.0/0.0		44.2		1.6		71 Btuh
	3 Concrete Blk,Hollow - Ext						0.13		5.0/0.0		125.0		1.6		202 Btuh
	4 Concrete Blk,Hollow - Adj						0.13		5.0/0.0		220.0		2.2		492 Btuh
	Wall Total									509 (sqft)					960 Btuh
Floors	Type						R-Value		Size		HTM		Load		
1	Slab On Grade						0.0		274 (ft-perimeter)		0.0				
Floor Total									274.0 (sqft)						
	Zone Envelope Subtotal:													4471 Btuh	
Infiltration	Type						Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load
	Natural						0.23		2740		0.15		29.1		
Internal gain							Occupants		Btuh/occupant				Appliance		Load
							2		X 230	+			1200		
	Sensible Envelope Load:													6675 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.)											(DGM of 0.110)		732 Btuh	
	Sensible Zone Load													7408 Btuh	

Component Loads for Room #2: foyer living dining

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
4	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	216.9	0.0	216.9	11	25	5494 Btuh
5	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	494.0	0.0	494.0	11	25	12511 Btuh
6	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	494.0	0.0	494.0	11	25	12511 Btuh
7	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	49.0	0.0	49.0	11	25	1241 Btuh
8	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	66.8	0.0	66.8	11	25	1691 Btuh
	Window Total								1321 (sqft)					33448 Btuh
Walls	Type						U-Value	R-Value	Area(sqft)		HTM		Load	
								Cav/Sheath						
	5	Concrete Blk,Hollow - Ext					0.13	5.0/0.0	87.1		1.6		141 Btuh	
	6	Concrete Blk,Hollow - Ext					0.13	5.0/0.0	128.3		1.6		208 Btuh	
	7	Concrete Blk,Hollow - Adj					0.13	5.0/0.0	173.2		2.2		387 Btuh	
	Wall Total								388 (sqft)				736 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

Doors 1 2	Type	Area (sqft)			HTM	Load
	Wood - Exterior	60.0			10.6	635 Btuh
	Insulated - Garage	21.0			10.6	222 Btuh
	Door Total	81 (sqft)				857 Btuh
Ceilings 1	Type/Color/Surface	U-Value	R-Value	Area(sqft)	HTM	Load
	Unvented Attic/Light/Concrete	0.032	30.0/0.0	893.0	2.13	1905 Btuh
	Ceiling Total			893 (sqft)		1905 Btuh
Floors 2	Type	R-Value		Size	HTM	Load
	Slab On Grade	0.0		893 (ft-perimeter)	0.0	0 Btuh
	Floor Total			893.0 (sqft)		0 Btuh
	Zone Envelope Subtotal:					36946 Btuh
Infiltration	Type	Wholehouse ACH	Volume(cuft) Wall Ratio		CFM=	Load
	Natural	0.23	18753 0.11		22.2	415 Btuh
Internal gain		Occupants	Btuh/occupant		Appliance	Load
		6	X 230	+	2400	3780 Btuh
	Sensible Envelope Load:					41141 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DGM of 0.059)				2415 Btuh	
	Sensible Zone Load					43556 Btuh

Component Loads for Room #3: family kitchen laundry

Window	Type*						Overhang		Window Area(sqft)			HTM		Load
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded	
9	2 NFRC	0.19, 0.40	No	No	S		0.0ft.	0.0ft.	180.0	0.0	180.0	11	12	2072 Btuh
10	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	27.0	0.0	27.0	11	25	684 Btuh
11	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	24.0	0.0	24.0	11	25	608 Btuh
12	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	6.0	0.0	6.0	11	25	152 Btuh
13	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	80.0	0.0	80.0	11	25	2026 Btuh
	Window Total								317 (sqft)					5542 Btuh
Walls	Type	U-Value		R-Value		Area(sqft)		HTM		Load				
8	Concrete Blk,Hollow - Ext	0.13		5.0/0.0		350.0		1.6		566 Btuh				
9	Concrete Blk,Hollow - Ext	0.13		5.0/0.0		400.0		1.6		647 Btuh				
10	Concrete Blk,Hollow - Ext	0.13		5.0/0.0		123.0		1.6		199 Btuh				
11	Concrete Blk,Hollow - Ext	0.13		5.0/0.0		100.0		1.6		162 Btuh				
	Wall Total						973 (sqft)			1575 Btuh				
Floors	Type	R-Value		Size		HTM		Load						
3	Slab On Grade	0.0		1073 (ft-perimeter)		0.0		0 Btuh						
	Floor Total						1073.0 (sqft)			0 Btuh				
	Zone Envelope Subtotal:													7116 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

Infiltration	Type Natural	Wholehouse ACH 0.23	Volume(cuft) 10730	Wall Ratio 0.28	CFM= 55.6	Load 1040 Btuh
Internal gain		Occupants 6	Btuh/occupant X 230	Appliance +	6000	Load 7380 Btuh
	Sensible Envelope Load:					15536 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DGM of 0.141)					2187 Btuh
	Sensible Zone Load					17723 Btuh

Component Loads for Room #4: 2nd Floor master bed

Window	Type*						Overhang		Window Area(sqft)			HTM		Load			
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded				
14	2 NFRC	0.19, 0.40	No	No	N		0.0ft.	0.0ft.	27.0	0.0	27.0	11	11	295	Btuh		
15	2 NFRC	0.19, 0.40	No	No	S		0.0ft.	0.0ft.	36.0	0.0	36.0	11	12	414	Btuh		
16	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	27.0	0.0	27.0	11	25	684	Btuh		
17	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	108.0	0.0	108.0	11	25	2735	Btuh		
	Window Total								198 (sqft)					4128 Btuh			
Walls	Type					U-Value	R-Value		Area(sqft)			HTM		Load			
							Cav/Sheath										
12	Concrete Blk,Hollow - Ext						0.13	5.0/0.0		315.0			1.6		510	Btuh	
13	Concrete Blk,Hollow - Ext						0.13	5.0/0.0		72.0			1.6		117	Btuh	
14	Concrete Blk,Hollow - Ext						0.13	5.0/0.0		324.0			1.6		524	Btuh	
15	Concrete Blk,Hollow - Ext						0.13	5.0/0.0		117.0			1.6		189	Btuh	
	Wall Total								828 (sqft)					1340 Btuh			
Ceilings	Type/Color/Surface					U-Value	R-Value		Area(sqft)			HTM		Load			
2	Unvented Attic/Light/Concrete						0.032	30.0/0.0		1082.0			2.13		2309	Btuh	
	Ceiling Total								1082 (sqft)					2309 Btuh			
Floors	Type							R-Value		Size			HTM		Load		
4	Interior								0.0		274 (sqft)			0.0		0	Btuh
5	Raised Wood - Adj								0.0		429 (sqft)			2.7		1155	Btuh
6	Raised - Open								0.0		379 (sqft)			2.7		1020	Btuh
	Floor Total								1082.0 (sqft)					2176 Btuh			
	Zone Envelope Subtotal:													9952 Btuh			
Infiltration	Type					Wholehouse ACH		Volume(cuft)		Wall Ratio		CFM=		Load			
	Natural					0.23		9738		0.24		47.3		885 Btuh			
Internal gain							Occupants		Btuh/occupant		Appliance		Load				
							2		X 230		+		6000		6460 Btuh		
	Sensible Envelope Load:													17297 Btuh			

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DGM of 0.127)	2192 Btuh
	Sensible Zone Load	19489 Btuh

Component Loads for Room #5: 2nd Floor bed 1 2 3

Window	Type*						Overhang		Window Area(sqft)			HTM		Load	
	Panes	SHGC	U	InSh	IS	Ornt	Len	Hgt	Gross	Shaded	Unshaded	Shaded	Unshaded		
18	2 NFRC	0.19, 0.40	No	No	N		0.0ft.	0.0ft.	108.0	0.0	108.0	11	11	1179	Btuh
19	2 NFRC	0.19, 0.40	No	No	S		0.0ft.	0.0ft.	162.0	0.0	162.0	11	12	1865	Btuh
20	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	54.0	0.0	54.0	11	25	1368	Btuh
21	2 NFRC	0.19, 0.40	No	No	E		0.0ft.	0.0ft.	48.0	0.0	48.0	11	25	1216	Btuh
22	2 NFRC	0.19, 0.40	No	No	W		0.0ft.	0.0ft.	27.0	0.0	27.0	11	25	684	Btuh
	Window Total								399 (sqft)					6311 Btuh	
Walls	Type					U-Value	R-Value	Area(sqft)			HTM		Load		
							Cav/Sheath								
16	Concrete Blk,Hollow - Ext						0.13	5.0/0.0	207.0			1.6		335	Btuh
17	Concrete Blk,Hollow - Ext						0.13	5.0/0.0	360.0			1.6		583	Btuh
18	Concrete Blk,Hollow - Ext						0.13	5.0/0.0	64.5			1.6		104	Btuh
19	Concrete Blk,Hollow - Ext						0.13	5.0/0.0	139.5			1.6		226	Btuh
	Wall Total								771 (sqft)					1248 Btuh	
Ceilings	Type/Color/Surface					U-Value	R-Value	Area(sqft)			HTM		Load		
3	Unvented Attic/Light/Concrete						0.032	30.0/0.0	972.0			2.13		2074	Btuh
	Ceiling Total								972 (sqft)					2074 Btuh	
Floors	Type						R-Value	Size			HTM		Load		
7	Interior							0.0	972 (sqft)			0.0		0	Btuh
	Floor Total								972.0 (sqft)					0 Btuh	
	Zone Envelope Subtotal:													9633 Btuh	
Infiltration	Type					Wholehouse ACH	Volume(cuft)			Wall Ratio	CFM=		Load		
	Natural					0.23	8748			0.22	44.1		824	Btuh	
Internal gain							Occupants	Btuh/occupant			Appliance		Load		
							4	X	230	+	6000		6920	Btuh	
	Sensible Envelope Load:													17377 Btuh	
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.)											(DGM of 0.126)		2197 Btuh	
	Sensible Zone Load													19574 Btuh	

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAMI_INTL_AP

8/25/2022

The following window Excursion will be assigned to the system loads.

Windows	July excursion for System 1	0 Btuh
	July excursion for System 2	0 Btuh
	July excursion for System 3	0 Btuh
	July excursion for System 4	1125 Btuh
	July excursion for System 5	0 Btuh
	Excursion Subtotal:	1125 Btuh
Duct load		143 Btuh
	Sensible Excursion Load	1268 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

SYSTEM GROUPS (BLOCK LOADS)

Cooling Loads For System(s): 1 Serving Zones: 1	Sensible Envelope Load	6675 Btuh
	Window Excursion	0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.110)	732 Btuh
	Sensible ventilation	0 Btuh
	Zone Sensible gain	7408 Btuh
	Latent infiltration/ventilation gain	1128 Btuh
	Latent duct gain	145 Btuh
	Latent occupant gain	400 Btuh
	Latent other gain	0 Btuh
	Total block load	9081 Btuh

Cooling Loads For System(s): 2 Serving Zones: 2	Sensible Envelope Load	41141 Btuh
	Window Excursion	0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.059)	2415 Btuh
	Sensible ventilation	0 Btuh
	Zone Sensible gain	43556 Btuh
	Latent infiltration/ventilation gain	861 Btuh
	Latent duct gain	421 Btuh
	Latent occupant gain	1200 Btuh
	Latent other gain	0 Btuh
	Total block load	46038 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

SYSTEM GROUPS (BLOCK LOADS)

Cooling Loads For System(s): 3 Serving Zones: 3	Sensible Envelope Load	15536 Btuh
	Window Excursion	0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.141)	2187 Btuh
	Sensible ventilation	0 Btuh
	Zone Sensible gain	17723 Btuh
	Latent infiltration/ventilation gain	2156 Btuh
	Latent duct gain	415 Btuh
	Latent occupant gain	1200 Btuh
	Latent other gain	0 Btuh
	Total block load	21494 Btuh

Cooling Loads For System(s): 4 Serving Zones: 4	Sensible Envelope Load	17297 Btuh
	Window Excursion	1125 Btuh
	Sensible Duct Load (duct gain multiplier of 0.127) (Includes 143 Btuh due to window excursion)	2334 Btuh
	Sensible ventilation	0 Btuh
	Zone Sensible gain	20757 Btuh
	Latent infiltration/ventilation gain	1834 Btuh
	Latent duct gain	425 Btuh
	Latent occupant gain	400 Btuh
	Latent other gain	0 Btuh
	Total block load	23417 Btuh

Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAAMI_INTL_AP

8/25/2022

SYSTEM GROUPS (BLOCK LOADS)

Cooling Loads For System(s): 5 Serving Zones: 5	Sensible Envelope Load	17377 Btuh
	Window Excursion	0 Btuh
	Sensible Duct Load (duct gain multiplier of 0.126)	2197 Btuh
	Sensible ventilation	0 Btuh
	Zone Sensible gain	19574 Btuh
	Latent infiltration/ventilation gain	1708 Btuh
	Latent duct gain	437 Btuh
	Latent occupant gain	800 Btuh
	Latent other gain	0 Btuh
	Total block load	22519 Btuh

WHOLE HOUSE TOTALS

Whole House Totals for Cooling	Sensible Envelope Load All Zones	99153 Btuh
	Sensible Duct Load	9865 Btuh
	Total Sensible Zone Loads	109017 Btuh
	Sensible ventilation	0 Btuh
	Blower	0 Btuh
	Total sensible gain	109017 Btuh
	Latent infiltration gain (for 57 gr. humidity difference)	7687 Btuh
	Latent ventilation gain	0 Btuh
	Latent duct gain	1844 Btuh
	Latent occupant gain (20.0 people @ 200 Btuh per person)	4000 Btuh
	Latent other gain	0 Btuh
	Latent total gain	13531 Btuh
	TOTAL GAIN	122548 Btuh

EQUIPMENT

1. Central Unit	#	12000 Btuh
2. Central Unit	#	48000 Btuh
3. Central Unit	#	24000 Btuh
4. Central Unit	#	24000 Btuh
5. Central Unit	#	24000 Btuh

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Manual J Summer Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE

Climate:FL_MIAMI_INTL_AP

8/25/2022

*Key: Window types (Panels - 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($\frac{1}{2}$))
(Ornt - compass orientation)



Version 8

System Sizing Calculations - Winter

Residential Load - Room by Room Component Details

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE
Building Type: User

8/25/2022

Reference City: Miami, FL (Defaults) Winter Temperature Difference: 18.0 F (MJ8 99%)

Component Loads for Room #1: multi purpose room

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
1	2, NFRC 0.19	Metal	0.40	S	30.0		7.2	216 Btuh
2	2, NFRC 0.19	Metal	0.40	E	95.0		7.2	684 Btuh
3	2, NFRC 0.19	Metal	0.40	E	30.0		7.2	216 Btuh
Window Total					155.0(sqft)			1116 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
1	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	120		2.37	284 Btuh
2	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	44		2.37	105 Btuh
3	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	125		2.37	296 Btuh
4	Conc Blk,Hollow - Adj		(0.132)	5.0/0.0	220		2.37	521 Btuh
Wall Total					509(sqft)			1206 Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
1	Slab On Grade		(1.180)	0.0	44.5 ft(perim.)		21.2	945 Btuh
Floor Total					274 sqft			945 Btuh
Room Envelope Subtotal:								3267 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=		Load
	Natural		0.31	2740	0.15	38.8		768 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DLM of 0.111)							450 Btuh
Room #1	Sensible Room Subtotal							4485 Btuh

Component Loads for Room #2: foyer living dining

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
4	2, NFRC 0.19	Metal	0.40	E	216.9		7.2	1562 Btuh
5	2, NFRC 0.19	Metal	0.40	E	494.0		7.2	3557 Btuh
6	2, NFRC 0.19	Metal	0.40	W	494.0		7.2	3557 Btuh
7	2, NFRC 0.19	Metal	0.40	W	49.0		7.2	353 Btuh
8	2, NFRC 0.19	Metal	0.40	W	66.8		7.2	481 Btuh
Window Total					1320.7(sqft)			9509 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
5	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	87		2.37	206 Btuh
6	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	128		2.37	304 Btuh
7	Conc Blk,Hollow - Adj		(0.132)	5.0/0.0	173		2.37	410 Btuh
Wall Total					389(sqft)			920 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE
Building Type: User

8/25/2022

Doors 1 2	Type	Storm Ueff.		Area X	HTM=	Load
	Wood - Exterior,	n (0.460)		60	8.3	497 Btuh
	Insulated - Garage,	n (0.460)		21	8.3	174 Btuh
	Door Total			81(sqft)		671Btuh
Ceilings 1	Type/Color/Surface	Ueff.	R-Value	Area X	HTM=	Load
	Unvent Attic/L/Concr	(0.032)	30.0/0.0	893	0.6	512 Btuh
	Ceiling Total			893(sqft)		512Btuh
Floors 2	Type	Ueff.	R-Value	Size X	HTM=	Load
	Slab On Grade	(1.180)	0.0	76.0 ft(perim.)	21.2	1614 Btuh
	Floor Total			893 sqft		1614 Btuh
	Room Envelope Subtotal:					13226 Btuh
Infiltration	Type	Wholehouse ACH	Room Volume	Wall Ratio	CFM=	
	Natural	0.31	18753	0.11	29.6	586 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.)				(DLM of 0.158)	2179 Btuh
Room #2	Sensible Room Subtotal					15991 Btuh

Component Loads for Room #3: family kitchen laundry

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
9	2, NFRC 0.19	Metal	0.40	S	180.0		7.2	1296 Btuh
10	2, NFRC 0.19	Metal	0.40	E	27.0		7.2	194 Btuh
11	2, NFRC 0.19	Metal	0.40	E	24.0		7.2	173 Btuh
12	2, NFRC 0.19	Metal	0.40	E	6.0		7.2	43 Btuh
13	2, NFRC 0.19	Metal	0.40	W	80.0		7.2	576 Btuh
	Window Total				317.0(sqft)			2282 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
8	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	350		2.37	829 Btuh
9	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	400		2.37	947 Btuh
10	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	123		2.37	291 Btuh
11	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	100		2.37	237 Btuh
	Wall Total				973(sqft)			2304 Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
3	Slab On Grade		(1.180)	0.0	129.0 ft(perim.)		21.2	2740 Btuh
	Floor Total				1073 sqft			2740 Btuh
	Room Envelope Subtotal:							7327 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE
Building Type: User

8/25/2022

Infiltration	Type Natural	Wholehouse ACH 0.31	Room Volume 10730	Wall Ratio 0.28	CFM= 74.2	1468 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DLM of 0.216)					1902 Btuh
Room #3	Sensible Room Subtotal					10697 Btuh

Component Loads for Room #4: 2nd Floor master bed

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
14	2, NFRC 0.19	Metal	0.40	N	27.0		7.2	194 Btuh
15	2, NFRC 0.19	Metal	0.40	S	36.0		7.2	259 Btuh
16	2, NFRC 0.19	Metal	0.40	W	27.0		7.2	194 Btuh
17	2, NFRC 0.19	Metal	0.40	W	108.0		7.2	778 Btuh
	Window Total					198.0(sqft)		1426 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
12	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	315		2.37	746 Btuh
13	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	72		2.37	171 Btuh
14	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	324		2.37	767 Btuh
15	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	117		2.37	277 Btuh
	Wall Total					828(sqft)		1961 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
2	Unvent Attic/L/Concr		(0.032)	30.0/0.0	1082		0.6	620 Btuh
	Ceiling Total					1082(sqft)		620Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
4	Interior		(1.180)	0.0	274.0 sqft		0.0	0 Btuh
5	Raised Wood - Adj		(0.385)	0.0	429.0 sqft		6.9	2970 Btuh
6	Raised - Open		(0.385)	0.0	379.0 sqft		6.9	2624 Btuh
	Floor Total					1082 sqft		5594 Btuh
	Room Envelope Subtotal:							9601 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio		CFM=	
	Natural		0.31	9738	0.24		63.1	1249 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.)						(DLM of 0.171)	1859 Btuh
Room #4	Sensible Room Subtotal							12710 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE
Building Type: User

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Component Loads for Room #5: 2nd Floor bed 1 2 3

Window	Panes/Type	Frame	U	Orientation	Area(sqft)	X	HTM=	Load
18	2, NFRC 0.19	Metal	0.40	N	108.0		7.2	778 Btuh
19	2, NFRC 0.19	Metal	0.40	S	162.0		7.2	1166 Btuh
20	2, NFRC 0.19	Metal	0.40	E	54.0		7.2	389 Btuh
21	2, NFRC 0.19	Metal	0.40	E	48.0		7.2	346 Btuh
22	2, NFRC 0.19	Metal	0.40	W	27.0		7.2	194 Btuh
	Window Total				399.0(sqft)			2873 Btuh
Walls	Type	Ornt.	Ueff.	R-Value (Cav/Sh)	Area	X	HTM=	Load
16	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	207		2.37	490 Btuh
17	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	360		2.37	853 Btuh
18	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	65		2.37	153 Btuh
19	Conc Blk,Hollow - Ext		(0.132)	5.0/0.0	140		2.37	330 Btuh
	Wall Total				771(sqft)			1826 Btuh
Ceilings	Type/Color/Surface		Ueff.	R-Value	Area	X	HTM=	Load
3	Unvent Attic/L/Concr		(0.032)	30.0/0.0	972		0.6	557 Btuh
	Ceiling Total				972(sqft)			557Btuh
Floors	Type		Ueff.	R-Value	Size	X	HTM=	Load
7	Interior		(0.385)	0.0	972.0 sqft		0.0	0 Btuh
	Floor Total				972 sqft			0 Btuh
	Room Envelope Subtotal:							5256 Btuh
Infiltration	Type	Wholehouse	ACH	Room Volume	Wall Ratio	CFM=		Load
	Natural		0.31	8748	0.22	58.8		1163 Btuh
Duct load	Average sealed, Supply(R6.0-Attic), Return(R6.0-Cond.) (DLM of 0.304)							1951 Btuh
Room #5	Sensible Room Subtotal							8371 Btuh

SYSTEM GROUPS (BLOCK LOADS)

Heating Loads For System(s):1 Serving Rooms: 1	Block load	4485 Btuh
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Manual J Winter Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
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NEW RESIDENCE PINECREST 2 MAIN HOUSE
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Heating Loads For System(s):2 Serving Rooms: 2	Block load	15991 Btuh
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Heating Loads For System(s):3 Serving Rooms: 3	Block load	10697 Btuh
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Heating Loads For System(s):4 Serving Rooms: 4	Block load	12710 Btuh
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Heating Loads For System(s):5 Serving Rooms: 5	Block load	8371 Btuh
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WHOLE HOUSE TOTALS

Totals for Heating	Subtotal Sensible Heat Loss Ventilation Sensible Heat Loss Total Heat Loss	52253 Btuh 0 Btuh 52253 Btuh
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EQUIPMENT

1. Electric Heat Pump	#	13600 Btuh
2. Electric Strip Heat		34000 Btuh
3. Electric Strip Heat		27000 Btuh
4. Electric Strip Heat		17000 Btuh
5. Electric Strip Heat		27000 Btuh

Manual J Winter Calculations

Residential Load - Component Details (continued)

ELIGES INVESTORS CONSTRUCTION
9841 SW 73RD COURT
PINECREST, FL 33156

Project Title:
NEW RESIDENCE PINECREST 2 MAIN HOUSE
Building Type: User

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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

Envelope Leakage Test Report (Blower Door Test)

Residential Prescriptive, Performance or ERI Method Compliance

2020 Florida Building Code, Energy Conservation, 7th Edition

Jurisdiction:	Permit #:
Job Information	
Builder:	Community: Lot: NA
Address: 9841 SW 73RD COURT	
City: PINECREST	State: FL Zip: 33156
Air Leakage Test Results <i>Passing results must meet either the Performance, Prescriptive, or ERI Method</i>	
☐ 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 R405-2020 (Performance) or R406-2020 (ERI), section labeled as infiltration, sub-section ACH50. ACH(50) specified on Form R405-2020-Energy Calc (Performance) or R406-2020 (ERI): 6.000	
$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div \frac{50709}{\text{ACH}(50)} =$ 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. 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), <i>Florida Statutes</i>, 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 <i>code official</i>. Testing shall be performed at any time after creation of all penetrations of the <i>building thermal envelope</i>. 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.	
Testing Company	
Company Name: _____ Phone: _____ I hereby verify that the above Air Leakage results are in accordance with the 2020 7th 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: _____	