FORM R405-2017

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

Florida Department of Business and Professional Regulation - Residential Performance Method

| | | | |
|---|---|---|---|
| Project Name: | Calverly Residence | Builder Name: | IC Construction |
| Street: | | Permit Office: | |
| City, State, Zip: | , FL , | Permit Number: | |
| Owner: | | 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 | Single-family |
| 3. Number of units, if multiple family | 1 |
| 4. Number of Bedrooms | 3 |
| 5. Is this a worst case? | No |
| 6. Conditioned floor area above grade (ft²) | 2731 |
| Conditioned floor area below grade (ft²) | 0 |

7. Windows(263.0 sqft.)

| | Description | Area |
|---|---|---|
| a. U-Factor: | Dbl, U=0.33 | 263.00 ft² |
| SHGC: | SHGC=0.22 | |
| 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: 4.892 ft.
Area Weighted Average SHGC: 0.220

8. Floor Types (2731.0 sqft.)

| | Insulation | Area |
|---|---|---|
| a. Slab-On-Grade Edge Insulation | R=0.0 | 2315.00 ft² |
| b. Floor over Garage | R=19.0 | 416.00 ft² |
| c. N/A | R= | ft² |

9. Wall Types (2697.6 sqft.)

| | Insulation | Area |
|---|---|---|
| a. Frame - Wood, Exterior | R=13.0 | 2319.60 ft² |
| b. Frame - Wood, Adjacent | R=13.0 | 378.00 ft² |
| c. N/A | R= | ft² |
| d. N/A | R= | ft² |

10. Ceiling Types (2731.0 sqft.)

| | Insulation | Area |
|---|---|---|
| a. Cathedral/Single Assembly (Unvented) | R=30.0 | 2731.00 ft² |
| b. N/A | R= | ft² |
| c. N/A | R= | ft² |

11. Ducts

| | R | ft² |
|---|---|---|
| a. Sup: Main, Ret: Main, AH: Main | 6 | 546.2 |

12. Cooling systems

| | kBtu/hr | Efficiency |
|---|---|---|
| a. Central Unit | 42.0 | SEER:14.00 |

13. Heating systems

| | kBtu/hr | Efficiency |
|---|---|---|
| a. Electric Heat Pump | 42.0 | HSPF:8.50 |

14. Hot water systems

| | | |
|---|---|---|
| a. Electric | Tankless | Cap: 1 gallons |
| | | EF: 0.920 |
| b. Conservation features | | |
| None | | |

15. Credits: CF, Pstat

Glass/Floor Area: 0.096

Total Proposed Modified Loads: 61.27
Total Baseline Loads: 71.59

**PASS**

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

PREPARED BY: _____
DATE: 12-22-20

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 5.00 ACH50 (R402.4.1.2).**

**- Compliance with a proposed duct leakage Qn requires a Duct Leakage Test Report confirming duct leakage to outdoors, tested in accordance with ANSI/RESNET/ICC 380, is not greater than 0.030 Qn for whole house.**

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# INPUT SUMMARY CHECKLIST REPORT

## PROJECT

| | | | | | |
|---|---|---|---|---|---|
| Title: | Calverly Residence | Bedrooms: | 3 | Address Type: | Street Address |
| Building Type: | User | Conditioned Area: | 2083 | Lot # | |
| Owner Name: | | Total Stories: | 1 | Block/Subdivision: | |
| # of Units: | 1 | Worst Case: | No | PlatBook: | |
| Builder Name: | IC Construction | Rotate Angle: | 0 | Street: | |
| Permit Office: | | Cross Ventilation: | | County: | columbia |
| Jurisdiction: | | Whole House Fan: | | City, State, Zip: | , FL , |
| Family Type: | Single-family | | | | |
| 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 | Block1 | 2731 | 24163 |

## SPACES

| Number | Name | Area | Volume | Kitchen | Occupants | Bedrooms | Infil ID | Finished | Cooled | Heated |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Main | 2315 | 20835 | Yes | 6 | 3 | 1 | Yes | Yes | Yes |
| 2 | Bonus Room | 416 | 3328 | No | 2 | 0 | 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 | Main | 263 ft | 0 | 2315 ft² | ---- | 0.33 | 0.33 | 0.34 |
| _____ | 2 | Floor over Garage | Bonus Room | ---- | ---- | 416 ft² | 19 | 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 | 3283 ft² | 910 ft² | Dark | N | 0.92 | No | 0.9 | No | 0 | 33.7 |

## ATTIC

| √ | # | Type | Ventilation | Vent Ratio (1 in) | Area | RBS | IRCC |
|---|---|---|---|---|---|---|---|
| _____ | 1 | Full attic | Unvented | 0 | 2731 ft² | N | N |

# INPUT SUMMARY CHECKLIST REPORT

## CEILING

| √ | # | Ceiling Type | Space | R-Value | Ins Type | Area | Framing Frac | Truss Type |
|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Cathedral/Single Assembly (Unvented | Main | 30 | Blown | 2315 ft² | 0.11 | Wood |
| _____ | 2 | Cathedral/Single Assembly (Unvented | Bonus Room | 30 | Blown | 416 ft² | 0.11 | Wood |

## 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 | Main | 13 | 44 | 6 | 10 | | 445.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 2 | W | Exterior | Frame - Wood | Main | 13 | 21 | 11 | 9 | | 197.3 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 3 | N | Exterior | Frame - Wood | Main | 13 | 28 | | 9 | | 252.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 4 | E | Exterior | Frame - Wood | Main | 13 | 28 | 8 | 9 | | 258.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 5 | S | Exterior | Frame - Wood | Main | 13 | 11 | 8 | 9 | | 105.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 6 | E | Exterior | Frame - Wood | Main | 13 | 5 | | 10 | | 50.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 7 | S | Exterior | Frame - Wood | Main | 13 | 33 | 2 | 10 | | 331.7 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 8 | W | Exterior | Frame - Wood | Main | 13 | 5 | | 9 | | 45.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 9 | S | Exterior | Frame - Wood | Main | 13 | 6 | 0 | 9 | | 54.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 10 | W | Exterior | Frame - Wood | Main | 13 | 20 | 4 | 9 | | 183.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 11 | N | Exterior | Frame - Wood | Main | 13 | 6 | | 9 | | 54.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 12 | W | Exterior | Frame - Wood | Main | 13 | 6 | | 9 | | 54.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 13 | N | Exterior | Frame - Wood | Bonus Room | 13 | 7 | 10 | 8 | | 62.7 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 14 | E | Exterior | Frame - Wood | Bonus Room | 13 | 8 | 8 | 8 | | 69.3 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 15 | S | Exterior | Frame - Wood | Bonus Room | 13 | 7 | 10 | 8 | | 62.7 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 16 | S | Exterior | Frame - Wood | Bonus Room | 13 | 12 | | 8 | | 96.0 ft² | 0.625 | 0.23 | 0.75 | 0 |
| ____ | 17 | SE | Garage | Frame - Wood | Main | 13 | 47 | 3 | 8 | | 378.0 ft² | 0.625 | 0.23 | 0.75 | 0 |

## DOORS

| √ | # | Ornt | Door Type | Space | Storms | U-Value | Width Ft | Width In | Height Ft | Height In | Area |
|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | N | Insulated | Main | None | .4 | 5 | | 8 | | 40 ft² |
| _____ | 2 | N | Insulated | Main | None | .4 | 5 | | 8 | | 40 ft² |
| _____ | 3 | W | Insulated | Main | None | .4 | 3 | | 8 | | 24 ft² |
| _____ | 4 | S | Insulated | Main | None | .4 | 5 | | 8 | | 40 ft² |
| _____ | 5 | SE | Insulated | Main | None | .4 | 3 | | 6 | 8 | 20 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 | 0.22 | N | 30.0 ft² | 11 ft 6 in | 1 ft 4 in | None | None |
| _____ | 2 | N | 1 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 16.0 ft² | 11 ft 6 in | 1 ft 4 in | None | None |
| _____ | 3 | W | 2 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 30.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 4 | N | 3 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 30.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 5 | E | 4 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 6 | E | 4 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 3.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 7 | E | 4 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 8 | S | 5 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |

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# 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 | Overhang Separation | Int Shade | Screening |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 9 | S | 7 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 72.0 ft² | 7 ft 6 in | 1 ft 4 in | None | None |
| _____ | 10 | S | 9 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 11 | W | 10 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 12 | N | 11 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 8.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 13 | E | 14 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 24.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |
| _____ | 14 | S | 16 | Vinyl | Low-E Double | Yes | 0.33 | 0.22 | N | 10.0 ft² | 1 ft 6 in | 1 ft 4 in | None | None |

## GARAGE

| √ | # | Floor Area | Ceiling Area | Exposed Wall Perimeter | Avg. Wall Height | Exposed Wall Insulation |
|---|---|---|---|---|---|---|
| _____ | 1 | 891.3352 ft² | 891.3352 ft² | 76.1667 ft | 8 ft | 1 |

## INFILTRATION

| # | Scope | Method | SLA | CFM 50 | ELA | EqLA | ACH | ACH 50 |
|---|---|---|---|---|---|---|---|---|
| 1 | Wholehouse | Proposed ACH(50) | .000281 | 2013.6 | 110.54 | 207.89 | .1101 | 5 |

## HEATING SYSTEM

| √ | # | System Type | Subtype | Speed | Efficiency | Capacity | Block | Ducts |
|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Electric Heat Pump/ | None | Singl | HSPF:8.5 | 42 kBtu/hr | 1 | sys#1 |

## COOLING SYSTEM

| √ | # | System Type | Subtype | Subtype | Efficiency | Capacity | Air Flow | SHR | Block | Ducts |
|---|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Central Unit/ | None | Singl | SEER: 14 | 42 kBtu/hr | 1260 cfm | 0.85 | 1 | sys#1 |

## HOT WATER SYSTEM

| √ | # | System Type | SubType | Location | EF | Cap | Use | SetPnt | Conservation |
|---|---|---|---|---|---|---|---|---|---|
| _____ | 1 | Electric | Tankless | Exterior | 0.92 | 1 gal | 60 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 | Main | 6 | 546.2 ft | Main | 136.55 | Prop. Leak Free | Main | --- cfm | 81.9 cfm | 0.03 | 0.50 | 1 | 1 |

# INPUT SUMMARY CHECKLIST REPORT

## 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 | 80 | 80 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Cooling (WEH) | AM | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 80 | 80 | 80 | 80 |
| | PM | 80 | 80 | 80 | 80 | 78 | 78 | 78 | 78 | 78 | 78 | 78 | 78 |
| Heating (WD) | AM | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |
| Heating (WEH) | AM | 65 | 65 | 65 | 65 | 65 | 65 | 65 | 68 | 68 | 68 | 68 | 68 |
| | PM | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 | 68 |

## MASS

| Mass Type | Area | Thickness | Furniture Fraction | Space |
|---|---|---|---|---|
| Default(8 lbs/sq.ft. | 0 ft² | 0 ft | 0.3 | Main |
| Default(8 lbs/sq.ft. | 0 ft² | 0 ft | 0.3 | Bonus Room |