

**To: Energy TAC Re: Technical Advisory Manual Follow-up**

FSEC submitted the revised TAM to Mo Madani on Dec. 15.

The revised TAM includes new blower door testing and duct testing reports. We have simplified to one report with appropriate check boxes and blanks for information related to performance or prescriptive. We worked with Tim Smith representing BOAF on this issue. This required a few times back and forth. For the next code cycle we should consider putting these test forms in the code itself.

Since Dec. 15 FSEC and BOAF have found two changes to recommend. This includes a field for whether an air handler is installed on the duct test form and the correct numerical reference on the envelope leakage test from [R402.4.1.2 vs. our old one which was missing a period R402.4.12]. We are attaching the updated forms for inclusion in the TAM.

We also greatly revised the ERI testing requirements in the Dec. 15 TAM. We removed the ERI range test and added the HERS tests as Wrightsoft suggested. We have updated the reference home characteristics reporting requirements to include "HERS Reference Home Auto-Generation Tests" minimum reporting requirement. This was added to make it consistent with the HERS test to be a requirement as suggested by WrightSoft. The latest reference document that we used for this is found in the link below.  
[http://www.resnet.us/programs/FDS-01Pub002-2017\\_final.pdf](http://www.resnet.us/programs/FDS-01Pub002-2017_final.pdf).

We maintained a spreadsheet that looks for specific pass/fail consequences based on Florida's specific ERI level of compliance and Florida's mandatory requirements based on having solar or not having solar. Some of the tests required for ERI are duplicated from the performance method so a software vendor applying for both methods should not be too encumbered.

We also made any changes pointed out by staff regarding section numbers, etc. I believe this should cover the requests and concerns made by the TAC.

One of the requests of the TAC was to not use the ERI form provided but to just provide the requirements given in the code for an ERI form. The Dec. 15 revised TAM removed the form and provided instructions to software vendors as to what to include. This is different than other residential methods but similar to the commercial building report submittal requirements.

**Comments Received since Submitting the Revised Dec. 15 Technical Assistance Manual**

Arlene Stewart pointed out that the code requires a checklist. The R405 form has historically had a location for an inspector to check off each item on the report. This was accidentally omitted from the 2017 TAM. We are attaching a revised **Input Summary Checklist Report**. Based on Ms. Stewart's comments we have added the word "Checklist" to the title of the report. It is our strong recommendation that there not be a report and a separate checklist document that are repetitive. One document should continue to serve both purposes as has been done in the past.

Bill Wright has expressed concern that having software vendors create their own ERI report forms will create confusion and would prefer that the TAM include a suggested form. Mo has requested the TAC meet to determine its preference on these issues. There may not be many people submitting ERI method for permits during this code cycle so this may be something that can be modified again during the code cycle. Three suggestions for the current advice to software vendors:

- 1) Leave the TAM as is and reports may look different.
- 2) Keep the general format of the [RESNET developed report](#) but remove references to RESNET and make sure Florida specific changes are provided.
- 3) Use the report suggested by Mr. Wright. FSEC staff has made a few recommended modifications to be consistent with other reports but it keeps the general features and formatting suggested (See attached example). Some of the differences of the revised report:
  - a) The heading and footer were changed to be more consistent with the other residential TAM reports.
  - b) The information at the top of the page was formatted a little different to fit in an R406 Specific Requirements Section which provides the three requirements unique to the ERI method. The simulated location was also added as it tends to be an input officials examine. The climate label should state "Florida climate zone" as Florida has modified climate zones 1 & 2 from IECC.
  - c) The pie chart includes a break up of cost by end use instead of simply by fuel. Using fuel only would result in a pie chart showing 100% electric for the majority of Florida new homes.
  - d) Caveats for the cost breakdown were added to indicate the costs are based on standard operating conditions, the source of the energy price, and that on-site solar production is credited based on net-metering (or however the software credits it in the total).
  - e) The signature block at the bottom left includes a header titled 3<sup>rd</sup> Party Verifier to be consistent with Florida Statute.
  - f) Depending on the home's inputs, the report will include notes similar to the first page of the R405 performance report regarding any non-default entries for air handler leakage, air tightness entry, duct tightness entry and roof absorptance and emittance.
  - g) The ERI reports of our original November submitted TAM, RESNET and Mr. Wright show a 2<sup>nd</sup> page of abbreviated list of mandatory features verified by software. Concern was raised at FSEC that any partial list of mandatory items may be interpreted as a complete list. To address this potential issue, the revised report includes those elements that are specific to R406 requirements on page 1 of the ERI report. The TAM still requires software vendors to include the same Input Summary Checklist Report, Mandatory Requirements Report, Air Barrier Report and EPL display card that are required for other compliance methods. We believe Building Officials prefer seeing the same format report for these common items.
  - h) Mr. Wright attached a sample report for the HERS reference home components. We have included two options for TAC consideration. A one-page component document similar to the one suggested by Mr. Wright and one that mimics the input summary checklist report. The TAC should decide which one vendors will be required to provide. This report must be provided for permits upon request of a building official. We have also attached a rated home characteristic report that could be similarly requested. This could also take either format.

# INPUT SUMMARY CHECKLIST REPORT

PROJECT														
Title: Building Type: Owner Name: # of Units: Builder Name: Permit Office: Jurisdiction: Family Type: New/Existing: Comment:	Bedrooms: Conditioned Area: Total Stories: Worst Case: Rotate Angle: Cross Ventilation: Whole House Fan:	Address Type: Lot # Block/Subdivision: PlatBook: Street: County: City, State, Zip:												
CLIMATE														
✓	Design Location	TMY Site	Design Temp	97.5 %	2.5 %	Int Design Temp	Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range			
_____														
BLOCKS														
✓	Number	Name	Area	Volume										
_____	1													
SPACES														
✓	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated			
_____	1													
FLOORS														
✓	#	Floor Type	Space	Perimeter	R-Value	Area						Tile	Wood	Carpet
_____														
ROOF														
✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)		
_____														
ATTIC														
✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC							
_____														
CEILING														
✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type						
_____														

# INPUT SUMMARY CHECKLIST REPORT

<b>WALLS</b>															
✓	#	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														
_____	2														
_____	3														
_____	4														
_____	5														

<b>DOORS</b>											
✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
_____											

<b>WINDOWS</b>														
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													
_____	2													
_____	3													
_____	4													

<b>GARAGE</b>						
✓	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
_____						

<b>INFILTRATION</b>									
✓	#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
_____									

<b>HEATING SYSTEM</b>							
✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
_____							

<b>COOLING SYSTEM</b>									
✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
_____									

# INPUT SUMMARY CHECKLIST REPORT

HOT WATER SYSTEM															
√	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation						
SOLAR HOT WATER SYSTEM															
√	FSEC Cert #	Company Name	System Model #			Collector Model #			Collector Area	Storage Volume	FEF				
DUCTS															
√	#	---- Supply ----			---- Return ----			Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC #		
TEMPERATURES															
Programable Thermostat: N						Ceiling Fans:									
Cooling	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec			
Heating	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec			
Venting	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec			
Thermostat Schedule:															
Schedule Type				1	2	3	4	5	6	7	8	9	10	11	12
Cooling (WD)		AM	75	75	75	75	75	75	75	75	75	75	75	75	75
		PM	75	75	75	75	75	75	75	75	75	75	75	75	75
Cooling (WEH)		AM	75	75	75	75	75	75	75	75	75	75	75	75	75
		PM	75	75	75	75	75	75	75	75	75	75	75	75	75
Heating (WD)		AM	72	72	72	72	72	72	72	72	72	72	72	72	72
		PM	72	72	72	72	72	72	72	72	72	72	72	72	72
Heating (WEH)		AM	72	72	72	72	72	72	72	72	72	72	72	72	72
		PM	72	72	72	72	72	72	72	72	72	72	72	72	72

# FLORIDA ENERGY EFFICIENCY CODE FOR BUILDING CONSTRUCTION

## Residential Energy Rating Index Method Compliance Alternative

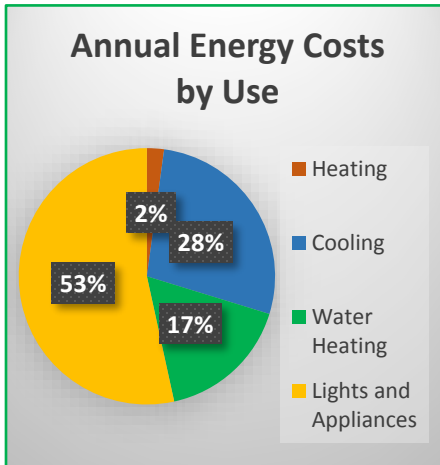
Permit Office: City Hall  
 Jurisdiction: North Miami Beach  
 Worst Case Orientation Calculation: No

Permit Number: 12345678910  
 County: Miami-Dade

Florida Climate Zone: 1  
 Simulation Location:  
 FL\_MIAMI\_INTL\_AP

<u>Property</u>	<u>R406 Specific Requirements</u>	<u>Builder</u>
Owner: Street Building Co. 25 Parkes Street North Miami Beach, FL 33101	On-site Renewable Power? No Envelope Levels Meet or Exceed: IECC-2009 R403.5.3 HW Pipe Insulation? Yes	Street Building Co. 2147 Southwest Barton Street Miami FL 33101 Phone: 305-555-5555

ERI for this House	50	PASS
Maximum Allowed ERI	58	
ERI of this House if Built to 2006 Code	100	



### Estimated Annual Energy Use Breakdown \*

Source	Use	Price**	Cost
Electricity	10942 kWh	\$ 0.1098/kWh	\$ 1201
Natural Gas	0 Therms	\$ 0.198/Therm	\$ 0
Oil	0 Gallons	NA	\$ 0
On-site power production	0 kWh	NA	\$ 0***
<b>Total</b>			<b>\$ 1201</b>

\* Based on standard operating conditions  
 \*\* Energy prices are 2016 state wide averages published by USDOE EIA  
 \*\*\* Assumes net metering

#### 3<sup>rd</sup> Party Verifier:

This home is **projected** to meet the Energy Rating Index requirement of Section R406 of the Florida Building Code, Energy Conservation, 6th Edition (2017). Other mandatory measures must also be met.

Name: Joe Rater  
 Address: Liberty ERI Rating Co.  
 Phone: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

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

BUILDING OFFICIAL: \_\_\_\_\_  
 DATE: \_\_\_\_\_

- Compliance requires the air handler enclosure qualifies as certified factory-sealed in accordance with R403.3.2.1.
- Compliance requires air tightness test demonstrating an ACH50 <= 5.4 ACH50 conducted according to R402.4.1.2.
- ANSI/RESNET/ICC 380 compliance requires a duct leakage test report confirming a leakage rate to outdoors of <= 2.5 cfm/100ft<sup>2</sup>.
- ANSI/RESNET/ICC 301 compliance requires a tested roof absorptance of 0.76 and a tested roof emittance of 0.90.

# ERI REFERENCE DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

PROJECT												
Title:	Bedrooms:								Address Type:			
Building Type:	Conditioned Area:								Lot #			
Owner Name:	Total Stories:								Block/Subdivision:			
# of Units:	Worst Case:								PlatBook:			
Builder Name:	Rotate Angle:								Street:			
Permit Office:	Cross Ventilation:								County:			
Jurisdiction:	Whole House Fan:								City, State, Zip:			
Family Type:												
New/Existing:												
Comment:												
CLIMATE												
✓	Design Location	TMY Site	Design Temp	97.5 %	2.5 %	Int Design Temp	Winter	Summer	Heating Degree Days	Design Moisture	Daily Temp Range	
_____												
BLOCKS												
✓	Number	Name	Area	Volume								
_____	1											
SPACES												
✓	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated	
_____	1											
FLOORS												
✓	#	Floor Type	Space	Perimeter	R-Value	Area	U-Factor	Tile	Wood	Carpet		
_____												
ROOF												
✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
_____												
ATTIC												
✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC					
_____												
CEILING												
✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	U-Factor	Framing Frac	Truss Type			
_____												

# ERI REFERENCE DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

WALLS																
✓	#	Ornt	Adjacent To	Wall Type	Space	Cavity R-Value	Width Ft	In	Height Ft	In	Area	U-Factor	Sheathing R-Value	Framing Fraction	Solar Absor.	Below Grade%
___	1															
___	2															
___	3															
___	4															
___	5															

DOORS											
✓	#	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
___											

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													
___	2													
___	3													
___	4													

GARAGE						
✓	#	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation
___						

INFILTRATION									
✓	#	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50
___									

HEATING SYSTEM							
✓	#	System Type	Subtype	Efficiency	Capacity	Block	Ducts
___							

COOLING SYSTEM									
✓	#	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
___									



# ERI REFERENCE DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

HOT WATER SYSTEM																								
✓	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation															
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									
TEMPERATURES																								
Programable Thermostat: N					Ceiling Fans:																			
Cooling	<input checked="" type="checkbox"/>	Jan	<input checked="" type="checkbox"/>	Feb	<input checked="" type="checkbox"/>	Mar	<input checked="" type="checkbox"/>	Apr	<input checked="" type="checkbox"/>	May	<input checked="" type="checkbox"/>	Jun	<input checked="" type="checkbox"/>	Jul	<input checked="" type="checkbox"/>	Aug	<input checked="" type="checkbox"/>	Sep	<input checked="" type="checkbox"/>	Oct	<input checked="" type="checkbox"/>	Nov	<input checked="" type="checkbox"/>	Dec
Heating	<input checked="" type="checkbox"/>	Jan	<input checked="" type="checkbox"/>	Feb	<input checked="" type="checkbox"/>	Mar	<input checked="" type="checkbox"/>	Apr	<input checked="" type="checkbox"/>	May	<input checked="" type="checkbox"/>	Jun	<input checked="" type="checkbox"/>	Jul	<input checked="" type="checkbox"/>	Aug	<input checked="" type="checkbox"/>	Sep	<input checked="" type="checkbox"/>	Oct	<input checked="" type="checkbox"/>	Nov	<input checked="" type="checkbox"/>	Dec
Venting	<input checked="" type="checkbox"/>	Jan	<input checked="" type="checkbox"/>	Feb	<input checked="" type="checkbox"/>	Mar	<input checked="" type="checkbox"/>	Apr	<input checked="" type="checkbox"/>	May	<input checked="" type="checkbox"/>	Jun	<input checked="" type="checkbox"/>	Jul	<input checked="" type="checkbox"/>	Aug	<input checked="" type="checkbox"/>	Sep	<input checked="" type="checkbox"/>	Oct	<input checked="" type="checkbox"/>	Nov	<input checked="" type="checkbox"/>	Dec
Thermostat Schedule:		Hours																						
Schedule Type		1	2	3	4	5	6	7	8	9	10	11	12											
Cooling (WD)	AM PM	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75											
Cooling (WEH)	AM PM	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75											
Heating (WD)	AM PM	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72											
Heating (WEH)	AM PM	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72											

# Building Component Characteristics Report

[OWNER]  
[ADDRESS]  
[CITY], [STATE] [ZIP]

Title:  
ERI Reference Design

TMY City:

Above-grade Walls (Uo)  
 Above-grade Wall Solar Absorptance  
 Above-grade Wall Infrared Emittance  
 Basement Walls (Uo)  
 Above-grade Floors (Uo)  
 Slab Insulation R-Value  
 Ceilings (Uo)  
 Roof Solar Absorptance  
 Roof Infrared Emittance  
 Attic Vent Area (ft²)  
 Crawlspace Vent Area (ft²)  
 Exposed Masonry Floor Area (ft²)  
 Carpet & Pad R-Value  
 Door Area (ft²)  
 Door U-Factor  
 North Window Area (ft²)  
 South Window Area (ft²)  
 East Window Area (ft²)  
 West Window Area (ft²)  
 Window U-Factor  
 Window SHGC (Heating)  
 Window SHGC (Cooling)  
 ACH50  
 Internal Gains Sensible (Btu/day)  
 Internal Gains latent (Btu/day)  
 Internal Gains Total (Btu/day)  
 Labeled Heating System Rating and Efficiency  
 Labeled Cooling System Rating and Efficiency  
 Air Distribution System Efficiency  
 Thermostat Type  
 Heating Thermostat Settings 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0  
 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0  
 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0, 68.0  
 Cooling Thermostat Settings 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0  
 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0  
 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0, 78.0

# ERI RATED DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

PROJECT												
Title:	Bedrooms:								Address Type:			
Building Type:	Conditioned Area:								Lot #			
Owner Name:	Total Stories:								Block/Subdivision:			
# of Units:	Worst Case:								PlatBook:			
Builder Name:	Rotate Angle:								Street:			
Permit Office:	Cross Ventilation:								County:			
Jurisdiction:	Whole House Fan:								City, State, Zip:			
Family Type:												
New/Existing:												
Comment:												
CLIMATE												
✓	Design Location	TMY Site	Design Temp 97.5 % 2.5 %		Int Design Temp Winter Summer		Heating Degree Days	Design Moisture	Daily Temp Range			
_____												
BLOCKS												
✓	Number	Name	Area	Volume								
_____ 1												
SPACES												
✓	Number	Name	Area	Volume	Kitchen	Occupants	Bedrooms	Infil ID	Finished	Cooled	Heated	
_____ 1												
FLOORS												
✓	#	Floor Type	Space	Perimeter	R-Value	Area		Tile	Wood	Carpet		
_____												
ROOF												
✓	#	Type	Materials	Roof Area	Gable Area	Roof Color	Solar Absor.	SA Tested	Emitt Tested	Emitt Tested	Deck Insul.	Pitch (deg)
_____												
ATTIC												
✓	#	Type	Ventilation	Vent Ratio (1 in)	Area	RBS	IRCC					
_____												
CEILING												
✓	#	Ceiling Type	Space	R-Value	Ins Type	Area	Framing Frac	Truss Type				
_____												

# ERI RATED DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

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														
___ 2														
___ 3														
___ 4														
___ 5														

DOORS										
✓ #	Ornt	Door Type	Space	Storms	U-Value	Width Ft	In	Height Ft	In	Area
___										

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													
___ 2													
___ 3													
___ 4													

GARAGE						
✓ #	Floor Area	Ceiling Area	Exposed Wall Perimeter	Avg. Wall Height	Exposed Wall Insulation	
___						

INFILTRATION									
✓ #	Scope	Method	SLA	CFM 50	ELA	EqLA	ACH	ACH 50	
___									

HEATING SYSTEM							
✓ #	System Type	Subtype	Efficiency	Capacity	Block	Ducts	
___							

COOLING SYSTEM								
✓ #	System Type	Subtype	Efficiency	Capacity	Air Flow	SHR	Block	Ducts
___								

# ERI RATED DESIGN BUILDING COMPONENT CHARACTERISTICS REPORT

<b>HOT WATER SYSTEM</b>										
<input checked="" type="checkbox"/>	#	System Type	SubType	Location	EF	Cap	Use	SetPnt	Conservation	
<input type="checkbox"/>										

<b>SOLAR HOT WATER SYSTEM</b>							
<input checked="" type="checkbox"/>	FSEC	Company Name	System Model #	Collector Model #	Collector Area	Storage Volume	FEF
<input type="checkbox"/>	None	None				ft <sup>2</sup>	

<b>DUCTS</b>														
<input checked="" type="checkbox"/>	#	---- Supply ----			---- Return ----			Leakage Type	Air Handler	CFM 25 TOT	CFM25 OUT	QN	RLF	HVAC # Heat Cool
<input type="checkbox"/>														

<b>TEMPERATURES</b>														
Programable Thermostat: N				Ceiling Fans:										
Cooling	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec		
Heating	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec		
Venting	<input checked="" type="checkbox"/> Jan	<input checked="" type="checkbox"/> Feb	<input checked="" type="checkbox"/> Mar	<input checked="" type="checkbox"/> Apr	<input checked="" type="checkbox"/> May	<input checked="" type="checkbox"/> Jun	<input checked="" type="checkbox"/> Jul	<input checked="" type="checkbox"/> Aug	<input checked="" type="checkbox"/> Sep	<input checked="" type="checkbox"/> Oct	<input checked="" type="checkbox"/> Nov	<input checked="" type="checkbox"/> Dec		
Thermostat Schedule:														
Schedule Type		Hours												
		1	2	3	4	5	6	7	8	9	10	11	12	
Cooling (WD)	AM PM	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75
Cooling (WEH)	AM PM	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75	75 75
Heating (WD)	AM PM	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72
Heating (WEH)	AM PM	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72	72 72

# Envelope Leakage Test Report (Blower Door Test)

Residential Prescriptive, Performance or ERI Method Compliance  
2017 Florida Building Code, Energy Conservation, 6th Edition

Jurisdiction: \_\_\_\_\_

Permit #: \_\_\_\_\_

## Job Information

Builder: \_\_\_\_\_

Community: \_\_\_\_\_

Lot: \_\_\_\_\_

Address: \_\_\_\_\_

Unit: \_\_\_\_\_

City: \_\_\_\_\_

State: \_\_\_\_\_

Zip: \_\_\_\_\_

## Air Leakage Test Results

*Passing results must meet either the Performance, Prescriptive, or ERI Method*

**PRESCRIPTIVE METHOD-** The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 7 air changes per hour at a pressure of 0.2 inch w.g. (50 pascals) in Climate Zones 1 and 2.

**PERFORMANCE or ERI METHOD-** The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding the selected ACH(50) value, as shown on FORM R405-2017 (Performance) or R406-2017 (ERI), section labeled as Infiltration, sub-section ACH50.

ACH(50) specified on Form R405-2017-Energy Calc (Performance) or R406-2017 (ERI):

$$\frac{\text{CFM}(50)}{\text{Building Volume}} \times 60 \div \text{ACH}(50) = \text{ACH}(50)$$

**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), *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*.

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 2017 6th 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: \_\_\_\_\_

# Duct Leakage Test Report

Residential Prescriptive, Performance or ERI Method Compliance  
2017 Florida Building Code, Energy Conservation, 6th Edition

Jurisdiction: _____	Permit #: _____
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## Job Information

Builder: _____	Community: _____	Lot: _____
Address: _____	Unit: _____	
City: _____	State: _____	Zip: _____

## Duct Leakage Test Results

System 1	_____ cfm25
System 2	_____ cfm25
System 3	_____ cfm25
Sum of any additional systems	_____ cfm25
<b>Total of all systems</b>	<b>_____ cfm25</b>

**Prescriptive Method** cfm25 (Total)

To qualify as "substantially leak free" Qn Total must be less than or equal to 0.04 if air handler unit is installed. If air handler unit is not installed, Qn Total must be less than or equal to 0.03. This testing method meets the requirements in accordance with Section R403.3.3.

Is the air handler unit installed during testing?  YES ( $\leq 0.04$ )  NO ( $\leq 0.03$ )

**Performance / ERI Method** cfm25 (Out or Total)

To qualify using this method, Qn must not be greater than the proposed duct leakage Qn specified on Form R405-2017 or R406-2017.

<i>Leakage Type selected on Form R405-2017 (Energy Calc) or R406-2017</i>	<i>Qn specified on Form R405-2017 (Energy Calc) or R406-2017</i>

\_\_\_\_\_ ÷ \_\_\_\_\_ = \_\_\_\_\_ Qn

Total of all systems      Total Conditioned Square Footage

**PASS**

Duct tightness shall be verified by testing in accordance with ANSI/RESNET/ICC380 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.

## Testing Company

Company Name: \_\_\_\_\_ Phone: \_\_\_\_\_

I hereby verify that the above duct leakage testing results are in accordance with the 2017 6th 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: \_\_\_\_\_