

STATE OF FLORIDA  
FLORIDA HOUSING FINANCE CORPORATION

FHFC CASE NO. 2013-002VW  
Application No. 2011-191C

RECEIVED  
13 MAR 27 AM 11:18  
FLORIDA HOUSING  
FINANCE CORPORATION

NORTHWEST PROPERTIES IV, LTD.

Petitioner,

vs.

FLORIDA HOUSING FINANCE CORPORATION,

Respondent.

---

**PETITION FOR WAIVER OF 2011 UNIVERSAL APPLICATION INSTRUCTIONS,  
HOUSING CREDIT PROGRAM, PART III, SECTION B(4)(a)**

Petitioner, Northwest Properties IV, Ltd., a Florida limited partnership (“Northwest IV”) petitions Respondent Florida Housing Finance Corporation (“Florida Housing”) for (i) a waiver of the requirement to provide heat pumps in all units located in the Development (as defined below) and (ii) a waiver of the requirement to provide windows in the Development having a U-Value of less than or equal to 0.52. *See* 2011 Universal Application Instructions, Housing Credit Program, Part III, Section B(4)(a) (the “Instructions”), which incorporate the Energy Star Qualified Homes Florida Builder Option Package, Rev. 01/05/2010 (the “Builder Option Package”).

Pursuant to Section 120.542, Fla. Stat., and Rule 28-104.001 through 28-104.006, F.A.C., Northwest IV requests a waiver of the Instructions in order to allow for (i) the use of electric heat strips (the “Alternative Heat”) in lieu of a heat pump (the “Required Pump”), in all units in the Development and (ii) the installation of windows in the Development having a U-Value ranging from 0.71 to 0.77 (“Alternative Windows”), in lieu of windows with a U-Value of 0.52 or less

(“Required Windows”). In exchange for the higher U-Values, Northwest IV will provide the Alternative Windows with a lower Solar Heat Gain Coefficient (“SHGC”) than the required 0.32; the Alternative Windows will have SHGCs ranging from 0.23-0.28 (see letter from the Fenestration Testing Laboratory, Inc., attached hereto as Exhibit “A”). This tradeoff of U Value for SHGC actually results in a more energy efficient apartment than what FHFC is requiring<sup>1</sup>; this is due to the fact that the SHGC is a more important factor than the U Value in the energy efficiency calculation in South Florida, where the differential between inside versus outside air temperature is much lower than in North Florida or other parts of the country. Inclusion of the Alternative Heat and the Alternative windows will allow the Development to achieve a substantially lower Home Energy Rating System (“HERS”) Index Score than what is required, while providing a more durable product and saving costs to Northwest IV. Further, Northwest IV anticipates receipt of a LEED Silver rating from the U.S. Green Building Council for the Development, which exceeds the “Green Building” certification requirements in the Application. This is emblematic of the effort Northwest IV has made to include energy-efficient and environmentally conscious building components throughout the Development.

**A. THE PETITIONER**

1. The name, address, telephone and facsimile numbers, and email address for Northwest IV and its qualified representative are:

Northwest Properties IV, Ltd.  
c/o Carlisle Development Group, LLC  
Attention: Lindsay Lecour  
2950 SW 27<sup>th</sup> Avenue, Suite 200  
Miami, Florida 33133  
Telephone: 305-476-8118

---

<sup>1</sup> E3 Building Sciences calculated the Home Energy Rating System (“HERS”) score of a typical 2BR unit using the Alternative Windows to be 68; they calculated the HERS score of the same 2BR unit using the Required Windows at 69.

Facsimile: 305-476-1557  
E-mail: llecour@carlisledevelopmentgroup.com

2. The name, address, telephone and facsimile numbers, and e-mail address of Northwest IV's attorney, for purposes of this Petition, are:

Brian J. McDonough, Esquire  
STEARNS WEAVER MILLER WEISSLER  
ALHADEFF & SITTERSON, P.A.  
150 West Flagler Street  
Miami, Florida 33130  
Telephone: 305-789-3350  
Facsimile: 305-789-3395  
E-mail: bmcdonough@stearnsweaver.com

**B. THE DEVELOPMENT**

3. In 2011, Northwest IV applied for low-income housing tax credits from Florida Housing pursuant to the 2011 Universal Cycle. *See* Application No. 2011-191C. The Universal Application package has been adopted and incorporated into Chapter 67-48 by Rule 67-48.004(1)(a), F.A.C. (2011). Northwest IV received an allocation of low income housing tax credits from Florida Housing.

4. Northwest IV has closed on the financing and housing credit syndication which will provide funds for the construction of 138 units in six residential buildings and two non-residential buildings intended to serve low-income persons in Fort Lauderdale, Broward County, Florida (the "Development").

5. The provisions of the 2011 Universal Cycle Application, by incorporation of the Builder Option Package, as more particularly described below, require the installation of (i) a heating system, which might be satisfied by the use of the Required Pump (being described as a "right-sized  $\geq$  14.5 SEER/12 EER/8.2 HSPF Energy Star qualified heat pump"), among other alternatives, and (ii) the Required Windows (having a U-Value of 0.52 or less), in the

Development. However, it has been determined by Northwest IV and its consultant, E3 Building Sciences, that the use of the Required Pump and Required Windows would be unduly expensive, and the substitution of (i) the Alternative Heat for the Required Pump, and (ii) the Alternative Windows for the Required Windows, would not significantly change the energy efficiency of the Development or adversely impact the projected HERS Index Score of 70 (based on the preliminary analysis by E3 Building Sciences, the HERS score may even decrease slightly since the 70 was calculated using windows with a U Value of 1.06). Please see the Energy Threshold Review Report dated January 29, 2013, prepared by E3 Building Sciences attached hereto as Exhibit “B” (the “Energy Report”).

6. The requested waiver will not adversely affect the Development. However, a denial of this Petition (a) would result in substantial, unnecessary economic hardship to Northwest IV; (b) would provide residents with a less efficient apartment and a less durable window frame, as described in the Window Performance Addendum to the Energy Report; (c) will cause constructions delays so as to deprive Broward County of essential, affordable housing units in a timely manner; and (d) would violate principles of fairness<sup>2</sup>. § 120.542(2), Fla. Stat. (2011).

7. The waiver being sought is permanent in nature.

**C. Rule from Which Relief is Requested and Statute Implemented by the Rule**

8. Northwest IV realleges and incorporates Paragraphs 1 through 7 as though fully set forth herein.

---

<sup>2</sup>“Substantial hardship” means a demonstrated economic, technological, legal or other type of hardship to the person requesting the variance or waiver. “Principles of Fairness” are violated when literal application of a rule affects a particular person in a manner significantly different from the way it affects other similarly situated persons who are subject to the rule. Section 120.542(2), Florida Statutes.

9. Northwest IV requests a waiver of Part III, Section B(4)(a) (i) of the Universal Application Instructions that provides as follows:

**4. Energy Features (Threshold):**

**a. For all new construction units:**

**If the proposed Development includes any new construction units (regardless of the Development Category selected at Part III.A.3.a. of the Application), the eligible new construction units must (i) meet the requirements of Energy Star New Homes per the Energy Star Qualified Homes Florida Builder Option Package, Rev. 01/05/2010, which is incorporated by reference and available on the 2011 Universal Application link labeled Related References and Links, and...**

10. The possible choices for heat distributions system and the requisite window U-Values are set forth in the Builder Option Package. As noted above, the Development's HERS score of 70, which is well below the maximum allowable HERS score of 77, will not be adversely affected by the requested waiver, as documented in the Energy Report.

11. The Florida Housing Finance Corporation Act<sup>3</sup> designates Florida Housing as the State of Florida's housing credit agency within the meaning of Section 42(h)(7)(A) of the Internal Revenue Code of 1986. As the designated agency, Florida Housing is responsible for and is authorized to establish procedures for the allocation and distribution of low-income housing tax credits. § 420.5099(1) and (2), Fla. Stat. (2011). The Allocation Procedures were established in Rule Chapter 67, Florida Administrative Code. Accordingly, the Instruction that is the subject of Northwest IV's waiver request is implementing, among other sections of the Act,

---

<sup>3</sup> The Florida Housing Finance Corporation Act is set forth in Sections 420.501 through 420.516 of the Florida Statutes (the "Act"). See also, Rule 67.40.020(1), F.A.C. (" 'Act' means the Florida Housing Finance Corporation Act, section 420.501 through 420.516 of the Florida Statutes")

the statutory authorization for Florida Housing's establishment of Allocation Procedures for Housing Credit Programs. § 420.5099(1) and (2), Fla. Stat. (2011).

**D. Justification for Petitioner's Requested Waiver**

12. Northwest IV realleges and incorporates Paragraphs 1 through 11 as though fully set forth herein.

13. Under Section 120.542(1), Fla. Stat., and Chapter 28-104, F.A.C., Florida Housing has the authority to grant waivers to its rule requirements when strict application of these rules would lead to unreasonable, unfair and unintended consequences in particular instances. Waivers shall be granted when the person who is subject to the rule demonstrates that the application of the rule would (1) create a substantial hardship or violate principles of fairness, and (2) the purpose of the underlying statute has been or will be achieved by other means by the person. § 120.542(2), Fla. Stat. (2011).

14. In this instance, Northwest IV meets the standards for a waiver.

15. Pursuant to the Instructions and the Builder Option Package, a heat pump is one choice among the various types of heating systems required in all new construction projects; the other available options for heating equipment listed in the Builder Option Package were inappropriate for the Development. Accordingly, Northwest IV selected the Required Pump as its method of heat distribution for the Development. Subsequently, as described in the Energy Report, Northwest IV was advised that the Required Pump would be relatively inefficient, while being fairly expensive. The purported "efficiency" of the Required Pump means that it would take longer than its anticipated useful life to offset the increased cost of the equipment itself, compared to other comparable heat systems not included among the choices in the Builder Option Package. The Alternate Heat has been the standard specification for South Florida

LIHTC developments because it is a more cost-efficient method which does not significantly compromise energy conservation measures. As noted above, Northwest IV anticipates receipt of a LEED Silver rating from the U.S. Green Building Council for the Development, which exceeds the “Green Building” certification requirements in the Application. Northwest IV has made consistent effort to include energy-efficient and environmentally conscious building components throughout the Development.

16. Also pursuant to the Instructions and the Builder Option Package, windows having U-Value ratings of less than or equal to 0.52 are required in all developments receiving funding under the 2011 Application. However, as described in the Energy Report, Northwest IV and its general contractor have identified the Alternate Windows as a better option because the lower SHGC offsets the higher U-Value rating, thereby providing greater overall efficiency.

Finally, in order to be cost-effective, the Required Windows would need to be fashioned with vinyl frames (in lieu of metal frames) which are not as durable as the aluminum frames of the Alternate Windows. There is no readily available, cost-effective metal window providing a U-Value of 0.52 or less. The Required Windows would likely need to be replaced much sooner than the Alternate Windows, adding expense to the Development’s maintenance costs and undoubtedly inconveniencing the residents of the Development.

**E. Conclusion**

17. Controlling statutes and Florida Housing’s Rules are designed to allow the flexibility necessary to provide relief from rule requirements when strict application, in particular circumstances, would lead to unreasonable, unfair, or unintended results. Waivers should be granted when the applicant subject to the rule demonstrates that strict application would: (a)

create a substantial hardship or violate principles of fairness; and (b) the purpose of the underlying statute has been or will be achieved by other means. §120.542(2), Fla. Stat. (2011).

18. The requested waiver will not adversely impact the Development or Florida Housing, and further, the required heating and window parameters set forth in the 2011 Application and Instructions are unduly expensive with no corresponding increase in efficiency, energy conservation or useful life, when compared against certain alternative products. The goal of incorporating energy-efficient systems and building components into the Development will be achieved through the installation of the Alternate Heat and the Alternate Windows, with no detriment to any party.

19. A denial of the requested waiver could result in a substantial hardship for Northwest IV which would be required to install a product it knows to be more costly and less durable than the Alternate Windows.

20. Finally, by granting the requested waiver, Florida Housing would recognize the economic realities and principles of fundamental fairness in the development of affordable rental housing. This recognition would promote participation by experienced developer entities in meeting the purpose of the Act through construction of projects in an economical and efficient manner, as well as providing appropriate features and amenities within residential units developed for low-income residents.

21. Should Florida Housing require additional information, Northwest IV is available to answer questions and to provide all information necessary for consideration of its Petition for Waiver of Part III, Section B(4)(a) of the Instructions which accompany the 2011 Universal Cycle Application.



WHEREFORE, Petitioner Northwest Gardens IV, Ltd., respectfully requests that the Florida Housing Finance Corporation provide the following relief:

- A. Grant the Petition and all relief requested herein;
- B. Waive the requirement for the use of the Required Pump and the Required Windows, and allow Northwest IV to install the Alternate Heat and the Alternate Windows in the Development; and
- C. Grant such further relief as may be deemed appropriate.

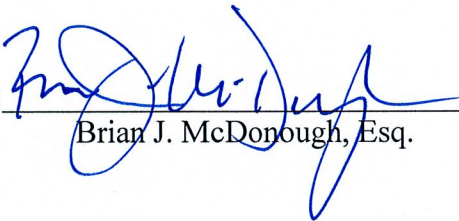
Respectfully submitted,

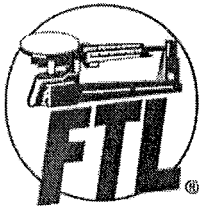
STEARNS WEAVER MILLER WEISSLER  
ALHADEFF & SITTERSON, P.A.  
Counsel for Northwest Properties IV, Ltd.  
150 West Flagler Street, Suite 150  
Miami, Florida 33131  
Tel: (305) 789-3350  
Fax: (305) 789-3395  
E-mail: [bmcdonough@swmwas.com](mailto:bmcdonough@swmwas.com)

By:   
BRIAN J. MCDONOUGH, ESQ.

**CERTIFICATE OF SERVICE**

The original Petition is being served by overnight delivery, with a copy served by electronic transmission for filing with the Corporation Clerk for the Florida Housing Finance Corporation, 227 North Bronough Street, Tallahassee, Florida 32301, with copies served by overnight delivery on the Joint Administrative Procedures Committee, Room 120, The Holland Building, Tallahassee, Florida 32399-1300, this 26<sup>th</sup> day of March, 2013.

By:   
Brian J. McDonough, Esq.



Quality Accuracy Assurance

## Fenestration Testing Laboratory, Inc.

8148 N.W. 74th Avenue Medley, FL 33166 Phone: (305) 885-3328 Fax: (305) 885-3329 (888) 819-7877  
e-mail: [clientservices@fenlab.com](mailto:clientservices@fenlab.com) [www.ftl-inc.com](http://www.ftl-inc.com)

March 25, 2013

ES Windows, LLC  
Attention: Mr. Andres Chamorro  
10653 NE Quaybridge Court  
Miami, Florida 33138

**RE: NFRC 100 and 200 Glazing Option Gray Solarban 70XL and Energy Advantage Low E**

Dear Mr. Chamorro,

This letter is regarding the thermal simulations which E.S. Windows. LLC., has contracted FTL to conduct for Series ES1500 Fixed Window, Series ES2000 Horizontal Sliding Window and Series ES4000 Sliding Glass Door utilizing the glazing option listed above. Simulations were conducted using NFRC approved simulation programs. The glazing option listed above was calculated using Optics 5 and Windows 6.3 however it cannot be used for certification since it is not an approved laminated listed in the International Glazing Database. The overall window result for each series is listed below.

ES1500 Fixed Window (47 1/4" x 59" high) 3/8" overall Laminated  
Overall U factor= 0.71  
Overall Product SHGC =0.28

ES2000 Horizontal Sliding Window (72" x 50" high) 7/16" overall Laminated  
Overall U factor= 0.77  
Overall Product SHGC =0.27

ES4000 Sliding Glass Door (78 3/4" x 78 3/4" high) 7/16" overall Laminated  
Overall U factor= 0.74  
Overall Product SHGC =0.23

If you have any questions, please feel free to contact us at (305) 885-3328 or via e-mail at [Jose@fenlab.com](mailto:Jose@fenlab.com).

Sincerely,

Fenestration Testing Laboratory, Inc.

Digitally signed by Jose Sanchez  
DN: cn=Jose Sanchez, o=Fenestration Testing Lab, ou,email=jose@fenlab.com, c=US

Jose Sanchez  
**NFRC Certified Simulator**  
**Simulator-in-Responsible-Charge**

2013 MAR 25 10:13 AM  
ES1500-200-70XL-70



## **Energy Threshold Review Report**

January 29, 2013

Updated March 25, 2013

**Reported to:**





## **Background**

The Florida Housing Finance Corporation (FHFC) has required projects receiving Low Income Housing Tax Credits to meet energy-efficiency thresholds. There are two major energy related thresholds. First, the units of the projects must achieve a HERS Index Score of 77 or lower. The HERS Index Score is a measure of overall energy efficiency. It is determined through energy modeling by an energy rater and subsequent testing. A score of 100 indicates that a home is as efficient as a “code home” of 2006, while an index of 0 represents a “net-zero” energy home. Second, the units of the projects must use energy-efficient building materials, products, and/or equipment, (“Energy Conservation Measures”) that are each at least as efficient as the Energy Conservation Measures delineated in the Energy Star Building Option Package (BOP). In other words the projects must be BOP compliant.

E3 Building Sciences has been hired by Carlisle Development to both model the Projected HERS Index Scores, and to review the plans of projects for BOP compliance of the Northwest Gardens II & IV projects. E3 determined the Projected HERS Index Scores by using the BOP ECM efficiency thresholds as the baseline for the projects. This resulted in Projected HERS Index Scores of 70. A HERS Index Score of 70 represents an energy savings of 9% above and beyond the first threshold of 77 set by the FHFC. In other words, the NW Gardens II & IV projects would be 9% more efficient than the first threshold to be BOP Compliant.

## **Issue**

With this in mind, E3 found a potential issue for the FHFC to consider. In the course of modeling, E3 found two of the ECMs, the use of a heat pump and low U-Value windows, to be very ineffective while being fairly expensive, when measured against the use of a heat strip and high U-Value windows.

According to the calculations (See Appendix A) the heat pump would save \$2 on heating per year in Ft Lauderdale. According to our HVAC contractor sources, a pump could cost between \$150-200 above and beyond the cost of a heat strip. This would be an extremely long payback period. HVAC systems typically have a life no greater than 15 years. Projects located further north require more heating and therefore the savings created by the use of a heat pump are effective, but this is not necessarily true in South Florida. The difference between the resulting Projected HERS Index Score is less than one, (a less than 1% change in overall efficiency).

E3 also modeled the units using a U-Value much greater than the threshold required by the BOP (1.06 vs. .52). Again the result was negligible, a less than 1% change in overall efficiency of the unit, and a less than \$2 difference in total energy cost per year. The cost delta of upgrading to windows with a U-Value of .52 is large. This is due to the relatively low window to floor area ratio and the mild climate.



**Possible Solution\***

Because the net change in energy-efficiency is negligible and the costs are high, E3 suggests that it may be ineffective to require NW Gardens Apartments II & IV to meet both the Heat Pump and U-Value BOPS thresholds. It may be prudent to remove the heat pump and U-Value threshold requirement for the NW Gardens II and IV projects. Otherwise, the FHFC may be requiring the projects to spend and potentially waste money on ineffective ECMs.

\*At this time, this possible solution is for the NW Gardens II and IV projects. A similar analysis would need to be done for other projects.

## Appendix A

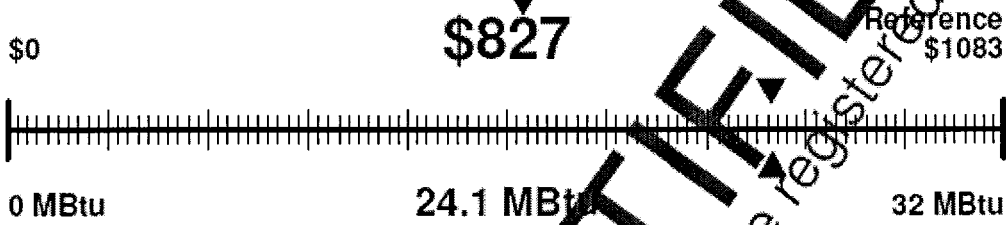
### Projected Rating Based on Plans Field Confirmation Required

Fort Lauderdale, FL

Title: NW II - 2A

Design: Fort Lauderdale, FL  
TMY: FORT LAUDERDALE, FL

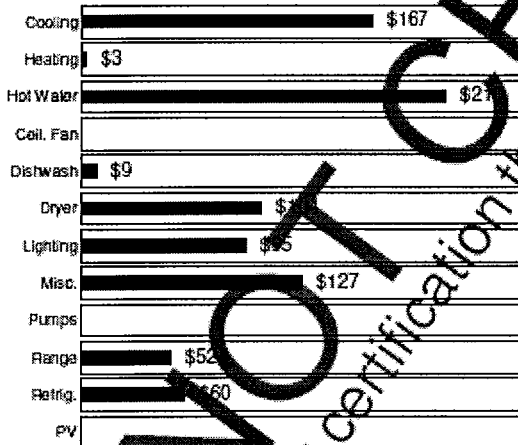
# BUILDING ENERGY RATING GUIDE



▼ Proposed Home      Savings = \$256

Cost Basis:  
 Florida Power & Light      Electric Rate: \$0.117 /kWh  
 Florida Average      Gas Rate: \$2.119 /Therm  
 Statewide Prices      Oil: \$2.35/gal      LP Gas: \$2.41/gal

**This Home may Qualify for EPA's Energy Star Label <sup>1</sup>**  
**This Home Qualifies for an Energy Efficient Mortgage (EEM)**




HERS Index<sup>2</sup>: 69



NOTES:

Unit w/ Heat Strip – Ft Lauderdale



<b>Thomas Karras</b>	<b>791</b>
Certified Rater	I.D. Number
Signature	Date

*This Rating Guide is provided to you by a Home Energy Rater who is trained and certified to perform Ratings in accordance with the RESNET standard. Questions or complaints regarding this Rating may be directed to:*  
 Energy Gauge Program Office  
 1679 Clearlake Road  
 Coosa, FL 32922-5703  
 (321)638-1492  
[engauge@sec.ucf.edu](mailto:engauge@sec.ucf.edu)

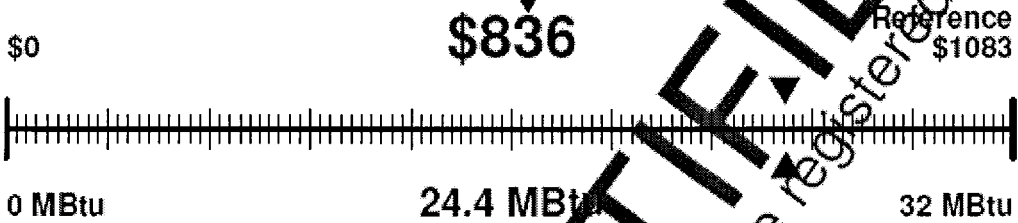
**Projected Rating Based on Plans**  
**Field Confirmation Required**

Fort Lauderdale, FL

Title: NW II - 2A

Design: Fort Lauderdale, FL  
TMY: FORT LAUDERDALE, FL

# BUILDING ENERGY RATING GUIDE



▼ Proposed Home  
Savings = \$247

Cost Basis:  
Florida Power & Light  
Florida Average  
Statewide Prices

Electric Rate: \$0.117 /kWh  
Gas Rate: \$2.119 /Therm  
Oil: \$2.35/gal LP Gas: \$2.41/gal

**This Home may Qualify for EPA's Energy Star Label<sup>1</sup>**  
**This Home Qualifies for an Energy Efficient Mortgage (EEM)**

Cooling	\$178
Heating	\$1
Hot Water	\$27
Ceil. Fan	
Dishwash	\$9
Dryer	\$5
Lighting	\$5
Misc.	\$127
Pumps	
Range	\$52
Refrig.	\$60
PV	

HERS Index<sup>2</sup>: 70



NOTES:

Unit w/ Heat Pump – Ft Lauderdale



**Thomas Karras**  
Certified Rater

**791**  
I.D. Number

Signature

Date

*This Rating Guide is provided to you by a Home Energy Rater who is trained and certified to perform Ratings in accordance with the RESNET standard. Questions or complaints regarding this Rating may be directed to:*  
EnergyGauge Program Office  
1679 Clearlake Road  
Cocoa, FL 32922-5703  
(321)638-1492  
engauge@fsec.ucf.edu



**Projected Rating Based on Plans**  
**Field Confirmation Required**

Fort Lauderdale, FL

Title: NW II - 2A

Design: Fort Lauderdale, FL  
TMY: FORT LAUDERDALE, FL

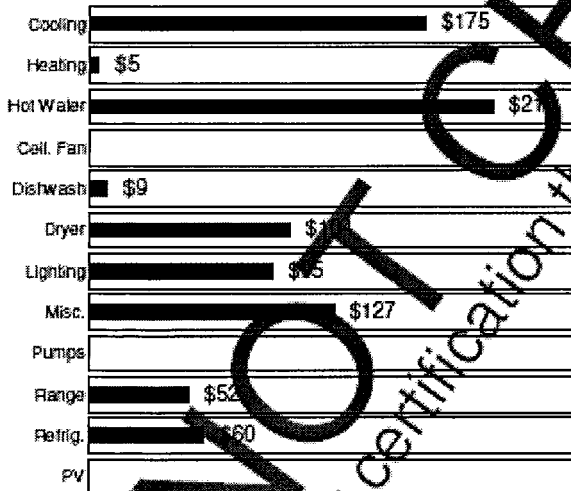
# BUILDING ENERGY RATING GUIDE



▼ Proposed Home  
Savings = \$246

Cost Basis:  
Florida Power & Light Electric Rate: \$0.117 /kWh  
Florida Average Gas Rate: \$2.119 /Therm  
Statewide Prices Oil: \$2.35/gal LP Gas: \$2.41/gal

**This Home may Qualify for EPA's Energy Star Label <sup>1</sup>**  
**This Home Qualifies for an Energy Efficient Mortgage (EEM)**



HENS Index<sup>2</sup>: 70



NOTES:

Unit w/ 1.05 U-Value Window



**Thomas Karras**  
Certified Rater

**791**  
I.D. Number

Signature

Date

*This Rating Guide is provided to you by a Home Energy Rater who is trained and certified to perform Ratings in accordance with the RESNET standard. Questions or complaints regarding this Rating may be directed to:*  
EnergyGauge Program Office  
1879 Clearlake Road  
Cocoa, FL 32922-5703  
(321)638-1492  
engauge@nsac.ucf.edu

**Projected Rating Based on Plans  
Field Confirmation Required**

Fort Lauderdale, FL Title: NW II - 2A Design: Fort Lauderdale, FL  
TMY: FORT LAUDERDALE, FL

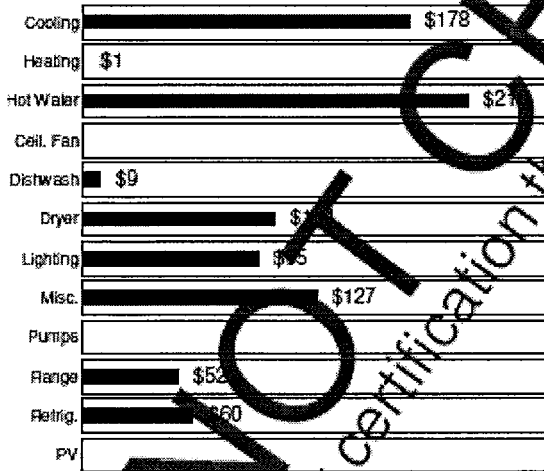
# BUILDING ENERGY RATING GUIDE



▼ Proposed Home  
Savings = \$247

Cost Basis:  
Florida Power & Light Electric Rate: \$0.117 /kWh  
Florida Average Gas Rate: \$2.119 /Therm  
Statewide Prices Oil: \$2.35/gal LP Gas: \$2.41/gal

**This Home may Qualify for EPA's Energy Star Label <sup>1</sup>**  
**This Home Qualifies for an Energy Efficient Mortgage (EEM)**



HERS Index<sup>2</sup>: 70



NOTES:

Unit w/ 1.05 U-Value Window



**Thomas Karras** 791  
Certified Rater I.D. Number

Signature Date

*This Rating Guide is provided to you by a Home Energy Rater who is trained and certified to perform Ratings in accordance with the RESNET standard. Questions or complaints regarding this Rating may be directed to:*  
EnergyGauge Program Office  
1679 Clearlake Road  
Cocoa, FL 32922-5703  
(321)638-1452  
engauge@nsec.ucf.edu



## **Window Performance Addendum**

February 28<sup>th</sup>, 2013

Updated March 25, 2013

**Reported to:**



### **Issue Continuation**

Carlisle Development has worked with its general contractor to find windows that meets the Florida Housing Finance Corporation's window requirement. The requirement dictates that windows meet the Energy Star V2.0 Florida BOP window performance guidelines – A U-Value of less than or equal to 0.52 and a SHGC of less than 0.32.

Previously, Carlisle Development specified windows with a U-Value of 1.06. Although the U-Value has a very minimal effect on the overall energy efficiency of the units, the U-Value of 1.06 was well outside the 0.52 target. At present, Carlisle Development and its general contractor have found windows that come closer to the current target U-Value. The new proposed windows have a U-Value of 0.71-0.77. There are several facts to consider when reviewing this situation.

- The current proposed windows (SHGC 0.27/ U-Value 0.77) are more efficient than the FHFC required windows (SHGC 0.32 / U-Value 0.52). If the current proposed windows are used, the HERS Index Score is 1 point better than if the required windows are used.
- According to the State and DOE supported software (Energy Gauge) the savings for decreasing the U-Value from 0.77 to 0.52 would be less than \$1 per year.
- The version of BOPS that the FHFC has required is inconsistent. While the table given on page one of the BOP document shows a U-Value of less than or equal to 0.52, the notes (note 10) for the windows refer to the Energy Star Window Program Version 4.0. The Window Program Version 4 only requires a U-Value of 0.65.
- The current Energy Star Homes Program performance window requirement dictates that windows only have to have a U-Value of 0.75 or less, if they are impact windows. (Carlisle's proposed windows are impact resistant)
- The overall energy efficiency of the project (HERS 70) is better than the required energy efficiency (HERS 77).

Carlisle Development has noted to E3 that they and their housing authority partner have serious concerns about the durability of vinyl windows over the life span of the buildings (30-50 years). Unfortunately, they have also noted that their search for an aluminum window with a U-Value equal to or less than 0.52 has come up empty.

### **Possible Solution\***

The facts above all seem to support Carlisle Development's proposal to use the proposed window. Therefore, it may be prudent for the FHFC to allow a U-Value waiver.

\*At this time, this possible solution is for the NW Gardens II and IV projects. A similar analysis would need to be done for other projects.