

**VILLAGE CAPITAL CORPORATION**  
**“Green City/Blue Lake” Initiatives**  
**Effective Date: January 1, 2008**  
**Amended: July 1, 2009**

GOAL: Utilize Village Capital Corporation’s (VCC) loan fund to promote a “green agenda” that advances energy-efficient, healthier, and environmentally sustainable projects that are practical and financially feasible.

Toward that end, VCC requires the following from all its borrowers:

1. ***Adherence to specific Energy Efficiency Standards*** – Those standards mandate the following:
  - Design structures that increase energy efficiency
    - NEW CONSTRUCTION
      - For all residential structures under four stories: Meet Energy Star Standards Rating System design score of 86 or better
      - For all residential structures over four stories: Exceed ASHRAE 90.1-2004 standards by 15%
    - MODERATE & SUBSTANTIAL REHAB
      - Implement energy improvements adequate to improve the building’s energy performance by 15%
  - Install Energy Star appliances; e.g., clothes washers, dishwashers and refrigerators
  - Install efficient lighting
    - INTERIOR lighting: Install Energy Star-labeled fixtures in all interior units and use Energy Star or high-efficiency commercial grade fixtures in all common areas and outdoors. When re-using existing fixtures on rehab projects, install compact fluorescent light bulbs. NOTE: The following lighting types are exempt from this requirement: emergency lighting, lighting required by code for health and safety purposes, and lighting used for eye adaptation near covered vehicle entrances and exits.
    - EXTERIOR lighting: Install daylight sensors or timers on all outdoor lighting, including front and rear porch lights in single family homes.
  - Install individual or sub-metered electric meters in multifamily housing units (except zero bedroom dwelling units)
  
2. ***Completion of VCC’s Sustainability Checklist & Cost-Savings Summary to be submitted with each project application for financing*** – Completing the checklist and cost-savings summary is intended to provide VCC access to information

NOTE: For a detailed list of each standard, please see “VCC’s Green City Blue Lake Initiative: Energy Efficiency Standards”. For details on Implementation, please see the Implementation section on page 2.

about which green design features (if any – above VCC’s required energy efficiency standards) have been incorporated into a project and which ones anticipate cost reduction. The information provided in the checklist will not jeopardize a project’s ability to receive financing. NOTE: If no green design elements were incorporated (beyond VCC’s Energy Efficiency Standards), borrowers will be required to document why green design was concluded to be impractical or infeasible. (See Attachment B.)

In addition, VCC staff is directly responsible for the following:

- *Submission of quarterly reports to the VCC Board detailing the percentage of projects in VCC’s portfolio that are adhering to green standards beyond VCC’s minimal energy requirements* – By tracking these deals, VCC will be able to assess what is happening in the market place based on other funding source requirements. This data could shed light on future policy directions for VCC.
- *Provision of limited technical assistance to developers and borrowers related to the “greening” of real estate projects* – Both VCC’s President and Loan Officer received Leadership in Environmental and Energy Design (LEED) accreditation so as to be better qualified to advise borrowers of sustainable building practices in general, and LEED requirements specifically.

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## **IMPLEMENTATION**

Effective January 1, 2008, the above-stated energy efficiency standards shall be included in all VCC’s Loan Agreements<sup>1</sup>. There would be two requirements for accessing any VCC Loan Product:

1. Certification from each Borrower’s architect at each phase of the project’s evolution
  - Design Phase – must incorporate all four of the energy efficiency standards (as applicable) into any specifications for the project; and
  - Construction Phase – must reflect that the standards were adhered to and items installed per the approved specifications.

NOTE: VCC shall rely solely upon the architect’s certification as verification of compliance with VCC’s requirements.

2. Retainage requirements on all Construction and Construction/Permanent Loans

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<sup>1</sup> In the case of predevelopment loans and acquisition loans (which typically close prior to finalizing design drawings), VCC would interpret the inclusion of the standards in the Loan Agreement and a borrower’s executing of the Loan Agreement to infer a borrower’s commitment to adhering to the standards as the project moves to the design phase and the construction phase.

- Ten percent (10%) of the total loan amount shall be withheld (incrementally at 10% of each draw) until an architect's certification attests that the energy efficiency standards were adhered to.

#### **PENALTY FOR NON-COMPLIANCE**

Non-compliance would be a basis for denying future loans to a borrower.

Additional penalties would apply to a Construction Loan or Construction/Permanent Loan as follows:

- In a case where VCC's loan is provided post the design phase, failure to incorporate these energy efficiency standards in a project's design documents would constitute a basis for withdrawing VCC's loan commitment.
- In the case where VCC's loan is funded based on approved, compliant design drawings but the actual construction work does not comport to the drawings, a borrower would forfeit the ten percent (10%) retainage.

**VILLAGE CAPITAL CORPORATION**  
**“Green City/Blue Lake” Initiative:**  
**ENERGY EFFICIENCY STANDARDS**  
**Effective Date: January 1, 2008**

**Energy Efficiency**

**1.1a Efficient Energy Use: New Construction (Mandatory)**

**How**

Provide verification demonstrating energy efficiency by meeting one of the following:

- Energy Star standards (Home Energy Rating System [HERS] Index of 85 as established by the Residential Energy Services Network (RESNET) policy effective July 1, 2006) for all residential structures under four stories.
- Residential structures four stories or above must exceed ASHRAE 90.1-2004 by 15 percent.

**Intent**

In 1992 the EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Energy Star is an accepted standard for single-family residential new construction projects.

Energy Star-qualified homes are independently verified to be energy efficient. These savings are based on heating, cooling, hot water, normalized lights and appliance energy use and are typically achieved through a combination of building-envelope upgrades, high-performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment, appliances and lighting. These features contribute to improved home quality and homeowner comfort, and to lower energy demand and reduced air pollution.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 90.1-2004 establishes minimum requirements for the energy-efficient design of buildings, except low-rise residential buildings. The standard is also the basis of Chapter 7 of the International Code Council’s International Energy Conservation Codes. State energy codes that may be more stringent than ASHRAE 90.1 are identified on the U.S. Department of Energy’s Building Energy Codes website, [www.energycodes.gov](http://www.energycodes.gov). The Energy Star pilot program for mid- and high-rise buildings requires 20 percent better than ASHRAE 90.1-2004.

A Home Energy Rating System (HERS) evaluates the energy efficiency of a home or apartment, compared with a computer-simulated reference unit of identical size and shape. The HERS rating results in a score between 0 and 100, with the reference unit assigned a score of 100. From this point, each 1 percent reduction in energy usage (compared to the reference unit) results in a one-point decrease in the HERS score. Energy Star requires a unit to be significantly more energy-

efficient than the reference unit by setting a standard of achieving a HERS score of at least 85. HERS ratings are conducted by third-party HERS raters.

The Builder Option Package (BOP) is used to determine components of an Energy Star-qualified new home.

### **Things to Consider**

- Projects that are three stories or less and meet this measure also fulfill the requirement of LEED for Homes prerequisite EA 1.1 “Energy Performance,” a mandatory requirement for LEED certification. Projects that are four stories and above should connect with a LEED for Homes Provider to determine the energy performance requirements for their project type.
- For more information regarding Energy Star standards, go to the new homes section of the Energy Star homepage, [www.energystar.gov](http://www.energystar.gov).
- For more information on Builder Option Packages, go to [www.energystar.gov/index.cfm?c=bop.pt\\_bop\\_index](http://www.energystar.gov/index.cfm?c=bop.pt_bop_index).
- To identify a Home Energy Rater in your area, call the Energy Star toll-free hotline: 888.STAR.YES.
- For more information on ASHRAE, go to [www.ashrae.org](http://www.ashrae.org) or call 888.527.4723.

## **1.1b Efficient Energy Use: Moderate and Substantial Rehabilitation (Mandatory)**

### **How**

Identify an architect with green building experience, an engineer or energy auditor to conduct an energy analysis of the existing building condition and identify cost-effective energy improvements by preparing an energy improvement report. The report must use software recognized by the energy modeling industry to model the current and projected energy performance of the building. Implement energy improvements adequate to improve the building’s energy performance by 15 percent from pre-renovation figures. The report does not have to be generated for each single-family home because the analysis presumably will recommend standard measures that can be applied to all homes that are of a similar building type.

### **Intent**

In substantial and moderate rehabs, the financial benefits of making specific building improvements (added insulation, replacement windows, etc.) vary tremendously from one building to the next, in relation to existing building conditions and the local climate. Because of that, the most effective practice is to conduct a building assessment, determine the unique conditions of the building (amount of existing insulation, R-value of windows, etc.), and use software or manual calculations to determine the cost and return on investment of various alternative improvements. Building upgrades should represent a significant improvement in energy performance from pre-renovation performance; 15 percent has been selected for this criterion as a minimum level of improvement in energy performance, based on data from the alignment with other national and regional green building programs.

### **Things to Consider**

- As an alternative way of achieving energy performance requirements, moderate and substantial rehab projects may opt to fulfill the requirements of 1-1a.

## **1.2 Energy Star Appliances (Mandatory – *if providing appliances*)**

### **How**

If providing appliances, install Energy Star clothes washers, dishwashers and refrigerators.

When the energy performance of the home is modeled to produce a HERS Index for 1-1a, the model should include the appliances and the HERS Index should reflect this.

### **Intent**

In 1992, EPA introduced Energy Star, a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Energy Star products must meet strict energy efficiency criteria set by EPA. These products reduce utility costs and greenhouse gas emissions.

### **Things to Consider**

- Projects that achieve this measure may be eligible for points toward LEED certification under LEED for Homes credit EA 9.1 “High Efficiency Appliances,” for up to 2 points. Note that this credit is part of the prescriptive pathway in the energy category in LEED for Homes; thus, projects receiving points in the performance pathway (for energy performance under credit EA 1) are not eligible for this credit, and vice versa.
- For more information on Energy Star labeled appliances, go to the appliances section of the Energy Star homepage, [www.energystar.gov/index.cfm?c=appliances.pr\\_appliances](http://www.energystar.gov/index.cfm?c=appliances.pr_appliances).
- This ENERGY STAR site includes links to lists of qualified dishwashers, clothes washers, refrigerators, and freezers, along with product and store locators, purchasing guides, and information about rebates and other incentive programs.

## **1.3a Efficient Lighting: Interior (Mandatory)**

### **How**

Install the Energy Star Advanced Lighting Package in all interior units, and use Energy Star or high-efficiency commercial grade fixtures in all common areas and outdoors.

If reusing existing fixtures in a rehab, installing compact fluorescent light bulbs (CFLs) is permitted. If installing new fixtures, these must be Energy Star labeled.

The following lighting types are exempt from this requirement: emergency lighting; lighting required by code for health and safety purposes; and lighting used for eye adaptation near covered vehicle entrances and exits.

**Intent**

Energy Star-qualified lighting uses two-thirds less energy and lasts six to 10 times longer than traditional lighting. Reduced energy use lowers utility costs and greenhouse gas emissions.

**Things to Consider**

- Projects that achieve this measure should meet the requirements of LEED for Homes prerequisite EA 8.1 “Energy Star Lights,” a mandatory requirement for LEED certification. Additionally, projects that achieve this measure also may be eligible for points toward LEED certification under LEED for Homes credit EA 8 for installing the Energy Star Advanced Lighting Package. Note that this credit is part of the prescriptive pathway in the energy category in LEED for Homes; thus, projects receiving points in the performance pathway (for energy performance under credit EA 1) are not eligible for this credit, and vice versa.
- The Energy Star Advanced Lighting Package (ALP) designation identifies homes equipped with a comprehensive set of Energy Star qualified light fixtures. The ALP designation applies to lighting packages for new home construction that consist of a minimum of 60 percent Energy Star qualified hard-wired fixtures and 100 percent Energy Star qualified ceiling fans where installed. Information on the ALP can be found at [www.energystar.gov/index.cfm?c=bldrs\\_lenders\\_raters.ALP\\_Builder](http://www.energystar.gov/index.cfm?c=bldrs_lenders_raters.ALP_Builder).

This site includes complete information on EPA’s Advanced Lighting Program specifications and requirements, along with extensive technical resources, qualified product and manufacturer lists and locators, case studies, and marketing support resources.

- For more information on lighting, go to the Products section of the Energy Star homepage, [www.energystar.gov](http://www.energystar.gov).

**1.3b Efficient Lighting: Exterior (Mandatory)****How**

Install daylight sensors or timers on all outdoor lighting including front and rear porch lights in single family homes.

The following lighting types are exempt from this requirement: emergency lighting; lighting required by code for health and safety purposes; and lighting used for eye adaptation near covered vehicle entrances and exits.

**Intent**

Daylight sensors automatically turn off the exterior lighting when sufficient daylight is available or lighting is otherwise not required. Proper aiming of exterior fixtures and the use of shade trees and plants help prevent unwanted glare (light trespass) into neighboring buildings and natural areas, and limit disturbance of the night sky (light pollution).

**Things to Consider**

- Projects that achieve this measure are eligible for points toward LEED certification under LEED for Homes credit EA 8.2 for improved lighting. Note that this credit is part of the prescriptive pathway in the energy category in LEED for Homes; thus, projects receiving

points in the performance pathway (for energy performance under credit EA 1) are not eligible for this credit, and vice versa.

- Design outdoor lighting to eliminate light trespass from the building and site and to minimize impact on nocturnal environments.
- Use downlighting instead of uplighting.
- Consult the Illuminating Engineering Society of North America's Recommended Practice Manual: Lighting for Exterior Environments.

**1.4 Electricity Meter (Mandatory – *except for zero-bedroom and designated supportive housing dwelling units*)**

**How**

Install individual or sub-metered electric meters.

**Intent**

To raise residents' awareness of the cost associated with electricity consumption, which may reduce energy use.

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The following areas are not mandatory but are suggested for consideration to further enhance energy efficiency.

**1.5 Additional Reductions in Energy Use (Optional)**

**How**

Exceed an 85 Energy Star HERS score for low-rise residential buildings, or provide calculations for the following:

- Forecast the annual energy efficiency of the entire project to exceed ASHRAE 90.1-2004 by 15 percent as in 1-1a.
- Analyze and adopt additional energy improvements.
- Reforecast annual energy costs with the additional improvements. Use that figure to determine the percentage of energy savings from the baseline established in the first bullet.
- For moderate and substantial rehabilitation projects, perform energy modeling as required in 1-1b and determine percentage that exceeds the required 15 percent reduction in energy usage from pre-renovation figures.

**Intent**

The relative energy efficiency of a given dwelling unit is established by comparing it to the HERS Reference Home, an accepted national standard based on the 2006 International Energy Conservation Code that uses a scale of 0-100. The lower the score is, the more efficient the home. The HERS Reference Home scores a HERS Index of 100 points. Essentially, one point is awarded or deducted for each 1 percent change in energy efficiency for the home's thermal envelope, heating, cooling and domestic hot water systems relative to the 2006 IECC. A home that uses approximately 20 percent less energy than the HERS Reference Home scores 20 points and is equivalent to an Energy Star-qualified home in climate zones 6-8. A home with zero-purchased energy scores 0.

For new construction, adding incremental improvements will advance energy efficiency while reducing utility and operating costs for residents and building owners. Renewable energy use and energy conservation lessen smog, acid rain and greenhouse gas emissions.

**Things to Consider**

- Projects that achieve this measure may be eligible for points toward LEED certification under LEED for Homes credit EA 1.2, "Exceptional Energy Performance," for up to 34 points. See EA 1 in the LEED for Homes Rating System for the logarithmic equations that relate the HERS Index to the appropriate number of LEED points.
- For more information regarding Energy Star standards, go to the new homes section of the Energy Star homepage, [www.energystar.gov](http://www.energystar.gov).
- For information on Builder Option Packages, go to [www.energystar.gov/index.cfm?c=bop.pt\\_bop\\_index](http://www.energystar.gov/index.cfm?c=bop.pt_bop_index).
- To identify a Home Energy Rater in your area, call the Energy Star toll-free hotline: 888.STAR.YES.
- For more information on ASHRAE, go to [www.ashrae.org](http://www.ashrae.org) or call 888.527.4723.

**1.6a Renewable Energy (Optional)****How**

Install PV panels, wind turbines or other renewable source to provide at least 10 percent of the project's estimated electricity demand.

**Intent**

Use of renewable energy reduces environmental impacts associated with utility energy production and use. These impacts include natural resource destruction, air pollution, greenhouse gas emissions and water pollution. Use of onsite renewable energy technologies, such as PV panels and wind turbines, can also result in energy cost savings.

**Things to Consider**

- Projects that achieve this measure may be eligible for up to 10 points toward LEED for Homes certification under credit EA 10 "Renewable Energy System." Projects can receive 1 point for every 3 percent of the annual reference electrical load met by the renewable energy

system. Note that the annual reference electric load is defined as the amount of electricity that a typical home (e.g., the HERS Reference Home) would consume in a typical year.

- American Solar Energy Society: [www.ases.org](http://www.ases.org).  
ASES is a nonprofit organization committed to a sustainable energy economy. ASES accelerates the development and use of solar and other renewable energy resources through advocacy, education, research and collaboration among professionals, policymakers and the public.
- American Wind Energy Association: [www.awea.org](http://www.awea.org).  
AWEA is a national trade association representing wind power plant developers, wind turbine manufacturers, utilities, consultants, insurers, financiers, researchers, and others involved in the wind industry.
- Database of State Incentives for Renewable Energy: [www.dsireusa.org](http://www.dsireusa.org).  
The North Carolina Solar Center developed this database to collect information on state financial and regulatory incentives (e.g., tax credits, grants and special utility rates) designed to promote the application of renewable energy technologies. DSIRE also offers additional features such as preparing and printing reports that detail the incentives on a state-by-state basis.
- Florida Solar Energy Center: [www.fsec.ucf.edu/en/consumer/solar\\_electricity/index.htm](http://www.fsec.ucf.edu/en/consumer/solar_electricity/index.htm).  
This is a resource for basic information on types of photovoltaic solar electric systems, sizing, installation and system ratings. FSEC also has an industry resources page that includes its Photovoltaic System Design Course Manual, available at [www.fsec.ucf.edu/en/industry/resources/pv/index.htm](http://www.fsec.ucf.edu/en/industry/resources/pv/index.htm).
- National Center for Photovoltaics: [www.nrel.gov/ncpv](http://www.nrel.gov/ncpv).  
NCPV provides a clearinghouse on all aspects of photovoltaic solar cell systems.
- National Renewable Energy Laboratory: [www.nrel.gov](http://www.nrel.gov).  
The National Renewable Energy Laboratory is a leader in the U.S. Department of Energy's effort to secure an energy future for the nation that is environmentally and economically sustainable.
- U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy: [www.eere.energy.gov](http://www.eere.energy.gov).  
The EERE website includes information on all types of renewable energy technologies and energy efficiency.

### **1.6b Photovoltaic (PV) Ready (Optional)**

#### **How**

Site, design, engineer and wire the development to accommodate installation of photovoltaic (PV) in the future. General contractor and PV contractor must document the information on the roof load, location of conduit and the potential location of the dash box. GC and PV contractor should provide documentation to building owner and manager.

Submit photos that demonstrate the following:

- Orient buildings to permit access to sunlight.
- Design and include south facing architectural elements on the roof for PV.
- Reserve unobstructed roof areas where panels can be placed.
- Run wiring from the prospective PV location to a central panel, as part of the general electrical work.

### **Intent**

Photovoltaics are composite materials that convert sunlight directly into electrical power and are the easiest renewable energy source to use in affordable housing.

Generating and using renewable energy in a development is a hedge against rising costs for purchased energy. Further, it avoids the environmental impacts associated with conventional power generation: natural resource destruction, air and water pollution, and greenhouse gas production.

### **Things to Consider**

- The first cost of PV can be high, but grants and subsidies are available in many states.

Building “PV Readiness” into a project reserves the opportunity to install a system later when resources become available.

- Database of State Incentives for Renewable Energy: [www.dsireusa.org](http://www.dsireusa.org).  
The North Carolina Solar Center developed this database to collect information on state financial and regulatory incentives (e.g., tax credits, grants and special utility rates) designed to promote the application of renewable energy technologies. DSIRE also offers additional features such as preparing and printing reports that detail the incentives on a state-by-state basis.

**Village Capital Corporation  
GREEN CITY BLUE LAKE INITIATIVE  
Sustainability Checklist & Cost Savings Summary**

*To be completed with the VCC Application for Financing or prior to loan closing, whichever comes first.*

**PROJECT NAME:** \_\_\_\_\_

**BORROWER NAME:** \_\_\_\_\_

**PERSON COMPLETING CHECKLIST:** \_\_\_\_\_

Name

Date Completed

Title

**PROJECT TYPE (Residential, commercial, institutional, etc.):** \_\_\_\_\_

Please check which “green” features are incorporated into your project beyond the Energy Efficiency Standards required by VCC [per its Green City Blue Lake Initiative<sup>2</sup>]:

✓	<b>GREEN FEATURES</b>	✓	<b>GREEN FEATURES</b>
	LEED Certification		Tankless Hot Water Heater
	ECP <sup>3</sup> Green Communities Initiative		Solar Panels or Wind Turbines
	Renovation of an Existing Structure		Geothermal Heating
	Brownfield Redevelopment		On-Site Recycling
	Transit Oriented Development		Forest Certified Wood
	Bicycle Storage		Low-Emitting Carpet
	Green Space on Site		Low-Emitting Paint
	Rain Barrels, Rain Gardens, Bioswales		Low Flow Toilets
	Roof Top Garden		Low-Flow Showerheads

Of the items checked above, please provide the following information:

- 1) Highlight those items where cost savings are anticipated.
- 2) Indicate the dollar amount of savings anticipated on the capital budget<sup>4</sup>: \_\_\_\_\_
- 3) Indicate the dollar amount of savings anticipate on the operating budget<sup>5</sup>: \_\_\_\_\_

<sup>2</sup> See VCC’s Green City Blue Lake Initiative at [www.neighborhoodprogress.org](http://www.neighborhoodprogress.org).

<sup>3</sup> Enterprise Community Partners

<sup>4</sup> Include all of the items checked above and VCC’s required Energy Efficiency Standards.

<sup>5</sup> Include all of the items checked above and VCC’s required Energy Efficiency Standards.

**If no items were checked in the table above, please describe why incorporating green elements was determined to be impractical or infeasible:**

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