

# **New Mexico Mortgage Finance Authority Green Building Criteria 2009**

## **PREFACE**

The New Mexico Mortgage Finance Authority (MFA) Green Building Criteria were originally created in 2005 for the purpose of providing a scoring option for the federal Low Income Housing Tax Credit Program that would be regionally appropriate for New Mexico's climate and for both urban and rural developments. Since their initial inclusion in the LIHTC Project Selection Criterion entitled, "Projects that benefit communities and the environment through more efficient use of resources, smarter planning and sustainable development," MFA's Green Building Criteria have been revised and will be utilized more broadly in other MFA Housing Development finance programs. The intent of these standards is to provide a flexible, dynamic document, which may require case-by-case interpretation and can be amended annually to reflect new ideas, trends and opportunities as the green building market expands and evolves.

There are six (6) categories included in MFA's Green Building Criteria:

- Site Selection and Design (SSD)
- Water Conservation (WC)
- Energy Efficiency (EE)
- Indoor Environmental Quality (IEQ)
- Materials Beneficial to the Environment (MBE)
- Operations and Maintenance (O&M)

Mandatory and optional items are available in all six of these categories. To receive the minimum 5 points under MFA's Green Building Criteria, projects must meet all mandatory items. For additional points, up to 15, projects may choose from optional items. Ten mandatory items for projects involving new construction include: xeric landscaping plan (1-a); erosion and sedimentation control plan (1-b); low-flow fixtures (2-a); Energy Star lighting and appliances (3-a); water line insulation (3-b); exterior venting of all bathroom exhaust fans, range hoods and dryer vents (4-a); carpet tacked, not glued, and present only in low-moisture areas (4-b); waste management plan (5-a); operations and maintenance plan for owners (6-a); and operations and maintenance plan for residents (6-b). Projects involving acquisition and substantial rehabilitation are excused from items 1-b (ESC plan) and 4-a (exterior venting) but must meet all eight other mandatory items to receive the minimum 5 points.

All committed items must be included in preliminary plans and specifications, in addition to any further documentation that may be required for MFA and its contracted partners to complete its review. The documentation provided may not entirely suffice if inconsistent with plans and specifications.

## MFA Green Building Criteria Checklist 2009

	<b>MFA Green Building Criteria</b>	<b>Scoring</b>	<b>Check if Committed</b>	<b>Check if additional Documentation is Provided</b>	<b>For MFA's Use</b>
<b>1</b>	<b>Site Selection &amp; Design (SSD)</b>				
<b>1-a*</b>	Native, xeric landscaping	Mandatory			
<b>1-b*</b>	Erosion & sedimentation control (ESC) plan	Mandatory (NC only)			
<b>1-c</b>	Site close to goods/ services	1 point			
<b>1-d</b>	Pedestrian friendly development	1 point			
<b>1-e</b>	Community garden	1 point			
<b>1-f</b>	Preserved existing vegetation	1 point			
<b>1-g</b>	Porous, paved surfaces	1 point			
<b>1-h</b>	Shaded paved surfaces	1 point			
<b>1-i</b>	75% passive solar design	5 points			
<b>1-j</b>	100% passive solar design	1 point			
<b>2</b>	<b>Water Conservation (WC)</b>				
<b>2-a*</b>	Low-flow fixtures	Mandatory			
<b>2-b</b>	Greywater collection	1 point			
<b>2-c</b>	Rainwater collection	1 point			
<b>3</b>	<b>Energy Efficiency (EE)</b>				
<b>3-a*</b>	Energy Star® lighting and appliances	Mandatory			
<b>3-b*</b>	Insulate all water lines	Mandatory			
<b>3-c</b>	Energy performance windows and doors	1 point			
<b>3-d</b>	Design for future active solar power	1 point			
<b>3-e</b>	Install solar powered devices	1 point			
<b>3-f</b>	Solar water heaters	1 point			
<b>3-g</b>	Sealed building envelope	1 point			
<b>3-h</b>	High insulation levels – walls, roof & foundation	1 point			
<b>4</b>	<b>Indoor Environmental Quality (IEQ)</b>				
<b>4-a*</b>	Exterior venting of exhaust fans, range hoods, dryer vents	Mandatory (NC only)			
<b>4-b*</b>	Carpet in low-moisture areas only, tacked down	Mandatory			
<b>4-c</b>	Hard surfaced flooring	1 point			

	<b>MFA Green Building Criteria</b>	<b>Scoring</b>	<b>Check if Committed</b>	<b>Check if additional Documentation is Provided</b>	<b>For MFA's Use</b>
<b>4-d</b>	Low VOC materials	1 point			
<b>4-e</b>	Composite wood free of urea-formaldehyde	1 point			
<b>4-f</b>	Non-Smoking Establishment	1 point (NC only)			
<b>5</b>	<b>Materials Beneficial to the Environment (MBE)</b>				
<b>5-a*</b>	Construction waste management plan (WMP)	Mandatory			
<b>5-b</b>	Recycled-content Material	1 point			
<b>5-c</b>	Certified, salvaged or engineered wood	1 point			
<b>5-d</b>	Local or regional materials	1 point			
<b>6</b>	<b>Operations &amp; Maintenance (O&amp;M)</b>				
<b>6-a*</b>	Owner Operations and Maintenance (O&M) Plan	Mandatory			
<b>6-b*</b>	Resident Operations and Maintenance (O&M) Plan	Mandatory			

## **1. Site Selection and Design (SSD)**

### **\*1-a. Native, xeric landscaping**

Standard: Provide a landscaping plan using drought-tolerant species, native plants, and minimal lawn cover.

Intent: Conserve water and reduce the need for fertilizers and pesticides.

Documentation: Landscaping plan that shows planting materials to be used and their location to be planted.

### **\*1-b. Erosion and Sedimentation Control (ESC) plan**

Standard: Create and implement an erosion and sedimentation control (ESC) plan. This is mandatory for new construction only.

Intent: Minimize the loss of topsoil and infiltration of sedimentation into the storm water system during construction. The efficient disposal of materials reduces the environmental impact of building.

Documentation: Provide certification from the developer that an ESC will be completed prior to the start of construction. A copy of the plan will be required at carryover.

### **1-c. Close proximity to goods & services**

Standard: Locate development site within ½ mile of areas with a high concentration of commercial activity and reasonable walking distance of community services, such as retail, grocery, healthcare, permanent public transit stops.

Intent: Develop in pedestrian friendly locations that promote healthy life styles and alternate modes of transportation and utilize existing infrastructure.

Documentation: Provide map evidencing distances between site and services.

### **1-d. Secure bike storage, ADA-compliant pathways, & pedestrian links to outside environment**

Standard: Provide secure bicycle storage, in addition to the bulk storage requirement of the MFA Design Guidelines, for at least 25% of all units. Storage should be covered, located in a well lighted area, visible from the residential units. Ensure that all pathways are compliant with the Americans with Disabilities Act (ADA), and provide a direct pedestrian link from the development to the outside environment.

Intent: Develop infrastructure to ensure pedestrian and cycling options for transportation and recreation.

Documentation: Evidence in Site Plan. Indicate what percentage of units have bicycle storage available.

**1-e. Community Garden**

Standard: Plan a community garden on-site.

Intent: Promote community development and self-sustainment.

Documentation: Provide evidence in landscaping and/or site plans.

**1-f. Preservation of existing trees and vegetation**

Standard: Preserve existing trees and vegetation, except within 30 feet of buildings, driveways, solar access, areas cleared for food production or as required for grading & drainage.

Intent: Preserve mature trees and natural vegetation when possible.

Documentation: Provide pre-development and post-development plans highlighting trees and vegetation to be saved and/or relocated on-site.

**1-g. Porous, paved surfaces**

Standard: Use porous, pavement for at least 15% of all footpaths, patios, parking areas and other paved common areas.

Intent: Reduce the effect of heat islands within the site and assist in storm water infiltration and erosion control. Porous surfaces are well suited to use for footpaths, patios, and other common areas. For example, materials may include permeable concrete/pavement, brick, stone, gravel, or other manufactured products.

Documentation: Product list identifying porous paving product. Evidence on site plan indicating percentage of surfaces to be paved with porous materials (calculated using square footage of porous paved surfaces divided by total square footage of paved surfaces) and locations where porous paving materials will be used.

**1-h. Shaded paved surfaces**

Standard: Shade at least 25% of all hardscape-paved surfaces with vegetation. Areas shaded by carports will not qualify.

Intent: Reduce the effect of heat islands within the site.

Documentation: Scaled Site Plan with North arrow, and landscaping plan with plant list specifying type of trees to be planted, their locations and total percentage of hardscapes shaded by vegetation.

### **1-i Passive Solar Design in at least 75% of units<sup>1</sup>**

Standard: Provide at least 75% of all units with passive solar design components specified here.

Intent: A building's orientation and the materials and design of a building's wall systems can determine how effectively solar energy can be employed for energy savings. It is therefore important to choose design elements that utilize solar energy in the most efficient way, in order to maximize solar heating potential in the heating season and minimize solar gains in the cooling season. Such passive solar design elements include the following:

- proper orientation to maximize solar access and cross ventilation;
- optimal window sizing and placement to utilize solar energy for heating and lighting;
- proper shading by means of natural vegetation or calculated roof overhangs or awnings;
- sufficient thermal mass in floors, interior walls, fireplaces and bancos to maximize heat absorption and storing;
- adequate insulation in the walls, roof, and foundation of a building to resist heat loss in the cooler months and heat gain in the warmer months.

According to the New Mexico Solar Energy Association ([www.nmsea.org](http://www.nmsea.org)), a well-designed passive solar home in New Mexico can save about 80% in energy costs compared to an average home that is not designed according to passive solar principles.

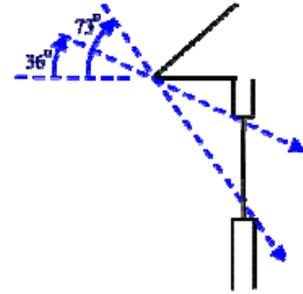
Requirements: Utilize the following passive solar design components:

- South-facing windows should be oriented no more than 25 degrees east or 15 degrees west of true south (accounting for declination). Orientation within 5 degrees of south is ideal, and orientation within 15 degrees of south is nearly as effective.
- In order to avoid obstructing solar gain, no structures, including fences, should be located within 10 feet, no one-story structures within 17 feet, and no two-story structures within 40 feet of the south wall. Additionally, no significant obstructions should be placed within 25 degrees above south-facing windows (from the bottom of the feature) or within 45 degrees horizontal from the east and west edges of the south-facing window features.

---

<sup>1</sup> Projects satisfying Optional Criterion 1-i will receive 5 points.

- Provide “extra” thermal mass, exceeding the minimum thickness for mass wall allowance provided in the New Mexico Energy Conservation Code, in floors and/or interior walls that are directly lit by south-facing windows. Thermal mass should be in the form of brick, concrete slab or masonry, tile, or adobe – light-colored on walls and dark-colored on floors. Associated south-facing windows should be at least 7% and no more than 12% of the floor area of the solar heated room. -OR- If no “extra” thermal mass is added, south-facing windows should be larger than 3% and no more than 7% of the floor area of the solar heated room. South-facing windows should account for a total of no more than 20% of the total floor area of the building.
- Provide calculated overhangs for south facing windows, such that the dimensions of the overhang accommodate sun angles of 36 degrees and 73 degrees, as shown to the right.
- Minimize the number and size of north-, east- and west-facing windows, especially those facing southwest (>30 degrees west of south). West windows should be no larger than 2% of the floor area of the room, unless shading is used to prevent overheating. North and East windows should be no larger than 4% of the floor area of the respective rooms. The total of north-, east- and west-facing windows should not exceed 12% of the total heated floor area of the building.
- Provide shading for east- and west- facing windows to prevent summer solar gains. Shading can take the form of trees or other landscaping elements, calculated roof overhangs, or other shading devices, such as awnings, blinds, shutters, or vertical louvers.
- Certified, energy-efficient, thermal pane windows should be used throughout the building.
- Insulation levels in the roofs, floors, and walls should exceed those required by the New Mexico Energy Conservation Code (<http://www.emnrd.state.nm.us/ecmd/Codes/buildingcodes.htm>).



Documentation: Minimally provide the following documentation:

- Scaled Site Plan with North arrow. For typical units, show various solar orientations with more than one north arrow, as necessary. Indicate proposed solar orientation, window sizing and placement, wall systems (showing materials, massing, and insulation), and shading.
- Landscaping plan with plant list specifying type of tree(s) to be planted, specifying their locations.
- Scaled Building Elevations that evidence the actual size of overhangs.

- Floor Plans of entire unit mix, indicating percentage floor area of south-facing windows and north-, east- and west-facing windows (N+E+W).
- Worksheets provided in the New Mexico Energy Conservation Code for passive solar heating, mass wall allowance, and insulation R-values.

**1-j. Passive Solar Design in 100% of units.**

Standard: Provide 100% of all units with the passive design components specified in 1-i above.

Documentation: Minimally provide the following documentation:

- Scaled Site Plan with North arrow. For typical units, show various solar orientations with more than one north arrow, as necessary. Indicate proposed solar orientation, window sizing and placement, wall systems (showing materials, massing, and insulation), and shading.
- Landscaping plan with plant list specifying type of tree(s) to be planted, specifying their location.
- Scaled Building Elevations that evidence the actual size of overhangs.
- Floor Plans of entire unit mix, indicating percentage floor area of south-facing windows and north-, east- and west-facing windows (N+E+W).
- Worksheets provided in the New Mexico Energy Conservation Code for passive solar heating, mass wall allowance, and insulation R-values.

**2. Water Conservation (WC)**

**\*2-a. Low-flow fixtures**

Standard: Replace existing fixtures or newly install low-flow fixtures with the following specifications: 1.6 gallons-per-flush toilets, 2.0 gallons-per-minute showerheads, 1.5 gallons-per-minute kitchen faucets, 1.0 gallons-per-minute bathroom faucets.

Intent: Reduce utility costs and conserve water by minimizing indoor water use.

Documentation: Provide product lists, and evidence in specifications.

**2-b. Greywater harvesting**

Standard: Create and implement a greywater recycling system with on-site retention for non-potable water reuse.

Intent: Reduce utility costs and conserve water by reducing potable water use.

Documentation: Site plan evidencing greywater collection system, and product list.

### **2-c. Rainwater harvesting**

Standard: Create and implement a rainwater collection system with on-site retention for non-potable water irrigation.

Intent: Reduce utility costs and conserve water by reducing potable water use on outdoor plantings.

Documentation: Landscaping and/or site plan evidencing rainwater collection system, and product list.

## **3. Energy Efficiency (EE)**

### **\*3-a. Energy Star® lighting systems**

Standard: Install Energy Star® lighting systems and appliances. Provide evidence that the water heaters' energy factor (EF) equate to or exceed the Energy Star® recommended levels.

Intent: Conserve energy, reduce utility costs, and enhance comfort.

Documentation: Product list evidencing Energy Star® label. Provide EF for water heaters. New construction projects must provide Energy Star® qualified compact fluorescent light (CFL) bulbs. Rehabilitation projects should replace all interior and exterior light bulbs with Energy Star® qualified CFL bulbs.

### **\*3-b. Insulate all water lines, hot and cold**

Standard: Insulate all water lines, hot and cold. Rehabilitation projects should meet this to the extent possible by insulating all exposed water lines or insulating that will be exposed during the course of the rehabilitation.

Intent: Conserve energy, reduce utility costs, and enhance comfort.

Documentation: Provide installation instructions evidencing such and reference in specifications.

### **3-c. Energy-efficient, high performance windows and doors**

**Standard:** Install windows, skylights, and exterior doors that meet or exceed ENERGY STAR’s minimum National Fenestration Rating Council (NFRC) ratings for U-Factor and Solar Heat Gain Coefficient (SHGC) for the particular geographic region.<sup>2</sup> New Mexico’s counties fall into three of the eight Climate Zones specified by the International Energy Conservation Code, on which these standards are based (See 2006 IECC Climate Zone table below).<sup>3</sup>

<b>2006 IECC Climate Zone</b>	<b>New Mexico Counties</b>
CZ3 (South/Central)	Chaves, Dona Ana, Eddy, Hidalgo, Lea, Luna, Otero
CZ4 (North/Central)	Bernalillo, Curry, De Baca, Grant, Guadalupe, Lincoln, Quay, Roosevelt, Sierra, Socorro, Union, Valencia
CZ5 (Northern)	Catron, Cibola, Colfax, Harding, Los Alamos, Mckinley, Mora, Rio Arriba, San Juan, San Miguel, Sandoval, Santa Fe, Taos, Torraine

<b>Element</b>	<b>Specifications</b>
2.1a Windows and Exterior Doors	<ul style="list-style-type: none"> <li>• CZ3: U-factor ≤ 0.40 and SGHC ≤ 0.40;</li> <li>• CZ4: U-factor ≤ 0.40 and SGHC ≤ 0.55;</li> <li>• CZ5: U-factor ≤ 0.35 and any SGHC.</li> </ul>
2.1b Skylights	<ul style="list-style-type: none"> <li>• CZ3: U-factor ≤ 0.60 and SGHC ≤ 0.40;</li> <li>• CZ4: U-factor ≤ 0.60 and SGHC ≤ 0.40;</li> <li>• CZ5: U-factor ≤ 0.60.</li> </ul>

**Intent:** Conserve energy, reduce utility costs, and enhance comfort.

**Documentation:** Provide a scaled site plan with north arrow, indicating location of all windows, exterior doors and skylights, and provide product list identifying compliance with required standards.

### **3-d. Solar-ready design**

**Standard:** Provide building accommodations, including orientation, design, wiring, and unobstructed roof area (200 sf minimum) to allow the installation of active solar energy in the future.

**Intent:** Make active use of renewable energies to reduce both utility costs and environmental impacts of energy production.

<sup>2</sup> “Residential Windows, Doors, and Skylights Key Product Criteria,” ENERGY STAR website, URL: [http://energystar.gov/index.cfm?c=windows\\_doors.pr\\_crit\\_windows](http://energystar.gov/index.cfm?c=windows_doors.pr_crit_windows).

<sup>3</sup> More information on the International Energy Conservation Code Climate Zones can be found at URL: <http://resourcecenter.pnl.gov/cocoon/morf/ResourceCenter/article/1420>.

Documentation: Provide scaled site plan with North arrow, indicating building orientation and detailing both the design elements that would accommodate future active solar use and the products to be used.

**3-e. Solar power**

Standard: Utilize active solar energy by installing solar powered devices, receive points for both 3d and 3e.

Intent: Make active use of renewable energies to reduce both utility costs and environmental impacts of energy production.

Documentation: Provide cut sheets highlighting products to be used and scaled site plan indicating building orientation and location(s) where solar devices will be installed.

**3-f. Solar hot water heating**

Standard: Install solar water heating system for common hot water needs.

Intent: Make active use of renewable energies to reduce both utility costs and environmental impacts of energy production.

Documentation: Evidence installation on plans and specifications. Provide product information in specifications.

**3-g. Sealed building envelope**

Standard: Properly seal the building envelope to reduce air infiltration and leakage. For example, tighten the seals around windows and doors, seal all plumbing and electrical conduit openings, caulk around windows and under headers and sills, seal openings into attics or crawlspaces with taped polyethylene covered with insulation, and other measures.

Intent: Ensure that building envelopes are adequately sealed to reduce air infiltration and leakage.

Documentation: Provide installation instructions evidencing such measures and reference in specifications.

**3-h. High levels of insulation in walls, roof and foundation**

Standard: Install high levels of insulation in the exterior walls, ceilings/attic/roof, and floors/slab foundation, raising the R-value of the building envelope and helping to minimize heat flow, in the form of heat loss in the winter and heat gain in the summer. Minimum R-value for insulation used will vary depending upon the region of New Mexico (See 2006 IECC Climate Zone table above for regional zone designation).

Element	Specifications
2.3a Ceiling/Attic/ Roof Insulation	<ul style="list-style-type: none"> <li>• CZ3: <math>\geq 30</math> R-value<sup>4</sup></li> <li>• CZ4: <math>\geq 38</math> R-value</li> <li>• CZ5: <math>\geq 38</math> R-value</li> </ul>
2.3b Wood Frame Wall Insulation	<ul style="list-style-type: none"> <li>• CZ3: <math>\geq 13</math> R-value</li> <li>• CZ4: <math>\geq 13</math> R-value</li> <li>• CZ5: <math>\geq 19</math> R-value</li> </ul>
2.3c Slab Foundation Insulation (at 2 feet depth)	<ul style="list-style-type: none"> <li>• CZ3: <math>\geq 0</math></li> <li>• CZ4: <math>\geq 10</math> R-value</li> <li>• CZ5: <math>\geq 10</math> R-value</li> </ul>

Intent: Proper insulation will not only increase comfort in the home but also reduce heating and cooling costs year-round.

Documentation: Provide scaled cross-sections indicating insulation systems used and R-values.

#### 4. Indoor Environmental Quality (IEQ)

##### \*4-a. Exhaust fans, range hoods, and dryer vents vented to outside

Standard: All bathroom exhaust fans, range hoods (on all stoves), and dryer vents must vent directly to the outdoors and meet ASHRAE 62.2-2004, in order to control moisture and other air contaminants. Mandatory for new construction only.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Provide product list showing compliance with Energy Star® specifications. Highlight in specifications, evidence on plans.

##### \*4-b. Carpet used only in low-moisture areas and tacked down

Standard: If carpet is used it must not be installed in high moisture areas including; entryways, bathrooms, kitchens, and laundry areas. Installation of carpet must be tacked down, cannot be glued.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Provide product list specifying products to be used. Provide installation instructions. Show on floor plan where carpet is to be installed.

<sup>4</sup> R-values are for insulation only, not whole wall, and are derived from ENERGY STAR Builder Option Package standards for climate zones ([http://www.energystar.gov/index.cfm?c=bop.pt\\_bop\\_newmexico](http://www.energystar.gov/index.cfm?c=bop.pt_bop_newmexico)).

#### **4-c. Hard-surfaced, resilient flooring**

Standard: Install *only* hard-surfaced, resilient flooring in order to avoid the collection of dust and other allergens that occur in carpet.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Provide product list specifying product to be installed. Highlight in specifications.

#### **4-d. Low-VOC materials**

Standard: Use certified Low-VOC (volatile organic compounds) materials such as paints, primers, sealants, and adhesives. Green Seal is an excellent resource.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Provide product list and description of materials to be used including VOC levels.

#### **4-e. Composite wood free of urea-formaldehyde**

Standard: Use composite wood only if free of urea formaldehyde. Particleboard and medium density fiberboard (MDF) shall be certified compliant with ANSI A208.1 and A208.2, respectively.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Documentation that the ANSI standards will be met. Evidence that this requirement is part of the specifications for sub-contractor submittals.

#### **4-f. Non-smoking establishment**

Standard: Provide a NON-Smoking establishment, designate an outdoor smoking area at least twenty feet away from all entryways and communal outdoor spaces.

Intent: Provide living spaces that enhance resident health and comfort by reducing or eliminating toxic materials and increasing air quality.

Documentation: Provide an example of a non-smoking policy tenant agreement that will be part of the lease-up process. Also, show where the

designated smoking areas will be located on the site plan. This category is not applicable for rehabilitation projects.

## **5. Materials that Benefit the Environment (MBE)**

### **\*5-a. Construction waste management plan (WMP)**

Standard: Develop and implement a construction waste management plan (WMP), evidence that the contractor is obligated to follow the plan and will communicate to all persons working on the job site.

Intent: Reduce construction waste material going to landfills.

Documentation: Provide Certification that a WMP will be created and implemented. A copy of the plan will be required at carryover.

### **5-b. Recycled-content materials**

Standard: Ensure that at least 5% of all construction materials have recycled content.

Intent: Use resources efficiently, and reduce the impact of producing new materials.

Documentation: Provide product information in specifications, and provide calculations evidencing the percentage of recycled content materials of overall construction materials by weight. Calculations must be made as follows:<sup>5</sup>

- To find the value of recycled content for a given product, multiply the recycled content percentage by weight (post-consumer or post-industrial) by the value of the product.
- Add up the values of recycled content for all materials and furnishings.
- Divide this sum by the total value of the materials for the project.

### **5-c. Certified, salvaged or engineered wood**

Standard: Use at least 25% wood products (measured in dollar value) that are certified according to the Forest Stewardship Council (FSC), salvaged from other buildings, or engineered framing materials.

Intent: Use resources efficiently and responsibly.

Documentation: Provide the following calculation: divide the sum of the dollar value of all certified, salvaged or engineered wood products by the

---

<sup>5</sup> This calculation is based on the method used in the Enterprise Green Communities Criteria (v.3.0).

dollar value of all wood products. Evidence of products used in specifications.

**5-d. Local or regional materials**

Standard: Use at least 20% of building materials (measured in dollar value) that are manufactured, extracted, or harvested within a 300-mile radius of the project site.

Intent: Reduce embodied energy of materials by reducing transportation costs.

Documentation: Evidence in product specifications of local or regional materials. Documentation from product manufacturer stating where the product is manufactured, harvested or extracted. Provide the following calculation: divide the sum of the dollar value of all local or regional materials by the dollar value of all construction materials.

**6. Operations and Maintenance (O&M)**

**\*6-a. Operations and maintenance plan for use by building-owner**

Standard: Create a building Operations and Maintenance Plan (O&M) for use by owner.

Intent: Ensure proper maintenance of the building.

Documentation: Provide certification from the developer that an O&M Plan will be completed prior to building occupancy. A copy of the plan will be required at final allocation.

**\*6-b. Operations and maintenance plan for use by residents**

Standard: Create an Operations and Maintenance (O&M) Plan for use by residents. Provide orientation of residents upon move-in.

Intent: Explain the intent, benefits, use and maintenance of green building features, and encourage additional green activities such as recycling, gardening and use of healthy cleaning materials.

Documentation: Provide certification from the developer that an O&M Plan will be completed prior to building occupancy. A copy of the plan will be required at final allocation. Also, provide certification from the developer that resident orientation will occur upon each new resident upon move-in.