

# LEED

## LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN

### FACT

#### ENVIRONMENTAL IMPACT OF HOMES:

**In the United States, residential units consume 22% of the nation's energy and cause 20% of its greenhouse gas emissions.** To learn more, visit [http://buildingsdatabook.eere.energy.gov/?id=view\\_book](http://buildingsdatabook.eere.energy.gov/?id=view_book) and <http://water.usgs.gov/watuse/> .

Source: "Income, Energy Efficiency and Emissions: The Critical Relationship", Energy Programs Consortium, February 26, 2008.



Southern Living Idea Home photo by Rob Moody

A LEED-certified home is designed and constructed in accordance with the rigorous guidelines of the LEED for Homes green building certification program. LEED for Homes is a consensus-developed, third party-verified, voluntary rating system which promotes the design and construction of high-performance green homes. (USGBC)

According to Green Homeowners,  
**Top 3 Benefits of a Green Home are:**



Source: SmartMarket Report, McGraw Hill Construction, 2008

Other Benefits of a Green Home:

- ✓ *Increased comfort*
- ✓ *Conserve water and energy*
- ✓ *Increased durability (lower maintenance costs)*
- ✓ *Increased occupant safety*
- ✓ *Reduced construction and demolition waste*

**Ways to make your home “green”:**

- **Use Energy Star™ products to save energy, save money, and help reduce emissions of greenhouse gases and air pollutants at the source.**
  - [www.energystar.gov/index.cfm?c=products.pr\\_find\\_es\\_products](http://www.energystar.gov/index.cfm?c=products.pr_find_es_products)
- **Install high efficiency shower and faucet fixtures and high efficiency or dual flush toilets.**

Lavatory faucets should have a maximum flow rate of 1.5 gpm (gallons per minute) and shower heads a maximum flow rate of 2.0 gpm. A high efficiency toilet uses 1.6 gpf (gallons per flush) as compared with a standard toilet that uses 3.5 gpf. This simple change reduces one person’s annual water use from 27,300 gallons to 12,500 gallons, according to the [Federal Energy Management Program](#). Dual flush toilets handle liquid and solid waste differently. Typically, a dual flush toilet uses 0.8 gpf for liquid waste and 1.6 gpf for solid waste.

  - [www.epa.gov/watersense](http://www.epa.gov/watersense) (click on Product Search)
  - <http://www.greenbuildings.com/manufacturers/ProductSearch.php> (click on Green Products)
- **Cut down on potable water consumption by:**
  - ✓ installing rain barrels and using captured water for irrigation
  - <http://www.green2green.org/land/rainwater-harvest>
  - [www.arcsa.org](http://www.arcsa.org)

- <http://www.irrigation.org/>
- <http://www.allianceforwaterefficiency.org/resource-library/default.aspx>

- ✓ installing water efficient landscaping using native or adaptable plants and using drip irrigation and mulching. Native plants have evolved over thousands of years and have adapted to local soils and climate. This means that native plants require less care than exotic plants and, therefore, require less water, fertilizers and pesticides. Eliminate synthetic fertilizers and toxic chemical pesticides and herbicides; only use natural organic fertilizers and treatments. Fewer synthetic fertilizers and pesticides means cleaner water filtering back into the local water courses. Mulching reduces evaporation, keeping plants moist so less water is required.

- <http://www.plantnative.org>
- [www.epa.gov/watersense/docs/water-efficient\\_landscaping\\_508.pdf](http://www.epa.gov/watersense/docs/water-efficient_landscaping_508.pdf)
- <http://for-wild.org/>
- <http://cleanaircounts.org/naturallandscaping.aspx>

- **Stabilize bare soil and prevent erosion by planting fast-growing grass, placing hay, grass, woodchips, straw or gravel and installing silt fencing.** When these measures are used during construction, it helps prevent soil loss, sedimentation of storm sewers and water bodies and air pollution caused by dust.
- **Use low or no VOC (volatile organic compound) paint, carpet and flooring.** Some brands claiming no or low VOC are Benjamin Moore Natura, Valspar and Olympic (can be found at Lowe's, Home Depot, etc). Look for these seals on the label:



## "asthma & allergy friendly"™

- <http://www.greenseal.org/GreenBusiness/Standards.aspx?vid=ViewStandardDetail&cid=0&sid=6>
- <http://www.greenseal.org/GreenBusiness/Standards.aspx?vid=ViewStandardDetail&cid=0&sid=34>

- **Switch to compact fluorescent light bulbs (CFLs) to reduce heat production and energy use.** Follow the link to learn about the pros, cons and cost data.
  - <http://greenhomeguide.com/know-how/article/green-retrofit-checklist>

- **Use reclaimed or sustainable wood products.** The use of reclaimed wood saves existing trees from being cut down, saves the landfills from large deposits of old wood and helps avoid fire hazards by removing old structures. Barns and mills are the most common source of reclaimed wood. Many home restoration magazines list sellers of reclaimed wood. Sustainable wood products come from forests that are responsibly managed to ensure that the harvest of timber maintains the forest's biodiversity, productivity and ecological processes. A project using FSC (Forest Stewardship Council) certified wood can earn points in the LEED rating system under the category "Materials and Resources". Look for the following trademarks on wood products:



**FSC® Forest Stewardship Council®**

- <http://pionermillworks.com/>
- <http://www.agedwoods.com/>

#### **Construction Costs:**

- Many green features have no additional cost  
Example: East-West orientation  
When a house is oriented on the East-West axis, the windows with southern exposure reduce the need for artificial lighting and maximize the solar heat gain in winter. Also, an overhang on the southern side provides shade from the higher summer sun, minimizing the solar heat gain in summer
- Some green features result in cost-savings  
Example: reducing construction waste  
When brick, concrete, wood and metal is recycled, the recycling cost is often significantly less than the cost of disposal.  
Example: native plants  
Native plants often cost less than exotic plants and also provide future savings by requiring less water, fertilizer and pesticides.
- Other green measures have an initial increased cost, but result in long term savings  
Example: solar hot water heating and low-energy fluorescent lighting systems initially cost more but provide energy cost savings over the life of the systems to ultimately realize net cost savings.  
  
Example: less turf and more drought tolerant native plants  
Drought tolerant native plants may initially cost more than grass, but in the long run will use a substantially smaller amount of water, fertilizer and pesticide. Also, native ground cover requires less maintenance (mowing) than grass.

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*Please Note:*

The permittee of any construction or demolition project that includes the removal of 21 or more cubic yards of waste material is required to submit a NOTIFICATION OF CONSTRUCTION/DEMOLITION ACTIVITIES form to the Somerset County Department of Health within 48 hours of the issuance of a municipal permit. See form below.

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**For questions related to this document, please contact:**

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**LINKS:**

SUSTAINABLE NEWS FOR MUNICIPALITIES (weekly articles):

[www.sustainablecitynetwork.com](http://www.sustainablecitynetwork.com)

GREEN PRODUCTS:

<http://www.greenbuildings.com/manufacturers/ProductSearch.php>

[www.epa.gov/watersense](http://www.epa.gov/watersense)

ENERGY STAR™ PRODUCTS:

[www.energystar.gov/index.cfm?c=products.pr\\_find\\_es\\_products](http://www.energystar.gov/index.cfm?c=products.pr_find_es_products)

NATIVE PLANTS:

<http://www.plantnative.org>

[www.epa.gov/watersense/docs/water-efficient\\_landscaping\\_508.pdf](http://www.epa.gov/watersense/docs/water-efficient_landscaping_508.pdf)

<http://for-wild.org/>

<http://cleanaircounts.org/naturallandscaping.aspx>

RAINWATER HARVESTING/IRRIGATION:

<http://www.green2green.org/land/rainwater-harvest>

[www.arcsa.org](http://www.arcsa.org)

<http://www.irrigation.org/>

<http://www.allianceforwaterefficiency.org/resource-library/default.aspx>

INSULATION:

<http://www.green2green.org/insulation/core+shell/attic-ceiling>

CERTIFIED WOOD:

<http://pioneermillworks.com/>

“LEED FOR HOMES” PROVIDERS (the only two providers in NJ):

[www.magrann.com](http://www.magrann.com)

[www.swinter.com](http://www.swinter.com)

## **POPULAR SUSTAINABILITY ARTICLES:**

### **Sustainability Metrics for Municipalities**

*City Partners with University to Develop Indicators*

### **Bright Future Seen for LED Streetlights**

*Lamps Use 50 to 70 Percent Less Energy than Conventional Lights*

### **HUD Office of Sustainable Housing and Communities**

*Federal Agency Hopes to Restore Grant Funding*

### **Water Leak Detection System Finds Bubbling 'Spring' in PA Borough**

*Monaca Fixes 200,000-Gallon Per Day Leak*

### **Why Not Flush Rooftop Rainwater?**

*Report Says Roof Runoff Could Solve U.S. Water Woes*

### **CyberTran Light Rail System**

*Is it the Future of Mass Transit?*

### **Solar Energy at Wastewater Treatment Plant Becomes Reality**

*Small Town Learns It's Possible; With a Little Help*

### **LEED-ND and Affordable Housing: Can the Two Go Together?**

*Sustainable Neighborhood Development Isn't Just for Luxury Developments*

### **City Greenhouse Gas Reduction Plan Falls Short**

*Berkeley Discovers Emission Reductions Require More than a Plan*

### **Bioretention Systems Reduce Pollution and Flooding**

*Wisconsin Expert Advocates for Rain Gardens*



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[www.co.somerset.nj.us/health](http://www.co.somerset.nj.us/health) - [healthdept@co.somerset.nj.us](mailto:healthdept@co.somerset.nj.us)

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NOTIFICATION OF CONSTRUCTION/DEMOLITION ACTIVITIES

Pursuant to the Solid Waste Management Plan of Somerset County, it is required that this form be completed by the Permittee, and reported to the Somerset County Department of Health, within 48 hours of the issuance of a municipal permit for construction and/or demolition activities that will, in the aggregate, require removal of 21 or more cubic yards of waste materials.

Please print clearly & fax to: (908) 704-8042, or mail to the above address.

TYPE OF PERMIT: \_\_\_\_\_ PERMIT # \_\_\_\_\_

NAME, ADDRESS & PHONE NUMBER OF PERMITTEE:


PHYSICAL LOCATION OF PROPERTY: (Street Address; Lot & Block)


DATE WORK WILL START: \_\_\_\_\_ ESTIMATED DATE OF COMPLETION: \_\_\_\_\_

CONTRACTOR TO BE USED FOR WASTE REMOVAL (Name, Address, Telephone & DEP number)


CONTRACTOR TO BE USED FOR RECYCLING (Name, Address & Telephone)


**The following materials shall be recycled:** wood scrap/unfinished lumber (only non-chemically treated, clean wood); cardboard; concrete; asphalt; masonry/paving materials; scrap metals. **\*Failure to source-separate & recycle is a violation of the Somerset County Solid Waste Management Plan\***

ESTIMATED AMT OF CONST/DEMO WASTE TO BE GENERATED: \_\_\_\_\_ CUBIC YDS

PERMITTEE SIGNATURE \_\_\_\_\_

DATE \_\_\_\_\_

Somerset County is An Equal Opportunity Employer  
Printed on Recycled Paper