Maximize Your Water Efficiency!

The US Green Building Council's LEED (Leadership in Energy and Environmental Design) Green Building Rating System ™ offers environmentally sound building strategies for achieving LEED certification as a green building. LEED Certification ensures that state-of-the-art conservation and environmentally sustainable techniques have been incorporated into the building's design and construction. LEED's Green Building Rating System integrates sound building practices in five categories: building site selection, energy efficiency, indoor environmental quality, building material choices and water efficiency. Each category is weighed differently based upon on how many points can be earned within that category (Table 1). A minimum of twenty-six points is needed to receive LEED certification (Table 2).

Water efficiency is an important category in the LEED certification program, and the strategies can be easily integrated into any building's design. In addition to achieving LEED Credits, water efficiency strategies are life-cycle cost-effective. A maximum of five points can be earned for implementing water saving practices in a building's design. The Metropolitan Washington Council of Government's Wise Water Use Program in cooperation with local water utilities, the National Capital Region Chapter of the USGBC, and Water Management Inc., encourage builders, architects and contractors to consider designing buildings to maximize water efficiency. Below are several ways water efficiency can be incorporated into your building plan.

Table 1: LEED Certification Categories

LEED CATEGORIES	
Indoor Environmental Quality	*23%*
Materials and Resources	*20%*
Sustainable Sites	*22%*
Water Efficiency	*8%*
Energy/Atmosphere	*27%*

Table 2: LEED Certification Levels

LEED CERTIFICATION LEVELS	
Level	Points Needed
➢ LEED Certified	26-32
➢ Silver	33-38
➢ Gold	39-51
➢ Platinum	52+

Earning Water Efficiency Credits:

1) **Water Efficient Landscaping**

The intent for water efficient landscaping is to limit or eliminate the use of potable water for landscape irrigation. 1-2 water efficiency points can be earned using high efficiency irrigation or with rain or recycled site water, reducing the potable water use for irrigation by 50% over conventional means. One point can also be earned by using only captured or recycled site water for an additional 50% reduction for site irrigation, eliminating the need for a permanent landscape irrigation system.

To maximize water efficiency, develop a low water use landscape and irrigation plan. Several things should be considered in developing such a plan:

1.) Choose plants that are native to the building location. If possible, use drought tolerant species, which can thrive on little water. Work with an area landscaper/nursery to perform soil analysis and determine what plants and amount of watering are right for the site. *Climate appropriate landscaping can reduce the need for irrigation.*
2.) Develop a landscape plan based upon how much water your plants will need; understand the different needs of the landscape and group plants accordingly.
3.) Choose wise equipment. Drip irrigation is the most efficient type of automatic irrigation systems. An efficient irrigation system will include water efficient sprinkler heads, a timer, and an irrigation meter. Installing a soil moisture meter with an automatic irrigation system can prevent over watering.
4.) Use mulch to prevent evaporation.
5.) Install a bio-retention basin to take advantage of storm water, reducing the need for irrigation.
6.) Re-circulate water used in fountains.
7.) Collect rainwater in rain barrels for irrigation use.

There are many additional benefits to using water saving landscape techniques:

- Reduced water loss
- Reduced run off, soil erosion and storm sewer flooding
- Reduced fertilizer and pollutant runoff
- Increased native plant diversity
- Cost savings

2) **Innovative Wastewater Technologies**

Innovative Wastewater technologies reduce the generation of wastewater through reduced water demand, while increasing the local aquifer recharge. One point can be earned by reducing the use of municipally provided water for building sewage conveyance by a least 50% or treat 100% of wastewater on site to tertiary treatment.

Techniques that reduce water use also decrease on-site wastewater generation:

1.) Install composting toilets.
2.) Install waterless urinals.
3.) Install low flow showerheads, toilets and appliances.
4.) Install automatic faucets.
5.) Install a bio-retention basin to decrease site runoff. This helps to recharge the local aquifer and can be especially helpful in CSO areas.
6.) Install on demand hot water systems.

3) Water Use Reduction

Reduced water consumption within buildings will reduce the burden on municipal water supply and wastewater systems. To receive one point, strategies must be adopted that will use 20% less water than the established baseline calculated for the building, this is after meeting the Energy Policy Act of 1992 fixture performance requirements. To earn an additional point you must exceed the water use reduction by an additional 10%.

The techniques above will reduce water use and wastewater generation. However, it is equally important to educate building tenants on how they can practice wise water use habits everyday. The Metropolitan Washington Council of Government's Wise Water Use Campaign has adopted the national Water, Use it Wisely® program to demonstrate simple ways residents can save water during their daily routines. To discuss how to educate building residents on water efficiency contact the MWCOG's Wise Water Use Campaign at 202-962-3755.

For more water saving tips:
http://www.mwcog.org/environment/water/watersupply/wisewater.asp

http://www.wateruseitwisely.com/regions/100tips/ne_index.html

For more information on water saving products and appliances:
http://www.watermgt.com

For more information on the USGBC and Green Building Certification:
http://www.usgbc.org