

**LEED: It's Not Just Two Irrigation Points**  
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**Background**

LEED – Leadership in Energy and Environmental Design is an initiative of the United States Green Building Council (USGBC). Developed in 2001 LEED is a green building rating system. Since its inception, LEED has gained in popularity to the point that it supports a certification and educational system along with the certification of buildings. LEED certifies the following categories of buildings:

- New Construction
- Core and Shell
- Commercial Interiors
- Homes
- Neighborhood Development
- Schools\*, Hospitals, Laboratories, Retail

By meeting a minimum number of points, a building can receive a rating of certified, silver, gold or platinum. The higher the rating the more points need to be earned.

**LEED 2.2**

LEED 2.2, was the third iteration of the original LEED points system, it had a 69-point scale. Categories in which points were earned included Sustainable Sites (14 points), Water Efficiency (5 points), Energy and Atmosphere (17 points), Materials and Resources (13 points), Indoor Environmental Quality (15 points) and Innovative in Design (5 points).

In order to receive certified status, 26 points are required, silver 33 points, gold 39 points and platinum 52 points. The water efficiency category with its five total points available represented 7.25% of the total points, which is small when compared to energy and atmosphere representing almost 25% of the points. Two of the water efficiency points were irrigation related, so irrigation represented 40% of the water efficiency points and 2.9% of the total points available. Moreover, irrigation can contribute to 7.7% (2 of 26) toward LEED-certified status. Not a large percentage, but with LEED all points are important.

The irrigation points consisted of WE1.1 – Water Efficient Landscaping – Reduce potable water use by 50% and WE 1.2 – Water Efficient Landscaping - No Potable Water Use or No Irrigation.

WE1.1 requires the reduction of “potable water consumption for irrigation by 50% from a calculated mid-summer baseline case.” Its intent is to “limit or eliminate the use of potable water or other natural surface or subsurface water resources available on or near

the project site, for landscape irrigation.” This can be accomplished with a combination of plant material selection, efficient irrigation or the use of alternative water sources. Efficient irrigation technologies should be used which may include rain shut offs, moistures sensors, drip irrigation and smart controllers.

WE1.2 requires that point WE1.1 be achieved and “use only captured rainwater, recycled wastewater, recycled graywater, or water treated and conveyed by a public agency specifically for non potable uses for irrigation” or “install landscaping that does not require permanent irrigation systems.” Temporary systems are only allowed for establishment and must be removed within a year of being installed. The intent is to “eliminate the use of potable water, or other natural surface or subsurface water resources available on or near the project site, for landscape irrigation”. This can be accomplished by using a non-potable source as mentioned above but also other alternatives such as stormwater, under drainage water and condensate from cooling towers.

There are points available if you do not irrigate as you get both points for no irrigation at all. However, the risk of drought without irrigation in any given year is generally limits the landscaping palette to strictly natives and some adaptive with no turf, so the requirements of Credit WE1.1 still have to be met.

The 50% reduction point is earned by calculating a baseline water use for a project by using conventional plantings and irrigation and then comparing it to the actual design using different plants and more efficient irrigation equipment. LEED provides a template for this calculation and some built in/suggested efficiencies.

## **LEED 2009**

The new LEED 2009 rating system, which became effective in September of this year, is based on a 100-point base scale. Additional points are available for Innovation in Design and Regional Priorities, which is a significant change as they are no really bonus points. Under the new system, certified requires a minimum of 40 points, silver 50 points, gold 60 points and platinum 80 points. LEED 2009 sets a very high bar for the platinum designation. The six categories are now seven and the points have been designated as follows:

Sustainable Sites	26 points
Water Efficiency	10 points
Energy and Atmosphere	35 points
Materials and Resources	14 points
Indoor Environmental Quality	15 points
Innovative in Design	6 points
Regional Priority	4 points

Water efficiency is now worth 10 points or 10% of the overall points available, increasing its importance, but energy is now 35%. Of the 10 water efficiency points, 4 are available for irrigation, still 40% in the overall water category but now worth 4% of

the total point's available making irrigation slightly more important than in Version 2.2. In addition, irrigation can contribute to four out of the 40 points (10%) towards the minimum certified level – increasing the importance of efficient irrigation and landscaping practices.

Points are awarded in the same manner as in LEED 2.2 except the 50% reduction of water and non-potable use both are now 2 points. Each credit is now lumped into one Water Efficient Landscaping Credit (as opposed to two sub-credits) for 2-4 points. You can still earn points for no irrigation (4 points).

LEED 2009 also has a prerequisite for a minimum 20% overall building water use reduction. Additional points are awarded for reductions of 30% (2 points), 35% (3 points) and 40% (4 points) overall, but none of these points including the prerequisite can take into account irrigation. Therefore, if you reduced your irrigation water use by more than the required 50%, there would be no additional points under the water efficiency category.

### **Other Points**

Therefore, the water efficiency category is certainly the obvious place to look at earning irrigation points on a LEED project, but irrigation can also play a role in some of the other possible points. One might be Stormwater Design, quantity control. If the stormwater can be directed to the irrigation system, then the quantity of stormwater being released off site will be reduced. Irrigation can also be part of the energy reduction calculations if using alternative sources such as solar panels or other alternative water sources to operate controllers and pumps.

As with any category, points are possible for ‘Innovation in Design’. These points are very subjective but irrigation can be included. For example, a point might be earned on a park project for providing educational material or displays through the park on how the irrigation system uses alternative water sources and new irrigation technologies to reduce its overall water consumption and explain how much water is being saved. This is an area where out of the box thinking is encouraged. As such, innovative irrigation designs and water supply solutions could be eligible.

### **Conclusion**

Although the intent and requirements for irrigation points between LEED 2.2 and LEED 2009 have not really changed, the irrigation points do now represent a higher percentage in the LEED certification process. Since all LEED points are important, that is a step in a favorable direction for irrigation. Water efficiency and efficient irrigation systems are an important part of the LEED points system and are a telling example of how irrigation systems are perceived in the “green” and “sustainability” movement.