

# LEED Certification Tips: Water Efficiency

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06/18/2018 | By [Janelle Penny](#)

Water is often thought of as an infinite resource that can be replenished over time, so it tends to take a backseat to energy conservation when it comes to [green building certification](#), notes Drew Shula, Founder and Principal of Verdical Group, a green building consultancy.

Existing green building designations perpetuate the focus on energy. LEED allocates three times as many possible points to energy efficiency than water conservation, incentivizing project teams to focus more of their efforts on energy points.

Water shortages and outages in the world's major cities, such as the late 2017 water crisis in Cape Town, South Africa, serve as a stark reminder of the importance of conserving potable water. Don't take your LEED points for water efficiency for granted. Explore how you can use them to slash your water consumption and improve water availability in your community.

## LEED Points First Steps and Prerequisites

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Maximizing your LEED points in the Water Efficiency category requires a whole-facility review of how your building currently uses water, from the faucets in your bathrooms to your irrigation practices.

"Addressing water efficiency in buildings implies looking at water use reduction holistically from indoor water use to outdoor water use, and other specialized uses," explains Shula. "Water efficiency is especially a great place to start when looking at existing buildings or earning credits for LEEDv4 O+M."

Start by establishing your sustainability and efficiency goals upfront. Understand how you currently use water, then assemble a team of architects, contractors and sustainability consultants who are "excited about environmental leadership and have a demonstrated history of sustainability accomplishments," Shula recommends. Schedule regular meetings and design charrettes to track your progress and make sure you don't run into any unwanted surprises during the process.

"Specifically, for LEEDv4 O+M, the best way to ensure LEED prerequisites are achieved is to benchmark the building in ENERGY STAR to determine its rating and areas for improvement," Shula advises. "Only after the improvements have been addressed through retrofits and policies are put in place will the project team begin the performance period as

mandated by LEEDv4 O+M. Starting the retrofits with LEED in mind encourages contractors and key team members to focus on sustainability goals early and helps to **move the project towards a successful LEED certification.**

## Capitalize on Low-Hanging Fruit

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A few features are popular in projects because of their relative low cost and ease of implementation. Shula always recommends:

- Replacing existing high-flow, low-efficiency fixtures with **low-flow, high-efficiency versions**, such as WaterSense-labeled fixtures
- Adding aerators to faucets

Projects in California qualify for an extra LEEDv4 O+M point for regional priority with water-efficient fixtures.

“Additionally, teams can earn points by installing submeters for irrigation, domestic hot water, process water or **indoor plumbing fixtures**,” Shula adds. “By installing submeters, projects can monitor and manage the use of water while also identifying opportunities for savings wherever applicable.”

Shula also recommends using xeriscaping strategies wherever possible. This landscaping approach involves replacing turf grass, which requires frequent watering, with native and drought-tolerant plant species that have minimal water requirements. One Verdical Group project, the Arcadia Mental Health Center in Arcadia, CA, achieved a 51% reduction in the use of potable water for landscaping by using **xeriscaping practices**.

## Set Higher Goals

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Achieve additional LEED points by reaching higher water savings goals. A current project, the Sunset Las Palmas Studios (led by Project Manager Kanika Sharma), has set aggressive water efficiency goals that will include dual flush high-efficiency water closets and using waterless models for nearly two-thirds of the urinals.

Another project in downtown Los Angeles is considering installing ultra-low-flow fixtures, including 0.5/0.95 dual-flush toilets, which will allow the project to achieve over 55% indoor water use reduction, Shula notes. “With savings this high, the project also qualifies for Exemplary Performance and Regional Priority LEED credits, maxing out the available points.”

## Avoid Common Green Building Complications

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Project teams sometimes decide not to pursue the Water Metering or Cooling Tower Water Use credits for cost and complexity reasons, Shula explains.

“Depending on the size and type of building, installing permanent submeters for irrigation, cooling towers, domestic hot water, reclaimed water, indoor plumbing fixtures, and fitting and other process water may be cost prohibitive and require additional design coordination,” Shula says.

“For the Cooling Tower Water Use credit, it can be challenging especially in existing systems to maximize the cooling tower cycles of concentration without exceeding any filtration levels or affecting the operation of the condenser water system. However, if teams are able to do this in their cooling towers, or use recycled greywater, there is tremendous opportunity to save water,” he adds.

Despite the cost, there’s another benefit to installing permanent submetering – leak detection. Aging infrastructure and seasonal stresses can lead to broken pipes, flushing your efficiency goals down the drain along with wasted water.

“By properly metering various sub-systems, these leaks can be detected early and corrective measures can be taken before it’s too late,” Shula says. “Metering and tracking water consumption of the cooling tower and plumbing fixtures also helps with smarter decision making processes to truly understand the business case and calculate the return on investment.”

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