



By Edith Ben-Horin

making use of **Rainwater**



Conference Center
Photo courtesy of TreePeople.

Ask anyone to describe Los Angeles and you are likely to garner responses that paint a portrait of an ailing city: jam-packed freeways, sprawling development and poor air quality. But in the middle of this metropolis is a new complex that offers a vision for a healthy, safe and sustainable urban environment at the TreePeople's Center for Community Forestry.

New community center demonstrates rainwater best management practices

TreePeople—an environmental nonprofit organization that has been serving the Los Angeles area for more than three decades—offers sustainable solutions to urban ecosystem problems, focusing on three areas:

- Training and supporting communities to plant and care for trees;
- Educating children and adults about the environment; and
- Working with government agencies on critical water issues.

Los Angeles was built without much regard for the cycles of nature. Decades of destructive land-use practices have resulted in a host of environmental challenges such as polluted runoff, loss of natural pervious surfaces, impaired water bodies, dwindling supplies of local groundwater and a dependency on imported water. Solving these problems requires a new vision—one that includes the use of site-appropriate, nature-inspired technologies to create an urban environment that works in

concert with nature and brings about an improved quality of life.

With the development of the Center for Community Forestry, TreePeople wanted to create a welcoming campus that would demonstrate rainwater best management practices, provide an inspiring meeting space to solve environmental challenges and serve as a destination for schoolchildren.

TreePeople is headquartered in the 45-acre Coldwater Canyon Park, a City of Los Angeles park in the Santa Monica Mountains. The five-acre plateau upon which the Center for Community Forestry is located presents a unique set of conditions. The plateau and surrounding hillsides provide opportunities for rainwater capture, but the site's location atop a hill—and the associated risks of mudslides and slope destabilization—make it a poor candidate for large-volume infiltration. As project manager, TreePeople elected to harvest the majority of rain that falls on the property by capturing, filtering and storing it for use in irrigating the park's landscaped areas.

Completed in October 2008, the complex is composed of several design elements:

Conference Center: This 3,870-sq-ft meeting space, designed by architecture firm Marmol Radziner and Associates, received the highest possible rating—LEED Platinum—from the U.S. Green Building Council through its Leadership in Energy and

Environmental Design green building rating system.

The building's many sustainable features include dual-flush toilets that conserve water and a roof angled to direct rainwater to a spout that flows into a sand pit, where water is filtered and then released into a cistern.

Cistern: This underground rainwater storage tank has a capacity of 216,000 gal, a 70-ft diameter and a depth of 15 ft. The circular cistern stores water collected from the roofs of two nearby buildings as well as runoff captured from the parking lot.

Rainwater is filtered prior to entering the cistern and is stored for landscape irrigation of climate-appropriate plants. Mulch and subsurface drip irrigation help make the most efficient use of cistern water by minimizing evaporation.

S. Mark Taper Foundation Environmental Learning Center: This 750-sq-ft building provides a space for workshops and other educational events. In place of a conventional downspout, the structure has a rain chain that directs water to the cistern.

W.M. Keck Foundation Nursery: The nursery is used to cultivate and care for young trees in preparation for restoration projects in local mountain and parkland areas.

Parking Grove: Recycled asphalt in the parking lot is coated with light-colored paint to reduce the heat-island effect and increase reflectivity. About one-third of the parking spaces are

focus on water reuse & recycling

unpaved and filled with gravel. This allows rainwater to infiltrate naturally and also captures vehicle toxins after they are filtered by gravel and soil.

Trees are strategically planted to shade parked vehicles and reduce the emissions of volatile organic compounds that occur when parked vehicles heat up.

Rainwater that flows across the impervious asphalt surface is directed toward a trench drain and then sent to a gravel swale outfitted with a perforated pipe where, when volumes are sufficiently high, it is directed to the cistern for storage. Catch basins are fitted with debris collectors that trap leaves and other organic matter,

and FloGard filters (manufactured by KriStar) that reduce hydrocarbon loads in the water.

Urban Watershed Garden: This outdoor space features various elements designed to help schoolchildren and park visitors understand current urban environmental challenges and visualize nature-inspired

solutions. Two functioning single-family home models, approximately 10 ft high, show differences in water use and management between a conventional urban home and its more sustainable counterpart.

On the “urban urgencies” side, water is wasted: thirsty turf, sprinkler overspray, standard gutter downspouts directed toward impervious surfaces, and hoses used to spray sidewalks and driveways combine to waste water.

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Photo courtesy of TreePeople.



Photo courtesy of Fabrice Florin.

Top: Hilltop cistern.

Bottom: Children play around cistern drain.

On the “sustainable solutions” side, concrete is broken up to create areas for water to infiltrate, bioswale depressions with drought-tolerant landscaping collect and filter rainwater, trees shade the home and a rain barrel fashioned from a reused 60-gal pickle container stores water collected from the roof. *wqp*

Edith Ben-Horin is natural urban systems associate for TreePeople.

Ben-Horin can be reached at 818.623.4889 or by e-mail at eben-horin@treepeople.org.

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