

# L.A. kicks its storm drainage up a notch

**Slotted curbs allow runoff to flow into planters, which filter impurities that usually end up in the ocean.**

By Susan Carpenter  
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Pico and Midvale. Hope and 11th. Venice and Grand. To the average Los Angeles commuter, these intersections represent nothing but aggravation. But ask people involved in the city's storm-water issues, and these paved urban crossings are signposts for the future.

They're the sites of infiltration planters that divert untreated runoff from its one-way trip to the ocean, ushering it instead to landscaping that filters the water, beautifies the city, replenishes the area's groundwater and reduces the amount of contaminants flushed from streets into the ocean.

During the wet season, the city of Los Angeles sends 100 million gallons of storm runoff every day into the Pacific, where it imperils human and marine health and starves the city of a much-needed resource. Even during the dry season, the city sends 10 million gallons of untreated street-born effluent into the ocean each day.

As California heads into its third year of drought and has cut back on water deliveries from its reservoirs, officials at both the city and county levels are looking at infiltration planters, and other measures, such as permeable pavement, to increase groundwater supplies.

Using a natural process called bio-retention, they send some of the runoff through notched curbs, where the water feeds landscaping and percolates through the soil. The city and county governments, real estate developers and non-governmental organizations such as Northeast Trees are ramping up their use of such planters as the area's water resources diminish and pollution issues persist.

"We're looking to weave the textures of nature into our streets and sidewalks because we've learned over the past decade or so that nature has a really elegant solution to pollution," said L.A. City Board of Public Works Commissioner Paula A. Daniels. Daniels also heads GreenStreets L.A., a program established in 2007 to bring together city agencies and jump-start urban runoff solutions.

"Polluted urban runoff is the No. 1 source of pollution to our ocean, and the types of things that make that water polluted are the kinds of things that plants can actually use as nutrients," Daniels said.

None of the oils, fecal matter, heavy metals, chemicals and other storm water pollutants monitored during a five-year study of six L.A.-area sites had a negative effect on the groundwater after filtering through plants and soil, according to a 2007 Water Augmentation Study led by the Los Angeles and San Gabriel Rivers Watershed Council in partnership with federal, state and local agencies.

"People look at end-pipe solutions, such as putting a filter or net at the outlet to catch trash, but if you do good work along the way, then you don't have to worry about taking care of it all in one place at the end,"

said Sonia Nicholson, project manager of Northeast Trees, an L.A.-based organization that has partnered with the city of L.A. to install an infiltration planter along a section of Oros Street, near Dodger Stadium.

Oros Street was the first of L.A.'s GreenStreets projects. It also was the first site to be completed as a result of Proposition O, the \$500-million storm water-pollution prevention bond measure L.A. voters passed in 2004. Two other infiltration planters have been in place in the L.A. area since the early '90s, in a Venice Beach parking lot and across the street from the Westside Pavilion on Pico Boulevard.

Half of the projects that have been installed as a result of Proposition O have been types of infiltration planters. They include a "bio swale" at Westminster Dog Park in Venice that shunts the park's runoff into a vegetated bed and a series of "tree wells" on Grand Boulevard, also in Venice, which directs the street's water into planters that filter it before sending it on to the storm drain. Projects are being considered at Echo Park Lake, Kenneth Hahn Park and Vista Street in Hollywood.

Though the city's Bureau of Sanitation is in charge of L.A.'s storm water, tackling the problem has taken a coalition of government agencies, including the Bureau of Street Services and the Bureau of Engineering.

All three agencies had to approve one of the city's newest infiltration planters at the privately developed Luma building, which opened on Hope Street in downtown Los Angeles a year ago. The gold-certified Leadership in Energy and Environmental Design building was co-developed by Gerding Edlen Development, a Portland, Ore., firm that has been incorporating infiltration planters in its buildings for several years.

In front of the building's glass-and-steel facade, the planter seamlessly weaves street and plant life.

Every 10 feet or so, the curbs are notched, leading to below-grade, rock-strewn planters filled with grasses, trees and flowers. All seemed surprisingly healthy considering the street gunk they've been drinking.

"Some people say you're capturing pollutants and creating a contaminated area," said Tom Liptan, who heads the sustainable storm water division of the Bureau of Environmental Services in Portland, a city that has been in the forefront of infiltration planter use.

"We have some going on over five years, and there isn't a problem with any of the soils yet. But it's just a basic maintenance thing like you do on anything: When it gets to capacity, you clean it out."

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