



“You can’t afford to design for a single purpose.”

—José Almiñana

### Retention and Recycling

What to do with the water once it has been collected is one of the major issues facing any storm-water strategy. Do you keep it on site? Recycle it? Send it to community systems? Some cities are focusing more on letting the water naturally infiltrate into the soil to replenish groundwater.

In Los Angeles, where water was historically channeled to the ocean, infiltration is growing in popularity. Designers are focusing more on porous surfaces and natural underground systems to make Los Angeles into what landscape architect Mia Lehrer calls a “sponge city.” Natural systems such as wetlands can provide an organic treatment system for runoff, she notes.

“One of the things people don’t realize is southern California has a tremendous aquifer,” says Lehrer, founder of Los Angeles–based Mia Lehrer + Associates, a landscape architecture firm. Storm-water issues are an integral part of almost all her projects in the area these days. The design for a new parking garage at the Los Angeles Zoo included permeable concrete asphalt, grassy swales, and water-absorbing planters. A residential hall for Pitzer College includes a system to collect and treat water from showers and sinks for use in landscaping, as well as capturing 100 percent of stormwater on site.

“People are generally very interested in being part of the problem solving,” Lehrer says. Regulations and increased water rates are helping spur the acceptance of new approaches. “The community at large has been used to water not costing much and the opportunity to use a lot of water,” she says. “There is an incentive beyond being a good citizen.”

Water plans are often controversial, touching on a wide variety of sensitive issues. Planners in Colorado traditionally face laws that forbid collection of rainwater, based on longstanding issues with ranchers trying to monopolize the precious

resource. The developers of Sterling Ranch, a 3,400-acre (1,400 ha) residential development south of Denver, needed new legislation and the approval of the Colorado Water Conservation Board to become a pilot project for rainwater harvesting in the state.

Water was a key source of contention in the Sterling Ranch approval process, which lasted for ten years. The design for the project, which is under construction, is intended to save up to 40 percent of the water used for outside irrigation. Water from gutters and streets will be channeled to a series of lakes, which will drain to a central lake where water will be treated and returned for use in landscaping and plant maintenance.

Sterling Ranch Development Company, the developer of the 12,000-home project, has also agreed to monitor the potential of rainwater harvesting as a supplemental water supply, without affecting the water rights issues. “From an economic standpoint, [rainwater harvesting] has already been very good for us,” says Harold Smethills, founder and managing director of the company. “It’s going to save the project and residences a lot of money over a period of time.”

But he thinks many of the long-term benefits will be harder to track. “The intangible aspect is that residents will feel part of the leading edge of sustainability,” Smethills says. “People want to be able to use rainwater on their yards.”

While rainwater awareness has been growing dramatically in recent years, systems and implementation are still in a relatively early stage, landscape architects note. Cohesive strategies are necessary to achieve the long-term goals. “The challenge is how to go beyond new development and deal with existing infrastructure,” Diers says. “To broaden the scale, you have to go after existing infrastructure.”

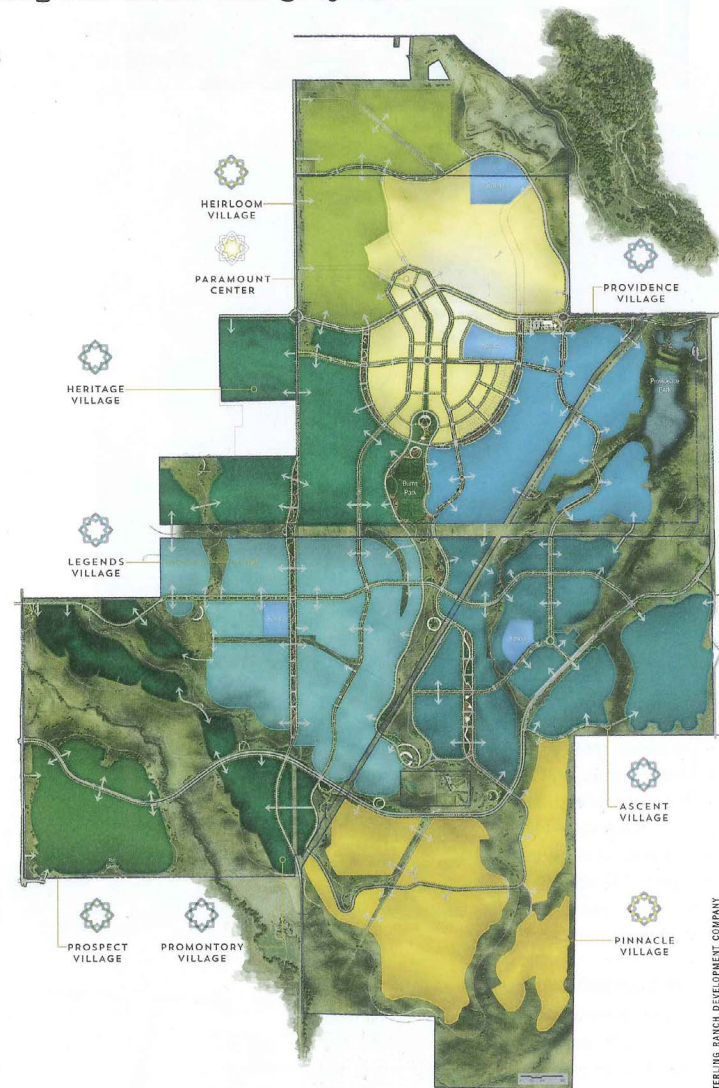
But general agreement exists that awareness is growing, and innovations will lead to broader success in using stormwater and runoff as solutions to compelling problems. “We can do better and it is achievable,” Stewart says. “We can contribute in the long term and do what is right.” **UL**

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## BEFORE IT RUNS OFF

With water becoming an increasingly valuable resource, more emphasis is being placed on capturing and retaining rainwater and graywater.

KEVIN BRASS



A site plan for Sterling Ranch, a pilot project for rainwater harvesting in Colorado. The design is intended to save up to 40 percent of the water used for outside irrigation.