

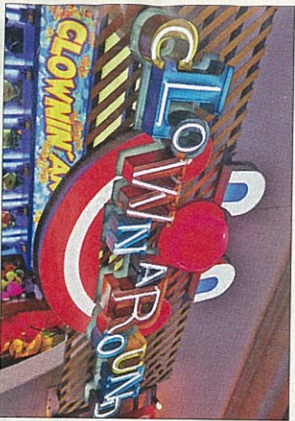
SAN DIEGO BUSINESS JOURNAL

Lighting

Award-winning Oceanside Company Lights up Belmont Park

By Chad Spaman

Belmont Park is an historic beachfront amusement park located on the surf and sand of Mission Beach. The park attracts millions



Coastal Signage+Wayfinding Belmont Park Signage

BELMONT: Page A43

Solar Efficiency

Stellar Solar — Energizing San Diego with More Light, Less Heat

By Michael Powers

Early on, Stellar Solar founding partner Kent Harle was convinced that energy efficiency was going

STELLAR: Page A43

Solar Incentives

Sun Setting on Solar in San Diego Gas and Electric Region

San Diegans Who Delay Going Solar Will Miss 20 Years of Grandfathering Protections

By Liz Frayer

SUN: Page A44



BAKER ELECTRIC SOLAR



COASTAL SIGNAGE +WAYFINDING
MAKE A FIRST IMPRESSION THAT LASTS
www.coastalsignage.com



Stellar Solar
San Diego's Best Solar



Sullivan Solar Power
Leading the Solar Energy Revolution

BUILT BY ZEPHYR

Sustainable San Diego

THE BUSINESS CASE FOR SUSTAINABILITY



Sustaining San Diego's Water Quality

The Mission of Landscape Architects

By Delle Willett and Marian Marum, ASLA

In San Diego, pollutants are carried by rainfall runoff into storm drains, which discharge directly onto our beaches without treatment. Poor water quality harms the health of natural habitats and humans alike. Even in dry weather, "urban drool" from overwatering lawns can be a significant source of pollution.

Prioritizing Green Infrastructure

Landscape architects working in the region recognize that water quality and stormwater management have become critical components of San Diego's urban and rural

environments. They are assuming a greater leadership role in the design of sustainable landscapes and green infrastructure, with stormwater management and water conservation topping the list.

Green infrastructure has emerged as a viable option for urban stormwater management, replacing the previously dominant engineering approach (i.e. concrete culverts). Environmental benefits of green infrastructure include improved water quality, enriched habitats, reduced urban heat-island temperatures, and even recharged water tables.

WATER page A41



San Diego International Airport Terminal 2 bioswale. Landscape architects: Principal landscape architect Patricia Trauth in collaboration with AECOM engineers and design/build contractors Turner/PCL/Flatiron, and Kiewit/Sundt

Photo: Delle Willett

Sustainable and Eco-Friendly Building Practices Set Path for New Real Estate Developments

San Diego-Based Real Estate Developer Zephyr Offers Insights into Achieving Ecologically Responsible Projects

By Amber Frankhuizen

Zephyr, a San Diego based real estate developer, is committed to more than just building exceptional homes — it's also dedicated to doing so in the most responsible way possible. The company recently unveiled

SEED (Sustainable Energy, Efficient Development) by Zephyr — a program that incorporates smart, ecologically conscious design elements and forward-thinking techniques into each home it builds, enabling

ECO-FRIENDLY page A38



Issue Sponsors

WATER:

➔ *from page A37*

Green infrastructure offers economic benefits as well, by reducing the need for new and larger municipal stormwater pipes.

Innovative stormwater solutions, crafted by landscape architects in



Photo: Della Willhelt
San Diego International Airport parking lot bioswale

Innovative stormwater solutions, crafted by landscape architects in collaboration with civil engineers, can enhance a site's aesthetic value, offer recreational amenities, connect people to nature, and conserve San Diego's precious rainfall. Neighborhood parks, walking paths, commercial buildings, parking lots, and urban streetscapes now incorporate creative stormwater management elements

collaboration with civil engineers, can enhance a site's aesthetic value, offer recreational amenities, connect people to nature, and conserve San Diego's precious rainfall. Neighborhood parks, walking paths, commercial buildings, parking lots, and urban streetscapes now incorporate creative stormwater management elements

Learning Today's Water Words:

Bio-retention basins: Infiltration devices used for the treatment and infiltration of stormwater runoff.

Bioswales/swales: Landscape elements designed to remove silt and pollution from surface runoff water.

Conveyance bands: Pipes that are expressed on the surface. At San Diego's Embarcadero there are 1-foot-wide concrete channels that convey or move the rain water that is collected along Harbor Drive through the Embarcadero gardens into the water-quality band.

Hydromodification: The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by

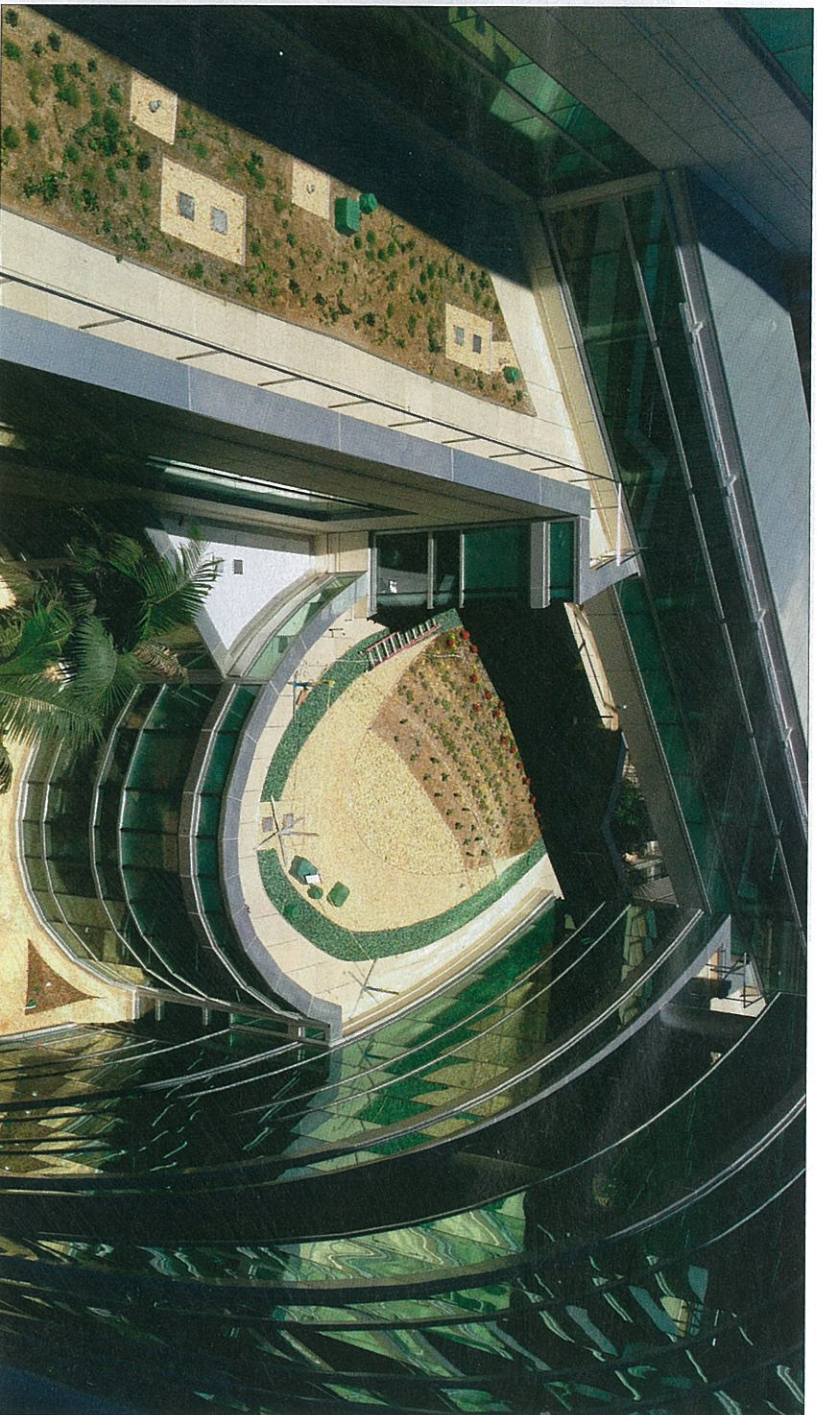


Photo: DeLorenzo International
Naval Hospital Camp Pendleton green roof. Landscape architects: Principals Nick DeLorenzo and Michelle Landis, DeLorenzo International (San Diego)

designed by landscape architects. Hydromodification alters the natural flow of water through the landscape. Bio-retention basins and swales incorporate plant species that help remove silt and pollutants. Special pavers and sub-soils with high percolation rates help retain water on a site, rather than letting it flow into storm drains.

Landscape architects are being called on to offer valuable design solutions early in the development process, as stormwater features can take 6 percent or more of the total property size. The increased magnitude and complexity of these features (due to new water-quality legislation) can affect building floor-area size and the number of allowed parking spaces.

Landscape architects offered critical design solutions to the military, as seen on the grounds of the Naval Hospital Camp Pendleton. The facility's sustainable landscape elements that capture and treat stormwater include a green roof to absorb rainfall, permeable pavements to allow rainfall



Photo: DeLorenzo International
Naval Hospital Camp Pendleton green roof

to percolate into the soil rather than running off the site; and bioswales to filter pollutants out of rainfall runoff. The highly aesthetic green roof provides visual connections to nature from every floor of the new building. This award-winning LEED Gold project has been widely recognized for its comprehensive sustainable design.

San Diego's Bayfront Innovations
Adding to downtown's green infrastructure, landscape architects provided innovative design solutions

Landscape architects are being called on to offer valuable design solutions early in the development process, as stormwater features can take 6 percent or more of the total property size.

➔ *WATER page A42*

urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive stream-bank and shoreline erosion are also considered hydromodification, due to their disruption of the natural watershed system.

Percolation rates: The gradual movement of water through the spaces or pores in the soil usually expressed as inches per hour or inches per day.

Permeable: Allowing liquids or gases to pass through.

Recharged water tables: Hydrologic process where water moves downward from surface water to groundwater.

Runoff: Water flow that occurs when excess storm water, melt water, or other sources flows

over the earth's surface.

Urban drool: Water from driveway car washes, over watered landscape and other sources of waste water flow over the earth's surface.

Urban heat-island temperature: The measurement indicates a city or metropolitan area that is significantly warmer than its surrounding rural areas.

Stormwater: Water that originates during precipitation events and snow/ice melt.

Watershed: An area or ridge of land that separates water flowing to different rivers, basins, or seas.

Water-quality band: A water cleaning and filtering band. On San Diego's Embarcadero it is an 8-foot-wide band that collects rainwater on the site and along Harbor Drive, and cleans it before it is released into the bay.

WATER:

➔ *from page A41*

on Phase One of San Diego's Embarcadero redevelopment. A water-quality band system captures and cleanses every drop of water that falls on the project or that washes down from Broadway and Harbor Drive. Surface runoff is collected and channeled into conveyance bands where it's treated and cleansed before being released into the bay.

Rainfall flows over porous pavers, iron grates, wooden planks, and planting beds into the conveyance bands, where it's filtered through a series of rock and sand filters.

At San Diego Airport's Terminal 2, landscape architects created a contemporary landscape that's highly sustainable. Vegetated bioswales in planter areas between parked cars feature plants that filter and cleanse rainfall runoff. Permeable pavers at key locations in the parking lot help filter stormwater before it enters storm drains. These innovative design strategies help maximize the number of crucial parking spaces at this important facility.

Former Quarry Land Reclaimed

On private projects like Sudberry's 230-acre Civita project in Mission Valley, landscape architectural input was essential to the creation of a sustainable site on the former sand and gravel quarry, which now celebrates the history of the San Diego River and how we connect to it.

A spine of vegetated bioswales was designed to run through the large open spaces, recreating the natural watershed. Rainfall collected from residential areas within the Civita development is directed into the creek at Civita Park. Rainfall from the Serra Mesa neighborhood above spills over a rain-event waterfall at the north end of the property. These bioswales collect rainfall, remove silt and pollutants, and slow the flow of water as it makes its way into a retention pond, and eventually into the San Diego River.



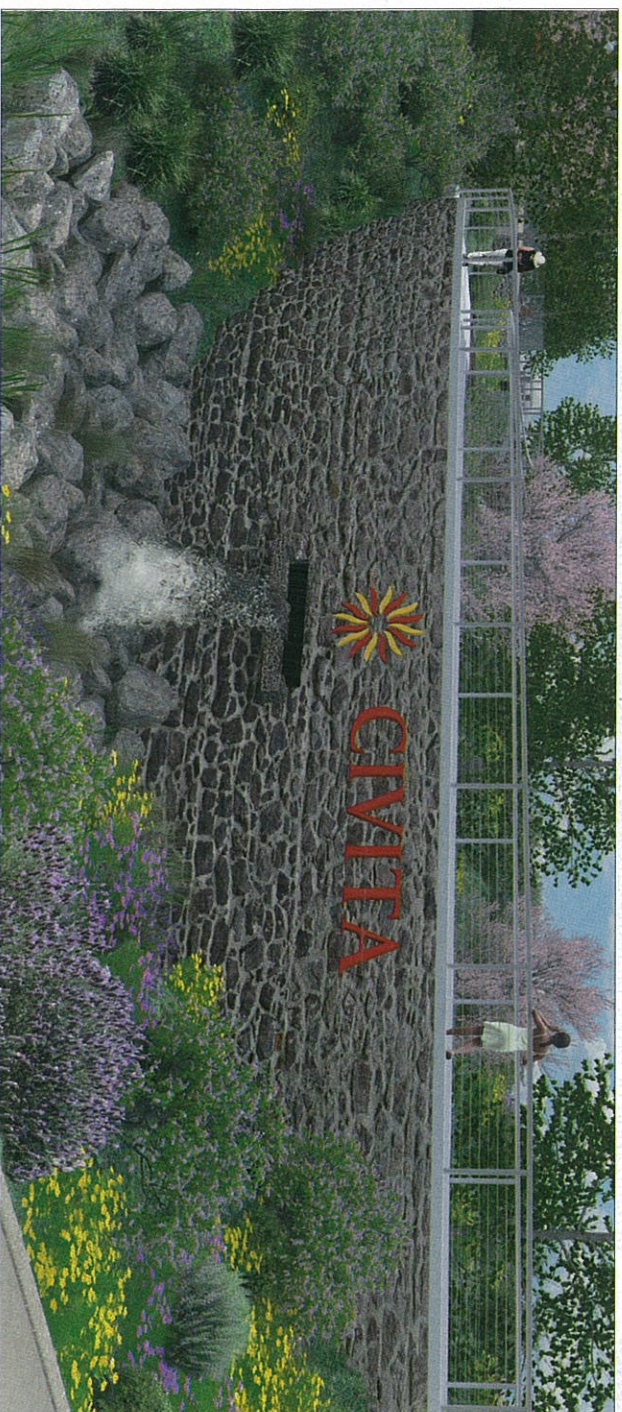
Phase One, Embarcadero: planting beds, porous pavers, decomposed granite. Landscape architects: Civitas (Denver) and Spurlock Poirier (San Diego)
Photo: Delle Willert



Phase One, Embarcadero: grate along water's edge of promenade
Photo: Delle Willert



Skyline Library. Landscape architect: Principal Marian Marum—Marum Partnership (San Diego)



Creekside bridge, Civita, Mission Valley. Landscape architects: Wallace Roberts & Todd (Philadelphia), Schmidt Design Group, Inc. (San Diego); Lifescapes International (Newport Beach)

The landscape architects also designed critical slope erosion solutions for 25 acres of steep hillsides created by the sand and gravel operations. This extensive system of bioswales, green spaces, and vegetated slope now form a significant green infrastructure component in San Diego's urban environment, with valuable new plant and animal habitats.

Library for the Future

On civic buildings, like the new Skyline Library, public funds must be spent wisely. Landscape architects provided critical input early in the planning and design process to help maximize tax payer's return-on-investment. On this project, stormwater is channeled into vegetated swales within parking lots and into larger bio-retention basins that can be viewed from library windows. An informational handout helps educate the public about sustainable landscape

With increasingly stringent water quality laws that affect large areas on every site (public and private), carefully-crafted stormwater solutions by landscape architects have become much more critical.

features.

With increasingly stringent water quality laws that affect large areas on every site (public and private), carefully-crafted stormwater solutions by landscape architects have become much more critical.

To learn more about the work of landscape architects, visit www.asla-sandiego.org and www.asla.org