San Juan Capistrano City Hall Environmentally Friendly Landscape and Irrigation Demonstration Project

The City Hall Environmentally Friendly Landscaping and Irrigation Demonstration Project

San Juan Capistrano applied for a State grant along with several other South Orange County cities. The goal of this grant was to reduce urban runoff and promote water conservation. City Hall was a perfect choice for the project; there was a lot of grass and an old/antiquated irrigation and drainage system.

IRRIGATION

One of the first steps of the project was to replace the old irrigation system. Part of the replacement, included the addition of two Smart Timer systems. The Smart Timer system is a weather-based irrigation controller. Weather conditions, such as local temperature and humidity, level of rainfall and amount of sunshine play an important role in determining how much and when to irrigate. Simply using timers that just turn on sprinklers for the same amount each week did not factor in any of the weather conditions. The Smart Timer system allows for more accurate, customized irrigation by automatically adjusting the schedule and the amount of water in response to changing weather conditions and evapotranspiration. This saves water by reducing unnecessary watering.

Infiltration Features

Dry Creek Bed

As a Low Impact Development (LID) project, an important component of the project was to incorporate infiltration features. One way to do that was to install two dry creek beds. Another infiltration feature involved replacing all the concrete sidewalks with over 900 square feet of rubberized brick sidewalks. The rubberized bricks were installed over new media that increased infiltration. The City of San Juan Capistrano is the first city in California to install rubberized brick. These bricks capture over 6" of rain per hour per square foot. In addition to the reduction in urban runoff, these bricks are made using over 900 passenger tires, or 9,000 pounds of recycled tires, that would have otherwise ended up in our landfill. These bricks are also safer to walk on, fall on, and will not break during an earthquake.

Rubberized Brick Path

Driveable Grass

Installing drivable grass was another great way to incorporate an infiltration feature. This permeable paving product allows storm water to filter through the product into the subsurface. In drought prone areas this can be very important as this keeps the storm water on the property and in the water table. This also allows contaminants (vehicle drippings and such) to filter through the aggregates installed below the product so they don't enter the local drain system and contaminate the local waterways and ocean. This example was also placed to show potential developers that they can use this product in parking lots instead of impervious surfaces.

Drought Tolerant Plants and Other Water Saving Features

Decomposed Granite

The existing lawn at City Hall was replaced almost entirely with native, drought tolerant plants (which won't give the new Smart Timer system much of a workout) and decomposed granite. The remaining grass was replaced with synthetic turf that does not require watering or mowing. A very small patch was replaced with the drivable grass which will require little water and low maintenance. All planters were covered at the end of the project with 3" of wood mulch. Some of the planter beds were covered with rubberized mulch. This mulch is made from recycled tires and creates insulation for the soil, letting water and nutrients in and keeping weeds out. It also lasts forever, never disintegrating or decomposing.

Wood Mulch

Native Plants

The existing lawn at City Hall was replaced almost entirely with native, drought tolerant plants. Such as:

Verbena

Phormium Tenax

Cercis Occidentalis

Trichostema Lanatum

Myrica Californica

Carmel Sur

Encelia Californica

Lavandula Stoechas

Carpenteria Californica

Ceanothus -
Yankee Point

Ceratostigma
Plumbaginoides

Penstemon
Pseudospectabilis

Native Plants - continued

The existing lawn at City Hall was replaced almost entirely with native, drought tolerant plants. Such as:

Nasella Pulchra

Lavandula Angustifolia

Primula - Mixed Colors

Salvia Clevelandii

Salvia Farinacea

Lantana 'Gold Rush'

Festuca Ovina

Hardenbergia Vine

Rosmarinus Officnalis

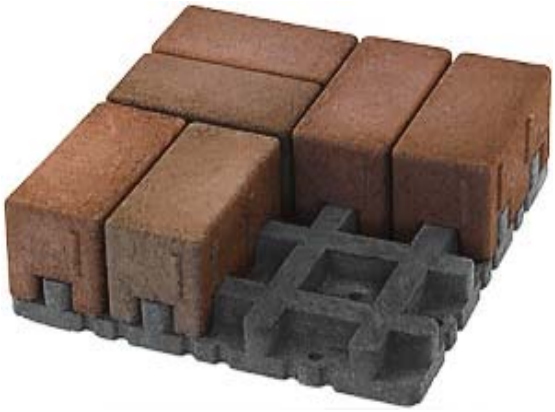
Senencio Mandralacea

Epilobium Angustifolium

Carex Pansa

Recycling Components

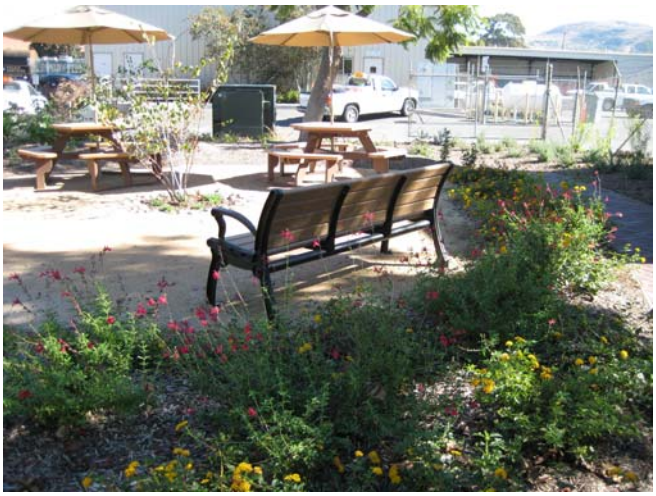
Not only is this project a showcase for preventing urban runoff and promoting water conservation, it also promotes recycling. The rubberized bricks and mulch that use recycled tires are just a few examples of recycling. The City also incorporated benches and picnic tables made from recycled plastic and a footbridge made of the recycled plastic lumber TREX.



Rubberized Brick

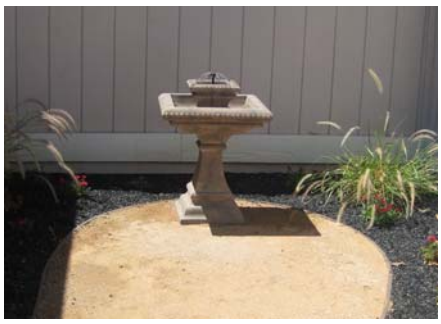
Rubber Mulch

TREX Footbridge and Rubberized Brick Path



Recycled Plastic Benches and Picnic Tables

Another environmentally friendly feature in the project is a small water feature operated with a solar powered motor.



Solar Powered Fountain

This City Hall demonstration project is a great example of sustainability, incorporating LID techniques and green building applications that the City hopes will be reproduced, not only by the City's residents and businesses, but also by neighboring cities.

Completed Project

Before