

EPIC System

Description

The Environmental Passive Integrated Chamber (EPIC) system captures and filters stormwater runoff at its source and stores the water for irrigation. This passive subsurface irrigation system uses capillary physics and gravity to deliver water and nutrients to the plants through an interconnected series of chambers and pans. Independent research has shown the EPIC System provides better turf quality while reducing water consumption by as much as 85% when compared to conventional irrigation methods.



Benefits:

Uses 50% - 85% less water

Subsurface application of fertilizer

Superior drainage

Passive system requires little or no energy

Excellent filtration qualities allows grey water use

Rapid root growth

Case Studies



Cambria Elementary – Designed for Self-Sustainability

Cambria is a 12 acre elementary school campus with 130,000 sq. ft. of EPIC turf in six strategic areas to collect limited stormwater and provide an 85,000 sq. ft. community soccer field and athletic fields for the children. The entire campus was designed to collect all available hardscape runoff and to direct the water for storage in large five foot diameter storage pipes placed side by side under the EPIC soccer field. The complex can store more than 2,000,000 gallons, collected during the few wet winter months. Captured water is used during the remaining dry summer months as free irrigation water. Without the EPIC design the project would not have been possible because the community could not supply the pressure or volume needed for a conventional sprinkler system. The project mitigates all storm runoff issues in the sensitive coastal community, and simultaneously reuses the water to provide irrigation.

During the dry season, rainfall is insufficient to fill the underground reservoirs, and the system is replenished with effluent from the municipal sewage treatment facility. In this way, Cambria has completely eliminated the need for a fresh water irrigation source.

Key Benefits:

- Completely self-sufficient irrigation
- Containment of runoff during rainy season
- Reduced annual irrigation expense
- An ecological model