



Green Infrastructure & Stormwater Management CASE STUDY

Inland Empire Utilities Agency

Location: Chino, CA

Client: Inland Empire Utilities Agency

Design Firm(s): IMA Design

Landscape architect/Project contact: Ann Cutner, ASLA

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ASLA Chapter: Southern California

Project Specifications

Project Description: The Inland Empire Utilities Agency (IEUA) Headquarters was one of the first USGBC LEED Platinum V.2 certified projects in the country. The Headquarters site acreage is 14 acres from a total 35-acre site. The buildings total 66,000 sq/ft. The site program included dispersed pervious paving parking lots for +/- 500 cars and bicycle parking, bioswales, dry lake pond, detention basin, natural drainage systems, use of reclaimed water, drip irrigation system and native adaptive planting.

Project Type:

Other (please specify)

Part of a new development

Design features: Bioswale, downspout removal, porous pavers, stormwater BMPS, detention basin, natural drainage systems, dry lake/pond, landscape planning, elimination of box culvert to Chino Creek, and storm drain size reduction. Phase II (not our project) included a man-made riparian zone.

This project was designed to meet the following specific requirements or mandates:

State statute, county ordinance, local ordinance, USGBC LEED Platinum

Impervious area managed: 1 acre to 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: greater than 5 acres

The regulatory environment and regulator was apprehensive about the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Yes, we had the USGBC LEED Platinum standards, water conserving landscape criteria, mitigation for heat island effect, interpretive signage, high efficiency irrigation requirements, porous paving and electric vehicle chargers for electric cars.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$1,000,000-\$5,000,000 (Public funding: Not available)

Related Information: Contact has stormwater infrastructure construction comparison. Please contact for more information.

Was a green vs. grey cost analysis performed? Yes, there was an overall goal for a LEED Platinum certification. Construction cost came in 10% below other similar projects in the area and there was a 3.3 year return on the photovoltaic.

Cost impact of conserving green/open space to the overall costs of the site

design/development project: There were no curbs, gutters, catch basins and stormwater pipes used on project. All the stormwater was infiltrated into designated infiltration basins, drainage swales, dry pond or planting areas through very carefully designed site planning. All stormwater infrastructure anticipated costs were saved and recycled back into project budget for other innovative green solutions.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings). A savings of \$1,417,322 was achieved on stormwater project elements resulting in a 43% savings overall.

Number of jobs created: Not available

Job hours devoted to project:

Planning and Design: Not available

Construction: Not available

Annual Maintenance: Not available

Performance Measures

Stormwater reduction performance analysis:

100% of a 2-year storm event retained on site. In fact, the site retains a 100-year storm event including additional off-site water.

Community & economic benefits that have resulted from the project:

1. LEED Platinum - being one of the first in the US, IEUA Headquarters proved that more money does not need to be spent for a green project. And that the money saved in operations and return on investment could be as soon as 3 years.
2. The project has been toured and represented as a built project and its corresponding lessons learned are being shared.
3. The man-made riparian habitat and tree canopy forest is not only "cleaning" the storm water, but is providing habitat for the wildlife.
4. The employees enjoy their work environment and are very proud of their facility.

Project Recognition

USGBC LEED Platinum; State of California Energy and Efficiency Award;

Additional Information

Links to images: www.IEUA.org

A STORY OF LEADERSHIP The Inland Empire Utilities Agency (IEUA) distinguishes itself every day by consistently implementing its mission to provide water and wastewater services to its customers in an environmentally responsible manner. In addition, IEUA's Board of Directors views the Agency's role much more broadly by leading the region to long-term water and energy self-sufficiency while continually seeking improvements to the region's environmental quality and economic stability.

In partnership with the communities it serves, IEUA is committed to the following:

- water conservation
- groundwater management
- renewable energy
- energy conservation

Leading by example, the Agency's Board of Directors approved the use of the LEED design criteria for IEUA's Headquarters facility to showcase how integrated, sustainably-designed buildings can create a better environment, conserve energy, improve productivity, and contribute to the restoration of historic landscapes.