



# Green Infrastructure & Stormwater Management CASE STUDY

---

## Logan Justice Center Expansion

**Location:** Logan, UT

**Client:** City of Logan

**Design Firm(s):** Cache Landmark, Architectural Nexus

**Landscape architect/Project contact:** Kristofor L. Kvarfordt, ASLA

**Email:** [kkvarfordt@cachelandmark.com](mailto:kkvarfordt@cachelandmark.com)

**ASLA Chapter:** Utah



Photo: Cache Landmark Engineering, Inc.

### Project Specifications

**Project Description:** The primary purpose of this project was to provide an expansion to the existing City Justice Center. One of the main objectives of this project was to serve as a pilot project for the City to evaluate the efficacy of the USGBC LEED rating system for all future City projects. The goal rating for this project was LEED Silver. This main objective was achieved at

the site level through effective erosion prevention and sediment control, stormwater quantity control reducing the overall stormwater runoff by over 40%, and creating a non-potable water source for 100% of the landscape irrigation by collecting and storing rainwater on-site.

**Project Type:**

Open space - garden/arboretum  
A retrofit of an existing property

**Design features:** Bioswale and cistern.

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

Local ordinance, developer/client preference, LEED Silver

**Impervious area managed:** 5,000 sq/ft to 1 acre

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** 5,000 sq/ft to 1 acre

**The regulatory environment and regulator was** supportive of the project.

**Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements?** No



Photo: Cache Landmark Engineering, Inc.

**Cost & Jobs Analysis**

**Estimated Cost of Stormwater Project:** \$50,000-\$100,000 (Public funding: Local)

**Was a green vs. grey cost analysis performed?** No

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

**design/development project:** The site was nearly all impervious surface in the pre-development condition. The post development final plan increased the 'green space' by over 216% from the pre-development condition.

**Cost impact of conserving green/open space for stormwater management over**

**traditional site design/site development approaches (grey infrastructure)?** Did not influence costs. The green space did not influence costs, however the site was limited and there was a need to handle a significant amount of offsite stormwater, most of which was stored underground. This underground storage was a cost increase.

**Number of jobs created:** Not available

**Job hours devoted to project:**

Planning and Design: 375

Construction: Not available

Annual Maintenance: 100

## Performance Measures

**Stormwater reduction performance analysis:**

Discharge volume reduced by 44% from pre-development conditions. Discharge rate reduced by 40% from pre-development conditions.

**Community & economic benefits that have resulted from the project:**

- Project exemplifies an integrated approach to all aspects of site design; pedestrian & vehicular access, grading, stormwater management, waterwise planting design, irrigation & utilities
- Project provides a highly visible waterwise planting design in a ornamental, urban application
- Project is a key starting point to shifting the paradigm of aesthetics and perceptions of drought tolerant landscapes throughout the region

## Project Recognition

ASLA Chapter Land Stewardship Award of Merit in Design - 2011

## Additional Information

**Links to images:** <http://www.cachelandmark.com/projects.html>