Green Infrastructure & Stormwater Management CASE STUDY

West Park Improvements

Location: Ann Arbor, MI
Client: City of Ann Arbor, Parks & Recreation
Design Firm(s): Beckett & Raeder, Environmental Consultants Inc.
Landscape architect/Project contact: Deb Cooper
Email: coop@bria2.com
ASLA Chapter: Michigan

Project Specifications

Project Description: The project consisted of renovations of West Park, located in the City of Ann Arbor, MI. Improvements consisted of stormwater improvements, parking area, pedestrian pathways, boardwalk, bandshell seating, access stairs, and basketball court. Specific stormwater improvements consisted of the creation of stormwater basin, bioswales, quality treatment of a county drain and wetland creation. Water from an adjacent city street was disconnected from a county drain and the water was surface discharged within the park through a series of swales, basins and wetlands. Stormwater quality treatment units were placed on an exiting 54" county storm drain to provide water quality improvements. Surface water was captured from adjacent properties and treated within the park systems.

Project Type:
Open space - park
A retrofit of an existing property

Design features: Bioretention facility, bioswale, curb cuts, wetland creation, and native (no mow) plantings.

This project was designed to meet the following specific requirements or mandates: To meet funding criteria, developer/client preference

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 supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Usable green space was a priority due to the nature of a the location of a city park.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $1,000,000-$5,000,000 (Public funding: Federal, 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 overall goal of the project was to reduce stormwater runoff in such a manner that fits with the existing uses and protect the Allen Creek and Huron River. The park was aspects were respected and enhanced the overall recreational and educational uses.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly increased.

Number of jobs created: Not available

Job hours devoted to project:

Planning and Design: 1,500
Construction: 23,000
Annual Maintenance: 80

Performance Measures

Stormwater reduction performance analysis:

The basins on site provided storage for a storm event that was approximately equal to a 5-year storm event. Not all the water was retained on site due to the high water table present in the area and the use of outlet control structures were employed to allow for a slow discharge of water that was not infiltrated. It is anticipated that volume which are consistent with first flush volume would be retained/infiltrated during a storm event.

Community & economic benefits that have resulted from the project: The enhancements of the project provided for recreational and education enhancements to the community. The location of the park was subject to frequent flooding and the creation of stormwater basin will

provide some relief and control to the flooding events.