Green Infrastructure & Stormwater Management
CASE STUDY

Combined Sewer Separation Project: CSO 143

Location: Indianapolis, IN
Client: Indianapolis Department of Public Works
Design Firm(s): Civil Engineers, Landscape Architects (Remenschneider Associates, Inc.), Soils Scientists
Landscape architect/Project contact: Kenneth J. Remenschneider, ASLA, President, Remenschneider Associates, Inc.
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ASLA Chapter: Indiana

Project Specifications

Project Description: A combined sewer separation project with green infrastructure - including a 2-basin, bioretention pond system with overflow spillway. The goals of the project were to acheive water quality and ground water infiltration for 88% of annual rainfall events.

Project Type:
Other (please specify)
A retrofit of an existing property

Design features: Bioretention facility and bioswale.

This project was designed to meet the following specific requirements or mandates: - Federal Consent Decree Mandate: Stormwater

Impervious area managed: greater than 5 acres

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 1 acre to 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? No

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: >$5,000,000 (Public funding: State, local)

Related Information: Currently in bid process with construction in summer 2011

Was a green vs. grey cost analysis performed? Yes. The grey and green costs were very nearly the same with grey being slightly less. The City chose the green approach after weighing the green side's long term cost benefits and the green addition of a nature park, where the water quality and groundwater infiltration functions will take place.

Cost impact of conserving green/open space to the overall costs of the site design/development project: No measurable net effect on cost up or down when long term costs were factored in.

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Slightly increased. Again, construction cost of green slightly higher, but green long term costs are less.

Number of jobs created: 10-estimated

Job hours devoted to project:

Planning and Design: 240
Construction: Bidding currently, construction 2011
Annual Maintenance: Bidding currently, construction 2011

Performance Measures

Stormwater reduction performance analysis:

Project designed to capture, treat, filter and infiltrate storm water for all rain events up to 1", or, as is the case in central Indiana, +- 88% of all rain events.

Community & economic benefits that have resulted from the project: Bidding currently, construction 2011, benefits yet to be realized.