



# Green Infrastructure & Stormwater Management CASE STUDY

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## Richmond Hill Community Center

**Location:** Cedar Street, Richmond Hill, GA

**Client:** City of Richmond Hill

**Design Firm(s):** Neil Dawson, Architecture; Sustainable Design Consultants, Inc.

**Landscape architect/Project contact:** John R. Thomas, RLA; AICP- President

**Email:** [bluffthomas@hargray.com](mailto:bluffthomas@hargray.com)

**ASLA Chapter:** None

### Project Specifications

**Project Description:** SDCI was asked to come in to provide landscape architectural services and explore ways to increase available LEED points for site work. SDCI convinced the architect and civil engineering firm to allow a biofiltration, natural storm drainage approach to increase LEED points and save on cost. This was successful on both counts. One week after original installation, this site took over nine (9) inches of rainfall, one of which was a 4" storm event, with no wash, blow outs or overflow of the system. The mulch in the bio-basins was not even disturbed. This project is starting into it's second year of existence and SDCI continues to monitor the performance. The site was an old sewage treatment facility site.

#### Project Type:

Government complex

Part of a redevelopment project

**Design features:** Bioretention facility, bioswale, and porous pavers. Removed curb and gutter, overland sheet flow over grassed areas and natural areas to some extent. Also used infiltration, level spreaders and gravel impact strips to capture and filter roof drainage without down spouts. System all designed as treatment train with multiple steps of treatment.

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

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:** 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, just LEED.

## Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$10,000-\$50,000 (Public funding: Local)

**Related Information:** Replaced approximately \$60,000 of proposed hard infrastructure with approximately \$30,000 of bio-filtration system, including pervious concrete, LEED points for site went from 4 or less to 8 points- project LEED certified.

**Was a green vs. grey cost analysis performed?** Yes - saved approximately 50% on stormwater system, eliminated curb and gutter, reduced impervious surface proposed.

**Cost impact of conserving green/open space to the overall costs of the site design/development project:** Reduced cost of landscaping as preserved areas were left natural.

**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).

**Number of jobs created:** Not available

**Job hours devoted to project:**

Planning and Design: 140

Construction: 4 months ( Total site)

Annual Maintenance: Normal landscape maintenance

## Performance Measures

**Stormwater reduction performance analysis:**

Over 90% of total annual rainfall is retained on site.

**Community & economic benefits that have resulted from the project:** Part of major community enhancement effort that includes revitalized park and amphitheater. This is the show place for the community and they are very thrilled with the new facility and the economic benefit to the community, which can now host large events, weddings, etc.

### **Additional Information**

**Links to images:** Ref: web site [www.susdescon.com](http://www.susdescon.com) will be posted soon.