



Green Infrastructure & Stormwater Management CASE STUDY

Private Residence

Location: Tupelo, MS

Client: Private

Design Firm(s): Mercier Landscape Architect, The McCarty Company - Design Group, Cook Coggin Engineering

Landscape architect/Project contact: Bob Mercier, ASLA

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ASLA Chapter: Mississippi

Project Specifications

Project Description: Mitigation of a 28-acre watershed via a bioswale - required by the City of Tupelo to handle a 50-year storm. The approximate dimensions of this bioswale are 6' x 300'. The client opted for a bioswale instead of a detention basin surrounding their property/new residence. The residence is in a developed neighborhood where there is constant flooding and undersized culverts. On one side of the residence is a drainage basin for 28 acres (where the bioswale is located) and the opposite side is a drainage basin for 220 acres. Both watersheds converge at the driveway for the residence. This project is scheduled to begin construction in a few months - for the residence and bioswale.

Project Type:

Single family residential

Part of a new development

Design features: Bioswale.

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

Local ordinance

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: less than 5,000 sq/ft - not sure if this is applicable.

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? Property enhancement.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: \$10,000-\$50,000 (Public funding: None)

Related Information: Bioswale pipe, labor, gravel, amended soil - \$17,000 Plant materials and labor - \$15,000 Dry Streambed (materials and labor) - \$42,000 Boulders and labor - \$4,600

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: Increased cost, but aesthetics and maintenance outweighed cost.

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

Number of jobs created: None

Job hours devoted to project:

Planning and Design: 20

Construction: Not available

Annual Maintenance: Not available