



# Green Infrastructure & Stormwater Management CASE STUDY

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## Woodlands Edge

**Location:** Little Rock, AR

**Client:** Rocket Properties, LLC

**Design Firm(s):** Tyne & Associates

**Landscape architect/Project contact:** Ron Tyne, FASLA

**Email:** [rtyne@woodlandsedge.com](mailto:rtyne@woodlandsedge.com)

**ASLA Chapter:** Arkansas

## Project Specifications

**Project Description:** Woodlands Edge consists of almost 800 acres of forested land of which about 300 acres have been developed to date. Approximately 525 homesites have been developed in eleven different phases and about 450 families currently call Woodlands Edge their home. Approximately 40% of the total site has been preserved as forested open space which protects the watershed and provides a unique amenity and closeness to nature for every resident. About five miles of nature trails have been built, just one of many amenities. This environmentally sensitive development showcases environmental stewardship and demonstrated low-impact development and sustainable site design at its best.

### **Project Type:**

Single family residential neighborhood development

Part of a new development

**Design features:** Curb cuts, preservation and utilization of existing site hydrology and preservation of the natural forest filter for stormwater management. Regional detention which doubled as a site amenity in the form of a stocked fishing lake. Massive reduction in expensive conventional stormwater management techniques. Most of the items listed above create additional cost to the developer. They may be more appropriate in an urban infill site or retrofit or perhaps on a brownfield site. They are far less appropriate on a greenfield site.

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

Local ordinance. The design concepts were implemented without special requirements.

Standard regulations applied. However, as a result of this development and the unique concepts

employed, many variances were granted. In addition, the city and utilities endorsed and approved changes to existing ordinances patterned around this development.

**Amount of existing green space/open space conserved or preserved for managing stormwater on site:** greater than 5 acres. Approximately 40% of the site; ultimately around 300 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?** As the developer and designer, all of these factors were integral within the plan. This is a very holistic approach involving everything from concept formation, education of participants including the engineers and contractors, clear through the marketing phases and homeowner education in terms of long term maintenance.

## Cost & Jobs Analysis

**Estimated Cost of Stormwater Project:** \$100,000-\$500,000 (Public funding: Privately funded)

**Related Information:** This is difficult to say since this is a work in progress covering 300 of 800 acres. The above figure is an estimate which can be substantiated with additional time to review the initial 11 phases. Because of the holistic nature of this project and the incorporation and preservation of natural drainage features for stormwater management which costs nothing, it is difficult to put a meaningful quantification on any additional stormwater costs which will be extremely low. Typically though, this approach to land development SAVES 20% to 30% on development costs as compared to conventional methods (which may include costly bioswales, etc). There is actual documentation available on other projects I've done. The cost SAVINGS amounts to millions on this project alone. Logically, the less the land and natural drainage ways are altered and manipulated, the less the cost will be. The EPA needs to look closely at this novel, counter-intuitive approach to land development which landscape architect are so well suited to design and administer. As a land developer/owner for 37 years and landscape architect and planner, I have been in a unique position to control every step of the development process toward perfection of this development approach. With proven economic results it is impossible for anyone to argue against the validity of this approach. Now is the time to advance this approach for all the profession. This low-impact development approach has been recognized by national, state professional organizations and conservation groups.

**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:** This reduced overall costs by 20% to 30%. See above comments.

**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). See above comments.

**Number of jobs created:** No Data

**Job hours devoted to project:**

Planning and Design: No Data

Construction: No Data

Annual Maintenance: No Data

Other: Estimates of the above can be made if required.

## Performance Measures

**Stormwater reduction performance analysis:**

No specific data is available currently. With 40% of the natural site retained especially around natural drainage features, stormwater retention will be at its maximum. Credits were given to the developer in reduction of stormwater requirements and calculations. The detention lake coupled with the natural filter most of a 2-year event will be retained and or detained.

**Community & economic benefits that have resulted from the project:** Throughout this current downturn, this community has been thriving. Values have held steady and may have even increased during this time. Demand is very high at present and engineering for new lots is underway. Two new phases of 51 lots were brought to the market last fall and more than 90% have sold to date. Woodlands Edge is one of the few communities with active homebuilding on going. Last year the first 3 Green Certified homes in Arkansas were built in Woodlands Edge.

## Project Recognition

Honor Award, Arkansas ASLA Chapter; Development of the Year, Arkansas Urban Forestry Council; Best of the Best Award, City Beautiful Commission, Little Rock, AR; 2009 National Green Development of the Year from the National Association of Home Builders; The first 4 Star Green Certified Development in the Nation from the NAHB Research Council and these only Green Certified Community in Arkansas; National Award of Excellence from the National Arbor Day Foundation; First ever Developer Award from American Trails

## Additional Information

**Links to images:** Visit: [www.woodlandsedge.com](http://www.woodlandsedge.com) for additional information.