

ADDITIONAL INFORMATION AND LINKS

Dealing With Dirt ♦ September 23, 2004 ♦ Palmetto Expo Center ♦ Greenville, SC

DIRT IN REAL TIME Evaluating and Improving Erosion Control Strategies – in the Field and on the Fly

[Soil Erosion from Two Small Construction Sites in Dane County, Wisconsin](#)

This article calculates water-quality data collected by the U.S. Geological Survey and the Dane County Land Conservation Department from two small construction sites in Dane County, Wisconsin from June 1998 to July 1999. Results show that sediment loads from the two small construction sites were 10 times larger than typical loads from rural and urban land uses in Wisconsin. The data from this study will be used in the U.S. EPA's National Pollution Discharge Elimination System to implement regulations requiring erosion control practices on construction sites of less than five acres.

[Atlanta Regulators Suggest Systematic Overhaul of Confusing Erosion Control Laws](#)

Despite tougher federal regulations, the disastrous effects of construction and development on soil erosion and water pollution in Atlanta has prompted the state Environmental Protection Department to suggest a systemic overhaul of previously confusing, weakly enforced erosion control programs. The changes include fees for builders and developers and instituting inspectors, punishment, training, and less paperwork. (December 2, 2002)

[Soil Erosion Prevention and Sediment Control](#)

Soil erosion and sediment control techniques and information including: regulatory requirements, factors affecting soil erosion rates, soil erosion & sediment control concepts, planning considerations, vegetative & structural protective cover, basic sediment barriers, water conveyance, detention ponds & basins, stream & riverbank protection, and temporary construction road stabilization.

[Sediment and Erosion Control Practices](#)

This chapter on erosion control gives a general description of the most commonly used techniques to prevent soil and sediment erosion and provides a method to select the best measures to take for your project.

[Developers Can Wear White Hats](#)

The American Forestry Association has joined hands with the National Association of Home Builders to create a program to help make future communities green, called Global ReLeaf for New Communities. The program works by giving ReLeaf certification and public recognition to communities and builders who use environmentally friendly development practices. This way, developers and conservationists work together to create more aesthetically pleasing and faster selling homes, satisfying both parties.

[Geotextiles Gain Popularity](#)

Geotextiles are thin, permeable materials used to improve the structural performance of soil and of works such as road pavements. Although the geotextile market is currently dominated by synthetic materials, natural fibers have certain advantages over their synthetic competitors and should be able to increase their share in the future since there is growing concern for environmental protection in all countries of the world. These geotextiles are used in many markets, from drainage and lining systems to soil stabilization and silt fences.

[Greening Development to Protect Watersheds: Does New Urbanism Make a Difference?](#)

This study compares new urban and conventional developments in the United States to see how well they integrate watershed protection techniques. New urban developments were found to offer greener and more compact alternatives to sprawl, better protect sensitive areas, and incorporate best management practices. Recommendations suggest ways that watershed protection techniques can be used to implement more environmentally sustainable development.



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[Receiving Water Impacts Associated with Urban Runoff](#)

The purpose of this study is to determine the impacts of stormwater runoff on the receiving water. In urban settings, the receiving waters are usually adversely affected and cannot always be used beneficially. This article allows for the possibility of positive uses of receiving waters if adequate stormwater controls are used, but focuses on the negative effects of stormwater on the receiving waters, including oxygen depletion, water contamination, habitat effects and sediment contamination.

[Silt Fence Performance Revisited](#)

A study comparing two different silt fence installation methods in a controlled field environment on 56 sites in 12 states concluded that the static slicing method of installation provided more consistent results than common trenched installations. The results validate the findings of an earlier study and confirm that substantial compaction of soil adjacent to the buried silt fence is critical to its performance.

[Evaluation of Erosion Control Products Using Natural Rainfall Events](#)

Five different erosion control products were used during natural rainfall events to determine their impact on vegetative growth, runoff and soil erosion. Three replicates of each treatment (wood fiber blanket, a straw/coconut blanket, a straw blanket, a hydraulically applied bonded-fiber matrix, and disk-anchored straw mulch) were used and runoff and sediment yield was analyzed for five storm events.

[Arizona's General Hitchcock Highway: Balancing Safety and the Environment](#)

The construction effort to widen the scenic General Hitchcock Highway in the Santa Catalina Mountains of Arizona focused on the preservation and enhancement of existing resources and landscaping with nursery-grown native plant species. The project involved constructing retaining walls, blasting rock, improving drainage conditions, and controlling erosion after assessing the environmental, visual, vegetation, wildlife, and economic impacts to the area.

[Soil in Motion: Kinetic Energy Influences Infiltration and Erosion](#)

This article discusses the newly developed tool, the Water Erosion Prediction Project, which can help scientists predict soil erosion under simulated conditions. This tool could possibly replace the traditional Universal Soil Loss Equation technology and be used in soil conservation planning.

[A New Solution to Landslide Conditions in Tennessee](#)

This is a discussion of the Federal Highway Administration's Eastern Federal Lands Highway Division's successful new design, which uses anchor blocks and tiebacks to control landslide conditions on a roadside slope in Tennessee. This article describes the past slide history, various earth support options, the design of the anchor block system, constructability issues and the bidding process.

[Sediment Control: Silt Fences](#)

Silt fences are used to retain soil and sediment on construction sites. The advantages, limitations, design, construction, and maintenance practices are described here. The article also illustrates the different circumstances in which to use heavy duty, preassembled, or machine-sliced installation silt fences.

[Chattanooga, TN Preaches, Practices Stormwater Management](#)

Chattanooga's storm water-management efforts include: the use of vegetative covers, basins and conduits for erosion control; a program to certify contractors in erosion control techniques; and a facility pollution prevention training program.

[City Shores Up Creek Embankment](#)

The Roseville California Flood Control project chose a cellular confinement system to provide a cost-effective reconstruction solution that preserved the natural aesthetics of seven miles of Cirby Creek. The project widened the channel (with slopes that varied from 4:1 to greater than 1:1) and placed a sewer line in the invert of the creek whose channel water-flow velocities ran as high as nine feet per second.



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[Environmental Issues Make Home Builders Creative](#)

Environmentally sensitive construction is becoming the norm as North Carolina grows and new highways and buildings are added. Noted sites of construction are Concord Mills in Cabarrus County, Raleigh, and I-26 in Western NC.

[Erosion Control for Home Builders](#)

This article briefly highlights techniques for controlling erosion, outlines the benefits of erosion control, and includes diagrams for erosion control of family dwellings—how to install straw bale fences, silt fences and access drives.

[Erosion and Sediment Control for Home Builders](#)

The Erosion and Sediment Control for Home Builders article highlights the economic impacts of soil erosion while outlining ways to control this erosion. Includes directions for installing silt fences, sediment logs, and proper vegetation practices.

[Green Lots vs. Brown Lots: Which Holds the Economic Advantage?](#)

This study tests whether there is an economic advantage for developers to use vegetative cover for erosion control independent of addressing environmental and regulatory concerns. Homebuyers and realtors perceive vegetated lots to be worth more than unvegetated lots, and this increased value exceeds the cost of seeding. Therefore, developers should be encouraged to invest in vegetative cover because of the potential for high return on the investment.

[Evaluating Innovative Stormwater Technologies](#)

As part of the Environmental Technology Verification program, this paper focuses on stormwater treatment and the devices and systems designed to intercept and reduce pollutants before they negatively affect water quality. BMP devices such as in-line filtration devices, hydrodynamic separators, and in-drain filtration devices are being verified. The general protocol for site-specific test plan preparation will be discussed, as well as names of applied vendors, operating principles of their devices, and performance measures and test site locations.

[Maintaining Your Pond](#)

Tim Matson explains the chores involved with the maintenance of home-based and farm ponds, which include the inflow, outflow, and basin. Along with erosion and weed control, keeping a healthy water level and plugging leaks that cannot be seen are two of the biggest challenges of managing ponds.

[Silt Fence](#)

This article describes the purposes for, specifications of, types of, maintenance of, and design criteria for silt fences.

