

ADDITIONAL INFORMATION AND LINKS

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

MINIMIZING LOSSES The Builder's Perspective

[Middleton Farm Stormwater Pollution Prevention Plan](#)

This is a stormwater pollution prevention plan for Middleton Farm in Fairfax County, VA. The plan addresses soil-disturbing activities that result from constructing detached single-family residential dwellings on the site. It includes: a copy of the Virginia Pollutant Discharge Elimination System Permit, SWPPP Form, VPDES Registration Statement, Contractor's Certification Forms, and Inspection and Monitoring Forms.

[Grand Traverse County Soil Erosion and Stormwater Runoff Control Ordinances](#)

This sample ordinance explains the administrative procedures, standards, and enforcement methods to be used to implement the Soil Erosion and Sedimentation Control Act of 1972. If adopted, the goal is to protect the land and prevent the pollution and destruction of natural resources due to soil erosion and stormwater runoff.

[Stormwater Fact Sheet for Local Officials](#)

This document defines and describes the impacts of stormwater runoff. This series of brief fact sheets is designed to help local officials understand this problem and how to address it.

[Stormwater Management Fact Sheet](#)

This fact sheet describes both traditional and integrated principles of stormwater management. Preventative measures, land use planning techniques and erosion/sedimentation control (vegetative, detention/retention practices) are among the issues addressed in this article.

[Technology-Based Controls Preferred by Developers](#)

This report discusses the options available to developers in preventing sediment erosion into streams for the EPA's proposed rule to regulate effluent limitations from construction sites. Different soil types would require different BMPs so the regulations would have to be flexible.

[Stormwater Runoff: From My Yard to Our Streams](#)

Here, ways to prevent stormwater runoff from polluting streams are discussed from a homeowner's perspective. This article discusses new federal stormwater regulations (put into effect in March 2003) and stormwater management awards in New York.

[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.

[Survey Says Half of State's Construction Sites Violate Soil Erosion Laws](#)

A survey conducted by the Maine Dept. of Environmental Protection examined more than 800 construction sites in 88 communities found that 44% were not taking proper erosion control measures, which protect lakes and streams from pollution. Due to the surprising results, the state has begun considering mandatory certification, which would have to be passed by the Legislature, a move that would produce skepticism from some larger contractors.

[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.



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[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.

[Assessing Uncertainty of the Erodibility Factor in a Case Study at Fort Hood, TX](#)

The objective of the study at Fort Hood, Texas was to evaluate variability and uncertainty in soil erodibility (K-factor) as reported by the National Cooperative Soil Survey (NCSS). In the late summer of 1998, 524 soil samples were collected to obtain one K value, which differed significantly than the values reported by NCSS. Intraseried coefficients of variation showed variability of up to 20%. Limitations in K estimation of original soil surveys, soil misclassification, and changes in surface soil structure may have contributed to the differences.

[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.

[Listen To Your Mother](#)

This article discusses the introduction of a new “philosophy” for guiding the new movement to “green” the construction industry. A concept called Construction Ecology uses the behavior of biological systems as guidance for the design of a new line of thinking which hopes to lower impact of the construction industry on natural systems.

[The Economics of Watershed Protection](#)

The article reviews research on the costs and benefits of using watershed protection practices and shows how the region, municipality, developer and property owner would be financially affected by the implementation of these practices.

[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.

[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.

[Runoff and Sediment Loss from Natural and Man-made Erosion Control Materials](#)

Man-made erosion control materials (wood excelsior, jute fabric, coconut fiber blankets, and coconut strand mats) were tested under simulated rainfall conditions against two natural materials (straw and turfgrass sod) to evaluate performance of the materials in controlling erosion and sediment loss. Of the man-made materials, only jute reduced runoff and sediment losses at both locations. Therefore, only sod, straw, and jute would be expected to effectively reduce runoff and sediment losses.



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[The Dirt in a Hole: A Review of Sedimentation Basins for Urban Areas and Construction Sites](#)

Many reservoirs and basins experience shorter than expected life spans due to sediment erosion and the deoxygenation of water, which results from pollution carried to streams from sediments in runoff. This document discusses the effects of sedimentation basins for urban areas and construction sites.

[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.

Sample of Construction Stormwater Pollution Prevention Plan

An example of a Stormwater Pollution Prevention Plan— provides the framework for the general contractor to reduce soil erosion and minimize storm water pollutants during the construction of a manufacturing facility. It includes a description of: the SWPPP coordinator and duties, the facility (site location, construction type, existing site condition), the identification of potential stormwater contaminants, stormwater management controls, and maintenance and inspection procedures.

