



**FRANKLIN SOIL AND WATER CONSERVATION DISTRICT**

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**Mission:**

*To promote responsible land use decisions for the conservation, protection and improvement of soil and water resources through effective partnering and technical guidance in Franklin County.*

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## The BMP Review: Inlet Protection and Road Cleaning

Maintaining Best Management Practices (BMPs) on construction sites in accordance with the National Pollution Discharge Elimination System (NPDES) Phase II permit requirements enhances the functions of the BMPs and is the most cost effective. Two common practices that require frequent upkeep are curb/street inlet protection and cleaning or sweeping roads.

Sediment flowing into storm drains leads to nearby creeks and streams, which will deposit construction pollution in the stream, can change the channel path of the waterway, and can increase flooding. Inlet protection provides a barrier between sediment-laden water and the storm water system, thus preventing sediment flowing into streams. Inlet protectors can be regularly disturbed or torn by construction traffic, and they can easily collect excessive

amounts of sediment. Cleaning and replacing inlet protectors as needed is the most efficient way to help this BMP function properly.

Road cleaning and sweeping decreases the chance of sediment traveling off-site and reduces excess sediment build-up on curb inlet protectors. Sediment that is tracked off-site can easily wash into streams.

Municipalities and townships are concerned with the liabilities associated with sediment build-up on roads; cars may slide on mud or have difficulty driving through ponded water. Sediment and erosion control inspectors, municipalities, and townships strongly suggest and enforce weekly, or as needed, cleanings of roads with construction traffic.

Specifications and standards for sediment and erosion control BMPs

are available in the "Rainwater and Land Development Manual", 1996, provided by Ohio Department of Natural Resources, and through the Environmental Protection Agency's website: [www.epa.gov](http://www.epa.gov).

**BAD**



**GOOD**



Volume 2, Issue 2

Summer 2004



FRANKLIN SOIL AND WATER CONSERVATION DISTRICT

# The Urban Review

Sediment & Erosion Control Information Newsletter

## Sustainable Communities

Although flood control and water quality improvement are interrelated, many communities approach them in disjointed and counterproductive ways. Topeka, Kansas has developed community-wide efforts that harmonize future projects to alleviate flooding, improve water quality, and enhance neighborhood livability.

The goals and functions of any community must be well defined and supported by guiding policy instruments if they are to be achieved over the long haul. It isn't just a matter of writing new ordinances or regulations, but also reviewing existing policies and looking for regulations that inadvertently prohibit the utilization of green infrastructure technologies.

Mark Green, P.E., Superintendent of the Water Pollution Control Division in Topeka Department of Public Works explains that many communities are learning that it doesn't cost any more to develop and maintain green infrastructure. The biggest hurdle is to overcome the tendency to choose the most familiar and expedient approach to addressing the issues. With extensive community involvement, Topeka initiated

ordinances that will guide the continuation of this initiative into the future.

Among the policies that have been established are these four types of ordinances, of which two have already been enacted and two are still in the drafting stage:

- Stream Buffer Ordinances for those properties along streams.
- Open Space Ordinances primarily for residential development and properties
- Landscape Ordinances primarily for commercial development and properties
- Natural Landscape Ordinances primarily for homeowners

Typically, as communities grow, the urbanized landscape displaces lands that were once used to grow forests, raise crops, graze livestock, and provide natural areas. Wildlife habitat is replaced with human habitat. Natural functions of the landscape, like nutrient cycling, surface water flows, and groundwater recharge are impaired by paved surfaces,

buildings, and compacted soils.

In short, the natural functions of the landscape that absorb, filter, and transport rainwater are replaced by storm drains and impervious surfaces, and the forest and fields of our youth are replaced by residential and commercial development, leaving only scattered parklands that provide few environmental benefits.

It has been determined that opportunities for community sustainability occur within existing developments, within areas of future development, and as part of the larger watershed and landscape. The goal of sustainable communities is to create and maintain a balance for growth and natural ecological systems.

*Addressing Stormwater Management the Green Way. Land Development Today. Vol. 1-6. December, 2002*



## The High Cost of Being Dirty

Government agencies and even citizens' groups are making it very expensive for companies or people who allow soil to be washed away from a job site. As the country becomes more ecologically aware, more eyes are watching contractors than ever before.

The U. S. EPA amended the Federal Clean Water Act in 1987 to deal with storm water problems. Storm Water Pollution Prevention Plans (SWP3's) become state and municipal guidelines that describe the responsibilities construction operators have in identifying what possible pollutants are on their sites and how they are going to handle them. The general contractor must fill out the necessary paperwork and post a plan at the job site. This plan gives details about implementation and maintenance of specific practices that will be used to keep the soil on site. Local governments are also conducting inspections through Franklin Soil and Water, existing staff, or consulting firms.

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## Benefits of Riparian Buffers

Researchers at Iowa State University have documented major sediment reductions through the use of riparian buffers. Riparian forest buffers reduced stream bank erosion by about 72 percent along a 6.8 mile stretch of an Iowa stream according to a research paper published by George N. Zaimes, Richard C. Schultz and Thomas M. Isenhardt.

They note in their report that work in the same watershed, Bear Creek, has also shown that riparian buffers of 66-foot widths “reduce sediment delivery from overland flow by more than 90 percent.”

Combining reductions of overland flow and stream bank erosion. Their research also shows that as the forest buffer becomes more established over the years and trees mature, stream bank n, the total stream sediment load “could potentially be reduced by 81 percent by riparian forest buffers, a significant stabilization increase.

The riparian forest buffers at Bear Creek include trees that stabilize the stream bank and provide long-term nutrient storage, shrubs that increase habitat diversity and reduce floodwater velocities, and warm-season grasses and forbs that reduce sediment load and agricultural chemicals in overland flow.

By reducing the two major sources of sediment load in the streams, riparian forest buffers provide an alternative land use for riparian zones that will decrease the major non-point source pollutant, sediment.

## Central Ohio Erosion and Sediment Control Expo

The Second Annual Central Ohio Erosion and Sediment Control Expo took place in June at the Franklin County Fairgrounds in Hilliard, Ohio. This event was sponsored by Alpine Stormwater Management, Ferguson Water Works, Centex Homes, Ohio Contractors Association, EMH&T, Erosion Control Magazine, Franklin Soil and Water Conservation District, BIA of Central Ohio, and the Mid-Ohio Regional Planning Commission (MORPC).

The attendees ranged in profession: land developers, builders, contractors, watershed managers, foresters, farmers, design professionals, government officials and inspectors, and plan



reviewers. Display booths, speakers, product demonstrations, and presentations were the main highlights of the day. There were four speakers from Natural Site Solutions, Ohio EPA, ODNR, and City of Columbus.

The speakers presented information

about the importance of streams and the impacts that development has on them, what officials look for during construction site inspections, and leading products for erosion and sediment control. Speakers, exhibitors, and attendees were able to share information on ways to best implement, maintain, and monitor BMPs to comply with the NPDES Phase II permit requirements.

The presentations are available to download on the Expo’s website: [www.coe-scepo.org](http://www.coe-scepo.org). Proceeds from the Expo will benefit MORPC’s Greenways program. Look for a repeat of this program by MORPC or FSWCD next year.

## Seasonal Seeding

It is common knowledge that good vegetative cover is the best way to prevent erosion and sediment runoff. Permanent or temporary soil stabilization with sod or seed and mulch is a requirement noted on most construction plans. Sod or seed should be installed within 7 days of reaching final grade and on disturbed areas that will not be worked for 21 days.

But what happens during the hot days of summer when germination is bound to

be delayed by heat or young seedlings die within days of sprouting? Special consideration must be taken when seeding during the summer months.

Permanent seeding should be done March 1 to May 31 or August 1 to September 30. These seeding dates are ideal but with the use of additional mulch and irrigation, seeding may be done any time throughout the growing season.

From October 1 through November 20 dormant seeding is recommended. The soil

is prepared and mulched but not seeded until after November 20. During the winter months, from November 20 through March 15, when soil conditions permit, apply the selected seed mixture, mulch and anchor. Increase the seeding rates by 50% or use mulch only until spring seeding.

Sod is used to provide immediate soil stabilization; it may be required or preferred. Sod may be installed almost any time provided irrigation is used as necessary. It should never be placed on frozen soil.

## Professional Development

The International Erosion Control Association (IECA) has recently introduced a new learning tool. Digital education uses a CD-ROM to put IECA’s training courses on your computer screen. You see a video of the course—complete with the instructor on one part of the screen and his or her PowerPoint presentation on the other. State-of-the-art software technology synchronizes the PowerPoint images with the video and voice of the instructor.

Digital education offers several features to enhance your learning experience. One is the ability to learn at your desk at a time most convenient to you. Another is the ability to view the entire course from beginning to end. But unlike a live classroom presentation, by clicking the course outline you can skip from one part of the course to another to review specific topics or repeat a section as often as you wish. Also, you can project the course onto a large screen. That can be handy for a group of designers, contractors, or inspectors who want to learn more about a topic.

Available courses include the following:

- “How to Write and Implement a Storm Water Pollution Prevention Plan” is a four-hour course for which a complementary manual can be ordered.
- “How to Perform an Analysis of a Streambank Erosion Problem” is a three-hour course that gives you valuable tips on how to read a stream.

- “Monitoring is a Dirty Word,” an hour-and-a-half workshop, will teach you how to assess water quality on your construction site.

IECA is continuing to develop more digital education courses. For more information about these and other professional development training, contact IECA.



## New Post Construction Requirements

The Ohio EPA is currently enforcing the NPDES Phase II permit requirement for post-construction water quality storage. This requires a 24-48 hour storage period for 50% of a 2-year storm event. Roughly ¾ of an inch of rain must be held on-site for 24 hours. All subdivisions now under construction or in planning will be affected.

(continued from page 1) *The High Cost of Being Dirty*

to ensure that soil is staying on site. If there is a problem, the inspector must notify the owner, and provide time for them to fix the problem before a penalty is assessed.

The EPA has several levels of penalties for violating the Clean Water Act, none of them light. If a contractor or developer is fined for being negligent, the criminal penalty ranges from \$2,500 to \$25,000 per day of the violation. If they believe that they knew what they were doing when they violated the Act, the fine goes up to \$5,000 to \$50,000 per day.

If that is not enough, citizens’ groups may also file a suit if they feel they have been wronged by the mess made by a construction site. These can be even more costly; up to 10 times more expensive than EPA penalties.

Adopted from *Soil Erosion & Hydroseeding*. March/April, 2004.