Stormwater and the Construction Industry

Protect Natural Features

- Minimize clearing.
- Minimize the amount of exposed soil.
- Identify and protect areas where existing vegetation, such as trees, will not be disturbed by construction activity.
- Protect streams, stream buffers, wild woodlands, wetlands, or other sensitive areas from any disturbance or construction activity by fencing or otherwise clearly marking these areas.

Construction Phasing

- Sequence construction activities so that the soil is not exposed for long periods of time.
- Schedule or limit grading to small areas.
- Install key sediment control practices before site grading begins.
- Schedule site stabilization activities, such as landscaping, to be completed immediately after the land has been graded to its final contour.

Vegetative Buffers

- Protect and install vegetative buffers along waterbodies to slow and filter stormwater runoff.
- Maintain buffers by mowing or replanting periodically to ensure their effectiveness.

Maintain your BMPs!

www.epa.gov/npdes/menuofbmps

Silt Fencing

- Inspect and maintain silt fences after each rainstorm.
- Make sure the bottom of the silt fence is buried in the ground.
- Securely attach the material to the stakes.
- Don’t place silt fences in the middle of a waterway or use them as a check dam.
- Make sure stormwater is not flowing around the silt fence.

Site Stabilization

- Vegetate, mulch, or otherwise stabilize all exposed areas as soon as land alterations have been completed.

Construction Entrances

- Remove mud and dirt from the tires of construction vehicles before they enter a paved roadway.
- Properly size entrance BMPs for all anticipated vehicles.
- Make sure that the construction entrance does not become buried in soil.

Slopes

- Rough grade or terrace slopes.
- Break up long slopes with sediment barriers, or under drain, or divert stormwater away from slopes.

Dirt Stockpiles

- Cover or seed all dirt stockpiles.

Storm Drain Inlet Protection

- Use rock or other appropriate material to cover the storm drain inlet to filter out trash and debris.
- Make sure the rock size is appropriate (usually 1 to 2 inches in diameter).
- If you use inlet filters, maintain them regularly.
Developing and Implementing a Plan

You must have a Plan that includes erosion and sediment control and a pollution prevention BMP. These Plans require:

- Advance planning and training to ensure proper implementation of the BMPs
- Erosion and sediment control measures are in place before the construction begins and continue until the project is complete
- Pollution prevention BMPs began during the construction site’s “closure

1. Site Evaluation and Design Development

- Conduct site investigation
- Design project pollution site map

2. Assessment

- Measures the site area
- Determines the drainage areas
- Calculates the runoff coefficient

3. Control Selection and Plan Design

- Review and incorporate state or local requirements
- Select erosion and sediment controls
- Select other controls
- Select stormwater management controls
- Indicate the location of controls on the site map

4. Certification and Notification

- Certify the Plan
- Submit permit application or notice of intent

5. Implementing and Maintaining a Plan

- Implement controls
- Inspect and maintain controls
- Report releases of hazardous materials

6. Completing the Project: Final Stabilization and the Termination of the Permit

- Final stabilization
- Notify the permitting authority

Other BMPs and Activities to Control Polluted Runoff

- Stormwater management controls, including sediment and erosion controls
- Stormwater treatment and reuse

Stormwater Control Practices

- Site preparation
- Vegetative establishment
- Construction site design that minimizes disruptions
- Final stabilization and restoration

Erosion and sediment control practices are only as good as their installation and maintenance.

Erosion and sediment control is critical in the nation’s efforts to protect streams, rivers, lakes, wetlands, and oceans. Through the use of best management practices (BMPs), construction site operators are the key defense against erosion and sedimentation. As stormwater flows over a construction site, it picks up pollutants like sediment, debris, and chemicals. This contaminated runoff can enter storm drains and, if untreated, can destroy the downstream aquatic habitat. Preventing erosion and sedimentation is an important responsibility at all construction sites.

In addition to the environmental impact caused by uncontrolled erosion, uncontrolled erosion can have significant financial ramifications on a construction project. It can cost money and time to repair damage, replace pipeline, replant storm drain-stressed trees, replace utility lines and piping, and manage damage to other people’s property or your natural resources.

Best Management Practice (BMP)

A BMP is a method or process to control or prevent the discharge of pollutants, including sediment, into water bodies. BMPs vary in size, location, cost, and complexity, and vary from simple, low-cost measures to more sophisticated and costly projects.

An operator is someone who has control over and the ability to modify construction plans and specifications (e.g., owner, general contractor).

Someone who has control over the day-to-day operations of a site (e.g., owner, general contractor) cannot be detained or convicted if requirements are met, unless the operator has failed to control the erosion from the site.

There may be more than one person on a site who meets these definitions and must apply for permit coverage. States may have different definitions of an owner or operator.

So what’s being done about polluted runoff?

The Clean Water Act includes the National Pollution Discharge Elimination System (NPDES) permitting program. As of January 1, 1995, all contractors, including the small contractors, are required to obtain an NPDES permit if they are engaged in activities that may cause pollution. Under the NPDES program, stormwater runoff that reaches a waterway (e.g., stream, lake, or wetland) is considered a discharge from a point source if it is not a discharge of sewage or industrial waste (e.g., sanitary sewer, or septic system regulations). Stormwater pollution is defined as the discharge of pollutants from point sources.

The NPDES program requires that all land-disturbing activities, including clearing, grading, and excavation, that disturb 1 or more acres of land, as well as activity that disturbs less than 1 acre but is part of a larger plan of land development or sale, such as a single lot within a larger subdivision. For developments with multiple operators, all operators must develop and share one comprehensive Plan and obtain permit coverage as co-permitees.

As of January 2003, 44 states and territories are authorized to issue NPDES stormwater permits. If your state isn’t authorized, your implementing authority at the state or EPA level. Although you must comply with both sets of requirements, in most cases they have complementary requirements.

One way to prevent stormwater pollution is to ensure that the construction project is planned, designed, and implemented to prevent pollution from being carried to the environment and that new wetlands or water bodies are not damaged or destroyed.

Stormwater pollution prevention plans:

- Stormwater management plans
- Stormwater management controls
- Stormwater discharge locations
- Stormwater management controls

So what can I do about it?

This document has been prepared by EPA’s Telecom Division.

I think I need a permit... Where do I start?

All land-disturbing activities, including clearing, grading, and excavation, that disturb 1 or more acres are required to obtain a National Pollutant Discharge Elimination System (NPDES) stormwater permit. Local permitting agencies are authorized to issue the NPDES stormwater permits, EPA issues the permits. Permittees vary from state to state, so contact your state’s EPA for specific information. Your permitting authority has specific information on your state’s NPDES permitting program. In general, construction operators require construction operators to do all of the following:

- Develop and implement a stormwater pollution prevention plan
- Submit a permit application or notice of intent (NOI)
- Comply with the permit's requirements, including maintaining BMPs and inspecting the site

Under the NPDES program, construction activities that disturb 1 or more acres are required to obtain stormwater permits. States have different names for the plans that construction operators must develop, such as:

- Stormwater pollution prevention plans
- Erosion and sediment control plans
- Erosion control and sediment management plan
- Water pollution control plan
- Pollution prevention plan

Stormwater pollution prevention plans:

- Stormwater management plans
- Stormwater management controls
- Stormwater discharge locations
- Stormwater management controls

Implementation Checklist

- Review and incorporate state or local requirements
- Select erosion and sediment controls
- Select other controls
- Select stormwater management controls
- Indicate the location of controls on the site map
- Program an erosion and sediment control plan with construction activity
- Program sequence of major activities

Stormwater pollution prevention plans:

- Stormwater management plans
- Stormwater management controls
- Stormwater discharge locations
- Stormwater management controls

A description of controls:

- Soil erosion control tips...
- Practice good housekeeping. Keep the construction site free of litter, construction debris, and leaking containers. Keep all waste in one area to minimize cleaning.
- Minimize the amount of exposed soil on site.
- Use phytostabilization. Keep the construction site free of litter, construction debris, and leaking containers. Keep all waste in one area to minimize cleaning.
- Implement controls
- Record retention
- Submit permit application or notice of intent
- Termination of the Permit
- Final Stabilization and the Termination of the Permit
- Final stabilization
- Notify the permitting authority

Erosion and sediment control practices are only as good as their installation and maintenance.

An ounce of prevention is worth a pound of cure! It’s far more efficient and cost-effective to prevent pollution than it is to try to correct problems later. Installing and maintaining simple BMPs and pollution prevention techniques on site can greatly reduce the potential for stormwater pollution and can also save you money!