Phase II Stormwater Program

Fall 2017

Erosion Control vs. Sediment Control Understanding the Difference

What are Erosion and Sediment Controls? Why are they necessary? Can you get away with just using one method or are both needed? By understanding the difference between erosion control and sediment control it will enable you to see the importance of each control measure. These terms are defined as follows:

Erosion—This is the detachment of soil particles from the ground surface by running water, wind, ice or other geological agents. Erosion control methods protect the soil surface by stabilizing the soil.

Sediment—These are the particles of soils that have been detached. Erosion is the primary source of sediment. Sediment control methods trap the soil particles after they have dislodged and prevent or minimize their migration off-site.

As these definitions indicate, if the erosion process is controlled effectively, the need for sediment control is much less. In most cases, it is not possible to have one control method without the other, because both controls are dependent upon on each other. Erosion control practices help prevent soils from becoming detached from the soil structure. Sediment controls aid in preventing the possibility of sediment bypass and subsequent transport of sediment to downstream waterways, adjoining properties and nearby roads.

Erosion Control Methods

It is best to address this method at the planning stage. First minimize soil disturbance by controlling erosion (minimizing disturbed area, seeding, mulching, matting, etc.) Next, control the amount of soil runoff and stabilize the exposed soil. Erosion control should be the primary focus, as sediment controls are typically only 50% effective. Stabilization measures cover or maintain the existing cover over the soil.

Two types of erosion control measures are vegetative and non-vegetative stabilization. Vegetative measures are used for temporary or permanent stabilization of areas prone to erosion. Vegetative measures can be in the form a buffer strip, planting shrubs, trees, grass or perennial crops. Non-vegetative measures are used for temporary or permanent stabilization of areas prone to erosion and should be used only where vegetative options are not feasible. Some examples of non-vegetative measures include installing geotextiles, mats, soil binders, riprap, rock slope protection or gabions. Structural Practices is a method of non-vegetative stabilization that involves devices to divert, store, or limit stormwater and sediment runoff.

Sediment Control Methods

Sediment control methods such as an Earth Dike, Silt Fence, Sediment Traps and Sediment Basins are examples of structural control practices that focus on channeling runoff to either trap the sediment or filter the sediment and limiting the discharge of pollution from the site.

Establishing grass is the most effective way to stabilize an area. Temporary grass seed is used in areas where more construction will be done in the near future, permanent grass seed varieties should be used when construction is finished or when there will be no construction for a six (6) month or more time frame.

Erosion Controls require constant maintenance to be effective. For example, if a silt fence is installed, but is never maintained. Within a few months, the silt fence has failed. It may have torn loose from the posts, been knocked down, water may have washed under it, or it may have become full of sediment and no longer effective. If the silt fence is checked on a regular basis, problems can be seen and corrected as they occur. Then the silt fence will be effective and do its job.

More information on Erosion and Sediment Controls is available from:

www.epa.gov
www.adem.alabama.gov
www.phenixcityal.us/engineering-public-works/engineering/storm-water-management