



Sediment & Erosion Control Measure Fact Sheet

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Sediment is the number one pollutant, by volume, of surface waters in the state of Ohio!

- The Wayne County Storm Water Management Regulations were adopted by the Wayne County Board of Commissioners and became effective in June 2009. A copy of these regulations are available at the Wayne SWCD website or upon request from the Wayne SWCD.
- The goal of the regulations is to abate wind or water erosion of the soil and the degradation of Waters of the State by soil sediment and minimize damage to property in conjunction with non-farm, soil-disturbing activities.
- Ask our Water Management Engineer for any help that you might need.

In this fact-sheet we will describe eight common ways that you can reduce erosion of our valuable soils. For more information you can find a complete listing of sediment and erosion control measures in the **Rainwater and Land Development, Ohio's Standards for Storm Water Management, Land Development and Urban Stream Protection**, all information contained in this fact-sheet was referenced with the above document. Copies can be obtained from ODNR Division of Soil & Water Conservation at 2045 Morse Rd., Bldg. B-3, Columbus, Ohio 43229 Telephone (614) 265-6610 or on-line at www.dnr.state.oh.us/tabid/9186/default.aspx.

When choosing which method(s) to use, you should plan each part of construction and strive to minimize the amount of disturbance. Then choose which method(s) will work best for the amount of soil disturbance that will result from construction. **When calculating total disturbance area be sure to account for home construction, septic systems, driveway, wells, and grading.**

EROSION CONTROL MEASURES

1. Seed and Mulch disturbed soils.

a. **Temporary seeding** This method is used when soils are going to sit idle for a period of time and the soil needs to be stabilized. Any area that has been disturbed or where stockpiles of soil are stored need to be temporarily stabilized. Temporary seeding should be used on exposed soil that will sit idle for more than 21 days but less than one year. This seeding must occur within seven days of last disturbance. Any disturbed areas within 50' of a stream shall be temporary seeded within 2 days if it will remain idle for more than 21 days. Disturbed areas that will be idle over the winter shall be temporary seeded prior to the onset of winter weather. Fast growing grasses are preferable with mulch applied after seeding. This is an easy, fairly inexpensive, and effective way to stabilize soils and reduce site erosion. Seeding and mulching can produce control efficiencies greater than 90%, if used correctly. Consult local seed suppliers for native grasses that will be most efficient on your site.

b. **Permanent seeding** This method is used when all or portions of the construction site can be brought to final grade. Permanent seeding should occur within seven days of final grading or when an area will lie dormant for more than one year. Any disturbed areas within 50' of a stream shall be permanent seeded within 2 days of final grading. This process includes seedbed preparation, seeding, and the establishment of perennial vegetation. The goal of this activity is to permanently stabilize soil, prevent sediment pollution, reduce runoff and promote infiltration of water. One concern in post-construction is soil compaction. Correct soil preparation will promote dense vegetation, high infiltration of water, pollutant filtration and beneficial biological activity in the soil. Some ways to improve soil condition is to use subsoilers, plows or other implements that are part of final seedbed preparation. Use caution on slopes. Topsoil may need to be applied to establish healthy vegetation. Close attention should be paid to soil conditions and seeding dates. This may include pH tests, nutrient tests and time of seeding. Prime seeding times are March 1 to May 31 and August 1 to September 30. If dormant seeding is going to be utilized, be sure to follow directed seeding methods.

2. Silt Fence. CONSTRUCTED BEFORE SOIL DISTURBANCE. The silt fence is used to trap sediment being washed off of a lot. A geotextile fabric with specific fabric properties; a silt fence is put in place before earth-disturbing activities occur. It is used where runoff occurs as sheet flow. Silt fences do not effectively treat flows in gullies, ditches or channels. In these situations temporary diversions, sediment traps and sediment basins should be used.

Silt fence is most effective in relatively small areas with flat topography. Silt fences must have a minimum of 16" above ground, and a minimum of 8" of fencing trenched, backfilled and compacted. Stakes are 2"x2" and a minimum of 32" long. The maximum distance between posts is 10'. Seams must be overlapped and wrapped together before driving into the ground. The fence must be placed on the flattest area available at the base of disturbed sloping terrain. Five feet of vegetated soil should be maintained to maximize the effectiveness of the fence. Be sure to maintain the fence by replacing torn sections, replace any broken stakes, ensuring that the fence remains tight and the bottom is buried.

3. Construction Site Entrance. CONSTRUCTED BEFORE SOIL DISTURBANCE. A construction entrance is a stabilized pad of stone over a geotextile base. This is used to reduce the amount of mud tracked off-site and may include a water-bar to reduce runoff from leaving the site. This should be the sole point of entry and exit for vehicles on the site. For best results a geotextile base should be laid out before stone is placed. ODOT #2 Stone (1.5 to 2.5 inch diameter) should be spread at least six inches thick on a 14' wide x 70' long (30' for access to an individual house lot) area. A culvert should be used at the entrance to prevent surface water from flowing onto paved area. The key to an effective construction site entrance is maintenance! Applying additional stone when needed and sweeping and/or scraping roads to remove any accumulated soil.

4. Storm Drain Inlet Protection. CONSTRUCTED BEFORE SOIL DISTURBANCE. This method consists of a geotextile barrier supported around or across a storm drain inlet. This helps prevent sediment-laden water from entering a storm drain system. Ponding is encouraged by this practice which allows sediment to settle out of water. The type and location of the inlet will dictate the type of inlet protection used. The most common type of inlet protection uses a frame that is constructed of 2"x4" lumber with wire mesh wrapped around the frame, then geotextile wrapped around the wire mesh. This barrier must then be secured so that a strong rain event does not move it or so water can not flow under the wire/geotextile into the storm drain.

5. Temporary Diversions. CONSTRUCTED BEFORE SOIL DISTURBANCE. This is a swale and/or dike that will move run-off to a desired location. Temporary diversions handle water from up to ten acres. These should be used to direct site runoff to a sediment trap or basin or route clean runoff around disturbed areas. These can be constructed on a grade. This does not remove sediment from runoff. It must be used in conjunction with a sediment trap, basin or similar practice.

6. Sediment Trap. CONSTRUCTED BEFORE SOIL DISTURBANCE. Sediment traps are temporary settling ponds that have a simple spillway outlet structure stabilized with geotextile and riprap. These are used for drainage areas of less than five acres. Sediment traps are used where sheet flow runoff exceeds silt fence or inlet protection capacity or where runoff is concentrated flow like gullies or ditches. Sediment traps must be planned to properly handle all of the storm water from the drainage area. They are one of the most useful and cost-effective measures for treating sediment-laden runoff. They are usually placed near the edge of the construction site, and out of the way of most construction activity. Temporary diversions can be used to divert water to the sediment trap.

7. Leave Stream Buffers in Place. Stream buffer zones are critical to the quality of our streams. They provide habitat, cover, shade, and stabilization to the stream and surrounding land area. The vegetated area or buffer zone that runs along the stream is also called the riparian zone. Vegetation especially woody (trees) should be preserved or established along rivers, streams, creeks, and runs. This vegetation will stabilize soils, reduce the amount of nutrient pollution entering the stream, reduce runoff velocity, and control erosion. Woody vegetation is desired over grass. The key is to not remove vegetation along the stream. DO NOT mow up to the stream bank or remove trees from the bank.

8. Minimal Site Disturbance. Leave as much existing vegetation in place until the final grading is planned to take place. When vegetation is left in place it stabilizes soil around the construction site and acts as a buffer. Planning of construction sequences and timing should allow for as little soil disturbance as possible. This practice should be used with other control measures.

For more information, other practices and detailed design specifications please refer to the Rainwater and Land Development Manual. Also refer to the Wayne County Storm Water Management Regulations.