

EROSION AND SEDIMENT CONTROL FOR CONSTRUCTION SITES

2004 Edition



Erosion Is a Costly Problem

Eroding construction sites are a leading cause of water quality problems in Georgia. For every acre under construction, about a dump truck and a half of soil washes into a nearby lake or stream unless the contractor uses erosion controls. Land development and urbanization increase the frequency and severity of these problems. Problems caused by sediment include:

Flooding - Uncontrolled stormwater & surface runoff from sediment filled streams.

Local taxes - Cleaning up sediment in streets, sewers and ditches adds extra costs to local government budgets.

Dredging - The expense of dredging sediment from lakes, harbors and navigation channels are a heavy burden for taxpayers.

Lower Property Values - Neighboring property values are damaged when a lake or stream fills with sediment. Shallow areas encourage weed growth and create boating hazards.

Poor Fishing - Muddy turbid water drives away fish that rely on sight to feed. As it settles, sediment smothers gravel beds where fish like small mouth bass, find food and lay their eggs.

Nuisance Growth of Weeds and Algae - Sediment carries fertilizers that fuel algae and weed growth.

Controlling Erosion

Erosion control is important for all construction sites. The materials needed are easy to find and are relatively inexpensive - straw bales or silt fence, stakes, rocks, slope drains, grass seed, mulch or geo-textiles.

Putting these materials to use is a straight forward process. Only a few controls are needed on most sites, however all erosion controls must be **maintained regularly.**

Controlling Sediment

- **Silt fence or straw bales** to trap sediment on the down-slope side;
- **Soil Piles** located away from any roads or waterways and stabilized with mulch and or vegetation;
- **Construction exits** used by all vehicles to limit tracking of mud onto streets;
- **Cleanup** of sediment carried off-site by vehicles or storms;
- **Use of slope drains and stilling basins** on all vertical drops;
- **Use of riprap** at the outflow end of all storm drains and stilling basins shall be installed.

Silt Fence

All **erosion and soil control** should be installed, "prior to, or concurrent with," land disturbing activities.

- Install on **down-slope sides** of site parallel to contour of land.
- Dig a small toe-in trench along the line where Silt Fence is to be placed. **The trench should be a minimum of 6 in. deep.** Place the excavated material on the front or upstream side of the trench to facilitate back filling later.

- Drive the fence posts into the back or downstream side of the trench. The posts should be driven so that at least 1/3 of the height of the post is in the ground. When installing a prefabricated Silt Fence with fabric attached to the posts, the posts should be driven so that at least 6 in. of fabric will be buried in the ground. Place posts between 2 ft. and 10 ft. apart depending on the anticipated volume of sediment runoff at the site. Most prefabricated Silt Fences have posts spaced approximately 7 to 10 ft. apart, which is usually adequate. If there is a low spot where most sediment tends to collect, closer spacing may be required and prefabricated Silt Fences can be backed up with extra posts. Posts constructed of hardwood or metal with sufficient strength to support a full load of deposited sediment are recommended.
- Extend low fence ends enough up-slope forming a “J” hook to allow water to pond in hook.
- **Backfill the trench with the excavated material and tamp so that at least 6 in. (15cm) of the fabric is securely toed into the ground to prevent under-mining.**
- **Maintain** until vegetation is established.
- **Along creeks and streams, two rows of Type C State approved Silt Fence shall be used with a minimum of 6 ft. between rows.**
- An additional row of silt fence may be installed up slope from the initial row. **Maintain 25-ft. buffer from stream bank on both sides.**

Soil Piles

- Locate away from any down-slope street, driveway, stream, lake, wetland, ditch or drainage way.
- Temporary seed such as annual rye or winter wheat is required for stored topsoil piles.

Sediment Cleanup

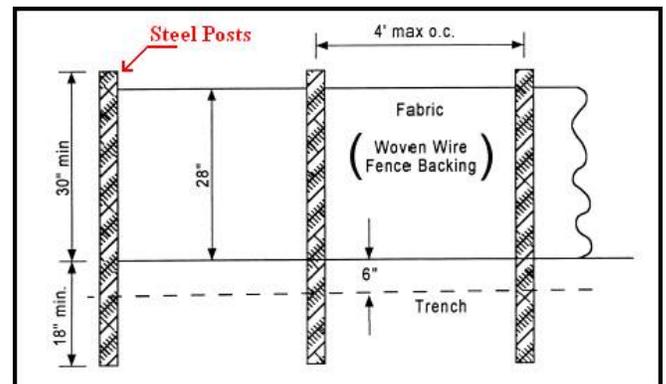
- **By the end of each workday, sweep and scrape up soil tracked onto the road.** Spread and stabilize with mulch and/or vegetation.

Re-vegetation

- Seed and mulch, or sod soil **as soon as possible.** Vegetation is the most effective way to control erosion.
- Exposed areas left undisturbed for greater than two weeks must be vegetated. Mulch can be used during poor growing seasons.

Preserving Existing Vegetation

- Wherever possible, preserve existing trees, shrubs or vegetation.
- To prevent root damage, do not grade, place soil piles, or park vehicles near trees marked for preservation.
- Place plastic mesh or snow fence barriers around trees to protect the area below their branches.



Example of Type C Silt Fence. Only Type C is allowed on commercial construction projects.

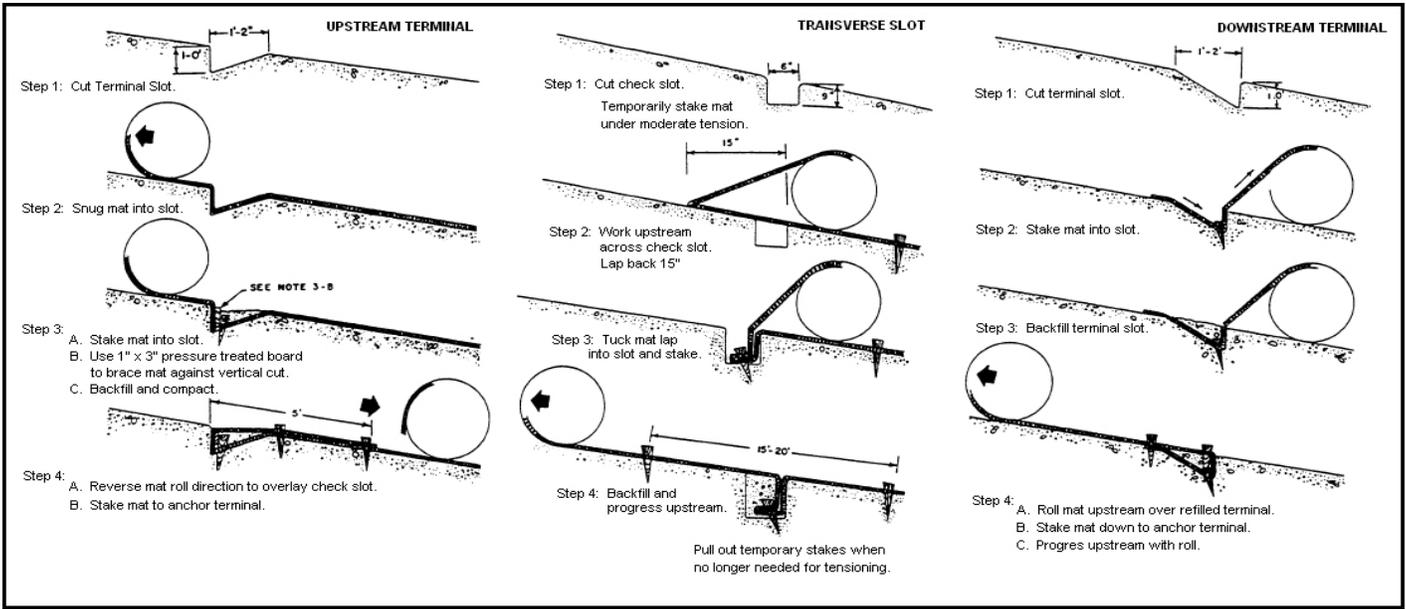
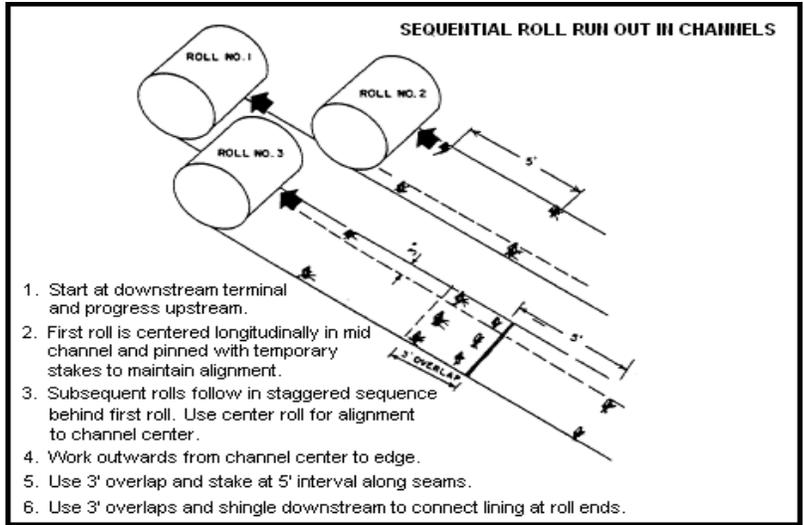
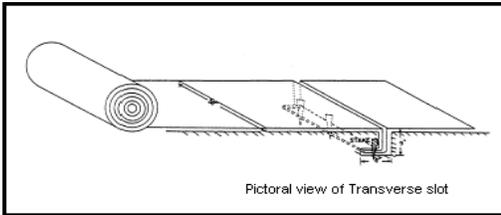
WARNING! Extra measures may be needed if your site:

- Is within 300 ft. of a stream or wetland;
- Is within 1,000 ft. of a lake;
- Has a waterway or ditch;
- Is steep (slopes of 12% or more);
- Receives runoff from 10,000 sq. ft. or more of adjacent land;
- Has zoning or construction buffers;
- Has more than an acre of disturbed ground.

For information on appropriate measures for your site, call the City of Griffin Public Works & Stormwater Offices at (770) 229-6424.

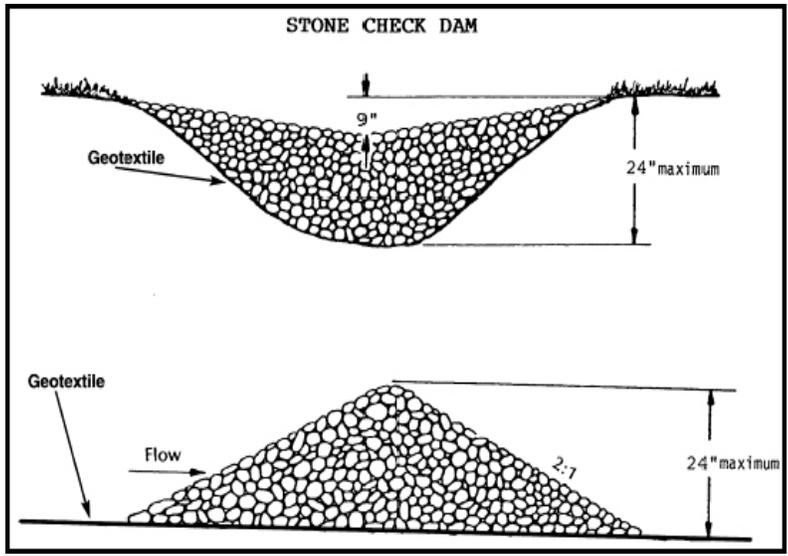
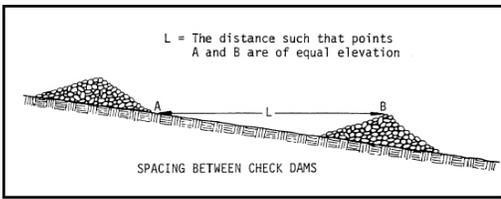
Erosion Control Matting and Blankets

Mb



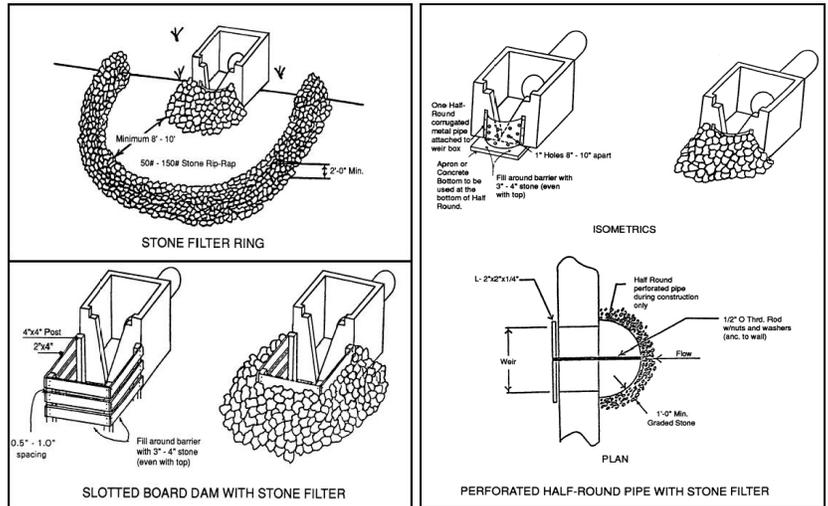
Check Dam

Cd



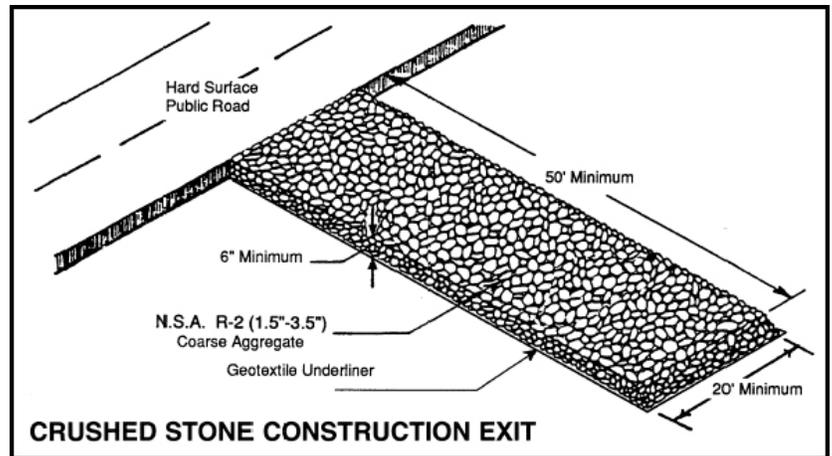
Retrofitting

Rt



Construction Exit

Co



Inlet Sediment Trap

Sd2



Alternative Inlet Sediment Trap



IMPORTANT!

- Erosion control measures must be installed prior to the issuance of a Land Disturbance Permit.
- A pre-construction meeting must take place prior to the issuance of a Land Disturbance Permit.
- Land Disturbance Permit fees must be paid to the City and the EPD based on the site area and the disturbed acreage. A Notice of Intent may need to be filed with the EPD if the project disturbs over 1.0 acre.