

Basic Erosion Controls

There are many best management practices (BMPs) that can be used to control erosion at construction sites, including:

- Preserving existing trees and grass where possible to prevent erosion
- Re-vegetating the site as soon as possible
- Using silt fence or straw bales to trap sediment on the downslope sides of the lot
- Placing soil piles away from any roads or waterways
- Installing diversions on upslope side and around stockpiles
- Using stone/rock access drives for all vehicle traffic to limit tracking of mud onto streets
- Cleaning up sediment carried off site by vehicles or storms
- Using downspout extenders to prevent erosion from roof runoff.

Consequences of Erosion

The benefits of controlling construction erosion extend far beyond the job site. The consequences of not controlling erosion include:

Taxes — The expense of dredging sediment from lakes and waterways is paid for by taxpayers.

Higher road maintenance costs — Cleaning up sediment in streets, sewers and ditches adds extra costs to local government budgets.

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 water drives away fish that rely on sight to feed. As it settles, sediment smothers gravel beds where some fish find food and lay their eggs. Soil particles in suspension can act like a sand blaster during a storm and damage fish gills.

Nuisance growth of weeds and algae — Sediment carries fertilizers that fuel algae and weed growth.

Poor site safety — Erosion can create unstable site conditions.

Additional Resources

Visit the Green Country Stormwater Alliance web site listed below for more details about sediment and erosion controls at construction sites.



Green Country Stormwater Alliance
www.stormwaterok.net

Contact Information

For more information about stormwater protection, contact the Oklahoma Department of Environmental Quality (DEQ) Water Quality Division at 405-702-8100 or visit the DEQ web site at www.deq.state.ok.us/WQDnew/stormwater/index.html

For stormwater site inspection information, call the DEQ Water Quality Division at 405-702-8100 or visit www.deq.state.ok.us/wqdnew/stormwater/index.html



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A Homebuilder's Guide to Erosion Control





A Closer Look at

Erosion Control Methods

Methods listed are suggestions only. Check local codes for specific requirements.

Straw Bale or Silt Fence

- Install within 24 hours of land disturbance.
- Install on downslope sides of site parallel to contour of the land.
- Extend the ends upslope enough to allow water to pond behind fence.
- Bury 8 inches of fabric in trench.
- Stake (two stakes per bale) at a depth of 1 to 2 ft., depending on the site.
- Leave no gaps. Stuff straw between bales, overlap sections of or twist ends of silt fence together.
- Inspect and repair once a week and after every 1/2-in. rain. Remove sediment if deposits reach half the fence height. Replace bales after 3 mos.
- Maintain until a lawn is established.

Soil Piles

- Cover with plastic and locate away from any downslope street, driveway, stream, lake, wetland, ditch or drainageway.
- Use temporary seed such as annual rye or winter wheat for topsoil piles.

Access Drive

- Install an access drive using 2- to 3-inch aggregate prior to placing the first floor decking on foundation.
- Lay stone 6 inches deep and at least 7 feet wide from the foundation to the street (or 50 feet if less).
- Use to prevent tracking mud onto the road by all vehicles.
- Maintain throughout construction.
- Use geotextile under the stone in clay soils.

Sediment Cleanup

- At the end of each work day, sweep or scrape up soil tracked onto the road.
- The next work day after a storm, clean up soil washed off-site.

Sewer Inlet Protection

- Protect on-site storm sewer inlets with straw bales, silt fences or equivalent measures.
- Inspect, repair and remove sediment deposits after every storm.

Downspout Extenders

- Install as soon as gutters and downspouts are completed to prevent erosion from roof runoff.
- Use plastic drainage pipe to route water to a grassed or paved area. Once a lawn is established, direct the runoff to the lawn or other pervious areas.
- Maintain until a lawn is established.

Preserving Existing Vegetation

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

Re-vegetation

- Seed, sod or mulch bare soil as soon as possible.
- Vegetation is the most effective way to control erosion.

Seeding and Mulching

- Spread 4 to 6 inches of topsoil.
- Fertilize and lime if needed according to soil test (or apply 10 lb./1000 sq. ft. of 10-10-10 fertilizer).

- Seed with an appropriate mix for the site.
- Rake lightly to cover seed with 1/4-in. of soil. Roll lightly.
- Mulch with straw (70-90 lb. or 1 bale per 1000 sq.ft.).
- Anchor mulch by punching into the soil, watering, or by using netting or other measures on steep slopes.
- Water gently every day or two to keep soil moist. Less watering is needed once grass is 2 in. tall.

Sodding

- Spread 4 to 6 inches of topsoil.
- Fertilize and lime if needed according to soil test (or apply 10 lb./1000 sq. ft. of 10-10-10 fertilizer).
- Lightly water the soil.
- Lay sod. Tamp or roll lightly.
- On slopes, lay sod starting at the bottom and work toward the top, laying in a brickwork pattern. Peg each piece down in several places.
- Wet soil 6 inches deep (or until water stands 1 inch deep in a straight-sided container) with the initial watering. Then, water lightly every day or two to keep soil moist but not saturated for 2 weeks.
- Generally, the best times to sod and seed are early fall or spring.

Concrete Wash Water

- Dispose of concrete wash water in an area of soil away from surface waters where soil can act as a filter or evaporate the water. Dispose of remaining cement. Be aware that this water can kill vegetation.

De-Watering

- Dispose of de-watering water in a pervious area. Prevent the discharge of sediment from dewatering operations into storm sewers and surface waters.

Material Storage

- Manage chemicals, materials and other compounds to avoid contamination of runoff.