

Kentucky Erosion Prevention and Sediment Control Guide

A guide to preventing erosion and controlling sediment from construction activities in Kentucky

Pre-Construction Planning

Planning your construction project can help you avoid costly mistakes in controlling erosion and sediment loss to nearby waterways. Follow the steps below before you begin clearing, grading and excavation work. If your project is one acre or larger, you will need a stormwater permit from the Kentucky Division of Water. More information about stormwater permitting is available at <https://eec.ky.gov/Environmental-Protection/Water/PermitCert/KPDES/Pages/default.aspx>.

Assess soils and slopes on the construction site

If your construction site has highly erodible soils and steep slopes, you will need maximum erosion and sediment control protection. See table below regarding need to erosion and sediment controls for various slope and soil conditions.

| Slope Angle | Soil Type | | |
|--------------------------|------------------|-----------------|-----------------|
| | Silty | Clays | Sandy |
| Very Steep (2:1 or more) | <i>Very High</i> | <i>High</i> | <i>High</i> |
| Steep (2:1 – 4:1) | <i>Very High</i> | <i>High</i> | <i>Moderate</i> |
| Moderate (5:1 – 10:1) | <i>High</i> | <i>Moderate</i> | <i>Moderate</i> |
| Slight (10:1 – 20:1) | <i>Moderate</i> | <i>Moderate</i> | <i>Lower</i> |

Identify nearby streams and drainage control points

Walk over the site and find where ditches or other concentrated flows leave the site. These are the final sediment control points. Sediment traps or basins should be installed just above these control points. Your site may drain to an underground storm sewer system. In this case, the storm drain inlets that drain runoff from your site are the control points and must be

protected. These are also the compliance points for any permits issued for the site. Low spots – where rainwater ponds – are good places for sediment traps.

Install clean water diversions, sediment traps/basins, grassed ditches, silt check dams and sediment barriers such as silt fences before clearing and excavation work begins!

Preserve existing vegetation wherever possible

Only dig or grade where necessary. Existing trees, bushes and grass help keep erosion to a minimum. Protect large trees by marking off a no-dig root protection zone that is twice as large as the outer perimeter of the branches. Plan your project to limit the amount of bare soil are exposed to the weather and limit the amount of exposure time. Do not clear vegetation or excavate areas near streams, rivers, lakes, or wetlands without getting the required state and federal permits!

Design projects to fit the lay of the land

Minimize clearing and grading to preserve mature vegetation and save money. Identify natural landscape features you want to keep, like large trees, wildflower areas, grasslands, streams, and wetlands. Plan ways to fit your project around these features, so they remain in place after construction is completed. Be sure to mark off these areas with colored ribbon or stakes and warn equipment operators of their location!

Minimize impervious surfaces

Keep the amount of roof area, parking lots, driveways, and roads to a minimum. Design these hard surfaces so that rainwater they collect is directed onto landscaped or yard areas, not into ditches or streams. For example, design roads slightly higher than adjacent lawn areas, and use rain infiltration ditches (swales) rather than curbs along roadways. Porous pavement can also help soak up runoff.

Promote infiltration in project design

Moving stormwater runoff from hard surfaces to landscaped or yard areas helps runoff soak into the soil. This promotes groundwater recharge, filters sediment and other pollutants from runoff, and helps to prevent flooding.

Develop an erosion and sediment control plan

Develop a written site plan for your project that shows the drainage patterns and slopes, areas of disturbance (cuts/fills, grading), location of erosion and sediment controls, location of surface waters and wetlands, and the location of stormwater drainage control points. Your site plan must be updated as conditions change at the site. If your construction site is one acre or more, erosion prevention and sediment control plans must be readily available at the site to assure compliance with stormwater regulations. Plans related to state road projects

must be submitted to the Transportation Cabinet; some cities and counties also require that plans be filed with local agencies (see Regulatory Requirements section).

Check your local government for ordinances and best management practices that may be required in your area.

| Practice | Cost | Effectiveness |
|---|------------|------------------|
| Limiting disturbed areas through phasing | \$ | 5 water droplets |
| Protecting disturbed areas through mulching and revegetation | \$\$ | 4 water droplets |
| Installing diversion around disturbed areas | \$\$\$ | 3 water droplets |
| Sediment removal through detention of all site drainage | \$\$\$\$ | 2 water droplets |
| Other structural controls to treat sediment-laden flow | \$\$\$\$\$ | 1 water droplet |

The cheapest erosion and sediment controls are the most effective. For example, limiting the amount of bare soil by phasing your project and preserving existing vegetation are less expensive and work better than installing large stormwater control basins or ponds.



Limiting the amount of bare soil exposed to the weather by working in phases reduces erosion and sediment control expenses.



Preserving existing vegetation at the site makes the final development more attractive and saves money by reducing clearing, excavation, and erosion control expenses.

Stormwater pollution prevention plans (SWPP) and KPDES permit coverage are required for all construction sites one acre or larger under regulations. Plans must be kept onsite and readily available for inspection.

Resources

[EPA Construction Phase Plan Review](#)

[EPA Contractor Training and Certification](#)