Protecting Stream Channels, Wetlands and Lakes

Stream Bank Stabilization

Streams must not have sediment control devices or stabilization structures placed into them without one or more permits.

KPDES regulations require that all disturbed areas within 25 ft of the top of stream banks be stabilized within 24 hours!

Setback requirements

No clearing or other activities are allowed within 25-50 feet of perennial or intermittent streams, rivers, sinkholes, wetlands or other waters. Special Use waters may have different setback requirements; refer to your permit coverage for specifics. Flag off vegetated buffer areas to keep equipment away. Some jurisdictions have mandatory setback requirements. Check with the local planning and zoning office before working near waterways.

Stream bank stabilization

Stream banks are likely to erode if:

- Vegetation has been removed
- Bank slopes are steeper than 3:1
- Outside curves are not protected
- Runoff increases in the drainage area

Removal of vegetation should be avoided if at all possible. Bank slopes can be cut back and replanted if severe erosion is occurring. Outside channel curves might need protection with large rock, imbedded root wads, logs, gabions or other material if banks are collapsing. Note that work in and around a stream will likely require one or more permits. Environmental impacts are regulated by the Clean Water Act Sections 401 and 404. In addition, KRS 151 regulates the flooding impacts of building in the floodplain and along the stream.

Increased runoff in the drainage area, caused by new roads, parking lots, roofs, etc. Can be addressed by promoting infiltration at every available opportunity. Direct roof gutters, parking lot discharges, and other runoff onto grassy swales and vegetated or landscaped areas, rather than into ditches or creeks.

See Protecting Stream Channels, Wetlands and Lakes - Vegetated Buffers for more information on stabilization with living plant material.

Stream crossings

Note that work in and around a stream will likely require one or more permits. Environmental impacts are regulated by the Clean Water Act Section 401 and 404. In addition, Kentucky KRS 151 regulates the flooding impacts of building in the floodplain and stream. Keep equipment away from and out of streams. Nothing should be constructed in a way that impedes natural flow. If a temporary crossing is needed, put it where the least stream or bank damage will occur. Look for:

- Hard stream bottom areas
- Low or gently sloping banks
- Heavy, stable vegetation on both sides

Use one or more culverts (18 inches minimum) as needed, sized to carry the two-year 24-hour rainstorm. Cover culverts with at least 12 inches of soil and at least 6 inches of mixed #2 and #57 rock. A 25-foot long, 6” thick pad of rock should extend down the haul road on each side of the crossing, similar to a construction entrance (see Construction Phase Operations). Remove culverts and cover material when crossing is no longer needed. Grade, seed, or otherwise re-plant vegetation removed. See Regulatory Information for permit information if culverts are placed in streams.

	Good use of silt fence, straw, rock, and other practices for temporary stream crossing. Any work in stream channels—such as installation of culverts—requires a Section 404 permit from the U.S. Army Corps of Engineers and a Section 401 Water Quality Certification from the KY Division of Water.
	Excellent soil coverage at stream bank stabilization project using hand scattered straw, jute matting, and erosion blanket.
	Good placement of silt fence, but it has failed and should be repaired to protect the stream channel. The gradient of this site would benefit from wattle or coir.

	No protection for the stream at all. Equipment has been in the stream and not using the stream crossing. No erosion prevention on the site.

Resources

EPA Vegetated Buffers

EPA Fiber Rolls

EPA Silt Fences

EPA Temporary Stream Crossings

Friends of Currys Fork - YouTube - How to Plant Live Stakes