

Requirements for LFUCG Construction Site Erosion and Sediment Control BMPs

The following list of ESC construction site requirements was derived from regulatory documents governing stormwater management on active construction sites in Fayette County, Kentucky. The following key indicates the regulatory basis for each item. Note that LFUCG ordinances at Chapter 16, Article X, Division 5 incorporate KY Division of Water construction site stormwater KDPEs permit requirements by reference.

- ESCO = *Erosion and Sediment Control Ordinance*, Chapter 16, Article X, Division 5
- SM = LFUCG *Stormwater Manual*
- CIM = LFUCG *Capital Projects Construction Inspection Manual*
- KYR10 = KY Division of Water *KDPEs General Permit for Construction Stormwater*

Project Phasing and Sequencing

At all times, permittees must minimize the size of the land disturbance and the period of time the disturbed area is exposed without stabilization practices. (ESCO: Sec. 16-101, Sec. 16-102. SM: Sec. 11.3.3; Sec. 11.4.7. CIM: Sec. 13.3. KYR10: Sec. 2.1.4)

For residential subdivision projects, plans shall include a minimum of four phases of construction: mass grading, pipe installation, roadway construction, and final grade/plat recording. (SM: Sec. 11.3.3)

No more than 25 acres can be disturbed at any time without soil stabilization. (SM: Sec. 11.2.2)

Erosion, sediment, and construction stormwater controls must be designed and installed and maintained to effectively minimize discharges from storm events up to and including a 2-year, 24-hour event. (KYR10: Sec. 2.1)

Construction Entrance/Exit and Onsite Parking Areas

No work can be done at the site and no construction traffic can enter or leave the site until a stabilized construction entrance/exit is installed. (SM: Sec. 11.2.3)

Stormwater and wash water runoff from a stabilized construction entrance shall drain to a sediment trap or sediment pond. (SM: Sec. 11.4.6)

Construction entrances/exits must be at least 20 ft wide and 50-100 ft long, and have at least 6 inches of No. 2 rock, and have KYTC Type III geotextile under the rock. (SM: Sec 11.4.6)

Subdivision roads, parking areas, and other onsite vehicle routes must be stabilized with No. 2 stone immediately after grading. Geotextile underliners are recommended but not required for onsite roads and parking areas. (SM: Sec. 11.4.5)

Stabilizing Bare Areas

Permanent or temporary stabilization (i.e., seed with mulch, mulch with tackifier or netting, rock, blankets, matting, or other cover) is required for all disturbed portions of construction sites that are not active for 14 days. Proof of activity must be documented in the weekly inspection reports or daily logs. (ESCO Sec. 16-101. SM: Sec. 11.2.3. KYR10: Sec. 2.3. CIM: 13.3)

All seeded areas must be mulched or covered with ECBs or TRMs and must have at least 70 percent vegetative density. (SM: Sec. 11.4.3)

Straw mulch must be applied at 2 tons per acre or 90 lb per 1,000 sq ft; application of seed and straw mulch applications must be recorded in the weekly inspection reports. (SM: Sec. 11.4.1)

Slopes shall not be steeper than 3H:1V (33 percent, or 18 degrees). Slopes of 4H:1V or steeper with slope lengths of greater than 100 ft must have diversion ditches at the top of the slope and every 100 ft horizontally down the slope. (SM: Sec. 11.2.2)

Mulch netting, erosion control matting, or turf reinforcement matting shall be used on sloping areas. (SM: Sec. 11.2.3)

Only rye grain or annual rye grass seed shall be used for temporary seeding. (SM: Sec. 11.2.3)
Final stabilization is required within 14 days for areas where activities have permanently ceased, and for areas where activities have been suspended for 180 days or more. Areas with permanent seeding must have mulch, mulch with tackifier, mulch with netting, blankets, or mats as specified by Figure 11-1 in the LFUCG Stormwater Manual. (KYR10: Sec. 2.3. SM: Sec. 11.2.3)

Slope Protection With Silt Fences and Other Sediment Barriers

Silt fence shall be used around all soil stockpiles. (SM: Sec, 11.5.4)

Wire reinforced silt fence must be used adjacent to greenways, floodplains, tree protection areas, retention ponds, and streams. (SM: Sec. 11.5.4)

Drainage System Controls

Ditches must be designed to convey the 10-year, 24-hour storm event (4.3"). (SM: Sec. 11.4.10)

Temporary or permanent seeding and mulch must be applied to berms or ditches immediately after construction. Ditches that will convey flows before vegetation will be established must be lined with grass sod or seed with erosion control blankets or turf reinforcement mats immediately after construction. (SM: Sec. 11.2.3, Sec.11.4.10)

Vegetated channels shall have side slopes of 3:1 or flatter. (SM: Sec. 8.2.1)

All dikes, dams, and diversions must be stabilized (rip-rapped, paved, or seeded and mulched) within 14 days after construction. (SM: Sec. 11.2.2. CIM: Sec.. 5.3, Sec. 13.1)

Seeding rates for ditches must be tripled, or at least 100 lb of seed per acre. (SM: Sec. 11.4.10)

Permanent ditches must have 25 ft vegetated buffer strips on each side. Temporary ditches must have a 15 ft buffer. (SM: Sec. 11.4.10, Sec. 11.5.6.)

Pipe slope drains are required whenever it is necessary to convey water down a steep slope which is not stabilized or which is prone to erosion, unless paved ditch (flume) is installed. (SM: Sec. 11.4.12)

Channels shall be inspected regularly to check for points of scour or bank failure. Channels shall be repaired at the time damage is detected. Channels shall be reseeded as needed to establish vegetative cover. Inspections and repairs must be documented. (SM: Sec. 11.4.10. CIM: Sec. 13.3)

Inlets and Outlets

A 25-ft undisturbed vegetated buffer is required between land disturbance activities and storm drain inlets, unless alternate measures are employed. Inlet protection is required when the upslope areas draining to the inlets are unstabilized. Curb inlet protection is not required if other soil stabilization and sediment control measures prevent sediment from entering the street. (ESCO: Sec. 16-101)

Sod shall be used to provide immediate vegetative cover for the area surrounding a drop inlet in a grassed waterway. Silt fence and sod shall be installed immediately at drop inlets. (SM: Sec. 11.2.3, Sec. 11.4.4)

Gabion mattresses shall be used at the outlets of all culverts, storm drains, and paved ditches that discharge to unpaved ditches or channels and have an exit velocity greater than 5 feet per second when flowing full. Gabion mattresses shall also be used at the outlet of impact stilling basins. (SM: Sec. 11.4.9)

Sediment Basins and Traps

Sediment traps must be designed, installed, and maintained to effectively minimize discharges for storm events up to and including the 2-year, 24-hour event (3"). Sediment must be removed when the trap is one-third full. (KYR10: Sec. 2.1.5. SM: Sec. 11.5.2)

Sediment traps shall be installed below all disturbed areas of less than 5 acres that do not drain to a sediment pond.(SM: Sec. 11.2.4)

Sediment basins (ponds) must be designed to remove 80% of the total suspended solids for the 10-year, 24-hour storm (4.3"), with a detention time of 24 to 48 hours. (SM: Sec. 11.5.3)

Turf reinforcement mats must be used at the water line in all wet ponds. (SM: Sec. 11.2.3)

Activities Near Intermittent and Perennial Streams and Wetlands

Buffer strips are required adjacent to all streams, sinkholes, and wetlands, and must be 50 feet from the top of each bank and from the edge of a wetland. No grading or land clearing is allowed within the buffer zone, and native vegetation must be preserved. The buffer may be established on an average width basis at a project, as long as the minimum width of the buffer zone is 25 feet or more at any measured location. The buffer shall be measured from the top of each bank for perennial streams, and 50 feet from each side of the centerline of intermittent streams. If temporary activities are necessary in the buffer zone (e.g., utility crossing, etc.), stabilization shall occur within 24 hours and the permittee shall minimize disturbances in buffer zone areas. (SM: Sec. 1.1., Sec. 1.4.2, Sec. 1.5.4, Sec 11.5.6; KYR10 Sec. 2.2)

Silt fence adjacent to greenways, floodplains, tree protection areas, retention ponds, and streams shall be wire reinforced silt fence (SM: Sec. 11.2.4)

Stream crossings are required when crossing intermittent or perennial streams, and must be authorized by a KY DOW 401 Water Quality Certification and a US ACE 404 permit. Clearing and excavation of the streambed and banks shall be kept to a minimum. The permittee shall minimize disturbances in the buffer zones by using hand held or other low-impact equipment. The structure shall be removed as soon as it is no longer necessary for project construction. Upon removal of the structure, the stream shall immediately be reshaped to its original cross section and properly stabilized. The approaches to the structure shall consist of stone pads with a minimum thickness of 6 inches, a minimum width equal to the width of the structure, and a minimum approach length of 25 feet on each side. (KYR10: Sec. 2.4. SM: Sec. 11.2.4, Sec. 11.5.7)

A pump-around flow diversion authorized by KY DOW and the US ACE shall be used to divert flow around construction activities occurring in a stream. (SM: Sec. 11.5.8)

Sediment-laden water must be pumped to a dewatering structure before it is discharged offsite. (SM: Sec. 11.5.8)

Dust Control

Dust control measures shall be implemented on all sites. Construction roads shall be watered as needed to minimize dust. (SM: Sec. 11.2.3, Sec. 11.4.7)

Good Housekeeping

Illicit discharges of pollutants are prohibited. (ESCO: Sec. 16-93)

Property must be kept and maintained to prevent pollution or contamination of waterways. (ESCO: Sec. 16-97)

Cleanup of the project site should be provided on a daily basis, with all construction debris, garbage, mud, dirt, etc. properly transported and disposed of at an approved off-site location. (CIM: Sec. 14.2)

Requirements for Home Builders

Section 11.6 of the Stormwater Manual requires home builders to install:

- Trenched-in and properly erected silt fencing on the downslope perimeter of the lot.
- A construction entrance at the driveway location, with at least 6 inches of No. 2 stone.
- Mulch or mulch with seed within 14 days of clearing, excavating, or grading the site.
- Seed and mulch for areas inactive for more than 21 days.
- Sod immediately in all drainage ditches and channels.
- Seed with mulch or sod within 14 days of final grading.



STORMWATER MANUAL

FIGURE 11-1

SLOPE PROTECTION GUIDANCE

(OCTOBER 1, 2016)

