

Heavy Equipment & Earth Moving Activities

Heavy Equipment Operation Problems

Soil excavation and grading operations often contribute to urban runoff pollution. By loosening large amounts of soil and sediment, earth-moving activities can cause sediment to flow into gutters, storm drains and the Tennessee River and its tributaries.

Sediment is the most common pollutant washed from work sites, creating multiple problems once it leaves the work site. Sediment clogs the gills of fish, blocks light transmission and increases water temperature, all which harm aquatic life. Sediment also blocks gutters and storm drains increasing the risk of flooding in areas downstream of the work site.

Sediment also carries with it other work site pollutants such as pesticides, cleaning solvents, cement wash, asphalt, and car fluids like motor oil, grease, and fuel. Thus, poorly maintained vehicles and heavy equipment leaking fuel and oil at the construction site also contributes to storm water pollution.

Land Disturbance Permits

Tennessee Department of Environment and Conservation (TDEC) requires that sites greater than one acre obtain a land disturbance permit before beginning work. This permit requires site developers to develop and implement an erosion control plan. For more information, contact TDEC (423) 634-5745 or the Hamilton County Storm Water Pollution Control Program (423) 209-7851.

Solutions

Best Management Practices, such as handling, storing and disposing of materials properly can prevent excavation site pollutants from entering storm drains.

1. General Business Practices

- Schedule excavation and grading work for dry weather.
- Use as little water as possible for dust control.
- Obtain a copy of Storm Water Management's Best Management Practices Manual.
- Have you and your employees attend a TDEC Level I Erosion and Sediment Control Certification class. This class covers regulations, erosion controls and soil stabilization procedures, and ways to reduce the cost of erosion control. Call (423) 634-5745 for details.

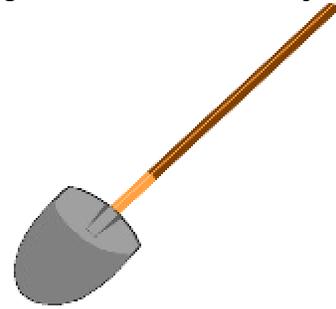
2. Clean up Spills

- **Never** hose down "dirty" pavement or impermeable surfaces where fluids have spilled. Use dry cleanup methods (saw dust, cat litter, absorbent pads or booms and/or rags).
- Sweep up dry materials immediately. Never attempt to bury them or "wash them away" with water.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.



3. Vehicle and Equipment Maintenance

- Maintain all vehicles and heavy equipment. Inspect frequently for leaks.
- Conduct all vehicle/equipment maintenance and refueling at one location -away from storm drains.
- Perform major maintenance, repair jobs off-site.
- Designate a washing site where water drains to the sewer system. Contact the Moccasin Bend Treatment Plant (423-757-5026) or Hamilton County Water and Wastewater Treatment Authority (423) 209-7842 for requirements for connecting to the sewer.
- Use and maintain gravel construction entrances where truck traffic is frequent to reduce soil compaction and limit tracking of sediment into streets.
- Use drip pans or drop cloths to catch drips and spills, if you drain and replace motor oil, radiator coolant or other fluids on site. Collect all used fluids, store in separate containers and recycle whenever possible.
- Do not use diesel fuel to lubricate equipment or parts.



4. Erosion Prevention

- After clearing, grading or excavating, exposed soil poses a clear and immediate danger of storm water pollution. Revegetation (permanent or temporary) is an excellent form of erosion control for any site.
- Avoid excavation and grading activities during wet weather.
- Inspect your erosion controls after every rain and at least once a week.
- Construct diversion dikes to channel runoff around the site. Stabilize channels with grass or other material. Place small check dams or rip rap in channel to reduce runoff velocity.
- Cover stockpiles and excavated soil with secured tarps or plastic sheeting.
- Remove existing vegetation only when absolutely necessary. Large projects should be conducted in phases.
- Plant temporary vegetation for erosion control on slopes or where construction is not immediately planned. State rules require temporary vegetation be planted on sites that will be idle for more than 30 days.
- Plant permanent vegetation as soon as possible when excavation and grading activities are complete.

For Spill or Environmental Releases:

Call the Tennessee Emergency Management Agency (TEMA) at 1-800-262-3300.