

Storm Water Pollution Prevention Plans SW3P

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WTAMU 2009

SW3P

- ▶ Related to Clean Water Act
- ▶ Enforced by state analogs to USEPA (United States Environmental Protection Agency), in Texas TCEQ (Texas Commission on Environmental Quality)
- ▶ Regulates amount of sediments (pollutants) that can enter waters of the United States (named rivers, streams, lakes, etc.)

Methods to limit erosion

- ▶ Principles
 - Limit raindrop impact
 - Limit/slow surface runoff
 - Increase deposition
- ▶ Cover the soil surface to limit raindrop impact
 - Vegetation (Best method)
 - Hydromulches
 - Erosion blankets – materials anchored to the soil to protect the soil surface

Methods to slow runoff (increasing deposition)

- ▶ Silt fences – used around construction sites
- ▶ Compost logs – used in concentrated runoff areas (ditches, waterways, etc.)
- ▶ Hay bales – used in concentrated runoff areas (ditches, waterways, etc.)
- ▶ Rip-Rap – used in concentrated runoff areas (ditches, waterways, etc.)
- ▶ etc

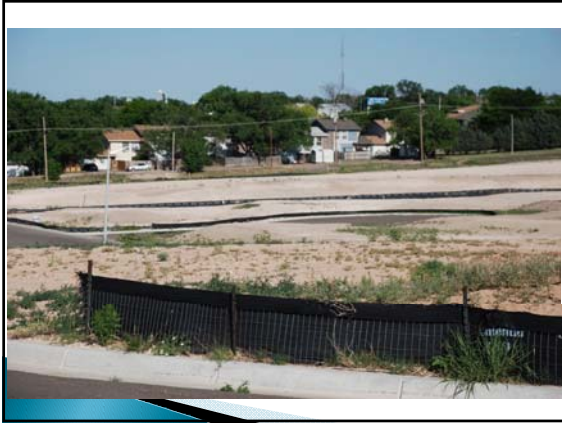
Slowing runoff



Hay bales placed perpendicular to direction of water flow slow runoff, and result in sediment deposition, decreasing sediment that enters streams, rivers, lakes, etc.

Silt Fences

- ▶ Silt fences are commonly used (and probably over-used)
- ▶ Silt fences have limited utility.
- ▶ Under-design results in silt fence failure
- ▶ Consider the following photos of silt fences



Vegetation enhances the utility of a silt fence. Vegetation limits raindrop impact, and slows and decreases runoff, so less sediment is in the runoff.



Sediments on the road and in the intersection Show silt fences are not 100% effective.



The silt fence has fallen, and so is no longer effective. Rills (small channels) can be seen going down slope.



About half the height of the silt fence has been filled with sediments. The bulge from the soil weight is obvious.



This silt fence is essentially full. The next runoff event will result in failure.



Sediments leaked through the fence, and have been deposited down slope.

