

Impacts of Erosion and Sediment from Construction Sites

Each year 80 million tons of sediment from construction sites enters our lakes, streams and rivers. On an acre for acre usage, construction sites export sediment at 20 to 1,000 times the rate of other land uses.¹

“**Erosion**” is the displacement of soil.

Once it has been displaced, it is considered to be “**Sediment**”.

It is essential that construction projects prevent sediment from leaving the site. Minimizing erosion in the first place, through control techniques and good planning/phasing, is often key. Examples of activities that cause erosion include rain falling on unprotected slopes that have been cleared of vegetation, or driving on unprotected areas. Once erosion has occurred, sediment can become suspended in stormwater runoff, and it is extremely difficult to remove. Surface water runoff from vegetated areas generally does not exceed 10 to 20 percent of the rainfall. Without vegetation, surface water runoff may be as high as 60 to 70 percent.

- Excavating and clearing vegetation at the construction site increases the volume and velocity of the runoff and erosion. Attached to the sediment are fertilizers, pesticides, heavy metals, and oil and grease.
- Sediment suspended in runoff blocks sunlight needed by aquatic plants, reduces survival rates for fish eggs, interferes with fish breeding habits, and clogs and damages fish gills.²
- Phosphorus and nitrogen in fertilizer can stimulate overgrowth of aquatic plants resulting in the depletion of dissolved oxygen³ and fish kills.
- Pesticides, metals, and oil and grease not only accumulate in the bottom of lakes, streams, and rivers but also in plants and other aquatic organisms.⁴
- Sediment also can build up in storm sewers, catch basins, and other storm drainage devices which will then require additional maintenance.⁵

Simple and easy-to-install and easy-to-maintain erosion control and sediment control devices can be found at the following web site:

Urban Small Sites Best Management Practice Manual, Chapter 3:

<http://www.metrocouncil.org/environment/Watershed/bmp/manual.htm>

For information on erosion control, or with additional questions, see the Minneapolis Erosion & Sediment Control section website: <http://www.ci.minneapolis.mn.us/stormwater/erosioncontrol/index.asp> or call (612) 673-2738.

¹ *Environmental Assessment for Proposed Effluent Guidelines and Standards for the Construction and Development Category*. United States Environmental Protection Agency. June 2002. Page 2-2.

http://www.epa.gov/guide/construction/envir/C&D_Envir_Assessmt_proposed.pdf

² *Construction Site Soil Erosion and Sediment Control*. Illinois Environmental Protection Agency. March 1999.

³ *What's Your WQ-IQ?* Larimer County Engineering Department. July 2002.

<http://www.co.larimer.co.us/engineering/NPDES/july2002web.pdf>

⁴ *Environmental Assessment for Proposed Effluent Guidelines and Standards for the Construction and Development Category*. United States Environmental Protection Agency. June 2002. Page 2-11 and 2-13.

http://www.epa.gov/guide/construction/envir/C&D_Envir_Assessmt_proposed.pdf

⁵ 6. *Construction Site Soil Erosion and Sediment Control*. Illinois Environmental Protection Agency. March 1999.