

## Stormwater and washdown water pollution from building sites and Commercial/Industrial premises

Soil erosion on building sites can be a major source of sediment pollution in our waterways. In fact, a single building block can lose four truckloads of soil in one storm. Washed from the sites into stormwater drains this sediment and any other contaminant materials such as oils, greases, paints, heavy metals and litter is eventually deposited in creeks, rivers and lakes in the area. Although a single block of land, on which your building or business sits, may seem a small part of the water catchment, the cumulative effect of polluted runoff from a number of building sites can have a dramatic impact on water quality.

### Who's responsible

The owner and the builder are responsible for controlling soil erosion and preventing sediment from the building site from being washed into stormwater drains.

Under section 83 of the *Waste Management and Pollution Control Act 1998* heavy fines, including on-the-spot fines (\$200 for individuals and \$1000 for corporations), may be imposed if a person allows soil, earth, mud, clay, concrete washings or similar material to be washed, or placed in a position from where it is likely to be washed, into stormwater drains.

Large scale land development, which requires a soil and water management plan that is acceptable to the local council and the Environment, Heritage and the Arts Division, will not be discussed in this paper.

The following information applies to owner-builders or single building block construction sites.

### The effect on the environment

There are a number of environmental problems directly associated with pollution from building sites.

- Water carrying pollutants like soil and soil nutrients, as well as building materials such as concrete residues, run off building sites and enter stormwater drains with subsequent pollution of natural watercourses.
- The changes to natural land surfaces and drainage patterns, which accompany urban development, can result in natural watercourses becoming turbid, silted, littered and undesirably enriched with nutrients. This nutrient-rich water often develops algal blooms.
- When turbid water restricts sunlight filtration, photosynthesis is reduced and productivity of the aquatic ecosystem suffers.
- Watercourses are subject to increased flooding and an increase in cross-sectional area where catchments have been cleared of vegetation. Subsequent flooding and erosion contribute to siltation problems downstream.

### Controlling erosion

Management strategies to control site erosion and the water quality of runoff are determined by the following factors:

- soil type;
- slope of site;
- site erosion hazard rating;
- surface rock;
- extent and duration of site disturbance;

- proximity of watercourses and drainage lines; and
- sensitivity of receiving waters.

When the erosion hazard rating for the site is high or moderate, local councils often require a soil erosion and sediment control plan. Guidelines can be obtained from the Department of Natural Resources, Environment and the Arts. If the site has a low erosion hazard rating then general protection measures are required. These include preventative measures as well as appropriately placed and maintained sediment controls, such as sediment traps and barriers, and silt fences and straw bales below fill batters or highly disturbed areas. The cumulative effect of polluted runoff from a number of building sites can have a dramatic impact on water quality.

### **Pollution prevention measures**

All building sites should adopt the following measures to prevent pollution:

- Restrict vehicle access to one stable entry and exit point;
- Preserve grassed areas and retain the maximum cover of natural vegetation by minimising the amount of land disturbed by shaping. Mulch or revegetate disturbed areas as soon as possible;
- Ensure that stockpiles of sand, gravel, soil and similar materials are located so that material:- does not spill onto the road or pavement - is not placed in drainage lines, depressions or watercourses - cannot be washed into roadways, drainage lines, depressions or watercourses;
- Remove accidental spills of soil or other materials onto the roadway or gutter prior to completion of the day's work;
- Excess materials and water from cleaning tools and equipment should not be washed down stormwater drains;
- Locate houses and buildings on the site so that cut and fill operations are minimised and ensure that access driveways are no steeper than necessary; and
- Minimise on-site vehicle activity during wet weather or when the site is muddy.

### **For more information, contact:**

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