Water Sensitive Urban Design

An Introduction

You may have heard about Water Sensitive Urban Design (WSUD) or about the benefits of raingardens, constructed wetlands, bio-rentention and swales,but what are they and why are they so good?

Why WSUD?

In natural environments rainwater is mostly absorbed into the ground, used by plants or evaporates back into the atmosphere.

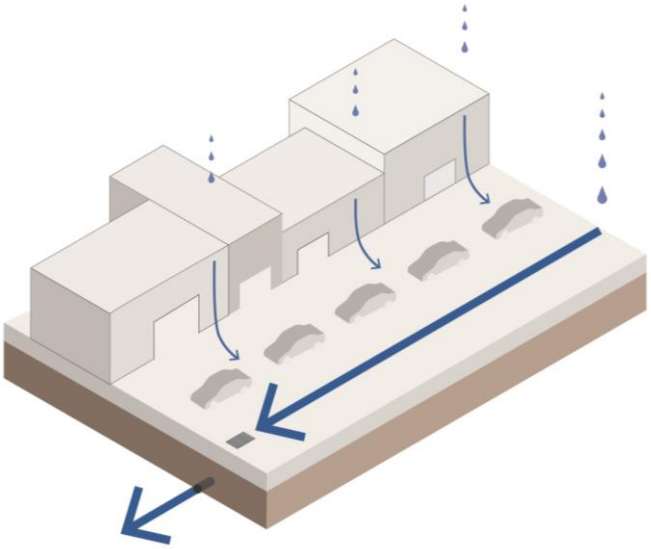
In urban areas, hard surfaces such as roads, roofs, driveways and paths stop water being absorbed by the ground and create what is known as stormwater runoff.

Trucks, cars and industry in urban areas create high levels of pollutants that settle on these hard surfaces and when it rains, stormwater carries the polluted water down drains and eventually to creeks and rivers.

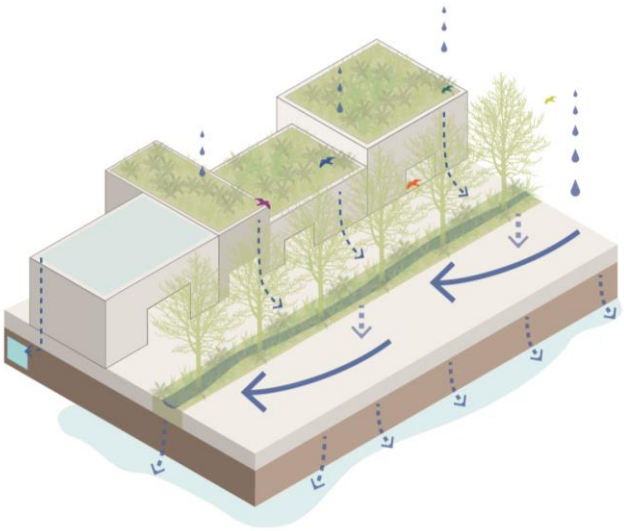
WSUD aims to improve the ability of urban environments to capture, treat and re-use stormwater before it has the chance to pollute and degrade our creeks and rivers.

Sydney Water is working closely with a number of Councils across Sydney to deliver a range of WSUD projects which will have many benefits including;

- Reducing the quantity of stormwater runoff
- Improving the quality of stormwater runoff
- Protecting and restoring creeks and rivers
- Improving wildlife habitat
- Improving the appearance of streets and parks
- Cooling our local environment by retaining water



Hard surfaces in urban environments create stormwater runoff



Replacing hard surfaces with swales, roof gardens and storage tanks slows stormwater runoff, increases pollution removal and absorption of rainwater into the ground.

WSUD comes in many forms and can be seen in many places. Some examples include rainwater tanks, raingardens, bio-retention, constructed wetlands and swales. WSUD works best when stormwater is treated close to its source. For example, a raingarden or wetland in a park collecting and treating stormwater from local streets before that water enters a creek or river.

The wetlands at Astrolabe Park act as a natural filter for the stormwater outlet

Constructed wetlands in Sydney Park provide stormwater treatment, improve views and create habitat for wildlife

Swales in carparks or near other large areas of pavement collect stormwater runoff and remove pollutants

Cup and Saucer Creek constructed wetland in Canterbury treats stormwater runoff from local streets before it enters the Cooks River and has become a thriving wild life habitat area.