

**PROJECT NAME**

## Mason Park Water Sensitive Urban Design Car Park

**RESPONSIBLE COUNCIL:** Strathfield

**CONSTRUCTION DATE:** 2009

**LOCATION:** Mason Park is located in Underwood Road, Homebush.

**SUB-CATCHMENT:** Powells Creek

### Overview

Mason Park, covers 5.2 hectares of recreational area and 7 hectares of wetland and saltmarsh. The playing field is heavily used for a range of sports. Mason Park Wetlands is a listed site of international significance for migratory wetland birds. This project installed a long swale and a rain garden to absorb and treat stormwater runoff from the car park and sports field. The water is filtered before it flows into Saleyards Creek and other significant wetlands downstream.

### Objectives

The drivers for this project were the frequent water logging of the sports field and the need to upgrade the car park. The car park was degraded, consisting of a dirt and gravel surface, with no formal parking arrangements. A large amount of sediment from the car park was being washed into Saleyards Creek and Council had already scheduled to do the car park upgrade project. Additional funding from the NSW Environmental Trust grant provided an opportunity to slightly modify the design of the car park upgrade and build in some principles of Water Sensitive Urban Design and stormwater treatment.

By absorbing and treating the stormwater, the objectives were to:

- Reduce the volume of stormwater flowing into Saleyards Creek
- Contribute to water quality improvements in the Parramatta River catchment (by reducing stormwater and filtering pollutants that would have otherwise flowed into the River).

### Approach

The car park surface was sealed and slightly graded on an angle to direct the flow of stormwater towards the swale (a long shallow contoured basin, planted with turf and native grasses). The swale is positioned inbetween the car park and the sports field. By absorbing a lot of the water washing off the car park, the flow of water to the sports field is also reduced (reducing water logging and puddles on the field). Excess water that is not absorbed into the swale is directed towards a rain garden, where it is absorbed, captured in a stormwater pit, filtered and then directed through a pipe into Saleyards Creek.

Boardwalks were installed over parts of the swale and rain garden to allow pedestrian access from the car park to the sports fields.



Mason Park car park (new surface) directing water flow to swales



Vegetated swale with ponding during a storm event, 2010.



Boardwalk to the car park and the sign.



Rain garden vegetation established, 2011.

For supplementary technical information about this project go to [www.parramattariver.org.au](http://www.parramattariver.org.au)

This project is supported by the Parramatta River Catchment Group, through funding from the NSW Environmental Trust's Urban Sustainability Program.

Photos supplied by Cardno Pty Ltd (2010) & Strathfield Council (2011).  
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A sign has been installed to explain the stormwater treatment system and increase public awareness about the components of Water Sensitive Urban Design.

## Lessons learnt

- The car park design was slightly modified to maintain an adequate distance from some existing mature fig trees. This was achieved by changing the orientation of some car spaces.
- The car park surface is flush with the level of the swales and garden beds to allow direct flow of water. Because there was no barrier or kerb, parts of the garden beds were driven over or used as parking spaces. This damaged some small trees and grasses. Council has since installed bollards and large boulders around the edges to prevent damage from cars, while still allowing stormwater to directly flow into the garden beds.

## Results & Outcomes

- This system successfully captures rainwater that would have otherwise flowed into the creek or flooded sections of the playing field.
- The excess stormwater that does flow into the creek is now being filtered through the rain garden.
- Water quality modeling of the system predicts that it is capable of significantly reducing water pollutants flowing into the River: a 16% reduction of Nitrogen, a 57% reduction of Phosphorus and a 87% reduction of Total Suspended Solids (inorganic particles suspended in the water).
- By linking in with the car park upgrade project, the project design was able to address many of the drainage problems occurring at the site whilst also improving the quality of water entering Saleyards creek.