

Chapter 1 Introduction



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Purpose of the Manual WSUD Engineering Procedures: Stormwater

Since the late 1990s there has been an increasing number of initiatives to manage the urban water cycle in a more sustainable way. These initiatives are underpinned by key sustainability principles of water consumption, water recycling, waste minimisation and environmental protection. The integration of management of the urban water cycle with urban planning and design is known as **Water Sensitive Urban Design (WSUD)**. WSUD has multiple environmental benefits including improving urban landscape, reducing pollutant export, retarding storm flows and reducing irrigation requirements.

Urban **stormwater** managed both as a resource and for the protection of receiving water ecosystems is a key element of WSUD. In Victoria, there have been many initiatives to improve the environmental management of urban stormwater. The publication of *Urban Stormwater: Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee 1999) provided a framework for the development of Stormwater Management Plans by local councils. More recently, the release of *Melbourne 2030* (Department of Infrastructure 2002) in 2002, the Victorian government's planning strategy for sustainable growth in the Melbourne metropolitan area, clearly articulates the role of sustainable stormwater management.

The practice of WSUD espouses the innovative integration of urban water management technologies into the urban environment and that strategic planning and concept designs are underpinned by sound engineering practices in design and construction. Although there are several documents that provide guidance for planning and strategy development of WSUD, similar support for the next level of design detail, from concept plans to detailed plans suitable for construction, however, is not well covered; this level of support forms the focus of the current Manual.

WSUD Engineering Procedures: Stormwater complements existing resources that promote WSUD and provides advice on the design detail of WSUD elements. It is intended to provide a consistent approach to design that incorporates WSUD technologies into urban developments. It provides a set of design procedures that can be used equally by designers and by referral authorities when checking designs. These design procedures are intended to provide consistency for engineering details of WSUD elements in Victoria.

The Manual is not intended to be a decision-making guide to selecting, integrating and locating WSUD elements (i.e. site feasibility). These topics are covered by other documents, notably *Australian Runoff Quality Guidelines* (Engineers Australia 2003) and *Urban Stormwater:*