

1 Introduction

This planning bulletin provides guidance on urban water management matters to be taken into account by the Western Australian Planning Commission (WAPC), local governments and applicants in considering planning proposals and applications for new residential, rural-residential, commercial and industrial areas.

The purpose is to ensure planning decision-making, where water issues are a consideration, is informed via relevant and appropriate information.

1.1 Urban water management

Many areas proposed for future development have significant water management issues. The application of water sensitive urban design principles has been proposed as the most effective way to manage water within an urban development context, to achieve more efficient and effective use of water and better outcomes for the environment and urban form.

Total water cycle management recognises the interconnectedness of all forms of water, including water supply, groundwater, stormwater, wastewater, flooding, wetlands, watercourses, estuaries and coastal waters. The urban water cycle should be managed as a single system in which all urban water flows are recognised as a potential resource.

Water sensitive urban design was developed in Western Australia in the 1980s for urban planning and design. It provides a design framework for minimising the impact of urbanisation on the natural water cycle. It addresses water quality, water quantity and water conservation, together with broader social and environmental objectives which are expressed as design objectives and criteria. Key

objectives of water sensitive urban design are identified in *State Planning Policy 2.9 Water Resources*.

1.2 Integrating land use planning and water management

Government policy regarding urban water management is provided by:

- *State Water Plan*;
- *State Water Strategy*;
- *Government Response to the Irrigation Review*;
- *A Blueprint for Water Reform in Western Australia*; and
- *State Planning Policy 2.9 Water Resources*.

These documents identify the need for an increased focus on total water cycle management and water sensitive urban design to improve the management of stormwater and increase the efficiency of the use of water. This can be achieved by integrating the land use planning system with planning for water management.

Better Urban Water Management has been developed to aid the integration of the land use and water planning systems, consistent with *State Planning Policy 2.9 Water Resources*. It provides guidance for planners and decision makers regarding the consideration of water issues during land use planning for greenfield and redevelopment areas where residential, commercial, industrial and rural residential uses and development are proposed, including in rural townsites areas. It is not intended to apply in brownfield or infill circumstances or to small scale subdivision or development proposals unless significant water management issues are present.

Better Urban Water Management:

- outlines the specific actions recommended at each of the key stages of planning to support the planning decision being made. It does not propose an additional layer of approvals but formalises the gathering and consideration of water resource information;
- recognises a hierarchy of decision making (figure 1);
- proposes that a water management report is appended to the relevant planning reports, and a summary provided as a chapter of the planning report. These reports are not intended to be lengthy; they merely contain information relevant to the planning decision being made. The name of each type of water management report is presented for the respective planning levels (table 1).

The hierarchy of planning decision-making recognises regional, district, local and lot scales. The actual scale with which this occurs is highly variable. *Better Urban Water Management* aims to ensure that planning decision-making is based on an appropriate level of information. The type of planning decision being made, as indicated by the urban water management question in table 1, is a key determinant in identifying the water information required.

The documents referred to in table 1 have a different focus to those prepared by the Department of Water under the *State Water Plan*. The context of *Better Urban Water Management* is the land use planning system. Strategic guidance for the documents listed in table 1 will be provided by the water plans developed consistent with the *State Water Plan*.

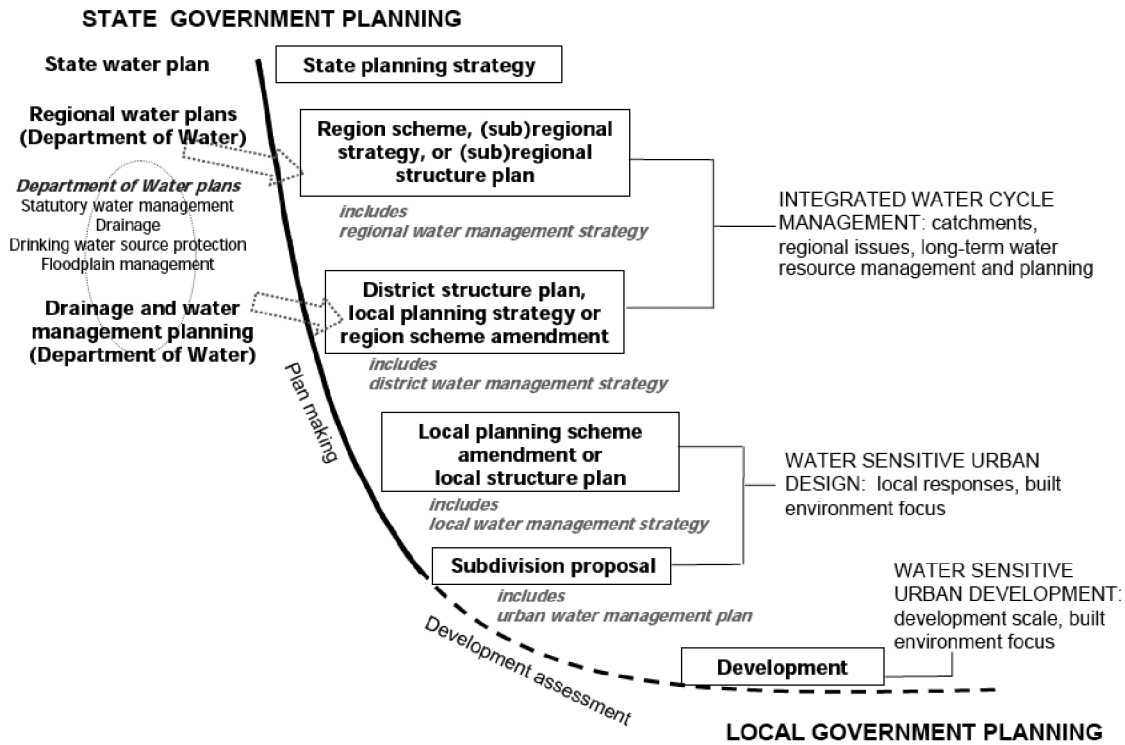


Figure 1: Integrating water planning with land planning processes

Note: The above diagram depicts the optimal process. In situations where there is existing zoning and a lack of guiding information, a flexible approach to implementation may be required. This is at the discretion of the WAPC on advice of the Department of Water.

2 Current WAPC Policies

State Planning Policy 2.9 Water Resources recognises that land use planning, in conjunction with other mechanisms, can assist in protecting, conserving, managing and enhancing the state's water resources. The state planning policy aims to:

1. protect, conserve and enhance water resources that are identified as having significant economic, social, cultural and/or environmental values;
2. assist in ensuring the availability of suitable water resources to maintain essential requirements for human and all other biological life, with attention to maintaining or improving the quality and quantity of water resources; and
3. promote and assist in the management and sustainable use of water resources.

Liveable Neighbourhoods introduces water sensitive design approaches to urban water management to aid the achievement of good urban structure planning.

In element 5 of *Liveable Neighbourhoods*, the objectives of urban water management are clearly set out as:

- to encourage best practice in the use and management of land and water resources, reduce reliance on potable water wherever practicable, and improve at source protection of water quality;
- to encourage water conservation by maximising the retention, detention and re-use of stormwater, by maximising local recharge of groundwater and by wastewater re-use and water harvesting;
- to protect the built environment from flooding, inundation and stormwater damage;
- to maintain and, where possible, improve the surface and groundwater quality;

- to prevent adverse effects upon natural environments that may be sensitive to changes in the natural water cycle;
- to integrate appropriate water management measures in an efficient urban structure and range of parkland types;
- to enable minor adjustments to streams, gullies, wetlands and marginal floodplains to provide for a compact, walkable and efficient urban form; and
- to provide an urban water management system that is sustainable and that arrangements are in place for on-going maintenance and management.

Detailed requirements for the design of urban water management systems are set out in element 5.

Element 4 (public parkland) sets out the credits that may be granted toward public open space from urban water management systems when drainage and open space facilities are shared. It notes that:

- urban areas require a minimum of 10 per cent open space including 8 per cent active and

Plan making		Urban water management question	Water management report	Responsibility for preparation	Responsibility for approval	Responsibility for implementation
Development assessment	Land planning tool	Urban water management question	Water management report	Responsibility for preparation	Responsibility for approval	Responsibility for implementation
	Regional or sub-regional strategy, region scheme or regional or sub-regional structure plan	What are likely areas for land use change in the future that impact the use and management of water resources?	Regional water management strategy incorporating a strategic drainage plan – summarised in chapter of planning document and attached as technical appendix	State government agencies ¹	WAPC on advice of DoW	Responsibilities to be allocated in the water management strategy/plan
	District structure plan, local planning strategy, region scheme amendment	Is this area capable of supporting urban development and if so, what areas are required for water management?	District water management strategy – summarised in chapter of planning document and attached as technical appendix	State/local government planning agencies, depending on initiator of planning action	WAPC on advice of DoW	Responsibilities to be allocated in the water management strategy/plan
	Local planning scheme amendment, local structure plan	How will the proposed urban structure address water use and management?	Local water management strategy – summarised in chapter of planning document and attached as technical appendix	Landowner/local government, depending on initiator of planning action	WAPC on advice of DoW	Responsibilities to be allocated in the water management strategy/plan
	Subdivision proposal	How will the final urban form use and manage water?	Urban water management plan – accompanies application ²	Landowner/developer	N/A	N/A
	Subdivision approval with conditions	Does the proposal comply with relevant strategies and plans?	Urban water management plan	N/A	WAPC impose water management conditions on advice of Department of Water or local government	Landowner or as allocated in the plan
	Clearance of conditions and construction of subdivision	How does the lot layout comply with the conditions of subdivision?	Urban water management plan – if required as a condition of subdivision Engineering drawings and specifications - incorporates requirements of urban water management plan	Landowner/developer Landowner/developer	Department of Water or local government to clear Local government	Landowner or as allocated in the plan Landowner or as allocated in the plan
	Development	What will be built on each individual lot?	Evidence of compliance with all relevant water management strategies/plans	Landowner/developer	Local government	Landowner/developer
	Post-development	Does performance of the estate/subdivision meet the design objectives?	Performance monitoring report	Developer	Department of Water/ local government	Developer

¹ Water resource information to be provided by the Department of Water and other relevant agencies.

² Where an approved local water management strategy does not exist, an urban water management plan will be required to be lodged with the subdivision application.

Table 1: Water management information to accompany planning actions

passive recreation and 2 per cent restricted use public open space;

- restricted use public open space includes natural areas and cultural features, urban water management measures, lakes/permanent drainage ponds and natural wetlands;
- the detention of stormwater during and immediately following a greater than five year average recurrence interval may be permitted in public open space; and
- the detention of stormwater for a greater than one year average recurrence interval may be permitted in restricted use public open space.

Liveable Neighbourhoods provides a comprehensive policy for structure planning and subdivision. Development control policies may still be used to provide additional guidance. Where the policies are in conflict, *Liveable Neighbourhoods* shall prevail.

Policy DC 1.1 Subdivision of Land – general principles requires that all new subdivided lots are provided with a standard of public utility service appropriate for the intended use.

Policy DC 6.3 Planning Considerations in the Metropolitan Region for Sources of Public Water Supply and Sensitive Water Resource Areas is directed towards ensuring that water resources are given adequate consideration in planning decisions within the metropolitan region. The policy states that WAPC will not support subdivision which creates an unacceptable risk of pollution to surface or groundwater, modifies water balance to the detriment of the environment, diminishes water resources, or which is inconsistent with land and water management plans and policies for the area.

Policy DC 2.3 Public Open Space in Residential Areas contains provisions for dealing with multiple-use of public open space and stormwater management facilities.

3 General Implementation

It is anticipated that information consistent with *Better Urban Water Management* will be provided in support of planning proposals. It is recognised that where urban zoning is already established, the requirements for water information will need to be considered practically and flexibly. Information should be provided commensurate with the significance of water issues on site to the satisfaction of the Department of Water. Significant issues should be addressed prior to the next stage of planning and/or development.

In considering urban water management for new subdivisions, and in scheme provisions and structure plans, WAPC will have regard to:

- *State Planning Policy 2.9 Water Resources* including schedules 1 and 4;
- *Better Urban Water Management*;
- the provisions of *Liveable Neighbourhoods* with specific reference to element 4 (public parkland) and element 5 (urban water management);
- the relevant provisions of policies DC 1.1, 2.3 and 6.3;
- any relevant urban water management strategy or water management plan; and
- any comments from the Department of Water, relevant local government agencies and relevant service providers.

In relation to the last point, it should be understood that advice and recommendations of the departments of Water and Environment and Conservation may need to be considered against the cost of implementation and ongoing maintenance. The service provider has the ultimate responsibility for the maintenance of the urban water infrastructure, and the systems that are implemented need to find the appropriate balance between environmental benefit and long-term cost.

Additionally, the priorities established in respect of urban water management need to be weighed in the context of overall urban design parameters, such as residential densities, landscape amenity, commercial, education and retail facility location. It is also noted that much urban water management design is dependent on the local soil, water table and drainage characteristics of any particular area and will vary depending on location.

4 Further Information and Comment

Further information regarding urban water management may be found in the following documents:

Department of Water, 2004 - 2007, *Stormwater Management Manual for Western Australia*, Department of Water, Perth, Western Australia.

Department of Water, 2008, *Urban water management plans: guidelines for preparing plans and complying with subdivision conditions*, Department of Water, Perth, Western Australia.

Government of Western Australia, 2007, *State Water Plan*, Department of the Premier and Cabinet, Perth, Western Australia.

Government of Western Australia, 2006, *A Blueprint for Water Reform in Western Australia: Final Advice to the Western Australian Government*, Water Reform Implementation Committee, Perth, Western Australia.

Government of Western Australia, 2006, *State Planning Policy 2.9 Water Resources*, Western Australian Planning Commission, Perth, Western Australia.

Government of Western Australia, 2005, *Government's Response to the Report of the Irrigation Review Steering Committee*, Department of the Premier and Cabinet, Perth, Western Australia.

Government of Western Australia, 2003, *State Water Strategy*, Department of the Premier and Cabinet, Perth, Western Australia.

Government of Western Australia, 2003, *State Planning Policy 2 Environment and Natural Resources*, Western Australian Planning Commission, Perth, Western Australia.

Government of Western Australia, 2003, *State Planning Policy 2.7 Public Drinking Water Source Policy*, Western Australian Planning Commission, Perth, Western Australia.

Institution of Engineers, Australia, 2001, *Australian Rainfall and Run-off*, 3rd Edition, Institution of Engineers, Canberra, Australian Capital Territory.

Institution of Engineers Australia, 2006, *Australian Run-off Quality: A guide to water sensitive urban design*, Institution of Engineers Australia, Melbourne, Victoria.

Western Australian Planning Commission, 2007, *Liveable Neighbourhoods: a Western Australian Government sustainable cities initiative*, Western Australian Planning Commission, Perth, Western Australia.

Water Corporation, 2007, *Developing Alternative Water Supplies in the Perth Metropolitan Area Series*, Water Corporation website.

Western Australian Planning Commission, 2008, *Better Urban Water Management*, Western Australian Planning Commission, Perth, Western Australia.

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Published by the
Western Australian Planning Commission
Albert Facey House
469 Wellington Street
Perth WA 6000

Published October 2008

ISSN 1324-9142

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