Government of Western Australia
Department of Water

Better urban water management
guidance notes series

January 2013

Guidance note 3

Preparation and assessment of water management reports

This note is one in a series that aims to assist people and organisations involved in implementing *Better urban water management* (BUWM), which was developed by the Western Australian Planning Commission in 2008.

This guidance note provides:

- an outline of the basic structure of water management reports (i.e. regional, district and local water management strategies and urban water management plans) required under *Better urban water management*
- specific guidance for their preparation
- a summary of the assessment process the Department of Water undertakes once a report has been submitted.

The required report depends on the planning level and relevant water management question as detailed in Figure 4 (page 14) of *Better urban water management* and guidance note 2 of this series.

Table 1 outlines the water management reports required at each planning level.

Table 1 Water management reports

Water management report	Planning level	Purpose	Water management question	Guidance for preparation
Regional water management strategy	Regional	To identify areas for future land use change and potential impacts on water resource management at the regional scale.	What are the likely areas for land use change in the future that may impact on the use and management of water resources?	Guidance, including a checklist for the preparation of a regional water management strategy, is found in *Better urban water management*. Water management reports are produced by the initiator of a planning proposal based on advice from the department. The water management concepts and principles within the water management reports depend on the proposed land-use change. At this level of land planning, the Department of Water is able to provide technical information and guidance to assist in the preparation of the regional water management strategy.
District water management strategy	District	To demonstrate that the area is capable of supporting the change in land use and identify land areas required for water management.	Is this area capable of supporting the change in land use and if so, what areas?	*Guidelines for district water management strategies* (Department of Water, in preparation), explains how to prepare a district water management strategy.

Water management report	Planning level	Purpose	Water management question	Guidance for preparation
Local water management strategy	Local	To identify how the proposed urban form will address water use, the protection of water dependent environments and management and to identify existing and required water management infrastructure, including detailed land requirements.	How will the proposed urban form address water use and management?	*Interim: Developing a local water management strategy* (Department of Water 2008a) explains how to prepare a local water management strategy. This document can be found on the department's website.
Urban water management plan	Subdivision or land development	To demonstrate how the final urban form will use and manage water including specific infrastructure, land requirements and detailed designs for water management such as stormwater management and treatment.	How will the final urban form use and manage water?	*Urban water management plans: Guidelines for preparing plans and for complying with subdivision conditions* (Department of Water 2008b) explains how to prepare an urban water management plan. This document can be found on the department's website.

Principles for the preparation of water management reports

Better urban water management is designed to facilitate informed decision making based on detail appropriate to the planning level.

To ensure all water management reports address the department's assessment requirements it is important to understand the urban water management question and purpose of each report, as detailed in *Better urban water management* (page 12) and guidance note 2.

The following principles should be followed when preparing water management reports required by *Better urban water management*:

- Relevance: Only issues that are relevant to the site, its surroundings and the planning decision require investigation and discussion. However, the total water cycle must be considered, including potable and non-potable water supplies.
- Scale: Relevant issues should be investigated at a scale consistent with land-use planning decision making.
- Risk:
    - Information should be provided that addresses the level of risk and possible impacts on the water resources, community and environment.
    - Investigations should address all issues identified in higher level documents such as drainage and water management plans, or higher level water management reports.
- Accuracy: Data should be accurate, and any assumptions made should be based on best practice science and the site conditions. Documents must demonstrate the relationship to the site for existing data (such as regional bore data). Where this cannot be established, relevant site specific data must be collected.

If proposals have complex water resource management issues that are not addressed by the department's advice and guidelines as listed in guidance note 4 of this series, proponents are encouraged to contact the department's relevant regional office early in the planning process to discuss requirements, particularly with regard to pre-development monitoring. This will ensure that sufficient time is allocated in the development schedule to gather data to support the proposed management of water resources. The quality of an initial report will also influence the number of later revisions required and the time needed to obtain endorsement from the department. For further guidance, please refer to *Water monitoring guidelines for better urban water management strategies and plans* (Department of Water 2012).

General report requirements

Proponents can minimise assessment time and the number of report revisions by providing sufficient information that is relevant to the planning stage. This particularly includes information about water resources pre-development and post-development.

Format tips

- Use the checklists provided by the department <www.water.wa.gov.au>.
- Maintain the checklist subheadings from the department guidelines and *Better urban water management*, so that assessing agencies know that all items have been considered.
- The water management issues at each site will vary, so you should explain how you have considered each component of the generic template with a short statement under each subheading, or advise if it is not applicable.
- The summary should be clear and concise and should provide the following information:
  - which proposal details and planning stage the report supports
  - a summary of water management issues
  - a summary of the proposed water management approach and desired outcomes.
- Technical information relating to stormwater, floodplain and waterways foreshore areas and other water resource management and modelling should be summarised and explained in the report. Where required, this information should also be attached as appendices. Publicly available documents do not need to be provided as appendices.

Editing tips

- Use clear and concise language and avoid jargon.
- Directly lifting text from department or other government documents should be avoided if possible, or at least fully referenced.
- Text should be succinct and relevant, avoiding duplication across sections.
- When a document is revised it is important to check that the whole document continues to be consistent (section, figures, plans and page numbers, etc.).

Submission tips

- The checklist provided in the department's guidelines should be submitted as a cover sheet for the first version of each document. The checklist form should identify the relevant section numbers of the report where each issue has been addressed.
- Water management reports should be submitted with all figures attached. Urban water management plan documents must be submitted with all of the detailed drainage design completed in accordance with the urban water

management plan assessment process (Figure 1). Incomplete water management reports will be returned to the proponent, as assessment cannot begin.

- Provide two hard copies and a digital copy to allow magnification of detailed drawings.
- Hard copies of drawings and plans must be provided at a minimum of A3 size. The scale should enable the map to be read and interpreted easily.
- Maps must have a legend, north arrow and title.
- When preparation and approval of an urban water management plan is a condition of subdivision, the request for clearance of this condition should be made on the clearance application form which is available on the department's website <www.water.wa.gov.au>.
- Revisions must be submitted with a revision template indicating how and where the department's comments have been addressed in the format shown in Table 1. The changes should be highlighted in a hard copy of the document to shorten the re-assessment process.

Table 1 Sample revision template

Issue	Section	Department of Water comments	Amendments	Page no.
Long sections	5	Provide long sections for swales and detention basins which include ground levels, invert levels and hydraulic grade lines for 1 year, 5 year and 100 year average recurrence interval[1] events.	Long sections provided as figures 5–10	Figures 5–10
Gross pollutant traps	6.5	Avoid the use of gross pollutant traps at the outlet of piped stormwater drains unless high pollutant volumes/loads are predicted for the particular local catchment. Department of Water prefers 'at source' management of litter, sediment and organic material to prevent these materials entering the drainage conveyance system.	References to gross pollutant traps have been deleted	Section 6.5 page 31, figures 1 & 8

Level of detail to be contained in reports

The level of detail required for water management reports will depend on:

- The number and significance of water resource management issues relevant to the proposal area (e.g. flood risks, high groundwater, nearby wetlands and waterways).

[1] Average recurrence interval is defined as the average, or expected, value of the periods between exceedances of a given rainfall total accumulated over a given duration. For further information, refer to *Australian rainfall and runoff* (Engineers Australia 2001).

- The planning decision being made (e.g. rezoning, structure plan, subdivision).
- The type of land use or urban design proposed and how the water resource will be managed (e.g. foreshore areas, subsurface drainage, detention and retention).

Risk management

The size and detail of the report will depend on the constraints of the site and the level of risk posed by the development. Table 2 is a guide to the level of risk, risk management and the level of detail required.

Table 2 Risk management

Risk	Site conditions	Information requirements
Low	• Depth to groundwater (>5 m) • Infiltrate on site • No offsite discharge or regional drainage issues.	*Minimum* Demonstrate the management of water will be consistent with *State Planning Policy 2.9: Water resources*, the *Stormwater management manual for Western Australia* and *Decision process for stormwater management in WA.* Note that the policy is being reviewed and the latest version should be used when it is available.
Medium	• Depth to groundwater (between 1.2 and 5 m) • Offsite discharge to local and/or regional system • No regional bushland or significant wetland or waterway issues • Medium acid sulfate soil risk • Contains natural waterways.	*Limited* Site assessment to determine management responses in terms of the surrounding (sub) catchment. On site monitoring and demonstration of representative sampling.
High	• Depth to groundwater (<1.2 m) • Proposed off-site drainage with potential adverse effects on wetlands or waterways • Contains a floodplain • Known contaminated site • High acid sulfate soil risk • Contains any part of a conservation category wetland or its buffer • Contains environmentally significant waterways.	*Comprehensive* Detailed modelling and investigations. Full BUWM checklist to be addressed in detail.

Roles and responsibilities

Proponent

Water management reports are prepared by the proponent. For the purpose of this guidance note, the proponent is the person or organisation that is the initiator of the planning proposal (e.g. the initiator of a change in land use, subdivision or development activity). For instance, depending on the level of land planning, the

initiator of the planning proposal may be the state government, redevelopment authority, local government or developer.

For example, at the regional or a sub-regional planning stage, the Department of Planning, on behalf of the state government, may be the initiator of the planning proposal and would therefore prepare the relevant regional or sub-regional water management strategy. Similarly, when a local government or land developer is the initiator of a local planning proposal, they are responsible for preparing the relevant water management report with guidance from the department.

Department of Water

In accordance with *Better urban water management* the Department of Water is responsible for assessing and endorsing the required water management reports.

The department considers total water cycle management when assessing water management reports. This includes ensuring that the reports:

- are consistent with the department's *Stormwater management manual for Western Australia* (Department of Water 2004–2007), *Decision process for stormwater management in WA* (Department of Water 2009) and current best management practices
- are consistent with relevant policies and guidelines
- are consistent with approved higher level water management reports, where available
- adequately consider water service and supply requirements.

It is important to note that the department does not undertake a comprehensive assessment of detailed engineering design. This is the responsibility of local government as the future asset owner and manager. The department only undertakes a "fatal flaw" assessment of design, unless the assessment of detailed design is critical to the proposed water management approach.

When assessing water management reports, the department liaises with relevant agencies to ensure that their requirements are met (see detail below). This occurs prior to advising the referral agency and/or decision making authority in writing that the department has assessed and endorsed the document.

Western Australian Planning Commission and Department of Planning

The Western Australia Planning Commission is responsible for the approval of water management reports required by *Better urban water management* on advice from the Department of Water, local government and other relevant agencies, including Water Corporation and the Swan River Trust.

Approval occurs when the planning proposal, in which the endorsed water management report forms a supporting technical document, is endorsed by the Western Australian Planning Commission.

Local government

As the future asset owner and manager, local governments are responsible for assessing and endorsing the detailed design of infrastructure, including maintenance and safety issues. In addition to referring water management reports to the Department of Water, the proponent or planning authority should also refer these reports to the relevant local government for their assessment. The local government is responsible for the assessment and clearance of urban water management plans, where they are the designated clearing authority.

Department of Environment and Conservation

The Department of Environment and Conservation is responsible for wetland conservation, including matters such as the management and protection of wetlands and their buffer areas. It also manages waterways in the conservation estate, threatened species, threatened ecological communities, wetlands and biodiversity throughout the state, and administers native vegetation clearing, industry regulation processes, and matters involving harm to the environment (under the *Environmental Protection Act 1986*) including contaminated sites.

It is also the custodian of the Geomorphic wetlands mapping layers for Western Australia. Coverage and viewing guidance can be obtained at http://www.dec.wa.gov.au/management-and-protection/wetlands/wetlands-mapping.html

Water management reports should be referred to the Department of Environment and Conservation by the proponent or planning authority where the proposed management of water resources may affect a wetland.

Water Corporation and other drainage service providers

Drainage service providers, such as the Water Corporation, have a role in drainage management through the ownership and management of drainage assets. When a development is within a declared drainage area or if it directly impacts on these assets, water management reports should be referred to the Water Corporation or other relevant drainage service providers by the proponent, referral agency and/or decision making authority.

It should be noted that the Water Corporation has an existing process to assess drainage reports and require proponents to undertake or prohibit certain works.

Swan River Trust

The Swan River Trust is a state government agency charged with protecting and managing the Swan Canning river system. When a development is either in, or directly abutting, the Swan River Trust Development Control Area as defined by the *Swan and Canning Rivers Management Act 2007*, water management reports should also be referred to the Swan River Trust by the proponent and the referral agency or decision making authority.

The Trust has a role in assessing development applications or in providing advice on proposed land use changes in accordance with the *Swan and Canning Rivers Management Act 2006*, the Swan and Canning Rivers Management Regulations

2012, and the Metropolitan Regions Scheme. This includes proposals in and around the Trust Development Control Area (DCA).

Submission

The relevant regional office of the Department of Water is the contact point for submission of water management reports and any related enquiries. Contact details for each region and a map showing office locations are available from the department's website <www.water.wa.gov.au/Water+regions/default.aspx>.

Assessment process and timeframes

Consideration of water resource information by the department is likely to be improved where early consultation with the department, local government and other agencies (where applicable) has occurred.

Once a water management report is submitted to the regional office, land use planning officers will assess the report and, where required, request technical advice from across the department and other agencies.

Individual components of a water management report, such as a monitoring plan or groundwater management plan, should be summarised in and (where required) attached as an appendix to the relevant water management report.

If all necessary documentation is provided, the department will aim to assess and approve water management reports within 42 days. Additional time is required if the proposal is particularly complex or revisions are needed. To reduce delays, it is recommended that the proponent consult with the department's regional office early in the development of the water management report.

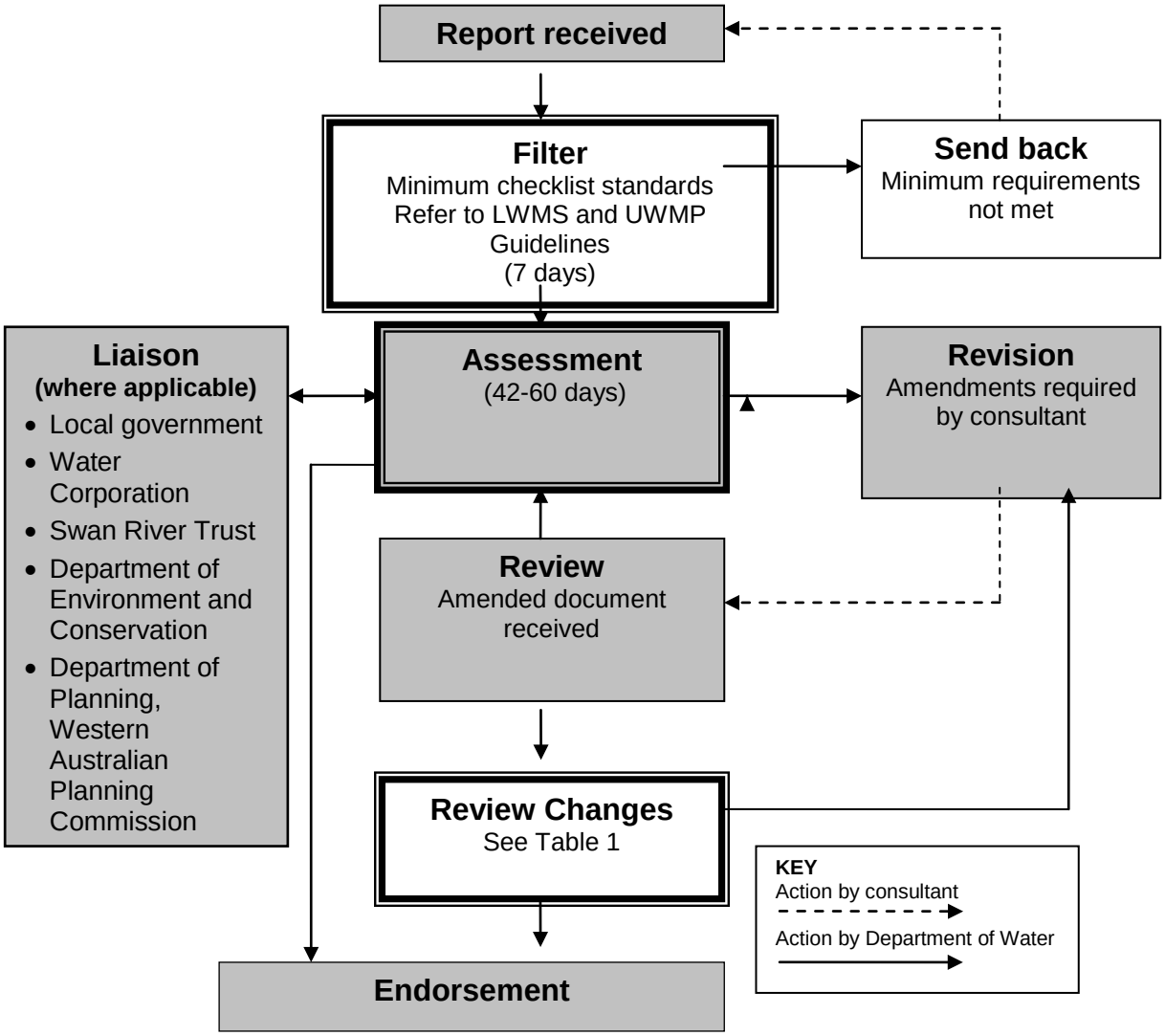

Figure 1 *Department of Water* Better urban water management *report assessment process*

Factors influencing assessment timelines

The ability of the department to provide prompt assessment and approval of water management reports produced under the framework is affected by the following factors:

- the quality of information contained in reports
- the conciseness of the report and clarity of information provided
- the time taken for developers or consultants to respond to department communications
- consistency with departmental guidance documents.

Number of revisions

The quality of an initial report will influence the number of later revisions required and influence the time required to obtain endorsement from the department. The need for revision of a report will increase the time required for endorsement. This can be significant, and depends on the additional information required and the number of revisions needed. Initial reports that provide adequate and accurate information to support the proposed design will require few or no amendments and reduce the time needed for revisions and subsequent endorsement by the department.

Clarity of communication between all involved parties

It is important that all issues requiring amendment or discussion raised by the department are conveyed by the consultants to the proponent to maintain clear communication throughout the assessment process. Significant delays can occur when the Department of Water's advice is not communicated to proponents. Where an issue is complex or involves multiple parties, it may prove useful for all parties to meet to reduce duplication and facilitate communication.

The department should also be informed of any relevant discussions the consultant has had with other involved parties, such as the local government or the Water Corporation. This will ensure that any issues which arise can be resolved as quickly as possible.

Disagreement on the assessment and outcome of a report

If there is conflicting information or disagreement between the department and another government agency or proponent that cannot be resolved, the Department of Planning is responsible for resolving the issue and deciding on the outcome. The Department of Planning may seek independent expert advice to assist in this decision. The department can assist in resolving conflict on water management issues between agencies and consultants.

Clearance of subdivision conditions

Water management reports submitted to meet the requirements of a Western Australian Planning Commission condition in which the department is the clearing authority must be accompanied by an *Application for the clearance of subdivision conditions* available from the department's website <www.water.wa.gov.au>.

References

Department of Water 2004–2007*, Stormwater management manual for Western Australia*, Department of Water, Perth.

——2008a, *Interim: Developing a local water management strategy*, Department of Water, Perth.

——2008b, *Urban water management plans: Guidelines for preparing plans and for complying with subdivision conditions*, Department of Water, Perth.

——2009, *Decision process for stormwater management in WA*, Department of Water, Perth.

——2011, *Murray drainage and water management plan*, Department of Water, Perth.

——2012, *Water monitoring guidelines for better urban water management strategies and plans,* Department of Water, Perth.

——2013a, *Better urban water management* guidance note 4: *Resources and support provided by the Department of Water*, Department of Water, Perth.

——2013b, *Better urban water management* guidance note 2: *Water management reports in the planning process*, Department of Water, Perth.

Engineers Australia 2001, *Australian rainfall and runoff*, Engineers Australia, Barton, Australian Capital Territory.

Government of Western Australia 2006, *State planning policy 2.9*: *Water resources,* Western Australian Planning Commission, Perth.

Western Australian Planning Commission 2008, *Better urban water management*, Western Australian Planning Commission, Perth.

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