GOVERNMENT OF WESTERN AUSTRALIA

Department of **Biodiversity, Conservation and Attractions**

SWAN RIVER TRUST

CORPORATE POLICY STATEMENT NO. 49

PLANNING FOR STORMWATER MANAGEMENT AFFECTING THE SWAN CANNING DEVELOPMENT CONTROL AREA

March 2023

1. OBJECTIVE

The objective of this policy is to ensure land use, development, and other permitted works, acts and activities that comprise, include, or use stormwater management systems in or affecting the Swan Canning development control area (DCA):

- do not result in further water quality degradation of the Swan Canning river system, and where possible, improve water quality;
- protect and enhance the ecological health of the river system; and
- protect and enhance the community benefits and amenity of the DCA.

2. SCOPE

This policy is applied by the Department of Biodiversity, Conservation and Attractions (the department) when assessing development and permit applications involving stormwater management in accordance with the *Swan and Canning Rivers Management Act 2006* (SCRM Act) and the Swan and Canning Rivers Management Regulations 2007 (SCRM Regulations). It is also applied by the department and Swan River Trust when providing advice to other Government agencies and local governments on proposed development and land use changes. This includes proposals in and adjacent to the DCA, as well as those that may not immediately adjoin the DCA but may affect waters in the DCA. Proposals that may affect waters in the DCA include, but are not limited to, those that might mobilise sediment, nutrients, and non-nutrient contaminants to the DCA via tributaries, stormwater or shallow groundwater management infrastructure, or groundwater flows, or that might alter the hydrology of the waterways and wetlands in the DCA.

Applicants, decision-making authorities, other Government agencies and local governments should have due regard to this policy in relation to stormwater management in or affecting the DCA.

The DCA is defined in Schedule 3 of the SCRM Act (maps available). In this policy, the Swan Canning river system means the named waterways within the Swan Canning Catchment, as defined in Schedule 1 of the SCRM Act, but excluding the Avon catchment area. The Swan Canning Catchment and its sub-catchments are shown in this map.

All guidance documents identified in this policy should be taken to refer to the most current published version.

3. CONTEXT

Increasing population, a changing climate and a better understanding of environmental issues has led to a greater recognition of the stresses on Perth's water resources and the need for improved stormwater management.

Stormwater is water that flows over ground surfaces, in natural waterways and through constructed drainage systems as a direct result of rainfall over a catchment. It includes both surface runoff and groundwater intercepted by drains and can mobilise sediments, nutrients, or contaminants in its flow path. Urban and industrial developments often lead to a significant increase in impervious surfaces, which can result in greater stormwater runoff, sediment transportation and risks of pollution. In the past, stormwater was perceived as a waste product with an associated cost, but it is now recognised as a resource for which there are social, environmental, and economic benefits.

The Swan Canning river system receives approximately 80 per cent of the stormwater that drains from the Perth metropolitan region, with the remainder flowing either to the Peel Estuary or directly out to the ocean. The quantity and quality of stormwater entering the river system influences its ecological health, community benefits and amenity. The department is committed to improving water quality and maintaining water flows in the river system.

The significance of these issues is also addressed at a statewide level. Draft *State Planning Policy 2.9 – Planning for Water* recognises that land use planning and water sensitive urban design can assist in protecting, conserving, managing, and enhancing the State's water resources.

This policy is to be applied in conjunction with the department's Swan Canning Planning and Development Policies, Plans and Procedures Manual.

4. LEGISLATION

The State Government has recognised the importance of the Swan Canning river system by legislating specifically for its protection and management through the SCRM Act. The SCRM Act establishes the Swan Canning catchment area, DCA, Riverpark and River reserve, and creates a governance structure, and regulatory and approval process for decision-making relating to the river system.

The department, Swan River Trust, Western Australian Planning Commission (WAPC) and State and local governments are responsible for the effective planning and management of land use and development within, abutting and affecting the waters in the DCA.

Under section 70 of the SCRM Act, all development in the DCA is subject to approval and control. The term 'development' is defined in section 3 of the SCRM Act to mean:

a) the erection, construction, demolition, alteration or carrying out of any building, excavation or other works, in, on, over or under land or waters; and
b) any material change in the use of land or waters; and
c) any other act or activity declared as development under the SCRM Regulations.

In undertaking its statutory roles, the department assesses and provides advice and recommendations to the Minister for Environment for development in the DCA under Part 5 of the SCRM Act. The Minister may approve such development under section 70, unless the development is in a class which the Chief Executive Officer (CEO) of the department is authorised to approve under section 85. The CEO is also responsible for approving under a permit other works, acts and activities declared not to constitute development or controlled for Riverpark and DCA protection by the SCRM Regulations.

In performing their statutory functions, the department and Swan River Trust also provide advice and recommendations to other decision-making authorities, Government agencies and local government on a range of land use, subdivision and development proposals adjoining and affecting the DCA. These proposals are subject to control under clause 30A of the Metropolitan Region Scheme (MRS), *Planning and Development Act 2005* (P&D Act) and other State legislation.

In relation to the P&D Act, the approval of a subdivision application (including the accompanying urban water management plan) by the WAPC, on the advice of the Department of Water and Environmental Regulation (DWER), does not constitute approval for construction of stormwater infrastructure in the DCA, unless the land in the DCA is owned by the applicant and forms part of the subdivision application. In that instance, stormwater infrastructure in the DCA may be approved as part of the subdivision and subject to conditions, if adequate details of the works are included in the subdivision application and the works in the DCA are undertaken before the foreshore reserve is ceded.

5. POLICY

In undertaking its statutory roles and functions for land use, subdivision and development proposals in, adjoining or affecting the DCA, the department and Swan River Trust will:

Land and water planning

5.1 Apply draft *State Planning Policy 2.9 – Planning for Water,* which provides a framework for how water resources should be considered at each stage of the planning process by identifying the actions and investigations required to support the particular planning decision being made. Where planning proposals or applications may affect the river system, the department will liaise with DWER and local governments and provide advice to the relevant planning authority.

5.2 Require that land use planning proposals are managed to minimise sediment transportation and prevent the mobilisation of nutrients or contaminants from the site to the river system. Land use changes should not result in further water quality degradation and where possible, should improve water quality.

Stormwater quantity and quality

5.3 Apply DWER's *Stormwater Management Manual for Western Australia* (Stormwater Manual) and *Decision Process for Stormwater Management in Western Australia* (Decision Process). In this respect:

- stormwater management systems are to be designed to protect and enhance the ecological and hydrological functions and amenity of the river system;
- retain and install pervious surfaces wherever practical;

- stormwater runoff from constructed impervious surfaces generated by the first 15 mm of rainfall should be managed (retained and/or detained and treated (if required)) at the runoff source (on lots and in road reserves) as much as practical;
- pre-development peak flow rates, frequency of flows, and total volume runoff for the critical 1 exceedance per year (EY) event are to be maintained for outlets from development discharging to tributaries of the river system or to the sections of the river not influenced by the estuary;
- the design for larger events should address minor and major rainfall event conveyance systems. Include vegetated overland flow paths to the river system instead of pipes or drains wherever practical. Applicants are to identify how stormwater quantity management measures have been selected to achieve water quality improvement objectives (including erosion protection measures to prevent sediment transportation) and how environmental flows to the river system will be maintained or increased (climate change effects might require increased water flows to be directed to the river system, subject to water quality being managed for runoff generated by small rainfall events); and
- post-development 1 per cent annual exceedance probability (AEP) flood regime (flood level, peak flow rates and storage volumes) is to be maintained relative to pre-development conditions for catchments that do not have a published catchment plan that specifies flood management measures.

5.4 Promote the retention of existing tributaries and surface water flow paths. Replacement of overland flow paths with piped systems for managing stormwater runoff will only be supported where it can be demonstrated that ecological values will be maintained or improved (e.g. existing aquatic fauna passage or mature trees and native vegetation are retained) and habitat values and water quality of receiving waterways will be improved. Stormwater management systems designed to retain and mimic natural hydrological processes are preferred because they provide for fauna passage, provide habitat, and improve water quality.

5.5 Recommend stormwater management proposals include a water quality treatment train designed to meet the water quality management objectives of the catchment. A treatment train uses targeted measures in sequence to maximise treatment effectiveness and can include structural controls (engineered devices) and non-structural controls (pollution-prevention practices).

Stormwater to be discharged to the river system should not exceed the targets in the Swan Canning Water Quality Improvement Plan.

Requirements for the applicant to demonstrate compliance with the water quality targets will depend on the scale and nature of the proposal. Land use changes or developments that are addressed through the land and water planning process documented in draft *State Planning Policy 2.9 – Planning for Water Guidelines* will have water quality monitoring and compliance requirements. For land use changes and development within the DCA, it may be necessary to undertake pre- and post-development monitoring to record water quality and determine the effectiveness of the treatment measures. Contingency planning will be required that outlines the actions to be taken if monitoring indicates that the water quality targets are not being achieved.

Proposals should demonstrate that the stormwater management approaches outlined in the Stormwater Manual and Decision Process and a risk management approach are being applied. If stormwater runoff generated by the first 15mm of rainfall is not proposed to be managed at-source, then a water quality treatment system would generally be required. See the Decision Process for further guidance on the approaches for preventing and reducing water pollution from stormwater.

5.6 Recommend that vegetated swales and biofilters contain a range of plant species, with at least 50 per cent pollutant-reducing plants as documented in Part A and Part B of Table 5 of the *Vegetation guidelines for stormwater biofilters in the south-west of Western Australia* (Monash University 2014), and other native plants added to improve aesthetics, if needed. In accordance with best practice advice for vegetated stormwater systems, trees should be included in the vegetated swale or biofilter (e.g. at the edges of the swale or biofilter) to improve understorey plant health and survival rates and to prevent soil media clogging. For more information about the design of biofilter systems, see the *Adoption Guidelines for Stormwater Biofiltration Systems* (Cooperative Research Centre for Water Sensitive Cities).

5.7 Recommend proposals address construction management activities to prevent sand drift and erosion and to control sediment, so that stormwater treatment and storage systems do not fill with sediment and sediment is not mobilised to the river system. See the Sediment Task Force publications for further guidance on erosion and sediment control.

5.8 Promote the incorporation of deep soil zones in apartment and medium-density sites adjoining or affecting the DCA, to incorporate trees and assist with stormwater management, as referred to in *State Planning Policy 7.3 – Residential Design Codes*. Planter boxes situated on apartment roofs and podiums should connect the leachate discharge system to garden beds at ground level, rather than connecting to the street drainage system.

Contaminated sites and elevated nutrient levels

5.9 Require applicants demonstrate that land use changes or development will not mobilise contaminants or nutrients from the soil or groundwater to the river system as a result of the stormwater management practices. Adequate site investigations are to be undertaken before planning and development commences, to determine the appropriate water quality management measures for the site and to establish if previous land use practices resulted in soil, groundwater, or surface water contamination.

5.10 Recommend no increases in stormwater infiltration to the groundwater system in locations where the soil and groundwater are contaminated by historic land use practices, as this presents an unacceptable risk for additional contaminants or nutrients to mobilise from the site to the river system.

5.11 Recommend that land use constraints, such as elevated nutrient levels in groundwater, be addressed by applicants when stormwater management systems are being designed, regardless of the site's classification under the *Contaminated Sites Act 2003* (CS Act).

Sites that are suspected to be contaminated or are found to be contaminated should be reported to DWER in accordance with the requirements of the CS Act. Subsequent remediation of the site may be required before land use changes or development are considered.

Acid sulfate soils

5.12 Recommend the design and construction of stormwater management systems be managed to avoid environmental impacts from the disturbance of acid sulfate soils. The WAPC's *Acid Sulfate Soils Planning Guidelines* identify matters that need to be addressed at various stages of the planning process to ensure that the subdivision and development of land containing acid sulfate soils is planned and managed to avoid potential adverse effects on the natural and built environment. DWER also has guidelines to assist with the identification, investigation, and management of acid sulfate soils.

Controlled groundwater levels and subsoil drains

5.13 Require water quality treatment be addressed in developments that propose to include the use of controlled groundwater levels (CGLs) and subsoil drains to manage (limit/control) high groundwater levels. CGLs and subsoil drains may reduce the potential for water quality improvement of stormwater due to the decreased subsurface residence time of stormwater intercepted by drainage systems. Subsoil drains that increase the mobilisation of contaminated or nutrient-rich groundwater from the site to the river system will not be supported.

5.14 Require groundwater be treated (either at the inflow or at the outlet) prior to discharge to the surface water system, where subsoil drains are proposed. The proposed treatment should be suitable for the contaminants and/or nutrients present or expected in the groundwater.

5.15 Direct applicants to DWER's *Water resource considerations when controlling groundwater levels in urban development* guideline when assessing the need for and setting the CGL.

Maintenance

5.16 Recommend details of ongoing maintenance arrangements for any proposed stormwater management system be included in subdivision or development proposals if they have not already been addressed through an approved urban water management plan. Roles and responsibilities should be included.

Stormwater management for small-scale urban development proposals

5.17 Recommend that stormwater runoff from constructed impervious surfaces generated by the first 15mm of rainfall be managed on site for small-scale proposals, such as single residential developments, survey strata subdivisions or some small subdivisions adjoining or affecting the DCA and, if the local government consents, connection of the remaining minor and major rainfall events to the local drainage system for conveyance. Applications should include basic details of the site drainage design. Connection to the local government drainage system will require the approval of the local government through the development approval or building licence process.

5.18 Support a controlled overflow to the river system if the applicant can demonstrate to the department's satisfaction that it is not practicable to connect to the local government drainage system and where:

- stormwater runoff from constructed impervious surfaces generated by up to the first 15mm of rainfall has been managed (retained and/or detained and treated (if required)) at the runoff source (on lots and in road reserves), and the development abuts the DCA and surface water naturally flows toward the river system;
- overflow into the river system is to be by overland flow paths across vegetated surfaces and wherever possible, across the floodplain; and
- the outlet is to be located within the property boundary and is to be designed to minimise visual intrusion on the foreshore and to control erosion.

5.19 Expect applications for new car parks or access roads in or adjacent to the DCA to address the design criteria identified in *Corporate Policy Statement No 45: Planning for Miscellaneous Structures and Facilities in the Swan Canning Development Control Area* and the guidance provided in the New WAter Ways *Water sensitive urban design – Carpark developments/retrofits* factsheet. Stormwater runoff generated up to the first 15mm of rainfall is to be retained and/or detained on the carpark site or in the road reserve and will not be permitted to enter the river system untreated.

In undertaking its statutory roles and functions for development or permit applications in the DCA, in addition to the above requirements, the department and Swan River Trust will:

Stormwater management in the DCA

5.20 Require stormwater management systems in the DCA to enhance the ecological and community benefits and amenity of the DCA through the use of water sensitive urban design and best management practices. The rehabilitation and enhancement of natural hydrological processes are preferred to the construction of artificial systems. For example, systems such as living streams, vegetated swales and biofilters will be favoured over pipes, open drains and gross pollutant traps. Traditional pit and pipe conveyance systems and detention basins will generally not be supported in the DCA. Where site constraints do not provide opportunities to install systems that mimic natural hydrological processes within the catchment or within the DCA, then stormwater pipes or drain outlets should be retrofitted to improve water quality (e.g. with pollutant traps). The department will not support constructed stormwater infrastructure in conservation category wetlands, resource enhancement wetlands, and their buffers. Applicants should liaise with DWER in relation to stormwater infrastructure proposed in the floodway.

5.21 Require stormwater management systems in the DCA to enhance the ecological and community benefits and amenity of the DCA by rehabilitating, restoring, or revegetating the foreshore reserve. Local native plant species are to be utilised. Select and use materials based on the materials and hues naturally occurring or predominantly used in the locality. Rock selected for use in erosion control or other features is to reflect the natural geology of the area and contain minimal or no mortaring. Where appropriate, public access to and along the DCA should also be maintained and enhanced.

5.22 Require provision of sufficient land in the subdivision or development site for stormwater management, in accordance with draft *State Planning Policy 2.9 – Planning for Water*. Where this requirement cannot be met, applications that propose to use land in the DCA for managing stormwater from adjoining or nearby urban development will only be supported where it has been demonstrated that:

- the proposal will improve the ecological value of the DCA;
- the proposal will result in a demonstrable community benefit;
- the proposal will improve the amenity of the area;
- the subject land is close to the urban development that is the stormwater source;
- the reasons that stormwater cannot be managed on the development site are provided and the need to locate the stormwater management system in the DCA is justified;
- every practicable attempt has been made to manage stormwater runoff generated by the first 15mm of rainfall as high in the catchment and as close to the runoff source as possible;
- any necessary water quality treatment of the stormwater from the site occurs on site prior to the water entering the DCA;
- the use of the foreshore/floodplain for stormwater management has been justified in an urban water management plan prepared in accordance with draft *State Planning Policy 2.9 – Planning for Water*;
- the use of the DCA for stormwater management in the location will not unacceptably impede the use of the foreshore for public access, recreation and conservation;
- the owner of the land or the vested authority supports the application. If privately owned land is reserved for Parks and Recreation in the MRS, then the WAPC, as a prospective owner, is to be consulted regarding the application and the possible acquisition of the land; and
- a maintenance plan for the stormwater management system is developed and evidence of a maintenance agreement with the landowner or vested authority is provided with the application.

5.23 Recommend that where there is a demonstrated need to use land in the DCA for stormwater management as part of an adjoining or nearby land use proposal or subdivision, that this is identified in a local water management strategy. Draft *State Planning Policy 2.9 – Planning for Water* indicates that infrastructure and land requirements for stormwater management should be identified at the local planning stage in a local water management strategy. Subdivision should be supported by an urban water management plan providing detailed information on the size, location and design of stormwater management systems and justifying the use of land in the DCA for stormwater management.

5.24 Require development applications for stormwater management systems in the DCA to include details on the staging of works and demonstrate how the proposed foreshore works are to progress in conjunction with the development or subdivision that is the stormwater source.

6. POLICY IMPLEMENTATION STRATEGIES

To implement this policy, the department will:

Swan River Trust

6.1 Consult with the Swan River Trust when assessing proposals under Part 5 of the SCRM Act and preparing strategic documents and corporate policies and guidelines.

6.2 Implement delegated powers from the Swan River Trust under the MRS.

6.3 Keep the Swan River Trust informed of development, and permitted works, acts and activities approved in the DCA.

Planning authorities (WAPC, other State agencies, and local governments)

6.4 Consult regularly with relevant planning authorities when providing advice on planning proposals and assessing development and other permitted works, acts and activities in and around the DCA.

Referral agencies

6.5 Ensure there is a clear understanding of the role of referral agencies, how their advice will be considered in assessing proposals and 'clearing' conditions of approval.

Assessment of proposals

6.6 Seek appropriate advice when assessing proposals. Advice may be sought from planning authorities, referral agencies, contractors, consultants, or other stakeholders and from the department's specialist branches and regional locations. Where expertise is available from within the department, it will be utilised prior to seeking advice from external parties.

6.7 Ensure relevant staff, contractors and consultants have the necessary qualifications, skills and expertise when assessing planning and development proposals.

6.8 Maintain records of discussions, advice and decisions when undertaking the department's and Swan River Trust's statutory planning roles in accordance with the *State Records Act 2000.*

7. CUSTODIAN

Executive Director, Conservation and Ecosystem Management.

8. PUBLICATION

This policy will be made available on the department's website and intranet.

9. KEY WORDS

Swan, Canning, river, development control area, stormwater, urban water management, land use change, water sensitive urban design, water quality, contaminated site, nutrient, acid sulfate soil, groundwater, controlled groundwater level, subsoil drain.

10. REVIEW

Further reviews will be at the discretion of the Director General, with a review undertaken after five years from the date it is signed.

11. SWAN RIVER TRUST ENDORSEMENT

Endorsed by

Hamish R Beck
CHAIR

Date: 28 February 2023

12. APPROVAL

Approved by

Peter Dans
ACTING DIRECTOR GENERAL
ACTING CHIEF EXECUTIVE OFFICER

Date: 2 March 2023