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SWAN RIVER TRUST

Draft Policies

Swan River Trust
Report No 5
April 1992



**SWAN RIVER TRUST
Draft Policies**

Swan River Trust
184 St Georges Terrace
PERTH WA 6000

Report No 5
April 1992

SWAN RIVER TRUST

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TO THE PUBLIC

The Swan River Trust invites you to be involved.

The Swan River Trust invites your participation in protecting and managing the Swan River environment.

This set of draft policies is the first prepared by the Trust. The policies are intended to guide the public, consultants, developers and government agencies toward appropriate land use and development along the rivers, and particularly the Trust's management area. The aim is to achieve appropriate zoning in accordance with the Town Planning and Development Act, ensure any commercial development is appropriate for a river location and protects the river's function, environment and landscape. In addition, the policies set out constraints on development of flood prone land and outline information that proponents should provide with their applications.

This draft has been prepared in consultation with relevant State and local government authorities.

We have allowed a three month period of public review. Please provide us with your written comments within that period.

Why write a submission?

A submission is a way to provide information, express your opinion and suggest a course of action or alternative approach. A formal submission ensures that your thoughts are accurately conveyed.

All submissions received will be acknowledged. A summary of submissions received and response to comments will be prepared.

Points to keep in mind

By keeping the following points in mind, you will make it easier for your submission to be analysed:

- Attempt to list points so that the issues raised are clear.
- Refer each point to a particular policy (or page number) in the draft.
- If you discuss policies, keep them distinct and separate, so there is no confusion as to which section you are considering.

Remember to include:

- Your name or the name of your organisation.
- Address.
- Date.

Submissions should be addressed to:

The Chairman
Swan River Trust
184 St Georges Terrace
PERTH WA 6000

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INTRODUCTION

1. AIM

The Swan and Canning River system is the major recreation and landscape feature of the Perth Metropolitan Area. There is a strong community desire to maintain public access for a variety of leisure activities but also to conserve the river as a healthy living system.

The river also serves as an important transport route and a focus for residential and commercial development.

The capacity of the river environment to meet the expectations of a growing urban population for recreational and development opportunities is limited.

The Swan River Management Strategy (1988) and the policies of the Swan River Trust provide the basis on which land use conflicts can be resolved and orderly planning proceed within the Swan River Trust Management Area.

The aim is expressed in the Primary Objective for Land Use and River Planning in the Management Strategy:

Ensure that land use and development on and adjacent to the river maintains or enhances the quality and amenity of the river environment.

The policies are intended to guide the public, consultants, developers and government agencies towards appropriate land use and development along the river and particularly in the management area. They aim to achieve appropriate zoning in accordance with the Town Planning and Development Act, ensure that any commercial development is appropriate for a river location and protects the river's function, environment and landscape. In addition the policies set out the constraints on development on flood prone land and outline the information that proponents should provide with their applications.

The policies take account of the Swan River Management Strategy, other relevant policies and advice from government agencies.

2. DEVELOPMENT APPLICATIONS

The Minister for the Swan River Trust Act (thereafter referred to as the Minister) has responsibility for determining development applications for proposals within the management area.

Applications for developments not in a local government district are lodged with the Swan River Trust which will consult the relevant government and local government authorities (see Figure 1).

Where the development is partly or entirely within a local government district application is made first to the local authority which refers it to the Trust with comments. The Trust will consult all government and local government authorities which have an interest in the proposal.

Applications for developments on land abutting the river or which lie across the management area boundary are lodged with the local government authority which refers them to the Department of Planning and Urban Development (DPUD). The application is determined by the Minister for Planning after consultation with the Minister and all government and local government authorities which are affected.

Developments which abut the Parks and Recreation Reservation boundary are determined by DPUD after considering advice provided by the Trust.

The Minister must consider advice from the Trust before making a decision.

The development approval system is intended to ensure that the responsible government and local government agencies take account of the regional as well as the local impact of any proposal.

The procedure is summarised in Figure 1. It is described more fully in Section 3.3 of the Swan River Management Strategy.

3. **INTERPRETATION**

Development

For the purpose of this policy statement "development" means -

- a) the erection, construction, demolition, alteration or carrying out of any building, excavation, or other works in, on, over, or under land or waters;
- b) a material change in the use of land or waters; and
- c) any other act or activity in relation to land or waters declared by regulation to constitute development,

but does not include any work, act, or activity declared by regulation not to constitute development.

100 year Flood

The flood having a 1% chance of occurring or being exceeded in any one year or a flood having an annual recurrence time of 100 years. This event has at least a 50% chance of being experienced at least once in any average life span of a person. The 100 year flood has been generally adopted in Australia and overseas as the basis for flood plain management planning.

Flood Plain

The portion of a river valley adjacent to the river channel which is covered with water when the river overflows its banks during floods. The term also applies to land adjacent to estuaries which is subject to inundation during floods.

Flood Prone Area

The land which would be inundated as a result of the 100 year flood.

Floodway

The river channel and portion of the flood plain which forms the main flow path for floodwaters once the main channel has overflowed. If floodways are even partially blocked upstream flood levels may be raised thereby affecting areas which may not have been affected previously. Development in floodways should be avoided wherever possible.

Flood Fringe

The area of the flood plain, outside the floodway, which is affected by flooding but where development could be permitted providing appropriate measures are taken. These areas are generally covered by still or very slow moving waters during the 100 year flood.

MRS Parks and Recreation Reservations

Includes land of many types, reserved in the Metropolitan Region Scheme, for

- natural flora and fauna
- cultural or scientific significance
- scenic attractions
- potential development into areas for recreation and enjoyment of leisure.

River Environment

The river environment includes the river and associated vegetation. It also includes areas of adjoining high land which are reserved for parks and recreation because of their relationship with the river.

River Function

The term river function is used to describe all the natural processes associated with the river and the relationship between them including:

- the water column, stream flows and associated erosion and accretion
- the proper balance of energy and nutrient budgets in the system
- all plant and animal populations, their life cycles and food chains

Consideration of function requires an understanding of the whole ecological system in which structurally diverse organisms are intimately linked functionally with each other and with their environment.

Watercourse

A river, stream or creek in which water flows in a natural channel whether permanently or intermittently.

Swan River Trust Management Area

The Trust's management area is described in Schedule 1 of the Swan River Trust Act as follows:

"All of the land and waters shown edged in red on the Swan River Trust Management Area Plans Nos. 1 to 11 (both inclusive) held at the offices of the Swan River Trust each such plan being certified by the Minister as being a plan prepared for the purpose of defining the Swan River Trust Management Area."

For guidance, the area so delineated may be described in a general way as comprising

- a. the waters:
 - i) of the Swan River upstream of the Fremantle Port Authority boundary;
 - ii) of the Avon River to its confluence with Moondyne Brook;
 - iii) of the Helena River to the lower diversion dam on that river;
 - iv) of the Southern River to Allen Road crossing; and
 - v) of the Canning River to its confluence with Stinton Creek

that are reserved under clause 12 of the Metropolitan Regional Scheme for "waterways".

- b. lands adjoining those waters that are reserved as parks and recreation areas under clause 12 of the Metropolitan Region Scheme.

POLICIES

LAND USE AND ZONING

Preamble

The Swan River Trust recognises the need to consider the river and all its foreshore reserves as a single entity, and to adopt a regional approach to the planning and management of these areas.

The foreshores of the Swan and Canning Rivers (and tributaries) comprise land of different status, including MRS Reservations for Parks and Recreation, Crown land reserved under the Land Act, land held by the Department of Planning and Urban Development, foreshore land still in private ownership and areas leased by or vested in various authorities and organisations.

Reservation under the Metropolitan Region Scheme and eventual acquisition is the most effective way of providing public access to and along the foreshore and protecting the integrity of the river environment from incompatible development. However, other measures such as landscape protection zones can be used to protect views and amenity where reservation is not possible (see also Landscape Protection Policy).

To ensure that provision for leisure does not destroy the river environment, recreation activities should be directed into recreation nodes where appropriate facilities and site modification can be developed.

POLICY

1. The Swan River Trust will seek to ensure that land use and development on or adjacent to the river maintains and enhances the river environment.
2. The Trust will only support land use proposals which
 - improve appropriate public access to the river
 - protect or enhance the river landscape
 - protect or enhance the river functions (as defined in the Introduction Section 3, Interpretation)
3. Developers proposing changes to land use (as defined in the Introduction Section 3, Interpretation) in the management area will be required to show that implementation of their proposals will not degrade the river environment.

4. The Trust will support zoning for reservation and landscape protection in local authority town planning schemes if appropriate.
5. The Trust will normally oppose ad hoc rezoning. Proposals for rezoning should be presented in the context of a long term strategic plan.

APPLICATIONS FOR APPROVAL OF DEVELOPMENT

Preamble

The purpose of the policy is to assist developers, local government authorities and other agencies dealing with development proposals in the Swan River Trust Management Area.

It sets out the information required by the Trust in the plans and specification which must accompany the completed application form (Swan River Trust Act 1988, S.52(2)).

It will save time and inconvenience if this information is provided when the application is lodged. However, developers may request a reduction or modification of these requirements if there are circumstances to justify it.

For a definition of "development" refer to the Introduction, Section 3, Interpretation.

POLICY

1. *Application Forms*

All applications affecting the Swan River Trust Management Area must be submitted on

- a Swan River Trust Form 1 if the property is entirely within the management area;
- a Department of Planning and Urban Development Form 1 if the property crosses or abuts the management area boundary.

For lodging the application see Figure 1.

2. *Information Accompanying an Application*

In addition to the application forms and plans, every application (other than one for a very minor proposal) must include a statement containing information on the following, where relevant:

- a. the availability of services including water supply, sewerage, main drainage, electricity/gas and telephone, and possible or proposed points of connection to the site.

- b. the existence of any environmentally sensitive areas or features and any proposals for their protection including advice from the EPA if a System 6 area is affected.
- c. where a proposal development is in a flood prone area, the result of consultations with the Water Authority of WA regarding its impact on flood levels on the development.
- d. the result of investigations into the possibility of future shoreline movement due to erosion or accretion.
- e. information from the relevant local government authority about town planning scheme provisions affecting the site and the possible effect of the development on the area (including noise, traffic, street parking), and intended measures to alleviate such effects.
- f. any other information which would assist the Trust's consideration of the proposal.

3. *Plans accompanying an application*

Plans accompanying any application which contains a proposal for the erection, construction, conversion, alteration, or addition to any structure or building should include:

- i) A plan of the site at a scale of not less than 1:500 which shows:
 - a. the abutting streets with their names, the lot number(s), the dimensions and area of the site, the north point, and location of the river
 - b. the position of existing and proposed buildings on the site shown by measurements or distances to the nearest boundaries with suitable notations as to those buildings to be demolished, if demolition is intended to be part of the proposal;
 - c. the reduced level measured at the centre of each boundary and at each corner of the site related to the reduced level at a specified point on the abutting street;
 - d. contours at a sufficient interval to clearly show the topography of the site but in any case at no greater vertical interval than one metre;
 - e. the measured or dimensioned positions on the site of all existing and proposed vehicular driveways and vehicle parking areas;
 - f. flood levels, land liable to inundation, swamps, streams and any land not naturally drained or not having a natural outlet on the surface of the land;

- g. the position of all trees of a height exceeding three metres;
 - h. existing and proposed drainage including the position of all sumps and traps.
- ii) At a scale of not less than 1:200:
- a. a dimensioned plan of the proposed building or structure or the proposed additions or alterations to any existing building or structure;
 - b. external elevations sufficient to show the exterior appearance of the proposed development together with a statement of the proposed materials of construction and the colours and finish intended to be applied to any building;
 - c. such other information as may reasonably be required for the Trust's understanding of the proposed development.

PRIVATE JETTIES

Preamble

Private jetties on enclosed waterways are highly prized by boat owners but they take considerable public space, limit public access and can have an adverse effect on the river landscape and on flood flows.

Private jetties are defined as development under the Swan River Trust Act 1988, but they differ from most developments in that they involve private use of public waterways.

The Swan River Trust will continue the Swan River Management Authority policy of limiting construction of new private jetties and phasing out existing jetties without causing hardship to existing owners.

In particular the Trust will recommend strict limits on construction of jetties around Riverton and Middle Swan Bridges, and where a new subdivision creates a number of lots with river frontages where a jetty currently exists.

The Trust will not recommend approval of new private jetties downstream of the Narrows Bridge unless there are real extenuating circumstances.

The Jetties Act 1976 makes the Department of Marine and Harbours responsible for granting jetty licences. However, under the Acts Amendment (Swan River Trust) Act 1988 the Department of Marine and Harbours must obtain development approval from the Minister before issuing a jetty licence. If the Minister gives planning approval DMH must issue the licence.

In this policy, "transfer" refers to transfer of a licence granted under the Jetties Act to a new owner.

POLICY

1. *Existing Private Jetties*

- Located abutting private property which has a waterside boundary:

Owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

- Located abutting a public reserve or a road reserve:

Owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

2. *Transfer of Private Jetties*

- Located abutting private property which has a waterside boundary:

The Trust will recommend approval of the transfer provided that it is satisfied that the jetty is in good order as required by the licence at the time of the application for transfer to the new owner.

- Located abutting a public reserve or a road reserve:

The Trust will recommend approval of the transfer provided that it is satisfied that the jetty is in good order as required by the licence at the time of the application for transfer to the new owner.

Transfer of a private jetty will only be recommended for approval if the new owner resides either in front of or diagonally to the jetty.

3. *Application To Construct Private Jetties*

- Located on private property which has a waterside boundary:

The Trust may recommend approval of an application provided that:

- the design of the jetty complies with the minimum design standards for such structures set by the Manager Engineering, Department of Marine and Harbours;

- the owner of the private property produces a copy of the title verifying the waterside boundary;
 - the jetty will not interfere with navigation or current recreational use of the adjacent waters;
 - the length of the jetty is not more than 6.0 metres measured from HWM and the width is not more than 1.5 metres;
 - the owner of the private property provides proof of a high water mark title.
- Located abutting a public reserve or a road reserve:

The Trust will recommend refusal of all applications for permanent structures of this nature.

Under special circumstances the Trust may recommend approval for a temporary jetty abutting a reserve for a special event, conditional on it being removed to the Trust's satisfaction after the event.

PRIVATE BOATSHEDS AND BOATHOUSES

Preamble

It should be understood that boatsheds and boathouses are to be used only for the storing of boats, and that their design and construction should clearly indicate/reflect this.

In no circumstances can boatsheds and boathouses be used other than for the storage and maintenance of boats.

While it is the Trust's policy not to approve construction of new boatsheds or boathouses on public land or water, it recognises the historic interest of old boatsheds such as those at Keanes Point, Peppermint Grove (see Swan River Management Strategy Recommendation A24) and will encourage their restoration.

Boatsheds and boathouses are licensed by the Department of Marine and Harbours under the Jetties Act 1976.

In this policy, "transfer" refers to transfer of a licence granted under the Jetties Act to a new owner.

POLICY

1. Existing Private Boatsheds or Boathouses

- Located abutting private property which has a waterside boundary:

Owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

- Located abutting a public reserve or a road reserve:

Owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

2. *Transfer of Private Boatsheds or Boathouses*

- Located abutting private property which has a waterside boundary:

The Trust will recommend approval of the transfer provided that it is satisfied that the boatshed or boathouses is in good order as required by the licence at the time of the application for transfer to the new owner.

- Located abutting a public reserve, road reserve or public jetty or wharf:

The Trust will recommend approval of the transfer provided that it is satisfied that the boatshed or boathouses is in good order as required by the licence at the time of the application for transfer to the new owner.

- Transfer of a boatshed or boathouses will only be approved if the new owner resides either in front of or diagonally to the structure.

3. *Application to Construct a New Boatshed or Boathouses on Public Land*

The Trust will recommend refusal of all applications to construct boatsheds or boathouses.

4. *Application to Extend an Existing Boatshed or Boathouse*

The Trust will consider applications to extend an existing boatshed or boathouse on their merits.

5. *Application to Relocate an Existing Boatshed or Boathouse*

The Trust may recommend approval for relocation of an existing boatshed or boathouse provided that:

- the licence of the existing boatshed or boathouse is cancelled;
- before the boatshed or boathouse's relocation, the applicant holds a current licence for the alternate site;
- all structures appertaining to the former site are removed and the site is left in a condition satisfactory to the Trust;

- the Trust is satisfied that relocating the boatshed or boathouse to a new site will not have an adverse impact on:
 - navigation requirements
 - flood mitigation requirements
 - the amenity or aesthetic quality of the area.

JETTIES CONTROLLED BY COMMERCIAL OPERATORS AND STATE AND LOCAL GOVERNMENT AUTHORITIES

Preamble

Jetties are constructed in association with commercial developments including marines, boat piers, restaurants, tearooms and ferry terminals.

Before the Swan River Trust was established the development approval process was co-ordinated by the Department of Planning and Urban Development. Now, because jetties are in the Swan River Trust Management Area, development applications are processed by the Trust. They involve private use of public waterways.

The Trust will not recommend approval of any new jetty downstream of the Narrows Bridge or the Canning Bridge unless there are real extenuating circumstances.

The Trust will consider each development application for jetties by commercial operators or by State or local government authorities on its merits. Applications will be considered in the context of the Trust's policies on Commercial Development, Marinas and Boat Pens, and Restaurants and Tearooms.

Proposals which involve over-water structures will be referred to the Environmental Protection Authority (see Swan River Management Strategy Recommendation 36).

It is understood that commercial operators will meet all construction and maintenance costs unless otherwise agreed.

In this policy, "transfer" refers to transfer of the licence granted under the Jetties Act to a new owner.

POLICY

1. Existing Public Jetties

- Located abutting privately owned property:

The owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

- Located abutting a public reserve or a road reserve:

The owners to enjoy continued use subject to compliance with all requirements of the licence granted under the Jetties Act.

2. *Transfer of Public Jetties*

- Located abutting privately owned land:

The Trust will recommend approval of the transfer provided that it is satisfied that the jetty is in good order as required by the licence at the time of application for transfer to the new owner.

- Located abutting a public reserve or a road reserve:

The Trust will recommend approval of the transfer provided that it is satisfied that the jetty is in good order as required by the licence at the time of application for transfer to the new owner.

3. *Application for New Public Jetties by Commercial Operators or by State or Local Government Authorities*

- Located abutting land zoned commercial which has a waterside boundary:

The Trust may recommend approval of these applications provided that:

- the design of the jetty complies with the minimum design standards for such structures set by the Manager Engineering, Department of Marine and Harbours;
- the applicant produces a copy of the title verifying the waterside boundary;
- the new jetty will not interfere with navigation of the adjacent waters.

The Trust may recommend that conditions be attached to the approval to cover

- provision of a performance bond
- provision for ongoing management including the possibility of commercial failure
- maintenance of public access

The Trust may make recommendations about cost sharing arrangements for the construction of public jetties.

- Located abutting a public reserve or a road reserve:

The Trust may recommend approval of these applications provided that

- the design of the jetty shall comply with the minimum standards for such structures set by the Manager Engineering, Department of Marine and Harbours;
- the new jetty will not interfere with navigation of adjacent waters.

LAUNCHING RAMPS AND SLIPWAYS

Preamble

Launching ramps and slipways are part of the infrastructure required for the use of rivers. However, they occupy large areas of foreshore, often in sheltered locations, and place significant limitations on other users.

The construction of launching ramps and slipways comes within the definition of development in the Swan River Trust Act 1988.

The environmental impact of structures built in or over the waters will be considered carefully and proposals referred to the EPA if appropriate.

The Trust's policies on Commercial Development, Marinas and Boat Pens, and Dredging should be read in conjunction with this policy.

It should be noted that Swan River Trust regulations prohibit the launching of craft from trailers except at a permitted launching place. A permitted launching ramp means:

- a. a boat ramp -
 - i) approved under the Swan River Trust Act or
 - ii) that was in existence at the commencement of the Swan River Trust Act, and that has not been altered in contravention of the Act, and that is licensed to be used under Section 7 of the Jetties Act 1926; or
- b. an area that is between two signs for the time being erected or established by the Trust and inscribed with words indicating that the launching of boats from trailers is permitted and each having an arrow pointing generally towards the other sign.

In this policy, "transfer" means transfer of a licence granted under the Jetties Act to a new owner.

POLICY

1. *Existing Launching Ramps and Slipways*

- Located abutting private land which has a waterside boundary:

Owners to enjoy continued use subject to compliance with all the requirements of the licence granted under the Jetties Act.

- Located abutting a public reserve or a road reserve:

Owners to enjoy continued use subject to compliance with all the requirements of the licence granted under the Jetties Act.

2. *Transfer of a Private Launching Ramp or Slipway*

- Located abutting private property which has a waterside boundary:

The Trust will recommend approval of the transfer provided that it is satisfied that the launching ramp or slipway is of good engineering design and is in good order as required by the licence at the time of the application for transfer to the new owner.

- Located abutting a public reserve or a road reserve:

The Trust will recommend approval of the transfer provided that it is satisfied that the launching ramp or slipway is of good engineering design and is in good order as required by the licence at the time of the application for transfer to the new owner.

- In any case the new owner must reside either in front of or diagonally to the structure.

- A licence will not be transferred unless the Trust is satisfied that contaminants associated with boat maintenance are not discharged to the river.

3. *Application to Construct a Launching Ramp or Slipway*

- Located abutting private land which has a waterside boundary:

The Trust may recommend approval of an application provided that:

- the land does not have a high priority for acquisition for reservation;
- the design of the launching ramp or slipway complies with the minimum design standards for

such structures, set by the Manager Engineering, Department of Marine and Harbours;

- the owner of the land produces a copy of the title verifying the waterside boundary;
 - the structure will not interfere with navigation of the adjacent waters;
 - the structure will not significantly reduce the amenity of the area;
 - the structure will not aggravate river bank erosion;
 - the relevant local government authority supports the proposal;
 - public access is assured;
 - the development is designed to ensure that contaminants associated with boat maintenance are not discharged to the river.
- Located abutting a public reserve or a road reserve but owned by a private individual:

The Trust will not recommend these applications for approval.

DEVELOPMENT SETBACKS FOR DEVELOPMENT NEAR THE RIVER

Preamble

The river environment includes a variety of natural and modified landscapes which warrant protection as they provide an attractive backdrop to the river, contain places of scientific or historic interest or contain wetland ecosystems.

The protection of these values requires that development should be set back a sufficient distance from the river to protect and enhance the riverside environment as a visual, conservation, ecological, and recreation resource.

POLICY

The Trust will establish a setback line as part of the Swan River Landscape Plan, but in the meantime development should be set back from the landside boundary of the Parks and Recreation Reservation in the same way as residential development is set back from the street line. This setback should be a minimum of 10 metres or 20% of the average depth of the lot, whichever is the lesser.

This setback will not apply to:

- fences with a total height of 1.8 metres or less

- river retaining walls and other works for prevention of erosion, approved by the Trust
- development nodes as outlined in the Preamble.

The building setback described above will be additional to any extension of the foreshore specified elsewhere.

It is intended that the setback area remain in private ownership and use, similar to the building setback areas that commonly adjoin road reserves.

All future land subdivisions adjoining the Parks and Recreation and Reservations should give consideration to the building setback requirement.

Development refers to development as defined under the Swan River Trust Act.

COMMERCIAL DEVELOPMENT

Preamble

Commercial developments include the construction of facilities and provision of services undertaken to generate income for profit.

Generally, commercial developments on the river should be associated with recreation and tourist facilities, river transport infrastructure or essential marine service industries. They should enhance community use of the river without affecting its living systems or public access and amenity.

The Swan River Management Strategy recommends that commercial development should occur at identified nodes.

Appropriate commercial developments include

- limited tourist accommodation and high standard restaurants, tearooms and kiosks
- boat, canoe, yacht and bicycle hire outlets
- marine industry sales and maintenance operations.

Commercial developments must comply with the Landscape Protection Policy contained in this document. The Trust will not support development which adversely affects the river landscape, e.g. advertising hoardings.

There should be no commercial development in environmentally sensitive areas, such as shallow flats or areas covered by System 6 recommendations.

Commercial developments should be capable of returning economic rents and paying rates and taxes appropriate to their activity. Revenue raised from commercial activities on reserves should be used

for management of the reserves or river. If Crown land is involved the Minister for Lands must approve and a lease be created in accordance with the Land Act 1936. In some cases land may need to be excised from a reserve.

POLICY

1. The Trust will take account of the following social, environmental and physical planning criteria:
 - availability of essential services including water, sewerage, electricity and telephone;
 - possible adverse impacts on neighbouring residential areas from noise, traffic and parking;
 - extent to which the foreshore area might be alienated for parking provision;
 - intent of the local government authority town planning scheme as it relates to adjacent areas;
 - impact of the development on the existing landscape and natural environment;
 - impacts of flood levels on developments and of developments on flood levels;
 - impact of the development on public access to the foreshore.
2. Each proposal for commercial development will be considered on its merits but cumulative impacts will also be taken into account.

LANDSCAPE PROTECTION

Preamble

The Swan River Trust will make use of a number of planning controls and strategies to protect and enhance the variety of landscapes, natural and modified, which provide a visually attractive backdrop to the river and maintain a soft edge between the developing urban environment and the river.

In particular, the Trust will protect

- remnant foreshore vegetation
- places of scientific or historic interest
- functioning and remnant wetland ecosystems
- natural cliffs and steep escarpments
- special and significant views to and from the river.

The policy sets out the principles of land use controls by which the Trust seeks to protect the river landscape. It recognises the importance of public access, and the co-operation of local authorities and individuals in achieving its aims.

Indigenous vegetation should be retained. The Trust prefers the use of indigenous plants in landscaping but exotic and other Australian plants may be used to reinforce existing plantings.

Large or obtrusive development should be set back from headlands and other landscape features in accordance with a landscape plan.

The Trust will not support indiscriminate filling or the construction of high walls along the river edge.

POLICY

1. The Trust will support land use controls to protect the river landscape, including:
 - reservation and acquisition of land for foreshore reserves, especially at a regional level;
 - zoning for reservation and landscape protection in local government authority town planning schemes;
 - voluntary agreements with private landowners;
 - landscape management plans prepared by local government authorities, private developers and local advisory groups are required as a condition of development approval;
 - development controls; and
 - vegetation protection orders.
2. The Trust will promote the retention and rehabilitation of indigenous vegetation.
3. The Trust will encourage the provision of planned and well managed public access as part of its policy and enhancement of the landscape.

CONSERVATION AND ENVIRONMENT PROTECTION

Preamble

Since settlement much of the river's foreshore vegetation and fringing wetlands have been destroyed. The Swan River Trust recognises the importance of fringing vegetation in providing food and shelter for wildlife, in stabilising the banks and foreshores of the river and as a nutrient filter.

The Trust also recognises the importance of the tidal flats and shallow banks in supporting the diverse fish and invertebrate fauna on which the continued viability of the commercial and recreational fisheries depends.

Under international agreements Australia is bound to protect the habitat of the migratory waterbirds which feed on the tidal flats and adjoining salt marshes.

The Trust had endorsed the System 6 recommendations which affect the Swan River Trust Management Area but is aware that there are areas not covered by those recommendations which should be protected.

There will be a presumption against development which would adversely affect shallow banks and fringing vegetation, directly, either through physical disturbance of the natural landscape and ecosystem or by deposition of toxic substances or nutrients through dredging, filling or drainage from adjacent sites. Long or high retaining walls at or below high watermark would be included in such developments since they result in loss of river landscape values and estuarine habitats.

In addition to ensuring that development is strictly controlled, the Trust actively encourages retention and restoration of natural vegetation in the management area.

Generally it is the Trust's policy to retain a gentle graduation of landscape between the river environment and the adjoining built environment.

The Landscape Protection Policy contained in this document should be read in conjunction with this policy. Other policies of the Trust deal more specifically with developments which may adversely affect the river environment; the policy on dredging is particularly applicable.

POLICY

1. The Trust will protect and maintain a functional healthy river environment by controlling the level of its modification.
2. There will be a presumption against development which may degrade shallow flats, foreshore fringing vegetation or wetlands, either directly or indirectly.
3. The Trust will give a high priority to the maintenance and restoration of natural vegetation when considering development applications.
4. The Trust will support land use controls to protect the river environment, including:
 - reservation and acquisition of land for foreshore reserves, especially at a regional level;

- zoning for reservation and environment protection in local government authority town planning schemes;
 - voluntary agreements with private landowners;
 - landscape management plans prepared by local government authorities, private developers and local advisory groups or required as a condition of development approval;
 - development control; and
 - vegetation protection orders.
5. All Part 5 development proposals affecting System 6 recommendations will be referred to the EPA for advice before the Trust prepares its recommendations (see Part 5 of the Swan River Trust Act, 1988).

FLOOD PRONE LAND

Flooding along a river or stream occurs when sufficiently heavy or prolonged rainfall produces runoff which overflows the banks of the watercourse. In tidal reaches low-lying land may be flooded as a result of extremely high tides or storm surges accompanying severe storms.

The pressure on flood plains is increasing as desirable undeveloped land becomes scarce. Severe floods do not happen often, so the extent of flooding and the resulting loss of life and property are soon forgotten.

The terms "flood prone land" "flood plain", "flood fringe", "floodway" used in this policy are defined in the Introduction, Section 3, Interpretation.

The object of flood plain management is to ensure the wise use of flood prone land while minimising flood risk, damage and hazard. Effective management depends on co-operation and co-ordination between public authorities at all levels of government.

The Water Authority of WA is responsible for providing advice on flood plain management to all levels of government and the public. WAWA does not have power to control development on flood plains but acts as a consultant to planning authorities. The final decisions on land planning and development proposals are made by the planning authorities.

In 1977 WAWA completed a comprehensive flood study of the Swan River which included drafting maps delineating the extent of the flood plain, documenting historical and statistical events and reviewing topographic, hydrologic and hydraulic detail. This information was reviewed in 1985 and a revised set of flood maps was prepared for local government authorities .

Flood prone land shown on the maps includes the floodway and the flood fringe, as described in the Introduction, Section 3, Interpretation.

This policy deals with engineering and health considerations and has been prepared in consultation with WAWA and the Health Department of WA. However, it should be noted that the flood plain contains important environmental and landscape features which require protection. The Trust is committed to maintaining a river environment that grades from the water through "natural" areas of varying width to developed areas. The aim is to retain a variety of landscapes with a predominantly natural theme. This can be done by defining areas, including areas of flood fringe, which should be retained either as reserves or in landscape protection zones.

The Trust's recommendations on development on flood prone land will be made in the context of the policies on Landscape Protection, and Conservation and Environment Protection, contained in this document.

WAWA considers that technically land within the flood fringe can be developed provided that it complies with conditions stipulated by WAWA. Development will generally not be permitted in floodways if it results in obstruction of the free flow of water, increasing the risk of flooding upstream.

As information about probable climatic changes associated with the Greenhouse Effect becomes available, it will be considered when planning for the management of the flood plain. In the meantime a conservative approach should be adopted when considering development in flood prone areas.

Background information and definitions for this policy were taken from the pamphlet "Flood Plain Management" (WAWA, 1988).

POLICY

1. The Trust will seek advice from the Health Department of WA and the Water Authority of WA when considering development proposals for flood prone land. Development will normally only be permitted in the flood fringe areas of the flood plain.

- The Health Department will be asked to advise whether effluent disposal proposals are acceptable.

High density development or large wastewater producers must be connected to sewer.

Single residences may be connected to septic tanks and leach drains but these should be set back as far as possible from the river. Site conditions are such as to prevent leaching of waste to the river.

The Health Department only supports development on the flood fringe when buildings are constructed on building pads at a height and setback distance from the floodway nominated by WAWA.

- Development in the flood fringe may be supported if WAWA advises that it will not increase flooding elsewhere.

Developments which would obstruct the full flow of floodwaters include:

- land filling
- buildings and outbuildings, including stables
- retaining walls, walls and fences of solid construction.

2. Notwithstanding the above, the Trust will not normally approve developments in the floodway but may approve those which are of community benefit or minor (e.g. pergola, public facilities). Each proposal will be considered on its merits, with the Trust taking advice from WAWA on the degree of obstruction and impact on floodwaters.
3. Land to be graded back to natural contours.
4. The Trust's attitude to subdivision within the floodplain is that only developable land may be approved. Each lot should include land outside the 100 year flood plain.

RESTAURANTS AND TEAROOMS

Preamble

The construction of restaurants and tearooms constitutes commercial development under the Swan River Trust Act 1988 and requires the approval of the Minister.

A proliferation of restaurants along the river would affect the river landscape and could result in environmental loss and reduced public access. When considering any proposal the Trust should examine these issues carefully.

The most suitable sites for restaurants or tearooms are those which have been modified. Restaurants and tearooms should not encroach on the river.

The Trust's policy on Commercial Development contained in this document should be read in conjunction with this policy.

In this policy, "transfer" refers to transfer of the licence granted under the Jetties Act to a new owner.

POLICY

1. *Existing Restaurants and Tearooms*
 - Located on or adjacent to a foreshore where the natural landscape has already been substantially modified:

Owners of these restaurants to enjoy continued use subject to compliance with the provisions of the licence granted under the Jetties Act or Town Planning Act.

2. *Transfer of Restaurants and Tearooms under Jetty Licence*

If a structure is

- Located on or adjacent to a foreshore where the natural landscape has already been substantially modified:

The Trust may recommend approval for transfer of a restaurant or tearoom if it has been properly maintained to the satisfaction of the Manager of Engineering, Department of Marine and Harbours.

3. *Application to Construct a Restaurant or Tearoom*

- Located on or adjacent to a foreshore where the natural landscape has already been substantially modified:

The Trust may recommend approval for construction of a restaurant or tearoom provided that:

- the proposal meets the social, environmental and physical planning criteria of the Commercial Development Policy; and
- the proposal meets the design standards for such structures set by the Manager Engineering, Department of Marine and Harbours.

BRIDGES

Preamble

There are currently no privately owned bridges in the Swan River Trust Management Area but there are numerous structures which have been constructed by public authorities as part of the road and rail system.

Construction of a bridge constitutes development under the Swan River Trust Act 1988. If the bridge is to be constructed on an existing road reservation adjoining the Swan River Trust Management Area, the Minister may impose conditions. A bridge crossing the management area would require the approval of the Minister.

When considering applications the Trust will take account of other policies, particularly the policies on Dredging, Landscape Protection, and Conservation and Environment Protection, contained in this document. Applications for over-water structures are referred to the Environmental Protection Authority. The Trust will seek the advice of the Water Authority of WA on the effect of the proposal on river flow behaviour, and of the Department of Aboriginal Sites, WA Museum, if an Aboriginal site appears to be involved.

POLICY

1. *Application to Construct a Bridge*

The Trust may recommend approval to construct a bridge provided that:

- the design of the bridge complies with the minimum design standards for such structures set by the Manager Engineering, Department of Marine and Harbours;
- the design of the bridge is such that it gives minimum interference to floodwaters
- there is public pedestrian access along the foreshore;
- fishing platforms, pedestrian and cycle paths are included where appropriate; and
- there is a streamlining of crossing points for utilities and other facilities.

RUBBISH DISPOSAL SITES

Preamble

From settlement until 1982 the margins of the Swan and Canning Rivers were used for sanitary landfill purposes, and twenty-seven areas are known to have been used in this way.

However, this land use is no longer considered compatible with the river environment because of the risk of pollution and loss of wildlife habitat and amenity, and because it may aggravate flooding problems.

Any new proposal for a rubbish disposal site adjacent to the Swan or Canning Rivers or to streams which feed into them constitutes development under the Swan River Trust Act 1988.

POLICY

1. The Trust will not recommend approval for any new rubbish disposal site adjacent to the Swan or Canning Rivers or to streams which feed into the rivers.
2. The Trust will oppose the initiation of rubbish dumping on sites adjacent to the rivers which are already gazetted but not currently in use.
3. The Trust will oppose any expansion to the existing rubbish disposal sites adjacent to the rivers.
4. The Trust considers that existing rubbish disposal sites adjacent to the rivers should be closed as soon as possible.

MARINAS AND BOAT PENS WITH WATER LEASE AND JETTY LICENCE

Preamble

The increased demand for boating facilities along and adjacent to the river foreshores competes with other activities for available space. Yacht clubs, marinas, boat ramps and jetties are accepted as proper uses of the foreshore but they must be limited to allow room for uses unrelated to boating.

The construction of new or extended marinas and boat pens or redevelopment of existing facilities constitutes development under the Swan River Trust Act and requires the approval of the Minister.

Because of current overcrowding in the river the Trust has reservations about recommending approval for new marinas or boat pens. The criteria which would be applied in considering applications for new marinas or boat pens are detailed in the Swan River Management Strategy (see Recommendation 93). Given these requirements it is unlikely that the Trust will recommend approval for new marinas and boat pens.

Marinas require a land lease from the Department of Land Administration and a water bed lease from the Department of Marine and Harbours.

In this policy, "transfer" refers to transfer of the jetty licence granted under the Jetties Act to a new owner.

POLICY

1. *Existing Marinas and Boat Pens*

Owners to enjoy continued use subject to compliance with all the requirements of the licence granted under the Jetties Act.

The Trust may recommend approval for extension or re-arrangement of pens provided that:

- the extended or rearranged pens remain within the existing water lease area;
- the design of the pens complies with the minimum design standards for such structures set by the Manager Engineering, Department of Marine and Harbours;
- any dredging complies with the Dredging Policy contained in this document;
- the Trust is satisfied that the proposal
 - involves only minor site modifications
 - does not impinge on environmentally sensitive areas
 - does not impinge on other legitimate competing uses

- takes account of the river landscape.

2. *Transfer of a Marina*

The Trust may recommend approval for transfer of a marina provided it is in good order as required by the standards set by the Manager Engineering, Department of Marine and Harbours.

3. *Application to Construct a Marina or Boat Pen on Privately Owned or Leased Land with a Waterside Boundary*

In considering applications for new marinas or boat pens the Trust will require that the proposal:

- involves only minor site modifications
- does not impinge on environmentally sensitive areas
- does not impinge on other legitimate competing uses
- takes account of the river landscape.

The Trust would also require the proper disposal of all wastes. Contaminants associated with boat maintenance must not be discharged to the river.

The design of the marina and pens shall comply with the minimum design standards for such structures set by the Manager Engineering, Department of Marine and Harbours.

4. The Swan River Trust supports the installation of sullage pump-out facilities.

DREDGING

The Swan River Trust and the Environmental Protection Authority are currently working on an Environmental Protection Policy (EPP) for Dredging. The following should therefore be taken as an interim policy only.

Preamble

Guidelines for dredging in the Swan River Management Area and for disposal of dredge material were prepared for the EPA by a consultative committee. The Swan River Trust and the EPA are currently updating the guidelines which will then be adopted as an Environmental Protection Policy.

No attempt has been made to designate areas of the river system where dredging might not be permitted. The guidelines made it clear that all applications for dredging and disposal of dredge material,

whether from government agencies or developers, will be assessed solely on their merits and in accordance with the guidelines.

All dredging is defined as development under the Swan River Trust Act, requiring the approval of the Minister.

This policy is a summary of the EPA guidelines. While it provides an indication of their intent and requirements, proponents should read the full guidelines before lodging an application which entails dredging and disposal of dredge materials.

Proponents are also referred to the Trust's policy on Conservation and Environment Protection, contained in this document.

POLICY

1. The Trust identifies two types of dredging:
 - maintenance dredging to maintain existing navigation channels and boat harbours or resurrect former water conditions;
 - developmental dredging for construction of new facilities or extension of existing areas.
2. The Trust will consider all applications for maintenance dredging on their merits, taking particular account of the environmental impact of the proposal.
3. The Trust may attach conditions to any recommendation for approval, covering:
 - disposal of dredge material
 - the time of year when dredging can take place
 - completion of the operation within a specified time
 - control of smell, dust, insects.
4. Developmental dredging and any dredging which involves the disposal of dredge material within the river system shall be subject to environmental assessment, at a level determined by the EPA and SRT and covering:
 - river hydrology
 - the short and long term impacts of the proposal on plant and animal life of the river system
 - the extent to which ongoing dredging will be necessary
 - the need for the proposal in the context of other competing uses.

5. The cost of disposing of dredge material must be included in the proposal and is to be borne by the proponent.
6. All dredge material is to be removed from the river system unless exceptional circumstances apply.
7. The Trust is unlikely to recommend approval for disposal of dredge material:
 - into deep holes in the river
 - on wetlands
 - on flood prone land.

HOUSEBOATS

Preamble

This policy refers only to the commercial operation of houseboats on the rivers.

Swan River Trust Regulation 9 allows for the limited use of a privately owned vessel as living accommodation, i.e. for not more than 6 consecutive days or 10 days in any period of 30 days unless specific approval is obtained from the Trust.

A proposal for commercially operated houseboats on the Swan or Canning Rivers constitutes a development under the Swan River Trust Act, and would require the approval of the Minister.

Any vessel or pontoon used for accommodation, whether permanent, temporary or intermittent, is classed as a houseboat.

POLICY

The Trust is opposed to the commercial operation of houseboats on the river for the following reasons:

- There is already considerable pressure on the waterways and river foreshore for a variety of recreational uses and houseboats would add to the congestion.
- Downstream of the Causeway there are only a limited number of mooring areas suitable for all weather conditions and there is already keen competition for them from yacht clubs and private boat owners.
- Above the Causeway and Canning Bridge the navigable water is limited and is subject to flooding, making those parts of the river unsuitable for houseboats.
- There are many alternative options for accommodation.

VENDING AND HIRE AND DRIVE OPERATIONS ON THE RIVER

Preamble

The sale of food, drinks, and other items from small boats is a commercial enterprise and is defined as development under the Swan River Trust Act, requiring the approval of the Minister.

Hire and drive operations on the river are also classed as development.

Because the river is a relatively safe water recreation area it attracts large numbers of people in a variety of recreational activities. The resulting congestion in popular foreshore areas makes it necessary to permit only those activities which are essentially water based.

The Swan River Trust believes that in general vending from small boats is not an appropriate use for reasons including the potential for pollution and interference with other water based activities and, that hire and drive operations should be strictly limited (see also Swan River Management Strategy Recommendation 77).

Note that a hire and drive operation requires a licence from the Department of Marine and Harbours.

POLICY

1. *Vending*

There will be a presumption against approval for vending from small boats on the river.

2. *Hire and Drive Operations*

There will be a presumption against approval for hire and drive operations within the Trust's management area unless it can be clearly demonstrated that:

- the water area proposed for the hire and drive operation is not already fully utilised;
- the proposed use will not conflict with other river uses;
- the foreshore area will not be alienated for parking;
- the proposal will not have an adverse impact on the environment;
- the local government authority will approve the proposal.

CYCLE PATHS AND DUAL USE PATHS ON THE FORESHORE

Definition of pathway: pedestrian pathway, cycle path and dual use path.

Preamble

Dual use paths provide linear access to foreshore areas and cater for both cyclists and pedestrians. They have been developed along much of the foreshore of the Swan and Canning Rivers but there are sections which have yet to be constructed. In some instances steep rocky foreshores and private ownership of river foreshore have limited the development of paths.

Perth Bikeplan (1985) gave considerable stimulus to bicycle planning and set the scene for the development of an extensive cycle network.

Local government authorities are generally responsible for planning and construction of cycle paths and dual use paths in their municipalities.

A path should be located away from the river bank so as not to create a barrier for people using the foreshore for passive recreation. The route should be planned to provide a variety of experience, taking in areas of scenic, historic and scientific interest.

For further information see "Environmental Guidelines for Dual Use Paths" (available from the Waterways Commission).

POLICY

The Trust supports the construction of paths along the foreshores of the waterways subject to the following:

- The cycle path should not divide the foreshore reserve but should be located on the landward side of the reserve. The path should be at least 10 metres from the river's edge. Where the foreshore reserve is less than 10 metres wide, the path should be incorporated into the roadway or detour away from the river.
- It should avoid environmentally sensitive wetlands and difficult terrain.

RETAINING WALLS

Preamble

Retaining walls may be constructed:

- at or below high water mark to control erosion or facilitate use of the river bank for boating or other marine purposes;
- above high water mark to enable back filling to create a flat surface for construction or other purposes.

New retaining walls are considered developments under the Swan River Trust Act, requiring the approval of the Minister.

The Trust will consider each application on its merits, taking account also of the policies on Development Setback, Landscape Protection and Conservation and Environment Protection, contained in this document. The Trust is concerned that the construction of long lengths of retaining walls may result in the loss of river landscape values and of estuarine habitats. Generally it is the Trust's policy to retain a gentle gradation of landscape between the river environment and the adjoining built environment.

A retaining wall may not be removed without the development approval under the Swan River Trust Act.

POLICY

1. *Existing Retaining Walls*

- Located on private land which has a waterside boundary:
The owner of the retaining wall to enjoy continued use subject to its proper maintenance.
- Located abutting public land:
The owner of the retaining wall to enjoy continued use subject to its proper maintenance.

2. *Application for the Construction of a Retaining Wall*

The Trust may recommend approval to construct a retaining wall which has a waterside boundary within or abutting public land within our management area, provided that:

- the construction of a retaining wall is necessary to stabilise the bank;
- the design of the retaining wall complies with the minimum standards for such structures set by the Manager Engineering, Department of Marine and Harbours and the Trust's Director of Engineering;
- the wall is designed to be in harmony with its surroundings;
- the owner produces a certificate of title verifying that the private land has a waterside boundary; and
- the design retains significant landscape features and fringing vegetation.

Where a vertical wall is proposed and the waterside boundary of the land as shown on the diagram and the title is an irregular line, the wall may be constructed on a fair average straight alignment to the satisfaction of the SRT Engineer.

Where a sloping or battered wall is proposed the design and location must meet the requirements of the Trust.

SLIPPING FACILITIES

Preamble

Noxious or toxic substances associated with boat maintenance operations must not be allowed to drain from the hardstand area into the river.

The installation of new slipping facilities constitutes development under the Swan River Trust Act and requires the approval of the Minister. Applications for installation of new slipping facilities must include provision for an intercepting drain sufficient to prevent fuel, oil, detergents, heavy metals and other toxins which exist in anti-fouling paints from entering the river water.

Under the EPA Act allowing waste to enter any portion of the environment so as to cause pollution is an offence and specific penalties can be applied.

POLICY

Any proposal for the installation of slipping facilities must contain provision to prevent pollutants from entering the river water, as follows:

- An intercepting drain, designed and constructed to the satisfaction of the Trust, shall be provided to prevent the entry of noxious substances associated with boat maintenance operations from entering the water.
- The intercepting drain is to be covered with a mesh which will pick up all of the larger pieces of material allowing the smaller particles to pass through a fine particle trap into a settling tank.
- The settling tank is to be constructed in such a way that it can be periodically cleaned out.

AQUATIC CLUBS

Preamble

A number of organisations including yacht clubs, rowing clubs, sea scouts and school clubs use riverside sites. Aquatic clubs provide valuable educational opportunities for the people of Perth but they occupy large areas of foreshore land and sometimes water to the exclusion of other people. The number of clubs must be controlled to allow room for other activities and uses unrelated to boating.

The establishment of new club facilities or extension of existing facilities constitutes development under the Swan River Trust Act. Because of current overcrowding on the river the Trust is unlikely to

recommend approval of new club facilities. In considering applications the Trust will take account of Recommendations 92-98 in the Swan River Management Strategy relating to marinas, yacht clubs and associated facilities.

Aquatic clubs require a land lease from the Department of Land Administration and a water bed lease and jetty licence from the Department of Marine and Harbours.

POLICY

1. *Application to Construct a New Aquatic Club Premises*

In considering an application, the Trust will require the following:

- The club must be legally constituted, with at least fifty members, and financially sound. The club must provide evidence to the satisfaction of the Trust that the proposed development can be financed.
- The club must show proof of ownership/leasehold of the land and of the water area required for its activities.
- The development must not impinge on environmentally sensitive areas.
- The development must not impinge on other legitimate competing uses.
- The club buildings must be aesthetically pleasing when viewed from either the water or the land. They must be sited not less than 30 metres from high water mark.
- Jetties, slipways and launching ramps must conform to the Trust's policies and comply with the design standards for such structures set by the Manager Engineering, Department of Marine and Harbours.
- Where the lease of the land area granted to the club extends to high water mark the public must be permitted to traverse this section and fences erected must not prevent this.
- All waste must be disposed of to the satisfaction of the Trust. If legislation is passed requiring certain types of private boats to be fitted with holding tanks for the receipt of domestic wastes, clubs will be required to provide, at their cost, suitable pumping out equipment and disposal to sewer or septic tank as approved by the Trust in accordance with any requirements nominated by the Health Department of WA or local government authority.
- Any proposed refuelling installation must be designed to the satisfaction of the Trust to minimise the risk of fuel spills.

2. *Application to Extend an Existing Aquatic Club Premises*

The criteria for construction of new aquatic club premises will also apply when the Trust considers an application for extension of existing premises.

Any extensions must be contained within the existing land and water lease areas.

STORMWATER DISPOSAL

Preamble

The Swan River Trust recognises that it is not practical to eliminate stormwater runoff or groundwater from the river system, as the rivers are the natural discharge point for the stormwater system. However, discharges to the river must be controlled to minimise the risk of pollution from substances such as fertilisers, road wastes and industrial and domestic chemicals.

It is the Trust's general position that all developments adjacent to the river should dispose of stormwater on site. Where on-site disposal is not possible or would result in undue difficulties, special approval must be obtained. The Trust recognises that there may be problems with on-site disposal in heavy clay soils.

Drainage systems must be designed and maintained to minimise the impact on the river. The arterial drainage system is managed by the Water Authority while local drainage is the responsibility of local government. For good management of stormwater, WAWA, local authorities and the Trust should co-operate to identify the location and capacity of all outlets.

Monitoring of water quality in the rivers is conducted by the Water Authority, local authorities and the Swan River Trust.

POLICY

1. *On-site Stormwater Disposal*

Stormwater from residential buildings, commercial buildings, industrial sites, roads and car parks servicing such buildings, constructed adjacent to the river, is to be disposed of on site unless soil type prevents this.

2. *Off-site Stormwater Disposal*

Where development proposals involve new drains, reconstruction or relocation of existing drains, the Trust requires that the following standards are met:

- Drainage waters should not discharge into the fringing salt marsh vegetation so as to alter the hydrological and salinity regime of the vegetation unit.

- Drainage waters should only be discharged into freshwater wetland vegetation if the additional load does not alter the hydrological regime and vegetation composition.
- To minimise the number of drainage outlets to the river, existing natural watercourses and existing outlets should be used as a point of entry for drainage waters into the estuarine system, where they exist in proximity to the development.
- Where a previously cleared area is to be rehabilitated to natural vegetation, drains should be located to enhance the area. In this instance, a landscape plan for the area would be required.
- Where it is not appropriate to discharge stormwater into a wetland, drains should be directed around the periphery of the vegetation unit. Where this is impracticable, the waters should be piped or channelled through the wetland so as to minimise the impact on the vegetation.

3. *Traps and Compensating Basins*

The normal traps serve a useful purpose in retarding waste spillage and extreme peak flows where local drains connect to arterial drains and compensating basins.

However, traps are normally impracticable and undesirable on large arterial drains flowing to the river.

Trapping facilities and compensating basins should be used on minor drainage networks to regulate flow, act as "gross pollution traps" and provide a point for the recovery of pollutants during spillage incidents.

Other (local) drains entering the river should contain a trapping system.

4. *Design and Maintenance*

Drainage outlet structures and traps are to be designed, constructed and maintained to the satisfaction of the Trust. Swales and permeable paving such as bricks and gravel may be used to facilitate retention of stormwater.

The Trust supports the retention of open drains with emergent vegetation which acts to trap sediment, hydrocarbons, nutrient and litter.

The Trust encourages the incorporation of recreation friendly features into the design of outfalls, e.g. incorporate into jetties, level tops, etc.

5. The Trust will encourage local government authorities, government agencies and individuals to minimise and/or reduce the number of existing drains entering the river.
6. Non-functioning structures should be removed from the foreshore and the foreshore rehabilitated to the satisfaction of the Trust.

FORESHORE RESERVES

Preamble

It is the function of the the Swan River Trust (SRT) to manage, conserve, protect and enhance rivers, inlets and estuaries under its jurisdiction in accordance with the Swan River Trust Act, 1988. This function extends to the lands associated with the waterway, including the foreshore reserve.

The goal of waterway planning and management is to ensure a balance between the competing demands for the use and development of waterways and the need to conserve a functional waterway environment.

It is important to good management of the waterways that foreshore reserves are established to:

- protect plant and animal communities and physical features which form an integral part of the estuarine ecosystem;
- provide a buffer between the waterway and possible sources of water pollution;
- provide a buffer between waterways and private property to minimise problems associated with foreshore erosion;
- contain features which are part of the waterway landscape;
- enable public access in a manner consistent with the multiple use of the waterway.

This policy sets guidelines for the acquisition and management of foreshore reserves in the management area of the Swan River Trust.

POLICY

1. *Acquisition and Reservation*

- The waterway should be separated from private property by an area of public land which should be appropriately reserved for recreation, conservation or other purpose related to waterway management. This should include features of natural, scientific, landscape and cultural significance.
- Where subdivisions or other developments are approved adjacent to the waterway, the land comprising the reserve should be ceded by the developer free of cost to the Crown. The area ceded as foreshore reserve should be included to the developers' advantage when determining development plot ratios.
- Where Crown land is being developed adjacent to the waterway, suitable foreshore reserves should be determined before development is approved. If a

foreshore reserve already exists provision should be made for its extension if necessary.

- Where a State authority has purchased freehold land on the foreshore, appropriate foreshore reserves should be determined before any development of that land is approved.
- The width of the foreshore reserve will be determined after taking account of:
 - the need to provide a buffer zone at the land-water interface to allow for changes in bank position through the natural processes of erosion or accretion;
 - tidal and flooding characteristics which influence the position of high water mark and the estuary mouth;
 - the role of fringing vegetation as a biological filter protecting water quality, as a wildlife habitat and in preventing erosion;
 - the need to protect areas of recreation, conservation or landscape value;
 - the possible impact of rising sea levels associated with the predicted Greenhouse Effect.
- Foreshore reserves at least 50 metres wide should be ceded by developers of broadacre subdivisions. In upstream areas where the rivers are narrower a lesser width may be approved. Close to the city where property values are high, the main concern will be to ensure adequate public access and protect the river bank and the retention of significant landscape features.
- It should be a condition of approval of a development or subdivision that the land to be included in the foreshore reserve be ceded by the developer free of charge to the Crown in accordance with Section 20A of the Town Planning and Development Act. The boundary of the foreshore reserve should be determined and pegged on the ground during a site survey undertaken by the developer and SRT staff.

2. *Management of Foreshore Reserves*

a) *The Preparation of Management Plans*

GENERAL GUIDELINES

- Management plans should be prepared for all foreshore reserves within or adjoining waterways management areas. The plans should relate to current waterway management programmes and

the beneficial uses preferred for that part of the waterway.

- The management plan should:
 - define the location, area and purpose of the reserve;
 - state in whom the reserve is vested;
 - contain information about the physical characteristics of the reserve, including geology, geomorphology, contours, hydrology, flood levels, wind direction, vegetation and wildlife, erosion and accretion;
 - include information about cadastre (e.g. property boundaries), existing public uses, likely uses, constraints and important management issues;
 - identify suitable locations for permanent structures taking account of drainage patterns, possible flooding and shoreline movements;
 - include provision for the control of pests including mosquitoes and noxious weeds;
 - contain recommendations about future development, management and use;
 - outline funding arrangements for future management and use.

MANAGEMENT PLANS PREPARED BY STATE AND LOCAL GOVERNMENT AUTHORITIES

- Where foreshore reserves are vested in a State or local government authority, that authority should prepare the management plan.
- Where vacant Crown land or unvested reserves exist within the management area the SRT will encourage an appropriate State or local government authority to accept vesting and prepare the management plan.
- Where no other appropriate authority will accept vesting of the reserve, the SRT will seek vesting and prepare the management plan.
- Where an activity associated with the reserve has a direct impact on the waterway, the SRT may provide assistance in the preparation of the management plan on a cost shared basis.

- In all cases, the management plan should address all the matters outlined under General Guidelines and must be approved by the relevant planning and waterways authorities.

MANAGEMENT PLANS PREPARED BY PRIVATE DEVELOPERS

- The preparation of a management plan should be a condition of approval for developments near waterways, including subdivisions, multi-unit developments, resort developments and marinas, which will result in increased use of the foreshore.

The management plan should be prepared by the developer at the developer's expense.

- The management plan should address all the matters outlined under General Guidelines and must be approved by the relevant planning and waterways authorities.
- The management plan should cover the area of the development and any adjoining land or waterway affected by it, as determined by the relevant planning and waterways authorities.
- The management plan should address the issue of maintenance of the area during an establishment period agreed by the developer and the planning and waterways authorities.

b) Public Access

- It is a major function of foreshore reserves to ensure public access to the waterways. The Trust's policy is that the public should have access to all foreshores unless environmental considerations preclude it.
- Where freehold land titles exist to high water mark and public access is limited, acquisition of a foreshore reserve should be a high priority.
- Intensive public use should be concentrated at appropriately located nodes which are identified in the management plan and developed according to the plan.
- Paths should be located to direct people away from environmentally sensitive areas. They should be designed and constructed in accordance with the Environmental Guidelines for Dual Use Paths.
- Vehicular access to foreshore reserves should be by relatively short loop roads originating outside the reserve. Long straight lengths of road parallel to

the waterway should be avoided. Roads should be routed around environmentally sensitive areas.

c) Funding of Foreshore Reserves

- In general, works and maintenance directly associated with the waterway should be funded by the SRT.

Works and maintenance associated with the foreshore reserve should be funded by the vestee or owner controlling the foreshore.

- The management plan for the foreshore reserve should outline funding arrangements for future management and maintenance of the reserve.
- Where the reserve is vested in a body other than the SRT and work is required to protect the waterway (e.g. for erosion control), such work should be specified in the management plan and carried out on a cost sharing basis specified in the plan.
- Where the reserve is unvested or vested in the SRT, and work is undertaken by another authority at the SRT's request, it will be funded by the SRT.
- The SRT may seek funds for works required to fulfil its functions under its Act, e.g. for recreational facilities. This funding should be for construction purposes only; maintenance will be the responsibility of the vestee, unless the maintenance is directly related to the health and stability of the waterway.