

South-West Corridor Structure Plan Review

A submission by the Environmental Protection Authority on the documents released for review by the Department of Planning and Urban Development

**Environmental Protection Authority
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THE PURPOSE OF THIS REPORT

This report is the Environmental Protection Authority's submission to the review of the documents released by the Department of Planning and Urban Development entitled "South-West Corridor Structure Plan Review" Working Papers 1 - 9.

This submission is not a report under Part IV of the Environmental Protection Act, and there are no provisions for appeals against the Authority's views expressed in the submission.

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1. Introduction

The South-West Corridor Structure Plan Review was initiated by the Department of Planning and Urban Development to review and update the existing Structure Plan for the South-West Corridor which was adopted in 1980.

The South-West Corridor covers the coastal areas between Fremantle and Mandurah, and the area subject to this review is Rockingham to North Mandurah (refer figure 1). The overall goal of the revised Structure Plan is to accommodate the long term growth requirements of the Perth Metropolitan Region in the South West Corridor, taking particular account of the Department's previous studies such as "Metroplan" and "Urban Expansion Policy Statement", related environmental and other policies, and the opportunities and constraints to development which have been identified in the corridor (Department of Planning and Urban Development, 1993).

It has been stated by the Department of Planning and Urban Development that the review is to ensure a comprehensive approach to planning by providing opportunities for residential development and local employment, good access by both roads and public transport, and the conservation of important landscapes and environmental areas. The revised Structure Plan, once formally adopted by the State Planning Commission, is intended to provide a framework for more detailed planning and implementation at the district and local level (Department of Planning and Urban Development, 1993).

The Department of Planning and Urban Development published nine Working Papers on different topics to do with the review, which explain the reasoning behind the proposals that are currently shown on the revised Structure Plan.

This report is the Environmental Protection Authority's submission on the revised Structure Plan and the supporting Working Papers.

2. Environmental issues and the allocation of land uses

There are a number of environmental issues which should be taken into account in the allocation of land uses in the South-West Corridor. These issues have been highlighted in the following sections. The Department of Planning and Urban Development has identified and satisfactorily addressed many of the following issues in its Working Papers. The Environmental Protection Authority has also chosen to discuss them to either further emphasize their importance, to provide updated information, or to re-state previously published positions.

2.1 Catchment management

A portion of the South-West Corridor study area is within the Peel-Harvey Catchment. Working Paper Number 4 states that a draft Environmental Protection Policy has been produced which covers development within the Peel-Harvey Estuarine Catchment. The Environmental Protection (Peel Inlet-Harvey Estuary) Policy was finalised and became law in December 1992 (Government Gazette, 1992a).

The Policy establishes beneficial uses of the Estuary and sets environmental quality objectives which relate to limiting the amount of phosphorous entering the Estuary from the catchment. The objectives are to be achieved and maintained through the implementation of the Statement of Planning Policy Number 2 which was published in the Government Gazette in February, 1992(b). The Statement of Planning Policy is to be implemented by local authorities through their relevant town planning schemes, and by the State Planning Commission through the Metropolitan Region Scheme. The Policy is also to be implemented and maintained through appropriate land management by landholders and management authorities in the policy area; government extension services including the provision of advice to landholders in the policy area; and local authorities and the State ensuring that decisions and actions are compatible with the achievement and maintenance of the environmental quality objectives.

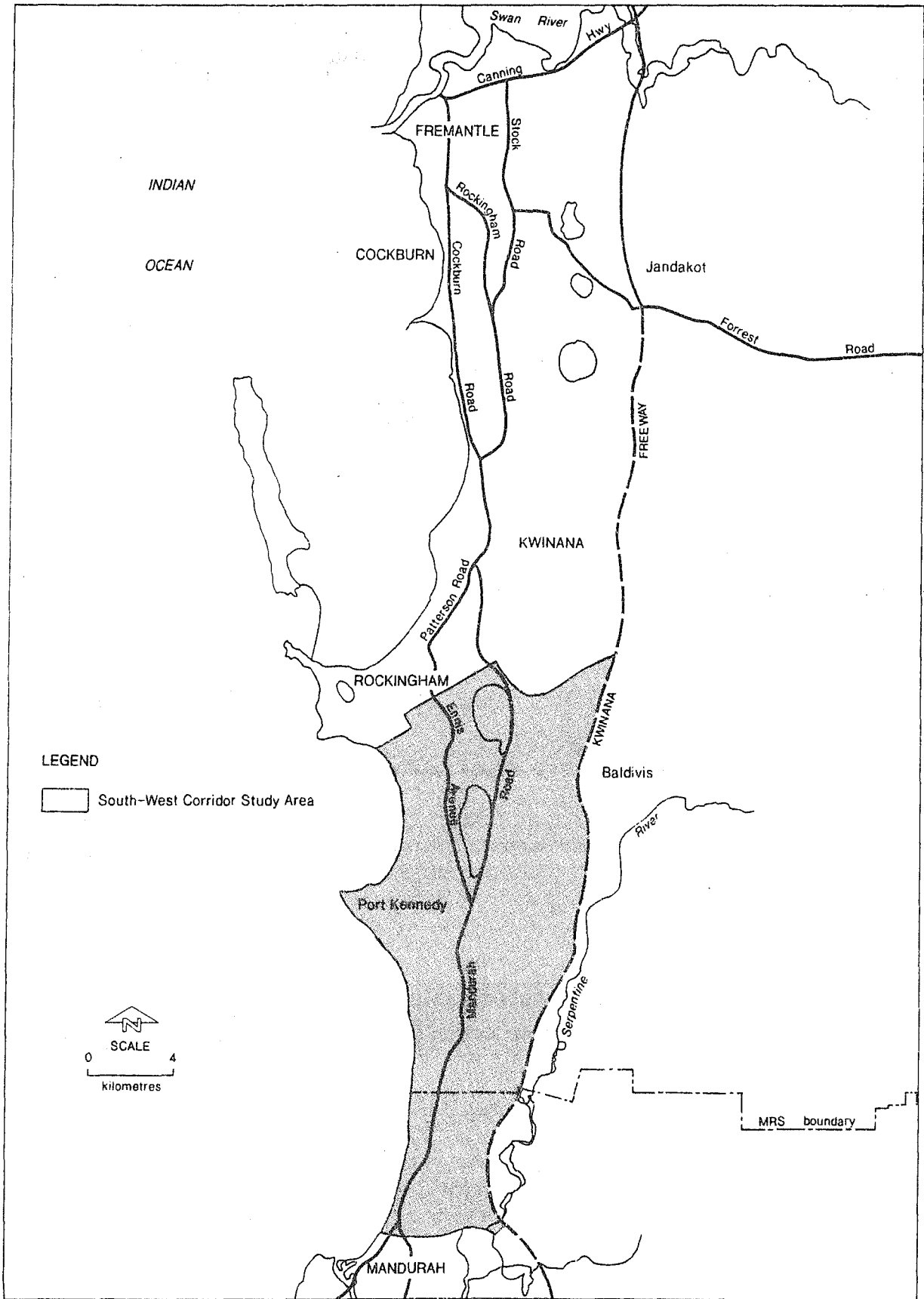


Figure 1: South-West Corridor Structure Plan Review Study Area

The Department of Planning and Urban Development is correct in stating that this Policy does not preclude urban development within the Catchment, and that careful management is required at the rezoning and subdivision stages to minimize nutrient impacts on the Peel-Harvey Estuary.

The Department has also correctly identified that management within the catchment of lakes and wetlands is also integral to their survival (refer Section 2.2).

2.2 Lakes and wetland management

Lakes and wetlands are valuable ecological and social resources in Western Australia because they support a wide range of water and land animals and plants. Lakes and wetlands have cultural and heritage values, provide for recreation, tourism and education, are an intrinsic part of the natural as well as the modified surface drainage pattern and they are indices of environmental quality. The Environmental Protection Authority has for a long time sought to protect lakes and wetlands as eighty per cent of these ecosystems on the Swan Coastal Plain have had their functions significantly changed since European settlement.

The Authority has worked to provide legal protection for the remaining lakes on the Swan Coastal Plain through the preparation of the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992. This Policy establishes beneficial uses of lakes to be protected, and prohibits the carrying out of activities which cause the destruction and degradation of lakes. It also requires persons who cause the destruction or degradation of lakes to undertake the rehabilitation or re-establishment of those lakes. The Policy specifically prohibits the filling, excavation and mining of identified lakes, the discharge or disposal of effluent into lakes, and the construction or alteration of drainage systems in lakes (Government Gazette, 1992c). Management of land use around lakes is also expected to protect the environmental values of these lakes.

The Environmental Protection Authority does not support proposals which will affect significantly functional lakes and wetlands in the South-West Corridor, that is:

- lakes nominated for protection in the Environmental Protection Policy;
- representative wetlands recommended for protection in the Authority's System 6 report;
- wetlands with rare vegetation communities not adequately represented in reserves, or rare flora and fauna (and their habitats); and
- wetlands recognised by international agreement because of their importance primarily for waterbirds and their habitats.

Any proposals affecting wetlands in the above category will be assessed by the Environmental Protection Authority. Generally proposals affecting wetlands in categories other than those listed are not subject to the Environmental Protection Authority assessment process. However, the Authority works in the knowledge that planning agencies and proponents will recognise that all wetlands have value and they should be appropriately managed to maintain their human use and natural values when assessing possible uses. In this regard, the Authority is currently revising its Bulletin 374, which provides guidelines for the protection and management of wetlands.

The Authority appreciates that agencies with planning and management responsibilities will be deeply involved in the application of wetland policies and guidelines. Those most concerned are the Departments of Planning and Urban Development, and Conservation and Land Management, and the Water Authority of Western Australia. Local Authorities and the community are also involved in reaching decisions about the best use of remaining wetlands.

The main factors in lake and wetland protection include:

- assessment and management of wetlands having regard to the Authority's guidance contained in Bulletin 374 (Environmental Protection Authority, 1990);

- protection for wetlands and associated vegetation buffers through planning controls or reservation consistent with management requirements; and
protection of water levels and water quality through management of drainage and land use in the catchments of wetlands (refer section 2.3).

As there are many wetlands within the South-West Corridor, the Authority is pleased to see that the above principles have generally been stated in the documents produced, and that wherever possible, lakes and wetlands have been included in Parks and Recreation Reservation or Landscape Protection. It is expected that the above principles and methods will also be adopted at the re-zoning, subdivision and development stages.

2.3 Water balance and water quality

The Authority supports comments made in the Structure Plan review documents with regard to the need to manage regional and local drainage and groundwater abstraction so as to minimise the impact of these activities on wetlands and lakes, the Serpentine River, and the Peel-Harvey Estuary. The promotion within the Structure Plan review of the concepts of nutrient stripping, water sensitive urban design, the use of constructed basins instead of wetlands to retain stormwater drainage on site, the use of buffers around wetlands, and the control of the effect on wetland water levels resulting from urbanisation and water abstraction is commendable.

2.4 Habitat and vegetation conservation

The Environmental Protection Authority considers that an adequate and representative system of reserves should be set aside for the conservation of flora, fauna and landscape. Such reserves should be properly managed and given security of tenure commensurate with their conservation value. The integrity of such reserves should be maintained. Activities, both within reserve and adjacent to reserves, that adversely impact upon the conservation values of the reserve should not be allowed or should be carefully managed.

In order to establish a system of reserves of regional conservation significance and/or regional representation of biological and physical values, the Environmental Protection Authority commissioned the Conservation Through Reserves studies in 1972. These studies divided the State into twelve systems each representing a natural and demographic entity. The Perth Metropolitan Area was included within the Darling System, that is System Six. The Recommendations of this System Six Study was endorsed by Government in 1983.

The Environmental Protection Authority's focus for conservation of the Swan Coastal Plain is primarily based on the System Six Study (Environmental Protection Authority, 1983). The aim of this study was to identify areas of the region that should be kept mainly natural. Specifically, this study identified 108 areas in the metropolitan region, and 101 areas in the adjoining country regions, which are recognised to be of regional conservation significance and/or regional representation of biological and physical values, and made recommendations for their protection and management. The Authority believes the integrity of System Six recommendation areas should not be further compromised.

The System Six Recommendation Areas in the South-West Corridor study area include:

- Recommendation M103 - Lakes Cooloongup and Walyungup;
- Recommendation M106 - Port Kennedy;
- Recommendation M107 - Peelhurst, Singleton and Madora (refer section 2.6.1);
- Recommendation M108 - Goegrup Lakes (Serpentine River).

The South-West Corridor Structure Plan has generally recognised these System Six recommendations by including them in Parks and Recreation Reserves or Landscape Protection. There is one instance however, where the Structure Plan is in conflict with the

System Six Recommendations. This is the area on Lots 581 and 582 Warnbro Sound Avenue which is included in System Six Recommendation M103, and which had been shown as "Mixed Business Areas" on the Structure Plan. System Six Area M103 is recognised for its lakes, variety of different vegetation species and formations, and its abundance of bird life. It was recommended that the area become a Regional Park because of its conservation value, and because as a large, attractive area within the South West Corridor, its recreational importance is likely to grow in the future.

The Environmental Protection Authority concludes that Lots 581 and 582 Warnbro Sound Avenue should have their System Six status appropriately reflected in the Structure Plan. The Authority recognises that this area is currently zoned for General Industry in the Metropolitan Regional Scheme, though considers that this zoning is inappropriate within a System Six Area.

It should also be recognised that the boundary of the System Six Area (M108) for the Serpentine River is yet to be finalised, and therefore, as already noted on the Structure Plan provided, the boundary given is indicative only, particularly on the eastern side where the Parks and Recreation Reserve is immediately abutted by the possible future urban area of Amarillo.

The Environmental Protection Authority also understands that the requirements of conservation extend beyond reserve and System Six boundaries. There are some instances where areas that have potentially very high conservation values have not been included in System Six recommendation areas, and have consequently been the subject of development proposals. One example of this was a development proposal for an area of land at Brixton Street Kenwick, in 1992 where the Authority recommended that a substantial area of the land be set aside for conservation (Environmental Protection Authority, 1991, Bulletin 577).

Aside from situations such as this, the Authority considers that decisions on the use of areas such as remnant bushland which are outside Systems recommendations and conservation areas should be made through the planning process, both at the State and local level.

The South-West Corridor Structure Plan review has recognised the importance of remnant bushland in Volume 5 of its Working Papers. The Authority supports the statement that remnant bushland is important as a means of groundwater pollution control and for ecological reasons, and given that there is so little remnant vegetation left in the South-West Corridor, the remainder which has not already been included in Regional Open Space or Landscape Protection by the Structure Plan should be included in local open space.

Small areas of bushland in the metropolitan area require much more intensive management and resources in order to safeguard their integrity in relatively unfavourable surroundings. As part of the planning process, the Authority likes to see local authorities develop conservation strategies to protect and manage these small areas of urban bushland.

The Structure Plan's use of Parks and Recreation Reservations and Landscape Protection Zones to form an integrated system of protected areas of environmental and landscape value is commendable. This approach has ensured that there are good linkages between different areas of value, providing for a continuous system which has value in terms of corridors of flora and fauna habitat, and for recreation and landscape enjoyment.

2.5 Buffers

The Authority believes that land uses, particularly residential land uses, should be separated by adequate buffers from other land uses which have the potential to adversely impact on them in terms of odour, noise, dust, risk and nuisance effects.

2.5.1 Kwinana

Although the Kwinana heavy industrial area is not part of the study area for the South-West Corridor review, it is covered by the Kwinana Regional Strategy which is being re-affirmed as the planning document for that particular part of the South-West Corridor through this Structure Plan review.

The Authority has over recent years developed an Environmental Protection (Kwinana) (Atmospheric Wastes) Policy, and a risk assessment strategy (Government Gazette, 1992d, and Environmental Protection Authority 1992a & b, Bulletins 611 & 627).

The Kwinana Air Quality Buffer, and the Environmental Protection (Kwinana) (Atmospheric Wastes) Regulations 1992 which sets its boundaries in legal terms have resulted from computer modelling to determine limits on the air emissions from each industry so that the total emissions from all industries will not exceed the Policy's objectives. The objectives are discussed in the Kwinana Air Quality Environmental Protection Policy Explanatory Notes (1992c). The development of the air quality management strategy and the setting of maximum permissible quantities of Sulphur Dioxide and suspended particulates is fully described in the Environmental Protection Authority's Bulletin 644 (Environmental Protection Authority, 1992d).

Essentially the Environmental Protection Authority has, with extensive public consultation, set air quality objectives for three areas, namely, industrial (Area A), buffer (Area B) and rural/residential (Area C). The objectives for these areas differ according to the land uses within them, that is, the objectives for residential areas (Area C) are more stringent than those for the industrial strip (Area A). Industries within the area identified by the policy will 'share' the air space around them, and together they must ensure that their impacts on the air people breathe are not unacceptable. The Policy includes no mechanism for altering boundaries of the areas.

The boundary delineated by this Policy has also become the boundary for risk and hazard management. The Authority defines 'risk' as meaning the likelihood of unwanted consequences such as death, injury, damage to property or damage to the environment, from the realization of specified hazards. 'Hazard' means an object or situation which has the potential to cause such unwanted consequences. For example, a tank in which petrol is stored is a hazard, with the potential to leak and to catch fire with the possible consequences of damaging people or property. Risk is the likelihood of the damage occurring (Environmental Protection Authority, 1992b, Bulletin 627)

The Environmental Protection Authority considers that to protect the community from lower air quality, and to manage risks and hazards from the Kwinana industrial area, it is essential that no further residential development should be permitted within the buffer area.

2.5.2 Water and Wastewater treatment plants

Risk and odour buffer zone requirements are plant specific in that they depend on the technology used, plant through-put, storage requirements for chlorine, extent of area being collected from, and meteorological and topographical conditions. As this specific information is not often available, the Water Authority of Western Australia considers that minimum buffers of 500m for risk and 1000m for odour management are required around wastewater and water treatment plants. In the absence of specific information, the Authority agrees with this position.

The Department of Planning and Urban Development's recognition of this issue as a constraint to development is supported, though it should be noted that pump stations can also generate

odour problems and that it may be necessary to provide buffers around these types of installations as well.

2.5.3 Midge buffers

As has been recognised in Working Paper No. 5 of the Structure Plan review, allowance has to be made for potential insect nuisance problems originating from lakes and wetlands. The consequential nuisance effects on nearby residential development can be difficult to control, and therefore, adequate buffers between residential developments and wetlands should be provided so that this problem is avoided. As also stated in the Working Paper, the use of vegetation buffers and maintenance of the health of wetlands are also critical in the management of this potential problem.

It must be recognised that midge/insect control measures which may be sought in future by residents could be considered environmentally unacceptable because of potential environmental impact.

2.5.4 Western Australian Natural Gas Pipeline

There are risks and hazards associated with the Western Australian Natural Gas Pipeline and these should be taken into account when planning for the area through which the pipeline traverses.

2.5.5 Murrayfield Airpark

The Authority is currently assessing a revised proposal for the Murrayfield Airpark. This is a proposal to develop a pilot training airfield and a hotel resort complex. The proposal was previously found to be environmentally unacceptable because of potential noise impacts. If the revised proposal is found to be environmentally acceptable, planning for the area will need to accommodate buffers around the Airpark, particularly for the Amarillo area, should the surrounding area become urbanised as is shown on the Structure Plan, future residents should not be adversely affected by noise.

2.5.6 Wandalup Piggery

It is not clear from the Structure Plan whether the Wandalup Piggery which is one of the largest piggeries in this State, has been recognised as an existing land use which may remain in the future. If the piggery remains in its current location, buffers will be required to protect future residents from noise and odour emanating from the piggery, particularly if the area currently identified as Amarillo becomes urbanised.

2.6 Previous EPA assessments

The Structure Plan review Working Papers make a number of statements regarding current or recently completed assessments of development proposals by the Environmental Protection Authority. The following is an update on the outcome of the assessments mentioned.

2.6.1 Golden Bay and Singleton

The Environmental Protection Authority assessed two separate proposals for urban development with the potential to impact on System Six Recommendation M107, one proposal was for Golden Bay (Peelhurst) and the other for Singleton. Both proposals contained land which was subject to System Six Recommendation M107.

The main intent of Recommendation M107 was that the area's recreational and landscape values be protected by planning procedures which would not require public acquisition of the land involved (Environmental Protection Authority, 1983 & 1983b). As it has not been possible to achieve this through the planning process, and because of the management difficulties inherent in the protection of narrow strips of land surrounded by urban development, the Authority decided that it would be appropriate to consider alternatives to the actual areas proposed for protection by the Recommendation which would still achieve its original intent.

At the conclusion of the assessment, the Authority recommended that the proposals be allowed to proceed subject to a number of conditions. Development of the areas identified by System Six Recommendation M107 was found to be environmentally acceptable provided that an expanded coastal foreshore reserve was provided in return. The exchange was found to be acceptable because it would allow for the preservation of a landscape of significance to the area, that is, part of the coastal landform and its associated flora and fauna, and would provide for recreation, thereby satisfying the System Six objectives (Environmental Protection Authority, 1992e & f, Bulletins 648 & 649).

Following determination of appeals lodged against the Authority's Report and Recommendations, the Minister for the Environment agreed to allow the proposal to proceed subject to certain Environmental Conditions. As a consequence, the east-west links indicated in System Six Recommendation M107, as they apply to the Golden Bay and Singleton areas no longer exist.

The Authority is in agreement with the Department of Planning and Urban Development showing the remaining areas of Recommendation M107 as Rural Living - Landscape Protection, particularly for the north-south strip along Mandurah Road and for the remaining east-west strips in Madora.

2.6.2 Safety Bay Road Extension, Baldivis.

As discussed in Working Paper Number 2, the Environmental Protection Authority has recently assessed a proposal to extend Safety Bay Road to Eighty Road from its current termination with Mandurah Road in Baldivis. The Authority has recommended that three of the five options presented in the Consultative Environmental Review are environmentally acceptable subject to certain environmental conditions (Environmental Protection Authority, 1993, Bulletin 678). The option preferred by the proponent, the City of Rockingham, is a modified Option E which has been illustrated in the plan provided in the Working Paper.

The Authority's Report and Recommendations on this proposal is currently subject to a number of appeals. Following determination of the appeals, the Minister for the Environment will set Environmental Conditions on the proposal, and the Department of Planning and Urban Development and the City of Rockingham will prepare amendments as necessary in accordance with the Environmental Conditions set.

2.6.3 Kwinana Freeway

The Environmental Protection Authority assessed the amendment to the Metropolitan Region Scheme to create a reserve for the Kwinana Freeway extension from Thomas Road in the Town of Kwinana to the southern boundary of the Metropolitan Region, to the north-east of Mandurah in 1988 (Environmental Protection Authority, 1988, Bulletin 365).

The principal environmental issues which arose from the proposal related to the protection of wetlands and other areas of conservation value, and noise. The Authority recommended that the alignment of the proposed freeway reserve was environmentally acceptable subject to a number of conditions.

The Minister for the Environment set an Environmental Condition which stated that, prior to construction of the freeway, the Main Roads Department should submit to the Authority details of the route alignment, construction, rehabilitation and on-going management programmes for

the route in areas adjacent to wetlands and other areas of conservation value. Implementation was not to proceed unless the Authority found these to be environmentally acceptable. It was stated that the environmental objective in designing the route and the programmes should be to ensure that the impacts of construction on wetlands and other areas of conservation value are minimised, and that the functions of any wetland areas that are destroyed are re-established elsewhere.

An Environmental Condition was also set which required that the State Planning Commission prepare in conjunction with the Main Roads Department, the Department of Transport, and the Environmental Protection Authority, a policy which addressed land use adjacent to major highways and roads, relating particularly to traffic noise.

The Environmental Conditions still apply.

The Structure plan shows an alignment for continuation of the Kwinana Freeway from the Metropolitan Region Scheme boundary to the north-east of Mandurah. This proposal is subject to an assessment by the Environmental Protection Authority at the level of Public Environmental Review. No alignments have yet been put forward by Main Roads for this section of the Freeway, and therefore it is taken that the alignment shown in the Structure Plan is for illustration purposes only. The actual alignment will be selected during and following the Environmental Protection Authority's assessment of this proposal.

2.7 Coastal and marine protection

The Authority believes that Perth's nearshore coastal waters and Perth's coastal environment in general require protection.

2.7.1 Foreshore reserves

There is a statement made in Working Paper Number 3 which advocates that foreshore reserves should be provided along the coast. The Authority is in agreement with this principle, and believes that foreshore reserves are important to protect areas of coastal dune, to provide for recreation, and to protect development from erosion and other forces which are part of a natural and evolving environment.

The Structure Plan review has stated that foreshore reserves should be 80 metres in width. The Authority understands that the Department of Planning and Urban Development's previous position was that foreshore reserves should be a minimum of 100 metres from the vegetation line. The Authority considers that the actual foreshore width should be determined on the basis of factors including vegetation, geomorphology, erosion potential, landscape, and recreational development potential, rather than by focusing on a particular number which may prove to be inadequate.

2.7.2 Effluent disposal

The Authority supports the Department of Planning and Urban Development's statement that all new urban development must be connected to reticulated sewerage. The Department has raised the fact that there are some key environmental issues relating to effluent disposal which have yet to be resolved. It cannot be assumed that continued or increased ocean outfall disposal of sewage will be acceptable without some form of control.

The Environmental Protection Authority and the Water Authority of Western Australia are currently conducting a coastal waters study in an attempt to determine the nearshore marine environment's assimilative capacity. Once this information is available, it will be possible to determine the environmental acceptability of further ocean outfalls, and what limits to set on nutrients from these outfalls.

3. Linear utilities

3.1 Roads

There are a number of road proposals shown in the Structure Plan which will require careful design and planning so that they do not adversely impact on System Six areas and wetlands. Some of these roads are already reserved in the Metropolitan Region Scheme, such as Garden Island Highway and Rockingham - Mundijong Road. Others such as Nairn Road and Eighty Road will require new or extended road reserves. The Environmental Protection Authority should be involved at an early stage in the selection of alignments so as to avoid or minimise impact on sensitive environmental areas.

The Authority also believes that more consideration should be given to the provision of noise buffers along major roads in keeping with recommendations made and Environmental Conditions set on the Kwinana Freeway assessment (refer Section 2.6.3).

3.2 Rail

The Authority has previously provided comments to the South West Area Transit study conducted by Transperth to provide a rail link between Mandurah and Fremantle. Although there is no mention of rail corridors in the Structure Plan, the Authority would like to reiterate the advice provided to Transperth that wherever possible, rail corridors should avoid environmentally sensitive areas such as System Six areas and other conservation reserves, and lakes and wetlands. Other issues which could influence route alignment and should be considered include: noise, management of drainage and soil erosion, minimising clearing of vegetation, and the impact of the Kwinana air quality and risk buffer on the location and operation of trains and associated facilities.

If this rail study is to progress, the Environmental Protection Authority should be involved at an early stage in the selection of alignments so as to avoid or minimise impact on sensitive environmental areas.

4. Conclusion

The Environmental Protection Authority commends the Department of Planning and Urban Development for generally taking into account all relevant environmental issues in the preparation of the South-West Corridor Structure Plan review, and for the degree of public participation involved.

Through this submission and other discussion, the Authority will continue to work with the Department of Planning and Urban Development to assist in the formulation of Structure Plans which incorporate principles of environmental management. The comments made in this submission are intended to increase the Structure Plan's effectiveness in achieving its objectives.

The comments offered in this submission are general observations on the Structure Plan being circulated for comment, and do not preclude the Authority from undertaking assessment of specific proposals at a later date.

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