Urban development of lot 1001 (affecting part of System Six Recommendation M107), Singleton

Temwood Holdings Pty Ltd

Report and recommendations
of the Environmental Protection Authority

Environmental Protection Authority
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THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's recommendations.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

APPEALS

If you disagree with any of the assessment report recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of $10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
18th Floor, Allendale Square
77 St George's Terrace
PERTH WA 6000

CLOSING DATE

Your appeal (with the $10 fee) must reach the Minister's office no later than 5.00 pm on 2 October, 1992

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Summary and recommendations

A proposal to develop Lot 1001 Singleton was first referred to the Environmental Protection Authority in 1990. The Authority required that a Consultative Environmental Review be undertaken. However, the then proponent did not proceed with the proposal, and it was not until the new proponent, Temwood Holdings Pty Ltd came forward in March 1992 that the assessment process continued. The Consultative Environmental Review was available for a four week public review period which ended on 22 June 1992. There were 32 individual and 35 pro forma submissions received during this period.

The proposal affects 106 hectares of land to the north and east of the existing township of Singleton, and involves the rezoning of land from Urban Deferred to Urban (refer figure 1). The structure plan prepared for the proposal indicates that the major land uses proposed include; residential, Public Open Space, primary school, community centre, resort hotel, and retirement village. The Authority understands that the structure plan prepared is not the final one and the assessment is based on broad land use allocations rather than on specific details shown in the structure plan.

There were a number of issues of significance identified by the public submissions and the Authority in the assessment of the proposal.

System Six Recommendation M107.

The proposal is one of two proposals currently before the Environmental Protection Authority having implications for System Six Recommendation M107. The System Six Study which resulted in Recommendation M107 was undertaken to identify areas of recreation, conservation and landscape value to be protected (Environmental Protection Authority, 1983). The Consultative Environmental Review prepared was therefore required to address not only the impact of this proposal on System Six Recommendation M107, but also to discuss the context for this proposal and others for Recommendation M107 in its entirety.

Recommendation M107 consists of a north - south strip which runs along Mandurah Road from Golden Bay to Madora, and four east - west strips which run from the Mandurah Road section to the coast. The part of the System 6 recommendation M107 which is affected by this proposal is one east - west strip (Figure 2).

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.

A range of alternatives were put forward for accommodating the objectives of System Six Recommendation M107 in the discussion paper in the Consultative Environmental Review. These alternatives included; extra wide foreshore reserves, provision of Open Space reserves in other areas, acquisition of the M107 areas for Parks and Recreation, complete residential development, partial residential development and partial retention of the System Six area for landscape protection and vegetation retention.

Of the alternatives and the information presented in the Consultative Environmental Review and from submissions, it was considered that the expanded coastal foreshore reserve would provide the best alternative to the System Six east - west link. This is because it preserves a landscape of significance to the area, that is, part of the coastal landform and its associated flora, and would provide for recreation, thereby satisfying the System Six objectives. This option would also provide for opportunities for suitable alternatives for other properties affected by Recommendation M107, that is Golden Bay and Madora.

The parabolic dunes on the eastern edge of Lot 1001 Singleton also have landscape value for the area, and it may be possible to protect these values through application of appropriate planning mechanisms such as reduced lot densities or appropriate lot design.

Coastal stability

The stability of the coastline and the effect of this proposal on it was questioned during the assessment of the proposal.

The information available indicates that the coastline is accreting rather than eroding, and that the foreshore reserve proposed should be adequate in this instance.

Fauna

Submissions on the proposal indicated the presence of the rare and endangered species Southern Brown Bandicoot (*Isoodon obesulus*). The Authority requested that the proponent undertake a trapping program to establish the presence and likely size if the Bandicoot population at Singleton. This programme resulted in the capture of three Bandicoots, two of which were captured twice, which suggested that the population probably numbers between ten and fifteen individuals (Alan Tingay & Associates, 1992b). It is likely that in order to protect this population, the Bandicoots will need to be trapped and relocated elsewhere. The regional implications of doing this are unknown and in order to effectively protect the species, this information will be required.

The protection of fauna, particularly species which are gazetted under the Wildlife Conservation Act 1950, is the legislative responsibility of the Department of Conservation and Land Management. The Authority therefore considers that the Department of Conservation and Land Management should be closely involved in the management of this issue both in the local and regional sense.

Groundwater

Concerns were raised about the potential impact of the development on the quality and quantity of the area's groundwater resource. Submitters were particularly concerned about this issue because many of the existing residents draw on the resource as their only supply of potable water.

Consultation with the Water Authority of Western Australia has revealed that there should be no significant impact by the development on the groundwater.

Conclusion and recommendations

Following consideration of the Consultative Environmental Review, submissions from the public and Government agencies, and the proponent's response to them, the Authority has determined that the proponent has addressed the relevant issues associated with the proposal to urbanise Lot 1001 Singleton and its affect on the System 6 Recommendation M107 in particular.

Recommendation 1

The Environmental Protection Authority has concluded that the proposed urban development at Singleton, as modified during the process of interaction between the proponent, the Environmental Protection Authority, the public, and the Government agencies that were consulted is environmentally acceptable.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **implications for System 6 Recommendation M107; and**
- **protection of fauna, and coastal stability.**

The Environmental Protection Authority considers that these environmental factors have been addressed adequately by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.

Accordingly, the Environmental Protection Authority recommends that the project could proceed subject to the Environmental Protection Authority's recommendations in this report and the proponent's commitments to environmental management (Appendix 1).

Recommendation 2

The Environmental Protection Authority recommends that the proponent provide, as proposed, a foreshore reserve for conservation and recreation purposes, to meet the requirements of the Minister for the Environment on the advice of the Environmental Protection Authority.

Recommendation 3

The Environmental Protection Authority recommends that prior to commencement of development, the proponent liaise with the Department of Planning and Urban Development and the City of Rockingham to put in place planning measures which recognise the landscape value of the parabolic dune ridge on the eastern edge of Lot 1001 Singleton, to meet the requirements of the Minister for the Environment and the Minister for Planning.

Recommendation 4

The Environmental Protection Authority recommends that the proponent liaise with and meet the requirements of the Department of Conservation and Land Management with regard to establishing the regional implications of disturbing the population of the Southern Brown Bandicoot (*Isoodon obesulus*) at Singleton, and providing for the adequate protection of the population at Singleton, prior to the commencement of development.

1. Introduction

A proposal to develop the Singleton land was first lodged with the Environmental Protection Authority in 1990. The proposal is one of two proposals currently before the Environmental Protection Authority having implications for System Six Study Area M107 (refer Section 5.2). The System Six Study was undertaken to identify areas of recreation, conservation and landscape value to be protected, and the recommendations made by this Study were published in 1983 (Environmental Protection Authority, 1983). As such, the Authority considered that it was necessary to formally examine the impact of both this proposal and others on System Six Recommendation M107. It was required that a Consultative Environmental Review of the impacts of this proposal on the relevant section of Recommendation M107 be undertaken, and that the document prepared include a paper which discussed the implications of the proposal for Recommendation M107 in its entirety.

The original proponent did not proceed with the proposal. The new proponent, Temwood Holdings Pty Ltd, came forward with a similar proposal on 31 March 1992, and asked that the assessment process be continued. New guidelines were issued in April 1992 to assist the proponent in the preparation of the relevant documentation. The Consultative Environmental Review was available for a four week public review period which ended on 22 June 1992.

2. Description of proposal

The proponent proposes to develop Lot 1001 Singleton, a 106 hectare area of land to the north and east of the existing township of Singleton within the City of Rockingham (Figure 1). This involves the rezoning of land which is currently almost entirely zoned Urban Deferred to Urban. As part of the proposal, the proponent has prepared a structure plan for Singleton which includes the major land uses of; residential, Public Open Space, primary school, community centre, resort hotel, and retirement village (Tingay & Associates, 1992). The Authority understands that this is not the final structure plan for the development, and therefore the assessment is based on broad land use allocations rather than specific details.

3. Planning context

The Department of Planning and Urban Development is responsible for the planning of the Perth Metropolitan Region, that is, it is responsible for managing the city's growth, and for planning for the accommodation of the population's needs for employment, education, transport, recreation and housing. The Department releases strategies and structure plans which discuss these issues, though its principal statutory instrument for planning is the Metropolitan Region Scheme. The Metropolitan Region Scheme allocates zones to land which indicate the type of uses allowed in a particular area, and therefore, can be viewed as the blueprint for development in the Perth Metropolitan Region.

The area of land proposed for rezoning at Singleton has been zoned Urban Deferred in the Metropolitan Region Scheme since 1981. This signifies that Singleton has been identified for future urban development since that time. The Singleton land has also been subject to System Six Recommendation M107 since 1983 (Refer Section 5.2).

All planning studies to date have identified the Singleton area as part of the urban expansion programme for the metropolitan region. Recognition has not been given in planning documents to the existence of System Six Recommendation M107, either in terms of its specific location or in accommodation of its intent.

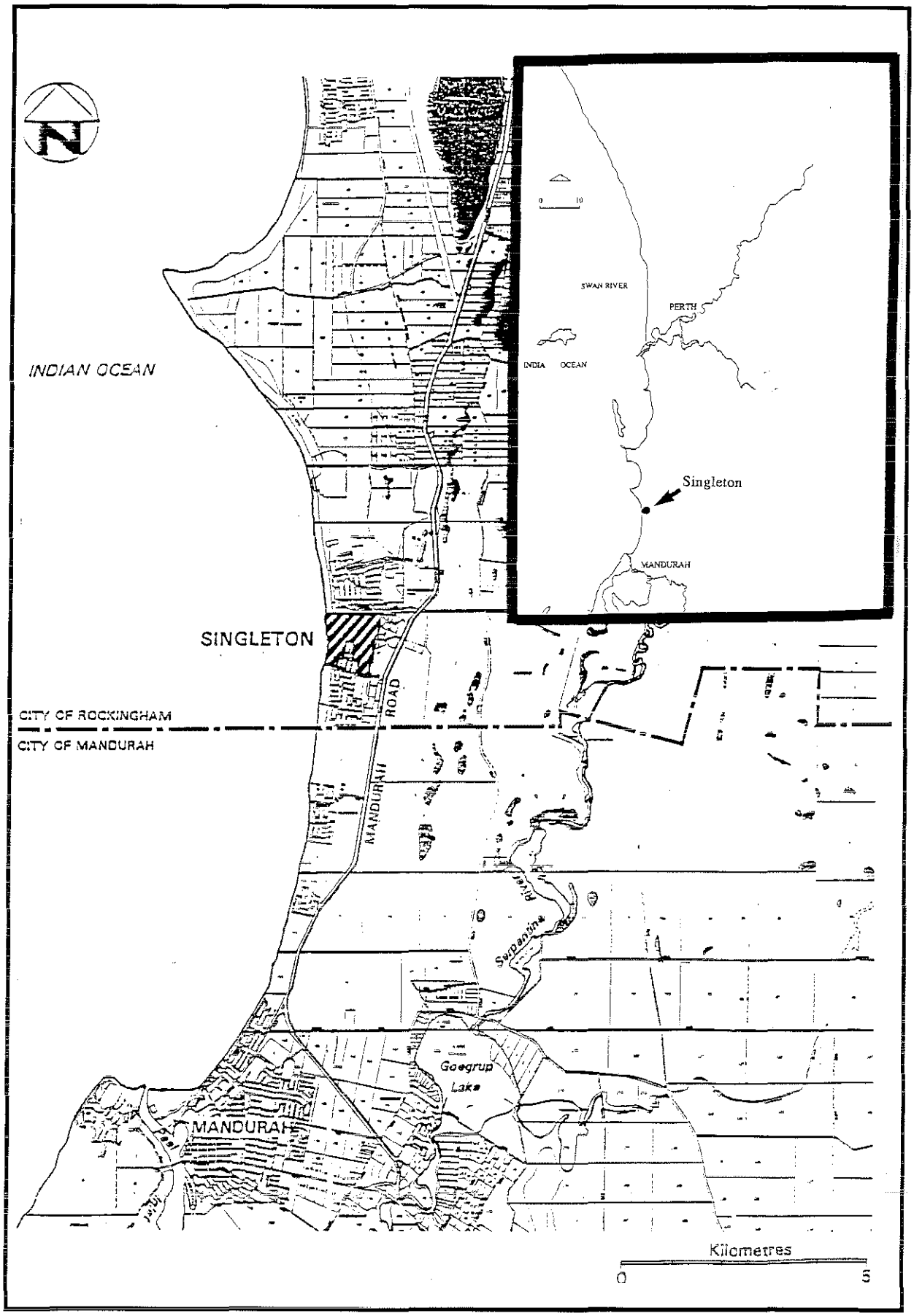

Figure 1. Singleton location

4. Review of public submissions

Comments were sought on the proposal from the public, community groups and local and State Government agencies. The Consultative Environmental Review document prepared for the proposal was available for a four week public submission period which closed on 22 June 1992. There were 32 individual and 35 pro forma submissions received which raised a number of issues relating mainly to:

- impact of the proposal on System Six Recommendation M107;
- coastal stability and foreshore protection;
- impact on flora;
- impact on fauna, particularly the Southern Brown Bandicoot;
- impact on groundwater quality and quantity;
- need for the development;
- relationship of proposal to the South West Corridor Structure Plan;
- need for a second access route to the Singleton township; and
- affect on existing lifestyle.

A detailed list of issues raised in submissions and the proponent's response to these issues is incorporated in Appendix 2 of this report. Many of the issues are also specifically discussed in the following section of this report, however, the last three issues listed above are planning issues which should be dealt with by the Department of Planning and Urban Development under planning procedures.

5. Environmental impacts and their management

5.1 General

The Authority considered a number of issues in relation to this proposal and considered that the main environmental impacts included impact of the proposal on, System Six Recommendation M107, coastal stability and coastal landform, flora and fauna, and groundwater quality and quantity. The following is a discussion on how the Authority dealt with each of these issues.

5.2 System Six Recommendation M107

In 1972, the Environmental Protection Authority established the Conservation Through Reserves Committee to make recommendations with respect to National Parks and Nature Reserves of the State. Western Australia was divided into 12 different Systems each representing a natural and demographic entity. The Perth metropolitan area was included within the Darling System, that is System Six. System Six covers the most intensively used part of the State where land values are high and where competition for differing land uses is often intense. The study attempted to define those parts of the region which should be kept mainly natural so as to preserve certain conservation, recreation and landscape values. The key issue to be addressed in this assessment is the effect of this proposal on System Six Recommendation M107, and whether the intent of this recommendation can be maintained through alternative means.

The Recommendation M107 area comprises a north - south strip of land along Mandurah Road, and four east - west strips between Mandurah Road and the coast. These strips are located in Golden Bay (1), Singleton (1) and Madora (2) (Figure 2). This specific proposal affects only one east - west strip component of Recommendation M107.

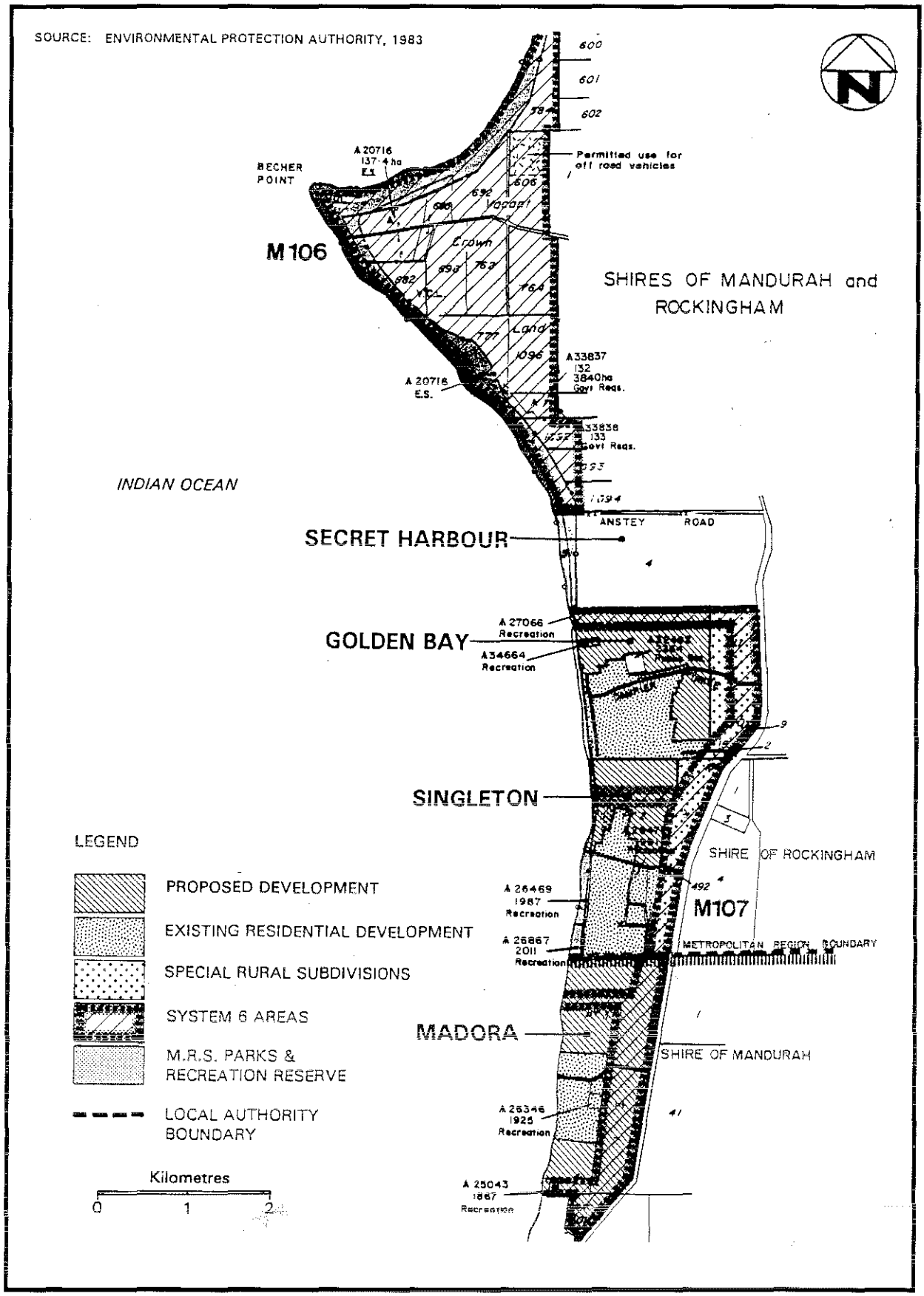

Figure 2. System Six Recommendation M107.

The System Six report (Environmental Protection Authority, 1983) describes the M107 area as having extensive coastal dunes which are very valuable for their coastal vegetation and for recreation and aesthetic reasons, and specifically states that buffer zones of uncleared land should be left to preserve some segments of scenery and vegetation near Mandurah Road and the coast. The actual recommendation states that:

"ways and means of protecting the area's recreational and landscape values be sought through planning procedures to be developed as recommended in Recommendation 14, Chapter 4."

Recommendation 14 states:

"The Government should establish an investigation into legislative means of achieving, through public planning procedure, the protection of the conservation and public amenity values of designated privately owned areas, without necessitating public acquisition of the land affected." (Environmental Protection Authority, 1983b)

The Authority has not been successful in implementing the recommendation through the planning process as the Department of Planning and Urban Development considers that all of the east - west links of System Six Recommendation M107 should be removed to make way for continuous urban development so as to achieve the best lot yield for the area, and to effectively provide infrastructure. Consequently, no provision has been made for their retention in any of the planning strategies or rezonings which have taken place to date (Metropolitan Region Planning Authority, 1980 & Department of Planning and Urban Development, 1991).

As it has not been possible to achieve the implementation of Recommendation M107 through the planning process as recommended, and because of the ecological management difficulties inherent in the conserving the east - west links particularly once surrounded by urban development, it was decided by the Authority to consider alternatives which would preserve the intent of the original recommendation, that is, to provide for retention of landscape and recreation values.

As previously discussed, the Authority did not want to consider each of the different segments in a piecemeal fashion through individual proposals such as this one, therefore it required that a discussion paper be prepared which discussed Recommendation M107 as a whole, and which put forward alternatives to the recommendation as proposed in the System Six Report. This discussion paper was included as an appendix to the Consultative Environmental Review document which was released for public review.

A range of alternatives were put forward in the discussion paper in relation to the east - west links. These included:

- acquisition for Parks and Recreation. The Department of Planning and Urban Development could reserve and acquire the east-west links for Parks and Recreation. However, this would need to be done with consideration to other priorities for acquisition in the metropolitan area, and would involve management difficulties for the east - west links because of their narrow linear nature and the fact that they would be surrounded by urban development;
- extra wide foreshore reserves. This alternative involves the provision of a foreshore reserve of greater width than that which would be required under the Department of Planning and Urban Development's Coastal Planning Policy. The boundary of the reserve would be based on landform features and would provide for the protection of a range of flora species;
- provision of Open Space reserves in other areas. This option involves approval of residential use for the System Six area, but would provide for the protection of other areas with identified landscape or vegetation values such as Mandurah Hill in Golden Bay;
- partial residential development and partial retention of the System 6 area for landscape protection and vegetation retention. This option is similar to the one discussed above except that the areas retained would be parts of the proposed M107 areas rather than alternative areas; and

- complete residential development. It was argued that the east -west links would not have to be retained in any form because contemporary planning requirements are more important than the values identified by the System Six Study. This conclusion was reached in the context of regional planning which allocates areas for Parks and Recreation elsewhere in the region, such as Port Kennedy and Anstey Swamp. Therefore, if this option were adopted, no additional allocation of land for Open Space would occur other than what is normally required by planning authorities (Alan Tingay & Associates, 1992).

In this instance, it was considered that the expanded coastal foreshore reserve would provide the best alternative to the System 6 east - west link for Singleton because it preserved a landscape of significance to the area, that is, part of the coastal landform and its associated flora, and would provide for recreation, thereby satisfying the System Six objectives. It would also have the advantage of linking in to the Golden Bay proposal to the north of Singleton, providing for a continuous expanded foreshore reserve. This option could also apply to Madora if and when a proposal for that land comes forward, unless the planning process can accommodate the recommendation in its original or slightly modified form through the South West Corridor Structure Plan or any other appropriate planning tool.

Whilst the expanded foreshore reserve will cater for protection of a section of the coastal landform, it was considered that the parabolic dunes on the eastern edge of the Singleton property also have particular landscape value for the area. The protection of this landform and its flora will not be achieved by the foreshore reserve, however, it may be possible to protect these values through application of appropriate planning mechanisms such as reduced lot densities or appropriate lot design and planning controls for landscape and vegetation protection.

5.3 Coastal stability

The stability of the coastline at Singleton and the impact of this proposal on it was raised as an issue.

Examination of the information available has indicated that the coastline is not eroding, and is in fact accreting. In this sense, a coastal reserve of 100m from the vegetation line, as given in the Department of Planning and Urban Development's coastal planning policy is sufficient. As has been discussed in the preceding section, the proponent has proposed a coastal reserve with a width of 150 - 200 metres which is more than adequate for dealing with the issue of coastal stability. This should still be the case if groynes are constructed further south in Comet Bay, although any proposal to construct groynes would have to be carefully evaluated and issues such as impact on coastal stability to the north will need to be addressed by the proponent of any such proposal.

5.4 Fauna

The main issue with regard to impact on fauna is the potential presence of the species Southern Brown Bandicoot (*Isoodon obesulus*). This species is listed in Schedule 1 of the Wildlife Conservation Act 1950 as "fauna that is likely to become extinct, or is rare". To establish whether Bandicoots were present, the Authority requested that the proponent carry out a trapping programme. This programme resulted in the capture of three bandicoots, two of which were captured twice. All of these animals were caught in the *Spyridium globulosum/Acacia rostellifera/Lepidosperma gladiatum* Closed Scrub on the western part of the property. No bandicoots were trapped in the central and eastern sector of the property. It is considered that the local population probably numbers between 10 and 15 individuals (Tingay & Associates, 1992b).

The regional implications of disturbing this population are not known as studies are required to establish this. However, it may be possible to relocate the existing population though studies will be needed to identify a suitable area, and the population will need to be monitored to establish whether relocation is successful. Given the nature of development proposed, the

population of Bandicoots is not likely to survive without significant intervention in the form of relocation.

The protection of fauna, particularly species which are gazetted under the Wildlife Conservation Act 1950, is the legislative responsibility of the Department of Conservation and Land Management. The Authority therefore considers that the Department of Conservation and Land Management should be closely involved in the resolution of this issue both in the local and regional sense, and has recommended accordingly.

5.5 Groundwater

The issue of potential affect on groundwater by the proposal was raised as a major issue of concern by submissions.

The concerns related to potential impact of increased urban development at Singleton on the quality and quantity of the groundwater of the area, particularly as many of the existing residents currently draw on the groundwater resource as their only source of potable water.

The Authority has consulted the Water Authority of Western Australia on this issue and has been advised that the groundwater resource of the area should not suffer any unacceptable impact. This is based on the fact that although the proposed development could lead to greater draw on the groundwater, this should be compensated by increased run off from roofs and paved areas, and by the watering of gardens with imported scheme water, therefore it is probable that the net impact will be a small rise in water level.

The new development will result in more gardens and therefore more nutrient input, however, it will be connected to reticulated sewerage and will be experiencing greater recharge, therefore it is likely that there should be only a small net deterioration in groundwater quality. The groundwater will still be potable.

6. Conclusion and recommendations

Following consideration of the Consultative Environmental Review, submissions from the public and Government agencies, and the proponent's response to them, the Authority has determined that the proponent and this report has addressed the relevant issues associated with the proposal to urbanise the remaining Singleton area and its affect on the System 6 Recommendation M107 in particular.

Recommendation 1

The Environmental Protection Authority has concluded that the proposed urban development at Singleton, as modified during the process of interaction between the proponent, the Environmental Protection Authority, the public, and the Government agencies that were consulted in environmentally acceptable.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **implications for System 6 Recommendation M107; and**
- **protection of, fauna, and coastal stability.**

The Environmental Protection Authority considers that these environmental factors have been addressed adequately by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.

Accordingly, the Environmental Protection Authority recommends that the project could proceed subject to the Environmental Protection Authority's

recommendations in this report and the proponent's commitments to environmental management (Appendix 1).

The Authority's experience is that it is common for details of a proposal to alter through the detailed design and construction phase. In many cases alterations are not environmentally significant or have a positive effect on the environmental performance of the project. The Authority believes that such non-substantial changes, and especially those which improve the environmental performance and protection, should be provided for.

The Authority believes that if the proposal has not been substantially commenced within five years of the date of this report then such approval should lapse. After that time, further consideration of the proposal should only occur following a new referral to the Authority.

Recommendation 2

The Environmental Protection Authority recommends that the proponent provide, as proposed, a foreshore reserve for conservation and recreation purposes, to meet the requirements of the Minister for the Environment on the advice of the Environmental Protection Authority.

Recommendation 3

The Environmental Protection Authority recommends that prior to commencement of development, the proponent liaise with the Department of Planning and Urban Development and the City of Rockingham to put in place planning measures which recognise the landscape value of the parabolic dune ridge on the eastern edge of Lot 1001 Singleton, to meet the requirements of the Minister for the Environment and the Minister for Planning.

Recommendation 4

The Environmental Protection Authority recommends that the proponent liaise with and meet the requirements of the Department of Conservation and Land Management with regard to establishing the regional implications of disturbing the population of the Southern Brown Bandicoot (*Isoodon obesulus*) at Singleton, and providing for the adequate protection of the population at Singleton, prior to the commencement of development.

7. References

Alan Tingay & Associates & Warren F Johnson & Co (1992), Singleton Amendment to the Metropolitan Region Scheme (affecting part of System 6 area M107), Consultative Environment Review, Report number 91/29, Western Australia.

Alan Tingay & Associates (1992b), Report on survey for Southern Brown Bandicoots at Singleton, Western Australia.

Department of Planning and Urban Development (1991), A Review of the South-West Corridor Structure Plan 1990 - 1991 (Between Rockingham and Mandurah), Western Australia.

Environmental Protection Authority (1983) Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority, the Darling System - System 6. Part II: Recommendations for Specific Localities.

Environmental Protection Authority (1983b) Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority, the Darling System - System 6. Part I: General Principles and Recommendations.

Metropolitan Region Planning Authority (1980), Planning Strategy for the South-West Corridor, Western Australia.

Appendix 1

Proponent's commitments

CONSOLIDATED LIST OF COMMITMENTS FOR SINGLETON

1. The proponent will provide, in exchange for the development of the part of the currently proposed System 6 Area M107 within Singleton, additional Regional Open space adjacent to the Coastal Reserve as shown in the Structure Plan, in excess to that which would normally be required by DPUD. This will be done to the satisfaction of the EPA, DPUD and the Local Authority at the rezoning stage.

2. The proponent will prepare a Management Plan for the Coastal Reserve at Singleton prior to the completion of development of the urban area. This will be done to the satisfaction of DPUD and the Local Authority.

3. The proponent will provide reticulated sewerage and stormwater drainage designed to infiltrate stormwater into the soil within the development site. This will be done during the provision of services within the development to the satisfaction of DPUD and the Local Authority.

4. The proponent will liaise with CALM regarding the issue of bandicoots at Singleton and will prepare a study which will examine the feasibility of relocating the bandicoots to an appropriate location. If CALM advises that relocation is desirable and practically achievable, the proponent will relocate the bandicoots. The study and possible relocation will be performed prior to the disturbance of vegetation at Singleton and will be done to the satisfaction of CALM and the EPA.

Appendix 2

Proponent's response to issues raised by public submissions

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RESPONSES

System 6 and Conservation Issues

1. The proposal is inconsistent with the recommendations of the System 6 Report. This report notes that the area M107 contains "extensive coastal dunes which are very valuable for recreational and aesthetic reasons. Buffer zones of uncleared land should be left to preserve some segments of the scenery and vegetation near the main Mandurah Road and between areas of housing". The Environmental Protection Authority (EPA) also recommended (M107.3), "That ways and means of protecting the area's recreational and landscape values be sought through planning procedures..." The current proposal is completely contrary to this recommendation.

1a. It is considered that the proposal to delete the east-west transect and expand the Coastal Reserve maintains the intent of the EPA recommendations for the area given developments since those recommendations were made.

The proponents consultants have examined the recreational and landscape values of the subject land and have concluded that an expanded Coastal Reserve would better serve present and future residents. The beach and its environs are the major recreational features of the land and most future recreation will focus upon it. The expanded reserve parallels the natural orientation of the landforms in the local area and includes foredunes and beach ridge plain with its associated grasslands, scrublands and open heath. The area has conservation value and can be much more easily managed than could the east-west transect.

The proposal seeks to remove a narrow east-west transect of System 6 Area M107 from the middle of the Singleton property and to replace it with an expanded Coastal Reserve. The Singleton property and the System 6 Area within it contains none of the elevated dunes near Mandurah Road referred to in the above question.

It is considered that the recreational value of the east-west transect is limited especially as the elevated land between the Singleton property and Mandurah Road has already been subdivided into Special Rural blocks. This Special Rural subdivision is also on part of System 6 Area M107. The primary function of the east-west transect was to link the coast with this inland part of Area M107 which has been subdivided. Therefore there is no opportunity for a recreational link from the coast to near Mandurah Road. It is also considered that the transect as proposed has little landscape value because the land that falls within it is neither elevated nor adequately preserves any local landform unit.

In conclusion, the proponent believes that the alternative proposed better achieves the protection of the areas existing recreational and landscape values and will do so in a practical and achievable manner.

2. The systematic destruction of System 6 areas of the metropolitan area must be stopped. The System 6 areas are the only hope of future preservation in the region, especially now when it is common knowledge that the natural ecosystems and biodiversity of the natural world must be protected.

2a. The proponent understands that, in fact, the majority of System 6 Areas including those within the Perth Metropolitan Region have been set aside for conservation purposes remain undeveloped. Only relatively few areas, many of which affect privately owned land such as System 6 Area M107, remain to be resolved.

The proponent also cannot agree with the statement that these remaining System 6 Areas offer the only hope of future preservation in the region. Current planning for the South-West Corridor includes the establishment of extensive reserve systems at Port Kennedy, through the Stakehill Suite of wetlands, and Paganoni's Reserve adjacent to the Serpentine River. Very little of this area proposed for reservation was mentioned at all in the System 6 Study. Improved knowledge of the environmental features of the South-West Corridor since the System 6 Study was completed, has clearly demonstrated that the priorities for conservation lie in the establishment of relatively large area reserves and Regional Open Space and not in fragmented and relatively small areas such as Area M107. This is particularly so as the recommendations relating to Area M107 are for recreational and aesthetic considerations.

3. The value of this land for conservation and recreation has increased since the release of the System 6 Report in 1983. This is because of the loss of most of the Quindalup Dune heathlands north and south of Perth. The few areas which remain uncleared are now facing urban development. The M107 reserve should be retained and enlarged to ensure that this fragment of our coastal heritage is kept for conservation purposes. There is no other substantial Coastal Reserve left in the Metropolitan area, so this one is now vitally important.

3a. The vegetation of the Singleton property is typical of vegetation on the Rockingham-Becher Plain and includes the following six main vegetation types *Spinifex hirsutus* Grassland, *Olearia axillaris* Shrubland, *Spyridium globulosum/Acacia cyclops* Open Heathland, *Acacia rostellifera* Closed Scrub, *Jacksonia furcellata/Spyridium globulosum/Acacia saligna/Olearia axillaris* Open Heathland to Shrubland, and *Melaleuca acerosa* Open Heathland.

Virtually all of the first three coastal vegetation types will be retained in the expanded Coastal Reserve along with a small area of *Acacia rostellifera* Closed Scrub. The northern section of the Secret Harbour property includes a large

area of *Acacia rostellifera* Scrub and coastal dune vegetation types which will be preserved within the Coastal Reserve and Open Space. Clearing restrictions in the Special Rural zone east of the Singleton property will protect areas of *Melaleuca acerosa* Open Heathland.

Similarly, vegetation on the beach ridge plain landform is most extensive and least disturbed inland from Becher Point in an area with considerable significance for studies of coastal vegetation and landform history. As a result the Department of Planning & Urban Development (DPUD) and the EPA have taken steps to protect a cross-section of the plain within Regional Open Space including large areas of vegetation similar to that at Singleton but with more variation.

4. The claim that the System 6 Area on the Singleton property has no important environmental values in a regional sense is disputed. While most of Rockingham and Mandurah is flat, particularly the immediate coastal areas, part of the charm of living in Golden Bay and Singleton, lies in the interesting slope of the chaot and parabolic dunes that form the heart of the area and are therefore an integral part of the area's total environment. The dunes, flora, and fauna do have an important value in both an historical and regional sense. It appears that the need for housing has an undue influence on the value of the dunes.

4a. The only component of the System 6 Area M107 within the Singleton property is an east-west transect with a nominal width of about 150m. The remainder of the land is not affected by System 6 recommendations. It is considered that the transect would not be effective in conserving the chaot or parabolic dunes in the area nor the areas flora and fauna since it is not large, and its orientation is at right angles to the alignment of landforms. This alignment is likely to create management problems with regard to fire control and erosion. In contrast the expanded Coastal Reserve is aligned parallel to the landforms which it would preserve and will be more easily managed.

No unique geomorphic feature, or species of flora and fauna have been identified within the subject land that is not present in existing or proposed conservation reserves in the area.

5. The recommendation of the CER to exchange a wider than required Coastal Reserve for the M107 area is supported and commended.

5a. The proponent believes that the proposal is the most practical method of preserving the aesthetic and recreational features of the Singleton property given that residential development will occur there.

6. The decision to provide a foreshore reserve with a width of 230m is applauded, however, it is felt that this should not be provided at the expense of the area of land protected by System 6, which would preferably be relocated to the northern boundary of Singleton at Fitch Road.

6a. The proponent considers that the provision of land as a buffer between Golden Bay and Singleton would be of limited value. The reasons for this are outlined in detail in the CER in Section 4. These reasons include the unwillingness of the Local Authority to take responsibility for such land, the difficulty of managing a narrow linear piece of bushland, and the inability of the narrow piece of land to preserve any topographic features since the proposed buffer would cut across the dominant geormophic features. Finally, in order to provide affordable services, roads, power, water and other amenities would need to cross the buffer further diminishing its value.

7. There is opposition to urbanisation of the M107 area between Mandurah Road and the eastern dunal system on the land owned by H&J Perry.

7a. The proposal covered by the present CER only suggests the removal of that part of System 6 Area M107 which is on the Singleton property.

No specific proposals for the Madora property owned by H&J Perry have been referred as yet to the EPA for their consideration. The Discussion Paper on the whole of System 6 Area M107 which is appended to the Singleton CER does contain some suggestions for potential development of that property but these are presented only as conceptual possibilities. A preferred option involves the use of the land as a golf course thereby preserving the lands vegetation and landscape values.

8. Another golf course along the Mandurah Road or elsewhere in M107 is not supported.

8a. The specific proposal for development of the Singleton property does not involve a golf course. A golf course is mentioned as a possible development option for the Madora property owned by H&J Perry in the Discussion Paper appended to the Singleton CER. This was presented only as a potential development option which would be designed to protect the landscape features of the area and some of the vegetation of the area.

9. The future of M107 should be determined in the regional context, taking into account the need to preserve representative sections of our coastal heathlands and dune systems and not be a hasty ad hoc decision based on the Study Paper included in the CER.

9a. The proponents believe that they have presented a case for the preservation of representative sections of coastal systems within the South-West Corridor. It is stated in the CER that the dune systems and vegetation types that occur in the region including those that occur at Singleton will be incorporated into conservation areas within Regional Open Space inland from Becher Point. Other systems will be protected within the Coastal Reserve extending along the whole length of coastline from Becher Point to Mandurah.

It is also suggested in the CER that part of System 6 Area M107 on the Singleton property that is involved in the present proposal is not appropriate for the conservation of representative vegetation and dune systems because of its small size and orientation.

10. The development proposals should be rejected until the Structure Plan for the entire South-West Corridor has been completed. Conservation issues of such importance should be considered on a regional basis within the context of a land use plan.

10a. The proponent believes that the planning and conservation issues relating to the South-West Corridor have been considered in recent or soon to be released regional plans. The proponent understands that the position of DPUD on the Singleton property as stated in this report will be incorporated into the South-West Corridor Structure Plan. The Metropolitan Development Programme 1991/92-1995/96 of the Department of Planning & Urban Development (DPUD) published in June 1991, specifically discusses the future of the Singleton property including the System 6 Area. The report proposes that about 400 new residential sites will be produced in the Singleton locality during the next 5 years (i.e. before 1996). There is no provision for Open Space other than the Coastal Reserve, i.e. DPUD indicates that the System 6 Area is required for residential purposes.

Furthermore according to the Draft South-West Corridor Plan produced by DPUD which is yet to be finalised, the emphasis for regional conservation will be on the Port Kennedy area, the Stakehill Suite of wetlands, and certain areas adjacent to the Serpentine River.

11. A survey identifying the issue of fauna is not addressed in the report. Evidence of reasonable populations of Splendid Blue Wren unique to the area and of colonies of Bandicoot should be given consideration.

11a. Given that the habitats within the Singleton land are not unique and that regional parks will contain representative portions of these habitats it was concluded that the conservation of fauna would not be an issue that would require detailed consideration in the CER.

The proponent is unsure of the meaning of the statement that the Splendid Blue Wren is unique to the Singleton property. This species is actually relatively common throughout the South-West Corridor and in the south-west sector of Western Australia in general. It is suggested that the species will continue to occur at Singleton because of the protection of suitable habitat within the Coastal Reserve and in the Special Rural properties adjacent to Mandurah Road.

The proponents have noted concern over the presence of bandicoots on the Singleton property. The proponent conducted a trapping program designed to establish whether bandicoots are present on the Singleton property. The program was conducted in a manner so as to establish within which types of vegetation the bandicoots occurred. Fifty traps were set over 4 nights in all major vegetation types on the property.

At total of three Southern Brown Bandicoots were trapped during the trapping program, two of which were trapped twice. No other native marsupials were trapped in the program. These results indicate that bandicoots are present on the property, however, they are probably few in number. All trapped animals were present in *Acacia rostellifera* Closed Scrub which is predominantly present on the western portion of the site immediately adjacent to the proposed Coastal Reserve.

The Southern Brown Bandicoot has been gazetted as a rare and endangered species as defined by the Wildlife Conservation Act 1950-1979. It is an offence to take or disturb this species without the approval of the Minister for the Department of Conservation and Land Management (CALM). As the land containing these individuals is earmarked for residential development the proponent is required to notify the Minister for CALM of its intentions. The proponent is in the process of doing this.

As a consequence of the above the proponent commits to the following

- The proponent will liaise with the CALM regarding the issue of bandicoots at Singleton and will prepare a study which will examine the feasibility of relocating the bandicoots to an appropriate location. This study will be performed prior to the disturbance of vegetation at Singleton and will be done to the satisfaction of CALM and the EPA.

The proponent has considered the option of retaining a portion of the *Acacia rostellifera* Closed Scrub within a Conservation Reserve on the property. This would be an alternative to the expanded Coastal Reserve proposed by the proponent. There are a number of planning problems associated with this alternative in relation to the provision of services to the subdivision and the general usefulness of the area to future residents. Also, such an area would be almost completely surrounded by urban development and thus would be difficult to manage in a manner that would allow the bandicoots to survive. It is envisaged that fires, increased predation by domestic cats and dogs as a result of

urban development and increased road kills would result in the decline of the already limited bandicoot population.

It would seem that the only alternative worthy of further investigation is relocation on the animals to a yet to be determined location.

12. It is considered the references to flora in the report are inadequate. The vegetation complexes within the dunal environs are of international importance.

12a. A plant species list was omitted from the CER but is included here for further information.

The statement in the question that the vegetation complexes are of international importance is not supported by any of the available evidence. In fact, the DPUD environmental audit of the South-West Corridor indicates that the vegetation on the Singleton property is not of regional significance. This vegetation is typical for the Quindalup Dune soils in the region and will be protected within Regional Open Space at Port Kennedy.

Coastal

13. This is very unstable coastline and a wide buffer strip is essential. The proposal to widen the Coastal Reserve is supported for this purpose.

13a. The proponent disputes the assertion that the coastline along Singleton is unstable. This portion of the coast is actively accreting at a relatively rapid rate and therefore a wider than normal Coastal Reserve would not normally be required. Examination of aerial photographs dated 1942 and 1979 has shown that the coastline accreted by some 100m during this period. The State Planning Commission's Coastal Protection Policy states that such a coastline should have a Coastal Reserve of at least 100m. The proposed reserve is in the order of 200m wide.

14. The coastal dune system and the wetlands and wildlife associated with them is of international scientific importance and there is very little of the Quindalup System in the conservation estate. M107 needs to be representative of the coastal heathlands, and large enough to withstand fires and weeds.

14a. There are no wetlands on the Singleton property.

The near coastal dune system will be protected within the expanded Coastal Reserve. A large area of Quindalup dunes of appropriate size for management of weeds and fires will be reserved as Regional Open Space and Coastal Reserve south of Becher Point and the northern coastal section of Secret Harbour. It is

questionable that Area M107 on the Singleton property is sufficiently large or appropriately designed to be ecologically sustainable in the long term.

15. General consensus (DPUD, Marine and Harbours, and City of Mandurah) indicates further coastal protection will be required for the northern Mandurah beaches. The effects of constructing new groynes and allowances for the possible changes in climate have not been considered in the proposal. These dynamics need to be addressed prior to development approval being granted.

15a. Although coastal protection in the form of groynes may be required for beaches north of Mandurah, this is not the case at Singleton. At Singleton the beach is accreting at a relatively rapid rate. As an indication the shoreline expanded westwards by more than 100m between 1942 and 1979. It is predicted that any new groynes to the south may act to limit the transport of beach sand along the coast and thus reduce or halt the accretion of the coast at Singleton as well as further north. In an extreme case the beach may start to erode since northerly sand transport would be blocked. It would then become the responsibility of the local authority to provide mechanisms to allow sands to bypass any future system of beach protection measures.

While it is true to say that the potential impact of a rise in sea level has not been considered in the CER it has been considered in the formulation of the DPUD coastal protection policy. The proposed expanded Coastal Reserve is larger than normally required by DPUD and thus would be more than adequate to protect roads and residents if such a rise occurred.

16. The development will lead to the destruction of unique local dunal system, particularly the western and eastern dunes. The proposed development should locate between the two significant dunal systems and not encroach into them.

16a. The Quindalup Dune System is an eolian landform of south-western Western Australia that extends in a narrow belt along the coastline from Geographe Bay in the south to Dongara in the north. As such, the dunes at Singleton are not unique to that location. Dunes of the Quindalup System typically form chaots and nested parabolic systems as at Singleton.
The westernmost Quindalup Dunes at Singleton will be protected within the Coastal Reserve while the easternmost Quindalup Dunes in the local area will be substantially protected within the Special Rural zone to the east of the property affected by the current proposal.

17. The present townsite is protected by the dunal system to the east and west from prevailing winds. Their destruction would remove this protection and cause problems with soil stability.

17a. The dunes to the east and west of the present townsite are not affected by this proposal.

18. There should be consideration given to potential for eddies or the venturi effect to be created around R40 and other coastal buildings if the north-south dunal system is removed.

18a. The proposed urban density at Singleton is a subject that is the responsibility of DPUD and the Local Authority. Consequently, the issue of R40 and other coastal buildings and the resulting exposure of these buildings to south-westerly winds is a matter for these Authorities consideration.

Groundwater

19. Concern is expressed over the lack of specific on-site assessment of groundwater at Singleton. More specific hydrology information in Singleton is required in view of the very shallow basin and the fact that further urbanisation will not discourage the requirement for drawing on the aquifer. There is concern regarding the potential effect on water quality and quantity, particularly considering that residents use this as a drinking water supply. The groundwater supplies could be adversely affected such that existing residents will be forced to connect to scheme water at their own expense. Data should be presented on predicted abstraction rates at maximum development, effects of nutrient into the unconfined aquifers and details of on-site drainage.

19a. The proponent is of the opinion that specific information regarding groundwater at Singleton is not required given the assessments made on properties to the north which are on the same aquifer. This together with research on the impact of residential development on groundwater on the Swan Coastal Plain is sufficient to assess any potential impacts on groundwater at the site.

Research performed by CSIRO provides information on the potential impact of urbanisation on groundwater quality on the Swan Coastal Plain. Gerritse and others (1990) found that concentrations of chemicals in groundwater from studied urbanised areas in Perth are well below maximum levels set for drinking water. These studies included established residential areas at Embleton and North Bayswater. Based on this it is concluded that the quality of groundwaters at Singleton will not be significantly affected by residential development.

It is emphasised also that reticulated sewerage will be provided at Singleton. This complies with the Water Authority policy for the south-west groundwater area which includes Singleton. By having reticulated sewerage the residential development will comply with the safeguards required for a Priority 3 WAWA groundwater extraction area, that is an area used by WAWA to source drinking water. Existing septic tank systems within the established Singleton area are not

in compliance with these policies and would pose a greater threat to groundwater quality than the proposed residential development.

Investigations into the quantity of water available within the Safety Bay Sand/Tamala aquifer beneath Singleton have shown there to be a groundwater resource sufficient to supply residential development with reticulated water. Drilling to the north of Singleton showed an aquifer depth of 80m and that this aquifer had a seasonal fluctuation of 70-100cm.

Recharge of the aquifer beneath the site occurs principally from the east and also from direct rainfall. Given the above and an estimated peak water requirement of $10m^3$/day/household on average (as not all households have a bore) it is highly improbable that the unconfined aquifer would be seriously depleted.

20. The extra water draw on the underground water supply will be greatly affected should the proposed resort go ahead.

20a. As indicated in response 19a above, the local aquifer is considered to be more than adequate to supply groundwater demand from future residents including any requirements of the resort hotel, community centre, and Public Open Space. In any case, any application to use this groundwater will need to be separately approved by WAWA. If WAWA is concerned about the volume of water proposed for extraction it is unlikely to grant its approval.

21. Both options of Appendix 2, Item 7.2 (iv) and (v), refer to golf course developments. The development lies within the Rockingham Groundwater Area where groundwater abstraction for private use must be approved prior to development. Approved abstraction is limited to a proportion of the annual recharge of the aquifer system. Preliminary investigation would suggest that groundwater for this type of development would not be readily available.

21a. The CER refers to the lifting of M107 recommendation only from the Singleton property and makes no mention of golf course developments within Singleton. A golf course is mentioned as a possible development option for part of the Madora property south of Singleton and this has not been referred to the EPA for its consideration. Investigation of the groundwater requirements of a golf course and comparison with available quantities of groundwater would be a necessary part of gaining approval for groundwater extraction from WAWA.

Need for, and Alternatives to the Proposed Development

22. The proposal has not addressed the "no development" option.

22a. The proponents consider that residential development of the Singleton property is inevitable. The demand for lots within the South-West Corridor is high as shown by the rapid expansion of Rockingham southwards towards Port Kennedy in recent years. Moreover, DPUD in its Metropolitan Development Programme 1991/92-1995/96 published in June 1991 identifies the Singleton property as a necessary component for development in the South-West Corridor to meet the expected demand for residential blocks.

Urban development throughout most of the coastal section in the South-West Corridor will also be an important consideration in determining the viability of public transport systems such as light rail which have been proposed to connect Mandurah to the City of Perth.

23. The need for this development has not been established. There is a lot of land still available in Meadow Springs, Watersun, San Remo, Golden Bay Heights, Peelhurst, Golden Bay and Singleton.

23a. The Metropolitan Development Programme 1991/92-1995/96 published by DPUD in June 1991, suggests that the available land between Rockingham and Port Kennedy and at Secret Harbour and the Singleton property will all be required within the relatively short term future to meet the anticipated demand for residential blocks.

24. It is considered that the Australian Bureau of Statistics figures quoted with regard to population growth are overstated. This is supported by the knowledge that the present growth rate in Australia is 1 to 1.5%. It should also be noted that the cities of Rockingham, Mandurah and Kwinana have the highest unemployment rates in the state. The continued use of ABS data based on State figures in development proposals amount to "reductionism" and a test of their validity should be considered in future proposals.

24a. DPUD in its Metropolitan Development Programme 1991/92-1995/96 anticipates that the recent rapid population expansion in the City of Rockingham and particularly in coastal areas south of the Rockingham townsite will continue. It expects that a total of nearly 5,800 new residential lots will be required within the city before the end of 1996. None of the available census or population data suggests that the estimated population growth rate is overstated.

Access and Services

25. The additional exit out of the townsite of Singleton should be in an east-west direction to enhance nodal development. It is believed that the proposed north-south link to Golden Bay would encourage urban development to the southern end of Golden Bay. A buffer zone of at least 100m should remain between the

two settlements. Any north-south link road/path should be no greater than a cycleway and footpath.

25a. The City of Rockingham has informed the proponents that it prefers the present townships of Golden Bay and Singleton to be integrated into a single urban cell and that it requires north-south road links as part of this development strategy. The present proposal has deleted the buffer zone concept as the proponent considers that a larger Coastal Reserve will more appropriately serve the future recreation and environmental protection priorities of the local community. Furthermore, the proponent believes that 100m wide buffer zone between the two urban areas would be extremely difficult to manage and would be of very little benefit in terms of environmental protection.

26. Foreshore Drive should not be continued to connect with Marillana Drive at Golden Bay. There should not be a road separating residents from the beach.

26a. The proponent believes that a road running alongside the proposed foreshore reserve is the only appropriate link road between Singleton and Golden Bay. The proposed Foreshore Drive connection will ensure maximum access to the beach and the foreshore reserve for residents and visitors to the area. It will also provide a management boundary between the residential area and the Coastal Reserve.

27. The construction of a through road would introduce additional vehicular traffic into both suburbs, with increase in pollution from exhaust fumes and noise pollution.

27a. The future development of residential land at Singleton and at properties to the north and south (Golden Bay and Madora) requires their integration into a single urban unit for the efficient provision of normal services such as electricity, sewerage, and water. The City of Rockingham also requires an integrated road system through this urban area so that residents may readily access community facilities, shops and Open Space without having to travel out to Mandurah Road. As the residential area of these coastal townsites increases in the future there will inevitably be an increase in vehicle traffic and is associated impacts.

28. The development will need to be connected to the Water Authority's water supply and sewage system.

28a. The proponent has recognised that any development at Singleton will need to be connected to the Water Authority's water supply and sewerage system.

29. Storm water runoff should be disposed of by soakage basins to help recharge the groundwater.

29a. The proponent agrees that stormwater runoff should be disposed by soakage into the ground to help recharge the groundwater.

30. Care must be taken to locate urban development to ensure that flooding does not occur during major storm events.

30a. The proponent will ensure that flooding does not occur within the proposed development or within any adjacent and existing residential areas. Special attention will be paid to stormwater disposal and wherever possible stormwaters will be disposed of into the ground, and if necessary, within soakage basins.

Development Design/Management and Aesthetics

31. Development of this kind has a significant negative effect on the appearance of the coastal strip and therefore should not be permitted.

31a. The proponent believes that the Singleton subdivision will stand apart from other subdivisions in the area because it involves large areas of Open Space, an abundance of public amenities and high quality buildings and landscaping.

The proponent also proposes to rehabilitate the proposed Coastal Reserve and to generally improve the natural features of the land along the coast through the development and implementation of a Coastal Reserve Management Plan.

32. Massive sand storms are an unsatisfactory feature of these types of development.

32a. Nuisance wind blown sand can be a temporary feature of urban developments on Quindalup soils near the coast in both the North-West and South-West Corridors of the Perth Metropolitan Region. However, if such developments are carried out in an appropriate way and provision is made in the form of windbreaks and skirtings around land then sand storm problems can be minimised. The proponent is prepared to commit to carrying out dust mitigation measures in accordance with the EPA Policy on Dust Control (EPA, 1990).

33. Provision should be made for a coastal foreshore width of at least 100m; Public Open Space for a minimum of 10% of usable land to be vested with the local government; and a buffer zone of at least 100m width be provided on the northern, southern and eastern townsite boundaries.

33a. In planning the subdivision, the proponent has made provision of a Coastal Reserve with a width generally of 200m and the provision of 10% of usable

land for Public Open Space scattered throughout the residential areas. The proponent believes that this provision of Open Space is more than adequate for the needs of the local residents at Singleton. The proponent does not see any practical requirement for buffer zones on the northern, southern and eastern townsite boundaries.

34. Singleton and Golden bay already have large Public Open Spaces with community centres planned or proposed which should be adequate to provide for the new development as well as existing townships. It is believed that the planned Public Open Space and community centre blocks should be reduced to two or three smaller children's parks within the developed area and that the area bounded by Singleton Drive from the beach west to Indiana Crescent, thence to Murdoch Drive north to Fitch Street, thence west to the beach and bounded on the north by the System 6 strip should be left undeveloped. This area contains fairly high sand dunes dropping into a valley and lower sand dunes to the beach. Development of this unique area would require flattening of the dunes and clearing of the vegetation causing many adverse affects such as loss of habitat for local flora and fauna, groundwater interference, sand storms, and exposing residents to strong winds.

34a. Questions relating to adverse effects on local flora and fauna, groundwater, and questions relating to dust nuisance and winds have been answered in questions 3, 11, 19, 20 and 32. The Singleton property is privately owned and the owners are proposing to develop their property in conformity with current planning priorities of the State Government as developed and proposed by DPUD. If DPUD were to require that a substantial part of the Singleton property should become Public Open Space then it would be necessary for the Government to purchase that land for this purpose at some time in the future. The funds for such purchases come from revenue raised by the Metropolitan Region Improvement Tax and are very limited relative to the amount of land which DPUD has identified within the Metropolitan Region as necessary for purchase for conservation reasons. For example, DPUD recently paid approximately $6,000,000 for the purchase of Paganoni's Reserve in the South-West Corridor adjacent to the Serpentine River. It is suggested that no part of the Singleton property has sufficient priority in terms of regional conservation to warrant use of Metropolitan Region Improvement Tax funds for its purchase for conservation purposes.

35. The Peel Region Plan states that:

"Urban development should be excluded from the prominent dunal ridge running parallel to the coast and the land between the ridge and Mandurah-Fremantle Road. As described earlier, retention of land in this locality as a green belt is essential to maintain a physical and visual break from the Perth Metropolitan Region".

The proposal appears to contradict this objective.

35a. The Singleton land holding does not include a prominent dunal ridge running parallel to the coast to the east and near Mandurah and Fremantle Road.

Lifestyle Issues

36. It is believed that the proposed development would lead to the destruction of local identity. The sense of community that presently exists is important and should be preserved. No further development should take place. The area should be left as it is .

36a. The proponent recognises that current residents of Singleton are likely to place a high value on their present lifestyles. However, the proponent considers that all available private land in the coastal strip between Rockingham and Mandurah will inevitably be developed for residential purposes except for land specifically set aside as Coastal Reserve or as Regional Open Space and standard Public Open Space requirements. It is inevitable therefore that the lifestyle opportunities available at Singleton will change. The proponent accepts that not all present residents may like these changes but would emphasise that the present proposal involves a very high quality development which is intended to provide a very attractive lifestyle for both present and future residents. The development will also bring benefits to present residents through the provision of overdue service as suggested in Question 37 below.

37. The communities of Golden Bay and Singleton should be linked as proposed to facilitate the provision of long overdue services to this area, that is, education, scheme water, public transport.

37a. The proponent agrees that the proposed development will facilitate the provision of long overdue services to the Singleton area.

38. Singleton enjoys the unique status of being a purely residential area without the disruption caused by shopping centres, hotels, camping sites and high density housing such as blocks of flats. It is believed that the development should be consistent with the ethos, with residential blocks being of similar size to those existing and no commercial facilities.

38a. This question is answered mostly by response 36a. The proposal does not involve the provision of camping sites and blocks of flats as suggested by the question.

39. Whilst it is acknowledged that development of this area is bound to take place, it is believed that this should be done in such a way as to preserve some of the unique topography and lifestyle of this area.

39a. The proponent believes that the main features of the local topography will be retained in the present development and that the lifestyle of the area will continue but will be enhanced through the provision of local services and amenities.

40. This development will lead to a loss of land value.

40a. The proposal to develop the land at Singleton will result in the provision of services including a school, scheme water, public transport, shops, and reticulated sewerage. All of these features are most likely to enhance the value of land held by existing owners.