

**Proposed change to Yalgorup National Park
boundary, extension to wastewater treatment site,
septage disposal facility and quarry proposal, Tims
Thicket, City of Mandurah**

**Department of Conservation and Land Management, Water
Authority of Western Australia and City of Mandurah**

**Report and recommendations
of the Environmental Protection Authority**

**Environmental Protection Authority
Perth, Western Australia
Bulletin 751
August 1994**

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 report.

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 contents of the assessment report or 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
12th Floor, Dumas House
2 Havelock Street
WEST PERTH WA 6005

CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 19 August 1994.

Environmental Impact Assessment (EIA) Process Timelines in weeks

Date	Timeline commences from receipt of full details of proposal by proponent	Time (weeks)
21.3.94	Proponent Document Released for Public Comment	4
15.4.94	Public Comment Period Closed	
9.5.94	Issues Raised During Public Comment Period Summarised by EPA and Forwarded to the Proponent	3
20.6.94	Proponent response to the issues raised	5
3.8.94	EPA reported to the Minister for the Environment	

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Summary

The Department of Conservation and Land Management proposes (section 2) to realign the northern boundary of Yalgorup National Park, in the vicinity of Tims Thicket. This new boundary would exclude a portion of Reserve 21271 north of Tims Thicket Road, and include a portion of Reserve 24198 south of Tims Thicket Road (figures 1 & 2).

If the amendment to the national park boundary proceeds, part of the land proposed to be excluded from the national park is proposed to be used in the following ways :

- the Water Authority of Western Australia proposes to extend an existing wastewater treatment site; and
- the City of Mandurah proposes to use a portion for a septage disposal site and a limestone quarry.

The balance of the land proposed to be exchanged is proposed to be retained as public open space, and vested with the City of Mandurah for public recreation.

A number of environmental issues were identified by the Environmental Protection Authority and in public submissions and included (sections 3 & 4):

- modification of the national park boundary;
- potential impact of a wastewater treatment plant site on the surrounding environment;
- potential impact of a septage disposal facility on the surrounding environment;
- potential impact of the operations of a limestone quarry, particularly on nearby residents; and
- impact of increased traffic generated as a result of the proposed development on nearby residents.

The Environmental Protection Authority considers (section 5) that implementation of the proposals will not have any significant adverse environmental impacts and has affirmed the need to implement the commitments given by CALM and the City of Mandurah.

The Environmental Protection Authority has concluded that the project is environmentally acceptable subject to the proponents commitments and recommendations in this assessment report.

	Summary of Recommendations
1	<ul style="list-style-type: none"> • The proposals are acceptable subject to the recommendations contained in this report and the proponents commitments.
2	<ul style="list-style-type: none"> • The proposed change to Yalgorup National Park boundary is environmentally acceptable.
3	<ul style="list-style-type: none"> • The proposed extension to the existing wastewater treatment plant is environmentally acceptable provided that: <ul style="list-style-type: none"> • a buffer with minimum width of 500 metres is retained between the wastewater treatment plant and nearest residence; and • trees are planted around the wastewater treatment plant site to provide a visual screen and so reduce the visual impact of the site.

4	<ul style="list-style-type: none"> • The site for the proposed septage disposal facility is environmentally acceptable. • Connection of the septage disposal facility to the Water Authority wastewater treatment plant be reviewed regularly and when practical connected at the earliest time. • the Senior Officers' Committee on Waste Management (chaired by the Health Department of Western Australia) prepare for consideration by the Government a septage disposal policy for the State which examines opportunities for regional septage treatment facilities, and maximises opportunities for discharge to wastewater treatment plants after pre-treatment of septage.
5	<ul style="list-style-type: none"> • The limestone quarry proposal is environmentally acceptable subject to the implementation of appropriate management conditions.
6	<ul style="list-style-type: none"> • Specifications for inert waste to be used as backfill for the limestone quarry be determined by the Minister for the Environment on advice of the Department of Environmental Protection.

1. Introduction and background

Tims Thicket Road runs through the northern most portion of Yalgorup National Park. A large reserve set aside for recreation and vested within the City of Mandurah is located adjacent to the coast, north and south of the western end of Tims Thicket Road. Located between this recreation reserve and Yalgorup National Park is a gazetted wastewater treatment plant site.

The proposals subject to this Consultative Environmental Review involve a land exchange between the City of Mandurah and the Department of Conservation of Land Management, development of a septage disposal site and limestone quarry by the City of Mandurah, and an extension to the existing wastewater treatment site by the Water Authority of Western Australia (see Figure 1).

A proposal to construct a septage disposal site and limestone quarry by the City of Mandurah in the vicinity of Tims Thicket has been the subject of discussion between officers of the Department of Environmental Protection, the City of Mandurah, Water Authority of Western Australia and Department of Conservation and Land Management and other relevant Government authorities for several years.

The intention by CALM to amend the boundary of Yalgorup National Park (Reserve 21271), to exclude a portion of Reserve 21271, and include the portion of Reserve 24198 south of Tims Thicket Road has also been the subject of some consideration in 1989 and again in 1993.

The gazetted 'Wastewater Treatment Plant' site in this vicinity is vested with the WAWA. The WAWA considers that the present size of the site (10 ha) is insufficient, and that it should be increased to a total area of 23.3 ha to accommodate a regional treatment plant site at some time in the future. The need for a regional site of this size has been recognised as part of the WAWA's long term regional wastewater treatment strategy for the Mandurah area.

The expansion would involve using 11.3 ha of land included as part of the land proposed to be excised from Yalgorup National Park. In view of the proposed land exchange, it was considered advantageous by the WAWA to propose this expansion at this time, as part of the overall land use strategy for the area.

In view of the close proximity of these three specific proposals (see Figure 2), which are interdependent and which rely on approval of the proposed change to the national park boundary, and common environmental issues, the Environmental Protection Authority considered that it would be appropriate to co-ordinate the assessment of the three proposals.

The potential environmental implications of various aspects of the proposals were considered to be significant enough to warrant formal assessment and the setting of Environmental Conditions to manage potential impacts. The Authority considered that members of the public should be fully informed of the proposals and have the opportunity to comment on the proposals.

In November 1993 the proposal was referred to the Environmental Protection Authority. The level of assessment was set as Consultative Environmental Review, with a four week public review period. Additional public input was received through a Public Information Day. This information day was held on March 23 1994, during the four week public review period at the Southern Estuary Progress Association Hall at Dawesville. Representatives of the City of Mandurah, CALM, WAWA and Department of Environmental Protection were present to answer questions regarding the proposed development, and environmental impact assessment process.

The key objectives for assessment of the proposal were considered to be :

- the principle of modification of an existing national park boundary, which is also included within System 6 area C. 54 (DCE, 1983);

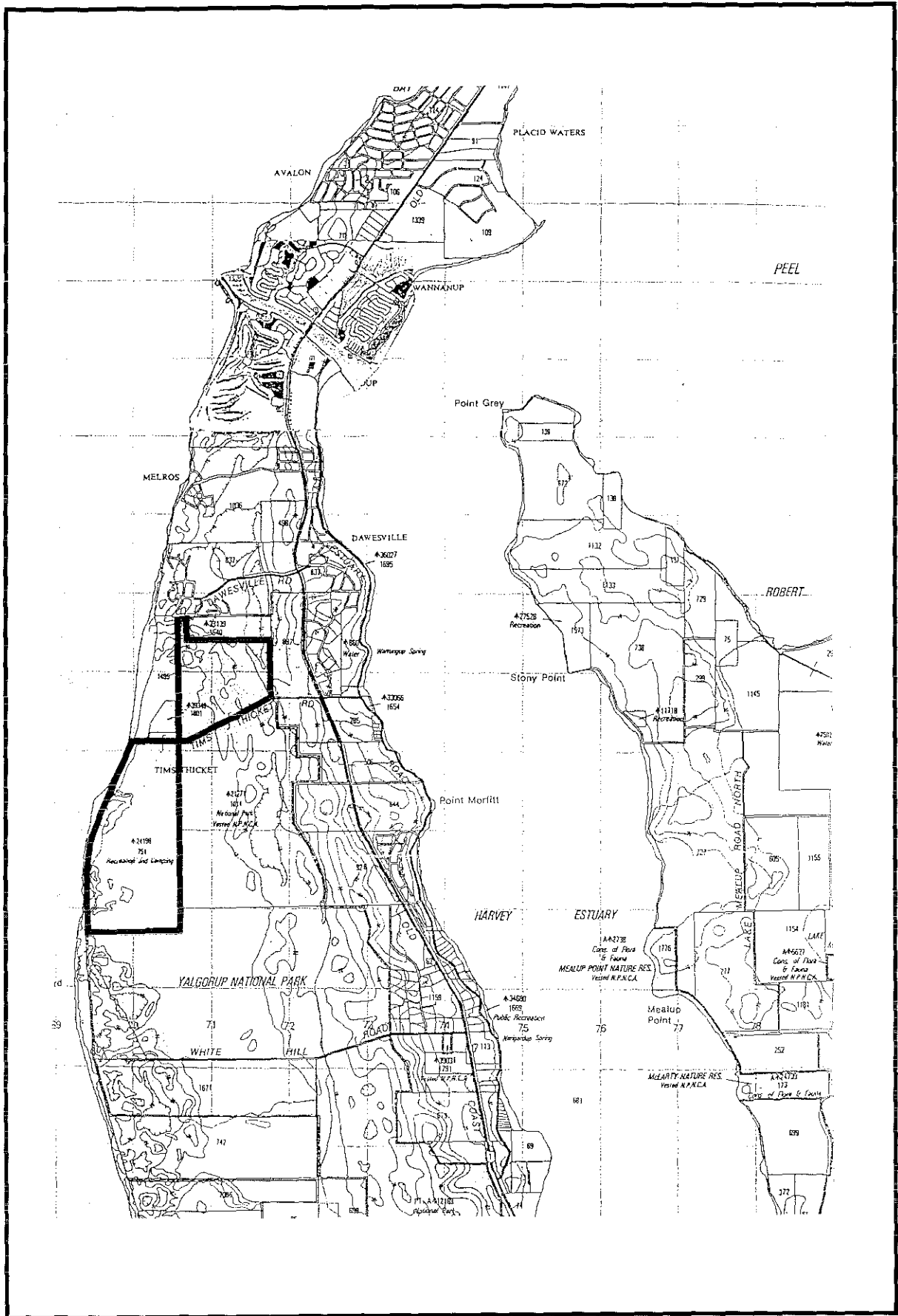


Figure 1. Proposal location in relation to Peel Inlet and Harvey Estuary.

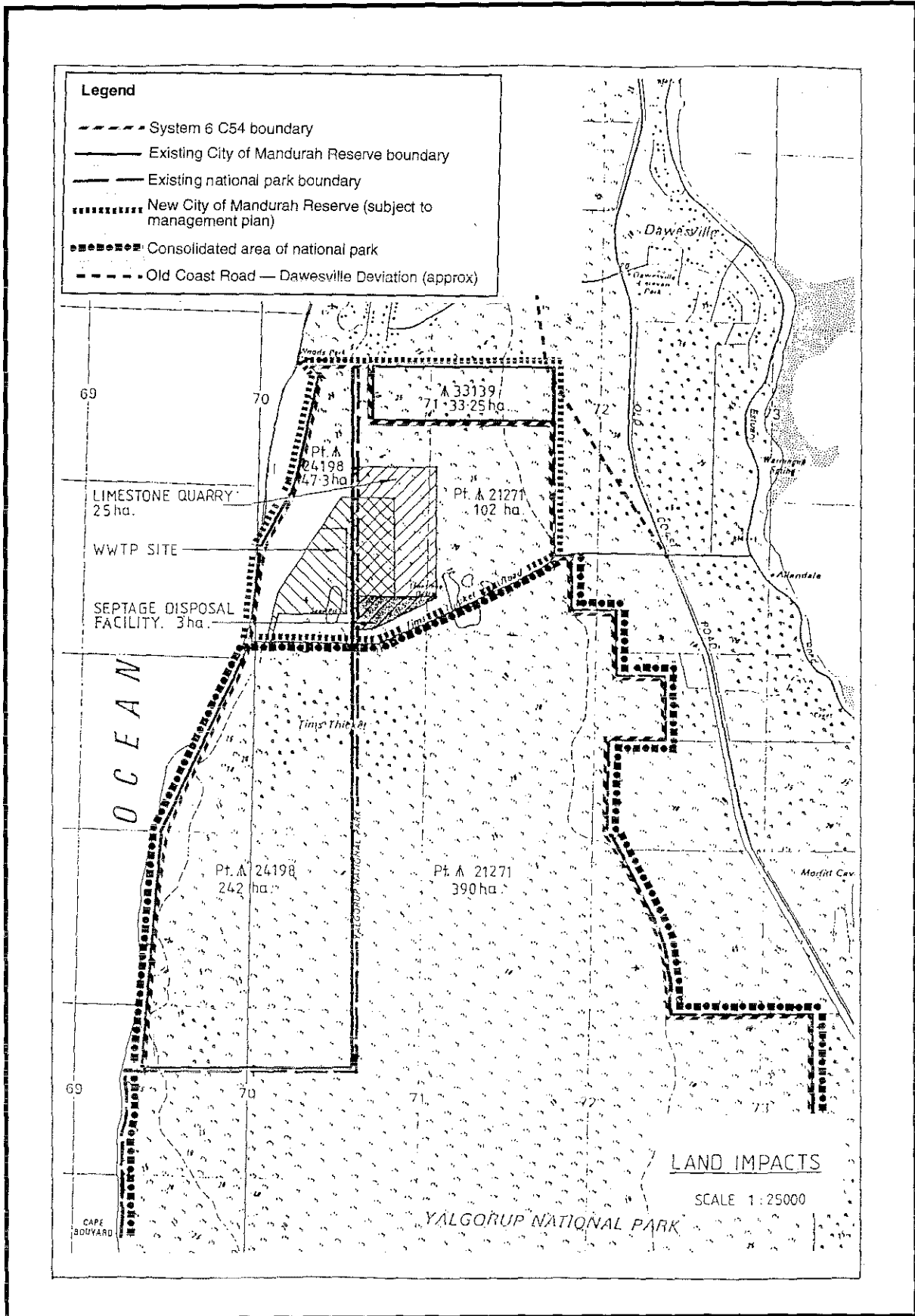


Figure 2. Location of proposed national park boundary realignment, extension to existing wastewater treatment plant site, quarry site and septage disposal facility site.

- the environmental acceptability of proposed land uses of area intended to be excised from national park, i.e wastewater treatment plant, septage treatment plant, and limestone quarry; and
- the potential impact of the proposed developments on nearby residents, such as increased traffic, noise, odour and dust.

2. Summary description of proposal

The four related proposals which are the subject of this assessment report were described in a Consultative Environmental Review document prepared on behalf of the City of Mandurah, WAWA and CALM by Halpern Glick and Maunsell in March 1994, in accordance with guidelines issued by the Department of Environmental Protection.

In summary, the following is proposed:

- the modification of the existing Yalgorup National Park Boundary, as indicated in Figure 1. It is proposed to excise 130 hectares from Reserve 21271 north of Tims Thicket Road from the National Park, and to add the portion of Reserve 24198 south of Tims Thicket Road (242 ha).
- use of a portion of the land proposed to be excised from the National Park (39.3 ha) for the following purposes :
 - extension to existing Wastewater Treatment Plant Site (currently 10 ha, proposed to be increased by 11.3 ha to a total of 23.3 ha). An assessment of the development of the treatment plant will be undertaken under Part V of the Environmental Protection Act at a future date when construction details are known (likely to be within the next 10 - 15 years)
 - construction of septage disposal site (three hectares). This would also require a Works Approval and a Licence under Part V of the Environmental Protection Act; and
 - construction of a limestone quarry, and subsequent infill with 'inert' fill (25 ha).
- the remaining portion of land to be excised from the national park (103 ha) is proposed to be retained as 'Vacant Crown Land', to be managed by the City of Mandurah for 'recreation'. The city has undertaken to prepare a management plan for this area, on advice from CALM and the National Parks and Nature Conservation Authority, which is consistent with the management of Yalgorup National Park.

A number of commitments have been undertaken by the proponents to minimise potential environmental impacts associated with the proposed developments. These are listed in Appendix 4.

A wide variety of issues were raised in submissions received on the CER document by the EPA. Following public review of this document and consideration of issues raised in public submissions, the proponent has undertaken a number of additional commitments in order to address a number of the issues raised. These have been included in Appendix 4 and are as follows:

- Traffic management:
To minimise disruption to traffic movements along Tims Thicket Road, *the City of Mandurah will hold discussions with the Main Roads Department to evaluate options for upgrading and realigning Tims Thicket Road and intersection with Old Coast Road.*
- Noise:
To minimise noise generated as a result of traffic movement along Tims Thicket Road, *the City of Mandurah commits to apply 'hot mix' to the Tims Thicket Road surface to reduce noise.*

- Impact on Groundwater:
To ensure groundwater is not contaminated by discharge from the septage disposal facility, *the City of Mandurah will install monitoring bores north and east of the proposed septage disposal facility. The results of monitoring results will be made available to the Department of Environmental Protection.*
- Septage Treatment Plant - construction:
To ensure that the facility is constructed to acceptable standards, *the City of Mandurah will submit final design details of the Septage Disposal facility to the WAWA for approval prior to construction.*
- Septage Treatment Plant - management:
In the event that power sources are inadequate, *the City of Mandurah will have a mobile emergency generator available in the event that proposed power requirements are inadequate.*
To promote recycling, *The City of Mandurah will investigate options available for the reuse of sludge (generated as a result of septage treatment).*
To ensure no illegal or unacceptable waste is dumped, *the City of Mandurah will collect a sample from every tanker disposing septage at the facility. These samples will be visually checked and tested for pH and conductivity. The samples will then be stored frozen for two months. Should routine testing of ponds identify an anomaly in septage quality of the ponds, the stored samples can then be tested and traced back to the operator responsible.*
To ensure spillages are appropriately managed, *the City of Mandurah will clean up all fuel spills at the septage disposal facility, or any accidental spillages from trucks carrying waste to the facility.*
- Quarry - operation:
In the unlikely event that blasting is required, *the City of Mandurah will adhere to guidelines set by the Department of Minerals and Energy.*
- Quarry - management
To ensure that no unacceptable waste is dumped at the quarry, *the City of Mandurah will ensure that an attendant will visually inspect each truck prior to dumping, and will maintain a record of material dumped.*

3. Environmental impact assessment method

The environmental impact assessment for this proposal followed the environmental impact assessment administrative procedures 1993, as shown in the flow chart in Appendix 1. The summary of issues raised in submissions and the proponents response to those issues appears in Appendix 2, and the list of submitters appears as Appendix 3. The proponents revised commitments following response to submissions appears in Appendix 4.

Limitation

This evaluation has been undertaken using information currently available. The information has been provided by the proponent through preparation of the Consultative Environmental Review document (in response to guidelines issued by the Department of Environmental Protection), by Department of Environmental Protection officers utilising their own expertise and reference material, by utilising expertise and information from other State government agencies, and by contributions from Environmental Protection Authority members.

The Environmental Protection Authority recognises that further studies and research may affect the conclusions. Accordingly, the Environmental Protection Authority considers 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 occur only following a new referral to the Environmental Protection Authority.

4. Evaluation

The Environmental Protection Authority has reviewed all available information relating to the proposals described within the Consultative Environmental Review document.

Following consideration and evaluation of this information, as detailed below, the Environmental Protection Authority recommends approval of the proposals, subject to appropriate environmental conditions.

Recommendation 1

The proposal by the Department of Conservation and Land Management to amend the boundary of Yalgorup National Park; the proposal by the Water Authority of Western Australia to extend the gazetted site for a future wastewater treatment plant facility; and the proposals by the City of Mandurah to develop a limestone quarry and construct a septage disposal facility in the vicinity of Tims Thicket, are environmentally acceptable. In reaching this conclusion, the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **long term management of the land proposed to be excised from Yalgorup National Park;**
- **retention of an appropriate buffer around the proposed wastewater treatment plant site;**
- **management of the limestone quarry.**

Accordingly, the EPA recommends that the proposal could proceed subject to:

- **the other recommendations in this report; and**
- **the proponents commitments (Appendix 4).**

This recommendation is reflected in the Draft Recommended Environmental Conditions 1 and 2, included within Section 6.

4.1 Realignment of national park boundary

4.1.1 Objective

The objectives of CALM on this issue are as follows :

- to ensure the integrity of Yalgorup National Park;
- to maximise and enhance overall conservation value of Yalgorup National Park;
- to include maximum number of special vegetation types within boundary of National Park;
- to enhance recreation potential of Yalgorup National Park; and
- to increase and effectively consolidate management of Yalgorup National Park.

The objectives of the Environmental Protection Authority are to:

- to maintain the intent of System 6 Recommendation C. 54; and
- to increase protection through appropriate management of landforms included within the project area which are vulnerable to user pressure, such as coastal dunes.

4.1.2 Evaluation framework

4.1.2.1 Technical information

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 (DCE, 1983a).

Western Australia was divided into 12 different systems each representing a natural and demographic entity. The Perth metropolitan area was included in 'The Darling System' - or System Six as it has come to be known. System Six is the most intensively used part of the State where land values are high and where competition for differing land uses is often intense (DCE, 1983a).

The System Six report on C. 54 (Yalgorup National Park) indicates that the park "constitutes open space of regional significance because of its high conservation and recreation values and its proximity to the Perth and Bunbury regions and neighbouring rural districts" and "contains vegetation types which are poorly represented in conservation reserves" (DCE, 1983b).

Recommendation C 54.1 states that general planning and management recommendations for Regional Parks should be applied to this area (DCE 1983a,b). This includes a recommendation that the National Parks and Nature Conservation Authority be given the responsibility for co-ordinating the planning and management of the area.

A 'Flora and Vegetation Survey of the Coast of the City of Mandurah' undertaken by Malcolm Trudgen on behalf of the Department of Planning and Urban Development in 1991 provides information of specific vegetation types found within the area proposed to be exchanged and the portion of land proposed to be included within the new Park boundary (Trudgen, 1991).

CALM has also prepared a draft management plan for Yalgorup National Park, which was released for public comment in 1993 (CALM, 1993). This Plan includes recommendations which support the proposed boundary modification in the interests of better management of the park, and recognised the high conservation and recreation value of Reserve 24198.

4.1.3 Evaluation

The following issues have been taken into consideration when evaluating the proposed land exchange:

Public submissions

A significant number of submissions received on this development proposal expressed concern regarding the principle of modifying an existing national park boundary. It was claimed that an area of national park should not be sacrificed in order to allow developments such as a quarry and septage disposal facility, which could be easily accommodated elsewhere within the City of Mandurah. It was also claimed that use of the area proposed to be excluded from the national park will detract from the recognised conservation value of the area; may have an impact on flora and fauna; and detract from recreational value of the area.

Previous EPA involvement

In May 1989 the Environmental Protection Authority wrote to the Department of Land Administration regarding a proposed land exchange between the then Town of Mandurah and the Department of Conservation and Land Management in the Tims Thicket area (Appendix 5). This letter indicated that the Authority supported in principle the proposed land exchange in the Tims Thicket area. The land exchange referred to in this letter is the same as that proposed as part of this assessment. However the exchange was not proceeded with at that time.

Impact on System Six Recommendation C.54

The modification of the National Park boundary is consistent with the intent of recommendations for System Six Area C.54 (DCE, 1983b) This recommendation states that general planning and management recommendations for Regional Parks should be applied to this area (DCE, 1983a).

The proposed amendment meets the intent of this recommendation in the following ways:

- the amended national park boundary will result in a net increase in the size of Yalgorup National Park, and include a greater representation of special vegetation types within the boundary of the national park, thereby increasing its conservation value (Halpern Glick and Maunsell, 1994), (Trudgen, 1991);
- the City of Mandurah, in consultation with CALM and the National Parks and Nature Conservation Authority, has undertaken to develop within two years of the land exchange being formalised, a management plan for the portion of Reserve 21271 proposed to be excised out of the national park (which is not required for the limestone quarry, septage disposal facility, and wastewater treatment plant site), the area of Reserve 24198 north of Tims Thicket Road, and Reserve 33139, in a manner which is consistent with management of Yalgorup National Park. This will address public access to the beach and foreshore area and will incorporate details on rehabilitation of degraded dune areas, and make specific comment regarding the on-going management of these areas (Commitment 1.3); and
- CALM, in association with the City of Mandurah, has undertaken to formulate and implement a dune restoration and road rationalisation strategy following incorporation of the portion of Reserve 24198 south of Tims Thicket Road into the National Park. This will occur within 12 months of the land exchange being formalised. This will effectively mean that this area, which is coming under increasing recreational pressure through recreational activities such as fishing, camping, swimming, will be managed by CALM under the goals, objectives and recommendations made in the draft management plan for Yalgorup National Park with the management of the balance of Yalgorup National Park (CALM, 1993) (Commitment 1.1 and 1.2).

National Park management

Tims Thicket Road will provide an effective northern boundary to Yalgorup National Park, and a buffer to proposed land uses and existing residential development adjacent to Old Coast Road to the north.

Use of land proposed to be excluded from the National Park

The proposed land exchange will allow provision of public facilities identified by the WAWA and City of Mandurah as needed for area. The majority of land proposed to be exchanged (103 ha) will be retained as public open space for recreation, and managed in accordance with advice from CALM and NPNCA to preserve conservation values.

Following consideration of the above information, the Environmental Protection Authority considers that the proposed change to the Yalgorup National Park boundary is environmentally acceptable.

Recommendation 2

The proposed change to the Yalgorup National Park boundary is environmentally acceptable and the EPA recommends that it proceed.

This recommendation is reflected in Draft Recommended Environmental Condition 3, included within Section 6.

4.2 Extension of wastewater treatment plant

4.2.1 Objective

The objective of the WAWA is to provide a regional wastewater treatment facility for urban development south of Mandurah.

The objective of the Environmental Protection Authority is to ensure that this proposal does not involve unacceptable environmental impacts.

4.2.2 Evaluation framework

4.2.2.1 Comment from WAWA

The need to provide a wastewater treatment site at both Tims Thicket and Caddadup is part of a contingency plan proposed by the WAWA to retain the option of smaller localised treatment and localised disposal systems (such as irrigation of playing fields). This plan forms part of the WAWA's larger wastewater review for the Perth metropolitan area including the Mandurah region, entitled the "Wastewater 2040 Review", which is currently in progress and due for completion in 1995. Retaining and consolidating the existing site at Tims Thicket will complement the existing facility at Halls Head and the proposed smaller plant at Caddadup Reserve. The outcomes from "Wastewater 2040" are not likely to alter the need for all three sites in the short to medium term, but one option may be to decommission one of the sites (probably Caddadup as it is the smallest site) in the longer term. (Regional Services Engineer, South West Region, WAWA, pers. comm.).

4.2.3 Evaluation

The following issues have been taken into consideration by the Authority:

Public submissions

Several submissions expressed concern regarding the location of a wastewater treatment plant site at this location, particularly in view of potential aesthetic impact, odours generated as a result of the plant, and suitability of the site as it is a popular recreational site.

Existing gazetted site

This represents an extension to an existing 10 ha site, gazetted in 1986.

Odour control

There is a recognised need to maintain a buffer with a minimum width of 500 metres between the site and nearest residence, for odour control.

Visual impact

It is acknowledged by the WAWA within the CER document (Halpern Glick Maunsell, 1993) that if trees were planted around the wastewater treatment plant site, these would provide a visual screen and so reduce the visual impact of the plant.

Treated effluent disposal

Long term disposal options for treated wastewater once the treatment plant is in operation will be discussed with officers of the Department of Environmental Protection when the WAWA submits applications for a Works Approval and a Licence under Part V of the Environmental Protection Act. This is likely to include disposal options such as short term on-site soakage and irrigation options. Longer term options will be required to comply with the findings of the WAWA "Wastewater 2040" Review.

Works Approval and Licence

An extension to the existing gazetted site from 10 to a total of 21.3 ha is only being considered at this stage. Specific details regarding construction of the treatment plant will be forwarded at a future date for a Works Approval and a Licence under Part V of the Environmental Protection Act.

Following consideration of the above information, the Environmental Protection Authority considers that the proposed extension to the existing wastewater treatment plant site is environmentally acceptable provided that:

- a buffer with minimum width of 500 metres is retained between the wastewater treatment plant and nearest residence; and
- trees are planted around the site to provide a visual screen and so reduce the visual impact of the site.

Recommendation 3

The proposed extension to the existing wastewater treatment plant site is environmentally acceptable and recommends that its implementation be subject to:

- **the retention of a buffer with minimum width of 500 metres between the wastewater treatment plant and nearest residence; and**
- **the planting of trees around the wastewater treatment plant site to provide a visual screen and so reduce the visual impact of the site.**

This recommendation is reflected in Draft Recommended Environmental Condition 4, included within Section 6.

4.3 Septage disposal site

4.3.1 Objective

The objective of the City of Mandurah is to provide a regional septage facility for Shire of Murray and City of Mandurah at Tims Thicket.

The objective of the Environmental Protection Authority is to ensure that a septage disposal site at this location is environmentally acceptable, and that it is an appropriate site for this purpose, in the context of a proposed policy on septage disposal for the near metropolitan region of the State.

4.3.2 Evaluation framework

4.3.2.1 Comments from key government agencies

Discussion with officers of the Health Department of WA and subsequent submission by the Health Department on the CER document indicates that the Health Department is supportive of a septage disposal facility at this location. A submission from the Department of Minerals and Energy also supports the establishment of a septage disposal facility at this location, however it recommends that a monitoring bore should be established on the western boundary of the facility.

4.3.3 Evaluation

In assessing the septage disposal facility, the following issues were taken into consideration by the Authority :

Public submissions

The majority of submissions from members of the public expressed strong opposition to a septage disposal site at this location. It was considered that this was an unsuitable site due to visual impact, and potential contamination of groundwater. Particular concern was expressed from local residents, who claimed that groundwater bores may become contaminated as a result of septage discharge. A submission was also received from the Yalgorup Advisory Committee, which expressed similar concerns.

Need for facility

There exists at present a septage disposal site immediately south of the Dawesville Channel, in the coastal dunes. While this is a formally gazetted septage disposal site, it is not considered to be a properly constructed facility, and does not meet the basic standards required by the Department of Environmental Protection. Urgent remedial work is required to upgrade this site to an acceptable standard. This is likely to be expensive. Further, proposed urban development south of the Dawesville Channel, known as Southport, is likely to preclude the maintenance of an appropriate buffer at this site in the long term.

There is a demonstrated need for the provision of a long term septage disposal facility for the City of Mandurah and Shire of Murray. However, the Authority is also aware that alternative septage disposal options exist, for example transport of septage to an existing treatment facility at Forrestdale.

In view of the issues raised as part of the assessment of this septage disposal facility, the Authority considers that it would be desirable for the Senior Officers Committee on Waste Management, chaired by the Health Department of Western Australia, to prepare a State septage disposal policy to achieve the following objectives :

- ensure that septage waste is adequately treated;
- promote the construction of regional facilities; and
- maximise the opportunity for septage treatment plant discharges to be further treated by existing wastewater treatment plants.

Odour control

A 500 metre wide buffer would be required to be maintained around the site to minimise odour. The proposed site is located adjacent to the proposed WAWA wastewater treatment plant, and so share a common 500m buffer, which is a standard requirement for both facilities. The City of Mandurah has undertaken a commitment to retain a 500m wide buffer (Commitment 1.6).

The City of Mandurah has undertaken a commitment to initiate odour control measures should odour nuisance occur as a result of the septage disposal facility (Commitment 3.2).

Visual impact

The City of Mandurah has undertaken a commitment to maintain a vegetation buffer and screening bund between the septage disposal site (and quarry site) and Tims Thicket Road (Commitment 3.1).

Groundwater contamination

There is a potential risk of contamination of groundwater. Nearest permanent residences are Melros to the north (1.6 km) and subdivisions adjacent to Old Coast Road to the east (1.3 km).

As described in the CER document (Halpern Glick and Maunsell, 1994), effluent is proposed to be treated via an anaerobic and lined facultative lagoon system. Treated effluent is expected to be discharged through infiltration. The average discharge rate is expected to be 850m² per year. Groundwater flows in a westerly direction at this location, and any contaminated groundwater discharging into the ocean would be expected to be quickly diffused via offshore wave action. The City of Mandurah has undertaken to install groundwater monitoring bores north, west and east of the proposed facility (Commitment 2.5). Monitoring will be undertaken on a regular basis.

The City of Mandurah has undertaken to prepare a monitoring programme for the facility, in consultation with the Department of Environmental Protection, prior to site development. This would involve regular monitoring of the quantity and quality of effluent discharged from the facility (Commitment 2.4).

There exists the possibility of linking the proposed septage disposal facility with the proposed WAWA wastewater treatment plant at some time in the future, when the WAWA plant is operational (Halpern Glick and Maunsell, 1994). This would allow for treated effluent from the septage disposal site to be directed to the WAWA for further treatment prior to discharge.

Works Approval and Licence

The site would require a Works Approval and a Licence under Part V of the Environmental Protection Act.

Following evaluation of this information, the Environmental Protection Authority concludes that :

- the site for the proposed septage disposal facility is environmentally acceptable;
- recommends that connection of the septage treatment facility to the proposed Water Authority of Western Australia Wastewater Treatment facility be encouraged; and
- the Senior Officers Committee on Waste Management prepare a State septage policy which examines opportunities for regional septage treatment facilities, and maximises opportunities for discharge to wastewater treatment plants after pre-treatment of septage.

Recommendation 4

The Environmental Protection Authority recommends that:

- **the site and the proposed septage disposal facility is environmentally acceptable;**
- **connection of the septage treatment facility to the proposed Water Authority of Western Australia Wastewater Treatment facility be reviewed regularly and when practical connected at the earliest time; and**
- **the Senior Officers' Committee on Waste Management (chaired by the Health Department of Western Australia) prepare for consideration by the Government a septage disposal policy for the State which examines opportunities for regional septage treatment facilities, and maximises opportunities for discharge to wastewater treatment plants after pretreatment of septage.**

This recommendation is reflected in Draft Recommended Environmental Condition 5, included within Section 6.

4.4 Limestone quarry

4.4.1 Objective

The objective of the City of Mandurah is to provide a source of limestone for on-going construction operations.

The objective of the Environmental Protection Authority is to manage the potential environmental impacts associated with the quarrying of limestone, especially dust and noise; the management and long term rehabilitation of the site following completion of quarry operations; and management of dumping of inert fill into the quarry proposed as part of the rehabilitation strategy.

4.4.2 Evaluation framework

4.4.2.1 Comments from key government agencies

Discussion with officers of the Department of Minerals and Energy and subsequent submission by that Department on the CER document indicates that the Department of Minerals and Energy is supportive of a limestone quarry at this location.

4.4.3 Evaluation

In assessing the limestone quarry proposal the following issues were taken into consideration by the Authority:

Public submissions

The majority of submissions from members of the public expressed strong opposition to a limestone quarry at this location. It was considered that this was an unsuitable site due to visual impact, as well as dust and noise associated with quarry operations. It was also claimed that long term quarry management and rehabilitation issues were inadequately addressed in the CER document. Further, it was claimed that the proposed area of 25 ha was too big, and that proposed infill of the quarry following completion of extraction of limestone with inert fill is just a defacto rubbish tip proposal.

Need for quarry

Development of a limestone quarry in this vicinity has been considered necessary by the City of Mandurah for several years to provide source material for road construction and maintenance.

Quarry management

The CER states that the quarry would be developed in stages, limiting the operational area to that required to supply one to two years of limestone, this being approximately one to two ha (Halpern Glick and Maunsell, 1994). A 10 metre wide buffer would be retained between the quarry boundary and the area to be mined (Commitment 3.14).

The City of Mandurah has undertaken to:

- prepare a concept plan for development of the quarry, prior to site development, for approval by CALM and the Department of Environmental Protection (Commitment 2.1). This plan would address dieback management;
- prepare a quarry rehabilitation plan, to the satisfaction of CALM and the Department of Environmental Protection prior to site development (Commitment .2.2);

- undertake further assessment of the likely occurrence of fauna requiring special attention at the quarry site, and follow the advice of CALM regarding management measures if required (Commitment 2.3);
- maintain a vegetation buffer and screening bund between Tims Thicket Road and the quarry site (Commitment 3.1) and initiate dust control measures should they prove to be necessary (Commitment 3.4);
- limit hours of operation to between Monday and Friday 7am to 5pm, and observe its obligations under the Noise Abatement - Neighbourhood Annoyance Regulations (1979) (Commitment 3.3);
- visually inspect each truck dumping inert fill material at the quarry, and maintain a record of materials dumped (Commitment 3.12) to ensure no indiscriminate dumping of unsuitable rubbish occurs;
- adhere to guidelines set by the Department of Minerals and Energy should blasting be required at the quarry (Commitment 3.13); and
- undertake responsibility for the rehabilitation of the quarry site until all rehabilitation has been undertaken to the satisfaction of CALM (Commitment 4.1).

Following consideration of this information, the Environmental Protection Authority concludes that the limestone quarry proposal is environmentally acceptable, subject to the implementation of appropriate management conditions.

Recommendation 5

The limestone quarry proposal is environmentally acceptable and the EPA recommends that it could proceed subject to the implementation of all relevant commitments including any management conditions set by the Department of Environmental Protection as fulfilment of the City of Mandurah's commitments (Commitment 2.1, and 2.2).

The Environmental Protection Authority notes the commitment by the City of Mandurah to maintain a record of materials proposed to be dumped. However, in view of public concerns, the Authority considers that criteria should be set by the Minister for the Environment to ensure the dumping of materials at the quarry is closely monitored.

Recommendation 6

The Environmental Protection Authority recommends that the specifications for inert waste to be used as backfill for the limestone quarry be set by the Minister for the Environment on advice from the Department of Environmental Protection.

These recommendations are reflected in Draft Recommended Environmental Condition 6, included within Section 6.

4.5 Traffic

4.5.1 Objective

The objective of the Environmental Protection Authority is to ensure that traffic generated as a result of proposed developments does not have an unacceptable impact, especially noise, on nearby residents.

4.5.2 Evaluation framework

4.5.2.1 Comments from key government agencies

Discussion with officers of the Main Roads Department and a subsequent submission on the CER document indicates that traffic generated as a result of the proposed septage facility and quarry would be unlikely to create significant additional disturbance. However, this opinion is based on 'average figures'. Truck movements associated with quarry operations may increase significantly during periods of high construction activity. Reference in the submission was made to the 'Dawesville Deviation' This involves the proposed realignment of Old Coast Road in the vicinity of Tims Thicket Road, as indicated in Figure 2.

The Dawesville Deviation was informally assessed by the Environmental Protection Authority in September 1993, and found to be environmentally acceptable subject to a number of management issues. The timing of construction of this realignment has yet to be determined.

The Dawesville Deviation may not be constructed for some time, and traffic associated with the quarry and septage site may use the intersection before the deviation occurs. If this is the case, the Main Roads Department expressed concern regarding potential traffic congestion problems at this intersection as a result of increased traffic, which is likely to impact on nearby residents.

It is accepted by the Main Roads Department that in the long term the Dawesville Deviation will alleviate traffic congestion problems at the Tims Thicket Road intersection, however the intersection between the deviation and Tims Thicket Road would continue to be inadequate. The view was expressed that if the National Park boundary realignment does proceed, this provides the opportunity for the realignment of Tims Thicket Road, to create a more acceptable intersection. The Main Roads Department therefore recommended in its submission that :

- if cartage is undertaken prior to the construction of the Dawesville Deviation that the existing Old Coast Road/Tims Thicket Road intersection be upgraded to the satisfaction of the Main Roads Department; and
- that the City of Mandurah in consultation with Main Roads consider options for realigning Tims Thicket Road to improve the intersection with the Dawesville Deviation prior to its construction.

A submission on the CER document from the Department of Planning and Urban Development also expressed concern regarding the proposed impact of increased traffic as a result of proposed development in the vicinity of Tims Thicket Road.

4.5.3 Evaluation

In assessing the impact of increased traffic on nearby residents, the following issues were taken into consideration by the Authority :

Public submissions

The majority of submissions expressed concern regarding the potential impact of the proposed developments on traffic along Tims Thicket Road, which would be likely to increase significantly as a result of trucks moving to and from quarry in particular, but also the proposed wastewater treatment plant and septage disposal site. This was considered likely to impact on recreational values of the site and have an unacceptable impact on existing nearby residents in terms of noise and vibrations.

Existing land use

Nearest permanent residences are Melros to the north (1.6 km) and subdivisions adjacent to Old Coast Road to the east (1.3 km). Residents living adjacent to Tims Thicket Road near Old Coast Road are likely to be the most affected as a result of increased traffic movement.

Traffic management

The City of Mandurah has acknowledged that increased traffic as a result of the quarry and septage facility may result in traffic management problems. Accordingly, it has undertaken to hold discussions with the Main Roads Department to evaluate options for realigning Tims Thicket Road, the application of hot mix road surface to further reduce noise, and possible road and intersection upgrading (Commitment 1.4).

Following consideration of this information, including advice received from the Main Roads Department, and Commitment 1.4, the Environmental Protection Authority expects the City of Mandurah to look at ways of minimising the effect of noise generated by traffic using the quarry site and septage disposal facility on nearby residents.

5. Conclusion

Following review of the Consultative Environmental Review document, the issues raised within the public submissions, advice received from relevant government departments, relevant literature, and the proponents' commitments, the Environmental Protection Authority concludes the following:

- the proposed amendment to the boundary of Yalgorup National Park, involving a land exchange with the City of Mandurah, as proposed by the Department of Conservation and Land Management is environmentally acceptable;
- the proposed extension to the existing wastewater treatment plant site by the Water Authority of Western Australia is environmentally acceptable provided that:
 - a buffer with minimum width of 500 metres is retained between the wastewater treatment plant and nearest residence; and
 - trees are planted around the site to provide a visual screen and so reduce the visual impact of the site;
- the septage disposal facility as proposed by the City of Mandurah is environmentally acceptable. The EPA also recommends that connection of the septage treatment facility to the proposed Water Authority of Western Australia Wastewater Treatment facility be encouraged at some date in the future when the wastewater treatment plant is operational;
- the Senior Officers' Committee on Waste Management (chaired by the Health Department of Western Australia) prepare for consideration by the Government a septage policy for the State which examines opportunities for regional septage treatment facilities, and maximises opportunities for discharge to wastewater treatment plants after pre-treatment of septage;
- the limestone quarry proposal as proposed by the City of Mandurah is environmentally acceptable, subject to the implementation of appropriate management conditions; and
- in relation to rehabilitation of the limestone quarry, criteria should be set by the Minister for the Environment to ensure the dumping of materials at the quarry is closely monitored.

The Environmental Protection Authority has established an implementation and auditing system which requires the proponent to advise the Authority on how it would meet the requirements of the environmental conditions and commitments of the project. The proponent would be required to develop a progress and compliance report for this project as a section of the recommended audit programs.

The Environmental Protection 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 Environmental Protection Authority believes that such non-substantial changes, and especially those which improve environmental performance and protection, should be provided for.

The Environmental Protection Authority believes that any approval for the proposal based on the assessment should be limited to five years. Accordingly, 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 occur only following a new referral to the Environmental Protection Authority.

6. Recommended environmental conditions

Based on its assessment of this proposal and recommendations in this report, the Environmental Protection Authority considers that the following Recommended Environmental Conditions are appropriate:

1 Proponent Commitments

The proponents have made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal, the proponents shall fulfil the commitments made in the Consultative Environmental Review and in response to issues raised following public submissions; provided that the commitments are not inconsistent with the conditions or procedures contained in this statement. These commitments are included in Environmental Protection Authority Bulletin 751 as Appendix 4. (A copy of the commitments is attached.)

2 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3 Yalgorup National Park

- 3-1 The change to the boundary of Yalgorup National Park should be implemented as proposed by the Department of Conservation and Land Management in the Consultative Environmental Review.

4 Wastewater treatment plant

- 4-1 The proponent is responsible for ensuring that the wastewater treatment plant does not impact on the surrounding environment.

- 4-2 The extension to the proposed wastewater treatment plant site is environmentally acceptable provided that the Water Authority of Western Australia:

- establishes a secure buffer around the wastewater treatment plant, ensuring the nearest residence is not closer than 500 metres; and

- ensures that trees are planted around the wastewater treatment plant to minimise the visual impact of the plant.

5 Septage disposal site

- 5-1 The proposed septage disposal site is considered to be environmentally acceptable.
- 5-2 The City of Mandurah shall connect the septage disposal facility to the Water Authority of Western Australia's wastewater treatment plant when the plant is operational. The timing of this connection shall be to the satisfaction of the Minister for the Environment on advice of the Department of Environmental Protection and the Water Authority of Western Australia.

6 Quarry

- 6-1 The proposed limestone quarry is considered to be environmentally acceptable.
- 6-2 The City of Mandurah shall forward additional details of the quarry management and rehabilitation plans to the Department of Environmental Protection for approval of management conditions prior to the commencement of quarry operations.
- 6-3 The City of Mandurah shall obtain approval for the quarry management and rehabilitation plans provided in 6-2.
- 6-4 The City of Mandurah shall comply with specifications for inert waste to be used as backfill for the limestone quarry set by the Minister for the Environment on advice of the Department of Environmental Protection prior to quarry operations commencing.

7 Proponent

These conditions legally apply to the nominated proponent.

- 7-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

8 Time Limit on Approval

The environmental approval for the proposal is limited.

- 8-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced. Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

9 Compliance Auditing

In order to ensure that environmental conditions and commitments are met, an audit system is required.

- 9-1 To help verify environmental performance, the proponent shall prepare periodic progress and compliance reports in consultation with the Department of Environmental Protection.

Procedure

The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

Note:

The Water Authority of Western Australia will be required to apply for a Works Approval and a Licence under the provisions of Part V of the Environmental Protection Act, for the construction and operation of the proposed wastewater treatment plant.

7. References

Department of Conservation and Environment (1983a) Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority. The Darling System - System 6 Part I. General Principles and Recommendations

Department of Conservation and Environment (1983b) Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority. The Darling System - System 6 Part II Recommendations for Specific Localities (C. 54)

Department of Conservation and Land Management (1993) Yalgorup National Park. Draft Management Plan

Halpern Glick and Maunsell (1994) Consultative Environmental Review for Proposed Change to Yalgorup National Park Boundary, Septage, Limestone Quarry and Waste Water Treatment Plant, Tims Thicket.

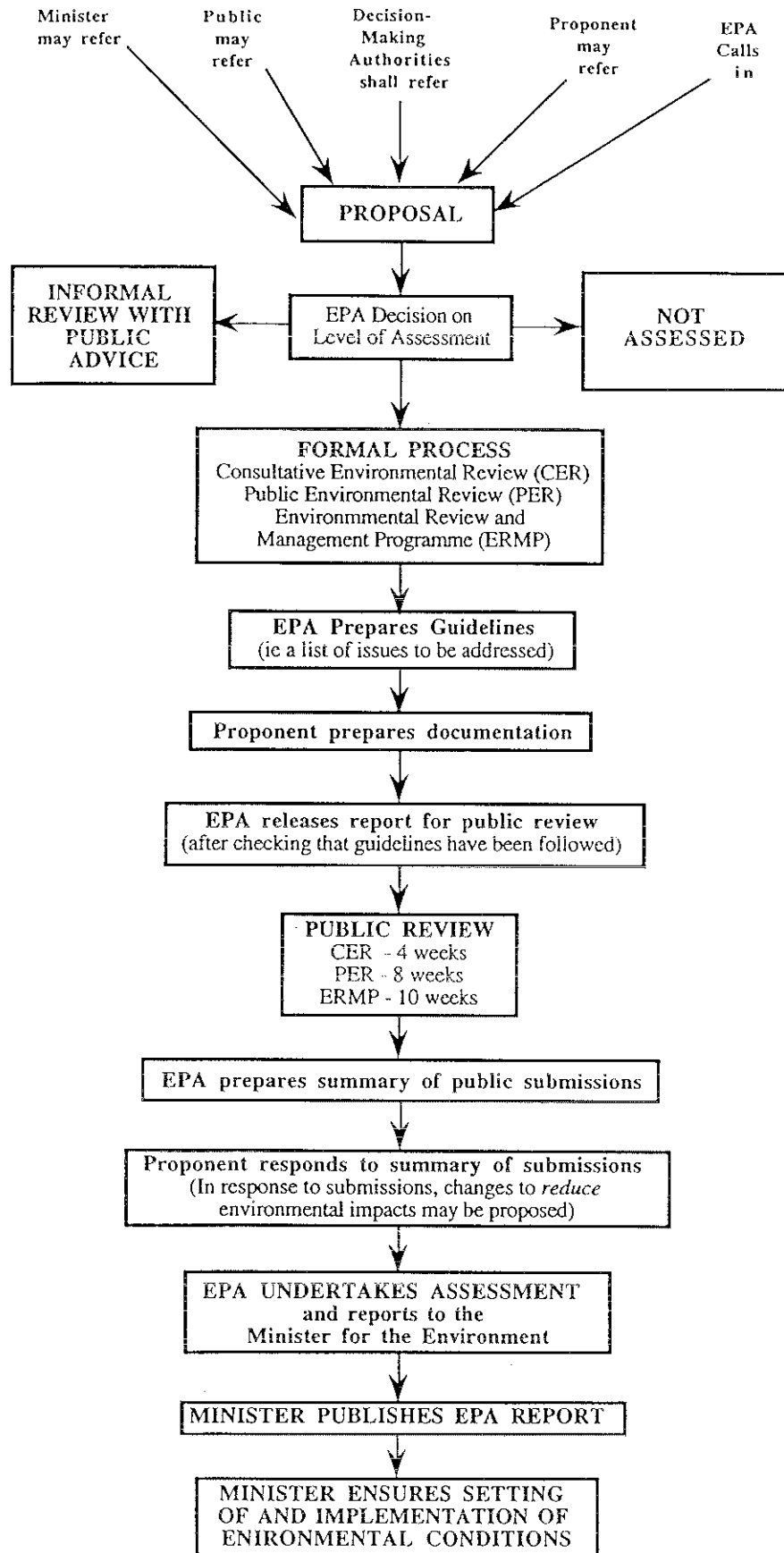
Trüdgen, M (1991) A Flora and Vegetation Survey of the Coast of the City of Mandurah. Department of Planning and Urban Development

Discussions with representatives of the Water Authority of Western Australia, Health Department of Western Australia, Main Roads Department, Department of Planning and Urban Development, Department of Mines, Department of Conservation and Land Management and the City of Mandurah.

Field inspections of proposed site - October 1993, January and April 1994

Appendix 1

Environmental Impact Assessment flow chart



EPA decides within 28 days. Anybody may appeal to the Minister within 14 days on level set; Minister may direct higher level but not vice versa

DMA cannot allow implementation unless either no formal assessment or the Minister Authorises. Process not suspended

Draft guidelines usually issued within 14 days of first meeting with proponent

EPA usually completes summary in 2-3 weeks

Report release often 3-5 weeks after receipt of response to submissions

Anybody may appeal on EPA report to Minister within 14 days. Minister may remit to EPA or take appeal into consideration when setting conditions

Proponent may appeal on conditions within 14 days of issue

Appendix 2

Summary of submissions and proponents response

**PROPOSED CHANGE TO YALGORUP NATIONAL PARK BOUNDARY,
SEPTAGE DISPOSAL SITE, LIMESTONE QUARRY, AND WASTEWATER
TREATMENT PLANT, TIMS THICKET ROAD, MANDURAH
- CONSULTATIVE ENVIRONMENTAL REVIEW**

ISSUES RAISED IN PUBLIC SUBMISSIONS

The public submission period for the Consultative Environmental Review (CER) for the proposed change to Yalgorup National Park boundary, proposed extension to a wastewater treatment plant site, and proposal to establish a limestone quarry and septage disposal site adjacent to Tims Thicket Road, Mandurah commenced on 21 March 1994 for a period of four weeks, ending on 15 April 1994.

During this period, a 'Public Open Day' was held at the Southern Estuary Progress Association Hall on 23 March 1994, between 3.00 pm and 7.00 pm. Approximately 50 people attended the Open Day, where representatives of the proponent agencies described details of the proposed development. A number of issues were raised by people attending. These issues have been incorporated in the summary of issues detailed below.

A total of 33 written submissions were received by the Authority during the public review period. These included 22 letters from individual members of the public, and submissions from the following agencies and organisations :

Forrestdale Plant Liaison Committee Inc
Conservation Council
Peel Preservation Group
Southern Estuary Progress Association
South Coastal Community Association (Melros)
Greenpeace
Health Department
Department of Planning and Urban Development
Department of Minerals and Energy
Main Roads Department
Yalgorup National Park Advisory Committee

A number of issues were identified and are summarised as follows:

1. General issues relating to all components of the proposal

- 1.1 Inadequate public consultation
- 1.2 Inappropriate site
- 1.3 Traffic
- 1.4 Impact on recreational values
- 1.5 Impact on existing land values

2. Issues relating to specific components of the proposal :

2.1. Modification to National Park Boundary

- 2.1.1 Principle of changing boundary
- 2.1.2 Impact on native flora and fauna
- 2.1.3 Long term management

2.2. Septage Disposal site

- 2.2.1 Impact on water quality
- 2.2.2 Odour
- 2.2.3 Management

2.3. Quarry

- 2.3.1 Noise / dust
- 2.3.2 Management

2.4. Extension to Wastewater treatment plant site

1. General issues relating to all components of proposal :

1.1. Inadequate public consultation

Several submissions expressed the view that the planned development as described within the CER has proceeded without considering or consulting local residents, and visitors of the area. It was claimed that Council should have conducted an awareness campaign of this proposal with local residents before the CER was prepared. The long term impact of the proposed development on existing residents, particularly at and near the junction of Tims Thicket Road and Old Coast Road, has not been adequately addressed. CER (p. 25) states that discussions were held 18 years ago to discuss aspects of the proposal. It is unclear how this statement is relevant, or what they involved. It was considered that there are too many development options included within the CER. Each option requires a separate study as there are too many potential environmental issues.

1.2. Inappropriate site

Several submissions expressed the view that there has been inadequate consideration given to an alternative site for the location of the proposals in a less environmentally sensitive area. In this respect it is claimed that the EPA Guidelines have not been adequately addressed, ie. in the 'Project Justification' section.

1.1.1. It was claimed that the proposal demonstrates lack of forward planning. The proposed development site is a coastal area which is extremely vulnerable to environmental impacts which would be difficult to control and is therefore inappropriate for three environmentally destructive activities. This is a unique site between the estuary and ocean, and an example of pristine unspoilt coastline, with spectacular views from the top of the ridge and should be retained that way. The proposed quarry, wastewater treatment plant and septage site should be located on land already degraded and away from the coast and residents. Land use of this kind on the coast is unacceptable, and is perpetuating past land use practises which are known to be unacceptable.

1.2.2. The view was expressed in several submissions that the justification for development is biased in favour of the proposed site, and that it has only resulted due to pressure from the Port Bouvard development, where this type of land use is considered unacceptable. Why shift the problem to inconvenience other residents ?

1.2.3. Proposed development is viewed as being inconsistent with Minister for the Environment's previous decision not to permit a tip site at this location. The same reasons should apply to this proposal.

1.2.3. The CER includes no justification as to why Mandurah requires 3 water treatment sites - one is already approved for Caddadup, why 2 more here.

1.3 Traffic

Increased traffic is likely to be generated as a result of the proposed septage treatment plant, quarry operations, and trucks carrying 'inert fill' material to the quarry site. It was claimed in the majority of submissions that the development proposal would lead to an unacceptable increase in traffic, which is grossly underestimated in the CER. Specific comments area as follows :

1.3.1. Development of the proposed quarry will lead to the use of Tims Thicket Road by a large number of trucks travelling to and from the quarry, and septage site carrying waste and limestone. As stated within the CER (p.5), this use is incompatible with residential development, due to potential dust and noise emissions. This will create an unacceptable impact on nearby residents who already live in the vicinity of Tims Thicket Road, particularly as the quarry is proposed to have an operational life span of between 30 and 75 years. Many residents who presently live in this vicinity have chosen to do so because of the quiet, which would no longer exist, representing a major disruption to lifestyle.

1.3.2. It is also claimed that the number of trucks using the road (an average of 4 per day in relation to septage disposal, and 14 per day in relation to limestone quarrying) is vastly underestimated. Further, it is not clear whether these figures refer to 'loaded' or 'unloaded' vehicles - they may in fact mean 28 vehicle movements per day. This is particularly misleading also when the CER states that 'adjacent communities of Singleton, Pinjarra, Golden Bay, and Waroona could also use this site'. Further, estimations for the number of service vehicles likely to use the road have not even been mentioned. This scenario could create an almost continuous procession of trucks far in excess of the number quoted in the CER. Engine noise, particularly from vehicles under load, exhaust pollution, and vibration, as well as the noise from rattling empty trucks on their return will be unacceptable and unbearable for local residents.

1.3.3. Use of Tims Thicket Road by this number of trucks may also create a dangerous and hazardous situation. The road is currently used primarily for recreational purposes, by people travelling to the beach for activities such as surfing and fishing. The road is narrow and undulating and visibility is restricted in some parts. The introduction of heavy traffic on this road is unacceptable.

1.3.4. Vehicles turning out north or south from Tims Thicket Road into Old Coast Road already experience difficulty due to the heavy traffic along Old Coast Road. The development proposal will exacerbate an already dangerous situation.

1.4 Impact on beach

Concern was expressed that the proposed development will reduce recreational use of the beach by general public.

1.4.1. Tims Thicket beach is at present a popular regional recreational site for fishing, swimming, surfing and camping. It has particular tourist potential because of the north facing aspect. The view was expressed that this site is likely to become an increasingly popular tourist destination as urban development intensifies in the Mandurah coastal area, particularly if it is allowed to remain undisturbed. Land use of an area immediately adjacent to this site as described within the CER will detract from the tourist potential of the site, and render the site vulnerable to a number of impacts which are difficult to control.

1.4.2. It was considered that there are insufficient commitments made within the CER regarding the management of the dune area. A full commitment needs to be made regarding dune protection and restoration as necessary, for beach areas north and south of Tims Thicket Road. There is for example no indication of where proposed beach access will be (Ref to Commitment 6.1.3).

1.5 Impact on property values

It was generally considered that the proposed development would have a detrimental effect on the prices of property and quality of life of persons who purchased in good faith the residential blocks in the Dawesville and Tims Thicket areas.

1.5.1. It was claimed that the Council was deliberately misleading in not informing prospective buyers of these blocks of the intended development at the time of purchase, nor was there an indication on local plans.

1.5.2. This development makes a mockery of existing land management conditions which apply to people purchasing these blocks, ie. pets prohibited, no clearance of bush apart from the house area, and no development within 50 metres of the road because of the close proximity to the National Park.

2. Issues relating to specific components of the proposal

2.1. Modification of National park boundary

2.1.1. Principle of changing boundary

Several submissions expressed the view that the principle of realigning a national park boundary as proposed is unacceptable. It is considered that national parks should be 'sacrosanct' and preserved, in their entirety, at all costs. If the area was originally included within the National Park, there must be value which will be lost if the land is exchanged.

2.1.2. Impact on native flora and fauna

2.1.2.1. It is claimed that the realignment is contrary to recommendations of System 6 recommendation C54. This states that 'the greatest recreational use of the national park occurs at Tims Thicket'. The development as proposed is likely to have a deleterious effect on these values. The coastal area north of Tims Thicket Road would be better protected if it was retained within the National Park.

2.1.2.2. Proposed rubbish dump (for household vegetation and rubble backfill) and sewage treatment plant will have a detrimental effect on flora and fauna within Yalgorup National Park. Additional traffic along Tims Thicket Road likely to be generated as a result of the development will add to this impact.

2.1.2.3. It is difficult to substantiate claims made within the CER that there are no animals which would be disadvantaged by the proposed change to the National Park boundary. This conclusion is based on inadequate and outdated surveys as it is based on evidence provided by two traps in 1979 according to the CER.

2.1.2.4. Several submissions claimed that the development would disrupt native birds (including six different types of parrots), emus, kangaroos and other marsupials currently using the area, and which are already under extreme pressure as a result of recent developments in the vicinity, such as the Dawesville Channel. Land proposed to be exchanged also includes extensive areas of dense woodland with banksias, Tuarts, She-Oaks and Jarrah, particularly towards the eastern and northern boundaries. The need for an extensive flora and fauna survey is therefore obvious prior to serious consideration of a change to the National Park boundary and development of proposed uses.

2.1.3. Long term management

2.1.3.1. It was claimed that the proposal is not in accordance with Draft Yalgorup National Park Management Plan. It was suggested that nothing should proceed until an overall land use strategy for the area has been prepared.

2.1.3.2. There is no firm commitment that the balance of land proposed to be exchanged will remain as Public Open Space, amounting to nearly 100 ha. There is no firm assurance that this land will not be developed later for urban zoning, as development pressure increases.

2.1.3.1. Several submissions stated that the Council does not have a good land management record, and little confidence was expressed regarding the proposed future management of this land.

2.2. Septage disposal site

2.2.1. Impact on groundwater

2.2.1.1. The CER states that there would be a separation distance of at least 1 metre between the base of the proposed wastewater lagoons and groundwater table. This is considered to be inadequate in view of the close proximity to Melros, and Old Coast Road where there are a large number of groundwater bores in use with excellent water quality.

2.2.1.2. The CER did not address potential pollution from contaminated water into the Harvey Estuary (and Dawesville Channel) and implications on the aquifers. Also, inadequate information has been given regarding potential contamination of the near shore beach area. The view was expressed that pollution of any kind is unacceptable, particularly in view of well known water quality problems experienced in the Peel Harvey. There is a high potential for groundwater contamination with such high loads in a concentrated area as evidenced by the following quote: *'the impact will be limited to a localised reduction in quality due to effluent infiltration'* (CER pii).

2.2.2. Odour

2.2.2.1. Smells likely to emanate from trucks disposing of waste, treatment ponds and grease scum which would accumulate on the anaerobic lagoon carried by prevailing easterly and westerly winds would be unacceptable to residents living nearby and people visiting the Beach. It is considered that the 1.3 km distance to the nearest houses will not be wide enough. Visits to existing anaerobic treatment plant at Bunbury and Capel confirms this, and cannot be eliminated by the use of lime in pre-treatment tank. What are the 'acceptable limits' referred to in the CER.

2.2.2.2. The proposed method of lime dosing is not adequately explained.

2.2.3. Management

2.2.3.1. There is no assurance that the waste management system/ponds as described in the CER will function normally after heavy winter rains.

2.2.3.2. Council has no experience in running this type of facility, bad track record, eg. Caddadup site that was used improperly for last several years. No assurance that the plant will be competently technically managed.

2.2.3.3. There is no justification included in the CER that a septage disposal site should be located adjacent to a wastewater treatment plant, as claimed in the CER. Smaller scale on-site facilities are now available, eliminating the need for a central site. Other methods should be considered. The plants are not related and will function separately.

2.2.3.4. Question the expected effluent quality after treatment. Also BOD5 reduction and nitrogen reduction.

2.2.3.5. Disposal of treated sludge to a landfill site as proposed is unacceptable. It should be used as fertiliser.

2.2.3.6. One generator (CER section 3.2.5) is not enough to avoid emergency disasters if it fails. An emergency generator should be provided. Noise from any generator needs to be controlled too.

2.2.3.7. Proposed lagoon system is not suitable for the Yalgorup environment. This type of system was abolished in the Perth metropolitan area in 1988, and is only applicable to remote areas, as a last resort. This is not a remote area, but one of the fastest growing urban areas in the State.

2.2.3.8. There are no mechanisms for control of waste discharged into the lagoon. There is a need to monitor this discharge.

2.2.3.9. No detail of leak monitoring and protection for pond lining.

2.2.3.10. No prediction and management strategy for possible increased loads over time, from areas outside Mandurah.

2.2.3.11. No substantial comparisons with other waste management sites. Mandurah is only 50 km from the Health Department Wastewater Treatment Facility at Forrestdale.

2.2.3.12. Insufficient information is presented in the CER on buffers for odour and aesthetic impacts. What criteria are used? What about the Water Authority's 1000 m published in advertisements.

2.2.3.13. Who will take responsibility for fuel spills - contingency planning and implementation - WAWA or Council?

2.2.3.13. There is no mention of mosquito, fly and rodent management.

2.2.3.14. What provisions are made for control of accidental spillages from trucks carrying waste to the treatment site.

2.3. Quarry

2.3.1. Noise / Dust

2.3.1.1. Control of potential noise and dust generated from quarry operations, eg. screening, bulldozers. It is claimed that this is underestimated in the CER, through normal operations and as a result of limestone crushing.

2.3.1.2. Dust will affect nearby gardens and residences - how will it be monitored and effectively controlled.

2.3.2. Management

2.3.2.1 No detail;s are presented in the CER regarding fire control, dieback control, fuel and bitumen spillage, control of proposed 'inert' fill

2.3.1.2. Particular concern was expressed in several submissions that the type of waste proposed to be dumped in the quarry is unclear. It may in fact become used for a general tip. The facility would need more management than the presence of one attendant to ensure this does not occur. It is unclear as to how would this be managed. Concern was also expressed that if garden waste were dumped, it would be likely to be burned off, which would create smoke plumes, which would impact on residents and visitors to the area.

2.3.2.3. No mention of control of the dumping of other liquid waste, for example grease, petrol, oil and chemicals. It is unclear how the dumping of unacceptable waste will be controlled.

2.3.2.4. No justification as to why the quarry is proposed to be so big. There are other sites in closer proximity to where the limestone is required.

2.3.2.5. No guarantee that no explosives will be used. This needs careful management and public liaison.

2.4. Wastewater treatment plant

The following issues were raised :

2.4.1. Inadequate and 'nebulous' information is presented within the CER regarding this aspect of the proposal.

2.4.2. The plant should be located at an inland site, and wastewater used for irrigation or to create an artificial wetland.

2.4.3. The plant should only be established if that there is a firm commitment to no ocean outfall at some time in the future.

2.4.4. Proposed extension is premature. Water Authority of WA 2040 long term management strategy has not yet been completed (due 1995).

Response to Issues Raised in Public Submissions

1.0 General Issues relating to All Components of the Proposal

1.1 Inadequate Public Consultation

The statement that "discussions were held 18 years ago to discuss aspects of the proposal" is misleading. The Consultative Environmental Review (CER) states that "consultation activities have occurred . . . **over** some 18 years". This statement was included to demonstrate that the proposal is not a new one and that lengthy discussions have been held to try and resolve the issue.

The public has been aware of the proposal through a number of avenues. For example, local community groups met with the Western Australian Government Committee on Waste Management on 6 October 1993 at which reference was made to the proposal. In addition Council Minutes record discussions held on the proposal and these are publicly available.

It is accepted that local residents could have been better informed of the study. However, the proponents concluded that the public open day held on 23 March 1994, following release of the CER, and the associated four week public review period provided the public with sufficient opportunity to input into the process.

The proponents believe that the CER does not include too many development options.

1.2 Inappropriate Site

1.2.1 The integrated proposal demonstrates good forward planning by ensuring that the isolation of the developments from urban encroachment is guaranteed through the retention of a permanent vegetation buffer.

It is not accepted that the developments will cause any long term negative impacts to the coastal area and impacts would be controlled for any alternative options developed within the catchment, not just the proposed site.

The site to the north of Tim's Thicket Road is not considered to be pristine, having in the past been used for grazing. The Peel Inlet Management Authority (PIMA) also disposes of weed harvested from the Peel-Harvey Estuary in the area and areas of dune are degraded. The proponents have undertaken a commitment to prepare a management plan for this area (Commitment 1.3).

The proposal will also assist in maintaining recreational and environmental values since the buffer will prevent residential, commercial or institutional development from occurring within this area and allow the opportunity to preserve much of it in its natural state.

- 1.2.2** The Water Authority site at Tim's Thicket has been designated for a treatment works since 1986 and the choice of site has not been influenced by development of the Dawesville Channel.

The City of Mandurah has been pursuing a long term Septage Disposal Site for some time.

The proponents do not believe that the proposal will inconvenience local residents.

- 1.2.3** The proposal does not incorporate a tip. The proposal, therefore, is not inconsistent with the Minister's earlier decision.

- 1.2.4** The two treatment sites at Tim's Thicket are for different processes. The septage plant will treat high strength, low volume waste and will require a different treatment process to domestic sewage which is of lower strength but relatively high volume. Having the two plants next to each other will allow the option of discharging the septage plant effluent to the Water Authority's future plant for further treatment. Also the two plants can share a common buffer.

1.3 Traffic

- 1.3.1** The statement that trucking "is incompatible with residential development, due to its potential dust and noise emissions" is misquoted. The correct statement (p5 of CER) is that "the **operation** of a limestone quarry . . . is incompatible with residential development. This is primarily due to potential noise and dust emissions but also relates to increased trucking movements on local roads". The implication is that a buffer should be preserved around a quarry to eliminate these impacts. This has been allowed for in planning the location of the quarry.

It is acknowledged that the development will result in an increase in vehicle movements on Tim's Thicket Road. However, it is not considered that this increase is unacceptable. Dust is not anticipated to be a problem as the road is sealed and trucks will be required to have their loads covered.

Nonetheless, the likely impact of vehicle movements on nearby residences will be addressed further by the City of Mandurah. The City of Mandurah makes the further commitment that **discussions will be held with Main Roads to evaluate options for realigning Tim's Thicket Road (for example, back to its original alignment at the Old Coast Road intersection, or on a new alignment to the north of the subdivision), the application of a hot mix road surface to further reduce noise and possible road and intersection upgrading.**

The quarry will not have an operational life of between 30 and 75 years. Quarrying operations will be undertaken for approximately 30 years with the site being available to accept inert fill for up to 75 years.

- 1.3.2** The number of septage and limestone trucks using the road is accurate. The CER also clearly states that the numbers refer to loads not truck movements. The following calculations were used:

Septage Volume

Mandurah (2 year average)	38m ³ /wk
Pinjarra (Murray)	
- Peel Septics (estimate)	9m ³ /wk
- Coastal Septics (estimate)	18m ³ /wk
Singleton/Golden Bay (no exact figures but certainly less than Mandurah)	38m ³ /wk
Waroona	
- Peel Septics (estimate)	9m ³ /wk
- Coastal Septics (estimate)	<u>9m³/wk</u>
	121m ³ /wk

With an average tanker load of 8m³ this equates to 15 loads/week or 3 loads/day. A conservative figure of 4 loads/day was used in the CER.

Further, it must be realised that the cartage of septage is a decreasing service as more infill sewerage occurs. Consequently, over time, it is expected that the volume of septage disposed at the facility will decrease.

Limestone Volume

City of Mandurah requires 25,000m³/year which equates to an average 480m³/week or fourteen 7m³/loads/day.

Main Roads requirements will be variable and dependent on the limestone requirements of particular projects.

The use of Tim's Thicket Road by service vehicles will be minor.

The number of trucks carting inert fill was not discussed in the CER. The projected dumping rate of 10,000 tonnes/annum (approximately 6,000m³) would result in an average of 4 loads/day.

The issues of noise will be addressed as described in Section 1.3.1 of this response.

- 1.3.3** As discussed in Section 1.3.1 the City of Mandurah commits to investigate options for upgrading and realigning of Tim's Thicket Road.
- 1.3.4** Options for improving this intersection will be investigated by the City of Mandurah as detailed in Section 1.3.1 of this response.

1.4 Impact on Beach

- 1.4.1** Vegetated buffers will be established between the proposed facilities and Tim's Thicket Road, and the Wastewater Treatment Plant will be at least 250m from the beach. Consequently, it is not expected that the tourist

potential of the beach will be reduced. In addition, greater management attention will be afforded to the reserve areas north of Tim's Thicket Road through the commitment towards a specific management plan for this area.

None of the proposed developments will limit beach access or use.

- 1.4.2** Management of the dune area in terms of protection, restoration and beach access north of Tim's Thicket Road is included in the commitment towards a management plan (Commitment 1.3). This plan will incorporate details on the rehabilitation of degraded dune areas and make specific commitments regarding the ongoing management of these areas. South of Tim's Thicket Road a dune restoration, beach access and road rationalisation strategy (Commitment 1.1) will be developed by CALM and the City of Mandurah within twelve months of the land exchange being formalised. This will be done under the objectives and recommendations in the Draft Management Plan for Yalgorup National Park with specialist advice from CALM's Recreation and Landscape Branch.

1.5 Impact on Property Values

- 1.5.1** There has never been any intention by Council to hide the proposed developments from prospective buyers. In the past sites along Tim's Thicket Road have been used for quarrying and Reserve 39349 has been zoned as a site for a Wastewater Treatment Plant since 1986.
- 1.5.2** Land management conditions will remain the same for people purchasing blocks which surround the area relinquished from Yalgorup National Park. This area will still retain its former conservation status under a new more specific management plan (Commitment 1.3) which will be developed by Council in consultation with CALM and the NPNCA.

2.0 Issues relating to Specific Components of the Proposal

2.1 Modification of National Park Boundary

2.1.1 Principle of Changing Boundary

The proposed exchange area north of Tim's Thicket Road is considered to have less conservation and recreation values than the proposed exchange area south of Tim's Thicket Road. Consequently, the National Park will gain from:

- an increase in area;
- the inclusion of vegetation units not already represented;
- an increase in conservation value; and
- an increase in protection for all land involved in the exchange.

Quality and quantity of the area are therefore gained by this consolidation of the park. From a management perspective, the park's vulnerability to edge effects is also reduced by decreasing the park's circumference to area ratio.

2.1.2 Impacts on Native Flora and Fauna

2.1.2.1 The greatest recreational use in the Tim's Thicket area occurs south of Tim's Thicket Road. The 102ha coastal area north of Tim's Thicket Road will be managed for conservation and passive recreation under the new management plan (Commitment 1.3). The management plan commitment will provide it with a high level of environmental protection.

2.1.2.2 It is not expected that the proposed Septage Disposal Facility, Limestone Quarry and Wastewater Treatment Plant, the additional traffic along Tim's Thicket Road or the type of backfill proposed at the quarry will affect the flora and fauna in the surrounding area to any significant extent.

2.1.2.3 There are no known populations of animals in the area of the National Park that will be relinquished which would be disadvantaged by the boundary realignment. The boundary change will not affect how fauna is managed as both areas will be covered by similar management plans.

Fauna will only be affected by 28ha that will be cleared for quarrying or development. The vegetation associations present on the site suggest that it is unlikely that Schedule 1 fauna occur. Nonetheless prior to site disturbance CALM will undertake a further assessment of fauna occurring on the quarry site. The City of Mandurah will follow CALM's advice should fauna requiring special protection be identified (Commitment 2.3).

2.1.2.4 A rare flora survey of the 28ha site proposed to be developed was carried out by CALM during March 1994. No rare species were found. The remaining area to the north of Tim's Thicket Road has been surveyed recently and the vegetation and flora mapped (Trudgen 1991).

Fauna within the remaining 102ha of the area will be managed through the preparation of an appropriate management plan (Commitment 1.3) which will adopt the goals and objectives of the Draft Yalgorup National Park Management Plan.

2.1.3 Long Term Management

2.1.3.1 The proposal is in accordance with the Draft Yalgorup National Park Management Plan. Specific recommendations which suggest possible strategies for this area are:

- Section 4, Recommendation 5: Acquire for the park or seek sympathetic management, from current vesting bodies, of Melros Reserve 33139 and Tim's Thicket Reserve 24198;

- Section 35, Recommendation 1: Negotiate with local government authorities to manage land near the park in a way that is consistent with park management objectives;
- Section 35, Recommendation 2: Encourage local government to prepare management plans where property and conservation values of the park, or in adjacent reserves, are at risk; and
- Section 35, Recommendation 5: Assist local shires and others, where possible, to conserve natural areas, particularly areas adjacent to the park.

Part B Interaction with Nearby Lands and Waters addresses land use strategies for the general area.

2.1.3.2 The balance of the land to be excised from the National Park will be managed for conservation and passive recreation (Commitment 1.3). This will be formalised through the incorporation of this zoning in the Town Planning Scheme. Any future rezoning of the land would require public input through an amendment to the Town Planning Scheme.

The requirement to retain a permanent and undeveloped buffer between the proposed developments and urban subdivision will also protect the area from development.

2.1.3.3 Management objectives for the land excised to the north of Tim's Thicket Road will be detailed in a management plan for the area (Commitment 1.3). This plan will be developed by the City of Mandurah in consultation with CALM and the NPNCA and, once accepted, will be binding on Council.

2.2 Septage Disposal Site

2.2.1 Impact on Groundwater

2.2.1.1 The wastewater lagoons will be lined with high density polyethylene (p16) to ensure that septage is fully contained within the lagoons. Although treated effluent will be discharged from the lagoons groundwater quality in bores at Melros and along Old Coast Road will not be affected since groundwater flow is predominantly in a westerly direction (p9).

Council will undertake the additional commitment of **installing monitoring bores north, west and east of the Septage Disposal Facility. The results will be available for review by the Department of Environmental Protection.**

2.2.1.2 Potential pollution of the Harvey Estuary and Dawesville Channel has not been addressed in detail since it is not expected that the development will have any impact on these waterbodies.

It is not considered by the proponents that the facility will release high loads of contamination.

The proposal will have a very localised impact on the aquifer and the adjacent coastal area. This is due to:

- the predominantly westward (towards the ocean) flow of groundwater;
- any nutrients released from the facility will be diluted by groundwater;
- release of nutrients to the marine environment will be diffuse;
- only small concentrations of nutrients will be released; and
- ultimate diffusion will be to a high energy environment.

2.2.2 Odour

2.2.2.1 It is considered that the available buffer will result in odour not being a problem. This is based on Standards for waste treatment works as adopted by the Water Authority.

2.2.2.2 The entire Septage Disposal Facility will be designed in detail prior to construction commencing and these plans will be submitted to the Water Authority for approval.

2.2.3 Management

2.2.3.1 Council commits to **submitting the final design of the Septage Disposal Facility to the Water Authority for approval.** Their approval conditions will take into account extreme rainfall events.

2.2.3.2 EPA and Water Authority licensing of the Septage Disposal Facility will dictate that the facility is appropriately managed.

2.2.3.3 It is correct that the plants are not necessarily related. However, by having the plants adjacent allows for the possible disposal of septage via the Wastewater Treatment Plant to remain a viable option.

2.2.3.4 The final design of the Septage Disposal Facility, including calculations confirming the expected effluent quality, will be supplied to the Water Authority for their approval prior to construction activities commencing.

2.2.3.5 Council commits to **investigate options available for the reuse of sludge.**

2.2.3.6 Council has mobile emergency generators and commits to **having one of these available if required.** However, it should be recognised that the power requirements for the Septage Disposal Facility will be minimal.

2.2.3.7 Research undertaken by the proponent indicates that the lagoon system is suitable for the Yalgorup environment in terms of volume, quality and quantity of waste treated.

2.2.3.8 Only licensed operators will be allowed to discharge to the Septage Disposal Facility. If Conditions of Licence are breached then the licence can be revoked.

In addition, Council commits to **collecting a sample from every tanker disposing at the facility. These samples will be visually checked and tested for pH and conductivity. The samples will then be stored frozen for two months. Should routine testing of the ponds identify an anomaly in septage quality of the ponds, the stored samples can then be tested and traced back to the operator responsible.**

2.2.3.9 Leak monitoring of the liner is not feasible as the nutrients that will be discharged from the facility will mask any nutrients originating from a break in the liner.

Page 16 of the CER details protection for the HDPE liner. Implementation of the quality assurance programme (supervision of installation by qualified personnel, application of protective layers of sand and limestone etc) and adherence to design detail is the best insurance that the liner will maintain its integrity.

2.2.3.10 The majority of future urban development will be deep sewered. There is consequently a finite number of septic and Water Authority policy of increasing the coverage of infill sewerage will result in a gradual decrease in septage volume.

2.2.3.11 Research undertaken prior to submission of the CER indicates that a 50km (100km round-trip) is not cost effective and could result in the indiscriminate dumping of septage (as evidenced by recent prosecutions in the metropolitan area).

2.2.3.12 The Water Authority guidelines for odour buffers generally require 1,000m for larger plants and 500m for smaller plants. In addition other State guidelines are used in the absence of WA State Guidelines (eg recent advice from the Victorian EPA indicates that for a plant the likely size and type of the Water Authority's domestic plant at Tim's Thicket, about 500m is required to residential dwellings). The Water Authority is also presently refining odour modelling techniques following testing for odour at a number of plants, and calibration using data from the Water Authority's odour complaints register.

2.2.3.13 Council commits to **cleaning up fuel spills at the Septage Disposal Facility.**

2.2.3.14 Potential problems will be monitored by Council's Environmental Health Officer and Council commits to **initiating corrective action where necessary.**

2.2.3.15 The area is not considered to be any more or less susceptible to spillage than any other area serviced by septage trucks. The cost of any clean-up will be borne by the offender.

2.3 Quarry

2.3.1 Noise/Dust

2.3.1.1 The buffer surrounding the quarry and the fact that most of the operations will occur below natural ground level will minimise any noise impacts. Commitment 3.3 addresses the control of unacceptable noise levels through adherence to the Noise Abatement Neighbourhood Annoyance Regulations (1979).

2.3.1.2 There are no nearby gardens and residences. The buffer surrounding the quarry should eliminate any dust problems and Commitment 3.4 addresses the control of unacceptable dust levels.

2.3.2 Management

2.3.2.1 Commitment 2.1 requires the preparation of a quarry development plan whilst Commitment 2.2 requires the preparation of a quarry rehabilitation plan. These plans will address such issues as:

- fire control;
- dieback control;
- fuel and bitumen spillage; and
- control of inert fill.

2.3.2.2 EPA Licence Conditions will regulate the type of waste that will be disposed of at the quarry.

Council commits **to the attendant visually inspecting each truck prior to dumping and maintaining a record of the materials dumped.**

The CER states that only inert fill such as demolition materials will be accepted.

Contractors who breach their licence conditions with respect to dumping can have their licence revoked. Only licensed contractors will be allowed to dump at the quarry and it is estimated that, on average, only four truck loads per day of inert fill will be dumped. With this quantity it is believed that one attendant is sufficient.

The preferred treatment of garden waste is to mulch for use in rehabilitation and dune stabilisation. Burning is expected to be minimal and the buffer is expected to minimise any impact.

2.3.2.3 The dumping of unacceptable waste will be controlled by visual inspection of the trucks.

2.3.2.4 It is accepted that there are other potential sources of limestone in the area. However, they have a limited life and development of these, and other, resources will necessitate the addressing of issues in common with the current proposal. These include:

Appendix 3

List of submitters

State government agencies

Health Department
Department of Planning and Urban Development
Department of Minerals and Energy
Main Roads Department
Department of Conservation and Land Management - Yalgorup National Park Advisory Committee

Members of the public

R J and J Constantine
B Posetti
C and E Willis
C C and B J Carson
M and L K Djekie
A E and J McKenzie
D and R Righton
J and M Wilson
A Van Den Crommenacker et al
L, R, M and D Robinson
M Strangways Price
R E and D M Bartlett
G I and J J McAuslane
G and M Flett
S Cox
R L Glasson
T Coughlin
P Creevey
P E Cockburn
H Fleming
V A and C J Waters
E and C Hauswirth
Forrestdale Plant Liaison Committee Inc
Conservation Council
Peel Preservation Group
Southern Estuary Progress Association
South Coastal Community Association Melros
Greenpeace

Appendix 4

Proponents commitments

The following commitments are made to ensure that this proposal proceeds in an environmentally acceptable manner. Those commitments flagged by an asterisk (*) have been identified as requiring specific auditing by the EPA.

-
- proximity to urban areas;
 - availability of buffers; and
 - potential transport conflicts.

The Council's preferred alternative is to have use of one site rather than a number of small sites. The size of the quarry has been selected to guarantee supply for a period of 30 years and to ensure that the need to continually find new sources of limestone, particularly in view of the continuing urbanisation of the peninsula, is not an ongoing problem.

- 2.3.2.5** All testing of the limestone resource to date suggests that the use of explosives is not warranted. Any blasting that is required will be minimal with the potential impacts ameliorated by the buffer surrounding the site. If blasting is required Council commits to **adhere to Guidelines set by the Department of Minerals and Energy.**

2.4 Wastewater Treatment Plant

- 2.4.1** Details regarding the Wastewater Treatment Plant are intentionally vague because the proposal is to secure additional land only at this stage. A separate and detailed proposal will be submitted to the EPA once development trends in the area are established. This will define wastewater treatment and effluent disposal facilities. The results of the "Wastewater 2040" strategy review will assist in setting long term requirements for these facilities.
- 2.4.2** Treated wastewater does not disappear if it is used for irrigation or to feed artificial wetlands. In all cases it must be treated to a standard to protect the environment. Pumping inland would require greater energy consumption and opportunities for local "reuse" or land disposal would be lost (such as recharging the limited groundwater aquifer or irrigation of local recreation areas).
- 2.4.3** The long term strategy for disposal is presently being addressed through the "Wastewater 2040" review. At this stage all options for the long term, both land and marine, are open for consideration.
- 2.4.4** It is agreed that "Wastewater 2040" is not complete. However, the securing of the site will simply keep all long term options open, such as smaller local treatment plants with managed local treated effluent disposal systems. It also provides for immediate short term solutions should they become necessary due to development in the near future.

Proponents' Commitments

The following commitments are made by the City of Mandurah and the Department of Conservation and Land Management following review of public submissions. The Water Authority will independently seek clearance for development of a regional Wastewater Treatment Plant once a construction timetable has been finalised.

1.0 General

- 1.1 CALM, in association with the City of Mandurah, will formulate and implement a dune restoration and a road rationalisation strategy following incorporation of the new coastal area (Pt. Reserve 24198) into the National Park. This will occur within 12 months of the land exchange being formalised.
- 1.2 The coastal reserve which will be included in the National Park will be managed by CALM under the goals, objectives and recommendations made in the 1993 Draft Management Plan for Yalgorup National Park.
- 1.3 The City of Mandurah, in consultation with CALM and the NPNCA, will develop within 2 years of the land exchange being formalised, a management plan consistent with the management of Yalgorup National Park which encompasses the area of land excised from the National Park (which is not required for the Limestone Quarry, Wastewater Treatment Plant, and Septage Disposal Facility), the balance of Reserve 24198 and Reserve 33139. This will address public access to the beach and foreshore area and will incorporate details on rehabilitation of degraded dune areas and make specific commitments regarding the ongoing management of these areas.
- 1.4 The City of Mandurah will hold discussions with Main Roads to evaluate options for realigning Tim's Thicket Road, the application of a hot mix road surface to further reduce noise and possible road and intersection upgrading.
- 1.5 The City of Mandurah will investigate options available for the reuse of sludge originating from the Septage Disposal Facility.
- 1.6 Through appropriate amendment to the Town Planning Scheme, the City of Mandurah will retain a 500m buffer around the Septage Disposal Facility to prevent urban encroachment.

2.0 Prior to Site Development

- 2.1 A conceptual plan for development of the quarry will be prepared by the City of Mandurah and submitted to CALM and the Department of Environmental Protection for approval. This will also address the issue of dieback management during site development consistent with CALM requirements.

-
- 2.2 A quarry rehabilitation plan will be prepared by the City of Mandurah and submitted to CALM and the Department of Environmental Protection for approval.
 - 2.3 CALM will undertake further assessment of the likely occurrence on the quarry site of fauna requiring special attention. The City of Mandurah will follow the advice of CALM of the management implications should such fauna be located.
 - 2.4 A monitoring programme for the Septage Disposal Facility will be finalised in consultation with the Department of Environmental Protection and the results will be available for review by the Department. This programme will be initiated prior to site development. The City of Mandurah will also undertake to regularly monitor the quality and quantity of effluent discharged from the facility.
 - 2.5 The City of Mandurah will install monitoring bores north, west and east of the Septage Disposal Facility and these will be monitored consistent with the programme to be developed in 2.4 above. The results will be available for review by the Department of Environmental Protection.
 - 2.6 The City of Mandurah will submit the final design of the Septage Disposal Facility to the Water Authority for approval. Design details will include access roads, fencing, water supply and fuel storage.

3.3 During Operations

- 3.1 An appropriate vegetation buffer and screening bund will be maintained by the City of Mandurah between Tim's Thicket Road and the Septage Disposal site and quarry to the satisfaction of CALM.
- 3.2 The City of Mandurah will initiate odour control measures should odour occur as a result of the Septage Disposal Facility. This will be to the satisfaction of the Department of Environmental Protection.
- 3.3 Hours of operation will be Monday to Friday 7am to 5pm. Should quarry operational noise levels prove to be a problem to the adjacent residential areas, the City of Mandurah recognises its obligations to devise corrective action under the Noise Abatement Neighbourhood Annoyance Regulations (1979). This will be to the satisfaction of the Department of Environmental Protection.
- 3.4 The City of Mandurah will initiate dust control measures should dust nuisance occur at nearby residential areas as a result of quarry operations. This will be to the satisfaction of the Department of Environmental Protection.
- 3.5 Should Aboriginal sites be uncovered during development or operation of the Limestone Quarry or Septage Disposal Facility, the City of Mandurah commits to cease operations and to consult with the Aboriginal Sites Department of the Western Australian Museum on further courses of action.

-
- 3.6 The City of Mandurah will ensure that the Septage Disposal Facility meets the operating standards set under Part IV of the Environmental Protection Act, works approval and licence conditions by the Department of Environmental Protection.
 - 3.7 The City of Mandurah will review the need to retain the final 8ha of quarry for acceptance of additional inert fill. This review will occur prior to quarrying commencing on this final 8ha. This review will be submitted to CALM for approval.
 - 3.8 The City of Mandurah will have available an emergency generator should one be required at the Septage Disposal Facility.
 - 3.9 The City of Mandurah will collect samples from every septage tanker disposing at the facility. These will be visually inspected, tested for pH and conductivity, and stored for a period of two months.
 - 3.10 The City of Mandurah will be responsible for cleaning up fuel spills at the Septage Disposal Facility and the Limestone Quarry. This will be to the satisfaction of the Department of Environmental Protection.
 - 3.11 The City of Mandurah will monitor for potential vermin problems at the Septage Disposal Facility and will initiate corrective action where necessary. This will be to the satisfaction of the Department of Environmental Protection.
 - 3.12 The City of Mandurah will visually inspect each truck dumping inert material at the Limestone Quarry and will maintain a record of the materials dumped.
 - 3.13 The City of Mandurah will adhere to Guidelines set by the Department of Minerals and Energy should blasting be required at the Limestone Quarry.
 - 3.14 A 10m wide buffer of vegetation will be retained between the quarry boundary and the area to be mined.

4.0 Post Operation

- 4.1 Responsibility for rehabilitation of the quarry will remain with the City of Mandurah until rehabilitation has been completed to the satisfaction of CALM. Once the 9.6ha required for the Wastewater Treatment Plant is formally vested in the Water Authority, the Authority will take on responsibility for this site.

Appendix 5

**Letter from Environmental Protection Authority to the
Department of Land Administration, May 1989**

Mr R Hamilton
Regional Manager - Bunbury
Department of Land Administration
61 Victoria Street
BUNBURY WA 6230

Your Ref: 1265/986
Our Ref: 110/81/C54
Enquiries: Miss F Keating

PROPOSED LAND EXCHANGE - TIMS THICKET

I refer to your letter dated 24 October 1988 concerning the proposed land exchange between the Town of Mandurah and the Department of Conservation and Land Management in the Tims Thicket area.

An officer of the EPA has inspected the site with an officer from CALM (Harvey District Office) and discussed the proposal with an officer from the Bunbury office of CALM. I understand that the area proposed to be transferred to the Town does not contain any rare or endangered species. Furthermore, CALM considers that the proposed addition to the national park will enhance the conservation value of the reserve and that the area can be effectively managed with the realigned boundaries.

Given that CALM agrees with the proposed realignment of the national park boundary, the Authority considers, in principle, that the land exchange in the Tims Thicket area may be acceptable.

However, prior to implementation of the land exchange, the Authority considers it would be appropriate for the Town of Mandurah to prepare a proposal for extraction of limestone from the area. This proposal should be referred to the EPA for environmental impact assessment. Given that the Tims Thicket area is affected by System 6 recommendation C54 it may also be necessary for the quarrying proposal to be assessed in accord with the procedures of the Government Policy on mining related activities within conservation reserves.

If you have any queries regarding the above please contact Miss Fiona Keating of this Authority (Telephone No. 222 7058).

C C Sanders
DIRECTOR
ENVIRONMENTAL INVESTIGATIONS DIVISION

11 May 1989

0122FKLAND:kb

cc CALM (Bunbury & Harvey offices)