

**Harbour City canal estate, Mandurah  
(new proposal)**

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**Esplanade (Mandurah) Pty Ltd**

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

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 695  
August 1993**

#### 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 20 August, 1993.

### **Environmental Impact Assessment (EIA)**

#### **Process Timelines in weeks**

<b>Date</b>	<b>Timeline commences from receipt of full details of proposal by proponent</b>	<b>Time (weeks)</b>
12/6/93	Proponent Document Released for Public Comment	
25/6/93	Public Comment Period Closed	2
29/6/93	Issues Raised During Public Comment Period Summarised by EPA and Forwarded to the Proponent	3 days
8/7/93	Proponent response to the issues raised received	2
6/8/93	EPA reported to the Minister for the Environment	4

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## Summary and recommendations

In May 1993 Esplanade (Mandurah) Pty Ltd submitted a new proposal for the proposed Harbour City Canal Estate, Mandurah. This proposal involves the development of a canal estate with some similarities to one previously proposed at the same site, which was assessed by the Environmental Protection Authority in October 1992 and subsequently withdrawn by the proponent.

The principal differences between the previous proposal and the new proposal are as follows :

- a reduction of the area proposed to be developed by approximately 30 hectares; and
- the ceding of approximately 69 hectares of privately owned land by the proponent to the State free of cost for conservation.

The Authority concluded that the new proposal was sufficiently different from the environmental viewpoint from the withdrawn proposal for it to be considered afresh, and determined that it would be assessed as a Consultative Environmental Review, with public input via a Public Information Day, which was held at the offices of the Peel Inlet Management Authority on 12 June 1993. Oral and written submissions on the proposal were invited for a period of two weeks.

In assessing this amended development proposal, the Authority has taken into consideration its previous advice on the original Harbour City development, assessed in October 1992 (Bulletin 656).

In Bulletin 656 the Authority stated that Area B (indicated on Figure 1) was considered to have a high conservation value as part of the Peel - Harvey Estuary, and concluded that it would be environmentally preferable if these values be protected. Further, the Authority concluded that if the appropriate statutory processes determine that Area B is not to be procured by State Government and incorporated into an appropriate conservation reserve, the development of Area B could proceed, subject to the proponent's commitments and management recommendations.

The Authority has since received advice that resources are not available for the State to acquire the land identified as Area B in Bulletin 656.

The Authority reiterates its view that it would be environmentally preferable if all of Area B was purchased and retained for conservation. However, in view of the stated Government position, the Authority considers that consistent with its earlier advice, (Bulletin 656), the new development proposal is environmentally acceptable.

In reaching this conclusion, the Authority has taken the following factors into consideration :

- The intention of the State Government not to purchase Area B as identified in EPA Bulletin 656.
- The amended development proposal includes a commitment by the proponent to maintain a 50 metre wide foreshore reserve between the traffic bridge and eastern side of the proposed entrance to the canal estate.
- The amended development proposal concedes 30 hectares of Area B to the proposed Conservation Reserve, which adjoins Area C. The proponent has undertaken a commitment to cede this portion of Area B and all of Area C free of cost to the Crown, for the purposes of a conservation reserve. The Authority acknowledges that the portion of Area B proposed to be included within the conservation reserve includes healthy samphire wetland.
- Management provisions and commitments made by the proponent for the proposed conservation reserve.

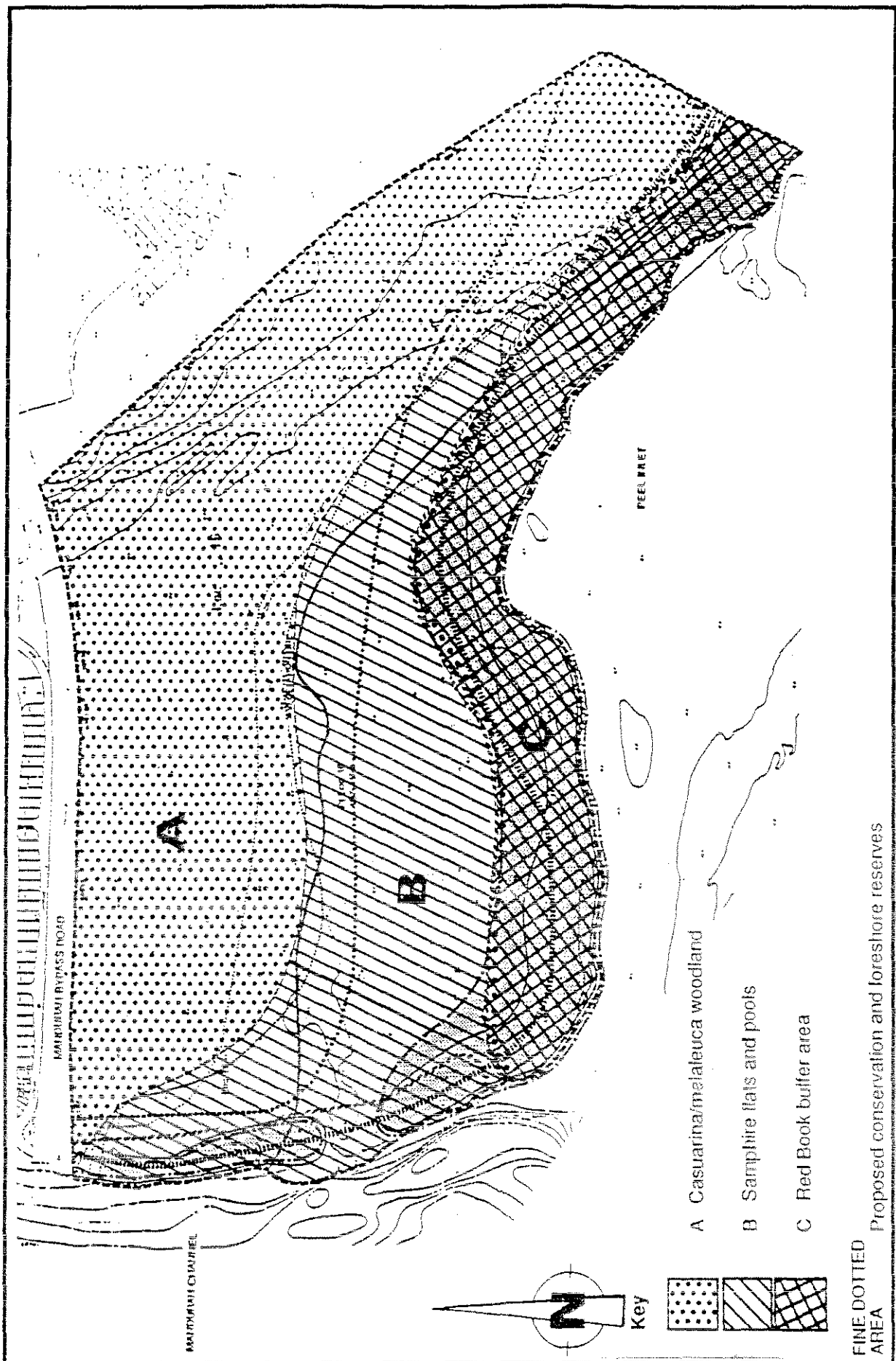


Figure 1: Map of project area indicating major ecosystem areas, as published in EPA Bulletin 656 (October 1992).

### **Recommendation 1**

**The Environmental Protection Authority has concluded that the Harbour City development proposal is environmentally acceptable.**

**In reaching this conclusion, the Environmental Protection Authority identified the main environmental issues as :**

- conservation of estuarine wetlands;**
- impact on estuarine samphire wetlands;**
- dewatering impacts during construction of the canals; and**
- water quality within the proposed canals; and**
- the long term management of the canal waterways.**

**Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to the proponent's environmental commitments listed in Appendix 3 and the following recommendations. (Recommended Environmental Conditions are listed in Section 5)**

### **Recommendation 2**

**The Environmental Protection Authority recommends that prior to and during dewatering of each stage of the development, the proponent should ensure that the dewatering should not have an adverse impact on the vegetation of the conservation and foreshore reserve areas.(see recommended Environmental Condition 3-1)**

### **Recommendation 3**

**The Environmental Protection Authority recommends that prior to construction, the proponent prepare a contingency plan for the prompt removal and disposal of accumulated algal wrack and scum.(see recommended Environmental Condition 4-1)**

### **Recommendation 4**

**The Environmental Protection Authority recommends that prior to the granting of final approval to rezone the development site to "Canal", the proponent should finalise an agreement with the City of Mandurah for the long term management of the artificial waterways (i.e. after five years following construction) to the requirements of the Minister for the Environment and the Minister for Planning. (see recommended Environmental Condition 5-1)**

# 1. Introduction

Esplanade (Mandurah) Pty Ltd referred to the Environmental Protection Authority in May 1993 an amended development proposal for the 'Harbour City Canal Estate', at Cockburn Sound Location 16, south of the Mandurah bypass road and immediately east of the Mandurah traffic bridge.

## 1.1 Background

A proposal to develop the 'Harbour City Canal Estate' was forwarded to the Environmental Protection Authority for environmental impact assessment in March 1992. This proposal was assessed as a 'Consultative Environmental Review'. The document was prepared in accordance with Guidelines issued by the Authority, and was available for public review for a period of five weeks.

In October 1992 the Authority completed the environmental assessment on the development proposal (Bulletin 656). In this assessment report, the Authority identified three major ecosystem areas, referred to as Areas A, B and C (see Figure 1).

1. Area A (approximately 96 hectares). This is characterised by Casuarina / Melaleuca woodland to the north and rushes to the east. The Authority concluded that the environmental value of the Area was not high, and that it could be developed, subject to suitable conditions.
2. Area C (approximately 38 hectares). This area is at the southern extremity of the site, and is included within System 6 Area C 50. It was concluded that the development of this area was environmentally unacceptable. The 1992 CER stated that this land would be ceded free of cost by the developer to the Crown for conservation purposes.
3. Area B (approximately 63 hectares). This area was considered by the Authority to have environmental value. The Authority concluded that if Area B could be acquired by the State Government for conservation, then it was considered that it should be protected. If it is not possible to acquire it, then it was considered acceptable to develop the area.

Following the receipt of several appeals which expressed concern regarding the development of Area B, the then Minister for the Environment upheld the appeals to the extent that there should be no development of Area B.

Following a request by Esplanade (Mandurah) Pty Ltd, the Environmental Conditions for this development proposal were not set, and the proposal was subsequently withdrawn by the proponent in June 1993.

## 1.2 Assessment of current proposal

In May 1993 Esplanade (Mandurah) Pty Ltd submitted a new development proposal for the Harbour City Canal Estate at the same site as the original development. This new development proposal is illustrated in Figure 2.

This proposal involves the development of a smaller portion of Area B. The principal differences between the original proposal as assessed in October 1992 and the new development proposal are as follows :

- reduction of proposed development of Area B. The original proposal involved development of all of Area B (total of 63 hectares). The new proposal involves the development of 33 hectares of Area B.
- the ceding of a total of 68.5 hectares to the Crown free of cost for Conservation purposes (remaining 30 hectares of Area B and all of Area C).

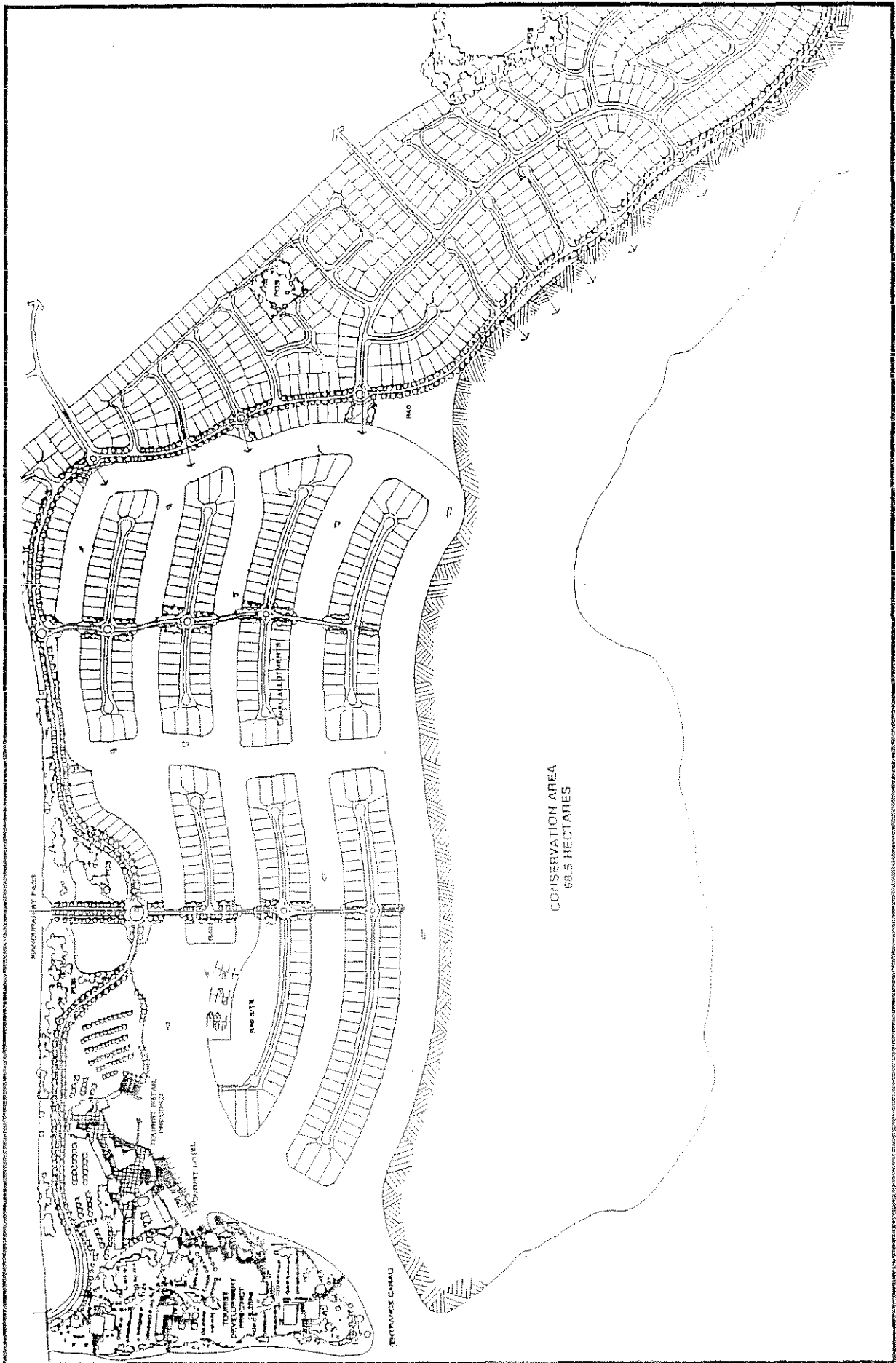


Figure 2: New Harbour City development proposal (May 1993).



## **2. The proposal**

Following receipt of the new Harbour City development proposal, the Authority determined that it would be assessed as a 'Consultative Environmental Review', with public input via a 'Public Open Day'. This was held on Saturday 12 June 1993 at the Peel Inlet Management Authority office, Mandurah. Information on the new development proposal was provided by the proponent on the day, and representatives of Esplanade (Mandurah) Pty Ltd and officers of the Authority were in attendance to explain the proposal and answer questions. Submissions were invited from people attending the Open Day, and individuals were advised that oral and written submissions would be received by Authority officers during the following week to 18 June. This submission period was subsequently extended to 25 June 1993. 17 submissions were received during that time and issues raised were summarised and forwarded to the proponent. The issues are listed in Appendix 1. The proponent's response to these issues is included within Appendix 2.

## **3. Environmental impacts and their management**

Environmental issues associated with this development proposal remain the same as those previously identified in the Authority's assessment of the original Harbour City development proposal.

### **3.1 Impact on samphire wetland (Area B)**

In Bulletin 656 the Authority stated that Area B was considered to have a high conservation value as part of the Peel - Harvey Estuary, and concluded that it would be environmentally preferable if these values be protected. Further, the Authority concluded that if the appropriate statutory processes determine that Area B is not to be procured by State Government and incorporated into an appropriate conservation reserve, the development of Area B could proceed, subject to the proponent's commitments and management recommendations.

The Authority has since received advice that resources are not available for the State to acquire the land identified as Area B in Bulletin 656.

The Authority reiterates its view that it would be environmentally preferable if Area B was purchased and retained for conservation. However, in view of the stated Government position, the Authority considers that, consistent with its earlier advice (Bulletin 656), the new development proposal is environmentally acceptable.

In reaching this conclusion, the Authority has taken the following factors into consideration:

- The intention of the State Government not to purchase Area B as identified in EPA Bulletin 656.
- The fact that the amended development proposal includes a commitment by the proponent to maintain a 50 metre wide foreshore reserve between the traffic bridge and eastern side of the proposed entrance to the canal estate, to allow for continued public access along the foreshore. The fact that this area is a popular recreation site was highlighted in several submissions received by the Authority.
- The amended development proposal concedes 30 hectares of Area B to the proposed Conservation Reserve, which adjoins Area C. The proponent has undertaken a commitment to cede this portion of Area B and all of Area C free of cost to the Crown, for the purposes of a Conservation Reserve. The Authority acknowledges that the portion of Area B proposed to be included within the conservation reserve includes healthy samphire wetland. The Authority considers that this additional area will create a more effective buffer for the preservation of the recognised environmental value System 6 Area C. 50, and help to maintain the integrity of samphire wetlands which have been recognised as being an

important waterbird habitat, including trans-equatorial migrant species protected under existing agreements for 'The Protection of Migratory Birds in danger of their Extinction and their Environment' with Japan (JAMBA, 1981) and China (CAMBA, 1986). The preservation of wetland areas used by waterbirds emphasised strongly in many submissions received by the Authority.

- Management provisions and commitments made by the proponent for the proposed conservation reserve.

### **Recommendation 1**

**The Environmental Protection Authority has concluded that the amended Harbour City development proposal is environmentally acceptable.**

**In reaching this conclusion, the Environmental Protection Authority identified the main environmental issues as :**

- **conservation of estuarine wetlands;**
- **impact on estuarine samphire wetlands;**
- **dewatering impacts during construction of the canals; and**
- **water quality within the proposed canals; and**
- **the long term management of the canal waterways.**

**Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to the proponent's environmental commitments listed in Appendix 3 and the following recommendations. (Recommended Environmental Conditions are listed in Section 5)**

### **3.2 Dewatering impacts**

The Authority considers that it is important to protect vegetation within the conservation and foreshore reserves to ensure they are not adversely affected as a result of dewatering activities during the construction of the canals.

### **Recommendation 2**

**The Environmental Protection Authority recommends that prior to and during dewatering of each stage of the development, the proponent should ensure that the dewatering should not have an adverse impact on the vegetation of the conservation and foreshore reserve areas. (see recommended Environmental Condition 3-1).**

### **3.3 Water quality within the canals**

The Authority notes that the amended development proposal excludes proposed development of the canal estate at the extreme south east portion of the development site, furthest from the canal entrance. However, the potential for algal scum and algal wrack wrack accumulation still remains.

### **Recommendation 3**

**The Environmental Protection Authority recommends that prior to construction, the proponent prepare a contingency plan for the prompt removal and disposal of accumulated algal wrack and scum. (see recommended Environmental Condition 4-1).**

### **3.4 Long-term management of the waterway**

The Authority acknowledges that the proponent has undertaken a commitment to establish a 'Management Entity' to ensure the effective long term management of the waterway. However, this issue is yet to be resolved to the satisfaction of all involved agencies. This should address issues including the structure, funding and operation of a long term management entity whose responsibilities will include water quality monitoring, maintenance of canals and canal walls, groundwater monitoring, management of conservation area, and public open space.

#### **Recommendation 4**

**The Environmental Protection Authority recommends that prior to the granting of final approval to rezone the development site to "Canal", the proponent should finalise an agreement with the City of Mandurah for the long term management of the artificial waterways (i.e. after five years following construction) to the requirements of the Minister for the Environment and the Minister for Planning.** (see recommended Environmental Condition 5-1)

## **4. Conclusion**

The Environmental Protection Authority concludes that the proposal is environmentally acceptable provided the proponent's commitments and the recommendations of this report are implemented. This includes the preparation of a contingency plan for the management of algal wrack and scum, and the finalisation of a long term waterways management plan. The 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 programmes.

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

The Authority believes that any approval for the proposal based on this 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 Authority.

## **5. 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 proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review and in response to issues raised following public submissions. These commitments are consolidated in Environmental Protection Authority Bulletin 695 as Appendix 3. (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 Dewatering**

Vegetation in the areas with special conservation values must be protected

- 3-1 Prior to and during dewatering associated with the development, the proponent shall ensure that the dewatering does not have a significant long term adverse impact on the vegetation within the Conservation and Foreshore reserve.

## **4 Water Quality in the Canals**

Acceptable water quality must be maintained within the canal estate.

- 4-1 Prior to construction of any canal development, the proponent shall prepare a contingency plan for the prompt removal and disposal of accumulated algal wrack and scum.

## **5 Waterway Management**

- 5-1 Prior to the granting of final approval to the Scheme amendment to "Canal" zoning, the proponent shall finalise an agreement with the City of Mandurah regarding the long-term management of the artificial waterway (i.e. post five years) to the requirements of the Minister for Planning and the Minister for the Environment.

## **6 Proponent**

These conditions legally apply to the nominated proponent.

- 6-1 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.

## **7 Time Limit on Approval**

The environmental approval for the proposal is limited.

- 7-1 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.)

## **8 Compliance Auditing**

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

- 8-1 The proponent shall prepare periodic "Progress and Compliance Reports", to help verify the environmental performance of this project, in consultation with the Environmental Protection Authority.

### **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.



# **Appendix 1**

**Issues raised in public submissions**





## **HARBOUR CITY CANAL ESTATE - PUBLIC SUBMISSIONS ON MODIFIED DEVELOPMENT PROPOSAL**

Approximately 46 people attended the Open Day at the Peel Inlet Management Authority offices (12 June 1993).

15 individual submissions were received on the Open day. Two of these expressed support for the development. 17 written submissions have been received by mail.

In summary, issues raised opposing the development proposal are as follows :

### **General**

- Development at this site is inappropriate and if allowed to proceed, development of this estate will be viewed as a benchmark for additional inappropriate development in the future.
- Site badly needs some supervision and management. At present, the site is degraded by off road vehicle activity, rubbish dumping, illegal camping, and dumping of old car bodies.
- Too many natural coastal areas, particularly as a result of the construction of canal estates, have been destroyed in the name of so-called 'development' and 'progress' in recent years, and this has significantly reduced the amount of natural waterfront land. There has been enough of this kind of development in Mandurah already, and there is not sufficient demand for any more of this sort of development in Mandurah to justify this development proceeding.
- Mandurah is a popular tourist destination largely as a result of its natural waterways. Development such as the kind proposed will destroy all the natural attractions it once had. Development will contribute to decline in Mandurah's popularity as a tourist destination (present figures indicate that it is already not as popular as it once was). It will have an unacceptable aesthetic impact on the Estuary foreshore.
- Development of land acceptable, but should be restricted to Area A. The previous determination by the former Minister for the Environment (Mr McGinty) to disallow development in Area B should be maintained by the present Government. Only dry-land subdivision should be allowed.
- The whole of area (Areas A, B and C) should be kept free of development and included within a regional park concept (Peel Regional Park).
- Public access to the area which is a popular recreation site for fishing and crabbing will be much too restricted if development is allowed to proceed, especially adjacent to the foreshore under the traffic bridge, proposed to be developed as a 'tourist development precinct'. Modified development plan shows no provision for public access. It is vital to retain public access along the foreshore.
- A minimum of a 50 metre wide foreshore reserve should be retained along the estuary foreshore between the proposed canal entrance to the Peel Inlet and the Mandurah Traffic Bridge.
- Drainage / discharge from proposed urban development into the canals should not be allowed.
- The whole of the proposed development site is of important heritage value as a record of geological processes, particularly the estuarine delta, and therefore should not be developed.
- The setbacks for the canal lots as proposed of both buildings and retaining walls will impose excessive loadings upon the canal walls during major flood events, particularly during 1 in 100 year flood events.

- The canal development does not comply with design guidelines as stipulated in the existing 'Canal Guidelines', particularly in relation to mooring layouts, frontages, and mooring envelopes for the 'design' vessel.
- Development proposal inconsistent with local Council resolution to disallow any development on the proposed site of April 1990. It is also inconsistent with appeal determinations made by the former Minister for the Environment which required that no development be allowed to proceed on Area B.
- The proponent presents conflicting information when quoting the amount of land proposed to be developed and that proposed to be retained for conservation, for example in the series of public advertisements printed in local newspapers, in September 1992, and the new modified concept plan. This indicates confusion by the proponent in relation to an issue which is vital - i.e. retention of environmentally significant samphire wetlands.

### **Long term impacts**

- No environmental approval should be given to a development of this kind until at least 2 years after the Dawesville Channel has been completed and the long term effects known. The long term impacts of the Dawesville Channel may well lead to increased tidal levels which will flood and threaten ecological viability of the proposed conservation area.
- The predicted rise in sea levels will greatly reduce the narrow strip of conservation reserve and in the long term this area will become unviable as a conservation reserve.
- Integrity of the proposed Peel Regional Park is compromised by the proposed development - will compromise intrinsic qualities of a Regional Park.

### **Water Quality**

- water quality problems have been experienced at Waterside Mandurah Stage 1. It is likely therefore that similar problems would be experienced within Harbour City Canal Estate, especially as there is only proposed to be one entrance to the canal estate
- Other canal developments in the Mandurah area (e.g. Yunderup canals) have experienced serious water quality problems and this proposal is likely to experience the same problems.

### **Wildlife / Wetlands**

- long term impact on wildlife habitat (particularly migratory waterbird species.) They cannot settle in artificial waterways and the proposed conservation reserve is not big enough to accommodate them. No development should be allowed on the site.
- It is important to protect any areas left which are already known to have significance as a wildlife refuge (both terrestrial and aquatic).
- Proposed development contrary to existing RAMSAR, JAMBA and CAMBA bilateral trans-equatorial migratory waterbird agreements.
- Development will involve clearing Area A which is an important bird roosting area.
- Area A is important to retain as a buffer between Area B and urban development. It should be kept in a natural state. Area A is important in a regional context in view of the widespread clearing of native vegetation currently taking place adjacent to the Inlet and Estuary.
- Area B is the single biggest block of samphire remaining in the Peel Inlet. There is inadequate information on the significance of this samphire on the health of the Peel Inlet to undertake an adequate assessment of this proposal.

- Site proposed for development is an important fish nursery area. Unacceptable to destroy it.

### **Long term management**

- proponent should be required to pay for the on-going management of the waterway for ever, as it will have an effect on the Estuary for ever. User pays principle.
- unclear who will bear the cost of the vermin proof fence.

### **Traffic Management**

- Potential traffic congestion - no turn right into Mandurah by -pass road. Much traffic will be diverted under the bridge to existing Waterside Drive. What would happen to traffic if there was some major event at the proposed resort / hotel ??



## **Appendix 2**

**Proponent's response to issues raised in public submissions**



## **HARBOUR CITY CANAL ESTATE**

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RESPONSE TO SUBMISSIONS RECEIVED BY  
THE ENVIRONMENTAL PROTECTION  
AUTHORITY TO THE MANAGED CONSULTATIVE  
ENVIRONMENTAL REVIEW

**JULY 1993**





## **INTRODUCTION**

A Public Open Day was held in the Boardroom of the Peel Inlet Management Authority on 12th June 1993. Esplanade (Mandurah) Pty Ltd, the proponent of the Harbour City Canal project put on display a number of aerial photographs and 1:1000 scale plans and diagrams of the proposed Harbour City Canal Estate development.

The original proposal by the proponents was put on display as well as a more recently generated modified development plan which had been referred to the Environmental Protection Authority.

It is understood that 15 individual submissions were received by officers of the Environmental Protection Authority at the Open Day and a further 13 written submissions have been received by mail since that time.

The issues as summarized by the Environmental Protection Authority have been addressed on an individual basis in the following report. The actual summarized submission has been quoted followed by a response to the submission, followed by proponent's response.

## **1. SUMMARY OF SUBMISSIONS**

1.1 *Development at this site is inappropriate and if allowed to proceed, development of this estate will be viewed as a benchmark for additional inappropriate development in the future.*

### **1.2 Response to Submission**

The location of the Harbour City project site has been recognized for potential canal development by various Government Authorities (DPUD, EPA (System Six and the City of Mandurah) since 1979 and environmental approval for a similar canal development presently exists over the land by virtue of the 1982 John Holland proposal.

Canal development utilizing the same technologies and construction specifications as proposed for Harbour City Canal has already been successfully implemented in Mandurah and is now widely regarded as an appropriate development of very high residential standards.

The development of this foreshore site in which the developers have proposed to cede 35% of the landholding to the State free of charge will set a new benchmark in development standards in terms of providing appropriate Conservation Reserves for areas of environmental significance.

### **1.3 Proponents Response**

That the submission be dismissed as the modified Harbour City proposal offers a development of considerable merit and will provide very acceptable high quality standards of residential development as a benchmark for the City of Mandurah.

## **2. SUMMARY OF SUBMISSIONS**

2.1 *Site badly needs some supervision and management. At present, the site is degraded by off road vehicle activity, rubbish dumping, illegal camping, and dumping of old car bodies.*

### **2.2 Response to Submission**

It is well recognized that the landholding currently suffers from an extreme amount of illegal road vehicle activity, including four wheel drive and motor bikes, rubbish dumping, illegal camping and dumping of old car bodies. Since the construction of the Mandurah Bypass Road in 1984/85 and the increased access to the site off Wanjeep Street, Coodanup, it has not been possible to control access to the landholding.

Various efforts were made by the previous owners to limit access to the site for vehicles. The damage to the samphire marshland and waterbird feeding and roosting areas is well recognized which is why the proposal for the Conservation Reserve includes establishment of a peninsula design and that the Conservation Reserve be separated from all development by a 60 metre wide canal buffer channel as well as a vermin proof fence.

The Conservation Reserve is proposed to be placed under the control of Government Authorities and access to be limited and managed by those Authorities. The proponent's proposal will provide an effective management situation to unfettered public access to that portion of the land which is regarded as having significant environmental sensitivity. The proposal also involves the enhancement of this area and an ability to allow it to become a managed pristine conservation area.

### **2.3 Proponents Response**

1. That the submission be noted.
2. At the earliest stage of development, the proponent will incorporate within Stage 1 construction appropriate measures to separate the Conservation Reserve from the balance of area to be developed and limit public access within the Conservation Reserve area.

### **3. SUMMARY OF SUBMISSIONS**

3.1 *Too many natural coastal areas have been destroyed in the name of so-called 'development' and 'progress' in recent years. There have been enough of this kind of development in Mandurah already, and there is not sufficient demand for any more of this sort of development in Mandurah.*

#### **3.2 Response to Submission**

The EPA's Environmental Protection (Swan Coastal Plain Lakes) Policy, 1992 has been formulated to protect lakes of the Swan Coastal Plains. Lakes suitable for inclusion must comply with policy criteria prior to being listed. The Creery Marshes are part of an estuarine environment with tidal water movement regimes which exclude them from policy criteria based on water permanence.

It has been well recognized by the proponent that the Creery Marshes, where in the development area of the Harbour City proposal, constitute a significant samphire area which has been identified, using vegetation, hydrological and geological characteristics and which is proposed to be retained as a Conservation Reserve.

The modified proposal has increased the size of the Conservation Reserve to 68.5 hectares which includes the waterbird usage area and frequently inundated salt marsh area which will be managed primarily as a waterbird habitat to be transferred to the Crown as a Conservation Reserve.

Rehabilitation and preservation of the samphire area will be achieved, with the approval of the Harbour City project, through restricted access to the Conservation Reserve. The area of high conservation significance within the landholding will be transferred to the Crown free of charge and will not be destroyed. The Conservation Reserve area will be able to regenerate and be placed in the control of Government Authorities to limit public access.

The demand for canal development has been well researched by the proponent and at the current time is significant within the City of Mandurah. 40% of the proposed development is canal waterfront allotments and the balance being land lots which in the proposed location will have a very strong market demand in Mandurah.

The proponent's proposal has properly addressed the environmental and social impacts and has provided reasonable responses and management commitments to provide a balanced response to the problem referred to.

#### **3.3 Proponents Response**

1. That the proposal be set aside because the proponent is committing to cede 35% of its landholding to the Crown free of charge in order to retain environmentally significant landholding within a Conservation Reserve.
2. The City of Mandurah is growing rapidly on its currently 29,500 approximate population to a predicted population of 60,000 at the turn of the century. The market demand for development of residential lots within Mandurah is strong and will continue to grow.

## **4. SUMMARY OF SUBMISSIONS**

4.1 *Mandurah is a popular tourist destination largely as a result of its natural waterways. Development such as the kind proposed will destroy all the natural attractions it once had. Development will contribute to decline in Mandurah's popularity as a tourist destination (present figures indicate that it is already not as popular as it once was). It will have an unacceptable aesthetic impact on the Estuary foreshore .*

### **4.2 Response to Submission**

The popularity of Mandurah as a tourist destination will be enhanced significantly by the proposed development. Currently the tourism facilities in the City of Mandurah are dispersed and not catering directly for short term and medium term stay accommodation.

The Harbour City Canal Estate proposal provides for appropriate short term accommodation facilities and a marina/harbour area from which boat tours will operate to the outer reaches of the Peel Inlet, incorporating tours of the ecological tourism features of the area. The canal waterways within the City of Mandurah have been well received as a popular tourist attraction and regularly are incorporated by operators of tourist boats as one of the feature attractions of a boat cruise.

A large proportion of the landholding will be set aside in the natural Conservation Reserve and allowed to regenerate from its present degraded state. It is recognized that Mandurah popularity has declined as a tourist destination due to the increasing efforts of competing with tourism destinations and townships in the South West of WA which provide excellent facilities in terms of accommodation, site seeing locations, points of interest and other tourist attractions which are causing Mandurah to fall behind in terms of its popularity as a destination.

The Harbour City Canal Estate will enable Mandurah to refocus its tourist facilities and provide excellent waterfront accommodation and marina/harbour areas from which to establish a new anchor point of the tourist industry.

The development of Harbour City Canal Estate will provide a pleasant aesthetic focus complementing the existing built environment and will in itself provide interest and visual attraction when compared directly with the current degraded state of the property.

### **4.3 Proponents Response**

That the submission be dismissed because it does not recognize the following attributes of the Harbour City Canal project:

- (a) Separation of a 68.5 Conservation Reserve will allow rejuvenation of the natural features of the Conservation Reserve which in itself will be a major tourist attraction.
- (b) The facilities proposed by the developers in the tourist retail precinct will refocus Mandurah's tourism facilities and help to provide a greater attraction for tourists to visit and stay in Mandurah on a short to medium term basis.

- (c) The project in itself will provide a complementary visual focus and attractiveness that will help to improve the overall visual amenity of the area.

## **5. SUMMARY OF SUBMISSIONS**

- 5.1 *Development of land acceptable, but should be restricted to Area A. The previous determination by the former minister for the Environment (Mr McGinty) to disallow development in Area B should be maintained by the present Government. Only dry land subdivision should be allowed.*

### **5.2 Response to Submission**

The Harbour City Canal Estate proposed represents a Modified Concept Plan to that which was considered by the previous Minister for the Environment, the Honourable Jim McGinty. The areas outlined in previous EPA reports which define Areas A, B and C were relative to a development proposal which has since been superceded by the Modified Concept Plan.

In establishing a Conservation Reserve of approximately 35% of the landholding, representing 68.5 hectares of the available private land title held by the proponent, has required referral to the Environmental Protection Authority of the proposal. This land is to be given up by the proponent at no cost to the community. The expectation that more land should be set aside for conservation purposes will require the State Government and the City of Mandurah to be prepared to pay for the extended area as it would be argued that the condition is inequitable and onerous. A point agreed within the earlier consideration by the EPA.

The initial appeal determinations as made by the previous Minister for the Environment are not relevant to the latest Modified Concept Plan. In judging the potential for the development of the land it must be recognized that an existing environmental approval for a canal development exists since 1982 for the landholding. The proponents have modified the 1982 proposal, but have maintained an intention for canal development.

If dry land subdivision only were to be allowed, that would necessarily involve a substantial fill operation over the landholding and concurrently eliminate any opportunity for development of a site adjacent to the Mandurah Estuary Bridge as a marina water based development proposal designed to encourage establishment of new tourism facilities.

### **5.3 Proponents Response**

That the submission be set aside on the basis that it relates to the original proposal and the subsequently determined areas A, B and C as reported by the Environmental Protection Authority in Bulletin 656 and does not recognize the increase of the proposed Conservation Reserve to 68.5 hectares.

A dry land subdivision in this location would not enable utilization of the excellent potential for a marina water based development (which has a current EPA approval) which will have a dual effect of creating a peninsula design Conservation Reserve to be ceded to the State free of charge and managed by Government Authorities, thereby providing a protection for waterbird habitats and retention of samphire marshland.

Dry land subdivision would not facilitate or encourage development of tourism facilities adjacent to the Mandurah Inlet Channel and would represent a continuation of a style of development which in Mandurah has already been well supplied in terms of its market demand.



## **6. SUMMARY OF SUBMISSIONS**

6.1 *The whole of area (Areas A, B and C) should be kept free of development and included within a regional park concept (Peel Regional Park).*

### **6.2 Response to Submission**

The Government has already confirmed its intention not to include the whole of the land area within a regional park concept. The proponent has committed to ceding 35% or 68.5 hectares of land direct to the Government to be included as a Conservation Reserve and incorporated within a regional park concept.

The developer has proposed to incorporate the significant environmentally valuable land within the Conservation Reserve on the basis that a viable development can be implemented over the balance of the land.

### **6.3 Proponents Response**

That the submission be dismissed on the basis that the proponents have already proposed to incorporate 35% (68.5 hectares) of their landholding into a Conservation Reserve which has potential to be incorporated in a regional park concept.

## **7. SUMMARY OF SUBMISSIONS**

7.1 *Public access to the area which is a popular recreation site for fishing and crabbing will be much too restricted if development is allowed to proceed, especially adjacent to the foreshore under the traffic bridge. Modified development plan shows no provision for public access. It is vital to retain public access along the foreshore.*

### **7.2 Response to Submission**

It has been well recognized that public access to the majority of the landholding has caused severe damage to the environmental values including motor vehicle compaction and degradation, multiple four wheel drive tracks and motor bike damage, dumping of rubbish and car bodies and damage to foliage and rubbish dumping.

One of the key aims of the Conservation Reserve is to create a peninsula design which will separate public access from that area and allow the samphire marshland to regenerate and create a safe haven for waterbird feeding and roosting. A peninsula design with vermin proof boundary fence will immediately stop access for feral cats, dogs and foxes as well as the intrusion by humans.

Within the tourist retail precinct and directly adjacent to the Mandurah Inlet Channel at the new Estuary Bridge location, public access will be maintained by the proponents. It is proposed to construct a dual access pathway incorporating both pedestrian and cycleway facility and a foreshore reserve to the Mandurah Inlet Channel with tree planting and seeding and appropriate access for fishing, crabbing and prawning as has been widely available to the public in Mandurah for many years.

Motor vehicle access will be restricted but appropriate parking and also boat launching facilities will be incorporated within the public boat launch area adjacent to the main carpark in the marina/harbour area.

### **7.3 Proponents Response**

That the submission be received and noted. Recognition be given to the proponents intention to provide public access to the Mandurah Inlet Channel by dual access pathways as well as boating access through a public boat launch ramp and parking facilities.

## **8. SUMMARY OF SUBMISSIONS**

- 8.1 *A minimum of a 50 metre wide foreshore reserve should be retained along the estuary foreshore between the proposed canal entrance to the Peel Inlet and the Mandurah Traffic Bridge.*

### **8.2 Response to Submission**

The proponent will be lodging with the planning authorities, being Mandurah City Council and the Department of Planning and Urban Development an outline development plan during the course of a rezoning application to be provided as part of this development proposal.

The issue of a foreshore reserve along the Mandurah Inlet Channel will be addressed at that time. However, the proponents acknowledge that there is a minimum requirement of 50 metres to be provided as an appropriate public foreshore reserve. It is the intention of the proponent to provide a foreshore reserve and a dual access pedestrian and cycleway path to allow complete public access to the Mandurah Inlet Channel.

Motor vehicles will not be able to continue utilizing this area for boat launching. Boat launching facilities will be provided by way of a public boat launching ramp with appropriate parking facilities and general public parking bays located along side.

There will be no restriction to public access of the foreshore of the Mandurah Inlet Channel between the Mandurah traffic bridge and the entrance canal proposed into the project. The actual detail of the width of the foreshore reserve will be more formally addressed at the time that the outline development plan is put before the planning development authorities though the proponent has no opposition in principle to providing a foreshore reserve of 50 metres in width.

### **8.3 Proponents Response**

1. That the submission be received and noted.
2. That the proponents outline development plan be provided to the planning authorities including Mandurah City Council and Department of Planning and Urban Development which will refer the plan to the appropriate decision making authorities within Government for further comment will be based on providing a 50 metre foreshore reserve in line with the Mandurah City Council and PIMA policy requirements.

## **9. SUMMARY OF SUBMISSIONS**

9.1 *Drainage/discharge from proposed urban development into the canals should not be allowed.*

### **9.2 Response to Submission**

Drainage run off from road surfaces within the development will be controlled by a series of sediment traps before discharge into the canal system. This has been successfully implemented in the proponent's existing canal developments within the City of Mandurah.

No adverse effects as to the water quality within the canal systems has been evident due to the efficient sediment trapping system. More recently the City of Mandurah has approved discharge of roof water run off direct to canal systems whilst the balance of residential drainage run off is to be controlled via soakwells and maintained within each individual lot.

There is no evidence to suggest any problems have arisen in terms of acceptable water quality within the canal system where drainage road surface run off is discharged by appropriate sediment trap systems to canals.

### **9.3 Proponents Response**

The submission be dismissed.

## **10. SUMMARY OF SUBMISSIONS**

10.1 *The whole of the proposed development site is of important heritage value as a record of geological processes, particularly the estuarine delta, and therefore should not be developed.*

### **10.2 Response to Submission**

The nature of the geology of the site has been discussed in the full Consultative Environmental Review document published by the proponent in March 1992. The relative heritage value of the geological records of the land to be developed is questionable particularly in view of the modification to the land surface which has occurred during the course of construction of the Mandurah Bypass Road, usage of the landholding as a Main Road Department's limestone dumping site and modifications to the foreshore area adjacent to and associated with construction of the bridge abutment works.

The setback of development area from the foreshore to provide for 68.5 hectares of Conservation Reserve has enabled a significant proportion of the relic tidal delta to be retained and will incorporate the heritage value of that portion of the site with the ecological and environmental values to be retained as part of the Conservation Reserve.

The site now has a history of environmental assessment over approximately a 10 year period all of which has pointed to this not being a significant environmental issue.

### **10.3 Proponents Response**

That the submission be set aside due to the large scale modification of the site through construction of Mandurah Bypass Road and the associated Main Roads Department usage of the site. It should also be noted that the Conservation Reserve will be retained in its natural state and a large proportion of the foreshore of the estuarine delta will be preserved.

## **11. SUMMARY OF SUBMISSIONS**

11.1 *The setbacks for the canal lots as proposed of both buildings and retaining walls will impose excessive loadings upon the canal walls during major flood events, particularly during 1 in 100 year flood events.*

### **11.2 Response to Submissions**

Plans currently displayed by the proponent have preliminary advice of engineering detail in regard to structure of canal walls. Greater detail of the canal wall structures and their relationship to building setbacks and retaining walls to be utilized on residential allotments will be provided during the course of planning applications to the Mandurah City Council and the Department of Planning and Urban Development which will be referred to all the decision making authorities during the course of the planning process.

Technology proposed to be employed in Harbour City Canal Estate will be substantially the same as that previously employed by the proponent on another successful canal development in Mandurah. Structural adequacy will be guaranteed by the proponent through their commitments as part of the approval of the detail design of the project.

The 1 in 100 year flood event has been catered for in terms of the free board allowance of canal wall height and the minimum floor levels as proposed is acceptable for residential development within the Harbour City Canal Estate. There is no threat to integrity of the canal walls due to excessive loadings as setbacks to both buildings and retaining walls are carefully supervised prior to any construction being approved on any lot created within the canal estate.

### **11.3 Proponents Response**

That this submission be dismissed.

## **12. SUMMARY OF SUBMISSIONS**

12.1 *The canal development does not comply with design guidelines as stipulated in the existing 'Canal Guidelines', particularly in relation to mooring layouts, frontages, and mooring envelopes for the 'design' vessel.*

### **12.2 Response to Submission**

The canal development proposed complies with the design guidelines as issued in DPUD Policy DC1.8 as well as being open to particular input from the Department of Marine and Harbours.

At a time when the final design shall be presented to the appropriate planning authorities including the City of Mandurah and the Department of Planning and Urban Development, the plans will also be referred to the Department of Marine and Harbours for detailed examination of all items including mooring layouts, frontages and mooring envelopes for the proposed 10 metre design vessel.

The plans for canal layout and design including mooring envelopes canal widths and compliance with design vessel requirements in all aspects comply with available policy and further will be available for scrutiny by the planning authorities prior to subdivision approval. Notwithstanding this the issue raised is not an "environmental" problem to be considered in the CER process.

### **12.3 Proponents Response**

That the submission be dismissed.

## **13 SUMMARY OF SUBMISSIONS**

13.1 *Development proposal inconsistent with local Council resolution to disallow any development on the proposed site of April 1990. It is also inconsistent with appeal determinations made by the former Minister for the Environment which required that no development be allowed to proceed on Area B.*

### **13.2 Response to Submission**

This resolution is not binding on the proponent because there is currently no planning application before the City of Mandurah in relation to the Harbour City Canal project.

Upon resolution of the environmental process a new application will be presented to the City of Mandurah to initiate rezoning. At that time Council will consider the application as a new and separate application on its own merits having regard to the outcome of the CER process.

### **13.3 Proponents Response**

That the submission be dismissed as it is not a matter relevant to the consideration of the Consultative Environmental Review given that the City of Mandurah is yet to receive a planning application.



## **14. SUMMARY OF SUBMISSIONS**

14.1 *The proponent presents conflicting information when quoting the amount of land proposed to be developed and that proposed to be retained for conservation, for example in the series of public advertisements printed in local newspapers, in September 1992, and the new modified concept plan. This indicates confusion by the proponent in relation to the an issue which is vital ie retention of environmentally significant samphire wetlands.*

### **14.2 Response to Submission**

It is assumed that the submission refers to the information provided at the Public Open Day by the proponent. It should be noted carefully that the information distributed at the Public Open Day is absolutely precise in its statement that the developers have recognized the concern regarding the reduction of samphire area and have included an additional 30 hectares of their landholding into the Conservation Reserve on the southern shoreline of the landholdings.

Previously the Conservation Reserve was proposed at 38.3 hectares, it is now currently proposed at 68.5 hectares. There is confusion referring to this item between the Conservation Reserve and the previously proposed foreshore reserve. There is no confusion by the proponent in relation to the area of samphire wetlands to be retained within the Conservation Reserve. We further refer to the proponents response to submission number 8.

The area of samphire wetlands to be retained has been increased by 30 hectares and incorporated as part of the Conservation Reserve to be ceded to the Government free of charge.

### **14.3 Proponents Response**

That the submission be dismissed.

## **15. SUMMARY OF SUBMISSIONS**

15.1 *No environmental approval should be given to a development of this kind until at least 2 years after the Dawesville Channel has been completed and the long term effects known. The long term impacts of the Dawesville Channel may well lead to increased tidal levels which will flood and threaten ecological viability of the proposed conservation area.*

### **15.2 Response to Submissions**

Detailed assessment of the predicted effects of the Dawesville Channel indicate that a change in tidal range and not a general increase of the estuary water level is most likely. This will be of most benefit to the southern section of the estuary where greater tidal range differences will result in dry samphire flats becoming more frequently inundated, thereby providing a greater wet samphire environment for bird utilization.

The distance of the project site from the Dawesville Channel will mean a marginal change in tidal range to the subject land and therefore will not significantly affect the proposed development area.

The tidal range differences predicted for the Dawesville Channel (refer Tong, 1985, Peel Harvey Estuarine Study DCE Bulletin 195, July 1985) predict a tidal range difference between 0.05 metres and 0.25 metres respectively in the vicinity of the proposed Harbour City development.

From the best available professional advice, the effect of the Dawesville Cut to the northern reaches of the Peel Inlet will in fact be minimal, especially in view of the fact the subject land is adjacent to the direct ocean linkage of the Mandurah Inlet Channel (2.5 kilometres direct to ocean mouth) and is already subject to full tidal range of the ocean.

The actual effects of the Dawesville Channel will not be known for several years; however the environmental safeguards proposed by the Harbour City development and isolation of the Conservation Reserve will assist the preservation of vegetation and maximize the area's attributes as a wildlife habitat.

The proponents have accepted the commitment to monitor changes to the Conservation Reserve and have regard to these as part of the staged construction of the reserve, any changes experienced as a result of the construction of the Dawesville Channel will also be monitored at this time.

### **15.3 Proponents Response**

1. That the submission be noted.
2. That the proponents commitments already contain a requirement for the proponent to monitor Conservation Reserve area following its establishment which will automatically monitor any effects of the Dawesville Cut on the project site.

## **16. SUMMARY OF SUBMISSIONS**

16.1 *The predicted rise in sea levels will greatly reduce the narrow strip of conservation reserve and in the long term this area will become unviable as a conservation reserve.*

### **16.2 Response to Submission**

We refer you to the detailed response to submission number 15 above. There is no predicted rise in sea level proposed as a result of the construction of the Dawesville Channel. The tidal ranges within the Peel Inlet will be increased. The level of the Indian Ocean is not proposed to rise as part of the construction of the Dawesville Channel.

Moreover the Dawesville Channel is approximately 11 kilometers distant in its inlet to the Peel Harvey Estuary from the proposed development site. The Mandurah Inlet Channel has approximately 2.5 kilometres length to the ocean mouth from the proposed development site and the site is already subject to the full tidal fluctuation of the Indian Ocean.

Whilst there will be a change in the tidal range, mainly experienced in the Peel harvey Estuary, the actual effect on the Conservation Reserve portion of the landholding will be minimal. This point has been the subject of detailed review previously.

### **16.3 Proponents Response**

That the submission be dismissed.

## **17. SUMMARY OF SUBMISSIONS**

17.1 *Integrity of the proposed Peel Regional Park is compromised by the proposed development - will compromise intrinsic qualities of a Regional Park.*

### **17.2 Response to Submissions**

The proposal for Harbour City Canal Estate provides for an area of 68.5 hectares of land to be set aside and ceded to the Government free of charge as a Conservation Reserve. This will actually form a corner stone of the proposed Peel Regional Park and represents an enormous contribution by the proponents to the establishment of the Peel Regional Park. Not only in terms of its economic value as a contribution to Government in establishing a Regional Park but also as an area of environmental significance which will be set aside and will be protected for the benefit of all future residences in Mandurah generally.

The alternative proposed in the submission is for Government to acquire the land, control and manage public access and to preserve the land as part of the Peel Regional Park all of which will be at a considerable initial and ongoing expense to the community. The proponents propose an alternative which preserves and protects the recognized environmentally sensitive land at no cost to the community. In the circumstances this is considered to be the more appropriate solution for the land.

### **17.3 Proponents Response**

The submission be set aside on the basis that the proponent has already committed to ceding over 35% of its landholding to the Government free of charge which is an important contribution to the intrinsic qualities of a Regional Park and will enhance its rapid establishment.

## **18. SUMMARY OF SUBMISSIONS**

18.1 *Water quality problems have been experienced at Waterside Mandurah Stage 1. It is likely therefore that similar problems would be experienced within Harbour City Canal Estate, especially as there is only proposed to be one entrance to the canal estate.*

### **18.2 Response to Submissions**

The water quality by way of water circulation and exchange with the Mandurah Inlet Channel has been reported upon at great length in the original CER to the environmental assessment of the proposal. Water quality problems experienced at Waterside Mandurah Stage 1 are entirely unrelated to the proposal for the Harbour City Canal Estate in that the Waterside design is completely different.

The proponents have utilized a design which maximizes the potential for the three major water circulation events in a canal system being salinity density currents, wind driven currents and tidal exchange.

It should also be noted that the Modified Concept Plan represents a reduction by over 40% approximate of the canal area proposed and the length of the canal system proposed is significantly less in the modification to the concept plan.

Currently the Port Mandurah Canal system utilizes only one entrance to the Mandurah Inlet Channel and experiences excellent water exchange and the water quality within the canal system at Port Mandurah is of the highest quality.

The proposed Harbour City Canal Estate incorporates an entry channel of 80 metres width and the professional studies undertaken by marine engineering consultants have indicated the proposal is founded on well researched water exchange capabilities.

### **18.3 Proponents Response**

That the submission be dismissed.

## **19. SUMMARY OF SUBMISSIONS**

19.1 *Other canal developments in the Mandurah area (eg Yunderup canals) have experienced serious water quality problems and this proposal is likely to experience the same problems.*

### **19.2 Response to Submissions**

The proponent has well researched the capacity for water circulation within the proposed Harbour City Canal Estate. We refer you to the response to the submission 18.1 listed above. The relationship between this development and other canal developments which have been established in Yunderup is of no relevance as Yunderup comprises a completely different water circulation environment.

### **19.3 Proponents Response**

That the submission be dismissed.

## **20. SUMMARIES OF SUBMISSIONS**

- 20.1 *Long term impact on wildlife habitat (particularly migratory waterbird species). They cannot settle in artificial waterways and the proposed Conservation Reserve is not big enough to accommodate them. No development should be allowed on the site.*
- 21.1 *It is important to protect any areas left which are already known to have significance as a wildlife refuge (both terrestrial and aquatic).*
- 22.1 *Proposed development contrary to existing RAMSAR agreement.*
- 23.1 *Development will involve clearing Area A which is an important bird roosting area.*
- 24.1 *Area A is important to retain as a buffer between Area B and urban development. It should be kept in a natural state. Area A is important in a regional context in view of the widespread clearing of native vegetation currently taking place adjacent to the Inlet and Estuary.*
- 25.1 *Area B is the single biggest block of samphire remaining in the Peel Inlet. There is inadequate information on the significance of this samphire on the health of the Peel Inlet to undertake an adequate assessment of this proposal.*

### **20.1 - 25.1 RESPONSE TO SUBMISSIONS**

The proposed Conversation Reserve area isolated from the proposed development amounts to over 41 hectares of the most valuable and productive samphire flats. The Conversation Reserve, which ranges in width from 110-240 metres, is significantly large and considered more viable than many other samphire remnants existing throughout the Peel-Harvey System which are more extensively degraded. The isolation and subsequent management of the Conversation Reserve will be formulated in liaison with CALM, resulting in a wildlife refuge requiring managed maintenance and no financial outlay by the long-term Reserve managers, and will benefit from very limited public accessibility.

The proponent recognizes the importance of Creery Marshes as a regional waterbird habitat and as stated in the JAMBA and CAMBA agreements is "taking measures for the management and protection of the migratory birds and their environment." This and other agreement criteria will be achieved with the establishment of a managed sanctuary to preserve and enhance the current unmanaged, degraded samphire environment.

It should also be noted that the proponent will be providing full screen planting to Public Open Space areas in particular along the Mandurah Bypass Road.

Although the privately owned site is not subject to Ramsar obligations, the conservation considerations and objectives of the Convention have been properly met by the proposed isolation and management of the area most utilized by migratory birds. The proposal is to cede to the Crown the most used habitat area (ie Conversation and Foreshore Reserves) in accordance with the EPA's System 6 Recommendation C50 which will then be bound by the terms of the Ramsar Convention.

The rock pitch wall on the north side of the Conservation Reserve does not impinge upon the protected samphire area and possesses the following advantages over scour protection strips:

- More efficient at controlling erosion;
- Provides a hostile environment thereby deterring public access to Conservation Reserve area from boats;
- Is a more permanent, more natural barrier that blends into the environment and requires little structural maintenance;
- There is a need to raise the level of the Conservation Reserve along its northern edge to protect the canal development from ingress water from the Peel Inlet. This is seen as an important attribute of the Project as a means of minimizing the effect of algal movement in the Canal Estate;
- Creating a beach edge along the northern side of the Conservation Reserve will encourage public access and thus the potential to increase erosional problems.
- Enabling branches and other roosting perches to be positioned in the rockwork providing resting perches for waterbirds.

#### 20.1 - 25.1 PROPONENTS RESPONSE

1. That the public concerns about the adequacy of the Conservation Reserve be noted. However, on balance, as the proposed reserve represents the most valuable samphire on the project land which are to be transferred to the Crown on a free-of-cost basis, to be vested in the National Parks and Nature Conservation Authority; the public concerns have been addressed further by the proponents increase in size by 30 hectares in the Modified Concept Plan for the Conservation Reserve to a new overall size of 68.5 hectares representing 35% of the overall landholding.
2. Upon approval of the proposed development, the proponent in liaison with CALM and the RAOU will submit a Conservation Reserve Management plan to the satisfaction of the EPA.
3. The proponent will initiate the necessary steps to include the Conservation Reserve area for listing under the Ramsar Convention.
4. The Conservation and Foreshore Reserves of the Harbour City development be transferred to the Crown, vested in the National Parks and Nature Conservation Authority to be managed by CALM with funds provided by the proponent's management reserve fund for the first five years.
5. That the fencing of the entire northern boundary of the Conservation Reserve south of the proposed Harbour City entrance canal be undertaken prior to the commencement of Stage 1 construction works. This will involve relocation of the vermin proof fence to extend the Conservation Reserve protection area and the construction of temporary fencing 10 metres to the north and parallel with, the existing Reserve boundary along the remainder of the Conservation Reserve.



## **26. SUMMARY OF SUBMISSIONS**

26.1 *Site proposed for development is an important fish nursery area. Unacceptable to destroy it.*

### **26.2 Response to Submissions**

The most productive samphire area will be retained as a Conservation Reserve and continue its ecological function as a food source for the fishery. It has been revealed in fish population monitoring that the canals provide a valuable habitat for juvenile fish species which find refuge from predation in the protected waterways. This harbouring effect is expected to contribute toward increasing adult fish populations to the benefit of commercial and recreational fishing purposes as well as the estuarine ecosystem.

### **26.3 Proponents Response**

That the submission be set aside as recent monitoring of canal estates has indicated that juvenile fish have found protection in canal environments and the most productive areas of samphire marsh in the inter-tidal zone are to be retained.

## **27. SUMMARY OF SUBMISSION**

27.1 *Proponent should be required to pay for the on-going management of the waterway for ever, as it will have an effect on the Estuary for ever. User pays principle.*

### **27.2 Response to Submissions**

The proponent will submit as part of the planning application to the City of Mandurah a complete management programme for the ongoing funding and management structure for canal waterways. The City of Mandurah has in conjunction with the proponent investigated and researched ongoing management of canal waterways in major Queensland canal waterway development precincts. The proponent intends to utilize a user pays principle in its system of canal waterway management.

### **27.3 Proponents Response**

That the submission be noted and the intention of the proponent to provide a fully structured "user-pays" waterways management system will be incorporated within the planning application to the City of Mandurah.

## **28. SUMMARY OF SUBMISSIONS**

28.1 *Unclear who will bear the cost of the vermin proof fence.*

### **28.2 Response to Submission**

The cost of the vermin proof fence will be to the account of the proponent who will carry the initial cost of establishment of the Conservation Reserve including the vermin proof fence on its perimeter. The proponent will also cover the maintenance costs of the Conservation Reserve for the first five years.

### **28.3 Proponents Response**

That the submission be noted.

## **29. SUMMARY OF SUBMISSIONS**

29.1 *Potential traffic congestion - no right turn into Mandurah Bypass Road. Much traffic will be diverted under the bridge to existing Waterside Drive. What would happen to traffic if there was some major event at the proposed resort/hotel?*

### **29.2 Response to Submission**

The traffic management considerations in respect to the Modified Concept Plan have been significantly reduced to that which were reported on by professional consultants in the context of the original development proposal. Traffic management considerations were modelled as well as taking into account various intersections and exit points from the development to mainstream Mandurah traffic systems.

It is well recognized that the main road hierarchy will incorporate three road linkages via Dudley Park Estate in Wanjeep Street to the main road system adjoining the Mandurah Bypass Road. Direct linkage to the Mandurah Bypass Road will be available from a left hand turn entry and exit arrangement at the main entry statement to the canal and land lot development.

A link road underneath the Estuary Bridge was always proposed as part of the original development proposal considered and approved by the EPA in 1982. The service road adjacent to the Mandurah Bypass Road which links Leslie Street with the proposed linkage under the new Estuary Bridge will provide a safe and unrestricted traffic route for access to central Mandurah.

A distribution of traffic from the commercial area will be available from direct access to the Mandurah Bypass Road, linkage under the new Estuary Bridge via Leslie Street to central Mandurah or alternatively linkage to the Dudley Park area. Any major event at the proposed resort hotel will have more than adequate traffic management capability in terms of access and egress from the hotel site.

### **29.3 Proponents Response**

That the submission be noted and further considered in the detailed planning of the estate.

## **Appendix 3**

### **Proponent's list of commitments**



## 12 ENVIRONMENTAL COMMITMENTS

The proponent will undertake to abide by all commitments made in this document for the management of the proposed Harbour City development. With respect to environmental performance, the project will be operated and maintained in accordance with the guidelines established in the three management programmes detailed in Section 11 of this report. The proponent seeks environmental approval for the whole Harbour City Project and it is intended, as outlined in Construction Details (Section 4.5.1), to follow a staged development approach designed to address environmental, economic and market driven factors. The environmental commitments listed below apply progressively to each stage of the project and will be incorporated into the Project Agreement to be established between the proponent, State and the City of Mandurah.

The commitments have been categorised into:

Pre-construction

During construction

Post-construction

and are numbered individually for easy reference and auditing purposes.

### 12.1 Pre-Construction

- (1) Final details of canal construction methods and timing will be agreed with the EPA and PIMA for licencing prior to implementation.
- (2) Further soil surveys will be carried out prior to construction. Cut and fill operations for site earthworks will be monitored and an engineering construction programme relating to cut and fill operations and import and export of fill will be provided to the satisfaction of the City of Mandurah and EPA.
- (3) The proponent will further consult with WAWA and the City of Mandurah to determine groundwater usage (to be drawn from the Leederville Formation) within the development.
- (4) Prior to construction commencing on each stage, baseline monitoring of groundwater will include:

- an initial survey of local domestic bores and any WAWA or City of Mandurah bores in the vicinity of the subject land;
  - establishment of a series of observation bores to supplement areas where existing groundwater bores are not available;
  - quarterly monitoring of salinity and water levels within observation and domestic bores for up to 12 months prior to construction; and
  - observation of the position of the saltwater/freshwater interface.
- (5) The detailed design and construction of the drainage system will be carried out to the satisfaction of the City of Mandurah.
- (6) The construction and operational workforce will be drawn from the Mandurah region.
- (7) The proponent will comply with the provisions of the *Aboriginal Heritage Act 1972-1980*.
- (8) High visual amenity will be provided in the design of the development.(11)All residential and commercial land within the proposed development will be filled to a minimum floor level of 2.5m AHD.
- (9) Currently the proponent is investigating a series of barrier systems to prevent algal blooms entering the canal waterways. This research will include investigation of the feasibility of an air jet barrier system.
- (10) The design building level for residential and commercial development within the canal estate will be set at 2.5m AHD to accommodate high water levels associated with the potential Greenhouse Effect and flood events.

## 12.2 During Construction

- (11) Throughout the During Construction phase in each Stage, the proponent will submit a report every 3 months to the EPA identifying those environmental commitments adhered to during this period.
- (12) All residential and commercial land within the proposed development will be filled to a minimum floor level of 2.5m AHD.
- (13) The canal waterways will be excavated to a depth of -2.7m AHD.



- (14) Excavation and dredging of the canal waterways will be undertaken in a closed system to prevent turbid water from entering the Mandurah Channel.
- (15) Excavation of the canal waterways will be accomplished using conventional land-based earthmoving equipment wherever possible. Bank slopes will be placed at gradients of 1:4 to ensure stability of the adjacent land areas. The entrance will be excavated using standard earthworking equipment and if necessary a floating cutter-suction dredge or an approved equivalent.

#### Dewatering

- (16) Dewatering fluids will be pumped to settling ponds to remove suspended solids prior to discharge to the Mandurah Channel via controlled drainage lines. Dewatering fluids will not be discharge into the samphire flats of the conservation and foreshore reserves.
- (17) Domestic groundwater bores in the vicinity will be monitored during dewatering operations to determine whether any lowering of groundwater levels occurs. Should domestic bores run dry as a result of the dewatering on the subject land, the proponent will fund excess water bills for the irrigation of affected gardens from the Mains supply until such time as the aquifer is restored.
- (18) Reinforced concrete retaining walls will be constructed to provide stability for waterfront lots.
- (19) The sides of the entrance canal will be stabilised with limestone breakwaters.
- (20) The canal wall abutting the conservation reserve and boulevard style road will be stabilised with limestone rock pitching.
- (21) The proponent will undertake any dredging or other works necessary to maintain navigable depth in the canal waterways during the operational period.
- (22) The level of ground vibration in the vicinity of construction activity and in adjacent residential areas will be monitored, particularly at the commencement of works, to set parameters and modify work patterns and equipment types if necessary.

- (23) Construction traffic will access the subject land from Mandurah Bypass Road.
- (24) Working hours will be restricted to between 7.00 am and 6.00 pm Monday to Saturday in accordance with approvals to be granted by the City of Mandurah in order to minimise disturbance to residents.
- (25) Dust emissions will be monitored. If a dust nuisance is detected, then the necessary watering or mulching of exposed surfaces will be undertaken to alleviate the problem.
- (26) Liaison with the City of Mandurah will ensure that construction noise, traffic, vibration and dust emissions do not create excessive disturbance to local residents. Management techniques and modified work patterns will be adopted if necessary.
- (27) The development will be provided with reticulated scheme water.
- (28) All drainage discharging into the canal waterways (from roads and other paved surfaces, boat ramps and boat servicing area) will be passed through suitable grease/silt traps to remove any contaminants. The drainage traps will be regularly serviced to ensure effective trapping of contaminants.
- (29) Canal lots will be graded downwards towards the waterways with a porous spoon drain provided above an agricultural drain adjacent to a walkway parallel to the canal walls to prevent direct discharge to the canal waterways and provide for groundwater infiltration.
- (30) In private lots, provision shall be made for a drainage trap with an overflow pipe directly to the canal waterway to provide for individual owners piping roof water direct to canals. This will be a closed system for roof water only. Other runoff from lots, ie paths, lawns and gardens, shall be drained into soakwells onsite.
- (31) Adequate clearance between culvert and bridge soffits and the water surface will be provided to allow any wind blown debris to pass through and minimise restriction of wind driven water circulation.
- (32) The sides of the culverts and bridges will extend to the full depth of the canals to avoid restriction of density driven currents which will provide significant mixing and flushing of canal waters.

- (33) The development will be provided with a reticulated sewerage system which will be designed and constructed in accordance with WAWA requirements, including inbuilt safeguards to prevent the input of sewage effluent to the waterways in the event of system failure.
  - (34) The access points to the subject land will be fenced and appropriately signposted during construction.
  - (35) All roads and pathways created within the development will be designed and constructed to Main Roads Department standards.
  - (36) The detailed design of the land based components of the development will retain as many existing trees as possible.
  - (37) The minimal channelling techniques recommended by the Mosquito Control Review Committee (Chester and Klemm 1990) will be utilised in the conservation reserve to minimise disturbance to samphire whilst creating greater areas of tidally inundated samphire habitat.
  - (38) Landscaping of the development will utilise indigenous and/or salt tolerant vegetation wherever practical to reduce the impact of habitat loss.
  - (39) Stands of existing trees will be retained within the development wherever possible.
  - (40) Public open space areas and streetscapes will be landscaped with indigenous flora and/or salt tolerant species.
  - (41) The Mandurah Bypass Road frontage will be landscaped with a dense buffer of native trees.
  - (42) The conservation reserve will be separated from residential development by a canal waterway with a limestone rock pitched treatment along the reserve edge to prevent boat landings.
  - (43) Planted groups of indigenous trees will be provided along the edge of the conservation reserve to screen the conservation reserve from the development to reduce night-time light spill into the reserve.
- Excavation and Dredging
- (44) A fence to prohibit public access and domestic pets or vermin will be constructed across the peninsula connecting the conservation reserve to the south-eastern corner of the subject land.

- (45) Appropriate signage explaining the purpose of the conservation reserve would also be erected at this point.
- (46) Public access to the foreshore reserve from boats will be discouraged by providing a limestone rock pitched edge along the canal waterway on the north side.
- (47) Weed growth will be removed from the conservation reserve to enable recolonisation of affected areas by samphire.
- (48) Clumps of *Casuarina obesa* and *Melaleuca raphiophylla* will be planted along the wall edge of the conservation reserve to provide visual amenity and shelter, screening and perches for waterbirds.
- (49) The trunks and main branches of several of the trees to be cleared from the canal estate development area will be placed in the conservation reserve to provide perching places for waterbirds.
- (50) All rubbish will be removed from the conservation area and wheel ruts will be filled and levelled.
- (51) It is proposed to dig shallow channels extending inland from the Peel Inlet shoreline into the conservation reserve to increase tidal inundation and drainage of the samphire flats in order to reduce the mosquito breeding characteristics of the conservation reserve and improve the value of the site to waterbirds, particularly during the summer months. Any such channels would be undertaken to the requirements of the Mosquito Control Review Committee, PIMA and the EPA.
- (52) The following mosquito management options are proposed within the development area of the subject land:
- site filling to remove existing breeding sites; and
  - land contouring and drainage system design to ensure that new breeding sites are not created within the development.
- (53) The limestone breakwaters at the entrance to the Mandurah Channel will be aligned to collect any floating algal wrack that may enter the canals. Algae accumulating along the foreshore, on the entrance canal breakwaters or within the canals will be manually removed and disposed of off site.

- (54) During construction, groundwater monitoring data will be obtained and assessed according to WAWA and EPA requirements and a report prepared for submission to these authorities.
- (55) Measurement of flushing will be conducted for each stage of the canals following construction.
- (56) Dual-use pathways will be provided along the foreshore reserve and through the development to link various components of the development.
- (57) Public parking areas will be provided to enable public access to the foreshore, public open space areas and boating and commercial facilities.
- (58) Navigation aids will be provided to the satisfaction of the Department of Marine and Harbours within and adjacent to the canal waterways.
- (59) A two lane public boat ramp and parking facilities for car and trailer parking will be provided.
- (60) Public parking areas will be provided at the boat ramp and within the commercial centre, shopping area and resort hotel complex.
- (61) Boating facilities will include:
- pens within Mariners Cove adjacent to the commercial centre for temporary and permanent mooring of boats plus associated boat servicing requirements;
  - boat chandlery and servicing area; and
  - boat fuelling facilities.
- (62) The proponent will install a boat sullage pump-out facility within the boat servicing component of the Harbour City development.
- (63) Signs will be provided at the public boat ramp and at the boat servicing area, providing information about minimum size of catchable fish and crustacean sizes, bag limits and net requirements.
- (64) Any waste material generated during construction will be disposed of at the Mandurah landfill site in accordance with standard City of Mandurah requirements.
- (65) Physical opening of the canal system to the Mandurah Channel will occur when the two water bodies are at the same level and assisted by flow controlled pipe links until water levels are equal.

- (66) A Landscape Master Plan for the Project land will be developed and implemented by the proponent for an operational period of one year, following which responsibility will be with the Management Entity proposed to manage the entire development (Appendix 2). Maintenance of landscaping during this time will include mowing, weed removal, irrigation and replacement of dead plants.

### 12.3 Post-Construction

- (67) During the first 5 years of the Post-Construction phase, the Management Entity will submit annual reports to the EPA outlining adherence to environmental commitments. After this 5 year period, triennial reports compiled by the Management Entity will be submitted to the EPA in order to assess on-going compliance with environmental commitments.
- (68) Groundwater bores will be prohibited in both canal and dry lots of the development.
- (69) With respect to the constraints imposed by the quality of the source water (Mandurah Channel), water quality within the canals will be maintained to meet the criteria set down in Schedules 2,5,7,8, and 1 of Bulletin 103 (DCE 1981).
- (70) The canal waterways will be inspected regularly by the Waterways Manager and any corrective action required to maintain water quality and aesthetics to the high standard required by the proponent and Government agencies will be implemented immediately.
- (71) The canals will be surveyed upon completion to ensure that they conform to the design depth. Additional surveys will be conducted after the first, third and fifth years of operation of each stage to determine whether sedimentation of the canals has occurred.
- (72) An educational brochure will be distributed to all landowners containing information about landscaping and fertiliser usage as well as drainage management with the aim of minimising nutrient input to individual lots and therefore the waterways.

- (73) Information regarding mosquito populations within the Mandurah region and the health implications with respect to Ross River Virus will be provided to landowners and prospective buyers in the form of a pamphlet which has been developed by the Health Department.
- (74) During marketing of the estate, the developer will ensure that all land owners are advised of the importance of the conservation reserve and their consequent responsibility to ensure its protection.
- (75) Water quality within each stage of the canals will be monitored for three years in accordance with the programme described in Section 11.5.7.3, commencing at the time the canals are permanently connected to the Mandurah Channel or adjoining stage. Following three years of monitoring, the programme will be subject to review. The parameters to be monitored include:
- chlorophyll 'a' (surface and 0.5m from bottom of water);
  - dissolved oxygen (surface and 0.5m from bottom of water);
  - orthophosphate (surface and 0.5m from bottom of water);
  - inorganic nitrogen (surface and 0.5m from bottom of water);
- (76) Water quality monitoring will be undertaken in conjunction with the existing programme for Port Mandurah Stage 1.
- (77) Following construction of each stage, groundwater monitoring in the vicinity will include:
- quarterly monitoring of salinity and water levels within observation and domestic bores for one year;
  - biannual monitoring of salinity and water levels within observation and domestic bores for a further two years; and
  - observation of the new position of the saltwater/freshwater interface.
- (78) Groundwater monitoring results will be reported on an annual basis and the programme for each stage will be subject to review following three years of operation.
- (79) Canal sediments will be monitored on an annual basis for three years prior to review. The parameters to be monitored are as follows:

- pesticides in the vicinity of stormwater drainage discharge pipes following the first winter rains;
  - petroleum hydrocarbons in the vicinity of the boat ramp and boat servicing facilities in summer when boat usage is at a maximum; and
  - heavy metals (copper, zinc, cadmium, tin, lead and chromium) in the Mariners Cove complex where boat usage will be most concentrated.
- (80) The stability of the foreshore and entrance canal at the confluence of the canal waterways with the Mandurah Channel will be monitored by site inspection on an annual basis.
- (81) The condition of the canal walls including the rock pitched treatment along the boundary of the conservation reserve and the entrance canal breakwaters will be monitored by site inspection on an annual basis.
- (82) Canal wall and channel stability monitoring programmes will be developed and will commence within one month of practical completion of each stage and continue for five years.
- (83) Contingency plans for potential water quality problems associated with fuel and oil spills or algal blooms, maintenance of navigable waterways, restoration of storm or flood damage and operation of the stormwater drainage and sewerage systems will be documented in an Emergency Procedures Manual.
- (84) In the event that extreme storm or flood events cause damage to the foreshore and conservation reserves, funds will be available via the Management Entity/Waterways Manager to ensure repairs and maintenance can be undertaken if required.

#### **Additional Commitments Following Public Review Period**

- (85) A study of terrestrial animals shall be undertaken prior to construction.
- (86) Removal of all existing vegetation where necessary from site will be undertaken during construction phase to prevent re-release of biomass nutrients.



- (87) Education program to increase public awareness on the role of samphire vegetation in the estuarine environment will be prepared following construction.
- (88) The formulation of an education brochure and positioning of signage for wetlands protection and waterbird habitat protection will be undertaken immediately following construction.
- (89) Additional computer modelling of canal flushing and water quality by Kinhill Riedell and Byrne will be undertaken prior to the construction of Stage 1.
- (90) Establish a committee, prior to construction of Stage 1, commencing with one representative each of the City of Mandurah, CALM, RAOU, PIMA, the Developer and Ninox Wildlife Consulting to devise a practical waterbird research program and appropriate funding levels.
- (91) Developer will re-adjust all domestic bores surrounding subdivision upon final construction of all stages of development.
- (92) The Developer shall provide a 50 metre wide foreshore reserve immediately adjacent to the Mandurah Inlet channel between the new Estuary bridge and the entrance canal for Harbour City Canal Estate to be vested in the Crown as part of the 10% public open space provision for the Estate. This foreshore reserve will provide for the necessary road reserve for a road link under the new Estuary bridge to join with Waterside Drive and will be developed and landscaped by Council in conjunction with the Developer, to provide for passive recreation and leisure pursuits, including but not limited to, dual use path, crabbing, fishing, picnicking and barbeque activities.