

**PELICAN POINT COUNTRY CLUB
AND RESORT BUNBURY**

**Report and Recommendations
by the
Environmental Protection Authority
and the
Leschenault Inlet Management Authority**



Department of Conservation and Environment
Perth, Western Australia

Bulletin No. 267 October 1986

PELICAN POINT COUNTRY CLUB AND RESORT BUNBURY

Ausean International Pty Ltd and
Fitic International Pty Ltd

Report and Recommendations

by the

Environmental Protection Authority

and the

Leschenault Inlet Management Authority

Department of Conservation and Environment
Perth, Western Australia

Bulletin 267 October 1986

ISSN 0156-2983
ISBN 0 7309 0651 5

CONTENTS

	Page
i	i
SUMMARY AND RECOMMENDATIONS	
1. INTRODUCTION	1
2. BACKGROUND	1
3. THE PROPOSAL	1
3.1 <u>RESORT DEVELOPMENT, PELICAN POINT</u>	1
3.2 <u>PROPOSED GOLF COURSE</u>	5
4. NEED FOR THE DEVELOPMENT	5
5. ALTERNATIVES CONSIDERED	5
6. SUBMISSIONS ON THE PROPOSAL	5
7. LAND USE AND MANAGEMENT CONCEPT	6
7.1 <u>BUNBURY REGION PLAN</u>	6
7.2 <u>BUNBURY TOWN PLANNING SCHEME NO 6</u>	7
7.3 <u>LESCHENAULT INLET MANAGEMENT PROGRAMME</u>	8
8. ISSUES AND ASSESSMENT	11
8.1 <u>MAJOR ISSUES</u>	12
8.1.1 FLOODWAY REQUIREMENTS	12
8.1.2 FORESHORES	15
8.1.3 WETLANDS	16
8.2 <u>ISSUES OF DETAIL</u>	18
8.2.1 MOSQUITO NUISANCE AND CONTROL	19
9. ENVIRONMENTAL MANAGEMENT AND MONITORING	20
10. CONCLUSIONS	20
11. REFERENCES	22

APPENDIX

	Page
1. Submission from Water Authority of WA	23

FIGURES

1. Location Map of Pelican Point Resort Proposal and ILDA Land	2
2. Development Concept of Pelican Point Resort	4
3. Proposed Nine-Hole Golf Course Concept for Lot 26	5
4. Vittoria Bay Concept Plan, Leschenault Inlet Management Programme	10
5. Limit of Floodplain Encroachment (WA Water Authority Plan PWD, WA 52387-14-1)	14

The Environmental Protection Authority (EPA) and Leschenault Inlet Management Authority (LIMA) have carried out a joint assessment of the Pelican Point proposal.

The Authorities consider that in general the proposal is not inconsistent with the Leschenault Inlet Management Programme for Vittoria Bay and Pelican Point.

After consideration of the major environmental issues the Authorities have concluded that the following modifications are necessary to make the project environmentally acceptable:

- . the proposal should comply with all aspects of the Collie River Flood Strategy (WA Water Authority Plan PWD, WA 52387-14-1, see Figure 5);
- . the function centre complex should be located in a place other than the floodway;
- . a 50-metre wide foreshore area should be provided along the Vittoria Bay and Collie River foreshores;
- . subject to the modifications recommended in this report the resort development on Pelican Point could proceed immediately in an environmentally acceptable manner; and
- . the golf course proposal in its present form is environmentally unacceptable. Development of an environmentally acceptable golf course as part of the project could be achieved within the overall site formed by Pt Loc 26 and the ILDA land. This would involve the provision of an 18-hole golf course and retention of the wetland area so as to incorporate the natural conservation values of the whole area. In developing the combined Pt Loc 26 and ILDA site, it would also be necessary to ensure that the relief floodway required under the Collie River Flood Strategy was also designed and constructed in an environmentally acceptable manner. The development of the combined Pt Loc 26 and ILDA site should only proceed following acceptance by the two Authorities of modified proposals.

RECOMMENDATION 1

EPA/LIMA recommend that all structures should be located outside the recommended limit of floodplain encroachment as shown on the WA Water Authority Plan PWD WA 52387-14-1 (see Figure 5) and that in all other respects the development should comply with the flood strategy for the Collie River.

RECOMMENDATION 2

EPA/LIMA recommend that the proponent be legally required to establish a 50-metre wide area of open space for the public along the foreshore, consistent with the intent of the Leschenault Inlet Management Programme, on Vittoria Bay and the Collie River.

The alignment of the foreshore area along Vittoria Bay should be consistent with the alignment of the foreshore area already pegged on Pt Loc 26.

The alignment of the foreshore area along the Collie River should be the "Recommended Limit of Floodplain Encroachment" shown in the Collie River Flood Strategy.

RECOMMENDATION 3

EPA/LIMA recommend that:

- (i) continuous and ready public access should be made available throughout all foreshore areas; and
- (ii) a defined public accessway, linking the public car and trailer parking facilities on the Collie River foreshore with the Vittoria Bay foreshore area, should be retained across the project site.

RECOMMENDATION 4

EPA/LIMA recommend that, in designing a golf course as part of the project, Pt Loc 26 and the adjacent ILDA site should be treated as a single land unit to accommodate the following objectives:

- (i) provision of an 18-hole golf course; and
- (ii) retention of the wetlands of the land unit to incorporate the natural conservation values of the whole area; in consultation with LIMA and CALM.

RECOMMENDATION 5

Recognising that the retention of the wetland areas on Pt Loc 26 is a matter of the highest priority, the EPA/LIMA recommend that any modification to that land, including provision of the 250-metre wide relief floodway, should be undertaken in such a way that its functions as waterbird/wading bird habitat and feeding grounds are maintained or enhanced.

RECOMMENDATION 6

EPA/LIMA recommend that any mosquito control programme or activities prepared or undertaken for this proposal should be environmentally acceptable to the satisfaction of both Authorities. They should also be complementary to the regional mosquito control strategy.

RECOMMENDATION 7

EPA/LIMA recommend that the legal agreement proposed by the proponent should include the commitments made by the proponent in the PER, provision for the management and monitoring programmes, and any additional requirements identified in this Assessment Report.

RECOMMENDATION 8

EPA/LIMA conclude that:

- (i) subject to modifications sought in this report, the resort development on Pelican Point is environmentally acceptable, and could be commenced; and

- (ii) development of a golf course on the combined Pt Loc 26 and ILDA site is presently not environmentally acceptable but could become acceptable with modifications to the satisfaction of EPA/LIMA.

RECOMMENDATION 9

EPA/LIMA recommend that a Steering Group should be established to advise and provide guidance in relation to:

- (i) the design of the golf course part of the project on the combined Pt Loc 26 and ILDA site; and
- (ii) ensuring that the relief floodway is designed and constructed in an environmentally acceptable manner.

EPA/LIMA are prepared to convene this group which should include, among others, the City of Bunbury, the Water Authority of WA and the Department of Conservation and Land Management.

1. INTRODUCTION

The Pelican Point proposal lies within the management area of the Leschenault Inlet Management Authority (LIMA). The Environmental Protection Authority (EPA) therefore determined that a report jointly prepared by it and LIMA was the appropriate method of assessment.

Throughout this report the textual references to 'the Authorities' refers to both the EPA and the LIMA. In the recommendations, the notation 'EPA/LIMA' has been used.

Since the release of the Public Environmental Report (PER) for public review, the developers have sought to secure access to an additional portion of land (see Figure 1) presently owned by the Industrial Lands Development Authority (LIMA), to allow for provision overall of at least an 18-hole golf course. This additional development is seen by EPA/LIMA to be an integral part of the Pelican Point concept and consequently, its environmental aspects are addressed briefly in Section 8.1.3 of this Assessment Report.

2. BACKGROUND

Pelican Point is located on the southern portion of the Collie River Delta in Leschenault Inlet (see Figure 1).

A number of proposals has been put forward for the Pelican Point site over the years, involving strata titled resort development very similar in design to that presently proposed. The concept was revised and formed the basis of the current proposal for a resort development with associated golf course, not involving subdivision of the Pelican Point land.

The Pelican Point land has been identified for resort development by the Bunbury Town Planning Scheme No 6 (TPS No 6) and the Leschenault Inlet Management Programme. The Collie River Flood Strategy also provides for development of the project site. The recently completed Bunbury Region Plan has endorsed the principles and intent of the earlier work.

In TPS No 6 the policy statement description for Pelican Point states:

"Resort development with associated uses may be permitted in a limited form after due recognition of the physical characteristics of the locality and completion of engineering and other necessary investigations in consultation with the relevant Government Departments (WA Government Gazette, April 1984, p951)".

3. THE PROPOSAL

The location of the proposal is given in Figure 1.

3.1 RESORT DEVELOPMENT - PELICAN POINT

The PER proposed the construction and operation of a holiday resort and sporting recreation complex of international standard. The resort was designed to provide a wide range of facilities and accommodation to cater for a wide market. The resort proposal provides for a single management body

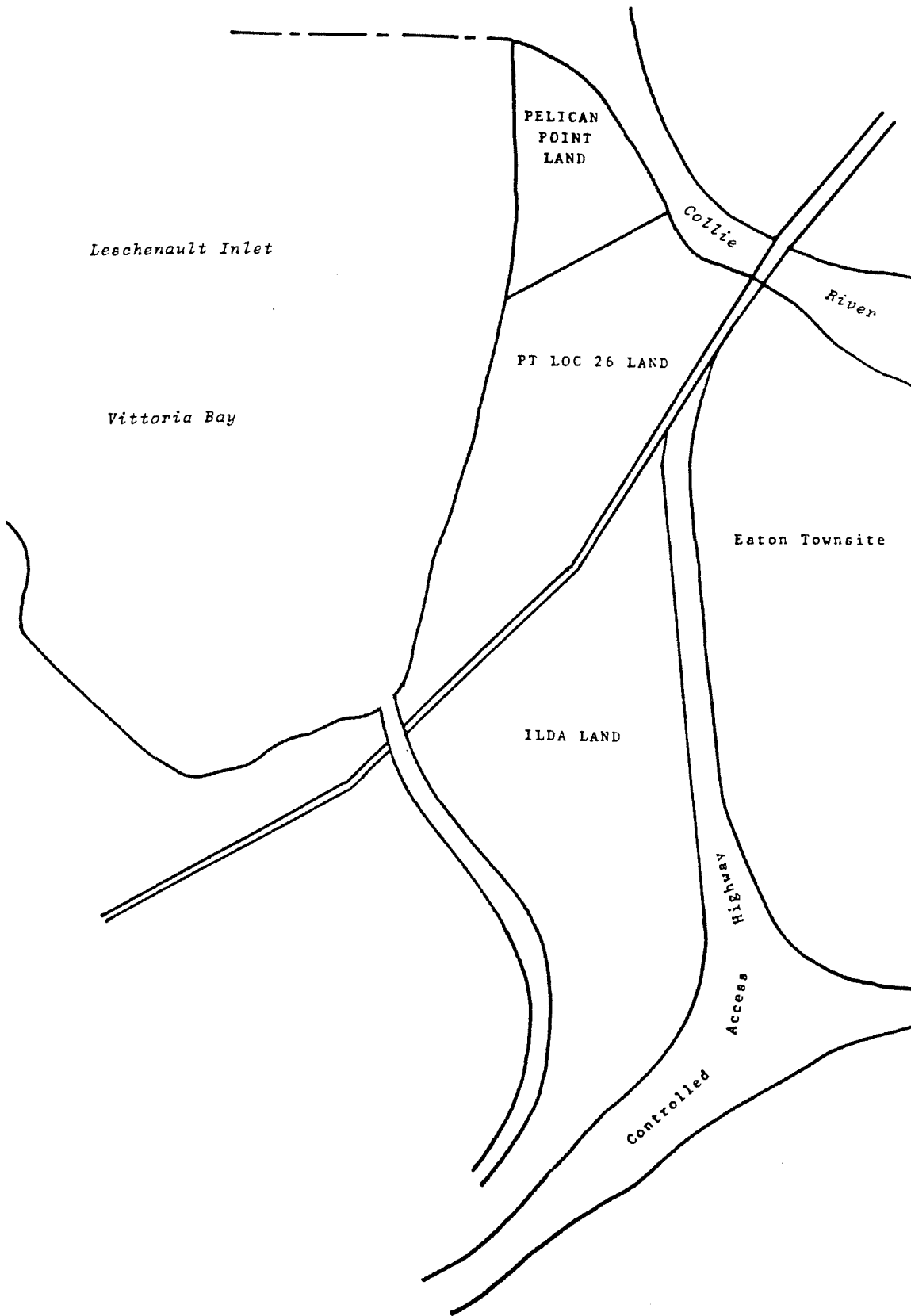


Figure 1. Location Map of Pelican Point Resort Proposal and ILDA Land.
 (Source - Bunbury Port Industrial Area Study, 1984.)

to control and be responsible for all facets of resort management. The concept plan for the resort development at Pelican Point is given in Figure 2. Major elements of the proposal are:

- . a resort hotel and country club;
- . sporting facilities;
- . a range of accommodation (from serviced hotel units to unserviced villas and chalets);
- . a shallow boat haven;
- . a nine-hole golf course (see Section 3.2);
- . a riverside function complex; and
- . ornamental lakes and landscaped gardens.

The resort would be located on partly degraded privately owned land on the Collie River Delta.

3.2 PROPOSED GOLF COURSE

The PER proposed a nine-hole golf course for Pt Loc 26 adjacent to and southwest of Pelican Point (see Figures 1 and 3). The Pt Loc 26 land is being purchased by the proponent (Ausean International Pty Ltd and Fitic International Pty Ltd) from the City of Bunbury. The Pt Loc 26 land contains samphire wetlands and tidal channels and has considerable value as a wetland habitat and feeding ground for waterbirds, in particular some species covered by the Japan-Australia Migratory Birds Treaty. The Great Egret (Egretta alba) for which the Australind Egret Swamp (Nature Reserve A38398) was created, is also found there. Protection of Australind Egret Swamp is one of the objectives of System 6 Redbook Recommendation C66 (EPA, 1983, p114-116). This Recommendation has its southernmost boundary on the Collie River adjacent to the proposed Pelican Point development in a buffer area to the System 6 area.

4. **NEED FOR THE DEVELOPMENT**

The proponent asserts that there is a need for the development. The Pelican Point site was purchased specifically to accommodate the proposed development the plans for which had been prepared prior to purchase.

Whilst the Authorities acknowledge that there is likely to be a requirement for resort development of this type in the Bunbury area, the PER does not demonstrate this.

5. **ALTERNATIVES CONSIDERED**

The proponent has already purchased the land and indicated in the PER that it would be "economically unable to accept the 'do nothing' or no development option"(PER, p10).

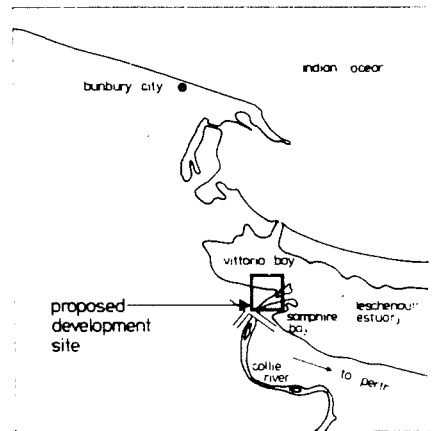
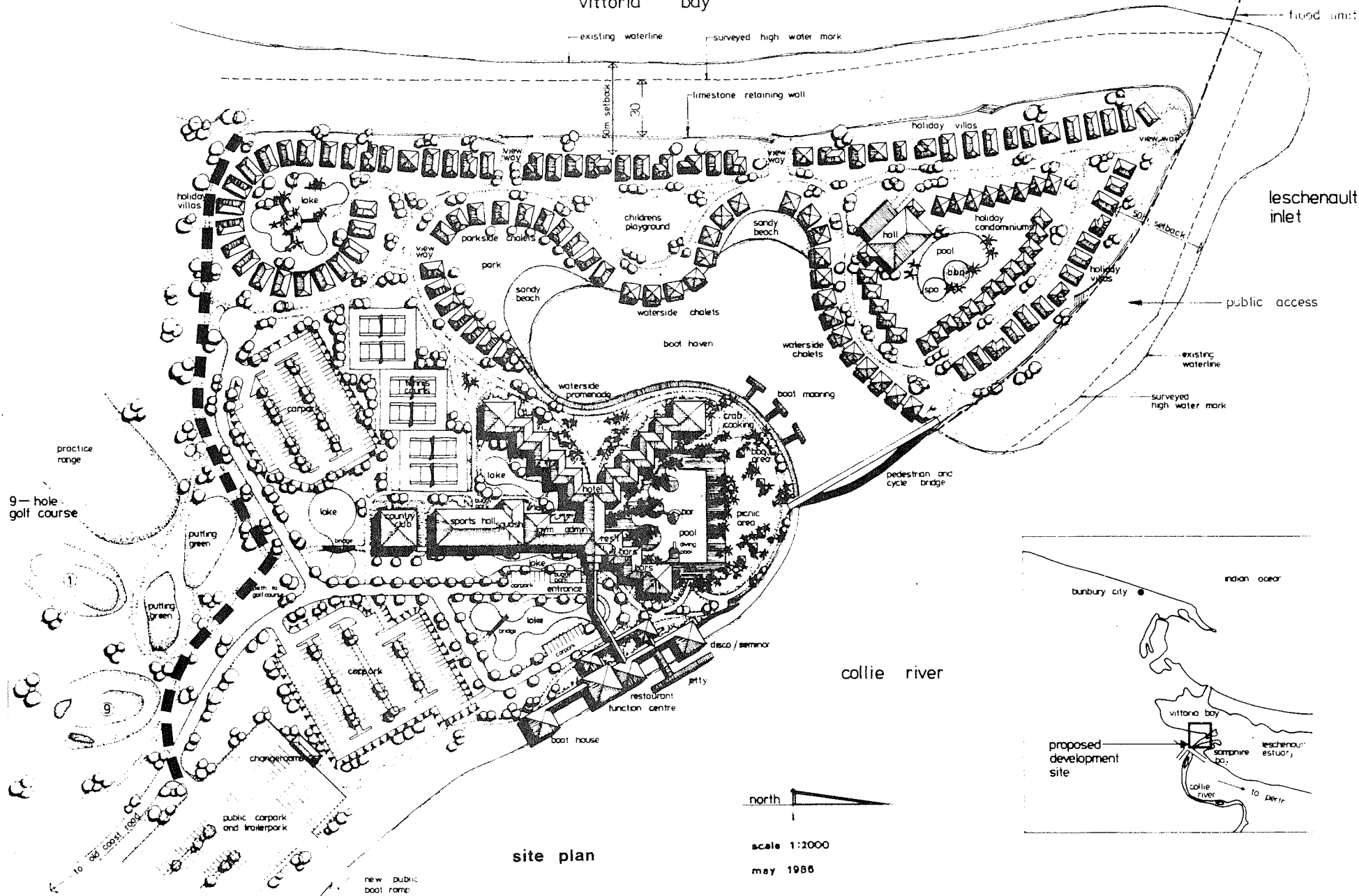
Possible alternative sites for the concept were not presented in the PER.

6. **SUBMISSIONS ON THE PROPOSAL**

Public review of the PER for the Pelican Point project closed on 24 September, 1986. A total of 15 submissions were received.

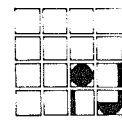
Figure 2. Site Plan Concept of Pelican Point Resort.

4



scale 1:2000
may 1986

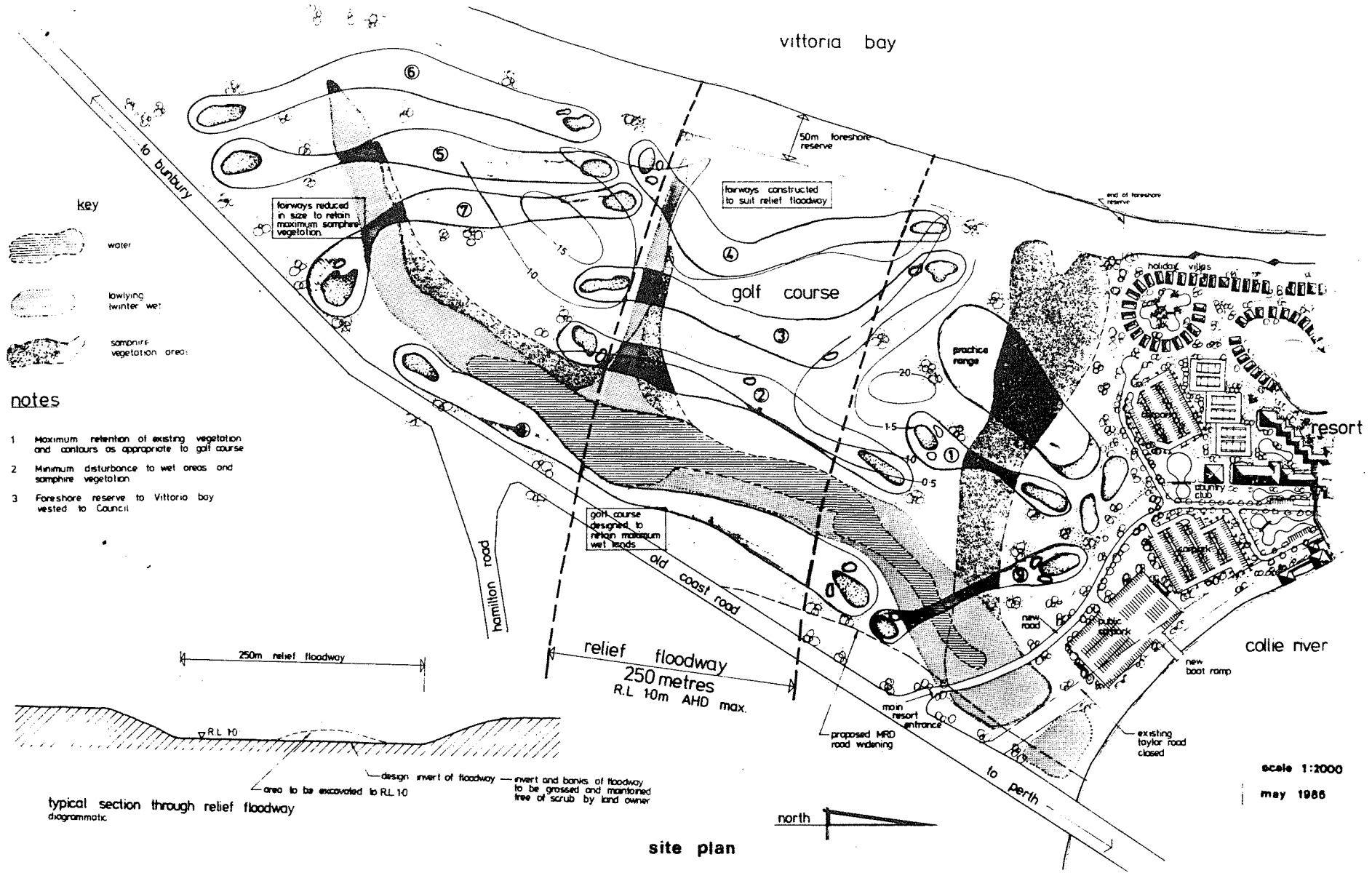
PELICAN POINT COUNTRY CLUB AND RESORT



paul jones and associates pty ltd
9 havelock street. west perth (09) 322 4277

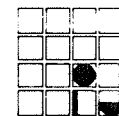
scale 1:1000
may 1986

Figure 3. Proposed Nine-Hole Golf Course Concept for Pt Loc 26.



PELICAN POINT
 COUNTRY CLUB GOLF COURSE

scale 1:2000
 may 1986



paul jones and associates pty ltd
 9 havelock street, west perth (09) 322 4277

One was from an individual member of the local community, one a joint submission from "residents of the Bunbury/Eaton area . . . who consider themselves regular users of the whole estuary area . . . for a wide range of recreational activities", and one from a Perth based conservation group. The remainder were from State and Local Government agencies.

Two of the three submissions from the community at large express opposition to the project, while the other indicates qualified acceptance. Most submissions from the Government agencies raise issues relating to their specific responsibilities which could be addressed as matters of detail to the satisfaction of the respective agencies. However, several of the Government agency submissions raise fundamental doubts as to the acceptability of the development concept submitted.

The Authorities were assisted by the submissions received. The issues they raised have been taken into account in the assessment process.

7. LAND USE AND MANAGEMENT CONTEXT

There are three existing planning documents which relate to the general area and which provide the context within which this assessment has taken place and which have established policies. The three documents are:

- . the Draft Bunbury Region Plan, (1985);
- . the City of Bunbury Town Planning Scheme No 6 (6 April, 1984); and
- . the Leschenault Inlet Management Programme (1983).

7.1 BUNBURY REGION PLAN

The Draft Bunbury Region Plan proposes regional policies for the area identified as the Leschenault Regional Park which includes the Pelican Point and Pt Loc 26 and ILDA land areas. The report states:

"(a) Any management plan for the land uses within the Leschenault Regional Park should be consistent with the recommendations and objectives expressed in the System 6 Report and the Leschenault Inlet Management Authority's stated objectives:

- ". The primary management objectives should be conservation and recreation.
- ". Rehabilitation of the peninsula dunes including those affected by effluent disposal.
- ". Conservation of the water-bird and fish habitats including the northern wetland and the Laporte Egret swamp.
- ". Monitoring and the eventual phasing out of the effluent disposal lagoons.
- ". Managing recreation and resort activity and development within the framework of the more important preceding objectives.

"(b) The northern end of the inlet should be retained for passive recreation and natural environment uses whilst the southern end including the foreshores at Australind, Samphire Bay and Pelican Point should be used for more active recreation and resort activities.

"(c) Provision should be made for the floodways of the lower Preston and Collie Rivers within the management plans of the southern or Vittoria Bay end of the inlet."

(Bunbury Region Plan, 1985, p122 and 123)

The report clearly emphasises the importance of the area for both conservation and recreation. Consequently, any recreation or resort developments within the Leschenault Regional Park would need to recognise and incorporate the natural conservation values of the area and seek to maintain and enhance those values (see Section 8.1.3.).

The Bunbury Region plan reflects the foreshore reserve around Pelican Point designated by the City of Bunbury's TPS No 6.

7.2 BUNBURY TOWN PLANNING SCHEME NO 6

The Bunbury TPS No 6 (WA Government Gazette, 6 April 1984) divides the scheme area into a number of policy areas each of which is the subject of policy statements relating to the predominant use and strategy for future development of each policy area. Pelican Point is one such policy area; the following is quoted from the published scheme:

"9. Pelican Point: Whereas the area adjoins the Collie River and the Leschenault Inlet foreshore and whereas the land is low lying and whereas some of the present uses are chalets, boating and foreshore recreation and whereas the foreshores, mud flats and river delta are significant feeding grounds for fish and waterbirds, the following planning policy shall apply:

"(a) the foreshores of both the Collie River and the Leschenault Inlet shall be set aside and protected from development and the pressures of human habitation;

"(b) resort development with associated uses may be permitted in a limited form after due recognition of the physical characteristics of the locality and completion of engineering and other necessary investigations in consultation with the relevant Government Departments;

"(c) development of the southern portion of Location 26 shall not be permitted until the development options as referred to in the Public Works Department Regional Flood Study have been resolved"

(WA Govt Gazette, 6 April 1984).

The Bunbury TPS No 6 also makes statements about provision of reserves, specifically:

"3.2(a) Land set aside under this Scheme for the purposes of a reservation is deemed to be reserved for the purposes indicated on the Scheme Map.

- "(b) In respect of land reserved under this Scheme but not owned by or vested in the Council or a Public Authority, it should not be implied that by reason of the reservation, the Council or the Public Authority will acquire or will be in a position to acquire the said land at the date upon which the Scheme comes into effect or within any specified period of that date.
- "(c) Except as otherwise provided in this Part, a person shall not carry out any development on land reserved under this Scheme, other than the erection of a boundary fence, without firstly applying for and obtaining from the Council Planning Approval pursuant to Part II of the Scheme.
- "(d) In considering any such application, the Council shall confer with the Public Authority concerned with the particular reservation before making its decision and have regard to:
- "(i) the ultimate purpose intended for the reserve;
 - "(ii) in the case of land not owned by or vested in a Public Authority, the likely date of the acquisition of the affected land;
 - "(iii) the reasonable beneficial use which may be made of the land pending its acquisition by the Public Authority concerned;
 - "(iv) the representation and/or recommendations made by the affected Public Authorities consulted."

(WA Govt Gazette, 6 April 1984)

The scheme map shows provision of a 50 metre wide foreshore reserve on both sides of Pelican Point for which the designated purpose is 'Parks, Recreation and Drainage'. The matter of provision of a foreshore area guaranteeing public access around Pelican Point and the adjacent Pt Loc 26 land is complex and is addressed specifically in Section 8.1.2 of this Assessment Report.

7.3 LESCHENAULT INLET MANAGEMENT PROGRAMME

The LIMA Management Programme of September, 1983 sets down policies and plans for the Management Authority's area. Three portions of the programme are particularly relevant to the Pelican Point proposal, namely the proposals for provision of recreational settlements in general, the proposals for the Vittoria Bay concept area (the Pt Loc 26 land, see Figure 4) and a statement on foreshore reservation and acquisition.

On recreation settlements and chalets the LIMA Management Programme states:

"It is considered that this type of development is most appropriate for the management area since it allows maximum public use and limits permanent residential development in prime recreational areas. This view is in accordance with the Peel Preston Planning Study 1976.

"Applications for development of recreational areas are and should remain the responsibility of the Local Authority. However, where they do impinge

on the quality of the waterways or the amenity of the area, the proposals should be planned in conjunction with the Leschenault Inlet Management Authority whose input in their assessment should be sought.

"The assessment should generally be in accordance with the guidelines included in this management programme.

"Some of the recreational areas are treated as concept areas and the general proposals for these should be given consideration in future detailed treatments of the areas concerned.

"The general zonings included in the management programme are:

". Camping Areas

These are specifically set aside for campers and should include ablution facilities.

". Caravan Parks

These should generally be developed in compliance with the Local Authority's regulations but should not impinge on the amenity and quality of the waterways.

". Chalet Areas

- For rent or long term lease.
- Motels."

(LIMA, 1983, p8)

The Management Programme makes specific recommendations for the upgrading of the Shoalhaven caravan park and chalet site (located on Pelican Point) in accordance with the guidelines in the management programme, and addresses the Vittoria Bay concept area (Pt Loc 26) in detail.

The proposal for the Vittoria Bay concept area (see figure 4) recognises the continued existence of the chalet sites to the north (on the Pelican Point land) but does not anticipate the provision of a large resort-style development such as the present proposal.

"The basic aim of the design has been to open up the Vittoria Bay site as a predominantly public recreation reserve, particularly the very attractive beach. By not creating a continuous road along the beach, it is hoped that full public access can be achieved while retaining the recreation potential of the site.

"The design has been planned in sympathy with the natural features of the site, and therefore requires minimal earthworks for its implementation. This approach also allows for the retention of the wetland areas, which should be retained in their natural form, supplemented by re-vegetation of the area with suitable species tolerant to the salinity levels of the water-bodies. It is suggested that the natural drainage points to the Inlet be deepened and landscaped to improve drainage, which will continue to be an important function as this land lies within the Collie River flood plain. Walkways have been shown through the site in those parts of

DESIGN COMPONENTS

- 1 Motel
- 2 Chalets
- 3 Information Centre
- 4 Toilet Facilities
- 5 Boat Ramp
- 6 Car Parks
- 7 Footpaths
- 8 Existing Boat Hire
- 9 Chalet Development
- 10 Existing Chalet Development
- 11 Picnic Area
- 12 Natural Wetland
- 13 Tennis Courts
- 14 Culverts
- 15 Beach
- 16 Telecom Exchange
- 17 Road Widening
- 18 Access Closure
- 19 River Bank Improvements
- 20 Revegetation
- 21 Screening Plantings

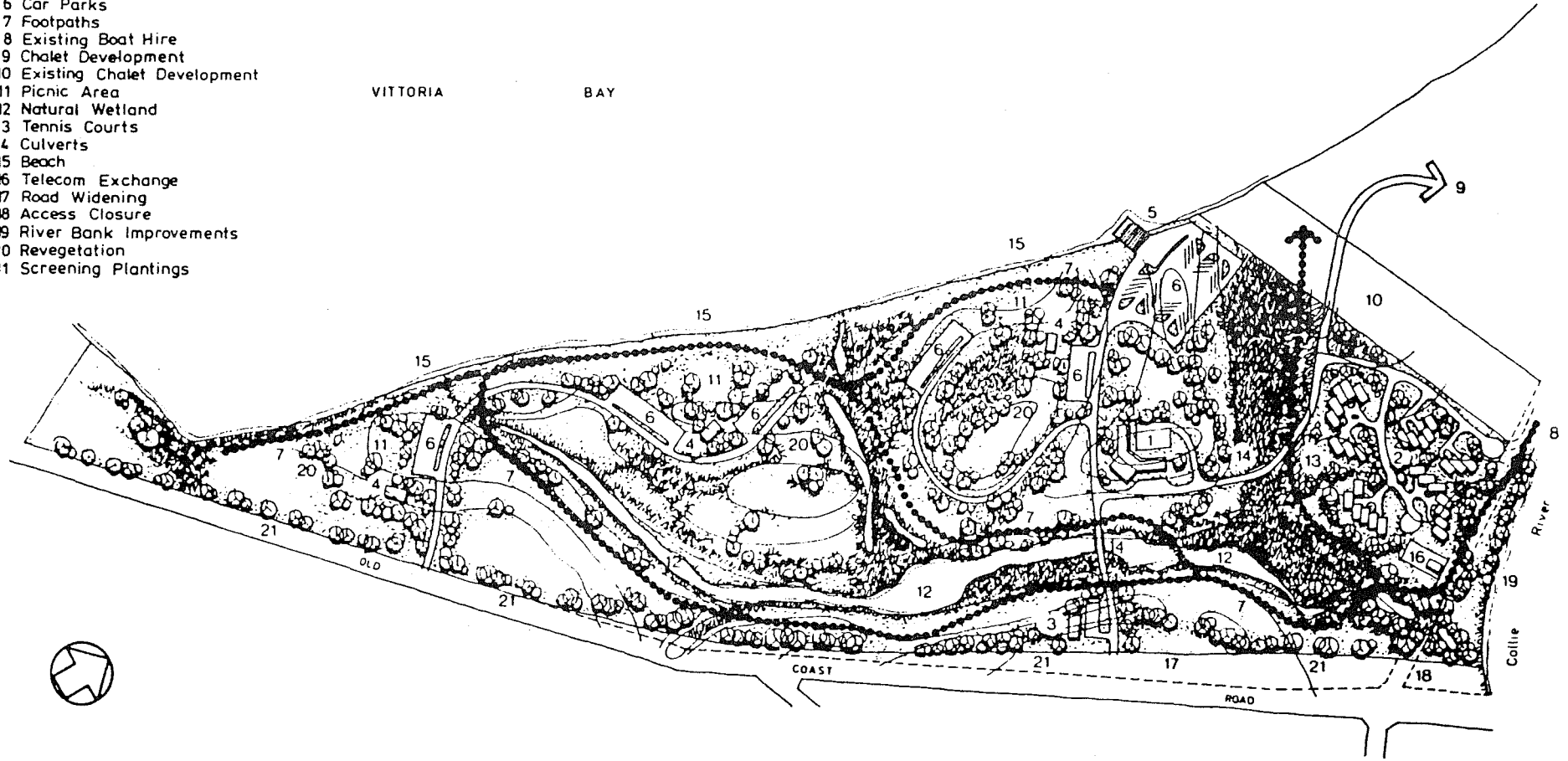


Figure 4. Vittoria Bay Concept Plan.

the site designated as a wetland flora reserve. An information centre describing the Inlet and the associated wetland areas is also shown adjacent to the main access point.

"Development proposals must be studied to assess the needs of wildlife protection."

(LIMA, 1983, p2)

The LIMA management programme clearly indicates the need for close consultation and cooperation with local authorities so that developments take place in accordance with the LIMA management programme. This need for cooperation would apply both for development proposals and for provision/acquisition of foreshore areas for public access via the triggering mechanism of a development or subdivision application. On foreshore reserves, the LIMA management programme states:

"The management programme presented will require considerable cooperation between property owners, the Local Authorities and the Leschenault Inlet Management Authority. It is not envisaged that the compulsory acquisition of reserves from private ownership will be necessary or desirable. The intention is to set long term goals which can be implemented as future subdivision takes place, funds become available and through cooperation with existing land owners. Leschenault Inlet Management Authority has no powers of acquisition and can only recommend purchase as land becomes available. However, where the purchase of a reserve from private ownership was deemed necessary for the protection of the waterway or preservation of the environment, Leschenault Inlet Management Authority could recommend acquisition by an appropriate authority (eg Local Government or Fisheries and Wildlife).

"The management programme takes into consideration the various planning schemes currently implemented or proposed by Local Authorities within the management area. Generally the recommendations are in accordance with these schemes, although there are some exceptions."

(LIMA, 1983, p2)

The Authorities acknowledge that the proposed development might be regarded as compatible with the statutory planning zoning of the project site, and also as not inconsistent with the Leschenault Inlet Management Programme. However, they recognise that the proposal may not fully comply with the intent of the overall planning and management strategies for the general area. It is against this background that the Authorities have undertaken the assessment of the Pelican Point project.

8. ISSUES AND ASSESSMENT

Issues raised by the Pelican Point project, and in the submissions received, can be grouped into three broad categories:

outright opposition based on the perceived conservation value of the overall project site and the opportunity to enhance this value through active environmental rehabilitation. This has been addressed in detail in Section 7 of this report;

- . matters of engineering and management detail that would require particular consideration during the design, construction and operation phases of the project should it proceed.

The major issues arising from the project need to be addressed and resolved before the project could be regarded as environmentally acceptable. These issues are discussed in Section 8.1.

8.1 MAJOR ISSUES

There are three issues which are considered to be of sufficient concern to warrant redesign of parts of the proposal. These issues are:

- . the development does not comply with floodway requirements;
- . the development does not adequately provide for public access to the foreshores of Pelican Point; and
- . the development has the potential for undesirable impacts on the valuable wetlands.

8.1.1 FLOODWAY REQUIREMENTS

The project area is covered by the Collie River Flood Strategy which provides a limit of floodplain encroachment which would protect existing and future development in the event of a 100-year flood in the Collie River. The Collie River flood proposals were first reported on in 1981 by the Public Works Department (PWD, 1981). Following submissions from various agencies, interested parties in the Collie River area were brought together, and after several years of negotiation a flood protection strategy was agreed upon which would allow for some development in flood-prone land in each local Government Authority area whilst protecting existing development. The recommended limit of floodplain encroachment is shown on the plan PWDWA No 52387-14-1 and is presented in Figure 5 of this report.

The map shows the provision of a 250 metre wide relief floodway, the purpose of which would be to direct and concentrate bank overflow safely into an area traversing Pt Loc 26. This allows development of Pt Loc 26 without transferring flood disability to others. Construction of the floodway would necessitate the removal of 16 000 cubic metres of material. Purely from the perspective of an efficient floodway, the surface should be ideally a grassed meadow-type surface free of scrub. Isolated trees would be acceptable but clusters of trees on the 250 metre wide floodway should be avoided.

From an environmental perspective the wetlands in Pt Loc 26 are of considerable value and should be maintained and enhanced (see Section 8.1.3). Consequently if it can be accommodated without significantly affecting the hydraulic characteristics of the floodway on Pt Loc 26, it would be highly desirable to maintain and plant samphire and other dominant wetland species of the area in preference to grass. This would be in accord with both the wetland values and the objectives for the area identified in the Bunbury Region Plan (see Section 7).

The recommended limit of floodplain encroachment delineates where no structures or impediments to the flow of flood waters should be placed. Advice from the WA Water Authority (see Appendix 1) states clearly that:

"there should be no development or filling on the river side of this line: this means that the proposed retaining wall should be located on or behind this line.

"The seminar, restaurant and boatshed complex are not acceptable in the position proposed as they are within the floodway and should be re-sited so they do not conflict with flood flow provisions."

(WAWA,* 1986, see Appendix 1)

Any departures from the proposed agreed flood strategy would, to varying degrees, increase the risk of flooding to existing developments, in particular the Shire of Dardanup at Eaton. Such would also set a precedent for this type of development in the floodway for other development proposals on land adjacent to the Collie River. In its submission on the PER, the Shire of Dardanup has reaffirmed its support for the Collie River flood strategy and has indicated its concern that the proposed development should comply with this strategy. The submission concluded that:

"Before any development is permitted, it is considered imperative that an assurance is given that future flood levels in the Eaton townsite will not be further increased beyond those predicted in the compromise floodway option".

The Authorities believe that for the above reasons construction of any structure within the recommended limit of floodplain encroachment is unacceptable, and fully endorses the advice provided both to the proponent and the EPA by the WA Water Authority (see Appendix 1). Consequently it is unacceptable for the seminar/convention complex to remain in its proposed location and the development should be redesigned accordingly.

RECOMMENDATION 1

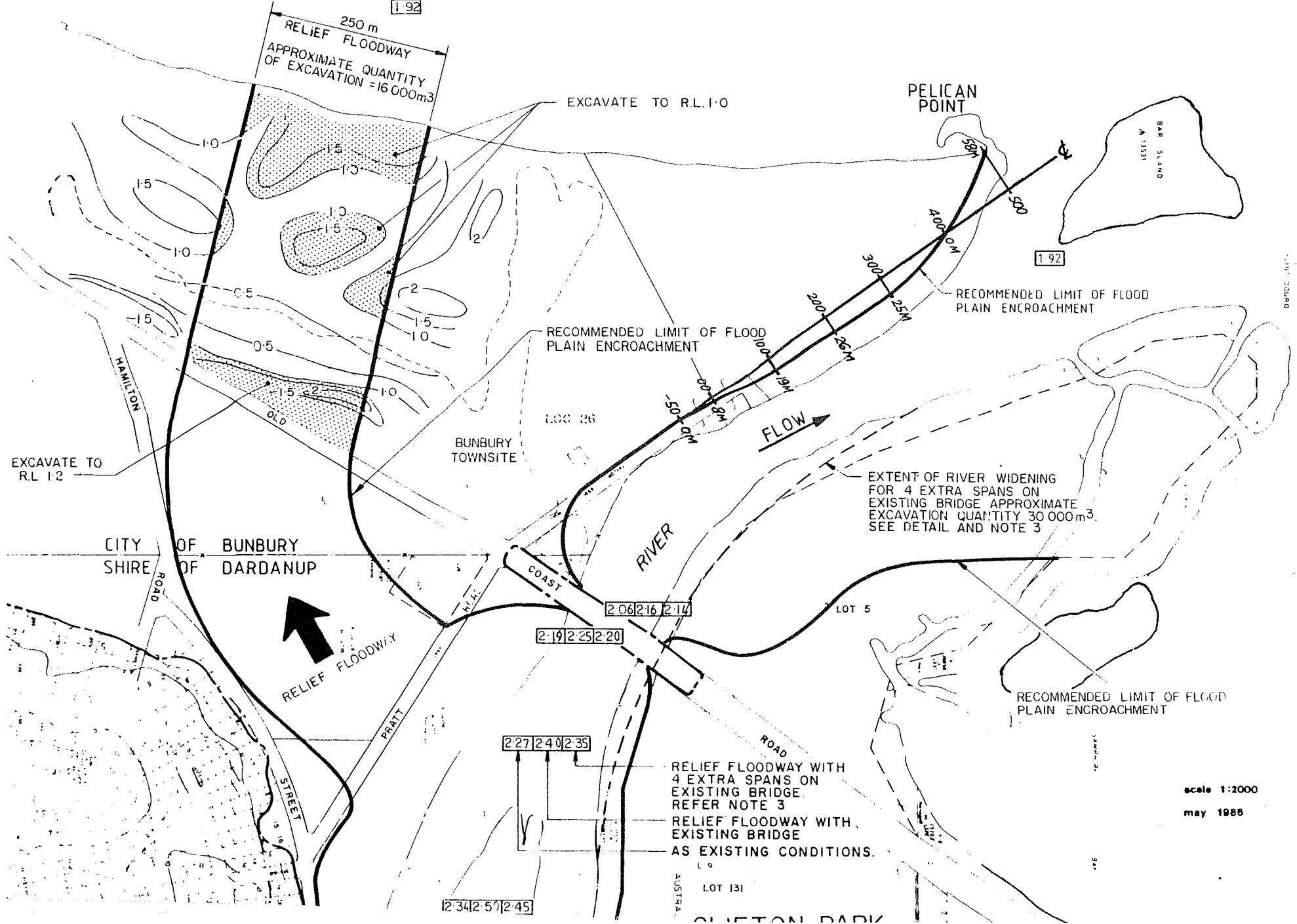
EPA/LIMA recommend that all structures should be located outside the recommended limit of floodplain encroachment as shown on the WA Water Authority Plan PWD WA 52387-14-1 (see Figure 5) and that in all other respects the proposal should comply with the flood strategy for the Collie River.

The means by which the 250 metre wide relief floodway could be provided also requires consideration of environmental and conservation aspects (see Section 8.1.3 and Recommendation 5). The PWD* in its strategy acknowledges that its recommendations are based on hydraulic considerations and do not take account of other constraints such as environmental, planning or social issues.

From consideration of both the Leschenault Inlet, Collie River, Preston River Regional Flood Study (PWD, 1981) and the subsequent compromise flood strategy it is evident that the development of the Pelican Point land is not

*Recently, that section of the Public Works Department (PWD) with responsibility for developing flood strategies has been incorporated into the Water Authority of WA.

Figure 5. Limit of Floodplain Encroachment.
 (WA Water Authority Plan PWD, WA 52387-14-1)



contingent upon the provision of the 250 metre wide floodway, although any development on the Pelican Point land would have to comply with floodway requirements on the south side of the Collie River.

8.1.2 FORESHORES

Sections 7.1, 7.2 and 7.3 of this report outline the existing planning framework and policies on foreshore reservation and protection.

The Collie River and Vittoria Bay foreshores of the project site are reserved for "Parks, Recreation and Drainage" under the City of Bunbury TPS No 6 (see Section 7.2) the intent of which is to provide a no development zone along the waterway foreshores.

Although the scheme text does not specify a dimension for this reserve, the scheme maps do indicate a width of 50 metres. Council has notified the proponent (19 May 1986) that for the Pelican Point project that:

"A minimum foreshore reserve of 50 metres is to be provided except in relation to land adjoining the Collie River upon which it is proposed to erect a function centre ..."

The Bunbury Region Plan (1985) reflects the foreshore reserves affecting the project site. Moreover, the planning policy statements for the area encompassing the project site emphasise conservation and recreation as the management priorities (see Section 7.1).

It is evident that the prevailing land use planning and environmental management strategies envisage reservation of the estuary and river foreshores of the project site. The Authorities note that a 50 metre wide "Foreshore Access" area has been retained by the Bunbury City Council, through subdivision, on the Vittoria Bay side of the golf course site, to preserve public access along the foreshore. However, the City of Bunbury has advised the proponent that it is not seeking formal reservation of the foreshore areas of the resort development site, because the proposal does not involve subdivision. The intention is that public access to the foreshore areas would be maintained by means of a formal agreement between the City of Bunbury and the proponent.

The Authorities are also concerned that ready and continuous public access should be ensured throughout all foreshore areas around the project site, and between the Collie River and Vittoria Bay foreshores of the site.

In terms of protecting the natural functions of the foreshore areas and ensuring public access to these areas, the Authorities believe that formal reservation supported by appropriate vesting and management is the most positive mechanism. The proposed development should comply with both the provisions and intent of the prevailing land use planning and environmental management strategies as they apply to the foreshore areas of the project site.

The Authorities have noted that in the case of the Collie River side of the project site, the 'Recommended limit of floodplain encroachment' shown on Plan PWD WA 52387-14-1 approximates the recommended position for the foreshore reserve. Therefore, the Authorities accept that this limit would represent an appropriate boundary for the foreshore area along the river.

With respect to the foreshore area along the Vittoria Bay side of the project site, the appropriate alignment should be consistent with that of the foreshore area already surveyed on Pt Loc 26.

RECOMMENDATION 2

EPA/LIMA recommend that proponent be legally required to establish a 50-metre wide area of open space for the public along the foreshore, consistent with the intent of the Leschenault Management Programme, on Vittoria Bay and the Collie River.

The alignment of the foreshore area along Vittoria Bay should be consistent with the alignment of the foreshore area already pegged on Pt Loc 26.

The alignment of the foreshore area along the Collie River should be the "Recommended Limit of Floodplain Encroachment" shown in the Collie River Flood Strategy.

The 50-metre wide area of open space for the public along the foreshore set aside by the legal agreement with the Bunbury City Council could be the subject of negotiated acquisition in the future.

The Authorities note that Bunbury City Council will be retaining a public right-of-way across the Pelican Point Pt Loc 26 site from the Collie River side to Vittoria Bay to provide at least pedestrian access to the shore of Vittoria Bay.

RECOMMENDATION 3

EPA/LIMA recommend that:

- (i) continuous and ready public access should be made available throughout all foreshore areas, and
- (ii) a defined public accessway, linking the public car and trailer parking facilities on the Collie River foreshore with the Vittoria Bay foreshore area, should be retained across the project site.

8.1.3 WETLANDS

The southern portion of the Pt Loc 26 land (approximately 35 hectares) contains wetlands and channels which have considerable value as habitat and feeding grounds for waders and waterbirds. The proponent has proposed a nine-hole golf course for this area which appears to require the filling or alteration of all of these wetlands.

An adjacent parcel of land (approximately 60 hectares) presently owned by the Industrial Lands Development Authority (ILDA), located to the south of the Pt Loc 26 land is now being bought by the proponent so that the golf course could be expanded to the full 18 holes. This parcel of land also contains wetlands which are used by waterbirds as feeding grounds. Both Pt Loc 26 and the ILDA land are used by birds, and the birds move around these wetland areas. Consequently the Authorities believe that the Pt Loc 26 and ILDA land could be considered as an ecological unit, and should be assessed as such.

In its submission, the Department of Conservation and Land Management (CALM) indicates that the permanent alienation of the degraded wildlife habitat on Pelican Point could be regarded as an acceptable cost if it helps to ensure that the more environmentally valuable parts of the Inlet System are permanently reserved. In its submission CALM makes the following statements about the wetlands of Pt Loc 26:

"The fact that a three day survey of the samphire wetlands produced 31 species indicates that these wetlands have a very high value indeed. In comparing this figure with the 50-odd species of Leschenault Inlet, it must be borne in mind that the latter figure has been achieved after several years of survey at no less than six week intervals (Department of Fisheries and Wildlife surveys 1973-1976). One would be confident that the same level of survey effort put into the proposed golf course wetlands would produce at least as many species."

"The PER presents bird numbers as "largest flock size" rather than as total numbers present. This also had the unintentional effect of understating the value for waterbirds.

The Australind Egret Swamp (Nature Reserve A38398, 5 ha, adjacent to the SCM refinery supports approximately 80 breeding pairs of Great Egret (Egretta alba). It is one of only four Egret breeding sites in the southern half of the State and because of its size and reliability is undoubtedly the most important. The birds of this colony depend upon nearby wetlands for their food supply. Nineteen Great Egrets in a single flock were recorded on the "golf course" samphire wetlands in November 1985. This indicates that these wetlands may be of considerable importance for the Australind Egret colony. Note that the State has international obligations (Japan-Australia Migratory Birds Treaty) for the conservation of this species and its habitat.

Little Egret (Egretta garzetta) were also recorded on the samphire wetlands. This is a very rare species in the southern half of the State; only one breeding colony is known-several breeding pairs in the Australind Egret Swamp."

In the conclusions in its submission CALM states:

"The impact of the resort on the Pelican Point environment is regarded by this Department as acceptable when considered in the full context of the Leschenault Inlet System."

On the golf course proposal for Pt Loc 26, CALM says:

"The golf course proposal is not supported by this Department. A golf course is not thought to be the land use which best sustains the conservation and public recreation capacity of that land."

"No alternative land uses have been offered. In the course of time more compatible proposals could be forthcoming which better preserve the public interest in its conservation and use. Any such options will be precluded by private ownership and its conversion to a golf course."

The Authorities in carrying out their assessment of this portion of the proposal have considered the opportunities and threats to the environment afforded by the development. Important among these elements are:

- . provision of an 18-hole golf course;
- . provision of a 250 metre wide relief floodway;
- . retention of important natural wetland areas;
- . provision and maintenance of public access to the foreshores of Pt Loc 26 and Pelican Point;
- . the opportunity to incorporate the natural conservation values of the area; and
- . mosquito management.

The Authorities believe that all the above can be accommodated within the subject land.

The Authorities believe that the retention of the wetlands of the Pt Loc 26 and ILDA land to incorporate the natural conservation values of the whole area is a priority. Consequently, the provision of the golf course and the 250 metre wide relief floodway and development of a mosquito control programme should only be undertaken in such a way that the wetlands are maintained or enhanced to improve their function as waterbird habitat and feeding grounds. The Authorities are aware that the recommendations of the Water Authority of WA on the relief floodway were proposed purely from a hydraulic perspective and that there is still a need to take account of conservation factors.

To ensure adequate environmental protection of the wetland system on Pt Loc 26 and the ILDA land the Authorities make the following recommendations:

RECOMMENDATION 4

EPA/LIMA recommend that, in designing a golf course as part of the project, Pt Loc 26 and the adjacent ILDA site should be treated as a single land unit to accommodate the following objectives:

- (i) provision of an 18-hole golf course; and
- (ii) retention of the wetlands of the land unit to incorporate the natural conservation values of the whole area; in consultation with LIMA and CALM.

RECOMMENDATION 5

Recognising that the retention of the wetland areas on Pt Loc 26 is a matter of the highest priority, the EPA/LIMA recommend that any modification to that land, including provision of the 250 metre wide relief floodway, should be undertaken in such a way that its functions as waterbird/wading bird habitat and feeding grounds are maintained or enhanced.

8.2 ISSUES OF DETAIL

Management of issues of detail is addressed briefly in Section 9 of this Assessment Report.

Assessment of issues of detail would follow modification of the design to accommodate the fundamental issues, such as the encroachment of the development into the Collie River floodway.

The management of the mosquito nuisance is addressed below in some detail. This issue could be seen to be of major concern and to be a constraint on the development. The Authorities, however, have determined this to be a manageable problem.

8.2.1 MOSQUITO NUISANCE AND CONTROL

Mosquito nuisance and control in the Pelican Point area have been addressed in detail in a very recent report by the WA Health Department. The "Report on the Mosquito Eradication Campaign Survey of Mosquitoes in the Bunbury Region, WA" by A E Wright states:

"Similarly, if the proposed Pelican Point resort development goes ahead, as appears likely, people living or staying there will be intermittently afflicted by plagues of Aedes camptorhynchus and/or Aedes vigilax of varying severity unless effective mosquito control measures are adopted for the tidal saltmarsh breeding sources of these two species."

(Health Dept, September 1986, p119)

"This factor will have to be taken into account by the developers of the Pelican Point resort if visitors to the resort are not going to be discouraged by the mosquito nuisance problem. Mosquito nuisance levels partly tolerated by local residents long exposed to the existing mosquito problems are unlikely to be tolerated by overseas or interstate visitors who are not normally exposed to similar mosquito nuisance problems.

This wide variation in human tolerance of mosquito nuisance problems means that the Pelican Point developers will probably have to ensure that local mosquito nuisance problems are kept to an absolute minimum if such problems are not going to have some deleterious effect on the long term economic viability of the project."

(Health Dept, 1986, p119)

"Keeping the mosquito nuisance levels minimal will involve the adoption of effective control measures for not only the Pelican Point area itself, but also surrounding mosquito breeding areas. These surrounding areas include Point Douro (especially)".

(Health Dept, 1986, p120)

A high level of management will be necessary to reduce the mosquito nuisance to socially acceptable levels, and adequate financial commitment to this will be necessary. The management of mosquitoes in this area should be carried out in an environmentally acceptable manner and should not detract from the function of the wetlands as waterbird habitat and feeding grounds.

RECOMMENDATION 6

EPA/LIMA recommend that any mosquito control programme or activities prepared or undertaken for this proposal should be environmentally acceptable to the satisfaction of both Authorities. They should also be complementary to the regional mosquito control strategy.

9. ENVIRONMENTAL MANAGEMENT AND MONITORING

The ongoing management of a resort centred on a waterway is complex and involves a number of agencies.

The three major areas would be:

- . the maintenance of the foreshores of Vittoria Bay and Collie River;
- . maintenance and monitoring of the boat haven including water quality; and
- . the management of the samphire marshes as water bird feeding areas.

Management would embrace the maintenance of water quality and structures to a satisfactory standard and navigable depth. It would also include undertaking appropriate measures to control mosquitoes breeding.

Maintenance of the wetland functions, reservation of foreshores, and accommodation of floodway requirements for their designated purposes would form an important part of resort management.

Monitoring would be required for the physical, chemical and biological aspects of water quality and sediments; the condition of structures and navigable depth including the connection to the navigable depth of the Collie River; and location of mosquito breeding in samphire marshes.

A satisfactory monitoring and management programme is necessary. The developer states in the PER his intent to enter into a legal agreement with the Bunbury City Council which would specify the responsibilities and objectives of the parties involved and will incorporate any commitments made in the PER. The Authorities endorse this approach in general, however, they are uncertain as to whether management and monitoring programmes are to be provided for in this agreement. The Authorities consider that these aspects should be covered, and make the following recommendation:

RECOMMENDATION 7

EPA/LIMA recommend that the legal agreement proposed by the proponent should include the commitments made by the proponent in the PER, provision for the management and monitoring programmes, and any additional requirements identified in this Assessment Report.

10. CONCLUSIONS

The Environmental Protection Authority (EPA) and Leschenault Inlet Management Authority (LIMA) have carried out a joint assessment of the Pelican Point proposal.

The Authorities consider that in general the proposal is not inconsistent with the Leschenault Inlet Management Programme for Vittoria Bay and Pelican Point.

After consideration of the major environmental issues the Authorities have concluded that the following modifications are necessary to make the project environmentally acceptable:

- . the proposal should comply with all aspects of the Collie River Flood Strategy (WA Water Authority Plan PWD, WA 52387-14-1, see Figure 5);

- the function centre complex should be located in a place other than the floodway;
- a 50 metre wide foreshore area should be provided along the Vittoria Bay and Collie River foreshores;
- subject to the modifications recommended in this report the resort development on Pelican Point could proceed immediately in an environmentally acceptable manner; and
- the golf course proposal in its present form is environmentally unacceptable. Development of an environmentally acceptable golf course as part of the project could be achieved within the overall site formed by Pt Loc 26 and the ILDA land. This would involve the provision of an 18-hole golf course and retention of the wetland area so as to incorporate the natural conservation values of the whole area. In developing the combined Pt Loc 26 and ILDA site, it would also be necessary to ensure that the relief floodway required under the Collie River flood strategy was also designed and constructed in an environmentally acceptable manner. The development of the combined Pt Loc 26 and ILDA site should only proceed following acceptance by the two Authorities of modified proposals.

The two recommendations below provide a means of assisting the proponent to modify the development in accordance with this report.

RECOMMENDATION 8

EPA/LIMA conclude that:

- (i) subject to modifications sought in this report, the resort development on Pelican Point is environmentally acceptable, and could be commenced; and
- (ii) development of a golf course on the combined Pt Loc 26 and ILDA site is presently not environmentally acceptable but could become acceptable with modifications to the satisfaction of EPA/LIMA.

RECOMMENDATION 9

EPA/LIMA recommend that a Steering Group should be established to advise and provide guidance in relation to:

- (i) the design of the golf course part of the project on the combined Pt Loc 26 and ILDA site; and
- (ii) ensuring that the relief floodway is designed and constructed in an environmentally acceptable manner.

EPA/LIMA are prepared to convene this group which should include, among others, the City of Bunbury, the Water Authority of WA and the Department of Conservation and Land Management.

11. REFERENCES

1. Bunbury City Council (1984), Town Planning Scheme No 6, WA Government Gazette, April, 1984, p 948-951.
2. Bunbury Region Plan, 1985: Taylor and Burrell. (unpublished Draft in press)
3. CALM (1986), (see below)
4. Department of Conservation and Land Management (1986), Submission on Pelican Point Public Environmental Report. (unpublished)
5. EPA (1983), System 6 Redbook Recommendation C66, in Conservation Reserves for WA as recommended by the Environmental Protection Authority - 1983, The Darling System - System 6 Part II, Department of Conservation and Environment Report 13, p 114-116.
6. Health Department (1986), Report on the Mosquito Eradication Campaign, Survey of Mosquitoes in the Bunbury Region, WA, to Mosquito Control Review Committee of the Waterways Commission, p 119-120.
7. LIMA (1983), Leschenault Inlet Management Programme, Leschenault Inlet Management Authority.
8. Martin T S and Associates (1984), Bunbury Port Industrial Area Study, Drawing 4.
9. PER (1986), Pelican Point Country Club and Resort, Bunbury, Le Provost, Semeniuk and Chalmer, and Riedel and Byrne for Ausean International Pty Ltd and Fitic International Pty Ltd.
10. PWD (1981), Leschenault Estuary, Collie River, Preston River, Regional Flood Study, Engineering Division Public Works Department of WA, September 1981. Also subsequent compromise Flood Strategy.
11. Shire of Dardanup (1986), Submission on Public Environmental Report. (unpublished)
12. WAWA (1986), Submission on Public Environmental Report, Water Authority of Western Australia. (unpublished)

APPENDIX 1

SUBMISSION FROM WATER AUTHORITY OF WA



**WATER
AUTHORITY**
of Western Australia

629 NEWCASTLE STREET
LEEDERVILLE W.A.
Postal Address: P.O. Box 100 Leederville
Western Australia 6007
Telephone: (09) 420 2420 Telex: AA 95140

Your Ref
Our Ref
Enquiries
Tele Direct

The Director
DEPARTMENT OF CONSERVATION & ENVIRONMENT

PELICAN POINT RESORT DEVELOPMENT - EATON
PUBLIC ENVIRONMENTAL REPORT

I refer to your memo of August 8, with which you forwarded a copy of the Public Environmental Report to this Authority for comments.

The Water Authority was consulted with an earlier scheme proposal on some aspects of servicing and flood requirements. Whilst the servicing has been reflected in the report the flood requirements have not been incorporated fully. The following comments on the report are made.

As stated in the report water can be made available by an extension from the Eaton Water Supply. The details of the supply could vary from those stated as there have been some minor modifications to the proposed development since the Water Authority investigated the request.

The Water Authority is prepared to accept sewage from the development. This will require a pumping station and associated rising main delivering to a sewer in Millard Road. Provided the development remains under one ownership and the land is not subdivided, a connection based on a private pumping station will be acceptable.

The proposal will have minimal implications for the shallow groundwater as it is located on an estuarine peninsula beneath which the shallow unconfined fresh groundwater resources are extremely limited and difficult to exploit. The excavated boat harbour will further reduce this groundwater resource but can be accepted as the resource is considered to have little value. Urbanisation is not expected to cause any significant change to the availability of this resource. No abstraction of shallow groundwater is proposed.

It is proposed to supply the ornamental lakes and golf course with water from groundwater resources underlying the shallow water table aquifers. The proponents have undertaken to conduct a hydrogeological survey of the site to determine feasible extraction levels and are aware that licences for groundwater abstraction must be obtained. It is anticipated that reasonable water requirements could be met from a bore or bores exploiting the underlying Leederville formation but this requires confirmation.

The proposed construction of the boat haven will require dewatering but this is unlikely to affect superficial bores of nearby groundwater users.

The main area of contention is the interpretation of the floodway information provided by the Water Authority. Plans showing the required floodways were supplied to the City of Bunbury and the developers. When superimposed on the development proposals it showed some conflict with the seminar, restaurant and boatshed complex, and possibly with the chalets, along the Collie River. A more closely defined plan cadastrally locating the recommended limit of the floodplain encroachment along the side of the Collie River has been prepared and a copy is attached. Accordingly, there should be no development or filling on the river side of this line; this means that the proposed retaining wall should be located on or behind this line.

The seminar, restaurant and boatshed complex are not acceptable in the position proposed as they are within the floodway and should be re-sited so they do not conflict with flood flow provisions. A possible solution which would still locate them over water would be to place them adjacent to the proposed boat haven.

The requirements for the proposed 250 m wide relief floodway (as shown on plan PWDWA 52387-14-1 on page 75 of the PER) are to be incorporated in the planning and construction of the Golf Course.


MANAGING DIRECTOR

September 23, 1986

