

**Shire of Harvey District Planning Scheme No. 1  
Amendment No. 13 - Point Douro**

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**Shire of Harvey**

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

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 1158  
January 2005**

### **Environmental Impact Assessment Process Timelines**

<b>Date</b>	<b>Progress stages</b>	<b>Time (weeks)</b>
<b>12.09.1997</b>	<b>Level of Assessment set (following any appeals upheld)</b>	<b>3.5</b>
<b>30.10.2001</b>	<b>Proponent Document Released for Public Comment</b>	<b>215.5</b>
<b>31.12.2001</b>	<b>Public Comment Period Closed</b>	<b>8.5</b>
<b>27.10.2004</b>	<b>Final Proponent response to the issues raised</b>	<b>147.2</b>
<b>3.1.2005</b>	<b>EPA report to the Minister for the Environment</b>	<b>9.7</b>

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Assessment No. 1156

## Summary and recommendations

The Shire of Harvey proposes to amend District Planning Scheme No. 1 by rezoning Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from “Tourist” zone and “Recreation” reserve to “Residential Development” zone, “Tourist” zone, “Recreation and Conservation” reserve and “Modified Water Body”. This report provides the Environmental Protection Authority’s (EPA’s) advice to the Minister for the Environment on the environmental factors, conditions and procedures relevant to the proposed scheme amendment.

The Concept Development Plan prepared for the residential and water-based development associated with Amendment No. 13 includes:

- residential development;
- a modified water body;
- creation of tourist related uses; and
- recreational use in part of the foreshore area including a boat launching facility.

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposed scheme amendment and on the conditions and procedures to which the proposed scheme amendment should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

### Relevant environmental factors

Although a number of environmental factors were considered by the EPA in the assessment, it is the EPA’s opinion that the following are the environmental factors relevant to the proposed scheme amendment, which require detailed evaluation in the report:

- (a) Vegetation Communities;
- (b) Waterbirds and Fauna;
- (c) Foreshore – Estuary and River;
- (d) Floodplain;
- (e) Geoheritage;
- (f) Surface and Estuarine Water Quality;
- (g) Acid Sulfate Soils; and
- (h) Mosquitoes.

### Conclusion

The EPA acknowledges the high level of significance of a number of the key environmental factors considered during this environmental impact assessment process, and that the management of future development will need to be undertaken with extreme care and diligence. Nevertheless, the EPA is of the opinion that the outcomes achieved through the Amendment No. 13 process are better than those which would be achieved under the existing zoning.

Key outcomes achieved through the Amendment and the EPA’s formal assessment process include:

- consolidation of the areas of highest conservation value into a management area to be reserved for “Conservation and Recreation”;
- additional two-dimensional modelling, indicating that the geoheritage and waterbird habitat values of Point Douro’s conservation area will not be detrimentally impacted upon by scouring or erosion during flood events;
- management of acid sulfate soils in line with DoE’s technical guidelines, and EPA’s strong recommendation that Council seek a financial assurance that all works will be adequately undertaken;
- monitoring, sampling analysis and contingency measures to ensure that nutrient enrichment or pollution of the waters is avoided or ameliorated; and
- measures to manage the mosquito issue.

The EPA has concluded that the Shire of Harvey’s proposal to amend District Planning Scheme No. 1 by rezoning Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from “Tourist” zone and “Recreation” reserve to “Residential Development” zone, “Tourist” zone, “Recreation and Conservation” reserve and “Modified Water Body” can be implemented to meet the EPA’s objectives provided the conditions recommended in Section 4 and set out in Appendix 4 are imposed and enforced.

### **Recommendations**

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposed scheme amendment being assessed generally comprises the rezoning of Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from “Tourist” zone and “Recreation” reserve to “Residential Development” zone, “Tourist” zone, “Recreation and Conservation” reserve and “Modified Water Body”.
2. That the Minister considers the report on the relevant environmental factors of vegetation communities, waterbirds and fauna, estuary and river foreshores, floodplain, geoheritage, surface and estuarine water quality, acid sulfate soils and mosquitoes as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the EPA’s objectives can be met, provided there is satisfactory implementation by the Responsible Authority of the recommended conditions set out in Section 4.
4. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report.

### **Conditions**

Having considered the Responsible Authority’s commitments and information provided in this report, the EPA has developed a set of conditions which the EPA recommends be imposed if the proposed scheme amendment is approved. These conditions are presented in Appendix 4. Matters addressed in the conditions include the following:

- (a) an Environmental Management Plan for the management of foreshore and conservation reserves, fauna and mosquitoes;
- (b) a Water Management Plan for the management of surface and groundwater quantity and quality (including potential acid sulfate soil and nutrient enrichment scenarios) and management of the proposed “Modified Water Body”;

- (c) a Construction Management Plan;
- (d) a requirement to advertise the Outline Development Plan and Management Plans for a period of at least 4 weeks;
- (e) increase of the foreshore buffer to 50 metres; and
- (f) deletion of that portion of the proposed “Modified Water Body” flowing in a north-easterly direction towards Samphire Bay.

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1. List of submitters – environmental factors
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5. Summary of submissions and Responsible Authority's response to submissions

# 1. Introduction

The Shire of Harvey, the Responsible Authority, proposes to amend District Planning Scheme No. 1 by rezoning Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from "Tourist" zone and "Recreation" reserve to "Residential Development" zone, "Tourist" zone, "Recreation and Conservation" reserve and "Modified Water Body".

In July 1988 a previous proposal for the development of a Bunbury Holiday Resort at Point Douro was referred to the Environmental Protection Authority (EPA). The EPA determined that the potential environmental impacts of the proposal were such that it should be formally assessed under s.38 of the *Environmental Protection Act 1986* (EPA Bulletin 375, March 1989). That proposal, extending over 21.8ha on Point Douro peninsula, on the north-eastern side of the Collie River delta, included a caravan park and associated camping area, as well as family holiday units, a restaurant, recreational facilities and a boat haven to cater for the launching and temporary mooring of shallow draught recreational boats. The proposal was found to be environmentally acceptable, subject to conditions, and the current zonings and reservations were put in place through Amendment 20 to the Shire of Harvey's Planning Scheme No. 10.

That particular development did not proceed. The EPA understands that there have been various requests that the State Government purchase the land, but that no decision has been made to do so.

In August 1997, following a re-design of the proposal, Council initiated the current Amendment (No. 13). In September 1997 the EPA determined that Amendment No. 13 be formally assessed under s.48A of Division 3 of Part IV of the *Environmental Protection Act 1986* (*EP Act*), requiring the preparation and advertising of an Environmental Review document.

The Environmental Review was prepared by GHD Consultants for the Shire of Harvey (Shire of Harvey, 2001) and released for a three month public review period between 30 October 2001 and 31 December 2001. During that period 316 submissions were received from individuals and organisations. The submissions ranged from strong objections through to general support for the proposal.

In compiling this report, the EPA has considered the relevant environmental factors associated with the proposed scheme amendment, issues raised in public submissions, specialist advice from the Department of Environment (DoE) and other government agencies, the Responsible Authority's response to submissions and the EPA's own research and expertise.

Further details of the proposed scheme amendment are presented in Section 2 of this report while Section 3 discusses environmental factors relevant to the proposed scheme amendment. The Conditions and Procedures to which the proposed scheme amendment should be subject, if the Minister determines that it may be implemented, are set out in Section 4. Section 5 provides Other Advice, whilst Section 6 presents the EPA's Conclusions and Section 7, the EPA's Recommendations.

A list of people and organisations that made submissions is included in Appendix 1. References are listed in Appendix 2, and recommended environmental conditions are provided in Appendix 4.

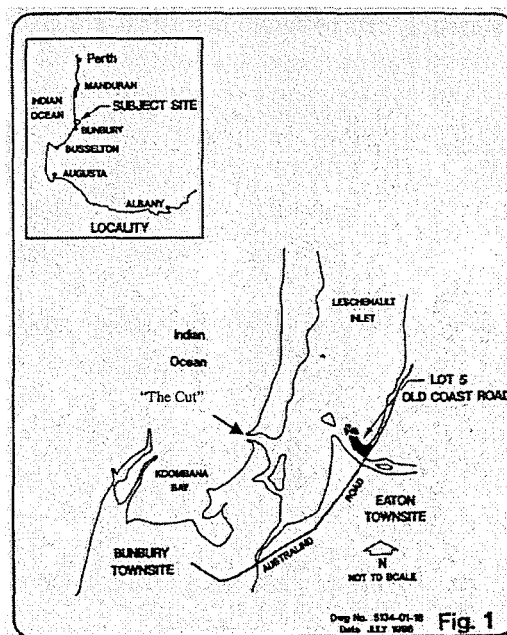
Appendix 5 contains a summary of the public submissions and the Responsible Authority's responses. The summary of public submissions and the Responsible Authority's responses are included as a matter of information only and does not form part of the EPA's report and



recommendations. The EPA has considered issues raised in public submissions when identifying and assessing relevant environmental factors.

## 2. The proposed scheme amendment

Lot 5 Old Coast Road Leschenault is located a few kilometres north of Bunbury, on the north-eastern delta where the Collie River enters the Leschenault Inlet Estuary (see Figure 1). The area is prone to seasonal flooding, has been largely cleared, and in the past has been used for grazing and the creation of fish trap channels. Runnels (otherwise known as spinner drains) have been constructed in more recent times, to assist with mosquito control. Unrestricted off-road-vehicle activity has resulted to ongoing damage to, and maintenance of, the runnelling, and has generally led to degradation of the site, particularly the south-eastern portion nearest the Old Coast Road.



*Figure 1: Location Of Lot 5 Old Coast Road Leschenault*

The site is currently zoned "Tourist", and reserved for "Recreation" under the Shire of Harvey's District Planning Scheme No. 1. The existing zoning would enable the development of 194 caravan sites; 40-60 camping sites; 46 holiday units; a restaurant; take-away service restaurant; swimming pool and recreation facilities; shop and petrol sales outlet; and a managers residence. A water body is also shown in the maps of the District Planning Scheme.

The Shire of Harvey proposes to amend District Planning Scheme No. 1 by rezoning Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from "Tourist" zone and "Recreation" reserve to "Residential Development" zone, "Tourist" zone, "Recreation and Conservation" reserve and "Modified Water Body" (see Figure 2 below).

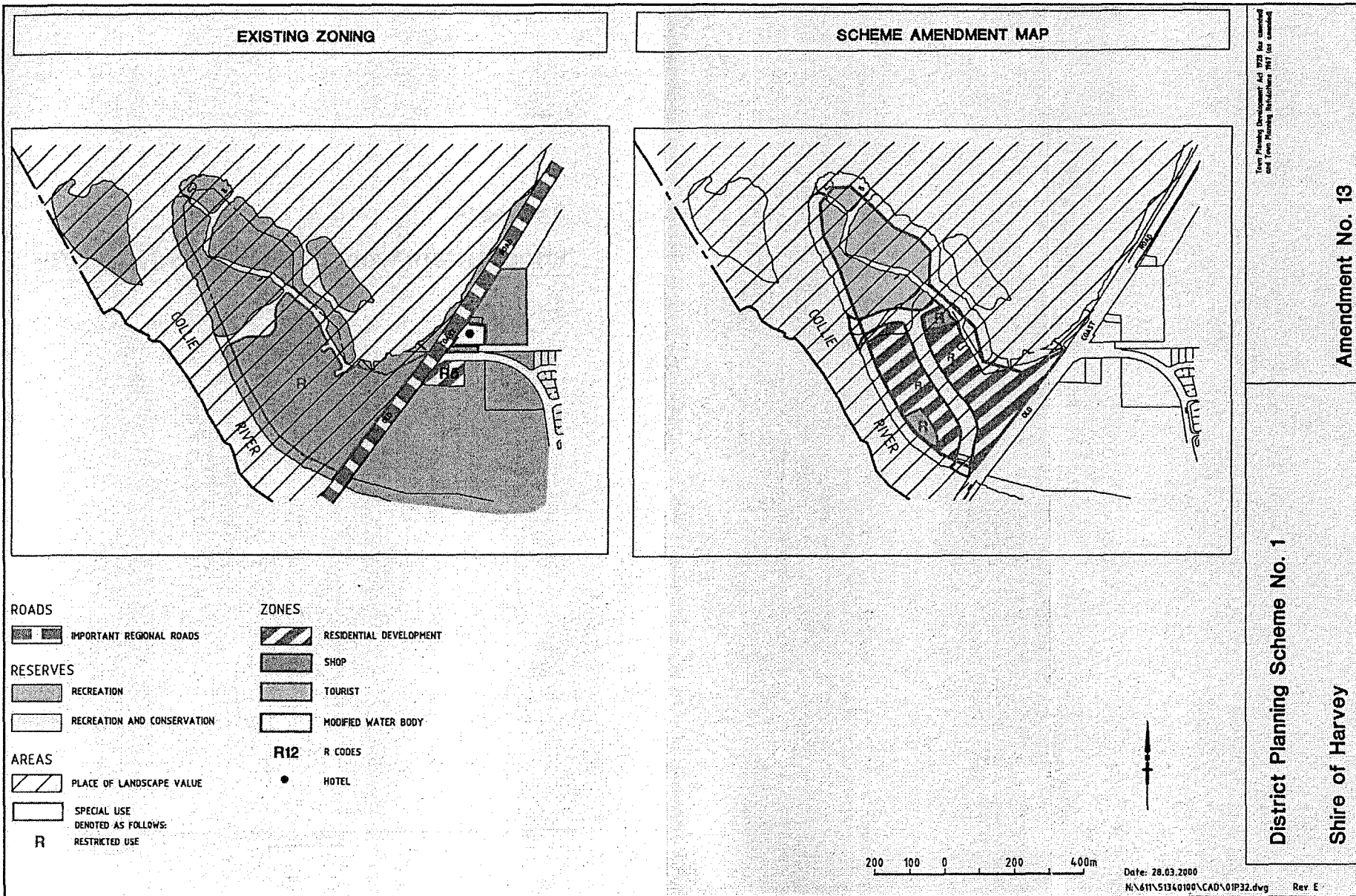


Figure 2: Shire of Harvey District Planning Scheme No. 1 Amendment No. 13

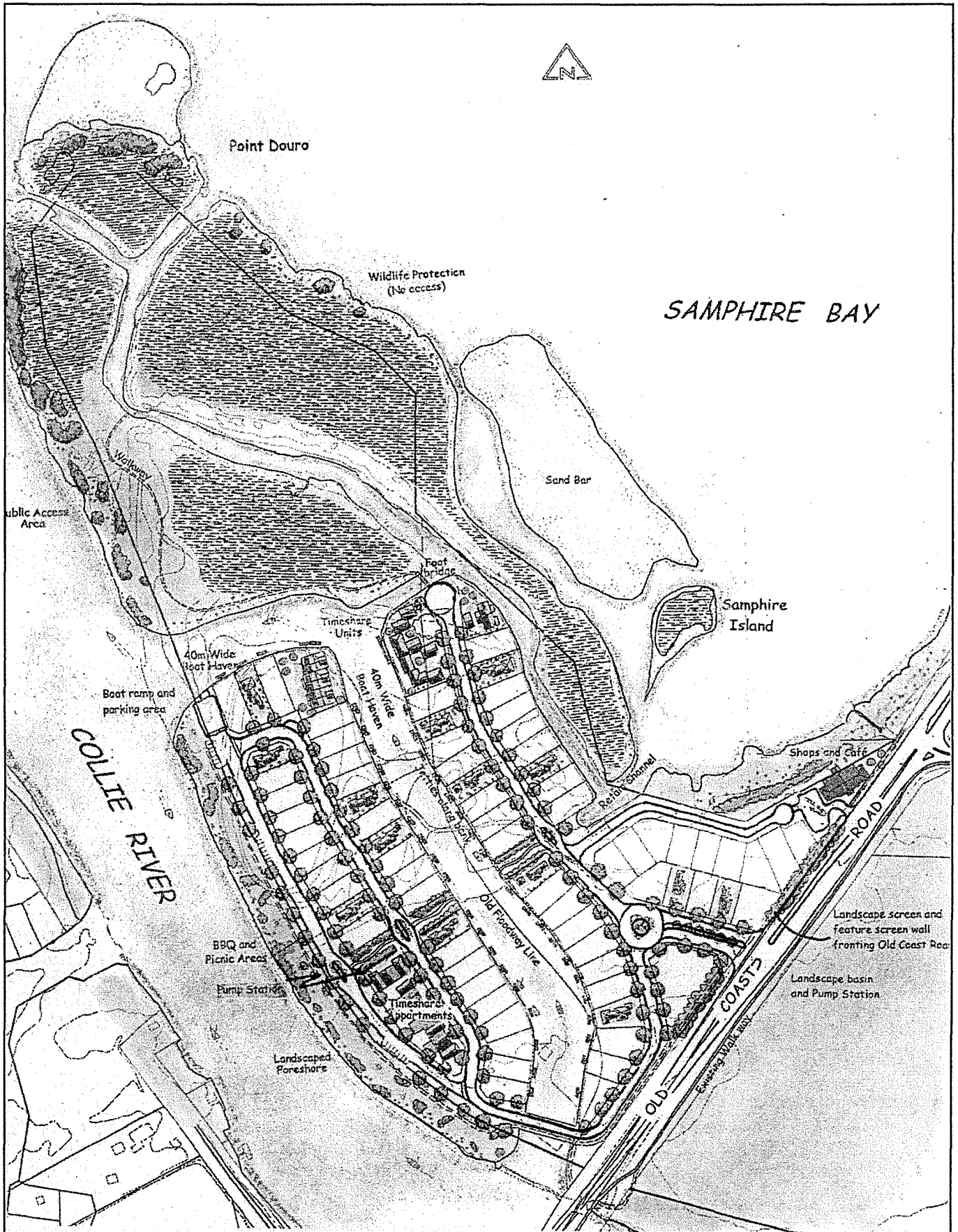


Figure:3 Concept Development Plan (01) as originally proposed under Amendment No. 13

The Concept Development Plan associated with Amendment No. 13 (see Figure 3 above) comprises several components:

- residential development;
- a modified water body;
- creation of tourist related uses; and
- recreational use in part of the foreshore area including a boat launching facility.

The proposal has taken some time to reach this stage as there have been a number of environmental issues to resolve, including impact on waterbird habitat, acid sulfate soils and geoheritage.

The main characteristics of the proposed scheme amendment are summarised in Table 1 below. A detailed description of the proposed scheme amendment is provided in Section 2 of the ER (Shire of Harvey, 2001).

**Table 1 - Key characteristics of proposed scheme amendment**

Element	Comment	Total area - Original Amendment No. 13
<b>Summary</b> Total area of land Total land set aside for development Total land for recreation and conservation (including the 30 metre buffer ceded under previous rezoning)		29.5 hectares 12.47 hectares 17.03 hectares
<b>Residential and Special Residential Development, including roads</b> > Water front sites > Foreshore sites > Balance sites > Retirement village > Short stay accommodation	> 34 lots > 17 lots > 22 lots > Single site > 3 sites	7.45 hectares
<b>Tourism</b> > Chalets > Managers dwelling/shop > Restaurant > Commercial	> Single site > As part of the chalet complex > Includes carpark > Includes carpark	0.86 hectares
<b>Water area</b> > Total artificial water area > Relief floodway area		3.16 hectares
<b>Drainage</b> > Drainage basin > Open space drainage		1.0 hectare

Element	Comment	Total area - Original Amendment No. 13
<b>Recreation and Conservation</b> > Foreshore areas (including 50m buffers) > Conservation areas > BBQs and facilities > Boat ramp and parking	Includes access road	17.03 hectares

Source: GHD, November 2004

Since release of the Environmental Review, a number of modifications to the scheme amendment have been proposed. These include:

- deletion of the portion of “Modified Water Body” flowing in a north-eastwards direction and discharging towards Samphire Bay, and protection of the proposed conservation area by a combination of vermin proof fencing and “Modified Water Body”;
- the 30 metre foreshore reserve which was previously ceded to the Crown will be increased to 50 metres; and
- the existing foreshore buffer which surrounds the area proposed for reservation as “Recreation and Conservation” is also to be reserved from “Recreation” to “Recreation and Conservation”, which is to be renamed “Conservation and Recreation”.

The potential impacts of the proposed scheme amendment initially predicted by the Responsible Authority in the ER document (Shire of Harvey, 2001) and their proposed management are summarised in Appendix 3.

### 3. Environmental factors

#### 3.1 Relevant environmental factors

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposed scheme amendment and the conditions and procedures to which the proposed scheme amendment should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

It is the EPA’s opinion that the following are the environmental factors relevant to the proposed scheme amendment, which require detailed evaluation in this report:

- (a) Vegetation Communities;
- (b) Waterbirds and Fauna;
- (c) Foreshore – Estuary and River;
- (d) Floodplain;
- (e) Geoheritage;
- (f) Surface and Estuarine Water Quality;
- (g) Acid Sulfate Soils; and

(h) Disease Vector and Nuisance Insects - Mosquitoes

The above relevant factors were identified from the EPA's consideration and review of all environmental factors (preliminary factors) generated from the Environmental Review document and the submissions received, in conjunction with the proposed scheme amendment characteristics and alternative approvals processes which ensure that the factors will be appropriately managed.

The land subject to this proposed scheme amendment is within the area affected by the Shire of Harvey's District Planning Scheme No. 1 Amendment No. 13.

The relevant factors are discussed in Sections 3.2 to 3.9 of this report and are summarised in Table 3.

## 3.2 Vegetation Communities

### Description

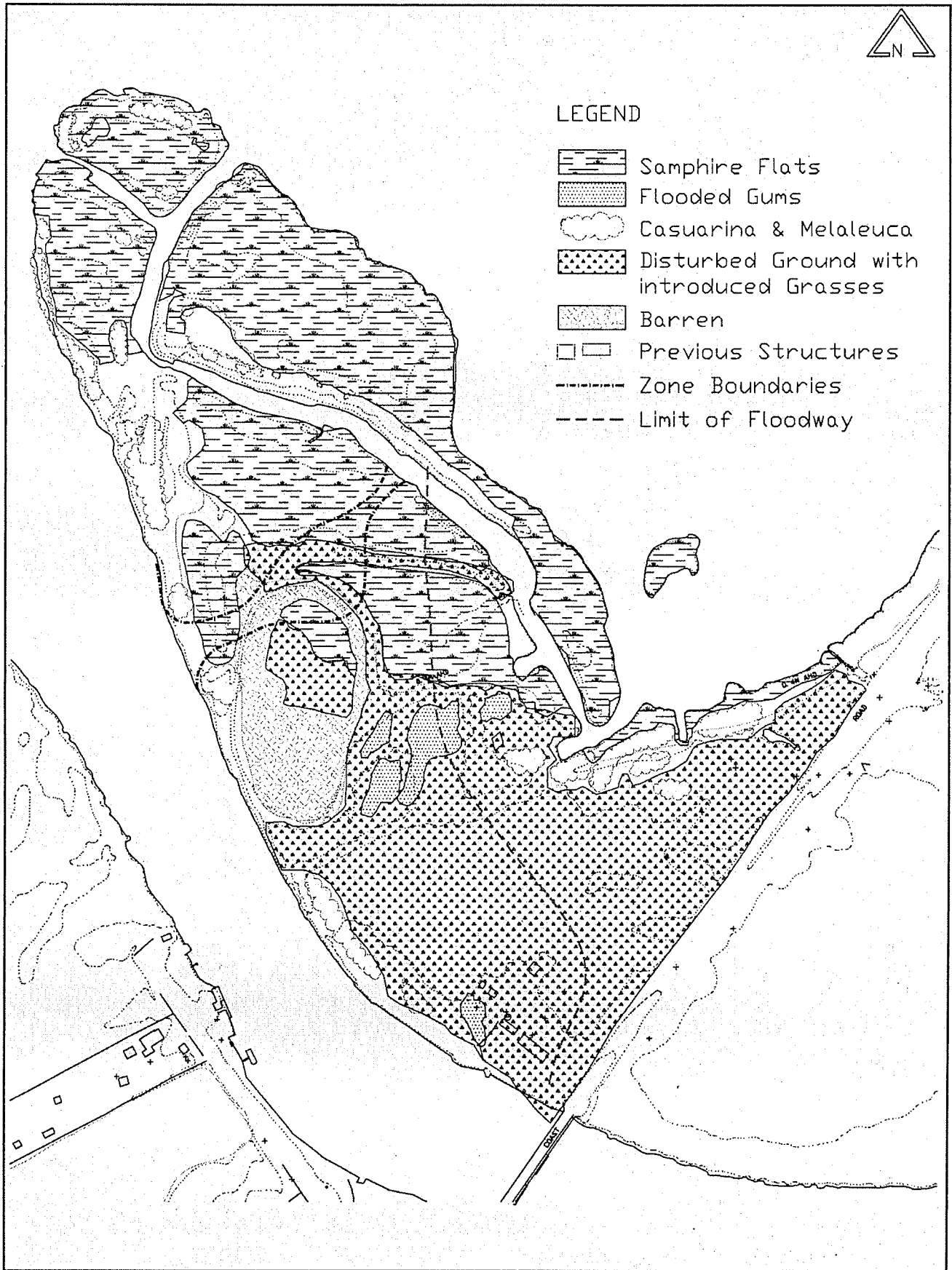
Point Douro peninsula is included within the 1983 System 6 Recommendation C66 which identifies the Leschenault Inlet area as having high conservation, recreation and landscape values; and the Collie River mouth is included in System 6 Recommendation C67 (DCE, 1983). At the time the recommendations were made, the areas comprised a mixture of Reserves, vacant Crown land, and privately owned freehold land. It was recommended that areas of regional significance be identified through the planning process, and, where appropriate, designated as Regional Parks (Recommendation 15 referred to in Recommendation C66.1).

System 6 Recommendation C66.4 is also relevant to this rezoning, in that it states urban development should only be allowed if associated with deep sewerage systems which do not lead to pollution of the Inlet.

Salt-marshes develop in areas which are saline either through tidal inundation directly, or as a result of tidal inundation followed by evaporation of water trapped on the marsh by a shoreline levee. The latter seems more common along river channels where peripheral sediment deposition is greater (Pen, 1992, pers. obs. p.4). Although no rare or endangered vegetation species have been identified on the site, the samphire communities which extend from the end of the peninsula do play a significant role in supporting bird populations (see 3.3 below).

The salt-marsh vegetation on the north-western portions of Point Douro is in good condition and has significant value as a component of the Leschenault Inlet ecosystem (pp.298-307, J. Royal Soc. WA, 2000). It has high conservation values, and chiefly comprises samphires (*Sarcornia quinqueflora* and *Halosarcia indica*) with patches of *Juncus kraussii*. The closed herbland community (*S. quinqueflora*) takes the form of extensive mats of samphire behind a shoreline strip of shore rush (*J. kraussii*) (Pen, 1992, p.5). The Gibson *et al.* (1994) study did not list any samphire communities, so representation in conservation reserves has not been indicated.

Stands of estuarine forest vegetation, including *Casuarina obesa* (a small saltwater she-oak), fringe the Collie River margin of Point Douro.



**Figure 4: Existing Vegetation at Point Douro (map dated 19 January 2000)**

Source: Bowman Bishaw & Associates, as included in Shire of Harvey, 2001, Appendix E

On the south-western portion of Point Douro, the low lying areas and abandoned channels mainly comprise samphire herbland, with *Halosarcia indica* and *H. halocnemoides* being predominant (Shire of Harvey, 2001). The major relief is provided by the remnant stands of the flooded gum *Eucalyptus rudis*, which is found in the highest parts of Point Douro (Pen, 1992, p.9), and the small paperbark *Melaleuca viminea*. This portion of the peninsula has been degraded due to grazing, uncontrolled fires, vehicle use and weed invasion.

Other species recorded on the peninsula were *Hakea prostrata*, *Atriplex prostrata* (marsh saltbush) and introduced species such as couch, kikuyu, pigface, *Watsonia* and *Oxalis*.

### Assessment

The area considered for assessment of this factor is the Amendment area (Lot 5 Old Coast Road, Leschenault).

The EPA's environmental objective for this factor is to maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities

Development under the proposed Amendment will extend over only 12.47 hectares of the total 29.5 hectares (which includes the previously ceded foreshore buffers). In addition, clearing and modification of the site will generally be on the degraded areas, rather than those which are fully vegetated, thus minimising the impact on the samphire and terrestrial vegetation identified in the System 6 Recommendation C66. Whilst part of the System 6 area will be lost, the Amendment will retain and consolidate for conservation management the areas of highest conservation on Point Douro. Consequently, given that the north-western portion of the Point Douro delta will be retained within the conservation area for "Recreation and Conservation", the proposed Amendment does not appear to be contrary to the intent of the System 6 Recommendation to identify the areas of highest value and reserve them as Regional Open Space. To further clarify the intent, a recommended Ministerial Condition modifies the reservation from "Recreation and Conservation" to "Conservation and Recreation".

The EPA is pleased to note that the "Recreation and Conservation" reservation will be separated from the development area by a combination of the "Modified Water Body" and vermin proof fencing. Recreational activities, such as bird-watching, will not be permitted unless in accordance with the management plan proposed for the recreation and conservation area under the Amendment provisions.

As also recommended for System 6 Recommendation sites C66 and C67, a deep sewerage system will be installed for all urban development, and supported by contingency measures.

Minimisation of disturbance of existing remnant vegetation, appropriate re-vegetation and other issues affecting the vegetation communities will be addressed in the 'Environmental Management Plan', the 'Water Management Plan' and the 'Construction Management Plan' the preparation of which will be required under scheme provisions, as part of the development of the Outline Development Plan, all of which will be publicly advertised.

### Summary

Having particular regard to the:

- (a) fact that the Point Douro areas of highest conservation value will be consolidated into one management area for conservation and recreation;
- (b) proposed reservation of more than half the site for "Recreation and Conservation" (to be renamed "Conservation and Recreation");



- (c) use of a combination of the “Modified Water Body” and vermin proof fencing to separate the proposed reservation from the development area, and Council’s requirement for a management plan prior to any activity or development within the area proposed for reservation;
- (d) installation of deep sewerage and contingency measures in case of system failure;
- (e) scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for ‘Environmental Management’, ‘Water Management’ and ‘Construction Management’ within the Amendment area; and
- (f) the ability for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA’s opinion that the proposed scheme amendment, if implemented, can meet the EPA’s environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey’s District Planning Scheme No. 1.

### 3.3 Waterbirds and Fauna

#### Description

Two types of bird habitat are found in the vicinity of the Amendment area; they comprise river deltas and the mudflats of open waters.

River deltas are well recognised as being rich ecological habitats with continual replenishment of nutrients from organic matter and minerals carried in suspension by the river and deposited at the delta. Consequently, the fringing estuarine habitats of the Leschenault Inlet estuary (for example, wet and dry salt marshes and pools) support a greater density and larger variety of waterbirds than the deeper open waters, and other parts of the estuarine shoreline (CALM, pers.com, 28 February 2002). The ‘wetlands’ are used for both feeding and roosting.

The open water habitats of the Leschenault Inlet estuary (for example, sandbars and shallow water) support the larger part of the waterbird population and are largely used for feeding (Raines *et al.* in J. Royal Soc of WA, 2000, p.503).

Of the birds recorded in the vicinity of the Amendment site, the majority are common, such as Pelicans, cormorants, seagulls, Black Ducks, Grey Teals and Black Swans (Shire of Harvey, 2001). However, some species are of conservation importance, such as the Great Egret (listed species under the *Environmental Protection and Biodiversity Act*) and the Yellow-billed Spoonbill, which is uncommon in Western Australia.

A high proportion of waterbirds found on the tidal flats of the estuary are trans-migratory, arriving at Leschenault Inlet in spring/summer and departing by autumn. At least 17 species of shorebirds found in the Point Douro area, including stints, plovers, and sandpipers, are the subject of international treaties, that is the China Australia Migratory Birds Agreement (CAMBA) and the Japan Australia Migratory Birds Agreement (JAMBA) (CALM, pers. com., 28 February 2002). During winter and spring, the inundated tidal flats support breeding pairs of ducks, large numbers of cormorants and moderate numbers of herons, egrets and spoonbills. The Samphire Bay mudflats play a significant habitat role for the CAMBA, JAMBA, and other, birds.

Other fauna on the site comprises a small number of relatively common reptile species, with no endangered, Priority, or rare species observed. The existing small size and degraded nature

of the terrestrial habitats on Point Douro would most likely only have the ability to support relictual wildlife populations in low abundance, other than birds.

### **Assessment**

The area considered for assessment of this factor is the Amendment area and surrounding tidal mudflats.

The EPA's environmental objective for this factor is to maintain the abundance, species diversity and geographical distribution of terrestrial fauna.

Development under the proposed Amendment will extend over only 12.47 hectares of the total 29.5 hectares. In addition, clearing and modification of the site will generally be on the degraded areas, rather than those which are better vegetated and of higher conservation value, thus minimising the impact on the waterbirds, other fauna and their existing habitat.

It is proposed to reserve the north-west portion of Point Douro as "Recreation and Conservation", to be renamed "Conservation and Recreation". Recreational activities will not be permitted unless in accordance with the management plan required for the reserve, and the reserve will be separated from human and animal activity by the remaining portion of the "Modified Water Body" and vermin proof fencing.

Furthermore, the proponent has agreed to delete the north-easterly flowing portion of "Modified Water Body" which would have discharged towards Samphire Bay. This removes earlier concerns relating to potential erosion and scouring of the beneficial nutrient deposits in the Samphire Bay mudflats, which play an important role as bird habitat. Future development will be designed so that the existing flow regime is also maintained over the conservation area.

Minimisation of disturbance of existing fauna habitat, appropriate re-vegetation and other measures to encourage waterbirds and native fauna to the area once construction is completed will be addressed in the 'Environmental Management Plan', and the 'Construction Management Plan' (required under scheme provisions and as recommended Ministerial Conditions). Preparation of these plans will form part of the development of the Outline Development Plan, and all will be publicly advertised prior to finalisation.

### **Summary**

Having particular regard to the:

- (a) proposed reservation of more than half the site for "Recreation and Conservation", to be renamed "Conservation and Recreation";
- (b) use of the canal and vermin proof fencing to separate the proposed reservation from the development area, and Council's requirement for a management plan prior to any activity or development within the area proposed for reservation;
- (c) deletion of the north-easterly flowing portion of the "Modified Water Body", thus removing discharge of additional water-flows into Samphire Bay;
- (d) scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for 'Environmental Management', 'Water Management' and 'Construction Management' within the Amendment area; and
- (e) provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1.

### **3.4 Foreshore – Estuary and River**

#### **Description**

The estuary and foreshore interface surrounding Point Douro comprises a 30 metre "Recreation" reserve which was previously ceded to the Crown.

The definition of the foreshore area on the eastern side has been somewhat confusing due to drainage channels installed by the original owner to drain marshland and trap fish. However, the 30 metre reservation has been delineated under the existing District Planning Scheme No. 1.

Aerial photography and local evidence indicates that the Collie River foreshore has been relatively stable for a reasonable period of time, and has not eroded due to river or storm generated flow (Shire of Harvey, 2001).

The fringing vegetation is in varying condition, with the less-cleared areas being the furthest from the Old Coast Road. Pen (1992) surmises that the fringing parkland area which now supports relic flooded gum (*Eucalyptus rudis*) once supported small stands of *E. rudis* and *Melaleuca raphiophylla* forest.

#### **Assessment**

The area considered for assessment of this factor is the foreshore portion of the Amendment area.

The EPA's environmental objective for this factor is to maintain the integrity, function and environmental values of the foreshore area.

The foreshore reservation is to be increased from the existing 30 metres to 50 metres, to meet the more recently applied environmental and Western Australian Planning Commission requirements (WAPC DC 6.1, s.3.6.4). This increase is included in the recommended Ministerial Conditions.

The portion of foreshore reservation abutting the proposed residential and tourist development will be reserved as "Recreation", but the portion which abuts the proposed conservation area will be reserved as "Recreation and Conservation" (to be renamed "Conservation and Recreation").

Scheme provisions, supported by recommended Ministerial Conditions, will require preparation and public advertising of an 'Environmental Management Plan' and a 'Construction Management Plan'. The plans will address issues such as avoidance and minimisation of clearing and remnant vegetation disturbance, and, following construction, revegetation with native species of local provenance. Other issues include the appropriate management of rotting macroalgae, which from time to time collects on the foreshores, so that its benefits are retained within the ecosystem, and management of public access to the mouth of the Collie River.

The outcomes identified in the various management plans will be implemented through the Outline Development Plan required by Council for the Amendment area, and both the

management plans and the Outline Development Plan will be advertised for public comment prior to finalisation.

### **Summary**

Having particular regard to the:

- (a) increase in the existing 30 metre foreshore reservation to a width of 50 metres;
- (b) proposed reservation as “Recreation and Conservation” (to be renamed “Conservation and Recreation”) of the portion of foreshore abutting the proposed conservation area;
- (c) Scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for ‘Environmental Management’, and ‘Construction’ within the Amendment area; and
- (d) provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA’s opinion that the proposed scheme amendment, if implemented, can meet the EPA’s environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey’s District Planning Scheme No. 1.

## **3.5 Floodplain**

### **Description**

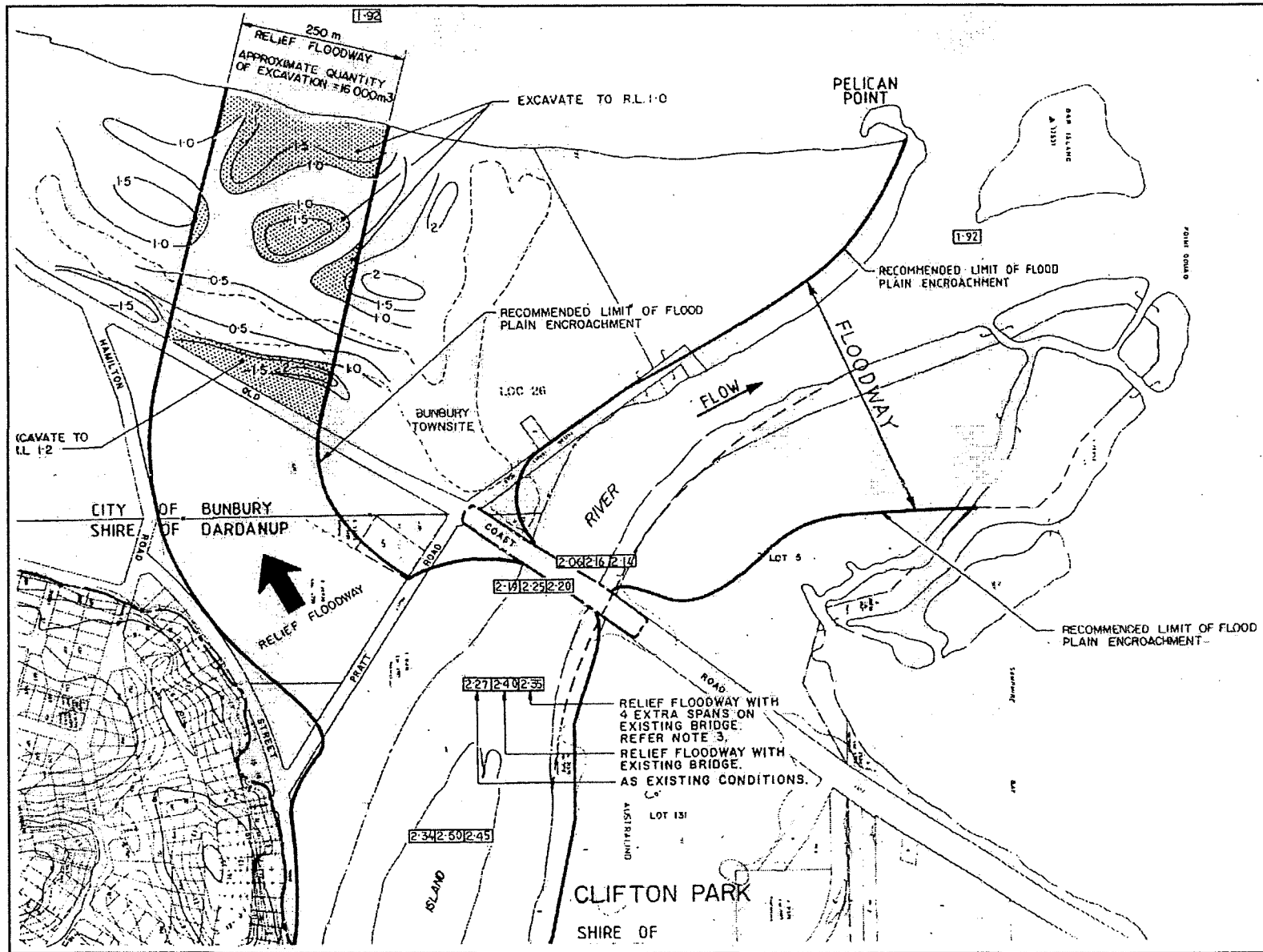
Construction of the “The Cut”, a man-made opening to the ocean through Leschenault Peninsula in 1951, resulted in an exchange of marine waters, and an increase in the rate of flushing of the Leschenault Inlet area. The hydrologic characteristics of both the Leschenault Inlet and the lower reaches of the Collie River were changed, and ocean tidal influences now impact more on the floodprone nature of the land.

The 1985 Collie River Flood Study done by the Public Works Department (refer Figure 5) delineates the 100 year ARI floodplain and floodway at the mouth of the Collie River. The majority of Point Douro will be inundated in a 100 year ARI river flood event. The floodway is that part of the 100 year ARI floodplain where proposed development that is considered obstructive to major flows is not acceptable as it would increase flood levels upstream.

The last major river flow in the Collie River was in 1964 and is estimated to have been a 40 year ARI event.

The previously assessed Bunbury Holiday Resort proposal (1988) increased the 2.4 metre AHD level requirement for buildings to 2.5 metres AHD. The proposed scheme provisions and recommended Ministerial Conditions will require the same 0.60 metre above AHD for minimum habitable floor levels.

The current proposal includes a channel of 40 metres wide and approximately 2.0 metres deep to serve as a relief flood channel that will carry the flood waters that flow across the site during a 100 year ARI flow. It is proposed that a road bridge will connect the two residential areas.



**Figure 5: Floodway for 100 year ARI, at the mouth of the Collie River**

Source: Based on Public Works Department Collie River Flood Study, 1985

## Assessment

The area considered for assessment of this factor is the Amendment area.

The EPA's environmental objective for this factor is to ensure that the flow of the Collie River floodwaters are not inhibited.

The Concept Development Plan prepared by Gutteridge Haskins and Davey (Shire of Harvey, 2001) was assessed with regard to the Water and Rivers Commission's floodplain development guidelines for the Collie River mouth. The Plan was considered acceptable, subject to the following requirements being satisfied to ensure adequate flood protection:

- the design of the development ensures that the 100 year ARI flood level at the downstream side of the Collie River bridge is no higher than 2.16 metres AHD; and
- future development has a minimum habitable floor level of 0.60 metre above the adjacent 100 year ARI flood level.

Hydraulic calculations show that the first condition should be satisfied by the proposed Concept Development Plan (both the original plan, and as modified during the environmental impact assessment process) and the second condition will be achieved by filling of land for building areas. Both requirements have been incorporated in the recommended Ministerial Conditions for the 'Water Management Plan' and the 'Construction Management Plan'.

Concerns that some river flood events could impact upon the mudflat bird habitat in Samphire Bay, due to the north-easterly flowing channel of the "Modified Water Body, have been addressed by removal of that portion of the channel from the Concept Development Plan. Other concerns related to the greater potential for scouring or erosion of the proposed "Recreation and Conservation" area as flood waters breakout from the banks during the more frequent river flood events. Additional two-dimensional Delft-FLS modelling was undertaken (GHD, 2004) to determine water velocities during the more frequent river flows in association with low tidal events. The modelling indicated that it is possible to design an embankment on the northern bank of the canal such that the flow regime through the channel and across the samphire flats will be similar to existing conditions. Further two-dimensional hydrodynamic modelling will be required to support the detailed design of the required embankment, and this will be required through scheme provisions and supported by recommended Ministerial Conditions for the 'Water Management Plan'.

Operation and maintenance of the "Modified Water Body" as a relief flood channel will be covered by scheme provisions in the proposed 'Water Management Plan'.

## Summary

Having particular regard to the:

- (a) one-dimensional and two-dimensional hydraulic modelling which indicates that issues related to river flooding, and scouring concerns, can be adequately addressed; and
- (b) scheme provisions, supported by recommended Ministerial Conditions, requiring the preparation of a 'Water Management Plan' which will address detailed design requirements to ensure that the flow regime across the "Recreation and Conservation" area is similar to existing conditions, as well as operation and maintenance of the "Modified Water Body" as a relief flood channel; and
- (c) the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1.

### 3.6 Geoheritage

#### Description

The terms geological significance and geological heritage – geoheritage - have been defined with varying levels of complexity. A simple definition is “those features of special scientific or educational value which form the essential basis of geological education, research and reference. These features are considered by the geological community to be worthy of protection and preservation.” (Joyce, 1999). This definition incorporates geomorphology and surface processes, such as sedimentology, which are the aspects under consideration for Point Douro.

The Collie River deltaic complex within the Leschenault Inlet estuary is an asymmetrical, triangular, low-relief landform, comprising channels, levee banks, beachridges, swales, shoals and other geomorphological features (Pen *et al.* in J. Royal Soc. of WA, 2000, p.298).

It is a distinctive delta system, when compared with other intra-estuarine deltas in southern and southwestern Australia. This is in part due to its location within an estuarine lagoon, and the fact that for some time it was wholly separated from oceanic processes. Exchange between the estuary and the ocean used to take place via a 3 kilometre long tidal-deltaic channel, until the construction of “The Cut” (refer to Figure 1), which has increased exchange with the ocean (Wurm & Semeniuk in J. Royal Soc. of WA, 2000, p.231).

The Collie River delta is unusual in that it portrays the attributes of two types of deltas. Overall it appears to be a fluvial-built delta, because it projects out from the hinterland, but the internal form of its north-western part is wave dominated, whilst the internal form of the south-eastern part is fluvial dominated.

The north-western part comprises a sand bar and tidal flat system, known as a “chenier plain”, and reflects the effects of wave action that impinge on the coast from the large fetch of the Leschenault Inlet by northerly and north-westerly wave trains during winter storms (Wetlands Research Association, 3 March 2002). Interlayering of muddy-sand and sandy-mud occurs as the result of constant wave reworking (at the delta front) of the alluvial input from the rivers (Wurm & Semeniuk in J. Royal Soc. of WA, 2000, p.240).

The south-eastern part of the delta is protected from the wave trains by virtue of its orientation and by the Collie River channel.

To date, such morphology within a delta, including the chenier plain, has not been described elsewhere (Wetlands Research Association, 3 March 2002).

Development potential under the proposed Amendment will be confined to the south-eastern portion of Point Douro, which has already been modified and is currently somewhat degraded, as outlined in Section 2 of this report. However, if subsequent development is not adequately managed, there is the potential that geoheritage values could be impacted upon.

#### Assessment

The area considered for assessment of this factor is the Amendment area.

The EPA's environmental objective for this factor is to ensure that the geoh heritage values of the biophysical environment are not adversely affected.

The EPA acknowledges that the Collie River Delta is a good example of a combined wave-influenced and fluvial-dominated delta and therefore of particular importance to geologists who have interests in the areas of sedimentology and geomorphology. It does, therefore, hold a degree of geoh heritage value.

At the same time, however, the EPA notes that neither the Collie River Delta nor Point Douro is listed as being of State heritage significance (see Lemmon *et al.* (1979), and Carter (1987)). Nor is the area listed on the Register of National Estate maintained by the Commonwealth Department of Environment and Heritage.

The EPA has received technical advice that although the proposed development on the south-eastern portion of the delta would have some effect upon sedimentation, and would modify the delta to a certain degree, the delta will not be totally destroyed or severely damaged.

In fact, the potential provided by Amendment No. 13 to add the north-western portion of the delta to the conservation estate, is highly desirable for the protection of all associated ecological and geoh heritage values.

Scheme provisions and recommended Ministerial Conditions will be in place to ensure adequate management of environmental issues through the preparation of management plans for the entire delta, that is, both the conservation area and the area to be developed. These management plans, and the Outline Development Plan which will be based on the management plans, will be available for public comment prior to finalisation.

Furthermore, there is agreement that the original proposal be amended, by removal of the portion of the "Modified Water Body" which flows in a north-easterly direction towards the mudflats in Samphire Bay. In addition, under the proposed Amendment a significant area of the north-western part of the delta, which is currently held in private ownership, will be set aside as a "Recreation and Conservation" reservation (to be renamed "Conservation and Recreation").

The EPA has required further two-dimensional modelling to confirm that the existing flow regime for the conservation area will be maintained. The modelling indicated that the "Modified Water Body" (canal) can be designed so that it does not cause any erosional changes or scouring of the Samphire Bay mudflats and the proposed conservation area on the north-western portion of the delta, thus ensuring retention of existing sedimentological processes.

### **Summary**

Having particular regard to the:

- (a) lack of heritage listing for Point Douro at either the State or Commonwealth level;
- (b) independent technical advice that the development possible under Amendment No. 13 should not severely damage the delta;
- (c) reservation of the north-western portion as "Recreation and Conservation", to be renamed "Conservation and Recreation";
- (d) scheme provisions, supported by recommended Ministerial Conditions, require the preparation of management plans to be incorporated in the Outline Development Plan; and
- (e) provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;



it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1.

### 3.7 Surface and Estuarine Water Quality

#### Description

The water quality characteristics of the Collie River are similar to those of other rivers in the Swan Coastal Plain (various sources, as quoted in Shire of Harvey, 2001). Therefore they are potentially problematic, characterised by seasonal water flows (most flow in winter), micro-tides, enrichment with organic material and nutrients (mainly nitrogen and phosphorous), and also experience numerous phytoplankton blooms. Phytoplankton populations are at their highest in summer and autumn, reducing in densities when the Collie River flows during winter and early spring and there is good water exchange with the ocean.

The water exchange between the ocean and the estuarine lower reaches of the Collie River and Leschenault Inlet is via "The Cut", which is a 70 metre wide and about 5 metre deep channel between the Leschenault Inlet and the Indian Ocean near Turkey Point.

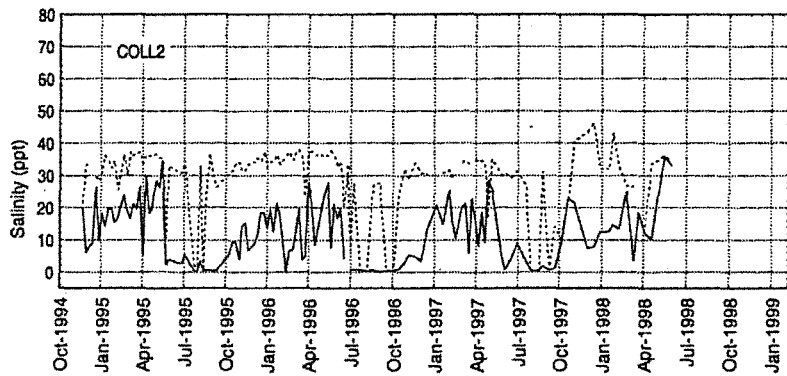
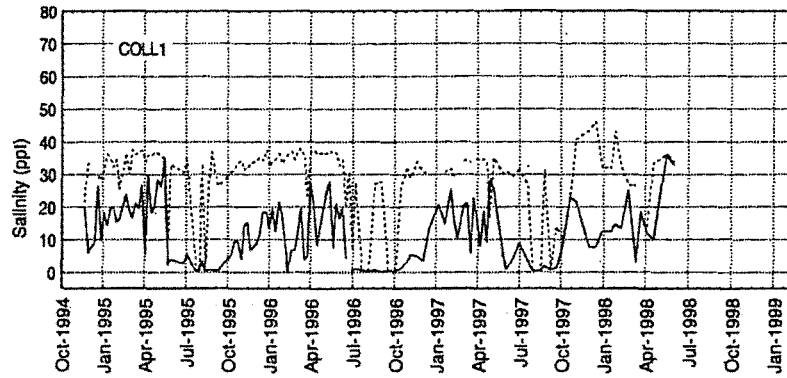
The major source of nutrients to the Inlet is the input of nutrient-enriched fresh surface and groundwater from agricultural areas within the Collie River catchment, and input from the Brunswick and Wellesley Rivers. The nutrient status of the near shore waters is generally low to moderate for most of the year, having increased from low to more moderate in terms of enrichment over the last 10 years (Rose, pers. com, December 2004). Excessive nutrient enrichment can lead to toxic algal blooms and result in fish kills.

Water and Rivers Commission sampling data from three of its study sites (sites EST3, COLL1 & COLL2 in WRC, 2000) generally indicates that Total Nitrogen is increasing, and that NOx also tends to increase during wet years. The levels of ammonia (NH<sub>4</sub>) are chronically high in both the lower Collie River and the lower estuary. Total Phosphorus does not appear to be excessive in the southern part of the Leschenault Inlet estuary, but displays elevated concentrations in the Collie River, often exceeding the ANZECC trigger levels of 0.065mg/L for lowland rivers and 0.030 mg/L for estuaries in the Southwest.

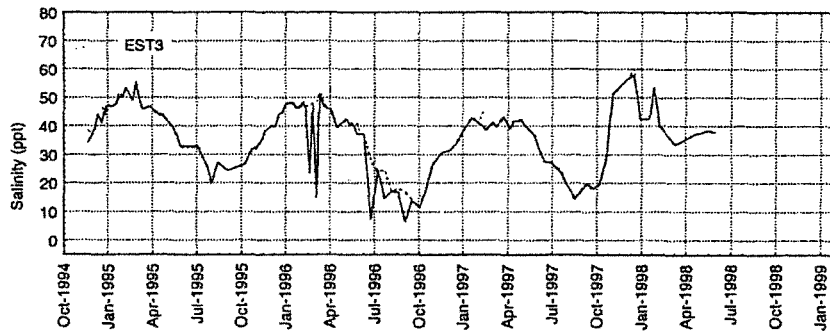
Salinity in the Leschenault Inlet estuary responds to tidal fluctuations and freshwater runoff from the catchment (WRC, 2001). Waters in the Point Douró area are typically stratified, with fresh water overlying saline water during autumn, early winter and spring. The southern portion of the estuary exhibits strong marine/saline conditions during most of summer and autumn, but during winter and spring can be stratified with a fresh or fresh to brackish lens of water overlying brackish-marine waters when river flow is strong. Stratification at the mouth of the Collie River is common and chronic, but decreases in winter when downstream flow washes out residual saline marine waters.

Wind mixing generally reduces the frequency of low dissolved oxygen (DO) in the Leschenault Inlet estuary. However, there are often hypoxic conditions in the bottom waters of the lower Collie River, and deoxygenation events can lead to either increased stress levels or the death of fish and other aquatic animals.

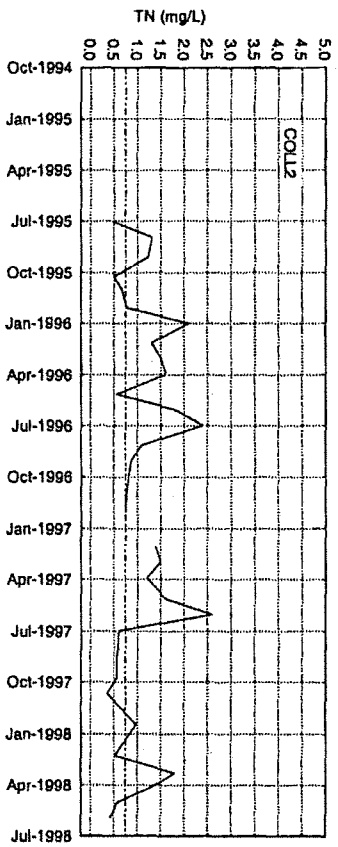
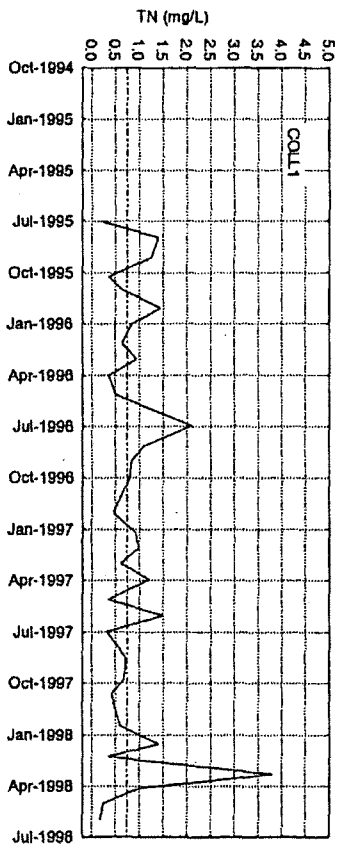
Figures 6A, B and C: Water quality data for the lower Leschenault Estuary and the Estuarine Reach of the Collie River (1994-1998) Source: WRC, 2000



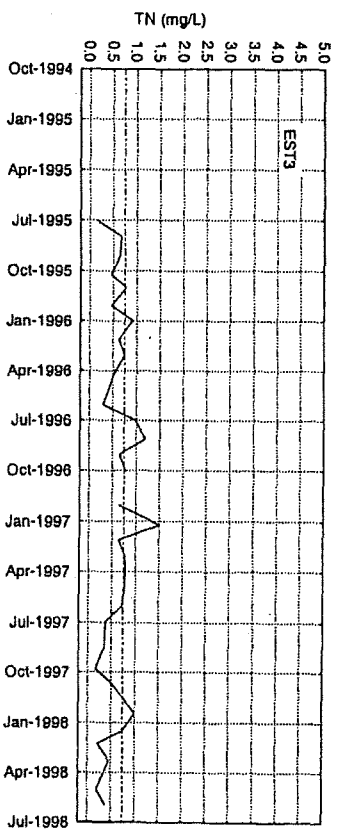
Salinity in the Estuarine Reach of the Collie River (1994 – 1998)



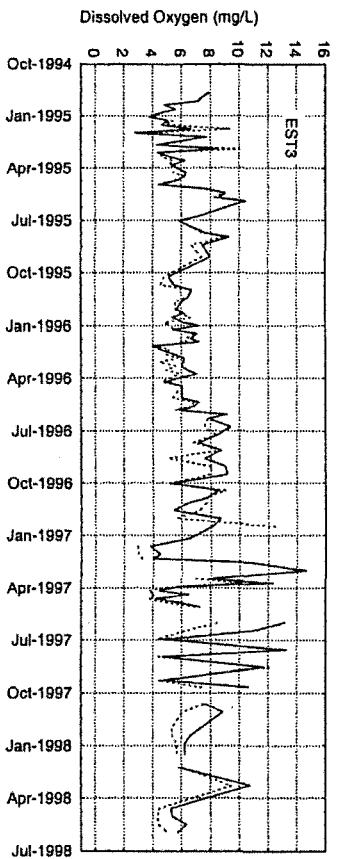
Salinity in the lower Leschenault Estuary (1994 – 1998)



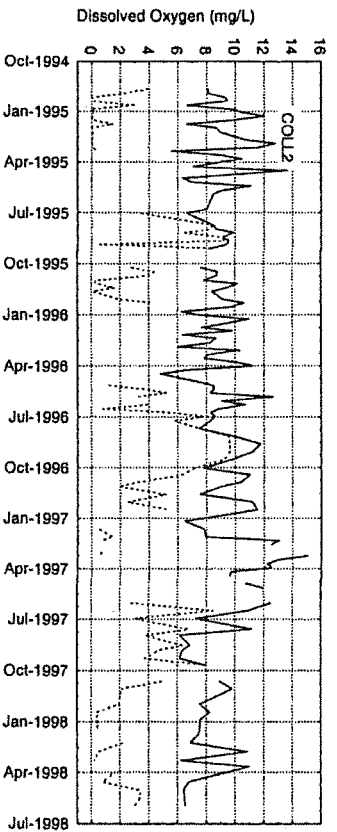
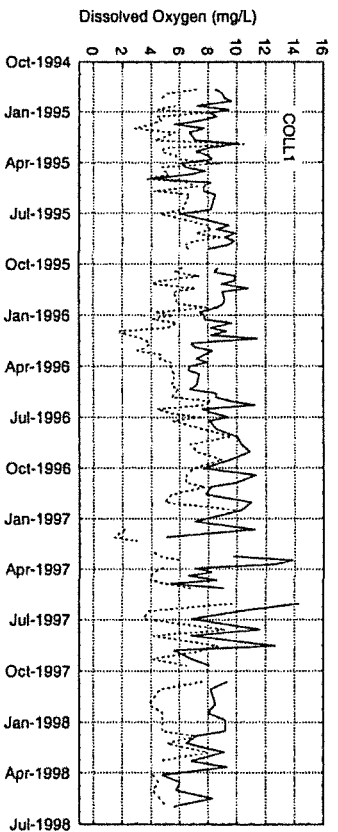
Total Nitrogen in the Estuarine Reach of the Collie (1994 - 1998)



Total Nitrogen in the lower Leschenault Estuary (1994 - 1998)



Dissolved Oxygen in the lower Leschenault Estuary (1994 – 1998)



Dissolved Oxygen in the lower Estuarine Reach of the Collie River (1994 – 1998)

Development which will be permitted under Amendment No. 13 has the potential to impact upon water quality in a number of ways. These include leaching of fertilisers/nutrients; stormwater run-off; pollution related to small boats (such as anti-fouling coatings, bilge, oils and fuels); and accumulation of debris, rubbish and weeds in the "Modified Water Body". The "Modified Water Body" is also likely to accumulate algal scums and reflect ambient water quality found in its source waters from the lower Collie.

### Assessment

The area considered for assessment of this factor is the Amendment area and surrounding waters.

The EPA's environmental objective for this factor is to maintain or improve the quality of surface and estuarine waters to ensure that existing and potential uses, including ecosystem maintenance are protected.

It is a requirement that the development be connected to a reticulated sewage system, with contingency measures in the event of spills or other emergencies.

Proposed scheme provisions for the 'Water Management Plan', supported by recommended Ministerial Conditions, require that the environmental values for the waters, namely aquatic ecosystems, and recreation and aesthetics, are not jeopardised and comply with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* and the *State Water Quality Management Strategy No. 6 – Implementation Framework for Western Australia for the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, and Water Quality Monitoring and Reporting (Guidelines Nos. 4 & 7: National Water Quality Management Strategy)*. Other requirements include the application of best practice stormwater management principles, the use of native plants, and minimisation of fertiliser application.

The proposed scheme provisions and recommended Ministerial Conditions require a technically sound and quality assured monitoring and sampling analysis plan, in part to indicate the state of the water quality. The monitoring and sampling analysis plan will be for five years in the first instance, and sample all important parameters at four or five sites (two control sites upstream and downstream of the canal entrance and exit, and two or three sites within the modified water body itself). Sampling frequency will be fortnightly for the first two years, and then monthly for the following three years. The plan will also be subject to regular quality assurance.

Contingency measures are required to avoid (or treat) toxic or nuisance algal blooms. In addition, the 'Construction Management Plan' will require adequate management of silt plumes so that increased turbidity does not become an issue. It will also have to consider acid sulfate soils (discussed in Section 3.8) and their exposure and take steps to minimise or eliminate acid sulfate materials, that is, acidity and metals, from affecting the waterways.

All proposed management plans will need to address the highly significant issue of potential contamination through the mismanagement of acid sulfate soils (see Section 3.8); and Ministerial Conditions are recommended to ensure their appropriate and adequate management, supported by a strong recommendation that Council seek some form of financial assurance to ensure all required work is completed (see Section 5 – Other Advice).

The 'Environmental Management Plan' and 'Water Management Plan' will require the proponent to address the issues of stormwater management, pollution relating to small boats, and accumulation of algae and weeds.

## Summary

Having particular regard to the:

- (a) requirement for connection to a reticulated sewage system and associated contingency measures for emergencies;
- (b) scheme provisions, supported by recommended Ministerial Conditions, to ensure compliance with national and state water quality guidelines and strategies, the application of best practice stormwater management principles, and preparation and implementation of a monitoring and sampling analysis plan;
- (c) scheme provisions, supported by recommended Ministerial Conditions, to ensure adequate management of acid sulfate soils; and
- (d) provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1.

## 3.8 Acid Sulfate Soils

### Description

The investigations undertaken for the preliminary report assessing acid sulfate soils at Point Douro (Ng, P, December 2002) were carried out in accordance with the Department of Environment guidelines. The preliminary results indicated that there is a significant acid sulfate soil issue at the site. A further detailed assessment and dewatering management plan, in accordance with the Department of Environment's guidelines, will be required to establish whether the indicative proposed remediation methodology and costs realistically portray the final cost of remediation.

More recently, a number of soil investigation boreholes have been drilled near Point Douro as part of the acid sulfate soil mapping program being undertaken by the Department of Environment's Land and Water Quality Branch (S. Appleyard, pers com., 23 November 2004). These investigations indicate that silty and sandy sediments containing between 0.5% and 1.6% pyrite underlie Point Douro, from a depth of about 1 metre to at least 4 metres. These materials greatly exceed the action criterion of 0.03% pyrite and are highly reactive on exposure to air through either dewatering or excavation.

### Assessment

The area considered for assessment of this factor is the Amendment area.

The EPA's environmental objective for this factor is to ensure that ecological functions and environmental values are not adversely affected.

Any excavation or dewatering on the site will need to be undertaken with a high degree of management because preliminary investigations indicate that the reactivity of the sediments poses a high level of risk for causing environmental harm to aquatic organisms in the Collie River, the Leschenault Inlet estuary, or to System 6 vegetation at the site. Dewatering management is particularly important to eliminate the risk of oxidising sulfide minerals below the ground surface, with no immediate indication of such problems being able to be detected

at the ground surface. No water from the dewatering process is to enter the surrounding water bodies.

The recommended Ministerial Conditions incorporate Scheme provisions for the preparation of an 'Environmental Management Plan', a 'Water Management Plan' and a 'Construction Management Plan'. These requirements preclude any ground disturbing works being undertaken prior to completion of a detailed site investigation. Following that, the management of acid sulfate soils will need to be addressed in accordance with the Department of Environment's technical guidelines and the requirements of the Western Australian Planning Commission's *Planning Bulletin No. 64 – Acid Sulfate Soils*.

The EPA strongly urges Council to seek a financial assurance, under its Deed of Agreement, for the purpose of ensuring adequate completion of acid sulfate soil works (see Section 5 - Other Advice). The establishment of the financial assurance should be undertaken in liaison with the Department of Environment.

### Summary

Having particular regard to the:

- (a) Scheme provisions, supported by recommended Ministerial Conditions, requiring the proponent to undertake a detailed site investigation for acid sulfate soils, as well as prepare publicly advertised Plans for 'Environmental Management', 'Water Management' and 'Construction Management'; and
- (b) the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;

it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1, and also provided that the Responsible Authority administers some form of financial assurance as recommended by the EPA.

## 3.9 Disease Vector and Nuisance Insects - Mosquitoes

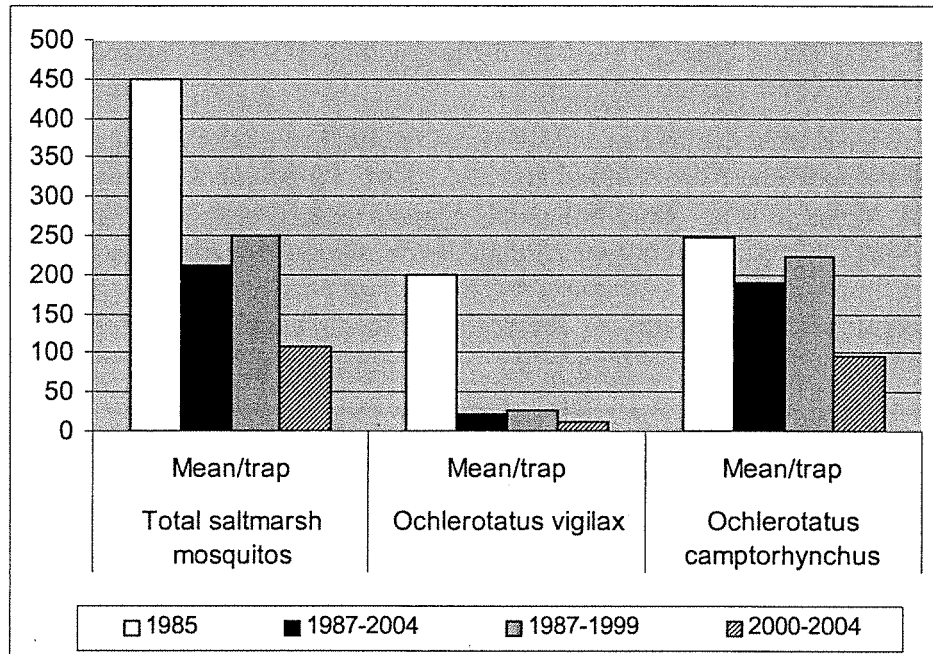
### Description

In the 1980s Point Douro featured prominently as a breeding site in a Health Department of Western Australia report entitled *Mosquito Eradication in the Bunbury Region, Western Australia* (Wright, 1986). Saltmarsh mosquitoes, the *Ochlerotatus vigilax* (formerly *Aedes vigilax*) and the *Ochlerotatus camptorhynchus* (formerly *Aedes camptorhynchus*) cause the most problems. They are important vectors of Ross River and Barmah Forrest viruses, and will disperse substantial distances (up to 6 kilometres for *Oc. camptorhynchus* and up to 50 kilometres for *Oc. vigilax*) from breeding sites in search of a blood meal (Lindsay, M D A, pp.36-7 in Department of Health, 2002). Management of mosquitoes at Point Douro has been necessary for many years, as a consequence of their dispersal habits, and the residential development of nearby areas such as Clifton Park, Australind (Shire of Harvey), Eaton (Shire of Dardanup) and Pelican Point (City of Bunbury). Management will continue to be required in the future, irrespective of whether development at Point Douro itself proceeds or not.

Mosquito management at Point Douro is carried out by the Shire of Harvey and comprises runnels to flush potential breeding sites (installed between February 1987 and February 1990). When tidal conditions or man-made damage affects the efficacy of the runnels, management also comprises the targeted application of larvicides. Larvicides with target-specific,

environmentally 'sustainable' active ingredients are currently available for use in conservation areas.

Department of Health and University of Western Australia data suggests that the adult mosquito problem has decreased at Point Douro since the introduction of the mosquito control program, although removal of nearby saltmarsh mosquito habitat for developments such as Pelican Point may have also assisted with the reduction of the number of mosquitoes (see Figure 7).



**Figure 7: Summary of results of adult mosquito monitoring at Point Douro in 1985 (pre-runnelling) and between 1987 and May 2004**

Source: Department of Health, June 2004

**Assessment**

The area considered for assessment of this factor is the Amendment area and surrounding residential developments.

The EPA's environmental objectives for this factor are:

- mosquito numbers on the site should not adversely affect the health, welfare and amenity of surrounding or future residents; and
- ensure the breeding of mosquitoes is controlled to the satisfaction of the Department of Health and the local government without adversely affecting other flora and fauna.

Although the Amendment site is in a region that experiences considerable nuisance problems from the saltmarsh mosquitoes, the Department of Health advises that there is no evidence that health risks would be higher at the proposed development site than for existing nearby residential areas.

All future residential development in such regions should be accompanied by effective, adequately resourced and ongoing mosquito management, together with an acceptance that



mosquito management will be necessary on marshlands and wetlands that are within mosquito flight range of proposed residential areas.

The Department of Health advises that the existing mosquito control program over the area which will be reserved for "Recreation and Conservation" should not need to be further intensified if the proposed subdivision proceeds, but its effective operation will need to be assured. However it is critical that any changes to topography water flow and impoundment or other modifications associated with the development do not exacerbate the potential for mosquito breeding. The proposed development has the potential to enhance the effectiveness of mosquito control in the conservation area, because it will preclude vehicle access, which in recent years has caused considerable damage to the runnels. Rehabilitation of man-made damage (wheel ruts, disused speedway, dredging and earthworks) will also reduce the need for application of larvicides for mosquito control.

A number of proponent undertakings, including rehabilitation of the runnels, are outlined in the Environmental Review (p.44, Shire of Harvey, 2001). All issues will need to be addressed and expanded upon in the 'Environmental Management Plan' and the 'Construction Management Plan', which are required as part of the recommended conditions and will be included in the Shire of Harvey's scheme provisions. Prospective residents will be warned of the risk of mosquito-borne disease and the potential for nuisance mosquitoes. This will be achieved either through memorials on titles or by notification under section 70A of the *Transfer of Land Act 1893*. It is a requirement that the 'Environmental Management Plan' also addresses education of residents – in this regard the *Mosquito Management Course* (Department of Health, 2002) provides a good starting point.

### Summary

Having particular regard to the:

- (a) advice provided by the Department of Health that the existing mosquito control program which reduced the numbers of *Ochlerotatus vigilax* and *Ochlerotatus camptorhynchus*, and that the program will be continued irrespective of the Amendment proceeding or not;
- (b) scheme provisions, to be underpinned by recommended Ministerial Conditions, requiring the preparation of publicly advertised plans for 'Environmental Management' and 'Construction', which will address mosquito management with due regard for conservation;
- (c) provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan; and
- (d) proposed requirement that prospective residents be warned of the risk of mosquito-borne disease, and educated to take precautionary measures;

it is the EPA's opinion that the proposed scheme amendment, if implemented, can meet the EPA's environmental objective for this factor, provided that the conditions contained in Appendix 4 are incorporated into the Shire of Harvey's District Planning Scheme No. 1.

## 4. Conditions

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposed scheme amendment and on the conditions to which the proposed scheme amendment should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

In developing recommended conditions, the EPA's preferred course of action is to have the Responsible Authority provide management measures and/or scheme provisions to ameliorate the impacts on the environment. However, these proposed provisions are not always sufficient to ensure that the EPA's objectives will be met.

Having considered the Responsible Authority's environmental management measures, scheme provisions and the information provided in this report, the EPA has developed a set of conditions which are consistent with but replace those environmental management measures in the proposed scheme amendment documentation, if the proposed scheme amendment is approved for implementation.

These conditions are presented in Appendix 4. Matters addressed in the conditions include the following:

- (a) an Environmental Management Plan for the management of foreshore and conservation reserves, fauna and mosquitoes;
- (b) a Water Management Plan for the management of surface and groundwater quantity and quality (including potential acid sulfate soil and nutrient enrichment scenarios) and management of the proposed "Modified Water Body";
- (c) a Construction Management Plan;
- (d) a requirement to advertise the Outline Development Plan and Management Plans for a period of at least 4 weeks;
- (e) increase of the foreshore buffer to 50 metres; and
- (f) deletion of that portion of the proposed "Modified Water Body" flowing in a north-easterly direction towards Samphire Bay.

## **5. Other Advice**

The EPA is of the firm view that some form of financial assurance should be administered in order to guarantee that specific tasks be undertaken to manage the acid sulfate soil problems in the amendment area. However it is inappropriate for the EPA to impose financial assurance requirements upon a third party in this situation: this would best be done by Council, as initiator of the Amendment and the Responsible Authority for the environmental assessment.

Consequently, the EPA strongly urges Council to ensure that the Deed of Agreement (which is a provision of Amendment No. 13) shall include appropriate measures to address acid sulfate soil problems. Such measures may include a financial assurance requirement for the proponent to address specific tasks to be undertaken to manage acid sulfate soil. Furthermore, provision should be made for continuation of such a measure should there be changes in land ownership. Arrangements for the financial assurance should be to the satisfaction of Council, on the advice of the Department of Environment.

## **6. Conclusions**

The EPA acknowledges the high level of significance of a number of the key environmental factors considered during this environmental impact assessment process, and that the management of future development will need to be undertaken with extreme care and diligence. Nevertheless, the EPA is of the opinion that the outcomes achieved through the

Amendment No. 13 process are better than those which would be achieved under the existing zoning.

Key outcomes achieved through the Amendment and the EPA's formal assessment process include:

- consolidation of the areas of highest conservation value into a management area to be reserved for "Conservation and Recreation";
- additional two-dimensional modelling, indicating that the geoheritage and waterbird habitat values of Point Douro's conservation area will not be detrimentally impacted upon by scouring or erosion during flood events;
- management of acid sulfate soils in line with DoE's technical guidelines, and EPA's strong recommendation that Council seek a financial assurance that all works will be adequately undertaken;
- monitoring, sampling analysis and contingency measures to ensure that nutrient enrichment or pollution of the waters is avoided or ameliorated; and
- measures to manage the mosquito issue.

The EPA has concluded that the Shire of Harvey's proposal to amend District Planning Scheme No. 1 by rezoning Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from "Tourist" zone and "Recreation" reserve to "Residential Development" zone, "Tourist" zone, "Recreation and Conservation" reserve and "Modified Water Body" can be implemented to meet the EPA's objectives provided the conditions recommended in Section 4 and set out in Appendix 4 are imposed and enforced.

## 7. Recommendations

Section 48D of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposed scheme amendment and on the conditions and procedures to which the proposed scheme amendment should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA submits the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposed scheme amendment being assessed generally comprises the rezoning of Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from "Tourist" zone and "Recreation" reserve to "Residential Development" zone, "Tourist" zone, "Recreation and Conservation" reserve and "Modified Water Body".
2. That the Minister considers the report on the relevant environmental factors of vegetation communities, waterbirds and fauna, estuary and river foreshores, floodplain, geoheritage, surface and estuarine water quality, acid sulfate soils and mosquitoes, as set out in Section 3;
3. That the Minister notes that the EPA has concluded that the EPA's objectives can be met, provided there is satisfactory implementation by the Responsible Authority of the recommended conditions set out in Section 4.
4. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report.

## **Appendix 1**

### **List of submitters – environmental issues**

**Organisations:**

Australind Bush Council (Submission No 13 referred to in Schedule of Submissions – Appendix 5)  
Conservation Council of WA (8)  
Department of Conservation and Land Management (10)  
South West Environment Centre (7)  
Water Corporation (11)  
Water and Rivers Commission – Leschenault Inlet Management Authority (12)

**Individual:**

L Anderson (308)  
D Atkins (104)  
A Ballantyne (298)  
C J Banting (226)  
P & I Bean (24)  
R C Berger (222)  
C Beyboer (57)  
H Beyboer (56)  
L Brain (123)  
K Brinie (183)  
D & M Bruce (302)  
J Cable (45)  
Mr & Mrs F Chong (218)  
J Clayton (99)  
P Cowley (236)  
B Davis (235)  
L Denning (201)  
P Dinsdale (221)  
K Doble (116)  
B & G Edwards (15)  
B Eitridge (120)  
T C Ellenberg (149)  
A Evill (115)  
L Fantasia (60)  
P Fantasia (63)  
T Fantasia (59)  
K Fenton (173)  
Ferguson (55)  
N Fitzpatrick (143)  
T Fitzpatrick (19)  
K Gardiner (73)  
M Gartrell (147)  
G Golding (136)  
J D Golding (68)  
J Gurner (17)  
K Hamersley (148)

K Hawkins (213)  
S Henderson (188)  
J Hicks (225)  
P & L Howe (306)  
J & K Hughes (310)  
I Humpheyson (18)  
D Jenkins (227)  
M H Johansen (231)  
V M Johansen (232)  
M Johnston (200)  
A W Jones (135)  
G P Jones (40)  
C Jumeaux (208)  
J Jumeaux (190)  
J Kalbfell (297)  
J Lannin (316)  
D J Lewis (93)  
A Lovegrove (92)  
Mr & Mrs Lovelle (215)  
R McManus (191)  
H McQuade (134)  
D Marshall (219)  
L Marshall (154)  
W Maslin (301)  
L Mason (177)  
E Meek (304)  
G & S Meredith (88)  
E Morgan (101)  
C Mosca (217)  
P Mosca (216)  
T Nugent (87)  
H Nutley (220)  
C O'Brian (113)  
L Olsthoon (90)  
R Palazzese (62)  
T Perkins (74)  
J Pitts (91)  
A Radge (212)  
M Radge (313)  
C Reid (189)  
D Roberg (169)  
L Robinson (26)  
S Rogers (160)  
C J Rooney (315)  
J Sale (228)  
J Saunders (295)  
M Scandrett (233)  
R D Scott (156)  
Dr Christine Sharp, MLC for the South West (9)  
Mr & Mrs Sims (103)  
W Smart (305)

E Spurling (179)  
E M Spurling (312)  
V Tatt (269)  
R Tauss (214)  
G Tothill (303)  
P Vercoe (224)  
M Walker (307)  
R Watkins (300)  
R Weggelaar (238)  
R & E Wilkins (234)  
R Williams (164)  
C Wood (180)  
Mark Woods (16)  
E Wright (309)  
K & L Wych (48)

## **Appendix 2**

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## **Appendix 3**

### **Summary of Assessment of Relevant Environmental Factors**

*Summary of Assessment of Relevant Environmental Factors*

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
Vegetation communities	Maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities.	<ul style="list-style-type: none"> <li>• Various assessments and mapping of the larger area and the specific site (including the System 6 Report (1983), Bowman Bishaw (1988), and Pen, Semeniuk &amp; Semeniuk (in <i>J. Royal Soc WA</i> (2000)) indicate that much of the natural vegetation is in good condition, but that no rare or endangered species have been identified or are thought to exist.</li> <li>• The north-western half of the peninsula has been identified as being the more valuable for conservation (particularly as habitat supporting bird populations), recreation and landscape values, and it is that portion which Amendment No. 13 proposes for reservation as "Recreation and Conservation".</li> <li>• Animal and human access to the "Recreation and Conservation" area will be limited by a combination of "Modified Water Body" and vermin-proof fencing, and no activity or development will be permitted within the area until a Management Plan has been prepared. The limited access should also assist with prevention of uncontrolled fires.</li> <li>• Management Plans are to be prepared under proposed scheme provisions. Given the elapse of time, it is intended that these provisions be modified through the setting of Ministerial Conditions. The Plans include requirements that remnant vegetation be retained where possible, that foreshore buffers be protected, and that where necessary the conservation and recreation areas be re-vegetated with plant species of local provenance.</li> </ul>	<p><b>Considered to be a relevant environmental factor</b></p> <p>Having particular regard to:</p> <ul style="list-style-type: none"> <li>• the fact that the Point Douro areas of highest conservation value will be consolidated into one management area for conservation and recreation;</li> <li>• proposed reservation of more than half the site for "Recreation and Conservation" (to be renamed "Conservation and Recreation);</li> <li>• use of a combination of the "Modified Water Body" and vermin proof fencing to separate the proposed reservation from the development area, and Council's requirement for a management plan prior to any activity or development within the area proposed for reservation;</li> <li>• installation of deep sewerage and contingency measures in case of system failure;</li> <li>• scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for 'Environmental Management', 'Water Management' and 'Construction Management' within the Amendment area; and</li> <li>• the ability for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA's opinion that the proposed scheme amendment can be managed to meet the EPA's objective.</p>

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
System 6 – C66 and C67	Ensure that the conservation values of System 6 recommended areas are not compromised.	<ul style="list-style-type: none"> <li>• In line with one of the System 6 recommendations for C66, a reticulated sewerage system will be installed for the development area, and supported by appropriate contingency measures in case of emergency overflows or pump station failure.</li> <li>• The State Government has been approached, on various occasions, to purchase Point Douro for conservation purposes and/or use as Regional Open Space. The most recent approach (Petition No. 45) was finalised June 2004. Other areas located in the northern portions of the System 6 C66 Leschenault Inlet estuary and the Leschenault Peninsula have been identified as having higher conservation value; none of the requests to purchase Point Douro has been supported.</li> </ul>	<b>Considered to be a relevant environmental factor and issues are addressed under Vegetation Communities, Waterbirds and Water quality</b>
Waterbirds	Maintain the abundance, species diversity and geographical distribution of terrestrial fauna.	<ul style="list-style-type: none"> <li>• The majority of waterbirds recorded in the vicinity of the Amendment area are common species, but some such as the Great Egret and Yellow-billed Spoonbill are of conservation importance.</li> <li>• Between spring and autumn at least 17 species of trans-migratory birds, protected under JAMBA and CAMBA international agreements, use the shallows and mudflats of the whole Leschenault Inlet estuary system.</li> <li>• The most significant waterbird and native fauna habitat on Point Douro will be protected by the creation of a “Recreation and Conservation” reserve which will be separated from development by a combination of the “Modified Water Body” and vermin-proof fencing.</li> <li>• In addition, the original proposal has been modified by removing the north-eastwards</li> </ul>	<b>Considered to be a relevant environmental factor</b> Having particular regard to: <ul style="list-style-type: none"> <li>• the proposed reservation of more than half the site for “Recreation and Conservation”, to be renamed “Conservation and Recreation”;</li> <li>• the use of the canal and vermin proof fencing to separate the proposed reservation from the development area, and Council’s requirement for a management plan prior to any activity or development within the area proposed for reservation;</li> <li>• deletion of the north-easterly flowing portion of the “Modified Water Body”, thus removing discharge of additional water-flows into Samphire Bay;</li> <li>• scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for ‘Environmental Management’, ‘Water Management’ and ‘Construction Management’ within the Amendment area; and</li> </ul>

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
		<p>flowing channel so that the mudflat habitats in Samphire Bay are protected from scouring.</p> <ul style="list-style-type: none"> <li>Proposed Ministerial Conditions and scheme provisions require preparation of an "Environmental Management Plan" to address terrestrial fauna and waterbird protection.</li> </ul>	<ul style="list-style-type: none"> <li>the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA's opinion that the proposed scheme amendment can be managed to meet the EPA's objective.</p>
Specially Protected (Threatened) Fauna	Protect Specially Protected (Threatened) Fauna, consistent with the provisions of the <i>Wildlife Conservation Act 1950</i> .	<ul style="list-style-type: none"> <li>No specially protected fauna species found on site.</li> <li>Issues relevant to the protection of waterbirds, other fauna and their habitats are dealt with under Waterbirds.</li> </ul>	<b>Factor does not require further EPA evaluation</b>
Foreshore – Estuary and River	Maintain the integrity, function and environmental values of the foreshore area.	<ul style="list-style-type: none"> <li>The foreshore reservation is to be increased from 30 metres to 50 metres.</li> <li>The portion of foreshore which abuts the proposed conservation area will be reserved as "Recreation and Conservation" (to be renamed "Conservation and Recreation").</li> <li>Scheme provisions require preparation and public advertising of an 'Environmental Management Plan' and a 'Construction Management Plan', to address issues such as: <ul style="list-style-type: none"> <li>Minimisation of clearing and vegetation disturbance;</li> <li>revegetation with native species of local provenance;</li> <li>ensuring that rotting macroalgae is able to continue to play its role in the ecosystem; and</li> <li>public access to mouth of Collie River .</li> </ul> </li> <li>The Outline Development Plan will incorporate measures to address issues raised in the 'Environmental Management Plan' and the 'Construction Management Plan'.</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to the:</p> <ul style="list-style-type: none"> <li>increase in the existing 30 metre foreshore reservation to a width of 50 metres;</li> <li>proposed reservation as "Recreation and Conservation" (to be renamed "Conservation and Recreation) of the portion of foreshore abutting the proposed conservation area;</li> <li>Scheme provisions, supported by recommended Ministerial Conditions, requiring preparation of plans for 'Environmental Management', and 'Construction' within the Amendment area; and</li> <li>provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA's opinion that the proposed scheme amendment can be managed to meet the EPA's objective.</p>
Floodplain	Ensure that the flow of floodwater is not inhibited.	<ul style="list-style-type: none"> <li>The one-dimensional modelling reported in the Environmental Review (2001) indicated that</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to the:</p>

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
		<p>adequate floodway capacity has been provided to ensure that the proposed development does not impact adversely upon the existing flooding regime for both upstream and neighbouring residential areas.</p> <ul style="list-style-type: none"> <li>• The EPA required additional two-dimensional hydrodynamic modelling to be undertaken to determine the potential for scouring of the proposed conservation area, and the mudflats within Samphire Bay. The Delft-FLS modelling showed that it is possible to design an embankment on the northern bank of the canal such that the flow regime through the channel and across the samphire flats to be reserved for conservation will be similar to existing conditions. Further two-dimensional hydraulic modelling is needed to support detailed design of the required embankment, and this will be required through scheme provisions.</li> <li>• The operation and maintenance of the “Modified Water Body” as a relief floodway will be covered by scheme provisions in the proposed “Water Management Plan”.</li> <li>• The minimum habitable floor levels for any construction in the Amendment area is 0.60 metre above the adjacent 100 year ARI flood levels (‘Water Management Plan’ and ‘Construction Management Plan’).</li> </ul>	<ul style="list-style-type: none"> <li>• one-dimensional and two-dimensional hydraulic modelling which indicates that issues related to river flooding, and scouring concerns, can be adequately addressed;</li> <li>• scheme provisions, supported by recommended Ministerial Conditions, requiring the preparation of a ‘Water Management Plan’ which will address detailed design requirements to ensure that the flow regime across the “Recreation and Conservation” area is similar to existing conditions, as well as operation and maintenance of the “Modified Water Body” as a relief flood channel; and</li> <li>• the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA’s opinion that the proposed scheme amendment can be managed to meet the EPA’s objective.</p>
Geoheritage	To ensure that the geoheritage values of the biophysical environment are not adversely affected	<ul style="list-style-type: none"> <li>• The Collie River Delta is a good example of combined wave-influenced and fluvial-dominated processes and has a degree of geoheritage value.</li> <li>• However, it is not listed as significant on either Commonwealth or State heritage listings.</li> <li>• Technical advice acknowledges some modification would occur should development</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to:</p> <ul style="list-style-type: none"> <li>• lack of heritage listing for Point Douro at either the State or Commonwealth level;</li> <li>• independent technical advice that the development possible under Amendment No. 13 should not severely damage the delta;</li> <li>• reservation of the north-western portion as “Recreation</li> </ul>

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
		<p>under Amendment No. 13 proceed, but that the delta would not be totally destroyed or severely damaged.</p> <ul style="list-style-type: none"> <li>• The potential to reserve the north-western portion for conservation will protect geoheritage values.</li> <li>• Hydraulic modelling has indicated that the “Modified Water Body” can be designed to prevent scouring or erosion of the conservation area.</li> <li>• Management plans and the Outline Development Plan, required under scheme provisions and the recommended Ministerial Conditions, will ensure retention of existing sedimentological processes for the area to be reserved for conservation.</li> </ul>	<p>and Conservation”, to be renamed “Conservation and Recreation”;</p> <ul style="list-style-type: none"> <li>• Scheme provisions, supported by recommended Ministerial Conditions, require the preparation of management plans to be incorporated in the Outline Development Plan; and</li> <li>• the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA’s opinion that the proposed scheme amendment can be managed to meet the EPA’s objective.</p>
Surface Water Quality	Maintain or improve the quality of surface water to ensure that existing and potential uses, including ecosystem maintenance are protected.	<ul style="list-style-type: none"> <li>• Amendment No. 13 requires that an subsequent development be connected to a reticulated sewerage system.</li> <li>• The proponent is required to establish contingency measures to cater for emergency overflows or pump station failure.</li> <li>• Requirements of the Environmental, Water and Construction Management Plans; measurements under a monitoring and sampling program will indicate whether or not the environmental values for the waters are jeopardised, and contingency measures are required; other requirements include application of best practice stormwater management principles, use of native plants, minimisation of fertiliser application, addressing of the pollution relating to small boats, and accumulation of algae and weeds.</li> <li>• Potential for pollution resulting from acid sulfate soils will be addressed, and Council is strongly recommended to enter into a financial</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to:</p> <ul style="list-style-type: none"> <li>• requirement for connection to a reticulated sewage system and associated contingency measures for emergencies;</li> <li>• scheme provisions, supported by recommended Ministerial Conditions, to ensure compliance with national and state water quality guidelines and strategies, the application of best practice stormwater management principles, and preparation and implementation of a monitoring and sampling analysis plan;</li> <li>• scheme provisions supported by recommended Ministerial Conditions, to ensure adequate management of acid sulfate soils; and</li> <li>• the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA’s opinion that the proposed scheme</p>



RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
		assurance with the proponent to ensure that works are adequately undertaken and completed.	amendment can be managed to meet the EPA's objective.
Estuarine Water Quality	Maintain or improve the quality of estuarine water.		<b>Considered to be a relevant environmental factor and addressed under Surface Water Quality issues</b>
Acid sulfate soils	To ensure that ecological functions and environmental values are not adversely affected.	<ul style="list-style-type: none"> <li>• Preliminary investigations indicate that there is a significant acid sulfate soil issue on site, so detailed site investigations will be required</li> <li>• Management plans for the Environment; Water; and Construction will individually and jointly require measures, to the satisfaction of the DoE and WAPC, to ensure that no environmental harm is caused by exposure of acid sulfate sediments, either during construction and dewatering or ongoing maintenance.</li> <li>• The EPA strongly urges Council to administer some form of financial assurance for the adequate completion of works, and to ensure continuity of that financial assurance if there is a change in ownership of the land. This should be undertaken in liaison with the Department of Environment.</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to:</p> <ul style="list-style-type: none"> <li>• Scheme provisions, supported by recommended Ministerial Conditions, requiring the proponent to undertake a detailed site investigation for acid sulfate soils, as well as prepare publicly advertised Plans for 'Environmental Management', 'Water Management' and 'Construction Management'; and</li> <li>• the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan;</li> </ul> <p>it is the EPA's opinion that the proposed scheme amendment can be managed to meet the EPA's objective, provided that the Responsible Authority administers some form of financial assurance as recommended by the EPA.</p>
Disease Vector and Nuisance Insects - Mosquitoes	<p>(i) Mosquito numbers on the site should not adversely affect the health, welfare and amenity of future residents; and</p> <p>(ii) Ensure the breeding of mosquitoes is controlled to the satisfaction of the Department of Health and local government without adversely affecting other</p>	<ul style="list-style-type: none"> <li>• Alternative forms of mosquito control, including runnelling, have been implemented at Point Douro since 1987, and they have dramatically reduced the need for larvicides, which are now only used when required. Control will continue to be required in the future, irrespective of whether Point Douro is developed or not.</li> <li>• There is no evidence that health risks would be higher at the proposed site than for existing nearby residential areas.</li> <li>• The proponent is required to rehabilitate man-made damage to the existing runnels, which</li> </ul>	<p><b>Considered to be a relevant environmental factor</b> Having particular regard to:</p> <ul style="list-style-type: none"> <li>• advice provided by the Department of Health that the existing mosquito control program which reduced the numbers of <i>Ochlerotatus vigilax</i> and <i>Ochlerotatus camptorhynchus</i>, and that the program will be continued irrespective of the Amendment proceeding or not;</li> <li>• scheme provisions, to be underpinned by recommended Ministerial Conditions, requiring the preparation of publicly advertised plans for 'Environmental Management' and 'Construction',</li> </ul>

RELEVANT FACTOR	ENVIRONMENTAL OBJECTIVES	EPA ASSESSMENT	ADVICE AND CONDITIONS
	flora and fauna.	<p>should reduce the need for larvicides.</p> <ul style="list-style-type: none"> <li>• Prospective residents will be warned of the risk of mosquito-borne disease, and the proponent will develop an education program to assist residents in reducing mosquito breeding sites.</li> </ul>	<p>which will address mosquito management with due regard for conservation;</p> <ul style="list-style-type: none"> <li>• the provision for the public to comment on the more detailed design and management measures contained in the Management Plans and the Outline Development Plan; and</li> <li>• the proposed requirement that prospective residents be warned of the risk of mosquito-borne disease, and educated to take precautionary measures;</li> </ul> <p>it is the EPA's opinion that the proposed scheme amendment can be managed to meet the EPA's objective.</p>
Visual Amenity	Ensure the visual amenity of the area adjacent to the project is not unduly affected by implementation of the proposal.	<ul style="list-style-type: none"> <li>• Some form of development is a permitted use under the current zoning,</li> <li>• A scheme provision requirements the preparation of visual management (building) guidelines for inclusion in the ODP, which will then be available for public comment.</li> </ul>	<b>Factor does not require further EPA evaluation as it will be dealt with through the planning process</b>
Aboriginal Culture and Heritage	Ensure that the proposal complies with the requirements of the <i>Aboriginal Heritage Act 1972</i> .	<ul style="list-style-type: none"> <li>• An Aboriginal heritage study was undertaken in the area being rezoned for development. No known ethnographic or archaeological sites were identified.</li> <li>• If any aboriginal cultural material is discovered, it will be subject to the requirements of the <i>Aboriginal Heritage Act</i>.</li> </ul>	<b>Factor does not require further EPA evaluation as it can be d</b>

## **Appendix 4**

### **Recommended Environmental Conditions**

**RECOMMENDED ENVIRONMENTAL CONDITIONS**

**STATEMENT THAT A SCHEME MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF DIVISION 3 OF PART IV OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

**SHIRE OF HARVEY DISTRICT PLANNING SCHEME NO. 1  
AMENDMENT NO. 13 (POINT DOURO)**

**Scheme purpose:** To rezone Lot 5 Old Coast Road, Leschenault (Pt Loc 23, Plan 7938) from "Tourist" zone and "Recreation" reserve to "Residential Development" zone, "Tourist" zone, "Recreation and Conservation" reserve and "Modified Water Body".

**Responsible Authority:** Shire of Harvey

**Responsible Authority Address:** PO Box 500, Harvey WA 6220

**Assessment Number:** 1156

**Report of the Environmental Protection Authority:** Bulletin 1158

Subject to the following conditions, there is no known environmental reason why the Amendment No. 13 to the Shire of Harvey's District Planning Scheme No. 1 to which the above report of the Environmental Protection Authority relates should not be implemented:

**CONDITIONS TO BE INCORPORATED INTO THE SCHEME BY MODIFICATION  
OF THE SCHEME TEXT**

**1 Modification to Resolution 1**

1-1 Replace the reference to "Recreation and Conservation" Reserve with "Conservation and Recreation" Reserve.

**2 Modification to Resolution 2, which includes Special Provisions Relating to the Specified Land**

2-1 Replace all references to Recreation and Conservation in the proposed Special Provision 2 to Conservation and Recreation.

2-2 At the end of paragraph 1 of Provision "4 – ODP Preparation and Implementation" and after the words *Point Douro Concept Development Plan (Ref No. 01)*, add the words: "as amended to reflect and incorporate the requirements of Environmental Conditions X to X inclusive in the Minister for the Environment's Ministerial Statement, noting that some of the Ministerial Conditions require actions to be taken at later stages of planning and development following final approval of the Outline Development Plan. The Outline Development Plan is to provide appropriate flexibility to allow for such changes."

2-3 Replace the existing second paragraph of provision "4 - ODP Preparation and Implementation" with the following:

“Prior to approval of the Outline Development Plan, Council shall advertise the draft Outline Development Plan and the accompanying Management Plans for public comment for a period of not less than four (4) weeks and in accordance with the provisions of Clause 6.7.3 of the Scheme.”

- 2-4 Delete Sections “7 – Foreshore & Conservation Reserves Management”, and “9 – Terrestrial Fauna/Waterbird Protection Management Plan”, and substitute the following “Environmental Management Plan”:

**“Environmental Management Plan**

Prior to the approval to release the Outline Development Plan for public comment, the proponent shall prepare an Environmental Management Plan, having due regard for the advice provided by the Department of Conservation and Land Management, and the Department of Environment, and to the satisfaction of Council.

This Plan shall include:

- 1 management of foreshore and conservation reserves, addressing:
  - a. interface treatments between the development and adjacent areas, including vermin-proof fencing, roads and pathways;
  - b. management of human pressures;
  - c. management of public access, including to the mouth of the Collie River;
  - d. hydrological impacts;
  - e. measures to address management of acid sulfate soils (which are to be fully addressed in the “Water Management Plan” and the “Construction Management Plan”);
  - f. measures to address algal blooms, including scums and potential turbidity;
  - g. resolution of tenure, responsibilities and ongoing environmental management of recreation and conservation reserves, such that a suitable entity, or entities, with adequate financial and technical resources and authority, will ensure that the objectives set out herein, in the “Environmental Management Plan”, will be achieved;
  - h. retention of remnant vegetation and the re-vegetation of foreshore buffers with naturally occurring local species, which are to be propagated from material sourced from within a 5 kilometre distance of the site and from the same landform unit;
  - i. design and construction of roads;
  - j. water management to reduce mosquito breeding habitat; and
  - k. staging and implementation of the requirements.
  
- 2 terrestrial fauna and waterbird protection, addressing:
  - a. measures for protection of native terrestrial fauna and waterbirds, their food resources, and all associated habitats (roosting, nesting, feeding and mating), including limitation of human access to sensitive areas, control of vehicles by physical barriers, control of feral animals, measures to ensure rotting macroalgae remains within the ecosystem, sign-posting and public education to increase awareness of the sensitivity of the conservation areas;
  - b. location and design standards and specifications of the vermin-proof fencing;
  - c. conformity with the System 6 objectives, particularly for locality numbers C66 and C67;

- d. evaluation of feasibility of construction of walking trail(s) and bird-watching hide(s), and, if feasible, their construction;
  - e. measures to encourage waterbirds and other native fauna into the conservation and foreshore zones once construction is completed; and
  - f. staging and implementation.
- 3 management of disease vector and nuisance insects, specifically mosquitoes, in accordance with the *Environmental Protection Authority's Guidance No. 40 – Management of Mosquitoes by Land Developers*, and on the advice of the Department of Health, addressing:
- a. no further creation of mosquito breeding areas and detailed design of water management to reduce mosquito breeding habitat in such a manner that the role which these areas play in maintaining waterbird abundance and diversity is recognised;
  - b. mechanisms to mitigate potential nuisance from mosquito breeding;
  - c. no intensification of the mosquito control program as a direct consequence of the proposed residential development and associated activities;
  - d. memorials on titles or section 70A notification under the *Transfer of Land Act 1893*; and
  - e. education of residents with respect to the elimination or minimisation of additional breeding areas for disease vector and nuisance insects.”
- 2-5 Delete Sections “5 – Provision of Sewer”, “6 – Boat Haven Construction and Management Plan” and “8 – Nutrient Export Management Plan”, and substitute the following “Water Management Plan”:

**“Water Management Plan**

Prior to approval to release the Outline Development Plan for public comment, the proponent shall prepare a Water Management Plan, which shall address river flooding, nutrient levels, potable water supply and effluent management, having due regard for the advice provided by the Department of Environment, the Water and Rivers Commission, the Department of Conservation and Land Management, and to the satisfaction of Council.

This Plan shall include:

- 1 management of surface and ground water quantity and quality, addressing:
  - a. acid sulfate soil management in accordance with the technical guidelines prepared by the Department of Environment and with the requirements of the Western Australian Planning Commission’s Planning Bulletin No. 64 – Acid Sulfate Soils;
  - b. connection to reticulated sewerage;
  - c. contingency measures, established with the Water Corporation and in consultation with relevant agencies, to cater for emergency overflows of sewage or pump station failure;
  - d. all residential and commercial development to be located outside the Collie River floodway and with minimum habitable floor levels of 0.60 metre above the adjacent 100 year Annual Recurrence Interval flood level;
  - e. management of drainage, incorporating best management practices in accordance with the Department of Environment’s *Stormwater Management Manual for Western Australia (2004)*, to maintain surface and groundwater quality within the development area relative to pre-development conditions,

- maintain the total water cycle balance, minimize runoff, water-logging, nutrient export and enhance nature conservation;
- f. alignment of roads, pathways and any other infrastructure to minimise impacts on surface and groundwater;
  - g. appropriate canal design and associated residential, tourist and commercial development so that the environmental values of 'aquatic ecosystems' and 'recreation and aesthetics' set for receiving waters are not jeopardised, and comply with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)* and the *State Water Quality Management Strategy No. 6 – Implementation Framework for Western Australia for the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, and Water Quality Monitoring and Reporting (Guidelines Nos. 4 & 7: National Water Quality Management Strategy)*;
  - h. a monitoring and sampling analysis plan, to the satisfaction of the Department of Environment, for the ambient waters and the "Modified Water Body" (canal) once it is constructed. It is expected that the plan will identify four to five sampling sites: two controls (one upstream of the proposed canal entrance, near the Collie River Bridge and within 20-50 metres of the riverbank, and the other downstream of the canal exit similarly located as the upstream control site), and two or three in the canal itself. The following parameters are recommended for inclusion, all to be taken top and bottom unless otherwise indicated: Total Nitrogen, Total Phosphorous, Total Chlorophyll (integrated, that is, the whole water column), Phytoplankton (integrated), Turbidity (surface), Salinity, Dissolved Oxygen, Temperature and pH. Baseline monitoring, for the year prior to commencement of ground-disturbing activities, shall be undertaken at fortnightly frequencies. Fortnightly sampling shall continue for the first year following the canal opening. Sampling frequency could then be reduced to monthly for the next three years. The need for further sampling will be reviewed at the completion of the initial five-year sampling program, and negotiated with Council on the advice of relevant State Government agencies. The monitoring and sampling analysis plan shall also address Quality Assurance, with approved NATA laboratories being used for nutrient and chlorophyll analyses, and use of robust and reliable water quality measurement instruments with calibration. The Quality Assurance procedures shall be undertaken regularly, and documented.
  - i. contingency measures to avoid or ameliorate the effects of nutrient enrichment and potential toxic and nuisance phytoplankton or macroalgae blooms and their scums or wrack on water quality;
  - j. minimising groundwater use, through measures such as minimising grassed area and landscaped open spaces, and the use of local grass species such as *Sporobolus virginicus* (salt couch);
  - k. monitoring of soil nutrient levels to determine appropriate rates of nutrient application;
  - l. the use of slow release fertilisers in public areas;
  - m. encouraging and educating residents to minimise fertiliser application and to use native plant species in their gardens, preferably those found in the local area; and
  - n. preventing or minimising any decline in water quality during staging and implementation.

2 management of the proposed canal, addressing:

- a. design standards to meet the State's environmental values for 'aquatic ecosystems' and 'recreation and aesthetics' (*State Water Quality Management Strategy No. 6*) and the Environmental Protection Authority objectives to protect those values for water quality;
- b. detailed design of the "Modified Water Body" to ensure that the 100 year Annual Recurrence Interval flood level at the downstream side of the Collie River Bridge is no higher than 2.16 metres AHD;
- c. detailed design of the embankment on the northern bank of the proposed "Modified Water Body", using further two-dimensional hydrodynamic modelling to extend the modelling already undertaken (Gutteridge Haskins & Davey Pty Ltd, September 2004), with the aim of ensuring that the flow regimes across the proposed "Recreation and Conservation" reservation are similar to the existing conditions;
- d. appropriate treatment of banks and ongoing maintenance to prevent erosion from boat traffic and river flood events;
- e. extension of treatment of banks and ongoing maintenance upstream and downstream from the entrance in the Collie River;
- f. resolution of responsibilities for the operation, environmental management and ongoing maintenance of the "Modified Water Body", such that a suitable entity, or entities, with adequate financial and technical resources and authority, will ensure that the objectives set out in this "Water Management Plan" will be achieved;
- g. staging and implementation;
- h. for a period of twelve months prior to construction of the canal, quarterly monitoring of water and sediment to establish baseline data in the location of the canal and the adjacent Collie River;
- i. monitoring of water quality as outlined in the previous section relating to management of surface and ground water quantity and quality, and similarly rigorous monitoring of sediment quality, at quarterly intervals, until at least two years following the completion of residential and tourist development, and canal construction;
- j. a contingency plan which shall be implemented if the results of the sediment quality monitoring have exceeded the recommended guidelines;
- k. annual monitoring of the depth of the canal, for a period of five years following commencement of construction of the canal, and thereafter at intervals to be determined by experience, to ensure adequate flushing, retention of an adequate floodway, safe navigable depths, and measures for maintenance as required in 'e.' above."

2-6 Delete Section "11 – Construction Management Plan", and substitute the following "Construction Management Plan " :

#### **"Construction Management Plan**

Prior to approval to release the Outline Development Plan for public comment, the proponent shall prepare a Construction Management Plan, which may be staged, having due regard for the advice of the Department of Environment and the Department of Conservation and Land Management, and to the satisfaction of Council, to ensure the protection of remnant vegetation, fauna and their associated habitats, and water quality during construction.

This Plan shall include:



- a. avoidance or minimisation of clearing and vegetation disturbance;
- b. the protection of foreshore buffers and the "Recreation and Conservation" reservation, by use of exclusion fencing or other means if necessary;
- c. a detailed acid sulfate soil investigation for the site, undertaken prior to any ground-disturbing works, and in accordance with the technical guidelines prepared by the Department of Environment;
- d. management of acid sulfate soils in accordance with the technical guidelines prepared by the Department of Environment and with the requirements of the Western Australian Planning Commission's *Planning Bulletin No. 64 – Acid Sulfate Soils*; noting that testing for any excavation is to be to the full depth of excavation and disturbance;
- e. excavation to approximately –2.0m AHD, after ensuring that technical issues of flood mitigation and acid sulfate soils are addressed, and maintenance to navigable depth of approximately –2.0m AHD, including the entrance channel;
- f. sufficient level of clean fill material to enable residential and other buildings to achieve a minimum habitable floor level of 0.60 metre above the adjacent 100 year ARI flood level;
- g. stabilisation of banks;
- h. the control and monitoring of dust, noise and smoke;
- i. the control of potential for silt plumes in the aquatic environment;
- j. rehabilitation, if necessary, of the existing runnelling used for mosquito control;
- k. management of dewatering and interim construction drainage, in accordance with all Department of Environment and Water and Rivers Commission requirements, and ensuring that no discharges from the dewatering process are into the surrounding water bodies;
- l. the inclusion of environmental protection specifications in all construction-related contracts and sub-contracts; and
- m. allocation of responsibilities and timing for staging and implementation."

## 2-7 Deed of Agreement

Delete the phrase "as mentioned within the Scheme Report" from the end of the first paragraph.

- 2-8 Modify all numerical references relating to Management Plans in order to reflect the new numbering of scheme clauses.

## CONDITIONS TO BE INCORPORATED INTO THE SCHEME BY MODIFICATION OF SCHEME MAPS

### 3 Modification to Key for Zones and Reservations

- 3-1 Modify "Recreation and Conservation" Reserves to "Conservation and Recreation" Reserves.

### 4 Recreation and Conservation Area and Foreshore buffer

- 4-1 The foreshore buffer surrounding the area to be developed shall be increased from 30 metres to 50 metres.
- 4-2 The 30 metre foreshore buffer surrounding the area proposed for reservation as "Recreation and Conservation" shall also be reserved as "Conservation and Recreation" rather than "Recreation".

## **5 Modified Water Body**

- 5-1** The area designated as "Modified Water Body" shall be changed to delete that portion of the channel flowing in a north-easterly direction and discharging towards Samphire Bay.

## **Appendix 5**

### **Summary of Submissions and the Responsible Authority's Response to Submissions**

TOWN PLANNING AND DEVELOPMENT ACT 1928**SCHEDULE OF SUBMISSIONS**

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
1	Alinta Gas	No Objections. Where gas network will be affected by the proposal, the following conditions must be met; <ul style="list-style-type: none"> <li>All work to be carried out at proponent's expense.</li> <li>One months notice being given prior to commencement of works.</li> </ul>	Noted.
2	FESA	Fire hydrants should be installed along all water mains at a ratio of one per 200m identified by standard road and pole markings.	To be addressed at subdivision stage.
3	Telstra	No comment.	None required.
4	WA Tourism Commission	No objections. Recommends at development stage the following condition be imposed; The minimum standard for any tourism development be such as to satisfy the requirements of a '4 star' rating as defined by the AAA Tourism (Royal Automobile Club (WA) inc) star rating classification.	Noted.
5	Main Roads WA	Objects to the proposal on the basis that it has potential to jeopardise any development planning of the Old Coast Road and Collie River Bridge. Would view favourably the exclusion of land potentially required for road development from the Amendment proposal as an alternative.	Noted. No road widening has been shown on the Draft Greater Bunbury Region Scheme Maps. Old Coast Road does not fall under the control of Main Roads however road-widening issue is to be resolved – see staff comment in main body of report.
6	City of Bunbury	No comments.	None required.
7	South West Environment Centre – Brenden Kelly	i. Does not support amendment. Residential development would cause	i. Not supported. Portion of land with the highest conservation value will be set aside

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>considerable environmental harm to the Leschenault estuary.</p> <ul style="list-style-type: none"> <li>ii. The estuary is globally, nationally, State-wide, and regional significant and its high conservation and geo-heritage values make it worthy of protection.</li> <li>iii. The loss of seasonal wetlands and remnant vegetation and the reduction in potential for ecosystem regeneration at Pt. Douro are impacts that cannot be sustained by the estuary.</li> </ul>	<p>as conservation reserve.</p> <ul style="list-style-type: none"> <li>ii. Upheld – As discussed in the main body of the report staff believe the EPA is the relevant authority to advise on this issue and subsequently they are requested to formally assess the geoheritage and sedimentation issue.</li> <li>iii. Not supported. The proposal will impact on existing vegetation however ecosystem regeneration will be undertaken on the conservation area at the developers cost. There is no indication that Government is prepared to identify the area as Regional Open Space.</li> </ul>
8	Conservation Council of WA	<p>Proposal environmentally unacceptable.</p> <ul style="list-style-type: none"> <li>i. Present quality of vegetation should not be used to justify rezoning, there is great potential for regeneration of the site which would determine the environmental health of the estuary.</li> <li>ii. Vegetation complex for Lot 5 has been identified as 'Medium Woodlands, Marri with some Jarrah, Wandoo, River Gum and Casuarina' of which only 11% of the original extent of this complex remains relative to pre-European settlement. (JS Beard &amp; A Hopkins)</li> <li>iii. Estuary has already lost up to 70% of its foreshore vegetation.</li> <li>iv. Heddle et al (1980) identifies vegetation as predominantly 'Yoongarillup Complex' which only occurs on the Swan Coastal Plain – only 18.66% of original area is reserved.</li> <li>v. Proposal may have a significant effect on protected migratory bird species.</li> <li>vi. Collie River Delta which forms Pt. Douro has been listed as a site of national significance on the Australian Heritage</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Quality of vegetation not used to justify rezoning, proponent recognises the potential for regeneration and proposes regeneration of the conservation area. It should be recognised that the site is currently privately owned with a Tourist zoning on the property.</li> <li>ii. Not supported. Part of the site has already been impacted by ongoing vandalism, with vegetation either being damaged or destroyed. The proposal sets aside a conservation reserve which will enhance outcomes for vegetation throughout the site.</li> <li>iii. as above. The Foreshore Management Plan can address the revegetation of the foreshore areas.</li> <li>iv. as above.</li> <li>v. Noted – However the Environmental Review document indicates that no endangered species were found on Pt. Douro. Most significant habitats are located to the north and western edges of estuary. Waterbird habitats on Pt. Douro</li> </ul>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>Commission's Register of the National Estate.</p> <ul style="list-style-type: none"> <li>vii. Pt. Douro is below 1 in 100yr flood line and is a seasonal wetland.</li> <li>viii. Pt. Douro contributes to the beauty of the estuary in its natural state.</li> <li>ix. Mosquito problems in the area are persistent, unacceptable to destroy natural process to make the area mosquito free which would impact on food chains.</li> <li>x. Pt. Douro has been included in submissions to Greater Bunbury Region Scheme to be purchased as public open space.</li> </ul>	<p>will be protected by the creation of conservation reserve.(Section 3.3.2)</p> <ul style="list-style-type: none"> <li>vi. Not supported. Brunswick, Collie and Wellesley Rivers are listed as an Indicative Place on the Register of the National Estate, and a decision has not yet been made as to whether the place should be entered into the register.</li> <li>vii. Not supported. All residential development will occur above the 1 in 100yr flood level which will be modified by the relief floodway.</li> <li>viii. Noted. This is a subjective statement. Pt. Douro is currently degraded in a high number of areas although it is recognised that if fully rehabilitated and managed appropriately and with sufficient funding it could become a natural attraction.</li> <li>ix. Not supported. Mosquito control procedures are already in place.</li> <li>x. Noted, it is also advised that a petition was presented to the state government requesting purchase of the Pt. Douro site (signed by 1207) for Regional Open Space</li> </ul>
9	Dr. Christine Sharp – MLC for the South West	<p>Serious concerns regarding development.</p> <ul style="list-style-type: none"> <li>i. (i)Pt. Douro has been nominated as a System 6 reserve due to its high recreation and conservation value, on this basis the project should be rejected.</li> <li>ii. (ii)The Estuary is a significant habitat for migratory birds and protected under international agreements.</li> <li>iii. (iii)Proposal lacks considerable detail necessary for a proposal in a significant location suggesting further detail will be supplied at a later date. Not good enough for proponent to expect rezoning when insufficient detail is provided.</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Proposal meets System 6 objectives as the development is proposed to be connected to deep sewerage.</li> <li>ii. Noted – However the Environmental Review indicates that bird species protected under international agreements are found in the shallows and mudflats of the inlet, and not specifically on Pt. Douro. Fauna studies do not indicate any endangered bird species on the site. (Section 3.3.2)</li> <li>iii. Not supported, the process of the Environmental Review has been carried</li> </ul>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<ul style="list-style-type: none"> <li>iv. (iv)The health of the estuary is dependent in part on the conservation of its foreshore vegetation. The Pt. Douro proposal will not protect the remaining vegetation and is therefore unacceptable.</li> <li>v. (v)Mosquitoes are a natural part of the estuarine ecosystem, the larvae of which are a major food source for waterbirds. The use of larvicides would detrimentally affect biodiversity of estuary.</li> <li>vi. (vi)<i>Formanifera</i> which exist in the estuary are globally significant and any changes to nutrient levels would have an adverse affect on the microalgae that they feed on.</li> <li>vii. (vii)Area is highly vulnerable to flooding caused by the kind of catastrophic weather events predicted by climate change science.</li> <li>viii. (viii)Excavation of acid sulphate soils for canals could pose a real risk which could impact on entire estuary.</li> <li>ix. (ix)The aboriginal significance of the area seems underestimated.</li> <li>x. (x)The proposal for two storey housing on the site would severely impact on visual amenity.</li> </ul>	<p>out with general direction from the DEP and subsequently the review requiring a number of management plans to be undertaken was deemed to be the appropriate method.</p> <ul style="list-style-type: none"> <li>iv. Not supported ~50% of the site will be given up as a conservation reserve. Vegetation within reserve will be regenerated. The required Foreshore Management Plan will also require regeneration of vegetation along the foreshore areas.</li> <li>v. Not supported. Alternative forms of mosquito control have been implemented at Pt. Douro since 1987 which has dramatically reduced the need for larvicides. Larvicides will only be used when required.</li> <li>vi. Not supported. The impact of the Pt. Douro proposal needs to be taken in context with the overall catchment of the Leschenault Inlet and the effect of additional nutrients throughout that area.</li> <li>vii. Not supported. All residential development will be above the current stipulated 1 in 100 yr flood line. 10cm was allowed for climate change affecting sea level. The EPA is requested to assess if this margin is accurate.</li> <li>viii. Supported. Appropriate management plans will be prepared to address issues associated with the construction of the canals including this requirement. The proposed Construction Management Plan is to have an additional point "(f) the potential for excavation of acid sulphate soils and how they will be managed."</li> <li>ix. Not supported. The findings of the aboriginal heritage study indicate that</li> </ul>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
			<p>there are no known ethnographic or archaeological sites in the proposal area, however if any aboriginal cultural material is discovered then it will be immediately referred to a qualified archaeologist. Please refer to additional information submitted by GHD.</p> <p>x. Not supported. It is noted that with the fill requirements and the development of larger houses will impact on the visual amenity compared to that now. It must be stated that with the current zoning, some form of development could be permitted that would also impact on the visual amenity..</p>
10	Department of Conservation and Land Management	<ul style="list-style-type: none"> <li>i. Does not support the rezoning.</li> <li>ii. Pt. Douro is an important waterbird habitat, which should be maintained with minimal disturbance from development.</li> <li>iii. Concerned about the potential impact on the natural environment from the construction of an artificial waterway.</li> <li>iv. Concerned the proposed canal will significantly alter natural water flow patterns and sediment deposition processes.</li> <li>v. The buffer between the development and the well used shorebird feeding habitats of Samphire Bay is considered to be inadequate. A minimum 50m buffer is recommended.</li> <li>vi. Recommends that the Collie River foreshore should be wider and enhanced by rehabilitation with endemic species.</li> <li>vii. Seeks involvement in any planning for access to the proposed conservation reserve.</li> <li>viii. There is merit in establishing a conservation zone over the mudflats around Pt. Douro</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted.</li> <li>ii. Not supported. The rezoning requires a Terrestrial Fauna/Waterbird protection plan with the aim of increasing the protection of the bird species in the conservation area.</li> <li>iii. Noted. The environmental review document and the hydrological modelling indicates that this will not be detrimental.(Section 3.5.4 &amp; 3.5.5)</li> <li>iv. Supported. The EPA is specifically requested to address the sedimentation issue as part of its assessment of the review document.</li> <li>v. Noted. The proposed buffer is aimed to limit human activity in the samphire bay locality, however it will remain crown land and is not within the rezoning area. Advice is sought from DEP on adequacy of buffer.</li> <li>vi. Noted .The existing foreshore width is 30m and the proponent will be required to revegetate this area in accordance with advice from LIMA, WRC and CALM.</li> </ul>



NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>to further reduce to disturbance of shorebirds and their habitat.</p> <p>ix. Concerned the development will result in additional pressures for mosquito control which are a food source for waterbirds.</p>	<p>vii. Noted. CALM will provide advice on the Foreshore and Conservation Reserves Management Plan.</p> <p>viii. Noted. The mudflats are crown land and should be considered to be incorporated into a conservation park managed by the State Government.</p> <p>ix. Not supported – see Staffs comment in body of report on mosquito issues.</p>
11	Water Corporation	Subdivision of the area will require connection to a reticulated sewerage scheme.	Supported. Proposed Point 5 to be included within Schedule 8 to specify that all lots will be connected to the Minister's reticulated sewerage scheme.
12	Water and Rivers Commission – LIMA	<p>Does not support proposal for rezoning and development.</p> <p>i. Pt Douro has been identified by the Royal Society of WA as nationally significant for its geoheritage and the estuary as being significant globally for its microfauna, nationally for its mangroves, statewide for its peripheral vegetation and regionally for its geomorphic setting.</p> <p>ii. The estuary is a significant habitat for migratory birds protected under international agreements.</p> <p>iii. The development requires referral under the Environmental Protection and Biodiversity Act 1999. Matters that need to be referred included the national geoheritage value of Pt. Douro and migratory birds protected under JAMBA and CAMBA.</p> <p>iv. The Leschenault Waterways Management Program 1992, a statutory document, is not addressed in the development proposal with particular reference to S12.1 and 12.2.</p> <p>v. The proposal misrepresented LIMA's</p>	<p>i. Upheld – As discussed in the main body of the report staff believe the EPA is the relevant authority to advise on this issue and subsequently they are requested to formally assess the geoheritage and sedimentation issue.</p> <p>ii. Noted. The Environmental Review document indicates that waterbird habitats relate to existing foreshore and samphire areas. Species present in shallows and mudflats of Inlet and not specifically on Pt. Douro itself. Fauna studies do not indicate any endangered bird species on site. (Section 3.3.2)</p> <p>iii. Not supported. DEP have indicated that the proposal is not subject to assessment under the EPBC Act.</p> <p>iv. Not supported. While not specifically mentioned the proposal complies with Program in that the proposal will have minimal runoff, public access to the foreshore will be maintained and the proposal sets aside land of env. value for conservation.</p> <p>v. Supported. Modify document to correctly</p>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>position in section 2.5, 2.7 and 2.8, LIMA has consistently opposed rezoning and development at Pt. Douro.</p> <p>vi. WA is a signatory to the National Water Quality Management Strategy, one of the objectives of which is to protection biological diversity and maintain essential ecological processes and life support systems.</p> <p>vii. Pt. Douro peninsula has been afforded 'Systems 6' protection, the proposal to develop the site is against the conservation considerations identified in the System 6 report.</p> <p>viii. The construction of a canal to provide a boat haven and access to the Collie River and Estuary raises the issue of safe access to these areas. The Collie River mouth is within Shire boundaries and is not a navigable channel and under the DPI interpretation is the responsibility of the Shire.</p> <p>ix. LIMA has predominantly been excluded in the consultative process for the development and the "Procedures for the Approval of Artificial Waterways and Canal Estates" have not been complied with.</p> <p>x. There is an opportunity under the current zoning to develop Pt Douro as leisure, recreation and conservation areas in accordance with current policies and guidelines included within Planning Unit CO7: Australind.</p> <p>xi. In considering the flood prone areas, and the appropriate buffer area, the actual area available at Pt. Douro outside the Waterways Protection Precinct (Waterways Commission Report 1994),</p>	<p>reflect LIMA's positon.</p> <p>vi. Not supported. Application proposes to regenerate denuded areas, set aside areas for conservation and applies Water Sensitive Urban Design techniques therefore encompassing the principles of sustainable development.</p> <p>vii. Not supported. Proposal meets System 6 objectives as the development will be connected to the Minister's sewer.</p> <p>viii. Not supported. The proposed Boat Haven and Construction Plan will address the issue of long term maintenance. The maintenance and dredging of the canal within the estate itself is the only Local Authority responsibility. A caveat will be requested to be placed on titles advising prospective purchasers that the maintenance of navigable channels is not the responsibility of Council.</p> <p>ix. Not supported. Consultation with WRC has been ongoing</p> <p>x. Noted. The current tourist zone has a number of other potential land uses that could also be developed on the site.</p> <p>xi. Not supported. Advice from additional modelling work (subsequently verified by WRC) indicates that adequate floodway capacity has been provided in the development to ensure there are no adverse flooding effects caused by the development.</p> <p>xii. Noted. To be included as a condition of any approval on this site.</p> <p>xiii. Supported. Modify document to reflect this.</p> <p>xiv. Not supported. Proposal will be designed to Shire standards and will use Best Management Practice to comply with</p>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>and hence available for development is considerably less than area proposed.</p> <p>xii. The developer must seek approval from LIMA for any stormwater/drainage connections to the Collie River and for dredging a canal connection.</p> <p>xiii. Development of urban stormwater design is not be exclusively to Shire requirements as indicated in 2.5.6 and 3.6.3 of the Development proposal.</p> <p>xiv. Development must comply with the requirements of water sensitive design, including increased space for the water treatment drain.</p> <p>xv. Degraded areas of vegetation could easily be regenerated to improve its significant habitat value, disclaiming the misleading comment "The development area is predominantly degraded and has little env. value."</p> <p>xvi. Residential development and mosquito control will have obvious impacts on the habitat and food chain of waterbirds.</p> <p>xvii. No reduction in native peripheral vegetation should occur as part of this proposal.</p> <p>xviii. LIMA does not support the use of larvicide in the conservation area and Samphire since the increased impact on the food chain of birds has not been quantified.</p> <p>xix. Hydraulic analysis and further flood modelling is required to determine floodway velocities and the effect of that water within a 100yr event upon the conservation reserve.</p> <p>xx. The proposal has not addressed the issues and responsibilities associated with the operation and maintenance of a relief floodway.</p>	<p>Water Sensitive Urban Design.</p> <p>xv. Noted. It is recognised that areas of degraded vegetation could be regenerated with the correct management principles and practices.</p> <p>xvi. Not supported. Mosquito control measures are currently in place. See Staffs comment in body of report.</p> <p>xvii. Noted.</p> <p>xviii. Not supported. Runnels have been used in the area which has led to the significant reduction in the use of larvicides. Larvicides will only be used when necessary.</p> <p>xix. Not supported. Not justified. Modelling undertaken is sufficient to deal with main issues, further modelling will be required at detailed design stage.</p> <p>xx. Not supported. A management and maintenance plan for the Boat haven and channels is one of the proposed scheme requirements.</p> <p>xxi. Noted. All residential development will be above the current stipulated 1 in 100 yr flood line. 10cm was allowed for climate change affecting sea level. The EPA is requested to assess if this margin is accurate</p> <p>xxii. Upheld – As discussed in the main body of the report staff believe the EPA is the relevant authority to advise on this issue and subsequently they are requested to formally assess the geoheritage and sedimentation issue.</p> <p>xxiii. Noted. The existing situation will change however design controls will be established.</p> <p>xxiv. Noted. Management plans would control any removal.</p>

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		<p>xxi. The proposal fails to address the distance to allow for seal level change under the Coastal SPP.</p> <p>xxii. The proposal has failed to recognise the Geoheritage significance of the Collie River Delta and have assessed the aboriginal heritage and culture issues in a superficial manner.</p> <p>xxiii. The visual amenity of Samphire Bay will be greatly affected by house construction.</p> <p>xxiv. Removing rotting macroalgae because of odour or visual amenity would not be supported as it is important part of the ecosystem.</p> <p>xxv. All reasonable measures should be made to exclude domestic and pest fauna species from conservation area.</p> <p>xxvi. The proposal fails to recognise the cultural heritage of Pt. Douro as a recreational area for the residents of Australind, Eaton and Clifton Park.</p> <p>xxvii. The single access from the development to and from Old Coast Road will result in increased traffic congestion.</p>	<p>xxv. Not supported. Management plan will ensure the conservation areas are adequately protected.</p> <p>xxvi. Not supported. Site is privately owned and development proposes to set aside 50% of its area for POS and conservation.</p> <p>xxvii. Not supported. Single access has been supported by Main Roads.</p>
13	Australind Bushland Council – Kylie Truss	<p>i. Opposed to rezoning application.</p> <p>ii. It is still possible that Pt. Douro will be included in the GRBS as POS. Rezoning of the land will increase the value of the property, which may make the purchase of land unaffordable to government.</p> <p>iii. Estuary has global significance as it holds the most abundant and biodiverse collection of Foraminifera in any estuary in the world, National significance for its range of assemblages found in its pollen record and its mangroves and of state significance due to the unique formation of the collie river delta.</p> <p>iv. It is estimated that the estuary has lost</p>	<p>i. Noted</p> <p>ii. Noted. The final plan for the Greater Bunbury Region Scheme has not been completed so technically the land could be identified in the future as Regional Open Space. The effect of the zoning change on the value of the land is not known.</p> <p>iii. Noted. The EPA is requested to assess the Geoheritage issue.</p> <p>iv. Not supported. The rezoning will place approx 50% of the site in a conservation reserve and will also require the revegetation of the proposed foreshore reserve.</p> <p>v. Noted The Environmental Review has</p>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
		<p>already up to 70% of its fringing vegetation. Remaining vegetation must be conserved and rehabilitated to ensure the health of the estuary is protected.</p> <ul style="list-style-type: none"> <li>v. Pt. Douro is a site for protected Migratory birds, and contains 18 of the 55 species covered by international agreements.</li> <li>vi. The developers are not able to guarantee that chemicals, fertilisers and other suburban wastes can be excluded from the waterways as runoff from canal blocks.</li> <li>vii. Conservation land needs to be managed more credibly and responsibly than has been suggested.</li> <li>viii. Mosquito control at Pt. Douro may become an environmental hazard. The proposal to fill in wet areas of the conservation area to prevent breeding would diminish habitat for other wildlife and not benefit conservation objectives.</li> <li>ix. Pt. Douro has been included in a register by scientists of one of thirteen sites of Geo-heritage significance which should be targeted for conservation in WA.</li> <li>x. Pt. Douro is a natural floodway and should be retained as such.</li> <li>xi. Object to the loss of direct foreshore access to the mouth of Collie River Foreshore due to canal construction.</li> <li>xii. The estuary is highly valued by residents and tourists for its wildlife, beauty and many recreation features.</li> </ul>	<p>identified that the 18 bird species are found in the Inlet and not just Pt. Douro. The fauna study included within the review found no endangered species on the site. In addition a Terrestrial Fauna/Waterbird protection plan will be prepared. (Section 3.3.2)</p> <ul style="list-style-type: none"> <li>vi. Not supported. The proposal requires the preparation of a nutrient management plan which aims to reduce the impacts stated. It should also be noted that this principal needs to be applied to the entire Leschenault catchment.</li> <li>vii. Not supported. The conservation management plan will be prepared and approved by CALM, DEP and WRC.</li> <li>viii. Not supported. Mosquito control is already occurring on site. The proposal to fill in wet areas relates mainly to the filling in of wheel ruts etc. which cause mosquito breeding areas.</li> <li>ix. Noted. See comments above.</li> <li>x. Noted.</li> <li>xi. Noted. The access to the foreshore/conservation area will need to be determined as part of the management plan. It may be as a result of further investigation that in the interests of conservation, access is limited.</li> <li>xii. Noted.</li> </ul>
14	ZK & YY Wu – Garden Palace Restaurant	Support the proposed development subject to the exclusion of restaurant/food outlets.	Development includes possible construction of café.
15	B & G Edwards – 93 Cathedral Avenue, Leschenault	<p>Objects</p> <ul style="list-style-type: none"> <li>i. Estuary cannot afford to lose more fringing vegetation and the health of</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. The rezoning will place 50% of the site in a conservation reserve and will require the revegetation of the</li> </ul>

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		<p>Estuary and bird life depend on this fringing vegetation.</p> <ul style="list-style-type: none"> <li>ii. The pressure of more people on the foreshore will have a detrimental effect on flora and fauna.</li> <li>iii. The aesthetic appeal of the delta will be ruined.</li> <li>iv. Nutrient runoff from the development will be difficult to control.</li> </ul>	<p>proposed foreshore reserve.</p> <ul style="list-style-type: none"> <li>ii. Not supported. Management plan will ensure the conservation areas are adequately protected.</li> <li>iii. Not supported. The conservation area will be separated by the boat haven which will minimise disturbance by humans and pets.</li> <li>iv. Not supported. The proposal requires the preparation of a nutrient management plan which aims to reduce nutrient runoff.(Section 3.6.4)</li> </ul>
16	Mark Woods – 6 Midwater Court, Leschenault	<p>Oppose development.</p> <ul style="list-style-type: none"> <li>i. Land should be purchased for conservation.</li> <li>ii. Canal development, and therefore owners will expect to access ocean with their boats. Navigation of the river to allow access will be shires responsibility and liability.</li> <li>iii. Development has only one access point to Old Coast Road, will be dangerous.</li> <li>iv. Migratory birds will be affected by development. Control of mosquitoes and larvae will deplete food source for birds.</li> <li>v. Development will increase exposure to Ross River Virus, will shire be liable.</li> <li>vi. Will the annual rate return be enough to cover mosquito control and river management?</li> <li>vii. Continued public access will be significantly diminished by proposal.</li> <li>viii. Given the soils structure, nutrients from lawn fertiliser's etc. will go straight into estuary.</li> <li>ix. Already a significant amount of land surrounding the estuary has been lost.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. Council has previously approached the State Government to purchase the site however was not agreed to. The site was not included within the Regional Open Space under the Draft Greater Bunbury Region Scheme. It is noted that this Scheme is not yet finalised and that the position of the State Government. may change.</li> <li>ii. Not supported. The issue of maintenance of the river and estuary channels is not included within the rezoning document as it is an issue that the developer and the State Government need to resolve. A possible solution is to require covenants on titles stipulating that access to the Inlet and ocean is not guaranteed.</li> <li>iii. Not supported. Access point will be Not supported. Mosquito control is currently already in place. In addition, it is a point of conjecture whether mosquito larvae are a major primary food source for waterbirds.</li> <li>iv. Not supported. It is recommended that the development proposal be forwarded to the Mosquito Borne Disease Control Section, Department of Health, for official</li> </ul>

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			<p>comment whom is likely to request that a memorial be placed upon the title advising that mosquitoes may be present as a nuisance or as a vector of Ross River or Barmah Forest Virus.</p> <p>v. Not supported. It is considered that mosquito control will remain unchanged as a result of the development.</p> <p>vi. Not supported. Land is privately owned. Public access will be maintained along foreshores and to conservation area in consultation with various authorities to determine what is best.</p> <p>vii. Noted. The rezoning requires a nutrient management plan to address this issue. (Section 3.6.4)</p> <p>viii. Noted.</p>
17	J Gurner – 80 Spencer St, Bunbury	Support preservation of wetlands, some residential development ok.	None required.
18	I Humpheyson – 18 Whatman Way, Clifton Park	Development will be beneficial to area, Will keep area tidy and protect wildlife on the point.	None required.
19	T Fitzpatrick – 8 Knowles St, Harvey	No objection to rezoning, supports the conservation area.	None required.
20	T Schwellnus – PO Box 651, Bunbury 6231	Support residential development.	Noted.
21	A Wake – Lot 5 Vittoria Road, Glen Iris	Support residential development.	Noted.
22	S Thomas – 53 Whatman Way, Clifton Park	Support rezoning.	Noted.
23	C Mortimer – 8 Claret Grove, Eaton	Support rezoning, will bring more people to area.	Noted.
24	P & I Bean – 49 Whatman Way, Clifton Park	Support development, subject to permanent public access to Collie River frontage and western end of Pt Douro which is to be maintained as wildlife sanctuary.	Noted. Public access to the proposed modified foreshore will be maintained and public access to the conservation area will be determined in consultation with various departments.
25	M Humpheyson – 18 Whatman Way, Clifton Park	Development beneficial for Australind, Will improve living and leisure in the area, keep river bank tidy and inviting.	None required.
26	L Robinson – 26 Lofthouse Drive, Leschenault	Development good balance between	Noted.

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		development and conservation. Currently vandalism is affecting wildlife habitat.	
27	C Malpass – 6 Lofthouse Drive, Leschenault	Support development as proposed, good proportion provided for conservation.	Noted.
28	M Rickerdy – 28 Prosser St, Bunbury	Support residential development as tourist development is already well catered for. Will improve the visual amenity of the area.	Noted.
29	Mrs McCaul – 6/14 Anna Road, Australind	Support residential zoning.	Noted.
30	Harnett – 9 Birch Way, Clifton Park	Support residential development.	Noted.
31	M Noel – 12 Acclestone St, Bunbury	No objection.	Noted.
32	Olga – 4/5 Jarvis St, Bunbury	Support residential development.	Noted.
33	M Lothian – 1/243 Old Coast Road, Australind	Support proposed development – will increase population.	Noted.
34	K Odgen – 7 Wittenoom St, Bunbury 6230	Fully support rezoning.	Noted.
35	M Odgen – 86 Port Royal Drive, Safety Bay	Support residential zoning, will improve area.	Noted.
36	P Odgen – 3/27 Minninup Road	Support rezoning.	Noted.
37	B Liancock – 9 Lucy Victoria Ave, Clifton Park	Support rezoning.	Noted.
38	T Bussett – 148 Lucy Victoria Ave, Clifton Park	Support proposed development.	Noted.
39	T Loops – 9 Lucy Victoria Ave, Clifton Park	Support residential rezoning, will tidy up foreshore.	Noted.
40	GP Jones – Bunbury	Development will be beneficial to residents, tourists and community in general. Support development with good conservation.	Noted.
41	Black Magic Cleaning – I Kurrajong Circle, Bunbury	Development will be benefit growth of area, will become popular family location.	None required. Noted.
42	S Harris – 103 Lucy Victoria Ave, Australind	Support development subject to traffic entrance being controlled.	Noted. Entrance to the estate will be designed to comply with relevant safety standards.
43	Mr & Mrs Bye – 105 Lucy Victoria Ave, Australind	Support development as will clean up area.	Noted.
44	S Whitelaw – 23 Moyes St, Manjimup	Support development as will allow easier access to surroundings.	Noted.
45	J Cable – 108 Lucy Victoria Avenue, Clifton Park	Support development provided significant amount of site left for conservation.	Noted. 50% land is set aside as POS and conservation reserve.
46	D Cable – 108 Lucy Victoria Avenue, Clifton Park	Support development.	Noted.
47	M Cable – 108 Lucy Victoria Avenue, Clifton Park	Will make area more useable and attractive.	Noted.



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48	K & L Wych – 21 Poller Way, Clifton Park	Development will enhance area, and be of benefit to both community and nature with the development of a nature reserve.	Noted.
49	N Eggleston – 24 Poller Way, Clifton Park	Support development, only concern is traffic flow.	Noted. Entrance to the estate will be designed to comply with relevant safety standards.
50	M Hddell – 20 Poller Way, Clifton Park	Support residential development, will improve value of area.	Noted.
51	RJ Eaton – 104 Lucy Victoria Avenue, Clifton Park	In favour of development subject to satisfactory traffic control at entrance to subdivision.	Noted. Entrance to the estate will be designed to comply with relevant safety standards.
52	R Brooks – 28B Poller Way, Clifton Park	Fully support development.	Noted.
53	L Brooks – 28 B Poller Way, Clifton Park	Support rezoning.	Noted.
54	J Ferguson – 39 Poller Way, Clifton Park	Support rezoning, will clean up site.	Noted.
55	Ferguson – 39 Poller Way, Clifton Park	Support development, subject to adequate room available for access to riverbank and estuary foreshore.	Noted
56	H Beyboer – 33 Poller Way, Clifton Park	Support rezoning subject to area specified in plan remaining as reserve and every effort being made to minimise impact during and after development.	Noted
57	C Beyboer – 33 Poller Way, Clifton Park	Support rezoning subject to 50% of land being reserved and not developed into formal parkland. Prefer no high walls on exterior of estate.	Noted. Conservation area will be regenerated and maintained as a reserve. It is not proposed to develop the reserve as formal parkland.
58	D Fontanini – 133 Travers Drive, Australind	Development will clean up area.	Noted.
59	T Fantasia – 11 Xavier St, Bunbury	Support rezoning, 50% conservation adequate.	Noted.
60	L Fantasia – 11 Xavier St, Bunbury	Development will be beneficial to both wildlife and residents.	Noted.
61	T Palazzese – 5 Haylake Ave, Bunbury	Good to see development in this area.	Noted.
62	R Palazzese – 5 Haylake Ave, Bunbury	Would like to see more development, attraction to wildlife and tourism in the area.	Noted.
63	P Fantasia – 17 Hayward Way, Clifton Park	Will beautify area, support provided enough area is left for conservation.	None required.
64	K Logan – 95 Lucy Victoria Ave, Australind	Support development.	None required.
65	N Amph – 121 Lucy Victoria Ave, Australind	Support development.	None required.
66	T Tencea – 1 Basilica Pl, Pelican Point	Prefer residential (low rise) over tourist.	Noted
67	L Morgan – 3/62 Maraben Loop, Bunbury	Support rezoning, prefer over tourist.	Noted
68	JD Golding – 18 Leric Circle, Pelican Point	Support rezoning, supports canals which will	Noted

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		take possible flood waters and separate conservation area from remainder of development.	
69	McGinniss – 4/243 Old Coast Road, Australind	Support the development according to plan shown.	Noted.
70	G Hargans – 8 Poller Way, Clifton Park	Support residential development.	None required.
71	K Buswell – 7 Poller Way, Clifton Park	Development would stop current abuse of the area.	Noted
72	S MacCarthy – 15 Forum Way, Bunbury	Support development, currently site needs to be cleaned up.	Noted.
73	K Gardiner – 32 Poller Way, Clifton Park	Supportive of proposed wildlife reserve, attention needs to be paid to prevent pollution of the estuary and river.	Noted.
74	T Perkins – 6 Poller Way, Clifton Park	Supports development as there has been good consideration of environmental controls.	Noted.
75	D&D Del Colum – 15 Lerici Circle, Bunbury	Supports development. Will improve present condition of land.	None required.
76	D Colum – 15 Lerici Circle, Bunbury	Supports, will provide good entrance to Australind, will improve current condition.	None required.
77	Fred- 19 Cross St, Clifton Park	Supports residential development.	None required.
78	DH & VA Tweedie – 3/265 Old Coast Road, Bunbury	Supports residential development.	None required.
79	D Lyons – 5 Anna Road, Australind	Supports residential development.	None required.
80	M Johnson – 1/265 Old Coast Road, Australind	Development will make area more appealing to others.	None required.
81	B O'Shea – D.B.C	Supports residential development.	None required.
82	E Pulford – 8/14 Anna Road, Australind	Supports, will improve area.	None required.
83	Mr & Mrs Williams - 7/14 Anna Road, Australind	Supports, will improve area.	None required.
84	B & P Brumpton – 5 Poller Way, Clifton Park	Pleased to see area cleaned up and developed.	None required.
85	Pike – 5 Shine Court, Clifton Park	Will improve current eye sore.	None required.
86	S Anderson – 60 Lucy Victoria Ave, Clifton Park	Support residential development.	None required.
87	T Nugent – 48 Lucy Victoria Ave, Clifton Park	Development leaves ample land for conservation.	None required.
88	G & S Meredith – 34 Lucy Victoria Ave, Clifton Park	Support development however concerned about too small block sizes and water flow and movement.	Noted.
89	K Pettersen – 75 Lucy Victoria Ave, Clifton Park	Support rezoning.	None required.

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90	L Olsthoon – 60 Lucy Victoria Ave, Clifton Park	Support for development leaving room for conservation, walkways and POS.	Noted
91	J Pitts – 62 Lucy Victoria Ave, Clifton Park	Area would benefit from rezoning provided safeguards are in place regarding sewerage and conservation area.	Noted. Contingency measures to cater for emergency overflows or pump station failure will be established with the Water Corporation by the developer. (Section 2.5.6)
92	A Lovegrove – 1 Shine Court, Clifton Park	Support provided river front is kept accessible to public.	Noted. Public access to the proposed modified foreshore will be maintained and public access to the conservation area will be determined in consultation with various departments.
93	DJ Lewis – 47 Poller Way, Clifton Park	Support development subject to retention of a significant proportion of the natural wetlands.	Noted. Approximately 50% of the land will be set aside as conservation reserve.
94	A Went – 13 Poller Way, Clifton Park	Support development – will clean up area.	Noted.
95	L Cadd – 12 Poller Way, Clifton Park	Support development – will enhance area and bring up land value of surrounding areas.	Noted.
96	Barnard – 11 Poller Way, Clifton Park	Support residential development.	None required.
97	S Green – 9 Poller Way, Clifton Park	Support residential development – sufficient area of POS.	None required.
98	BW Sauill – 2/265 Old Coast Road, Australind	Support residential development.	None required.
99	J Clayton – 2 Shine Court, Clifton Park	Support rezoning, will improve outlook and reduce mosquito population.	None required.
100	D Ennor – 3 Shine Court, Clifton Park	Support development	None required.
101	E Morgan – PO Box 716, Bunbury	<p>Support development.</p> <ul style="list-style-type: none"> <li>i. Land is currently degraded and visually unattractive.</li> <li>ii. Land is subject to constant dumping of rubbish and vandalism.</li> <li>iii. The land is in private ownership and therefore not accessible to public.</li> <li>iv. Residential zoning more appropriate than current tourist zoning.</li> <li>v. Canal development will ensure approximately 60% of the site is set aside for conservation or recreation purposes.</li> <li>vi. Development will provide entrance to the Shire of Harvey.</li> <li>vii. State Govt. has indicated that there are other priorities for POS in the area and</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted.</li> <li>ii. Noted</li> <li>iii. Not Supported – there is an existing 30 metre foreshore reserve around the entire lot vested with the Waters and Rivers – the remaining land is privately owned</li> <li>iv. Noted</li> <li>v. Noted</li> <li>vi. Noted</li> <li>vii. Noted – this has historically been the case however the Region Scheme has not yet been finalised and a petition was tabled in Parliament seeking purchase of the site as Regional Open Space</li> <li>viii. Noted – the existing foreshore reserve has had little revegetation work</li> </ul>

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		<p>are not prepared to purchase Pt. Douro.</p> <p>viii. Rehabilitation of foreshore areas and conservation areas will be costly and will not take place unless development goes ahead.</p> <p>ix. There is no need for further tourist developments.</p> <p>x. Residential population will take greater care of area and benefit local businesses.</p> <p>xi. Residential development will ensure development of high standards and will improve visual amenity of area.</p> <p>xii. Development will ensure public access to foreshore areas.</p> <p>xiii. Residential development will have less impact on the estuary than a tourist development.</p> <p>xiv. Management plans required for development would ensure that the proposal will be of the highest possible standard.</p>	<p>undertaken recently</p> <p>ix. Noted</p> <p>x. Noted</p> <p>xi. Noted</p> <p>xii. Noted – there are two areas where the foreshore reserve will be replaced by the canal – the public access to the conservation area is yet to be determined</p> <p>xiii. Noted</p> <p>xiv. Noted</p>
102	P Matthews – 6 Harding Way, Clifton Park	Support development – will stop vandalism of area.	Noted.
103	Mr & Mrs Sims – 10 Harding Way, Clifton Park	Support provided 50% conservation.	Noted.
104	D Atkins – 12 Harding Way, Clifton Park	Support subject to protection of river and inlet is assured.	Noted. Approx 50% of the site has been set aside as a conservation area and appropriate management plans will be put in place to ensure the protection of river and estuary.
105	L Donoghoe – 14 Harding Way, Clifton Park	Residential development will be an asset to the area.	Noted.
106	M Hanley – 63 Lucy Victoria Ave, Clifton Park	Support development.	None required.
107	G Brookes – 22 Roberts Road, Australind	Support development.	None required.
108	G Zolnier – 14 Cornell Cr, Bunbury	Support residential development.	None required.
109	P Kerr – Lot 7 Gelorup	Support rezoning.	None required.
110	R Dunn – 1 Perrin Court, Clifton Park	Support residential development.	None required.
111	Bailey – 6 Perrin Court, Clifton Park	Prefer site to remain as is but prefers residential zoning over tourist zoning.	Noted.
112	Hollands – 2 Perrin Court, Clifton Park	Support development	None required.

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113	C O'Brian – 17 Harding Way, Clifton Park	Land will be better looked after as a residential area, reserve will be left with minimal disturbance for migrating birds etc.	Noted.
114	M Flatt – 2 Harding Way, Clifton Park	Support residential development.	None required.
115	A Evill – 6 Shenton Close, Australind	Support subject to 50% being left for conservation.	Noted.
116	K Doble – 52 Pearce Rd, Australind	Support residential development provided concerns of DEP are addressed. Will prevent current abuse and degradation.	Noted. The environmental review has been prepared in accordance with the requirements of the DEP. Following Councils consideration of submission, the DEP will again consider the proposal in light of the submissions.
117	J Kaddourh – 3 Christison Way, Clifton Park	Support Development – will stop abuse of land.	Noted.
118	TM Colling – 45 Lucy Victoria Ave, Clifton Park	Residential development would improve the area.	Noted.
119	J Fushy – 1 Kau Close, Clifton Park	Support residential development subject to compliance with Council and Govt. body guidelines.	Noted.
120	B Eitridge – 8 Harding Way	Support 50% residential, 50% conservation.	Noted.
121	M & ML Martin – 7 Perrin Court, Clifton Park	Support development.	None required.
122	S Vine – 17 Tremandra Way, Glen Iris	Support residential in favour of tourism.	None required.
123	L Brain – 26 Williams Way, Clifton Park	Support 50% residential, 50% conservation with foreshore access.	Noted.
124	G Jefferies – 26 Shine Cr, Brunswick	Development would improve area.	Noted.
125	M Davies – 27 Barton Drive, Australind	Support development, will be a positive action for the area.	Noted.
126	M Kelly & B Cassidy – 20 Whatman Way, Clifton Park	Rezoning good idea, proposed public areas good for area.	Noted.
127	T & F Cassidy – 13 Salers Close, Eaton	Development offers enhancement of the area.	Noted.
128	A Martin – 17 Hardy Rd, Peppermint Grove	Development acceptable.	None required.
129	W & S Sawyer – 27 San Mance Prom, Pelican Point	Support development	None required.
130	W Griffin – 86 Uduc Rd, Harvey	Developments which support population and businesses can only benefit the region.	None required.
131	B Slee – 14 Lerici Circle, Pelican Point	Support development, time share units would help advertise Bunbury and there is sufficient room for POS.	None required.
132	MJ Collins – 5B Lucy Victoria Avenue, Clifton	Support residential development.	None required.

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	Park		
133	J Mulder – 6 Banks Crt, Clifton Park	Support development – will minimise vandalism.	None required.
134	H McQuade – 8 Hawkins Crt, Clifton Park	Support development provided environment is preserved.	Noted.
135	AW Jones – 32 Peet St, Harvey	Development will improve what is there now, 50% reserve great gesture.	None required.
136	G Golding – 18 Lerici Circle, Pelican Point.	Will enable greater number of people to utilise foreshore. Development will not have great impact on bird life as most birds currently perch at the northern end of Pt Douro which will become conservation reserve.	Noted.
137	J Marshall – 12 Kay Close, Clifton Park	Welcome development, will tidy up area.	Noted.
138	J Reither – 90 Lucy Victoria Ave, Clifton Park	Will enhance area and bring more people to area.	Noted.
139	D Hill – 87 Lucy Victoria Ave, Clifton Park	In support of development.	None required.
140	P Andrews – 36 Claughton Way, Bunbury	Support development.	None required.
141	J Archibald – 92 Lucy Victoria Ave, Clifton Park	Support development.	None required.
142	G Betene – 10 San Marco Promenade, Bunbury	Support development, will improve an eyesore.	None required.
143	N Fitzpatrick – 36 Portfino Crescent, Bunbury	Conservation allocation is generous, will reduce mosquito problem.	Noted.
144	RH Offer – 4 San Marco Promenade, Bunbury	Support residential land use, will improve the river foreshore.	Noted.
145	C Edwards – 4 Mawson Court, Australind	Support development, will tidy up place and stop current abuse.	Noted.
146	W Worthington-Eyre – 41-43 Portofino Cr, Grand Canals	Support canal development, will improve land values.	Noted.
147	M Gartrell – Gartrell Planning & Development	Support development. i. Land is currently degraded and visually unattractive. ii. Land is subject to constant dumping of rubbish and vandalism. iii. The land is in private ownership and therefore not accessible to public. iv. Residential zoning more appropriate than current tourist zoning. v. Canal development will ensure	i. Noted. ii. Noted iii. Not Supported – there is an existing 30 metre foreshore reserve around the entire lot vested with the Waters and Rivers – the remaining land is privately owned iv. Noted v. Noted vi. Noted vii. Noted – this has historically been the case

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		<p>approximately 60% of the site is set aside for conservation or recreation purposes.</p> <ul style="list-style-type: none"> <li>vi. Development will provide entrance to the Shire of Harvey.</li> <li>vii. State Govt. has indicated that there are other priorities for POS in the area and are not prepared to purchase Pt. Douro.</li> <li>viii. Rehabilitation of foreshore areas and conservation areas will be costly and will not take place unless development goes ahead.</li> <li>ix. There is no need for further tourist developments.</li> <li>x. Residential population will take greater care of area and benefit local businesses.</li> <li>xi. Residential development will ensure development of high standards and will improve visual amenity of area.</li> <li>xii. Development will ensure public access to foreshore areas.</li> <li>xiii. Residential development will have less impact on the estuary than a tourist development.</li> <li>xiv. Management plans required for development would ensure that the proposal will be of the highest possible standard.</li> </ul>	<p>however the Region Scheme has not yet been finalised and a petition was tabled in Parliament seeking purchase of the site as Regional Open Space</p> <ul style="list-style-type: none"> <li>viii. Noted – the existing foreshore reserve has had little revegetation work undertaken recently</li> <li>ix. Noted</li> <li>x. Noted</li> <li>xi. Noted</li> <li>xii. Noted – there are two areas where the foreshore reserve will be replaced by the canal – the public access to the conservation area is yet to be determined</li> <li>xiii. (Noted)</li> <li>xiv. Noted</li> </ul>
148	K Hamersley – 7 Fitzgerald Way, Australind	If area cannot be left in natural state would prefer tourism over housing.	Noted.
149	TC Ellenberg – 2 Kau Close, Clifton Park	Support rezoning, development will stop vandalism, beautify the area, attract people to the area and support land given up for conservation.	Noted.
150	R Hill- Lot 9 Old Coast Road, Australind	Development will tidy up the area and attract more people to the area.	Noted.
151	J Laxton – Australind Florist	Support, will help support businesses in the area.	Noted.
152	A Hill – 55 Knight St, Bunbury	Support development.	None required.

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153	J William – 53 Knight St, Bunbury	Support development.	None required.
154	L Marshall – 32 Gibbs St, Bunbury	Support development provided 50% of the land is conserved.	Noted.
155	G Mammolite - 1A Kau Close, Clifton Park	Will add value to the area, support development.	Noted.
156	RD Scott – Lot 57 Cathedral Avenue, Australind	Prefer residential over tourist zoning, residential would cause less stress on the river and environment.	Noted.
157	S Pontre – 15 Lucy Victoria Avenue, Clifton Park	Development can only benefit the shire.	Noted.
158	Wu Liang Liu – 275 Old Coast Rd, Australind	Support residential development, will benefit the local community.	Noted.
159	D Mortley – 5 Hawkins Court, Clifton Park	Support canal development, will improve land usage.	Noted.
160	S Rogers – 7 Hawkins Court, Clifton Park	Support residential development, 50% conservation reserve and POS will protect nature.	Noted.
161	J McDonald – Lot 39 Lowe Crt, Clifton Park	Support residential development, will stop current vandalism.	Noted.
162	S Easter – 4 Hayward Place, Clifton Park	Development will enhance area.	Noted.
163	G Hotchan – 5 Hayward Pace, Clifton Park	Prefer residential over tourist uses, will improve area visually and improve access.	Noted.
164	R Williams – 15 Hayward Place, Clifton Park	Support development subject to 50% land being reserved and maintained.	Noted.
164	T Luscombe – 11 Mayne Way, Clifton Park	Support development	None required.
166	H Davies – 4 Lowe Court, Clifton Park	Support development, will improve an eyesore.	None required.
167	M Ginst – 7 Barnes Ct, Clifton Park	Will be beneficial to the community, will attract people to the area.	None required.
168	Hammond – 8 Duignan Pl, Clifton Park	Concerned about traffic volume along Old Coast Rd. Otherwise support proposal.	Noted. Entrance to the estate will be designed to comply with relevant safety standards.
169	D Roberg – 4 Barnes Crt, Clifton Park	Support development if 50% is given up for conservation.	Noted.
170	N Mullins – 5 Barnes Ct, Clifton Park	Will beautify area, enhancing property value in the area.	Noted.
171	S Crack – 5 Duigan Pl, Clifton Park	Support.	None required.
172	M Hughes – 40 Stallard Rd, Withers	Support development, will improve area.	None required.
173	K Fenton – 10 Duigan Pl, Clifton Park	Prefer residential over tourist use, would like to	Noted.



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		see 50% conservation.	
174	J Wallace – 3 Barnes Crt, Clifton Park	Support residential development.	Noted.
175	F & R Pilkington – 26 Old Coast Road, Australind	Support development, will visually improve the area.	Noted.
176	A Stewart – 8 Barnes Crt, Clifton Park	Support development.	Noted.
177	L Mason – 15 Watermass Pl, Australind	Support development as 50% of land conservation and foreshore areas being for public use.	Noted.
178	J Panetta – Uduc Rd, Harvey	Support rezoning, will tidy up area which has been abused for many years.	Noted.
179	E Spurling – 15 Mayne Way, Clifton Park	Support, stated area must be given up for conservation, deep sewerage must have backup in case of malfunction, road entrance will need careful planning.	Noted. A duty and standby pump with automatic changeover will cater for pump failure and an alarm will alert controller. (Section 2.5.6) Entrance to the estate will be designed to comply with relevant safety standards.
180	C Wood – 47 Elinor Bell Road, Australind	Support provided 50% is zoned conservation and foreshore is developed for use by the community.	Noted.
181	Z Hadhom – 21 Mayne Way, Clifton Park	Support development, Will clean up area and provide public access.	Noted.
182	B Marshall – 1 Mayne Way, Clifton Park	Strongly support, great for public access.	Noted.
183	K Brinie – 1 Mayne Way, Clifton Park	Support, will improve foreshore.	Noted.
184	B Edwards – 5 Mayne Way, Clifton Park	Support, will enhance the local area.	Noted.
185	M Edwards – 5 Mayne Way, Clifton Park	Support, will improve area.	Noted.
186	W Edwards – 5 Mayne Way, Clifton Park	Support, better than present eyesore.	Noted.
187	J Parvin – 3 Mayne Way, Clifton Park	Support rezoning	Noted.
188	S Henderson – 4 Mayne Way, Clifton Park	Support development subject to conservation being top priority.	Noted.
189	C Reid – 6 Mayne Way, Clifton Park	Support, will clean up foreshore, and conservation and wildlife will remain.	Noted.
190	J Jumeaux – 7 Mayne Way, Clifton Park	Support, proposal gives good consideration to conservation and public access.	Noted.
191	R McManus – 10 Mayne Way, Clifton Park	Support subject to foreshore being for public use and 50% to be retained for conservation.	Noted.
192	K Willoughby – 1 Smythe Cr, Bunbury	Support residential development.	Noted.
193	S Anderson – 5 Williams Way, Clifton Park	Support, will make land more appealing.	Noted.
194	G Knight – 5 Williams Way, Clifton Park	Support, will enhance the area.	Noted.

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195	M Willoughby – 1 Smyth Cr, Bunbury	Fully support residential development.	None required.
196	J Hickey – 13 Mayne Way, Clifton Park	Support rezoning.	None required.
197	A Hickey – 13 Mayne Way, Clifton Park	Support rezoning.	None required.
198	J McDonald – Caltex Eaton – 1 Pratt Road, Eaton	Support rezoning, will improve the look of the foreshore.	Noted.
199	J Johnston – 42 Mayne Way, Clifton Park	In favour of project.	None required.
200	M Johnston – 42 Mayne Way, Clifton Park	Support development, sufficient land for birdlife provided.	Noted.
201	L Denning – 35 Mayne Way, Clifton Park	Fully support development of half residential and half public open space.	Noted.
202	N Roberts – 39 Stirling St, Bunbury	Development would eventuate some time.	None required.
203	B Martin – Bunbury Golf Club – 11 Ganfield Pl, Clifton Park	Support residential development, will enhance area.	Noted.
204	S Blaszczyk – 27a Mayne Way, Clifton Park	Support residential development.	None required.
205	C McDonald – U18/104 Paris Rd, Australind	Support, will upgrade the area and promote tourism.	Noted.
206	M Grogan – 48 Jacaranda Cr, Bunbury	Support rezoning.	None required.
207	A Princi – 27B Mayne St, Clifton Park	Support rezoning, currently an eyesore.	Noted.
208	Dr C Jumeaux – 7 Mayne Way, Clifton Park	Environmentally friendly and tasteful proposal.	Noted.
209	R Newman – 30 Mayne Way, Clifton Park	Support proposal, currently a wasteland.	Noted.
210	RJ Newman – 30 Mayne Way, Clifton Park	Support project, will clean up area.	Noted.
211	N Blaszczyk – U18/104 Paris Rd, Australind	Support rezoning.	None required.
212	A Radge – 29 Lucy Victoria Ave, Clifton Park	Does not support development, continued loss & degradation of wetlands, saltmarsh and associated vegetation will adversely affect the diverse species of waterbirds including migratory species on the estuary.	<ul style="list-style-type: none"> <li>i. Noted. Approx 50% of the site will be set aside as a conservation reserve. Vegetation in this area will be regenerated and a Foreshore Management Plan will also require regeneration of vegetation along the foreshore areas.</li> <li>ii. Noted. The Review document indicates that bird species protected under international agreements are found in the shallows and mudflats of the inlet and not specifically on Pt. Douro. (Section 3.3.2)</li> </ul>
213	K Hawkins – 28 Vincent St, Brunswick	<p>Objects to rezoning for following reasons;</p> <ul style="list-style-type: none"> <li>i. Will cause demonstrable environmental harm to the Leschenault Estuary ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted.</li> <li>ii. Not supported. Approximately 50% of the site will be set aside for conservation which will be regenerated. A Foreshore</li> </ul>

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		<ul style="list-style-type: none"> <li>ii. The estuary has already lost up to 70% of foreshore vegetation. Pt. Douro has important remnant vegetation capable of regeneration.</li> <li>iii. The health of the estuary is dependent on the conservation of fringing vegetation.</li> <li>iv. Pt. Douro is below 1 in 100 yr floodline and is a seasonal wetland providing habitat for migratory birds.</li> <li>v. Pt. Douro have been included in submissions to the Greater Bunbury Region Scheme to be purchased as public open space.</li> <li>vi. Concerned with potential traffic problems and view from highway with landscape and feature wall screens being built.</li> </ul>	<p>Management Plan will also require the regeneration of vegetation along the foreshore.</p> <ul style="list-style-type: none"> <li>iii. Noted.</li> <li>iv. Not supported. All residential development will be above the current stipulated 1 in 100 yr flood line. 10cm was allowed for climate change affecting sea level. The EPA is requested to assess if this margin is accurate.</li> <li>v. Noted, it is also advised that a petition was presented to the state government requesting purchase of the Pt. Douro site (signed by 1207) for Regional Open Space</li> <li>vi. Noted. Landscape management plan to be developed as part of Outline Development Plan. The existing vista will obviously be changed significantly. The development when viewed from Old Coast Road will present homes and the Boat Haven. (Section 3.84)</li> </ul>
214	R Tauss – <a href="mailto:raytauss@starwon.com.au">raytauss@starwon.com.au</a>	<p>Objects.</p> <ul style="list-style-type: none"> <li>i. Removal or damage to fringing and estuarine vegetation will threaten the health of the entire estuary.</li> <li>ii. Current damage is no excuse for permitting further development. Damaged vegetation can be regenerated.</li> <li>iii. Geoheritage sites in the area are of national importance and international reference.</li> <li>iv. Seasonally active wetland and is a biologically highly active area. Development against national interest.</li> <li>v. Migratory birds that use the area are of international importance.</li> <li>vi. Opportunities for ecologically sustainable eco-tourism should be preserved.</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Approximately 50% of the site will be set aside for conservation which will be regenerated. A Foreshore Management Plan will also require the regeneration of vegetation along the foreshore.</li> <li>ii. Not supported. Quality of vegetation not used to justify rezoning, proponent recognises the potential for regeneration and proposes regeneration of the conservation area. It should be recognised that the site is currently privately owned with a Tourist zoning on the property.</li> <li>iii. Supported. The EPA is requested to assess the issues of geoheritage and</li> </ul>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
			sedimentation. iv. Noted. v. Not supported. The Environmental Review document suggests that bird species protected under international agreements are found in the shallows and mudflats of the inlet and not specifically on Pt. Douro. (Section 3.3.2) vi. Noted
215	Mr & Mrs Lovelle – 47 Mardo Avenue, Australind	Support residential development subject to conservation area and public open space being provided.	Noted.
216	P Mosca – 44 Mardo Ave, Australind	Support residential development as long as conservation area is left for wildlife and public open space is developed.	Noted.
217	C Mosca – 44 Mardo Ave, Australind	Support residential development as long as conservation area is left for wildlife. Will clean up area.	Noted.
218	Mr & Mrs F Chong – 213 Old Coast Road, Australind	Support development subject to 50% being allocated to POS and contribution to maintaining the river and estuary.	Noted.
219	D Marshall – 1 Crampton Ave, Eaton	Support rezoning – POS along foreshore important to community.	Noted.
220	H Nutley – 6 Mulgarra St, Australind	Support plan as POS will be protected from vehicular use which is currently one of the biggest problems affecting the area.	Noted
221	P Dinsdale – 10 Silvergull Tce, Australind	Support rezoning, well balanced between wildlife and residential use.	Noted
222	RC Berger – 7 Stanton Way, Leschenault	Support development, will improve area especially with the area set aside for wildlife protection.	Noted.
223	L Patione – 43 Mardo Ave, Australind	Support development, will increase people using the foreshore.	Noted.
224	P Vercoe – 32 Sandpiper Pde, Australind	Development will improve public access and offer better reserves in addition to quality residential development.	Noted.
225	J Hicks – 41 Mardo Ave, Australind	Support development as long as room for nature and public. Land currently an eyesore.	Noted. Approx. 50% of the site has been set aside for conservation and POS.

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226	CJ Banting – U7/16 Mardo Ave, Australind	Support development sufficient open space is reserved not to impact on the ecology.	Noted.
227	D Jenkins – U6/13 Paris Rd, Australind	Support development with environmental and conservation requirements being kept.	Noted.
228	J Sale – 23/13 Paris Rd, Australind	Support residential development and 50% conservation.	Noted.
229	B Dryland – 24/13 Paris rd, Australind	Support development – POS is essential.	Noted.
230	R Sale – 23/13 Paris Rd, Australind	Support, all aspects of living and recreation catered for.	Noted.
231	MH Johansen – 12/13 Paris Rd, Australind	Support development however urge caution with respect to egress of future floodwaters over the Old Coast Road floodway and the possible obstruction of such floodwaters by the filling of Lot 5 (see Main Roads drawing 7902-103)	Not supported. Advice from additional modelling work (subsequently verified by WRC) indicates that adequate floodway capacity has been provided in the development to ensure there are no adverse flooding effects caused by the development..
232	VM Johansen – 12/13 Paris Rd, Australind	Support rezoning subject to flood mitigation being addressed.	Noted, Flood mitigation has been addressed within the environmental review.
233	M Scandrett – 13/13 Paris Rd, Australind	Support development subject to 50% of land kept for conservation.	Noted.
234	R & E Wilkins – 19/13 Paris Rd, Australind	Reasonable proposal provided conditions regarding POS and access to the river are enforced.	Noted.
235	B Davis – 12 Wickham Way, Clifton Park	Support rezoning, will beautify foreshore while providing land for conservation.	Noted.
236	P Cowley – 6 Wickham Way, Clifton Park	Support development providing 50% is given up for conservation and access to foreshore is maintained.	Noted.
237	R Wilson – 5 Wickham Way, Clifton Park	Support rezoning, Foreshore will be cleaned up for public use and access.	Noted.
238	R Weggelaar – 8 Wickham Way, Clifton Park	Support subject to 25-50% land is left for conservation.	Noted.
239	C Santostefano – 4 Kingfisher Tce, Australind	Support rezoning, will beautify area and stop juveniles using it for dirt riding and driving.	Noted.
240	P Colum – 42 Mardo Ave, Australind	Support development, prefer to what is there now.	Noted.
241	JM Colum – 42 Mardo Ave, Australind	Support development, currently land is unsightly.	Noted.
242	F Ginbey – 12 Old Coast Road, Australind	Support rezoning.	Noted.

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243	K Buswell – 42 Matilda Ave, Australind	Support rezoning.	Noted.
244	C Jeffery – 11 Silvergull Tce, Australind	Support rezoning, will improve land values.	Noted.
245	S Dinsdale – 10 Silvergull Tce, Australind	Support rezoning, will be good for area.	Noted.
246	L Duggan – 2 Kingfisher Tce, Australind	Support rezoning, will clean up area.	Noted.
247	S Wall – 6 Kingfisher Tce, Australind	Support rezoning, currently land looks degrading.	Noted.
248	L Santostefano – 4 Kingfisher Tce, Australind	Support, will beautify area.	Noted.
249	M Harrison – 41 Mardo Ave, Australind	Support, will clean up area.	Noted.
250	D Buswell – 42 Matilda Ave, Australind	Support rezoning.	Noted.
251	Boyleson – 1 Kingfisher Tce, Australind	Support rezoning, currently a wasteland.	Noted.
252	HF Reading – 8 Mulgara St, Australind	Will improve area and foreshore.	Noted.
253	S Mas – 8 Mulgara St, Australind	Support, will improve area.	Noted.
254	R Pennefather – 21 Mardo Ave, Australind	Support development.	Noted.
255	K Lowrie – 1 Kingfisher Pl, Australind	Support rezoning, will be better used by public.	Noted.
256	L Paltone – 43 Mardo Ave, Australind	Support rezoning, will clean up area.	Noted.
257	C Donovan – 1/18 Greensell St, Bunbury	Support development.	Noted.
258	E Surrivan – 6/16 Mardo Ave, Australind	Subdivision would benefit the Australind community.	Noted.
259	HJ Watts – U4/16 Mardo Ave, Australind	Fully support proposal, will improve the amenity of the area.	Noted.
260	M Hornett – 20/16 Mardo Avenue, Australind	Support development.	Noted.
261	R Dixon – 3/16 Mardo Ave, Australind	Support rezoning.	Noted.
262	T Pitts – 19/16 Mardo Ave, Australind	Support development, currently land is subject to rubbish dumping and vandalism.	Noted.
263	W Nelson – 5/16 Mardo Ave, Australind	Prefer development to tourism development.	Noted.
264	C Surrivan – 6/16 Mardo Ave, Australind	Subdivision will benefit community.	Noted.
265	D Halliday – 32 Sandpiper Prde, Australind	Support rezoning.	Noted.
266	M Henderson – 17/13 Paris Rd, Australind	Support rezoning – currently land not of any beneficial use.	Noted.
267	D Jenkins – 6/13 Paris Rd, Australind	Support rezoning.	Noted.
268	M Warren – 4/23 Paris Rd, Australind	Support rezoning, hopefully retirement housing will be built.	Noted.
269	V Tatt – 8/13 Paris Road, Australind	Support residential and conservation.	Noted.
270	MT Watts – 4/16 Mardo Ave, Australind	Rezoning will enhance facilities in the area.	Noted.
271	N Forrester – 3/16 Mardo Ave, Australind	Fully support rezoning.	Noted.
272	Mrs Daden – 18/16 Mardo Ave, Australind	Support development, currently land is degraded and visually unattractive.	Noted.

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273	W Nelson – 5/16 Mardo Ave, Australind	Too many caravan parks already, land better used for retirement accommodation.	Noted.
274	J Loupect – 16/13 Paris Rd, Australind	Support rezoning.	Noted.
275	J Patterson – 19 Wickham Way, Clifton Park	Support residential development.	Noted.
276	E Jones – 17 Wickham Way, Clifton Park	Support development, as currently land is very untidy.	Noted.
277	KW Jones – 17 Wickham Way, Clifton Park	Support re-development of area as currently land is not presentable.	Noted.
278	J Hough-Davis – 12 Wickham Way, Clifton Park	Support rezoning, will make foreshore more accessible to public.	Noted.
279	G White – 10 Wickham Way, Clifton Park	Support rezoning, will look a lot better.	Noted.
280	M Parvin – 3 Mayne Way, Clifton Park	Supportive of project.	Noted.
281	Raeleen – 14 Wickham Way, Clifton Park	Support residential development, will bring more people to the area.	Noted.
282	M Townsend – 1 Wickham Way, Clifton Park	Support development, currently area wasted and used for rubbish disposal.	Noted.
283	J Townsend – 1 Wickham Way, Clifton Park	Will improve waste area.	Noted.
284	H Weggelaar – 8 Wickham Way, Clifton Park	Area needs development.	Noted.
285	M Smith – 4 Harnett Place, Clifton Park	Support development, will improve value of overall area, land currently an eyesore.	Noted.
286	R Prater – 3 Ganfield Pl, Clifton Park	Support residential development, will be an asset to the shire.	Noted.
287	GD Murphy – 2 Casteau Close, Clifton Park	Support development, will improve and protect the area, currently an eyesore.	Noted.
288	B Murphy – 2 Casteau Close, Clifton Park	Support development, will enhance a currently neglected area.	Noted.
289	D Chapman – 24 Wickham Way, Clifton Park	Support rezoning, will clean up the area.	Noted.
290	O Bartrop – 9 Ganfield Way, Clifton Park	Support rezoning, will clean up current condition of land.	Noted.
291	R Grigg – 4 Ganfield Way, Clifton Park	Support development, will tidy up area.	Noted.
292	M McDonald – 20 Wickham Way, Clifton Park	Support rezoning, will give area a facelift.	Noted.
293	V Patterson – 19 Wickham Way, Clifton Park	Development will clean up eyesore.	Noted.
294	G Bromley – 18 Sungrove Ave, Bunbury	Project essential for tourism for Australind, strongly in favour of rezoning.	Noted.
295	J Saunders – 125 Cathedral Ave, Australind	Strongly support amendment. <ul style="list-style-type: none"> <li>• Comparison of the previously approved tourist development and the current</li> </ul>	Noted.

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		<p>proposal would indicate a slightly lower impact of people in the residential development.</p> <ul style="list-style-type: none"> <li>• It is stated that the estuary has one of the highest biodiversities in the world, can conclude therefore that existing development does not have an adverse affect on the estuary or that the high biodiversity may be a result of existing development. Cannot claim Pt. Douro development will have an adverse impact on estuary unless it can be demonstrated that adverse affects exist from current development.</li> <li>• Under residential plan, western half will be given up for conservation, under tourism plan land will remain in private ownership.</li> <li>• The western half of Pt.Douro which contains the delta is being given up for conservation.</li> </ul>	
296	D Fontaine – 166 Blair St, Bunbury	Redevelopment would greatly improve area and increase value of area.	Noted.
297	J Kalbfell – 45 Whatman Way, Australind	No objection however 30m foreshore reserve is inadequate, should be a minimum of 100m.	
298	A Ballantyne – 31 San Marco Promenade, Bunbury	Prefer residential and conservation over tourist option.	Noted.
299	D Chapman – 23 San Marco Promenade, Bunbury	Believes land is incompatible with residential or tourist development and that development would cause a devaluation of land.	Land is privately owned and already zoned for development.
300	R Watkins – 5 Gulf Way, Australind	<p>Objects,</p> <ol style="list-style-type: none"> <li>i. site should be purchased by State Govt.</li> <li>ii. Site is an important migratory shorebird site.</li> <li>iii. The Govt. is committed to the protection of migratory waterbirds through the China-Australia Migratory Bird Agreement and Japan-Australia Migratory Bird Agreement.</li> </ol>	<ol style="list-style-type: none"> <li>i. Noted. Council has previously approached the State Government to purchase the site however was not agreed to. The site was not included within the Regional Open Space under the Draft Greater Bunbury Region Scheme. It is noted that this Scheme is not yet finalised and that the position of the State Government. may change.</li> </ol>



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		<ul style="list-style-type: none"> <li>iv. Allowing housing would bring disturbance to birds from people and dogs.</li> <li>v. There would be pressure to beautify the western end with gardens etc. Any draining of the area would destroy the samphire which plays an important role in removing excess nutrients from water.</li> <li>vi. It has been recorded that there is a significant increase in health risk from Ross River with developments near saline wetlands.</li> <li>vii. Any dredging of the surrounding waters would make the area unsuitable for wading birds as they depend on shallow water.</li> <li>viii. If the area near the Old Coast Road was planted with trees and shrubs this may discourage the dumping of old cars and improve the general appearance.</li> </ul>	<ul style="list-style-type: none"> <li>ii. Not supported. The Environmental Review document suggests that waterbird habitats relate to existing foreshore and samphire areas. Species present in shallows and mudflats of Inlet and not specifically on Pt. Douro itself. Fauna studies do not indicate any endangered bird species on site. (Section 3.3.2)</li> <li>iii. Noted</li> <li>iv. Not supported. Conservation area will be separated from remaining development by a canal with access to the conservation areas being limited.</li> <li>v. Not supported. Area in the western portion of the lot will be given up for conservation and its natural vegetation regenerated.</li> <li>vi. Noted. It is recommended that the development proposal be forwarded to the Mosquito Borne Disease Control Section, Department of Health, for official comment whom is likely to request that a memorial be placed upon the title advising that mosquitoes may be present as a nuisance or as a vector of Ross River or Barmah Forest Virus.</li> <li>vii. Not supported. Only dredging of the Boat Haven is proposed. Further dredging of the Collie River and Estuary will not be the responsibility of Council.</li> <li>viii. Noted. It is recognised that if fully rehabilitated and managed appropriately and with sufficient funding Pt. Douro has the potential to become a community attraction.</li> </ul>
301	W Maslin – 3 Parmelia Drive, Australind	<p>Opposed to any development of Pt. Douro.</p> <ul style="list-style-type: none"> <li>i. Consulted several publications and considers that any further development would cause irreversible damage to</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. The EPA is requested to assess geoheritage issue.</li> <li>ii. No development of foreshore areas is proposed other than the canal. Additional</li> </ul>

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		<p>unique geo-heritage area.</p> <ul style="list-style-type: none"> <li>ii. Further residential development of the foreshore would conflict with the aims and objectives of the Waterways Conservation Act section 24(4)(a).</li> <li>iii. Leschenault Estuary is globally significant because of its biodiversity of microfauna, nationally significant in terms of its geoh heritage and mangroves, of State wide significance because of its peripheral vegetation and regional significance because of its geomorphic setting and estuarine style.</li> <li>iv. Urge Council to place a submission with State Govt. to purchase the land for POS.</li> </ul>	<p>areas will be added for conservation purposes.</p> <ul style="list-style-type: none"> <li>iii. Noted.</li> <li>iv. Noted. Council has previously approached the State Government to purchase the site however was not agreed to. The site was not included within the Regional Open Space under the Draft Greater Bunbury Region Scheme. It is noted that this Scheme is not yet finalised and that the position of the State Government. may change.</li> </ul>
302	D&M Bruce – 12 Magill St, Australind	<p>Oppose development.</p> <ul style="list-style-type: none"> <li>i. Will pose threat to surrounding areas from flooding.</li> <li>ii. The scenic beauty of the estuary will be threatened with the construction of multistorey buildings.</li> <li>iii. The estuary is an important habitat for migratory birds.</li> <li>iv. The nibbling away of foreshore habitat has a deteriorating effect on the overall health of the estuary, no further development should be allowed along the foreshore.</li> <li>v. State Government should purchase the area as POS.</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Advice from additional modelling work (subsequently verified by WRC) indicates that adequate floodway capacity has been provided in the development to ensure there are no adverse flooding effects caused by the development.</li> <li>ii. Noted. It is noted that with the fill requirements and the development of larger houses will impact on the visual amenity compared to that now. It must be stated that with the current zoning, some form of development could be permitted that would also impact on the visual amenity. Unless the site is identified as a conservation reserve this issue will also be there.</li> <li>iii. Not supported. The Environmental Review document suggests that waterbird habitats relate to existing foreshore and samphire areas. Species present in shallows and mudflats of Inlet and not specifically on Pt. Douro itself. Fauna studies do not indicate any endangered</li> </ul>

NO.	NAME/ADDRESS AND DESCRIPTION OF AFFECTED PROPERTY, LOT NO. STREET, ETC. IF APPLICABLE	SUBMISSION	COUNCIL'S RECOMMENDATION
			bird species on site. (Section 3.3.2) iv. Noted v. Noted. Council has previously approached the State Government to purchase the site however was not agreed to. The site was not included within the Regional Open Space under the Draft Greater Bunbury Region Scheme. It is noted that this Scheme is not yet finalised and that the position of the State Government may change.
303	G Tothill – 1 Wellesley Road, Binningup	Oppose development. i. Development could impact on a unique estuarine habitat, some aspects of which are of international significance. ii. Aesthetically, further development of Collie River mouth is not appealing. Pt. Douro does require attention but if maintained would be valued by the community. iii. It must be remembered that destruction of Pt. Douro will be lost forever however the Shire will never be short of housing space.	i. Noted. It is recognised that the development has the potential to impact on the estuary and appropriate management plans will be put in place to minimise this impact. ii. Noted. It is recognised that if fully rehabilitated and managed appropriately and with sufficient funding Pt. Douro has the potential to become a natural attraction. iii. Noted
304	E Meek – 14 Birch Way, Clifton Park	Oppose development. i. Land is a seasonal wetland with large tracts of samphire which if fenced off effectively will regenerate. ii. Estuary has already lost 50% of its foreshore vegetation, samphire is necessary for waterbirds and migratory species protected by international agreements. iii. Area designated for reserve will be ruined by drainage used to control mosquitoes. iv. Pt. Douro is part of the Collie River Delta which has Geo-Heritage and National significance.	i. Noted. It is recognised that if fully rehabilitated and managed appropriately and with sufficient funding Pt. Douro has the potential to become a community attraction. ii. Not supported. The Environmental Review indicates that the areas of most significant vegetation are located on the western most point of Pt. Douro. These areas will be included within the conservation reserve. The areas earmarked for development are generally degraded.(Section 3.1.2) iii. Not supported. Runnels are currently in

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			place throughout Pt. Douro area. iv. Supported. The EPA is requested to assess the geoh heritage issue.
305	W Smart – 6 Albion Rise, Australind	Oppose development. i. Area is a significant natural habitat used by resident and migratory wildlife. ii. The area of such habitat has already been reduced significantly. iii. Pt. Douro should be protected and so maintain the estuary for residents and visitors.	i. ii. Not supported. Bird species are generally found in the shallows and mudflats of the inlet, and not specifically on Pt. Douro. Fauna studies do not indicate any endangered bird species on the site. (Section 3.3.2) iii. Not supported. Approx 50% of the site will be set aside for conservation and regenerated. Access to the site will be limited through the provision of a canal separating the conservation and residential area protecting the habitat from disturbance by domestic animals. iv. Noted.
306	P & L Howe – 6 Eastwell Rd, Australind	i. Oppose rezoning. ii. Development in a geo-heritage location is unacceptable. iii. Would be foolish to inflict the same environmental damage on Pt. Douro as was inflicted during the construction of the Pelican Point and Lakes estate. iv. Fringing vegetation plays an important role in the maintenance of a functioning and health estuary, can't allow it to be destroyed. v. The development is on a flood plain and should be conserved not destroyed. vi. The cumulative impact of such developments should become the focus of assessment. vii. Systems 6 report identified much of the Leschenault waterways as being of regional significance and worthy of preservation.	i. Supported. The EPA is requested to assess the geoh heritage issue. ii. Noted. Construction management plan will address this issue. iii. Not supported. The rezoning will place an area of approx 50% of the site in a conservation reserve and will require the revegetation of the proposed foreshore reserve. iv. Noted. All residential development will occur above the 1 in 100yr flood level which will be modified by the relief floodway. v. Noted. vi. (Not supported. System 6 report also recognised that some of the land was under private ownership and capable of being developed. vii. Noted. viii. A nutrient export management plan will be

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		<ul style="list-style-type: none"> <li>viii. LIMA is opposed to further private residential development on the eastern foreshore of the Estuary, further residential development would conflict with the aims of the Waterways Conservation Act S24(4)(a).</li> <li>ix. Supports comments by LIMA that the waterways of the estuary are not suitable for canal development as the nutrient enriched waters could lead to water quality management problems in artificial waterways.</li> <li>x. Canal development would cause further damage to public water way.</li> <li>xi. A whole of catchment and Inlet/Estuary Restoration program is required.</li> </ul>	<ul style="list-style-type: none"> <li>prepared prior to the approval of an ODP and will have regard to advise from the DEP, CALM and LIMA.(Section 3.6.4)</li> <li>ix. Noted.</li> <li>x. Noted. This is not an issue relevant to this proposal.</li> </ul>
307	M Walker – 20 Perkins Ave, Bunbury 6230	<ul style="list-style-type: none"> <li>i. Strongly oppose development.</li> <li>ii. Leschenault Estuary has already lost up to 70% of its fringing vegetation, removing vegetation at Pt. Douro may severely impact on the natural processes that maintain the estuary in its natural state.</li> <li>iii. Unsustainable development of such areas will ultimately sacrifice the characteristics that attracted residents in the first place e.g. the beauty of the estuary and the flora and fauna it sustains.</li> <li>iv. The Collie River Delta that forms Pt. Douro is considered to be of natural significance and has been included on a register of sites targeted for conservation.</li> <li>v. Pt. Douro provides habitat for migratory birds which are protected.</li> <li>vi. The area is essential in maintaining the aesthetic appeal of the Bunbury region.</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Part of the site has already been impacted by ongoing vandalism, with vegetation either being damaged or destroyed. The proposal sets aside a conservation reserve, which will enhance outcomes for vegetation throughout the site.</li> <li>ii. Noted. It is recognised that if fully rehabilitated and managed appropriately and with sufficient funding Pt. Douro has the potential to become a community attraction.</li> <li>iii. Not supported. Brunswick, Collie and Wellesley Rivers are listed as an indicative place on the Register of the National Estate, and a decision has not yet been made as to whether the place should be entered into the register.</li> <li>iv. Not supported. The Environmental Review indicates that waterbird habitats related to existing foreshore and samphire areas. Species are present in shallows and mudflats of Inlet and no specifically</li> </ul>

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			<p>on Pt. Douro itself. Fauna studies do not indicate any endangered bird species on site. (Section 3.3.2)</p> <p>v. Noted. It must be recognised that while the proposed development will change the vista from the Old Coast Road, the site is already zoned for development and this issue is not a new one.</p>
308	L Anderson – 10 Yelverton St, Donnybrook	<p>Oppose development.</p> <p>i. Have already destroyed enough wetlands in the area.</p> <p>ii. Currently a large variety of birdlife on Pt. Douro which will diminish if canals are dug.</p>	<p>i. Not supported. Portions of the site could potentially be developed under its current "tourist" zoning. Proposal places most environmentally significant area into conservation reserve.</p> <p>ii. Not supported. The Environmental Review indicates that waterbird habitats related to existing foreshore and samphire areas. Species are present in shallows and mudflats of Inlet and no specifically on Pt. Douro itself. Fauna studies do not indicate any endangered bird species on site. (Section 3.3.2)</p>
309	E Wright – 5 Ganfield Pl, Clifton Park	<p>i. Canal development will impact adversely on the public river foreshore and visual amenity of the area.</p> <p>ii. Giving up public foreshore in exchange for conservation area will not be of overall benefit to the community.</p> <p>iii. The Collie River does not need another canal development. Current canal developments have been underdeveloped with demand for such lots low.</p> <p>iv. (iv) Shire will be left with management responsibility for the canals creating an additional cost burden on ratepayers in the long term.</p> <p>v. Recent spillages of raw sewage from Water Corp systems demonstrate that these events are not totally preventable.</p>	<p>i. Not supported. It is noted that with the fill requirements and the development of larger houses will impact on the visual amenity compared to that now. It must be stated that with the current zoning, some form of development could be permitted that would also impact on the visual amenity. Unless the site is identified as a conservation reserve this issue will also be there.</p> <p>ii. No foreshore area is being given up except for where the canal is to be built. Additional areas to the west have been designated as conservation reserve.</p> <p>iii. Noted. This is an economic issue that the proponent should address.</p> <p>iv. Not supported. The issue of maintenance</p>

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		<p>The presence of a canal makes managing these spills more difficult.</p> <ul style="list-style-type: none"> <li>vi. The inclusion of a canal will cut the existing river foreshore reserve, preventing continuous public access along the river. Other options for controlling access to conservation area should be considered.</li> <li>vii. While the land has been degraded and neglected by consecutive owners, this should not be justification to allow unrestricted development not in tune with the environment.</li> <li>viii. The developers have shown a lack of understanding how the local community use the area at present, valuing the river foreshore for providing access to the river, and for the visual amenity of the site.</li> </ul>	<p>of the river and estuary channels is not included within the rezoning document as it is an issue that Council and the State Government need to resolve. A possible solution is to require covenants on titles stipulating that access to the ocean is not guaranteed.</p> <ul style="list-style-type: none"> <li>v. Not supported. Contingency measures will be put in place in the event of a failure in the effluent disposal system. (see section 2.5.6)</li> <li>vi. Noted. The access to the foreshore/conservation area will need to be determined as part of the management plan.</li> <li>vii. Not supported. Quality of vegetation not used to justify rezoning, proponent recognises the potential for regeneration and proposes regeneration of the conservation area. It should be recognised that the site is currently privately owned with a Tourist zoning on the property.</li> <li>viii. Noted. Site is privately owned. Access to the river will be maintained through foreshore reserves and conservation reserve.</li> </ul>
310	J & K Hughes – 4 Needwell St, Bibra Lake	<ul style="list-style-type: none"> <li>i. Oppose proposal.</li> <li>ii. The ecology of Leschenault Inlet has been subject to much alteration and will be further degraded if the project proceeds.</li> <li>iii. The area has a quantity of samphire flats and other foreshore vegetation, very little of which remains on the eastern side of estuary.</li> <li>iv. Any action that prevents further degradation in the estuary will further enhance recreation fishing in the estuary.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. The proposal will impact on existing vegetation however ecosystem regeneration will be undertaken on the conservation and foreshore areas at the developers cost.</li> <li>ii. as above.</li> <li>iii. Noted.</li> </ul>

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311	P Eckersley – 1B Stanley Rd, Bunbury	<p>Oppose development.</p> <ul style="list-style-type: none"> <li>i. The value of the land for ecosystem function, recreation and landscape amenity is extremely high given the large proportion of the estuary which has already been developed.</li> <li>ii. The proposal fails to recognise the value of the area for maintaining the ecosystem in all its complexity and inter-relatedness.</li> <li>iii. Land given up for conservation is unable to be developed due to flood levels.</li> <li>iv. For any proposed rezoning, a higher effective proportion of the land needs to be surrendered to public ownership, and there must be no canal, which only creates problems for Council eg. pollution, maintenance cost etc.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. Land is however privately owned and already zoned for development.</li> <li>ii. Noted.</li> <li>iii. Noted. The land proposed to be included in the conservation area will be affected by the 1 in 100yr flood event.</li> <li>iv. Noted. Approx. 50% of the land has been given up as POS and conservation reserve. Significantly exceeds the minimum 10% requirement.</li> </ul>
312	EM Spurling – 15 Mayne Way, Clifton Park	<ul style="list-style-type: none"> <li>i. Pt. Douro contributes the beauty of the estuary in its natural state.</li> <li>ii. Overall health of the estuary is dependent on the conservation of its fringing vegetation.</li> <li>iii. Pt. Douro is a habitat for protected migratory birds.</li> <li>iv. Collie River Delta has been included on a register of places which should be targeted for conservation.</li> <li>v. Should be purchased under the greater Bunbury region scheme.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. It is recognised that if fully rehabilitated and managed appropriately and with sufficient funding it could become a natural attraction.</li> <li>ii. Noted. Pt. Douro is currently degraded in a high number of areas and the proposal aims to regenerate vegetation in the conservation and foreshore areas.</li> <li>iii. Not supported. Brunswick, Collie and Wellesley Rivers are listed as an Indicative Place on the Register of the National Estate, and a decision has not yet been made as to whether the place should be entered into the register.</li> <li>iv. Noted. There is no indication that Government is prepared to identify the area as Regional Open Space.</li> </ul>
313	M Radge – 29 Lucy Victoria Ave, Clifton Park	<p>Oppose rezoning.</p> <ul style="list-style-type: none"> <li>i. Land is a natural flood plain and any development will upset this balance.</li> <li>ii. Unique area for birds etc.</li> </ul>	<ul style="list-style-type: none"> <li>i. Not supported. Advice within the document relating to the modelling indicates that this will not occur. (Section 3.5.2)</li> </ul>



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		<ul style="list-style-type: none"> <li>iii. Fertiliser run-off from homes will upset ecosystem of estuary.</li> <li>iv. Area should be left for everyone to enjoy.</li> </ul>	<ul style="list-style-type: none"> <li>ii. Noted. The Environmental Review indicates that waterbird habitats related to existing foreshore and samphire areas. Species are present in shallows and mudflats of Inlet and no specifically on Pt. Douro itself. Fauna studies do not indicate any endangered bird species on site. (Section 3.3.2)</li> <li>iii. Not supported. The proposal requires the preparation of a nutrient management plan which aims to reduce the impacts stated. (Section 3.6.4)</li> <li>iv. Noted. Land is privately owned. Previous approaches to the State Government to purchase the land have been unsuccessful.</li> </ul>
314	GP Good – 14 Old Coast Road, Australind	Believe proposal is satisfactory.	Noted.
315	CJ Rooney – 18 Magill St, Australind	<ul style="list-style-type: none"> <li>i. Previous developments that have encroached on the estuary and river have changed its characteristics forever.</li> <li>ii. Does not want Pt. Douro opened up for residential development rather restored to a health vegetated state. Should be purchased by State and Federal Governments to preserve it for future generations.</li> </ul>	<ul style="list-style-type: none"> <li>i. Noted. Council has previously approached the State Government to purchase the site however was not agreed to. The site was not included within the Regional Open Space under the Draft Greater Bunbury Region Scheme. It is noted that this Scheme is not yet finalised and that the position of the State Government. may change.</li> </ul>
316	J Lannin – 5 Austral Pde, Bunbury	Object to rezoning, is time we stop destroying the estuary.	Noted.