

Southern River Bridge link between Spencer Road and Corfield Street

City of Gosnells

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

**Environmental Protection Authority
Perth, Western Australia
Bulletin 761
November 1994**

THE PURPOSE OF THIS REPORT

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

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

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

APPEALS

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

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

ADDRESS

Hon Minister for the Environment

12th Floor, Dumas House

2 Havelock Street

WEST PERTH WA 6005

CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 24 November, 1994.

Environmental Impact Assessment (EIA) Process Timelines in weeks

| Date | Timeline commences from receipt of full details of proposal by proponent | Time (weeks) |
|---------|--|--------------|
| 18.4.94 | Proponent Document Released for Public Comment | 8 |
| 14.6.94 | Public Comment Period Closed | |
| 6.7.94 | Issues Raised During Public Comment Period Summarised by Environmental Protection Authority and Forwarded to the Proponent | 3 |
| 29.7.94 | Proponent response to the issues raised received | 3 |
| 4.11.94 | Environmental Protection Authority reported to the Minister for the Environment | 13 |

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Summary and recommendations

This bulletin is the Environmental Protection Authority's report and recommendations to the Minister for the Environment on the proposed new bridge over the Southern River, linking Spencer Road and Corfield Street, in the City of Gosnells.

The Public Environmental Review (PER) prepared by the City of Gosnells was released for an eight week public review period which resulted in six submissions being received, including two from Government agencies (the Water Authority of Western Australia and the Department of Aboriginal sites. The issues raised in the submissions can be summarised as follows:

- the impact on System Six area M75 (Upper Canning and Southern Rivers) including the loss of important *Banksia* woodland vegetation;
- protection of water quality in the Southern River;
- inadequacies of the fauna survey;
- cumulative impacts of numerous crossings over the Canning and Southern Rivers;
- widening of the Spencer/Warton roads intersection; and
- issues relating to the broader road network.

The Environmental Protection Authority considers that there are two main environmental issues of significance associated with this proposal. These are the impact on System Six area M75 including the loss of important *Banksia* woodland vegetation, and the protection of water quality in the Southern River. The Environmental Protection Authority has recommended that the proponent implement the recommendations contained in this report, in addition to the commitments nominated by the proponent in Appendix 4.

With respect to the remaining issues identified, the Environmental Protection Authority is satisfied that these have been adequately addressed by the proponent and can be easily managed, or can be addressed through the broader planning system.

Accordingly, the Environmental Protection Authority has concluded that the project is environmentally acceptable subject to the following recommendations:

| Number | Summary of recommendations |
|--------|---|
| 1 | The proposal is environmentally acceptable subject to the EPA's recommendations and the proponent's commitments. |
| 2 | <p>The portion of System Six area M75 affected by the construction of the bridge should be rehabilitated to the requirements of the EPA.</p> <p>An area of System Six area M75 equivalent in size to that lost as a consequence of the siting of the bridge should be rehabilitated to the requirements of the EPA.</p> <p>A Drainage Management Plan should be prepared for the bridge and its environs.</p> |

1. Introduction and background

In May 1992, the City of Gosnells referred to the Environmental Protection Authority a proposal to replace the existing bridge over the Southern River on Fremantle Road, Gosnells, with a new bridge on the Spencer Road/Corfield Street alignment.

The Environmental Protection Authority resolved to formally assess the proposal at the level of Public Environmental Review because of the potential environmental impacts on the Southern River, which is identified as a System Six area.

In 1972, the Environmental Protection Authority established the Conservation Through Reserves Committee to make recommendations for the reservation of land for conservation and recreation purposes. The state was divided into 12 regions or Systems, with the most intensively used areas in and around the Perth metropolitan area included in the Darling System, known as System Six (Environmental Protection Authority, 1983).

The City of Gosnells' bridge proposal affects a section of the Southern River contained within System Six area M75 (Upper Canning and Southern Rivers).

This bulletin contains the Environmental Protection Authority's recommendations to the Minister for Environment on the environmental issues associated with the construction of the new bridge.

2. Summary description of the proposal

The proposal involves the extension of Corfield Street from its present junction with Prince Street, across the Southern River, to connect with Spencer Road adjacent to the junction with Warton Road/Burslem Drive. The link would be constructed to a four laned divided carriageway standard (Figures 1 and 2 refer).

A direct connection between Corfield Street and Spencer Road has been planned for many years and is included in the Metropolitan Region Scheme as part of a larger 'Important Regional Road' reservation. It is anticipated that the new bridge link would resolve a number of deficiencies in the existing road network (notably at the Prince Street/Fremantle Road junction and the existing two lane bridge over Southern River) and better accommodate traffic generated by residential development in the Gosnells locality.

The existing bridge would be retained for use by pedestrians and cyclists for the foreseeable future.

3. Environmental impact assessment method

The environmental impact assessment for this proposal followed the *Environmental impact assessment administrative procedures 1993*, as shown in the flow chart in Appendix 1. A summary of the issues raised in the submissions appears in Appendix 2 and the proponent's response to those submissions appear in Appendix 3. The proponent's commitments appear in Appendix 4.

Limitation

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

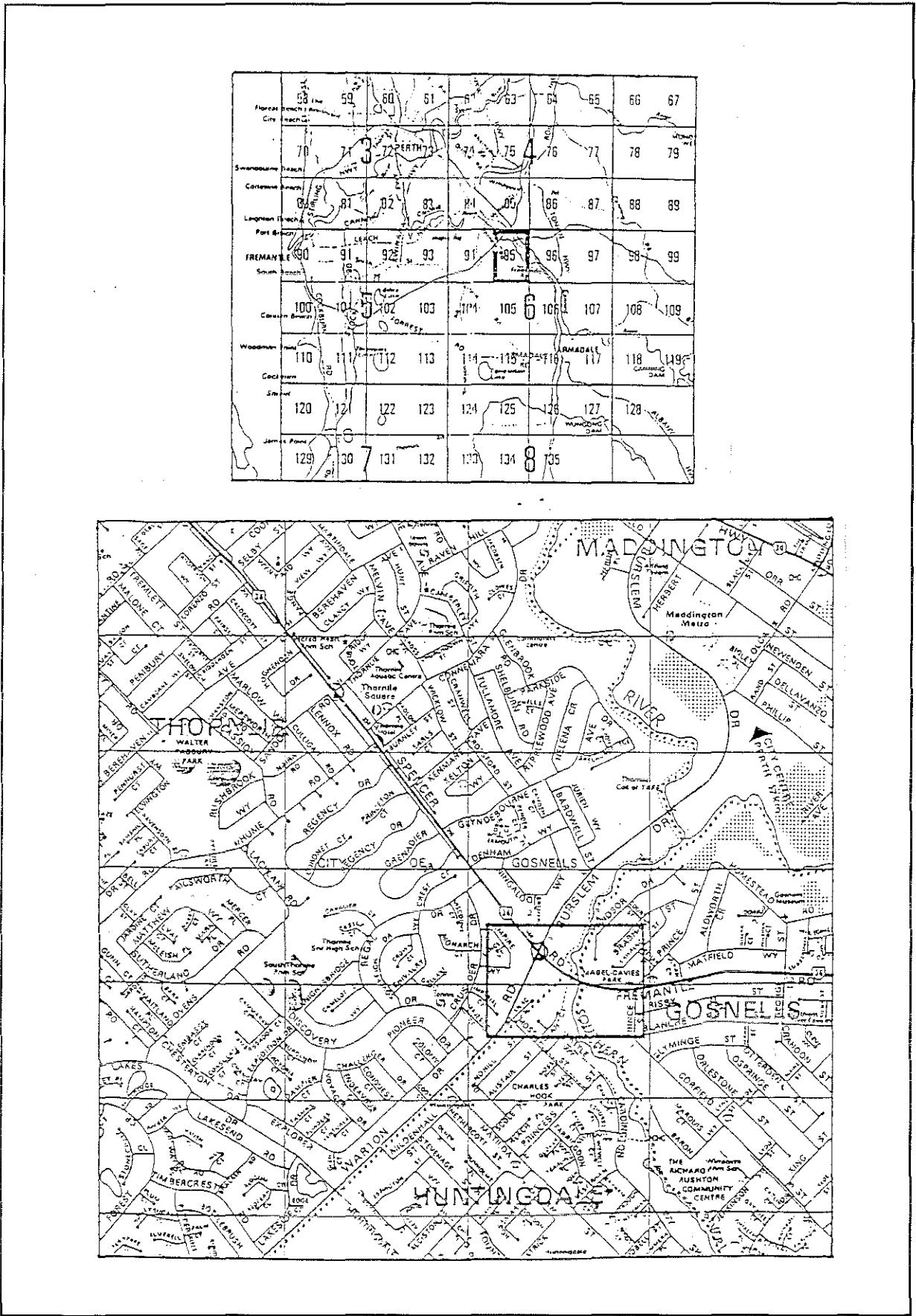
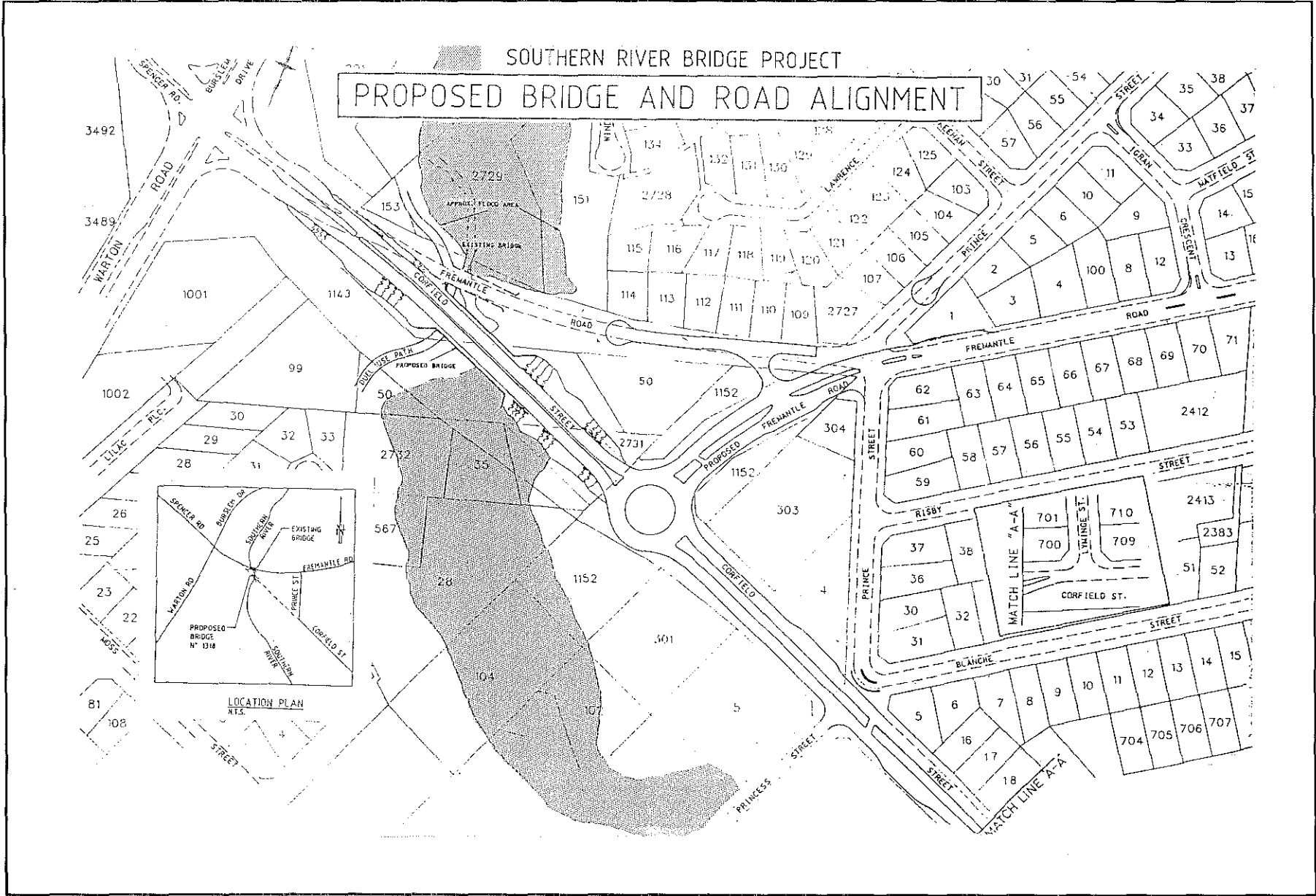


Figure 1. Location of proposed Southern River bridge link (Source: Public Environmental Review).

Figure 2. Proposed bridge alignment. (Source: Public Environmental Review)



The Environmental Protection Authority recognises that further studies and research may affect the conclusions. Accordingly, the Environmental Protection Authority considers that if the proposal has not been substantially commenced within five years of the date of this report, then such approval should lapse. After that time, further consideration of the proposal should occur only following a new referral to the Environmental Protection Authority.

4. Evaluation

4.1 Introduction

The Public Environmental Review prepared by the proponent was available for public comment for a period of eight weeks, between 18 April 1994 and 14 June 1994. At the close of the comment period, six submissions had been received — three submissions from private individuals, two from State Government agencies and one from a community organisation.

The environmental issues identified by the Environmental Protection Authority and raised in the submissions can be summarised as follows:

- i) impact on System Six area M75 including the loss of important *Banksia* woodland vegetation;
- ii) protection of water quality in the Southern River;
- iii) inadequacies of the fauna survey;
- iv) cumulative impacts of numerous crossings over the Canning and Southern Rivers;
- v) widening of the Spencer/Warton roads intersection; and
- vi) issues relating to the broader road network.

These issues are addressed in greater detail in the sections below.

4.2 Impact on System Six area M75 including the loss of important *Banksia* woodland vegetation

4.2.1 Objective

The Environmental Protection Authority's objective is to protect those areas recommended for regional conservation and recreation in the System Six report and to protect areas of remnant vegetation of regional significance from adverse impacts.

4.2.2 Evaluation framework

Technical information

The portion of the System Six area M75 at the location of the proposed bridge is reasonably degraded, with most of the understorey replaced with weeds. The construction of the bridge will result in some loss of vegetation in the area, but the proponent has made a commitment to rehabilitate the area affected by the construction with native species (Figure 3 refers).

Public submissions

Concerns were expressed in the submissions that the proposal would destroy mature trees within an important System Six area which currently provide important habitat for fauna. Concerns are also expressed that *Banksia* woodland is becoming a rare vegetation type,

particularly around the Canning and Southern River. It is suggested that any further loss of this type of woodland should be considered unacceptable, and that the design of the bridge should be altered to protect the remaining woodland on the site.

Proponent's response

In response to these concerns, the proponent has provided the following comments:

- clearing along the water's edge would be restricted to taking out only those native trees which will impinge upon the bridge structure with a minimal long term effect on any residential fauna;
- by retaining the vegetation corridor underneath the bridge on both banks, habitat continuity will be assured; and
- the proposed road alignment avoids most of the two small patches of remnant woodland located east of the river. These remnant vegetation are small in size and highly modified. Only six species of native plants were noted during the survey with the floristic value of the stands somewhat limited. This does not mean that they should be ignored as potential habitat for fauna or from an aesthetic point of view.

4.2.3 Evaluation

The Environmental Protection Authority supports the commitment made by the proponent to rehabilitate the area affected by the construction of the bridge (commitments 9.2 in Appendix 4). However, the Environmental Protection Authority considers it appropriate for the proponent to go beyond these commitments and rehabilitate an area of System Six area M75 equal to that lost as a consequence of the siting of the bridge, and has recommended accordingly (Recommendation 2).

4.3 Protection of the water quality in the Southern River

4.3.1 Objective

To maintain the water quality in the Southern River at environmentally acceptable standards and prevent any net increases in nutrient levels.

4.3.2 Evaluation framework

Technical information

Run-off from the bridge into Southern River presents a potential source of pollution if not properly managed. The PER indicates that direct run-off from the bridge and surrounding roads would be minimised.

Public submissions

Concerns were expressed in the submissions that the construction of the bridge could lead to a loss of water quality in the Southern River due to erosional impacts through both the construction phase and its on-going use. The PER did not adequately address this issue.

Proponent's response

In response to these concerns, the proponent has provided the following comments:

- the impact of the proposed bridge on the riverine environment both during construction and thereafter is addressed in Section 6 (Environmental Issues) of the PER; and

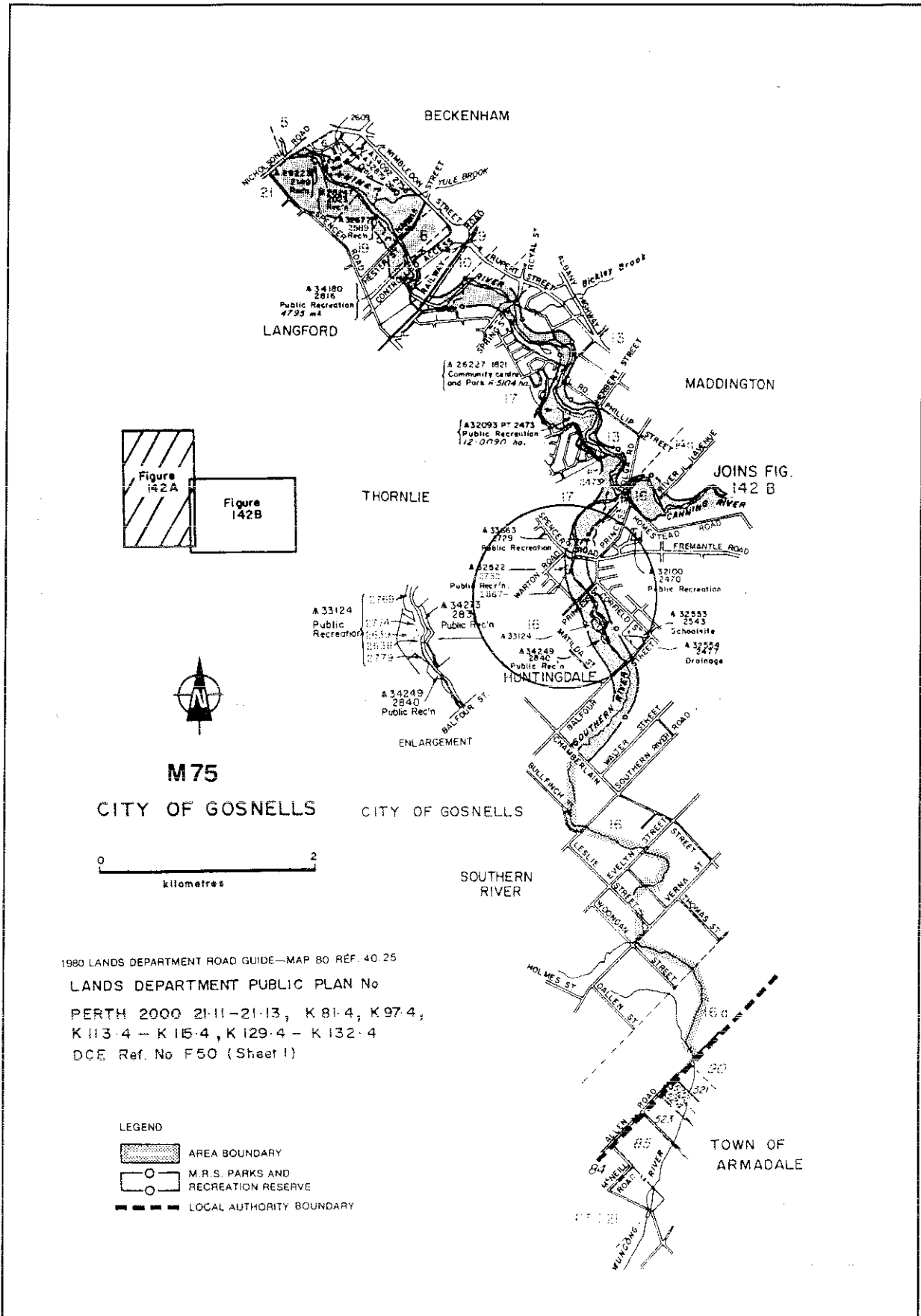


Figure 3. System Six area M75, Upper Canning and Southern rivers (Source: Public Environmental Review).

- having identified the impacts and problem areas, the PER then provides details of the actions necessary to minimise flood-plain erosion and bank degradation in Section 9 — Commitments.

4.3.3 Evaluation

The proponent has made a number of commitments (commitments 9.2 and 9.3 in Appendix 4) to minimise any adverse impacts on the riverine environment. In this regard, however, the Environmental Protection Authority considers it appropriate for the proponent to prepare a suitable Drainage Management Plan for the bridge and its environs which demonstrates where and how run-off will be channelled, and has recommended accordingly (Recommendation 2).

4.4 Other issues

The other issues include the following:

- inadequacies of the fauna survey;
- cumulative impacts of numerous crossings over the Canning and Southern Rivers;
- widening of the Spencer/Warton roads intersection; and
- issues relating to the broader road network.

4.4.1 Objective

The Environmental Protection Authority's objective is to ensure that any new crossing over the Canning/Southern Rivers and/or a System Six area is environmentally acceptable.

4.4.2 Evaluation framework

Technical information

In April 1988, Sinclair Knight and Partners, Consulting Engineers, submitted a "Gosnells Road Rationalisation Study" to the Council. This report provided a detailed study of traffic in the Gosnells locality and identified, among other things, several options in relation to the siting of a new bridge over the Southern River. After considering the Consultant's recommendations for a 12 month period, the City of Gosnells, at its meeting in April 1989, resolved to endorse the Spencer Road/ Corfield Street as the preferred alignment for the new bridge over the Southern River.

Since 1989, the Council has resolved on several occasions to support the Spencer Road/Corfield Street as the preferred alignment for the bridge over the Southern River (for example, at the Council meeting in December 1991).

Public submissions

In relation to the other issues, concerns were expressed in the submissions that while no rare or priority species of flora were found on the site, the consultant's report was based on limited work, and a more thorough survey is required. In addition, concerns are expressed that the PER gave no consideration to the cumulative impacts of having numerous crossings over the Canning and Southern Rivers and the System Six areas, and that this issue needs to be taken into account when considering the proposal.

Proponent's response

In response to the concerns raised, the proponent has provided the following comments:

- information on possible species present at the site was compiled prior to the fauna survey. A number of possible species were identified during the survey including the Quenda.

Considering the size and condition of the remnant vegetation and the species checklist, the fauna survey performed was thorough;

- the Southern River bridge will be constructed above the floodplain with minimal restriction to animal movement. Moreover, as there is already an existing bridge, adjacent construction of the proposed bridge above the floodplain should not have a cumulative effect on fauna movement; and
- river hydrology in terms of flood potential is only marginally affected by construction of a new bridge and satisfies Water Authority requirements.

4.4.3 Evaluation

The Environmental Protection Authority has addressed these residual issues under the one heading because it considers that these issues have been adequately addressed by the proponent and can be managed such that they do not have any adverse impacts upon the environment.

The Environmental Protection Authority is concerned with, among other things, determining the environmental acceptability of individual proposals as and when they arise. While some of the other issues raised, for example, the suitability of the bridge in its designated location, traffic volumes and matters relating generally to the surrounding road network may have some environmental implications, these are more appropriately addressed within the context of the broader planning system.

4.5 Comments from government agencies

Written submissions were received on the proposal from two State Government authorities — the Department of Aboriginal Sites and the Water Authority of Western Australia.

The Department of Aboriginal Sites has advised that it has no comments to make on the development provided the commitments allowing public access to the river are adhered to. The Water Authority has advised that it raises no concerns about the proposed works.

The Swan River Trust, the Department of Planning and Urban Development and Main Roads WA have previously advised the Department of Environmental Protection that they support the proposal subject to appropriate site rehabilitation, erosion control and drainage disposal measures.

5. Conclusions and recommendations

The Environmental Protection Authority concludes that the proposal is environmentally acceptable provided the proponent's commitments and the recommendations of this report are implemented.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by the City of Gosnells to construct a new bridge over the Southern River, linking Spencer Road with Corfield Street, is environmentally acceptable. In reaching this conclusion, the Environmental Protection Authority identified the main environmental issues requiring detailed consideration as:

- **the impact of the proposal on System Six area M75, including the loss of important *Banksia* woodland vegetation; and**
- **the protection of water quality in the Southern River.**

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to proponent's commitments (Appendix 4) and the following recommendations which are reflected in the Environmental Protection Authority's recommended environmental conditions (as listed in section 6).

Recommendation 2

The Environmental Protection Authority recommends that the proponent:

- **rehabilitate that portion of System Six area M75 affected by the construction of the bridge to the requirements of the Department of Environmental Protection;**
- **rehabilitate an area of System Six area M75 equivalent in size to that lost as a consequence of the siting of the bridge to the requirements of the Department of Environmental Protection; and**
- **prepare a Drainage Management Plan for the bridge and its immediate environs to the requirements of the Department of Environmental Protection on the advice of the Water Authority of Western Australia.**

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

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

The Environmental Protection Authority believes that any approval for the proposal based on the assessment should be limited to five years. Accordingly, if the proposal has not been substantially commenced within five years of the date of this report, then such approval should lapse. After that time, further consideration of the proposal should occur only following a new referral to the Environmental Protection Authority.

6. Recommended environmental conditions

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

1 Proponent Commitments

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

- 1-1 In implementing the proposal, the proponent shall fulfil the commitments made in the Public Environmental Review and subsequently, provided that the commitments are not inconsistent with the conditions or procedures contained in this statement. These commitments are included in the Environmental Protection Authority's Bulletin 761 as Appendix 4.

2 Implementation

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

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

3 Proponent

These conditions legally apply to the nominated proponent.

- 3-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

4 System Six area M75

- 4-1 Within six months of completion of construction, the proponent shall rehabilitate that portion of System Six area M75 affected by the siting of the bridge to the requirements of the Department of Environmental Protection.
- 4-2 Within six months of completion of construction, the proponent shall rehabilitate an area of System Six area M75 equivalent in size to that lost as a consequence of the siting of bridge to the requirements of the Department of Environmental Protection.

5 Drainage Management

- 5-1 Prior to completion of construction, the proponent shall prepare a Drainage Management Plan for the bridge and its environs to the requirements of the Department of Environmental Protection on the advice of the Water Authority of Western Australia.

6 Time Limit on Approval

The environmental approval for the proposal is limited.

- 6-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

7 Decommissioning

- 7-1 The proponent shall effect the satisfactory decommissioning of the project and final rehabilitation of the site and its environs.

7-2 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and final rehabilitation plan to achieve the objectives of condition 7-1.

7-3 The proponent shall implement the plan required by condition 7-2 to achieve the objectives of condition 7-1.

8 Compliance Auditing

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

8-1 The proponent, in consultation with the Department of Environmental Protection, shall prepare an Audit Programme, which includes requirements for the preparation of periodic Compliance Reports.

8-2 The proponent shall subsequently implement the Audit Programme required by condition 8-1.

Procedure

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

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

7. References

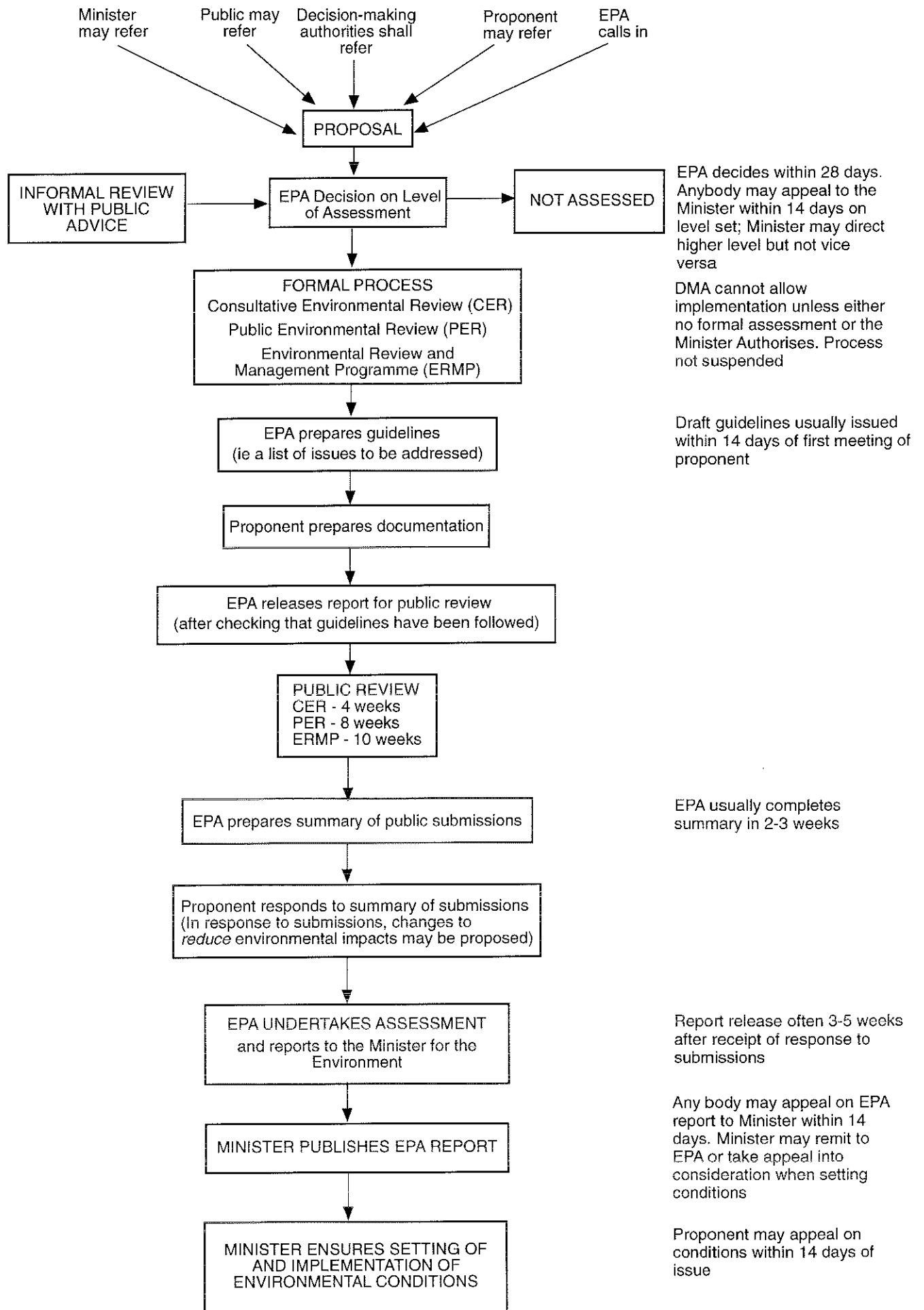
Environmental Protection Authority (1983a), *Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority, the Darling System - System Six. Part I General Principles and Recommendations*, Department of Conservation and Environment, Western Australia, Report 13.

Environmental Protection Authority (1983b), *Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority, the Darling System - System Six. Part II: Recommendations for Specific Localities*, Department of Conservation and Environment, Western Australia, Report 13.

CMPS&F Limited (1993), *Southern River Bridge - Public Environmental Review*.

Appendix 1

Environmental impact assessment flow chart



Appendix 2

Summary of submissions

**Proposal to Replace Existing Bridge over the Southern River at
Fremantle Road with a new Bridge on the Spencer Rd Corfield St
Alignment, Gosnells**

Public Environmental Review

Assessment Number 735

A list of concerns and questions has been compiled from the submissions received during the period of public comment. The Environmental Protection Authority would appreciate responses to these concerns / questions as soon as possible. This list and the responses from the proponent will be reproduced in the Environmental Protection Authority's report on the project to the Hon Minister for the Environment.

1. Impact on System Six Area M75

- 1.1 The project will destroy mature trees within an important System Six area which currently provide important habitat for fauna.

2. Loss of important *Banksia* woodland vegetation

- 2.1 *Banksia* woodland is becoming a rare vegetation type, particularly around the Canning and Southern River. Any further loss of this type of woodland should be considered unacceptable, and the design of the bridge should be altered to protect the remaining woodland on the site.

3. Protection of the water quality in the Southern River

- 3.1 The construction of the bridge could lead to a loss of water quality in the Southern River due to erosional impacts through both the construction phase and its on-going use. The PER did not adequately address this issue.

4. Inadequacies of the fauna surveys

- 4.1 Whilst no rare or priority species of flora were found on the site, the report by the consultant was based on limited survey work, and a more thorough survey is required.

5. Cumulative impacts

- 5.1 The PER gave no consideration to the cumulative impacts of having numerous crossing of the Canning and Southern Rivers, and the System Six areas. This issue needs to be taken into account when considering this proposal.

6. Widening of the Spencer/Warton Roads intersection

- 6.1 The road verge adjacent to lots 3492 and 3489 has attractive remnant bushland which could be threatened by any widening of this intersection. The proponent should make commitments to not further widening this intersection and to protect the bushland in the long-term.

7. Issues relating to the broader road network

- 7.1 Concern was expressed that whilst the PER focused on the bridge, the implications of its construction on the regional road network was ignored. It was felt that the construction of this bridge would ultimately lead to the upgrading of the Corfield/Spencer Road link in preference to the existing Fremantle/Spencer Road link. Submitters objected to this for the following reasons:
- Other roads in the area are better suited to the role that the proposed Corfield/Spencer road will fulfil, for example, Albany highway, Tonkin Highway, Ranford Road and Garden Street extension. Should the Seaforth Ave link also be made, this would re-direct traffic away from Albany Highway and onto residential roads not sited for large traffic volumes;
 - A report by Sinclair Knight indicated that residents did not want this road built, and the wishes of the public should be listened to. No reference was made to the Sinclair Knight Report in the PER; and
 - The preferred option of the "Gosnells Local Area Traffic Management Study", which was endorsed by the a Working Party and Council itself, is not consistent with the preferred option in the PER.
- 7.2 Should the preferred option as discussed in the PER proceed and new residential development proceed on Della Vedovas land, pressure would mount to build the Spencer/Chapman Road link which would severely impact on residents.
- 7.3 One submitter took issue with the claim in the PER about the impacts of Alternative 1 - upgrading the existing bridge and road network. The possible impacts on Prince Road were questioned, as were the projected traffic flows along Corfield Street.

8. Other concerns

- 8.1 The commitments related to public access to the river should be adhered to.

9. Support for the proposal

- 9.1 The proposal should be implemented as soon as possible so that residents can enjoy a safer and quieter environment.

Appendix 3

Proponent's response to submissions



CITY OF GOSNELLS

Council Offices: 2120 Albany Hwy., Gosnells, W.A. 6110 ~~7130 9227~~ Fax No. 398 2922 Tel 391 3222

All communications to be addressed to.

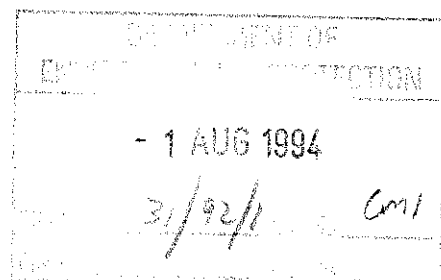
In reply please quote:

Our Ref. ILC:DLC/6.3.3A
Your Ref. 31/92 Pt1
Enquiries to: I L Campbell

TOWN CLERK,
LOCKED BAG No. 1,
GOSNELLS, W.A., 6110.

29 July 1994

Director
Evaluation Division
Department of Environmental Protection
Westralia Square
141 St George's Terrace
PERTH WA 6000



ATTENTION: MR GARRY MIDDLE

Dear Sir

RE: SOUTHERN RIVER BRIDGE, SPENCER ROAD AND CORFIELD STREET
ALIGNMENT - CITY OF GOSNELLS (735)

In response to your letter dated 6 July 1994, I provide the following comments in relation to the issues raised during the formal public consultation process associated with the above project.

1 - Impact on System Six Area M75

1.1 *The project will destroy mature trees within an important System Six area which currently provide important habitat for fauna.*

If clearing along the water's edge is restricted to taking out only those native trees which will impinge on the bridge structure, the long term effect on any residential fauna should be minimal. Ensuring that the vegetation corridor underneath the bridge on both banks is retained, habitat continuity will be assured. Tree removal to the stump only is preferable in order to maintain riverbank stability. Post construction planting at the base of the bridge approach embankments should be with dominant indigenous trees to the area.

2 - Loss of Important Banksia Woodland Vegetation

2.1 *Banksia woodland is becoming a rare vegetation type, particularly around the Canning and Southern River. Any further loss of this type of woodland should be considered unacceptable, and the design of the bridge should be altered to protect the remaining woodland on the site.*

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The proposed road alignment avoids most of the two small patches of remnant woodland located east of the river. These remnant stands are small in size and highly modified. Only six species of native industry plants were noted during the survey with the floristic value of the stands somewhat limited. This does not mean that they should be ignored as potential habitat for fauna or from an aesthetic point of view.

3 - Protection of the Water Quality in the Southern River

3.1 The construction of the bridge could lead to a loss of water quality in the Southern River due to erosional impacts through both the construction phase and its on-going use. The PER did not adequately address this issue.

The impact of the proposed bridge on the riverine environment both during construction and thereafter is addressed in the Public Environmental Review Section 6 - Environmental Issues, Sub-section 6.2.2: Impact on the Environment.

This sub-section includes comments such as:

"Litter/plastic containers/building associated wastes could possibly find their way into river if not adequately secured and/or removed off-site for disposal.

..... The river hydrology may be affected in a variety of ways. Increased erosional rates will lead to sedimentation down-stream of the disturbance consequently affecting the flow regime of the Southern River.

..... Erosion and siltation potential is also increased if fill material imported for bridge embankments is not stabilised during and after construction.

..... Direct drainage off the constructed bridge and access roads onto the flood-plain should be minimised to reduce the risk of overland flow and thus erosion potential and subsequent sedimentation."

Having adequately identified the problem areas, the Public Environmental Review details the actions necessary to minimise flood-plain erosion and bank degradation in Section 9 - Commitments, Sub-section 9.2 Physical/Biological Control and Management Commitments. This sub-section contains eight action plans involving the careful siting of temporary access tracks; restrictions on vehicle activity within four metres of the river bed; revegetation of temporary access tracks upon completion of the works; sedimentation control measures along the water course that will remain in place until after revegetation of the disturbed area is complete; stabilisation of imported fill materials; careful siting of fill stockpiles; bridge and road designs to incorporate erosion control measures and frequent inspections of the project area to ensure compliance with these measures. Full details of each of these measures can be found in the sub-section quoted.

4 - Inadequacies of the Fauna Surveys

4.1 Whilst no rare or priority species of flora were found on the site, the report by the consultant was based on limited survey work, and a more thorough survey is required.

Information on possible species present at the site was compiled prior to the fauna survey. A number of possible species were identified during the survey including the Quenda. Considering the size and condition of the remnant native vegetation and the species checklist, the fauna survey performed was thorough.

5 - Cumulative Impacts

5.1 The PER gave no consideration to the cumulative impacts of having numerous crossing of the Canning and Southern Rivers, and the System Six areas. This issue needs to be taken into account when considering this proposal.

The Southern River bridge will be constructed above the floodplain with minimal restriction to animal movement. Bridge elevation in comparison to the existing structure will result in less likelihood of animal road kills/strikes.

According to the System Six report, the area constitutes open space of regional significance requiring important management considerations. Ensuring adequate site revegetation following completion will enhance the conservation value of the area. As there is already an existing bridge, adjacent construction of the proposed bridge above the floodplain, should not have a cumulative effect on fauna movement. In time the existing structure will be removed, thus having an overall beneficial effect on animal movements.

River hydrology in terms of flood potential is only marginally affected by construction of a new bridge and satisfies WAWA requirements. Future removal of the existing bridge will significantly alleviate flood potential.

6 - Widening of the Spencer/Warton Roads Intersection

6.1 The road verge adjacent to Lots 3492 and 3489 has attractive remnant bushland which could be threatened by any widening of this intersection. The proponent should make commitments to not further widening this intersection and to protect the bushland in the long-term.

This proposal does not involve the widening of the road pavement fronting Lots 3492 and 3489, and there are no plans to carry out any further widening on the north-west side of the intersection at this time.

7 - Issues Relating to the Broader Road Network

7.1 Concern was expressed that whilst the PER focused on the bridge, the implications of its construction on the regional road network was ignored. It was felt that the construction of this bridge would ultimately lead to the upgrading of the Corfield/Spencer Road link in preference to the existing Fremantle/Spencer Road link. Submitters objected to this for the following reasons:

- *Other roads in the area are better suited to the role that the proposed Corfield/Spencer Road will fulfil, for example, Albany Highway, Tonkin Highway, Ranford Road and Garden Street extension. Should the Seaforth Avenue link also be made, this would re-direct traffic away from Albany Highway and onto residential roads not suited for large traffic volumes.*
- *A report by Sinclair Knight indicated that residents did not want this road built, and the wishes of the public should be listened to. No reference was made to the Sinclair Knight Report in the PER; and*
- *The preferred option of the "Gosnells Local Area Traffic Management Study", which was endorsed by the Working Party and Council itself, is not consistent with the preferred option in the PER.*

7.2 *Should the preferred option as discussed in the PER proceed and new residential development proceed on Della Vendovas land, pressure would mount to build the Spencer/Chapman Road link which would severely impact on residents.*

7.3 *One submitter took issue with the claim in the PER about the impacts of Alternative 1 - upgrading the existing bridge and road network. The possible impacts on Prince Road were questioned, as were the projected traffic flows along Corfield Street.*

The existing Metropolitan Region Scheme shows Corfield Street as an "Important Regional Road" connecting Spencer Road through to Kelmscott. Council has continually argued that Corfield Street should be down-graded and not provide a direct through-access to/from Kelmscott. The connection of Corfield Street at the southern end is still uncertain due to the lack of any firm decision having been taken in relation to the extension of the Tonkin Highway south-west of Albany Highway.

Should the Tonkin Highway be extended south of Albany Highway, it is anticipated that Corfield Street would be connected to the future Tonkin Highway by means of a T-junction. Council is committed to the retention of the status of Corfield Street as a road with District Distributor status rather than Regional Distributor status.

The first record on file of any suggestion that Corfield Street should be widened to a 30-metre road reserve and showing a connection of Corfield Street through to Spencer Road with Fremantle Road as a T-intersection, appears in the Government Gazette dated October 1970. From the gazettal of that widening notice, Council began to acquire the widening section of Corfield Street primarily on the western side as and when subdivisions occurred of properties abutting the road reserve. Over the past 20 years or so that the by-law has been in operation, Council has now acquired all the relevant widening of Corfield Street to make it a 30-metre road reserve in which to accommodate a four-lane dual-carriageway road system.

In the mid-to-late 1970's, Council initiated a guided Town Planning Scheme (TPS No 10) for a large area of the land primarily west of Corfield Street and as a part of that Town Planning Scheme, the widening of Corfield Street was incorporated as a scheme requirement.

Town Planning Scheme No 10 was advertised extensively for public submissions over a three month period and numerous owners and local residents made submissions to that scheme. In the submission period there were no objections raised to the widening of Corfield Street to 30-metres. The scheme was granted final approval by the Minister for Town Planning on 6 April 1981.

In the late 1970's the then Metropolitan Region Planning Authority initiated a major amendment to the Metropolitan Region Scheme for the rezoning and reservation of various sections of land through the south-east corridor, primarily in the cities of Canning, Gosnells and Armadale. Part of that amendment, known as MRS Amendment No 300-33, involved the reservation of Spencer Road and Corfield Street as "Important Regional Roads" (blue roads). The amendment clearly shows a connection of Spencer Road to Corfield Street in a direct line, with Fremantle Road entering at a T-junction.

The amendment process included a three month public submission period which involved a number of public meetings and numerous written submissions on various aspects of the total amendment. A number of submissions were received concerning the extension of Corfield Street, Spencer Road and Chapman Road, and these are detailed in the summary of submissions and determinations by the Metropolitan Planning Authority in its document entitled, "Metropolitan Region Scheme Amendment No 300-33 South-east Corridor Stage A Phase 1 - Summary of Submissions and Determinations, Perth, Western Australia, October 1980".

The majority of submissions that related to the road alignment of Chapman Road, Spencer Road and Corfield Street were concerned about the possible connection as shown on the proposal of Spencer Road through to Chapman Road. There were, however, a few submissions relating to the connection of Spencer Road to Corfield Street. At the end of the submission and determination period, the MRPA resolved, through the public and political spheres, to maintain the Spencer Road/Corfield Street link, however they did delete the connection of Spencer Road to Chapman Road/Manning Road.

The road reserve in Fremantle Road is only 20-metres wide and without extensive and expensive resumption of houses, it cannot be widened to accommodate the same degree or standard of traffic control measures that can be constructed in Corfield Street. An alignment into Fremantle Road would encourage additional traffic into the already congested Gosnells townsite.

The regional roads of Tonkin Highway, Garden Street, Ranford Road and Albany Highway are provided to cope with the urban growth and consequent traffic increases that will be generated in the region. Southern River Road will be an important road and is being designed to accommodate four-lane dual-carriageway that will carry up to 30,000 per day in the longer term with the urbanisation of the Southern River area.

These arterial roads are required to supplement the functions fulfilled by Spencer Road/Corfield Street, that is, each of the arterial routes is required in its own right to satisfy the requirements of the road transportation network.

The traffic predictions included in the Public Environmental Review Section 3 - Need for Development, Sub-section 3.2 Advantages of the Project and Figure 3.1 - Traffic Forecasts, clearly indicate major traffic flows will be along Spencer Road/Corfield Street (35,500 vehicles per day forecast for the year 2006) with a much lower volume predicted for Fremantle Road in the same year (10,400 vehicles per day).

In April 1988, Council's Traffic Consultants, Sinclair Knight and Partners, presented Council with the completed "Gosnells Road Rationalisation Study" which was the outcome of a detailed study of traffic in the Gosnells area. During the study several options were identified in relation to the siting of a new bridge over the Southern River to replace the existing low-level bridge on Fremantle Road. These options were to locate the bridge on a Fremantle Road alignment, a Spencer Road/Corfield Street alignment, or on an alignment approximately mid-way between both of these routes, the latter option having been considered in order that the major traffic route could be altered at some time in the future if necessary.

The summary and recommendations from that study are as follows:

"Sinclair Knight and Partners (WA) Pty Ltd have undertaken a road rationalisation study for the City of Gosnells to investigate the nominated study area's transport needs for the short to medium term time frame. A summary of the major findings of this study is given below.

Resolution of regional transport issues by Council and the relevant authorities is required as a matter of the highest priority to allow rationalisation of the long term road hierarchy within the study area. In particular the role of Corfield Street must be addressed.

Pursuit by Council of available avenues of funding for a new bridge crossing of the Southern River in Fremantle Road is required.

A number of options for the road hierarchy have been evaluated. A preferred road hierarchy, Option E has been recommended for the short to medium term time frame.

A traffic management plan has been prepared that recognises the preferred short to medium term road hierarchy and nominated specific issues.

The Gosnells Study Area is still undergoing substantial development. This will continue for the foreseeable future. Recognition of the likely impact of future development on the Study Area's road network is required.

In particular, frontage access on future roads recognised as traffic carrying routes should be avoided. Impacts on existing roads with frontage access need to be monitored to assess the effects of future development. Hence a comprehensive monitoring programme is recommended.

It is recommended that Council adopt the preferred road hierarchy and the associated traffic management plan as a basis for traffic management in the Gosnells Study Area for the short to medium time frame, with due consideration of regional transport issues affecting the study area."

The "Option E" referred to in the third point is shown on the accompanying Figure 7 from the Study Report and involves an alignment approximately half-way between Fremantle Road and Corfield Street in order that any future changes to the road hierarchy could be accommodated in either direction. Since the time the study was completed in April 1988, more extensive traffic forecasting has been undertaken that confirms the District Distributor status of Corfield Street (Figure 7 shows Corfield Street as a future Local Distributor road).

After having considered the Traffic Consultant's recommendations for a period of 12 months, Council decided at its April 1989 meeting to endorse the Spencer Road/Corfield Street as the preferred alignment for the new bridge over the Southern River and that the funds for the bridge be considered as an urgent Main Roads Department special grant application. In order to allay the concerns expressed by local residents regarding Corfield Street becoming a major traffic route, Council resolved to apply approved "friendly" treatment proposals for Corfield Street in any submissions to Main Roads for funding, in order to minimise its impact on the environment, particularly in relation to the social impact that major traffic routes can have on local residential areas caused by separation.

Council has been pursuing this strategy along Corfield Street as is evidenced by the construction of roundabouts at the intersections of Southern River Road/Dorothy Street and Verna Street. The proposal to upgrade Corfield Street between Prince Street and Southern River Road to dual-carriageway should not be viewed as being contrary to this strategy. A dual-carriageway is considered to be more "friendly" to local neighbourhoods than is a 10-metre wide single carriageway, in that two 7.4 metre wide carriageways are easier for pedestrians, cyclists and the disabled to cross than is a single 10-metre wide two-way carriageway, as the provision of the central median island provides a safe haven between the two carriageways.

By following this strategy, Council can develop Corfield Street in a manner compatible with surrounding land uses by the provision of appropriate treatments to minimise neighbourhood separation.

Since 1989, Council has resolved several times to support the Spencer Road/Corfield Street as the preferred alignment for the bridge over the Southern River (for example, Ordinary Council Meeting December 1991).

It is acknowledged that the statement made in Section 4 - Assessment of Alternatives, Sub-section 4.2 - Alternatives, in relation to Prince Street is incorrect. The traffic is not directed into Prince Street but rather is accommodated in a new road reserve. The part of this paragraph after the words "..... along Corfield Street." should be deleted. However, the main point remains in relation to this alternative as stated in Sub-section 4.2 that this configuration: "..... would not be able to accommodate forecast traffic volumes along Corfield Street", by creating instead a heavy left and right turn movement at the proposed T-intersection of Corfield Street and Fremantle Road.

Even prior to the conduct and completion of the Gosnells Road Rationalisation Study in April 1988, Council was of the opinion that the new bridge should be located on the Spencer Road/Corfield Street alignment which was consistent with the Metropolitan Region Scheme. Prior to and during the progress of the Gosnells Road Rationalisation Study, a small group of Corfield Street residents raised strong opposition to this alignment and it was the result of this opposition that led to the inconclusive recommendations on the bridge alignment in the Study Report.

8 - Other Concerns

8.1 The commitments related to public access to the river should be adhered to.

Noted. No further action required.

9 - Support for the Proposal

9.1 The proposal should be implemented as soon as possible so that residents can enjoy a safer and quieter environment.

Noted. No further action required.

Please do not hesitate to contact the City Engineer should you require any further information in this regard.

Yours faithfully


G WHITELEY
TOWN CLERK

Enc (Plan)

Appendix 4

Proponent's commitments

SECTION 9 – COMMITMENTS

9.1 GENERAL

Based on the information supplied from the sub-consultants reports, discussions with the relevant government authorities and onsite field inspection/investigation a series of management commitments have been prepared. The commitments when implemented by the proponent will minimise the environmental, social and heritage impacts that could potentially arise from construction of the proposed Southern River Bridge and the associated road realignment.

9.2 PHYSICAL/BIOLOGICAL CONTROL AND MANAGEMENT COMMITMENTS

To minimise floodplain erosion and bank degradation the following strategies will be carried out by the proponent:

- (1) Access tracks to work areas must follow a pre-determined route avoiding drainage depressions, mature trees and the 4 m buffer zone either side of the stream bed. *Action – Project Manager(City of Gosnells)*
- (2) Vehicle activity within 4 m of river bed will be restricted to reduce risk of bank degradation by the erection of a suitable fence. *Action – Project Manager*
- (3) Access tracks on completion of the works will be revegetated with native species sighted in the study area. (See Appendix B species list).
Action – Project Manager
- (4) Silt trap devices such as sandbagging, geotextile fabrics and/or hay bales will be placed along the 4 m boundary of the buffer zone adjacent to the construction area on each side of the river preventing sedimentation of the water course. Sedimentation control measures along the water course will be left in place until revegetation of the disturbed area is complete.
Action – Project Manager
- (5) Loose imported fill material for embankment construction i.e. sand and topsoil will be stabilised when not actively utilised. Short term stabilisation techniques could include applying a geo-crust type spray to hold loose fill in place, cover with an impermeable layer i.e. plastic or install a silt barrier

at the base of the fill stockpile to prevent sediments escaping into the riverine environment. Vegetating the fill stockpile is also a possibility for long term erosion/sedimentation prevention. *Action – Project Manager*

- (6) If stockpiling of fill is probable, a pre-determined location above the 7 m contour is required to minimise erosion potential in the case of a flood event. The pre-determined location will not obstruct any overland drainage channels. *Action – Project Manager*
- (7) Bridge design and access roads will include measures to prevent direct drainage of stormwater off the structures directly onto the floodplain and/or the Southern River by the provision of suitable drainage channels to carry water to the river. *Action – Project Manager*
- (8) Frequent inspection of the project area will occur during the construction phase to ensure that potential erosion/sedimentation hotspots are identified so preventative measures can be taken. *Action – Project Manager*

To minimise potential degradation to the biological environment the following commitments will be carried out by the proponent:

- (9) Clearing of vegetation must be kept to a minimum, this is especially relevant to mature trees as their aesthetic value and soil stabilising qualities are important in relation to erosion/sedimentation control and floristic/habitat reasons. *Action – Project Manager*
- (10) Felled portion of trees and shrubs will be cut to manageable lengths and left on site wherever possible to provide future habitat for fauna. The roots of the felled trees will be left insitu unless under embankments or structuring to minimise ground disturbance. *Action – Project Manager*
- (11) In revegetation and landscaping of the site on completion of the project, the native species identified during the survey will be included as they are demonstrably hardy and good competitors with the weedy species. Revegetation which aims to complement or increase the habitat for native fauna should incorporate representative plants from all vegetation strata, i.e. trees, shrubs and ground covers. The success of revegetation will be aided by preliminary weed control, as all areas are heavily infested. Herbicide use may be found to be appropriate, but application must be carried out in strict accordance with Gosnells City or Main Roads guidelines. *Action – Project Manager*

- (12) Dieback (infection with the fungus *Phytophthora cinnamomi*) does not appear to be present on the survey site. Every attempt must be made to ensure that fill material used during construction is also free of the disease. Its importation could have implications for remnant vegetation on the site and downstream, and also for the success of revegetation measures. The use of dieback hygiene procedures for mobile plant during construction will be assessed when the movements of such plant to and from the site is known.
Action – Project Manager
- (13) Fragmentation rather than loss of habitat may be the significant factor for the native fauna and particularly for the Quenda on the site. Therefore it is important that the bridge design allow for movement of these animals under the bridge along the eastern bank of the river. The old alignment of Fremantle Road on the east of the river will also be removed and the area rehabilitated. This will allow free access to the remnant woodland adjacent to, and south of Fremantle Road. *Action – Project Manager*
- (14) In light of the presence of the Quenda (an animal scheduled as rare and endangered) on the site, it is recommended that the Council consult with the Department of Conservation and Land Management's rare fauna biologist (Mr Gordon Wyre) prior to construction, in order for CALM to determine if relocation of the Quenda is required.
Action – Project Manager

9.3 POLLUTION CONTROL COMMITMENTS

To minimise the risk of polluting the riverine environment the following commitments will be carried out by the proponent:

- (15) A pre-determined location above the 7 m contour be selected for the purpose of refuelling machinery. The area should be surrounded by a sediment barrier or catch drain to minimise the potential of riverine contamination resulting from a fuel/oil/rubbish spillage. In the event of a spill outside the designated fuelling area the contaminated soil will be immediately excavated and transported to an adequate disposal site or for temporary measures into the refuelling area. *Action – Project Manager*
- (16) Site hygiene must be maintained at a high standard. All refuse will be removed for disposal offsite. *Action – Project Manager.*

9.4 ABORIGINAL HERITAGE COMMITMENTS

The ethnographic report identified important camping and fishing areas beneath the path of the new bridge. Whilst the informants recognised the necessity for the new bridge development they were concerned about the location of the support piers in relation to the river and its associated banks. To accommodate these concerns the following recommendations have been prepared.

- (17) A buffer zone be set up, marked by a fence/silt barrier 4 m either side of the existing river bed. Within four metres of the river bed there will be no construction or movement of heavy machinery. *Action – Project Manager*
- (18) Should any artifactual material be unearthed during the construction works the developers and/or contractors should report finding to the Department of Aboriginal Sites. *Action – Project Manager*

9.5 SYSTEM 6: COMMENTS

The commitments below have been included within this PER because the site of the proposed development is located within an area identified by the System 6 Report as "Reserved for Parks and Recreation under the Metropolitan Region Scheme or is being considered for possible future reserves".

- (19) Areas identified through planning procedures as open space of regional significance will, where appropriate, to be designated as Regional Parks. The area is already designated as Region Open Space.
- (20) The National Parks Authority should be given the responsibility for co-ordinating the planning and management of areas identified as Regional Parks, and for the following functions:
 - (i) the provision of technical and other advice to managing agencies and owners;
 - (ii) an examination of the present funding and co-ordination of development programmes.

These changes to the role of the National Parks Authority may require some legislative changes. In any event these procedures are not within the control of the Project Manager.

9.6 NOISE COMMITMENTS

Even though resultant traffic noise from the proposed development is calculated to fall below the 68 dBA, increases in existing noise levels will be experienced in the vicinity of Yulan Court/Wattle Way.

- (21) To reduce these estimated levels down to existing levels, implementation of noise attenuation barriers in the forms of landscaping will be developed on either side of Corfield Street. Landscaping will also prevent headlight spill inconveniencing properties on Yulan Court, Wattleway and Prince Street.

Action – Project Manager

9.7 VISUAL COMMITMENTS

Refer to commitment (21).