

# **Industrial Subdivision of Lot 21 Webster Road, Forrestfield**

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**R. Peters and D. Papagioftsis**

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

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 1140  
June 2004**

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

<b>Date</b>	<b>Progress stages</b>	<b>Time</b>
<b>30 July 2001</b>	<b>Level of Assessment set (following three appeals upheld)</b>	
<b>12 Jan 2004</b>	<b>Proponent Document Released for Public Comment</b>	<b>2.5 years</b>
<b>9 Feb 2004</b>	<b>Public Comment Period Closed</b>	<b>4 weeks</b>
<b>25 March 2004</b>	<b>Final Proponent response to the issues raised</b>	<b>6 weeks</b>
<b>14 June 2004</b>	<b>EPA report to the Minister for the Environment</b>	<b>11 weeks</b>

ISBN. 0 7307 6776 0  
ISSN. 1030 - 0120  
Assessment No. 1386

## Summary and recommendations

R. Peters and D Papagioftsis propose to subdivide Lot 21 Webster Road Forrestfield into 7 industrial lots. This report provides the Environmental Protection Authority's (EPA's) advice and recommendations to the Minister for the Environment on the environmental factors relevant to the proposal.

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

### Relevant environmental factors

The EPA decided that the following environmental factors relevant to the proposal required detailed evaluation in the report:

- (a) vegetation; and
- (b) aboriginal heritage

There were a number of other factors which were very relevant to the proposal, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation.

### Conclusion

The EPA has considered the proposal by R. Peters and D. Papagioftsis to subdivide Lot 21 Webster Road, Forrestfield, into 7 industrial lots.

The EPA notes that the area has been comprehensively considered through Bush Forever, but not included, and this assessment, and has been confirmed as having significant ecological value. Vegetation on Lot 21 has demonstrated a capacity to survive threatening processes despite its small size.

While the EPA's preference is for the vegetation on this site to be retained and secured for conservation, the Authority has been advised that relevant government agencies have considered purchasing Lot 21 but have advised that because of its size, distribution and zoning, it is not of the highest priority for purchase.

Without protection and active management the area cannot be guaranteed to maintain its ecological values with a consequence that the EPA's objectives are unlikely to be met in the longer term. Therefore if Lot 21 cannot be secured for conservation, and without purchase and vesting in the conservation estate this is not possible in the case of Lot 21, then it is the EPA's view that the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting other areas with significant ecological attributes.

In the event, that the proposal is to be implemented, the EPA has recommended conditions as set out in Appendix 4 and summarised in Section 4.2. In particular, the conditions provide for the development of a mitigation strategy in consultation with the Department of Conservation and Land Management and that the proponent shall

fulfill its commitment to conduct an archaeological and ethnographic survey prior to the commencement of site works to determine if there are any Aboriginal Heritage sites present.

## **Recommendations**

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

1. That the Minister notes that the proposal being assessed is for the subdivision of Lot 21 Webster Road, Forrestfield, into 7 industrial lots.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3.0.
3. That the Minister notes that the EPA's preference is that the vegetation be retained and secured for conservation. However, it is the EPA's view that its objectives are unlikely to be met in the longer term unless this occurs and therefore, on the basis that without purchase Lot 21 cannot be secured for conservation, then the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting other areas with significant ecological value.
4. The Minister notes that, if the proposal is to be implemented, then the EPA has recommended conditions set out in Appendix 4, and summarised in Section 4.2, including the proponent's commitments.
5. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report if the proposal is to be implemented.

## **Conditions**

Having considered the proponent's commitments and the information provided in this report, the EPA has developed conditions that the EPA recommends be imposed if the proposal by R. Peters and D. Papagioftsis to subdivide Lot 21 Webster Road, Forrestfield, into 7 industrial lots is approved for implementation.

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

- (a) that the proponent shall fulfill the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 4;
- (b) that, prior to implementation of the proposal, the proponent shall develop an appropriate mitigation strategy in consultation with the Department of Conservation and Land Management as a contribution to meeting a broader objective of protecting other areas with significant ecological attributes.

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# 1. Introduction and background

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to the proposal by R. Peters and D. Papagioftsis, to subdivide Lot 21 Webster Road, Forrestfield into seven industrial lots.

The land is 1.84 hectares (ha) in area and is privately owned by R. Peters and D. Papagioftsis. Implementation of the proposal would result in the clearance of all of the 1.84 ha of vegetation, which contains a threatened ecological community (TEC) – Floristic Community Type (FCT) 20a: *Banksia attenuata* woodland over species rich dense shrublands, 170 individuals of a declared rare flora (DRF) species – *Conospermum undulatum* and 100 individuals of a priority three flora species – *Isopogon drummondii*.

Further details of the proposal are presented in Section 2.0 of this report. Section 3.0 discusses the environmental factors relevant to the proposal. The Conditions and Commitments to which the proposal should be subject, if the Minister determines that it may be implemented, are set out in Section 4.0. Section 5.0 presents the EPA's conclusions and Section 6.0, the EPA's Recommendations.

Appendix 5 contains a summary of submissions and the proponent's response to submissions and is included as a matter of information only and does not form part of the EPA's report and recommendations. Issues arising from this process, and which have been taken into account by the EPA, appear in the report itself.

## 2. The proposal

Lot 21 Webster Road, Forrestfield has an area of 1.84 ha and is located in the Shire of Kalamunda. Its regional location is depicted in Figure 1. It is zoned Industrial in the Metropolitan Region Scheme and Light Industry in the Shire of Kalamunda District Planning Scheme No. 2. Lot 21 is adjacent to, but not included in, Bush Forever Site 319 (Figure 2).

An application to subdivide Lot 21 Webster Road, Forrestfield into seven industrial lots was initially referred to the EPA pursuant to Section 38 of the *Environmental Protection Act 1986* (EP Act) in April 1997. The level of assessment was set at Informal Review with Public Advice (IRPA) but later upgraded to Consultative Environmental Review on appeal to the Minister. However, the proponent withdrew the application in November 1997.

A second subdivision application was referred to the EPA and the level of assessment was again set at IRPA on 10 March 2000. Three appeals were made against the EPA's decision in March 2000. In October 2000 the Minister for the Environment upheld the appeals and directed the EPA to formally assess the proposal pursuant to Part IV of the EP Act.

The subdivision of Lot 21 would result in all (1.84 ha) of the remnant vegetation being cleared. This will include:

- Clearing of a TEC: (FCT) 20a – *Banksia attenuata* woodland over species rich dense shrublands;
- Clearing of DRF *Conospermum undulatum* and Priority 3 flora *Isopogon drummondii*; and
- Loss of fauna habitat.

The proponent has proposed to mitigate the loss of bushland on Lot 21 by transferring the biologically valuable components (topsoil) of the bushland on Lot 21 to the degraded area of the adjacent Reserve C31709 (Figure 2), which is vested in the Water Corporation and forms part of Bush Forever Site 319.

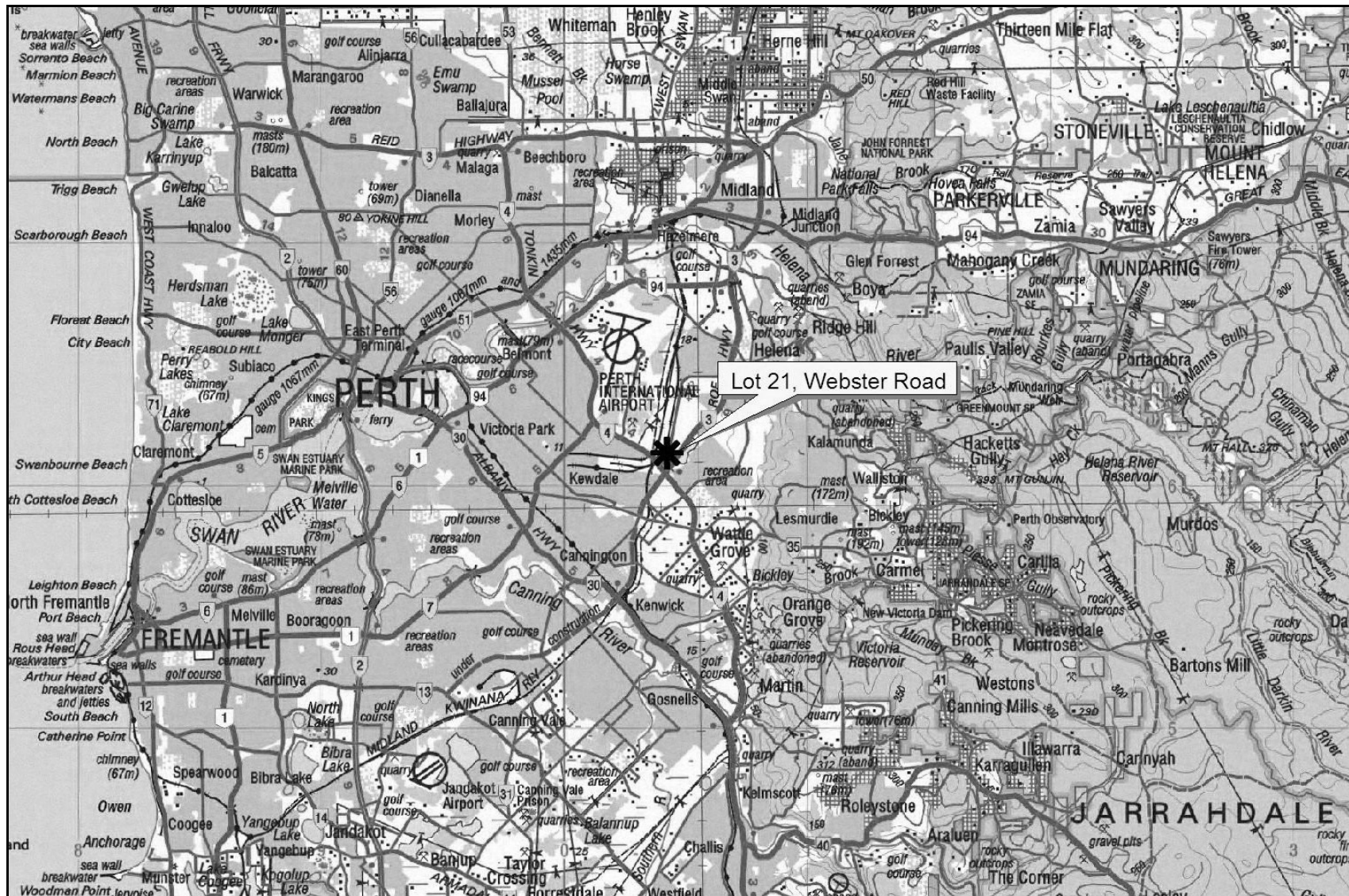
The main characteristics of the proposal are summarised in Table 1 below. A detailed description of the proposal is provided in Sections 3.0 and 5.0 of the Public Environmental Review (PER) (Ecoscape, 2004).

**Table 1: Summary of key proposal characteristics**

Element	Description
Component	7 Industrial Lots
Area of disturbance	1.84 ha
Environmental Mitigation	Transfer of biologically valuable components (topsoil) of Lot 21 to the adjacent Bush Forever Site 319.

Since release of the PER, a number of modifications to the proposal have been made by the proponent. These include:

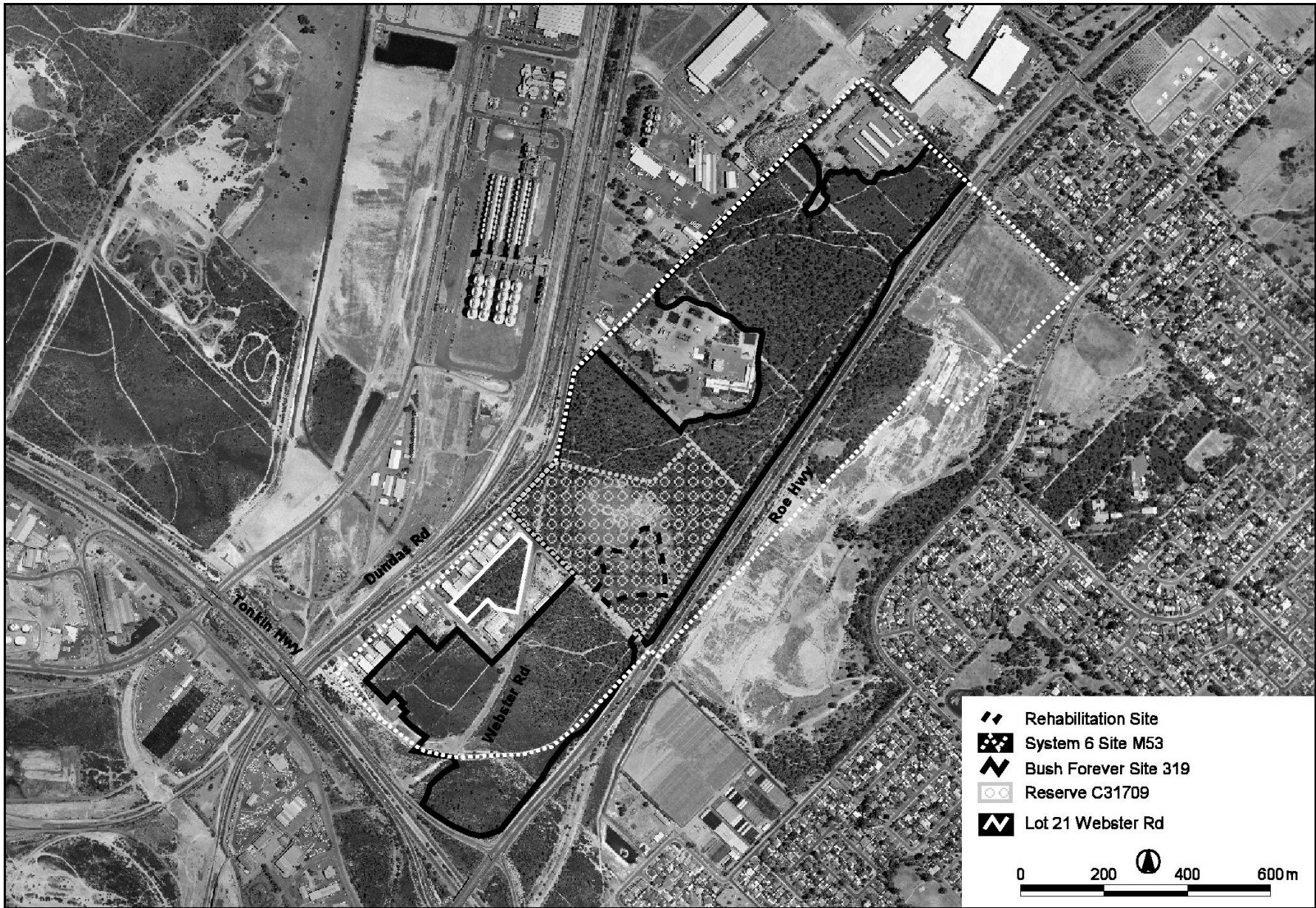
- A commitment to conduct an archaeological and ethnographic survey prior to the commencement of site works to identify any aboriginal heritage sites.
- An additional year (2 years in total) of weed control and monitoring will be undertaken following establishment of the transferred seedbank on Reserve C31709.
- Seed collection and direct seeding of the rehabilitation site will be undertaken in conjunction with the other methods described in the PER.



The base layer for this map is Commonwealth Copyright Geoscience Australia - National Mapping Division (2002). All rights reserved.

**Figure 1: Regional location. (Prepared by Ecoscape Pty Ltd: May 2004)**





*Figure 2: Local context*

### **3. Relevant Environmental Factors**

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and the conditions and procedures, if any, to which the proposal should be subject. In addition, the EPA may make recommendations as it sees fit.

It is the EPA's opinion that the following environmental factors relevant to the proposal require detailed evaluation in this report:

- (a) vegetation, including the impact on a TEC, DRF, Priority 3 flora and fauna habitat that it provides; and
- (b) aboriginal heritage.

The above relevant factors were identified from the EPA's consideration and review of all environmental factors generated from the PER document and the submissions received, in conjunction with the proposal characteristics.

A number of other matters were considered to be of relevance to the proposal, but the EPA is of the view that the information set out in Appendix 3 provides sufficient evaluation of these factors.

Details on the relevant environmental factors and their assessment are contained in Sections 3.1 and 3.2. The description of each factor shows why it is relevant to the proposal and how it would be affected by the proposal. The assessment of each factor is where the EPA decides whether or not a proposal meets the environmental objective set for that factor.

#### **3.1 Vegetation**

##### **Description**

The proposal would result in removal of all the 1.84 ha of vegetation on Lot 21 and subsequent loss of the threatened ecological community, declared rare and priority flora and fauna habitat.

##### Historical context

Lot 21 was identified in the System Six review (Department of Conservation and Environment, 1983) as having conservation value as part of site M53 but was subsequently excluded from Perth's Bushplan (superceded by Bush Forever). It is understood that Lot 21 was not included in Bush Forever Site 319 as it was isolated from the core conservation area of Site 319 by industrial zoned land and road infrastructure.

## Flora and vegetation

The vegetation of Lot 21 belongs to the Southern River Complex and is essentially a *Eucalyptus marginata* (Jarrah) – *Allocasuarina fraseriana* (Sheoak) – *Banksia* species woodland. The Southern River Complex currently has 1.5% reservation in secure conservation reserves, which is below the 10% minimum representation (EPA Guidance #10).

Detailed vegetation surveys described in the PER identified that the 1.84 ha of vegetation belongs to Floristic Community Type 20a - *Banksia attenuata* woodland over species rich dense shrublands, a threatened ecological community listed as Endangered in Western Australia on the Department of Conservation and Land Management (CALM) database. Its current distribution is described as limited as there are very few occurrences and each of these is small and/or isolated and extremely vulnerable to known threatening processes ([www.calm.wa.gov.au](http://www.calm.wa.gov.au)).

Vegetation surveys also identified that one DRF species is present on the site: *Conospermum undulatum*. This species is listed as rare on the CALM database and Vulnerable under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999. Lot 21 contains 2.8% (170) of the remaining individuals of this species. Lot 21 also contains 100 individuals of the Priority 3 flora *Isopogon drummondii*.

The condition of the vegetation as detailed in the PER has been converted to the Bush Forever condition rating scale and the majority is in Good - Very Good and Excellent condition, with a few smaller areas that are Degraded and Completely Degraded. Available information suggests that the site has maintained better condition than expected and has a good capacity to maintain integrity when it is not disturbed. It has improved in condition over the last 4 years since it was first considered through Bush Forever rather than deteriorated as would be expected of a site isolated by surrounding industrial land uses.

## Fauna

Due to the significant amount of faunal data that is available for the general project area and the small size of the area of faunal habitat to be affected the EPA determined that a detailed fauna survey was not required for the PER. However, the proponent's consultant undertook an assessment of the fauna habitats of the project area and reviewed available fauna records from similar habitats nearby to assess the likely significance of the project area for fauna. Fauna likely to occur within the site are detailed further in the PER.

## Mitigation strategy

The mitigation strategy prepared by the proponent proposes to transfer the biologically valuable components of Lot 21 to the adjacent Bush Forever Site 319, in particular Reserve C31709 (Figure 2). Further details of the mitigation strategy are provided in Section 5.0 of the PER document and include:

- Selection of translocation site
- Clearing of lot 21

- Preparation of the rehabilitation site
- Post transfer management
- On-going management

## **Submissions**

The issues raised in the submissions focused on the loss of a threatened ecological community, declared rare and priority flora, and fauna habitat.

Submissions also raised concerns with the viability of the proposed mitigation strategy. In particular, CALM expressed concern that there are several elements of the proposed rehabilitation which provide doubt that the rehabilitation can be successful.

## **Assessment**

The area considered for assessment of this factor is all Lot 21 and the adjoining Bush Forever Site 319.

The EPA's environmental objective for this factor is to protect areas identified as having significant environmental attributes and to maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge.

The EPA recognises that the vegetation of Lot 21 has significant ecological value including a threatened ecological community, declared rare flora and priority flora. The vegetation has also retained its condition despite being small, disconnected and zoned industrial.

The mitigation strategy proposed does not appear to achieve reasonable conservation outcomes compared with the direct loss of the significant ecological values. The success rate of translocation of vegetation communities and individual species is low and the current proposal does not provide any certainty of success. CALM's submission on the PER states that the proposed rehabilitation plan, including reconstruction of TEC and translocation of threatened flora, is unlikely to be successful. Responsibility for long term management of the translocated vegetation community has also not been assigned in the mitigation strategy.

Lot 21 was specifically not included in Bush Forever due to being zone industrial and isolated from Bush Forever Site 319 by road infrastructure. The EPA has recently been advised that Lot 21 does not meet CALM or Western Australian Planning Commission criteria for purchase of land for inclusion in the conservation estate despite the significant ecological values. In this regard, the EPA notes that there are Bush Forever sites smaller than Lot 21 in private and public ownership, in which the vegetation has maintained its condition.

In view of the advice that Lot 21 does not meet the criteria for priority purchase for the conservation estate, the EPA is concerned that there will be no protection or

management of Lot 21 which is considered necessary to ensure that the significant ecological values of the lot can be maintained into the future.

As Lot 21 cannot be secured for conservation, the EPA considers that the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting the significant ecological attributes of other areas. In this event, the EPA has recommended a condition which provides for the development of a mitigation strategy in consultation with the Department of Conservation and Land Management.

### **Summary**

Having particular regard to the fact that the site has significant ecological value, the EPA's clear preference is that the vegetation be retained and secured for conservation.

However, the fact that:

- (a) the land is not included in Bush Forever; and
- (b) advice indicates that it does not meet Government criteria for priority for purchase,

means that the land will not be protected and managed. It is therefore unlikely that these important ecological values will be maintained in the future with a consequence that the EPA's objectives are also unlikely to be met in the longer term.

Therefore the EPA considers that if Lot 21 cannot be secured for conservation, then the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting the significant ecological attributes of other areas. In this event, the EPA has recommended a condition which provides for the development of a mitigation strategy in consultation with the Department of Conservation and Land Management.

## **3.2 Aboriginal Heritage**

### **Description**

The Department of Indigenous Affairs (DIA) has advised that there are no Aboriginal heritage sites located directly within Lot 21, however there are a number of significant sites, both archaeological and ethnographic, in the general area. DIA has recommended that an ethnographic and archaeological survey of the area be conducted.

### **Submissions**

DIA provided the only submission in relation to this factor.

### **Assessment**

The area considered for assessment of this factor is all of Lot 21.

The EPA's environmental objective for this factor is to ensure that changes to the biophysical environment do not adversely affect historical and cultural associations and comply with relevant heritage legislation.

Should the proposal be implemented, the proponent has agreed to conduct an archaeological and ethnographic survey prior to the commencement of site works to determine if there are any Aboriginal heritage sites present.

### **Summary**

The EPA considers that in view of the proponent's commitment to conduct an archaeological and ethnographic survey, the issue of Aboriginal Heritage has been adequately addressed and can meet the EPA's objective for this factor.

## **4. Conditions and Commitments**

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

In developing recommended conditions for each project, the EPA's preferred course of action is to have the proponent provide commitments to ameliorate the impacts of the proposal on the environment. The commitments are considered by the EPA as part of its assessment of the proposal and, following discussion with the proponent, the EPA may seek additional commitments.

The EPA recognises that not all of the commitments are written in a form which makes them readily enforceable, but they do provide a clear statement of the action to be taken as part of the proponent's responsibility for, and commitment to, continuous improvement in environmental performance. The commitments, modified if necessary to ensure enforceability, then form part of the conditions to which the proposal should be subject, if it is to be implemented.

### **4.1 Proponent's commitments**

Should the proposal be implemented, the proponent's commitments as set in the PER are not appropriate as they relate to the proposed rehabilitation plan, which the EPA does not support. Of the modifications listed below, commitments 2 and 3 are also not appropriate. Commitment 1 is the only commitment to remain valid and should be made enforceable.

Modifications to proponent's commitments as detailed in the PER are as follows:

1. A commitment to conduct an archaeological and ethnographic survey prior to the commencement of site works to identify any aboriginal heritage sites.
2. An additional year (2 years in total) of weed control and monitoring will be undertaken following establishment of the transferred seedbank.

3. Seed collection and direct seeding of the rehabilitation site will be undertaken in conjunction with the other methods described in the PER.

## **4.2 Recommended conditions**

Having considered the proponent's commitments and the information provided in this report, the EPA has developed conditions that the EPA recommends be imposed if the proposal by R. Peters and D. Papagioftsis to subdivide Lot 21 Webster Road, Forrestfield, into 7 industrial lots is approved for implementation.

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

- (c) that the proponent shall fulfil the commitments in the Consolidated Commitments statement set out as an attachment to the recommended conditions in Appendix 4; and

that, prior to implementation of the proposal, the proponent shall develop an appropriate mitigation strategy as a contribution to meeting a broader objective of protecting other areas with significant ecological attributes.

## **5. Conclusions**

The EPA has considered the proposal by R. Peters and D. Papagioftsis to subdivide Lot 21 Webster Road, Forrestfield, into 7 industrial lots.

The EPA notes that the area has been comprehensively considered through Bush Forever, but not included, and this assessment, and has been confirmed as having significant ecological value. Vegetation on Lot 21 has demonstrated a capacity to survive threatening processes despite its small size.

While the EPA's preference is for the vegetation on this site to be retained and secured for conservation, the Authority has been advised that relevant government agencies have considered purchasing Lot 21 but have advised that because of its size, distribution and zoning, it is not of the highest priority for purchase.

Without protection and active management the area cannot be guaranteed to maintain its ecological values with a consequence that the EPA's objectives are unlikely to be met in the longer term. Therefore if Lot 21 cannot be secured for conservation, and without purchase and vesting in the conservation estate this is not possible in the case of Lot 21, then it is the EPA's view that the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting other areas with significant ecological attributes. Accordingly, if the proposal is to be implemented, the EPA has recommended a condition that provides for development of a mitigation strategy and support the proponent's commitment to conduct an archaeological and ethnographic survey prior to the commencement of site works to determine if there are any Aboriginal Heritage sites present.

## **6. Recommendations**

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

1. That the Minister notes that the proposal being assessed is for the subdivision of Lot 21 Webster Road, Forrestfield, into 7 industrial lots.
2. That the Minister considers the report on the relevant environmental factors as set out in Section 3.0.
3. That the Minister notes that the EPA's preference is that the vegetation be retained and secured for conservation. However, it is the EPA's view that its objectives are unlikely to be met in the longer term unless this occurs and therefore, on the basis that without purchase Lot 21 cannot be secured for conservation, then the proposal could be implemented with a mitigation strategy developed as a contribution to meeting a broader objective of protecting other areas with significant ecological value.
4. The Minister notes that, if the proposal is to be implemented, then the EPA has recommended conditions set out in Appendix 4, and summarised in Section 4.2, including the proponent's commitments.
5. That the Minister imposes the conditions and procedures recommended in Appendix 4 of this report if the proposal is to be implemented.



# **Appendix 1**

## **List of submitters**

**Organisations:** Conservation Council of Western Australia  
Wildflower Society of Western Australia  
Urban Bushland Council WA  
Friends of Perth Airport Bushland  
Department of Indigenous Affairs  
Department of Conservation and Land Management  
Water Corporation

**Individuals:** Chantelle Noack

# **Appendix 2**

## **References**

Department of Conservation and Environment (1983) *Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority: The Darling System – System 6*. Perth, Western Australia.

Ecoscape (Australia) Pty Ltd (2004) *Industrial Subdivision of Lot 21 Webster Road, Forrestfield, Public Environmental Review*. Perth, Western Australia.

Environmental Protection Authority (2003) *Level of assessment for proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region*. EPA Guidance Statement No. 10. Perth, Western Australia.

## **Appendix 3**

**Summary of identification of relevant environmental factors**

Preliminary Environmental Factors	Proposal Characteristics and Potential Impact	Government Agency and Public Comments	Identification of Relevant Environmental Factors
<b>BIOPHYSICAL</b>			
Vegetation and Flora	Clearing of 1.84ha of native vegetation of the Southern River Complex.	Submissions were concerned with clearing vegetation of the Southern River Complex considering that only 1.5% of its original extent exists in secure conservation reserves.	This is a relevant factor and is discussed in Section 3.0.
Declared Rare and Priority Flora	Clearing of 170 individuals of Declared Rare Flora <i>Conospermum undulatum</i> and 100 individuals of Priority 3 Flora <i>Isopogon drummondii</i> .	A number of submissions were concerned with clearing declared rare and priority flora.	This is considered under the factor 'Vegetation'.
Threatened Ecological Community	Clearing of 1.84ha of Floristic Community Type 20a – <i>Banksia attenuata</i> woodland over species dense shrublands, a Threatened Ecological Community.	A number of submissions were concerned with clearing a threatened ecological community.	This is considered under the factor 'Vegetation'.
Fauna	Removal of 1.84ha of Fauna Habitat.	A number of submissions were concerned with removal of fauna habitat.	This is considered under the factor 'Vegetation'.
<b>SOCIAL SURROUNDINGS</b>			
Aboriginal Heritage	Potential archaeological and ethnographic site, which may be disturbed.	The Department of Indigenous Affairs has requested that an archaeological and ethnographic survey be conducted prior to works commencing.	This is a relevant factor and is discussed in Section 3.0.
<b>OTHER</b>			
Mitigation Strategy	To mitigate the impacts of the proposal should it be approved, it is proposed to transfer the biologically valuable components of Lot 21 to the adjacent Bush Forever Site, specifically Reserve C31709 vested in the Water Corporation.	Submissions were concerned with the viability of the proposed mitigation strategy and raised the fact that the translocation of declared rare flora and threatened ecological communities has a very low success rate.  CALM advised that they do not support the proposed mitigation strategy.	This is considered under the factor 'Vegetation'.

# **Appendix 4**

## **Recommended Environmental Conditions and Proponent's Consolidated Commitments**

**RECOMMENDED CONDITIONS AND PROCEDURES**

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

**INDUSTRIAL SUBDIVISION OF LOT 21 WEBSTER ROAD, FORRESTFIELD  
SHIRE OF KALAMUNDA**

**Proposal:** The subdivision of Lot 21 Webster Road, Forrestfield, into 7 industrial lots, as documented in schedule 1 of this statement.

**Proponent:** R. Peters and D. Papagioftsis

**Proponent Address:** 1 First Avenue, Applecross, WA, 6153

**Assessment Number:** 1386

**Report of the Environmental Protection Authority:** Bulletin 1140

The proposal referred to above may be implemented by the proponent subject to the following conditions and procedures:

**1 Implementation**

1-1 The proponent shall implement the proposal as documented in schedule 1 of this statement subject to the conditions of this statement.

**2 Proponent Commitments**

2-1 The proponent shall implement the environmental management commitments documented in schedule 2 of this statement.

**3 Proponent Nomination and Contact Details**

3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.



- 3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.
- 3-3 The nominated proponent shall notify the Department of Environmental Protection of any change of contact name and address within 60 days of such change.

#### **4 Commencement and Time Limit of Approval**

- 4-1 The proponent shall substantially commence the proposal within five years of the date of this statement or the approval granted in this statement shall lapse and be void.

Note: The Minister for the Environment will determine any dispute as to whether the proposal has been substantially commenced.

- 4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement to the Minister for the Environment, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

1. the environmental factors of the proposal have not changed significantly;
2. new, significant, environmental issues have not arisen; and
3. all relevant government authorities have been consulted.

Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

#### **5 Compliance Audit and Performance Review**

- 5-1 The proponent shall prepare an audit program and submit compliance reports to the Department of Environmental Protection which address:
1. the status of implementation of the proposal as defined in schedule 1 of this statement;
  2. evidence of compliance with the conditions and commitments; and
  3. the performance of the environmental management plans and programs.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environmental Protection is empowered to audit the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement.

## **6 Mitigation Strategy**

6-1 In order to mitigate for the loss of a threatened ecological community (Floristic Community Type 20a – *Banksia attenuata* woodland over species rich dense shrublands), declared rare flora (*Conospermum undulatum*), priority flora (*Isopogon drummondii*) and fauna habitat, the proponent shall either:

- a. Contribute resources towards ongoing management/rehabilitation of Bush Forever Site 319; or
- b. Contribute to securing or providing ongoing management of other areas of significant ecological value

to protect areas identified as having significant environmental attributes and to maintain the abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse impacts and improvement in knowledge to the requirement of the Minister for the Environment on advice of the EPA.

For the purpose of this condition the proponent shall consult with the Department of Conservation and Land Management on an appropriate mitigation option.

## **Procedures**

- 1 Where a condition states “to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority”, the Environmental Protection Authority will provide that advice to the Department of Environmental Protection for the preparation of written notice to the proponent.
- 2 The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environmental Protection.

## **Notes**

- 1 The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environmental Protection over the fulfilment of the requirements of the conditions.

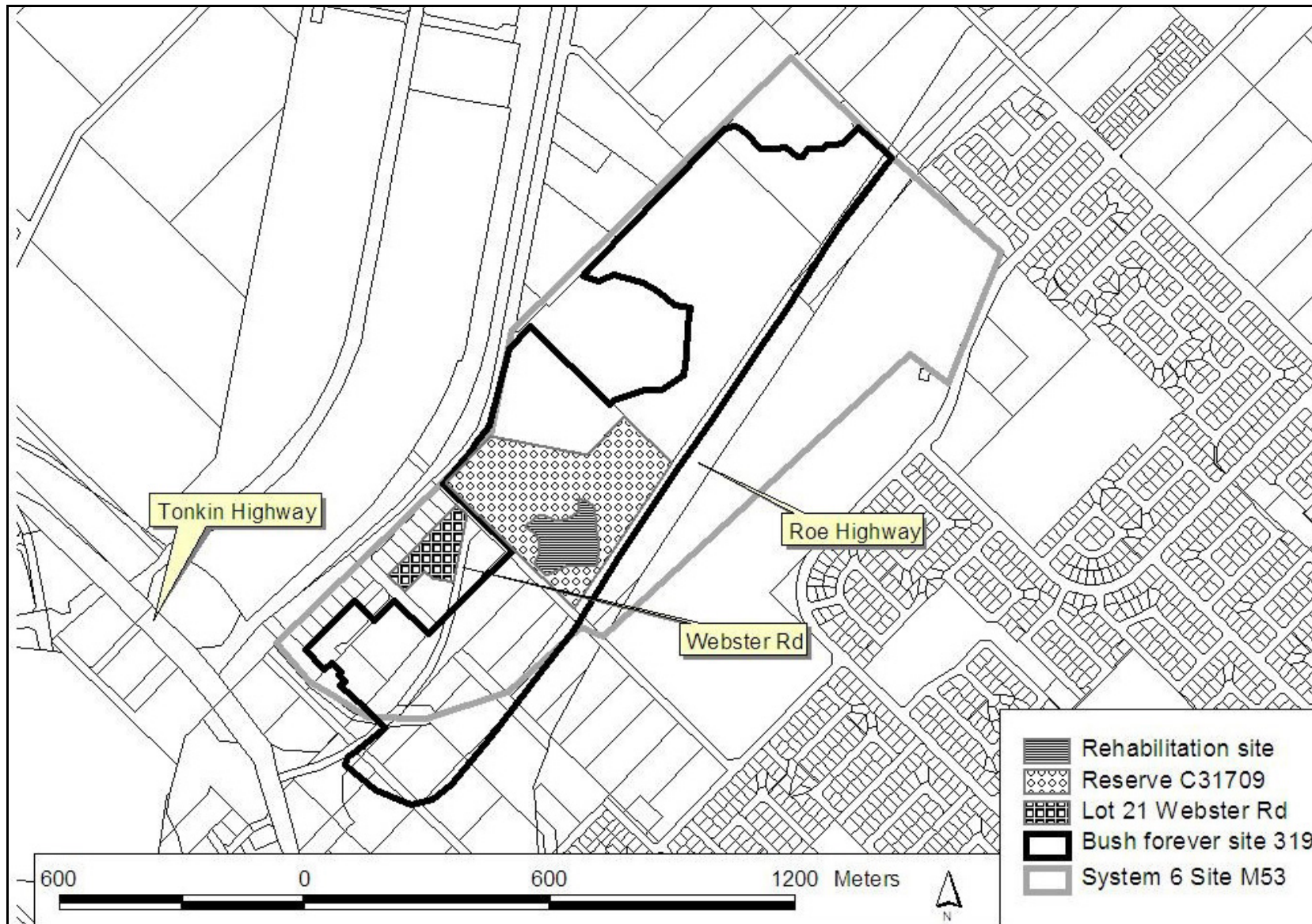
## Schedule 1

### The Proposal (Assessment No. 1386)

The proposal is to subdivide Lot 21 Webster Road, Forrestfield, Shire of Kalamunda, into seven industrial lots, which will require clearing of all 1.84 hectares of vegetation.

**Table 1 – Key Proposal Characteristics**

<b>Element</b>	<b>Description</b>
Component	7 Industrial Lots
Area of disturbance	1.84 hectares
Threatened Ecological Community	<i>Banksia attenuata</i> woodland over species rich dense shrublands (1.84 hectares)
Declared Rare Flora	<i>Conospermum undulatum</i> (170 individuals)
Priority Flora	<i>Isopogon drummondii</i> (100 individuals)



*Figure 1: Site location. (Prepared by Ecoscape Pty Ltd: May 2004)*



**Proponent's Environmental Management Commitments**

March 2004

**INDUSTRIAL SUBDIVISION OF LOT 21  
WEBSTER ROAD, FORRESTFIELD  
SHIRE OF KALAMUNDA**

(Assessment No. 1386)

**R. Peters and D. Papagioftsis**

## Proponent's Environmental Management Commitments – March 2004

### INDUSTRIAL SUBDIVISION OF LOT 21 WEBSTER ROAD, FORRESTFIELD (Assessment No. 1386)

**Note:** The term “commitment” as used in this schedule includes the entire row of the table and its six separate parts as follows:

- a commitment number;
- a commitment topic;
- the objective of the commitment;
- the ‘action’ to be undertaken by the proponent;
- the timing requirements of the commitment; and
- the body/agency to provide technical advice to the Department of Environment.

No.	Topic	Objectives	Action	Timing	Advice
1	Aboriginal Heritage	To ensure that changes to the biophysical environment do not adversely affect historical and cultural associations and comply with relevant heritage legislation.	Prior to the commencement of works, undertake an archaeological and ethnographic survey of the site to determine if there are any Aboriginal Heritage sites present.	Prior to commencement of works.	Department of Indigenous Affairs.

# **Appendix 5**

## **Summary of Submissions and Proponent's Response to Submissions**



# 1.0

## Introduction

Industrial subdivision of lot 21 Webster Road, Forrestfield – Response to public submissions

### 1.1 General Introduction

The public submission period for the industrial subdivision of Lot 21 Forrestfield Public Environmental Review commenced on January 12<sup>th</sup>, 2004 for a period of four weeks ending on February 9<sup>th</sup>, 2004.

A total of eight submissions were received, six were against the proposal, one did not indicate support or rejection and one gave 'in principal' support with some exceptions. The submissions predominantly considered environmental issues, although one submission was concerned with aboriginal heritage issues.

Submissions were primarily concerned with the loss of high conservation value flora and vegetation. Most also expressed concerns with the proposed rehabilitation methods and were of the opinion that the proposed offsets did not compensate the loss of the Bushland on Lot 21. some submissions also disagreed with some assertions made in the PER.

Five submissions offered alternatives to the proposal. These were that Lot 21 should be annexed into nearby Bush Forever Site 319 and the owners compensated accordingly.

## 2.0

# Changes to Proposal

## Industrial subdivision of lot 21 Webster Road, Forrestfield – Response to public submissions

In response to the submission and further information since the PER, the following additional commitments have been made:

- An archaeological and ethnographic survey will be conducted before works commence to identifying any aboriginal heritage sites that may be present
- Additional year (2 years in total) of weed control and monitoring will be undertaken following establishment
- Seed collection and direct seeding of rehabilitation site will be undertaken in conjunction with the other methods described in the PER.

## 3.0

# Submission Summary

Industrial subdivision of lot 21 Webster Road, Forrestfield – Response to public submissions

## 3.1 Justification for Proposal

- 3.1.1** *Lot 21 is fairly small but has not deteriorated markedly in condition over the last few decades.... It is not, in our view, at greater risk of degradation than nearby areas within Site 319*

The proponents accept that degradation to this site has been relatively minor considering its small size and isolation from the core bushland area (Reserve C31709). It should be noted however, that without active management, Lot 21 will degrade through ongoing disturbance and dieback spread. Similar good condition areas within Reserve C31709 are better protected from threatening processes and are therefore at lower risk of degradation in the absence of ongoing management than the bushland in Lot 21. These threats are unlikely to be managed in Lot 21 unless it is included in the conservation estate.

- 3.1.2** *While Lot 21 is small and isolated from the rest of Bush Forever site 319 by roads and industrial lots, most of the bushland on Lot 21 is in very good to good condition with an intact understorey and overstorey with few aggressive weeds present. Some areas on the edge of the bushland, and on internal tracks are degraded and contain dumped rubbish. However, with simple management this bushland could retain most of its current values.*

It is accepted that with simple management, many of the threatening processes facing Lot 21 can be managed, however this is unlikely to occur unless it is acquired by the government and added to the conservation estate.

- 3.1.3** *We have no objection to Reserve C31709 being rehabilitated but we do not see why this should necessarily involve the clearing of Lot 21.*

Reserve C31709 has had little or no rehabilitation works undertaken and there is no reason to suggest that this is likely to change. The Reserve is currently vested in the Water Corporation and they do not intend to manage it for its conservation values. The close proximity and vegetation similarity of Reserve C31709 provides a suitable area to rehabilitate using the biologically valuable components to offset the environmental values lost through the clearing and subdividing of Lot 21.

## 3.2 Flora and Vegetation

- 3.2.1** *Over the past few months about 40 hectares of Southern River Complex was cleared from Perth Airport.*

This does not significantly alter the 19.8% extent of Southern River Complex remaining estimate (EPA Guidance Statement No. 10, 2003). While it is accepted that this represents an incremental loss of this complex, the loss of an additional 1.8 ha is unlikely to represent a significant further loss of this vegetation complex.

- 3.2.1** *The representation of the Southern River Complex in conservation estate on the SCP is 6%[sic], well below the 10% minimum representation.*

It should be noted that the estimated extent in secure reserves has subsequently been reduced from 6% (Government of Western Australia, 2000) to 1.5% (EPA Guidance Statement No. 10, 2003). However the retention of Lot 21 will not add to the conservation estate unless it is also incorporated into the reserve system and the owners compensated accordingly. Additionally rehabilitation of Reserve C31709 will enhance the representation of *Southern River Complex* within *Bush Forever* by improving the vegetation condition of *Southern River Complex* in Reserve C31709.

- 3.2.2** *It is our understanding that the EPA has a preferential option against clearing on the eastern side of the Swan Coastal Plain*

This comment is not referenced and so is difficult to respond to. The proponent is unaware of any preferential option against clearing on the eastern side of the Swan Coastal Plain.

- 3.2.3** *Threatened Ecological Communities such as FCT 20a are naturally occurring assemblages of plants and animals listed by CALM as being threatened with extinction by human activity, or in danger of being destroyed or significantly modified by development and other pressures from people (English and Blyth 1995). Therefore, the removal of all vegetation from Lot 21 will place a small incremental pressure on the overall survival of FCT 20a.*

It is agreed that the direct removal of FCT 20a will place a small incremental pressure on the overall survival of FCT 20a, however the small size and surrounding land use of Lot 21 suggest that it is highly vulnerable to threatening processes. This places additional pressure on its survival as a TEC.

- 3.2.4** *The DRF species *Conospermum undulatum* (~40 plants [sic]) contained on Lot 21 is one example of a species that does not retain seed on the plant and is extremely unlikely to be propagated by mulching.*

The proposed rehabilitation methods have been misunderstood. *Conospermum undulatum* is proposed to be transplanted, rather than mulched. In addition soil, from Lot 21 will be spread on the rehabilitation site, seed and propagules will be collected and used to restore the bushland on Reserve C31709. Remaining vegetation will be mulched and spread on the rehabilitation site, and although this may contain viable seeds, its primary function will be to complement weed control activities.

- 3.2.5** *The PER admits that 170 individuals of *Conospermum undulatum* found on Lot 21 represent 2.8% of the known population of the species and it is our view that such a dense concentration of the plants within Lot 21 makes the case for conserving the vegetation in situ very strong.*

*Conospermum undulatum* has an extremely restricted range of 14 km (CALM, 1998), however within this range they can be very abundant. The density of *Conospermum undulatum* at Lot 21 is not unusual in this respect.

### **3.3 Fauna**

- 3.3.1** *This pocket of habitat, which is in good condition, would provide habitat for protection from feral predators. Lot 21 has a relatively intact understorey, which would provide such a habitat for many of our smaller mammals.*

The proponent disagrees. While Lot 21 may form temporary habitat for most species, it is unlikely to provide permanent habitat for mammal populations due to its size and surrounding disturbance. Furthermore its small size and the consideration that it is completely surrounded by roads and industry, may pose a greater risk for native mammals in this area than in Reserve C31709.

- 3.3.2** *This area...also provides habitat for fauna that relies on this type of Ecological Community for survival.*

Fauna species are unlikely to rely on the specific mix of plant species that define the ecological community at Lot 21. The definition of this Floristic Community Type 21a is based on the floristic composition only and fauna associated with this ecological type are likely to be supported equally well by other types of remnant vegetation with similar structure.

- 3.3.3** *The report...mentions the unlikelihood of the area to support a large range of fauna. I...disagree due to the condition of the vegetation and its high diversity.*

This statement was made in relation to the extremely small size of Lot 21 in terms of habitat requirements of larger species of fauna including bandicoots, kangaroos and larger reptiles. Many species of fauna have minimum habitat size requirements that Lot 21 would be unable to fulfil.

- 3.3.4** *[T]he Council would also make the point that the location of Lot 21 makes it an additional linking corridor between the southwestern and central areas of Bush Forever Site 319. Like many other remnants bushland areas around Perth, Site 319 is prone to bushfires and any short or medium term refuge areas are very valuable for their fauna populations. The fragmentation of bushland remnants is generally to be regarded as a highly undesirable eventuation but the retention of blocks, such as Lot 21, which can have the capacity to function as fire refugia by virtue of their limited linkages with larger reserves is worth serious consideration. Large fires, which leave urban bushland remnants largely devoid of habitat, are inevitably disastrous for terrestrial fauna*

In the event of a fire, Lot 21 is unlikely to provide suitable long-term shelter to displaced animals. Loss of food and habitat in the larger reserve would mean the eventual death of the animals in question due to Lot 21's inability to provide adequate food and habitat resources, particularly to larger mammals such as the quenda. The ability of Lot 21 to function as fire refugia depends greatly on many factors particularly the size and extent of fire and the requirements of the animals in question. Studies have shown that the amount and diversity of fauna increase in unburnt areas surrounding fire (Dell, J. *Pers comm.*) However there are a number of factors that will affect the long-term survival of fauna including the extent and intensity of the fire and habitat requirements of the species in question. Hot and extensive fires that would necessitate the use of Lot 21 as a refuge may still result in high fauna mortality in the long term as Lot 21 would be unable to provide all the habitat requirements of many species. In the case of smaller and less extensive fires, the surrounding unburnt areas of Reserve C31709 would also fulfil the role of providing refuge. It can therefore be concluded that while Lot 21 may serve as short-term refugia during a fire event, its role in mitigating the disastrous effects of fire on fauna in urban remnants may be limited.

**3.3.5** *The removal and translocation of all vertebrates prior to clearing needs to be undertaken.*

Translocation of vertebrate fauna with poor dispersive capabilities to Reserve C31709 will be undertaken in association with the Department of Conservation and Land Management as stated in the PER. Fauna with good dispersive capabilities are highly likely to migrate to Reserve C31709, without the additional stress of trapping and release.

**3.3.6** *Bush Forever Site 319 has a potential roadside greenway linkage to Hartfield Park to the south, which in turn is linked to the bushland and wetlands of Yule Brook reserve, the Greater Brixton Street reserve, and the Canning River Regional Park. Of more relevance to this submission, another important linkage with must be enhanced if Bush Forever Site 319 is to attain its potential as a flora and fauna reserve is the loose linkage it now has with the bushland and wetlands of Perth Airport.....is still one of the larger bushland areas in the built-up portions of the metropolitan region. There is still scope for a viable greenway to be established between the southwest portion of Bush Forever Site 319 and Perth Airport along the northeastern side of Tonkin Highway. For this greenway to function optimally, it would be desirable to have as much bushland, and as great a variety of bushland types, as possible located in the southwestern portion of Bush Forever Site 319 which is closest to the bushland of Perth Airport.*

It is agreed that there is a relatively small distance between Lot 21, *Bush Forever Site 319* and Perth Airport, however there are barriers to the movement of species of terrestrial fauna including road and rail infrastructure with associated high fences. Most species of fauna, other than birds, would be unable to migrate to Perth Airport via Lot 21. The retention of 21 is therefore unlikely to contribute significantly to fauna linkages between Reserve C31709 and Perth Airport.

Lot 21 also has insignificant or very minor potential to add to the other linkages mentioned as they are a considerable distance (at least 2 km) from Lot 21. Reserve C31709 is likely to function better as a linkage to these areas than Lot 21 and improvements to the quality of

habitat through the translocation of material from Lot 21 will enhance the connectivity values within Reserve C31709 and consolidate its other linkage values.

- 3.3.7** *There will be a loss of habitat for fauna due to the subdivision of Lot 21. However, in relation to the amount of native vegetation remaining within the nearby Bush Forever Site 319 it will only be a relatively small reduction. It is important to note that the long term sustainability of urban bush reserves is already compromised and therefore further reduction in native vegetation within an area located near a site such as BF Site 319 may result in an incremental loss of fauna species.*

The proponents agree that in the short-term there will be an incremental loss of habitat in the vicinity of *Bush Forever Site 319*. However it is anticipated that the rehabilitation of a degraded area within *Bush Forever Site 319* will restore fauna habitat and the EPA objectives for fauna habitat will be met.

- 3.3.8** *It might be argued that under the present proposal the woodland of Lot 21 is to be re-established within the degraded areas of Reserve C31709 but there is no reason why reserve C31709 could not be subject to some significant rehabilitation without any clearing within Lot 21 being necessary.*

While it is possible that Reserve C31709 could be rehabilitated without clearing Lot 21, the absence of past rehabilitation work undertaken in the area, the size and the degree of degradation of some parts of Reserve C31709 suggests there is small likelihood of substantial rehabilitation works being undertaken in the future.

- 3.3.9** *It is noted that the PER includes a proposal on page 40 to translocate vertebrate fauna with poor dispersal capabilities (presumably small reptiles and frogs). This proposal is not included in the management strategies of Table 1, or in the Environmental Commitments in Section 6. In any cases, past studies indicate that any available habitat for the species proposed to be translocated would most likely already have its carrying capacity for those species.*

As the 'past studies' mentioned are unreferenced it is very difficult to respond to this submission. Zoologists contacted [Peter Orell (Department of Conservation and Land Management) and John Dell (Department of Environment)] were unaware of such studies. The premise that fauna populations in C31709 is likely to be at its carrying capacity may be true for some species of territorial animals, however non-territorial species may be successfully translocated into Reserve C31709.

In the longer term, the proposed rehabilitation in Reserve C31709 is anticipated to fulfil the fauna habitat requirements currently provided by Lot 21.

- 3.3.10** *The impact that such clearing may have on the nearby bushland of BF Site 319 in the long term means that a suitable environmental offset package must also consider the importance of fauna habitat within the larger package as a whole.*

The proposed rehabilitation in Reserve C31709 is intended to provide suitable fauna habitat in the longer term. Fauna habitat requirements will be addressed in the rehabilitation plan and where possible, habitat elements such as dead logs and brush will be transferred to the rehabilitation site. As the rehabilitation area matures its value as fauna habitat will increase.

## **3.4 Government Policy and Guidelines**

- 3.4.1** *As the 'Southern River Complex' has less than 30% of its original extent remaining, this clearing proposal must be considered relative to the Environmental Protection Authority's Position Statement No 2. Environmental Protection of Native Vegetation in Western Australia, which notes that the "threshold level" below which species loss appears to accelerate exponentially at an ecosystem level, is regarded as being at a level of 30% of the pre-clearing extent of the vegetation type.*

It is accepted that the *National Objectives and Targets for Biodiversity Conservation 2001-2005* (Commonwealth of Australia 2001) recommend retention of 30% or more of the pre-clearing extent of each ecological community (termed vegetation complex in Western Australia). However, in the EPA Guidance Statement No. 10 (2003), it is acknowledged that the Swan Coastal Plain has been altered to such an extent that many of the vegetation complexes present are therefore regionally significant. In recognition of this, the modified EPA objective for protection of remnant vegetation within constrained areas<sup>1</sup> is to:

- retain at least 10% of the pre-clearing extent of the ecological community where >10% of the ecological community remains; or
- retain all remaining areas of each ecological community where <10% of this ecological community remains.

It can be seen that these objectives are met under the proposal.

- 3.4.2** *The proposal is clearly inconsistent with the commitments made by the Government of Western Australia in the document National Objectives and Targets for Biodiversity Conservation 2001-2005"*

The proponents are unsure as to how this proposal is inconsistent with commitments made by the Government of Western Australia with respect to *National Objectives and Targets for Biodiversity Conservation 2001-2005*. It is assumed that the Targets 2001 – 2005 are referred to, specifically:

- By 2001, all jurisdictions have mechanisms in place, including regulations, at the State and regional levels that:

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<sup>1</sup> Constrained areas are defined as "...areas where there is a reasonable expectation that development will be able to proceed, this may include urban, urban deferred or industrial zoned land or land with existing development approvals. (EPA Guidance Statement No. 10, 2003)



- prevent decline in the conservation status of native vegetation communities as a result of land clearance; and
  - prevent clearance of ecological communities with an extent below 10 per cent of that present pre-1750.
- By 2003, all jurisdictions:
    - have clearing controls in place that prevent clearance of ecological communities with
      - an extent below 30 per cent of that present pre-1750; and
      - have programs in place to assess vegetation condition.

From this it can be seen that the objectives first objectives have been met (in a national context, the term *Ecological Communities* is equivalent to the *Vegetation Complexes* of the Darling System W.A. (Heddle, *et al.*, 1980) i.e. the Southern River Complex). In this respect, the 2001 targets have been met. The 2003 objectives are referred to in the EPA guidance statement No 10 (EPA, 2003) regarding the *National Objectives and Targets for Biodiversity Conservation 2001-2005* in which the modified objectives for Constrained Areas are to:

- retain at least 10% of the pre-clearing extent of the ecological community where >10% of the ecological community remains; or
- retain all remaining areas of each ecological community where <10% of this ecological community remains.

It can be seen that these objectives are met under the proposal.

**3.4.3** *The proposal appears to be in breach of national commitments stated in The National Strategy for the Conservation of Australia's Biological Diversity to arrest and reverse the decline of remnant native vegetation".*

The proponent disagrees. This submission refers to Section 7.1.1 Priorities and time-frames in *The National Strategy for the Conservation of Australia's Biological Diversity* (Commonwealth of Australia, 1996) which states:

*"By the year 2000 Australia will have:*

- *...(L) arrested and reversed the decline of remnant native vegetation"*

The actions to achieve *Objective 3.2 "Ensure effective measures are in place to retain and manage native vegetation, including controls on clearing."* are to:

**3.2.1** *Monitor clearing*

*Assess and monitor the current rate and distribution of native vegetation clearing on a national basis, including developing national inventories of native vegetation.*

**3.2.2** *Government initiatives*

*Ensure that policies and controls are developed and implemented by the Commonwealth, State and Territory governments for the management and conservation of native vegetation on private and public lands, in consultation with landholders and community groups, and for controlling broad-scale clearance.*

*In accordance with the Intergovernmental Agreement on the Environment, review legislation relating to clearing and ensure that criteria for assessing land clearance applications take account of biological diversity conservation, land protection, water management, and landscape values.*

### *3.2.3 Incentives and rebates*

*Undertake cooperative development of a range of measures at all levels of government, including financial incentives, cost reimbursements and rate rebates, to encourage land managers to improve conservation of native vegetation.*

### *3.2.4 Information program*

*Work through appropriate agencies to develop a native vegetation conservation information program that is targeted at land managers and focuses on the value of retaining native vegetation in-situ while integrating this retention with major land uses.*

### *3.2.5 Voluntary protection*

*Encourage voluntary management of native vegetation remnants and review the effectiveness of all mechanisms for the long-term voluntary protection of native vegetation and wildlife.*

### *3.2.6 Expansion of Landcare*

*The Commonwealth Government will consider expansion of activities under the National Landcare Program to increase technical advice and the preparation and implementation of bioregional vegetation plans, involving local land managers where possible.*

It can be seen that under these actions, the proposal is not in breach of these commitments, which refer only to policy review by the Federal and State governments in relation to this proposal. The proposal is not in breach of current government policy.

### **3.4.4** *The proponent must refer to the criteria on land clearing devised by Safstrom and Craig (1996).*

Attempts to locate these criteria were unsuccessful. It is unlikely that these criteria are associated with relevant policy and therefore do not need to be referred to.

*It is...important to recognise that any proposal to remove DRF from Lot 21, even as a translocation action, will require the proponent to apply for formal written approval from the Minister for the Environment to take this species.*

This is understood and formal approval will be sought before translocation is undertaken.

*We have conducted a site search of the location covered by the proposal. No sites were located directly within its boundaries however there are a number of significant sites, both archaeological and ethnographic, in the general area. All sites are protected by the Aboriginal Heritage Act 1972 whether they are currently recorded with the department of Indigenous affairs or not. It is therefore recommended that the proponents be advised to conduct an ethnographic and archaeological survey of the area.*

This is understood. Aboriginal Heritage was not included in the proposal as this had not been identified as an environmental factor by the EPA. The proponent will therefore undertake an archaeological and ethnographic survey of Lot 21 before works are undertaken.

**3.4.5** *It is inconsistent with the aim of the Environmental Protection Act 1986, the Commonwealth EPBC Act 1999, and the National Objectives and Targets for Biodiversity Conservation 2001-2005 (Principle 1).*

Please refer to submission point 3.4.2 with regards to the *National Objectives and Targets for Biodiversity Conservation 2001-2005*. It can be seen from the above response that the submission is incorrect.

It is unclear how the proposal is inconsistent with the *Environmental Protection Act, 1986*. The proponent has cooperated in all respects with the Environmental Impacts Assessment process and is therefore in accordance with both the *Environmental Protection Act 1986*, and the *Commonwealth EPBC Act 1999*.

## 3.5 Offsets

**3.5.1** *The proposal envisages that 170 individuals of the DRF species *Conospermum undulatum* and 100 individuals of *Isopogon drummondii* would be transplanted from Lot 16 [sic] to Reserve C31709. There is little likelihood that such an initiative would meet with much success*

*Conospermum undulatum* is a resprouting species and plants are likely to be many years old and may subsequently be difficult to successfully translocate.

While successful translocation of any flora cannot be guaranteed, there are a number of factors in the proposed rehabilitation strategy that will maximise the chances of success. These are:

- The rehabilitation area is very near to Lot 21 (less than 200 m) and is within the natural range of the species (Reserve C31709 also contains *Conospermum undulatum* and *Isopogon drummondii*);
- the existing vegetation within Reserve C31709 is very similar to Lot 21;
- transplanting will be accompanied by rehabilitation using other biologically valuable components of Lot 21; and
- transplanting will be done in accordance with the best available knowledge of this species and transplanting methods.

**3.5.2** *[A] proposal to translocate plants into an existing population may increase the number of plants of the species, but will result in a net loss of habitat for the species.*

The proponents disagree. The degraded areas within Reserve C31709 cannot be currently regarded as suitable habitat for *Conospermum undulatum* and *Isopogon drummondii*. The successful rehabilitation within Reserve C31709 is anticipated to provide suitable habitat for these species. There will therefore be no net loss of habitat once a successful plant community has been established.

- 3.5.3** *The lack of trial data and scientific basis suggests it is extremely unlikely TEC 20a could be reconstructed after mulching and translocation to another site*

The methods described in the submission differ substantially to that which was described in the proposal. The rehabilitation of C31709 will involve the transfer of topsoil, brush materials and significant flora species from Lot 21 to a suitable area in reserve C31709. In addition seed and propagules will be collected from Lot 21 prior to clearing and weed control will be undertaken in the rehabilitation site. Mulch from Lot 21 may be used, but its function will primarily be for water conservation and weed control in the rehabilitation site rather than as a source for genetic materials, although this may occur. The results of the translocation will also be monitored and reported so that the body of knowledge on this type of work can be expanded.

- 3.5.4** *The proponent has committed to using much of the material taken when clearing Lot 21 in an attempt to rehabilitate a portion of Reserve 31709 to a representation of this TEC. Such a reconstruction of floristic community has not been demonstrated elsewhere. As such, this proposal should be considered to result in a net loss of the TEC. The proposed reconstruction of this TEC on adjacent degraded land is unlikely to be successful given the methods proposed and the immense difficulty associated with contacting a fully functional ecological community. Therefore, as an environmental offset, this proposal will most likely not achieve the desired outcome of minimising the loss of the TEC and its conservation values.*

It is acknowledged that re-creation of a community with the floral composition of Lot 21 will be difficult and the chances of success are not guaranteed. The methods proposed however represent the best chance of creating a functional community with a similar species composition as FCT 20a. The rehabilitation methods and results will also add to the existing knowledge of rehabilitation methods on the Swan Coastal Plain.

- 3.5.5** *If a decision was made that Lot 21 can be cleared, the salvage of material for rehabilitation elsewhere may be a useful exercise.*

The proponent agrees.

- 3.5.6** *Lot 16 [sic] contains mature trees and is a mature plant community. As such it has conservation assets such as flowering and reproducing DRPF – and habitat values that a rehabilitation site would lack for many years as it gradually developed – and the degree to which it would develop and mature is quite unknowable.*

It is acknowledged that the rehabilitation methods proposed do not guarantee the successful establishment of FCT 20a. It is likely to be many years before natural succession results in the formation of a plant community, at the same stage of maturity as Lot 21. However it should also be noted that there are few vegetation communities in Western Australia that can be regarded as 'mature', i.e. a climax community. The impact of fire has resulted in communities that are naturally at a disclimax and are therefore constantly developing. It is not realistic or desirable to try and accelerate or halt these processes.

- 3.5.7** *The seed bank in all likelihood exists in this soil but may never germinate due to unfavourable conditions, and due to the limited management of this land, by the proponents, may not survive even if germination is successful.*

It is acknowledged that the seed bank may not germinate for the reasons stated above. For this reason the following actions will also be undertaken during the rehabilitation process:

- seed collection from Lot 21 and direct seeding of the rehabilitation site
- transplanting of floral elements (specifically *Conospermum undulatum*, *Isopogon drummondii* and *Xanthorrhoea preissii*).
- weed control and monitoring extended to 2 years.
- mulching of cleared vegetation for additional weed control and moisture retention.

- 3.5.8** *Even if most of the species found in Lot 21 began emerging in the prepared site, it would be many years before any meaningful assessment of the project could be made.*

It should be noted that this is true of any rehabilitation project. The proponent has committed to rehabilitating an area of Reserve C31709 and to two years of monitoring and weed control. At this time it will be possible to make a preliminary assessment of the project. Further assessments will need to be undertaken as the rehabilitation site matures.

- 3.5.9** *The floristics and plant community composition of the new site would be determined largely by the capacity of various species to survive the specific environmental conditions and constraints imposed by the rehabilitation process. This could mean, and we suggest it would mean, the new vegetation developing within the rehabilitation area would bear little relation to the original Lot 21 vegetation in terms of structure, species counts and numbers of individuals of a particular species*

It is acknowledged that there may be substantial differences between the species composition, structure and abundance presently in Lot 21 and the rehabilitation site. The vegetation in Lot 21 is at a certain level of maturity and this is unlikely to be achieved for a number of years.

- 3.5.10** *Additionally, there would be the threats to an immature and developing plant community posed by droughts, fires, weeds, rabbits, and off-road vehicles.*

It is acknowledged that the developing community will be at risk from the threatening processes listed above. It should be noted however that once the rehabilitation community reaches maturity, it will be at a lower risk from these processes, than the vegetation at Lot 21 which is currently at risk due to its size and surrounding land uses.

- 3.5.11** *Might the massive disturbance associated with the removal and distribution of top soil severely disrupt or destroy processes occurring at a microscopic level between plants and other soil biota? This is not an unreasonable proposition as there are plenty of bushland sites around Perth which have been subjected to significant soil disturbance and which have, as apparent consequence, never recovered their original botanical value – despite the absence of any obvious impediment to the process of recovery occurring. It has been our observation that*

*bushland abhors significant soil disturbance but we cannot readily explain why this might be so.*

The removal of soil is likely to result in disturbance to soil biota and processes which will take time to resume to a fully functioning level. For this reason, excessive disturbance during the rehabilitation process will be limited where possible.

- 3.5.12** *We have seen many bushland areas around Perth that have had their topsoil disturbed through partial clearing operations and it has been our observation that the regrowth tends to be “pioneer species rich” rather than “species” rich.*

It is acknowledged that soil disturbance is likely to increase the number of weeds and native ‘pioneer’ species. Over time, non-pioneer species are advantaged as long as disturbance is kept to a minimum. While disturbance is unavoidable at the beginning of the rehabilitation project, measures will be put in place to keep disturbance to a minimum after the initial works to allow later successional species a competitive advantage. Weed control will also be conducted for two years following initial establishment.

- 3.5.13** *The PER proposes using salvaged material from the site on a nearby Bush Forever site to improve that site. This will not work as proposed because the plans are inadequate for such a complex operation..... There is no detailed works program, no costing and time lines.*

The PER includes a commitment to produce a rehabilitation management plan prior to any works being undertaken. Works programs, costing and time-lines will be detailed in this document. The plans outlined in the PER are of a preliminary nature and have been included so that a general overview the proposed methods can be assessed.

- 3.5.14** *[T]here is no evidence that most of the cost and management to achieve a TEC would be borne by the proponent*

The proponents disagree. The PER details a commitment to undertaking the rehabilitation of a degraded area of Lot C31709 using elements of Lot 21. The full costs of establishment and weed control will be borne by the proponent. The costs of weed control and monitoring will also be borne by the proponent for two years following initial establishment. These are likely to be the most substantial costs of the rehabilitation process. It is anticipated that negotiations will be entered into regarding ongoing management with the Water Corporation, Bush Forever and CALM.

- 3.5.15** *Weeds alone on the site to be rehabilitated, would take several years to control and reduce prior to the planting. On going weed control would need to be carried out for several years afterwards.*

The proponents disagree. Weeds in the rehabilitation site are disturbance-related, wind dispersed colonising species. The control of these species without associated revegetation is likely to have limited success therefore while weed control will need to be undertaken beforehand, this must be done in conjunction with revegetation to limit ongoing disturbance. The methods outlined above are more appropriate to non-disturbance related environmental weeds.

**3.5.16** *These sections refer to only one year of monitoring for soil moisture, and watering if required, and at least one year of ongoing weed control following transfer of material from Lot 21. The Water Corporation is concerned that this is not a long enough commitment to ensure long-term and sustainable weed mitigation and plant survival.*

The proponents acknowledge this and have therefore committed to an additional year of weed control and monitoring.

**3.5.17** *[T]here are no defined, measurable or achievable objectives for the rehabilitation*

Defined, measurable and achievable objectives will be detailed in the rehabilitation plan before works will commence. This will be done in consultation with CALM and the Department of Environment (DoE).

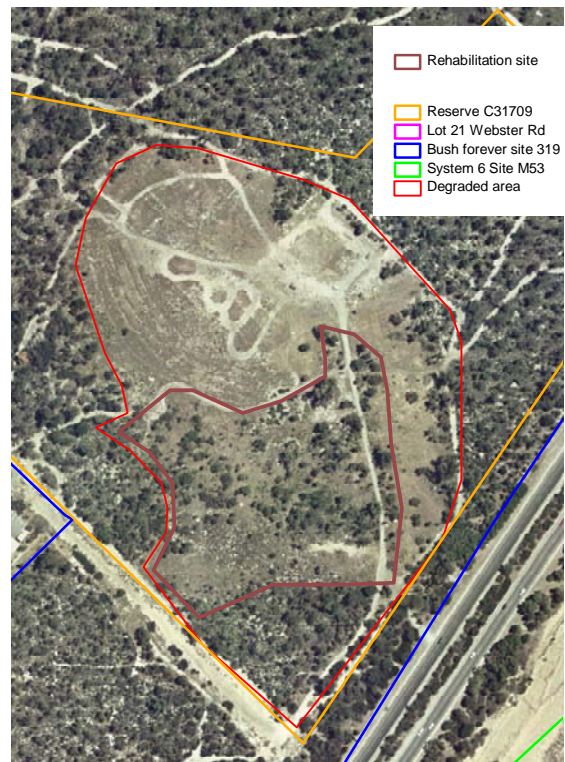
**3.5.18** *[T]he proposal is to rehabilitate only a portion of Reserve 31709, and so does not demonstrate that it is part of a plan for the whole reserve. There is no demonstrated strategy to rehabilitate the remainder of the degraded areas, to prevent reinvasion of weeds from adjacent areas or otherwise manage the site.*

It is acknowledged that only part of the reserve is planned to be rehabilitated as there is insufficient material to rehabilitate the whole reserve. There is no Management or Rehabilitation Plan for the whole reserve at this point in time, and there are no plans of this nature in the near future. Rehabilitation of this area will therefore be undertaken in consultation with the major stakeholder, the Water Corporation, CALM and the DoE

**3.5.19** *[T]he specific area for rehabilitation is not identified. While the PER states that specific areas will be identified after approval is given to clear Lot 21, it is difficult to identify the magnitude of the task without that information.*

A potential site was identified during the site meeting and is include as a map (right). This area, while weedy, had a number of scattered native plants, is adjacent to intact native vegetation of a similar type to Lot 21. This area appears to be the most suitable site for the rehabilitation project at this stage. Further investigations will be carried out to determine the most suitable site based on the following criteria as outlined in the PER:

- Level of degradation
- similarity of receiving environment to Lot 21
- proximity to less disturbed vegetation
- provision of suitable environments for the declared rare and priority flora of Lot 21.



**3.5.20** *[The] question of quarantine status of the source material and its target for transfer will also have to be addressed in any Rehabilitation Plan.*

The question of quarantine status of the source material and its target for transfer will be addressed in the rehabilitation plan.

**3.5.21** *[T]here has been no survey or assessment of the dieback status in Reserve 31709. The efficacy of proposed strategies to minimise risk of introducing dieback from material are irrelevant if dieback already exists in Reserve 31709.*

The degree of plant community degradation of the rehabilitation site means there is a high likelihood that the site is uninterpretable due to the lack of indicator species. Therefore a precautionary measure the dieback strategies outlined in the PER to minimise the spread of dieback will be adhered to.

**3.5.22** *[T]he issue of contamination from the previous use of Reserve 31709 is not dealt with. This may also include any increased nutrient status of the degraded area, which would influence rehabilitation methodology and outcomes*

While it is accepted that some parts of Reserve C31709 may be contaminated, particularly to the north of the proposed rehabilitation area, contamination in the rehabilitation is considered to be unlikely. This area appears to have been primarily disturbed by clearing and grazing and does not appear to have been associated with land-uses that cause contamination.

**3.5.23** *[T]he methods of rehabilitation are limited to transfer of soil, brush material and translocation of mature plants of significant species. Rehabilitation could also include other propagation methods such as the collection of seed and cuttings;*

This is acknowledged and rehabilitation will also include seed collection and direct seeding in the rehabilitation area.

**3.5.24** *The proponent has not adequately costed this rehabilitation but rather imagines (personal communication) they can achieve it for \$50,000. There is also no commitment for the new site to be conserved or for ongoing management after this development has happened.*

The proponent disagrees. There has been no communication between the proponent and the Conservation Council of Western Australia regarding the estimated cost of rehabilitation. Costs will be detailed in the rehabilitation plan which will also detail ongoing management measures. With regard to ongoing management the proponent has committed to weed control and monitoring for a period of one year following transplanting. This has now been extended to a period of two years (see section XX – further commitments)



## **3.6 Future Management of C37109**

**3.6.1** *[The PER] states that assessment of community development will be the responsibility of the agency in which the land is vested. The Water Corporation is not prepared to take this responsibility if the land remains vested with it. It should remain the responsibility of the proponent to ensure the success of the rehabilitation.*

While the proponents accept responsibility for the rehabilitation area for a period of two years following initial works. The future management of the Reserve C31709 should be achieved through negotiations between the *Bush Forever* Office, the Department of Conservation and Land Management and the Water Corporation. While the proponent is happy to help facilitate this process as far as is possible, ultimately an agreement will need to be reached between these parties on future management of Reserve C31709.

**3.6.2** *[T]he PER details the Water Corporation's consent to the proposed rehabilitation but has not considered a secondary requirement of the Water Corporation's to achieve a negotiated outcome or trade-off with the Bush Forever office. In order for the proposal to receive full support from the Corporation, further negotiation with the Corporate Real Estate Branch and the Bush Forever Office is required.*

The proponents are happy to help facilitate further negotiations regarding the future management of reserve C31709. However they do not feel that that approval should be contingent on a successful negotiated outcome or trade-off between the Water Corporation and the Bush Forever Office. These negotiations are outside the responsibility of the proponent and the PER process.

**3.6.3** *The Water Corporation does not accept any additional responsibility for this site due to this rehabilitation plan. The Water Corporation remains in favour of the intent of the PER and looks forward to achieving a negotiated outcome with the Bush Forever office to facilitate the proposal.*

The proponents are happy to have maintained the Water Corporation's in-principal support and hope that negotiations can be entered into and a suitable outcome can be reached.

**3.6.4** *It is possible that CALM would take on management of the reserve at some future time. This would be predicated on adequate rehabilitation of degraded areas of the reserve, and other management works being carried out prior to transfer.*

The proponents are happy that CALM are willing to consider the possibility of management of Reserve C31709 at some future time and encourage negotiations to this effect. The proponents hope that the successful rehabilitation of the reserve will act as a catalyst to ensure future management of the whole reserve.

**3.6.5** *It is our strong view that the Water Corporation should be compelled to manage Reserve C31709 at least to the point of removing the dumped rubbish.... The Water Corporation should not be allowed to let rubbish accumulate and it should remove any rubbish currently found on Reserve C31709 at its own expense.*

The proponents hope that the water corporation will be willing to remove rubbish from the central degraded area, however successful rehabilitation will not be contingent on the removal of rubbish in the central degraded area. It does however detract from the visual amenity of the reserve, increases

nutrients in the vicinity and may also encourage further dumping of rubbish. The proponents hope that works will be undertaken shortly to remove this rubbish.

**3.6.6** *It would appear that the PER does not really have any answers as to who will manage Reserve C31709 in the longer term.*

Currently management of the reserve is the responsibility of the Water Corporation. As has been indicated, in the above submissions, they would like to divest responsibility to the Department of Planning and Infrastructure's Bush Forever Office. There is also the possibility that CALM will take on management of the reserve at some future time (see 3.6.4). The proponents sincerely hope that management of the reserve will be successfully negotiated given the values likely to be present in Reserve C31709 and will do all they can to ensure a beneficial outcome.

### **3.7 Alternative proposals**

**3.6.7** *We are of the firm view that the Government should acquire Lot 21, compensating the owners according to the conventional processes, and that it should be included in Bush Forever Site 319.*

The proponents are happy to enter into negotiations with the Government regarding the purchase of Lot 21 and its inclusion into the conservation estate and/or *Bush Forever Site 319*.

## References

- CALM, (1998) *Western Australia's Threatened Flora*. Brown, A., Thomson-Dans, C., Marchant, N. (Eds) Department of Conservation and Land Management, Como, Western Australia
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- Government of Western Australia (2000) *Bush Forever – Keeping the Bush in the City – Volume 1 Policies, Principles and Processes*. Western Australian Planning Commission, Perth Western Australia