

Busselton regional aerodrome

Shire of Busselton

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

**Environmental Protection Authority
Perth, Western Australia
Bulletin 785
July 1995**

SOM

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 21.7.95.

Environmental Impact Assessment (EIA) Process Timelines in weeks

Date	Timeline commences from receipt of full details of proposal by proponent	Time (weeks)
10/4/95	Proponent Document Released for Public Comment	4
5/5/95	Public Comment Period Closed	
10/5/95	Issues Raised During Public Comment Period Summarised by EPA and Forwarded to the Proponent	1
23/5/95	Proponent response to the issues raised received	2
7/7/95	EPA reported to the Minister for the Environment	6.5

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Summary and recommendations

This report and recommendations provides the Environmental Protection Authority's advice to the Minister for the Environment on the environmental acceptability of the proposed Busselton Regional Aerodrome.

The Shire of Busselton has planned for a time frame of 50 years (to 2042) in determining the requirements of the proposed regional aerodrome. Within this time frame the Shire of Busselton considers that jet aircraft would take passengers from interstate and international flights at Perth airport and deliver them to the South West region using Busselton as the focus of aircraft services. The proposal by the Shire of Busselton does not include pilot training programs. The aerodrome will have an 1800 metre runway with a 30 metres sealed width and three metre shoulders of appropriate transverse grading. A total unsealed width of 90 metres is required for runway accommodation. The proposal includes the runway, support infrastructure (such as terminal and car parking facilities, security fencing, and fuel storage) and operation of these facilities (Figure 2).

The Shire of Busselton has indicated that three (3) sites (Ambergate, Payne Road and Four Mile Hill) will meet their objectives for the Regional Aerodrome. The Shire's preferred site for the aerodrome is at Four Mile Hill, near the existing Busselton Cemetery, with access from Vasse Highway. At this location the Shire of Busselton intend to manage aircraft movement at the aerodrome such that 70 per cent of landings are from the south and 70 per cent of take offs are to the south. The orientation of the runway is proposed to be on an alignment of approximately 25° East of due North (*i.e.* North-North-East) at this site.

The Environmental Protection Authority identified the main environmental issues requiring detailed consideration as:

- the effects on water birds (including bird strike risk), especially at the Vasse-Wonnerup Estuary;
- impacts on wetlands at the aerodrome site; and
- impacts of noise upon residents.

Following the public consultation period, the Shire of Busselton has modified the orientation of the runway alignment (to 25° East of North), therefore the Vasse-Wonnerup Estuary will not be in the direct flight path of aeroplanes from this location. Moreover, aircraft will be above the height at which disturbance to the birds may occur. The potential for disturbance to waterbirds is therefore unlikely to be significant. The potential risk of striking birds in flight can also be reduced by avoiding direct flight over the Vasse-Wonnerup Estuary. Additionally, managing the aircraft movement to favour the use of the southern end of the runway will also reduce the bird strike risk. Nonetheless, the Shire of Busselton should be conscious of ensuring adequate management of the risk of bird strikes is included within their aerodrome operation agreement with the Civil Aviation Authority.

Much of the Shire of Busselton contains seasonally inundated wetlands. The Environmental Protection Authority seeks to conserve the key environmental values and functions of all wetlands, particularly those on the Swan Coastal Plain. The Four Mile Hill aerodrome site will require some filling of wetlands. Therefore, the Environmental Protection Authority concludes that the Shire of Busselton should prepare an Environmental Management Programme which details the Shires strategies for the protection of wetlands at the aerodrome location, the replacement of key wetland functions which may be lost as a result of construction of the aerodrome and implementation of the findings of that Environmental Management Programme.

The Environmental Protection Authority is assured by the Shire of Busselton that a runway orientation of approximately 25° will avoid impacts of noise upon residents according to the criteria developed by the Environmental Protection Authority (Environmental Protection Authority 1993 Bulletin 713). The Environmental Protection Authority is advised that this North-North-East orientation will mean that the $L_{dn 55}$ noise contour for the ultimate development scenario of the aerodrome at year 2042 will not encroach upon any residential

dwellings. In addition, the Shire has made a commitment to make suitable arrangements with any landowners which are affected by noise exceeding the $L_{dn 55}$ parameter.

Conclusion

The Environmental Protection Authority has evaluated three proposed sites for the Busselton Regional Aerodrome and has concluded that the proposal is environmentally acceptable. The Environmental Protection Authority has also concluded that, of the three alternative sites put forward, those at Four Mile Hill and Payne Road be found environmentally acceptable and the third site at Ambergate be found environmentally unacceptable. Approval of the proposal should be subject to the proponent's commitments and the recommendations in this assessment report.

Recom- mendation Number	Summary of EPA recommendation
1	Management prescriptions should be agreed between the Shire of Busselton and the Civil Aviation Authority to ensure the safety of aircraft and passengers. This operational management plan should acknowledge and manage the risk of aircraft striking waterbirds which have regional flight paths around the Vasse-Wonnerup Estuary, as well as waterbirds which are located at the estuary itself.
2	The Shire of Busselton should provide an Environmental Management Programme to the Department of Environmental Protection detailing how and when it will replace wetland functions which are lost as a result of this proposal. Additionally, the Environmental Management Programme should provide an overall drainage strategy for wetlands at the aerodrome site.
3	<p>Proposal for the Busselton Regional Aerodrome at Four Mile Hill or Payne Road is environmentally acceptable subject to the following, but locating the Busselton Regional Aerodrome at the Ambergate site is environmentally unacceptable:</p> <ul style="list-style-type: none"> • final detailed design of the runway orientation at the Four Mile Hill site being between approximately 25° (North-North-East) and 37° (North-East); and • implementation of the proponent's commitments to noise reduction measures for residential dwellings within the $L_{dn 55}$ noise contour or any residence experiencing greater than a 65 dB (A) maximum noise level.
4	The Shire of Busselton should use the town planning processes to protect a buffer zone around the aerodrome site, from encroachment within the $L_{dn 55}$ contour (ultimate scenario), by excluding noise-sensitive land uses such as residential accommodation, schools and hospitals.

1. Introduction and background

1.1 Purpose of this report

This report and recommendations provides the Environmental Protection Authority's advice to the Minister for the Environment on the environmental acceptability of the proposed Busselton Regional Aerodrome.

1.2 Background

The Shire of Busselton proposes to build a regional aerodrome to cater for the requirements of the Royal Flying Doctor Service and for local aviation operators, as well as to provide a focus for anticipated growth in tourism serviced by air transport throughout the South West Region of Western Australia. The Busselton locality is currently serviced by a landing area on a site which is privately owned and is severely limited in its ability to expand (see Figure 1 Location 2). In addition, the proposed Busselton Bypass road will bisect the site. Therefore, a new aerodrome site is required. The Shire of Busselton considers that *'the demands on the Busselton region as a residential and tourist destination in the future will further promote the township as a future regional centre'* (CMPS&F, 1995). Hence in planning for a replacement aerodrome the Shire of Busselton seeks to develop a site which will fulfil a regional function.

In accordance with the provisions of the *Environmental Protection Act 1986-1994*, the Shire of Busselton referred the proposal to construct and operate a regional aerodrome to the Environmental Protection Authority in December 1992. The Shire of Busselton had previously purchased land for the aerodrome at a site known as Ambergate (see Figure 1 location 1). Because of the potential for significant noise pollution, the Environmental Protection Authority determined that the appropriate level of assessment for the aerodrome proposal was a Consultative Environmental Review. The Consultative Environmental Review document was released for public comment for a period of four weeks from 10 April to 5 May 1995.

1.3 Structure of the report

This document has been divided into 7 Sections.

Section 1 describes the historical background to the proposal and its assessment, and describes the structure of this report. Section 2 briefly describes the proposal (more detail is provided in the proponent's Consultative Environmental Review). Section 3 explains the method of assessment and provides an analysis of public submissions.

Section 4 sets out the evaluation of the key environmental issues associated with the proposal. In each sub section, the objectives of the assessment is defined, the likely effect of the proposal, the advice to Environmental Protection Authority from submissions, the proponent's response to submissions. Then the adequacy of the response by the proponent is considered in terms of project modifications and environmental management commitments in achieving an acceptable outcome. The Environmental Protection Authority analysis and recommendations with respect to the identified issues are contained in this section. Where inadequacies are identified, recommendations are made to achieve the environmental assessment objective.

Section 5 summarises the conclusions and recommendations. Section 6 describes the recommended environmental conditions. References cited in this report are provided in Section 7.

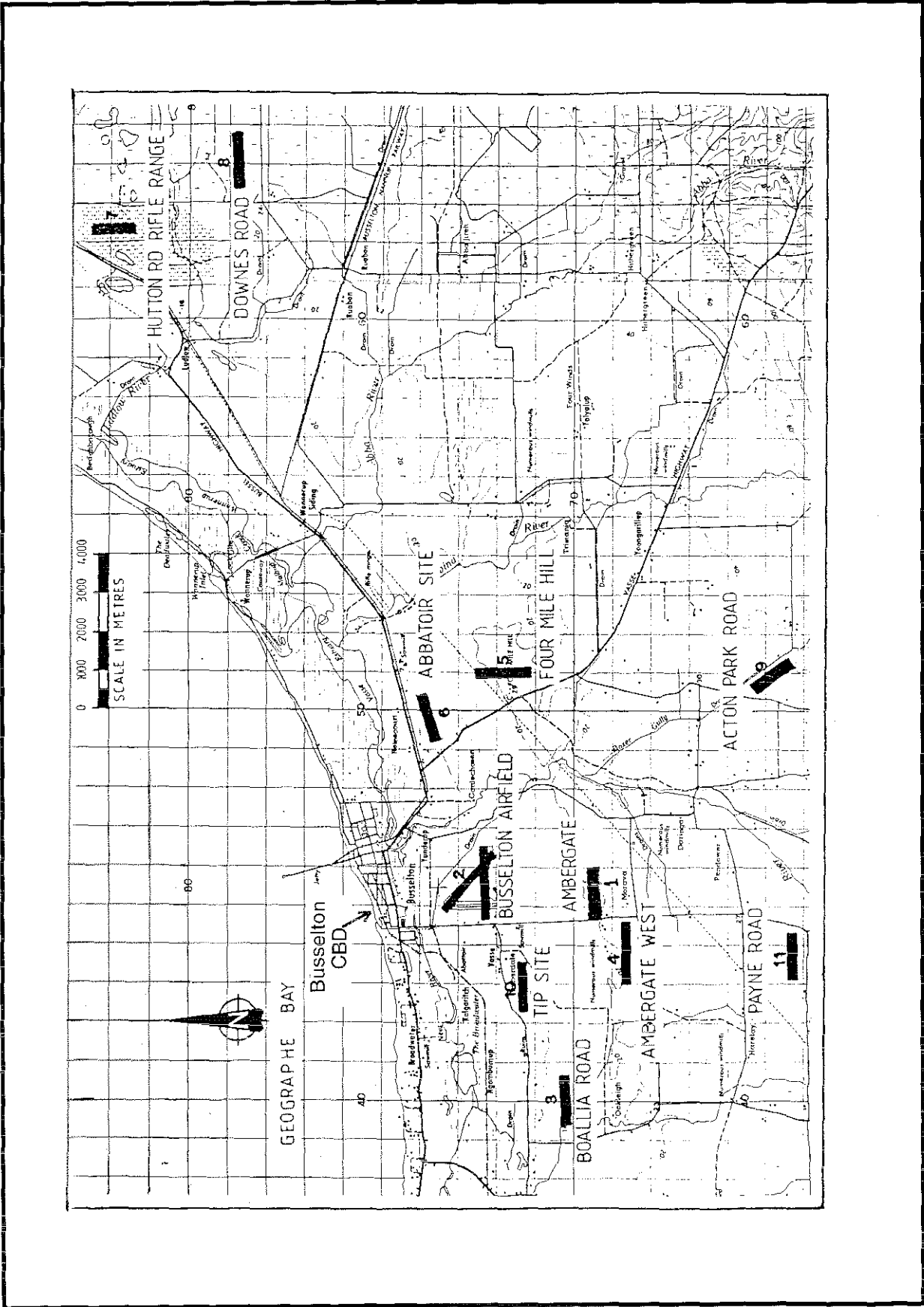


Figure 1. Map of initial eleven (11) sites for proposed aerodrome (source: CMPS&F, 1995).

2. The proposal

The Shire of Busselton has planned for a time frame of 50 years in determining the requirements of the proposed regional aerodrome. Within this time frame the Shire of Busselton considers that jet aircraft will take passengers from interstate and international flights at Perth airport and deliver them to the South West Region using Busselton as the focus of aircraft services.

The above scenario has provided a framework for the design and planning of the Busselton Regional Aerodrome. *'For planning purposes, it has been assumed that ultimately the airport should use as its design aircraft the BAe 146 aircraft - Code 3C (50 seat nominal, 80 seat maximum) which is currently used by both Ansett and Qantas airlines on interstate/intrastate routes'*. *'For this, an 1800 metre runway would meet all expected requirements'*. *'The ultimate runway width should be 30 metres sealed with 3 metre shoulders of appropriate transverse grading. A total unsealed width of 90 metres is required for runway accommodation'* (CMPS&F, 1995; p. 13). Table 1 provides a brief description of the types of aircraft expected to use the Busselton Regional Aerodrome, together with an outline of each aircraft type at a scale of approximately 1:500. The proposal includes the runway, support infrastructure (such as terminal and car parking facilities, security fencing, and fuel storage) and operation of these facilities (Figure 2).

The proposal by the Shire of Busselton does not include pilot training programs. Should such programs be considered, further public consultation and the completion of appropriate environmental approvals processes would be required.

The Shire of Busselton initially investigated eleven (11) possible sites within or close to the Shire of Busselton area and made a desktop assessment of these sites against the selection criteria which are defined in the Consultative Environmental Review document (CMPS&F Pty Limited, 1995). These possible sites were displayed to the public during a consultation programme within the local area. Following analysis against the selection criteria and consideration of public comments, three sites were identified as being worthy of more detailed examination. These sites, Ambergate (site 1 Figure 1), Payne Road (site 11 on Figure 1) and the Shire of Busselton's preferred site (following public consultation and detailed investigation) at Four Mile Hill (site 5 on Figure 1) were subjected to further scrutiny (CMPS&F, 1995).

Detailed consideration of the environmental impact within the Consultative Environmental Review document was undertaken on the basis that the Four Mile Hill site would be used for the aerodrome. For the purpose of environmental impact assessment the Shire of Busselton prepared an ultimate scenario 50 years into the future (2042). Impact prediction was based on this scenario, which included an assumed mix of aircraft types and numbers (Table 2). The Environmental Protection Authority has not made any assessment of the viability of the aerodrome or predictions of the aircraft expected to use it.

The Consultative Environmental Review document reviewed the potential impacts arising from a north/south oriented runway. However, the proponent has indicated that orientation of the runway alignment is flexible within this site (CMPS&F, 1995). The Shire of Busselton concluded that the runway orientation can be moved as far as 37° (*i.e.* east of north) (see Appendix E of the Consultative Environmental Review document (CMPS&F, 1995)). Following public consultation, the Shire of Busselton has further refined its proposal to indicate that the runway orientation will be fixed at 25° 35' from North (*i.e.* an approximate North-North-East alignment) (see Figure 3 and Appendix 5).

Because the Shire of Busselton has indicated that three sites (Ambergate, Payne Road and Four Mile Hill) will meet their objectives for the Regional Aerodrome the Environmental Protection Authority will give advice regarding each of these sites.

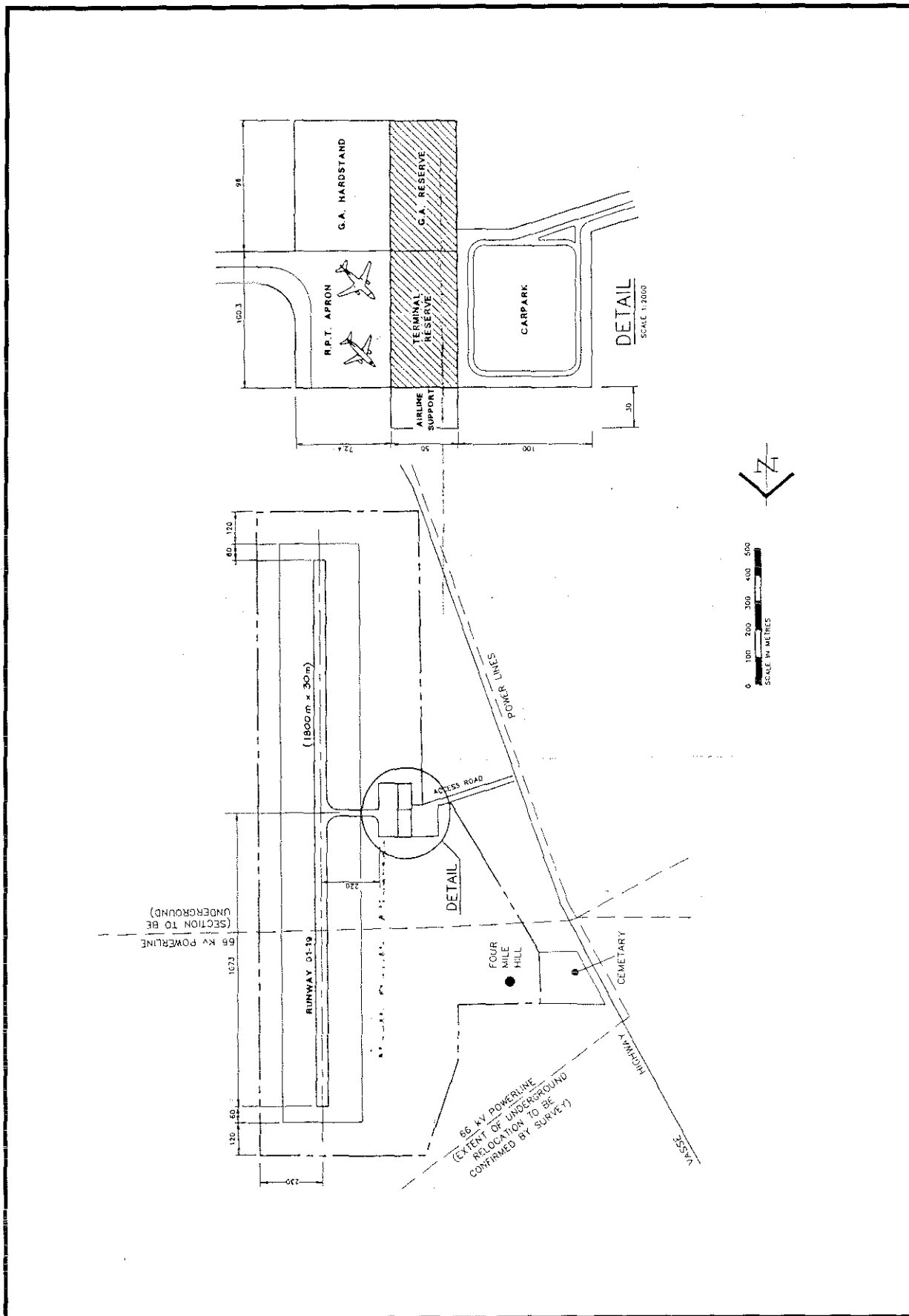


Figure 2. Indicative airport layout (source: CMPS&F, 1995).

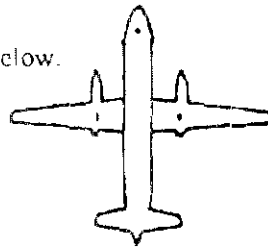
Table 1. Description of assumed aircraft fleet mix (source: CMPS&F, 1995).

CODE	AIRCRAFT MODEL	MANUFACTURER	RUNWAY LENGTH REQUIRED (M)	ENGINE TYPE	SEATING	WINGSPAN (M)	LENGTH (M)	HEIGHT (M)
3	BAe 146-300 *	British Aerospace	1800	Four Engine Jet	100	26.34	30.99	8.61
3	J31 *	British Aerospace Jetstream	1800	Twin Turbo Prop	18	15.85	14.37	5.32
3	Metroliner III *	Swearingen	1800	Twin Turbo Prop	19	17.37	18.09	5.08
3C	SF 340 *	SAAB Fairchild 340	1800	Twin Turbo Prop	34	21.4	19.7	6.87
1	CNA 441 *	Cessna Conquest II	Less than 800	Twin Prop	10	-	-	-
1	BEC 58 P	Beech Baron	Less than 800	Twin Prop	9	-	-	-
1	COMP SEP	Composite Single Engine Propeller	Less than 800	Single Prop	4	-	-	-

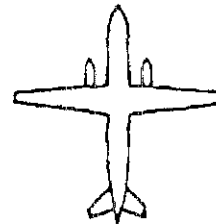
* Silhouette of aircraft provided below.



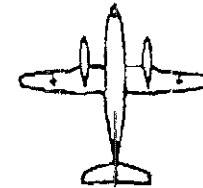
CNA 441



SF 340



METROLINER III



J31



BAe146-300

Scale: Approximately 1:500

Table 2. Assumed annual fleet mix for preparation of aircraft noise exposure contours for the proposed Busselton aerodrome (high forecast). (source: CMPS&F, 1995).

YEAR		1992	1997	2002	2007	2012	2042
Total Annual Aircraft Movements	Regular Public Transport	-	1800	5400	6300	7400	24000
	General Aviation	3600	6367	11900	14400	17500	70000
Assumed Aircraft Movements Mix (Annual)	BAe 146	0	0	0	0	730	730
	SF 340	0	183	1095	1460	1460	2190
	J31/Metro	0	730	2190	2190	1825	4380
	CNA 441	0	1148	2375	2910	3645	16595
	BEC S8P	730	1273	2380	2880	3500	14000
	COM SEP	2870	4633	9260	11260	13740	55740
Average Daily Aircraft Movements ie. Take-offs and Landings	BAe 146	0	0	0	0	2	2
	SF 340	0	0.6	3	4	4	6
	J31/Metro	0	2	6	6	5	12
	CNA 441	0	3.2	6.6	8	10	45.4
	BEC S8P	2	3.4	6.6	7.8	9.6	38.4
	COM SEP	7.8	13.2	25.4	30.8	37.6	152.8

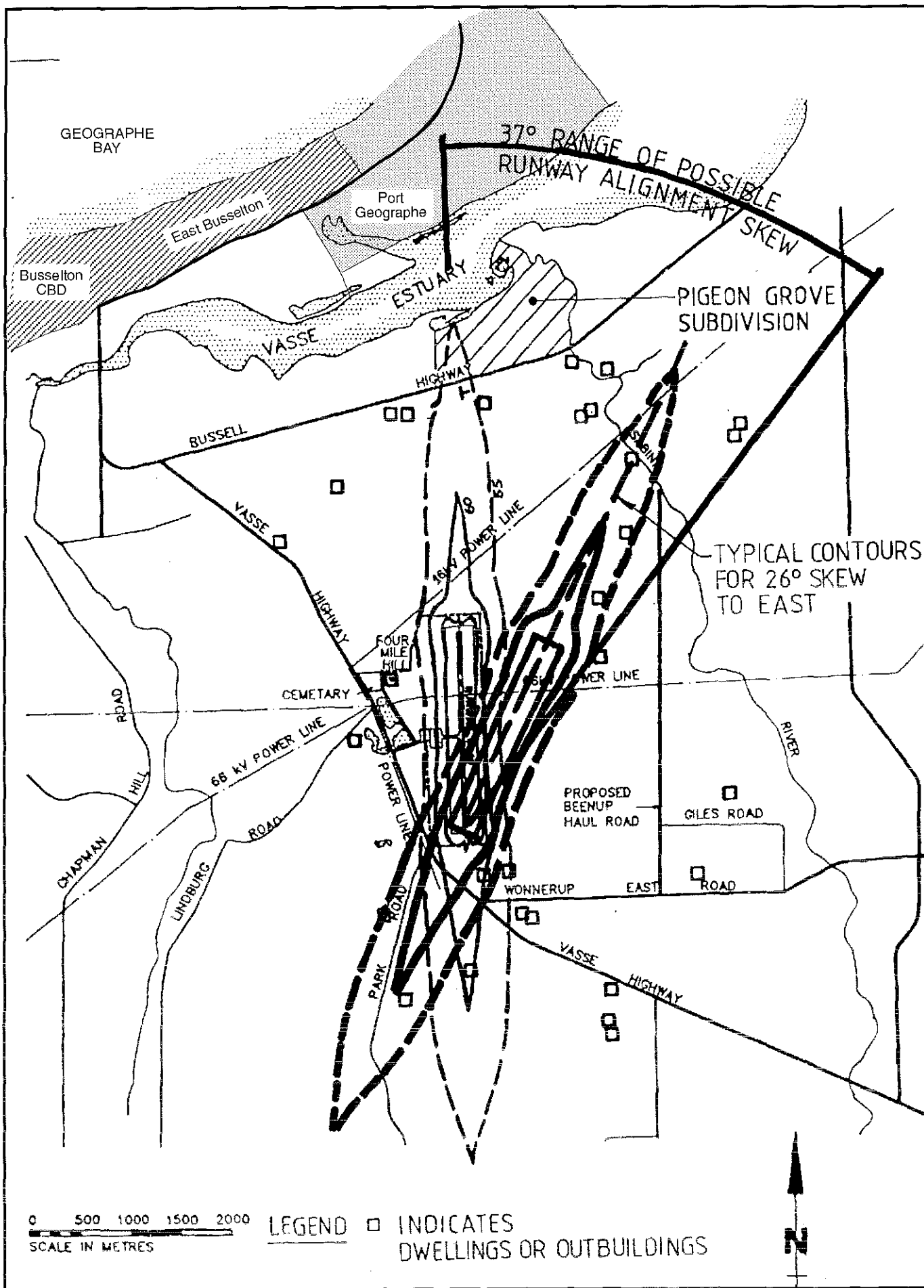


Figure 3. Diagram of ultimate (at year 2042) Ldn exposure contour in north south and east of north alignment at Four Mile Hill site (source: CMPS&F, 1995).

3. Environmental impact assessment method

3.1 Steps in the procedure of assessment

The purpose of the environmental impact assessment is to determine whether a proposal is environmentally acceptable or under what conditions it could be environmentally acceptable.

A set of administrative procedures has been defined (refer to flow chart in Appendix 1) in order to implement this method of assessment.

The first step in the method is to identify the environmental issues to be considered. A list of topics (or possible issues) is identified by the Environmental Protection Authority through the preparation of guidelines which are referred to relevant agencies for comment prior to being finalised.

In the next main step these topics are considered by the proponent in the Consultative Environmental Review both in terms of identifying potential impacts as well as making project modifications or devising environmental management strategies.

The Consultative Environmental Review is checked to ensure that each topic has been discussed in sufficient detail by the proponent prior to release for government agency and public comment. The submissions received are summarised by the Department of Environmental Protection on behalf of the Environmental Protection Authority and this process can add environmental issues which need to be evaluated in terms of the acceptability of potential environmental impact.

Proponents are invited to respond to the issues raised in submissions. Appendix 2 contains a summary of the issues raised in submissions and the proponent's response to those issues. A list of submitters appears as Appendix 3. Nine submissions were received, of which five were from government agencies and four from members of the public and conservation groups. A further four submissions were received after the closing date for public comments (three (3) from Government agencies and one (1) from a member of the public).

The proponents revised commitments following their response appears in Appendix 4.

This information, namely the Guidelines, the proponent's Consultative Environmental Review, the submissions and the proponent's response, is then subjected to analysis for environmental acceptability. For each environmental issue, an objective is defined and where appropriate an evaluation framework identified.

The expected impact of the proposal, with due consideration to the proponent's commitments to environmental management, is then evaluated against the assessment objective. The Environmental Protection Authority then determines the acceptability of the impact. Where the proposal, as defined by the proponent has unacceptable environmental impacts, the Environmental Protection Authority can either advise the Minister for the Environment against the proposal proceeding or make recommendations to ensure the environmental acceptability of the proposal.

Limitation

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

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.

3.2 Public submissions

Comments were sought on the proposal from the public, community groups, as well as local and State government agencies. During the public submission period of 10 April to 5 May 1995, nine (9) submissions were received. A summary of these submissions was forwarded to the Shire of Busselton for response. A further four (4) submissions (three (3) from State Government agencies and one (1) from a member of the public), were received after the close of submissions. The Shire of Busselton received copies of the full submissions from each State Government agency (including those received after the close of submissions, for information only).

Submissions received by the Environmental Protection Authority were within the following categories:

- two from individual members of the public (plus a further one after the close of submissions);
- three from groups and organisations; and
- four from State and other government agencies (plus a further three after the close of submissions).

The principal issues of concern raised in public submissions included:

Biophysical impacts

- impacts on waterbirds and on the Vasse-Wonnerup Estuary;
- impacts on flora and fauna at the Four Mile Hill aerodrome site;
- impacts on wetlands mapped by the Water Authority of Western Australia;

Pollution issues

- additional nutrients leading to further pollution of the Vasse-Wonnerup Estuary;
- noise impacts upon residents and agricultural activities;

Social surrounds

- effect upon proposed and existing mineral sands mining activities;

Other issues

- the proponent's Consultative Environmental Review process, particularly the lack of definition of final runway alignment and a lack of consultation with affected parties; and
- issues such as site access and the loss of development potential of land owners.

The Environmental Protection Authority has considered the submissions received (including late submissions) and the proponent's response as part of the assessment of the proposal.

3.2.1 Synopsis of public submissions

Submissions received by the Environmental Protection Authority were primarily concerned with the impact of noise from aircraft upon residential properties, birds and agricultural activities. Submissions received by the Environmental Protection Authority commented only on the aerodrome at the Four Mile Hill site.

Impacts on waterbirds of the Vasse-Wonnerup Estuary

The potential impact of the aerodrome upon the waterbirds and habitat values of the Vasse-Wonnerup Estuary was identified in submissions. Two issues have been identified: risk of aeroplanes striking birds causing damage to aircraft, and disturbance to the waterbirds during

nesting and breeding at the Estuary. The Environmental Protection Authority's evaluation of the impacts of the aerodrome on birds is contained in Section 4.1.

Impacts on flora and fauna at the Four Mile Hill aerodrome site

One submission indicated that there was potential for the presence of Declared Rare Flora and Declared Rare Fauna on the Four Mile Hill site and suggested that surveys were required to determine these aspects conclusively. The area referred to in this submission is currently being mined for mineral sands under approval of the Minister for the Environment following assessment by the Environmental Protection Authority (Environmental Protection Authority, 1989 Bulletin 390, Environmental Protection Authority, 1993 Bulletin 716). The Department of Conservation and Land Management were consulted at that stage and had reached agreements with Cable Sands Pty Ltd regarding rehabilitation (Environmental Protection Authority, 1989 Bulletin 390). This issue is therefore not further explored in this report.

Impacts on wetlands mapped by the Water Authority of Western Australia

The Water Authority of Western Australia has recently completed mapping of the wetlands on the Swan Coastal Plain from Pinjarra to Busselton (WAWA unpublished data). The Environmental Protection Authority has sought to protect the key natural and human use values of the remaining wetlands on the Swan Coastal Plain. The Environmental Protection Authority's evaluation of the impacts of the aerodrome on wetlands is contained in Section 4.2.

Impact of noise upon residents and agricultural activities

Submissions were particularly concerned that certain runway alignments would affect their residential properties and sought to voice a preference for having the runway alignment at a particular angle. Some submitters felt that the noise which would emanate from the ultimate predicted use of the airport would make their properties unusable and unsaleable. The impact of noise upon residential premises is considered by the Environmental Protection Authority in Section 4.3.

Disturbance to valuable agricultural production (cattle grazing on irrigated pasture), including the potential for stampeding of cattle during truck loading or drenching procedures, was identified by one submission. Given the frequency of aircraft movement it is expected that farm animals will become accustomed to these aircraft flight activities and the associated noise. Indeed the expected noise levels at the cattle yard will be very close to the levels which are acceptable for residential use. The Shire of Busselton also reports that other similar aerodrome sites which they have recently investigated don't have an impact on similar nearby agricultural activities during their operations (Appendix 2 Item 3.1). On this basis, the Environmental Protection Authority concludes that this is not a significant environmental issue, but considers that the proponent and the landowner should enter into discussions in the event that problems emerge.

Nutrient leaching to the Vasse-Wonnerup Estuary

One submission raised the issue of the potential for the aerodrome management to add additional nutrient to the Vasse-Wonnerup Estuary. To overcome the impact of additional nutrient run-off to the Estuary, which may arise during the establishment of grassed surfaces, the submission suggested that nutrient retention basins should be required on the aerodrome site. The Shire of Busselton have made appropriate environmental commitments to manage this impact (Commitments 2 and 9); the Environmental Protection Authority expects that the proponent will implement these environmental management strategies to ensure that nutrients are retained on site. Therefore this report will not deal with this matter further (a list of environmental commitments which will be audited by the Department of Environmental Protection is attached in Section 6 Recommended Environmental Conditions).

Effect upon proposed and existing mineral sands mining activities

Two submissions indicated that there would be conflict between construction of the aerodrome and the extraction of mineral sands resources in the vicinity of the Four Mile Hill site. This issue is more appropriately dealt with by negotiation between the proponent and companies with mineral interests or rights in consultation with the Department of Minerals and Energy, rather than by the Environmental Protection Authority.

The Consultative Environmental Review process

Public submissions regarding the Consultative Environmental Review process have been dealt with in the responses to public submissions provided by the proponent (see Appendix 3) and will not be further commented upon by the Environmental Protection Authority in this report.

Other issues

The Water Authority of Western Australia identified the need to gain licences for any groundwater abstraction requirements. Similarly, the Main Roads Western Australia indicated that any access from either the Vasse or Bussell Highways will require the input and approval of that Department. A late submission from Western Power Corporation identified the possible need for powerlines to be relocated or placed underground. These issues raised by utility and service agencies are matters for consideration by the proponent in consultation with each agency and will not be further considered in this report of the Environmental Protection Authority.

Issues such as the loss of 'assumed' development potential are more appropriately handled by negotiation between the Shire and affected landowners and they have therefore not been considered in this report.

4. Evaluation of key environmental issues

The Environmental Protection Authority has considered the issues raised during the environmental impact assessment process including matters identified in public submissions. Table 3 summarises the topics raised, the characteristics of the proposal and the comments received in order to identify issues warranting evaluation. The Environmental Protection Authority has evaluated the key environmental issues arising from this proposal, based on existing information and advice from other Government agencies, viz:

- the effects on waterbirds (including bird strike risk), especially at the Vasse-Wonnerup Estuary;
- impacts on wetlands at the aerodrome site; and
- impacts of noise upon residents.

As indicated in Section 2.3, other issues raised during the environmental impact assessment process can either be appropriately managed by the proponent in accordance with their environmental management commitments (Appendix 4), or are issues which should be dealt with by the proponent in concert with other agencies.

In giving advice regarding the environmental acceptability and management requirements for the Busselton Regional Aerodrome, the Environmental Protection Authority will assess the above key environmental issues in relation to each of the sites which the Shire of Busselton has indicated are suitable for this facility.

4.1 Effects on waterbirds

4.1.1 Objective

The Environmental Protection Authority's objective is to ensure the protection of significant fauna and their habitats.

4.1.2 Evaluation framework

Existing policy framework

Ramsar Convention

Australia has signed and ratified an agreement known as the '*Convention on Wetlands of International Importance*' — or the Ramsar Convention. In meeting part of its obligations to

TOPICS	PROPOSAL CHARACTERISTICS	GOVERNMENT AGENCY'S COMMENTS	PUBLIC COMMENTS	IDENTIFICATION OF ISSUES
Biophysical impacts				
Impact on water birds in Vasse - Wonnerup Estuary.	Flight paths in relation to disturbances and bird strike.	Concern about overflight of Estuary which has Ramsar status.		Effect on Vasse - Wonnerup Estuary as bird habitat requires EPA evaluation.
Impact on flora and fauna at Four Mile Hill site.	Area currently being mined for mineral sands.			Mine rehabilitation plan already agreed. No further evaluation required.
Impact on wetlands on airport site.	Ephemeral wetlands will require filling.		Concern about waterbird use of irrigated pasture at Four Mile Hill site.	Effect on wetlands on airport site. Requires EPA evaluation.
Pollution issues				
Nutrient run-off to Vasse - Wonnerup Estuary.	Nutrient retention basin proposed.			Proponent commits sufficient to manage run-off (subject to audit).
Noise effects on residents and agricultural activity.	Runway alignment in relation to noise from overflights.		Public concern about noise from overflights on residents and agricultural activity.	Noise impacts on residents requires EPA evaluation. Agricultural activity not adversely affected.
Social surroundings				
Effect on mineral sands activity.	Conflict with airport construction.		Land owner seeking surface rights on mining lease.	Proponent company to negotiate in consultation with Dept of Minerals and Energy.
Groundwater abstraction.	Water supply requirements.	Licence required from Water Authority.		Appropriately managed by WAWA licensing process.
Access from Vasse or Bussell Highway	New road requirements.	Approval of Main Roads Western Australia required.		Appropriately managed by Main Roads approval process.
Relocation of powerlines.	Removal of aircraft hazard.	Western Power identified need to relocate or be placed underground.		Proponent to consult with Western Power.
Loss of development potential.	Existence of airport reduces ability to develop adjacent land.		Land development for residential purposes constrained.	Appropriately managed by planning process.

Table 3. Identification of issues requiring Environmental Protection Authority evaluation.

this international treaty, Australia has nominated a number of wetlands as 'Internationally Important'. In Western Australia the Department of Conservation and Land Management has submitted a list of wetlands which are entered onto the list of 'Internationally Important' wetlands (Department of Conservation and Land Management, 1990). The Vasse-Wonnerup Estuary is one such wetland.

Parties contracted to the Ramsar Convention are expected to maintain nominated sites in such a way that it retains the ecological features for which it has been recognised (Usback and James, 1991). The Vasse-Wonnerup Estuary meets criteria 3(a) (regularly supporting 20,000 waterfowl) and 3(c) (regularly supporting 1 per cent of the individuals in a population of one species of waterfowl). Therefore, protection of the populations and habitats of waterbirds is the main criteria for evaluation of this aerodrome proposal.

Technical information

The principal conservation value of the Vasse-Wonnerup Estuary is as habitat for waterbirds. Sixty eight species of waterbird have been recorded in the Vasse-Wonnerup system with population numbers of six species being higher than elsewhere in south western Australia. In January 1986, around 33,000 waterbirds were counted within this wetland system (Department of Conservation and Land Management, 1990). Jaensch, *et al.* (1988) concluded that 'the drying mudflats and receding shallows at Vasse-Wonnerup Estuary support more waterbird species and individual waterbirds than most other wetlands in south-western Australia'. The two main potential impacts upon these waterbird populations may arise from this proposal. Firstly there is the potential for disturbance of breeding and nesting activities. Secondly, there is a risk of aeroplanes striking birds.

The aerodrome runway at the Four Mile Hill site will be located approximately 2.5 kilometres south of the Vasse-Wonnerup Estuary. Aircraft approaching the north/south runway would usually be higher than 195 metres (640 feet) above ground level over the Vasse-Wonnerup Estuary, while aircraft taking off to the north would usually be higher than 300 metres (1000 feet) (Davidson, 1995). On the basis of these estimates, Davidson (1995) has indicated that a north / south runway is unlikely to have any measurable detrimental effect on breeding waterfowl, migratory waders, or any other birds using the Vasse-Wonnerup. Lane (personal communication, 1994) concurs with this general view.

Because of the large numbers of birds within the Vasse-Wonnerup Estuary, there is also a risk of aircraft accidents resulting from the aircraft striking birds. Davidson (1995) observes that '*flocks of soaring pelicans, cormorants, ibis and silver gulls would be a significant hazard to aircraft approaching the north/south runway from the north, or taking off to the north, particularly during summer and autumn when these species are most abundant and when thermal air currents are common. Most waterfowl, including swans, move between feeding areas and between different wetlands before dawn, at dusk and during the night. Few of these movements are observed, however, it is known that waterfowl may fly at considerable heights above ground when moving at night.*' Davidson (1995) concludes '*it is likely that aircraft using the north-south runway (at the Four Mile Hill site) would have a significantly greater risk of bird strikes involving waterfowl than at most Australian civil aerodromes*'. Bird strikes are not likely to cause significant loss of fauna populations, but can cause loss of human life and property, especially if bird strike occurs during critical phases of flight such as take-off and landing (Davidson, 1995).

Comments from key Government agencies

The Department of Conservation and Land Management supported the recommendation of the Consultative Environmental Review document '*to skew the runway alignment (at the Four Mile Hill site) to NNE 37° ... as this will lessen the effect on the waterbird population (from disturbance or bird strike) and the proposed subdivision at Pidgeon Grove*'.

4.1.3 Public submissions

Submissions from the public identified that there are water birds such as ibis, black swans ducks and geese using the irrigated pasture land which currently exists on the proposed Four Mile Hill aerodrome site as feeding grounds during summer-autumn.

4.1.4 Response from the proponent

The Shire of Busselton acknowledges that there may be waterbirds using the irrigated areas depending on seasonal effects on usual habitats near to the Four Mile Hill site. However, the likely area of habitation is to the south east of direct impact of the airport facilities or operational use of the aerodrome. Other airports are frequented by similar species of waterbird, simple management techniques (such as 'clearing runs' which must be carried out notwithstanding the presence of birds) has apparently remedied any difficulties (see Appendix 2 Item 1.1).

4.1.5 Evaluation

The Environmental Protection Authority understands aeroplane surveys for counting bird numbers is usually done at 150 metres (500 feet) without significant disturbance to birds (Lane, personal communication, 1994). The distance between the Four Mile Hill aerodrome site and the Vasse-Wonnerup Estuary means that aircraft are likely to be above the height which is likely to disturb water bird breeding and feeding activities in that significant habitat. Furthermore, the Shire of Busselton propose to manage aircraft movements at the aerodrome such that 70 per cent of landings are from the south and 70 per cent of take offs are to the south (CMPS&F, 1995). Furthermore, the alignment of the runway oriented to approximately 25° NNE will provide even greater security for avoiding impacts to significant waterbird habitat (Appendix 5). The Shire of Busselton have also made a commitment (number 13) to initiate a monitoring program to determine the effect of aircraft noise on the breeding behaviour of waterbird species. The Department of Environmental Protection will audit this commitment and ensure that, if significant detrimental effects are shown, appropriate aerodrome management will be implemented to avoid significant impacts (*e.g.* directing pilots away from sensitive areas during breeding seasons).

The issue of bird strike risk and associated public safety is not a direct responsibility of the Environmental Protection Authority as aircraft movement is controlled through Commonwealth legislation. Nonetheless, the Environmental Protection Authority has raised this as a potential concern of significance. The Environmental Protection Authority is aware that the Shire of Busselton have taken steps to manage this risk. most notably through amending the orientation of the runway alignment east of north to approximately 25° (see Appendix 5). The Environmental Protection Authority expects that orienting the runway to 25° east of north would be likely to resolve this issue substantially by removing aircraft from having a direct flight path over the Vasse-Wonnerup Estuary. The Environmental Protection Authority is aware of the proponents intended management of the aerodrome to favour use of the southern end of the runway. However, if 94,000 aircraft movement per year occurs as forecast for the year 2042, this will mean more than one aircraft movement every three minutes, which in itself presents a hazard; especially if 'head to head' operations are in place (*i.e.* land from the south and take off to the south). Nonetheless, a management plan of the operational procedures for the aerodrome which addresses this bird strike issue, must be prepared by the Shire of Busselton and agreed by the Civil Aviation Authority. The Environmental Protection Authority advises that the issue of bird strike risk (at the Four Mile Hill aerodrome site) is likely to require significant management prescriptions to be agreed between the Shire of Busselton and the Civil Aviation Authority (recommendation 1).

Neither the Ambergate site nor the Payne Road site are located near to the Vasse-Wonnerup Estuary or any other known waterbird habitat of regional significance. Therefore, no significant effect on waterbirds is expected to occur as a result of an aerodrome at those sites.

4.2 Impacts on wetlands on the aerodrome site

4.2.1 Objective

The Environmental Protection Authority's objective is to ensure that key wetland functions on the site are retained or enhanced (consistent with the requirements set out in Environmental Protection Authority, 1993; Bulletin 686) as a result of the aerodrome development.

4.2.2 Evaluation framework

Existing policy framework

The Environmental Protection Authority has had a long involvement in the protection of wetlands on the Swan Coastal Plain. The Environmental Protection Authority's position with regard to wetlands on the Swan Coastal Plain is detailed in its Bulletin 685 (Environmental Protection Authority, 1993 Bulletin 685). This bulletin provides a mechanism for determining the key wetland values and functions as well as determining the appropriate management objectives for wetlands. The Environmental Protection Authority expects that proponents will use this methodology to ensure that the objective of maintaining or enhancing key wetland functions is met.

Technical information

An aerodrome located at any of the three potential sites (Four Mile Hill, Payne Road or Ambergate) will require the filling and draining of some wetland areas. Notably at the Four Mile Hill site an area of sumpland (seasonally inundated wetland) and a portion of a dampland (seasonally water logged wetland) will require filling, thus degrading its hydrological functions. The areas affected are part of larger wetlands which cover much of the Shire of Busselton (see Figure 4). Given the lack of indigenous vegetation at any of these localities (Four Mile Hill, Payne Road and Ambergate), it is likely that the functions of these wetlands are already reduced to hydrological functions and potentially some waterbird habitat.

4.2.3 Evaluation

The Environmental Protection Authority is conscious of ensuring the maintenance of wetland functions for the remaining wetlands of the Swan Coastal Plain. It is usual that if any wetland areas are to be lost through development, the Environmental Protection Authority requests that the functions are replaced either at the locality affected, or elsewhere under the control of the proponent (see for example Environmental Protection Authority, 1992 Bulletins 664, 658; 1993 Bulletins 709, 685, and 1995 Bulletin 770). The wetlands at the possible aerodrome locations (Four Mile Hill, Payne Road and Ambergate) are currently degraded, being without indigenous vegetation, though retaining hydrologic functions and possibly some waterbird habitat. In this particular circumstance it may not be plausible to replace wetland functions as it may attract waterbirds to the aerodrome site, since they represent a potential safety hazard to aircraft. The particular impacts expected at this locality relate to the loss of hydrologic function as a result of importing fill material for the construction of the runway and associated aerodrome facilities. This action may also have second order impacts in relation to affecting downstream drainage within the broader wetland complex. The Environmental Protection Authority concludes that, in these circumstances, the proponent should provide an Environmental Management Programme which details how the wetland functions (particularly hydrologic functions) which are lost as a result of the aerodrome can be replaced or improved (including through planting of indigenous wetland vegetation), when and how they will implement these replacement strategies, and additionally, that an overall drainage plan be prepared to ensure that downstream flows are maintained (recommendation 2).

4.3 Impacts arising from noise

4.3.1 Objective

The Environmental Protection Authority's objective is to ensure that aircraft movement and airport operations do not cause unacceptable levels of noise at existing or future residential premises.

4.3.2 Evaluation framework

Existing policy framework

Basis for Aircraft Noise Assessment

In 1993, the Environmental Protection Authority published its report and recommendations on the Murrayfield airpark and resort complex (Environmental Protection Authority, 1993 Bulletin 713). Within that assessment the Environmental Protection Authority developed a suite of criteria to determine the environmental acceptability of noise associated with general aviation airstrips.

The criteria for evaluation of environmental acceptability are:

1. Noise levels generated by individual aircraft.
2. Noise characteristics of aircraft noise emissions.
3. Number and duration of aircraft movements.
4. Time of day when aircraft movements may occur.
5. Location of the airstrip relative to the surrounding land uses.
6. History of various developments in the area.

'For 'green field' light aircraft landing site developments the Environmental Protection Authority recommended maximum noise levels of 55 to 60 dB(A) (at residential premises) would be preferable. These maximums should be coupled with a specified maximum 'average' noise level. The most appropriate parameter for this average of the L_{dn} . This parameter is measured over 24 hours with the measured overnight period level increased by 10 dB(A)' (Environmental Protection Authority, 1993 Bulletin 713; Appendix 5 p. 2).

Technical information

The proponent has predicted the noise emissions expected to arise from their ultimate development scenario at the year 2042 (CMPS&F, 1995). The assumed mix of aircraft, along with annual and daily number of flights have been provided at Table 2. These data, in concert with the location of the airstrip relative to the surrounding land use, are plotted as L_{dn} contours (Figure 3) to provide summarised information meeting the requirements of criteria numbers 2 to 5 which are described above. The noise generated by individual aircraft (Criteria 1) is a component of the calculated L_{dn} contours (average noise levels), however, the noise from each individual aircraft also requires management (maximum individual case noise levels). From the perspective of maximum individual aircraft noise levels, the significant management component is related to scheduling and flight paths of jet aircraft operations. The Shire of Busselton have indicated that *'in the long term the number of operations by relatively quiet "new generation" aircraft (such as the BAe 146) are expected to be limited in number and to daylight hours'* (CMPS&F 1995; p.24)(see also Table 2 above for predicted aircraft movements).

The proposed Four Mile Hill aerodrome site is within a rural setting, although several residences are in close proximity to the facility. A preliminary survey of dwellings or outbuildings near to the proposed aerodrome site is also indicated on Figure 3. Greater concentrations of residential dwellings are located to the north of the proposed Four Mile Hill aerodrome site in a Rural Residential subdivision between the Bussell Highway and the Vasse-Wonnerup Estuary (known as Pidgeon Grove). Further north of the Vasse-Wonnerup Estuary are the urban residential areas of East Busselton and the Port Geographe development. A cemetery is adjacent to the aerodrome site.

From this information it can be seen that there are a number of buildings which have the potential to be affected by unacceptable noise emissions when the aerodrome reaches ultimate capacity. The predicted noise contours can be overlayed at the other potential sites (Ambergate and Payne Road) to provide indicative noise exposures for these sites.

4.3.3 Public submissions

A number of public submissions indicated that there were likely to be substantial impacts upon their properties as a result of the noise from aircraft using the Four Mile Hill aerodrome site. Submitters generally stated a preference for the runway to be oriented to avoid their residential premises.

4.3.4 Response from the proponent

The Shire of Busselton considers that there are runway orientations and *'design options* (for the Four Mile Hill aerodrome site) *which would ensure that no dwellings are within the $L_{dn\ 55}$ noise contour'*. *'In the event that any residence is found to be within the $L_{dn\ 55}$ noise contour then Council undertakes to liaise with the affected land owners and to implement noise reduction measures appropriate to the circumstances of the dwellings, at Council's cost, and to consider noise management techniques for the airport itself'* (Appendix 3 Item 2.6) (see also Commitment 11).

The Shire of Busselton has recently determined a final runway alignment to be 25° 35' East of North (*i.e.* approximately North-North-East). The Shire advises that this alignment avoids having any residential dwellings within the predicted (ultimate scenario at year 2042) $L_{dn\ 55}$ noise contour of the aerodrome (Appendix 5; p.1).

4.3.5 Evaluation

The Environmental Protection Authority is aware that the Busselton locality contains relatively small lot sizes; consequently any aerodrome situated within the locality would be likely to affect some residential premises. The Environmental Protection Authority's determination of the acceptability of noise emissions is based upon the $L_{dn\ 55}$ contours when used in conjunction with a maximum level of 65 dB(A) at residential premises (Environmental Protection Authority, 1993 Bulletin 713).

On the basis of this requirement, a runway orientation of approximately 25° North-North-East appears to be optimal for the Four Mile Hill aerodrome site (Figure 3 and Appendix 5)). A 25° North-North-East orientation will ensure that the higher density residential developments north of the Bussell Highway are protected from unacceptable noise emissions and the general pattern of flight paths. Furthermore, this orientation will provide other benefits in relation to avoiding the potentially significant air safety problems of bird strikes at the Vasse-Wonnerup Estuary. The Environmental Protection Authority also notes that the Shire of Busselton has made a commitment to reach agreements with affected residents (see Appendix 3 response to submissions item 2.6), as well as attempting to manipulate the runway orientation to minimise conflict between the predicted noise contours and residential premises. Furthermore, the use of 'new generation' jet aircraft (such as the BAe 146) which is not anticipated to occur until beyond the year 2007, and then only limited in number and restricted to daylight hours, will provide appropriate management for 'maximum individual aircraft noise levels'.

The Environmental Protection Authority concludes that a runway orientation of between approximately 25° North-North-East and 37° North-East, at the Four Mile Hill site, would be environmentally acceptable subject to implementation of the proponent's commitment to implement noise reduction measures appropriate to the circumstances of any residential dwelling found to be within the $L_{dn\ 55}$ noise contour for the ultimate design and operation of the aerodrome at year 2042, or any residence experiencing greater than a 65 dB(A) maximum noise level (recommendation 3).

The Environmental Protection Authority seeks to ensure that conflicting land uses are separated by buffer areas. Existing operations with appropriate environmental management arrangements which cause no pollution to current adjacent land uses should not be penalised by changes to surrounding land uses. These situations can be avoided by mechanisms available through the planning processes which control land use allocation to ensure that potentially conflicting land uses are separated by appropriate buffer areas. To ensure that the operations of the aerodrome from the Four Mile Hill site remain environmentally acceptable with respect to noise emissions, the Environmental Protection Authority recommends that land uses which are sensitive to noise such as residential accommodation, schools and hospitals should not be permitted in areas which would be affected by the predicted noise emissions ($L_{dn\ 55}$ and 65 dB (A) maximum) arising from the ultimate development scenario at the aerodrome site. The Environmental Protection Authority recommends that, regardless of which site is finally developed for the Regional Aerodrome, the Shire of Busselton commence procedures through the town planning processes to ensure protection of a buffer zone around the aerodrome site from encroachment by sensitive land use (recommendation 4).

Other sites investigated for the aerodrome also have the potential for noise impacts upon residential premises. At the Ambergate site, there is a rural residential subdivision immediately adjacent to the aerodrome site. It is likely that these residents would be exposed to unacceptable noise emissions from an aerodrome at that location. The Environmental Protection Authority concludes that the Ambergate site should not be considered as an appropriate location for the Busselton Regional Aerodrome.

The Payne Road site would also have residential dwellings receiving a level of noise exposure greater than $L_{dn\ 55}$. The land uses in this locality are predominantly rural and are therefore at a lower density of development, hence fewer residences would be affected. The Environmental Protection Authority concludes that this site would be environmentally acceptable as an alternative location for the aerodrome, if appropriate management arrangements could be reached with land owners affected by the development.

5. Conclusions

The Environmental Protection Authority concludes that the Shire of Busselton's proposal to construct and operate a 'regional' aerodrome at the Four Mile Hill site is environmentally acceptable subject to the proponent's commitments and the Environmental Protection Authority's recommendations. A summary of the Environmental Protection Authority's views are set out in Table 4.

In reaching this conclusion the Environmental Protection Authority identified the main environmental issues requiring consideration as:

- the effects on water birds (including bird strike risk), especially at the Vasse-Wonnerup Estuary;
- impacts on wetlands at the aerodrome site; and
- impacts of noise upon residents.

The Environmental Protection Authority believes that these issues are adequately addressed by the commitments made by the proponent, the proponent's response to the issues raised in public submissions, and the Environmental Protection Authority's recommendations in this report.

ISSUES	OBJECTIVE	EVALUATION FRAMEWORK	PROPOSERS COMMITMENT	EPA RECOMMENDATION
Effect on waterbirds in Vasse - Wonnerup Estuary including bird strike risk.	Protection of significant fauna and their habitat.	Adequate flight path clearance from habitat area to avoid water bird disturbance and bird strike.	Implementation of simple bird strike management techniques.	<p>Realignment of runway and aircraft flight paths to avoid overflight of estuary.</p> <p>Bird strike management plan to meet the requirements of the Civil Aviation Authority.</p>
Impact on wetlands on airport site.	Key wetland functions retained or enhanced.	Hydrology and water bird habitat identified and constraint of bird strike.		<p>Report and implement a wetland function maintenance plan.</p> <p>Report and implement a drainage management plan.</p>
<p>Impact of noise upon residents.</p> <p>Four Mile Hill.</p> <p>Payne Road site.</p> <p>Ambergate site</p>	Avoidance of unacceptable noise levels.	Daily noise at residences less than 55 L _{dn} . Maximum noise at residences less than 65 dB (A).	Liaison with any affected land owners to implement appropriate noise reduction measures (at proponent's cost) and consider airport noise management measures.	<p>Realignment of runway orientation to approximately 25°.</p> <p>Environmentally acceptable.</p> <p>Environmentally unacceptable.</p> <p>Manage the protection of encroachment of noise sensitive land uses through planning process.</p>

Table 4. Summary of Environmental Protection Authority recommendations.

The proponent has made a number of environmental management commitments to ameliorate the impacts arising from this proposal. These commitments are included in Appendix 4. The Environmental Protection Authority considers that while the proponent should be required to implement all of the commitments, only commitment numbers 2 and 9 (erosion and nutrient control), and 11 and 13 (noise management to protect residential premises and monitoring of the effect on waterbirds) should form an attachment to the Minister for the Environment's statement that the proposal may be implemented. Compliance with these commitments should be audited by the Department of Environmental Protection.

The Environmental Protection Authority is satisfied that, using information currently available, the following recommendation may be made to the Minister for the Environment.

Recommendation 1

The Environmental Protection Authority recommends that aerodrome operational management be agreed between the Shire of Busselton and the Civil Aviation Authority to ensure the safety of aircraft and passengers, which may be at risk from aircraft striking waterbirds which have regional flight paths around the Vasse-Wonnerup Estuary, as well as waterbirds which are located at the estuary itself.

Recommendation 2

The Environmental Protection Authority recommends that the proponent should provide an Environmental Management Programme to the Department of Environmental Protection detailing how the wetland functions (hydrological) which are lost as a result of the aerodrome can be replaced or relocated elsewhere (without attracting birds to the aerodrome), and additionally, that an overall drainage plan be prepared to ensure that downstream flows are maintained. The proponent should be required to implement the Environmental Management Programme to the requirements of the Department of Environmental Protection.

See Recommended Environmental Condition 3.

Recommendation 3

The Environmental Protection Authority recommends that, following its evaluation, two of the proposed sites for the Busselton Regional Aerodrome (Four Mile Hill and Payne Road) be found environmentally acceptable and be approved subject to the following and that one site (Ambergate) be found environmentally unacceptable:

- **final detailed design of the runway orientation at the Four Mile Hill being between approximately 25° (North-North-East) and 37° (North-East); and**
- **implementation of the proponent's commitment to implement noise reduction measures appropriate to the circumstances of any residential dwelling found to be within the $L_{dn 55}$ noise contour for the ultimate design and operation of the aerodrome or any residence experiencing greater than a 65 dB (A) maximum noise level.**

See Recommended Environmental Condition 4.

Recommendation 4

The Environmental Protection Authority recommends that the Shire of Busselton commence procedures through the town planning processes to ensure protection of the aerodrome site from encroachment within the $L_{dn} 55$ contour (ultimate scenario) by sensitive land uses such as residential accommodation, schools and hospitals.

(See Procedure 3).

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.

PROPOSAL: BUSSELTON REGIONAL AERODROME
CURRENT PROPONENT: SHIRE OF BUSSELTON

This proposal to construct and operate a Regional Aerodrome at either the Payne Road or Four Mile Hill locations may be implemented subject to the following conditions:

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 Consultative Environmental Review and in response to public submissions, provided that the commitments and environmental management measures are not inconsistent with the conditions or procedures contained in this statement.

A schedule of environmental management commitments to be audited by the Department of Environmental Protection was published in Environmental Protection Authority Bulletin 785 and a copy is attached.

2 Implementation

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

- 2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal.
- 2-2 Where, in the course of the detailed implementation referred to in condition 2-1, the proponent seeks to change the designs, specifications, plans or other technical material submitted to the Environmental Protection Authority 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 Wetland Replacement

- 3-1 The proponent shall maintain or enhance wetland functions which may be affected as a result of the proposal.
- 3-2 Prior to construction of the aerodrome, the proponent shall provide an Environmental Management Programme to the Department of Environmental Protection detailing how the wetland functions (particularly hydrologic functions) which will be lost as a result of the aerodrome will be replaced or relocated elsewhere (*i.e.* wetland replacement strategies). Additionally the Environmental Management Programme should provide an overall drainage strategy for the wetlands.
- 3-3 Within twelve (12) months of the formal authority issued to decision-making authorities under Section 45(7) of the *Environmental Protection Act* 1986-1994, the proponent shall implement the wetland replacement strategies detailed in the report required by condition 4-2.

4 Noise Management

- 4-1 The proponent shall ensure that noise emissions from the aerodrome, including emissions from aircraft using the aerodrome, are effectively managed.
- 4-2 At all times during the operation of the aerodrome, the proponent shall ensure that noise emissions from the aerodrome activities, including emissions from aircraft using the aerodrome, do not cause noise levels at any residential premises in occupation which exceed an average of 55 dB(A) L_{dn} or a maximum of 65 dB $L_{A\ Slow}$.

Note: See procedure 3.

5 Proponent

These conditions legally apply to the nominated proponent.

- 5-1 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.

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 Compliance Auditing

To help determine environmental performance, periodic reports on progress in implementation of the proposal are required.

- 7-1 The proponent shall submit periodic Progress and Compliance Reports, in accordance with an audit programme prepared by the Department of Environmental Protection in consultation with the proponent.

Procedure

- 1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.
- 2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.
- 3 Within twelve (12) months of the formal authority issued to decision making authorities under Section 45(7) of the *Environmental Protection Act* 1986-1994, the Shire of Busselton will initiate procedures to ensure avoidance of encroachment upon the aerodrome by conflicting land uses which are sensitive to noise.

An appropriate mechanism to achieve the above would be through an amendment to the Shire of Busselton Town Planning Scheme defining the aerodrome and its surrounds, especially within the predicted 55 dB(A) L_{dn} noise contour for the year 2042 as unsuitable for residences, schools, hospitals or over-night accommodation. Notices on titles should also be placed on lots which are adjacent to the predicted 55 dB(A) L_{dn} noise contour for the year 2042 to advise prospective purchasers of the potential limitations on uses of the land.

7. References

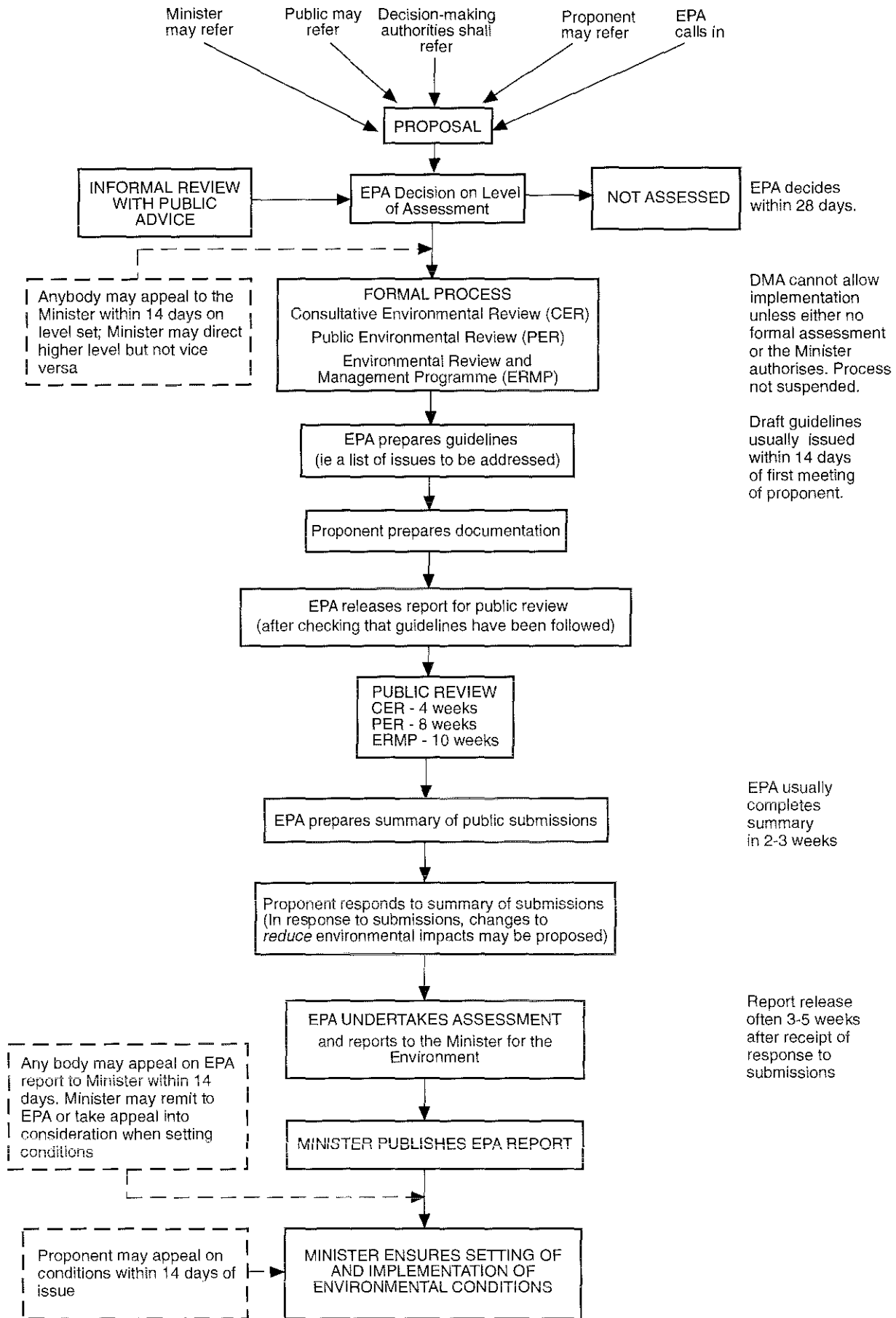
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Appendix 1

Environmental impact assessment flow chart

EIA PROCESS FLOW CHART



INFORMAL REVIEW WITH PUBLIC ADVICE

EPA Decision on Level of Assessment

NOT ASSESSED

EPA decides within 28 days.

Anybody may appeal to the Minister within 14 days on level set; Minister may direct higher level but not vice versa

FORMAL PROCESS
Consultative Environmental Review (CER)
Public Environmental Review (PER)
Environmental Review and Management Programme (ERMP)

DMA cannot allow implementation unless either no formal assessment or the Minister authorises. Process not suspended.

EPA prepares guidelines (ie a list of issues to be addressed)

Draft guidelines usually issued within 14 days of first meeting of proponent.

Proponent prepares documentation

EPA releases report for public review (after checking that guidelines have been followed)

PUBLIC REVIEW
CER - 4 weeks
PER - 8 weeks
ERMP - 10 weeks

EPA prepares summary of public submissions

EPA usually completes summary in 2-3 weeks

Proponent responds to summary of submissions (In response to submissions, changes to reduce environmental impacts may be proposed)

EPA UNDERTAKES ASSESSMENT and reports to the Minister for the Environment

Report release often 3-5 weeks after receipt of response to submissions

Any body may appeal on EPA report to Minister within 14 days. Minister may remit to EPA or take appeal into consideration when setting conditions

MINISTER PUBLISHES EPA REPORT

Proponent may appeal on conditions within 14 days of issue

MINISTER ENSURES SETTING OF AND IMPLEMENTATION OF ENVIRONMENTAL CONDITIONS

Appendix 2

Summary of public submissions and the proponent's response

1. Impacts on physical and biological environment

- 1.1 A great number of ibis, black swans and other water birds such as ducks and geese breed in and adjoining the irrigated grazing areas. A colony of Kangaroos are also located in the northern end of the properties adjoining the 'Ludlow Deviation of the Bussell Highway'. All of these animals will be greatly disturbed by the 94,000 annual aircraft movements in the year 2042. These fauna are much closer to the runway than the birds in the Vasse — Wonnerup Estuary.
- 1.2 How much widening of Queen Elizabeth Road is required in the area of the Ambergate Reserve, in order to provide adequate access to an aerodrome at the Payne Road site? How much of the vegetation in the Reserve would be affected?

2. Pollution issues

- 2.1 Concern was expressed at the likelihood of small holding developments being established in the vicinity of the aerodrome complex. The soils adjacent to the proposed site are nutrient leaching and intensification of their use has the potential to further exacerbate the nutrient problems of the Vasse Estuary and Geographe Bay.
- 2.2 One resident notes that their residence which was built only 18 months ago is directly in line with a North South runway alignment. This alignment would make the house unusable and unsaleable because of the noise impacts. A more north-easterly south-westerly alignment would be better.
- 2.3 There are two houses on a grazing property directly in line with the NNE/SSE runway alignment and aircraft noise and movement will adversely affect occupiers of these two homes far more than a north/south runway would affect Pigeon Grove residents.
- 2.4 In order to determine the environmental acceptability of noise associated with the aerodrome, a final runway alignment for the Four Mile Hill site and its relationship to each and every residential dwelling in proximity to the 2042 L_{dn} noise contours is required. Therefore the proponent should revise Figure 6.6 after ground truthing the data. The figure must indicate the location of each and every individual residence and the relationship with the 'ultimate prediction' of noise impacts (L_{dn} contours at year 2042).
- 2.5 Table 4.1 of the Consultative Environmental Review document indicates that there are dwellings within 300 metres of the flight path and also within the 2042 $L_{dn 55}$ contour at the Payne Road site. A map detailing these features is essential to assess the environmental acceptability of this alternative site.
- 2.6 The Shire must define what action it will take to ensure that reasonable agreement on the management of noise is reached with the owners of any residence found to be within the $L_{dn 55}$ noise contour.

3. Impact on the social surroundings

- 3.1 Aircraft noise and movement are likely to affect grazing cattle especially when they are in the cattle yards for drafting, drenching and loading in and out. The cattle yard is situated in the flight path of the NNE/SSW runway alignment. Stamping of cattle could be expected to be very likely due to noise and movement of low flying aircraft at landing and take-off times.
- 3.2 Mining Lease 70/785 granted on 26 March 1993 exists over Sussex Location 3819. Discussions are being held with the current land owner to gain surface rights over the mineral resource to enable mining to take place. Mining is currently scheduled for 2003/5.
- 3.3 In the long term it is reasonable to expect that subdivision of part or all of properties which are directly affected by the runway and its flight path, in order to fulfil the requirements of Special Rural, normal residential and possibly industrial expansion of

Busselton. A NNE/SSW runway alignment would adversely affect these future proposals and values of the land involved and restrict development.

4. General comment

- 4.1 Whilst the north/south runway proposal will not be entirely satisfactory to all parties concerned, it would appear to have far less of an adverse effect on local residents, flora and fauna and local farming enterprises than the NNE/SSW runway alignment.

5. Other issues

- 5.1 Any aerodrome access from either the Vasse or Bussell Highways will require the input and approval of Main Roads Western Australia during the planning and detailed design stage of the airport project.
- 5.2 Main Roads Western Australia has a long term proposal for the Busselton Outer Bypass which will cut across the land to the north of the proposed airport site. While this road is not expected to have an impact on the flight path it could affect the proposed airport access roads.
- 5.3 Paragraph 1.3 (second bulleted point) is incorrect, in that the operator need only hold a licence if the aerodrome has an RPT service by aircraft of greater than 30 seat capacity.

Table 1: Summary of issues raised in public submissions

ISSUE	Number of Submissions (N=9)
IMPACTS ON THE BIOLOGICAL AND PHYSICAL ENVIRONMENT	
EFFECT OF NOISE ON BIRDS (bird breeding areas on irrigated grazing land)	1
POLLUTION ISSUES	
INTENSIFICATION OF LAND USE ADJACENT TO THE AERODROME (nutrient leaching problems)	1
NOISE IMPACTS (affect on residents)	2
IMPACT ON THE SOCIAL SURROUNDINGS	
LAND ACQUISITION (detail of acquisition are not provided)	1
EFFECT ON PROPOSED AND EXISTING MINERAL SANDS MINING (existing mining and Mineral Lease areas are affected by the proposal)	2
EFFECT ON PRIME AGRICULTURAL LAND (impact of noise and loss of grazing land)	1
OTHER ISSUES	
ACCESS (need to gain approval from Main Roads Western Australia)	1
LOSS OF DEVELOPMENT POTENTIAL (land owners will not be able to pursue development of land for residential type purposes)	1
CONSULTATIVE ENVIRONMENTAL REVIEW PROCESS	
LACK OF CONSULTATION WITH DIRECTLY AFFECTED PARTIES	1
LACK OF CONSULTATION WITH THE GENERAL PUBLIC	1
FINAL RUNWAY ORIENTATION NOT DEFINED (affected parties unable to determine impact upon their interests)	1
SUPPORT THE PROPOSAL AT THE PREFERRED LOCATION	2

Appendix 3

List of submitters

Main Roads Western Australia, Robertson Drive, Bunbury
Director General, Department of Transport, PO Box 53
Cable Sands (W.A.) Pty Ltd
South West Development Commission
Vasse — Wonnerup LCDC
Directorate of Aviation Safety Regulation, Civil Aviation Authority
Mr W M Pitts
RGC Mineral Sands Limited
John Chadwick & Associates

Late submissions received from:

Western Power Corporation
Water Authority of Western Australia
Department of Conservation and Land Management
Mrs V Lewis

Appendix 4

Consolidated list of proponent's commitments

BUSSELTON AERODROME - FOUR MILE HILL SITE

CONSOLIDATED LIST OF MANAGEMENT COMMITMENTS

The proponent will assume responsibility for the management commitments listed in the following text. Where such commitments are outside the authority or expertise of the proponent then such commitments will be arranged with the appropriate authority or experts at the proponent's expense.

Management Commitments for the Physical and Biological Environment

- (1) Removal and or lopping of trees will only take place where they impede takeoff and landing pathways.
- (2) The grassed area surrounding the strip will be maintained to control surface runoff, and decrease the risk of erosion.
- (3) Access tracks to work/construction areas will be located to reduce ground disturbance.
- (4) Loose imported fill material for construction purposes will be stabilised when not actively utilised.
- (5) Dieback does not appear to be present on the site. Every attempt will be made to ensure that fill material used during construction is also free of the disease as the importation of dieback could have implications for remnant vegetation 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 equipment to and from the site is determined.
- (6) A predetermined location, outside drainage depressions areas will be selected for the refuelling area for construction machinery. The area will be temporarily bunded during use and dismantled afterwards.
- (7) If fuel storage facilities are to be installed they will be constructed to the Australian standard guidelines for hazardous liquid storage and handling procedures.
- (8) Site hygiene will be maintained at a high standard. All refuse will be removed for disposal offsite.

Management Commitments for Discharge of Nutrients to the Receiving Environment

- (9) Net nutrients applied during establishment of grass shall not to exceed limitations set by the Department of Agriculture.

Management Commitments for Aircraft Noise

- (10) Ensure that noise levels at any adjacent residential properties do not exceed a maximum of 65 dB(A) L_{dn} . This constraint will limit the number of aircraft movements and aircraft size.
- (11) In the event that any residence is found to be within the L_{dn} 55 noise contour then Council undertakes to liaise with the affected landowners and to implement noise reduction measures appropriate to the circumstance of the dwelling, at Council's cost, and to consider noise management techniques for the airport itself.
- (12) Ensure aircraft over the Vasse-Wonnerup Estuary remain above 640 feet AGL.
- (13) Initiate a monitoring program to determine the effect of aircraft noise on the breeding behaviour of waterbird species.

Management Commitments for Air Safety

- (14) Maximise aircraft movements to the south, to reduce risk of bird strike.

Management Commitments for the Social Environment

Aboriginal Heritage

- (15) Any artefacts/material unearthed during the construction phase will be reported by the developers and/or contractors to the Department of Aboriginal Sites.

Appendix 5

**Correspondence from the Shire of Busselton
regarding final runway alignment**

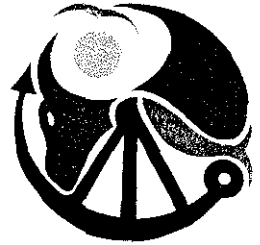
SHIRE OF BUSSELTON

SOUTHERN DRIVE, BUSSELTON, WESTERN AUSTRALIA

Telephone (097) 52 1011, Facsimile (097) 52 4958

Office Hours: Monday to Friday, 9am to 4pm

All Communications to the Chief Executive Officer
P.O. BOX 84, BUSSELTON, W.A. 6280



Our Ref:

T.1.75

Your Ref:

12290 A2

Enquiries: Mr

Michael Swift

FAXED

May 23, 1995

Department of Environmental Protection
Westralia Square Building
141 St George's Tce
PERTH WA 6000

ATTN MR SIMON SMALLEY

FAX 09 322 1598

Dear Mr Smalley

Re: BUSSELTON REGIONAL AERODROME (775)

Thank you for your letter of May 10, 1995 seeking a response to issues raised during the public submission period for the Consultative Environmental Review (CER) for the above project.

The following response is based on current knowledge of the airport site and its environs and on a recent study tour of five comparable airports at which the specific issues raised in your correspondence were discussed with airport managers/operators so as to identify any problems and formulate solutions. It may be that the Department seeks further investigations/analysis of some issues - a request with which Council would be happy to comply on advice of those issues.

This response correlates directly to the points raised in the Department's letter.

1. IMPACTS ON PHYSICAL AND BIOLOGICAL ENVIRONMENT

- 1.1 The literature review carried out in preparation of the CER did not reveal any recognised waterbird habitat on the Sabina Vale property to which this submission apparently relates. It is probable that limited numbers of waterbirds do make temporary use of the irrigated areas depending on seasonal effects on usual habitats nearby. The likely area of temporary habitation by these birds is to the south-east of the area of direct impact of the airport. Davidson has previously established that the airport activities are unlikely to affect bird breeding/nesting/migratory habitats.

*Escape
to the Cape*

Other airports frequented by basically the same species (Ballina, Coffs Harbour, Moruya and Merimbula) are not experiencing difficulties that cannot be remedied by simple management techniques (such as "clearing runs" which must be carried out notwithstanding the presence of birds). It is understood that the mob of kangaroos previously known to inhabit this area has been all but wiped out through a series of road kills associated with the opening of the Ludlow Deviation and that the remaining animals have moved deeper into the Tuart Forest in reaction.

Kangaroos readily co-exist with regional airports elsewhere in Australia (Moruya, Grafton, Merimbula etc) and are fairly adaptable to such a change in environments - which in this case will be quite gradual. In some cases, management responses such as "hot-wire" fencing and daily clearing runs have been used as a deterrent to the animals straying onto the runway itself.

- 1.2 No road widening is required and no vegetation in the Reserve will be affected.

2. POLLUTION ISSUES

- 2.1 The potential for small holdings in this locality is not a component of the airport project itself and is therefore contended not to be relevant to this process. Nonetheless, it is possible that an "Airpark subdivision" will be considered in areas south and adjoining the airport. Potential lot sizes range from 5000m² to 2.0 hectares. But, such a proposal will be subject of a totally separate planning and environmental assessment process and will be considered on its own merits. Notwithstanding, any such area will be located approximately 3kms distant from the Vasse Wonnerup Estuary and 4kms distant from Geographe Bay and could not be considered to be of any discernible impact on those areas whatsoever. Any "Special Residential" or similar development in this locality would be deep sewerred (and would be appropriately set back from the airport facility).
- 2.2 This new residence, whilst beneath the flight path for a north-south runway for the airport, is outside of all relevant noise contours. It is also below the flight path utilised for 80% of departures from the existing aerodrome. If a north-south runway is developed then it is expected due to weather patterns, that 75-85% of aircraft movements will occur to/from the south of the airport site and therefore approximately 4.5kms distant from this dwelling. This single end approach/departure pattern is used at many other regional facilities (Moruya, Merimbula, Coffs Harbour, Lismore) without problems.
- 2.3 The two dwellings referred to are on the Sabina Vale property. Runway alignment options are available to ensure that both dwellings are not located below approach/departure flight paths and are outside of all relevant noise contour criteria. Runway options will be provided under separate cover.

It is recognised that the manager's residence on Sabina Vale is likely to be affected by the proposed airport and this is a factor which will figure in negotiations with the owner of the property relative to compensation. However, given the problematics of airport location/design/impacts and the regional significance of this project, Council submits that the impacts on this one dwelling are reasonable in all of the circumstances.

- 2.4 "Ground truthing" of runway alignment options and associated noise impacts will be carried out and submitted for your consideration at the earliest possible date.
- 2.5 The Payne Road site was eliminated from further detailed analysis based on the cumulative advantages of the Four Mile Hill site based on a range of criteria - not just noise and flight paths. The published CER outlines these criteria and some of the relative shortcomings of the Payne Road site. Council will comply with any request of the Department for further analysis of the Payne Road site but submits that this would be futile and cost inefficient in the overall circumstances.
- 2.6 Council believes that design options (for the airport) exist whereby no dwelling will be within the Ldn55 noise contour. This issue will be answered on submission of the preferred runway alignment in the near future. In the event that any residence is found to be within the Ldn55 noise contour then Council undertakes to liaise with the affected landowners and to implement noise reduction measures appropriate to the circumstances of the dwelling, at Council's cost, and to consider noise management techniques for the airport itself.

3. IMPACT ON THE SOCIAL SURROUNDINGS

- 3.1 Council will be attempting to align the runway to avoid cattleyards notwithstanding that cattle stampedes and the like are not in the experience of similarly located rural airports (Lismore, Albany etc).
- 3.2 RGC Minerals do not have surface rights to the affected land. The affected area is likely to be less than 10-12 hectares. Council proposes to purchase the affected land totally unencumbered. The value of any mineral sand resource in the affected area has not been established and, in any case, must be weighed against the regional significance of the project. Council submits that this is not an environmental issue.
- 3.3 Substantial long-term planning of Busselton has not resulted in proposals for use of the subject area for "Special Rural", "Residential" or "Industrial" Land Uses (see Leeuwin-Naturaliste Region Plan, Busselton Rural Strategy, Busselton Scheme Review). The airport development may bring with it opportunities for other developments but these will be subject of their own discreet planning and environmental assessments. Council submits that this is not an environmental issue pertaining to the subject project.

4. GENERAL COMMENT

- 4.1 This statement is not supported by the analysis carried out by Council's consultants. Council believes that a north-south runway alignment can meet environmental criteria and be limited to an "acceptable" impact on "Special Rural" areas below flight paths. However, it is clear that these acceptable impacts can be lessened by skewing the runway alignment towards north-east/south-west. The skewing of the runway completely removes aviation activity from the main body of the Vasse-Wonnerup Estuary, Pigeon Grove Estate and Port Geographe but results in increased effects on farmland to the east, including two rural dwellings. Thus the design process requires the balancing of effects and values.

A factor that must be considered is that the farming areas to the east of the airport site would only be marginally affected in terms of alienation of land from agricultural pursuits and will be subject of mining activities and other major (unrelated) civil works such as the Beenup Mine Haul Road in the short-term. Council therefore submits that the marginal effect on agricultural land to the east is more than offset by other advantages - especially in the context of these other unrelated projects which have/will compromise the agricultural and other values of that land. The submitter would need to submit further information for this statement to be given any credence.

5. OTHER "NON-ENVIRONMENTAL" ISSUES

- 5.1 Acknowledged and agreed. There are no known constraints to access to the airport beyond normal intersection design criteria.
- 5.2 Acknowledged. Council is not in receipt of any definitive planning information for the outer bypass road. Presumably, it will have similar impacts on the Beenup Mine Haul Road as any airport access road. Indeed, it is possible that the Beenup Mine Haul Road will become the outer bypass.
- 5.3 Noted.

SUBMISSION BY CABLE SANDS (WA) PTY LTD

The submission by Cable Sands is disappointing, not so much for its negativity as for its inaccuracy and the clear misrepresentations contained therein. The following comments are made in response to the key issues raised by Cable Sands:

i) LACK OF CONSULTATION

This component of the submission is demonstrably and markedly inaccurate. Cable Sands were indeed consulted by both Council's consultants and Council officers in the months preceding the exhibition of the CER (exact dates of interview can be provided if need be, as well as copies of correspondence from Cable Sands predating the CER). At no time has Cable Sands previously expressed any concern on this issue.

The nomination of Four Mile Hill as the preferred site was given considerable media coverage during 1994 - some of which identified Cable Sands' involvement and support (see attached). So, for Cable Sands to claim that it heard a "rumour" in March 1995 regarding the preferred site, is preposterous and an economic use of the facts. Further, Cable Sands seem to simply not understand the process - which is that public advertising of the CER is the formal consultation exercise.

ii) TIMING OF THE PROPOSAL

All of the above comments apply, as does the fact that timing is not an environmental issue. Any approval issued by the EPA to this project will (presumably) be for the normal period of 5 years.

I have personally previously advised Cable Sands of the proposed construction timetable and have discussed and received correspondence from Cable Sands on the fact that a clockwise skew of the runway, as provided for in the CER, will eliminate conflict with Cable Sands' activities. Cable Sands is known to be negotiating a variation of its rehabilitation activities with affected landowners as a direct result of the airport proposal.

iii) ORIENTATION OF RUNWAY

As outlined earlier, a final runway alignment and supporting information will be submitted shortly. Council undertakes to liaise with Cable Sands in formulating this proposal. Again, it is disappointing that Cable Sands did not use this opportunity to advise the Department of Environmental Protection of any particular runway alignments that would be of concern to the company. Council has formal advice from Cable Sands on this issue, which was a key influence in prompting examination of options for a skewed runway (see attached).

iv) LAND TENURE

Once more, Cable Sands does not appear aware of the difference between environmental and planning studies. Council commissioned a detailed land tenure and valuation report on the Four Mile Hill site during 1994 and corresponded with all landowners, advising of its interest.

The financial interests of Cable Sands, land acquisition matters, resumption and/or compensation are not environmental matters and are not relevant to the assessment of the CER.

In conclusion, Council's response to the submission by Cable Sands is that Cable Sands has raised absolutely nothing of substance or relevance to the environmental review process. Indeed, the submission is inflammatory and misleading. It reveals an ignorance of the purpose of a Consultative Environmental Review and an unwillingness to part with any meaningful information.

SUBMISSION BY WESTERN POWER

Council is fully aware of the requirements of Western Power for undergrounding of transmission lines and is acting co-operatively with Western Power to achieve same and, thus, resolve this issue.

Yours faithfully

A handwritten signature in black ink, appearing to read "Michael Swift". The signature is written in a cursive, flowing style.

MICHAEL SWIFT

DIRECTOR, PLANNING & DEVELOPMENT SERVICES

Enc.

SHIRE OF BUSSELTON

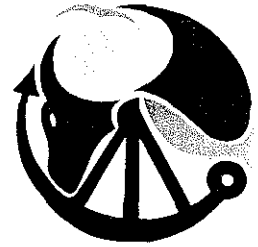
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Office Hours: Monday to Friday, 9am to 4pm

All Communications to the Chief Executive Officer

P.O. BOX 84, BUSSELTON, W.A. 6280



Our Ref: T.1.75
Your Ref: 147/92
Enquiries: Mr Michael Swift

OUR NEW NUMBER
IS (097) 810 444

14 June 1995

FAXED

Department of Environmental Protection
Westralia Square
141 St George's Tce
PERTH WA 6000

ATTN: Mr Simon Smalley

ALSO BY FAX: 09 322 1598

16 JUN 1995

Dear Mr Smalley

RE: CONSULTATIVE ENVIRONMENTAL REVIEW (CER) - BUSSELTON REGIONAL AERODROME (775)

I refer to Council's letter of 23 May 1995 in response to submissions arising from the public exhibition of the CER document for the above project and our subsequent discussions regarding Council's preferred final runway alignment.

I now attach a plan indicating the centre line of Council's preferred runway alignment for the aerodrome. It is proposed that the runway be aligned at grid bearing 25° 35'. This runway alignment actually reflects the position of the runway that had been surveyed and marked for the recent joint inspection of the aerodrome site by representatives of various State Government Departments and RGC Mineral Sands Ltd.

Whilst it was considered likely at the site meeting that some further minor adjustment of the runway alignment may be possible to totally avoid any impacts on Location 3819 currently subject of a mining tenement, further investigations eliminated this option. The runway location is balanced on the criteria of eliminating noise effects and other nuisances on nearby dwellings and achieving clearances from local roads and other structures. Runway alignment 25° 35' achieves the necessary clearances and maintains all existing dwellings outside of the Ldn 55 noise contour. Given the negligible effect on potential future mining operations and, in light of the considerable flexibility available for those operations to be carried out, notwithstanding the presence of the airport, it was felt that these other criteria were more critical than the sand mining issue.

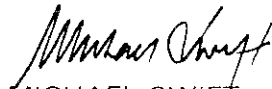
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escape
to the Cape

This exercise is the "ground truthing" exercise of the proposed runway alignment committed to by Council in its submission of 23 May 1995.

I attach a copy of recent correspondence between Council and RGC Mineral Sands Ltd regarding potential impacts of the aerodrome development on possible future sand mining operations for your information. Please do not hesitate to contact me should you require any further information whatsoever.

Yours faithfully



MICHAEL SWIFT

DIRECTOR, PLANNING & DEVELOPMENT SERVICES

Enc: 1. Correspondence -
RGC Mineral Sands Ltd & Council

SHIRE OF BUSSELTON

SOUTHERN DRIVE, BUSSELTON, WESTERN AUSTRALIA

Telephone (097) 52 1011, Facsimile (097) 52 4958

Office Hours: Monday to Friday, 9am to 4pm

All Communications to the Chief Executive Officer
P.O. BOX 84, BUSSELTON, W.A. 6280



Our Ref: T.1.75
Your Ref:
Enquiries: Mr Michael Swift

COPY

14 June 1995

RGC Mineral Sands Ltd
P.O Box 55
CAPEL WA 6271

ATTN: Mr J G Rippon (Mine Engineer)

Dear Mr Rippon

Re: BUSSELTON REGIONAL AERODROME

I refer to the joint inspection of RGC Mineral Sands Ltd Capel Plant and of an area of proposed future mining activity on Location 3819 Bussell Highway near Four Mile Hill on 8 June 1995.

Council has now carried out further investigations of possible runway alignments for the regional aerodrome in an effort to balance the issues of nullifying or minimising effects on potential future mining operations and providing the necessary noise protection for existing dwellings and achieving necessary clearances for aircraft activity over local road systems and services.

This investigation has confirmed that the proposed runway alignment surveyed and marked for the purposes of our site inspection is the optimum alignment in terms of achieving this balance. The runway alignment is at approximately grid bearing 25° 35' and will result in ownership of approximately 13ha of Location 3819 by Council for the purposes of the aerodrome construction and operation (see attached plan).

Our site inspection and Council's later investigations of the impacts of the aerodrome on potential future mining operations have confirmed such impacts to be negligible. The proposed runway for the regional aerodrome will intrude to only a very minor degree into Location 3819 and the remainder of the area of interest to Council will be utilised for general management purposes to secure the aerodrome and maintain surrounds to the runway lighting and tarmac. The ownership by Council of this land for the aerodrome development will not, in itself, prevent future mining of the area.

*Escape
to the Cape*

Our site inspections confirmed that there is considerable flexibility in the mining operation itself, such that it is highly likely that mining of areas surrounding the runway can be carried out subject to only minor modifications (if any) to normal mine operations so as to maintain the necessary clearances under flight paths and within obstacle limitation services for the aerodrome.

Indeed, our further investigations have confirmed that, in the event that the mineral deposit should be of significant economic value, there would be the option for RGC Mineral Sands Ltd to remove the final section of the runway in 10 years or so to allow mining to proceed and to replace that section once mining is complete. This would be possible under arrangements whereby certain operational limits are placed on the aerodrome for a short period of time to allow mining to occur. It would, of course, only be considered in the event that the State Government or RGC Mineral Sands Ltd insist that the value of the mineral resource below the actual runway warranted such action.

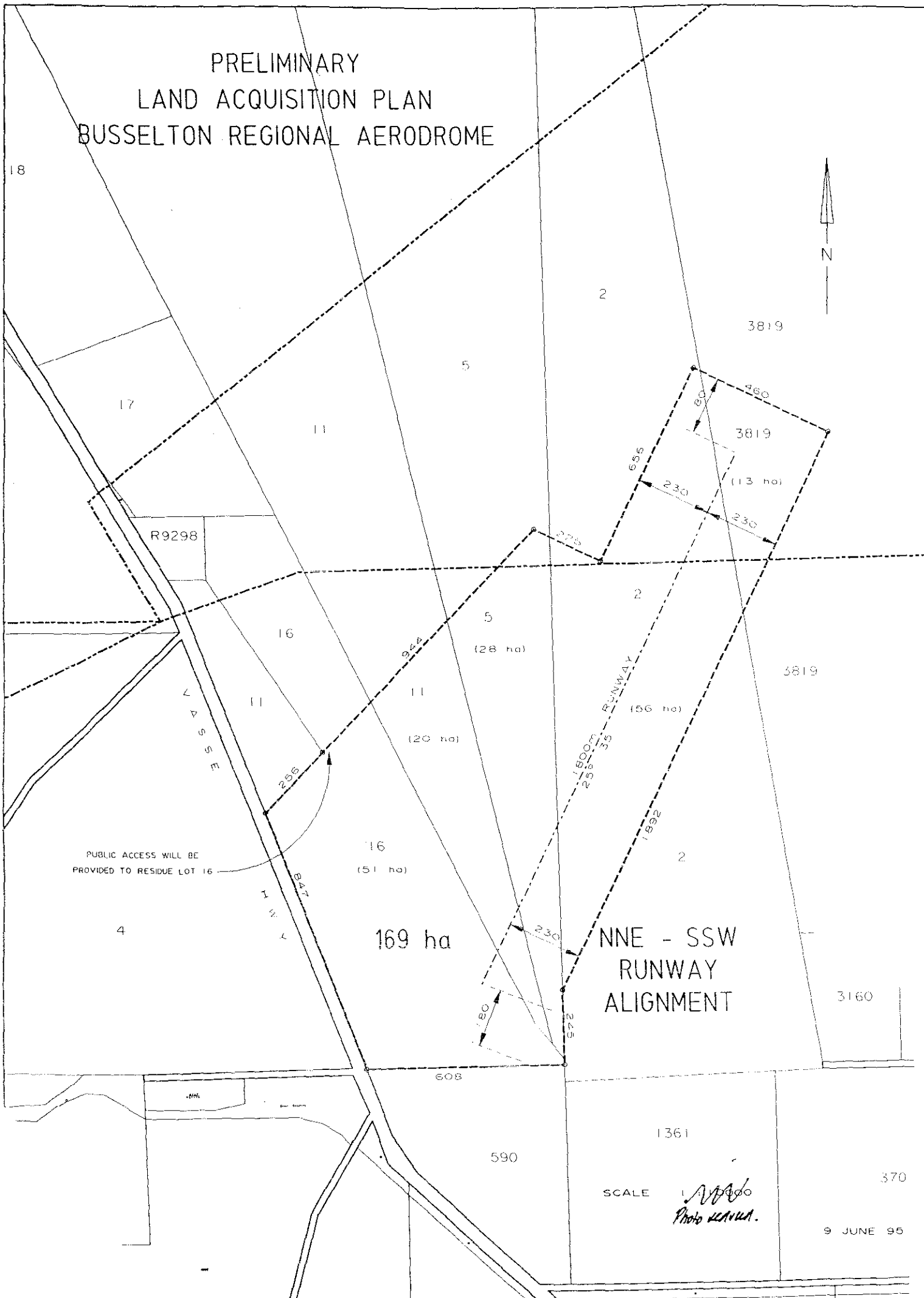
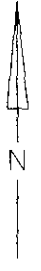
Council is now moving to secure ownership of approximately 13ha of Location 3819. Please let me assure you of Council's ongoing commitment to co-operate with RGC Mineral Sands Ltd toward an ultimate goal of establishing a regional aerodrome with all of the regional benefits that this will accrue to both RGC Mineral Sands Ltd and others in the broader community whilst absolutely minimising any sterilisation of mineral resources in the area.

Yours faithfully

MICHAEL SWIFT
DIRECTOR, PLANNING & DEVELOPMENT SERVICES

Enc:	1.	Plan
C.C:	1.	Mr Mike Freeman Geological Survey of WA Dept of Minerals & Energy "Mineral House" 100 Plain St (Cnr Adelaide Tce) PERTH WA 6000 Fax: 09 222 3633
	2.	Mr G Rolfe Dept of Treasury 197 St George's Tce PERTH WA 6000 Fax: 09 222 9117

PRELIMINARY LAND ACQUISITION PLAN BUSSELTON REGIONAL AERODROME



PUBLIC ACCESS WILL BE PROVIDED TO RESIDUE LOT 16

169 ha

NNE - SSW
RUNWAY
ALIGNMENT

SCALE *MA*
Photo Aerial.

9 JUNE 95