CP36157/5/92-500

EPA 024

ENVIRONMENTAL PROTECTION AUTHORITY

File Number

CT6/C4/1 Vol 1

File Title

QUINS HILL - BIOLOGICAL DATA

Volume created: 27/9/94

Relevant Files

Folio	Date Referred	Officer	Initials	Folio	Date Referred	Officer	Initials

The recommended area comprises a part of the larger area of open space of regional significance extending along the Moore River (see Figure 1, Chapter 4), an area which is of particular importance as the only major river valley between the Swan and Murchison Rivers.

Recommendations:

C3.1 That our general recommendations or ... applied to this area (see Recommend ... s be

C3.2 That the Department of Fisheries and ... WANNEROO DISTRICT OFFICE upply pc ... nental F ... blic port

... ear the ... l33 and ... om- ned

... undwat ... s greatl ... ied- and ... of the ... named ... cies, se ... eys. plant s of ritic rtle, dew, boronia, snakebush, banjine, leschenaultia and trig- ildflowers in bloom, and the area is consequently popular

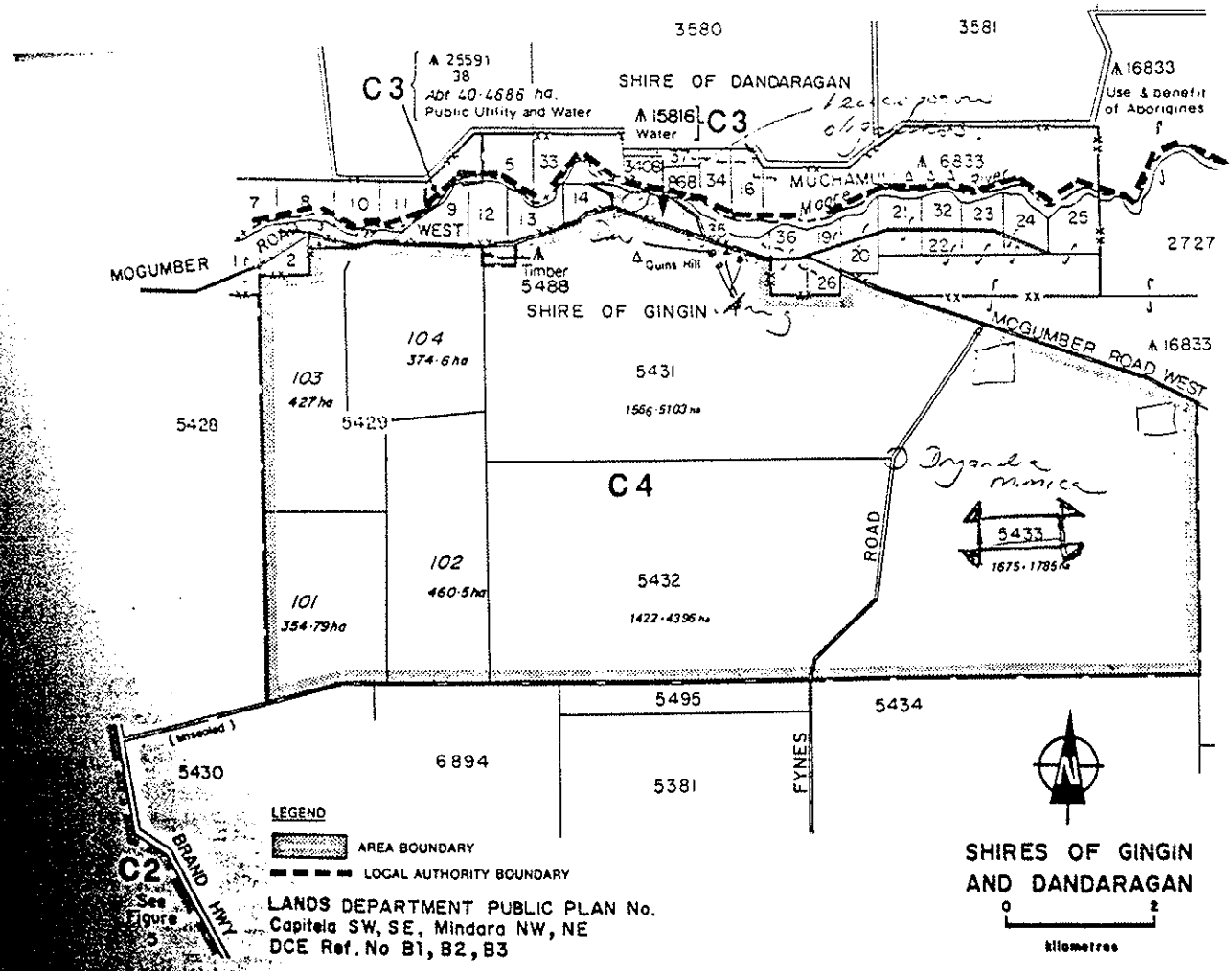
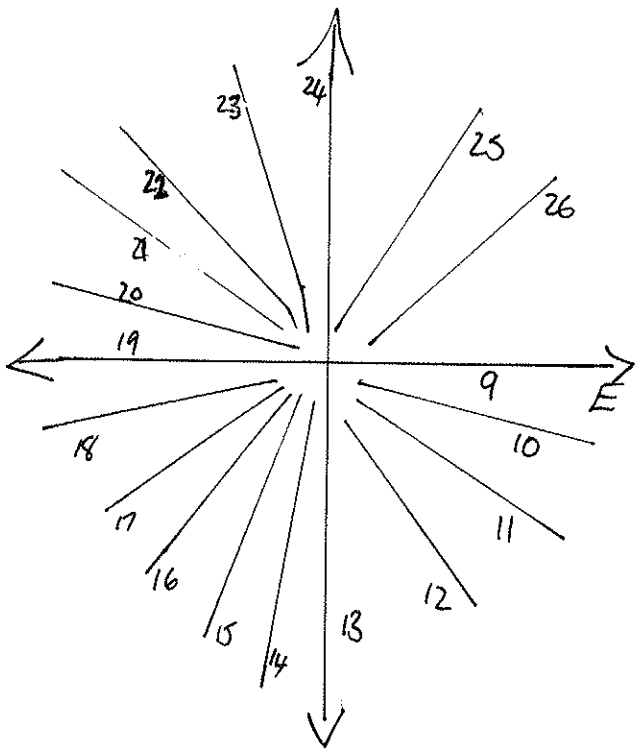


Figure 6


6
480m from hwy
unsealed Rd

QUINN HILL (C4) FILM 08
2/11/94 Approximate photo direction.



RLM #2 28/9/94

Gladioleo in
road works
Mogumber Rd W
E Eyres Rd' to

Road
widening
location ⊛

PHOTOS taken
for MOGUMBER WEST
ROAD WORKS
12/1/98

FILM Ø8
23/11/94
Photo 1
Photo point PA
to valley

0.55 Km N
Site QUINN Ø9
Photo 3
to hill

FILM Ø8
Photo 4
NW across rolled
area
1.48 km N QUINN Ø9.

FILM 02
Mogumber W Road
Photo 7
Looking NE Fynes Road Reserve to Moore River
28/9/94

Photo 9
Looking S from just W of Fynes
28/9/94

Photo 8
Looking W along Mogumber West Road from West of Fynes Road Reserve
28/9/94

QUINNS HILL (C4)
FILM Ø8
E

QUINNS HILL (C4)
FILM Ø8
photo 9

QUINNS HILL (C4)
FILM Ø8
photo 10

QUINNS HILL (C4)
FILM Ø8
photo 11

QUINNS HILL (C4)
FILM Ø8
photo 12

QUINNS HILL (C4)
FILM Ø 8
photo 13

QUINNS HILL (C4)
FILM Ø8
photo 14

QUINNS HILL (C4)
FILMØ8
photo 15

QUINNS HILL (C4)
FILMØ8
photo 16

QUINNS HILL (C4)
FILMØ8
photo 17

QUINNS HILL (C4)
FILMØ8
photo 18

QUINNS HILL (C4)
FILMØ8
photo 19

QUINNS HILL (C4)
FILMØ8
photo 20

QUINNS HILL (C4)
FILMØ8
photo 21

QUINNS HILL (C4)
FILMØ8
photo 22.

QUINNS HILL (C4)
FILM Ø8
photo 23

QUINNS HILL (C4)
FILM Ø8
photo 24

QUINNS HILL (C4)
FILM Ø8
photo 25

QUINNS HILL (C4) FILM 08 photo 26.

FILM Φ7 photo 36
'Quinns Hill' from Road verge, 22/11/94
Similar to site QUINN01 with addition of
'Morrisons Cypress'

FILM #2

QUINN #7
29/9/94

QUINN #8
29/9/94

FILM
QUIN #9.
29/9/94

FILM #2

QUINN #1
28/9/94

QUINN #2
28/9/94

QUINN #3
28/9/94

F

↑

QUINN Ø4 →

28/9/94

Film Ø8

QUINN Ø5

23/11/94

Piggery development, Mogumber West Road

Ted Griffin 11/6/99.

Background:

- Part (~10%) of a System 6 recommended area
- Need for reserve in area supported by study of biogeography of Northern Sandplains
- Only significant portion of the recommended area left uncleared
- Vegetation appears to be in good condition
- Area contains significant portions of laterite uplands that tend to be poorly represented in conservation reserves compared to banksia woodlands
- In an area of "low vulnerability to ground water contamination"

Equity:

- No attempt was made to protect the bulk of the recommended area that is now cleared or fragmented and probably degraded
- An unresolved clearing application already exists on the block (This is accompanied by a potential liability to such as RAFCOR, or the possibility of a compromise resulting in clearing anyway.)
- The existence of the recommended area only recognised late in the negotiations
- Proponent prepared to covenant the majority of uncleared area

My proposal

Prepared a statement for the EPA which

- Outlines the background
- Highlights the probable regional significance (from existing data)
- Incorporates survey data of GHD
- A statement of the hydrological impacts
- Includes a proposal to covenant

From: Shane Sadleir, Shane Sadleir,
To: Ben Carr
CC: Bridget Hyder-Griffiths, Jenine Ryle, Jane Taylor, Kim Taylor, Bev Walker, Gary Whisson
BCC:
Priority: Normal
Date sent: 8/6/99 3:34 PM

Gingin Piggery meeting

Hi Ben - there is a meeting arranged re scope of veg work on the piggery with Ted Griffin on Friday at 9.30am in the audit meeting room on 9th floor. Others asked to attend so far are Kim, Bev, Janine Ryle, Garry Whisson, Anna Napier.

Talking with Gary earlier, he reinforced his concerns re inviolobility of SS6 areas without formal assessment, or at least some form of public consultation. It seems that the project has already got a lot of political momentum behind it, and it would be difficult to find an alternative site at this late stage (I recall that they wanted govt approvals in place by 24/8/99, which is when the option on Croft's property runs out).

It seems that, if Redford was prepared to sell out, this would be a much better site for a piggery in terms of veg impacts. What would seem a very good proposal is if the proponent / govt was prepared to purchase both properties and place the vegetation in to a conservation covenant. The resultant cleared land would provide ample capacity for the initial and any expanded piggery operations. There may also be some economic advantages with a reduced haulage distance of some 18km to Perth, if access is from the south. Costs of road building and upgrading may preclude this in the first instance. Kim has asked me to follow this line separately with Andrew Watson in the first instance, and is not intended to be the subject of discussion on Friday..

Meeting Notes

Name: Bridget Hyde-Griffiths
Branch: Conservation Branch
Folio No.:
File No.:
Subject: West port proposal: C4 Quinns Hill
Date: 3 / 6 / 99
Time: 2pm
People in attendance: Ken West port, Anna Napier GHD consultant, Aq WA - Paul Frapple, DEP Shane Sadlier, Ben Carr,

Items	Action required	Action by
Issues: • S6 area • immediate catchment of Moore River • ↑ in nutrients will have big impact on veg^n • clearing of veg^n in S6 + adjacent to Moore River • DRF Dryandra nivea in adjacent Rd Reserve • access to piggery		
Attributes proximity to Perth, remote from development, gd. rd., Gingin Shire, 3 phase electricity, no piggeries in general area. Gd H_2O allocation. Shallow groundwater aquifer. For disease control need to spread sheds out at least a 1km apart from each other.		
Anna Napier didn't find ~~them~~ DRF in the areas to be cleared so doesn't have the DRF! Regards 17 ha of clearing within proposal. Shane Sadlier - if they provide detailed information on biodiversity aspects wait necessarily be formal - pending informal!		

Meeting Notes

Name	Folio No.
Branch	File No.
Subject	Date / / Time
People in attendance	

Items	Action required	Action by
Bert + Shane suggest going down Rd reserve as access + then locate 2 sheds in cleared area & 2 in bushland & access roads. By 27 August need confirmation on offer. Offer subject to completion by 27 August. Shire want to see tree buffer zone. Irrigate to bunded tree buffer zone. 3 ha ≃ for each shed to be cleared & trees around ~~for~~ & buffer & hardstand.		

Department of Environmental Protection
Westralia Square, 8th Floor, 141 St Georges Terrace, Perth WA 6000

Record of Telephone Call

Call from	Call to	Folio No.
Ted Griffin	Bridget Hyder-Griffiths	
Dept: Ag WA	Dept: DEP	File No.

Subject	Date	Time
West pig proposal cc Quinnstill	8/6/99	10.50 am

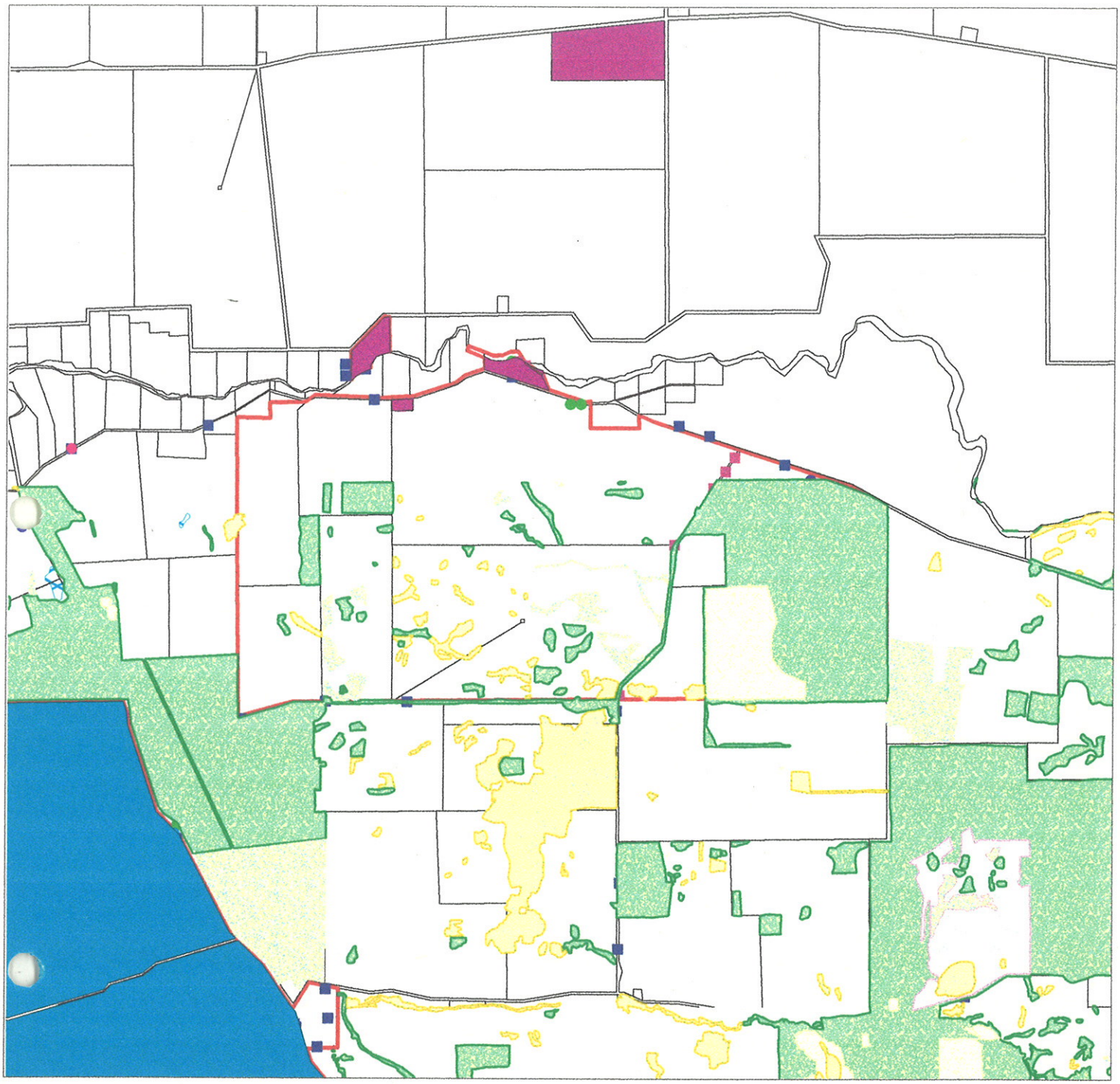
Details

Call to find out who was dealing with the piggery in DEP. I explained my only involvement had been at the meeting 3 June. Previously Shane Sadlier had been involved.

TG had pressure on him for the proposal + was seeking info on level of assessment to be set. I explained it was clearing of bushland within 36 + was likely to attract formal assessment. But Evaluation division would deal with the proposal + send it to us for conservation advice which Gary Wilson would need to sign off on. In addition it would go to other divisions with environmental impacts that were relevant ie pollution prevention.

Action taken/Recommendation(s) (where applicable)

Approval (if required)



Rare Flora
- Declared Rare Flora - Extant Taxa
- Priority Four - Rare Taxa
- Priority One - Poorly Known Taxa
- Priority Three - Poorly Known Taxa
- Priority Two - Poorly Known Taxa

Allfctfinal.shp
- GJKENV
- GRIFFIN
- SCP
- SYS6ENV
- SYS6ENV2
- System 6
- Cadastral Boundaries
- Lakes EPP

Remnant Vegetation, Swan Coastal Plain
- Cleared
- Hole in Vegetation
- Modified Vegetation
- Remnant Vegetation
- Scattered Vegetation
- Unknown

CALM Managed Land 1997
- 5(g) Reserve
- Conservation Park
- Crown Freehold - CALM Int
- Executive Director Freeho
- Executive Director Leaseh
- Marine Nature Reserve
- Marine Park
- Miscellaneous Reserve
- National Park
- Nature Reserve
- State Forest

DEPARTMENT OF ENVIRONMENTAL PROTECTION

TO: - BEN CARR

FROM: - BRONWEN KEIGHERY

SUBJECT: - NOI - NEBRU NOMINEES LOT 2

DATE: - 13TH OCTOBER 1998

Acting Manager
13/10/98

General Comments on the System 6 Area C4

The area proposed to be cleared is part of the System 6 area C4. The values identified for C4 in 1983 included

- variety of soil types from deep sand to lateritic hilltops and combinations of these
- closed to open heaths rich in plant species, similar to those of the northern sand plains
- woodlands dominated by Marri, *Banksia* species and Wandoo
- recognition of the area's scientific and aesthetic values
- importance as a substantial area of remnant vegetation contiguous with the vegetation of the Moore River

As part of the System 6 Update the C4 was visited in the spring of 1994. The general area was viewed from made and unmade road reserves. Nine floristic study plots were located in reserves through the area by DEP. A new population of *Dryandra mimica* (DRF) was identified during this survey work. Several of the private blocks were observed form aerial photos to have been rolled at some time. Those that could be observed were regenerating well, with little weed invasion.

This plot data and information from eight plots from Griffin (1994) were used to identify floristic community types in the area. A series of floristic groupings were recognised in C4 which reflected the values identified in the System 6 report. In addition the relationship to floristic groups on the Swan Coastal Plain to the south was identified (after Gibson *et al.* 1994). These 17 plots identified nearly 300 taxa indicating the floristic richness of the area.

The survey work in 1994 confirmed the values of the uncleared and regenerating areas of C4.

Proposed Clearing of part C4

In consideration of the recognition of the area in the System 6 Report and survey in 1994 that confirmed the values of the area it is recommended that any proposal to clear vegetated portions of C4 be subject to formal assessment.

NAME: Alice Lambert
LAND DISTRICT: Swan
LOCATION NUMBER: 1372 lot 8
SHIRE: Chittering
AREA NOTIFIED: 150
AREA RESERVED: ?
HOW RESERVED: ?
INSPECTOR: J Borger
FILE HELD: 109
FILE NUMBER:?
DATE OF NOI: 16 November 1988

NAME: N S Green
LAND DISTRICT: Swan
LOCATION NUMBER: 1373 lot1 & M 2124
SHIRE: Gingin
AREA NOTIFIED: 200
AREA RESERVED: ?
HOW RESERVED: ?
INSPECTOR: J Borger
FILE HELD: 110
FILE NUMBER: ?
DATE OF NOI: 13 September 1988

NAME: DN Johnston Karina Family Trust
LAND DISTRICT: Victoria
LOCATION NUMBER: 10322
SHIRE: Moora
AREA NOTIFIED: 10 & 35
AREA RESERVED: ?
HOW RESERVED: ?
INSPECTOR: J Borger
FILE HELD: 111
FILE NUMBER: ?
DATE OF NOI: 10 October 1988

NAME: D R Netherway
LAND DISTRICT: Victoria
LOCATION NUMBER: 10141
SHIRE: Dandaragan
AREA NOTIFIED: 120
AREA RESERVED: ?
HOW RESERVED: ?
INSPECTOR: B Addison
FILE HELD: 112
FILE NUMBER: ?
DATE OF NOI: MISSING

NAME:
LAND DISTRICT:
LOCATION NUMBER:
SHIRE:
AREA NOTIFIED:
AREA RESERVED:
HOW RESERVED:
INSPECTOR:
FILE HELD:
FILE NUMBER:
DATE OF NOI:

NAME:RA & FR Abbey
LAND DISTRICT:
LOCATION NUMBER:
SHIRE:Dandaragan
AREA NOTIFIED:
AREA RESERVED:
HOW RESERVED:?
INSPECTOR:
FILE HELD:114
FILE NUMBER:
DATE OF NOI:5 January 1989

NAME:Nebru Nominees (RC Redford)
LAND DISTRICT:Swan
LOCATION NUMBER:5434 & Pt5433
SHIRE:Gingin
AREA NOTIFIED:600
AREA RESERVED:?
HOW RESERVED??
INSPECTOR:Bevan Addison
FILE HELD:115
FILE NUMBER:?
DATE OF NOI:16 January 1989

NAME:R Bertram & RF Stewart
LAND DISTRICT:Melbourne
LOCATION NUMBER:3861
SHIRE:Dandaragan
AREA NOTIFIED:125 ha
AREA RESERVED:?
HOW RESERVED?
INSPECTOR:B Addison
FILE HELD:116
FILE NUMBER:?
DATE OF NOI:9 February 1989

NAME:BH Moore (Sent to Three Springs)
LAND DISTRICT:Victoria
LOCATION NUMBER:
SHIRE:
AREA NOTIFIED:
AREA RESERVED:
HOW RESERVED:?
INSPECTOR:
FILE HELD:117
FILE NUMBER:
DATE OF NOI:8 February 1989

File A6-CTR6 C4

MEETING No: 745
DATE: 17 August 2000

ENVIRONMENTAL PROTECTION AUTHORITY
BRIEFING NOTE

Subject: Assessment Strategy: Clearing of 300 (265) hectares of Native Vegetation : Lot 2, Swan Location 5433 & Location 5434 Gingin (Nebru Nominees)

Briefing Officer(s): Nicholas Woolfrey (project officer)

Ben Carr (technical adviser)

Purpose: **FOR DISCUSSION/DECISION**

Background / Introduction

1. This proposal involves the clearing of approximately 265 hectares of native vegetation for the planting of Tagasaste on Lot 2, Swan Location 5433, which is part of the landholder's holding (which also includes Location 5434). Maps and aerial photographs showing the locality of the subject lot and the proposed clearing are provided as Attachment 1. The majority of the vegetation proposed for clearing has regrown from previously authorised chaining and burning by the landholder some 10-20 years ago.

2. The referral of this proposal has resulted from a reassessment of the clearing by the Commissioner of Soil and Land Conservation in 1998. The proposal would reduce the area of native vegetation on the property to less than 10%.

3. At the recommendation of the Level 3 Interagency Working Group under the Land clearing MOU, this proposal was referred to the EPA in April 1999 by the Commissioner of Soil and Land Conservation because the proposal was judged to have potential for significant impacts on nature conservation values. The Commissioner has indicated that he does not intend to object to the full extent of clearing on land degradation grounds.

4. The proposal affects part of a 6278 hectare System 6 area (C 4 : Quinns Hill) which was recommended for protection as a Regional Park by the Conservation Through Reserves Committee (CTRC) and the EPA in 1983 (refer Attachment 2). Since the EPA's Red Book report the System 6 area has been developed and approximately 70% has now been cleared for agriculture. The adjoining lot to the north (Lot 1, Location 5433), which has a vegetated area of approximately 500 hectares, is currently subject to a proposal for acquisition by CALM. Preliminary discussions with CALM officers indicate that there may be interest in acquiring the vegetated portion of Lot 2.

Initial work for the System 6 update confirms ~~that~~ the area has high conservation ~~stat~~ value. (Check Veg Complex % remaining/protected – Check file.)

Check recent Panorama

Approved by DEP Director

Important Issues and/or Needs Statement:

1. The level of assessment for the proposal was set at 'Formal Under Part IV' in May 1999 in view of the biodiversity conservation values of the regrowth vegetation (which is in excellent condition) and the nature conservation value of the protection of the area in the regional context.
2. Since the time of referral, DEP officers have met with the proponent and inspected the vegetation proposed for clearing and the DEP has obtained further advice from CALM.
3. No detailed surveys have been undertaken to date to assess the specific conservation values present on Lot 2. However Botanical Consultant Ted Griffin's report on a survey of Lot 1, which is subject to the acquisition / reservation proposal, has indicated that the vegetation present on that lot "is (still) an important bush remnant that merits protection for its conservation values, especially its representing vegetation that is poorly conserved" (Griffin, 1999). The report also provides information that indicates that Lot 2 may contain Declared Rare Flora and may also contain regionally significant plant communities complementary to those found on Lot 1.
4. DEP analysis of Beard Vegetation mapping indicates that Lot 2 contains a Beard Vegetation type ('Mosaic Shrublands ; scrub-heath / Shrublands dryanda heath') which is endemic to the immediate locality of the proposal (15km radius) and which is represented by a total of less than 60 hectares in secure conservation reserves (0.3 % of pre –European extent). There are a number of populations of DRF occurring on this vegetation type within a few kilometres of Lot 2.
5. The DEP wrote to the proponent in January 2000 indicating that environmental approval for clearing appeared unlikely and inviting him to withdraw his proposal. However the proponent has recently indicated that he still wishes to pursue the clearing application.

The purpose of the briefing is familiarise the EPA with this proposal and present a draft assessment strategy for the preparation of the EPA's report. This strategy is provided in outline form in Attachment 3.

Reference Material:

1. Conservation Reserves for Western Australia as recommended by the Environmental Protection Authority –1983 (EPA Report 13, October 1983).
2. Griffin, E.A (1999). Assessment of the botanical values of proposed Westpork site, Mogumber West Road (unpublished report prepared for Agwest Trade and Development).
3. Level 2 Agwest Assessment Report (September 1998) : Reassessment of Clearing Application, Swan Locations 5434 & 5433.
4. Outcome of Level 3 Summary Sheet (14 October 1998)

DEP Staff from Other Divisions Consulted

Mr Ben Carr (DEP Catchment Management Branch Environmental System Division

Mr Gary Whisson: Manager Conservation Branch Policy Coordination Division.

Clearing proposals not referred to DEP

DEP Advice

This proposal affects an area of vegetation of high conservation significance, previously identified as such by the EPA's 1983 System 6 (Red Book) report, which although affected by previous clearing activities, retains very significant conservation values.

The subject land lies approximately 5 kilometres outside the 'agricultural region' referred to in Figure 1 of the EPA's Preliminary Position Statement Number 2 (Environmental Protection of Native Vegetation). However, clearing of the vegetation under this proposal is contrary to one or more of the 'basic elements' used to evaluate the environmental acceptability of agricultural and other land clearing referred to in Section 4.3 of the EPA's Position Statement.

In particular the proposal appears contrary to the maintenance of an adequate representation of habitats within a Comprehensive, Adequate and Representative conservation reserve system.

The proposal may also affect the conservation status of any Declared Rare Flora species impacted.

Outcomes Statement:

EPA endorsement of the relevant environmental factors, adoption of the assessment strategy and delegation of the assessment report to the Chairman will enable the EPA's Report to the Minister to the finalised.

Recommendation(s) to EPA:

It is recommended that the EPA:

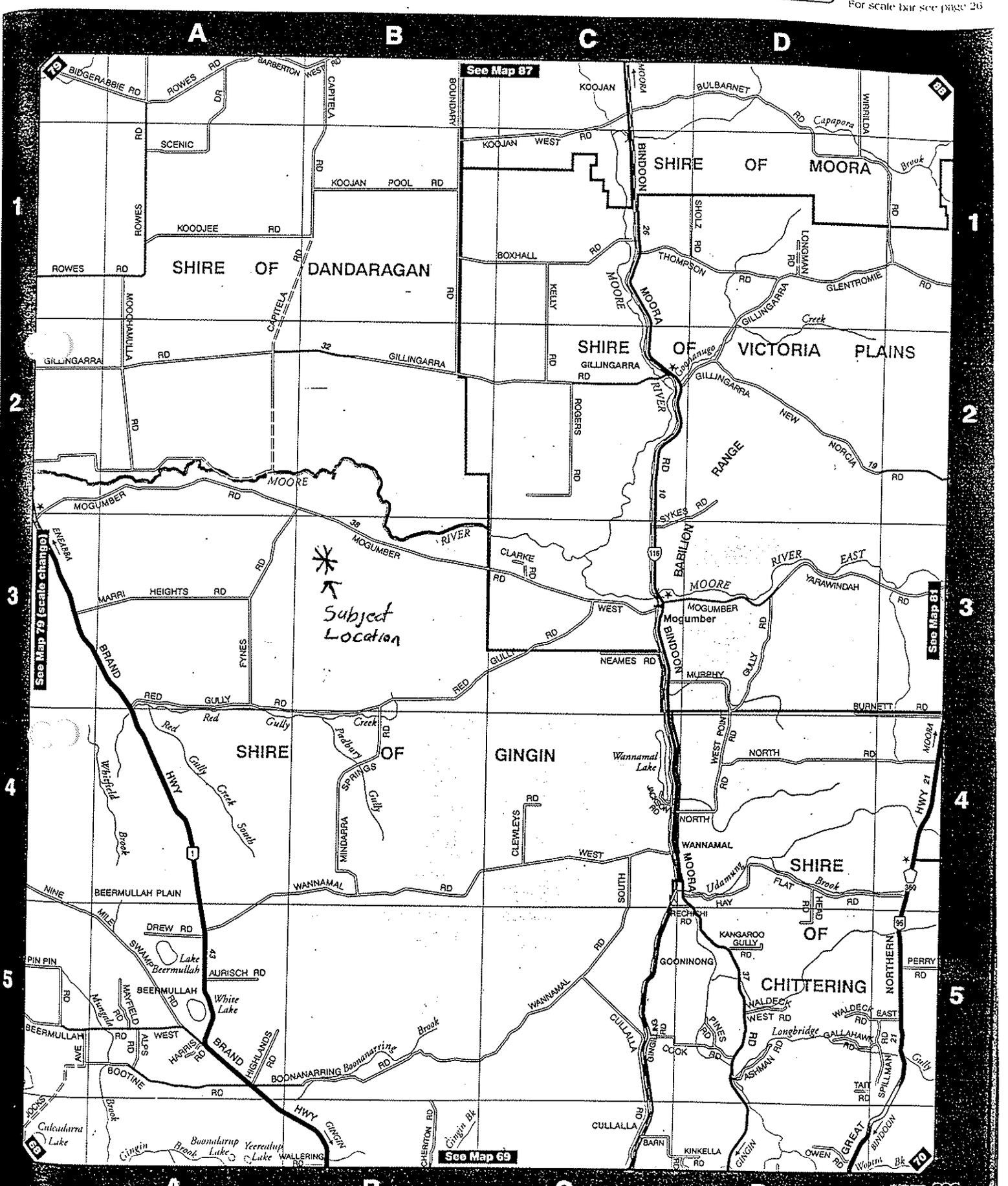
1. **Note** the advice provided in (and in attachments to) this briefing note
2. **Adopt** the assessment strategy summarised in Attachment 1 of this Briefing Note including the relevant environmental factors, relevant areas and environmental objectives, as the basis for its report and recommendations for this assessment.
3. **Agree** that the proposal by Nebru Nominees cannot be managed to meet the EPA's objectives and is broadly inconsistent with the EPA's Position Statement for the Protection of Native Vegetation.
4. **Delegate** to the EPA Chairman, the responsibility for finalisation and release of the EPA's assessment report pursuant to section 44 of the Environmental Protection Act.

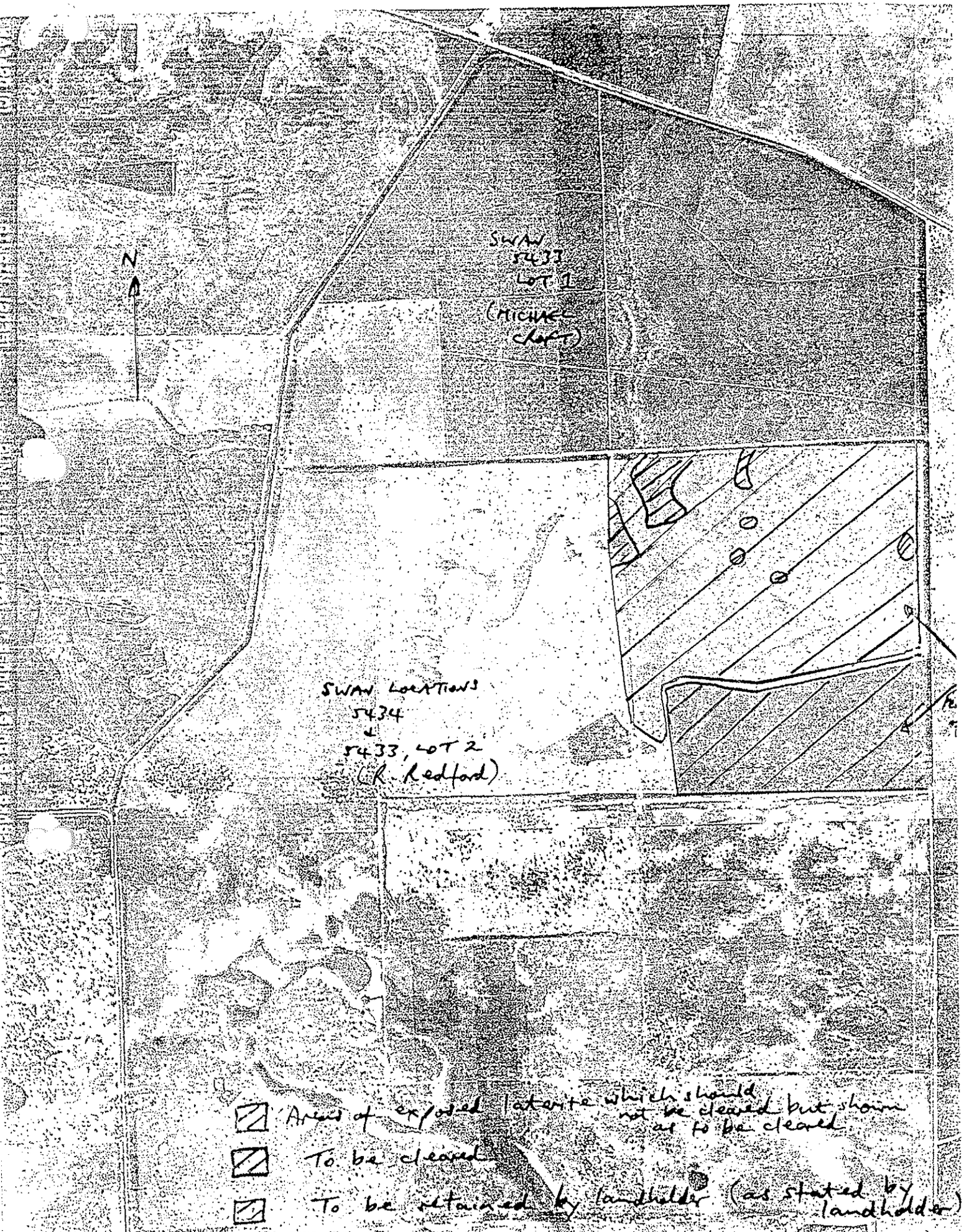
Attachments

1. Maps showing locality and details of the proposal.
2. Copy of extract from EPA 'Red Book' recommendations
3. Draft Summary of Assessment of Relevant Factors

SLOW DOWN AND DRIVE SAFELY THROUGH ROAD WORKS
For all road condition reports, ring **1800 133 3** or for other Main Roads matters ring our Wheatbelt North Regional Office **(096) 224 7**

Scale 1 : 250 000
(1cm = 2.5km)
For scale bar see page 26




N
SWAN
5433
LOT 1
(MICHAEL
CRAFT)
SWAN LOCATIONS
5434
5433, LOT 2
(R. Redford)
Areas of exposed laterite which should not be cleared but shown as to be cleared.
To be cleared
To be retained by landholder (as stated by landholder)

The recommended area comprises a part of the larger area of open space of regional significance extending along the Moore River (see Figure 1, Chapter 4), an area which is of particular importance as the only major river valley between the Swan and Murchison Rivers.

Recommendations:

C3.1 That our general recommendations on planning and management of Regional Parks be applied to this area (see Recommendations 15 and 16, Chapter 5).

C3.2 That the Department of Fisheries and Wildlife investigate the conservation and the Public Works Department the water supply potential of Reserves C15816 and C25591, and report their findings to the Environmental Protection Authority.

C4 QUINS HILL — System 6 Area

The recommended area is situated near the Moore River, about 90km north of Perth, and comprises Swan Locations 5431, 5432, 5433 and lots 101 to 104 of Location 5429, privately owned freehold land (Figure 6).

The area has minor potential for groundwater extraction.

Soil composition within the area varies greatly, from laterite on hill tops to deep sand in valleys. The vegetation is dominated by closed- and open-heaths which are remarkably rich in plant species and are the closest to Perth of the northern heathlands. There are many species of banksia, including three which are unnamed. Dryandra is common, especially on the lateritic soils, and the great variety of heath species, several of which are rare, includes smokebush, myrtle, pea plant, wattle, kangaroo paw, sundew, boronia, snakebush, banjine, leschenaultia and trigger plant. In every season there are wildflowers in bloom, and the area is consequently popular with tourists.

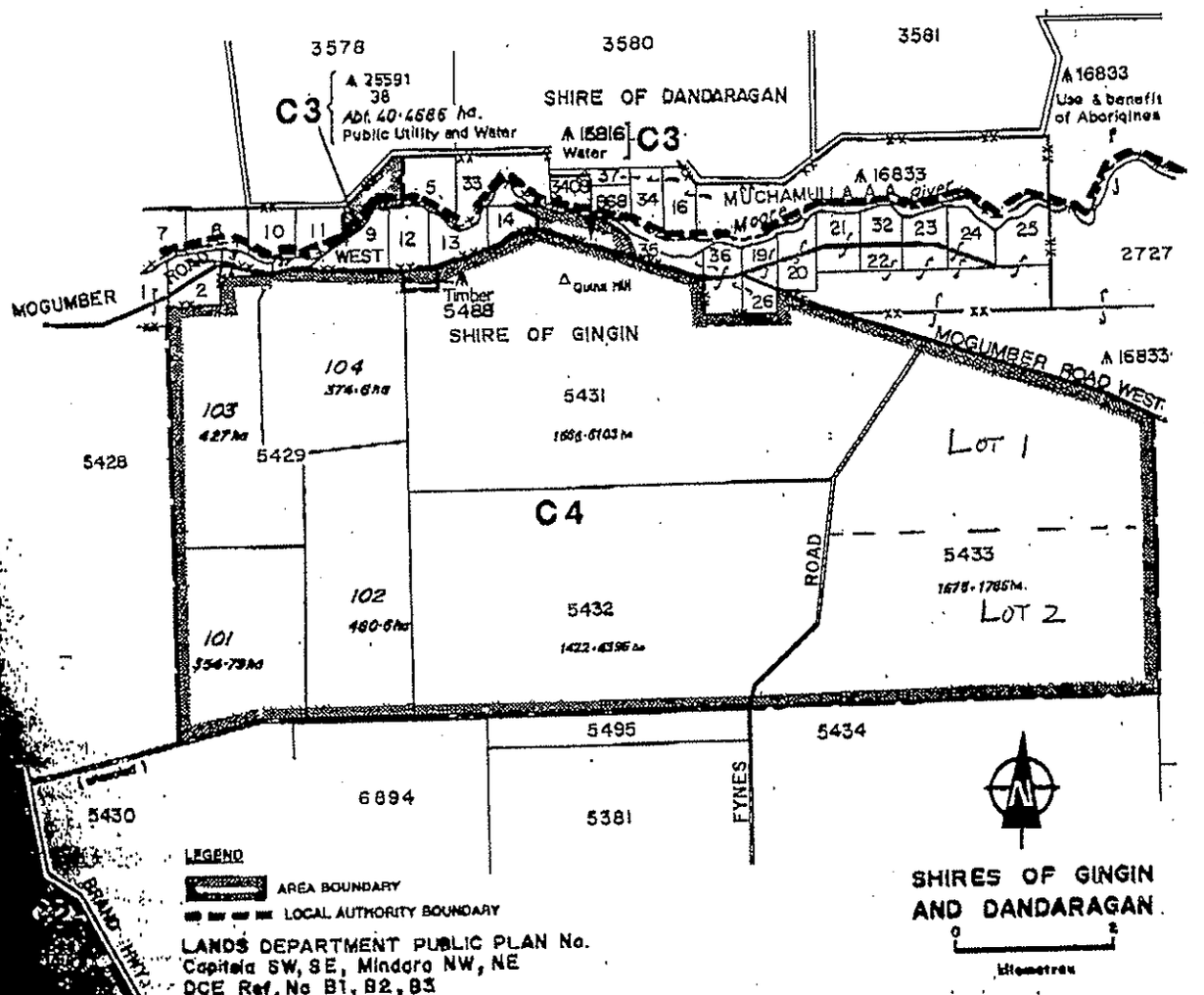


Figure 6

In the sandy valleys there is low open-woodland of pricklybark with some taller marri in places. Banksia is usually associated with this formation. Quins Hill itself is a lateritic hill with both low open-woodland of wandoo and tall shrubland in which Morrison's cypress and broombush honeymyrtle are prominent. The uncommon *Stirlingia simplex* occurs here. The area has a very high conservation value and is important both scientifically and aesthetically. Swan Location 5433 is substantially uncleared, while the other Locations are partially cleared.

The recommended area comprises a part of the larger area of open space of regional significance extending along the Moore River (see Figure 1, Chapter 4), an area which is of particular importance as the only major river valley between the Swan and Murchison Rivers.

Recommendations:

C4.1 That our general recommendations on planning and management of Regional Parks be applied to this area (see Recommendations 15 and 16, Chapter 5).

C4.2 That ways and means of protecting the conservation value of the area be sought through planning procedures to be developed as recommended in Recommendation 14, Chapter 4.

Crown Private land

C5 RESERVE A3345, MOORE RIVER

The recommended area is situated in the north-east corner of System 6, about 4km north-west of Mogumber at the junction of the east branch and main stream of the Moore River. It comprises Reserve A3345, for Conservation of Flora and Fauna, vested in the W.A. Wildlife Authority (Figure 7).

The area has limited potential for water supply, but the PWD wishes to retain right of access to the water courses.

The river runs in a valley some 15 to 20m deep, the sides of which support woodland of wandoo, marri and flooded gum. The remainder of the Reserve consists of low sand dunes covered mainly by low open-forest of banksia and pricklybark, with some Christmas tree. There is also some open-woodland of marri, with a well-defined understorey of pricklybark and banksia. On the deeper sand the understorey includes blueboy, silky bloodflower and scrub sheoak.

The Reserve offers a good variety of habitats for wildlife, especially passerine birds. It is important as a type which elsewhere has been mostly developed for agriculture.

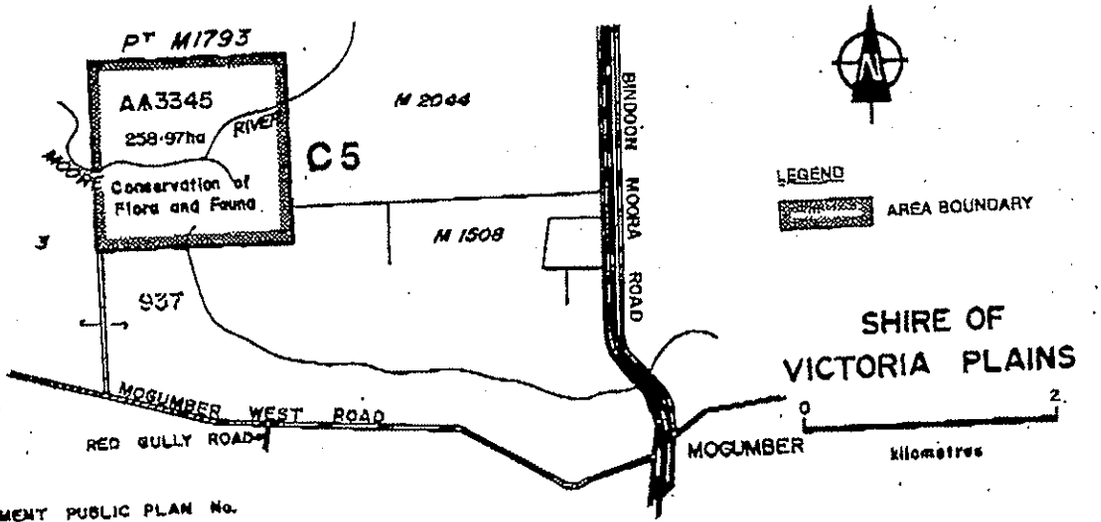
Reserve A3345 is one of the few reserves in System 6 that contain representative areas of the Cullala Soil-landform Unit and is easily the largest of all such areas. The Reserve also contains the largest area of the Moore Unit.

The recommended area comprises a part of the larger area of open space of regional significance extending along the Moore River (see Figure 1, Chapter 4), an area which is of particular importance as the only major river valley between the Swan and Murchison Rivers.

Recommendations:

C5.1 That our general recommendations on planning and management of Regional Parks be applied to this area (see Recommendations 15 and 16, Chapter 5).

C5.2 That the purpose and vesting of Reserve A3345 is endorsed.



LANDS DEPARTMENT PUBLIC PLAN No.
1:25 000 Wannamal NW, SW & SE
DCE Ref. No. 84

Figure 7

Attachment 3: Summary of Assessment of Relevant Environmental Factors

Relevant Factor	Environmental Objectives	Assessment	Advice
Vegetation communities and regionally significant vegetation	Maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities.	DEP analysis of Beard Vegetation mapping indicates that Lot 2 contains a Beard Vegetation type ('Mosaic Shrublands ; scrub-heath / Shrublands dryanda heath') which is endemic to the immediate locality of the proposal (15km radius) and is represented by a total of less than 60 hectares in secure conservation reserves (0.3 % of pre –European extent).	
System 6 area C4	• Ensure that the conservation values of System 6 recommended areas are not compromised. • Ensure that regionally significant flora and vegetation communities in System 6 is adequately protected.	The vegetation proposed for clearing represents 265 hectares (14%) of the remaining 30% (approximately 1883 hectare) of the area of vegetation identified in the EPA's System 6 Recommendations. Approximately 30% of the System 6 area currently remains uncleared and this would be reduced further (to approximately 26%) if this clearing proposal was implemented	As this proposal would result in the further loss of an already restricted and poorly reserved Beard Vegetation Type and would further compromise the values of the System 6 area, the proposal cannot be managed to meet the EPA's objectives for this factor
Declared Rare and Priority Flora	Protect Declared Rare and Priority Flora, consistent with the provisions of the Wildlife Conservation Act 1950.	There are a number of populations of DRF occurring on this vegetation type within a few kilometres of the lot and there is a known population of the DRF species *Dryandra mimica*. However no surveys have currently been undertaken to establish the full extent of DRF populations within the vegetation proposed for clearing.	The EPA is unable, based on the current information available, to determine whether the EPA's objectives can be met for this factor. However it is considered that given the likelihood of the presence of DRF on the property and the likely effects of clearing on any DRF present, the proposal is unlikely to be able to meet the EPA's objectives for this factor.

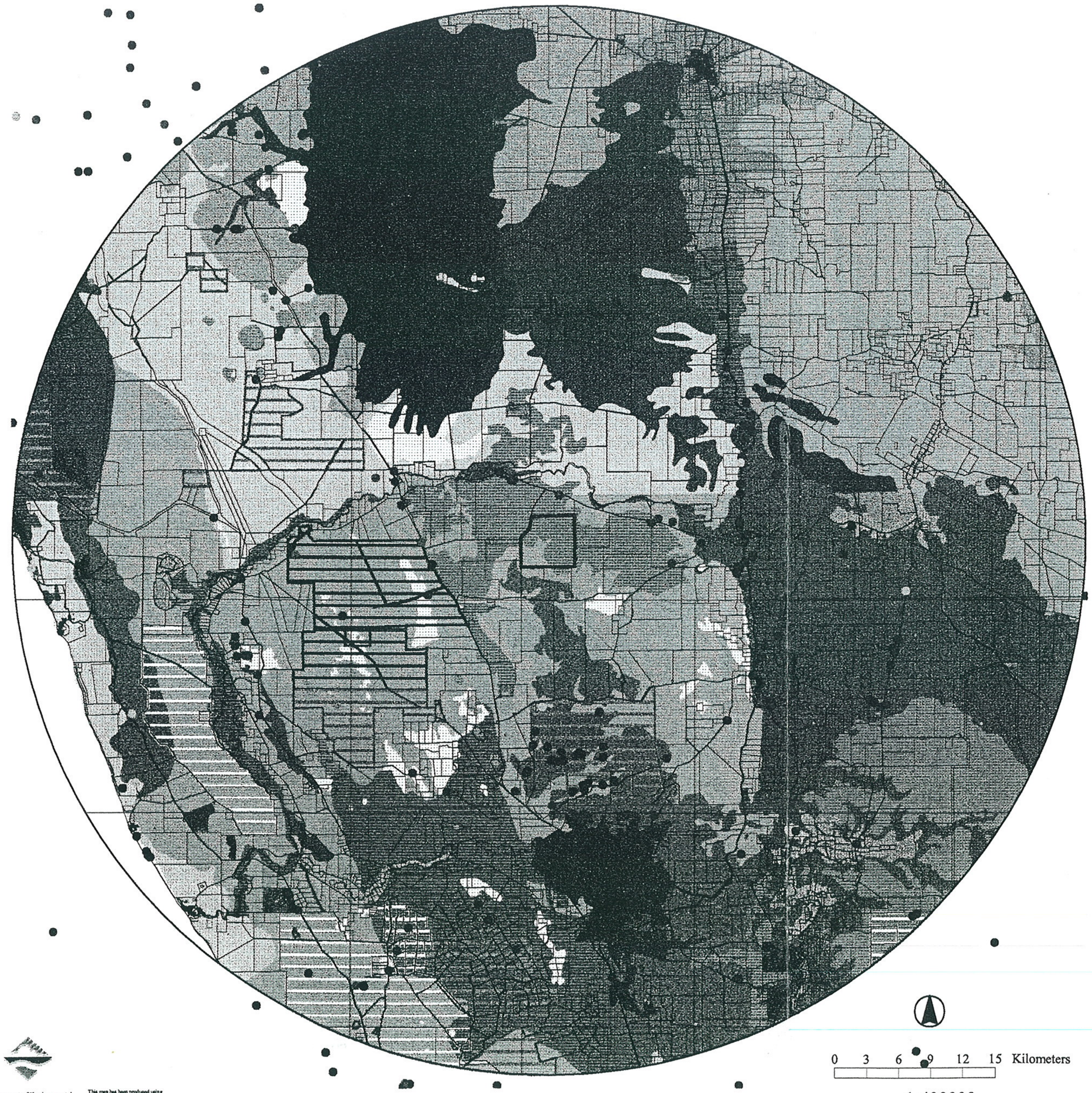
NB: Mechanisms to implement the intent of the System 6 Recommendations are now available through covenants.

ATTACHMENT 3

Relevant Factor	Environmental Objectives	Assessment	Advice
Vegetation quality and Viability	Protect viable examples of native vegetation and fauna habitat, particularly where these contribute to regional biodiversity protection through the provision of buffers, corridors or stepping stones adjoining or linking dedicated conservation reserves	The vegetation proposed for clearing is in good to excellent condition, although altered structurally by previous chaining and burning. The remnant is a suitable size and shape to remain viable for protection. The vegetation adjoins other vegetation proposed as a conservation reserve and forms part of a linking corridor of native vegetation between an existing corridor along the Moore River to the north and dedicated conservation reserves to the south.	The EPA's objective for this factor would not be met by allowing the clearing of this vegetation.
Groundwater quality	Maintain or improve the quality of groundwater to ensure that existing and potential uses, including ecosystem maintenance are protected, consistent with the draft WA Guidelines for Fresh and Marine Waters (EPA, 1993) and the NHMRC / ARMCANZ Australian Drinking Water Guidelines - National Water Quality Management Strategy	The Water and Rivers Commission has advised that this proposal will impact on groundwater quality and level as a result of enhanced recharge and an increase in the down-slope areas affected by salinisation. The Commission has also advised that the landholder has not demonstrated that heavily grazed Tagasaste would be as effective as native vegetation in controlling groundwater recharge.	Based on the advice of the WRC regarding the risk of effects on groundwater (and resulting surface water) quality from the proposal, the EPA considers that the proposal is unlikely to be able to meet the EPA's objective for this factor. Draws into question the position of the Commission for stock consumption.

NEBRU NOMINEES -Lot 2

Clearing Proposal: GINGIN



0 3 6 9 12 15 Kilometers

1:400000

▭ NEBRU NOMINEES- Lot 2
▭ 50 Kilometre Circle
Rare Flora
● Declared Rare Flora - Extant Taxa
● Priority One - Poorly Known Taxa
● Priority Two - Poorly Known Taxa
● Priority Three - Poorly Known Taxa
● Priority Four - Rare Taxa
▭ 50km Land Owner Type and Lot Numbers
50km CALM Managed Land 1997
▨ 5(g) Reserve
▨ Conservation Park
▨ Crown Freehold - CALM interset
▨ Executive Director Leasehold
▨ Executive Directory Freehold
▨ Marine Nature Reserve
▨ Marine Park
▨ Miscellaneous Reserve
▨ National Park
▨ Nature Reserve
State Forest
▨ Timber Reserve
50km Beards Vegetation (DRAFT)
▨ Bare areas; drift sand
▨ Bare areas; freshwater lakes
▨ Bare areas; salt lakes
▨ Low forest; teatree
▨ Low woodland; banksia
▨ Medium woodland; marri and river gum
▨ Medium woodland; river gum
▨ Mosaic: Low woodland; banksia / Shrublands; dryandra heath
▨ Mosaic: Low woodland; banksia / Shrublands; teatree thicket
▨ Mosaic: Medium open woodland; wandoo and powderbark wandoo
▨ Mosaic: Shrublands; Acacia lasiocarpa and Melaleuca acerosa heath / Shrublands; Acacia rostellifera and Melaleuca cardiophylla thicket+F1170
▨ Mosaic:Medium forest; jarrah-marri / Low woodland; banksia / Low forest; teatree / Low woodland; Casuarina obesa
▨ Shrublands; dryandra heath
▨ Shrublands; scrub-heath
▨ Shrublands; teatree thicket
▨ Succulent steppe; saltbush with open low mulga
▨ Succulent steppe; york gum woodland and samphire
▨ Low woodland; Banksia attenuata and B. menziesii
▨ Low woodland; Banksia prionotes
▨ Medium forest; jarrah-marri
▨ Medium open woodland; eucalypt (e2); with
▨ Medium open woodland; jarrah and marri; with
▨ Medium open woodland; marri
▨ Medium open woodland; marri and tuart
▨ Medium open woodland; tuart
▨ Medium sparse woodland; jarrah and marri
▨ Medium woodland; York gum
▨ Medium woodland; York gum and Casuarina obesa
▨ Medium woodland; York gum and salmon gum
▨ Medium woodland; York gum and wandoo
▨ Medium woodland; York gum; wandoo and salmon gum
▨ Medium woodland; jarrah and marri
▨ Medium woodland; jarrah and marri-wandoo
▨ Medium woodland; jarrah-wandoo
▨ Medium woodland; marri
▨ Medium woodland; marri-wandoo
▨ Medium woodland; salmon gum
▨ Medium woodland; tuart
▨ Mosaic: Low woodland; banksia / Medium open woodland; tuart
▨ Mosaic: Medium open woodland; marri / Shrublands; dryandra heath
▨ Mosaic: Medium open woodland; marri / Shrublands; teatree thicket
▨ Mosaic: Medium open woodland; wandoo / Shrublands; dryandra heath
▨ Mosaic: Shrublands; Acacia lasiocarpa and Melaleuca acerosa heath / Shrublands; Acacia rostellifera and Acacia cyclops thicket
▨ Mosaic: Shrublands; dryandra heath / Shrublands; hakea scrub-heath
▨ Mosaic: Shrublands; scrub-heath / Shrublands; dryandra heath
▨ Shrublands; mallee and casuarina thicket
▨ Shrublands; scrub-heath

DEP Internal Use Only

Of the land area within the 50km radius:

3% (19512 ha) was represented by the Beard's Vegetation Complex; 'Mosaic: Shrublands; scrub-heath / Shrublands; dryandra heath'.

1% (212 ha) of the 'Mosaic: Shrublands; scrub-heath / Shrublands; dryandra heath' within the 50km radius is within Nature Reserve and/or National Park.

Locate [illegible] popn of Dryandra mimica

18% (141457 ha) was represented by the Beard's Vegetation Complex; ' Low woodland; banksia'.

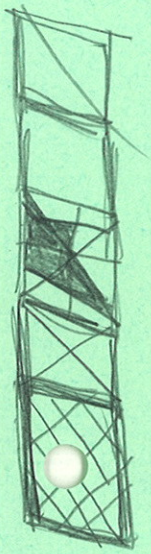
18% (25349 ha) of the ' Low woodland; banksia' within the 50km radius is within Nature Reserve and/or National Park.

Note: These statistics are based on a draft digital version of Beard's Vegetation which contains spatial inaccuracies.

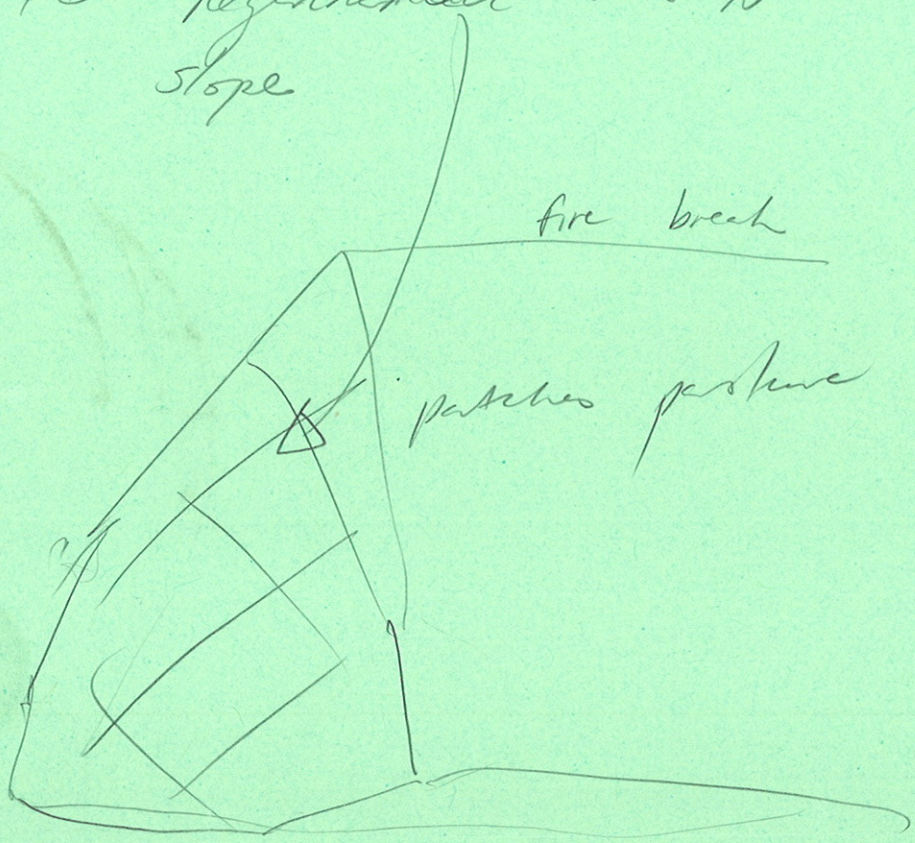
The number of Rare Flora locations within the 50km radius, on the effected vegetation types is:

Declared Rare Flora: 10.
Priority One Flora: 0
Priority Two Flora: 8
Priority Three Flora: 9
Priority Four Flora: 15
TOTAL RARE FLORA: 42

Department of Environmental Protection, Western Australia
DEP GIS 02/09/1998



Ø6 Regenerated on N slope



Weed invasion in Sarh adj packed to E

Ø7 Mossi over heath

Midland Hotel Elders. Moora 096
John Heath 274122 Harridane 511308
Quinns HKC 23/11/94

Ø9

Note: Marri not sampled
accessible areas on public
land limited Check Ted
sampled on Mogumber Rd.
Marri Hts Rd
8 Marri lands
cleared

9.5 km E along Marri
Heights Rd to Fynes
Rd intersection on
bend where rd goes to S.
FYNES RD
0.00 = Site Ø9 = Marri
A 0.55 = bush begins rolled
veg regrown
Spp Hakea P2 = 1 to valley
P4 = Hill to N (P3 = 2 practise)
camera not working

Hakea smilacifolia

1.0 Petrophile adan, slean

B 1.48 km P4 to NW
Rolled area
Track lateritic ridge
Isopogon drum?? check
specimen prob Petrophile 'brev' sd.
Post Ø6
4.4 No Dry min

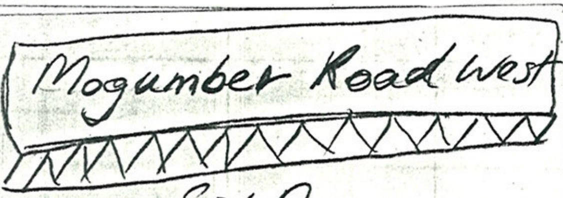
4.58 Lat ridge 2
Euc. macrocarpa

Laurie Armstrong 22/11/94 Ela
Malcolm French Tel
→ 09 4222408 ←
QUINNS HILL

575 2467
Tim Bailey

Eastern block for sale
See above. Excellent to
Pristine condition see
notes sheet about adj rolled
areas.

Lateritic Knolls / Ridge
progressing to deeper sand
in valleys
(shallowest laterite / depth drawn)
Mixed Heath / to
Bank / Euc lod Woodland
? Patches Marri in deepest
sands.



SOLD.
$195,000
1700 acres

~~588 acre~~
See Notes on

etc, single Poa (VSP)
Scattered Iso nod (VSP)

River W
Wandoo on steep laterite
slope photo 22

Drainage from Mogumber W
Rd into Res photo 23

Note: See notes on
aerial photos and
data sheets.
Aerial photos in
cabinet

QUINNS HILL 28/9/94

E boundary
Weeds along boundary from
Marri Wood over heath
Rd to crossing
River Bank
Euc. rudis O Forest - OF
over Ac saligna, Ac rostell, Exo sprt
x Lobich Tall Shrubland (30-70%)
over Hyp angust
over Exotic grasses mostly
Ehrharta calycina

Photo 21 of Moore River on
crossing

River Crossing
Euc rudis OF over
Mel raph L. Wood - F
over Sporob / Sedges.
exotic grasses - Lolium,
annual Veldt

Gary Cahy M said that more information was requested 15/1/98

DEPARTMENT OF ENVIRONMENTAL PROTECT

TO: - WES HORWOOD

FROM: - BRONWEN KEIGHERY

SUBJECT: - MOGUMBER WEST ROAD UPGRADE

DATE: - 12TH JANUARY 1998

General Comments on Vegetation Information
There is still little detailed information in the document on the vegetation. It appears MR is relying on an understanding that little vegetation is going to be impacted by the road works and all of this vegetation is in the current road reserve, not in the System 6 area.

Issues
Previous clearing for road works
Much of the clearing for the roadworks appears to have already been done. Clearing of the road reserve was observed during DEP field work in 1994 (see attached photographs). The EA document from October 1997 refers to this previous clearing (page 6, second last paragraph). A potentially invasive weed, rarely recorded in the area, *Gladiolus caryophyllaceous* (see photograph) was collected in the road works. The road works were contributing to the spread of this weed.

Significant Flora
In 1994 when DRF and priority flora were checked as part of the System 6 Update two taxa not mentioned in the EA documents were brought to our attention as being recorded in the area - *Dryandra mimica* (DRF) and *Anigozanthos humilis* subsp. *chrysantha* . It is not adequate to say there are 'no rare flora markers' on the road .

Borrow Pits
Is it current best practice to obtain gravel from road reserve pits? I had thought this was not the case. It will be increasingly difficult to retain a vegetated road reserve if areas are used as sources for gravel.

Revegetation
It is proposed to revegetate the 'borrow pits' used mulched material form the road works where possible. As there is no detail in the documents of the vegetation in the borrow pits or the areas to be cleared (no vegetation map of road reserve or listing of flora of the road reserve) it is not known if this is appropriate.

Impacts of the road on the System 6 Areas

Drainage

Current poor drainage design is impacting the System 6 Areas (see photograph of culvert into SW corner of the southern portion of C3 (this is a Nature Reserve) on Mogumber West Road. The EA documents refer to retaining water in the road reserve 'wherever possible'. This is not adequate, water not absorbed in the road edges needs to be retained and held to prevent erosion and spread of pest organisms (weeds and dieback).

Dieback

Considering the poor state of the drainage in some sections of the road there is a potential for dieback to be spread from the road, especially downslope towards the Moore River.

Connectivity

The road reserve does contain significant vegetation that is important regionally in providing a substantial link between a series of remnants adjacent to the Moore River. Some of these remnants are System 6 areas and others may well be included in the update. At present much of the land in C4 is in private ownership and is far from secure. The road reserve vegetation therefore has added significance.

Summary

The Departments past field work in the area indicates that there are a series of issues associated with the road works. While the EA documents refer to these issues the detail provided both in background and in the proposed management plan does not indicate that there is a good understanding of the issues involved - no vegetation map of the road reserve, no flora list (including weeds and significant flora), no search for DRF or priority taxa etc. Issues associated with drainage and dieback are also of concern.

Conclusion

If there was a process for ensuring that roadworks would follow the proposed plan (and this plan was supported by a detailed background document) then there would be no need to recommend formal assessment in this case. However in the absence of all but a very general description of the area and the ability to ensure that road works are carried out in accordance with the management plan these roadworks need to be formally assessed. To not ensure that a road through a regionally significant area of vegetation is built and seen to be built to safeguard these values when the Department is trying to raise the value placed on remnant vegetation does not give a good public message.

1/3/95

Department of Environmental Protection System 6 Update : Site based Flora List (289 taxa) for C4, Quins Hill (B.J. Keighery 1/3/1995)

Amaranthaceae
- Ptilotus manglesii

Anthericaceae
- Arnocrinum preissii
- Borya sphaerocephala
- Caesia micrantha "blue" scps (GJK 10857)
- Chamaescilla corymbosa
- Corynotheca micrantha
- Johnsonia pubescens
- Laxmannia omnifertilis
- Laxmannia sessiliflora
- Laxmannia sessiliflora subsp. australis
- Sowerbaea laxiflora
- Thysanotus arbuscula
- Thysanotus manglesianus
- Thysanotus patersonii
- Thysanotus sp. scps
- Thysanotus sparteus
- Thysanotus spiniger
- Thysanotus triandrus
- Tricoryne elatior

Apiaceae
- Homalosciadium homalocarpum
- Hydrocotyle sp. scps
- Trachymene coerulea
- Trachymene cyanopetala
- Trachymene pilosa
- Xanthosia huegelii

Asteraceae
- * Arctotheca calendula
- Asteridea pulverulenta
- Blennospora drummondii
- Brachyscome iberidifolia
- Hyalosperma pusillum
- * Hypochaeris glabra
- Lagenifera huegelii
- Millotia tenuifolia
- Pithocarpa pulchella
- Pithocarpa sp. scps
- Podolepis gracilis
- Podotheca angustifolia
- Podotheca chrysantha
- * Ursinia anthemoides
- Waitzia paniculata
- Waitzia suaveolens

Campanulaceae
- * Wahlenbergia capensis
- Wahlenbergia preissii

Casuarinaceae
- Allocasuarina humilis
- Allocasuarina microstachya

Centrolepidaceae
- Centrolepis drummondiana
- Centrolepis pilosa

Chloanthaceae
- Pityrodia bartlingii

Colchicaceae
- Burchardia umbellata

Cyperaceae
- Caustis dioica
- Lepidosperma angustatum
- Lepidosperma scabrum
- Lepidosperma sp. scps
- Lepidosperma squamatum
- Lepidosperma tenue
- Mesomelaena pseudostygia
- Mesomelaena tetragona
- Schoenus aff. brevisetis scps
- Schoenus clandestinus
- Schoenus curvifolius
- Schoenus latitans
- Schoenus nanus
- Schoenus pedicellatus
- Schoenus pleiostemoneus
- Tetraria octandra

Dasypogonaceae
- Calectasia cyanea
- Dasypogon obliquifolius
- Lomandra hermaphrodita
- Lomandra micrantha
- Lomandra sericea
- Lomandra sp. scps

Dilleniaceae
- Hibbertia acerosa
- Hibbertia aurea
- Hibbertia commutata
- Hibbertia desmophylla
- Hibbertia huegelii
- Hibbertia hypericoides
- Hibbertia pachyrrhiza

Droseraceae
- Drosera erythrorhiza
- Drosera macrantha
- Drosera macrantha subsp. macrantha
- Drosera paleacea
- Drosera pygmaea
- Drosera sp. scps
- Drosera stolonifera subsp. humilis

Epacridaceae
- Andersonia heterophylla
- Andersonia lehmanniana
- Andersonia sp.
- Astroloma microdonta
- Astroloma stomarrhena
- Astroloma xerophyllum
- Conostephium pendulum
- Conostephium sp. scps
- Leucopogon conostephioides
- Leucopogon crassiflorus
- Leucopogon nutans
- Leucopogon oliganthus
- Leucopogon racemulosus
- Leucopogon sp. scps
- Lysinema ciliatum

Euphorbiaceae
- Phyllanthus calycinus
- Poranthera microphylla
- Stachystemon axillaris

Goodeniaceae
- Dampiera lavandulacea
- Dampiera oligophylla
- Goodenia caerulea
- Lechenaultia biloba
- Scaevola canescens
- Scaevola phlebopetala
- Scaevola repens
- Scaevola repens var. repens
- Verreauxia reinwardtii

Haemodoraceae
- Anigozanthos humilis
- Blancoa canescens
- Conostylis aculeata
- Conostylis aculeata subsp. aculeata
- Conostylis aurea
- Conostylis crassinervia subsp. absens
- Conostylis juncea
- Conostylis latens
- Conostylis setigera
- Conostylis sp. scps
- Conostylis teretifolia
- Conostylis teretifolia subsp. teretifolia
- Haemodorum loratum
- Haemodorum spicatum
- Phlebocarya filifolia

Haloragaceae
- Gonocarpus cordiger

Iridaceae
- * Gladiolus caryophyllaceus
- Orthrosanthus laxus
- Patersonia occidentalis

Lamiaceae
Hemiandra pungens

Lauraceae
Cassytha flava
Cassytha glabella
Cassytha racemosa forma pilosa
Cassytha sp. scps

Loganiaceae
Logania spermacocea
Mitrasacme paradoxa

Mimosaceae
Acacia barbinervis subsp. borealis scps
Acacia pulchella
Acacia stenoptera

Myrtaceae
Baeckea grandiflora
Baeckea sp. scps
Beaufortia elegans
Beaufortia eriocephala

Myrtaceae
Beaufortia purpurea
Calothamnus quadrifidus
Calothamnus sanguineus
Calytrix fraseri
Eremaea asterocarpa
Eremaea pauciflora
Eucalyptus calophylla
Eucalyptus todtiana
Eucalyptus wandoo
Hypocalymma angustifolium
Hypocalymma xanthopetalum
Hypocalymma xanthopetalum ssp. xanthopetalum
Leptospermum erubescens
Leptospermum spinescens
Melaleuca ciliosa
Melaleuca radula
Melaleuca scabra
Melaleuca sp. scps
Scholtzia involucrata
Verticordia densiflora
Verticordia nobilis
Verticordia plumosa

Orchidaceae
Caladenia flava
Caladenia sp. scps
Diuris longifolia
Elythranthera brunonis
Eriochilus dilatatus
Leporella fimbriata
Lyperanthus nigricans

Paracaleana nigrita
Prasophyllum sp. scps
Pterostylis recurva
Pterostylis vittata
Thelymitra sp. scps

Papilionaceae
Bossiaea eriocarpa
Daviesia cardiophylla
Daviesia decurrens
Daviesia nudiflora
Daviesia preissii
Gompholobium aristatum
Gompholobium confertum
Gompholobium knightianum
Gompholobium shuttleworthii
Gompholobium tomentosum
Hovea trisperma
Isotropis cuneifolia
Jacksonia alata
Jacksonia decumbens
Jacksonia restioides
Jacksonia ulicina
Mirbelia floribunda
Nemcia acuta
Nemcia capitata
Nemcia reticulata
Sphaerolobium sp. scps

Phormiaceae
Dianella divaricata

Poaceae
* Aira caryophyllea
Amphipogon turbinatus
* Briza maxima
Neurachne alopecuroidea
* Pentaschistis airoides
Stipa campylachne
Stipa compressa
Stipa macalpinei
* Vulpia myuros
* Vulpia sp. scps

Polygalaceae
Comesperma acerosum
Comesperma acerosum ssp. acerosum

Proteaceae
Adenanthos cygnorum
Banksia attenuata
Banksia candolleana
Banksia chamaephyton
Banksia menziesii
Banksia sphaerocarpa var. sphaerocarpa
Conospermum glumaceum
Conospermum incurvum
Conospermum stoechadis

Conospermum teretifolium
Dryandra armata
Dryandra bipinnatifida
Dryandra carlinoides
Dryandra hewardiana
Dryandra mimica
Dryandra nivea
Dryandra platycarpa MS
Dryandra sessilis
Dryandra shuttleworthiana
Hakea auriculata
Hakea chordophylla
Hakea conchifolia
Hakea costata
Hakea incrassata
Hakea lissocarpha
Hakea obliqua
Hakea ruscifolia
Hakea stenocarpa
Hakea undulata
Isopogon drummondii
Isopogon dubius
Lambertia multiflora
Persoonia angustiflora
Petrophile brevifolia
Petrophile linearis
Petrophile macrostachya
Petrophile rigida
Petrophile scabriuscula subsp. recurva MS
Petrophile serruriae
Petrophile sp. scps
Petrophile striata
Stirlingia latifolia
Synaphea petiolaris
Synaphea spinulosa

Restionaceae
Alexgeorgea nitens

Restionaceae
Hypolaena exsulca
Lepidobolus preissianus
Loxocarya fasciculata
Loxocarya flexuosa
Lyginia barbata
Restio microcodon scps
Restio sinosus scps ms

Rubiaceae
Opercularia vaginata

Rutaceae
Boronia ramosa
Eriostemon spicatus

Stackhousiaceae
Stackhousia monogyna

Stylidiaceae
- Levenhookia pusilla
- Levenhookia stipitata
- Stylidium adpressum
- Stylidium albolilacinum
- Stylidium brunonianum
- Stylidium calcaratum
- Stylidium carnosum
- Stylidium crossocephalum
- Stylidium dichotomum
- Stylidium diuroides
- Stylidium piliferum
- Stylidium pubigerum
- Stylidium repens
- Stylidium schoenoides

Thymelaeaceae
- Pimelea sulphurea

Tremandraceae
- Tetratheca sp.

Violaceae
- Hybanthus calycinus

Xanthorrhoeaceae
- Xanthorrhoea drummondii
- Xanthorrhoea preissii

Zamiaceae
- Macrozamia riedlei

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Department of Environmental Protection System 6 Update: Site Based Flora List for C4 Quins Hill

(sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from the Dept of Agriculture Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/95)

Amaranthaceae

Ptilotus manglesii

Anthericaceae

Arnocrinum preissii
Borya sphaerocephala
Caesia micrantha "blue" scps (GJK 10857)
Chamaescilla corymbosa
Corynotheca micrantha
Johnsonia pubescens
Laxmannia omnifertilis
Laxmannia sessiliflora subsp. australis
Laxmannia squarrosa
Sowerbaea laxiflora
Thysanotus arbuscula
Thysanotus manglesianus
Thysanotus patersonii
Thysanotus sp. manglesianus/patersonii scps
Thysanotus sp. scps
Thysanotus sparteus
Thysanotus spiniger
Thysanotus triandrus
Tricoryne elatior
Tricoryne tenella

Apiaceae

Homalosciadium homalocarpum
Hydrocotyle sp. scps
Trachymene coerulea
Trachymene cyanopetala
Trachymene pilosa
Xanthosia huegelii

Asteraceae

* Arctotheca calendula
Asteridea pulverulenta
Blennospora drummondii
Brachyscome iberidifolia
Hyalosperma pusillum
* Hypochaeris glabra
Lagenifera huegelii
Millotia tenuifolia
Pithocarpa pulchella
Pithocarpa sp. scps

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Podolepis gracilis
Podotheca angustifolia
Podotheca chrysantha
* Ursinia anthemoides
Waitzia paniculata
Waitzia suaveolens

Campanulaceae

* Wahlenbergia capensis
Wahlenbergia preissii

Casuarinaceae

Allocasuarina humilis
Allocasuarina microstachya

Centrolepidaceae

Centrolepis drummondiana
Centrolepis pilosa

Chloanthaceae

Pityrodia bartlingii

Colchicaceae

Burchardia umbellata

Cyperaceae

Caustis dioica
Lepidosperma angustatum
Lepidosperma scabrum
Lepidosperma sp. scps
Lepidosperma squamatum
Lepidosperma tenue
Mesomelaena graciliceps
Mesomelaena pseudostygia
Mesomelaena tetragona
Schoenus aff. brevisetis scps
Schoenus clandestinus
Schoenus curvifolius
Schoenus latitans
Schoenus nanus
Schoenus pedicellatus
Schoenus pleiostemoneus
Tetraria octandra

Dasypogonaceae

Calectasia cyanea
Dasypogon obliquifolius
Lomandra hermaphrodita

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Lomandra micrantha
Lomandra preissii
Lomandra sericea
Lomandra sp. scps

Dilleniaceae

Hibbertia acerosa
Hibbertia aurea
Hibbertia commutata
Hibbertia desmophylla
Hibbertia huegelii
Hibbertia hypericoides
Hibbertia mylnei
Hibbertia subvaginata

Droseraceae

Drosera erythrorhiza
Drosera leucoblasta
Drosera macrantha subsp. macrantha
Drosera paleacea
Drosera sp. scps
Drosera stolonifera subsp. humilis

Epacridaceae

Andersonia heterophylla
Andersonia lehmanniana
Astroloma glaucescens
Astroloma microdonta
Astroloma stomarrhena
Astroloma xerophyllum
Conostephium minus
Conostephium pendulum
Conostephium preissii
Leucopogon cochlearifolius
Leucopogon conostephioides
Leucopogon crassiflorus
Leucopogon nutans
Leucopogon oliganthus
Leucopogon racemulosus
Leucopogon sp. scps
Lysinema ciliatum

Euphorbiaceae

Phyllanthus calycinus
Poranthera microphylla
Stachystemon axillaris

Goodeniaceae

Dampiera lavandulacea
Dampiera oligophylla

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Dampiera spicigera
Goodenia caerulea
Lechenaultia biloba
Scaevola canescens
Scaevola glandulifera
Scaevola phlebopetala
Scaevola repens var. repens
Verreauxia reinwardtii

Haemodoraceae

Anigozanthos humilis
Blancoa canescens
Conostylis aculeata subsp. aculeata
Conostylis aurea
Conostylis crassinervia subsp. absens
Conostylis festucacea
Conostylis juncea
Conostylis latens
Conostylis teretifolia subsp. teretifolia
Haemodorum loratum
Haemodorum spicatum
Haemodorum venosum
Phlebocarya ciliata
Phlebocarya filifolia

Haloragaceae

Gonocarpus cordiger

Iridaceae

* Gladiolus caryophyllaceus
Orthrosanthus laxus
Patersonia juncea
Patersonia occidentalis

Lamiaceae

Hemiandra pungens

Lauraceae

Cassytha aurea var. hirta
Cassytha flava
Cassytha glabella
Cassytha racemosa forma pilosa
Cassytha sp. scps

Loganiaceae

Logania spermacocea
Mitrasacme paradoxa

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Loranthaceae

Nuytsia floribunda

Mimosaceae

Acacia barbinervis subsp. borealis scps
Acacia pulchella
Acacia sphacelata subsp. verticillata MS
Acacia stenoptera

Myrtaceae

Baeckea camphorosmae
Baeckea grandiflora
Beaufortia elegans
Beaufortia eriocephala
Calothamnus quadrifidus
Calothamnus sanguineus
Calytrix angulata
Calytrix aurea
Calytrix flavescens
Calytrix fraseri
Calytrix leschenaultii
Eremaea asterocarpa subsp. asterocarpa
Eremaea pauciflora
Eucalyptus calophylla
Eucalyptus todtiana
Eucalyptus wandoo
Hypocalymma angustifolium
Hypocalymma xanthopetalum
Hypocalymma xanthopetalum subsp. xanthopetalum
Leptospermum erubescens
Leptospermum spinescens
Melaleuca acerosa
Melaleuca ciliosa
Melaleuca radula
Melaleuca scabra
Melaleuca seriata
Melaleuca sp. EAG 5358
Melaleuca trichophylla
Pileanthus filifolius
Scholtzia involucrata
Verticordia densiflora
Verticordia nobilis
Verticordia pennigera
Verticordia plumosa

Olacaceae

Olax benthamiana

Orchidaceae

Caladenia flava

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Caladenia sp. scps
Diuris longifolia
Elythranthera brunonis
Eriochilus dilatatus
Leporella fimbriata
Lyperanthus nigricans
Paracaleana nigrita
Prasophyllum sp. scps
Pterostylis recurva
Pterostylis vittata
Thelymitra sp. scps

Papilionaceae

Bossiaea eriocarpa
Daviesia cardiophylla
Daviesia decurrens
Daviesia divaricata
Daviesia nudiflora
Daviesia preissii
Daviesia striata
Gastrolobium oxylobioides
Gompholobium aristatum
Gompholobium confertum
Gompholobium knightianum
Gompholobium preissii
Gompholobium shuttleworthii
Gompholobium tomentosum
Hovea trisperma var. trisperma
Isotropis cuneifolia
Jacksonia alata
Jacksonia decumbens
Jacksonia densiflora / floribunda complex scps
Jacksonia restioides
Jacksonia sp. Quinn
Jacksonia ulicina
Mirbelia floribunda
Nemcia acuta
Nemcia capitata
Nemcia pauciflora
Nemcia reticulata
Sphaerolobium macranthum
Sphaerolobium sp. scps

Phormiaceae

Dianella revoluta var. divaricata

Poaceae

* Aira caryophyllea
Amphipogon debilis
Amphipogon sp scps
Amphipogon turbinatus
* Briza maxima

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Neurachne alopecuroidea
* Pentaschistis airoides
Stipa campylachne
Stipa compressa
Stipa macalpinei
* Vulpia sp. scps

Polygalaceae

Comesperma acerosum subsp. acerosum

Proteaceae

Adenanthos cygnorum
Banksia attenuata
Banksia candolleana
Banksia chamaephyton
Banksia ilicifolia
Banksia menziesii
Banksia prionotes
Banksia sphaerocarpa var. sphaerocarpa
Banksia telmatiaea
Conospermum glumaceum
Conospermum incurvum
Conospermum stoechadis
Dryandra armata
Dryandra bipinnatifida
Dryandra carlinoides
Dryandra hewardiana
Dryandra mimica
Dryandra nivea
Dryandra platycarpa MS
Dryandra sclerophylla
Dryandra sessilis
Dryandra shuttleworthiana
Grevillea eriostachya subsp. eriostachya
Hakea auriculata
Hakea conchifolia
Hakea costata
Hakea incrassata
Hakea lissocarpha
Hakea obliqua
Hakea ruscifolia
Hakea stenocarpa
Hakea trifurcata
Hakea undulata
Isopogon adenanthoides
Isopogon drummondii
Isopogon dubius
Lambertia multiflora subsp. multflora
Lambertia multiflora var. multiflora
Persoonia angustiflora
Petrophile brevifolia
Petrophile ericifolia
Petrophile linearis

CONTACT GREG BEESTON for further information.
Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Petrophile macrostachya
Petrophile rigida
Petrophile scabriuscula subsp. recurva MS
Petrophile serruriae
Petrophile sp. scps
Petrophile striata
Stirlingia latifolia
Stirlingia tenuifolia
Synaphea petiolaris
Synaphea spinulosa

Restionaceae

Alexgeorgea nitens
Harperia lateriflora
Hypolaena exsulca
Lepidobolus preissianus
Loxocarya fasciculata
Loxocarya flexuosa
Lyginia barbata
Restio microcodon scps
Restio sinosus scps ms

Rubiaceae

Opercularia vaginata

Rutaceae

Boronia ramosa
Eriostemon spicatus

Stackhousiaceae

Stackhousia monogyna
Tripterococcus brunonis

Stylidiaceae

Levenhookia pusilla
Levenhookia stipitata
Stylidium adpressum
Stylidium albolilacinum
Stylidium brunonianum
Stylidium calcaratum
Stylidium carnosum
Stylidium crossocephalum
Stylidium dichotomum
Stylidium diuroides
Stylidium piliferum
Stylidium pubigerum
Stylidium repens
Stylidium schoenoides

CONTACT GREG BEESTON for further information.

Flora list for C4 Quins Hill (sites NSI FYR03, MHR01-03, MWR04-06, 08-09 extracted from Northern Sandplains database, sites Quinn01-09 extracted from DEP System 6 Update database, BJ Keighery, 9/1/96).

Thymelaeaceae

Pimelea angustifolia
Pimelea sulphurea

Tremandraceae

Tetratheca sp. scsp

Violaceae

Hybanthus calycinus

Xanthorrhoeaceae

Xanthorrhoea drummondii
Xanthorrhoea preissii

Zamiaceae

Macrozamia riedlei

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
RARE FLORA REPORT FORM

28/9/94

TAXON: Drummondita minica POPULATION No.:
File No. Head Office: File No. District:
DRF ✓ Proposed DRP Priority Species No. Geog. Distn.
New Population Routine Inspection Re-survey Opportunistic Survey
FROM: J. ALFORD TITLE: ENV. OFFICER SURVEY DATE: 28-9-1994
REGION: SWAN DISTRICT: PERTH SHIRE:
District Site Ref.: MAP REF.:

LAND STATUS: B. REICHELT
Nature Res. ☐ Water Res. ☐ Gravel Res. MRD ☐ Gravel Res. Shire ☐
National Park ☐ Railway Res. ☐ Rd. Verge MRD ☐ Rd. Verge Shire ✓
State Forest ☐ Private ☐ VCL ☐ Shire Reserve ☐
Other ☐ State:

LOCALITY: 3.5 Km North of Marrie Heights Road on Eyren Road Reserve

LATITUDE: 31°00.56' LONGITUDE: 115°56.23' ALTITUDE: ASPECT: SE

LANDFORM:
Hilltop ☐ Flat ☐ Drainageline ☐ Swamp ☐ Ridge ☐
Outcrop ☐ Breakaway ☐ Slope ✓ Gully ☐ Valley ☐
Riverbank ☐ Lake Edge ☐ Low Plain ☐ Sand Dune ✓ Cliff ☐
Firebreak ☐ Other:

ROCK TYPE: Laterite ☐ Granite ☐ Dolerite ☐ Limestone ☐ Other:
ROCK FORM: Sheet ☐ Boulder ☐ Fluviatile Gravel ☐ Concretionary gravel ☐
SOIL TYPE: Sand ✓ Loam ☐ Clay ☐ Peat ☐ Gravel ☐
SOIL COLOUR: Red ☐ Brown ☐ Yellow ☐ White ✓ Grey ✓
SOIL CONDITION: Perm. wet ☐ Moist ✓ Dry ✓ Saline ☐ Other:

VEGETATION CLASSIFICATION (Muir's):

ASSOCIATED SPECIES: Banksia attenuata, Adenanthos cygnorum, Lambertia, Conospermum accrescum, Nemcia reticulatum, Dasypogon obliquifolius.

No. OF PLANTS: Estimated ✓ Actual ☐ Mature: 166 Seedlings: Dead: Area Occupied: 100 m

REPRODUCTIVE STATE: in bud ☐ flower ✓ immature fruit ☐ dehisced ☐ vegetative ☐

POLLINATORS: Native bees ☐ honey bees ☐ mammals ☐ birds ☐ insects ☐

Other observations:

CONDITIONS OF POPULATION: Recently burnt ☐ diseased ☐ disturbed ☐ undisturbed ✓
Other ☐ State: near track + upland Eun PP cleared (a while ago) & regenerating

POTENTIAL THREATS: Firebreaks ✓ mining ☐ recreational activities ☐ disease ☐ weeds ☐
grazing ☐ clearing ☐ prescribed burning ? ✓ Other ☐ State

FIRE HISTORY: Not known ✓ Burnt in 19 Summer ☐ Autumn ☐ Winter ☐ Spring ☐
Next control burn: Year: Month:

VOUCHER SPECIMEN: Retained ☐ W.A. Herb. ✓ Other ☐ State:
ATTACHED: Map ☐ Mudmap ✓ Illustration ☐ Photo ☐ Field Notes ☐

ACTION: Taken:
Required: by District ☐ S.O.H.G. ☐ State:

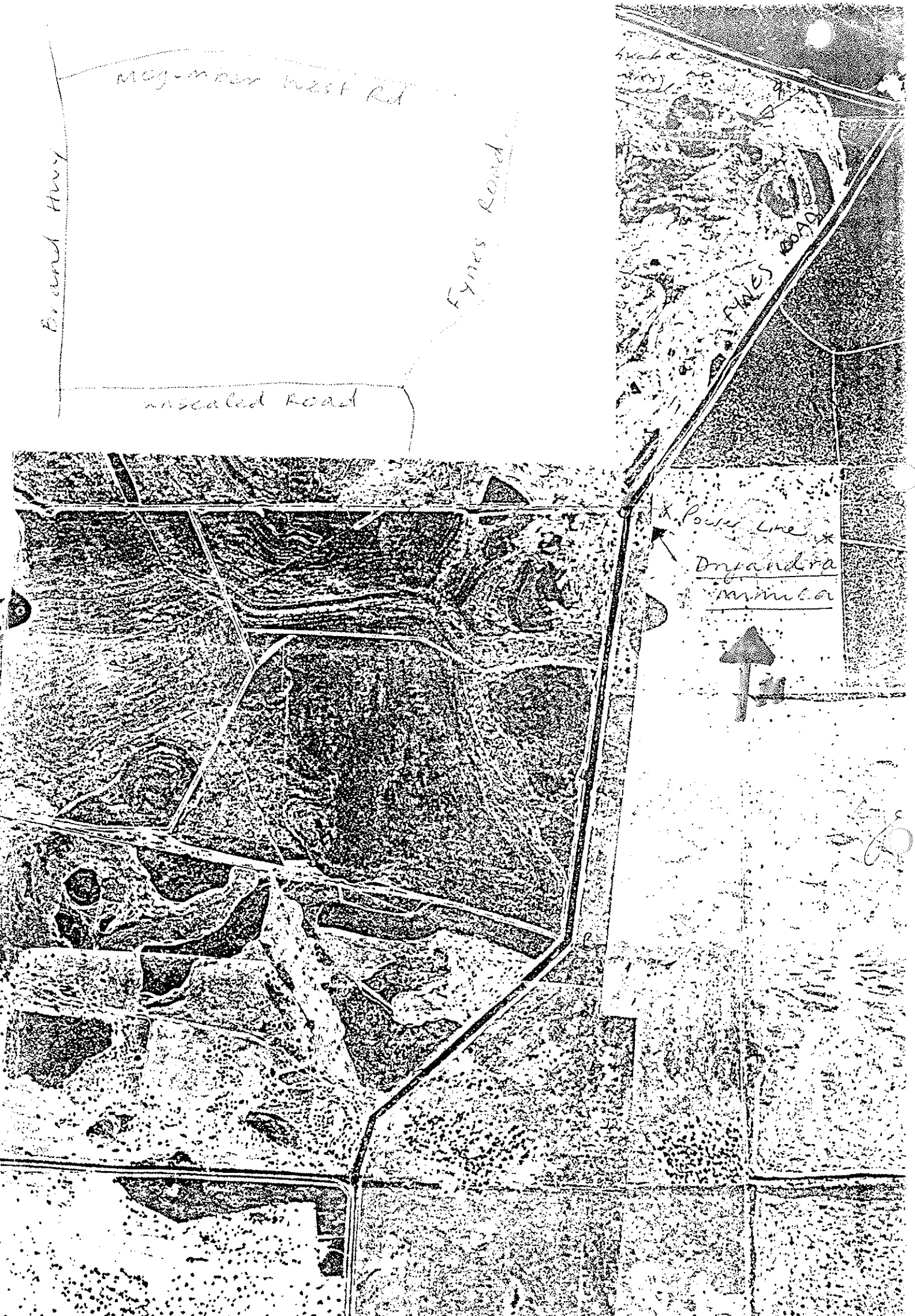
FENCING REQUIREMENT: —
ROADSIDE MARKERS:
OTHER COMMENTS: Notify Shire + adjoining landowner

COPY SENT TO: Regional Office ☐ District Office ☐ Other ☐ State:
SOHG TO SEND COPY TO: Regional Office ✓ District Office ✓ Other ☐ State:

Signed: Teri Alford Date: 28-11-1994

NOTE: More than one box, in any section, may be ticked.

RECORDS: PLEASE FORWARD TO ADMINISTRATIVE OFFICER, FLORA, WILDLIFE ADMINISTRATION


Mayman West Rd
Bruce Hwy
Fynes Road
unsealed Road
FYNES ROAD
Power Line
Dryandra
mimica

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
RARE FLORA REPORT FORM

TAXON: Dryandra mimica — POPULATION No.:
File No. Head Office: — File No. District:
DRF ☑ — Proposed DRF ☐ — Priority Species No. ☐ — Geog. Restr. ☐
New Population ☐ — Routine Inspection ☐ — Re-survey ☐ — Opportunistic Survey ☐
FROM: B KEIGHERY + J. ALFORD — TITLE: CONSULTANT — SURVEY DATE: 23-9-1994
REGION: SWAN — DISTRICT: PERTH — SHIRE:
District Site Ref.: — MAP REF.:

LAND STATUS: Nature Res. ☐ — National Park ☐ — State Forest ☐ — Other ☐ — Water Res. ☐ — Railway Res. ☐ — Private ☐ — State: — Gravel Res. MRD ☐ — Rd. Verge MRD ☐ — VCL ☐ — Gravel Res. Shire ☐ — Rd. Verge Shire ☑ — Shire Reserve ☐

LOCALITY: 4.0 km North of Main Heights Road on Fynes Road reserve.

LATITUDE: — LONGITUDE: — ALTITUDE: — ASPECT: N.E.

LANDFORM: Hilltop ☐ — Outcrop ☐ — Riverbank ☐ — Firebreak ☐ — Flat ☐ — Breakaway ☐ — Lake Edge ☐ — Other: — Drainageline ☐ — Slope ☑ — Low Plain ☐ — Swamp ☐ — Gully ☐ — Sand Dune ☐ — Ridge ☐ — Valley ☐ — Cliff ☐

ROCK TYPE: Laterite ☐ — Granite ☐ — Dolerite ☐ — Limestone ☐ — Other:
ROCK FORM: Sheet ☐ — Boulder ☐ — Fluviatile Gravel ☐ — Concretionary gravel ☐
SOIL TYPE: Sand ☐ — Loam ☑ — Clay ☐ — Peat ☐ — Gravel ☐
SOIL COLOUR: Red ☐ — Brown ☐ — Yellow ☐ — White ☐ — Grey ☑
SOIL CONDITION: Perm. wet ☐ — Moist ☐ — Dry ☐ — Saline ☑ — Other:

VEGETATION CLASSIFICATION (Muir's):

ASSOCIATED SPECIES: Dasypogon obliquifolius, Stirlingia latifolia

No. OF PLANTS: Estimated ☑ — Actual ☐ — Mature: 16 counted — Seedlings: — Dead: — Area Occupied:
REPRODUCTIVE STATE: in bud ☐ — flower ☑ — immature fruit ☐ — dehisced ☐ — vegetative ☐
POLLINATORS: Native bees ☐ — honey bees ☐ — mammals ☐ — birds ☐ — insects ☐
Other observations:
CONDITIONS OF POPULATION: Recently burnt ☐ — diseased ☐ — disturbed ☐ — undisturbed ☑
Other ☐ State:

POTENTIAL THREATS: Firebreaks ☑ — mining ☐ — recreational activities ☐ — 'disease' ☐ — weeds ☐
grazing ☐ — clearing ☑ — prescribed burning ☐ — Other ☐ — State

FIRE HISTORY: Not known ☑ — Burnt in 19 — Summer ☐ — Autumn ☐ — Winter ☐ — Spring ☐
Next control burn: Year: — Month:
VOUCHER SPECIMEN: Retained ☐ — W.A. Herb. ☑ — Other ☐ — State:
ATTACHED: Map ☐ — Mudmap ☑ — Illustration ☐ — Photo ☐ — Field Notes ☐
ACTION: Taken:
Required: by District ☐ — S.O.H.G. ☐ — State:

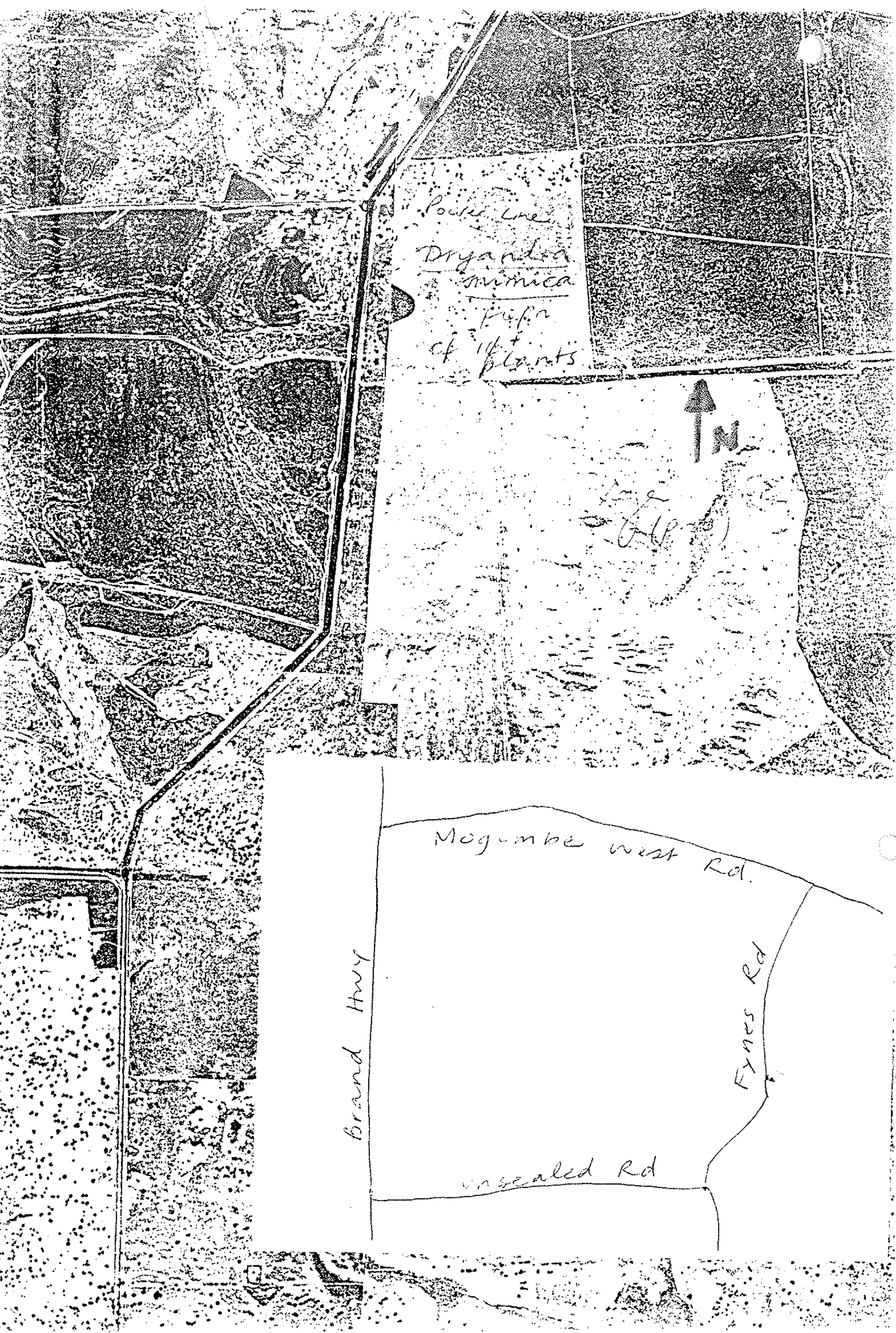
FENCING REQUIREMENT: —
ROADSIDE MARKERS: —
OTHER COMMENTS: Notify Shire + adjoining landowners.

COPY SENT TO: Regional Office ☐ — District Office ☐ — Other ☐ — State:
SOHQ TO SEND COPY TO: Regional Office ☑ — District Office ☑ — Other ☐ — State:

Signed: Jeni Alford — Date: 28-11-1994.

NOTE: More than one box, in any section, may be ticked.

RECORDS: PLEASE FORWARD TO ADMINISTRATIVE OFFICER, FLORA, WILDLIFE ADMINISTRATION


Power Line
Dryandra mimica
popn
of 14 plants
N
Mogumbe West Rd
Brand Hwy
Fynes Rd
Unsealed Rd

Agriculture
WESTERN AUSTRALIA

Dr Bryan Jenkins
Chief Executive Officer
Department of Environmental Protection
Westralia Square
141 St George's Terrace
PERTH WA 6000

Our Ref: 595/99:DH:JM:SRD
Enq: D Hartley
Date: 17 September 1999

23/9/99
Rob has copy
? File

Dear Bryan

PROPOSED DELEGATION UNDER THE SOIL AND LAND CONSERVATION ACT

Thank you for your invitation to meet with the DEP Corporate Executive to discuss the above matter. I am pleased to accept the invitation. However it may be useful for you to have some interim responses to the questions you raise prior to the meeting.

QUESTION	RESPONSE
Duration of the delegation (ie until final Perth's Bushplan is released by Government, in which case should it include protection mechanisms)?	My assumption is that the final version of Bushplan will include protection mechanisms since this will be necessary to maintain the integrity of the Plan. (e.g. through the Town Planning and Development Act via an accompanying Statement of Planning Policy and Environmental Protection Policy. The new EP legislation may be another mechanism.) The 'initial offer' of delegation therefore was until Bushplan was released in final. However, the delegation could be maintained as long as it remains useful. This can be discussed.

145337

Resource implications and DEP's ability to service	Presumably DEP already has some experience and capacity in (licence) compliance monitoring and prosecution. Once the system becomes routine, in the order of three days effort is required to bring a case to the stage of referral to the Crown Solicitor's Office.
1. how many cases have there been	There was one case in December 1998 and 14 this calendar year, most of these in July.
2. what experience can be shared regarding running prosecutions	The Office of the Commissioner has a well established procedure for gathering evidence, developing a prima face case and inviting the Crown Solicitor's Office to accept the case. It would seem logical that DEP officers use the same procedures, at least initially.
3. is there an experienced AgWA officer from whom advice can be sought regarding inspection and prosecution.	Ken Angell and Jim Dixon will provide necessary training and ongoing advice.
Procedural requirements (are there specific processes or procedural steps which need to be followed:	See above
Joint approach (ie would the delegation be instead of, or as well as, AgWA involvement?	Delegation does not remove the Commissioner's authority to intervene in any particular case. However, by agreement, AgWA would not become involved in Bushplan cases beyond offering support and advice.

Yours sincerely

David Hartley
EXECUTIVE DIRECTOR
SUSTAINABLE RURAL DEVELOPMENT

SUSTAINABLE RURAL DEVELOPMENT PROGRAM
PO Box 483 NORTHAM WA 6401 Telephone: (08) 9690 2198 Facsimile: (08) 9622 2147

CT6/C4

• E C O S C A P E •

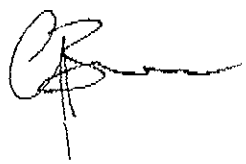
F A C S I M I L E

TO	:	Bridget Hyder-Griffiths		
OF	:	DEP		
FROM	:	George Bouma		
SUBJECT	:	Proposed MRWA work near Mogumber		
FAX N0	:	94851187	DATE :	10/11/97
OUR REF	:	1602.426	PAGES : INC. COVER	3
COPY TO	:		FAX NO:	

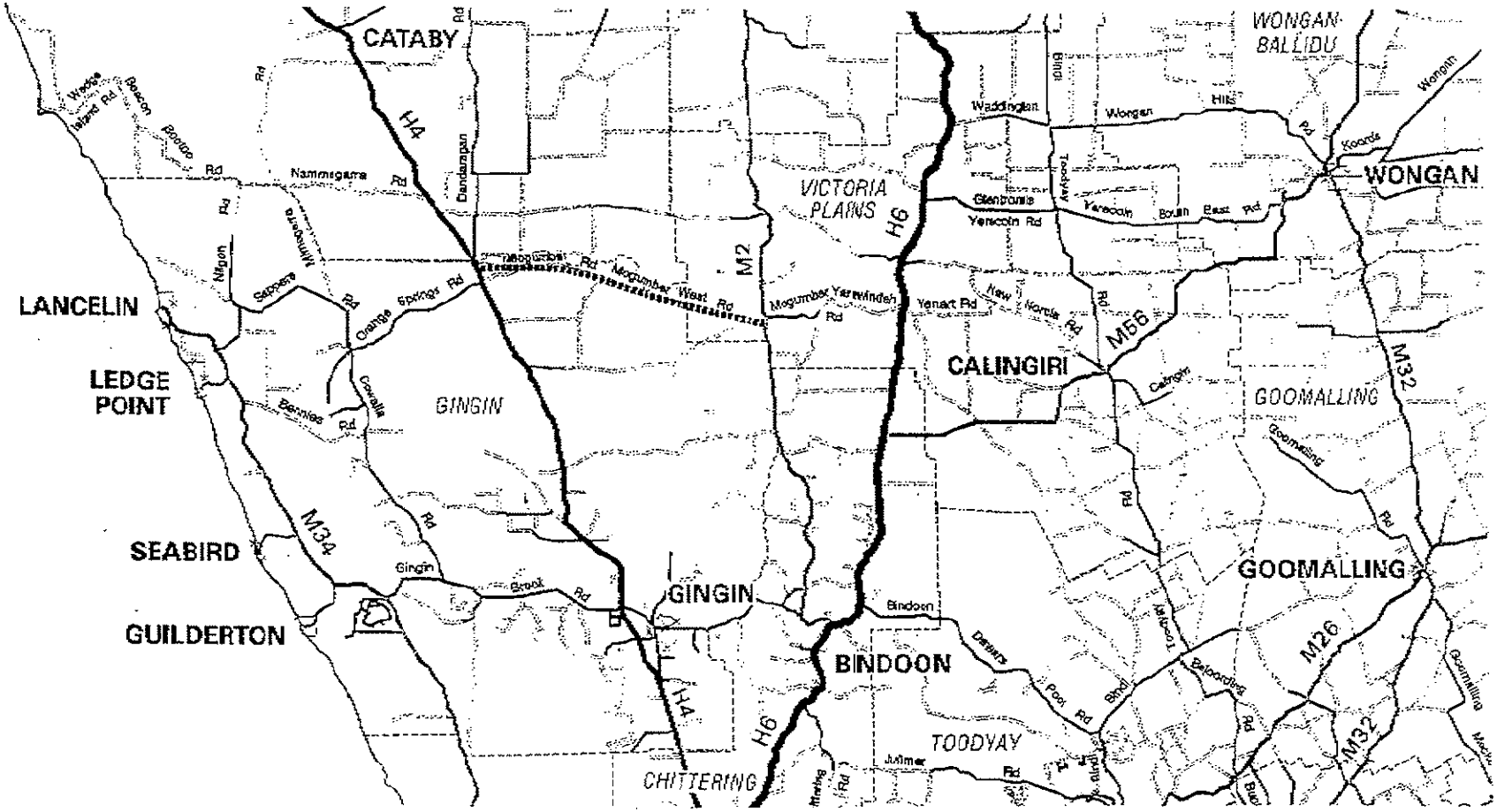
Dear Bridget/Bronwyn,

1. As discussed, the following itemises the location of the proposed MRWA work and the System Six area which could be affected by widening and sealing of the road. The proposed widening will be approximately 2 - 4 metres and there may be a bit more taken for roadside drainage. Could you please assess and provide relevant comments. All works will be contained within the existing road reserve and will not encroach on other land areas. As discussed I could recommend that works be restricted to the northern side of the existing road and this would minimise any potential for impacts into the System Six area. Anyway, your comments would be appreciated.

2. Having had discussions with Ted Griffin on the vegetation of the area it is evident that a number of factors need to be recognised. These being, the poor representation of the vegetation of the area, and the species richness of the heath vegetation and the potential for DRF and priority taxa being present. Whilst, records from both MRWA and CALM fail to record anything in the road reserve, Ted seems to think there is a distinct possibility that *Dryandra mimica* could be present. If you have some field knowledge of the area your thoughts on this matter would also be appreciated.



ECOSCAPE (AUSTRALIA) PTY LTD ACN 070 128 675 LANDSCAPE ECOLOGISTS ENVIRONMENTAL CONSULTANTS
21A Pakenham Street, Fremantle, W.A., 6160 Telephone (08) 9430 8955 Facsimile (08) 9430 8977 Email:ecoscape@wantree.com.au



Title:	Figure 1. Location Plan
Project:	Project 1. Mogumber West Rd. SLK 0.00 to SLK 24.8 Shire of Gingin, SLK 0.00 to SLK 9.6 Shire of Victoria Plains
Map Data Sourced from MRWA.	

LEGEND
Project Area

SCALE: 1:500 000

• E C O S C A P E •
(ECOSCAPE (AUSTRALIA) PTY LTD ACN 010 126 675)
LANDSCAPE ECOLOGISTS ENVIRONMENTAL CONSULTANTS
31A Fairbairn Street Fremantle Western Australia 6160
Telephone (09) 4308977 • Facsimile (09) 4308977

N

The recommended area comprises a part of the larger area of open space of regional significance extending along the Moore River (see Figure 1, Chapter 4), an area which is of particular importance as the only major river valley between the Swan and Murchison Rivers.

Recommendations:

C3.1 That our general recommendations on planning and management of Regional Parks be applied to this area (see Recommendations 15 and 16, Chapter 5).

C3.2 That the Department of Fisheries and Wildlife investigate the conservation and the Public Works Department the water supply potential of Reserves C15816 and C25591, and report their findings to the Environmental Protection Authority.

C4 QUINS HILL

The recommended area is situated near the Moore River, about 90km north of Perth, and comprises Swan Locations 5431, 5432, 5433 and lots 101 to 104 of Location 5429, privately owned freehold land (Figure 6).

The area has minor potential for groundwater extraction.

Soil composition within the area varies greatly, from laterite on hill tops to deep sand in valleys. The vegetation is dominated by closed- and open-heaths which are remarkably rich in plant species and are the closest to Perth of the northern heathlands. There are many species of banksia, including three which are unnamed. Dryandra is common, especially on the lateritic soils, and the great variety of heath species, several of which are rare, includes smokebush, myrtle, pea plant, wattle, kangaroo paw, sundew, boronia, snakebush, banjine, leschenaultia and trigger plant. In every season there are wildflowers in bloom, and the area is consequently popular with tourists.

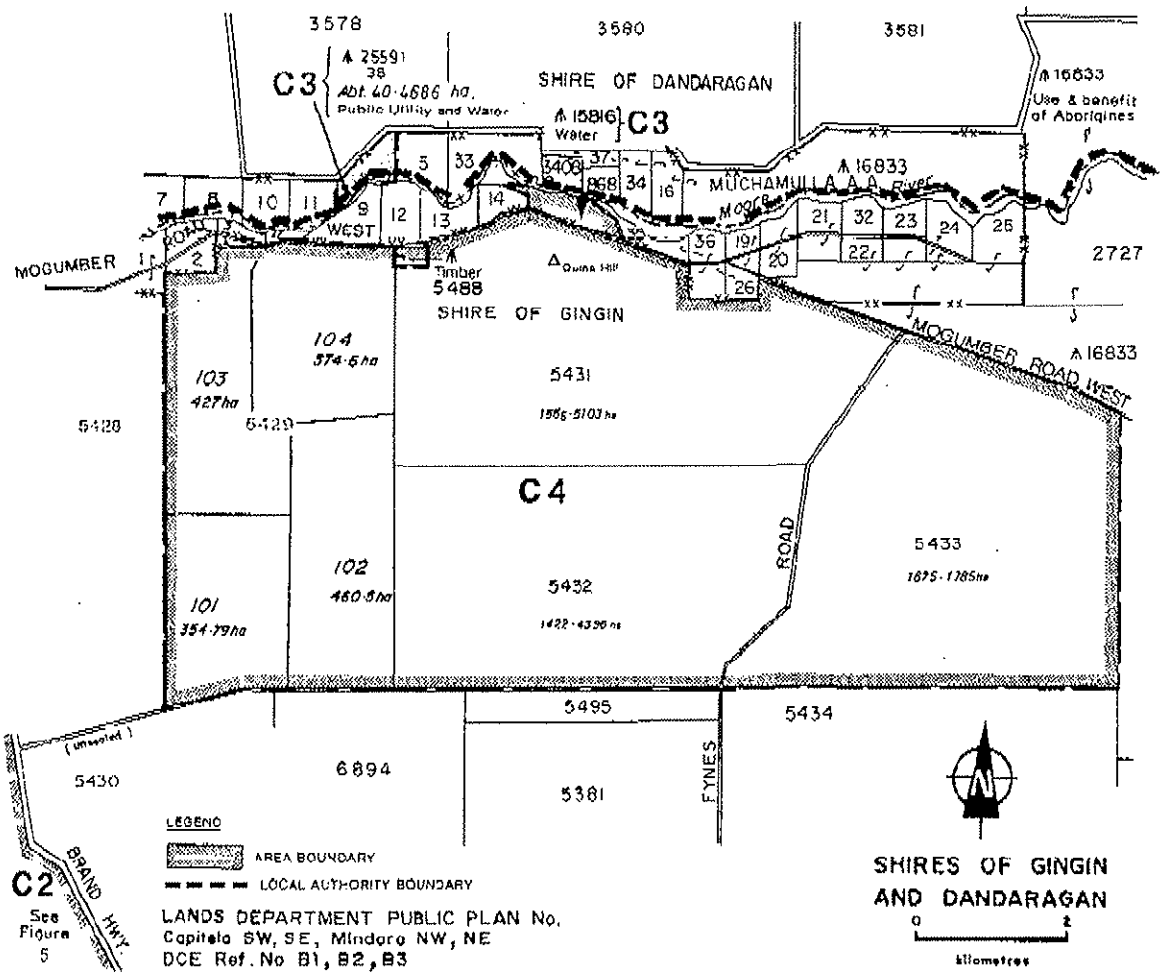


Figure 6

Facsimile Message

ATTENTION:	George Bouma		
ORGANISATION:	Ecoscape	**FAX:**	9430 8977
FROM:	Bridget Hyder-Griffiths		
DATE:	November 11, 1997		
TELEPHONE:	08 9265 3354	**FAX:**	08 9485 1187
PAGES:	2		
SUBJECT:	Road widening Mogumber Road		

MESSAGE:

Further to your fax regarding the proposed Main Roads WA work widening and sealing the Mogumber West Road. This proposal is likely to have an impact on two System 6 areas C3 Reserve C15816 and C4 Quins Hill. It is therefore important that the proposal is referred to the Environmental Protection Authority so that it can be assessed. Survey work has been undertaken at both C3 and C4 as part of the System 6 update. There were a number of significant species identified during the survey work, these have been listed below. The following species of flora were found during surveys of Quins Hill and Reserve C15816 which are adjacent to the proposed road widening.

C3 Reserve C15816, Moore River
Leschenaultia linarioides, *Stylidium crossocephalum*, *Xanthorrhoea drummondii*, (significant species)
Grevillea curviloba subsp. *curviloba* (Priority 1), *Haemodorum loratum* (Priority 3), *Conostephium minus* (Priority 4)

C4 Quins Hill
Astroloma xerophyllum, *Hakea conchifolia*, *Xanthorrhoea drummondii*, *Pityrodia bartlingii*, *Dasypogon obliquifolius*, *Blancoa canescens*, *Schoenus latitans*, *Stylidium crossocephalum*, *Trachymene coerulea*, *Stenanthemum humile*, (significant species)
Macarthuria apetala (Priority 2), *Leucopogon oliganthus* (Priority 3), *Haemodorum loratum* (Priority 3), *Isopogon drummondii* (Priority 3), *Stachystemon axillaris* (Priority 4), *Conostephium minus* (Priority 4), *Dryandra mimica* (Declared Rare Flora)

Prior to work proceeding there are a number of issues that will need to be addressed, protection of the priority flora and Declared Rare Flora, control to ensure there is no spread of weed species and dieback control.

It is recommended that this proposal be referred to the Environmental Protection Authority so that it can be assessed appropriately.

regards Bridget Hyder-Griffiths

Department of Environmental Protection
Westralia Square, 141, St Georges Terrace, Perth, Western Australia, 6000.
Facsimile: (08) 8322 1598 Telephone: (08) 9222 7000

268/97

Facsimile Message

ATTENTION:	Gail McGowan		
FAX:	9221 4665		
FROM:	Bridget Hyder-Griffiths		
DATE:	November 12, 1997		
TELEPHONE:	08 9222 7074	**FAX:**	08 9485 1187
PAGES:	2		
SUBJECT:	Ministerial 08991		

MESSAGE:

Further to our conservation please find following a copy of a letter to the Minister referring to the Environmental Education Strategy workshop and a recent Conservation Council meeting. I would appreciate it if you could forward any information on what the Hon Cheryl Edwardes said at these meetings to help in my preparation of a response.

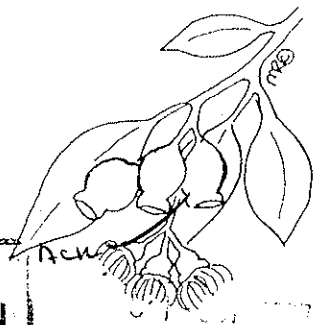
Thankyou

Bridget Hyder-Griffiths

Bridget Hyder-Griffiths

Department of Environmental Protection
Westralia Square, 141, St Georges Terrace, Perth, Western Australia, 6000.
Facsimile: (08) 8322 1598 Telephone: (08) 9222 7000

MURDOCH BRANCH
of the Wildflower Society of W.A. Inc.



08991

29 October, 1997

Mrs Cheryl Edwardes MLA
Minister for the Environment
18th floor, Allendale Square
77 St George's Terrace
PERTH WA 6000

Dear Mrs Edwardes

RE: PROPOSED AMENDMENT NO.89 TO FACILITATE THE HOMESWEST REDEVELOPMENT OF PART OF KARAWARA, BUSHLAND

At the recent Conservation Council of WA meeting concerns with the above proposal were raised with you a number of times. I believe this matter is symptomatic of the whole issue of the loss of urban bushland.

I feel that the basic difficulty is that those members of the community who have an understanding and appreciation of bushland are unable to comfortably divide our remaining urban remnants into clearly defined areas of regional and local significance.

They are well aware that because of previous losses each remaining area has its own worth, be it intrinsic, biological, social or strategic. Through a whole mix of these values each area impacts on the others and cannot be conveniently judged as of greater or lesser importance over the whole City. They are also well aware that such remnants are our last remaining opportunity to conserve them as they are irreplaceable.

At both the Conservation Council meeting and at the previous day's environmental education strategy workshop you commented that there should be no compromise on our responsibility to the environment for future generations. Urban bushland is a prime example of the need for action on this recognition of responsibility.

Can you please debate this with your Cabinet colleagues, especially Mr Kierath and Mr Hames, and encourage them to your point of view? So many of us would be appreciative of a clear commitment to the retention of our remaining urban bushlands. I enclose a recent essay by James Duggie, "Save Our Bushland" Coordinator for the Wildflower Society of WA. I also look forward to the release of the Perth Bushplan.

Yours sincerely,

DIANE MATTHEWS
7 Bridget Place
SHELLEY WA 6148

117902.

Quality local government through a commitment to community service.

CITY OF MANDURAH

FACSIMILE

TO: Dept Env. Protection

ATTENTION: Bridget

FACSIMILE NO: 3221598

FROM: Bryce Bunny

FACSIMILE NO: ~~550 3888~~ 5814782

TELEPHONE NO: 550 3777

DATE: 28-8-97

COPIES TRANSMITTED: 2 (includes facsimile sheet)

SUBJECT: EPP wetlands.

I am interested in which wetlands are EPP (excluding estuary + Rivers). We only have about 5 left in appeals.

Is there any policy for buffers on EPP wetlands or wetlands of conservation significance?

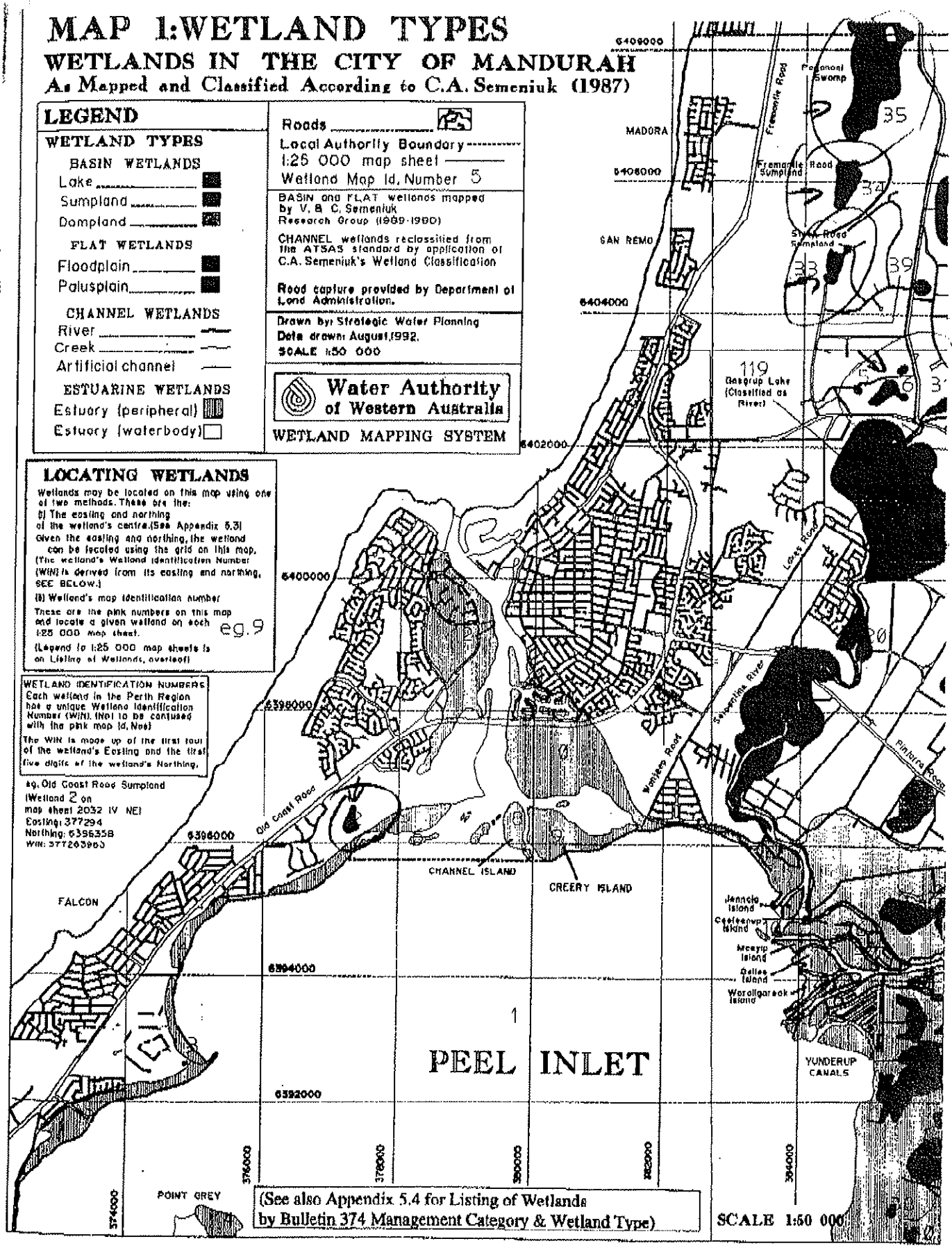
cheers Bryce

P.S. Thanks for the Fax

MAP 1:WETLAND TYPES

WETLANDS IN THE CITY OF MANDURAH

As Mapped and Classified According to C.A. Semeniuk (1987)



ENVIRONMENTAL PROTECTION AUTHORITY
BP HOUSE,
1 MOUNT STREET, PERTH, WESTERN AUSTRALIA 6000
Telephone 322 2477

HON MINISTER FOR THE ENVIRONMENT

Your Ref.
Our Ref. ~~226/78~~ PH:jb
110/81/C4.

MOGUMBER TO QUINS HILL OVERHEAD POWER LINE
SYSTEM 6 RECOMMENDATION C4

For your information I have enclosed copies of correspondence from the State Energy Commission concerning this matter, and of the Authority's response.

As indicated in the Authority's response, it would appear unreasonable to insist that the proposed transmission should be re-routed. The site is privately owned freehold land, and the transmission line is an essential component of a legitimate agricultural operation (ie irrigated lucern cropping).

In this instance, circumstances indicate that acceptance of the proposed transmission line and its ramifications for System 6 Recommendation C4 is the only realistic option. Further, it is considered that an undesirable precedent with respect to other System 6 areas should not be established if this particular proposal does proceed.

Nevertheless, this matter does emphasise the difficulties that arise because an effective framework for the implementation of System 6 recommendations which affect privately owned land has not yet been established.

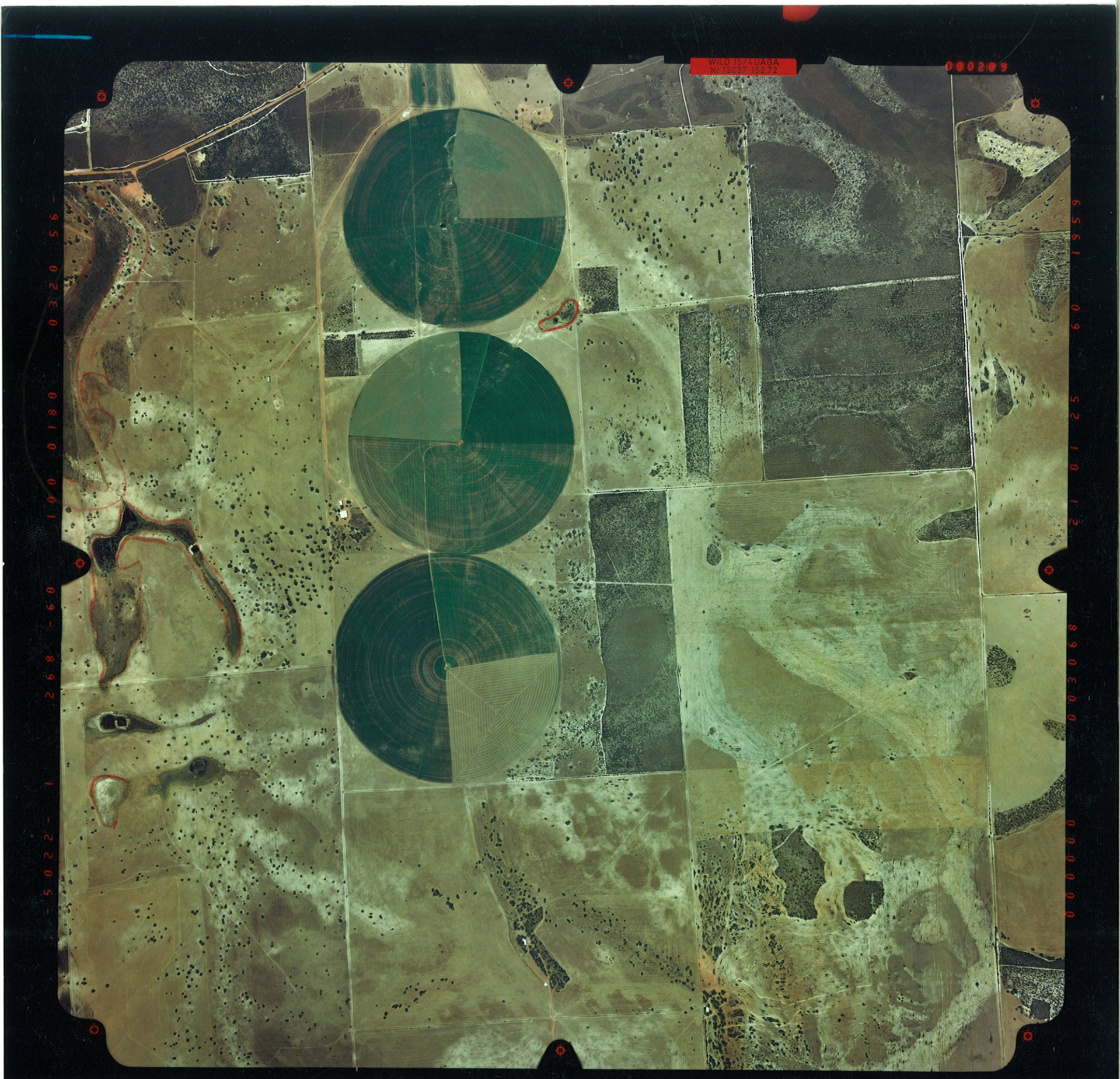
SIGN: B. A. CARBON

B A CARBON
CHAIRMAN

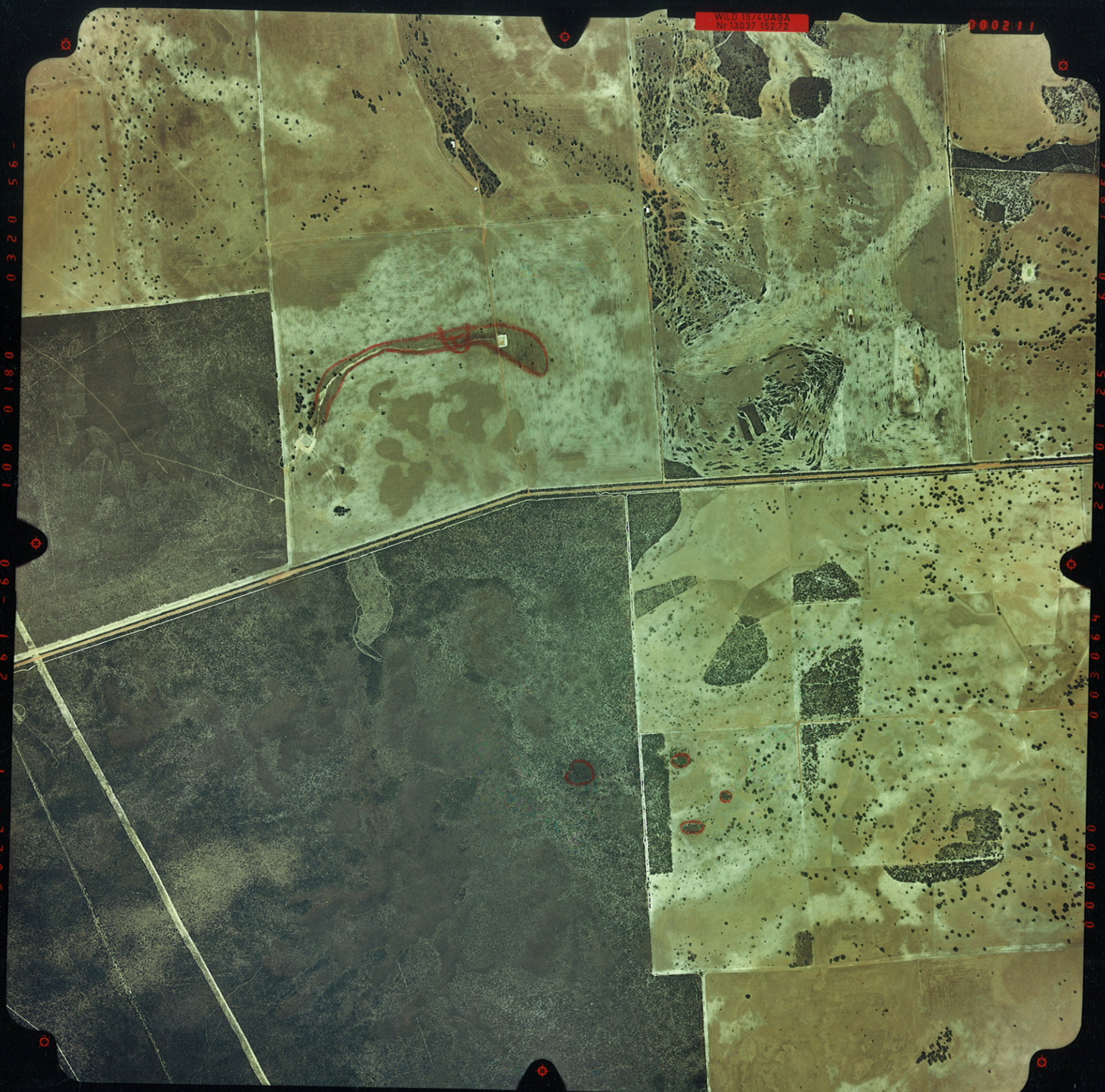
11 July 1986

Enc

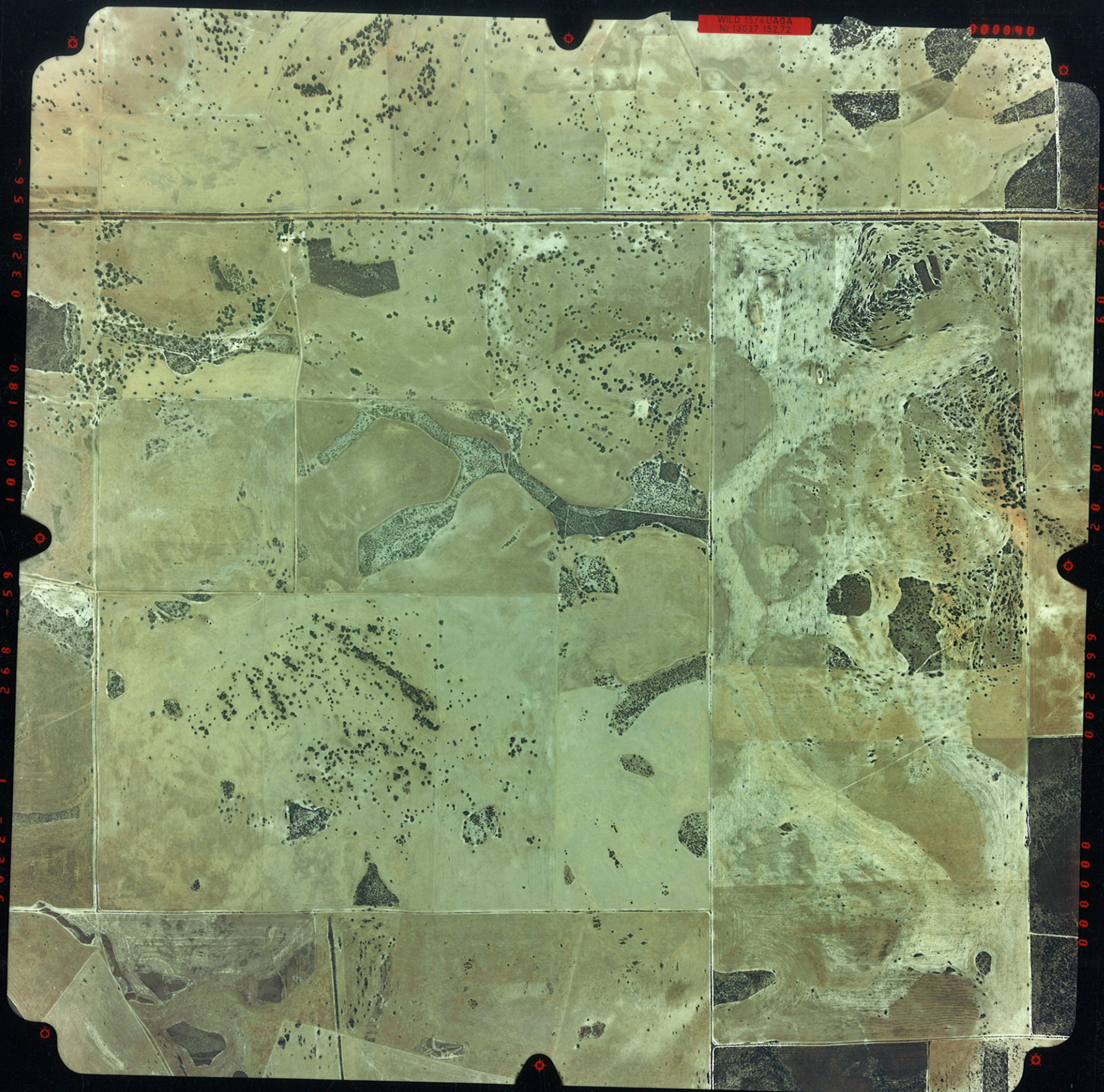
5202 WA 2819(C) COASTAL WETLANDS AREA "A" RUN 23 (5115-5225) 1:20000 17.12.89 890121



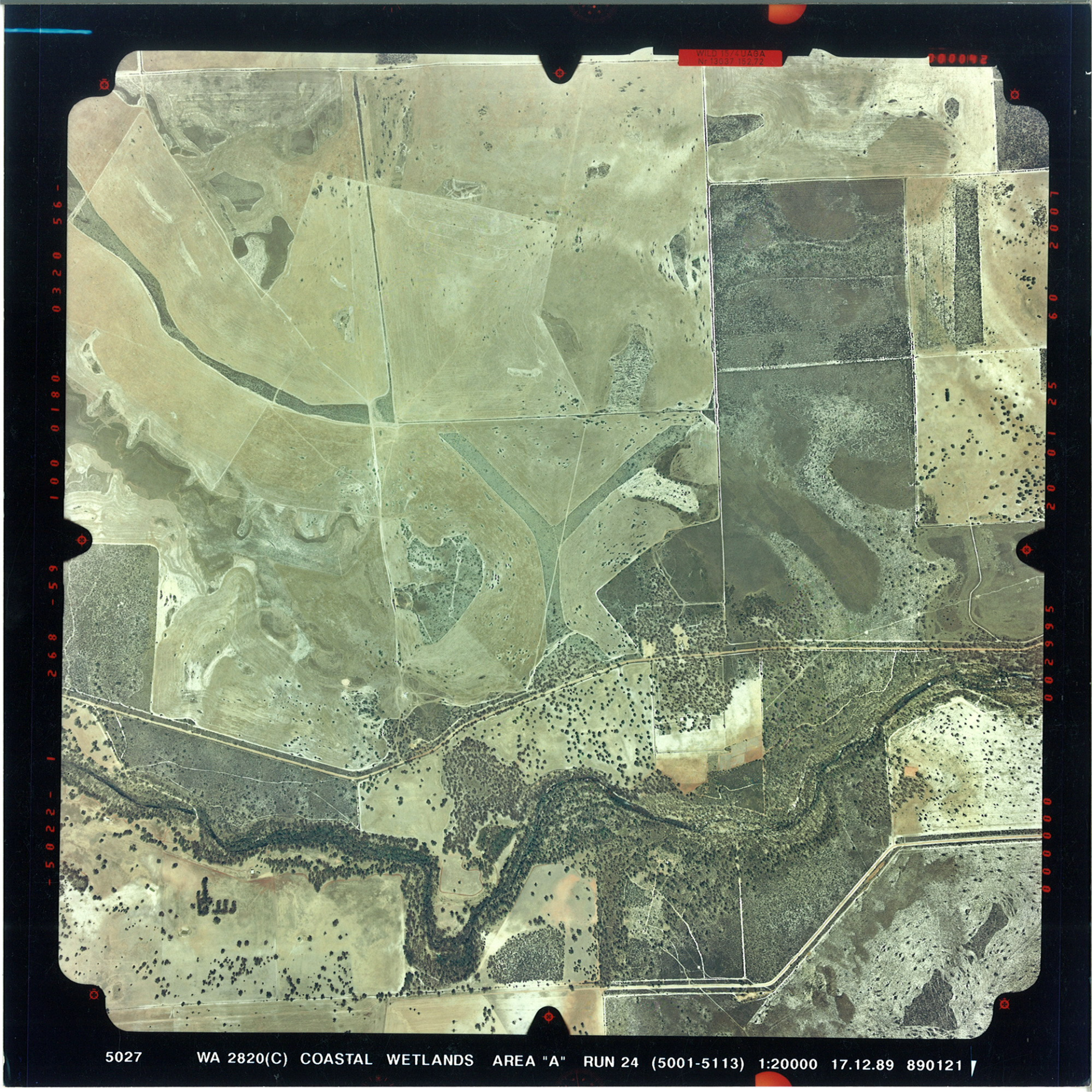
5204 WA 2819(C) COASTAL WETLANDS AREA "A" RUN 23 (5115-5225) 1:20000 17 12 89 890121

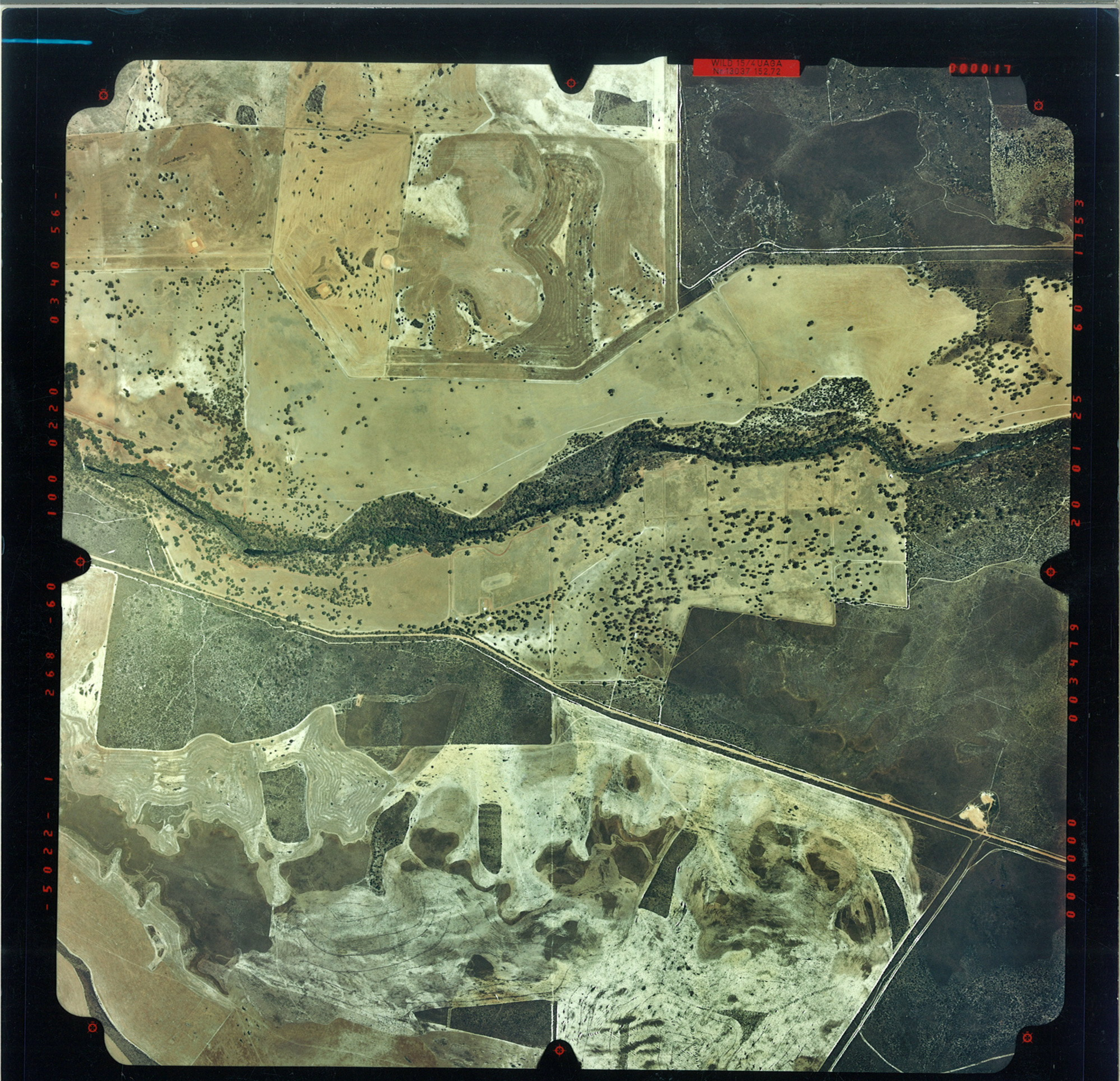


5206 WA 2819(C) COASTAL WETLANDS AREA "A" RUN 23 (5115-5225) 1:20000 17.12.89 890121



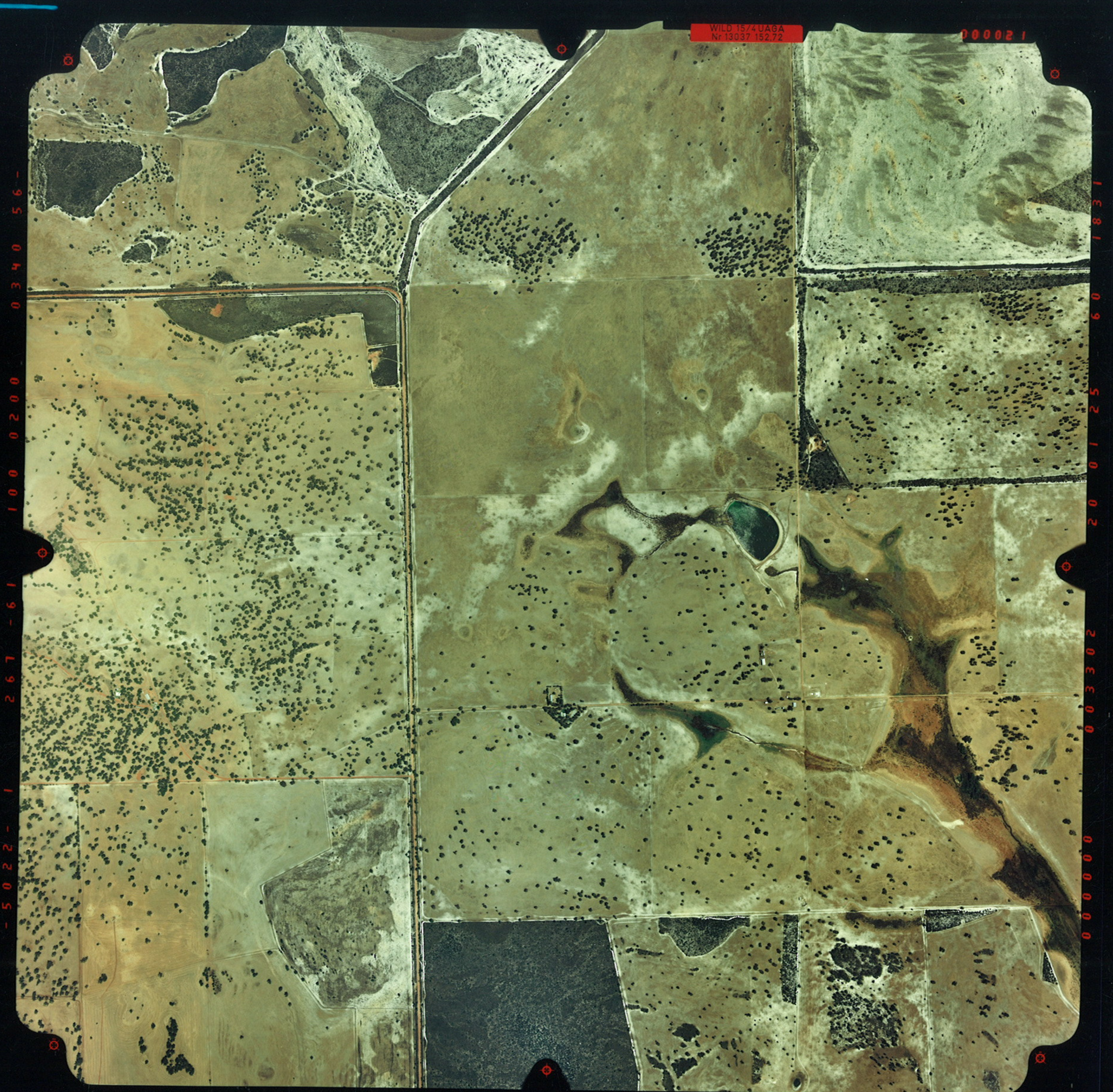
5025 WA 2820(C) COASTAL WETLANDS AREA "A" RUN 24 (5001-5113) 1:20000 17.12.89 890121


WILD T74UA6A
Nr 13637 152 72
5027 WA 2820(C) COASTAL WETLANDS AREA "A" RUN 24 (5001-5113) 1:20000 17.12.89 890121

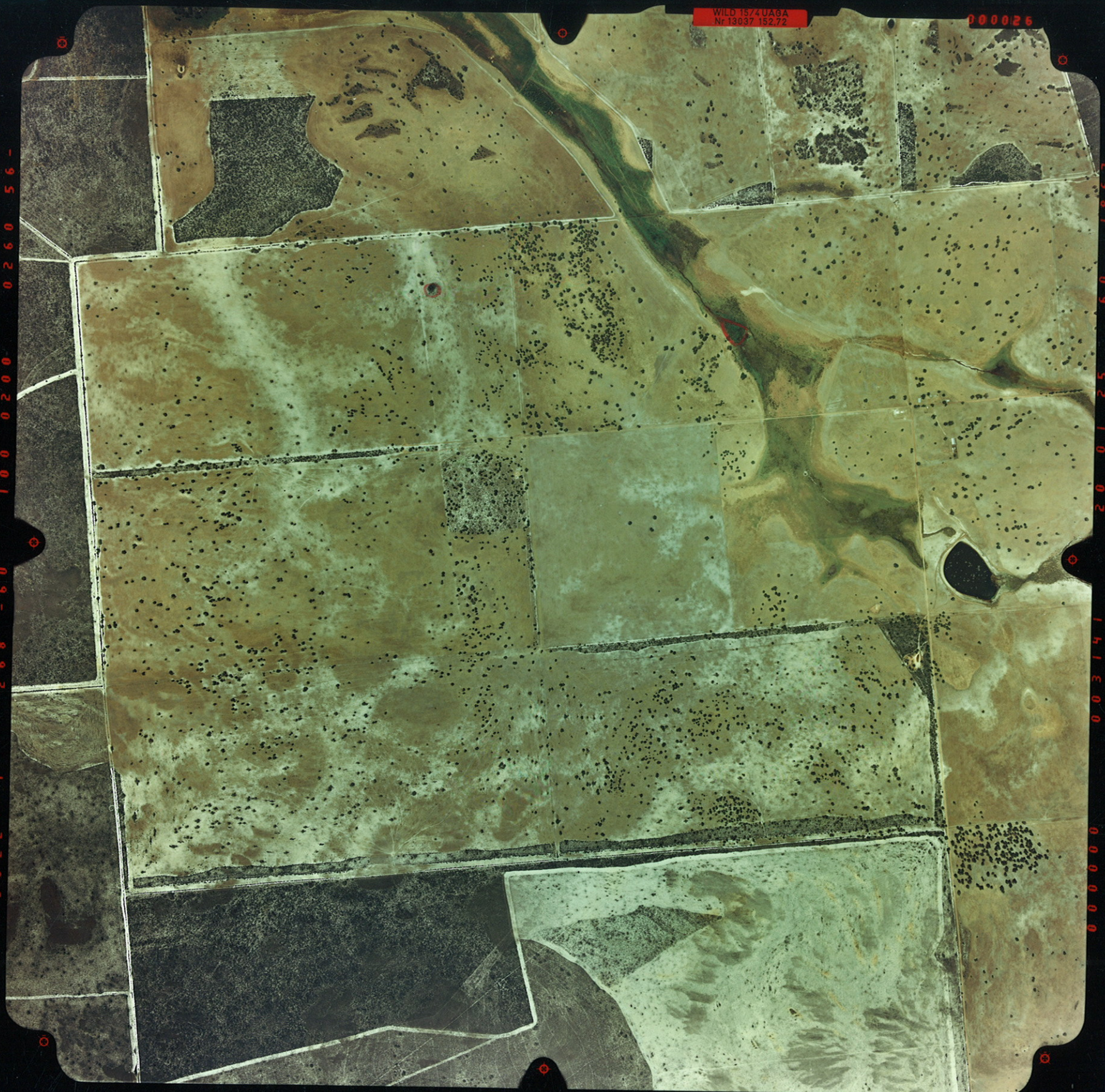


5235 WA 2820(C) COASTAL WETLANDS AREA "A" RUN 25B (5234-5250) 1:20000 31.12.89 890121

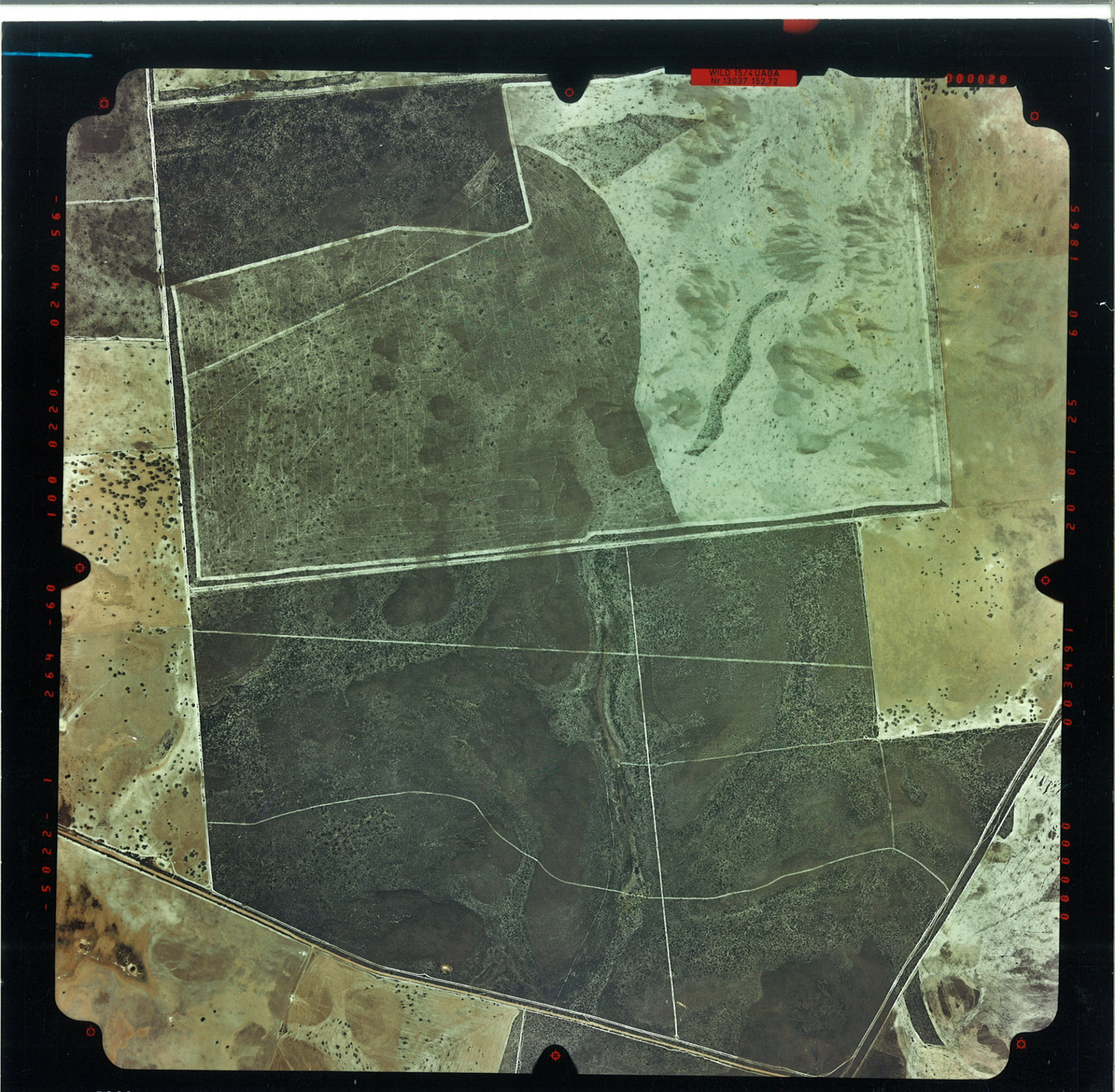
5237 WA 2820(C) COASTAL WETLANDS AREA "A" RUN 25B (5234-5250) 1:20000 31.12.89 890121



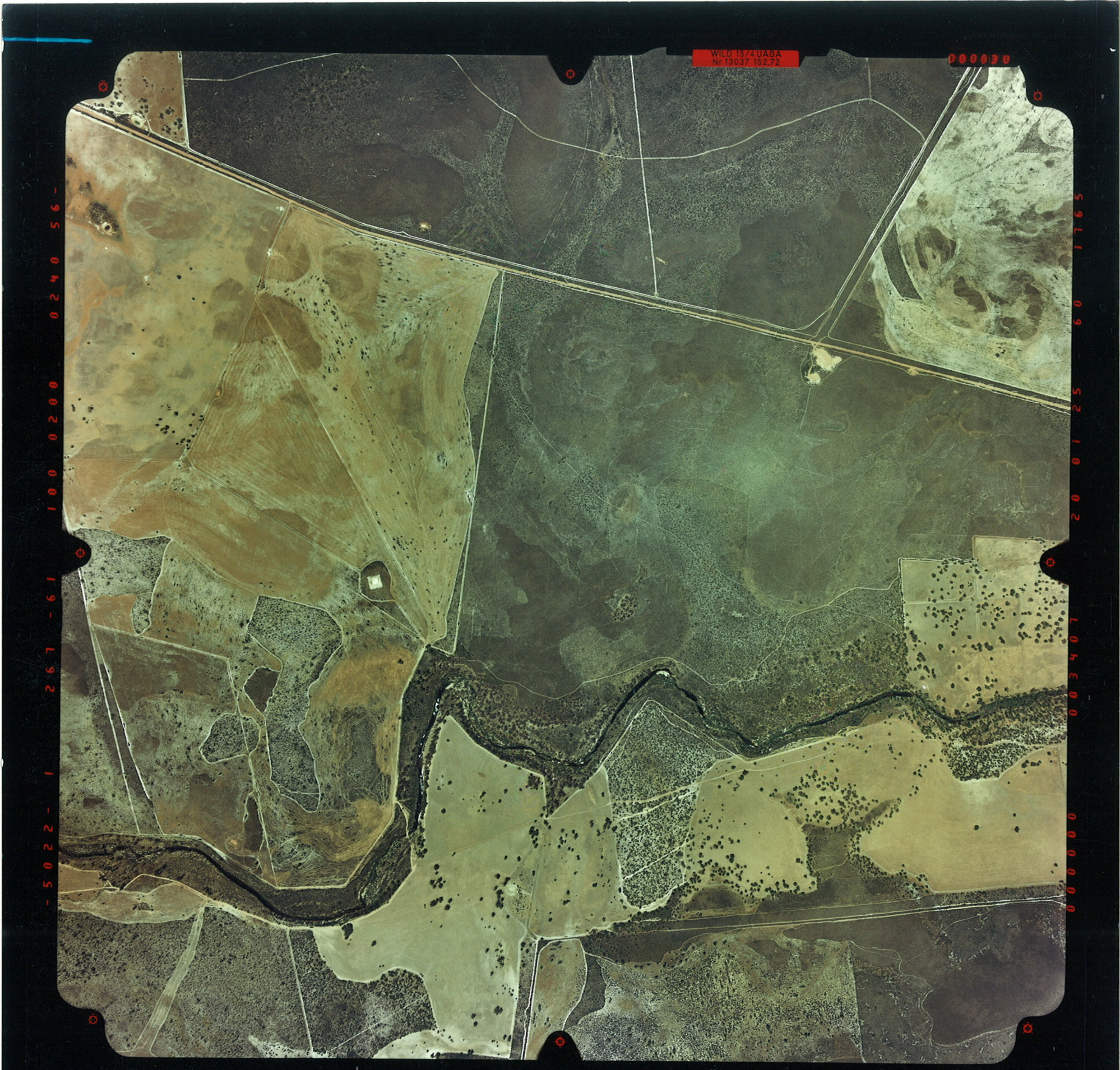
5239 WA 2820(C) COASTAL WETLANDS AREA "A" RUN 25B (5234-5250) 1:20000 31.12.89 890121



5024 WA 2826(C) COASTAL WETLANDS AREA "A" RUN 26 (5001-5122) 1:20000 18.12.89 890121



5026 WA 2826(C) COASTAL WETLANDS AREA "A" RUN 26 (5001-5122) 1:20000 18.12.89 890121



5028 WA 2826(C) COASTAL WETLANDS AREA "A" RUN 26 (5001-5122) 1:20000 18.12.89 890121