

LAKE AMARILLO, SERPENTINE RIVER AND ADJACENT BUSHLAND, KARNUP

Boundary Definition: bushland/bushland group/conservation wetland boundary (Areas of bushland/native vegetation within the boundaries of the Site are not accurately mapped; Boundary adjusted from that in draft *Perth's Bushplan*.)

SECTION 1: LOCATION INFORMATION

Bush Forever Site no. 394

Area (ha): bushland 168.7 (Site also includes open water.)

Map no. 80

Map sheet series ref. no. 2033-II SW

Other Names: not known

Local Authorities (Suburb): Shire of Rockingham (Karnup)

System 6 (1983): Part M108 area of bushland goes beyond System area boundaries, all bushland described

SECTION 2: REGIONAL INFORMATION

LANDFORMS AND SOILS

Pinjarra Plain

Guildford Formation (Qpa: C2) (Qha: Cp)

Bassendean Dunes

Bassendean Sands (Qpb: S8)

Bassendean Dunes/Pinjarra Plain

Bassendean Sands over Guildford Formation (Qpb/Qpa: S10)

VEGETATION AND FLORA

Vegetation Complex

Pinjarra Plain

Serpentine River Complex

Bassendean Dunes

Bassendean Complex — Central and South

Wetlands

Herdsmen Complex

Marine (Lagoonal and Estuarine) Deposits

Yoongarillup Complex

Floristic Community Types

Supergroup 2: Seasonal Wetlands

5 Mixed shrub damplands

13 Deeper wetlands on heavy soils

WETLANDS

Wetland Types: floodplain, dampland, palusplain, sumpland, river, artificial channel

Natural Wetland Groups

Bassendean Dunes

Gnangara (B.2)

Swan Coastal Plain Rivers

Goegrup (R.4)

Wetland Management Objectives: Conservation (228.1ha), Resource Enhancement, Multiple Use

Swan Coastal Plain Lakes EPP: 102.6ha + 7.0ha + 1.9ha + 0.2ha = 111.7ha (total)

THREATENED ECOLOGICAL COMMUNITIES

Not assessed

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, river, vegetated uplands

Vegetation and Flora: limited survey (Connell 1995, Gibson *et al.* 1994 (Paga 02-03)); detailed survey (Siemon *et al.* 1993)

Structural Units: mapping (Siemon *et al.* 1993)

Uplands: *Banksia* species Open Woodland to Closed Woodland

Wetlands: *Eucalyptus rudis* Open Woodland to Open Forest; *Melaleuca* species Tall Open Scrub to Closed Tall Scrub; *Melaleuca raphiophylla* Low Closed Forest; *Eucalyptus rudis* and *E. gomphocephala* Woodland;

Eucalyptus rudis and *Melaleuca raphiophylla* Low Open Forest to Closed Forest; *Melaleuca raphiophylla* and *M. cuticularis* Low Open Forest to Closed Forest; *Melaleuca cuticularis* Low Open Forest to Closed Forest;

Pericalymma ellipticum and *Hakea varia* Closed Heath; *Juncus kraussii* Closed Sedgeland

Vegetation Condition: Very Good to Good

Total Flora: 38 native taxa, 4 weed taxa (plot-generated list only, Gibson *et al.* 1994)

Significant Flora: none recorded

Fauna: multiple surveys for birds (78 species) (Bowman Bishaw Gorham 1992; RAOU 1996 D, 26 visits).

Significant bird species: category 1 (1), category 2 (11) and category 3 (9)

Linkage: adjacent bushland to the south and west; part of Greenways 65, 123, 124 (Tingay, Alan & Associates 1998a); part of a regionally significant fragmented bushland/wetland linkage (Part A, Map 7)

Other Special Attributes: bushland/naturally vegetated watercourses have particular conservation value in providing habitat for fauna and linkage between larger, more intact areas of bushland; open space of regional significance (DCE 1983); contains 1693m of regionally significant river (WRC 1996a GIS)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Location for JAMBA/CAMBA species; subject to protection under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, Maintaining ecological processes or natural systems, General criteria for the protection of wetland, streamline and estuarine fringing vegetation and coastal vegetation

Recommendation: Proposed Parks and Recreation Reservation (see Table 3, Volume 1).

LAKE AMARILLO, SERPENTINE RIVER AND ADJACENT BUSHLAND, KARNUP

Boundary Definition: bushland/bushland group/conservation wetland boundary (Areas of bushland/native vegetation within the boundaries of the Bushplan Site are not accurately mapped.)

SECTION 1: CADASTRAL INFORMATION

(Lots, locations and derived information to be updated in the public submission period)

Bushplan Site no. 394 **Map no.** 99, 100, 103, 104 **Map sheet series ref. no.** 2033-II SW
System 6 (1983): Part M108 area of bushland goes beyond System area boundaries, all bushland described

Other Names: not known

Area (ha): total 588.2 (includes open water); bushland 168.8

Local Authorities (Suburb)
 Shire of Rockingham (Karnup)

Zoning
MRS: Rural, Controlled Access Highways
TPS: Rural, Public Purposes, Landscape, No Zone
Lot/Location/Reserve numbers (Purpose),
Street name

Ownership Categories
 State Government

0, 1a Amarillo Dr
 Crown Reserve

SECTION 2: REGIONAL INFORMATION

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Bassendean Sands (Qpb: S8)

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Bassendean Sands over Guildford Formation (Qpb/Qpa: S10)

VEGETATION AND FLORA

Vegetation Complex

Pinjarra Plain

Serpentine River Complex

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Bassendean Complex — Central and South

Wetlands

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Marine (lagoonal and estuarine) Deposits

Yoongarillup Complex

Floristic Community Types

Supergroup 2: Seasonal Wetlands

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WETLANDS

Wetland Types: floodplain, dampland, palusplain, sumpland, river, artificial channel

Natural Wetland Groups

Bassendean Dunes

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Swan Coastal Plain Rivers

Goegrup (R.4)

Wetland Management Objectives: Conservation (228.1ha), Resource Enhancement, Multiple Use

Swan Coastal Plain Lakes EPP: 102.6ha + 7.0ha + 1.9ha + 0.2ha = 111.7ha (total)

THREATENED ECOLOGICAL COMMUNITIES

Not assessed

SECTION 3: SPECIFIC SITE DETAIL

Landscape Features: open water, vegetated wetland, river, vegetated uplands

Vegetation and Flora: detailed survey (Siemon *et al.* 1993); limited survey (Connell 1995, Gibson *et al.* 1994 (Page 02-03))

Structural Units: mapping (Siemon *et al.* 1993)

Uplands: *Banksia* species Open Woodland to Closed Woodland

Wetlands: *Eucalyptus rudis* Open Woodland to Open Forest; *Melaleuca* spp. Tall Open Scrub to Closed Tall Scrub; *Melaleuca raphiophylla* Low Closed Forest; *Eucalyptus rudis* and *E. gomphocephala* Woodland; *Eucalyptus rudis* and *Melaleuca raphiophylla* Low Open Forest to Closed Forest; *Melaleuca raphiophylla* and *M. cuticularis* Low Open Forest to Closed Forest; *Melaleuca cuticularis* Low Open Forest to Closed Forest; *Pericalymma ellipticum* and *Hakea varia* Closed Heath; *Juncus kraussii* Closed Sedgeland

Vegetation Condition: Very Good to Good



Total Flora: 38 native taxa, 4 weeds (plot-generated list only, Gibson *et al.* 1994)

Significant Flora: none recorded

Fauna: surveyed by RAOU (1996 D), 26 visits, and Bowman Bishaw Gorham (1992a) for birds (78). Significant bird species: category 1 (1), category 2 (11) and category 3 (9)

Linkage: adjacent bushland to the south, east and west; part of proposed Greenways 81, 139, 140, 83 (Tingay, Alan & Associates 1997a); part of a regionally significant fragmented bushland/wetland linkage (Volume 2A, Map 8)

Other Special Attributes: bushland/naturally vegetated watercourses have particular conservation value in providing habitat for fauna and linkage between larger, more intact areas of bushland; open space of regional significance (DCE 1983); contains 1693m of regionally significant river (WRC 1996a GIS)

SECTION 4: INTERNATIONAL AND NATIONAL SIGNIFICANCE

Not listed; Location for JAMBA/CAMBA species

SECTION 5: SELECTION CRITERIA AND RECOMMENDATIONS

Criteria: Representation of ecological communities, Rarity, Maintaining ecological processes or natural systems, General criteria for the protection of wetland, streamline and estuarine fringing and coastal vegetation

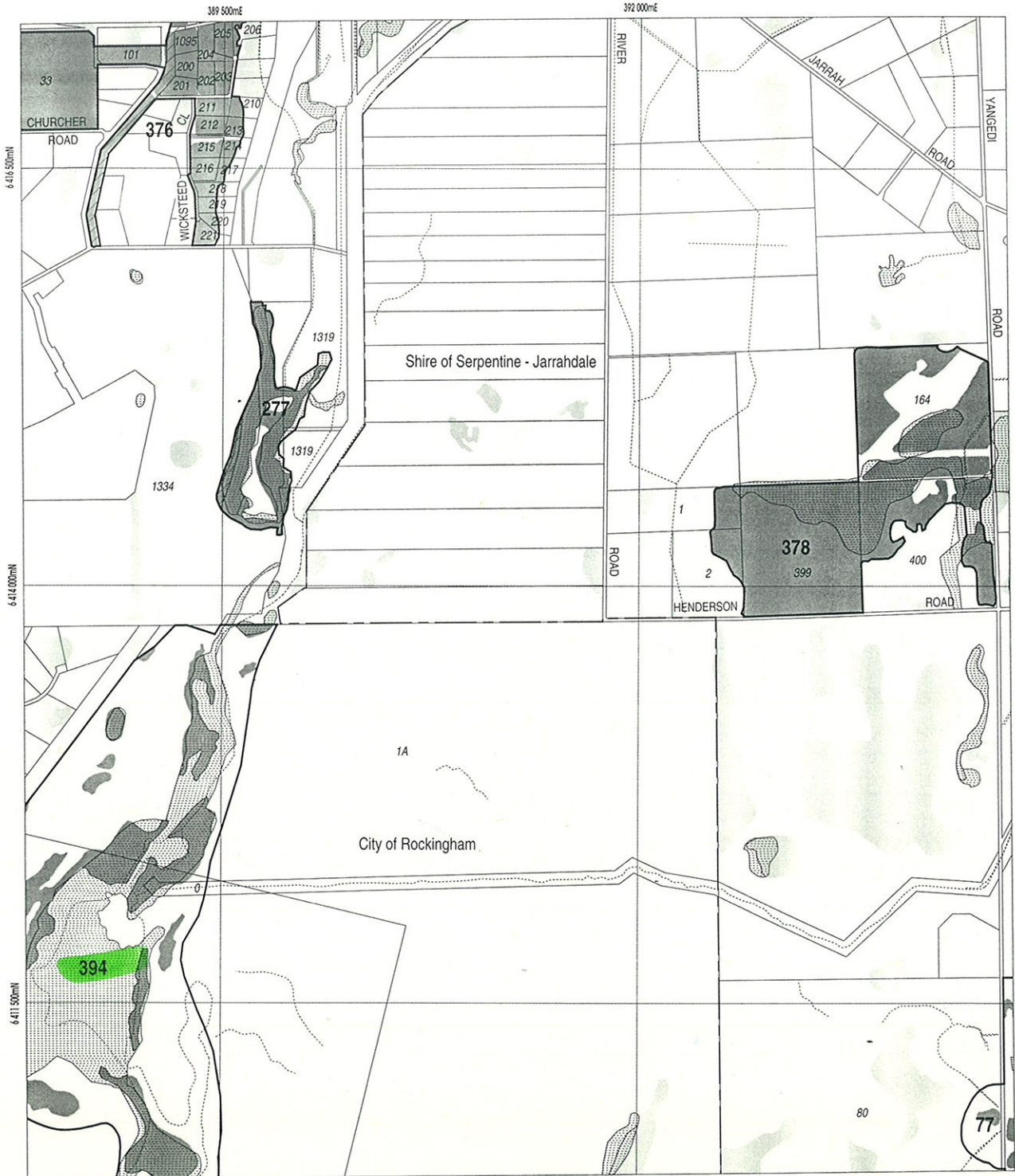
Opportunities and/or Constraints

Opportunities: Bushplan Site/part Bushplan Site subject to Swan Coastal Plain Lakes EPP, Peel-Harvey Estuary EPP/SPP; location of Scheduled Fauna, conservation category wetlands; under TPS Landscape Zoning, Crown Reserve

Constraints: under MRD regional road requirements, General Mineral Resource Area (clay)

Recommendation: The most appropriate mechanism for the protection of this Bushplan Site be considered through the public comment period in consultation with the land owner(s).

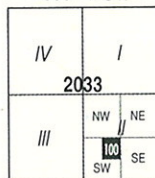




LEGEND

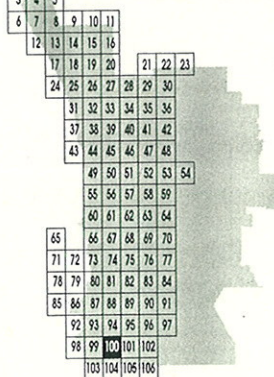
-  Bushplan Sites With Regionally Significant Bushland
-  Other Native Vegetation
-  Conservation Category Wetlands
-  Bushplan Sites With Some Existing Protection
-  Lot Number, Location Number
-  Channel Wetlands
-  Local Government Boundary

2033 - II SW



1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown

PERTH'S BUSHPLAN MAP INDEX

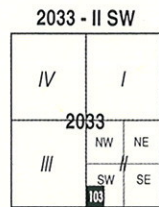


Produced by Project Mapping Section
 Land Information Branch, Ministry for Planning, Perth W.A. November 1998
 ntw_map177/envirom/bushplan/bushv2_100.dgn
 Cadastral Data supplied by Department of Land Administration, W.A.
 Wetlands Data supplied by Water and Rivers Commission
 Native Vegetation Extent for Study Area supplied by Agriculture Western Australia

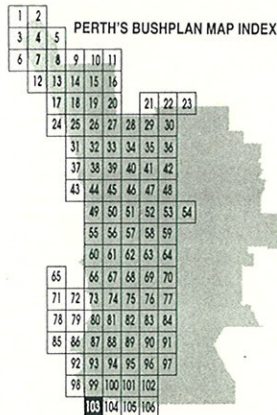


LEGEND

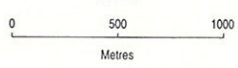
- 472 Bushplan Sites With Regionally Significant Bushland
- Other Native Vegetation
- Conservation Category Wetlands
- Bushplan Sites With Some Existing Protection
- 696 Lot Number, Location Number
- Channel Wetlands
- Local Government Boundary



1 : 25 000 AMG Reference Grid showing Perth's Bushplan Map Sheet Breakdown



SCALE

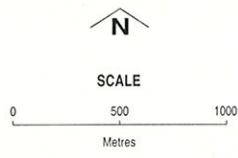
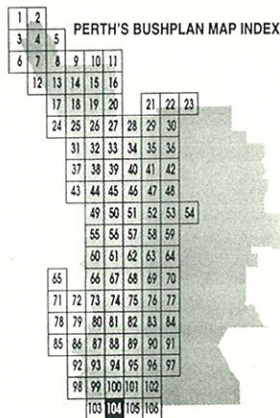
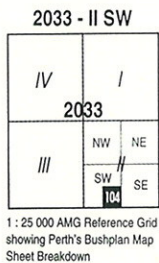


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 Land Information Branch, Ministry for
 Planning, Perth W.A. November 1998
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 Cadastral Data supplied by Department
 of Land Administration, W.A.
 Wetlands Data supplied by
 Water and Rivers Commission
 Native Vegetation Extent for Study Area
 supplied by Agriculture Western Australia



LEGEND

- 472 Bushplan Sites With Regionally Significant Bushland
- Other Native Vegetation
- Conservation Category Wetlands
- Bushplan Sites With Some Existing Protection
- 696 Lot Number, Location Number
- Channel Wetlands
- Local Government Boundary



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Land Information Branch, Ministry for
Planning, Perth W.A. November 1998
ntw-map17/environ/bushplan/bushv2_104.dgn








Cadastral Data supplied by Department
of Land Administration, W.A.

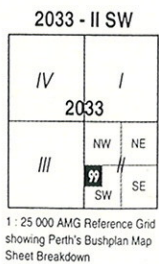
Wetlands Data supplied by
Water and Rivers Commission

Native Vegetation Extent for Study Area
supplied by Agriculture Western Australia



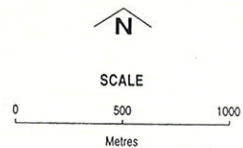
LEGEND

-  Bushplan Sites With Regionally Significant Bushland
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-  Bushplan Sites With Some Existing Protection
-  Lot Number, Location Number
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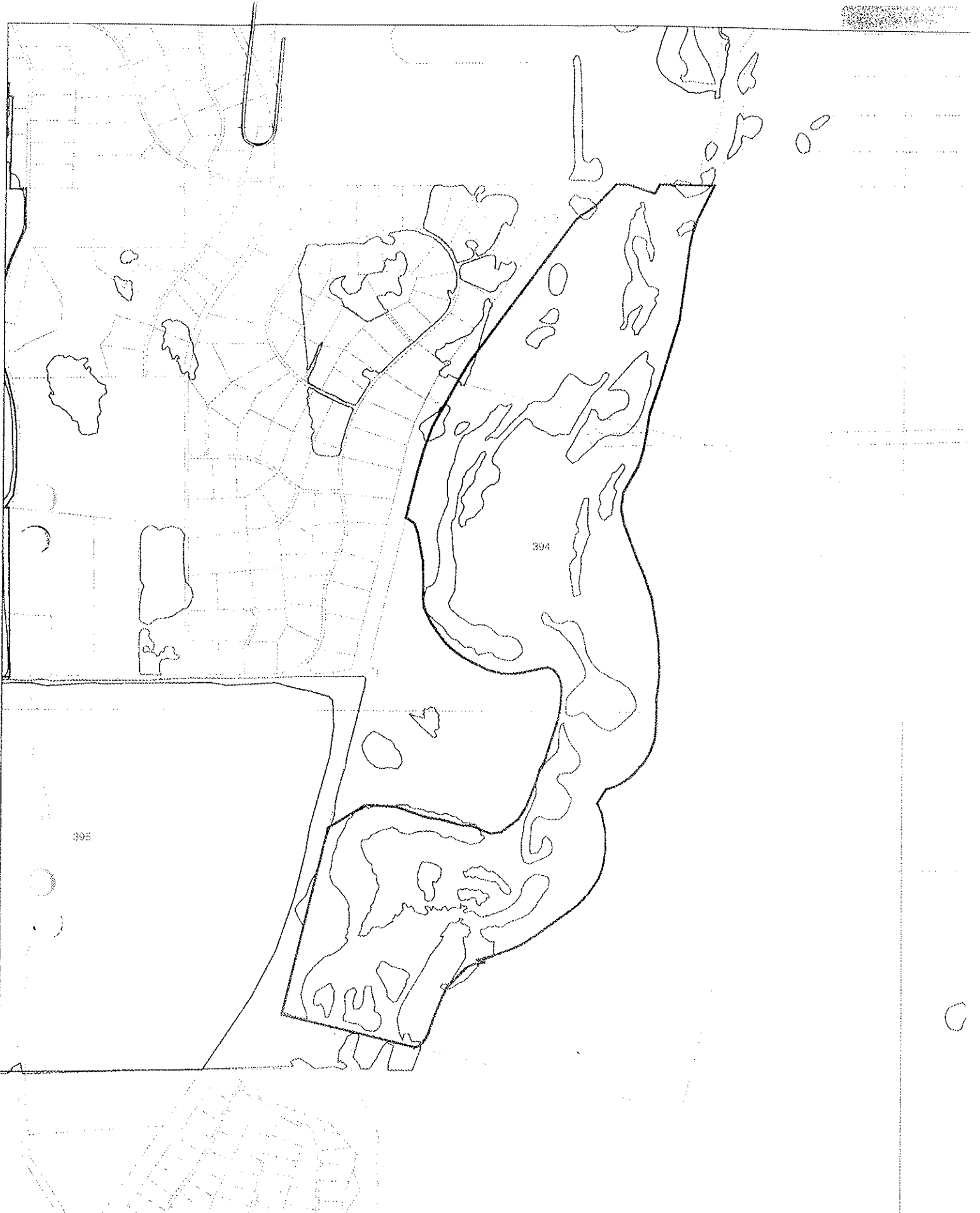


PERTH'S BUSHPLAN MAP INDEX

| | | | | | | |
|-----|-----|-----|-----|-----|----|----|
| 1 | 2 | | | | | |
| 3 | 4 | 5 | | | | |
| 6 | 7 | 8 | 9 | 10 | 11 | |
| 12 | 13 | 14 | 15 | 16 | | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | |
| 37 | 38 | 39 | 40 | 41 | 42 | |
| 43 | 44 | 45 | 46 | 47 | 48 | |
| 49 | 50 | 51 | 52 | 53 | 54 | |
| 55 | 56 | 57 | 58 | 59 | | |
| 60 | 61 | 62 | 63 | 64 | | |
| 65 | | | | | | |
| 66 | 67 | 68 | 69 | 70 | | |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 |
| 78 | 79 | 80 | 81 | 82 | 83 | 84 |
| 85 | 86 | 87 | 88 | 89 | 90 | 91 |
| 92 | 93 | 94 | 95 | 96 | 97 | |
| 98 | 99 | 100 | 101 | 102 | | |
| 103 | 104 | 105 | 106 | | | |



Produced by Project Mapping Section
 Land Information Branch, Ministry for
 Planning, Perth W.A. November 1998
 ntw-map17\\environ\bushplan\bushv2_99.dgn
 Cadastral Data supplied by Department
 of Land Administration, W.A.
 Wetlands Data supplied by
 Water and Rivers Commission
 Native Vegetation Extent for Study Area
 supplied by Agriculture Western Australia



BUSHPLAN SITES CORRECTED



WESTERN
AUSTRALIAN
PLANNING
COMMISSION



CUSTOMER
FOCUS
WESTERN AUSTRALIA

B TG 28/10/98



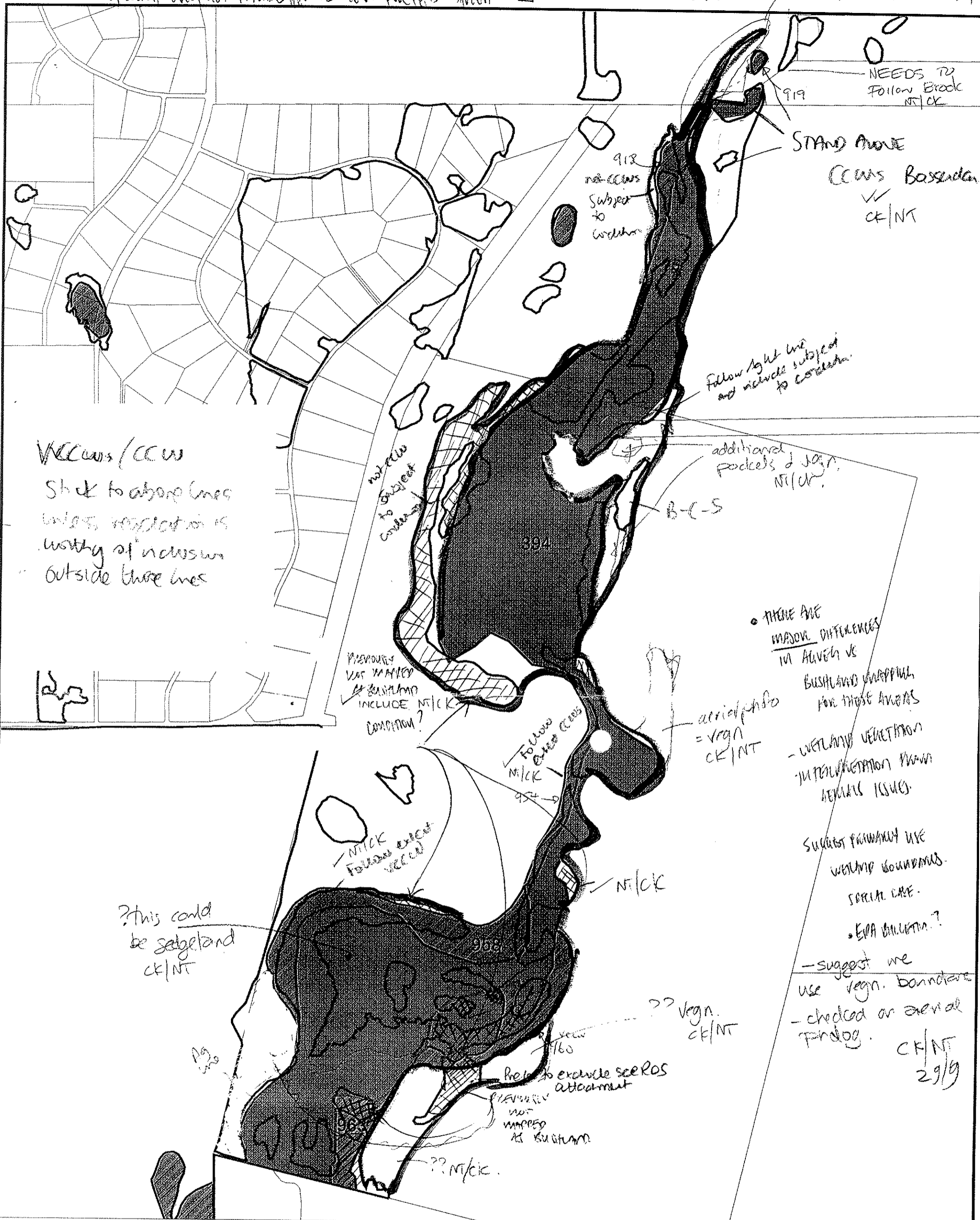


Cliff

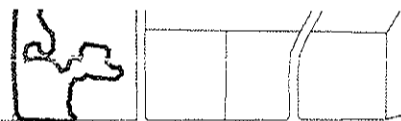
PROPOSED PAR LINE
AS PART OF
AMARELLO MDW.
FOR CONSIDERATION
AS PART OF BS
NO. 394

SEEMS MORE
GENEROUS

THAN SITE
CONTRACT



✓ CCWs (CCW)
 Stick to above lines unless vegetation is worthy of inclusion outside these lines



PREVIOUSLY NOT MAPPED AS BUSHLAND INCLUDE NT/CK CONDITION?

Follow exact CCW NT/CK

NICK Follow exact section

?this could be wetland CK/NT

• THERE ARE MAJOR DIFFERENCES IN AUGH vs

BUSHLAND MAPPING FOR THESE AREAS

- WETLAND VEGETATION INTERPRETATION FROM AERIAL ISSUES.






SUGGEST PRIMARY USE WETLAND BOUNDARIES. SPECIAL CARE.

• EPA BULLETIN?

- suggest we use veg. boundaries - checked on aerial photo. CK/NT 29/9

bp site 394

Amarillo (need aerial images)

-  Cadastre
-  Bushplan sites refno 1-500 SCP BOUNDARY THEME
-  cons category wetlands
-  Verified CCWs
-  AG VEG 1998 BOUNDARY THEME

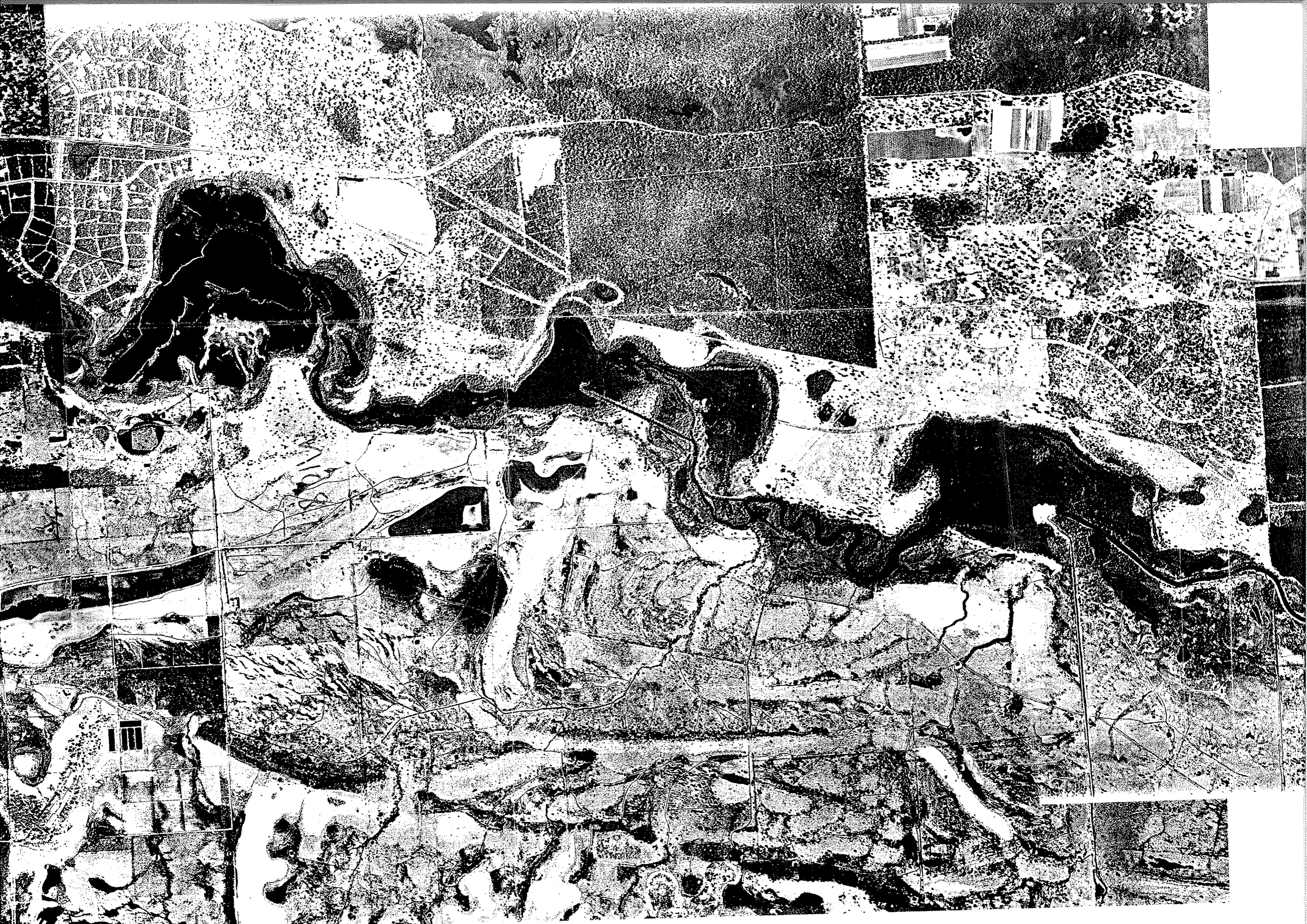
| | |
|--------------------------------|-----------------------|
| Map Ident: plot980604_1 | DATE: 04 Jun 98 |
| Prepared By: Andrea Zappacosta | Prepared For: |
| Scale 1:AUTO | MFP INTERNAL USE ONLY |

0 500 m

CK/NT 29/9/98

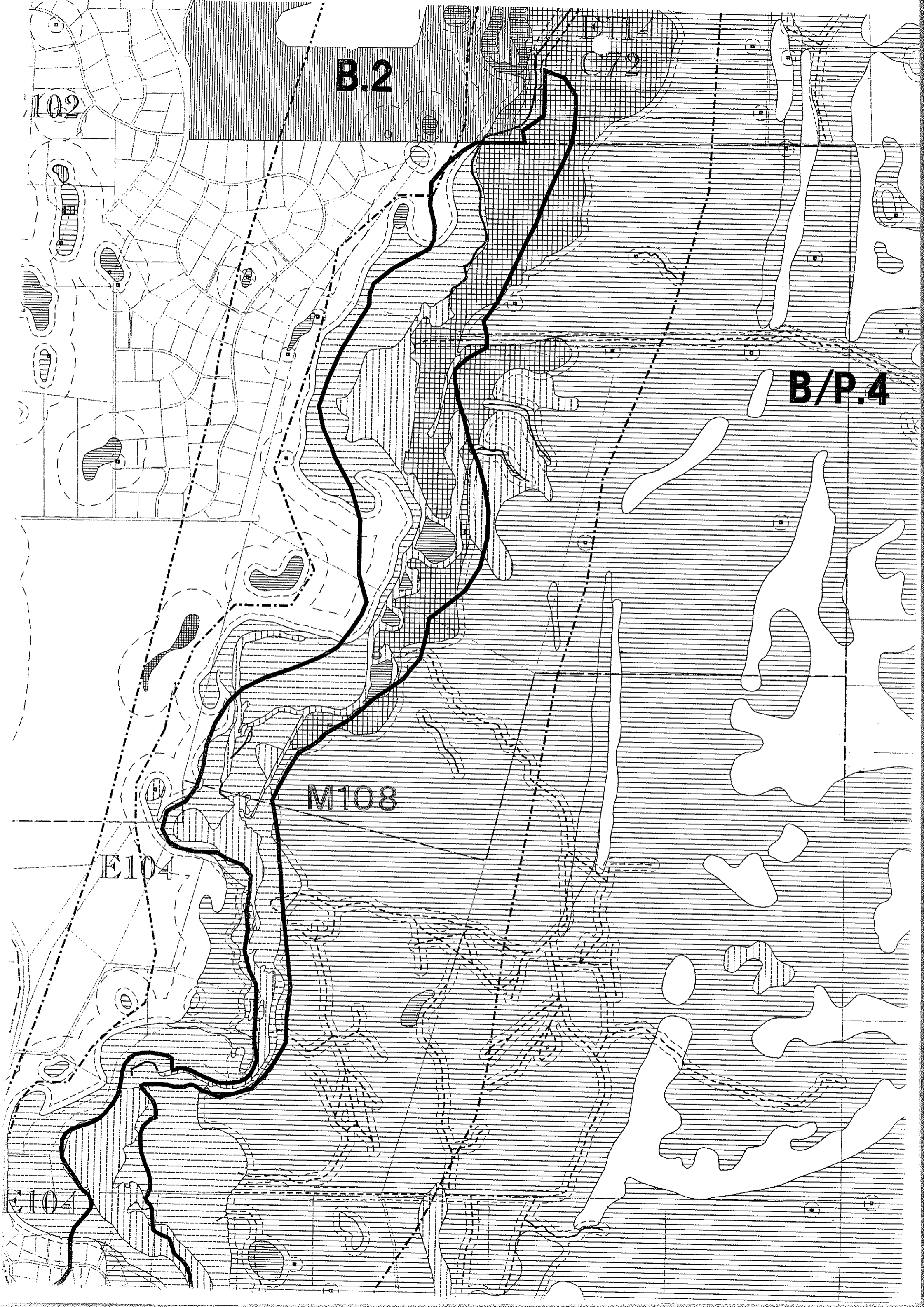
- some Ad veg. - boundary to veg.

See over for proposed PER









B.2

B/P.4
072

102

B/P.4

M108

E104

E104



BS 394

14/4
PBI 93

Mr Gary Prattley
Chief Executive Officer
Ministry for Planning
409 Wellington Street
PERTH WA 6000

Dear Gary

PERTH'S BUSHPLAN – PARENT SUBMISSION

In the context of the ongoing discussions between our agencies on Bushplan and the formal release of the Bushplan documents, I write to confirm Homeswest's current position in this matter.

1. GENERAL IMPLEMENTATION ISSUES

Homeswest has previously expressed its support for the proposed implementation mechanisms on the basis of achieving a balance between protecting regionally significant bushland of the highest quality and providing certainty for the viable development of urban communities. It is recognised that a whole of government approach is necessary and as such Homeswest supports Recommendation 4 which proposes an inter-agency Memorandum of Understanding (MOU).

It is submitted that such an agreement should be contained to the nominated agencies and framed on the basis of the Ministry for Planning being the lead agency to implement Bushplan. Suggestions that the MOU should cover a broader range of government instrumentalities including Local Government would, in Homeswest's view unduly complicate the implementation process. The finalization of the MOU should be given a high priority.

Homeswest concurs with the Recommendation 5.3 which proposes that a Statement of Planning Policy be developed in consultation with local government to deal with local bushland. Areas of perceived local significance rightfully lie outside of the framework of Bushplan and should become the responsibility of local government in terms of both acquisition and management.

SUBMISSION NO 99



Western Australian Government

STATE HOUSING COMMISSION

| |
|--------------------------|
| MINISTRY FOR PLANNING |
| 16 APR 1999 |
| 805-2-1-32 pt 12 |
| FILE |

2. NEGOTIATED PLANNING SOLUTIONS

2.1 Detailed Submissions

During the course of the public advertising period Homeswest has lodged detailed submissions with the Ministry dealing with its holdings/land interests at Leda (Site 349), Parmelia (Site 67) and Forrestdale (Site 253). In each case Homeswest has advanced a compromise option aimed at realising a pragmatic solution which integrates bushland protection with residential structure planning.

2.2 Banjup (Site 300)

Homeswest has previously agreed with the inclusion of this land as a 'negotiated planning solution' in the context that bushland protection objectives are balanced against existing approvals for sand extraction. Consistent with the intent of Recommendation 5.8 of Bushplan, Homeswest considers that, within the scope of its contractual arrangements for sand mining, there is potential for up to 35% of the site to be retained for bushland protection.

2.3 Ellenbrook (Site 23)

A negotiated outcome is being pursued by Ellenbrook Management P/L in the context of planning and environmental approvals.

2.4 Negotiated Outcomes

Homeswest is keen to advance discussions with the Ministry and where appropriate the Bushplan Reference Group, with the aim of reaching negotiated outcomes prior to the finalisation of Bushplan.

3. OTHER AFFECTED LANDS

3.1 Neerabup (Site 095)

As conveyed to you on my letter of 2 July 1998, Homeswest accepts the designation of an area of approximately 45ha as a regional reserve to be acquired under the provisions of the Metropolitan Region Scheme.

3.2 Amarillo (Site 094)

Homeswest accepts the nomination of an area of approximately 316ha along the Serpentine River as a reserve under Bushplan on the understanding that it coincides with the proposed 'Parks and Recreation Reserve' under the relevant statutory region schemes. Pursuant to the Memorandum of Understanding which has recently been agreed to by our agencies, I confirm that Homeswest will progressively cede the affected land free of cost at the time when 'Urban' zoning is finalised over various portions of its Amarillo holding.



41
BS 394
PB 193

CITY OF ROCKINGHAM

Civic Boulevard, Rockingham
Western Australia

OUR REF: TP11-2-44 PM.mw
YOUR REF:

ENQUIRIES TO: Mr Monks

23rd April 1999

Manager
Environmental Planning Branch
Ministry for Planning
469 Wellington Street
PERTH WA 6000

MINISTRY FOR
PLANNING
27 APR 1999
805-2-1-32PH12
FILE

Dear Sir

Re: Submission on the Draft Perth's Bushplan

I refer to your letter dated the 27th November 1998 inviting comment on the draft Perth's Bushplan. The report and plans were presented to Council at its ordinary Meeting held on the 23rd March 1999, where it was resolved to submit the following comments, which are divided into four sections:-

1. Principles and Recommendations.
2. Comments on specific sites nominated in the City of Rockingham.
3. General Comments.
4. Implementation.

1. PRINCIPLES AND RECOMMENDATIONS

The retention of regionally and locally significant bushland is an important measure that has the support of the City of Rockingham, and the draft Perth Bushplan provides important information and recommendations to achieve this objective.

The methodology used to establish which sites are of regional significance is clear, once the reporting structure of the various volumes of the documents is understood.

Council has attended a number of briefing sessions organised by the Ministry for Planning and WAMA and these sessions have played a very important role in understanding both the implications of the recommendations of Perth Bushplan, and the views of the various parties that are affected by the Report.

- (viii) Bushplan Site No 394 - Lake Amarillo, Serpentine River and Adjacent Bushland, Karnup

Council has previously supported the inclusion of the Serpentine River and its environs, in the locality of Amarillo, as a 'Parks and Recreation' reserve in the MRS. Future structure planning for the area should be consistent with the proposed status of the reserve as a Bushplan site.

- (ix) Bushplan Site No [redacted] - Paganoni Swamp and Adjacent Bushland, Karnup

This site includes a portion of privately owned bushland west of Paganoni Swamp on the southern side of the CSR Quarry on Mandurah Road. This portion of the site is zoned 'Urban Deferred' and it is queried why this land is included as a Bushplan site, given its approval for extractive industries and its location adjacent to the Paganoni Swamp reserve, which would contain similar examples of the same vegetation complexes.

- (x) Bushplan Site No [redacted] - Garden Island

Garden Island is reserved as 'Public Purposes - Commonwealth Government and Special Use' in the Metropolitan Region Scheme. The island comprises a significant parcel of remnant bushland and accordingly should be protected against any development that may threaten its current condition.

- (xi) Bushplan Site No [redacted] - Serpentine River, Stakehill and Harvey Roads Bushland, Karnup

This site is adjacent to the Serpentine River, is a low lying well vegetated fringe area of the Serpentine River which is reserved in the MRS as 'Parks and Recreation', is an EPP wetland and is a Conservation status floodplain. It is appropriate that this site is included in Perth's Bushplan.

- (xii) Bushplan Site No [redacted] 55 - Point Peron and Adjacent Bushland, Peron/Shoalwater Bay

The majority of this area is reserved as 'Parks and Recreation' and, although portions of the area have been degraded through human activity, it comprises a regional recreation, tourist and conservation focus for the City. The site is included within the Rockingham Lakes Regional Park and CALM is currently preparing a Management Plan for this area. It is appropriate that it is included in Bushplan.

M108 Goegrup Lakes

Friends Advocate Management

Other Names:

Specific Study/studies Miscellaneous studies

Flora

| | | | | |
|------------------|---|------|---------------------|---|
| Vegetation Map | 1 | 2 | 3 | |
| Flora list | 1 | 2 | 3 | 4 |
| Significant Taxa | | done | suitable / doubtful | |

Fauna

| | | | |
|-----------------------|---|---|------|
| Mammals | 1 | 2 | |
| Birds | 1 | 2 | RAOU |
| Reptiles and Amphibia | 1 | 2 | |
| Invertebrates | 1 | 2 | |

Vegetation Condition Map Sites Comment

Disturbance Factors Comment Management

Swan Coastal Plain Floristic Survey

AHC: National Estate- Listed / Interim / Nominated / Notified NT (WA): Heritage Classification

| |
|-------|
| Notes |
| |
| |
| |
| |

| M108 Geegrup Lakes | | |
|--|-------------------|--|
| M108.3 Reserves C25360 and C25846 be cancelled and their areas added to Reserve C26351. | Unresolved Issues | Local authority's current positions are still to be determined. With respect to Reserve 25360 the local authority had previous concerns regarding adequate mosquito control. Discussions between the LGA and CALM have since occurred on this issue. With respect to Reserve C25846 the local authority had previous concerns regarding general management of the reserve. |
| M108.4 Purpose of Reserve C32726 be amended to Conservation of Flora and Fauna and the Reserve vested in NPNC. | Unresolved Issues | Local authority's current position still to be determined. The local authority had previous concerns regarding general management of the reserve. |
| M108.5 Reserve C35283 be cancelled and its area added to Reserve C32726. | Unresolved Issues | Local authority's current position still to be determined. The local authority had previous concerns regarding general management of the reserve. |
| M108.6 Shire of Murray consult with EPA and WAWA concerning any developmental proposals which may affect area. | Intent Being Met | Intent being met through Environmental Protection Act requirements. Pinjarra Catchment Centre has an interest in this area. |

PB - Swan River Trust study veg up
river by Nicole Simone

Please circle the appropriate response or respond in the space provided.

| | | | |
|--|---|--------------------------------------|------------------|
| Area M/08 Name | <u>Goegrup Lakes</u> | | |
| Title | <u>Fringing vegetation of the Serpentine River in the State of Serpentine-Tarradale and City of Rockingham Waterways Commission Report No 38 ISBN 0 7309 5529 X</u> | | |
| Published/Unpublished | <input checked="" type="checkbox"/> Published | <input type="checkbox"/> Unpublished | Date <u>1993</u> |
| Author/s | <u>N. Siemon, G. Davis, P. Hubbard, A. Dudeworth</u> | | |
| Location of Publication | <u>Waterways Commission Report 38</u> | | |
| Purpose (why was the report prepared?) | | | |
| Government | <u>Peel Management Authority</u> | | |
| Corporate | | | |
| Community Group | | | |
| Management Plan | | | |

| | | | |
|-------|---------------------------------|------------------------------------|-------------------------------------|
| Soils | | | |
| Units | <input type="checkbox"/> mapped | <input type="checkbox"/> described | <input type="checkbox"/> referenced |

| | | | |
|-----------|------------------------------------|-------------------------------------|--|
| Landscape | | | |
| Features | <input type="checkbox"/> described | <input type="checkbox"/> referenced | |

| | | | |
|----------------|--|--|---|
| Flora | | | |
| Vegetation Map | | | |
| Units | <input checked="" type="checkbox"/> <u>broad (PENN)</u> | <input type="checkbox"/> Site based (no) | |
| Mapped | <input checked="" type="checkbox"/> <u>GIS also</u> | | |
| Veg Units | <input type="checkbox"/> Comparable Heddle <i>et al</i> | <input type="checkbox"/> Compared Heddle <i>et al</i> | <input type="checkbox"/> Unit not mapped by Heddle <i>et al</i> |
| Flora list | | | |
| Timing | <input checked="" type="checkbox"/> %completion <u>50%</u> | <input checked="" type="checkbox"/> Significant Taxa <u>Some</u> | |
| | <input checked="" type="checkbox"/> Trees | <input checked="" type="checkbox"/> Shrubs | <input checked="" type="checkbox"/> Herbs |
| | <input checked="" type="checkbox"/> Sedges | <input checked="" type="checkbox"/> Weeds | <input type="checkbox"/> DRF |
| | <input type="checkbox"/> CALM | <input type="checkbox"/> Priority | <input type="checkbox"/> Other |

| | | | |
|--------|--------------------------------------|---|---------------------------------|
| Fauna | | | |
| Timing | <input type="checkbox"/> %completion | <input type="checkbox"/> Significant Taxa | |
| | <input type="checkbox"/> Mammals | <input type="checkbox"/> Birds | <input type="checkbox"/> Sched1 |
| | <input type="checkbox"/> Reptiles | <input type="checkbox"/> Invertebrates | <input type="checkbox"/> Sched2 |
| | | | <input type="checkbox"/> Other |

| | | | |
|----------------------|---------------------------------|--------------------------------|--|
| Vegetation Condition | | | |
| Site based | <input type="checkbox"/> Mapped | <input type="checkbox"/> Units | |

| | | | |
|---------------------|-----------------------------------|-----------------------------------|-------------------------------------|
| Disturbance Factors | | | |
| Phytophthora | <input type="checkbox"/> observed | <input type="checkbox"/> Other | <input type="checkbox"/> incidental |
| | <input type="checkbox"/> tested | <input type="checkbox"/> itemised | |

| | | | |
|-------|--|--|--|
| Notes | | | |
| | | | |
| | | | |
| | | | |
| | | | |

AREA INFORMATION

System 6 Area (C or M) or Update Area (Update)

M108

| |
|---|
| Conservation Area |
| Nature Reserve |
| Reserve No |
| National Park |
| Reserve No |
| Local Government |
| Reserve No |
| Other |
| Proposed Conservation Areas |
| Local Government Shire of Murray |
| Reserve No C32726 |
| Other DOLA unvested reserves C26351, C35283, C25360, C25846 location 16 |

Conservation Area Private - lots 1A, 3, 5, 48, 93, 96, 214, 211, 213, 1088 - 1090.

| |
|------------------|
| Nature Reserve |
| Reserve No |
| National Park |
| Reserve No |
| Local Government |
| Reserve No |
| Other |

TOTAL AREA

| | |
|---------------------|----------|
| Bushland Area | hectares |
| Completely Degraded | |
| | |
| | |

AREA MAPPED FLORISTIC UNITS

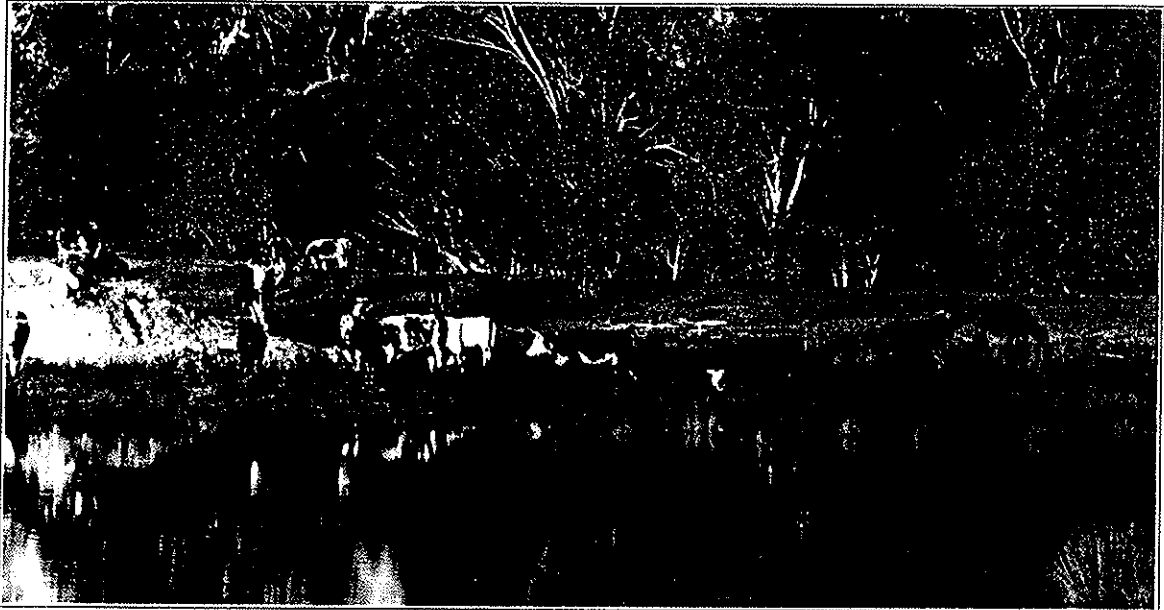
| Units | Site (Condition) | Code G : PACA | Bound | Area (ha) |
|-------|------------------|---------------|-------|-----------|
| 13 | Ø2 (1) | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
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| | | | | |

Boundaries determined by use of

| | |
|-------------------|--|
| aerial photograph | Metro Regional Area run 9 5116, 77-85 odds |
| orthophoto | 2032 1 NW, 2033 11 SW Aug 1991 |
| vegetation map | |
| soil map | |

and run 8 5097-95

AMARILLO FARM



DISCUSSION PAPER

Provisional Regional Park Boundary
for Urban Structure Plan



HOMESWEST

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APPENDIX A: ORIGINAL SYSTEM 6 PRINCIPLES

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1. System Six Recommendation M108
2. Existing and Preliminary "Reserves"
3. 100 Year Flood Limits
4. Environmental Protection Policy Wetlands
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7. Serpentine River and Associated Wetlands
8. Remnant Vegetation
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**Table 2: Summary of Waterbird Counts for Amarillo Pools
(26 RAOU surveys)**

| Species | Highest Count | Species | Highest Count |
|-------------------------|---------------|-------------------------|---------------|
| Hoary-headed Grebe | 24 | Australasian Grebe | 11 |
| Australian Pelican | 28 | Darter | 12 |
| Great Cormorant | 13 | Little Black Cormorant | 101 |
| Little Pied Cormorant | 9 | Pacific Heron | 6 |
| White-faced Heron | 85 | Great Egret | 18 |
| Little Egret | 7 | Rufous Night Heron | 15 |
| Glossy Ibis | 1 | Sacred Ibis | 180 |
| Straw-necked Ibis | 150 | Royal Spoonbill | 1 |
| Yellow-billed Spoonbill | 40 | Black Swan | 113 |
| Freckled Duck | 2 | Australian Shelduck | 335 |
| Pacific Black Duck | 1200 | Grey Teal | 3000 |
| Chestnut Teal | 1 | Australasian Shoveler | 150 |
| Pink-eared Duck | 1500 | Hardhead | 5 |
| Maned Duck | 24 | Blue-billed Duck | 5 |
| Musk Duck | 56 | White-bellied Sea-Eagle | 1 |
| Marsh Harrier | 2 | Spotless Crake | 3 |
| Dusky Moorhen | 1 | Purple Swamphen | 8 |
| Eurasian Coot | 105 | Banded Lapwing | 38 |
| Red-kneed Dotterel | 32 | Red-capped Plover | 8 |
| Black-fronted Plover | 67 | Black-winged Stilt | 150 |
| Banded Stilt | 221 | Red-necked Avocet | 350 |
| Wood Sandpiper | 44 | Common Sandpiper | 4 |
| Greenshank | 48 | Marsh Sandpiper | 9 |
| Black-tailed Godwit | 11 | Sharp-tailed Sandpiper | 154 |
| Pectoral Sandpiper | 2 | Red-necked Stint | 294 |
| Long-toed Stint | 48 | Curlew Sandpiper | 300 |
| Whiskered Tern | 1 | Silver Gull | 100 |
| Little Grassbird | 3 | | |

Table 3 Other Bird Species Observed During the Site Visit. (1992)

| | |
|---------------------|------------------------|
| Whistling Kite | Red-capped Parrot |
| Port Lincoln Parrot | Shining Bronze-Cuckoo |
| Laughing Kookaburra | Welcome Swallow |
| Tree Martin | Rufous Whistler |
| Grey Fantail | Willie Wagtail |
| Splendid Fairy-wren | Western Gerygone |
| Inland Thornbill | Red Wattlebird |
| Little Wattlebird | Singing Honeyeater |
| Brown Honeyeater | Striated Pardalote |
| Silvereye | Australian Magpie-lark |
| Grey Butcherbird | Australian Magpie |
| Australian Raven | |

(ii) Other Bird Species

During a preliminary survey of the site (as background to this boundary setting exercise) a total of 23 non-waterbird species were recorded (Table 3). These are species that are typical for remnant vegetation on farmland on the Swan Coastal Plain.

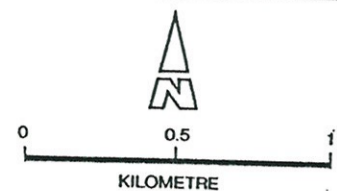
While the understorey in areas of remnant vegetation has been severely degraded by grazing, species such as the Splendid Fairy-wren and Inland Thornbill continue to occur along the river.

(iii) Other Vertebrate Fauna

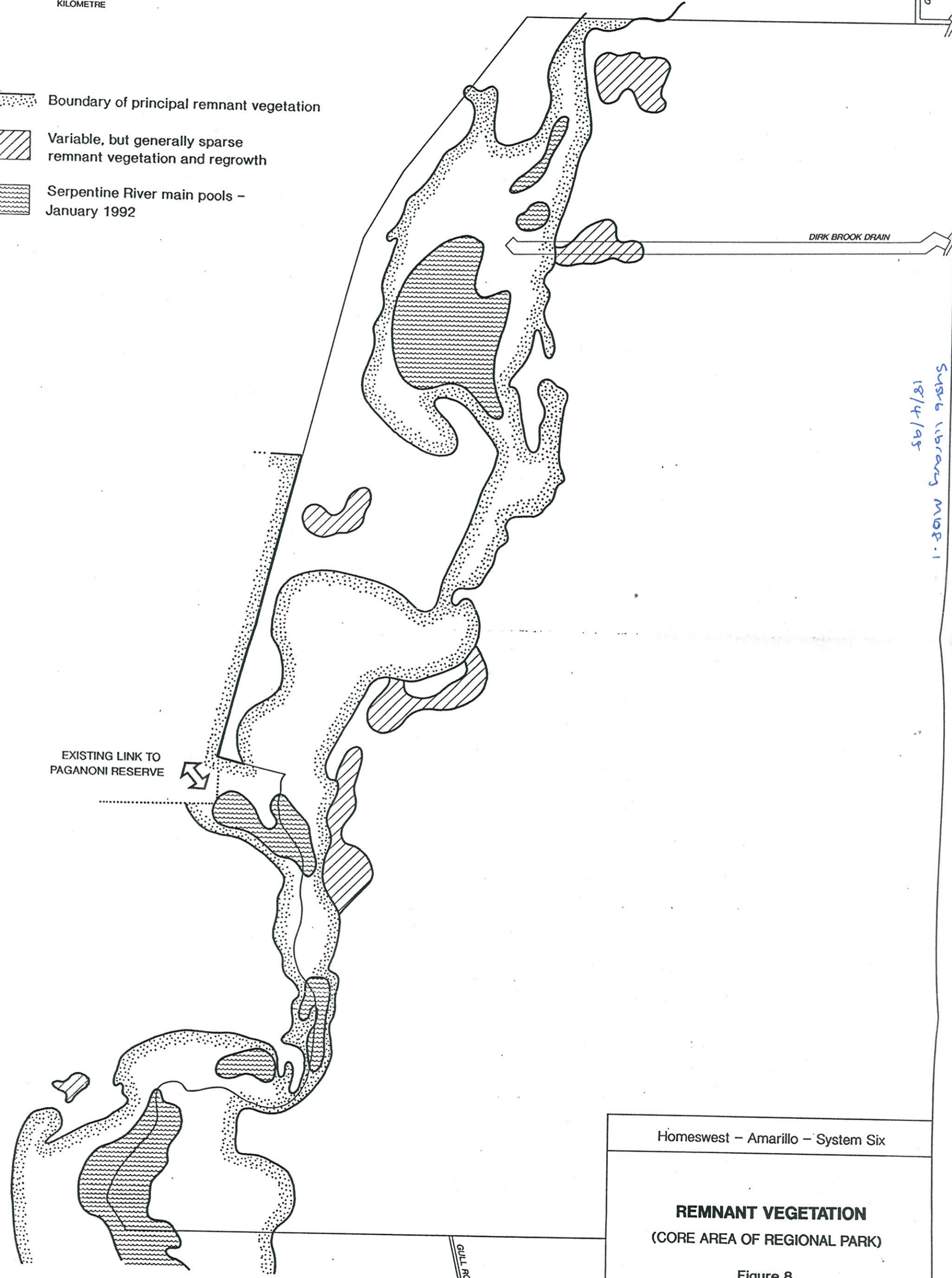
There is apparently a lack of recent data on terrestrial vertebrate utilisation of Amarillo's remnant habitat areas. The impact of grazing has been widespread and the occurrence of introduced predators such as the fox has no doubt contributed to a decline in species and populations.

However, species such as Bandicoots are known to persist along the Serpentine River and would be capable of migrating within this habitat corridor. Bandicoots in particular, are afforded special conservation status under the Wildlife Conservation Act as they are now on the 'rare and endangered' list.

From: Bowman Bishaw Gorman 1992 Amarillo Farm Discussion on Pappas
18/4/95
Syste library M08.1



- Boundary of principal remnant vegetation
- Variable, but generally sparse remnant vegetation and regrowth
- Serpentine River main pools - January 1992



| |
|--|
| Homeswest - Amarillo - System Six |
| REMNANT VEGETATION (CORE AREA OF REGIONAL PARK) |
| Figure 8 |
| <small>BOWMAN BISHAW GORMAN ENVIRONMENTAL MANAGEMENT CONSULTANTS</small> |

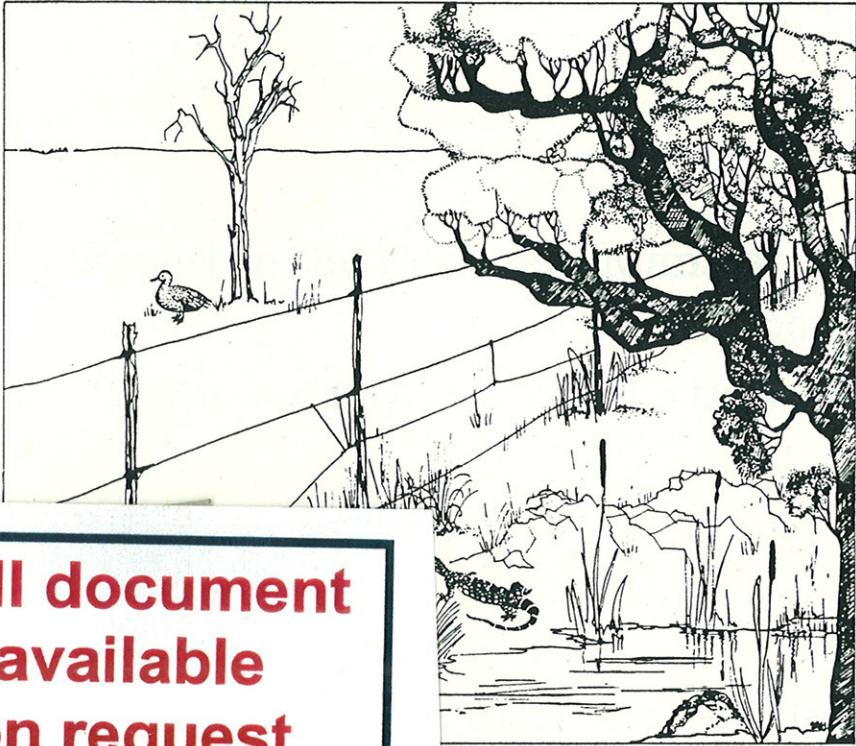
FIGURE 8

Reg

3.30

PEEL INLET MANAGEMENT AUTHORITY

Fringing vegetation of the Serpentine River in the Shire of Serpentine- Jarrahdale and City of Rockingham



**Full document
available
on request**

Waterways Commission
Report No. 38
1993

