

**Special rural subdivision and development,
portion Swan Loc 887, Sydney Road, Gnangara**

Midland Brick Company Pty Ltd

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

**Environmental Protection Authority
Bulletin 515
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1. Background

The site is located on the south west shore of Lake Gnangara east of Sydney Road in Gnangara (see Figure 1). The site is entirely covered by System 6 area M8, being part of the Wanneroo Wetlands Eastern Chain and is over a Priority 3 Source Area as defined by the Water Authority of Western Australia (WAWA) for the protection of groundwater supplies. The site is unused at present with the vegetation cover generally being banksia woodland with a Melaleuca complex existing in the lower areas near the lake shore.

The site was zoned "Special Rural" under the Local Authority Town Planning Scheme No. 1 a number of years ago. The proposed subdivision is a southern extension of the existing Special Rural development known as Lakelands Estate to the north west of Lake Gnangara. It was originally indicated to the Authority that subdivision of this area was being countenanced in 1984 when the majority of the Lakelands Estate subdivision was referred to the then Department of Conservation and Environment (now the Environmental Protection Authority) from the Department of Planning and Urban Development for comment. The current subdivision proposal for this specific area was referred to the Authority in April 1990 and the decision was made to assess it under Part IV of the Environmental Protection Act 1986 due to its implications for the System 6 area and groundwater resources. The level of assessment was set at Consultative Environmental Review (CER).

2. Proposal

The owners, the Midland Brick Company Pty Ltd, propose to subdivide and develop Swan Location 887 to create seven "Special Rural" lots ranging in size from 1.02ha to 5.64ha (see Figure 2). The site is currently zoned "Special Rural" under the City of Wanneroo's Town Planning Scheme No 1. An amendment to the scheme has recently been initiated to apply special provisions to this particular site.

The proponents also plan to create an area of public open space of 2.16ha along the Lake Gnangara foreshore as a buffer between the lake and the development

3. Public submissions

During the public review period, six submissions on the proposal were received by the Authority, including three individual submissions, two government department submission and one local authority submission.

Of the six submissions, three were opposed to the proposal, one gave conditional support, one had no comments to offer and one was awaiting the outcome of the environmental assessment before making a decision on the proposal.

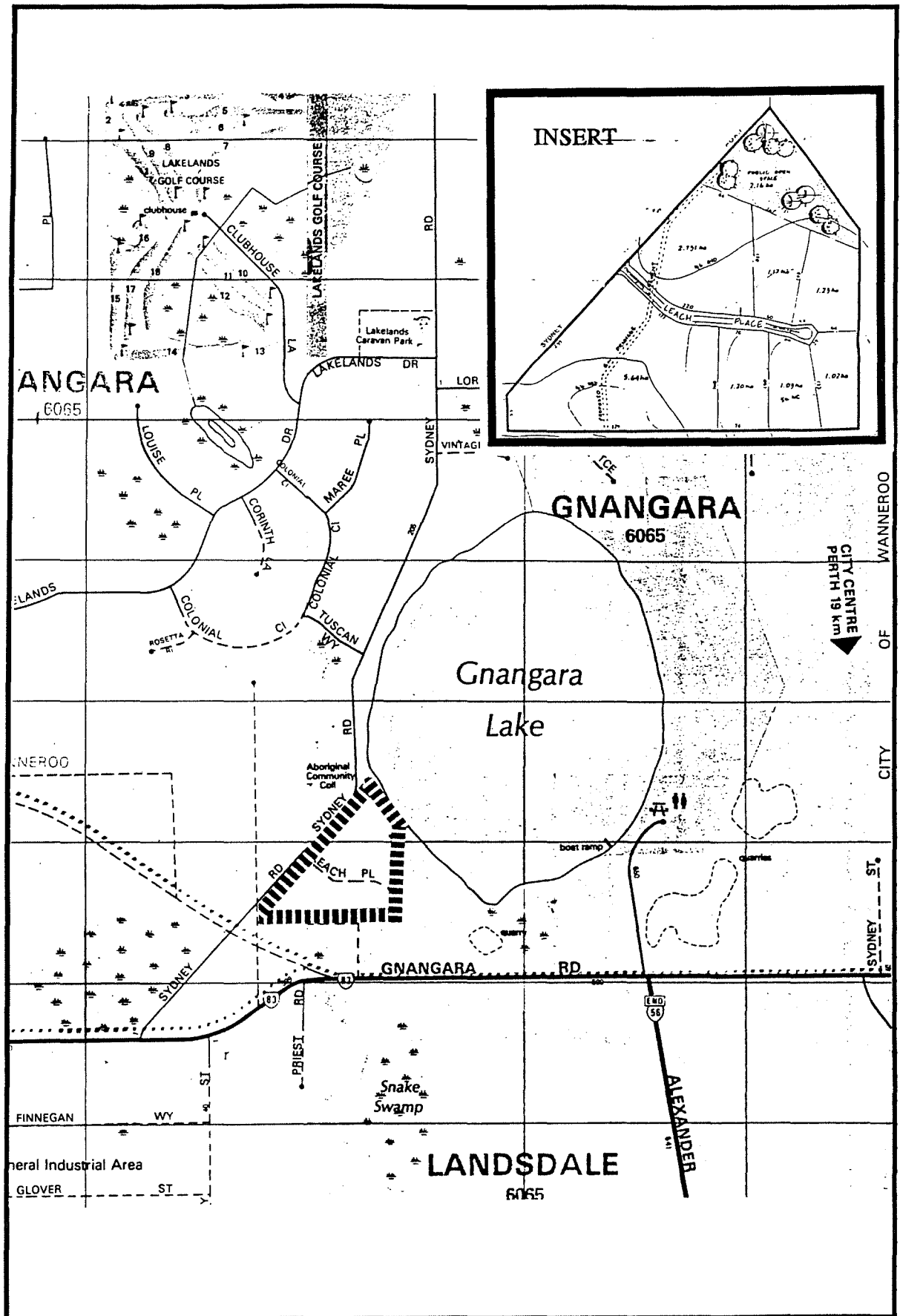


Figure 1. Locality map

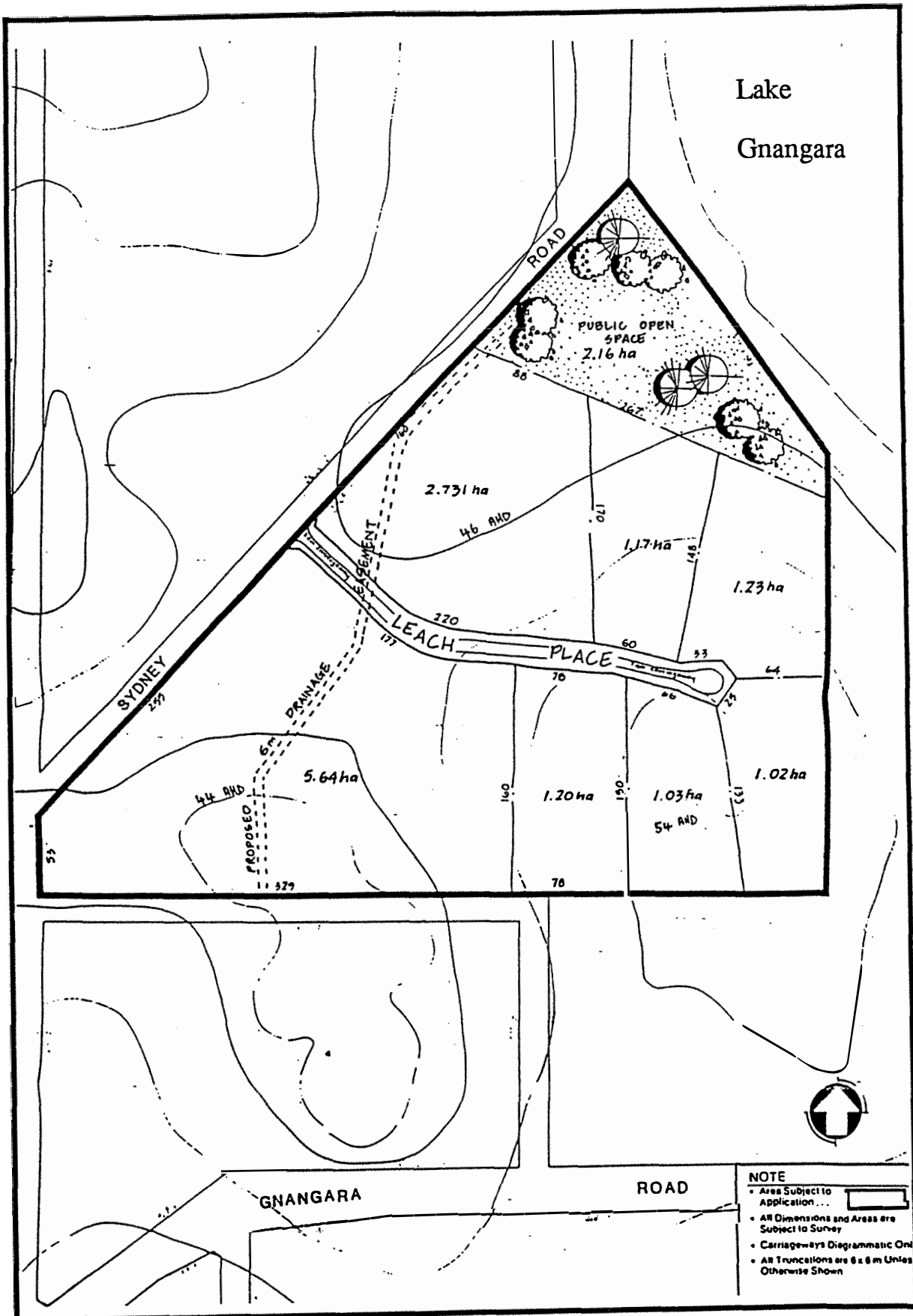


Figure 2. Proposed subdivision of Part Swan Location 887 Sydney Road, Gnangara

The information in the submissions has been divided into issue groups as follows:

Table 1 - Issues raised in submissions

Issue	Number of submissions raising the issue
Environmental Issues:	
Possibility of groundwater pollution (primarily from nutrients)	2
The site is a System 6 Area (M8)	2
Concerns for indigenous flora	1
Climatic change	1
Planning issues:	
Large proportion of population dependant on water supplies from the Perth area	1
Concerns over land use planning generally	1
Within Planning Control Area No. 16	1
Other:	
Public submission period too short	1
Better co-operation is needed in government	1

As can be seen from the table, the predominant issue was that of impacts of the development on groundwater quality and the System 6 status of the site.

Several planning issues were also raised and whilst the Authority agrees that they may be legitimate concerns, it does not believe it is the appropriate agency to address these issues, and that alternative avenues exist through the planning process.

4. Environmental issues

The main environmental issues affecting this site are the integrity of the System 6 area, the protection of groundwater resources and the protection of remnant vegetation.

The status of System 6 is becoming more important as areas of remnant bushland are reduced, and while the Authority recognises that this Special Rural subdivision is proposed for an area already zoned for the purpose, it can not support the development. As it stands the proposal is not consistent with Recommendation M8.2 (see Appendix 1).

In addition, on 27 June 1990, the Department of Planning and Urban Development declared Planning Control Area No. 16 which covers this site. This is an interim development control measure to regulate development while a study is undertaken to determine the requirements for land to be set aside for conservation and recreation to implement the System 6 Recommendations. Thus, until this study is completed, the Authority believes it would be inappropriate to consider allowing subdivision or development of this site to proceed.

Recommendation 1

The Environmental Protection Authority concludes that, it would be inappropriate to allow subdivision or development of this site to proceed until the study being carried out by the Department of Planning and Urban

Development to identify the requirements for conservation and recreation in this area is completed.

When the Department of Planning and Urban Development's study is satisfactorily finalised, the Environmental Protection Authority would be prepared to review the proposal (or a new one) in the light of that study and advise on its environmental acceptability.

Until then the Environmental Protection Authority recommends that this proposal not proceed.

Appendix 1

**Extract from Department of Conservation and Environment
Report 13 of October 1983**

M8 WANNEROO WETLANDS — EASTERN CHAIN

The recommended area is made up of a chain of wetlands about 24km long passing a few kilometres east of Wanneroo and comprises Reserve CII598, for Recreation, vested in the Shire of Wanneroo; Locations 1640, 1653, 1747, 1804, 1896, 1897, 1963 to 1981, 2493, 2494, 2694, 2696 to 2698, 2702, 2703, 2923, 4135, 5454, 5455, part of Locations 2692 and 2928, lots 1, 3 to 7 of Location 1678, lots 1 and 3 of Location 1852, lots 2, 50 and 51 of Location 4134 (**Lake Pinjar**); part of Reserve C36496, for Public Recreation, not vested; lots 48 and 49 of Location 1540 (**Lake Adams**); part of Locations 1481, 1581, 1582, 1673, 1734, 2316, 3144, 3191 and 5373 (**swamps south and east of Lake Adams**); part of lots 1 to 7, 38 and 39 (Location 1816), part of lots 1 and 2 (Location 8), part of lots 9 to 11 (Location 2081), part of Locations 1133, 1395, 1646, 1658, 1818, privately owned freehold land; and a foreshore reserve which is Crown land (**Mariginiup Lake and Little Mariginiup Lake**); part of Locations 1734, 1787 and 1856 (**wetlands north of Jandabup Lake**); Reserves C7349, for Conservation of Fauna, vested in the Minister for Fisheries and Wildlife; C33193, for Public Recreation, vested in the Shire of Wanneroo; part of Reserve C15054, for Public Utility, not vested; part of lots 1 to 10 (Location 1654), part of lots 11 to 14 (Location 1686), part of lot 30 (Location 1635), part of lot 17 (Location 1935), part of Locations 1383, 1504, 1655, 1713, 1787, 3310 and 5305, privately owned freehold land (**Jandabup Lake**); part of Locations 672, 740, 774, 934, 1811, 2383 to 2385, 2451, 2482 and 2829; and Reserve C8162, for Water, under the control of the Shire of Wanneroo (**Badgerup Lake and Little Badgerup Lake**); part of Reserve C27466, for Recreation, vested in the Shire of Wanneroo; part of lots 1 to 3 (Location 1526), part of lots 11 to 13 (Location 1511) part of lots 24 and 25 (Location 1794), part of lots 5 to 7 (Perthshire Location 104), part of Perthshire Location 104, and part of Location 1735 (**wetlands near Lenzo Road**); part of lots 2, 4 and 5 (Location 1224), part of lot 47 (Location 2470) and part of Location 1803 (**Snake Swamp**); Reserves C8399, C27278 and C27279, all for Recreation, vested in the Shire of Wanneroo; part of Perthshire Location 104, part of lot 5 (Location 2488), Location 883 and part of Locations 887, 970 and 1494, privately owned freehold land (Gnangara Lake); part of lots 1, 3, 4, 7 and 9 (Location 1237) (**wetland south-west of Gnangara Lake**) (Figures 80A to C).

With the exception of Lake Pinjar, Mariginiup Lake and part of Little Mariginiup Lake, the area is within the Underground Water Pollution Control Area. The lakes may be affected by organic pollution due to drainage from surrounding septic tanks. Lake levels may be affected by private and MWA groundwater extraction, by forestry activities and by future sewerage and drainage works. The area has potential for extraction of diatomaceous earth, peat, sand and limestone and various mineral claims affect the area. The Mines Department has approved mining in part of Lake Gnangara. The Midland Brick Company has plans to establish a brickworks on land to the north-west of Lake Gnangara. Extension of the Beechboro-Gosnells Freeway may affect some wetlands.

The locality is covered by the Wanneroo Shire's Circular Lakes Landscape Enhancement Area.

Lake Pinjar

The lake is almost entirely privately owned and major modifications have been made to the shoreline and littoral zone. Remnants of the original vegetation include jarrah, marri, pricklybark, banksia, sheoak, Christmas tree and blackboy on higher ground, and flooded gum and paperbark close to the water. Interesting sand formations known as lunettes occur in the area.

Lake Adams

The water level of the lake has fallen because of groundwater extraction and the pine plantation to the north, and the original extent of the lake is now marked by scattered remnants of the fringing flooded gums. The owners have undertaken a project to increase the lake's value as a landscape feature and a summer refuge for water-birds by deepening part of the lake and clearing some of the reed beds.

Swamps South and East of Lake Adams

These swamps are located in freehold land but no agricultural use is occurring; they are subject to seasonal inundation and may attract water-fowl; surrounding vegetation has been substantially cleared.

Mariginiup Lake and Little Mariginiup Lake

Mariginiup Lake is a semi-permanent freshwater lake. It is fringed with sedgelands of jointed twig rush, *Baumea juncea* and *Eleocharis sphacelata*, and the surrounding vegetation includes the shrub *Leptospermum ellipticum* and patches of flooded gum and swamp paperbark. It offers a summer refuge for water-birds.

Little Mariginiup Lake is a seasonal swamp with reed beds in the western half and market gardens to the east. It is surrounded by cleared land.

Wetlands north of Jandabup Lake

The wetlands contain open water with emergent reeds. The southern lake has a smaller reed zone. Most of the surrounding area has been cleared but the lakes provide nesting and feeding areas for birds at certain times of the year.

Jandabup Lake

The lake is the largest body of open fresh water in the Shire of Wanneroo and is an important habitat for water-birds, particularly as a summer drought refuge. The fringing vegetation includes extensive reed beds and sedgelands and remnant flooded gum and paperbark trees. Much of the fringing vegetation and all of the surrounding areas are in private land: parts close to the water support market gardens and on higher ground there are paddocks with some remnants of the original vegetation.

Badgerup Lake and Little Badgerup Lake

Both lakes contain extensive beds of bulrush, and two exotic water plants: water hyacinth and *Polygonum attenuatum*. The native sedge *Scirpus prolifer* is abundant in Badgerup Lake. Although trees have been almost entirely lost from the foreshores of Badgerup Lake, there is a good stand of paperbark at the southern end of Little Badgerup Lake. The lakes are semi-permanent and provide a summer refuge for water-birds.

Wetlands near Lenzo Road

These semi-permanent lakes and swamps have lost much of their surrounding natural vegetation and their importance now lies mainly in their value as water-bird refuges and their potential as parkland for recreation.

Snake Swamp

Snake Swamp comprises an area of several seasonal swamps and winter depressions. The surrounding woodland is very disturbed and the area's main value is for recreation, though it could possibly be enhanced by the creation of permanent water by pumping.

Gnangara Lake

It is a large permanent freshwater lake which has been considerably used for recreation and partly developed to cater for this. The fringes of the lake contain sedgelands; open-forest of flooded gum and paperbark occupies the shoreline. Reserve C8399 to the east of the lake contains mostly remnants of woodland of marri, pricklybark, banksia, sheoak and Christmas tree.

Wetland south-west of Gnangara Lake

The wetland is a small area of open water, partly bounded by sedges. The water is sufficiently deep to support dabbling water-birds, including black duck.

The historical decline in numbers of wetlands on the Swan Coastal Plain adds to the importance of this area as a habitat for water-birds and as an example of wetland environments. The area's importance for recreation in the future is also likely to increase as the metropolitan area grows.

The recommended areas contribute to open space of regional significance because of their high conservation and recreation values and their close proximity to the Perth metropolitan area (see Figure 1, Chapter 4).

The management of the area should be in accordance with the Wanneroo Shire Council's Circular Lakes Landscape Enhancement Area Plan and important considerations include:

- (a) conservation of flora and fauna being the priority use for Lakes Jandabup, Mariginiup and Little Mariginiup;
- (b) recreation being a priority use for Lake Gnangara;

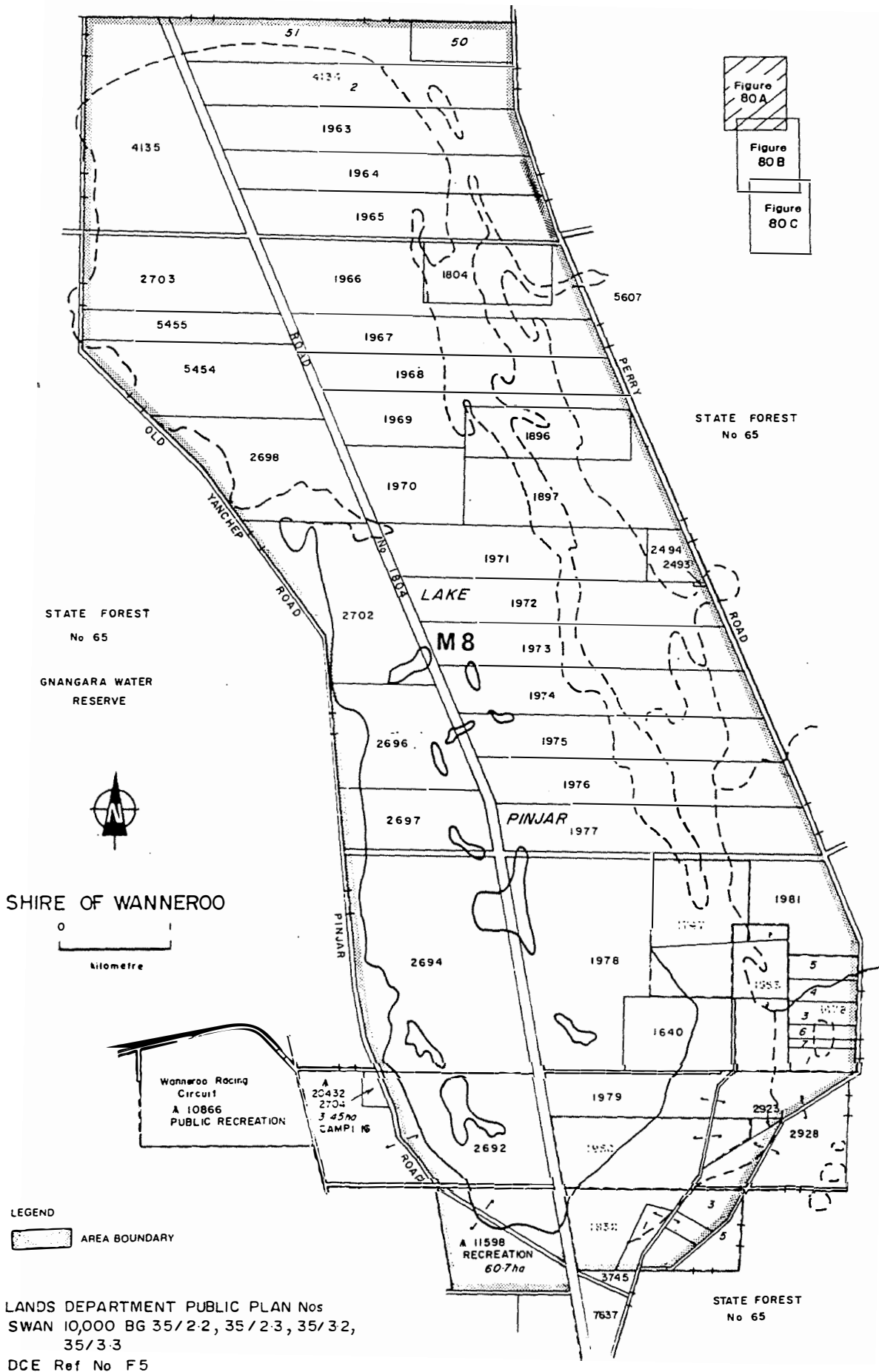


Figure 80A

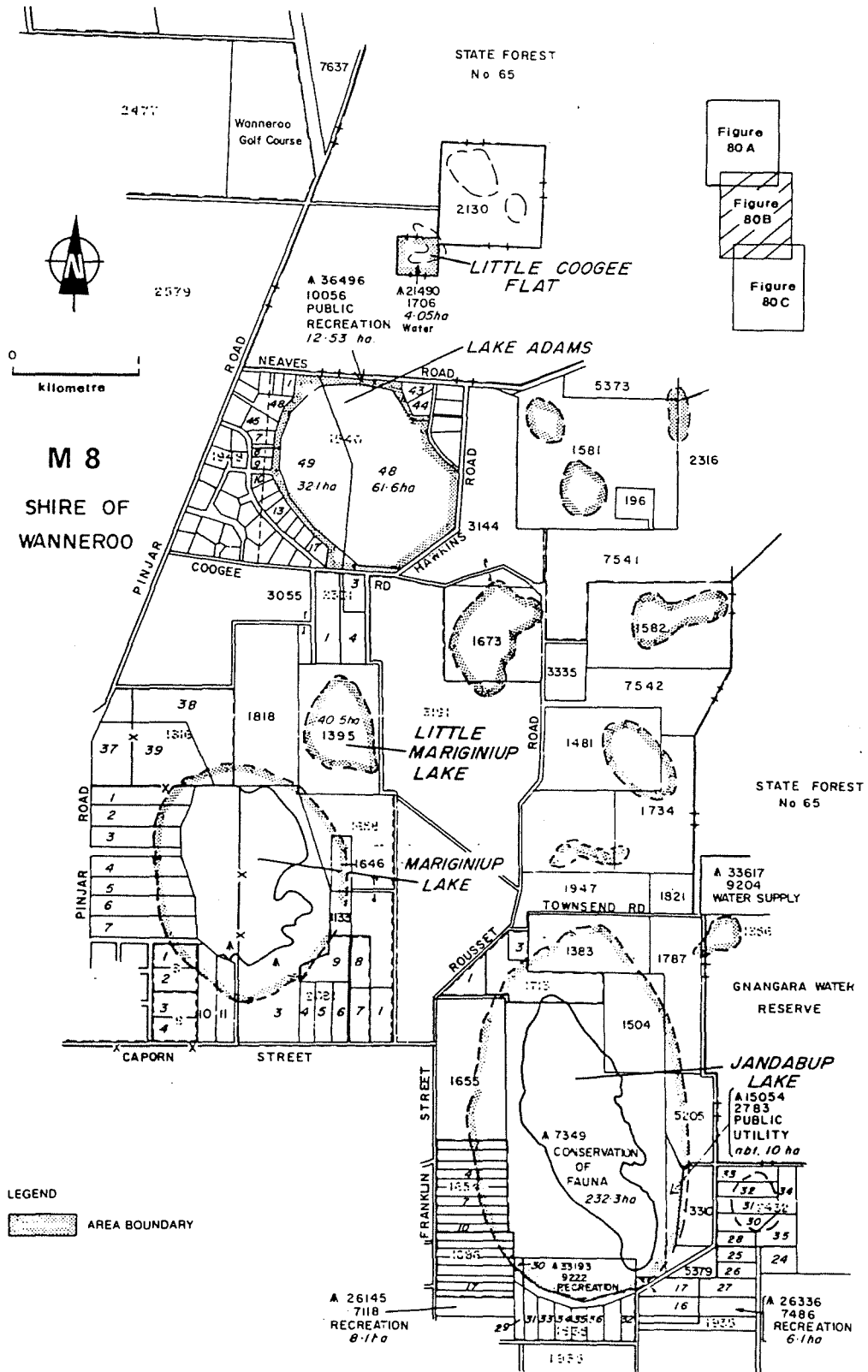


Figure 80A

Figure 80B

Figure 80C

1980 LANDS DEPARTMENT ROAD GUIDE—MAP 20 REF 23 16

LANDS DEPARTMENT PUBLIC PLAN No
SWAN 10 000 BG 35/2.2, 35/2.3,
35/3.3, 35/3.2
DCE Ref. No F5,F 6

Figure 80B

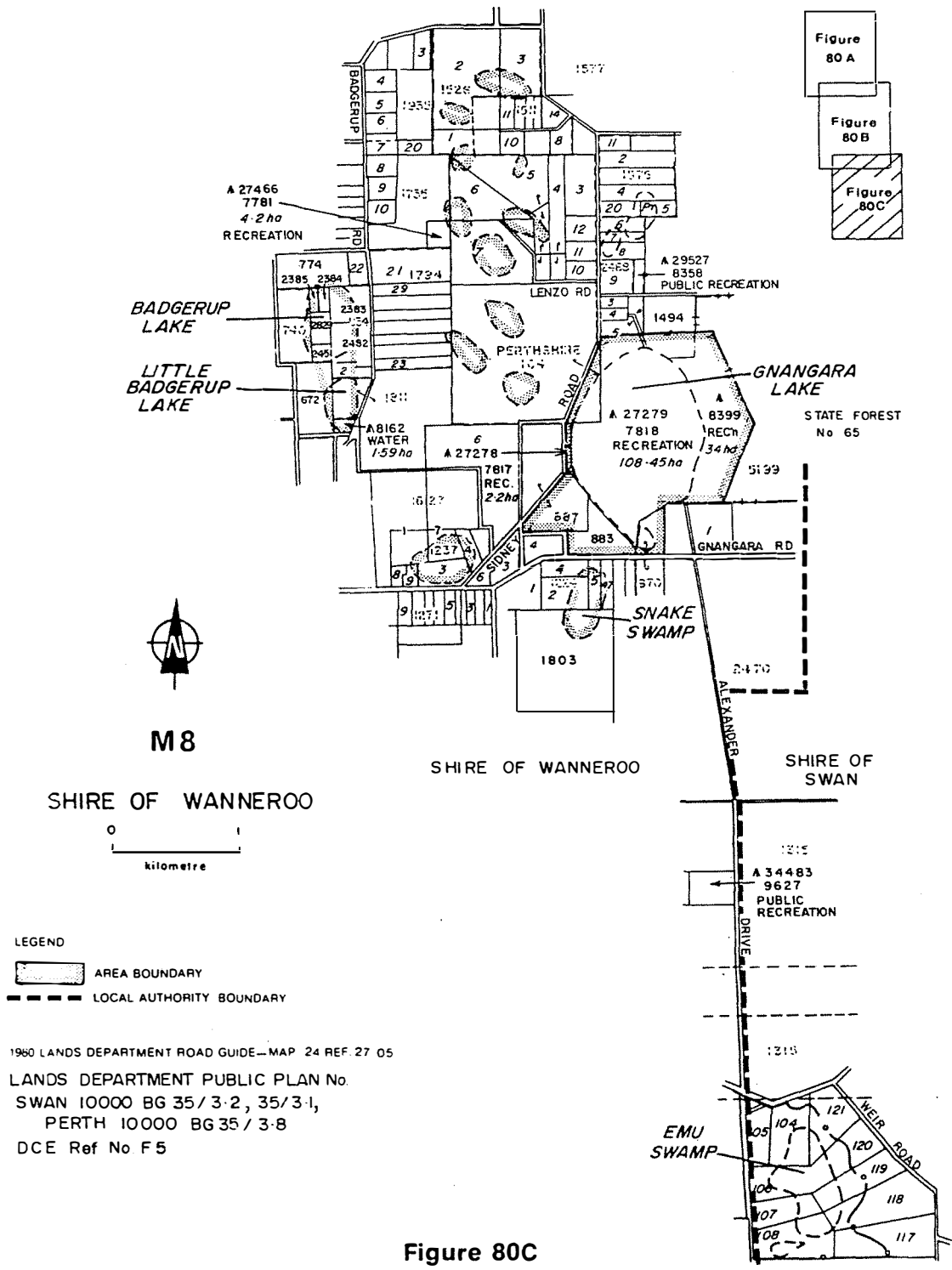


Figure 80C

- (c) incorporating Badgerup and Little Badgerup Lakes, Lake Adams, swamps south and east of Lake Adams, wetlands north of Jandabup Lake, wetlands near Lenzo Road and the wetland south-west of Gngangara Lake as part of parkland for recreation and as a refuge for water-birds;
- (d) controlling exotic water-plants;
- (e) the area's potential for water and minerals;
- (f) in the case of Lake Gngangara
 - (i) controlling access to prevent erosion of the foreshore, by replanning access roads and amenities;
 - (ii) permitting only passive recreation in areas where fringing vegetation is of high quality;
 - (iii) encouraging the growth and regeneration of vegetation on the eroded foreshores;
 - (iv) protecting fringing vegetation from effects of mining, and rehabilitating the lake after mining.

Recommendations:

- M8.1 That our general recommendations on planning and management of Regional Parks be applied to this area (see Recommendations 15 and 16, Chapter 5).
- M8.2 That the Metropolitan Region Planning Authority consider "reserving" those portions of the area not already "reserved" for Parks and Recreation under the Metropolitan Region Scheme according to the following order of priorities: Jandabup Lake, wetlands north of Jandabup Lake, Mariginiup Lake, Little Mariginiup Lake, Gnangara Lake, wetlands south-west of Gnangara Lake, Badgerup Lake and Little Badgerup Lake, wetlands near Lenzo Road, Snake Swamp, Lake Adams, swamps south of Lake Adams and Lake Pinjar.
- M8.3 That the Wanneroo Shire Council's Circular Lakes Landscape Enhancement Area Plan for the area is endorsed.