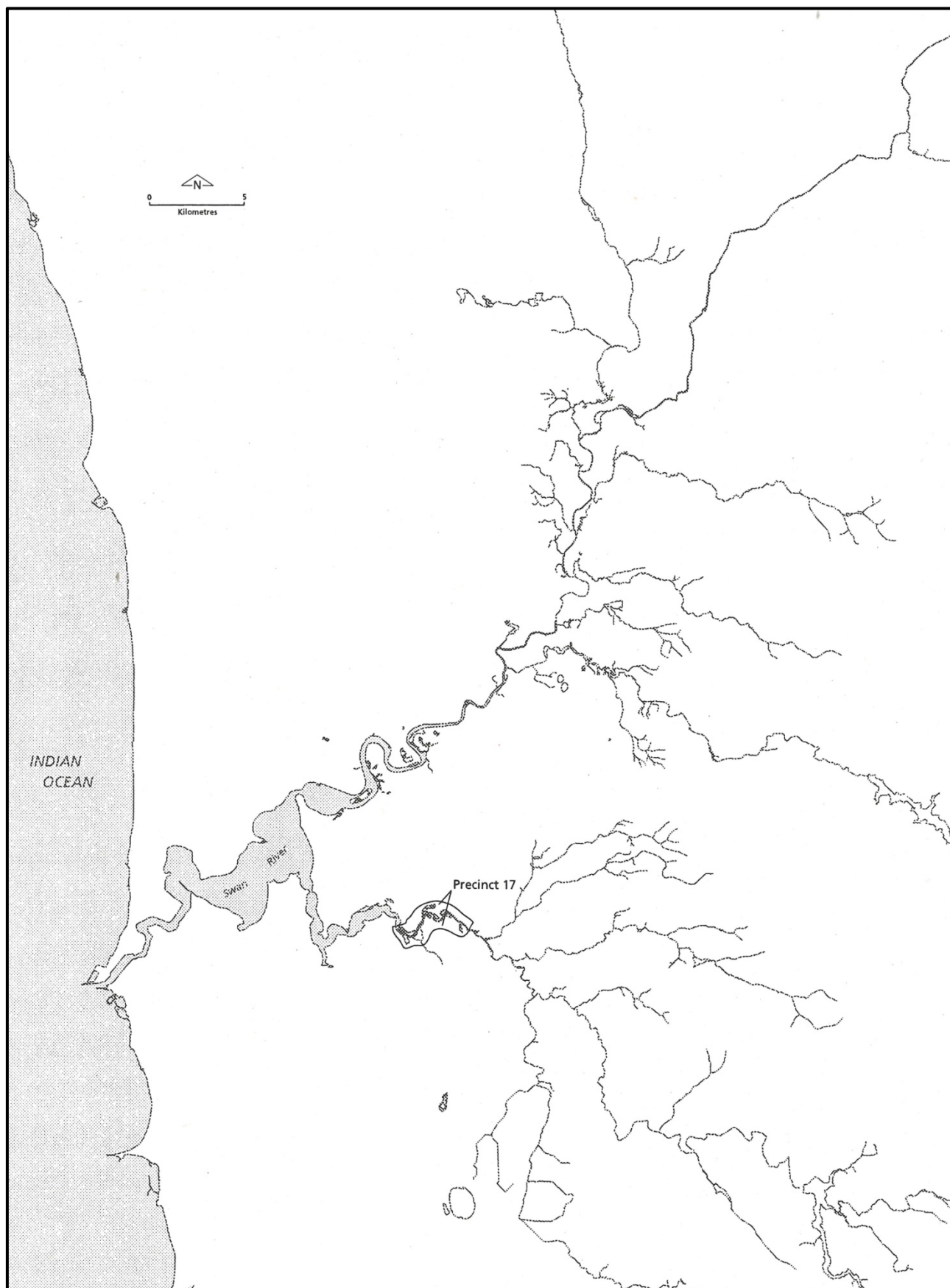


## Canning River – Riverton Bridge to Nicholson Road Bridge



# Summary

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## Canning River – Riverton Bridge to Nicholson Road Bridge

**This precinct includes the Canning River Regional Park which contains some of the best estuarine Vegetation in the whole Swan Canning River catchment. The park has a wide diversity of habitats including salt water estuary and islands, freshwater riverine environment and modified woodlands on the floodplains. The immediate environs of the Canning River are tranquil and beautiful due to the fringing vegetation and the complex waterform of the river.**

The river has several branches which lead to freshwater inputs, such as Bannister Creek, and areas of inundation. There are several islands within the river channel which form irregular elongated shapes and provide attractive water features. The channel is in the form of loose undulating curves as it crosses the low lying sand plain. The river bank and island forms are accentuated by the fringing reeds and sedges which are emergent in areas of regular inundation. Unfortunately, much of the vegetation consists of weed species which are often the dominant species in the area. These species in most cases detract from the aesthetics of the river. Historically, much of the low lying area has been cleared for rural and urban development. As a consequence, there is only a fringe of vegetation along the river area and remnant flooded gum woodland.

There are several pedestrian crossings over the river and this allows the river user to view the riverform and vegetation from the centre of the channel. These structures also provide visual interest in the fluvial environment. The Kent Street Weir is now the focus of a recreation node and has a pedestrian crossing on top of the concrete piles. The residential development around the river consists of mainly modest homes built since the middle of this Century. The houses are on small blocks set back from the river reserve and have predominantly eclectic gardens. These houses are not easily visible from most positions on the river banks due to the low lying nature of the land. Woodloes House and Castledare buildings are of historic significance along this section of the river.

The entire precinct is encompassed in the proposed Canning River Regional Park. The park will be predominantly for conservation purposes; however facilities for passive recreation will be improved.

## Biophysical Processes

### Geological Processes

There are two geological units in this precinct which include the Bassendean Sand Geological Formation and the Guildford Formation. The Bassendean Sand is characterised by white and grey quartz sands. The Bassendean Sand forms a series of dunes parallel to the coast. The sand was laid down on shorelines and dunes during two or more past periods of relatively high sea level during the Pleistocene. The deposit is poorly sorted, fine to medium grained sand.

Guildford Formation is characterised by sandy clays to clayey sands including alluvium and colluvium. The formation consists of lenticular interbeds and mixtures of sand, clays and conglomerate which are locally calcareous. Most of the unit is of fluvial origin but includes estuarine and shallow marine intercalations, especially near the base. The quartz sand ranges from very fine grained to medium grained but contain a small amount of coarser material. The sediments are usually mottled in shades of brown, orange, yellow and grey and are variably laterised and oxidised at the surface (DEC, 1980).

The Southern River Soil Unit occurs on the southern section of the estuary and is characterised as being grey sand dunes with sandy swamps in the low-lying areas. Where sand appears to have been blown over the alluvial soils therefore the swamps often have a clay base. The swamps have iron and humus podzols, peats and clays. The Bassendean Soil Association occurs on the northern bank of the estuary and consists of grey and yellow sand dunes with sandy swamps in the low lying areas. Adjacent to the river channel are the Swan Association soils which are red podsolic and undifferentiated alluvial soils along the present river course (Seddon, 1972).

### Topography

The area consists of the geomorphic Classification of the Bassendean Dunes which are defined as a sand plain with low dunes and many intervening swamps. Much of the lower land is subject to inundation and as a result forms depressions in the low lying land. Adjacent to the river course, much of the original low lying land has been infilled for residential areas, so the landform is unnaturally high and uniformly flat. The Pinjarra Plain is unconsolidated fluvial sediments deposited in the form of alluvial fans at the base of the Darling Range. This more undulating land forms a backdrop to the flat river plain area.

## Hydrological Processes

### Water features

The estuary has several low lying alluvial islands and adjoining wetlands at this section of the Canning River. The islands are the result of the river channel changing towards an easier course as alluvial deposits increase. The width of the channel is irregular and it takes the form of loose irregular meanders downstream from Nicholson Bridge. Shell deposits occur from east of Riverton Bridge to the Castledare foreshore. A deposit of oyster (*Ostrea* sp) which appears to have been secondarily deposited in the silty alluvium near Nicholson Road Bridge was disturbed when the new bridge was constructed.

Several main drains run into the river in this precinct. Several are altered natural drainage lines which have been straightened but remain as open channels. Freshwater input to the Canning River occurs at Bannister Creek which is a narrow channel and enters the estuary from the south.

### Bathymetry

The Canning River has a depth of up to two metres in this area, although most of the channel is shallower and often subject to low water flow in summer months. The Canning River at this point has both estuarine and riverine waters divided by the Kent Street Weir. The tidal influence is blocked by the weir and as a consequence the upstream water is relatively fresh particularly in winter months due to the higher seasonal rainfall.

### Flooding

The area is flat and low lying and partly subject to seasonal inundation. Prior to infilling of the lower lying land, the 100 year flood plain of the Canning River originally extended east as far as Albany Highway. The flood plains are particularly important for such vegetation communities as the samphire flats and flooded woodlands.

### Erosion and accretion

The river banks are subject to the natural process of erosion and accretion. In places where the river bank vegetation has been removed these processes are accentuated. Since the construction of the Kent Street Weir, the alluvial islands have altered, some disappearing, new ones have formed and others joining up with the main channel banks.

### Vegetation Communities

#### Native

##### Swan Complex

The indigenous flora of this precinct is classified as being as part of the Swan Complex (DCE, 1980).

The vegetation ranges from fringing woodland of flooded gum (*Eucalyptus rudis*) and swamp paperbark (*Melaleuca raphiophylla*) with localised occurrence of low open forest of sheoak (*Casuarina obesa*) and saltwater paperbark (*Melaleuca cuticularis*). The various communities which make up this complex are described below.

##### Sarcocornia and Halosarcia communities

On the tidal flats such as at Surrey Road there are samphire and other salt tolerant communities. These include the samphire (*Sarcocornia quinqueflora*) and seablite (*Suaeda australis*), which occur on the lower ground (Pen, 1983). On slightly higher topography marsh club rush (*Bolboschoenus caldwellii*) and glasswort (*Halosarcia indica subsp. bidens*) can be found. All these species are mainly found below the Kent Street Weir only.

##### Juncus Community

The shore rush (*Juncus kraussii*) occurs in areas which are frequently inundated and have lower salinity than the salt marshes. It occurs mainly downstream of the Kent Street Weir in this precinct.

##### Typha communities

The bulrush (*Typha domingensis*) occurs in low lying disturbed areas, however most of this community has been usurped by the exotic bulrush (*\*Typha orientalis*), which appears more tolerant of disturbed and freshwater conditions. The exotic bulrush is abundant particularly upstream of the Kent Street Weir (Pen, 1983).

##### Casuarina-Melaleuca Community

The swamp sheoak (*Casuarina obesa*) and swamp paperbark (*Melaleuca raphiophylla*) community lines the Canning River almost continuously from Riverton Bridge to the Kent Street Weir which is the estuarine section of the river. The understorey often includes shore rush (*Juncus kraussii*), club rush (*Bolboschoenus caldwellii*), creeping brookweed (*Samolus repens*), slender myoporum (*Myoporum caprarioides*), and twig rush (*Baumea juncea*). Swamp peppermint (*Agonis linearifolia*), moonah (*Melaleuca pressiana*), marri (*Eucalyptus calophylla*) and narrow leafed oxylodium (*Oxylodium linearifolium*) are also found with the paperbarks.

##### Melaleuca swamp Community

This community includes the swamp paperbark (*Melaleuca raphiophylla*), and flooded gum (*Eucalyptus rudis*). It also includes the saltwater paperbark (*Melaleuca cuticularis*). This community is found in an isolated pocket at Ferndale Road (Pen, 1983). A second community occurred at Watts Road Lake until this was recently infilled for development. The twig rush (*Baumea juncea*) and shore rush (*Juncus kraussii*) are often found in these swampy conditions.

##### Eucalyptus-Melaleuca Community

The Eucalyptus-Melaleuca community occurs upstream of the Kent Street Weir (Pen, 1983). The community includes flooded gum (*Eucalyptus rudis*) and swamp paperbark (*Melaleuca raphiophylla*). Modified flooded gum woodland occurs at the Ferndale flats with an understorey of many weed species. In swamp areas, the flooded gum-paperbark communities occur with a similar understorey as the river edge communities and in addition include swamp peppermint (*Agonis linearifolia*) and common sword sedge (*Lepidosperma longiternale*).

##### Flooded gum communities

Much of the original flooded gum (*Eucalyptus rudis*) woodlands has been cleared for pasture. The indigenous understorey has been generally replaced by weeds. Among the woodland there are a number of wildflowers including many orchids, fringe lilies (*Thysanotus* sp), trigger plants (*Stylidium* sp) and sundew (*Drosera* sp). The flooded gum often occurs upstream from the weir where freshwater conditions prevail.

##### Exotic

The presence of weeds is a serious problem in this precinct as past and present land use has encouraged proliferation among the remnant native vegetation communities. The following species are potentially serious weeds that occur in the area: blackberry (*\*Rubus* sp), castor oil bush (*\*Ricinus communis*), pampas grass (*\*Cortaderia selloana*), the giant reed (*\*Arundo donax*), cape tulip (*Hemerocallis species*), Japanese pepper tree (*\*Shinus terebinthifolius*), coral tree (*\*Erythrina caffra*), fig (*\*Ficus* sp), morning glory (*\*Ipomoea indica*) and willow tree (*\*Salix* sp). Introduced veldt grasses (*\*Ehrharta longifolia* and *\*E. calycina*), kikuyu (*\*Pennisetum clandestinum*) and buffalo grass (*\*Stenotaphrum secundatum*) flourish often to total exclusion of local species. Bulrush (*\*Typha orientalis*) has invaded much of the river and it is believed that it proliferates in the fresher waters to the exclusion of the local bulrush species (*Typha domingensis*).

## Historical Land Use and Resulting Environmental Changes

Early grants were made to William Willet (Lot 21), W. H. Drake (Lot 4 and 23a) Manning (Lot 23), P.P. Smith (Lot 1), Alfred Stone (Lot 2), Wallace and Bickley (Lot 3) and Waylen (Lot 5). W. H. Drake was the Deputy Commissioner. Samuel Bickley was land was 13 000 hectares and the largest in the area (Carden, 1968).

Peter Parker Smith had been granted all of Canning Location Number 1, by January 1844. He never lived on the land and it was only used for goats and pigs to ensure that the land would not be resumed by the Crown. In 1847, the Watts family purchased the land and they developed the property for pastoral purposes and farming. The land was eventually broken into smaller lots. In 1897 the Wilson Park area was purchased by the Imperial Brick and Tile Company (Carden, 1968). It appears that a brickworks had been built at Yankee Yards (Wilson Park) and it is believed that the kilns, drying sheds and clay pits were located on the eastern side of the Adenia Reserve lake. Part of the property and part of Location 2 became *Kallyamba* owned by Weidenback in 1879.

Canning Location Number 2 was allocated to Alfred Stone in November 1829 who named the property *Speldhurst* and established his home and estate there (Carden, 1968). The following year, one of his servants drowned in the river while attempting to retrieve a duck that he had shot. The man was buried somewhere on the banks near Wilson Park. The land was sold later that year to James McDermott who renamed the estate Cheltenham and the farm was later sold several times after this. Samuel Bickley was the first to receive the original freehold title in 1842.

Canning Location Number 23a was assigned to Charles Churchman in April 1830 (Carden, 1968). He described the property as 'pure sand' and he intended to leave it more or less in its natural state as he believed it was not worth the cost of cultivating. The lower part of the grant was under water in winter and flooded with salt in summer. Despite this he built a house with bricks he had brought from England. He later sold the land to an adjacent land holder in 1833 and was quickly passed on to William Drake by April 1833. The house remained Churchman's property and was to be removed however he died the following month. The land was purchased by the Manning family in 1879 and was held by them until the land was subdivided as the Canning River Estate in the 1920s (Richards, 1991).

Benjamin Mason built the second railway line in the State from Carmel near Kalamunda down to near Bickley Road. Mason and his partner Francis Bird set up a timber mill in the Darling

Range, and brought the sawn timber to a wooden railway line which ran along a line of Bickley Road to the river (Richards, 1991). Here the timber was loaded onto barges for Fremantle. By 1866, Mason was employing over one hundred men, mainly in the hills. The land is now called Mason's Landing and the area was a hub of small industries such as blacksmithing, wheelwrighting and building due to the demand from the saw pits. In 1869 a steam powered sawmill was established by the river side, however by 1874 it was necessary to move the mill site to Canning Mills in the Darling Ranges. Mason's house was adjacent to the landing and is no longer present. Bird's home was 'Woodloes' homestead which was constructed from stone and jarrah shingles (Carden, 1968).

Between 1853 and 1868, the Albany Highway between Perth and Narrogin was built by convicts and ticket of leave men. The track was made using woodblocks and was the main route throughout the Cannington area. The Canning sand plain section which was notoriously difficult to traverse was completed in early 1868 and dramatically improved communications in the area.

Between 1860 to 1883 William Lacey Gibbs, gradually accumulated most of what is Cannington. His slaughter yards were located near the present day Myer Department Store, Westfield. His brother built the 'Cecil/Waverley' Hotel on the corner of Cecil Road and Albany Highway (Carden, 1968). The hotel was altered many times over the years and was recently demolished for widening of the Albany Highway.

The first Nicholson Road Bridge was built in 1855 (Swartz, undated). It reduced the need for numerous hazardous crossings upstream and its construction allowed paths to these other crossings to be closed. The first bridge was built by the sons of Benjamin Mason who were contractors to the Crown. This bridge was replaced in 1907. In 1927, the river bed was made wider and deeper by cutting the north bank and lengthening the bridge. The third bridge was constructed in 1953, and a fourth bridge constructed in 1987 is a pre stressed concrete bridge. The construction of the last bridge involved disturbing the island that once occurred beneath the site of the bridge and it is no longer present in the river channel.

In the 1890s a number of orchards and farms were established by among others Brookman, Wiedenbach and Riley (Carden, 1968). There were several dairies in the area by the 1920s and 1930s which supplied the metropolitan area and the local people and the Road Board with 'grass cutters'.

Riley's market garden was on sandy soils and was watered from numerous fresh water springs in the area. It was located at the present day Adenia Reserve and was an important supplier of

## Precinct 17 - Canning River - Riverton Bridge to Nicholson Bridge

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fresh vegetables and fruit to the area. The Wilson and Johns nursery was started in 1897 and was important to supplying a State wide demand for plants (Carden, 1968). Water was drawn from the river for the plants until the nursery closed.

In 1908, the Wharf Street Drain was constructed and the open drain ran from Albany Highway (then Road) to the river. It remained open for over 60 years and was not only a driving hazard but also a feature of the area.

Castledare was an Edwardian 'mansion' which was built by a Mr Flemming and later sold to the Meares family. The McLeod family purchased the house and lastly Archbishop Clune bought it in 1928. Several additional buildings were constructed and a school and home was opened the following year for mainly mentally handicapped boys. However during the Depression there was a lack of resources and the home became used for an orphanage. The home, although officially an orphanage, mainly catered for boys privately placed from poor and separated families. The house was used as the administrative and dining block of the Castledare Junior Orphanage. It was a home for young boys aged between seven and eleven who had their 'spiritual and material needs' supplied by a staff of Catholic Brothers, a matron and her assistants. The home was surrounded by virgin bush and only a short distance from the Kent Street Weir which was a favourite playing area for the boys. The orphanage became known as St Vincent's Junior Orphanage in the 1960s; however the name Castledare is now used.

Riverton was released in 1914 as a place where money grows'. The Riverview Estate Ltd suggested that with small capital investment wonderful results in the pursuit of dairy, stock, fruit or poultry will make the buyer independent. The abundance of water would allow a 12 month growing season. The opposite 'well known property estate' of William Bateman was used as an example of a flourishing market garden in the area (Riverview Estate Ltd, 1914).

The river was 'desnagged' in 1924 and many old barges and boats were pulled out from the old landings including Mason's Landing and the Yankee Yards. Up until the 1960s this section of the river consisted of low lying swamp and mosquito breeding was a problem. At the time it was suggested that the section would 'require a lot of effort and finance to improve before scenic roads and river beautification can take place'(Town of Canning, 1975 and 1981)

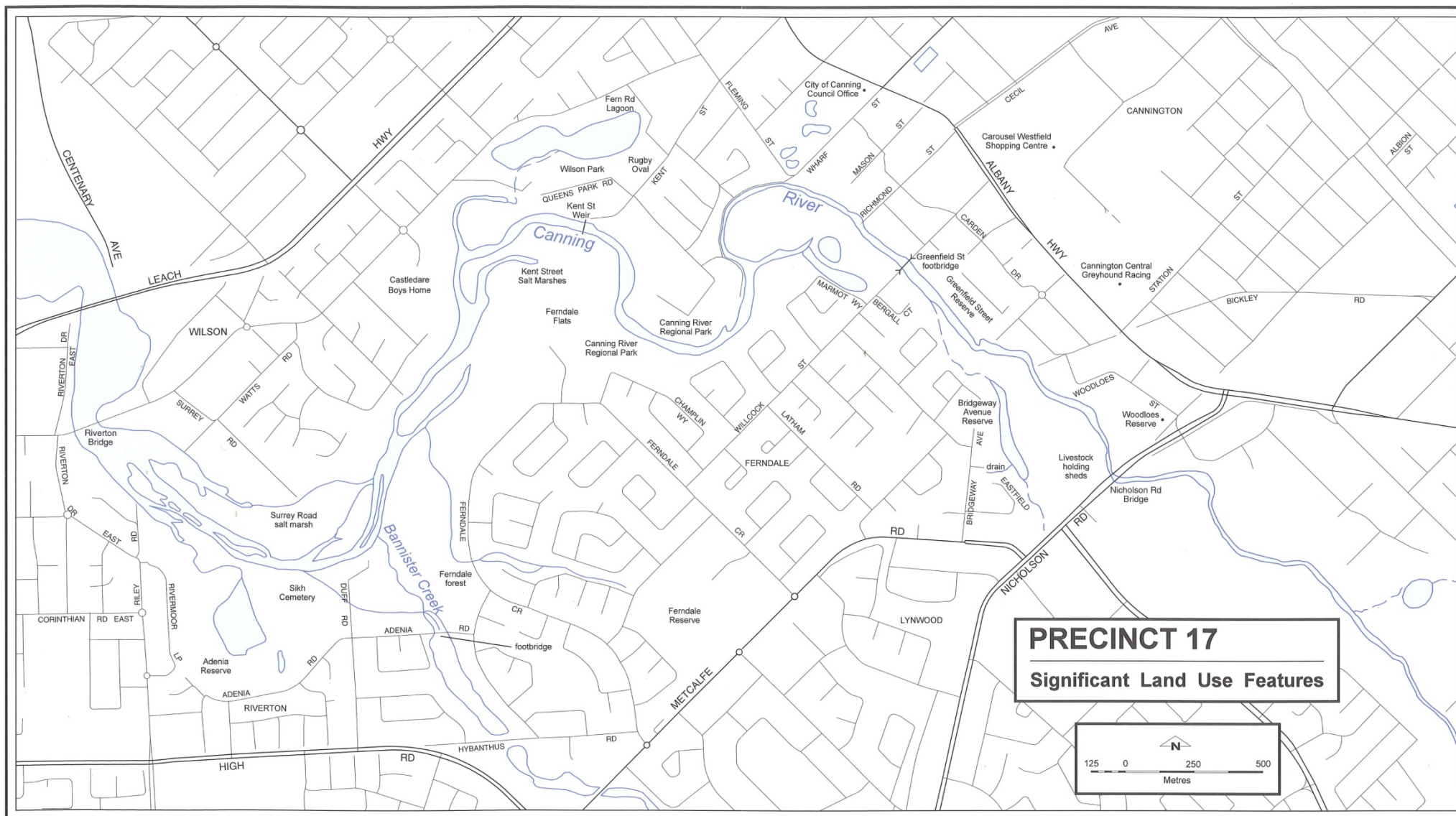
As early as 1916 there were discussions on constructing a weir to prevent the movement of salt water up the Canning River. Several petitions were made as to the location of the weir and in

1911 a sandbag weir was constructed at Nicholson Road Bridge to test the effectiveness of such a project. At this time nurseries were pumping water from the river and upstream from this spot and they found that the water was 'too salty' in summer. The barrier was a success and it was maintained over several summers. In 1916 a second sand bag weir was constructed at Kent Street and the following winter flooded the adjacent lands. After several years of petitioning the Kent Street weir was completed in 1927. Salt water, however continued to extend upstream of the weir at certain times of the year. The construction of the Canning Dam in the Darling Range meant that the volume of freshwater reaching the lower river was reduced, so the Kent Street Weir was made a more efficient lock in 1940. Before the Canning Dam construction water was pumped from the Canning River for the metropolitan supply. On occasions the river dried up during the summer months and several times the salty water overflowed into the upstream area. After the dam was completed water flow was managed to allow farmers down the river to continue their pumping systems. Silting up and leaks continued to be a problem and after further upgrading in 1962 the scheme was disbanded. The weir has caused a loss of estuarine vegetation in subsequent years through replacement by riverine vegetation upstream of the weir. The presence of relic salt marsh plants indicates that the estuarine vegetation once extended at least as far as Nicholson Road Bridge approximately three kilometres upstream of the weir (Pen, 1987).

The Greenfield Street Footbridge was constructed in 1964 enabling people quick access from the relatively undeveloped Ferndale area to the older Cannington area where the schools and other amenities were available (Carden, 1968).

In the early 1990s Watts Road Lake was infilled by developers to form the Canning River Gardens Estate. This had a flooded gum and paperbark community fringing the water basin, with several dead trees in the centre of the area of inundation and provided a roosting site for waterbirds. It was considered by the State Planning Commission (1989) that although the lake did have some environmental significance it did not have such value as to Warrant reservation. Strong community pressure continued for the area to be included in the regional park, however it was decided that the available funds should be used to acquire other sections of wetland privately owned in the region.

The alluvial islands around Riverton are a significant natural landscape feature and were noted historically for their beauty and the obstruction they caused to river traffic. However due to the changes in river hydrology an island adjacent to Kent Street Weir gradually disappeared and a second near Surrey Road had silted up and joined the northern river bank by the middle of this



century. Around Masons Landing there was a rapid which was recorded as dangerous to young children as the current was too strong for them (Richards, 1991).

### Present Land Use and Social Patterns

The river is separated from the main areas of development by the six lanes of Albany Highway. Notable developments include Carousel Shopping Centre, Cannington Raceway, Cinema complexes, Canning City Council offices and regional offices of Commonwealth and State government agencies. There is a ribbon of commercial development along the highway and the Carousel Shopping Centre is a substantial group of buildings and was one of the first regional 'all under one roof' Shopping centres in the metropolitan area. The lack of reticulated sewerage has been a constraint on development in the area despite the Richmond Street pump Station (DPUD, 1991). At present there is a plan to improve the Canning City Centre and Upgrade facilities in the area.

Adjacent to the Nicholson Road Bridge there is a property owned by a livestock transport Company. The land is used as a sheep holding area and stop for trucks. There is also a small orange orchard on the land. The area is to be vacated in the near future. At present the weir still acts as a block to salt water, but there have been discussions on removing the weir to reduce the spread of *\*Typha orientalis* which flourishes in the river system. However over the past eighty years the vegetation has adapted to freshwater conditions upstream and it is considered that retaining this vegetation for wildlife habitats is more important. Due to increased pressure on the entire catchment system there have been recent outbreaks of blue green algae *Euglena* and the aquatic weed, *Hydrocotyle ranunculoides*.

### Recreation nodes

Canning River Regional Park extends along the foreshore for the entire section of this precinct's foreshore. At present, land owned privately is being acquired so that it can be managed cooperatively by several cooperative government departments. The area is an important recreational area, however the park managers consider that the primary focus for the park should be conservation.

The Castledare miniature railway consists of over 5 kilometres of track which runs within the Castledare property owned by the Christian Brothers. The railway is run by volunteers and owned by individuals. It is open to families the first Sunday in every month and during school holidays. It has picnic and toilet facilities within the grounds and is a popular visiting feature in the area.

### Public access

Public access to the river is in the form of dual use pathways and car park facilities. It is considered that facilities should be of a minor nature and allow for mainly passive recreation, except for a few active reaction areas within high use areas. There are several dual use and footpaths present along the foreshore, and there are plans to extend these facilities to produce a linked system. Canoe access facilities are present at Riverton Bridge, Kent Street Weir and Woodloes homestead area. It is considered that motorised craft are not suitable for this section of the river due to the noise and river bank erosion, however at present motorised boats are allowed at a speed of 4 knots. Formal car parks are provided at several points around the river reserve.

### Sites of Nyungar & Wider Australian Community Significance

#### Nyungar significance

Beeliar and Beeloo Nyungars are believed to have considered this section of the Canning River as part of their run (O'Conner *et al*, 1984). The Beeloo considered north of the Canning River (*Dyarlgarro*) to the hills as part of their ground while the Beeliar mainly traversed the southern section of the river to the sea. At the time of European settlement, Midgegooroo and Munday were leaders of these people.

The Cannington-Wilson area was called *Beeloo* for many years by the local residents (Swartz, undated).

Before colonisation, Canning wetlands were important to Nyungars for food and shelter. As a result, there are artefacts of Nyungar economic practices from the area. There is one reported archaeological site along this section of the river. There is a sparse scatter of quartz artefact material which indicates a possible camping ground. There was also a camping ground at Ferndale which has since been built over. It contained several hundred stone chips and was at least 5000-6000 years old (Richards, 1991).

#### Other significance

The Carousel Tavern (Waverley Hotel) was recently demolished after a heritage report concluded that it did not have great heritage value. It was originally the Cecil Hotel and was established by Stephen Gibbs (Carden, 1968).

The Woodloes Estate belonged to Francis Bird of Mason and Bird's Timber who designed and built the house in 1874. The house is currently on a small block and efforts are being made to purchase surrounding blocks to expand visitor facilities.

## Precinct 17 - Canning River - Riverton Bridge to Nicholson Bridge

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The Wiedenbach property was located west of George Street and was called Kaliamba and supported an orchard (Carden, 1968). Part of the land became Wilson and Johns Nursery and in the 1970s the Canning Shire Council erected the District Civic Centre.

Fred Riley owned a market garden at Riverton established in 1897. The produce grown was taken by horse and dray to the river, transported over in a homemade punt and hauled to the wooden block road (now Albany Highway) which led to Perth. Riley supplied a large portion of the finance for the first bridge in the area and the Riverton Bridge was as a consequence locally known as Riley's Bridge (Carden, 1968).

The suburb of Wilson was named after George Wilson, a former mayor of the Queens Park Municipal Council. However this name was chosen after much controversy as the State Housing Commission had chosen the name Beeloo, while the Canning Road Board and the Post Masters Generals Department had chosen the name Burton. The argument was not settled until the 1960s even though the residential area had been established since the late 1950s.

Mr and Mrs W. Webb purchased the Riverton Estate for residential release in 1937. The area was called Riverton Bridge to avoid confusion with Riverton, South Australia. The Riverton area has become one of the most desirable residential areas along the Canning River due to its proximity to the river and the city.

Bentley Hill was named after overseer Bentley who looked after the convicts who had a camp on the hill during the construction of Albany Highway. The suburb of Bentley was named from the hill. There is a Sikh Cemetery founded in 1893 near Bannister Creek on the foreshore of the Canning River.

because of its high conservation and recreation values and its proximity to the Perth residential areas.

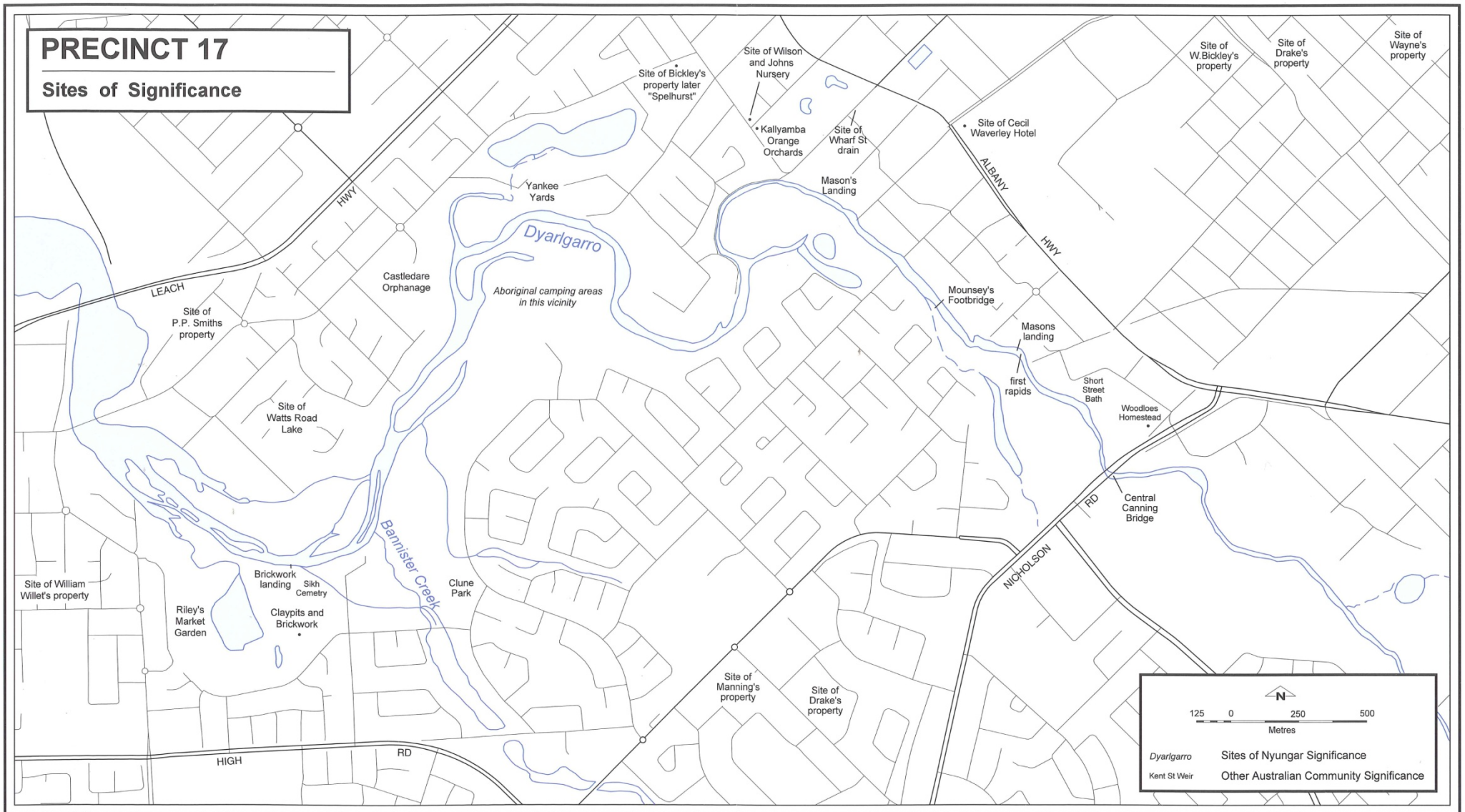
The area has been declared a Regional Park and is under a joint management. The cooperative planning team is currently finalising a management plan.

## Conservation Areas

### System 6

#### *M58 Canning River, Riverton Bridge to Nicholson Road Bridge*

The section downstream from the Kent Street Weir contains of the best estuarine vegetation of the Canning and Swan Rivers. It supports estuarine plants which are absent upstream. The margins of the river banks and islands carry low open-forest and low closed forests of swamp sheoak and paperbark species and a varied understorey of sedges, rushes, shrubs and small trees. The saline river flats carry samphire and sedgelands. In the section upstream from the weir, the vegetation is mainly confined to trees along the river banks. The area is inhabited by about 87 bird species of which 60 are likely to nest there. The recommended area constitutes a site of regional significance



# Landscape Description

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## Precinct Description

### Waterform

Upstream from Riverton Bridge, the Canning River branches into a northern arm which leads to an area subject to seasonal inundation and a main channel. The main channel has three large islands as the estuary curves round Wilson promontory. The islands form irregular elongated shapes within the channel and provide an attractive and complex waterform. To the south of the first island upstream, there is an open drain line channel which isolates part of the Adenia Reserve foreshore into an area of inundation during periods of high water. In line with the second island, there is the Adenia Reserve wetland which has a narrow channel leading to a shallow water body at the site of the old clay pits. The third island upstream is in line with the confluence of Canning River and Bannister Creek. Bannister Creek is a narrow and shallow channel which cuts through the Adenia park reserve in a south-easterly direction. Towards its headwaters the creek cuts through the topographically higher residential area and as a consequence has formed a deeper channel.

From Bannister Creek the Canning River curves around Wilson in a northerly direction. In line with Bywater Way, Wilson, the Canning River splits into two around a small peninsula which is almost an island except for the narrow isthmus-like join at the southern bank. The southern arm is shallower and narrower than the adjacent main Canning River channel.

As the estuary passes upstream of Castledare, the channel splits into three arms with the central arm being the main channel. The first arm forms a small wetland on the southern bank while the northern arm leads to Wilson Park wetland. The estuary forms gentle curve towards Kent Street Weir. The weir causes the water to form small whirlpools and ripples in the water downstream. Upstream the channel forms a S-shaped curve which leads a further branch into a small wetland in line with Marmot Avenue, Ferndale. The channel straightens until it branches with the Bridgeway wetland which in winter abuts the Nicholson Road Storm water drain. The Canning River itself forms relatively tight undulations until the Nicholson Road Bridge and as a result the river channel cannot be viewed for a great distance due to the fringing vegetation.

### Natural riparian zone

There is a narrow belt of fringing vegetation all along this section of Canning River. The shorerush and other sedges emphasise the complex forms of the islands as their emergent forms boarder the shallow waters. There are no sandy beaches, rather the banks are covered in riparian vegetation and in winter are swampy and waterlogged.

In places where the foreshore vegetation has been disturbed, the alluvial sediment is exposed as dark coloured and fine particles. The vegetation is discussed in more detail below, however it may be noted here that the overhanging branches and undulating tree forms provide a varied and complex riparian zone. The river is also sufficiently wide so that the waterform is open between the two edges of overhanging vegetation.

### Landform

The land is relatively low lying and in places close to the Canning River Channels form depressions which are subject to seasonal inundation. The residential areas have been raised with landfill in the lower lying areas originally subject to inundation. These raised areas often are obviously unnatural, such as Bergall Court, Ferndale, where the new soil has formed a steep slope behind the foreshore area. The residential area is also flat with little topographically higher land, which results in the river user being unable to see much of the surrounding urban land use.

### Vegetation

There is a fringe of shore rush along the channel banks and islands upstream of Riverton Bridge. The rush has a brush-stroke like texture along the river edge and in several places sheoak and paperbark trees overhang the line of reeds. The two dominant trees have pleasing forms, the salt sheoak having equally dividing branches leading to soft round edged foliage patterns, while the freshwater paperbark has a regular shape and dense canopy of fine twigs and leaves.

At the wetland adjacent to the Canning River Gardens Estate there is a samphire community which has a low succulent form against the thin club and shore rushes which occur in a wide belt along the water channel. There is a narrow band of casuarina and paperbark around the fringing rush and a few remnant flooded gum exist close to where the Watts Lake vegetation complex once existed. The rush community forms an open clearing between the trees and there are two main rush-dominated areas at this section of Wilson.

The sheoak and paperbark community lines the Canning River channel up until where the river branches into three arms. The community is dense and overhangs the water edge with various shaped branches and canopies. Behind the narrow band of sheoak and paperbark there is a wider band of shore and club rush which surrounds the Adenia Street wetland in the shallower waters. There is a belt of samphire complex on the eastern side of the Adenia Street.

Where the river splits into three arms opposite Castledare Boys Home, the southernmost arm forms a small lake which has samphire flats and an abundance of soft spiky shorerush reeds. These form a undulating line into the water and a horizontal strata of about a metre in height. This soft streaky texture contrasts with the dark green dusty canopies of the slender formed sheoaks and wide branching flooded gums. It must be noted here that the flooded gum is a very attractive tree as the upper branches have deciduous bark which leaves a soft grey-cream smooth bark, while the lower trunk is rough and flaky. The juvenile leaves are rounded and are prominent against the slender mature leaves and the needle like stems of the sheoak. Near the residential area of Wilson the roadside reserves are mowed and there are a few isolated common sheoaks and river gums. There is a parkland effect then a narrow belt of riparian vegetation along the river channel.

The vegetation at Kent Street Weir is fully appreciated from the weir where the viewer can see the overhanging paperbarks, dead branches and undulations in reeds along the water edge. The southern section of the weir extends into the flooded riparian zone where the trees overhang and the textures of the paperbarks are particularly attractive. The irregular forms of the trunks often grow almost horizontally before stretching vertically over the water. Behind the band of riparian vegetation there is an open area which has kikuyu and cape tulip as well as several flooded gum. There are openings between the sheoak stands which allow the user to view the river.

At the Greenfield Street Reserve, the bulrush is flourishing within the river channel. There is a thin area of rivergum and open woodland with a sparse natural understorey, most understorey being kikuyu.

At the Bridgeway Avenue Reserve, the riparian vegetation which edges the inundated area has been recently burnt. The paperbarks have black trunks and there is only a little foliage regeneration at present. There is an abundance of kikuyu grass which is smothering the indigenous understorey. Along the Canning River channel there is a line of fringing paperbarks and shorerush reeds. The vegetation obscures the river channel and in places the riverbank appears as islands due to the nature of the vegetation clumping. There are several stands of jointed twig rush along the edge which has thick cylindrical stems which catch the viewer's eye as an interesting texture compared with the peeling paperbark trunks and feathery canopy of the sheoaks.

### Riparian land use

The Wilson Roadside reserves adjacent to the river are mowed to the edge of the fringing woodland communities which gives them a parkland effect. There are several open drains leading to the river. The Castledare drain is filled with weeds such as kikuyu grass and bulrush and due to recent heavy rain the banks of the drain have eroded.

From the Rivermore Loop section of Adenia Street Reserve, the river user can see the high voltage power lines of Shelley on the skyline. There are park benches and play equipment and the historic significance of the old Clune Park is well sign posted. Other recreational facilities include a bird lookout tower which enables viewing over the lake and river vegetation.

The Adenia Road footbridge is a small narrow wooden structure which crosses the deep channel of Bannister Creek. The creek can be crossed by car at Hybanthus and Metcalfe Roads.

Kent Street Weir Bridge has the original concrete pillars. Limestone supports have been constructed at either bank and a new walk way constructed so that the old weir acts as a footbridge. The hand rails have an attractive wooden x-shaped structure which is painted pale green. The adjacent parkland has outdoor furniture painted in the same green and open lawn with several trees remaining in the parkland. As the weir passes into the riparian vegetation the remains of an old wire and pile fence can be seen. This adds character to the area as it reminds the view of the pastoral use of the area until quite recently. The Canning Rugby League Club house is set back from the river and hidden with trees. The oval has boarding around it which has been vandalised and the club takes up almost half of the public recreation area.

The Greenfield pedestrian crossing is a steel structure with upside down v-shaped cross bars within the two horizontal bars. The steel is painted pale grey and stands out against the background vegetation and water. The adjacent southern bank area has been cleared due to the nearby residential area and it is evident from the topography that the soil used to raise the residential area houses has formed a rise in the clear area which is not natural. The northern bank leads to Westfield/Carousel Shopping centre. There is a area of inundation adjacent to Mason Street which has recently been subject to sewage contamination from the surrounding areas.

Bridgeway Avenue Reserve has play equipment painted pale green. It has what was once a information shelter but this has been removed due to graffiti which Covers the residential fences around the area. High voltage powerlines cross the river at this point and dominate the skyline.

The Bridgeway Avenue houses back onto the dual use path which runs near the area of inundation adjacent to Eastfield Court. The Bridgeway Avenue blocks are fenced mainly with corrugated 'asbestos' fences which have in places been graffitied and are quite high creating a barrier between the river and the residential area.

The area of inundation abuts the Nicholson and Spencer Road stormwater drain which is quite prominent to the river user. There is abundance of kikuyu grass and other weeds in the drain and the surrounding area. There is also a storm water drain at the northern section of Eastfield Court. This is fenced with wire and the water snakes its way cutting into the alluvial sediment as it enters the flooded area of inundation.

The Nicholson Road Bridge area has two bridges, the newer higher for traffic going eastwards. The bridges have deep blue painted rails with limestone abutments banks and concrete piles and superstructure. The land has been built up around the river channel to allow Nicholson Road to be of even height, which gives a valley effect. The abutments are supported by irregularly shaped small limestone rocks. The older bridge has the westward traffic and the rails are also painted the dark blue colour.

### Land use

Castledare Boys Home is used for a number of purposes including educational courses. There have been several additional buildings constructed over the years and therefore there is a mixture of buildings. These include the original Edwardian homestead and the 1930s school buildings and the 1950s chapel. These are all made from different materials and have been built in the style of the time. There is a model railway which runs around the property and crosses the drain and approaches the river several times. This feature is popular with visiting families and there are picnic facilities. The railway usually runs on the first Sunday of the month and during school holidays. There are several prominent exotic species in the gardens including coral trees and the creeper morning glory which has encroached into the rivergum woodland.

The new Canning River Garden Estate was recently built on the site of the Watts Road Lake. As a result the rivergum edged lake was filled in and replaced with small residential blocks. The houses are mainly the reminiscent 'Federation' style popular with new home builders at present, they all are lawned and have neatly landscaped gardens. The roads are brick paved. The houses are very close to the woodland vegetation communities. The houses around Wilson Park are neat and well maintained and there are several homes built since the mid 1980s. Very few

houses have native gardens and almost all have a lawned frontage. There are a few old weatherboard and corrugated iron roofs on the riverside of Queens Park Road and adjacent areas which are particularly attractive for their state of disrepair and rural connotations.

The Canning City Council offices and gardens are adjacent to the river and are located between Wharf Street and Albany Highway. The ponds within the council grounds are reminiscent of the wetland nature of the area. The gardens have a mix of exotic and native flora and the buildings are relatively modern. The old town hall is still present on Albany Highway and there is a ribbon development of commercial outlets along the road, including the Westfield Shopping Centre. At present, much of the commercial area is rather gaudy and shabby. There are many large signs and brightly painted buildings which detract from the area. At present, most of the commercial area is cut off from the river, thereby confining the degrading effect to a belt along Albany Highway.

The newer sections of Ferndale residential area consist of houses built in the 1980s which are the typical bungalows of this period. The older areas of Ferndale have modest houses built in the 1960s and 1970s, which compared with other residential sections along the river are quite bland and unattractive. Many are constructed with pale brick which was fashionable at the time of construction. These gardens were originally quite treeless which was typical during the early 1970s and as a result many owners have only recently planted new trees so the gardens are immature.

North of the Nicholson Road Bridge there is a cleared area which is isolated by the Canning River and the Bridgeway Avenue area of inundation. There is a shed and an old orange orchard which is still fruiting and several metal sheds which are fenced with wire from the road. This gives this section a semi rural feel. The area is owned by a livestock transport company and the property is used to store the vehicles and as a holding area for sheep. The site will be vacated in the near future as the land use is not in keeping with the planned Regional Park.

The Woodloes House roof is corrugated iron and rather weathered. It is mainly surrounded by mature trees and therefore is not a prominent landscape feature. It is currently a museum and it is hoped to purchase the land around the building to extend the gardens and provide improved public access.

# Landscape Interpretation

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## Dominant Landscape Character

The dominant landscape character would have been a natural landscape immediately along the Canning River. This landscape would have been identified as being gently undulating paleodunes with more recent fluvial deposits along the stream lines. The vegetation would have been dominated by estuarine vegetation.

At present, there are sections of the foreshore which continue to have fringing estuarine vegetation in reasonably good condition. These sections closely edge the Canning River below the Kent Street weir. With the construction of the weir, the vegetation upstream has altered to a freshwater tolerant community. This landscape has altered from the original natural landscape to a new natural landscape. Several weeds have invaded the recent vegetation complex; however the narrow landscape still appears relatively natural.

There are several sections of fringing vegetation which have had the understorey replaced by grasses and which are mowed to create a parkland environment. In addition, new exotic and native plants have been introduced which add to a parkland/recreational environment. Picnic areas and car parking areas add to the recreational landscape.

Most of the Canning River area has a suburban landscape. From the river banks; much of this landscape is screened by fringing vegetation and is not visible due to the relative flatness of the landform.

## Significant Viewscapes

There are several significant viewscapes in this precinct. The alluvial islands which have formed downstream of the Kent Street weir provide interesting focal points along the river. The islands and alluvial deposits have been colonised by samphire communities which turn an attractive red colour at the end of the growing season. There is an attractive panoramic view from the Kent Street Weir of the centre of the river and the fringing vegetation from a perspective usually only possible from a boat or other craft.

## Conforming and Non-Conforming Elements in the Landscape

The river and its immediate environs provide a visually attractive environment due to the complex nature of the river form and although the natural vegetation is restricted to a narrow belt it is particularly attractive.

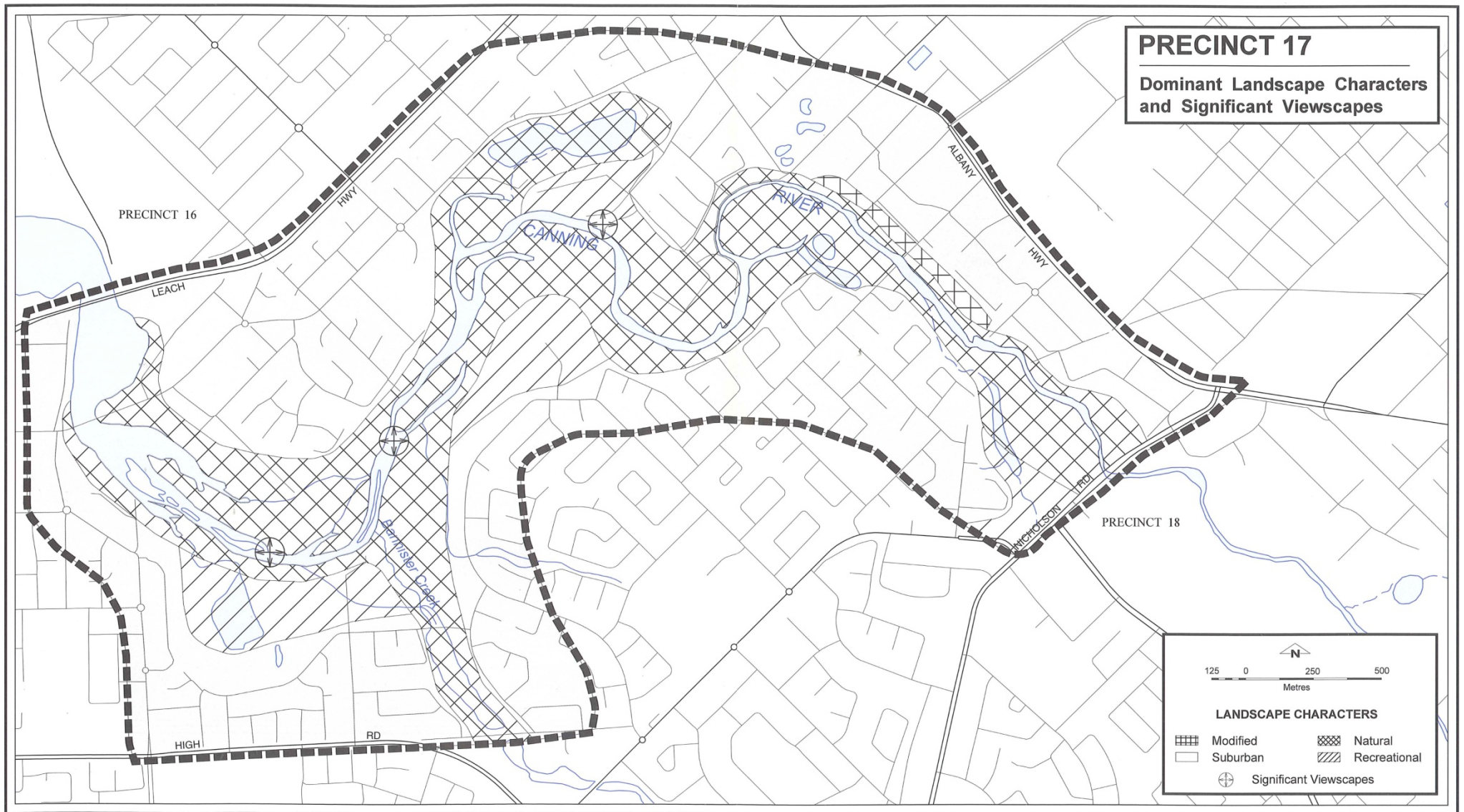
It contains one of the best remaining examples of estuarine wetland found along the Canning and Swan Rivers. Unfortunately, much of the land behind the river has been cleared both for cultivation and for urban development. It is also unfortunate that much of the area along Wilson foreshore is lawn up until the narrow belt of paperbark community. It would be visually more pleasing if revegetation of indigenous species was implemented which would extend the woodland and give the area a more unique character and a more 'natural' environment. The Canning Regional Centre plan notes that the present urban area is a comparatively disparate centre of fragmented parts such as disjointed commercial centre and remote bus rail Station. The whole centre turns its back on the river and the document argues that there needs to be linkage between the city and the river. However to the river user there are places along this stretch of river which are serene and removed from the urban environment. This is a valuable asset in an increasingly busy and populated city.

It is incredible that only a few years ago the Watts Road Lake was infilled for residential development, removing the attractive vegetation and the local identity of a seasonally infilling waterform. Further infilling of estuarine land in the area should be discouraged as the habitats are under increasing pressure as one of the few remaining estuarine and wetland communities in reasonable condition in the area.

The fringing vegetation at the Castledare Boys Home has been invaded by several exotic species which could be removed to allow the natural vegetation to flourish.

The Ferndale side of Greenfield footbridge has a lawn area which is rather bland and unattractive due to the lack of fringing trees and the proliferation of the exotic bulrush. Bridge Way reserve is also near Nicholson Road Bridge. The parkland has a sole tree and bench and the fringing paperbark community around the wetland has been recently burnt and subject to weed proliferation. A dual use path runs adjacent to the residential properties which have high corrugated asbestos fences which have been graffitied and the river user is not encouraged to stay in the area. This is in contrast with the downstream area near Kent Street Weir and Adenia Street Reserve which has several recreational facilities and the river user finds it a pleasant place to be.

There are several storm water drains which are aesthetically unattractive as they are usually open and have vertical banks. Planting with native vegetation would help reduce erosion and produce a more visually pleasing utility. The drains also outlet into salt marshes and other wetlands therefore reducing the water and visual quality of the area.



### **Recommendations for Maintenance and Enhancement of the Present Landscape Character**

- Remove graffiti from Nicholson Road Bridge and other riparian structures.
- Consider the preservation of estuarine vegetation and restrict activities which will degrade the vegetation along the entire precinct foreshore.
- Ensure that riparian and adjacent developments do not degrade the visual amenity of the natural landscape character.

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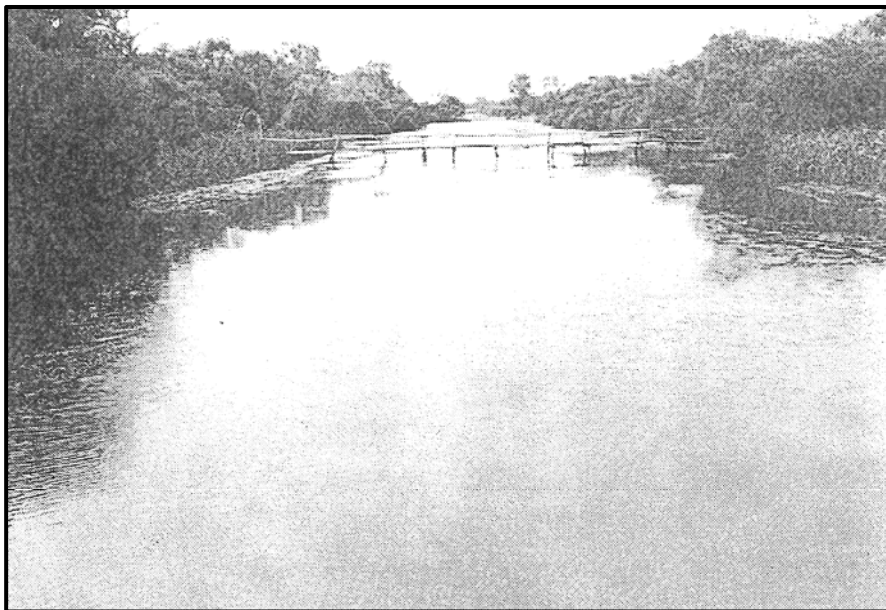
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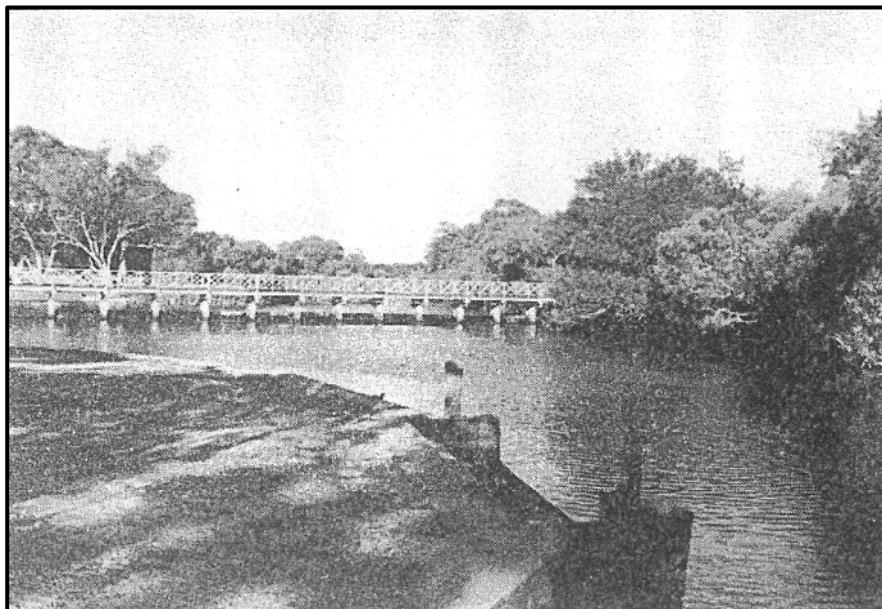
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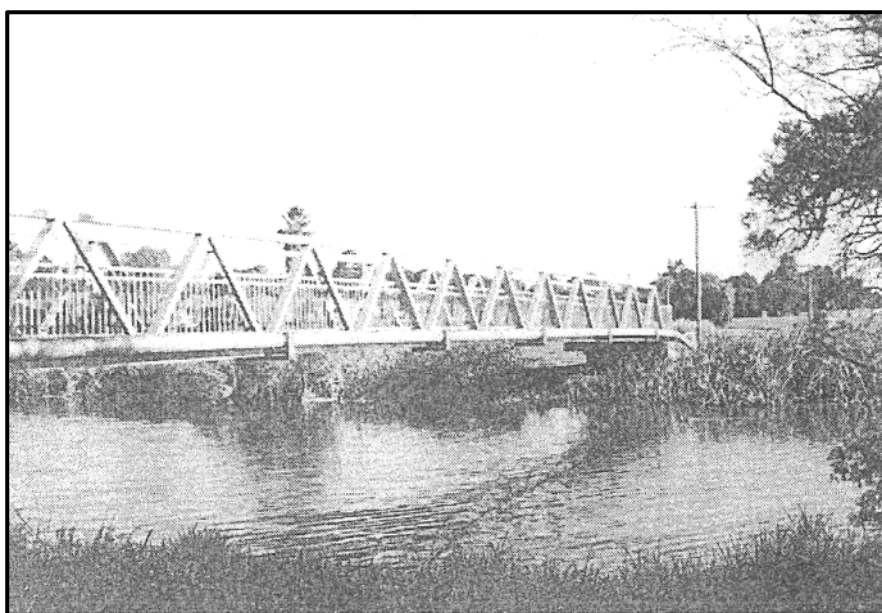
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