PARK LAND OLIVE MANAGEMENT PLAN

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Preparation of management plan

In preparing this management plan consideration has been given to:-

- The continued well being of the olives trees addressing cultural requirements such as irrigation, fertilising, pest control and pruning
- Council's ability to allocate resources, both financial and personnel, to the management of these trees
- The recommendations of the Park Lands Management Plan and the Environmental Management Plan; and
- Proposals suggested by interested individuals including recommendations that Council should irrigate, fertilise and spray the olive groves to increase their yield.

This management plan therefore seeks to address the means by which these trees can be efficiently and effectively managed to improve their health and fruit set without comprising our commitments to the Park Lands Management Strategy and the Environmental Management Plan.

The olives trees located within Park 1, the City of Adelaide Golf Course, are not considered to be of cultural significance and the management of these trees will be addressed by City Businesses as part of the Golf Course portfolio.

Olive Tree Locations

Olive trees are located throughout the Park Lands and Squares as individual specimens, small groups or plantations as indicated in Appendix A.

- Olive plantations are located in Parks 7, 8, 15, 16 and 27.

- Individual specimens or small groups are located in Parks 1, 6, 11, 12, 13, 15, 16, 22, 23 24 26 and 27, Brougham Gardens, Palmer Gardens, Hurtle Square, Whitmore Square.

Corporate Strategies

Environmental Management Plan - Local Agenda 21
This plan endorsed by Council early in 2000 outlines Council's Environmental Policy and its vision for the protection and enhancement of the environment.

Strategies identified within the plan that impact on the management of the Olive Groves include:-

Proposed Action Plan – Water which identifies the following aims:-
- Minimise reliance on Torrens or mains water for the Park Lands and City squares
- Reduce water mains consumption

Biodiversity Action Plan which aims to optimise Park Lands biodiversity by revising horticultural standards to:-
- Minimise the use of chemicals
- Implement a change in management philosophy to use herbicides as a last, rather then first resort, review criteria for herbicide use; and
- Develop a strategy for reducing the use of herbicides, pesticides and fertilisers.

The Park Lands Management Strategy
The plan identifies the Olive Groves located in Parks 7, 8, 16 and 27 as being of Post Colonial Cultural Significance due to their identification with major developments associated with the history of the City, and the State, form colonisation to the present.

Recommendations from these reports will be addressed in the individual management plans as recommendations may vary for each area.

History

The first olive trees in Adelaide were planted by George Stephenson in 1838 who promoted olive cultivation as just one of a number of crops that could have provided a diversified agricultural base for the economy of the new colony. From his writings it is clear that Stephenson advocated the planting of olive trees in the optimistic belief that some future generation would be able to solve the problem of how to profit from them.

Records show that no attempt was made to make oil and no successful commercial extraction occurred until approximately 30 years after the first plantings.

In 1844 with the assistance of nurserymen such as John Bailey and the patronage of the South Australian Company olive trees were imported and a program of propagation and planting undertaken.

The Adelaide City Council from circa 1856 established many of the early plantings, and by the 1890's 30,000 trees were located in the Park Lands. The site of the first planting is unknown, however by 1878 the largest concentration of trees was between Port Road and Slaughterhouse Road not far from the Adelaide Gaol. This area had previously been used as a dump for the city's excrement and slaughterhouse refuse. Other plantations were located on either side of Unley Road, in the eastern Park Lands between the Racecourse and the Botanic Gardens, Light Square, Hindmarsh Square, South Terrace, Brougham Place and Mann Terrace.

Records indicate that the Adelaide Goal plantation was established circa early-mid 1860's, the Mann Terrace plantations in 1856, and East Terrace the majority would date from the early 1870's.

The first pressing occurred during 1864 but was unsuccessful, as the oil was rancid, apparently the olives were still green when collected. The first successful commercial press occurred in 1870 at the Adelaide Goal with 3000 gallons of oil being produced.

In 1875, Samuel Davenport proclaimed to the Adelaide Chamber of Manufactures in South Australia: -

> "A few and favoured parts of the globe can grow the olive
> those parts that can should grow the olive. South Australia
> can, therefore South Australia should grow it."

Records indicate that by 1883 most of the olive trees were 'going back to their wild state' and were infested by the circulio beetle, and a French expert was hired to prune and restore 6500 trees. Approximately 2,000 litres of oil was made from the Park Land olives however Council staff neither picked the fruit or made the oil. In 1887, 26≤ 19s.3d was made from the sale of the salad oil. Most of the olive crop was sold on the tree to the highest bidder, during the 1880's approximately 5⊥ per tonne was received with the fruit having an excellent reputation for its quality and purity.

By 1890 South Australia was producing 6000 gallons of oil and at that time domestic demand exceeded production and by 1907 18,000 gallons was being produced.

However local demand for oil slumped during the late 1890's with Adelaide goal-produced oil being stockpiled. In 1911 the Corporation accepted an offer from Messrs Cromptom's to buy the entire olive crop for five years. A separate contract was also entered into to maintain all the olive plantations for seven years. In 1928 the crop was still being sold on a yearly contract basis.

In later years olive oil produced was being used primarily for industrial purposes, including uses such as a lubricant or a wool scourer. Little promotion was done to encourage it use as a culinary product.

In recent years the olive crop has been offered for annual tender. However, during 1999 City Businesses undertook an initial feasibility study into the commercial production of the olives with the assistance of the South Australian Research and Development Institute and submitted a report to the Strategy and Policy Committee on 17 January 2000. The recommendation that Council prepare a Nutrition Analysis, Property Assessment Survey and a business plan for the commercial operation of the olive groves and subsequent production of olive oil retail product was not accepted and Council at its meeting on 2 August 1999 instructed in part:-

That

- *Council Administration negotiate the annual purchase of the Park Land olives at a fair price from the licence holders; and*
- *The Administration oversee the production of a premium quality bottled oil from the olives, to be used as a corporate gift by the Council to promote the City of Adelaide and the Park Lands; and*
- *That any surplus be available for purchase by the public, the proceeds of such sales to benefit the homeless of the City.*

The Strategy and Policy Committee at its meeting on 13 March 2000 instructed in part:-

That

1. *The usual process of advertising for quotations for the harvesting of olives be undertaken with a requirement that a predetermined volume of olives be made available to Council to be pressed and the olive oil bottled for gifts; and*

2. *Harvesting of the existing groves and the practice of implementing appropriate care and maintenance of the trees to maximise yields, the replacement of deceased trees and general in filling of irregular shaped groves be continued.*

The Manager Horticulture as part of the 2000/2001 budget process submitted a strategic initiative for consideration. This proposal sought funding of $31,600 to effect corrective pruning, dead wooding and removal of suckers to existing olive trees. Funding was not approved.

Council then at its meeting on 7 August 2000 instructed:-

That:

1. *A report be brought forward assessing the feasibility of establishing a program to maintain and harvest the Olive Groves; and*
2. *The Acting Chief Executive liaise with Councillor Ventura and Doctor Berlingiera to provide assistance in the preparation of such report.*

Cultural Requirements

Generally Olive trees are drought hardy and can be commercially viable for over 100 years.

Climate
Olive trees grow best in areas with a cool winter and a hot summer as most varieties require a winter chilling of 10-20C to stimulate flower production and fruit set.

Ideally a rainfall of about 500mm per year is required for commercial production.

Soil
Olives will tolerate a large range of soil conditions but prefer a neutral to alkaline soil type. Very heavy soils that hold water after wet periods or excessively sandy soils that do not retain moisture are not suitable.

Olives can produce well on soils with low fertility, in fact highly fertile soils and high rates of nitrogen fertiliser are undesirable, as the olive will produce excessive shoot growth with many small sized fruit.

Fruit
Fruit is produced on one-year-old wood found on the outer periphery in the presence of adequate sunlight, fruit will not be produced in full shade.

A dominant feature of the olive tree is its tendency to bear alternate crops. Under normal dryland conditions the olive will produce a large crop of smaller fruit one year and the following year set a very small crop.

The amount of fruit set will be reduced if there is:-

- a mild winter
- insufficient water over the winter months or during flowering
- hot winds that damage the flowers possibly causing substantial flower; or
- insufficient soil moisture which will reduce shoot growth and carbohydrate production and if sever enough cause the fruit to shrivel.

Pruning
Trees should be kept open in the centre allowing adequate light into the centre, which encourages a good fruit set. Branches that hang low to the ground should be removed along with any dead branches or branches that cross over in the centre of the tree.

Pruning will induce new growth close to the cut primarily by increasing the amount of nitrogen remaining to each remaining growing point thus a few cuts on large diameter wood can cause excessive localised growth of shoots. Well distributed cuts on small-diameter wood spreads the stimulus over the entire tree.

Fertilising
In commercial groves after the first year a yearly application of a well rotted manure or pea straw (or nitrogen) is recommended during autumn/winter, with superphosphate applied every 3-5 years.

Pests and Diseases
Insects
Black scale, reduces fruit bud formation and causes leaf drop, reducing sugar content and increasing the acidity of the fruit. The presence this scale is generally indicated by a sooty appearance on the leaves and twigs due to a fungus that grows on the honeydew, excreted from the scale.

Olive scale results in defoliation and misshapen fruit, reducing sugar content and increasing the acidity of the fruit. The presence this scale is generally indicated by a sooty appearance on the leaves and twigs due to a fungus that grows on the honeydew, excreted from the scale.

Olive lace bug, a small sap sucking insect that lives on the underside of the leaves and whose presence is indicated by rusty-yellow spots on the upper side of the leaves. Reduces the vigour of the tree.

Black Vine Beetle, lives in the top soil during the day and feeds on the foliage during the night chewing around the margins of the leaf.

Control of insects and scale
All of the above predators may be controlled by the use of insecticides, however this may also remove some of the natural predators such as parasitic wasps and lacewings.

Fungi
Anthracnose, may be problem in late spring with symptoms not becoming apparent until the fruit begins to ripen at which point an indented, soft rot marks the fruit.

Olive Leaf Spot, causes dark lesions to appear on the leaves which fall prematurely retarding productivity.

Control of fungi
These fungi can be controlled by the application of fungicides.

Verticillum wilt, Armillaria root rot and Phytophthora root rot cannot be controlled by other then removing the tree and roots. Olives that suffer root damage are more susceptible to Phytophthora and Verticillium.

Bateria
Olive Knot, reduces productivity and causes the fruit to have an off taste. Symptoms include galls or knots that appear on the twigs and stems near wounds such as cracks or pruning cuts.

Insecticides and herbicides
Council in recent years has actively reduced its use of insecticides and herbicides by modifying cultural practices or the use natural predators.

Increasing uncertainty is arising with regards to the use of chemicals particular with regards to the accumulative effects in the soil. There are also concerns with these chemicals entering the food chain particularly with regards to our native birds and possums. As noted in the PIRSA report native birds are abundant in these groves

The PIRSA recommends in their report that the following spraying should be undertaken

To control the Black Scale/Sooty Mould
- During December spray trees with refined petroleum oil in water, this will act as a smothering agent to the crawlers and eggs.
- A second spray of light summer oil or white oil is required in March /April, a complete coverage is required as the oil acts as a smothering agent and is not systemic.

White oil requires an off label permit for use on olives, and whilst safe, the PSIRA recommends night application to cut down exposure to the public.

Ant control
- Place an ant control chemical around the base of the trees.

Olive Beetle
- Control by the application of a systemic insecticide such as Chlorpyrifos or other systemic.

The report notes that pruning will affect the number of insects and assist with fruit harvesting while increasing yield and quality of the fruit and oil.

The following comments are made with respect to the above PSIRA recommendations
- The Corporations Biodiversity Action Plan aims to optimise Park Lands biodiversity by revising horticultural standards to:-
  - Minimise the use of chemicals
  - Implement a change in management philosophy to use herbicides as a last, rather then first resort, review criteria for herbicide use; and
  - Develop a strategy for reducing the use of herbicides, pesticides and fertilisers.

- Council has actively reduced its use of chemicals within the Park Lands. Given the accessibility of the Olive Groves to the public, their use for recreational purposes, the abundance of fauna feeding in them, and the close proximity of creeks and barbeques the increased usage of chemicals is not favoured.

- Chlorpyrifos is highly toxic to birds, fish and honey bees, and is moderately toxic to pets and livestock with a Poison Schedule of 6. Council has actively reduced its use in the Park Lands and it is now only used on the golf links.
- The proposal to spray of a night time is not supported as this would be seen as a covet operation by Council.
- A parasitic wasp is currently being trialed for the control of the Olive Beetle however this biological agent is not yet commercially available.

It is therefore proposed that spraying will not be undertaken in the Park Lands but appropriate pruning techniques will be employed and the use of biological control agents pursued.

Irrigation

At present the Park Lands olives are not irrigated and nor to the best of our knowledge have they ever been with the exception of the frontages to Parks 7 and 8 where irrigation was installed as part of the road realignment.

Given that Council has indicated that they are not interested in commercially harvesting these trees (and works will be programmed to improve the health of these trees) it is not proposed to modify the watering application of these groves for the following reasons:-

- The Corporation's Environmental Management Plan calls on Council to reduce its water usage; and
- Were irrigation to be provided the overall maintenance costs associated with maintaining these areas would rise due to increased mowing frequency, increased weed growth and irrigation system maintenance requirements.

In areas such as Park 27 there is a high risk of any irrigation system being damaged due to overflow car parking being permitted in the Grove at peak times and its use for horse agistment.

Fertilisers

The application of a mulch or fertiliser would assist in fostering improved vigour in the trees.

However the following factors need to be considered in determining the appropriateness of these treatments:-

- The Biodiversity action plan which aims to optimise Park Lands biodiversity in the City by:-
  - minimise the use of chemicals; and
  - Develop a strategy for reducing the use of herbicides, pesticides and fertilisers.
- Water is not available to water a application of fertiliser in
- Run off associated with the application of fertiliser increases the likelihood of blue green alga forming in the Torrens Lake.
- Mulch when applied to the correct standard
  - suppresses the growth of native grasses
  - is difficult for people to walk through and collects litter. Syringes etc cannot be readily observed within the mulch.
  - is perceived by many residents/visitors to be unsightly, distracting from the aesthetic appeal of many landscapes.

It is therefore proposed that fertiliser will only be applied when effected replacement tree planting occurs as we are not seeking to produce a commercial crop.

Pruning

Tree pruning will be effected to facilitate improved health of the trees without compromising their amenity value or for safety reasons.

Pruning induces new growth close to the cut and a few cuts on large diameter wood can cause excessive localised growth of shoots. Therefore pruning will ideally be effected to ensure well distributed cuts on smaller diameter wood spread over the entire tree.

Trees should be kept open in the centre as adequate light into the centre encourages a good fruit set. Dead branches or branches that cross over in the centre of the tree should be removed.

Pruning effected, as a general rule will:-

- Remove all suckers and deadwood
- Remove all branches that hang low to the ground
- Remove crossed branches within the centre of the tree, where such removal will not significantly affect the trees canopy
- Ensure clearance for vehicles, cyclists and pedestrians where appropriate.
- Ensure sight lines for vehicles, cyclists and pedestrians where appropriate
- Ensure public lighting is not compromised.

Where new trees are planted formative pruning will be effected on an annual basis for 5 years. Pruning will thereafter be effected as part of the normal maintenance of the grove.

To maximise the effectiveness of the pruning undertaken, in the olive groves, the following program is to be effected:-

Year 1 – removal of all suckers and dead wood
Year 2 – open up centre of tree and reduce height where excessive lop sided growth has occurred
Year 3 – thin out adventitious growth

The olive groves will then be pruned as required as part of the normal Park Land tree pruning program.

Tree Removal

The Animal and Plant Control (Agricultural Protection and (Private) Other Purposes) Act 1986 Section 51 classifies olive trees to be of class 5d, subsection 57(2). This classification requires that all olives not planted and maintained for domestic or commercial use throughout the whole of South Australia be controlled and kept controlled except where The Commission (subject to such conditions as the Commission thinks fit) exempts a person from the requirements of the subsection.

Trees within the olive groves will be removed when:-

- Dead
- Structurally unstable or unsafe
- Infected with Verticillum wilt, Armillaria root rot or Phytophthora root rot
- Less then 50% of the viable crown remains

Trees and seedlings located in all other areas will be removed or managed according to the management proposals set out below to reflect the character endorsed in the Park Land Management Strategy.

Replacement Planting

It is anticipated that the existing Olive Groves will be maintained and replanted to reinforce the existing layout.

In areas where individual or small groups of trees exist replacement planting will be effected using the tree specie nominated in the Master Plan for those parks.

Although many new olive varieties, such as Verdale, are commercially available these tend to be smaller in form, have a shorter life span and are heavier fruiters. It is therefore proposed that replacement planting, in the Olive Groves, will be effected using the existing tree variety to preserve the cultural significance of these groves.

Replacement plants will be cultivated from suckers removed from the existing trees. These will need to be grown on until of an appropriate size for planting in the Groves, estimated to be 2 to 3 years.

Replanting will be effected during early to mid autumn, the year following removal of the tree stump to minimise the risk of virus transfer et cetera. Formative pruning will commence immediately.

Harvesting

The Olive crop within the Park Lands has for many years been offered in its entirety by public quote.

However many requests are received each year from members of the public requesting permission to collect a bucket of olives for personal use which cannot be accommodated due to the contract. It is evident that members of the public persist in collecting olives from the Park Lands despite publicity given to the fact that the crop has been sold.

Early in 2000 a large number of the South Australian oil producers listed in the yellow pages where contacted to determine if they were interest in offering a quote for the crop. The majority of the Companies spoken to indicated that they would not be interested as the crop could not be mechanically harvested and to harvest by hand would be too time consuming and expensive.

In recent years, the successful tenderer has not harvested the olive crop in its entirety with harvesting mainly occurring in Parks 7, 8 and 27.

It is therefore proposed that:-

- the plantations located in Parks 7,8,15,16 and 27 be offered to tender
- three separate quotes be called for, that is Parks 7 and 8, Parks 15 and 16, and Park 27 to ensure a larger proportion of the fruit is collected; and
- the public retain the right to collect the fruit from all other trees.

Means of Harvesting

The olive trees located within the Park Lands are unsuitable for mechanical harvesting, and the pruning required to facilitate this form of harvesting would decimate the trees.

In recent years commercially available air vibrators have been developed which allows the fruit to be removed from the trees with minimal damage. The use of this apparatus should be encouraged.

Harvesting by traditional means (beating the tree etc) can cause damage to the trees and leaving them more susceptible to pests and diseases. It is therefore recommended that this means of collection within the Park Lands be discontinued.

Implementation of Management Plans

It is anticipated that the management plans will be progressively implemented using the Corporation's current staff complement.

Work will be effected as listed below:-

Removal of individual olive trees from Park 6, 11, 20, 22 and 24 to be progressively implemented and completed by July 2005. These trees are not considered to be historically significant.

Pruning of individual trees in the City Squares, Park 12 and Park 13 to be progressively effected as part of routine maintenance work within each park and completed by June 2005.

Pruning of the olive groves will be effected using the nominated three year cycle.

The propagation of replacement trees from suckers will be undertaken as part of the pruning program.

Management Plan:
Park 6

Located in North Adelaide and bounded by Robe Terrace, Kingston Terrace East, Lefevre Terrace and Medindie Road. This park is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and sporting activities located in the eastern corner. The Park Land Management Plan recommends the creation of an educational interpretive trail with further regeneration of native vegetation and woodland planting and that the 'rural' fringe character should be enhanced. A master plan is to be prepared within 5 years.

Currently usages within the Park include the agistment of horses, a bridal track, playground, cycle tracks, sports fields and two landcare sites.

Adjoining land uses are predominantly residential.

Olive tree locations
A few olive trees are scattered throughout the Park

Works program

To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this park will be progressively removed.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years of being poisoned.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Will be effected as per the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Parks 7 and 8

Located in North Adelaide and bounded by Mann and Park Terraces these Parks contain some of Adelaide's earliest olive tree plantings. The Park Land Management strategy identifies these areas as a predominantly cultural landscape with exotic species, which should be reinforced as an amenity/habitat corridor.

With approximately 670 olive trees and various other species located at the southern end this park has no formal recreation areas however joggers and walkers will be observed. A stormwater creek and cycle path bisect the park and native grasses are to be found in the understorey.

Adjoining land uses are primarily residential and commercial. However Park 6 which adjoins to the north is used for organised sports and horse agistment whilst Park 10 to the south is used for organised sports.

Condition of Trees
During November 1999 the trees were inspected by Primary Industries and Resources SA who reported as follows:-

Existing cultivars
The older trees, 358 number, are believed to have been planted circa 1856 and are of an unknown cultivar and may possible be an old European cultivar such as Manzanillo or a cultivar such as Mission, Kalamata or Soury Dour.

The younger trees have been planted at various times within the last 10 years and are of the Verdale cultivar.

Tree health
The younger trees have been considerably damaged caused by the Olive Beetle and Black Scale is also evident.

The older trees have scale infection and some Sooty Mould.

Harvesting of fruit
These trees have regularly been harvested as part of the annual olive permit. The PIRSA have advised that presently the expected yield of the trees would be 20 tonnes. However this could be increased to 25-30 tonnes if the trees were correctly managed and following maturity of the younger trees a yield of 30 tonnes plus could be anticipated.

Management Plan:
Parks 7 and 8

It is anticipated that these trees will be retained and the management plan effected to ensure their continued health.

Replacement planting will be effected as required using a variety to be selected following consultation with the PIRSA.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree. Pruning will be effected for sight lines along cycle paths, foot paths and road ways and for clearance of public lighting.	
Fertiliser	Due to the existence of native grasses in the understorey it is proposed that fertiliser application will occur only when planting replacement trees.	
Spraying	The use of sprays for insect and mould control will not be permitted	
Irrigation	The perimeters of these parks are currently irrigated using an automatic irrigation system. It is not proposed to extend this system as this would affect the native grasses and substantially increase the maintenance costs associated with maintaining the park (ie increased mowing and greater weed growth).	

<u>Management Plan:</u>
Parks 7 and 8

Replacement Planting	Shall be undertaken as required to reinforce the grid nature of the plantings. The tree specie used shall be nominated following consultation with the PIRSA	
Review	Trees will be inspected 12 months after completion of the entire pruning program to ascertain health. If it is determined that health has not improved the application of fertilisers in late spring will be considered but only as a last resort	
Removal	Trees shall be removed when dangerous or 75% dead and replacement planting effected the following planting season following removal of the existing stump.	
Harvesting	This crop shall be offered for public tender however mechanical harvesting will not be approved. Harvesting techniques that may cause damage to the trees will not be allowed however the use of commercially available is acceptable.	

Management Plan:
Park 11

Located in North Adelaide either side of the River Torrens between Hackney Road and Frome Road. This area is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and that this area be a amenity/habitat corridor with a master plan to be prepared within 1-2 years.

Currently usages within the Park include the University of Adelaide sportfields, Archery, running and cycling path, fitness station, Corporation Nursery, Adelaide Zoological Garden, Botanic Gardens, Royal Adelaide Hospital and various university buildings.

Adjoining land uses are predominantly residential, commercial and educational..

Olive tree locations
A few olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this area will be progressively removed.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years of being poisoned except where located on the river bank where they will be permitted to remain for stability reasons. .	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Will be effected as per the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 12

Located in both Adelaide and North Adelaide this park encompasses the areas bounded by North Terrace, Frome Road, King William Street, Pennington Terrace and Sir Lewis Cohen Avenue. This area is identified in the Park Land Management Strategy as having a cultural landscapes and gardens, exotic species. The area is identified as an amenity/habitat corridor with the existing sport fields to be retained and a master plan to be prepared within 1-2 years.

Currently usages within the Park include the University of Adelaide, University of South Australia, Torrens Parade Ground, Cross of Sacrifice, Peace Park, Naval Gardens, Pioneer Women's Memorial Garden, Art Gallery, Library, Museum, restaurant, rowing sheds, sportfields, archery, running and cycling path, fitness station, Corporation Nursery, Adelaide Zoological Garden, Botanic Gardens, Royal Adelaide Hospital and various university buildings.

Adjoining land uses are predominantly hospitals, entertainment and educational.

Olive tree locations
Olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that the existing olive trees will be retained and maintained for their aesthetic appearance but replacement planting with Olives will not occur upon their demise.

Fruit will be available for collection by residents.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. Additional pruning will only be effected to improve the aesthetic value of the crown. Pruning for sight lines along cycle paths and road ways and for clearance of public lighting will be effected.	

Management Plan:
Park 12

Fertiliser	Fertiliser will only be applied as part of the normal maintenance program for the park.	
Spraying	The use of sprays for insect and mould control will not be permitted.	
Irrigation	Supplementary watering will only occur where part of the parks standard maintenance.	
Replacement Planting	Replacement planting will occur in compliance with the master plan	
Review	Trees will be monitored as part of the normal maintenance program of the park.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	The public may collect the fruit.	

Management Plan:
Park 13

Located in the eastern Park Lands and bounded by Botanic Road, Hackney Road, Rundle Road and East Terrace. This area is identified in the Park Land Management Strategy as having a cultural landscapes and gardens, exotic species. The area is identified as having open spaces and a amenity/habitat corridor with a master plan to be prepared within 5 years.

Currently usages within the Park include petanque, barbeques and major events such as the Festival of Arts, Adelaide Fringe and the International Horse Trials. Footpaths and a creek also bisect the park.

Adjoining land uses are predominantly Park Lands, commercial, residential and entertainment.

Olive tree locations
Olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that the existing olive trees will be retained and maintained for their aesthetic appearance. Upon their demise replanting will occur as recommended in the master plan.

Fruit will be available for collection by residents.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. Additional pruning will only be effected to improve the aesthetic value of the crown. Pruning for sight lines along cycle paths and road ways and for clearance of public lighting will be effected.	
Fertiliser	Fertiliser will only be applied as part of the normal maintenance program for the park.	
Spraying	The use of sprays for insect and mould control will not be permitted.	

Management Plan:
Park 13

Action	Works To Be Effected	Time frame
Irrigation	Supplementary watering will only occur where part of the parks standard maintenance.	
Replacement Planting	Replacement planting will occur in compliance with the master plan	
Review	Trees will be monitored as part of the normal maintenance program of the park.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	The public may collect the fruit until the trees are removed	

Management Plan:
Park 15

Located on the eastern side of Adelaide this park is bounded by East Terrace, Wakefield Street, Bartels Road and Dequetteville Terrace with the olive grove is located in the south western corner immediately behind the Glover Playground however specimens may be found scattered throughout the park. The Park Land Management strategy identifies this area as a predominantly natural landscape with indigenous species however some of Adelaide's earliest olive plantings may be found within the groves.

This park is extensively used by CBC College who hold the permit for the sports fields and tennis courts, and for events such as the V8 and Le Mans car races and the Adelaide International Horse Trails. In addition to the playground the park also contains a creek and a heavily used bicycle track. The bicycle track, Horse Trials and students from the College all pass through the olive grove, as do joggers.

Adjoining land uses are educational, residential and commercial.

Condition of Trees
During November 1999 the trees were inspected by Primary Industries and Resources SA who reported as follows:-

Tree health
Very large trees with many dead limbs and suckers. Black scale, sooty mould and Olive Beetle are all evident.

Harvesting of fruit
These trees have been part of the annual olive permit but have not routinely been harvested by the successful tenderer. The PIRSA have advised that presently the expected yield of the trees located within the grove would be 5 tonnes, however this could be increased to 10 tonnes if the trees were correctly managed.

Works Program
It is anticipated that the trees located within the grove will be retained and the attached management plan effected to ensure their continued health. Individual trees located throughout the park will progressively be removed to comply with the Park Lands Management Strategy.

Replacement planting will be effected as required using a variety to be selected following consultation with the PIRSA.

<u>Management Plan:</u>
Park 15 Olive Grove

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree. Pruning for sight lines along cycle paths and road ways and for clearance of public lighting will be effected.	
Fertiliser	It is proposed that an application of fertiliser will occur only when planting replacement trees.	
Spraying	The use of sprays for insect and fungii control will not be allowed due to the heavy use of this area by casual and formal users.	
Irrigation	With the exception of the playground this park is not irrigated and it is not proposed to extend this system.	
Replacement Planting	Shall be undertaken as required to reinforce the grid nature of the plantings. Replacement planting will occur in the season following removal of the tree (and its stump). The tree specie used shall be nominated following consultation with the PIRSA	

Management Plan:
Parks 15 Olive Grove

Action	Works To Be Effected	Time frame
Review	Trees will be inspected 12 months after the completion of the entire pruning to ascertain health. If it is determined that health has not improved the application of fertilisers in late spring will be considered but only as a last resort.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	This crop shall be offered for public tender however mechanical harvesting will not be approved. Commercially available clappers may be used. Harvesting techniques may not cause damage to the trees.	

Park 15 Individual Specimens

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 16

Located on the eastern side of Adelaide this park is bounded by East Terrace, Wakefield Street, Fullarton Road and Greenhill Road with the olive grove located in the north western corner between Wakefield Road and Flinders Street. However individual specimens may be found scattered throughout the park. The Park Land Management strategy identifies this area as a predominantly natural landscape with indigenous species with the exception of the racetrack, which is identified as a cultural landscape

With approximately 350 olive trees in the grove this park is extensively used for various events of international and local significance as well as school sports. A land care group does operate south of the racecourse. In addition to there is a fitness trail, bicycle track and creek the area is extensively used on a casual basis for the exercising of dogs and jogging

Adjoining land uses are predominantly residential and commercial.

Condition of Trees
During November 1999 the trees were inspected by Primary Industries and Resources SA who reported as follows:-

Tree health
350 very old, large trees with a dark canopy. Large dead limbs and suckers are present. Black scale, sooty mould and the Olive Beetle all evident.

Harvesting of fruit
These trees have been part of the annual olive permit but have not routinely been harvested by the successful tenderer. The PIRSA have advised that presently the expected yield of the trees located within the grove could reach 20 tonnes plus if the trees were correctly managed.

Works Program
It is anticipated that the trees located within the grove will be retained and the attached management plan effected to ensure their continued health. Individual trees located throughout the park will progressively be removed to comply with the Park Lands Management Strategy.

Replacement planting will be effected as required using a variety to be selected following consultation with the PIRSA.

<u>Management Plan:</u>
Park 16 Olive grove

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood shall be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree. Pruning for sight lines along cycle paths and road ways and for clearance of public lighting will be effected.	
Fertiliser	It is proposed that a application of fertiliser will occur only when planting replacement trees.	
Spraying	The use of sprays for insect and mould control will not be permitted.	
Irrigation	Supplementary watering will only occur where part of the parks standard maintenance.	
Replacement Planting	Shall be undertaken as required to reinforce the grid nature of the plantings. Replacement planting will occur in the season following removal of the tree (and its stump). The tree specie used shall be nominated following consultation with the PIRSA	
Review	Trees will be inspected 12 months after the completion of the entire pruning to ascertain health. If it is determined that health has not improved the application of fertilisers in late spring will be considered but only as a last resort.	

Management Plan:
Park 16 Olive Grove

Action	Works To Be Effected	Time frame
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	This crop shall be offered for public tender however mechanical harvesting will not be approved. Commercially available clappers may be used. Harvesting techniques may not cause damage to the trees.	

Management Plan
Park 16 Individual Specimens

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 20

Located in the south Park Lands this park is bounded by Peacock Road, South Terrace, Greenhill Road and Unley Road. This area is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and that this area be a amenity/habitat corridor. A master plan is currently being prepared.

Olive tree locations
A few olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this area will be progressively removed and replanting effected as recommended in the Master Plan..

Dates may be amended to comply with the recommendation of the Master Plan.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 22

Located in the south Park Lands this park is bounded by Goodwood Road, Anzac Highway and Greenhill Road. This area is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and that this area be a amenity/habitat corridor. A master plan is currently being prepared.

Olive tree locations
A few olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this area will be progressively removed and replanting effected as recommended in the Master Plan..

Dates may be amended to comply with the recommendation of the Master Plan.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 23

Located in south west corner of the Park Land bounded by Railways, west Terrace, Anzac Highway and Burbridge Road. This area is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and that this area be a amenity/habitat corridor with a master plan to be prepared within 1-2 years.

Currently usages within the Park include the West Terrace Cemetery, playground, cycle track, sportsfields detention basin and wet lands area.

Adjoining land uses are predominantly commercial.

Olive tree locations
A few olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this area will be progressively removed.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 24

Located in the western Park Lands and bounded by West Terrace, Glover Road, Burbridge Road and Railways land. This area is identified in the Park Land Management Strategy as having a predominantly natural landscape with indigenous species and that this area be a amenity/habitat corridor with a master plan to be prepared within 1-2 years.

Currently usages within the Park include Adelaide High School, Ellis Park and the hosting of special events. The western boundary of the park forms a detention basin.

Adjoining land uses are predominantly commercial.

Olive tree locations
A few olive trees are scattered throughout the Park

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that all olive trees in this area will be progressively removed.

Action	Works To Be Effected	Time frame
Tree Removal	Trees are to be progressively removed and stumps poisoned. Stumps are to be removed within 2 years.	To be completed by June 2005
Seedlings	To be removed immediately upon identification	
Replacement planting	Replacement planting will be effected to comply with the Master Plan.	
Harvesting	The public may collect the fruit until removal.	

Management Plan:
Park 27

Located in the west Park Lands this park is bounded by Port Road, North Terrace, Montefiore Road, War Memorial Drive and Park Terrace. There are three olive groves, one east of Gaol Road, one east of the railway underpass adjacent to the river and one located north east of the Police Barracks. However individual specimens may be found scattered throughout the park. The Park Land Management strategy identifies this area as a predominantly natural landscape with indigenous species with the exception of the racetrack, which is identified as a cultural landscape

This park is extensively used for various events of international and local significance and organised sports. High casual usage of the Park also occurs in relation to picnics, social gatherings, the exercising of dogs and jogging and cycling. A kiosk operates during school holidays and week ends and several areas are used for the agistment of the SA Police greys. The olive grove adjacent to the Police Barracks is also used for overflow car parking during peak times.

The PIRSA noted that a large number of native birds are present in these trees.

Works Program
A separate Management Plan has been prepared for each of the olive groves within this park.

In summary the trees located in the groves adjacent to the police barracks will be retained and replanted whilst the remaining olives will be replanted in accordance with the anticipated master plans.

Management Plan:
Park 27 Olive Grove East of Gaol Road

Trees located within this grove will be retained and replanted as required. However as SA Police Greys are permanently agisted in this area spraying will not be effected nor will the olives be made available for collection either by contractors or the public.

Replacement planting will be effected as required using a variety to be selected following consultation with the PIRSA.

No report was prepared regarding the heath of these trees by PIRSA.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree.	
Fertiliser	It is proposed that an application of fertiliser will occur only when planting replacement trees.	
Spraying	The use of sprays will not be permitted.	
Irrigation	Irrigation shall not be provided.	
Replacement Planting	Shall be undertaken as required to reinforce the grid nature of the plantings. Replacement planting will occur in the season following removal of the tree (and its stump). The tree specie used shall be nominated following consultation with the PIRSA	
Review	Trees will be inspected 12 months after the completion of the entire pruning to ascertain if further works are required.	

<u>Management Plan:</u>
Park 27 Olive Grove East of Gaol Road

Action	Works To Be Effected	Time frame
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	This crop will not be available for harvesting.	

Management Plan
Park 27 Olive Grove East of Railway Underpass.

These trees are heavily shaded by adjoining park trees and hence do not flower well.

The trees located within this grove will be retained and the attached management plan effected to ensure their continued health. However as trees are removed due to damage or demise replanting will be effected as nominated in the Master Plan (to be prepared).

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree.	
Fertiliser	No fertilising occurs in this area due to the proximity of the river and abundance of adjoining native trees.	
Spraying	The use of sprays will not be permitted.	
Irrigation	Irrigation shall not be provided.	
Replacement Planting	Replacement planting will occur in compliance with the master plan	
Review	Trees will be monitored as part of the normal maintenance program of the park.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	The public may collect the fruit until the trees are removed	

Management Plan:
Park 27 Olive Grove North East of Police Barracks.

This grove is located adjacent to the agistment and exercise areas of the SA Police greys and is also used for overflow car parking during period of peak usage in the Park.

Condition of Trees
During November 1999 these trees were inspected by Primary Industries and Resources SA who reported as follows:-

Tree health
350 very old, large trees with a dark canopy. Large dead limbs and suckers are present. Black scale, sooty mould and the Olive Beetle all evident.

Harvesting of fruit
These trees have been part of the annual olive permit but have not routinely been harvested by the successful tenderer. The PIRSA have advised that presently the expected yield of the trees located within the grove could reach 20 tonnes plus if the trees were correctly managed.

However should the Adelaide Goal be retained to the Corporation consideration could be given to including these trees in programs associated with activities.

It is anticipated that these trees will be retained and the management plan effected to ensure their continued health. However spraying in this grove can not be supported due to the use of this area by the public, its proximity to playgrounds and picnic areas and its use as a overflow carpark.

Replacement planting will be effected as required using a variety to be selected following consultation with the PIRSA.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree. Pruning for sight lines along cycle paths and road ways and for clearance of public lighting will be effected.	

<u>Management Plan:</u>
Park 27 Olive Grove North East of Police Barracks.

Action	Works To Be Effected	Time frame
Fertiliser	It is proposed that an application of fertiliser will occur only when planting replacement trees.	
Spraying	The use of sprays for insect and mould control will not be permitted.	
Irrigation	Water is not available within this area..	
Replacement Planting	Shall be undertaken as required to reinforce the grid nature of the plantings. Replacement planting will occur in the season following removal of the tree (and its stump). The tree specie used shall be nominated following consultation with the PIRSA	
Review	Trees will be inspected 12 months after the completion of the entire pruning to ascertain health. If it is determined that health has not improved the application of fertilisers in late spring will be considered but only as a last resort. However consultation with the SA Police will be necessary to ensure the health of these animals is not compromised.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	This crop shall be offered for public tender however mechanical harvesting will not be approved. Commercially available clappers may be used. Harvesting techniques may not cause damage to the trees.	

Management Plan:
Park 27 Individual Specimens

The trees located within this grove will be retained and the attached management plan effected to ensure their continued health. However as trees are removed due to damage or demise replanting will be effected as nominated in the Master Plan (to be prepared).

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree.	
Fertiliser	Fertiliser will only be applied as part of the normal maintenance program for the park.	
Spraying	The use of sprays will not be permitted.	
Irrigation	Supplementary watering will only occur where part of the parks standard maintenance.	
Replacement Planting	Replacement planting will occur in compliance with the master plan	
Review	Trees will be monitored as part of the normal maintenance program of the park.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	The public may collect the fruit until the trees are removed	

<u>Management Plan:</u>
Brougham Gardens
Palmer Gardens
Hurtle Square
Whitmore Square

These areas are identified in the Park Land Management Strategy as having a cultural landscapes and gardens with exotic species. Master plans to be prepared within 5 years for each of them.

These parks are used on a casual basis however larger events are hosted within them.

Adjoining land uses are predominantly commercial and residential.

Olive tree locations
Olive trees are scattered throughout the Squares.

Works program
To comply with the recommendations of the Park Lands Management Strategy it is proposed that the existing olive trees will be retained and maintained for their aesthetic appearance. Upon their demise replanting will occur as recommended in the master plans.

Fruit will be available for collection by residents.

Action	Works To Be Effected	Time frame
Pruning	All basal sucker growth and dead wood to be removed. The canopy shall be selectively opened up by the judicious removal of branches to minimise the regrowth of excessive localised shoots without compromising the aesthetic value of the tree.	
Fertiliser	Fertiliser will only be applied as part of the normal maintenance program for the park.	
Spraying	The use of sprays will not be permitted.	

<u>Management Plan:</u>
Brougham Gardens
Palmer Gardens
Hurtle Square
Whitmore Square

Irrigation	Supplementary watering will only occur where part of the parks standard maintenance.	
Replacement Planting	Replacement planting will occur in compliance with the master plans	
Review	Trees will be monitored as part of the normal maintenance program of the parks.	
Removal	Trees shall be removed when damaged beyond repair, dangerous or have deteriorated to a point where their appearance detracts from the park.	
Harvesting	The public may collect the fruit until the trees are removed	

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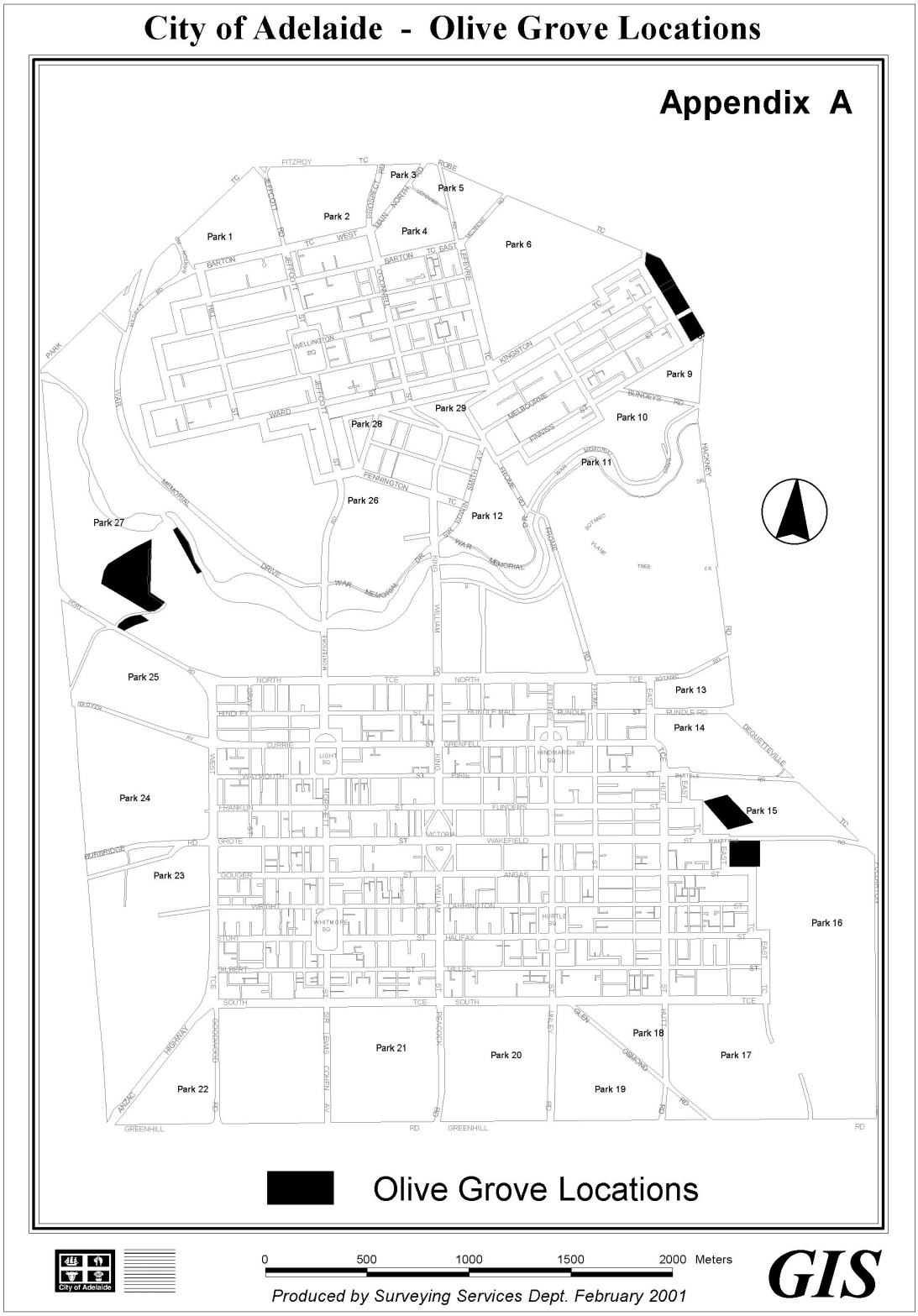
Appendix A


City of Adelaide - Olive Grove Locations
Appendix A
Park 1
Park 2
Park 3
Park 4
Park 5
Park 6
Park 9
Park 10
Park 11
Park 12
Park 13
Park 14
Park 15
Park 16
Park 17
Park 18
Park 19
Park 20
Park 21
Park 22
Park 23
Park 24
Park 25
Park 26
Park 27
Park 28
Park 29
Olive Grove Locations
0
500
1000
1500
2000 Meters
Produced by Surveying Services Dept. February 2001
GIS